# MIAMI-DADE COUNTY
# FINAL OFFICIAL MINUTES
# Board of County Commissioners Zoning Board

**Board of County Commissioners**
Stephen P. Clark Government Center
111 NW 1st Street
Miami, Florida 33128

June 23, 2011
As Advertised

Harvey Ruvin, Clerk
Board of County Commissioners

Diane Collins, Division Chief
Clerk of the Board Division

Flora Real, Commission Reporter
(305) 375-1294

**CLERK'S SUMMARY OF MEETING AND OFFICIAL MINUTES**
**BOARD OF COUNTY COMMISSIONERS ZONING HEARING**
**JUNE 23, 2011**

The Board of County Commissioners convened in regular session in the County Commission Chambers, Second Floor, Stephen P. Clark Government Center, 111 N.W. First Street, Miami, Florida, at 9:48 a.m. on June 23, 2011, there being present upon roll call, Chairman Joe A. Martinez, Commissioners Lynda Bell, Jose "Pepe" Diaz, Sally Heyman, Jean Monestime, Dennis C. Moss, Rebeca Sosa, Javier D. Souto, and Xavier Suarez (Commissioners Barreiro, Bovo, and Jordan were late); Commissioner Audrey Edmonson was excused; Assistant County Attorneys John McInnis and Craig Collier; Planning and Zoning Director Marc LaFerrier and Assistant Director for Zoning Grisel Rodriguez; and Deputy Clerks Doris Dickens, Flora Real, and Scott Rappleye.

Chairman Martinez called the meeting to order at 9:48 a.m.

Department of Planning and Zoning (DP&Z) Director Marc LaFerrier announced that in accordance with the Code of Miami-Dade County, all items listed on today's (4/28) zoning agenda were legally advertised, notices were mailed, and the properties were posted within the prescribed timeframe. He stated into the record the parliamentary procedures to be followed during today's zoning hearing, and noted additional copies of the agenda were available in the Chambers.

**ALL WITNESSES AND OFFICIAL INTERPRETERS WERE SWORN IN BY THE CLERK PRIOR TO PRESENTING TESTIMONIES BEFORE THE BOARD.**

**A. RENE MIGUEL VALDEZ (06-10-CZ10-2/05-364)**

Planning and Zoning Director Marc LaFerrier, Department of Planning and Zoning, read the title of the foregoing application into the record, noting the applicant requested a district boundary change from RU-1 to RU-5A, or in the alternative, use variance to permit RU-5A uses in the RU-1 zone.

Chairman Martinez opened the public hearing; and there being no one wishing to speak, the public hearing was closed.

Commissioner Souto advised that he had been unsupportive in the past of approving the foregoing application; however, the Board was obligated to comply with the court's mandate.

It was moved by Commissioner Souto that the Board approve the recommendation of the Department of Planning and Zoning to deny without prejudice Request Number 1 and approve Request Number 2 with conditions, subject to the Board's acceptance of the proffered covenant for the zoning application of Rene Miguel Valdez. This motion was seconded by Commissioner Sosa, and the floor was opened for discussion.

In response to Commissioner Suarez's inquiry relating to whether the circuit court's decision would be appealed, Assistant County Attorney John McInnis advised the Third District Court of Appeals had affirmed the lower court's ruling; and the case had been appealed to the Supreme Court. The Supreme Court of Florida had declined to hear the case.

There being no other comments, the motion was put to a vote and passed by a roll call vote of 9-0. (Commissioners Barreiro, Bovo, Jordan, and Edmonson were absent.)

Mr. Jeffrey Flanagan, counsel for the applicant, 1450 Madruga Avenue, Coral Gables, Florida, thanked the Board for the approval of the application. He advised that he concurred with staff's recommendation to include the proffered covenant and conditions.

**The foregoing zoning application was adopted by the Board and set forth in the Record of Resolutions and assigned Zoning Resolution Number Z-04-11.**

**C. NORTHSTAR GRACELAND, LLC (11-4-CC-1/10-076)**

Planning and Zoning Director Marc LaFerrier, Department of Planning and Zoning, read the title of the foregoing application into the record, noting that the applicant had requested a zoning change from BU-1A to GU, special exception to permit a cemetery, and modification of a previous resolution of covenant. He noted one protest had been received, but no waivers.

Chairman Martinez opened the public hearing; and hearing no one wishing to speak, the public hearing was closed.

It was moved by Commissioner Moss that the Board approve the recommendation of the Department of Planning and Zoning to approve Request Number 1 and approve with conditions Requests Number 2 through Number 4 for the zoning application of Northstar Graceland, LLC. This motion was seconded by Commissioner Bell, and the floor was opened for discussion.

Mr. Michael "Mickey" Marrero, Bercow, Radell & Fernandez, P.A., 200 South Biscayne Boulevard, Miami, Florida, introduced himself as the representative of the applicant.

There being no other comments, the motion was put to a vote and passed by a roll call vote of 10-0. (Commissioners Bovo, Jordan, and Edmonson were absent.)

**The foregoing zoning application was adopted by the Board and set forth in the Record of Resolutions and assigned Zoning Resolution Number Z-05-11.**

**2. MIAMI-DADE COUNTY AVIATION DEPARTMENT (11-6-CC-2/10-150)**

Chairman Martinez advised the Department of Planning and Zoning requested that Agenda Item 2, Zoning Application Number 2/10-150, be deferred to no date certain as requested by the Miami-Dade Aviation Department.

It was moved by Commissioner Diaz that the Board defer Application Number 2/10-150 to no date certain with further advertisement as requested by the Miami-Dade Aviation Department. This motion was seconded by Commissioner Sosa; and upon being put to a vote, passed by a vote of 9-0. (Commissioners Barreiro, Bovo, Edmonson, and Jordan were absent.)

## 3. MIAMI-DADE COUNTY AVIATION DEPARTMENT (11-6-CC-3/10-151)

Chairman Martinez advised that the Miami-Dade Planning and Zoning Department requested that Agenda Item 3, Zoning Application Number 3/10-151, be deferred to no date certain as requested by the Miami-Dade Aviation Department.

It was moved by Commissioner Diaz that the Board defer Application Number 3/10-151 to no date certain with further advertisement as requested by the Miami-Dade Aviation Department. This motion was seconded by Commissioner Sosa; and upon being put to a vote, passed by a vote of 9-0. (Commissioners Barreiro, Bovo, Edmonson, and Jordan were absent.)

## B. SANTA FE HACIENDAS, LLC & CEMEX CONSTRUCTION MATERIALS OF FLORIDA, LLC (11-3-CC-2/09-176)

Planning and Zoning Director Marc LaFerrier, Department of Planning and Zoning, read the title of the foregoing application into the record, noting the application requested unusual use to permit a lake excavation.

Mr. Stanley Price, counsel for the applicant/owner of Santa Fe Haciendas, appeared before the Board and advised there were several witnesses wishing to testify as part of this presentation. He noted Mr. Massoud Shojaee, who had a long history of successful developments of residential products in Miami-Dade County, was the principal of Santa Fe Haciendas and Shoma Homes. He advised that, pursuant to Mr. Shojaee's request, a due diligence analysis had been conducted on this property and the adjacent property to determine the feasibility of filing a zoning application to permit a rock mining operation and to render an opinion on the potential pros and cons. He reviewed his findings of the analysis and provided an overview of the history of the application.

Mr. Price advised that the applicant had developed a comprehensive development plan, which integrated plans for transportation as recommended by Chairman Martinez. He noted that Mr. Shojaee had been advised the Board no longer approved unusual use permits to allow rock mining operations in Miami-Dade County. He stated the County's Comprehensive Development Master Plan (CDMP) permitted rock mining, and rock mining operations had been in existence for over five decades. Therefore, the application's request for unusual use was consistent with the CDMP. He noted the CDMP contained provisions providing for specific authorization to permit rock mining operations already in existence to expand outside the urban boundary line as specifically indicated in the Agricultural Section. Therefore, the CDMP should not impose an impediment in the approval of this application.

Mr. Price presented an overview of the application process and mentioned the obstacles that were encountered during the process. He continued to present his legal arguments and rationale for requesting an unusual use permit to allow rock mining operations.

Mr. Price presented a brief review on the community standing and track record of Cemex, co-applicant.

Ms. Carrie Barscht, Greenberg & Taurig, 333 Avenue of the America, Miami, Florida, appeared before the Board on behalf of Cemex Construction Materials of Florida, LLC, the potential lessee and operator of this property. She advised that the application supporters were present at today's hearing, and she proceeded to present a Power Point Presentation on the proposed project. She clarified that the applicant requested unusual use to allow rock mining and ancillary uses on an adjacent continuous property constituting an expansion of the existing quarry. She noted that the applicant requested two phases of mining, whereby the first phase included approximately 171 acres of the property; and would not constitute a new use since the quarry had been operated in this particular site since 1956.

Mr. Guillermo Olmedillo, former director of the Department of Zoning and Planning, representing Olmedillo X5, Inc., 1450 Madruga Avenue, Suite 203, Miami, Florida, appeared before the Board and testified on the issue of the application's consistency with the CDMP. He testified that the foregoing application was consistent with the CDMP, and the agricultural land use definition provided for existing quarrying and ancillary uses in the agricultural area to continue its operations and be considered for approval of expansion. He explained the language relating to legal conditions imposed on these types of land uses and the agricultural industry. He noted all of the affected departments had reviewed the application, and had determined that the application met all standards and conditions imposed by them. Therefore, the application met the requirements for consistency with the CDMP, and it was compatible by virtue of meeting all of the zoning provisions applicable to this particular site and application.

Mr. Tomas MacVicar, former Deputy Director of the Water Management District and former member of the Miami-Dade County Flood Management Task Force, appeared before the Board on behalf of MacVicar, Federico & Lamb, 4524 Gun Club Rd., West Palm Beach, Florida, and presented the portion of the Power Point Presentation relating to environmental considerations surrounding the proposed application in terms of water quality and resources. He noted that the water resource issues had been addressed.

Mr. Jeff Straw, Vice President of GeoSonics, Inc., appeared before the Board and presented the portion of the Power Point Presentation relating to vibration limitations and industry regulations. He advised that the industry was heavily regulated by the State of Florida Fire Marshal, and there were strict vibration limits on ground vibration levels set for off-site impacts with constant monitoring of each and every blast. He commented on issues of compatibility and the project's close proximity to residential areas. He advised that all blasting operations were maintained within the County's guidelines, and it had already been permitted in Miami-Dade County.

Mr. Straw advised that Miami-Dade County had commissioned a comprehensive evaluation on the effects of blasting on homes in May of 2000 at a cost of $200,000. The team of independent experts assessed structural response, ground movement, and hydrological factors as part of the analysis including an assessment of homes across the County and near the Krome Quarry. The study concluded that blasting was not damaging to the homes. He noted that the blasting operations had a proximity to residences of 379 feet on one side of the lake and 400' on the other side of the lake.

Mr. G. Russ Weyer, Senior Associate, Fishkind & Associates, appeared before the Board and presented the portion of the Power Point Presentation relating to the fiscal & economic benefits of the proposed application. He advised that the quarry's expansion would provide the County with a significant economic impact of $32.9 million, would create 117 direct and indirect jobs, and would generate $4.1 million in average annual wages. He noted that the positive net fiscal benefit of the expansion would generate the following benefits:

1. a $2.7 million total net fiscal benefit over the life of the mine;
2. a 10 to 1 ratio of Net Present Value to County over cost of services;
3. a $2.8 million in property taxes for the County Commission;
4. a $2.2 million in property taxes for the School District; and
5. a $2.9 million in total revenues for the life of the project at an approximate total cost of $217,000, representing an approximate revenue ratio of 10:1.

Ms. Barscht commented on the public interests considerations of this application. She pointed out that the Federal Department of Transportation (FDOT) had recognized the critical need for this industry, noting Florida Statute 337.0261 supported and stated the importance of this industry to the state's construction and transportation industry. She advised that FDOT had submitted a letter stating there was an aggregate need for this project and this application was essential to the continuance of FDOT's road and bridge construction work program in order for the State of Florida to maintain its economic growth and quality of life. She also advised that the State Strategic Aggregate Review Task Force notated in the 2008 Final Report Findings that local governments should consider expanding existing mines, and the legislature should encourage a reliable, predictable, and sustainable supply of construction aggregate materials.

Mr. Cliff Kirkmyer, representing Cemex Materials of Florida, Inc., appeared before the Board and commented on the operations of the firm, noting these types of operations existed throughout Miami-Dade County since 1950. He explained the educational programs offered by the firm, the mining misconceptions, the quarry permitting process, the neighborhood considerations, the proposed landscaping, and the benefits of the proposed application and study findings.

Upon the conclusion of the foregoing Power Point Presentation, Chairman Martinez allowed members of the public to address the Board to state their position.

The following persons spoke against the foregoing application:

1. Ms. Alice Pena, 14390 SW 199 Avenue, Miami, Florida
2. Mr. Jorge Abreu, 10100 SW 177 Avenue, Miami, Florida
3. Mr. Andres Fernandez, 18575 SW 100 Street, Miami, Florida
4. Mr. Charles Boyd, 18400 SW 100 Street, Miami, Florida
5. Ms. Laura Reynolds, Tropical Auburn
6. Ms. Maria Redondo,18002 SW 106 Street, Miami, Florida
7. Ms. Cara Capp, Clean Water Action, 7300 Federal Highway, Boca Raton, Florida
8. Ms. Stephanie Cornejo, 8685 SW 159 Path, Miami, Florida
9. Ms. Dawn Shirreffs, National Parks Conservation Association

The following persons spoke in support of the foregoing application:

1. Mr. James Humble, landowner, fruit grower
2. Former Miami-Dade County Commissioner Jose "Pepe" Cancio, Florida Concrete & Products Association
3. Mr. Alfredo Gaytan, 29950 SW 169 Avenue, Homestead, Florida
4. Ms. Camile Ciriallo, 15254 SW 152 Avenue, Miami, Florida
5. Mr. Levi Mosley, 1595 NW 120 Street, Miami, Florida

There being no other persons wishing to speak, Chairman Martinez closed the public hearing.

Mr. Price presented his rebuttal and closing statements, noting that substantial and competent evidence was needed in order to deny a zoning application and a nuisance could not be presumed. In addition, the Board could not predicate zoning decisions based on presumed nuisances; and there were remedies available to address any nuisances that might occur. He noted there had been expert testimony at today's hearing confirming that the project would not harm the water supply.

Mr. Price stated that there was no obligation in the agricultural district to have one plant in the property if the property was divided into five-acre subdivisions, and there was no mandatory farming in one to five acres zone. He referred to the aerial photographs, noting that most of the homes within the surrounding area had no vegetation on the property; therefore, the statement that five-acre homes would preserve agriculture was a myth. He commented on the concerns raised regarding the issues of agriculture and the Everglades National Park in connection with the use of pesticides and insecticides over that land, stating there were regulations in place to monitor that type of activity just like there were regulations in place to monitor mining activities.

Mr. Price noted that the State of Florida's records had no complaints on file for blasting operations of Cemex prior to the filing of the application; interestingly, several complaints were filed after the application was filed. He stated that all of the complaints were dismissed due to a lack of legal grounds for objection.

Mr. Price noted that he understood the County Attorney's legal opinion had to be respected, but it did not take away his right to disagree with the determination that a 2/3 vote was necessary to approve the application. He challenged the County Attorney's legal opinion

Mr. Price referred to Policy LU-3F, Super-Majority Vote, shown on page two (2) of the application's summary of request; and he stated that next to the last sentence of that provision stated that "this policy was not intended to permit any use not otherwise permitted by the CDMP." Consequently, the question imposed was whether a 2/3 vote was required if the application asked for use not otherwise permitted by the CDMP. He also referred to the preceding paragraph, last sentence, stating that "existing quarrying and ancillary uses in the agriculture area may continue operation and be considered for approval of expansion." In conclusion, he was unable to understand the requirement for a 2/3 vote after reading the language

in the aforementioned material. Therefore, he respectfully disagreed with the interpretation of the County Attorney.

Assistant County Attorney Craig Collier clarified that the interpretation deriving from the plain language contained in the CDMP indicated this request was not intended for a direct production or a farm residence; therefore, it required a 2/3 vote to approve the foregoing application. He stated that his legal opinion was that the language Mr. Price had pointed out for the first time had in anyway affected the requirement of a 2/3 vote.

Ms. Barscht addressed the issue pertaining to proximity, noting that the Army Corps of Engineers and Florida Department of Environmental Protection Agency had both issued approval for this project. She also noted that the Miami-Dade Department of Environmental Resources (DERM) had also issued authorization to proceed with the important condition to require a half mile setback, or 2,500 feet, from the Everglades National Park in Phase I. She advised that, even if the project was approved today subject to that setback condition, the applicant would be unable to proceed until a Seepage Management plan was developed and approved by DERM.

Discussion ensued regarding the conditions proffered addressing nuisance problems, the project's proximity to residential areas, the permitting process, and the contents of the proffered covenant.

Mr. LaFerrier noted that the current covenant proffered included the Good Neighbor Program inasmuch as the previous covenant excluded it. He advised that the program addressed the day-to-day operations of blasting operations, and it would not be the type of requirements the County would monitor and enforce.

Pursuant to Chairman Martinez's inquiry, Mr. LaFerrier advised that the Department of Planning and Zoning agreed that the application was consistent with the CDMP and the use could be reviewed and approved by the Board without a planning amendment like in a zoning hearing. However, the primary uses for the subject area and other agricultural uses should be a direct production or ancillary uses to the direct production or farm residences. He noted that the department's negative recommendation was based on the application's lack of compatibility with the nearby national park, environmental areas, and residential areas.

Discussion ensued in connection with the compatibility of the foregoing application with residential uses and nearby environmental areas.

Mr. LaFerrier noted that the Department of Planning and Zoning had determined blasting, rock mining, and truck traffic were incompatible with residential uses and nearby natural parks.

Pursuant to Commissioner Sosa's inquiry, Mr. LaFerrier stated that the departments of DERM, Miami-Dade Public Works, Parks and Recreation, Miami-Dade Transportation, Fire Rescue, Miami-Dade Police Department, Florida Department of Transportation had indicated the application was consistent with the CDMP; and he also stated the request to have rock mining on the site was consistent with the CDMP.

Discussion ensued in regards to the location of the proposed project and the impact on the surrounding area.

In response to Commissioner Heyman's inquiry, Mr. Lee Hefty, Assistant Director, DERM, appeared before the Board and he testified that the aquifer was close to the subject area and portions of the project were located within the boundary of the well. He noted that the project would influence the production as well as impact the quality of water, and the well field.

Commissioner Heyman referenced handwritten page 11 of the agenda item relating to a memorandum written by Assistant Director Jose Gonzalez, DERM, dated March 10, 2011, addressed to the Planning & Zoning Director on the unusual use to permit landscape excavation. She noted that the memorandum indicated DERM had reviewed the subject application and had determined the minimum requirements were met under Chapter 24 of Miami-Dade County Code.

Commissioner Heyman commented on the negative impact this application would have on the Everglades National Park and the aquifer. She noted for the record, that the excavation had a setback requirement in Phase I of 2,500 feet.

In response to Commissioner Heyman's inquiry regarding the County's right to rescind the applicant's unusual use permit, Assistant County Attorney Collier stated it could be problematic. Commissioner Heyman expressed her concerns to the project's proximity to the Everglades National Park and its impact on the water supply. She noted that she would be unable to support approval of the foregoing application.

In response to Commissioner Bell's inquiry, Ms. Barscht clarified that the applicant had proffered a condition to accept all of DERM's conditions. She further clarified that DERM imposed the restriction of not mining closer than 2,500 feet in Phase I. She advised that the applicants were proposing to proffer a modified covenant addressing the scope of work to clarify the issue of phased mining in 12 years in Phase I, and the applicants would come back before the Board of County Commissioners prior to proceeding to expand.

In response to Chairman Martinez's inquiry regarding enforceability of the proffered covenant, Assistant County Attorney Collier advised that the Board could condition the application under the unusual use provisions to allow only Phase I to proceed and no other phases would proceed until the applicant comes back before the Board for approval.

In response to Commissioner Monestime's inquiry relating to the issues of seepage and management of the foregoing application, Mr. LaFerrier advised that the applicant proffered a covenant limiting excavation to 2,500 feet from the Everglades National Park and 2,500 feet within the western boundary until the applicant came back before the Board for a second approval.

Following a discussion regarding the issue of seepage and the impact to the surrounding area if project implemented without Seepage Management, Mr. LaFerrier suggested that the Board amend the timeframe with the proffered covenant inasmuch as the application would be approved for 25 years if approved at today's meeting.

Discussion ensued in connection with the timeline relating to the issue of Seepage Management, the permitting process and the process before the applicants continue to the next phase, the issues of proximity and incompatibility of the application, and its impact on the quality of life.

Commissioner Moss commented that he would vote taking into consideration the best interests of the community within that area.

Following a discussion regarding the Good Neighbor Program and how neighbors' complaints were processed and the percentage expansion of the current quarry, Ms. Stephanie Cornejo commented that she was unaware of the Good Neighbor Program; therefore, she would contact the applicant to report the foundation problems of her home.

Mr. Charles Boyd commented that he was also unaware of the Good Neighbor Program.

Commissioner Barreiro noted that he would support the application.

Commissioner Bell noted that she would support the application based on the legalities.

Chairman Martinez commented that the application should be considered on the merits of property rights, benefits to the County and State of Florida, and what would be taken away.

Upon conclusion of the foregoing discussion, Chairman Martinez relinquished the chair.

It was moved by Chairman Martinez that the Board of County Commissioners approve the Santa Fe Haciendas, LLC, & Cemex Construction Materials Florida, LLC, application to include the proffered covenant prohibiting excavation within 2,500 feet of the Everglades.

Assistant County Attorney Collier advised that Assistant County Attorney John McInnis would read into the record the amendments and the inclusions to the proffered covenant.

Assistant County Attorney McInnis clarified that the proffered covenant would include the following requirements:

1. that the timeline completion of Phase I of the project including lake excavation grading shall be 12 years and the work should be completed expeditiously not to exceed the allotted time;
2. that Phase II of the project cannot proceed until the applicant had come back before the Board of County Commissioners requesting approval at a public hearing and had secured the necessary Phase II permits; and
3. that the applicant would modify the covenant to reflect the foregoing changes.

In response to Chairman Martinez's inquiry relating to whether the applicant would be able to request approval of Phase II before the 12 year condition expired if Phase I was completed, Assistant County Attorney Collier advised that, in his opinion, the condition of 12 years was not useful inasmuch as an applicant, in theory, could come back before the Board at any time to

modify the condition and request approval to excavate Phase II. Therefore, the Board had no control as to the timeframe when an applicant could come back before the Board.

Assistant County Attorney McInnis advised that the language as read into the record would not preclude the applicant from coming back before the Board within 12 years, and the language only stipulated the applicant had 12 years to complete Phase I of the project.

Chairman Martinez clarified that the applicant was required to come back before the Board to have the 700 feet setback approved from the 2,500 feet setback.

In response to Commissioner Jordan's inquiry relating to whether the change in the setback requirement changed the department's recommendation, Mr. LaFerrier advised that, as stated earlier, the department would still have concerns regarding the application's compatibility with the residents in the easterly side.

Upon conclusion of the foregoing discussion, Chairman Martinez's motion was seconded by Commissioner Diaz.

Following a discussion regarding the proffered covenant, Commissioner Sosa suggested the proffered covenant be amended to require that the applicant create a neighbor's panel to address complaints and ensure continued communication between the applicant and the neighbors if the application was approved.

In response to Commissioner Sosa's proposal, Mr. Price proposed that the Board provide the applicant a 30-day period to prepare a plan addressing the 2,500 feet setback requirement, explain the 12 year provision, and the required engineering modifications to meet the imposed requirements.

Following a discussion regarding Mr. Price's request, Assistant County Attorney Collier commented that the applicant could be required to continue discussing with the neighbors the impact of blasting or suggested to continue conversations in respect to the impact of the blasting.

In response to Commissioner Monestime's inquiry, Mr. LaFerrier advised that the applicant would excavate the eastern one half if the application was approved as amended.

Discussion ensued in connection with the area and size of the excavation area.

In response to Commissioner Heyman's request for clarification, Assistant County Attorney Collier clarified that a "yes" vote would approve excavation as amended.

In response to Commissioner Sosa's inquiry, Chairman Martinez clarified that, as the maker of the motion, he had not accepted her suggestion.

Upon conclusion of the foregoing discussion, Chairman Martinez asked the Clerk to call the roll for the motion on the table; and the motion failed by a vote of 6-6 (Vice Chairwoman Edmonson was absent).

Discussion ensued regarding the court order and Ms. Fernandez's property rights relating to the court order.

Assistant County Attorney Collier advised that the Board lacked the nine (9) "yes" votes required to approve the application, and the Board's Rules of Procedures required a majority vote to deny the application. He stated that, based on how the Code was written, it was deemed a tie vote if the Board lacked the sufficient number of votes to approve the application. He stated the application would be considered at the Board's next zoning hearing; and at that time, the Board would determine whether to open the hearing or just vote on the application.

Assistant County Attorney Collier advised that Vice Chairwoman Edmonson would be provided with a copy of the zoning hearing transcript for today's meeting.

Upon the request of Chairman Martinez, Mr. LaFerrier announced that the zoning application for the Santa Fe Haciendas, LLC, & Cemex Construction Materials Florida, LLC, would be set for July 21, 2011.

Assistant County Attorney Collier noted that there would not be further notice.

Chairman Martinez advised that the zoning hearing would not be opened, and it would be held for voting purposes.

Commissioner Moss asked that the public refrain from contacting him or his office in regards to this application pursuant to the Jennings Rule.

**1. ARCHIMEDEAN PROPERTIES, LLC (11-6-CC-1/08-175)**

Planning and Zoning Director Marc LaFerrier read the title of the foregoing application into the record, noting there had been no protests and no waivers. He advised the applicant requested a special exception to permit an expansion of an existing charter school to the northeast side of the property, to increase student enrollment from 800 to 1,300, and to modify the conditions of previous resolutions.

Chairman Martinez opened the public hearing to hear public testimony.

Mr. Miguel DeGrandy, 800 S Douglas Road #850, Coral Gables, Florida, appeared before the Board as counsel for the applicant. He noted that Mr. Carlos Tamayo and Co-counsel Brian Bayline were also present at today's zoning hearing to represent the applicant, and there were also representatives from the members of the Archimedean Academy such as parents and students.

Mr. Brian Bayline, 150 West Flagler Street, Miami, Florida, appeared before the Board to request that the foregoing special exception application requesting extension of the school campus and an increase in student enrollment of 500 be approved. He introduced the letters of support written by area residents. He commented on the additional details of the application.

Discussion ensued in connection with the merits of the application.

Mr. Tucker Gibbs, representing the Bird Kendall Homeowners Association, 6200 SW 125 Avenue, Miami, Florida, appeared before the Board in opposition to the foregoing application and advised the reasons for opposing the foregoing application was as follows:

1. the application's inconsistency with the Comprehensive Development Master Plan (CDMP);
2. the failure to meet the specific standards for special exception; and
3. the request to modify previous resolutions and non-use variances.

Mr. Gibbs requested that the Board revisit the applicant's history and that the application be denied to include Request Number 7 as recommended by staff. He also noted that there was no competent substantial evidence to approve it.

Mr. Gibbs corrected Mr. DeGrandy's comments regarding who were the parties opposing the foregoing application. He noted that the Developmental Impact Committee (DIC) had recommended the application be denied.

Upon the conclusion of Mr. Gibbs' presentation, the floor was opened to admit public testimony; and the following persons appeared before the Board to speak in support of the application:

1. Mr. George Kafkouli, 5444 SW 150 Court, Miami, Florida
2. Mr. Alberto Asseo, 7262 SW 122 Court, Miami, Florida
3. Mr. Jeffrey Taraboulos
4. Mr. Guillermo Olmedillo, 1450 Madruga Avenue, Coral Gables, Florida

It was moved by Commissioner Souto that the Board approve the recommendation of the Developmental Impact Committee (DIC) to deny without prejudice the zoning application of Archimedian Properties, LLC. This motion was seconded by Commissioner Moss, and the floor was opened for discussion.

Commissioner Souto spoke against approving the foregoing application.

Commissioner Diaz and Chairman Martinez spoke in favor of approving the foregoing application.

Chairman Martinez stated that all schools should be treated equally.

Commissioner Moss suggested that the professional recommendation of County staff be adopted.

Commissioner Jordan noted that community impact should be strongly considered before casting a vote.

Upon conclusion of the foregoing discussion, the Board proceeded to take a roll call vote; and the motion failed by a roll call vote of 6-6. (Commissioners Barreiro, Bell, Bovo, Diaz, Heyman and Chairman Martinez voted no). (Vice Chairwoman Edmonson was absent)

Chairman Martinez announced the application was set for July 21, 2011, and the application would not be opened for a hearing. He further announced that a transcript of today's hearing would be forwarded to Vice Chairwoman Edmonson, and she would be allowed to vote.

In response to Commissioner Suarez's inquiry regarding modifications to the foregoing application, Assistant County Attorney Collier advised the Board would have to allow both parties to address the modifications if the zoning hearing was opened for purposes of modifications.

Chairman Martinez noted that, in the event the applicant wished to modify the zoning application, the Board should be appropriately notified prior to the zoning hearing; and if there were any modifications to be considered by the Board at that time, it would be properly announced and the public hearing would be opened.

By motion duly made, seconded, and carried the Board recessed the Zoning Hearing at 2:58 p.m. until 4:00 p.m. to allow the Metropolitan Planning Organization (MPO) to convene its meeting.

**4. COLUMBIA LAGRANGE HOSPITAL, INC. & KENDALL HEALTHCARE GROUP, LTD. (11-6-CC-4/11-038)**

Planning and Zoning Director Marc LaFerrier presented the foregoing application, noting it requested an unusual use to permit a proposed heliport and to modify previous approved resolution and an accompanying Declaration of Restrictions. He stated there had been zero protests and zero waivers.

Mr. Alex Tachmes, Law Offices of Shutts & Bowen, counsel for Kendall Regional Medical Center, appeared before the Board and stated that the applicant was requesting approval of a zoning application for an unusual use permit under the County Code to construct a heliport on the hospital's campus. He noted the construction of the heliport was necessary in order for the hospital to become a Level II trauma center and be able to provide great health benefits to the community. He also noted that the question before the Board today was not whether another trauma center was needed but whether the application met the planning and zoning criteria for unusual use and standards for construction of the heliport under the unusual use criteria under Section 33-311 of the Miami-Dade County Code.

Mr. Tachmes noted that he was accompanied by the members of the Kendall Regional Team and presented demographic information on other trauma centers located on Broward County. He advised that the departments of Environmental Resources Management, Public Works, Miami-Dade Police Department, and Fire Rescue had no objections to the approval of the application and no negative public comments had been submitted. He clarified no public funding would be utilized for the construction of the trauma center, and the application had

received support from many community leaders including state senators and representatives, city leaders. He advised that a copy of the support letters were included in the handouts distributed to the planning and zoning staff for the review of the application.

Mr. Tachmes explained that the concerns raised by Jackson Memorial Hospital's (JMH) officials were the financial and competitive impact the construction of a second trauma center would have on JMH. He referenced all of the awards received by Kendall Regional Medical Center for the quality service provided, and he noted that the foregoing application was supported by many community leaders including state representatives and senators.

Mr. Mark McKenney appeared before the Board and presented a Power Point Presentation on the benefits and rationale for allowing the construction of a second trauma center, but he was interrupted by Chairman Martinez due to the introduction of the issue of the construction of a trauma center into the presentation of the foregoing application, which was strictly to consider approval of an unusual use permit to build a heliport.

Mr. Tachmes advised the Power Point Presentation had been prepared to present the background rationale for the application and the need for the trauma center.

Chairman Martinez announced he would allow the presentation on the trauma center, but would also allow the opponents of the application to address the issue of the trauma center as well.

Assistant County Attorney Craig Collier noted that the provisions for unusual use mentioned necessity; therefore, the distinction had to be made. He noted there was a difference between necessity versus competition, and the County could not take into consideration an applicant's competitive disadvantage. However, necessity had to be considered since it was part of the criteria for unusual use.

Mr. Carlos Migoya, Chief Executive Officer of Jackson Health Systems (JHS), appeared before the Board to oppose the foregoing application to build a heliport and construct a trauma center. He noted there was no need to construct a heliport inasmuch as it represented sharing of revenues. He noted that JHS welcomed competition, but the main concern was how the community would be impacted and how the surrounding neighbors would be inconvenienced.

Mr. Migoya advised that, as head of the Ryder Trauma Center, Dr. McKenney published a report stating there was no change in the mortality rate within a 50 mile radius due to transportation related issues; therefore, there would be no change in the mortality rate inasmuch as there was a 17 mile difference between Kendall Regional Medical Center and JMH.

Dr. Nicolas Namias, Chief of the Ryder Trauma Center, appeared before the Board in opposition to the foregoing application, noting that the heliport proposed for the Kendall Regional Medical Center would impact the neighborhood at the same time it would increase mortality for the residents of Miami-Dade and Monroe Counties. He explained the problems an operating helicopter would create within the surrounding neighborhood and whether the existing infrastructure of the surrounding area was adequate to support the increased traffic of vehicles

and consumers. He noted that property values and the quality of life of adjacent neighbors would be impacted negatively. He stated that based on the recent data published by the South Florida Study all patients in South Dade needing the services of a trauma center were able to reach Ryder Trauma Center. He urged the Board to request that the Miami-Dade Fire Rescue provide its input, that a track impact be completed, and that the foregoing application not be approved.

Mr. Tachsme presented his rebuttal, noting that all neighbors residing within the surrounding vicinity of the Kendall Regional Medical Center had been contacted and did not object to the application. In addition, the subject area residents did not attend today's zoning hearing to object to include neighbors from the Horse Country area.

Mr. Tachsme advised the applicant would ensure the building would withstand the wind of the helicopter and that the construction met all of the structural construction standards and engineering calculations as required by the construction permits.

Dr. Mark McKenney presented a Power Point Presentation on the benefits of opening the trauma center, explained the differences between a Level I and II trauma center, and its purpose. He requested that the Board approve at this meeting the foregoing application inasmuch as the approval was necessary to meet the deadlines from the Florida State Department of Health.

Mr. Tachsme noted that the Department of Planning and Zoning's recommendation indicated that the applicants met all of the criteria for an unusual use permit and there had been no substantial competent evidence presented from the opposing side to proof that the applicant had not met the criteria for an unusual use permit. Consequently, he requested the application be approved.

Upon conclusion of the foregoing presentation, the public hearing was closed.

Commissioner Souto spoke in favor of approving the recommendation of the Planning and Zoning Department, and he commented on a personal emergency incident when the hospital provided him with emergency services.

It was moved by Commissioner Souto that the Board approve the recommendation made by the Department of Planning and Zoning to approve the zoning application of Columbia LaGrange Hospital, Inc., and Kendall Healthcare Group, Ltd., with conditions, subject to the Board's acceptance of the proffered covenant. This motion was seconded by Commissioner Sosa; and upon being put to a vote, passed by a vote of 8-2 (Commissioners Barreiro and Jordan voted no). (Commissioners Bell, Heyman, and Edmonson were absent.)

**The foregoing zoning application was adopted by the Board and set forth in the Record of Resolutions and assigned Zoning Resolution Number Z-06-11.**

**NON-AGENDA ITEM**

**Lunch Break:** Chairman Martinez announced at approximately 1:18 p.m. that the meeting would not break for lunch, and there would be a working lunch.

**ADJOURNMENT**

There being no further business to come before the Board of County Commissioners, the Zoning Hearing was adjourned at 4:32 p.m.

Chairman Joe A. Martinez
Board of County Commissioners
Miami-Dade County

ATTEST: HARVEY RUVIN, CLERK

By: Diane Collins
Diane Collins, Deputy Clerk

# Internal Management &
# Fiscal Responsibility Committee
June 23, 2011

Prepared by: Flora Real

## EXHIBITS LIST

| NO. | DATE | ITEM # | DESCRIPTION |
|---|---|---|---|
| 1 | 06/23/2011 | | ZONING AGENDA |
| 2 | 06/23/2011 | | LIST OF ZONING HEARING ITEMS |
| 3 | 06/23/2011 | | ROLL CALLS |
| 4 | 06/23/2011 | | ZONING ACTION SHEET |
| 5 | 06/23/2011 | ITEM A | APPLICATION – RENE MIGUEL VALDEZ |
| 6 | 06/23/2011 | ITEM B | APPLICATION – SANTA FE HACIENDAS |
| 7 | 06/23/2011 | ITEM C | APPLICATION – NORTHSTAR GRACELAND, LLC |
| 8 | 06/23/2011 | ITEM 1 | APPLICATION - ARCHIMEDEAN PROPERTIES, LLC |
| 9 | 06/23/2011 | ITEM 2 | APPLICATION - MIAMI-DADE COUNTY AVIATION DEPT. |
| 10 | 06/23/2011 | ITEM 3 | APPLICATION – MIAMI-DADE COUNTY AVIATION DEPT. |
| 11 | 06/23/2011 | ITEM 4 | APPLICATION – COLUMBIA LAGRANGE HOSPITAL, INC. & KENDALL HEALTHCARE GROUP, LTD |
| 12 | 06/23/2011 | ITEM B | EXHIBIT – POWER POINT PRESENTATION BY APPLICANTS |
| 13 | 06/23/2011 | ITEM B | EXHIBIT – LETTER FROM REDLAND CITIZENS ASSOCIATION |
| 14 | 06/23/2011 | ITEM B | EXHIBIT – E-MAIL FROM KENDALL FEDERATION OF HOMEOWNER ASSOCIATION |
| 15 | 06/23/2011 | | SPEAKERS' CARDS |
| 16 | | | |
| 17 | | | |
| 18 | | | |
| 19 | | | |
| 20 | | | |

# Official Zoning Agenda

BOARD OF COUNTY COMMISSIONERS

COUNTY COMMISSION MEETING OF THURSDAY, JUNE 23, 2011

NOTICE: THE FOLLOWING HEARING IS SCHEDULED FOR 9:30 A.M., AND

ALL PARTIES SHOULD BE PRESENT AT THAT TIME

ANY PERSON MAKING IMPERTINENT OR SLANDEROUS REMARKS OR WHO BECOMES BOISTEROUS WHILE ADDRESSING THE COMMISSION SHALL BE BARRED FROM FURTHER AUDIENCE BEFORE THE COMMISSION BY THE PRESIDING OFFICER, UNLESS PERMISSION TO CONTINUE OR AGAIN ADDRESS THE COMMISSION BE GRANTED BY THE MAJORITY VOTE OF THE COMMISSION MEMBERS PRESENT.

NO CLAPPING, APPLAUDING, HECKLING OR VERBAL OUTBURSTS IN SUPPORT OR OPPOSITION TO A SPEAKER OR HIS OR HER REMARKS SHALL BE PERMITTED. NO SIGNS OR PLACARDS SHALL BE ALLOWED IN THE COMMISSION CHAMBER. PERSONS EXITING THE COMMISSION CHAMBER SHALL DO SO QUIETLY.

THE USE OF CELL PHONES IN THE COMMISSION CHAMBERS IS NOT PERMITTED. RINGERS MUST BE SET TO SILENT MODE TO AVOID DISRUPTION OF PROCEEDINGS. INDIVIDUALS, INCLUDING THOSE ON THE DAIS, MUST EXIT THE CHAMBERS TO ANSWER INCOMING CELL PHONE CALLS. COUNTY EMPLOYEES MAY NOT USE CELL PHONE CAMERAS OR TAKE DIGITAL PICTURES FROM THEIR POSITIONS ON THE DAIS.

THE NUMBER OF FILED PROTESTS AND WAIVERS ON EACH APPLICATION WILL BE READ INTO THE RECORD AT THE TIME OF HEARING AS EACH APPLICATION IS READ.

THOSE ITEMS NOT HEARD PRIOR TO THE ENDING TIME FOR THIS MEETING, WILL BE DEFERRED TO THE NEXT AVAILABLE ZONING HEARING MEETING DATE FOR THIS BOARD.

SWEARING IN OF WITNESSES

**A. RENE MIGUEL VALDEZ (06-10-CZ10-2/05-364)** **15-54-40**
**BCC/District 10**

(1) RU-1 TO RU-5A.

OR IN THE ALTERNATIVE:

(2) USE VARIANCE to permit RU-5A uses in the RU-1 zone.

Plans are on file and may be examined in the Zoning Department entitled "Proposed RU-5A Zoning For: Rene Miguel Valdez," as prepared by G.J.R., Architects, consisting of 2 sheets, dated 11/18/05. Plans may be modified at public hearing.

LOCATION: 2425 S.W. 82 Avenue, Miami-Dade County, Florida.

SIZE OF PROPERTY: 0.307 Acre

Department of Planning and Zoning Recommendation: Denial without prejudice of request #1 and approval with conditions of request #2, subject to the Board's acceptance of the proffered covenant.

Protests: 165 Waivers: 11

DENIAL OF APPEAL (SUSTAIN C.Z.A.B.): _____

APPROVAL OF APPEAL (OVERRULE C.Z.A.B.): _____

DEFERRED: _____

Deferred from 4-28-11

---

**B. SANTA FE HACIENDAS, LLC & CEMEX CONSTRUCTION MATERIALS FLORIDA, LLC (11-3-CC-2/09-176)** **01-55-38**
**BCC/District 11**

(1) UNUSUAL USE to permit a Lake Excavation.

Plans are on file and may be examined in the Department of Planning and Zoning entitled "Prop. Lake Excavation" as prepared by Fortin, Leavy, Skiles, Inc., Sheet '2-A' dated stamped received 9/27/10 and the remaining 4 sheets dated stamped received 8/17/10 for a total of 5 sheets. Plans may be modified at public hearing.

LOCATION: Lying West of S.W. 177 Avenue (Krome Avenue) and South of theoretical S.W. 90 Street, Miami-Dade County, Florida.

SIZE OF PROPERTY: 412 Acres

Department of Planning and Zoning Recommendation: Denial without prejudice.

Protests: 187 Waivers: 242

APPROVED: _____ DENIED WITH PREJUDICE: _____

DENIED WITHOUT PREJUDICE: _____ DEFERRED: _____
Deferred from 4-28-11

---

**C. NORTHSTAR GRACELAND, LLC (11-4-CC-1/10-076)** **13 & 24-55-39**
**BCC/District 8/9**

(1) DBC from BU-1A to GU

(2) SPECIAL EXCEPTION to permit a proposed cemetery.

(3) Deletion of a Declaration of Restrictions, recorded on Official Record Book 17735, Pages 3054 through 3057.

The purpose of request #3 is to remove an agreement on the site limiting it to a funeral home and administrative offices only, to permit the continued use of an existing cemetery in lieu thereof.

Request #1 through #3 on Exhibit "C"

(4) MODIFICATION of plans approved pursuant to Resolution No. 7696, last modified by Condition #2 of Resolution No. Z-68-97, both passed and adopted by the Board of County Commissioners, reading as follows:

FROM: "2. That in the approval of the plan, the same be substantially in accordance with that submitted for the hearing entitled "Graceland South" as prepared by Jack D. Raudenbush, Architect, dated received May 3, 1996, and consisting of 4 sheets, except as herein modified as follows:

2a. Remove the island at the entrance from the cemetery road and provide a 14' width for the entrance and exit driveways.

TO: "2. That in the approval of the plan, the same be substantially in accordance with that submitted for the hearing entitled "Proposed Offices Building for Graceland Memorial Park," as prepared by Gomez Associates Architects P.A., consisting of sixteen (16) sheets dated stamped received December 13, 2011.

The purpose of request #4 is to allow the applicant to submit plans showing the configuration of the cemetery and relocation of a previously approved office building.

Request #4 on Exhibit "A", "B" & "C"

The aforementioned plans are on file and may be examined in the Department of Planning and Zoning. Plans may be modified at public hearing.

LOCATION: 13900 S.W. 117th Avenue, Miami-Dade County, Florida.

SIZE OF PROPERTY: 36.02 Acres

Department of Planning and Zoning Recommendation: Approval of request #1 and approval with conditions of requests #2 through #4.

Protests: 0 Waivers: 0

APPROVED: _____ DENIED WITH PREJUDICE: _____

DENIED WITHOUT PREJUDICE: _____ DEFERRED: _____
Deferred from 4-28-11

---

**1. ARCHIMEDEAN PROPERTIES, LLC (11-6-CC-1/08-175)** **25-54-39**
**BCC/District 10**

(1) SPECIAL EXCEPTION to permit the expansion of an existing charter school onto additional property to the northeast.

(2) SPECIAL EXCEPTION to permit the expansion of the existing charter school from 800 students to 1,300 students in grades K-12.

(3) MODIFICATION of Condition #6 of Resolution #Z-21-09, passed and adopted by the Board of County Commissioners, and reading as follows:

FROM: "6. That the charter school use be limited to grades Kindergarten through 12th and be limited to a maximum of 800 students."

TO: "6. That the charter school use be limited to grades Kindergarten through 12th and be limited to a maximum of 1,300 students."

(4) MODIFICATION of Conditions #3, #9 and #11 of Resolution #Z-16-05, last modified by Resolution Z-21-09, passed and adopted by the Board of County Commisioners and reading as follows:

FROM: "3. That in the approval of the plan, the same be substantially in accordance with that submitted for the hearing entitled "Archimedean Academy Inc". Charter School Addition of Grades 9 to 12, as prepared by Anthony E. Tzamtzis, consisting of 4 sheets, dated stamped received 3/31/09."

TO: "3. That in the approval of the plan, the same be substantially in accordance with that submitted for the hearing entitled 'Archimedean Academy, Inc. Master Plan for Middle and High School Expansion,' as prepared by Anthony E. Tzamtzis AIA, consisting of 21 sheets dated stamped received April 5, 2011 and a boundary survey as prepared by Delta Surveyors, Inc. consisting of 2 sheets dated stamped received April 12, 2011"

FROM: "9. That night activities and/or functions at the charter school shall be limited to 12 events per year and shall end no later than 10:00 p.m."

TO: "9. That night activities and/or special events at the charter school shall be limited to 24 events per year and shall end no later than 10:00 p.m."

FROM: "11. That the charter school use shall be limited to Grades K-12th grade for a maximum of 800 students."

TO: "11. That the charter school use shall be limited to Grades K-12th grade for a maximum of 1,300 students."

(5) MODIFICATION of Condition #2 of Resolution Z-31-06 last modified by Resolution Z-21-09 passed and adopted by the Board of County Commissioners, and reading as follows:

FROM: "2. That the charter school use shall be limited to grades K through 12th for a total of 800 students as follows:

| | | |
|---|---|---|
| Year 1 | 2006-2007 School Year | addition of 80 students (620 Students) |
| Year 2 | 2007-2008 School Year | addition of 60 students (680 Students) |
| Year 3 | 2008-2009 School Year | addition of 60 students (740 Students) |
| Year 4 | 2009-2010 School Year | addition of 60 students (800 Students)" |

TO: "2. That the charter school use shall be limited to grades K through 12th with the expansion from 800 to 1,300 students as follows:

| | | |
|---|---|---|
| Year 1 | 2011-2012 School Year | No. of permitted students 800-950 |
| Year 2 | 2012-2013 School Year | No. of permitted students 950-1100 |
| Year 3 | 2013-2014 School Year | No. of permitted students 1100-1250 |
| Year 4 | 2014-2015 School Year | No. of permitted students 1250-1300." |

(6) Deletion of three (3) Declarations of Restrictions Recorded at Official Record Book 23679, Pages 4935-4943, Official Record Book 25853, pages 4991-5006 and Official Record Book 27020, Pages 0954-972.

The purpose of requests #3 - #6 is to permit the applicant to submit revised site plans showing the expansion of the charter school onto additional property and showing additional classroom buildings, to increase the number of students, to increase the number of night activities and functions and to delete three covenants in order to submit one consolidated covenant that encompasses the entire property.

(7) Applicant is requesting to permit parking on natural terrain (not permitted).

The aforementioned plans are on file and may be examined in the Department of Planning and Zoning. Plans may be modified at public hearing.

LOCATION: 12425 S.W. 72 Street, Miami-Dade County, Florida.

SIZE OF PROPERTY: 12.67 Gross Acres

Developmental Impact Committee
Recommendation: Denial without prejudice.

Protests: 0 Waivers: 0

APPROVED: _____ DENIED WITH PREJUDICE: _____

DENIED WITHOUT PREJUDICE: _____ DEFERRED: _____

---

**2. MIAMI-DADE COUNTY (11-6-CC-2/10-150)** **35-53-40**
**AVIATION DEPARTMENT** **BCC/District 12**

IU-2 to GP

LOCATION: The northeast corner of NW 12 Street and Milan Dairy Road Extension, Miami Dade County, Florida.

SIZE OF PROPERTY: 14.61 Acres

Department of Planning and Zoning
Recommendation: Approval.

Protests: 0 Waivers: 0

APPROVED: _____ DENIED WITH PREJUDICE: _____

DENIED WITHOUT PREJUDICE: _____ DEFERRED: _____

---

**3. MIAMI-DADE COUNTY (11-6-CC-3/10-151)** **35-53-40**
**AVIATION DEPARTMENT** **BCC/District 12**

IU-2 to GP

LOCATION: Lying north of NW 14 Street, between N.W. 72 Avenue and the Palmetto Expressway, Miami-Dade County, Florida.

SIZE OF PROPERTY: 26.5 Acres

Department of Planning and Zoning
Recommendation: Approval.

Protests: 0 Waivers: 0

APPROVED: _____ DENIED WITH PREJUDICE: _____

DENIED WITHOUT PREJUDICE: _____ DEFERRED: _____

---

**4. COLUMBIA LAGRANGE HOSPITAL, INC. & KENDALL HEALTHCARE GROUP, LTD.** (11-6-CC-4/11-038) **13-54-39**
**BCC/District 10**

(1) UNUSUAL USE to permit a proposed heliport.

(2) MODIFICATION of Condition #2 of Resolution # Z-8-04, passed and adopted by the Board of County Commissioners on the 18th day of December, 2004, only as it applies to the subject property and reading as follows:

FROM: "2. That the property will be developed in substantial compliance with the site plan entitled Kendall Medical Center, prepared by Gresham Smith and Partners, dated the 2nd day of December, 2003."

TO: "2. That the property will be developed in substantial compliance with the site plan entitled Kendall Medical Center, prepared by Gresham Smith and Partners, dated the 2nd day of December, 2003, and "Kendall Medical Center Helipad Addition" prepared Gresham Smith and Partners, dated stamped received April 6, 2011.

(3) Modification of paragraph #1 of the a Declaration of Restriction recorded in Official Record Book 22393, PGS 2160-2170, reading as follows:

FROM: "2. That the property will be developed in substantial compliance with the site plan entitled Kendall Medical Center, prepared by Gresham Smith and Partners, dated the 2nd day of December, 2003. ("Site Plan"). If the property is developed in phases, each phase will be developed in substantial accordance with the site plan.

TO: "2. That the property will be developed in substantial compliance with the site plan entitled Kendall Medical Center, prepared by Gresham Smith and Partners, dated the 2nd day of December, 2003. ("Site Plan") and "Kendall Medical Center Helipad Addition" prepared Gresham Smith and Partners, dated stamped received April 6, 2011. If property is developed in phases, each phase will be developed in substantial accordance with the site plan.

The purpose of the request is to allow the applicant to submit plans showing the location the proposed heliport on the roof of the existing hospital building.

The aforementioned plans are on file and may be examined in the Department of Planning and Zoning. Plans may be modified at public hearing.

LOCATION: 11750 BIRD ROAD, MIAMI-DADE COUNTY, FLORIDA

SIZE OF PROPERTY: 17.92 Acres

Department of Planning and Zoning Recommendation: Approval with conditions, subject to the Board's acceptance of the proffered covenant.

Protests: 0 Waivers: 0

APPROVED: _____ DENIED WITH PREJUDICE: _____

DENIED WITHOUT PREJUDICE: _____ DEFERRED: _____

---

THE END

NOTICE OF APPEAL RIGHTS

Decisions of the Community Zoning Appeals Board (CZAB) are appealed either to Circuit Court or to the Board of County Commissioners (BCC) depending upon the items requested in the Zoning Application. Appeals to Circuit Court must be filed within 30 days of the transmittal of the CZAB resolution. Appeals to BCC must be filed with the Zoning Hearings Section of the Department of Planning and Zoning within 14 days of the posting of the results in the department.

Further information and assistance may be obtained by contacting the Zoning Hearings Section for the Department of Planning and Zoning at (305) 375-2640. For filing or status of Appeals to Circuit Court, you may call the Clerk of the Circuit Court at (305) 349-7409.

MIAMI-DADE COUNTY

# KITS



## BOARD OF COUNTY COMMISSIONERS
## ZONING HEARINGS

## THURSDAY, JUNE 23, 2011

**PLACE OF MEETING:** COUNTY COMMISSIONERS CHAMBERS
OF THE STEPHEN P. CLARK CENTER – 2ND FLOOR
111 NW 1 STREET, MIAMI

**TIME OF MEETING** 9:30 A.M.

---

| PREVIOUSLY DEFERRED | | HEARING # | DISTRICT |
|---|---|---|---|
| **A.** | **RENE MIGUEL VALDEZ** | | |
| Request(s): | - District Boundary Change from RU-1 to RU-5A or in the alternative, Use Variance to permit RU-5A uses in the RU-1 zone. | **05-364 (Appeal)** | **10** |
| Location: | 2425 SW 82 Avenue, Miami-Dade County, Florida. Within the Urban Development Boundary (UDB). | | |
| **B.** | **SANTA FE HACIENDAS, LLC & CEMEX CONSTRUCTION MATERIALS FLORIDA, LLC.** | **09-176** | **11** |
| Request(s): | - Unusual Use to permit a Lake Excavation. | | |
| Location: | Lying west of SW 177 Avenue (Krome Avenue) and south of theoretical SW 90 Street, Miami-Dade County, Florida. Outside the Urban Development Boundary (UDB). | | |
| **C.** | **NORTHSTAR GRACELAND, LLC.** | **10-076** | **8 & 9** |
| Request(s): | - Zone change from BU-1A to GU<br>- Special exception to permit a cemetery<br>- Modify resolution & covenant to permit the applicant to submit revised site plans showing relocation of an office building & to delete a covenant on the BU-1A portion of the site. | | |
| Location: | 13900 SW 117 Avenue, Miami-Dade County, Florida. Within the Urban Development Boundary (UDB). | | |

# BOARD OF COUNTY COMMISSIONERS
# ZONING HEARINGS

## THURSDAY, JUNE 23, 2011

| CURRENT | | HEARING # | DISTRICT |
|---|---|---|---|
| 1. | **ARCHIMEDEAN PROPERTIES, LLC** | 08-175 | 10 |
| Request(s): | - Special exception to permit an expansion of an existing charter school to the northeast and to increase the number of students<br>- Modify resolution and modify and delete covenants to permit the applicant to submit revised site plans showing the expansion of the charter school onto additional property and showing additional classroom buildings, to increase the number of students, to increase the number of night activities and special events and to delete three covenants in order to submit one consolidated covenant that encompasses the entire property to permit less parking than required. | (DIC) | |
| Location: | 12425 SW 72 Street (Sunset Drive), Miami-Dade County, Florida.<br>Within the Urban Development Boundary (UDB). | | |
| 2. | **MIAMI-DADE COUNTY AVIATION DEPARTMENT** | 10-150 | 12 |
| Request(s): | - District Boundary Change from IU-2 to GP | | |
| Location: | The northeast corner of NW 12 Street and Milam Dairy Road extension, Miami-Dade County, Florida.<br>Within the Urban Development Boundary (UDB). | | |
| 3. | **MIAMI-DADE COUNTY AVIATION DEPARTMENT** | 10-151 | 12 |
| Request(s): | - District Boundary Change from IU-2 to GP | | |
| Location: | Lying north of NW 14 Street, between Milam Dairy Road extension and the Palmetto Expressway, Miami-Dade County, Florida.<br>Within the Urban Development Boundary (UDB). | | |
| 4. | **COLUMBIA LAGRANGE HOSPITAL, INC. & KENDALL HEALTHCARE GROUP, LTD.** | 11-038 | 10 |
| Request(s): | - Unusual Use to permit a proposed heliport to be located on the roof of an existing hospital building.<br>- Modify Resolution and Declaration of Restrictions in order to submit revised plans which show the location of a proposed heliport on the roof of one of the existing hospital buildings | | |
| Location: | 11750 Bird Road, Miami-Dade County, Florida.<br>Within the Urban Development Boundary (UDB). | | |

Start: 9:48:53 AM

**Board of County Commissioners**

**Roll Call Sheet for** 6/23/2011

| MEMBER | PRESENT | LATE | ABSENT |
|---|---|---|---|
| Commissioner Barreiro | ✓ (10:00) | | |
| Commissioner Bell | ✓ (9:48:53) | | |
| Commissioner Bovo | | ✓ | |
| Commissioner Diaz | ✓ 9:44:26 | | |
| Commissioner Heyman | ✓ (9:48:53) | | |
| Commissioner Jordan | ✓ (10:00) | | |
| Commissioner Monestime | ✓ (9:48:53) | | |
| Commissioner Moss | ✓ (9:48:53) | | |
| Commissioner Sosa | ✓ (9:48:53) | | |
| Commissioner Souto | ✓ (9:41) | | |
| Commissioner Suarez | ✓ (9:41) | | |
| **Vice Chairwoman Edmonson** | | | Excused (memo) |
| **Chairman Martinez** | ✓ (9:41) | | |

ACA Craig Collier
ACA John McKinnis
Doris Dickens
FLORA REAL
Scott Rappleye

MARC LAFERRIER
GRISEL RODRIGUEZ

***NOTE:*** ***7 members constitute a quorum***

Reconvene 3:58:27
10 members

**Board of County Commissioners**

**Roll Call Sheet for** 6/23/11

| MEMBER | PRESENT | LATE | ABSENT |
|---|---|---|---|
| Commissioner Barreiro | ✓ | | |
| Commissioner Bell | | | ✓ |
| Commissioner Bovo | ✓ | | |
| Commissioner Diaz | ✓ | | |
| Commissioner Heyman | | | ✓ |
| Commissioner Jordan | ✓ | | |
| Commissioner Monestime | ✓ | | |
| Commissioner Moss | ✓ | | |
| Commissioner Sosa | ✓ | | |
| Commissioner Souto | ✓ | | |
| Commissioner Suarez | ✓ | | |
| **Vice Chairwoman Edmonson** | | | Excused |
| **Chairman Martinez** | ✓ | | |

***NOTE:*** *7 members constitute a quorum*

ZONING ACTION

MEMORANDUM

**Harvey Ruvin**
**Clerk of the Circuit and County Courts**
**Clerk of the Board of County Commissioners**
(305) 375-5126
(305) 375-2484 FAX
www.miami-dadeclerk.com

**DATE**: June 23, 2011 **#Z-04-11**

**ITEM: A.**

**APPLICANT: RENE MIGUEL VALDEZ (06-10-CZ10-2/05-364)**

**MOTION:** Denied Request #1 without prejudice, approved Request #2 with conditions, and accepted the proffered covenant as recommended by the Department of Planning and Zoning.

| ROLL CALL | M/S | YES | NO | ABSENT |
|---|---|---|---|---|
| Barreiro | | | | X |
| Bell | | X | | |
| Bovo | | | | X |
| Diaz | | X | | |
| Heyman | | X | | |
| Jordan | | | | X |
| Monestime | | X | | |
| Moss | | X | | |
| Sosa | S | | | |
| Souto | M | | | |
| Suarez | | X | | |
| **Vice Chairwoman Edmonson** | | | | X |
| **Chairman Martinez** | | X | | |
| **TOTAL** | | **9** | **0** | **4** |

**DATE**: June 23, 2011 **#Z-05-11**

**ITEM: C.**

**APPLICANT: NORTHSTAR GRACELAND, LLC (11-4-CC-1/10-076)**

**MOTION:** Approved Request #1and approved Requests #2 through #4 with conditions as recommended by the Department of Planning and Zoning.

| ROLL CALL | M/S | YES | NO | ABSENT |
|---|---|---|---|---|
| Barreiro | | X | | |
| Bell | S | X | | |
| Bovo | | | | X |
| Diaz | | X | | |
| Heyman | | X | | |
| Jordan | | | | X |
| Monestime | | X | | |
| Moss | M | X | | |
| Sosa | | X | | |
| Souto | | X | | |
| Suarez | | X | | |
| **Vice Chairwoman Edmonson** | | | | X |
| **Chairman Martinez** | | X | | |
| **TOTAL** | | **10** | **0** | **3** |

**DATE**: June 23, 2011 **#Z-**

**ITEM: 2.**

**APPLICANT: MIAMI-DADE COUNTY (11-6-CC-2/10-150)**

**MOTION: Deferred to no date certain, to be re-advertised.**

| ROLL CALL | M/S | YES | NO | ABSENT |
|---|---|---|---|---|
| Barreiro | | X | | |
| Bell | | X | | |
| Bovo | | | | X |
| Diaz | M | X | | |
| Heyman | | X | | |
| Jordan | | | | X |
| Monestime | | X | | |
| Moss | | X | | |
| Sosa | S | X | | |
| Souto | | X | | |
| Suarez | | X | | |
| **Vice Chairwoman Edmonson** | | | | X |
| **Chairman Martinez** | | X | | |
| **TOTAL** | | **10** | **0** | **3** |

**DATE**: June 23, 2011 **#Z-**

**ITEM: 3.**

**APPLICANT: MIAMI-DADE COUNTY AVIATION DEPARTMENT (11-6-CC-3/10-151)**

**MOTION: Deferred to no date certain, to be re-advertised.**

| ROLL CALL | M/S | YES | NO | ABSENT |
|---|---|---|---|---|
| Barreiro | | X | | |
| Bell | | X | | |
| Bovo | | | | X |
| Diaz | M | X | | |
| Heyman | | X | | |
| Jordan | | | | X |
| Monestime | | X | | |
| Moss | | X | | |
| Sosa | S | X | | |
| Souto | | X | | |
| Suarez | | X | | |
| **Vice Chairwoman Edmonson** | | | | X |
| **Chairman Martinez** | | X | | |
| **TOTAL** | | **10** | **0** | **3** |

ZONING ACTION

MEMORANDUM

**Harvey Ruvin**
**Clerk of the Circuit and County Courts**
**Clerk of the Board of County Commissioners**
**(305) 375-5126**
**(305) 375-2484 FAX**
www.miami-dadeclerk.com

**DATE**: June 23, 2011 **#Z-**

**ITEM: B.**

**APPLICANT: SANTA FE HACIENDAS, LLC & CEMEX CONSTRUCTION MATERIALS FLORIDA, LLC (11-3-CC-2/09-176)**

**MOTION:** MOTION TO APPROVE THE APPLICATION TO PERMIT LAKE EXCAVATION ON THE EASTERN ONE HALF PORTION OF THE SUBJECT PROPERTY; TO LIMIT PHASE 1 OF THE EXCAVATION TO 12 YEARS, TO PROHIBIT EXCAVATION WITHIN 25 FEET OF THE EVERGLADES; AND TO REQUIRE COUNTY COMMISSION APPROVAL ON BALANCE OF THE EXCAVATION FAILED. THIS APPLICATION WAS CARRIED OVER TO THE JULY 21, 2011 ZONING MEETING. A VERBATIM TRANSCRIPT IS TO BE PROVIDED TO VICE CHAIRWOMAN EDMONSON, WHO WAS ABSENT.

| ROLL CALL | M/S | YES | NO | ABSENT |
|---|---|---|---|---|
| Barreiro | | X | | |
| Bell | | X | | |
| Bovo | | X | | |
| Diaz | S | X | | |
| Heyman | | | X | |
| Jordan | | | X | |
| Monestime | | X | | |
| Moss | | | X | |
| Sosa | | | X | |
| Souto | | | X | |
| Suarez | | | X | |
| **Vice Chairwoman Edmonson** | | | | X |
| **Chairman Martinez** | M | X | | |
| **TOTAL** | | **6** | **6** | **1** |

**DATE**: June 23, 2011 **#Z-**

**ITEM: 1.**

**APPLICANT: ARCHIMEDIAN PROPERTIES, LLC (11-6-CC-1/08-175)**

**MOTION: Denied without prejudice as recommended by the Developmental Impact Committee. This application was carried over to the July 21, 2011 Zoning Meeting.**

| ROLL CALL | M/S | YES | NO | ABSENT |
|---|---|---|---|---|
| Barreiro | | | X | |
| Bell | | | X | |
| Bovo | | | X | |
| Diaz | | | X | |
| Heyman | | | X | |
| Jordan | | X | | |
| Monestime | | X | | |
| Moss | S | X | | |
| Sosa | | X | | |
| Souto | M | X | | |
| Suarez | | X | | |
| **Vice Chairwoman Edmonson** | | | | X |
| **Chairman Martinez** | | | X | |
| **TOTAL** | | **6** | **6** | **1** |

ZONING ACTION

MEMORANDUM
Harvey Ruvin
Clerk of the Circuit and County Courts
Clerk of the Board of County Commissioners
(305) 375-5126
(305) 375-2484 FAX
www.miami-dadeclerk.com

**DATE**: June 23, 2011 **#Z-06-11**

**ITEM: 4.**

**APPLICANT: COLOMBIA LAGRANGE HOSPITAL, INC. AND KENDALL HEALTHCARE GROUP, LTD. (11-6-CC-4/11-038)**

**MOTION: Approved with conditions subject to Board's acceptance of proffered covenant as recommended by the Department of Planning and Zoning.**

| ROLL CALL | M/S | YES | NO | ABSENT |
|---|---|---|---|---|
| Barreiro | | | X | |
| Bell | | | | X |
| Bovo | | X | | |
| Diaz | | X | | |
| Heyman | | | | X |
| Jordan | | | X | |
| Monestime | | X | | |
| Moss | S | X | | |
| Sosa | | X | | |
| Souto | M | X | | |
| Suarez | | X | | |
| **Vice Chairwoman Edmonson** | | | | X |
| **Chairman Martinez** | | X | | |
| **TOTAL** | | **8** | **2** | **3** |

**A. RENE MIGUEL VALDEZ**
**(Applicant)**

**06-10-CZ10-2 (05-364)**
**BCC/District 10**
**Hearing Date: 06/23/11**

Property Owner (if different from applicant) **Same.**

Is there an option to purchase ☐ /lease ☐ the property predicated on the approval of the zoning request? Yes ☐ No ☑

Disclosure of interest form attached? Yes ☐ No ☑

**Previous Zoning Hearings on the Property:**

| Year | Applicant | Request | Board | Decision |
|---|---|---|---|---|
| No History | | | | |

Action taken today does not constitute a final development order, and one or more concurrency determinations will subsequently be required. Provisional determinations or listings of needed facilities made in association with this Initial Development Order shall not be binding with regard to future decisions to approve or deny an Intermediate or Final Development Order on any grounds.

ZONING ACTION

MEMORANDUM
Harvey Ruvin
Clerk of the Circuit and County Courts
Clerk of the Board of County Commissioners
(305) 375-5126
(305) 375-2484 FAX
www.miami-dadeclerk.com

**DATE: 04/28/2011** **#Z- 05-364**

**ITEM: A**
**APPLICANT: RENE MIGUEL VALDEZ**

**MOTION: DEFERRED – 6/23/11 W/O NOTICE**

| ROLL CALL | M/S | YES | NO | ABSENT |
|---|---|---|---|---|
| Barreiro | | X | | |
| Bell | | X | | |
| Diaz | | | | E |
| | | | | |
| Heyman | S | X | | |
| Jordan | | | | E |
| Monestime | | X | | |
| Moss | | X | | |
| Sosa | | | | E |
| Souto | M | X | | |
| **Vice Chairwoman Edmonson** | | | | E |
| **Chairman Martinez** | | X | | |
| **TOTAL** | | 7 | 0 | |

ZONING ACTION

MEMORANDUM
Harvey Ruvin
Clerk of the Circuit and County Courts
Clerk of the Board of County Commissioners
(305) 375-5126
(305) 375-2484 FAX
www.miami-dadeclerk.com

**DATE:** 3/17/2011 **#Z**

**ITEM: A.**
**APPLICANT: RENE MIGUEL VALDEZ**
**(06-10-CZ10-2/05-364)**

**MOTION: Deferred to April 28, 2011 due to lack of a quorum.**

| ROLL CALL | M/S | YES | NO | ABSENT |
|---|---|---|---|---|
| Barreiro | | | | |
| Bell | | | | |
| Diaz | | | | |
| Gimenez | | | | |
| Heyman | | | | |
| Jordan | | | | |
| Monestime | | | | |
| Moss | | | | |
| Seijas | | | | |
| Sosa | | | | |
| Souto | | | | |
| **Vice Chairwoman Edmonson** | | | | |
| **Chairman Martinez** | | | | |
| **TOTAL** | | | | |

ZONING ACTION

MEMORANDUM
Harvey Ruvin
Clerk of the Circuit and County Courts
Clerk of the Board of County Commissioners
(305) 375-5126
(305) 375-2484 FAX
www.miami-dadeclerk.com

**DATE:** April 26, 2007 **#Z-06-07**

**ITEM: A.**

**APPLICANT:** Rene Miguel Valdez

**MOTION:** Denied the appeal and upheld the decision of the CZAB which denied the application with prejudice

| ROLL CALL | M/S | YES | NO | ABSENT |
|---|---|---|---|---|
| Diaz | | X | | |
| Edmonson | | | | X |
| Gimenez | | X | | |
| Heyman | | | | X |
| Martinez | | X | | |
| Moss | S | | | |
| Rolle | | X | | |
| Seijas | | | | X |
| Sorenson | | X | | |
| Sosa | | X | | |
| Souto | M | | | |
| **Vice Chairwoman Jordan** | | X | | |
| **Chairman Barreiro** | | X | | |
| **TOTAL** | | 10 | 0 | 3 |

ZONING ACTION

MEMORANDUM

**Harvey Ruvin**
**Clerk of the Circuit and County Courts**
**Clerk of the Board of County Commissioners**
**(305) 375-5126**
**(305) 375-2484 FAX**
www.miami-dadeclerk.com

**DATE:** 2/8/2007 #Z-

**ITEM: 1.**
**APPLICANT: RENE MIGUEL VALDEZ**
**(06-10-CZ10-2/05-364)**

**MOTION:** to defer the foregoing application to the April 26, 2007, BCC Zoning meeting, with leave to amend; and to correct the advertisement with a new notice to the applicant.

| ROLL CALL | M/S | YES | NO | ABSENT |
|---|---|---|---|---|
| Diaz | | X | | |
| Edmonson | | X | | |
| Gimenez | | X | | |
| Heyman | | X | | |
| Martinez | | X | | |
| Moss | | X | | |
| Rolle | | X | | |
| Seijas | | X | | |
| Sorenson | | X | | |
| Sosa | | | | X |
| Souto | | X | | |
| **Vice Chairwoman Jordan** | | X | | |
| **Chairman Barreiro** | | | | X |
| **TOTAL** | | **11** | **0** | **2** |

# MIAMI-DADE COUNTY
# COMMUNITY ZONING APPEALS BOARD - AREA 10
# MOTION SLIP

**2**

APPLICANT'S NAME: RENE MIGUEL VALDEZ

REPRESENTATIVE: **APPLICANT, PHIL WARD, ADRIAN PARADOS**

| HEARING NUMBER | HEARING DATE | RESOLUTION NUMBER | | |
|---|---|---|---|---|
| 06-10-CZ10-2 (05-364) | OCTOBER 17, 2006 | CZAB10 | **62** | 06 |

**REQ**: (1) RU-1 to RU-5A.....OR IN THE ALTERNATIVE.....(2) UV permit RU-5A uses in RU-1

**REC: DWOP**

☐ WITHDRAW: ☐ APPLICATION ☐ ITEM(S):_____

☐ DEFER: ☐ INDEFINITELY ☐ TO:_____ ☐ W/LEAVE TO AMEND

■ DENY: ■ WITH PREJUDICE ☐ WITHOUT PREJUDICE

☐ ACCEPT PROFFERED COVENANT ☐ ACCEPT REVISED PLANS

☒ APPROVE: ☐ PER REQUEST ☐ PER DEPARTMENT ☐ PER D.I.C.

☐ WITH CONDITIONS

☐

| TITLE | M/S | NAME | YES | NO | ABSENT |
|---|---|---|---|---|---|
| VICE-CHAIRMAN | | Juan Carlos ACOSTA | X | | |
| MR. | | Javier A. BETANCOURT | | | X |
| MR. | M | Julio R. CACERES | X | | |
| MR. | | Manuel CASAS | X | | |
| MR. | S | Jose GARRIDO (C.A.) | X | | |
| CHAIRMAN | | Carlos A. MANRIQUE | X | | |
| | | VOTE: | 5 | 0 | |

EXHIBITS: ■ YES ☐ NO COUNTY ATTORNEY: **DAVID HOPE**

**MIAMI-DADE COUNTY DEPARTMENT OF PLANNING AND ZONING**
**RECOMMENDATION TO THE BOARD OF COUNTY COMMISSIONERS**

**APPLICANT:** Rene Miguel Valdez **PH:** Z05-364 (06-10-CZ10-2)

**SECTION:** 15-54-40 **DATE:** June 23, 2011

**COMMISSION DISTRICT:** 10 **ITEM NO.:** A

==========

## A. INTRODUCTION

- **SUMMARY OF REQUESTS:**

  The applicant is requesting a district boundary change on the subject property from RU-1, Single-Family Residential District, to RU-5A, Semi-Professional Office District, or in the alternative, a use variance to permit RU-5A office uses in the RU-1 zoning district.

- **REQUESTS:**

  THE BOARD OF COUNTY COMMISSIONERS WILL BE CONDUCTING PROCEEDINGS ON REMAND FROM CIRCUIT COURT WITH DIRECTIONS TO APPROVE THE FOLLOWING:

  (1) RU-1 to RU-5A

  OR IN THE ALTERNATIVE:

  (2) Use Variance to permit RU-5A uses in the RU-1 zone.

  Plans are on file and may be examined in the Department of Planning and Zoning entitled "Proposed RU-5A Zoning for Rene Miguel Valdes," as prepared by G. J. R. Architects, consisting of 2 sheets, dated stamped received 11/18/05. Plans may be modified at public hearing.

- **LOCATION:** 2425 SW 82 Avenue, Miami-Dade County, Florida.

- **SIZE:** 0.307 Acres

**B. ZONING HEARINGS HISTORY:** In October 2006, the Community Zoning Appeals Board 10 (CZAB 10) denied with prejudice the applicant's requests for a zone change from RU-1 to RU-5A or in the alternative a use variance to permit RU-5A uses in the RU-1 zone, pursuant to Resolution No. CZAB10-62-06. The applicant appealed CZAB 10's decision to the BCC which denied said appeal with prejudice, pursuant to Resolution No. Z-6-07. This application has been remanded to the Board of County Commissioners (BCC) by the Circuit Court of the Eleventh Judicial Circuit with instructions to act in accordance with Court's Opinion which rejected the Board's decision to deny the application. The Circuit Court quashed the BCC's decision to sustain the Community Zoning Appeals Board 10 decision to deny this application.

## C. COMPREHENSIVE DEVELOPMENT MASTER PLAN (CDMP) OBJECTIVES, POLICIES AND INTERPRETATIVE TEXT:

1. *The Adopted 2015 and 2025 Land Use Plan designates the subject property as being within the Urban Development Boundary for* ***Low Density Residential*** *use. The residential densities allowed in this category shall range from a minimum of 2.5 to a maximum of 6.0 dwelling units per gross acre. Residential densities of blocks abutting activity nodes as defined in the Guidelines for Urban Form, or of blocks abutting section line roads between nodes, shall be allowed a maximum residential density of 10.0 dwelling units per gross acre. To promote infill development, residential development exceeding the maximum density of 6.0 dwelling units per acre is permitted for substandard lots that were conveyed or platted prior to August 2nd, 1938. This density category is generally characterized by single family housing, e.g., single family detached, cluster, and townhouses. It could include low-rise apartments with extensive surrounding open space or a mixture of housing types provided that the maximum gross density is not exceeded.*

2. *Existing lawful residential and non-residential uses and zoning are not specifically depicted on the LUP map. They are however reflected in the average Plan density depicted. All such lawful uses and zoning are deemed to be consistent with this Plan as provided in the section of this chapter titled "Concepts and Limitations of the Land Use Plan Map." The limitations referenced in this paragraph pertain to existing zoning and uses. All approval of new zoning must be consistent with the provisions of the specific category in which the subject parcel exists, including the provisions for density averaging and definition of gross density.*

3. ***Office uses*** *smaller than five acres in size may be approved in areas designated as Residential Communities where other office, business or industrial use(s) which are not inconsistent with this plan already lawfully exist on the same block face. However, where such an office, business, or industrial use exists only on a corner lot of a subject block face or block end, approval of office use elsewhere on the block is limited to the one block face or block end which is the more heavily trafficked side of the referenced corner lot. Office uses may be approved on such sites only if consistent with the objectives and policies of the CDMP and the use or zoning district would not have an unfavorable effect on the surrounding area: by causing an undue burden on transportation facilities including roadways and mass transit or other utilities and services including water, sewer, drainage, fire, rescue, police and schools; by providing inadequate off-street parking, service or loading areas; by maintaining operating hours, outdoor lighting or signage out of character with the neighborhood; by creating traffic, noise, odor, dust or glare out of character with the neighborhood; by posing a threat to the natural environment including air, water and living resources; or where the character of the buildings, including height, bulk, scale, floor area ratio or design would be out of scale with the character of the neighboring uses or would detrimentally impact the surrounding area. In applying this provision, the maximum limits of an eligible residentially designated block face along which office uses may be extended shall not extend beyond the first intersecting public or private street, whether existing, platted or projected to be necessary to provide access to other property, or beyond the first railroad right-of-way, utility transmission easement or right-of-way*

*exceeding 60 feet in width, canal, lake, public school, church, park, golf course or major recreational facility.*

*In addition, office uses may be approved along the frontage of major roadways in residential community areas where residences have become less desirable due to inadequate setbacks from roadway traffic and noise, or due to a mixture of nonresidential uses or activities in the vicinity in accordance with the limitations set forth in this paragraph. These office uses may occur in combination with or independent of residential use. Such limited office uses may be approved on such sites in residential community areas only where: a) the residential lot fronts directly on a Major Roadway as designated on the Land Use Plan map (Frontage roads are not eligible for consideration); b) the lot or site size does not exceed one acre; and c) the residential area is not zoned, developed or designated on the Land Use Plan map for Estate Density Residential, nor does subject frontage face such an Estate Density area. Office use approvals, pursuant to this paragraph may only authorize: a) conversion of an existing residence into an office; b) addition of an office use to an existing residence; or, c) the construction of a new office building on lots which were finally platted prior to March 25, 1991 in a size one acre or smaller. Additionally, such office uses may be approved only if the scale and character of the prospective office use are compatible with the surrounding residential neighborhood and if the site has sufficient dimensions to permit adequate on-site parking and buffering of adjacent residences from the office. Other factors that will be considered in determining compatibility include, but are not limited to traffic, noise, lighting, shadows, access, signage, landscaping, and hours of operation. Signage shall be restricted both in size, style, and location to preclude a commercial appearance. Landscaping and buffering of adjacent residences and rear properties will be required. Emphasis shall be placed on retention of the general architectural style of the area, where the area is sound and attractive. Development Orders authorizing the conversion of existing homes into offices, the addition of offices to existing residences or the construction of new buildings encompassing office uses pursuant to this paragraph may be approved only where compatible and where the intensity and character of the new building including gross floor area, lot coverage and height, will be consistent with the homes which exist or which could be built on the immediately adjacent parcels.*

4. ***Policy LU-4D**. Uses which are supportive but potentially incompatible shall be permitted on sites within functional neighborhoods, communities or districts only where proper design solutions can and will be used to integrate the compatible and complementary elements and buffer any potentially incompatible elements.*

**D. NEIGHBORHOOD CHARACTERISTICS:**

| ZONING | LAND USE PLAN DESIGNATION |
|---|---|
| Subject Property: | |
| RU-1; Single-family residence | Low Density Residential, 2.5 to 6 dua |

**Surrounding Properties:**

| | | |
|---|---|---|
| **NORTH:** | RU-2; Travel agency and Insurance company | Low Density Residential, 2.5 to 6 dua |
| **SOUTH:** | RU-1; Group home | Low Density Residential, 2.5 to 6 dua |
| **EAST:** | RU-1; Single-family residence | Low Density Residential, 2.5 to 6 dua |
| **WEST:** | RU-1; Office and Single-family residence | Low Density Residential, 2.5 to 6 dua |

F. **PERTINENT ZONING REQUIREMENTS/STANDARDS:**

*In evaluating an application for a **district boundary change, Section 33-311** provides that the Board take into consideration, among other factors, the extent to which:*

*(1) The development permitted by the application, if granted, conforms to the Comprehensive Development Master Plan for Miami-Dade County, Florida; is consistent with applicable area or neighborhood studies or plans, and would serve a public benefit warranting the granting of the application at the time it is considered;*

*(2) The development permitted by the application, if granted, will have a favorable or unfavorable impact on the environmental and natural resources of Miami-Dade County, including consideration of the means and estimated cost necessary to minimize the adverse impacts; the extent to which alternatives to alleviate adverse impacts may have a substantial impact on the natural and human environment; and whether any irreversible or irretrievable commitment of natural resources will occur as a result of the proposed development;*

*(3) The development permitted by the application, if granted, will have a favorable or unfavorable impact on the economy of Miami-Dade County, Florida;*

*(4) The development permitted by the application, if granted, will efficiently use or unduly burden water, sewer, solid waste disposal, recreation, education or other necessary public facilities which have been constructed or planned and budgeted for construction;*

*(5) The development permitted by the application, if granted, will efficiently use or unduly burden or affect public transportation facilities, including mass transit, roads, streets and highways which have been constructed or planned and budgeted for construction, and if the development is or will be accessible by public or private roads, streets or highways.*

***Section 33-311(A)(4)(a) Use Variance.** The Board shall hear and grant applications for **use variances** from the terms of the zoning regulations as will not be contrary to the public interest, where owing to special conditions, a literal enforcement of the provisions thereof will result in unnecessary hardship, and so the spirit of the regulations shall be observed and substantial justice done; provided, that the use variance will be in harmony with the general purpose and intent of the regulation, and that the same is the minimum use variance that will permit the reasonable use of the premises. A "use variance" is a*

*variance which permits a use of land other than which is prescribed by the zoning regulations and shall include a change in permitted density.*

## G. NEIGHBORHOOD SERVICES PROVIDER COMMENTS:

| | |
|---|---|
| DERM | **No objection*** |
| Public Works | **No objection*** |
| Parks | **No comment** |
| MDT | **No comment** |
| Fire Rescue | **No objection** |
| Police | **No objection** |
| Schools | **No comment** |

*Subject to the conditions indicated in their memoranda.

## H. PLANNING AND ZONING ANALYSIS:

This application was deferred from the April 28, 2011 meeting at the request of the applicant. This application has been remanded to the Board of County Commissioners (BCC) by the Circuit Court of the Eleventh Judicial Circuit with instructions to act in accordance with said court's opinion which rejected the Board's decision to deny the application. The applicant, Rene Miguel Valdes, appealed the decision of the BCC by seeking the issuance of a writ of certiorari from the Appellate Division of the 11th Judicial Circuit Court to quash the BCC's denial of the application (Resolution No. Z-6-07).

On October 17, 2006, pursuant to Resolution CZAB10-62-06, the Community Zoning Appeals Board – 10 (CZAB-10) denied with prejudice this application by a vote of 5 to 0. On November 6, 2006, the applicant appealed the CZAB-10's decision to this Board which denied the appeal by a vote of 10-0, pursuant to Resolution No. Z-6-07. Upon review, the appellate court found that the Board's decision to deny this application is not fairly debatable, amounts to reverse spot zoning and does not comport with the essential requirements of the law, thereby resulting in a miscarriage of justice (Circuit Court Case No. 07-304-AP). The Circuit Court granted certiorari and quashed the BCC's decision to sustain the Community Zoning Appeals Board 10 decision to deny this application. The County appealed the Circuit Court decision to the 3rd District Court of Appeal. The 3rd District Court of Appeal affirmed the Circuit Court's decision, though there was a vigorous dissent by a member of the court. The Florida Supreme Court denied further review of this case.

The applicant indicated on the appeal application to this Board that the subject property fronts on SW 82 Avenue, a half section-line road, and is located one lot to the south of the SW 24 Street (Coral Way). Additionally, the applicant notes that the subject property is impacted by substantial traffic along SW 82 Avenue, and indicates that the subject property is also impacted by the neighboring office uses found to the north and west, and by the adult congregate living facility to the south. The applicant maintains that the property is no longer appropriate for residential use.

The subject property is located at 2425 SW 82 Avenue, approximately 140' south of SW 24 Street (Coral Way), in an area characterized by single-family homes, a group home, and office/residential conversions. The 0.307-acre subject site is currently improved with a one-story single-family residence. The applicant seeks to change the zoning on the

subject property from RU-1, Single-Family Residential District, to RU-5A, Semi-Professional Office District, or in the alternative, a use variance to permit RU-5A uses in the RU-1 zoning district.

RU-5A uses include, but are not limited to, office buildings for accountants, architects, attorneys, dentists, medical doctors, notary publics, real estate, and travel agencies as well as banks without drive-through teller facilities. However, the applicant indicated in their Letter of Intent that the purpose of the zone change is to permit an architect's office. Staff notes that the applicant has proffered a covenant specifically restricting the office use on the site to that of an architect's office. Plans submitted by the applicant demonstrate that the subject site complies with all RU-5A zoning requirements for setbacks and lot coverage, including the compulsory parking requirements needed for office use.

Approval of either request would allow the applicant to provide semi-professional office services for the community. The subject site is designated for **Low Density Residential** use on the Land Use Plan (LUP) map of the Comprehensive Development Master Plan (CDMP). The CDMP provides that office uses may be approved along the frontage of major roadways in residential community areas where residences have become less desirable due to inadequate setbacks from roadway traffic and noise, or due to a mixture of nonresidential uses or activities in the vicinity in accordance with the limitations set forth in the CDMP. These office uses may occur in combination with or independent of residential use. Such limited office uses may be approved on such sites in residential community areas only where: a) the residential lot fronts directly on a Major Roadway as designated on the Land Use Plan map (Frontage roads are not eligible for consideration); b) the lot or site size does not exceed one acre; and c) the residential area is not zoned, developed or designated on the Land Use Plan map for Estate Density Residential, nor does the subject frontage face such an Estate Density area.

The subject property meets some of the aforementioned criteria of the Master Plan for approval of office uses within residential designations in that the subject property is less than one acre in size and is not zoned, developed or designated on the Land Use Plan map for Estate Density Residential. However, although the subject property is located on a half-section line roadway (SW 82 Avenue) it does not front on a "major roadway" as designated on the Land Use Plan map.

Notwithstanding the foregoing, the Master Plan also indicates that where other office, business or industrial uses exist on the same block face, approval of similar requests may be granted. However, where such an office, business or industrial use exists on a corner lot of a subject block face or block end, approval of office uses elsewhere on the block is limited to the one block face or block end which is the more heavily trafficked side of the referenced corner lot. One of the two neighboring parcels to the north, situated on the corner of SW 82 Avenue and Coral Way, was granted a use variance to permit all RU-5A uses in an RU-1 zone, pursuant to Resolution No. #Z-192-90; but cannot be considered as part of the same block face where the subject property lies, since it fronts Coral Way, the more heavily trafficked side.

Moreover, Resolution No. 4-ZAB-133-71 also approved a use variance on the other neighboring parcel to the north of the subject property also facing Coral Way and the property to the west of the subject site was granted approval of a use variance to permit a janitorial office in the RU-1 zone as would be permitted in the RU-5A zone, pursuant to Resolution No. Z-112-91. It should be noted that the parcel to the south of the subject

property on the same block face has an existing group home which staff notes is a permitted RU-1 use, is considered a single-family residential use and is limited to no more than 6 people residing on the premises.

Notwithstanding the foregoing, the appellate court determined that operating a group home for the elderly is commercial in nature and concluded that the subject site is "...a veritable island or, at the very least, a peninsula in a sea of commercially zoned property..." Based on the findings of the Court, staff opines that the subject site meets the CDMP criteria for the approval of an office use in a residential community in that a commercial use (group home) lawfully exists on the same blockface as the subject site. In addition, since the subject site abuts lawfully existing office uses to the north and west, staff opines that the introduction of an office use on this site is **compatible** with the other office uses located to the north and west of the site and with the existing group home located to the south of the site. Policy LU-4D of the CDMP states that uses which are supportive but potentially incompatible shall be permitted on sites within functional neighborhoods, communities or districts only where proper design solutions can and will be used to integrate the compatible and complementary elements and buffer any potentially incompatible elements. Staff notes that the submitted plans illustrate a 6' high Cherry Hedge along the north, east and south property lines with palms and Live Oak trees which staff opines will effectively buffer the office use from the surrounding properties. As such the staff opines that the proposed architect's office as illustrated on the submitted plans is consistent with Policy LU-4D of the CDMP and with the interpretative text of the CDMP for the approval of office uses in residential communities. Although, staff notes that the requested rezoning to RU-5A would be **compatible** with the surrounding office uses and **consistent** with the CDMP, **staff is supportive of the alternative use variance request subject to the Board's acceptance of the proffered covenant which limits the office use on the site to an architect's office, in that none of the properties that abut the subject site are zoned RU-5A.**

When considering district boundary changes, the Board shall hear and grant or deny applications by taking into consideration if the proposed development conforms to the Comprehensive Development Master Plan for Miami-Dade County. As previously mentioned, the requested RU-5A zoning would be **consistent** with the interpretative text of the CDMP and **compatible** with the neighboring office uses to the north and west of the subject property and with the existing group home to the south of the subject site.

Staff notes that the proposed architect's office will not have an unfavorable impact on the water, sewer, solid waste disposal, or other public services and will not have an unfavorable impact on the environment as indicated by the memorandum submitted by DERM. Additionally when considering zone changes, the Board shall consider if the development will have a favorable or unfavorable impact on the economy of Miami-Dade County. The approval of this application will not have an unfavorable impact on the economy nor on the environmental and natural resources of Miami-Dade County. Furthermore, the proposed development does not unduly burden or affect public transportation facilities as indicated in the Public Works Department's memorandum submitted for this application. The applicant seeks to change the zoning on the subject property from RU-1, Single-Family Residential District, to RU-5A, Semi-Professional Office District, to allow the applicant to provide semi-professional office services for the community. As previously mentioned, the applicant has proffered a covenant specifically restricting the office use on the site to that of an architect's office.

Staff's research reveals that most of the single-family residential lots fronting on SW 24 Street, between SW 82 Place and SW 79 Court, have gradually converted to non-residential uses and offices. Specific research indicates that of the 15 lots that front on Coral Way between those four blocks, only three lots are still in residential use; numerous public hearings have approved use variances as early as 1963 and as recent as an RU-5A district boundary change approval in 2007. Most, if not all, of these land use conversions are due to the increase in traffic and noise associated with Coral Way, which over the years have negatively impacted the quality of life of residents with homes fronting said corridor. Additionally, the placement of office uses is better located where traffic activity is intense and the roadway is well traveled, as opposed to having residences front such a busy vehicular corridor. Notwithstanding the foregoing, staff opines that RU-5A zoning should be limited to those lots fronting on SW 24 Street (Coral Way) and notes that although the properties to the north and west of the subject site have been granted approval at public hearing to permit office uses, staff notes that said properties are zoned RU-2 and RU-1 respectively. Moreover, staff notes that none of the properties along SW 82 Avenue are zoned RU-5A and therefore staff opines that the introduction of RU-5A zoning on the subject site would create an "island" of RU-5A zoning midblock along SW 82 Avenue. Although, staff notes that the requested rezoning to RU-5A would be **compatible** with the surrounding office uses and **consistent** with the CDMP, staff is supportive of the alternative use variance request subject to the Board's acceptance of the proffered covenant which limits the office use on the site to an architect's office, in that none of the properties that abut the subject site are zoned RU-5A. **Therefore, staff recommends denial without prejudice of request #1.**

In the alternative to the district boundary change (request #1), the applicant is requesting a use variance to permit RU-5A uses in the RU-1 zone. A use variance, as stated in Section 33-311(A)(4)(a), is a variance which permits a use of land other than that which is prescribed by the zoning regulations. Section 33-311(A)(4)(a) also states that the Board shall hear and grant applications for use variances from the terms of the zoning regulations as will not be contrary to the public interest, where owing to special conditions, a literal enforcement of the provisions thereof will result in unnecessary hardship, and so the spirit of the regulations shall be observed and substantial justice done; provided, that the use variance will be in harmony with the general purpose and intent of the regulations.

As previously mentioned the Circuit Court granted certiorari and quashed the BCC's decision to sustain the Community Zoning Appeals Board 10 decision to deny this application. Staff notes that use variances were approved on two parcels of land abutting the subject property to the north, pursuant to Resolution Nos. Z-192-90 and 4-ZAB-133-71. Furthermore, the appellate court determined that operating a group home for the elderly is commercial in nature and concluded that the subject site is "...a veritable island or, at the very least, a peninsula in a sea of commercially zoned property that substantially diminishes or renders its value to be virtually worthless as a residential property." Based on the aforementioned, staff concurs with the Court's finding and opines that the subject site is no longer conducive for use as a single-family residence. Therefore, staff is of the opinion that the approval of the requested use variance to permit semi-professional office uses in the RU-1 zone as would be permitted in the RU-5A zone on the subject property, subject to the Board's acceptance of the proffered covenant, will not be contrary to the public interest and will be in harmony with the general purpose and intent of the regulations which is to promote development that is compatible with the surrounding area. Staff's research as well as the opinion issued by the Circuit Court reveals that due to the conversion of the area to predominantly office usage, special conditions have transpired in

the surrounding area whereby a literal enforcement of the provisions of the RU-1 zoning regulations would result in **unnecessary hardship**. In staff's opinion, the spirit of the regulations shall be observed and substantial justice done by the approval of the semi-professional office use on this site. **Therefore, staff recommends approval with conditions of the requested use variance under Section 33-311(A)(4)(a), subject to the Board's acceptance of the proffered covenant.**

## I. RECOMMENDATION:

**Denial without prejudice of request #1 and approval with conditions of request #2, subject to the Board's acceptance of the proffered covenant.**

## J. CONDITIONS:

1. That a site plan be submitted to and meet with the approval of the Director of the Department of Planning and Zoning upon the submittal of an application for a building permit; said plan to include among other things but not be limited to, location of structure or structures, exits and entrances, drainage, walls, fences, landscaping, parking, etc.

2. That in the approval of the plan, the same be substantially in accordance with that submitted for the hearing entitled "Proposed RU-5A Zoning for Rene Miguel Valdes," as prepared by G. J. R. Architects, consisting of 2 sheets, dated stamped received 11/18/05, except as herein modified to show a 5' high wood fence in lieu of the chain link fence along the interior side (north and south) property lines and rear (east) property line.

3. That the applicant submit to the Department of Planning and Zoning for its review and approval a landscaping plan which indicates the type and size of plant material prior to the issuance of a building permit and to be installed prior to the issuance of a Certificate of Use.

4. That the use be established and maintained in accordance with the approved plan.

5. That the applicant comply with all applicable conditions and requirements of the Public Works Department.

6. That the applicant install a 5' high wood fence along the interior side (north and south) property lines and the rear (east) property line. Said fence shall be installed prior to final zoning inspection for the proposed addition.

7. That the use be restricted to an architect's office only, pursuant to the proffered covenant.

**DATE TYPED:** 02/03/11
**DATE REVISED:** 02/04/11; 02/08/11; 02/25/11; 03/21/11; 04/29/11
**DATE FINALIZED:** 04/29/11
MCL:GR:NN:TA:NC

Marc C. LaFerrier, AICP, Director
Miami-Dade County Department of Planning and Zoning

# Memorandum

MIAMI-DADE COUNTY

**Date:** February 7, 2011

**To:** Marc C. LaFerrier, AICP, Director
Department of Planning and Zoning

**From:** Jose Gonzalez, P.E., Assistant Director
Environmental Resources Management

**Subject:** C-10 #Z2005000364-2nd Revision
Rene Miguel Valdez
2425 SW 82nd Avenue
District Boundary Change from RU-1 to RU-5A
(RU-1) (0.31 Ac)
15-54-40

---

The Department of Environmental Resources Management (DERM) has reviewed the subject application and has determined that it meets the minimum requirements of Chapter 24 of the Code of Miami-Dade County, Florida (the Code). Accordingly, DERM may approve the application, and the same may be scheduled for public hearing.

Potable Water Supply and Wastewater Disposal
Public water and public sanitary sewers can be made available to the subject property. Therefore, connection of the proposed development to the public water supply system and sanitary sewer system shall be required in accordance with Code requirements.

Existing public water and sewer facilities and services meet the Level of Service (LOS) standards set forth in the Comprehensive Development Master Plan (CDMP). Furthermore, the proposed development order, if approved, will not result in a reduction in the LOS standards subject to compliance with the conditions required by DERM for this proposed development order.

Notwithstanding the foregoing, in light of the fact that the County's sanitary sewer system has limited sewer collection, transmission, and treatment capacity, no new sewer service connections can be permitted, unless there is adequate capacity to handle the additional flows that this project would generate. Consequently, final development orders for this site may not be granted if adequate capacity in the system is not available at the point in time when the project will be contributing sewage to the system. Lack of adequate capacity in the system may require the approval of alternative means of sewage disposal. Use of an alternative means of sewage disposal may only be granted in accordance with Code requirements, and shall be an interim measure, with connection to the public sanitary sewer system required upon availability of adequate collection/transmission and treatment capacity.

Stormwater Management
Site grading and development shall comply with the requirements of Section 11C of the Code.

Any proposed development shall comply with County and Federal flood criteria requirements. The proposed development order, if approved, will not result in a reduction in the LOS standards for flood

protection set forth in the CDMP, subject to compliance with the conditions required by DERM for this proposed development order.

Wetlands
The subject property does not contain jurisdictional wetlands, as defined by Section 24-5 of the Code. Therefore, a DERM Class IV Wetland Permit will not be required.

The applicant is advised that permits from the Army Corps of Engineers (305-526-7181), the Florida Department of Environmental Protection (561-681-6600), and the South Florida Water Management District (1-800-432-2045) may be required for the proposed project. It is the applicant's responsibility to contact these agencies.

Tree Preservation
The subject property contains tree resources. Section 24-49 of the Code requires the preservation of tree resources. A Miami-Dade County Tree Removal Permit is required prior to the removal or relocation of any trees. A tree survey showing all the tree resources on-site will be required prior to reviewing the tree removal permit application. The applicant is advised to contact DERM staff for permitting procedures and requirements prior to development of site and landscaping plans.

Enforcement History
DERM has found no open or closed formal enforcement records for the subject properties.

Concurrency Review Summary
DERM has conducted a concurrency review for this application, and has determined that the same meets all applicable LOS standards for an initial development order, as specified in the adopted CDMP for potable water supply, wastewater disposal, and flood protection. Therefore, the application has been approved for concurrency, subject to the comments and conditions contained herein.

This concurrency approval does not constitute a final concurrency statement, and is valid only for this initial development order, as provided for in the adopted methodology for concurrency review. Additionally, this approval does not constitute any assurance that the LOS standards would be met by any subsequent development order applications concerning the subject property.

This memorandum shall constitute DERM's written approval, as required by the Code.

If you have any questions concerning the comments, or wish to discuss this matter further, please contact Christine Velazquez at (305) 372-6764.

REVISION 1

PH# Z2005000364

CZAB - BCC

## PUBLIC WORKS DEPARTMENT COMMENTS

Applicant's Names: RENE MIGUEL VALDEZ

This Department has no objections to this application subject to the following:

Parking space #10 must have 5 feet of paved aisle end back-out at time of permitting.

Landscaping and fences must comply with safe site distance triangle requirements set forth in Sec. 33-11 of the Miami-Dade County Code.

The proposed use of this application generates the same number of vehicle trips as the existing use and will not generate any new vehicle trips; therefore this application meets the Initial Traffic Concurrency Criteria.

Raul A Pino, P.L.S.

02-FEB-11

PETITION OF APPEAL FROM DECISION OF
MIAMI-DADE COUNTY COMMUNITY ZONING APPEALS BOARD
TO THE BOARD OF COUNTY COMMISSIONERS

CHECKED BY AW AMOUNT OF FEE $1,902.82

RECEIPT # I20062112G

DATE HEARD: 10/17/06

BY CZAB # 10

RECEIVED
05-364

ZONING HEARINGS SECTION
MIAMI-DADE PLANNING AND ZONING DEPT.
BY DATE RECEIVED STAMP

**********

This Appeal Form must be completed in accordance with the "Instruction for Filing an Appeal" and in accordance with Chapter 33 of the Code of Miami-Dade County, Florida, and return must be made to the Department on or before the Deadline Date prescribed for the Appeal.

RE: Hearing No. 06-10-C210-2 (05-364) .

Filed in the name of (Applicant) Rene Miguel Valdes

Name of Appellant, if other than applicant

Address/Location of APPELLANT'S property: 2425 S.W. 82nd Avenue

Application, or part of Application being Appealed (Explanation):

Entire Appealable Application

Appellant (name): Rene Miguel Valdes
hereby appeals the decision of the Miami-Dade County Community Zoning Appeals Board with reference to the above subject matter, and in accordance with the provisions contained in Chapter 33 of the Code of Miami-Dade County, Florida, hereby makes application to the Board of County Commissioners for review of said decision. The grounds and reasons supporting the reversal of the ruling of the Community Zoning Appeals Board are as follows:
(State in brief and concise language)

The property fronts on SW 82 Avenue, a half-section line road. The property is one lot removed from the intersection of Coral Way (S.W. 24th Street). This section of SW 82 Avenue is affected by substantial traffic. The property is also impacted by office use to the south and west, and an adult congregate living facility to the north. The property is no longer appropriate for residential use.

**APPELLANT MUST SIGN THIS PAGE**

Date: 6 day of November, year: 2006

Signed Rene M. Valdes

Rene M. Valdes
Print Name

2425 SW 82 AVE Miami, FL 331
Mailing Address

(305) 579-0644 (305) 961-5644
Phone Fax

**REPRESENTATIVE'S AFFIDAVIT**
If you are filing as representative of an association or other entity, so indicate:

Rene M. Valdes
Representing

Signature

Simon Fern
Print Name

1221 Brickell Ave
Address

Miami FL 33131
City State Zip

305 579-0644
Telephone Number

Subscribed and Sworn to before me on the 6 day of November, year 2006

Leyla M Lucas
Notary Public

(stamp/seal)

Commission expires:

Notary Public State of Florida
Leyla M Lucas
My Commission DD448676
Expires 09/24/2009

**APPELLANT'S AFFIDAVIT OF STANDING**
(must be signed by each Appellant)

STATE OF FLORIDA

COUNTY OF MIAMI-DADE

Before me the undersigned authority, personally appeared Rene M. Valdes (Appellant) who was sworn and says that the Appellant has standing to file the attached appeal of a Community Zoning Appeals Board decision.

The Appellant further states that they have standing by virtue of being of record in Community Zoning Appeals Board matter because of the following:

(Check all that apply)

___1. Participation at the hearing
_✓_2. Original Applicant
___3. Written objections, waivers or consent

Appellant further states they understand the meaning of an oath and the penalties for perjury, and that under penalties of perjury, Affiant declares that the facts stated herein are true.

Further Appellant says not.

**Witnesses:**

Signature

Simon Ferro
Print Name

Leyla M Lucas
Signature

Leyla M Lucas
Print Name

Rene M. Valdes
Appellant's signature

Rene M. Valdes
Print Name

Sworn to and subscribed before me on the 6 day of November, year 2006

Appellant is personally know to me or has produced FL. DL. as identification.

Leyla M Lucas
Notary
(Stamp/Seal)

Commission Expires:

[b:forms/affidapl.sam(11/03)]

Notary Public State of Florida
Leyla M Lucas
My Commission DD448676
Expires 09/24/2009

**Approved:** _____ **Mayor**

**Veto:** _____

**Override:** _____

**RESOLUTION NO. Z-6-07**

*WHEREAS,* **RENE MIGUEL VALDEZ** applied to Community Zoning Appeals Board 10 for the following:

(1) RU-1 to RU-5A

OR IN THE ALTERNATIVE:

(2) USE VARIANCE to permit RU-5A uses in the RU-1 zone.

Plans are on file and may be examined in the Zoning Department entitled "Proposed RU-5A Zoning for Rene Miguel Valdes," as prepared by G. J. R. Architects, consisting of 2 sheets, dated 4/22/04.

SUBJECT PROPERTY: Lot 4, Block 8, CORAL WAY HOMESITES, Plat book 46, Page 21.

LOCATION: 2425 S.W. 82 Avenue, Miami-Dade County, Florida, and

*WHEREAS,* a public hearing of Community Zoning Appeals Board 10 was advertised and held, as required by law, and all interested parties concerned in the matter were given an opportunity to be heard, and upon due and proper consideration having been given to the matter it was the opinion of Community Zoning Appeals Board 10 that the requested district boundary change to RU-5A (Item #1), or in the alternative, the requested use variance to permit RU-5A uses in the RU-1 zone (Item #2) would not be compatible with the neighborhood and area concerned and would be in conflict with the principle and intent of the plan for the development of Miami-Dade County, Florida, and should be denied, and that said application was denied by Resolution No. CZAB10-62-06, and

*WHEREAS,* **RENE MIGUEL VALDEZ** appealed the decision of Community Zoning Appeals Board 10 to the Board of County Commissioners for the following:

(1) RU-1 to RU-5A

OR IN THE ALTERNATIVE:

(2) USE VARIANCE to permit RU-5A uses in the RU-1 zone.

Plans are on file and may be examined in the Zoning Department entitled "Proposed RU-5A Zoning for Rene Miguel Valdes," as prepared by G. J. R. Architects, consisting of 2 sheets, dated 4/22/04. Plans may be modified at public hearing.

SUBJECT PROPERTY: Lot 4, Block 8, CORAL WAY HOMESITES, Plat book 46, Page 21 AND THE SOUTH ½ OF ALLEY LYING NORTH AND ADJACENT PER R-941-74.

LOCATION: 2425 S.W. 82 Avenue, Miami-Dade County, Florida, and

*WHEREAS*, a public hearing of the Board of County Commissioners was advertised and held, as required by the Zoning Procedure Ordinance, and all interested parties concerned in the matter were given an opportunity to be heard, and

*WHEREAS*, this Board has been advised that the subject application has been reviewed for compliance with concurrency requirements for levels of services and, at this stage of the request, the same was found to comply with the requirements, and

*WHEREAS*, after reviewing the record and decision of the Metropolitan Dade County Zoning Appeals Board 10 and after having given an opportunity for interested parties to be heard, it was the opinion of the Board of County Commissioners, Miami-Dade County, Florida, that that the grounds and reasons alleged by the appellants specified in the appeal were insufficient to merit a reversal of the ruling made by the Zoning Appeals Board in Resolution No. CZAB10-62-06 and that the appeal should be denied and the decision of Community Zoning Appeals Board 10 should be sustained, and

*WHEREAS*, upon due and proper consideration having been given to the matter, it is the opinion of this Board that the requested district boundary change to RU-5A (Item #1), or in the alternative, the requested use variance to permit RU-5A uses in the RU-1 zone (Item #2) would not be compatible with the neighborhood and area concerned and would be in

conflict with the principle and intent of the plan for the development of Miami-Dade County, Florida, and should be denied, and

*WHEREAS,* a motion to deny the appeal with prejudice, sustain the decision of Community Zoning Appeals Board 10, and deny the application with prejudice was offered by Commissioner Sen. Javier D. Souto, seconded by Commissioner Dennis C. Moss, and upon a poll of the members present the vote was as follows:

| | | | |
|---|---|---|---|
| Jose "Pepe" Diaz | aye | Dennis C. Moss | aye |
| Audrey M. Edmonson | absent | Dorrin D. Rolle | aye |
| Carlos A. Gimmenez | aye | Natacha Seijas | absent |
| Sally A. Heyman | absent | Katy Sorenson | aye |
| Barbara J. Jordan | aye | Rebecca Sosa | aye |
| Joe A. Martinez | aye | Sen. Javier D. Souto | aye |

Bruno A. Barreiro aye

*NOW THEREFORE BE IT RESOLVED* by the Board of County Commissioners, Miami-Dade County, Florida, that the appeal be and the same is hereby denied with prejudice and the decision of Community Zoning Appeals Board 10 is sustained.

*BE IT FURTHER RESOLVED* that the requested district boundary change to RU-5A (Item #1), be and the same is hereby denied with prejudice.

*BE IT FURTHER RESOLVED* that the requested use variance to permit RU-5A uses in the RU-1 zone (Item #2) be and the same is hereby denied with prejudice.

*BE IT FURTHER RESOLVED* that Resolution No. CZAB10-62-06 remains in full force and effect.

The Director is hereby authorized to make the necessary changes and notations upon the maps and records of the Miami-Dade County Department of Planning and Zoning and to issue all permits in accordance with the terms and conditions of this resolution.

*THIS RESOLUTION HAS BEEN DULY PASSED AND ADOPTED* this 26th day of April, 2007, and shall become effective ten (10) days after the date of its adoption unless vetoed by the Mayor, and if vetoed, shall become effective only upon an override by this Board.

No. 06-10-CZ10-2
ej

HARVEY RUVIN, Clerk
Board of County Commissioners
Miami-Dade County, Florida

By: KAY SULLIVAN
Deputy Clerk

THIS RESOLUTION WAS TRANSMITTED TO THE CLERK OF THE BOARD OF COUNTY COMMISSIONERS ON THE 17TH DAY OF MAY, 2007.

**STATE OF FLORIDA**

**COUNTY OF MIAMI-DADE**

I, Deputy Clerk's Name, as Deputy Clerk for the Miami-Dade County Department of Planning and Zoning as designated by the Director of the Miami-Dade County Department of Planning and Zoning and Ex-Officio Secretary of the Board of County Commissioners of said County, DO HEREBY CERTIFY that the above and foregoing is a true and correct copy of Resolution No. Z-6-07 adopted by said Board of County Commissioners at its meeting held on the 26th day of April, 2007.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal on this the 17th day of May, 2007.

Earl Jones, Deputy Clerk (3230)
Miami-Dade County Department of Planning and Zoning

**SEAL**

**RESOLUTION NO. CZAB10-62-06**

*WHEREAS*, **RENE MIGUEL VALDEZ** applied for the following:

(1) RU-1 to RU-5A

OR IN THE ALTERNATIVE:

(2) USE VARIANCE to permit RU-5A uses in the RU-1 zone.

Plans are on file and may be examined in the Zoning Department entitled "Proposed RU-5A Zoning for Rene Miguel Valdes," as prepared by G. J. R. Architects, consisting of 2 sheets, dated 4/22/04.

SUBJECT PROPERTY: Lot 4, Block 8, CORAL WAY HOMESITES, Plat book 46, Page 21.

LOCATION: 2425 S.W. 82 Avenue, Miami-Dade County, Florida, and

*WHEREAS*, a public hearing of the Miami-Dade County Community Zoning Appeals Board 10 was advertised and held, as required by law, and all interested parties concerned in the matter were given an opportunity to be heard, and

*WHEREAS*, upon due and proper consideration having been given to the matter, it is the opinion of this Board that the requested district boundary change to RU-5A (Item #1), or in the alternative, the requested use variance to permit RU-5A uses in the RU-1 zone (Item #2) would not be compatible with the neighborhood and area concerned and would be in conflict with the principle and intent of the plan for the development of Miami-Dade County, Florida, and should be denied, and

*WHEREAS*, a motion to deny Items #1 & 2 with prejudice was offered by Julio R. Caceres, seconded by Jose Garrido, and upon a poll of the members present the vote was as follows:

| | | | |
|---|---|---|---|
| Juan Carlos Acosta | aye | Manuel Casas | aye |
| Javier A. Betancourt | absent | Jose Garrido | aye |
| Julio R. Caceres | aye | | |

Carlos A. Manrique aye

*NOW THEREFORE BE IT RESOLVED* by the Miami-Dade County Community Zoning Appeals Board 10, that the requested district boundary change to RU-5A (Item #1), be and the same is hereby denied with prejudice.

*BE IT FURTHER RESOLVED,* that the requested use variance to permit RU-5A uses in the RU-1 zone (Item #2) be and the same is hereby denied with prejudice.

The Director is hereby authorized to make the necessary notations upon the records of the Miami-Dade County Department of Planning and Zoning.

*PASSED AND ADOPTED* this 17th day of October, 2006.

Hearing No. 06-10-CZ10-2
ls

**STATE OF FLORIDA**

**COUNTY OF MIAMI-DADE**

I, Luis Salvat, as Deputy Clerk for the Miami-Dade County Department of Planning and Zoning as designated by the Director of the Miami-Dade County Department of Planning and Zoning and Ex-Officio Secretary of the Miami-Dade County Community Zoning Appeals Board 10, DO HEREBY CERTIFY that the above and foregoing is a true and correct copy of Resolution No. CZAB10-62-06 adopted by said Community Zoning Appeals Board at its meeting held on the 17th day of October 2006.

IN WITNESS WHEREOF, I have hereunto set my hand on this the 24th day of October 2006.

Luis Salvat, Deputy Clerk (2678)
Miami-Dade County Department of Planning and Zoning

**SEAL**

PLANNING AND ZONING
AGENDA OFFICE
2011 FEB -4 P 12:15

NOT FINAL UNTIL TIME EXPIRES
TO FILE RE-HEARING MOTION,
AND, IF FILED, DISPOSED OF.

IN THE CIRCUIT COURT OF THE ELEVENTH JUDICIAL CIRCUIT, IN AND FOR MIAMI-DADE COUNTY, FLORIDA

VANESTHER FLETCHER
FILED FOR RECORD
2008 MAR 31 PM 2:31
CLERK, CIRCUIT & COUNTY COURTS
DADE COUNTY, FLA.
CIVIL #101

RENE MIGUEL VALDEZ,

Petitioner,

v.

MIAMI DADE COUNTY BOARD OF COUNTY COMMISSIONERS,

Respondent.
_____/

APPELLATE DIVISION

CASE NUMBER: 07-304 AP

LOWER CASE NO: Z-607

Opinion filed: March 31, 2008.

On Petition for Writ of Certiorari from the Miami-Dade County Board of County Commissioners.

Javier L. Gonzalez, Esq., of Gonzalez & Rodriguez, P.L., for Petitioner.

John McInnis, Esq., Assistant Miami-Dade County Attorney, for Respondent.

Before SOTO, LEBAN, and VENZER, JJ.

VENZER, J.

Petitioner Rene Miguel Valdez ("Mr. Valdez") seeks review of a decision by the Miami-Dade County Board of County Commissioners ("the Board"). The Board sustained the Community Zoning Appeals Board 10's decision to deny Mr. Valdez's application for a boundary change from RU-1 (single family use) to RU-5A (semi-professional office district), or

Received by
Zoning Agenda Coordinator
FEB 04 2011



Received by
Zoning Agenda Coordinator
FEB 04 2011

in the alternative a use variance to permit a RU-5A use in the RU-1 zoning district[1] to allow an architectural office on the property's premises.

Upon receipt of a petition for writ of certiorari, this Court's review is limited to a three part standard: (1) whether procedural due process was accorded; (2) whether essential requirements of the law were observed; and (3) whether the findings and judgment were supported by competent substantial evidence. *Dep't of Highway Safety & Motor Vehicles v. Wejebe*, 954 So. 2d 1245, 1248 (Fla. 3d DCA 2007).

Procedural due process rights are afforded to an individual when the person receives notice and an opportunity to be heard. *Joshua v. City of Gainesville*, 768 So. 2d 432, 438 (Fla. 2000). The Board argues that the Mr. Valdez was afforded procedural due process because he received notice and a hearing before the Board of County Commissioners. Mr. Valdez contends that he was denied his right to due process of law because of a commissioner's comments at the hearing.[2] The record reflects that Mr. Valdez did not object to the commissioner's comments

---

[1] Resolution No. Z-6-07 states in part that ". . . it was the opinion of the Board of County Commissioners, Miami-Dade County, Florida, that the grounds and reasons alleged by the appellants specified in the appeal were insufficient to merit a reversal of the ruling made by the Zoning Appeals Board in Resolution No. CZAB10-62-06 and that the appeal should be denied and decision of the Community Zoning Appeals Board 10 should be sustained. . . ." (R. at 2.)

[2] Mr. Valdez argues that Rule 7.01(g) of the Rules of Procedure governing the Board of County Commissioners was violated because Commissioner Souto made comments that implied that Mr. Valdez and his counsel were friends. The Commissioner even referred to Mr. Valdez as family. On April 26, 2007, Commissioner Souto made the following comments at the hearing:

> [Commissioner Souto]: And I'm in the same situation here basically. These fellows in front of me are some of my best friends. Simon over there, Simon Ferro, is one of my best friends. Mr. Valdes [sic] too, my best friends. His brother was one of my best friends. And to the extent the word for this, we're friends, like family. But this has nothing to do with family or friends. This has to do with what's right or what's not right, and I hope they understand that and that everyone understands that.

Hr'g Tr. 32:8-20, Apr. 26, 2007 (R. at 37.)

even after the votes were recorded.[3] We find that Mr. Valdez was afforded due process because he had notice and ample opportunity to participate at the Board hearing. Moreover, Mr. Valdez's failure to object at the hearing precludes him from raising the issue for the first time on appeal. *First City Sav. Corp. of Tex. v. S & B Partners*, 548 So. 2d 1156, 1158 (Fla. 5th DCA 1989) (circuit court on certiorari review of zoning decision will not consider issues not presented to the county commission), *review dismissed,* 554 So. 2d 1168 (Fla. 1989).

A departure from the essential requirements of law occurs when there has been a violation of a clearly established principle of law resulting in a miscarriage of justice. *Haines City Cmty. Dev. v. Heggs*, 658 So. 2d 523, 528 (Fla. 1995).

The Florida Supreme Court has utilized the fairly debatable test to uphold zoning ordinances. *City of Miami Beach v. Lachman*, 71 So. 2d 148, 152 (Fla. 1953). So long as a zoning restriction is fairly debatable, that is, when it is "open to dispute or controversy on grounds that make sense, whether the zoning restriction advances the public health, welfare, safety, or morals of the community, the subject restriction is considered to be constitutional." *City Comm'n of City of Miami v. Woodlawn Park Cemetery Co.*, 553 So. 2d 1227, 1230 (Fla. 3d DCA 1989) (footnote and citations omitted).

However, if the zoning ordinance results in reverse spot zoning, then the restriction is not fairly debatable because it is confiscatory and invalid. *City of Miami Beach v. Robbins*, 702 So. 2d 1329, 1330 (Fla. 3d DCA 1997). In *Robbins*, the Third District Court of Appeal noted:

> Reverse spot zoning occurs when the ordinance prevents a property owner from utilizing his or her property in a certain way, when virtually all of the adjoining neighbors are not subject to such a restriction, creating, in effect, a veritable

---

[3] Out of thirteen Commissioners voting, three commissioners were absent. The remaining ten Commissioners voted to deny Mr. Valdez's appeal with prejudice and sustain the Community Zoning Appeal Board 10's decision. (R. at 3.)

zoning island or zoning peninsula in a surrounding sea of contrary zoning classification.

*Id.*

In the case at bar, Mr. Valdez's property is located at 2425 S.W. 82nd Avenue in unincorporated Miami-Dade County, Florida. Mr. Valdez requested a zoning change from RU-1, single residential district, to RU-5A, semi-professional office district *or in the alternative* a use variance to permit an RU-5A classification to allow an architect's office on the premises. However, the Board decided that Mr. Valdez's request for a zoning change was incompatible with the area concerned and inconsistent with the intent of the land development plan for Miami-Dade County.

Upon this Court's review of the aerial, hearing, radius, and hand sketched maps of Mr. Valdez's property and the surrounding area (R. at 113-17), we are not persuaded by the Board's argument. Immediately north of Mr. Valdez's property is a travel agency and insurance company. Both of these properties have been granted use variances allowing RU-5A uses in an RU-2 zoning district. (Resp't Resp. to Pet. for Writ. of Cert., 4.) To the south of Mr. Valdez's property is a group home for the elderly which is still classified as RU-1. The Board avers that the group home is permitted to have RU-1 classification pursuant to section 419.001, Florida Statutes (2007). (Resp't Resp. to Pet. for Writ. of Cert., 4.) Typically, group homes have caretakers assisting the occupants or providing services to assist the elderly with daily activities. This Court is mindful of these activities and agrees with Mr. Valdez that operating a group home for the elderly is commercial in nature. To the east of Mr. Valdez's property, the land is classified as a single-family residence. (R. at 42.) However, the property to the west of Mr. Valdez's property is zoned single-family residence with a permitted office use.

Despite the large concentration of nonresidential activity surrounding Mr. Valdez's property, the Board denied Mr. Valdez similar zoning privileges as the surrounding property

Received by
Public Service Commission

owners. In *Woodlawn*, 553 So. 2d at 1233, the Third District held it confiscatory when a property owner is prevented from utilizing his property in a certain manner, even though adjoining property owners are not subject to the same restrictions.

The Board's denial of Mr. Valdez's request for a zoning change or use variance to permit an architectural office appears to us as arbitrary and not fairly debatable. As such, the Board's actions amount to reverse spot zoning which is impermissible. *See Debes v. City of Key West*, 690 So. 2d 700, 701 (Fla. 3d DCA 1997) (court noting that singling out the owner's property for disparate treatment represented an instance of "discriminatory spot zoning-or, in this context, spot planning-in reverse."); *see also Tollius v. City of Miami*, 96 So. 2d 122, 125 (Fla. 1957) (Supreme Court of Florida reversing a rezoning restriction because the property no longer retained the features at the time the zoning ordinance was passed and the block where the property was located was a veritable island); *Olive v. City of Jacksonville*, 328 So. 2d 854, 856 (Fla. 1st DCA 1976) (court holding that to deny the appellants' commercial zoning classification would constitute reverse spot zoning and the subject property was a literal peninsula); *Manilow v. City of Miami Beach*, 213 So. 2d 589, 592-93 (Fla. 3d DCA 1968) (court holding that to deny relief to the property owner would constitute reverse spot zoning and the property, except for the northern most part, was similar to a "veritable island"); *Kugel v. City of Miami Beach*, 206 So. 2d 282, 285 (Fla. 3d DCA 1968) (court holding that since the character of the property had been changed by other actions of the municipality, the zoning regulation was arbitrary and could not be characterized as fairly debatable). Similar to the reverse spot zoning examples we have cited, Mr. Valdez's property is a veritable island or, at the very least, a peninsula in a sea of commercially zoned property that substantially diminishes or renders its value to be virtually

Received by
Zoning Agenda Coordinator
FEB 04 2009

worthless as a residential property. *See City of Miami Beach v. Robbins,* 702 So. 2d 1329, 1330 (Fla. 3d DCA 1997).

Therefore, we grant certiorari because the Board's decision does not comport with the essential requirements of the law and results in a miscarriage of justice. *Haines City Cmty. Dev. V. Heggs,* 658 So. 2d 523, 528 (Fla. 1995). The County Commission's decision to sustain the Community Zoning Appeals Board 10's decision to deny Mr. Valdez's application for a boundary change from RU-1 (single family use) to RU-5A (semi-professional office district), or in the alternative a use variance to permit a RU-5A use in the RU-1 zoning district, is quashed. The matter is remanded to the Board with instructions to act in accordance with this opinion.

Certiorari granted.

SOTO and LEBAN, JJ., concur.

COPIES FURNISHED TO COUNSEL
OF RECORD AND TO ANY PARTY
NOT REPRESENTED BY COUNSEL

COPIES FURNISHED TO
COUNSEL OF RECORD AND
TO ANY PARTY NOT REPRESENTED
BY COUNSEL

REVISION 1

# Memorandum

**Date:** 01-FEB-11

**To:** Marc LaFerrier, Director
Department of Planning and Zoning

**From:** Herminio Lorenzo, Fire Chief
Miami-Dade Fire Rescue Department

**Subject:** Z2005000364

## Fire Prevention Unit:

No objection.

## Service Impact/Demand

Development for the above Z2005000364
located at 2425 SW 82 AVE, MIAMI-DADE COUNTY, FLORIDA.
in Police Grid 1441 is proposed as the following:

| | | | |
|---|---|---|---|
| N/A residential | dwelling units | N/A Industrial | square feet |
| 1,286 Office | square feet | N/A institutional | square feet |
| N/A Retail | square feet | N/A nursing home/hospitals | square feet |

Based on this development information, estimated service impact is: 0.29 alarms-annually.
The estimated average travel time is: 6:05 minutes

## Existing services

The Fire station responding to an alarm in the proposed development will be:

Station 3 - Tropical Park - 3911 SW 82 Avenue
Rescue, ALS Engine

## Planned Service Expansions:

The following stations/units are planned in the vicinity of this development:

None.

## Fire Planning Additional Comments

Current service impact calculated based on Letter of Intent dated November 8, 2005. Substantial changes to the Letter of Intent will require additional service impact analysis.

For information regarding the aforementioned comments, please contact the Miami-Dade Fire Rescue Department Planning Section at 786-331-4540.

**DATE:** 09-FEB-11

REVISION 3

# BUILDING AND NEIGHBORHOOD COMPLIANCE DEPARTMENT

## ENFORCEMENT HISTORY OF VIOLATIONS OF CHAPTER 19 AND CHAPTER 33 OF THE MIAMI-DADE COUNTY CODE

| | |
|---|---|
| RENE MIGUEL VALDEZ | 2425 SW 82 AVE, MIAMI-DADE COUNTY, FLORIDA. |
| **APPLICANT** | **ADDRESS** |

Z2005000364

**HEARING NUMBER**

## HISTORY:

No current/open cases from Neighborhood Compliance and/or Building Divisions.

No prior cases from either division for the last 12 months.

None

## OUTSTANDING FINES, PENALTIES, COST OR LIENS INCURRED PURSUANT TO CHAPTER 8CC:

None

## REPORTER NAME:

L. Cuellar

# ZONING INSPECTION REPORT

**Inspector:** MARTINEZ, RAMIRO

**Inspection Dat**

**Evaluator:** JAMES MURPHY

02/09/11

| **Process #:** | **Applicant's Name** |
|---|---|
| Z2005000364 | RENE MIGUEL VALDEZ |

**Locations:** 2425 SW 82 AVE, MIAMI-DADE COUNTY, FLORIDA.

**Size:** 0.307 ACRES **Folio #:** 3040150050880

**Request:**

1 THE APPLICANT IS REQUESTING A ZONE CHANGE FROM SINGLE-FAMILY RESIDENTIAL DISTRICT TO SEMI-PROFESSIONAL OFFICE DISTRICT.

**EXISTING ZONING**

**Subject Property** RU-1,

**EXISTING USE**

**SITE CHARACTERISTICS**

**STRUCTURES ON SITE:**

ONE STORY CBS RESIDENCE ON THE SITE.

**USE(S) OF PROPERTY:**

THE PROPERTY IS CURRENTLY UTILIZED AS A SINGLE-FAMILY RESIDENCE (RU-1).

**FENCES/WALLS:**

THERE IS A 5- FT CHAIN-LINK FENCE ALONG THE NORTH PROPERTY LINE; 5 FT. WIRE FENCE ALONG THE EAST AND SOUTH PROPERTY LINES, AND A 4-FT. PICKET FENCE ALONG THE FRONT, WEST PROPERTY LINE.

**LANDSCAPING:**

NO LANSCAPING ON THE PROPERTY.

**BUFFERING:**

THERE IS A 6-FT CHERRY HEDGE ALONG THE WEST HALF OF THE NORTH PROPERTY LINE THAT BELONGS TO THE ADJACENT PROPERTY.

**VIOLATIONS OBSERVED:**

NO VIOLATIONS OBSERVED AT THE TIME OF INSPECTION. BNC MEMO DATED 02/09/2011 REV#3 ON FILE. THERE IS AN OPEN PERMIT NO. 1992098317 FOR BLDG 107 (ROOF) EXPIRED ON 02/17/1993.

**OTHER:**

THE ADJACENT PROPERTY ABUTTING THE EAST HALF OF THE THE NORTH PROPERTY LINE NEEDS TO PROVIDE A LANDSCAPE BUFFER IN ORDER TO MINIMIZE THE VISUAL IMPACT OF THE PARKING AREA.

| **Process #** | **Applicant's Name** |
|---|---|
| Z2005000364 | RENE MIGUEL VALDEZ |

# ZONING INSPECTION REPORT

**SURROUNDING PROPERTY**

**NORTH:**

RU-2; TRAVEL AGENCY & INSURANCE OFFICE.

**SOUTH:**

RU-1; EXISTING GORUP HOME - 6 RESIDENTS.

**EAST:**

RU-1; SINGLE-FAMILY RESIDENCE.

**WEST:**

RU-1; SINGLE-FAMILY RESIDENCE & OFFICE USE.

**SURROUNDING AREA**

THE SUBJECT PROPERTY IS SURROUNDED BY OFFICE/RESIDENTIAL CONVERSIONS THAT HAVE BEEN GRANTED ON PARCELS FRONTING CORAL WAY LOCATED TO THE NORTH AND WEST OF SITE AND ONE STORY SINGLE FAMILY RESIDENCES TO THE EAST AND SOUTH.

**NEIGHBORHOOD CHARACTERISTICS**

THIS AREA IS CHARACTERIZED BY A NUMBER OF OFFICE/RESIDENTIAL CONVERSIONS THAT HAVE TAKEN PLACE ON PROPERTIES FRONTING CORAL WAY. HOWEVER, ALL OF THE AREA TO EAST AND SOUTH REMAINS RESIDENTIAL.

**COMMENTS:**

PICTURES OF SITE AND SURROUNDING AREA MAY BE VIEWED FROM THE WEST DADE FILE UNDER ZONING EVALUATION.

HASSUN 02/09/2011: ENFORCEMENT HISTORY UPDATED.

**Inspector** ***MARTINEZ, RAMIRO***
**Evaluator** ***JAMES MURPHY***
**Process Number:** ***Z2005000364*** **Applicant Name** ***RENE MIGUEL VALDEZ***

Date: 28-APR-06

Comments: East View From Backyard of Subject Property.

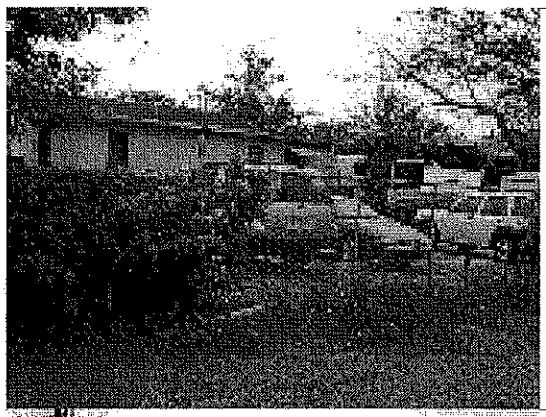
Date: 28-APR-06

Comments: Front View of Subject Property

Date: 28-APR-06

Comments: North View from Subject property - Travel Agency.

**Inspector** ***MARTINEZ, RAMIRO***
**Evaluator** ***JAMES MURPHY***
**Process Number:** ***Z2005000364*** **Applicant Name** ***RENE MIGUEL VALDEZ***



Date: 28-APR-06

Comments: Northeast View from Subject Property - Insurance Office.

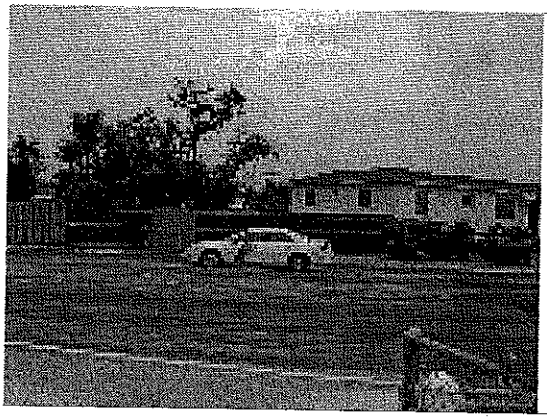
Date: 28-APR-06

Comments: South from Subject Property - adjacent residence.

Date: 28-APR-06

Comments: Southeast Corner View of Subject Property

**Inspector** ***MARTINEZ, RAMIRO***
**Evaluator** ***JAMES MURPHY***
**Process Number:** ***Z2005000364*** **Applicant Name** ***RENE MIGUEL VALDEZ***

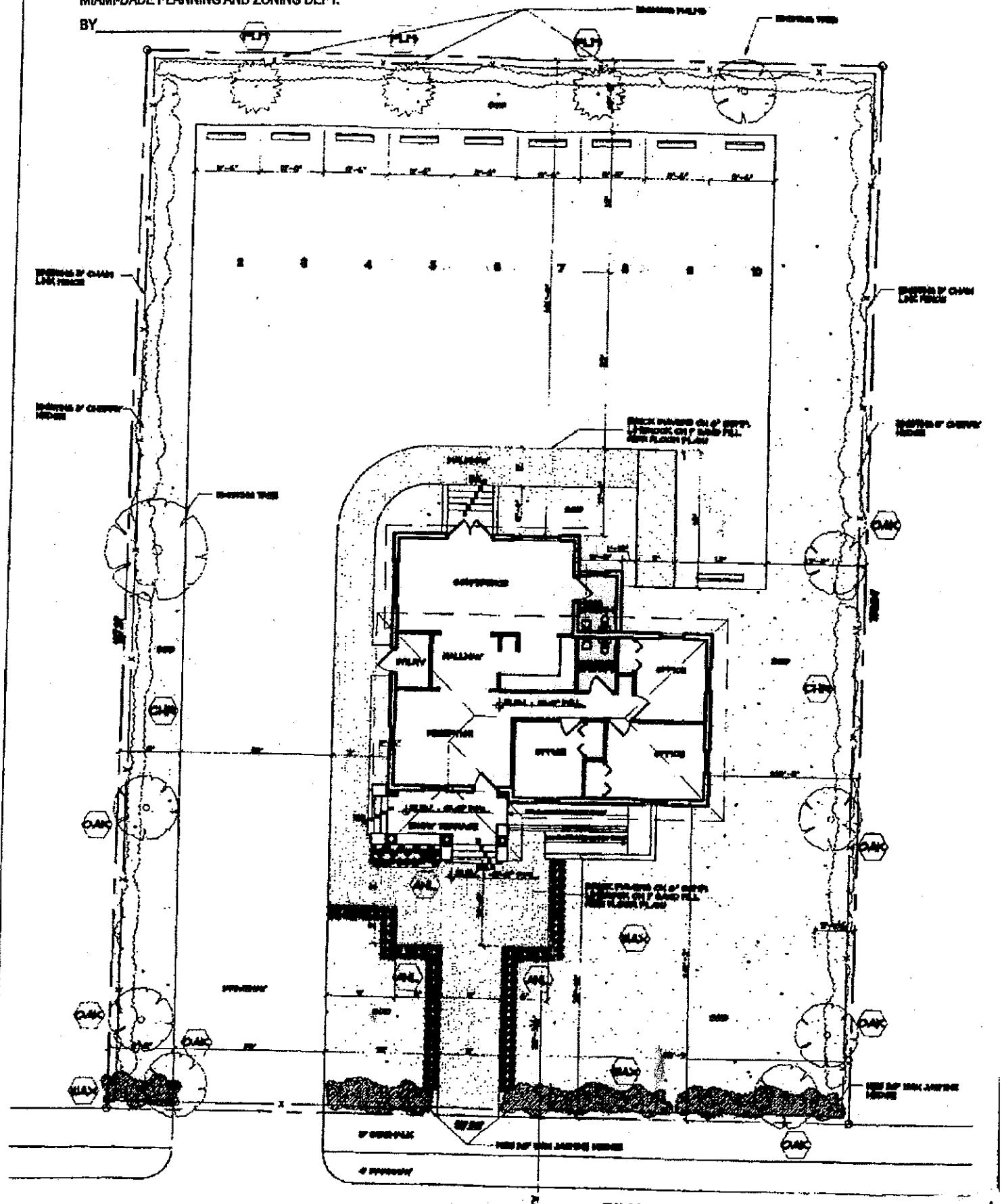


Date: 28-APR-06

Comments: West View From Subject Property.

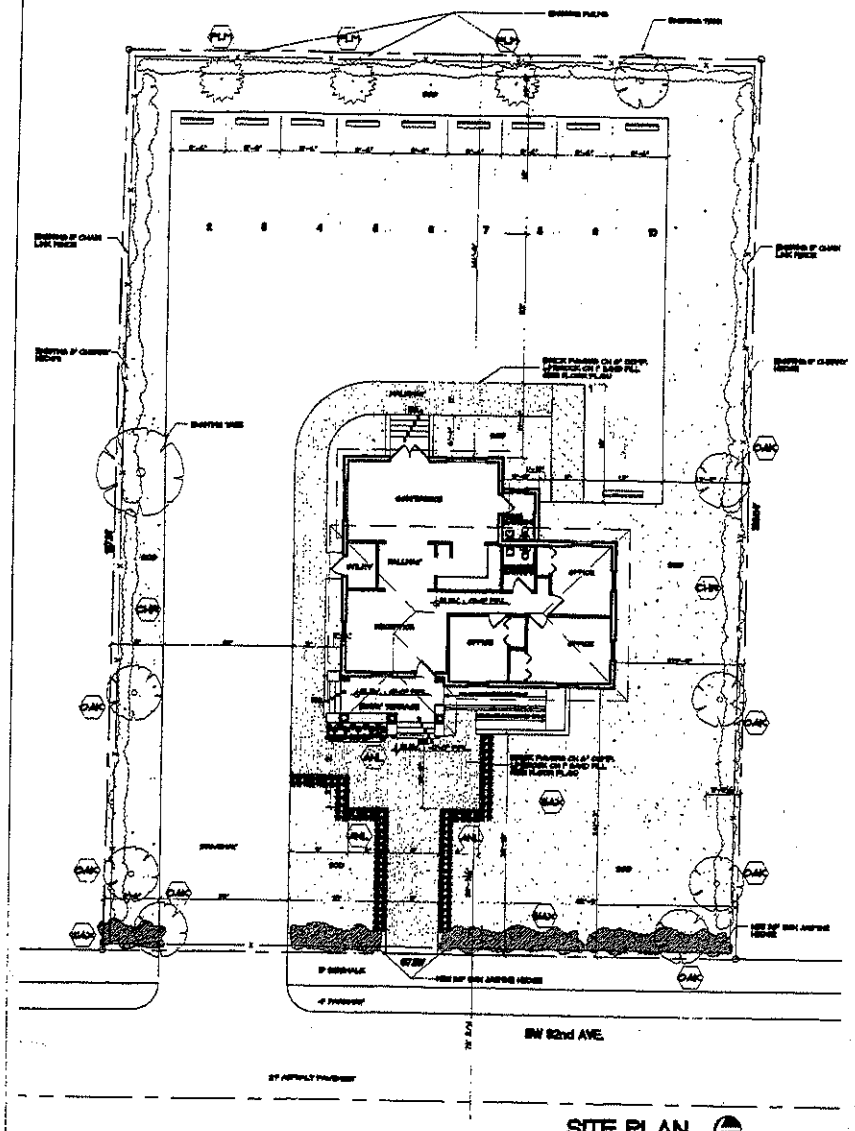
RECEIVED
2015-364
NOV 18 2015

ZONING HEARINGS SECTION
MIAMI-DADE PLANNING AND ZONING DEPT.
BY_____

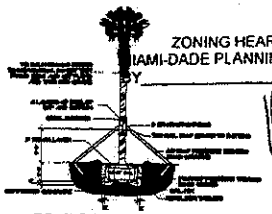



ENLARGED SITE PLAN

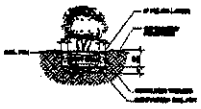
RECEIVED
20-364
NOV / 8 2005
ZONING HEARINGS SECTION
MIAMI-DADE PLANNING AND ZONING DE



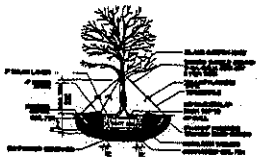

SITE PLAN
SCALE: 1/8" = 1'



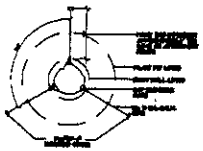
TYPICAL PALM PLANTING DETAIL



TYPICAL SHRUB PLANT DETAIL



TYPICAL TREE PLANTING DETAIL



TYP. TREE STAKING DETAIL

## LEGAL DESCRIPTION

LOT 4 BLOCK 8 OF CORAL WAY HOMESITES, ACCORDING TO THE PLAT THEREOF AS RECORDED IN PLAT BOOK 46 AT PAGE 3 OF THE PUBLIC RECORDS OF DADE COUNTY, FLORIDA.

## LEGEND

| | |
|---|---|
| EXISTING ZONING | RU-1 |
| PROPOSED ZONING | RU-5A |
| LOT AREA | 9,464 SQ. FT. |
| BUILDING AREA (A/C) | 2868 SQFT. |
| PAVED AREA (DRIVEWAY) | 3,356 SQFT. |
| WALKWAY/ENTRY TERRACE(PAVERS) | 1291 SQFT. |
| LANDSCAPED AREA | 5,796 SQFT. (42.24% LOT AREA) |

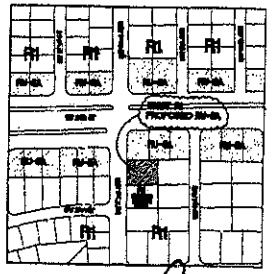
| | REQUIRED | PROVIDED |
|---|---|---|
| LOT COVERAGE | 40% | 30% |
| HEIGHT | 2 STORIES(34') | 21'-4" |
| SETBACKS | | |
| FRONT | 25' | 41'-5" |
| REAR | 25' | 41'-11" |
| INTERIOR SIDE | 5' | 11'-10"<br>41'-11" |
| PARKING SPACES (Incl. 25-3 KU OFFICE BLDG. | MINIMUM (5) | 10 (Incl. 1 HCPD) |

PLANT MATERIAL

| CODE | | ITEM | SPACING | QUANTITY |
|---|---|---|---|---|
| | | HIBISCUS YOUNGIANA LIVE OAK | 8' | 7 |
| | | ROYSTEA PALM | 8' | 8 |
| | | SEA GRAPES | 24" | 16 (typ.) |
| | | EXISTING HEDGE TO REMAIN | 8' | |
| | | ANNUAL PLANTING | 12" | 1001 (ea) |

## LANDSCAPE NOTES

1. The Owner or his agent shall install sod in all areas, ditches and ground cover beds to the nearest bed edge or sod border, to commence and be complete.
2. All plants shall meet the minimum standards of Florida No. 1 or better as specified in Grades and Standards for Nursery Plants as promulgated by the Division of Plant Industry, Florida Department of Agriculture, latest edition.
3. All trees to be planted a minimum of 24' and ground cover a minimum of 12" from the edge of curbs, building walls, fences, edge, etc. Trees found within and 10 feet from the edge of pavement shall be pruned to provide a minimum of 8' clear trunk.
4. All trees and plants over 24" in height shall be braced by stakes, guyed wires or other suitable means. Guy wires or stakes shall not cross any driveway or pedestrian walkway in a manner to be hazardous. Trees shall be staked so that the first branches are above the eye level of a person standing on the sidewalk or adjacent grade. Stakes shall be removed after one year.
5. All trees and plants shall be maintained in a healthy and growing condition. Replacement shall be of the same or similar species as specified in the approved plan, unless otherwise approved by the Director.
6. All parking areas and vehicular use areas shall be screened from adjacent streets and abutting property by a continuous hedge, wall, berm or combination thereof not less than 30" nor more than 36" in height. Such screening shall be placed along the perimeter of the parking area, or the side and perimeter setback shall be used, so that headlights of cars shall not be cast upon adjacent property or streets. Screening shall be maintained in good condition at all times.
7. All parking areas, open vehicle sales areas, and vehicular storage areas shall be landscaped with trees, shrubs, ground cover, and other landscape material in accordance with Section 18A-6 of the Miami-Dade County Code.
8. All work in the Landscape Areas shall be performed in a professional and sound manner in accordance with standard landscape practices.
9. Landscape contractor is responsible for verifying plans, quantities prior to bidding. Quantities shown in the plans may vary due to actual site needs and conditions. Landscape contractor is responsible for the correct plant count, including any fractions of the count. The preliminary plant count shall not be used for bidding purposes. Bidding shall be based on final working drawings.
10. Landscape contractor and his subcontractors shall be licensed and insured as required by the municipality, county and/or any other governmental agency requiring a license or licensure in order for the Landscape contractor to perform his work.
11. All work shall conform to Miami-Dade County landscape ordinance chapter 18-A, ordinance #90-59, and any other municipal landscape ordinance in effect at the property location.
12. Owner's trees, if part of the contract shall meet the requirements of the municipality or municipal requirements.
13. Landscape contractor is responsible to purchase and obtain any necessary permits applicable for the complete completion of the project, including tree removal permits, if applicable.
14. Landscape material shall not be allowed to grow to such a height as to [illegible] obstruct the driver's vision at intersections or on the adjoining public right-of-way between a height of 2 feet and 8 feet.
15. Landscape contractor shall call Sunshine State One Call, Inc. of Florida at 1-800-432-4770 (Toll Free) 48 hours before digging.




LOCATION MAP

PROPOSED RU-5A ZONING FOR
RENE MIGUEL VALDES
2455 SW 82ND AVE. MIAMI, FLORIDA
PHONE 305 599 4947

CLIENT

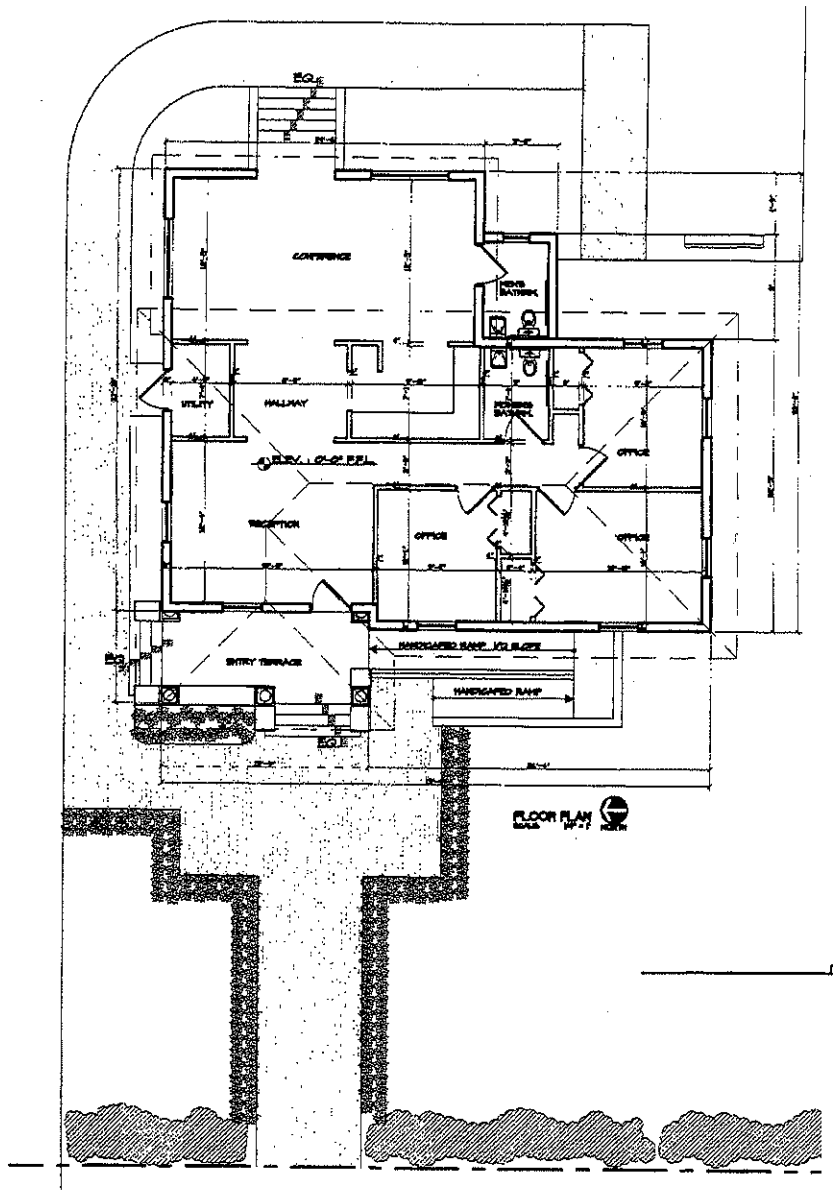
SEAL

ARCHITECT / PLANNER / INTERIORS
C.L.A. ARCHITECTS CORP.
1200 PONCE DE LEON BLVD., SUITE 1, CORAL GABLES, FLORIDA 33134 PHONE: 305 444-4611 FAX: 305 444-4612

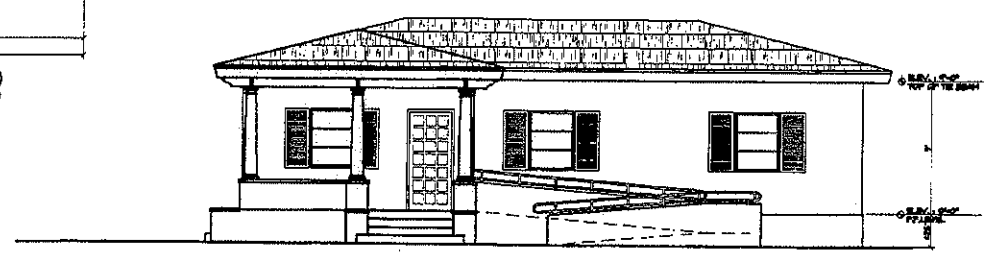
DATE 04/22/04
SCALE AS NOTED
DRAWN LPV
DRAWING # A-1
SHEET OF

5/17/04

9h




FLOOR PLAN



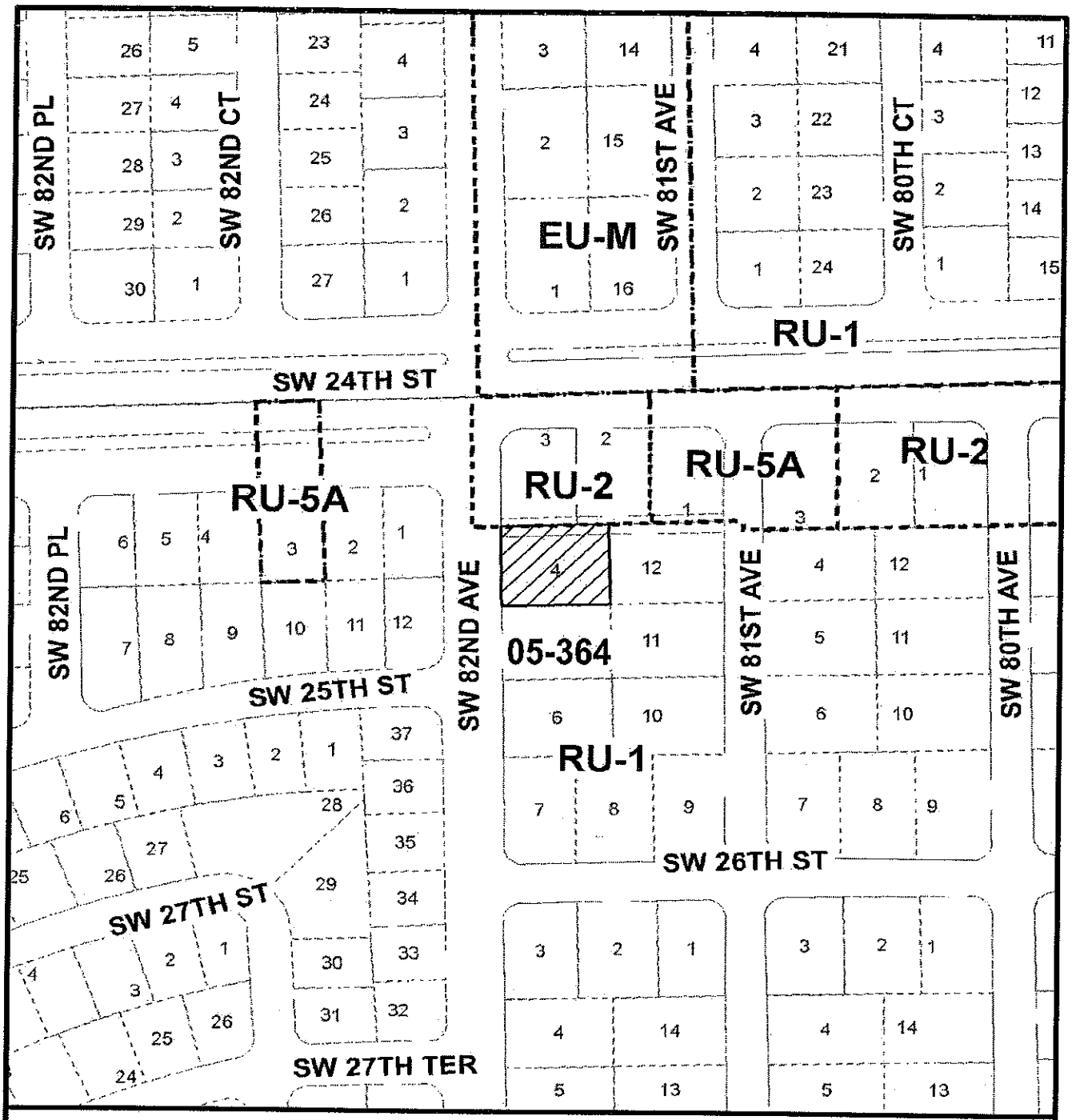
FRONT ELEVATION

RECEIVED
NOV / 8 2005
ZONING HEARINGS SECTION
MIAMI-DADE PLANNING AND ZONING DEPT
BY

5/17/04

PROPOSED RU-5A ZONING FOR
RENE MIGUEL VALDES
2425 SW 82ND AVE. MIAMI, FLORIDA
PHONE: 305 599 4947

DATE 04/22/04
SCALE AS NOTED
DRAWN LPV
DRAWING # A-2




MIAMI-DADE COUNTY
**HEARING MAP**

S C A L E
0 NTS
N

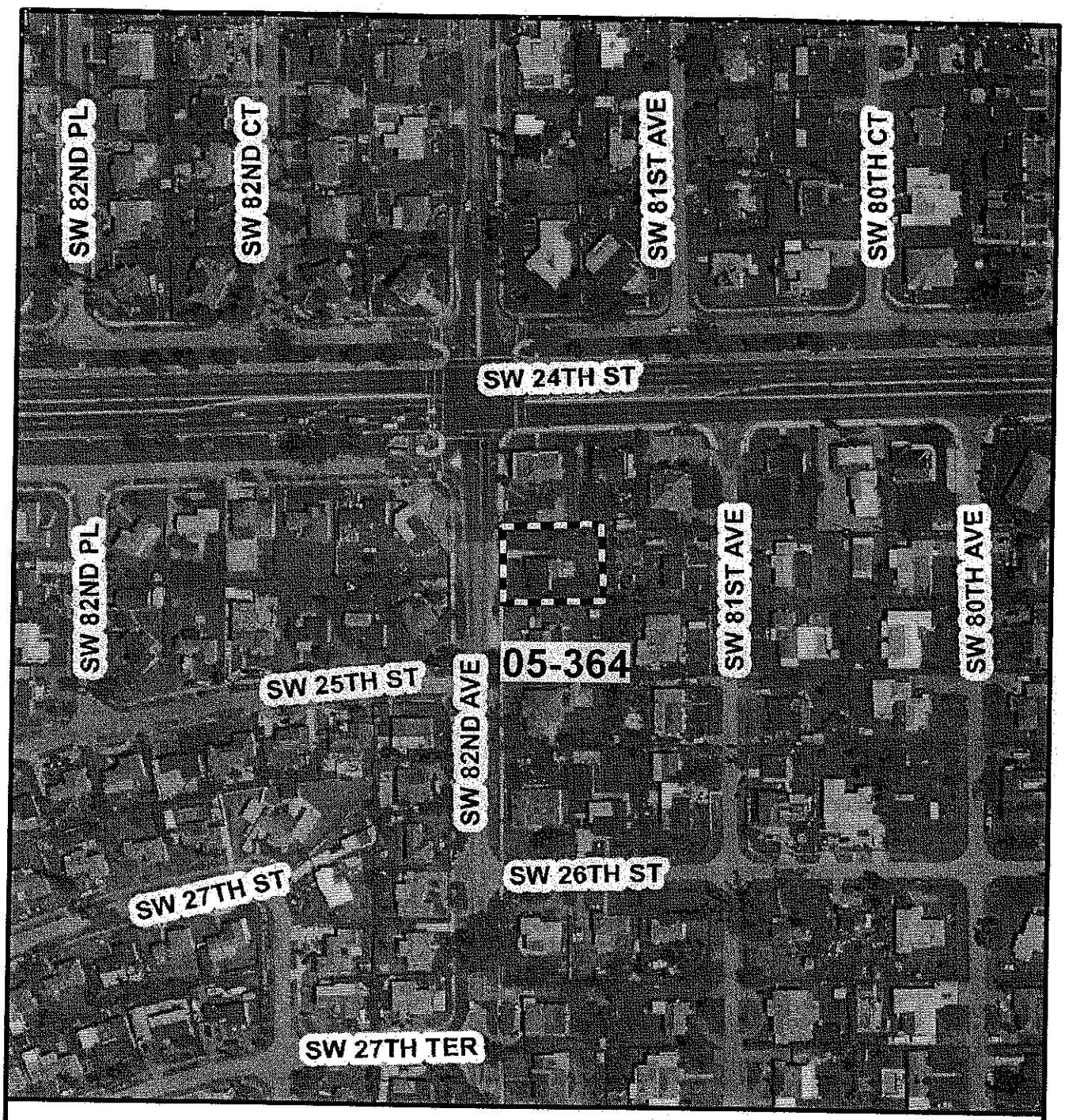
SUBJECT PROPERTY

**Section: 15 Township: 54 Range: 40**
**Process Number: 05-364**
**Applicant: RENE MIGUEL VALDEZ**
**Zoning Board: C10**
**District Number: 10**
**Drafter ID: ALFREDO**
**Scale: 1:200'**

MIAMI-DADE COUNTY

G: ZONING DRAFTING 05-364. 11/05
REVISED 08/23/06
REV. 02/21/07 51/2 ALLEY.AFT

47




MIAMI-DADE COUNTY
**AERIAL**

S C A L E
0 NTS

N

SUBJECT PROPERTY

**Section: 15 Township: 54 Range: 40**
**Process Number: 05-364**
**Applicant: RENE MIGUEL VALDEZ**
**Zoning Board: C10**
**District Number: 10**
**Drafter ID: ALFREDO**
**Scale: NTS**

MIAMI-DADE COUNTY

GEOMATICS 05-364 11/03
REVISED 08/23/06
REV. 02/07/07 JF To update Aerial
REV. 02/21/07 S1/2 ALLEY.AFT

**B. SANTA FE HACIENDAS LLC &**
**CEMEX CONSTRUCTION MATERIALS FLORIDA, LLC**
**(Applicant)**

**11-3-CC-2 (09-176)**
**BCC/District 11**
**Hearing Date: 06/23/11**

Property Owner (if different from applicant) **Santa Fe Haciendas LLC.**

Is there an option to purchase ☐ / lease ☐ the property predicated on the approval of the zoning request? Yes ☐ No ☑

Disclosure of interest form attached? Yes ☑ No ☐

**Previous Zoning Hearings on the Property:**

| Year | Applicant | Request | Board | Decision |
|---|---|---|---|---|
| 1978 | Directors, Building, & Zoning & Planning Depts. | - Zone change from IU-1 & IU-2 to AU. | BCC | Approved |

Action taken today does not constitute a final development order, and one or more concurrency determinations will subsequently be required. Provisional determinations or listings of needed facilities made in association with this Initial Development Order shall not be binding with regard to future decisions to approve or deny an Intermediate or Final Development Order on any grounds.

ZONING ACTION

MEMORANDUM
Harvey Ruvin
Clerk of the Circuit and County Courts
Clerk of the Board of County Commissioners
(305) 375-5126
(305) 375-2484 FAX
www.miami-dadeclerk.com

**DATE: 04/28/2011** **#Z- 09-176**

**ITEM: C**
**APPLICANT: SANTA FE HACIENDAS, LLC**

**MOTION: DEFERRED–6/23/11 W/O NOTICE**

| ROLL CALL | M/S | YES | NO | ABSENT |
|---|---|---|---|---|
| Barreiro | | X | | |
| Bell | | X | | |
| Diaz | | | | E |
| | | | | |
| Heyman | S | X | | |
| Jordan | | | | E |
| Monestime | | X | | |
| Moss | M | X | | |
| Sosa | | | | E |
| Souto | | X | | |
| **Vice Chairwoman Edmonson** | | | | E |
| **Chairman Martinez** | | X | | |
| **TOTAL** | | 7 | 0 | |

ZONING ACTION

MEMORANDUM
Harvey Ruvin
Clerk of the Circuit and County Courts
Clerk of the Board of County Commissioners
(305) 375-5126
(305) 375-2484 FAX
www.miami-dadeclerk.com

**DATE:** 3/17/2011 **#Z-**

**ITEM: 2**
**APPLICANT: SANTA FE HACIENDAS, LLC &**
**CEMEX CONSTRUCTION MATERIALS FLORIDA, LLC**
**(11-3-CC-2/09-176)**

**MOTION: Deferred to April 28, 2011 due to lack of a quorum.**

| ROLL CALL | M/S | YES | NO | ABSENT |
|---|---|---|---|---|
| Barreiro | | | | |
| Bell | | | | |
| Diaz | | | | |
| Gimenez | | | | |
| Heyman | | | | |
| Jordan | | | | |
| Monestime | | | | |
| Moss | | | | |
| Seijas | | | | |
| Sosa | | | | |
| Souto | | | | |
| **Vice Chairwoman Edmonson** | | | | |
| **Chairman Martinez** | | | | |
| **TOTAL** | | | | |

**MIAMI-DADE COUNTY DEPARTMENT OF PLANNING AND ZONING**
**RECOMMENDATION TO THE BOARD OF COUNTY COMMISSIONERS**

**APPLICANTS:** Santa Fe Haciendas, L.L.C., Et Al **PH:** Z09-176 (11-3-CC-2)

**SECTION:** 1-55-38 **DATE:** June 23, 2011

**COMMISSION DISTRICT:** 11 **ITEM NO.:** B

==========

## A. INTRODUCTION

- **SUMMARY OF REQUEST:**

  This application seeks to allow a lake excavation.

- **REQUEST:**

  (1) UNUSUAL USE to permit a lake excavation.

  Plans are on file and may be examined in the Department of Planning and Zoning entitled "Prop. Lake Excavation," as prepared by Fortin, Leavy, Skiles, Inc., Sheet "2A," dated stamped received 9/27/10 and the remaining sheets dated stamped received 8/17/10, for a total of 5 sheets. Plans may be modified at public hearing.

- **LOCATION:**

  Lying west of SW 177 Avenue (Krome Avenue), and south of theoretical SW 90 Street Street, Miami-Dade County, Florida.

- **SIZE:** 412 Gross Acres

## B. ZONING HEARINGS HISTORY:

In January 1957, the subject property was a part of a parcel of land that was rezoned from GU, Interim District, to IU-1, Light Manufacturing District and IU-2, Heavy Manufacturing District, pursuant to Resolution #10967. Subsequently, in October 1978, the subject property was rezoned to AU, Agricultural District, pursuant to Resolution #Z-226-78.

## C. COMPREHENSIVE DEVELOPMENT MASTER PLAN (CDMP) OBJECTIVES, POLICIES AND INTERPRETATIVE TEXT:

1. *The Adopted 2015 and 2025 Land Use Plan designates the subject property as being **approximately 0.47 miles** west of and **outside the Urban Development Boundary (UDB)** for **Agriculture** use. The area designated as "Agriculture" contains the best agricultural land remaining in Miami-Dade County. As stated in the Miami-Dade County Strategic Plan, approved in 2003 by the Board of County Commissioners, protection of viable agriculture is a priority. The principal uses in this area should be agriculture, uses ancillary to and directly supportive of agriculture and farm residences. Uses ancillary to, and necessary to support the rural residential community of the agricultural area may also be approved, including houses of worship; however, schools shall not be approved in*

*Agriculture areas but should be located inside the UDB in accordance with Policy EDU-2.A.*

2. *In order to protect the agricultural industry, uses incompatible with agriculture, and uses and facilities that support or encourage urban development are not allowed in this area. Residential development that occurs in this area is allowed at a density of no more than one unit per five acres. Creation of new parcels smaller than five acres for residential use may be approved in the Agriculture area only if the immediate area surrounding the subject parcel on three or more contiguous sides is predominately and lawfully parcelized in a similar manner, and if a division of the subject parcel would not precipitate additional land division in the area. No business or industrial use should be approved in the area designated Agriculture unless the use is directly supportive of local agricultural production, and is located on an existing arterial roadway, and has adequate water supply and sewage disposal in accordance with Chapter 24 of the County Code, and the development order specifies the approved use(s); however, packing houses for produce grown in Florida are not restricted to locating on an arterial roadway. Other uses compatible with agriculture and with the rural residential character may be approved in the Agriculture area only if deemed to be a public necessity or if deemed to be in the public interest and the applicant demonstrates that no suitable site for the use exists outside the Agriculture area.* ***Existing quarrying and ancillary uses in the Agriculture area may continue operation and be considered for approval of expansion.***

***Policy LU-3F. Super-Majority Vote:*** *Any zoning action or amendment to the CDMP that would approve any use other than direct production and permitted residential uses of property, in an area designated as Agriculture, whether as a primary use or as an accessory or subordinated use to an agricultural use, or action that would liberalize standards or allowances governing such other uses on land that is, a) outside the Urban Development Boundary (UDB), and b) within one mile of the right-of-way line of any portions of Krome Avenue designated in this Plan for improvement to 4-lanes, shall require an affirmative vote of not less than five members of the affected Community Zoning Appeals Board and two-thirds of the total membership of the Board of County Commissioners then in office, where such Community Zoning Appeals Board or Board of County Commissioners issues a decision. The term "direct agricultural production" includes crops, livestock, nurseries, groves, packing houses, and barns but not uses such as houses of worship, schools, sale of produce and other items, and outdoor storage vehicles. This policy is not intended to permit any use not otherwise permitted by the CDMP. Any modification to this section to allow additional uses within the one mile distance from Krome Avenue shall require an affirmative vote of not less than two-thirds of the Board of County Commissioners then in office.*

***Other Land Uses Not Addressed.*** *Certain uses are not authorized under any LUP map category, including many of the uses listed as* ***"unusual uses"*** *in the zoning code. Uses not authorized in any LUP map category may be requested and approved in any LUP category that authorizes uses substantially similar to the requested use. Such approval may be granted only if the requested use is consistent with the objectives and policies of this Plan, and provided that the use would be compatible and would not have an unfavorable effect on the surrounding area: by causing an undue burden on transportation facilities including roadways and mass transit or other utilities and services including water, sewer, drainage, fire, rescue, police and schools; by providing inadequate off-street parking, service or loading areas; by maintaining operating hours, outdoor lighting or*

*signage out of character with the neighborhood; by creating traffic, noise, odor, dust or glare out of character with the neighborhood; by posing a threat to the natural environment including air, water and living resources; or where the character of the buildings, including height, bulk, scale, floor area ratio or design would detrimentally impact the surrounding area. However, this provision does not authorize such uses in Environmental Protection Areas designated in this Element.*

***Uses and Zoning Not Specifically Depicted on the LUP Map.*** *Within each map category numerous land uses, zoning classifications and housing types may occur. Many existing uses and zoning classifications are not specifically depicted on the Plan map. This is due largely to the scale and appropriate specificity of the countywide LUP map, graphic limitations, and provisions for a variety of uses to occur in each LUP map category. In general, 5 acres is the smallest site depicted on the LUP map, and smaller existing sites are not shown. All existing lawful uses and zoning are deemed to be consistent with this Plan unless such a use or zoning (a) is found through a subsequent planning study, as provided in Policy LU-4E, to be inconsistent with the criteria set forth below; and (b) the implementation of such a finding will not result in a temporary or permanent taking or in the abrogation of vested rights as determined by the Code of Miami-Dade County, Florida.*

**D. NEIGHBORHOOD CHARACTERISTICS:**

| | ZONING | LAND USE PLAN DESIGNATION |
|---|---|---|
| **Subject Property:** | | |
| | AU; vacant land | Agriculture |
| **Surrounding Properties:** | | |
| **NORTH:** | AU; lake excavation | Agriculture |
| **SOUTH:** | AU; farm residences, vacant land | Agriculture |
| **EAST:** | AU; row crops, vacant land | Agriculture |
| **WEST:** | GU; park | Environmentally Protected Parks |

**E. PERTINENT ZONING REQUIREMENTS/STANDARDS:**

***Section 33-311(A)(3) Special Exceptions, Unusual Uses and New Uses.*** *The Board shall hear an application for and grant or deny special exceptions; that is, those exceptions permitted by regulations only upon approval after public hearing, new uses and* ***unusual uses*** *which by the regulations are only permitted upon approval after public hearing; provided the applied for exception or use, including exception for site or plot plan approval, in the opinion of the Community Zoning Appeals Board, would not have an unfavorable effect on the economy of Miami-Dade County, Florida, would not generate or result in excessive noise or traffic, cause undue or excessive burden on public facilities, including water, sewer, solid waste disposal, recreation, transportation, streets, roads, highways or other such facilities which*

*have been constructed or which are planned and budgeted for construction, are accessible by private or public roads, streets or highways, tend to create a fire or other equally or greater dangerous hazards, or provoke excessive overcrowding or concentration of people or population, when considering the necessity for and reasonableness of such applied for exception or use in relation to the present and future development of the area concerned and the compatibility of the applied for exception or use with such area and its development.*

***Section 33-314(C)(11.1) Direct Applications and Appeals to the County Commission.*** *Notwithstanding the provisions of Section 33-13(e) of this code, applications for unusual uses for lake excavations to expand bona fide rock mining operations, as defined in Section 33-422(3) of the code, onto property contiguous and immediately adjacent to existing bona fide rock mining operations; associated Class I and Class IV permit applications as defined in Section 24-48.1; and all applications for uses ancillary to bona fide rock mining pursuant to Section 33-422(c) of this article.*

***Section 33-422(3) Uses Permitted by this Article.*** *For the purposes of this article, "bona fide rock mining" means the commercial extraction of limestone and sand suitable for production of construction aggregates, sand, cement and road base materials for shipment offsite by any person or company primarily engaged in the commercial mining of any such natural resources.*

## F. NEIGHBORHOOD SERVICES PROVIDER COMMENTS:

| | |
|---|---|
| DERM | **No objection*** |
| Public Works | **No objection*** |
| Parks | **No objection** |
| MDT | **No objection** |
| Fire Rescue | **No objection** |
| Police | **No objection** |
| Schools | **Not applicable** |
| FDOT | **No objection** |

*Subject to conditions indicated in their memoranda.

## G. PLANNING AND ZONING ANALYSIS:

This application was deferred from the April 28, 2011 meeting of the Board of County Commissioners (BCC) due a lack of quorum for a supermajority vote. Prior to this, the application was indefinitely deferred from the January 13, 2011 meeting by the Community Zoning Appeals Board 11 and subsequently, was deferred from the March 17, 2011 meeting of the BCC due to an inadvertent error in the advertisement. The applicant has amended the application and provided the Department with additional information in a revised letter of intent indicating that the operator overseeing the proposed lake excavation is the same operator on the Krome Quarry located on the abutting property to the north along with other documentation. As such, this application meets the criteria for direct application to the Board of County Commissioners (BCC), under Section 33-314(C)(11.1), Direct Applications and Appeals to the County Commission, of the Code and as such should be scheduled before the BCC.

The subject property is located approximately 0.47 miles west of and outside the UDB in an area designated **Agriculture** and abuts Krome Avenue that is designated in the Master Plan for improvement to 4-lanes. The subject property has been and is being used for active agricultural purposes. This application would allow the applicant an Unusual Use to permit a 306.82 acre lake excavation/rock mining use on this 412-acre AU, Agricultural District parcel. However, the CDMP indicates that *uses not authorized in any LUP map category may be requested and approved in any LUP category that authorizes uses substantially similar to the requested use. Such approval may be granted only if the requested use is consistent with the objectives and policies of this Plan, and provided that the use would be compatible with and would not have an unfavorable effect on the surrounding area.*

The applicants' letter of intent indicates that the proposed lake excavation is similar to the uses allowed in the Rock Mining Overlay District (ROZA). Staff notes that although the subject property is located approximately 1.5 miles south of and outside the ROZA district, the property abuts a property to the north that has an ongoing rock mining operation. Said property and the property located further north contain rock mining operations that were approved approximately 50 years ago. Both of these rock mining operations extend northward into the ROZA District which ends at approximately SW 56 Street. The ROZA ordinance which was enacted in 2004, allows for the creation of an area in the northwest section of the County where rock mining and uses that are ancillary to rock mining are permitted without a public hearing.

However, the interpretative text of the *CDMP allows for the consideration of the expansion of existing quarrying uses in the Agriculture area.* The applicants are seeking an unusual use to permit a lake excavation on a parcel of land that does not have an ongoing lake excavation use. However, the abutting property located to the north contains an ongoing lake excavation and ancillary uses which were initially approved approximately fifty (50) years prior to the applicants' request for a lake excavation on the subject property. The applicants' revised letter of intent indicates that CEMEX Construction Materials Florida, LLC (CEMEX), currently conducts rock mining and ancillary activities on the abutting property to the north of the subject property, along with another property located north of that property. Said letter indicates that CEMEX operates on both of these properties pursuant to existing Short-Form Limestone Purchase and Option agreements that CEMEX entered into with each of the respective property owners which is the same type of agreement they have with the owners of the subject property. Staff notes that these lake excavations/rock mining operations extend as far north as the southernmost boundary of the ROZA District. Although the subject property is separate from the two (2) aforementioned properties, staff opines that the extension of the rock mining operations onto the subject property could constitute an expansion of the lake excavation operations being conducted by CEMEX and would be compatible with same. Staff notes that the applicant has proffered a covenant (attached) which imposes conditions and restrictions on the subject property for the proposed rock mining operation. Said conditions and restrictions among other things include, a continuous 15' high landscaped berm along the interior side (south) property line as well as restrictions on the hours of operation, on mining operations within 200' of the southern property line and on blasting within 500' of existing residences. Therefore, staff opines that these agreements along with the applicants' proffered covenant constitute an expansion of the existing rock mining operations on these properties located to the north. **As such, staff concludes that based on the above, the proposed lake excavation on the subject property is an expansion of an existing quarrying use and is consistent with the CDMP.**

However, Policy **LU-3F** of the interpretative text of the CDMP *requires that any zoning action or amendment to the CDMP that would approve any use other than direct production and permitted residential uses of property, in an area designated as Agriculture, whether as a primary use or as an accessory or subordinated use to an agricultural use, or action that would liberalize standards or allowances governing such other uses on land that is, a) outside the Urban Development Boundary (UDB), and b) within one mile of the right-of-way line of any portions of* ***Krome Avenue*** *designated in this Plan for improvement to 4-lanes, shall require an affirmative vote of not less than two-thirds of the total membership of the Board of County Commissioners then in office, where such Board of County Commissioners (BCC) issues a decision.* Staff notes that the subject property is located outside the UDB and within a mile of the right-of-way of Krome Avenue. As such, the approval of this application would require a super-majority vote since said uses do not involve the direct production of agriculture, are not permitted residential uses in an agriculturally designated land, and approval of said requests would liberalize the standards or allowances governing such uses.

Section 33-311(A)(3), Standards For Special Exceptions, Unusual Uses and New Uses states that *the Board shall hear an application for and grant or deny special exceptions; that is, those exceptions permitted by regulations only upon approval after public hearing, new uses and* ***unusual uses*** *which by the regulations are only permitted upon approval after public hearing; provided the applied for exception or use, including exception for site or plot plan approval, in the opinion of the Community Zoning Appeals Board, would not have an unfavorable effect on the economy of Miami-Dade County, Florida, would not generate or result in excessive noise or traffic, cause undue or excessive burden on public facilities, including water, sewer, solid waste disposal, recreation, transportation, streets, roads, highways or other such facilities which have been constructed or which are planned and budgeted for construction, are accessible by private or public roads, streets or highways, tend to create a fire or other equally or greater dangerous hazards, or provoke excessive overcrowding or concentration of people or population, when considering the necessity for and reasonableness of such applied for exception or use in relation to the present and future development of the area concerned and the compatibility of the applied for exception or use with such area and its development.* Staff notes that the subject property abuts properties to the north that are currently engaged in rock mining operations. The applicant's letter of intent indicates that the current operator of the rock mining activities on the abutting properties would be the same operator of the proposed rock mining operations on the subject property. Staff opines that as a result, there will not be a negative impact on the rock mining industry in this section of the County and therefore, not have a negative impact on the economy of the County.

Staff notes that the Public Works Department, MDFRD, Florida Department of Transportation (FDOT) and DERM do not object to the application. DERM indicates in their memorandum that the proposed excavation is located within 700 feet of the Everglades National Park (ENP) and the L-31N levee and has recommended approval based on certain conditions. As such, based on memoranda from these departments, approval of this application would not generate or result in excessive noise or traffic, cause undue or excessive burden on public facilities, transportation, streets, roads, highways or other such facilities which have been constructed or which are planned and budgeted for construction or tend to create a fire or other equally or greater dangerous hazards.

Notwithstanding, *when considering the necessity for and reasonableness of such applied for exception or use in relation to the present and future development of the area concerned and the compatibility of the applied for exception or use with such area and its development,* staff

opines that approval of the requested unusual use to permit the rock mining operation would be **incompatible** with the surrounding area. Staff notes that the subject property provided a significant separation between the previously approved rock mining uses on the properties located to the north and the farm residences located to the south of the subject property. Staff recognizes that the applicants have proffered a covenant which, in addition to combining the rock mining operations on the abutting parcel to the north, also helps to mitigate negative visual or aural impacts that the proposed use would have on the farm residences located to the south and to the east. Said covenant would among other things, require the applicant to install a 15' high berm along the south property line as well as limit the use of explosives within 500' of existing residences. However, notwithstanding the memoranda from the Public Works and Miami-Dade Fire Rescue Departments, staff opines that approval of the expansion of the mining activities onto the subject property could result in an increase in traffic, dust and noise from the rock mining operations that would have a negative impact on the surrounding agricultural properties. Therefore, notwithstanding the applicants' proffered covenant, staff opines that approval of this application will result in the removal of this parcel which acts as a buffer and would result in a southward expansion of the mining operations. Said expansion in staff's opinion would have a negative visual and aural impact on the farm residences and other agricultural parcels located to the south and east of the subject property as well as the environmentally protected national park located to the west.

As such, staff opines that the applicants' request to permit the expansion of an existing rock mining operation onto additional property to the south is **consistent** with the adopted interpretative text of the CDMP. However, it would be **incompatible** with the majority of the properties in the surrounding area and as such should be denied. **Based on the aforementioned, staff recommends that the applicants' request for an Unusual Use to permit a lake excavation be denied without prejudice under Section 33-311(A)(3), Standards for Special Exceptions, Unusual Uses and New Uses.**

H. **RECOMMENDATION:** **Denial without prejudice.**

I. **CONDITIONS:** None.

**DATE TYPED:** 12/03/10
**DATE REVISED:** 02/06/10, 12/8/10, 01/28/11, 02/02/11, 02/07/11, 02/08/11, 02/09/11, 03/02/11, 04/12/11, 04/19/11, 04/29/11
**DATE FINALIZED:** 04/29/11
MCL:GR:NN:AA:CH

Marc C. LaFerrier, AICP, Director
Miami-Dade County Department of
Planning and Zoning

NDN

# Memorandum

**Date:** March 10, 2011

**To:** Marc C. LaFerrier, AICP, Director
Department of Planning and Zoning

**From:** Jose Gonzalez, P.E., Assistant Director
Environmental Resources Management

**Subject:** BCC #Z2009000176 -5th Revision
Santa Fe Haciendas, LLC
North of S.W. 100th Street between S.W. 177th Avenue and S.W. 188th Avenue
Unusual Use to Permit a Lake Excavation and portable rock crushing and screening equipment
(AU) (412 Acres)
01-55-38

---

The Department of Environmental Resources Management (DERM) has reviewed the subject application and has determined that it meets the minimum requirements of Chapter 24 of the Code of Miami-Dade County, Florida (the Code). Accordingly, the application may be scheduled for public hearing.

Wetlands

The Wetland Resources Section has reviewed the revised site plan submitted on August 20, 2010 by Santa Fe Haciendas, LLC requesting an unusual use to permit a lake excavation and the use of mobile ancillary rock crushing and screening equipment for a property located west of Krome Avenue and south of theoretical S.W. 91st Street. On May 26, 2009, a Class IV Permit application was submitted to DERM requesting to excavate 5.18 acres of wetlands within the 412-acre project area. To date, the Class IV Wetland Permit has not been issued.

DERM notes that the edge of the proposed excavation is located within 700 feet of Everglades National Park (ENP) and the L-31N levee, however, the excavation is proposed to be phased, with the first phase having a minimum of 2500 feet of set-back from the levee. It is anticipated that the full excavation will increase the seepage from the higher groundwater stages to the west to the lower stages to the east. This will be detrimental to the wetlands within the ENP. The phased approach is acceptable provided the use be conditioned to specifically prohibit mining within the 2500 foot set-back area until a seepage management plan is provided and approved by DERM.

The revised site plan depicts a lake excavation within the agricultural designation of the Comprehensive Development Master Plan (CDMP). This appears to be a new commercial use within the Agricultural area. DERM recommends that Planning carefully evaluate appropriateness of this use under the CDMP.

Wellfield Protection
The subject property is located within the West Wellfield interim protection area. The Board of County Commissioners approved a wellfield protection ordinance for this wellfield. This ordinance provides for stringent wellfield protection measures that restrict development, and regulate land uses within the wellfield protection area.

Section 24-43(7) of the Code regulates excavations within wellfield protection areas. Section 24-43(7)(a) requires that no excavation may be permitted within a wellfield protection area unless the property owner has submitted to DERM a properly executed covenant running with the land in favor of Miami-Dade County that shall provide for security measures during the excavation. The property owner has submitted a properly executed covenant, in accordance with Section 24-43(7) of the Code. T

Section 24-43(5) of the Code regulates to a prohibition of hazardous materials within the wellfield protection areas. Therefore, a (5)(a) covenant must be proffered for the use of fuel and lubricants required for rockmining operations. As stated in this section of the Code, "... no County or municipal officer, agent, employee or Board shall approve, grant or issue any building permit, certificate of use and occupancy...or zoning action (district boundary change, unusual use, use variance or equivalent municipal zoning actions.....without obtaining the prior written approval of the Director or Director's designee." The property owner has submitted a properly executed covenant, in accordance with Section 24-43(5) of the Code

Stormwater Management
An existing covenant running with the land, executed by the owner of the property in favor of Miami-Dade County in accordance with Section 24-43(7) of the Code of Miami-Dade County, Florida (the Code), has been reviewed and approved by DERM's Water Control Section. In addition, DERM has no objection to this application if the following conditions are also satisfied:

An Environmental Resources Permit from the South Florida Water Management District shall be required for the construction and operation of the required water management system. This permit shall be obtained prior to platting and site development, or Public Works approval of paving and drainage plans.

Any proposed development must comply with the Water Quality Level of Service (WQLOS) and the minimum acceptable Flood Protection Level of Service (FPLOS) set forth by the CDMP.

The development criteria and the level of on-site flood protection may be influenced if the ground water stages are increased as a consequence of the implementation of the Comprehensive Everglades Restoration Plan.

Pollution Remediation
There are no records of current contamination assessment/remediation issues on the property or abutting the property. Additionally, there are no historical records of contamination assessment/remediation issues regarding non-permitted sites associated with this property or abutting the property.

Tree Preservation
The subject property contains tree resources and contains jurisdictional wetlands. Wetland Resources will be regulated through a DERM Class IV Wetland Permit. Any non wetland tree resources on the site will require a Miami-Dade County Tree Removal Permit prior to removal or relocation.

Concurrency Review Summary

DERM has conducted a concurrency review for this application and has determined that the same meets all applicable LOS standards for an initial development order, as specified in the adopted CDMP for potable water supply, wastewater disposal, and flood protection. Therefore, the application has been approved for concurrency subject to the comments and conditions contained herein.

This concurrency approval does not constitute a final concurrency statement and is valid only for this initial development order, as provided for in the adopted methodology for concurrency review. Additionally, this approval does not constitute any assurance that the LOS standards would be met by any subsequent development order applications concerning the subject property.

This memorandum shall constitute DERM's written approval, as required by the Code.

If you have any questions concerning the comments, or wish to discuss this matter further, please contact Christine Velazquez at (305) 372-6764.

PH# Z2009000176
CZAB - C11

## PUBLIC WORKS DEPARTMENT COMMENTS

Applicant's Names: SANTA FE HACIENDAS LLC

This Department has no objections to this application.

Lake slopes are to comply with Miami-Dade County Code requirements and the Public Works Manual of Miami-Dade County.

This land may require platting in accordance with Chapter 28 of the Miami-Dade County Code. The road dedications and improvements will be accomplished thru the recording of a plat.

Additional improvements may be required at time of permitting/platting.

Since this development abuts a State maintained road (SW 177 Avenue), the applicant must contact the district office at 305-470-5367, certain restrictions may apply.

This application does not generate any new additional daily peak hour trips, therefore no vehicle trips have been assigned. This application meets the traffic concurrency criteria set for an Initial Development Order.

Raul A Pino, P.L.S.
22-APR-10

BCC 3-17-11
09-176 For File
Mark W

PLANNING AND ZONING
AGENDA OFFICE
2011 MAR 10 P 12:08

**Florida Department of Transportation**

RICK SCOTT
GOVERNOR

605 Suwannee Street
Tallahassee, FL 32399-0450

2011 MAR -9 P 3:57
OFFICE OF THE
SECRETARY
PLANNING & ZONING
METROPOLITAN PLANNING SECT

PLANNING AND ZONING
AGENDA OFFICE
2011 MAR 10 P 12:09

February 28, 2011

RECEIVED
09-176
MAR 04 2011
MIAMI-DADE COUNTY
DIRECTOR'S OFFICE
DEPT. OF PLANNING & ZONING
20110237

Mr. Mark LaFerrier
Department of Planning and Zoning, Miami-Dade County
Zoning Hearing Section
111 North West First Street, 11th Floor
Miami, Florida 33128

Re: Santa Fe Haciendas Zoning Application, P.H. No. 09-176
(Process Number **Z2009000176)**

Dear Mr. Mark LaFerrier:

It has come to my attention Santa Fe Haciendas and Cemex, Inc. has a pending application for an unusual use approval for a limestone mining expansion to supply material to their Florida Department of Transportation (FDOT) approved Source 87089 on Krome Avenue, Miami, Florida.

Because of its strategic location along the CSX rail corridor, Cemex's Krome mine has historically been a valuable supply source of construction aggregates to rail redistribution terminals in the following areas: Orlando, Jacksonville, Tampa, Daytona, Gainesville, Ocala, Mulberry, and Largo. This successful network is essential to the continuance of FDOT's road and bridge construction work program commitments across a large portion of the state.

This property is the only remaining significant upland (non-jurisdictional by US Army Corps of Engineers) tract, which is also outside of the Lake Belt. Krome is the only mine that was able to operate fully during the Lake Belt shutdown period. It has always been a critical supply link and that is even more so if something were to interrupt the Lake Belt mining again.

In order for Florida to maintain its economic growth and quality of life, the state must continue to improve its transportation infrastructure. A stable supply of all types of aggregate, including Miami limestone, is important to that effort and to ensure that road projects as well as private developments may move forward without delay.

Without locally available sources, the only viable alternative is to acquire this material from other states or countries. These sources are often more costly and delivery is sometimes not reliable. This project will fulfill a critical need for aggregate material and is located for convenient transport of the material north to where it is needed.

I hope you find this information useful in your deliberations. If you have any questions, please contact me at 850-414-5240.

Sincerely,

Brian Blanchard, P.E.
Chief Engineer

BB/jsi

cc: The Honorable Joe Martinez, Chair

REVISION 2

# Memorandum

**Date:** 12-OCT-10

**To:** Marc LaFerrier, Director
Department of Planning and Zoning

**From:** Herminio Lorenzo, Fire Chief
Miami-Dade Fire Rescue Department

**Subject:** Z2009000176

## Fire Prevention Unit:

This memo supersedes MDFR memorandum dated September 10, 2010.
APPROVAL
- No objection to site plan date stamped September 27, 2010.

## Service Impact/Demand:

Development for the above Z2009000176
located at LYING WEST OF S.W. 177 AVENUE (KROME AVENUE) AND SOUTH OF THEORETICAL S.W. 91 STREET, MIAMI-DADE COUNTY, FLORIDA.
in Police Grid 1813 is proposed as the following:

| | | | |
|---|---|---|---|
| N/A residential | dwelling units | N/A industrial | square feet |
| N/A Office | square feet | N/A institutional | square feet |
| N/A Retail | square feet | N/A nursing home/hospitals | square feet |

Based on this development information, estimated service impact is: N/A alarms-annually.
The estimated average travel time is: 8:10 minutes

## Existing services

The Fire station responding to an alarm in the proposed development will be:

Station 56 - West Sunset - 16250 SW 72 Street
Rescue, ALS Engine Haz Mat Support.

## Planned Service Expansions:

The following stations/units are planned in the vicinity of this development:

None.

## Fire Planning Additional Comments

Not applicable to service impact analysis.

For information regarding the aforementioned comments, please contact the Miami-Dade Fire Rescue Department Planning Section at 786-331-4540.

**DATE:** 09-FEB-11

REVISION 2

# BUILDING AND NEIGHBORHOOD COMPLIANCE DEPARTMENT

**ENFORCEMENT HISTORY OF VIOLATIONS OF CHAPTER 19 AND CHAPTER 33 OF THE MIAMI-DADE COUNTY CODE**

| | |
|---|---|
| SANTA FE HACIENDAS, LLC & CEMEX CONSTRUCTION MATERIALS FLORIDA, LLC | LYING WEST OF S.W. 177 AVENUE (KROME AVENUE) AND SOUTH OF THEORETICAL S.W. 90 STREET, MIAMI-DADE COUNTY, FLORIDA. |
| **APPLICANT** | **ADDRESS** |

Z2009000176

**HEARING NUMBER**

## HISTORY:

BUILDING & NEIGHBORHOOD COMPLIANCE DEPARTMENT
BUILDING &NEIGHBORHOOD COMPLIANCE
DIVISION

ENFORCEMENT HISTORY

NAME: ADDRESS:
SANTA FE HACIENDAS, LLC & CEMEX CONSTRUCTION MATERIALS FLORIDA, LLC
LYING WEST OF SW 177 AVE(KROME AVE) AND SOUTH OF THEORETICAL SW 90 ST, MIAMI-DADE COUNTY

Folio: 30-5801-000-0010

DATE:
2/8/11

CURRENT ENFORCEMENT HISTORY:

Open Cases:
No open cases.

Closed Cases:
No previous cases.

Ronald Szep,
Building Enforcement and Legal Services Division Director

**OUTSTANDING FINES, PENALTIES, COST OR LIENS INCURRED PURSUANT TO CHAPTER 8CC:**

**REPORTER NAME:**

# ZONING INSPECTION REPORT

**Inspector:** HASSUN, PEDRO **Inspection Dat**

**Evaluator:** N/A 03/16/11

| **Process #:** | **Applicant's Name** |
|---|---|
| Z2009000176 | SANTA FE HACIENDAS, LLC & CEMEX CONSTRUCTION MATERIALS FLORIDA, LLC |

**Locations:** LYING WEST OF S.W. 177 AVENUE (KROME AVENUE) AND SOUTH OF THEORETICAL S.W. 90 STREET, MIAMI-DADE COUNTY, FLORIDA.

**Size:** 412 ACRES **Folio #:** 3058010000010

**Request:**

1 THE APPLICANT IS REQUESTING A ZONE CHANGE FROM AGRICULTURAL-RESIDENTIAL DISTRICT TO HEAVY INDUSTRIAL MANUFACTURING DISTRICT AND AN UNUSUAL USE FOR A LAKE EXCAVATION AND ROCK CRUSHING AND SCREENING PLANT ANCILLARY TO THE PROPOSED LAKE EXCAVATION.

**EXISTING ZONING**

**Subject Property** AU,

**EXISTING USE**

**SITE CHARACTERISTICS**

**STRUCTURES ON SITE:**

NONE

**USE(S) OF PROPERTY:**

ROW CROPS

**FENCES/WALLS:**

NONE

**LANDSCAPING:**

NONE

**BUFFERING:**

OVERGROWN GRASS.

**VIOLATIONS OBSERVED:**

BNC MEMO DATED 02/09/2011 REV#2 ON FILE. NO OTHER VIOLATION CASES FOUND. JUNK & TRASH OBSERVES ON THE EAST PROPERTY LINE APPROXIMATELY SW 93 ST.

**OTHER:**

NONE

**Process # Applicant's Name**

# ZONING INSPECTION REPORT

Z2009000176 SANTA FE HACIENDAS, LLC & CEMEX CONSTRUCTION MATERIALS FLORIDA, LLC

**SURROUNDING PROPERTY**

**NORTH:**

AU: CEMEX KROME QUARRY:LAKE EXCAVATION

**SOUTH:**

AU: 5 ACRES LOTS WITH SINGLE FAMILY RESIDENCE

**EAST:**

AU: PLANT NURSERY & CROPS

**WEST:**

GU: CANAL(CENT & SO FLA FLOOD CONTROL DIST) & PROPERTY OWNED BY USA EVERGALDES NATIONAL PARK

**SURROUNDING AREA**

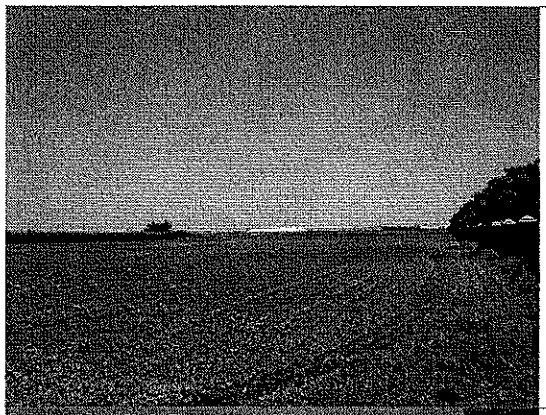
AGRICULTURAL USES WITH EXISTING LAKE EXCAVATION TO THE NORTH OF SUBJECT PROPERTY.

**NEIGHBORHOOD CHARACTERISTICS:**

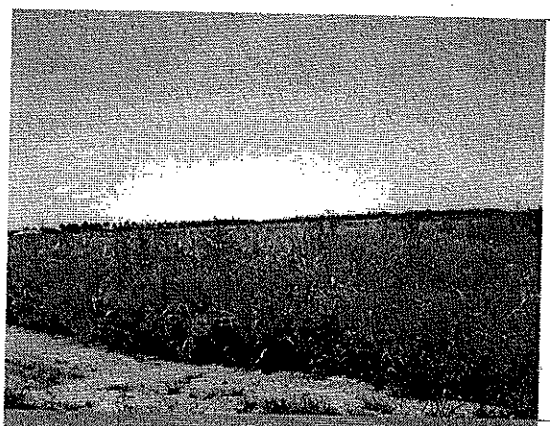
AGRICULTURAL USES AND 5 ACRES LOTS TO THE SOUTH WITH RESIDENCES.

**COMMENTS:**

**Inspector** ***HASSUN, PEDRO***
**Evaluator** ***N/A***
**Process Number:** ***Z2009000176*** **Applicant Name** ***SANTA FE HACIENDAS, LLC & CEMEX CONSTRUCTION MATERIALS FLORIDA, LLC***

| | |
|---|---|
|  | Date: 17-MAY-11<br>Comments: S SIDE OF SUBJECT PROPERTY. |
| | Date: 17-MAY-11<br>Comments: SUBJECT PROPERTY E VIEW ON SW 100 ST. |
| | Date: 17-MAY-11<br>Comments: SUBJECT PROPERTY EAST PROPERTY LINE APPROX. SW 93 ST JUNK & TRASH - BOAT HULL. |
| | |

**Inspector** ***HASSUN, PEDRO***
**Evaluator** ***N/A***
**Process Number:** ***Z2009000176*** **Applicant Name** ***SANTA FE HACIENDAS, LLC & CEMEX CONSTRUCTION MATERIALS FLORIDA, LLC***

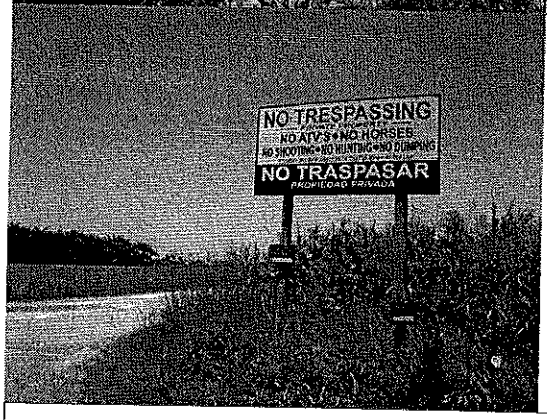


Date: 17-MAY-11

Comments: SUBJECT PROPERTY EAST SIDE SW VIEW.

Date: 17-MAY-11

Comments: SUBJECT PROPERTY EAST SIDE NW VIEW.



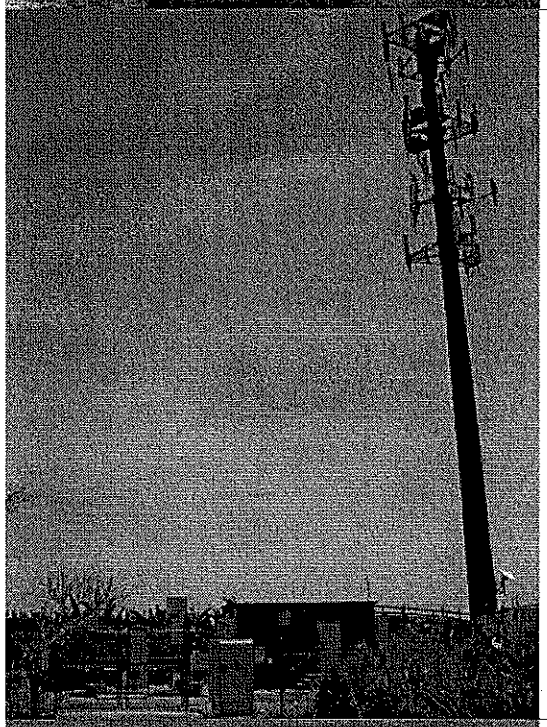

Date: 17-MAY-11

Comments: SUBJECT PROPERTY SOUTH PROPERTY LINE.

**Inspector** ***HASSUN, PEDRO***
**Evaluator** ***N/A***
**Process Number:** ***Z2009000176*** **Applicant Name** ***SANTA FE HACIENDAS, LLC & CEMEX CONSTRUCTION MATERIALS FLORIDA, LLC***

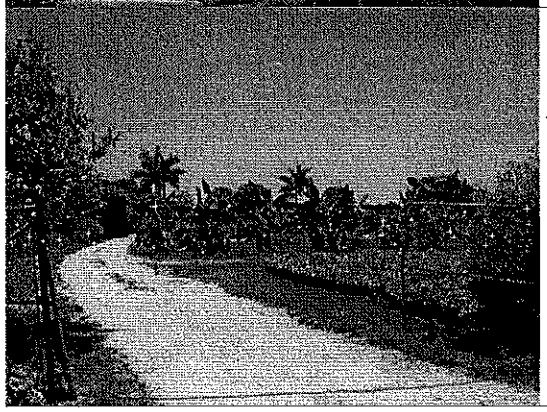
Date: 17-MAY-11

Comments: EAST OF SUBJECT PROPERTY AKA 9300 SW 177 AVE VILLA NURSERY 30-5906-000-0029.



Date: 17-MAY-11

Comments: NORTHEAST OF SUBJECT PROPERTY AKA 8801 SW 177 AVE CROWN CASTLE INTERNATIONAL 30-5906-000-0024.



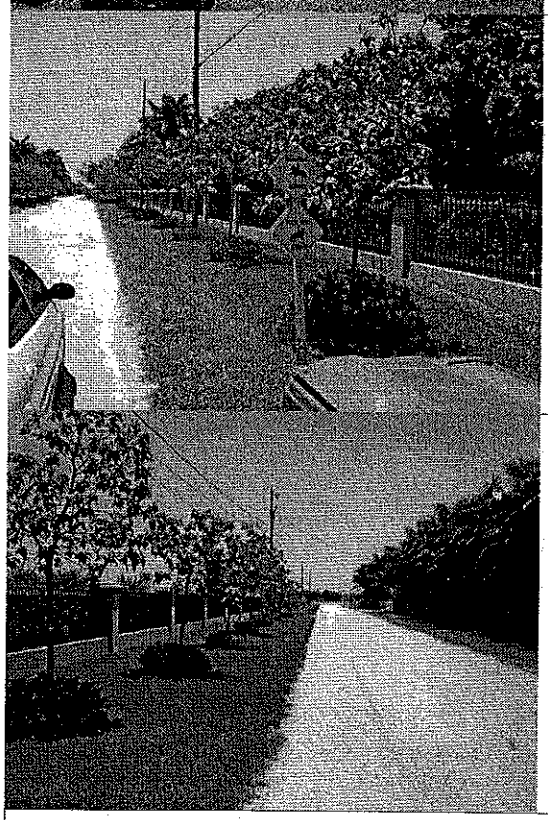
Date: 17-MAY-11

Comments: SOUTH OF SE CORNER OF SUBJECT PROPERTY AKA 17805 SW 100 ST DAISY'S NURSURY 30-5801-000-1030.

**Inspector** *HASSUN, PEDRO*
**Evaluator** *N/A*
**Process Number:** *Z2009000176* **Applicant Name** ***SANTA FE HACIENDAS, LLC & CEMEX CONSTRUCTION MATERIALS FLORIDA, LLC***

Date: 17-MAY-11

Comments: SOUTH OF SE CORNER OF SUBJECT PROPERTY AKA 17821 SW 100 ST & 17849 SW 100 ST WEST KENDALL FARMS 30-5801-000-1010 & 1020.



Date: 17-MAY-11

Comments: WEST VIEW ON SW 100 ST SOUTH OF SUBJECT PROPERTY AKA 17821 SW 100 ST & 17849 SW 100 ST WEST KENDALL FARMS 30-5801-000-1010 & 1020.

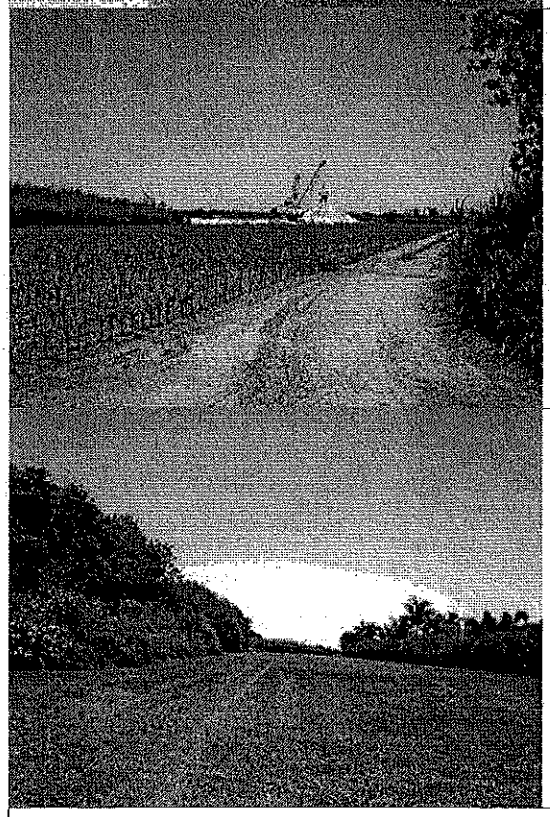
Date: 17-MAY-11

Comments: EAST VIEW ON 100 ST SOUTH OF SUBJECT PROPERTY AKA 17821 SW 100 ST & 17849 SW 100 ST WEST KENDALL FARMS 30-5801-000-1010 & 1020.

**Inspector** ***HASSUN, PEDRO***
**Evaluator** ***N/A***
**Process Number:** ***Z2009000176*** **Applicant Name** ***SANTA FE HACIENDAS, LLC & CEMEX CONSTRUCTION MATERIALS FLORIDA, LLC***

Date: 17-MAY-11

Comments: NORTH OF SUBJECT PROPERTY AKA 8800 SW 177 AVE CEMEX KROME QUARRY 30-4851-000-0010.



Date: 17-MAY-11

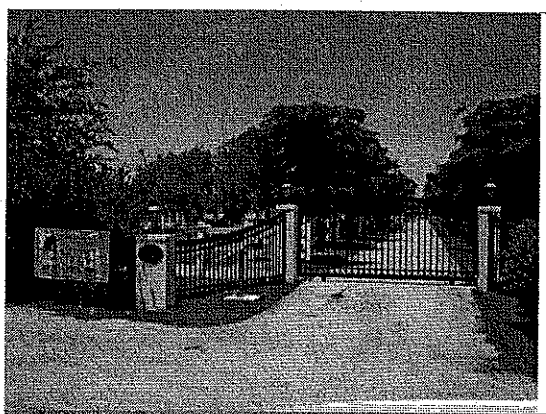
Comments: NORTH OF SUBJECT PROPERTY AKA 8800 SW 177 AVE CEMEX KROME QUARRY 30-4851-000-0010.



Date: 17-MAY-11

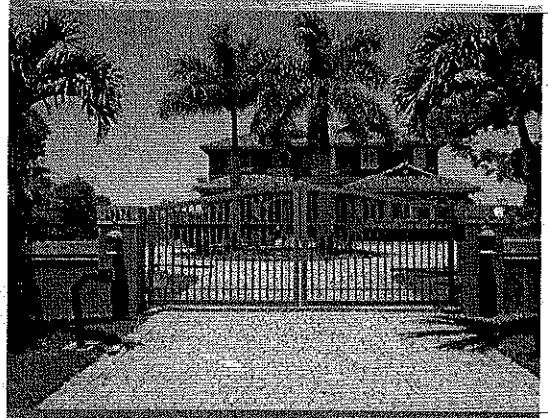
Comments: CANAL WEST OF SUBJECT PROPERTY AKA 30-5802-000-0020.

**Inspector** ***HASSUN, PEDRO***
**Evaluator** ***N/A***
**Process Number:** ***Z2009000176*** **Applicant Name** ***SANTA FE HACIENDAS, LLC & CEMEX CONSTRUCTION MATERIALS FLORIDA, LLC***



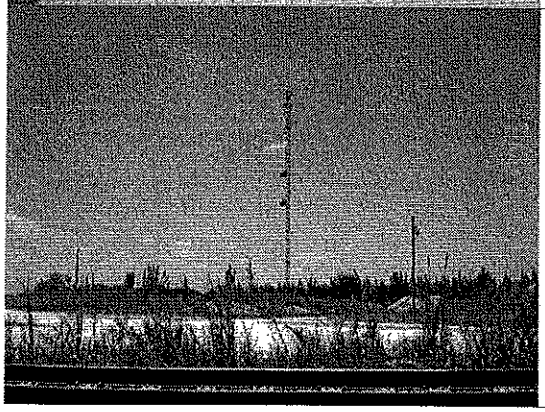
Date: 17-MAY-11

Comments: SOUTH OF SW CORNER OF SUBJECT PROPERTY AKA 18695 SW 100 ST 30-5801-000-0770.



Date: 17-MAY-11

Comments: SOUTH OF SW OF SUBJECT PROPERTY AKA 18575 SW 100 ST 30-5801-000-0780.



Date: 17-MAY-11

Comments: NORTH OF SUBJECT PROPERTY AKA 8800 SW 177 AVE CEMEX KROME QUARRY 30-4851-000-0010.

## DISCLOSURE OF INTEREST*

If a CORPORATION owns or leases the subject property, list principal stockholders and percent of stock owned by each. [Note: Where principal officers or stockholders consist of other corporation(s), trust(s), partnership(s) or other similar entities, further disclosure shall be made to identify the natural persons having the ultimate ownership interest].

CORPORATION NAME: **CEMEX Construction Materials Florida, LLC**

| NAME AND ADDRESS | Percentage of Stock |
|---|---|
| CEMEX S.A.B. de C.V., Traded in NYSE | 100 % |
| | |
| | |
| | |

If a **TRUST** or **ESTATE** owns or leases the subject property, list the trust beneficiaries and the percent of interest held by each. [Note: Where beneficiaries are other than natural persons, further disclosure shall be made to identify the natural persons having the ultimate ownership interest].

TRUST/ESTATE NAME_____

| NAME AND ADDRESS | Percentage of Interest |
|---|---|
| | |
| | |
| | |
| | |
| | |

If a PARTNERSHIP owns or leases the subject property, list the principals including general and limited partners. [Note: Where the partner(s) consist of another partnership(s), corporation(s), trust(s) or other similar entities, further disclosure shall be made to identify the natural persons having the ultimate ownership interest].

PARTNERSHIP OR LIMITED PARTNERSHIP NAME:_____

| NAME AND ADDRESS | Percentage of Ownership |
|---|---|
| | |
| | |
| | |
| | |
| | |

If there is a **CONTRACT FOR PURCHASE**, by a Corporation, Trust or Partnership list purchasers below, including principal officers, stockholders, beneficiaries or partners. [Note: Where principal officers, stockholders, beneficiaries or partners consist of other corporations, trusts, partnerships or other similar entities, further disclosure shall be made to identify natural persons having the ultimate ownership interests].

NAME OF PURCHASER:_____

NAME, ADDRESS AND OFFICE (if applicable) | Percentage of Interest

_____ _____

_____ _____

_____ _____

_____ _____

_____ _____

Date of contract:_____

If any contingency clause or contract terms involve additional parties, list all individuals or officers, if a corporation, partnership or trust.

_____ _____

_____ _____

_____ _____

_____ _____

_____ _____

**NOTICE:** For any changes of ownership or changes in purchase contracts after the date of the application, but prior to the date of final public hearing, a supplemental disclosure of interest is required.

The above is a full disclosure of all parties of interest in this application to the best of my knowledge and belief.

**Signature:** _____
(Applicant)

Sworn to and subscribed before me this 10th day of January, 2011. Affiant is personally known to me or has produced _____ as identification.

_____
(Notary Public)

My commission expires: 9/4/11

Seal

SHERYL M. TYSON
My Comm. Expires SEP 4, 2011
No. DD 883427
NOTARY PUBLIC
STATE OF FLORIDA

*Disclosure shall not be required of: 1) any entity, the equity interests in which are regularly traded on an established securities market in the United States or another country; or 2) pension funds or pension trusts of more than five thousand (5,000) ownership interests; or 3) any entity where ownership interests are held in a partnership, corporation or trust consisting of more than five thousand (5,000) separate interests, including all interests at every level of ownership and where no one (1) person or entity holds more than a total of five per cent (5%) of the ownership interest in the partnership, corporation or trust. Entities whose ownership interests are held in a partnership, corporation, or trust consisting of more than five thousand (5,000) separate interests, including all interests at every level of ownership, shall only be required to disclose those ownership interest which exceed five (5) percent of the ownership interest in the partnership, corporation or trust.

## DISCLOSURE OF INTEREST*

If a **CORPORATION** owns or leases the subject property, list principal, stockholders and percent of stock owned by each. [Note: Where principal officers or stockholders consist of other corporation(s), trust(s), partnership(s) or similar entities, further disclosure shall be made to identify the natural persons having the ultimate ownership interest].

CORPORATION NAME: Sante Fe Haciendas, LLC

| NAME AND ADDRESS | Percentage of Stock |
|---|---|
| Mr. Masoud Shojaee, 5835 Blue Lagoon Drive Suite #400 Miami, Fl 33126 | 50% |
| Mrs. Maria Lamas-Shojaee, 5835 Blue Lagoon Drive Suite #400 Miami, Fl 33126 | 50% |
| | |

If a **TRUST** or **ESTATE** owns or leases the subject property, list the trust beneficiaries and percent of interest held by each. [Note: Where beneficiaries are other than natural persons, further disclosure shall be made to identify the natural persons having the ultimate ownership interest].

TRUST/ESTATE NAME: _____

| NAME AND ADDRESS | Percentage of Interest |
|---|---|
| | |
| | |
| | |
| | |

If a **PARTNERSHIP** owns or leases the subject property, list the principals including general and limited partners. [Note: Where partner(s) consist of other partnership(s), corporation(s), trust(s) or similar entities, further disclosure shall be made to identify the natural persons having the ultimate ownership interests].

PARTNERSHIP OR LIMITED PARTNERSHIP NAME: _____

| NAME AND ADDRESS | Percentage of Ownership |
|---|---|
| | |
| | |

RECEIVED
2091760
DEC 23 2009
ZONING HEARINGS SECTION
MIAMI-DADE PLANNING AND ZONING DEPT.
BY: _____

If there is a **CONTRACT FOR PURCHASE** by a Corporation, Trust or Partnership, list purchasers below including principal officers, stockholders, beneficiaries or partners. [Note: Where principal officers, stockholders, beneficiaries or partners consist of other corporations, trusts, partnerships or similar entities, further disclosure shall be made to identify natural persons having ultimate ownership interests].

NAME OF PURCHASER: _____

| NAME AND ADDRESS (if applicable) | Percentage of Interest |
|---|---|
| | |
| | |
| | |
| | |
| | |
| | |

Date of contract: _____

If any contingency clause or contract terms involve additional parties, list all individuals or officers, if a corporation, partnership or trust:

_____

_____

**NOTICE:** For changes of ownership or changes in purchase contracts after the date of the application, but prior to the date of final public hearing, a supplemental disclosure of interest is required.

The above is a full disclosure of all parties of interest in this application to the best of my knowledge and belief.

Signature: _____
(Applicant)

Sworn to and subscribed before me this 18 day of December 2009. Affiant is personally known to me or has produced _____ as identification.

_____
(Notary Public)

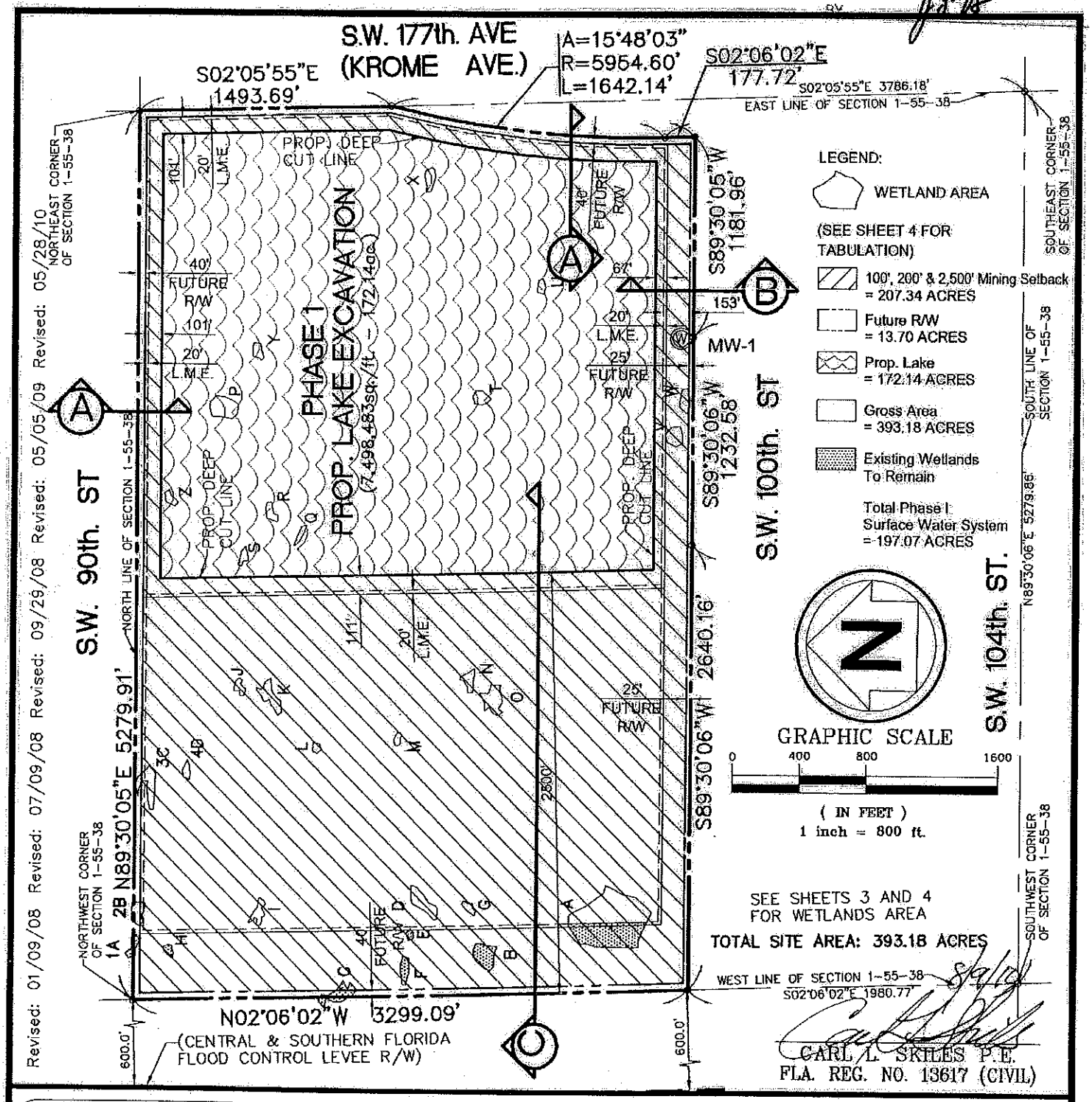
My commission expires 8/30/12

LYDIA CABRERA
Notary Public - State of Florida
My Commission Expires Aug 30, 2012
Commission # DD 785284
Bonded Through National Notary Assn.

*Disclosure shall not be required of: 1) any entity, the equity interests in which are regularly traded on an established securities market in the United States or another country; or 2) pension funds or pension trusts of more than five thousand (5,000) ownership interests; or 3) any entity where ownership interests are held in a partnership, corporation or trust consisting of more than five thousand (5,000) separate interests, including all interests at every level of ownership and where no one (1) person or entity holds more than a total of five per cent (5%) of the ownership interest in the partnership, corporation or trust. Entities whose ownership interests are held in a partnership, corporation, or trust consisting of more than five thousand (5,000) separate interests, including all interests at every level of ownership, shall only be required to disclose those ownership interest which exceed five (5) percent of the ownership interest in the partnership, corporation or trust.

RECEIVED
2091760
DEC 23 2009
ZONING HEARINGS SECTION
MIAMI-DADE PLANNING AND ZONING DEPT

RECEIVED
209-176
Revt 1 AUG 17 2010
ZONING HEARINGS SECTION
MIAMI-DADE PLANNING AND ZONING DEPT.
BY




CARL L. SKILES P.E.
FLA. REG. NO. 13617 (CIVIL)

Revised: 01/09/08 Revised: 07/09/08 Revised: 09/29/08 Revised: 05/05/09 Revised: 05/28/10

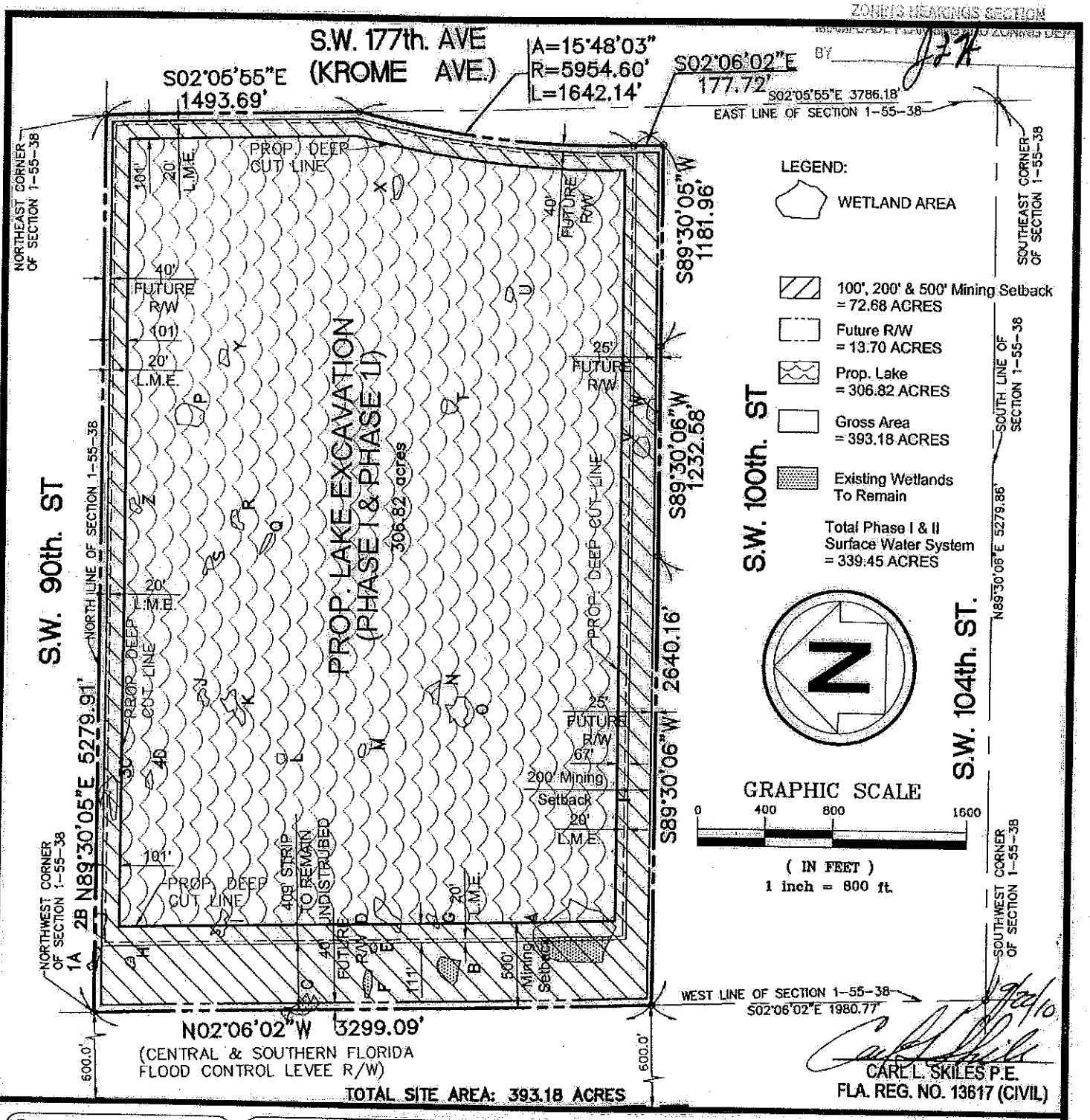
| | |
|---|---|
| Drawn By | REP |
| Cad. No. | 061816-2 |
| Ref. Dwg. | 3006-075 |
| Plotted: | 5/27/10 12:23a |

# LAKE MINING PLAN - Section 1-55-38

FORTIN, LEAVY, SKILES, INC.
CONSULTING ENGINEERS, SURVEYORS & MAPPERS
FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER: 00003653
180 Northeast 168th Street / North Miami Beach, Florida 33162
Phone 305-653-4493 / Fax 305-651-7152 / Email fls@flssurvey.com

| | |
|---|---|
| Date | 09/18/06 |
| Scale | 1"=800' |
| Job. No. | 067027 |
| Dwg. No. | 1006-192 |
| Sheet | 2 of 6 |

RECEIVED
209-176
Revit2
SEP 27 2010
ZONING HEARINGS SECTION




CARL L. SKILES P.E.
FLA. REG. NO. 13617 (CIVIL)

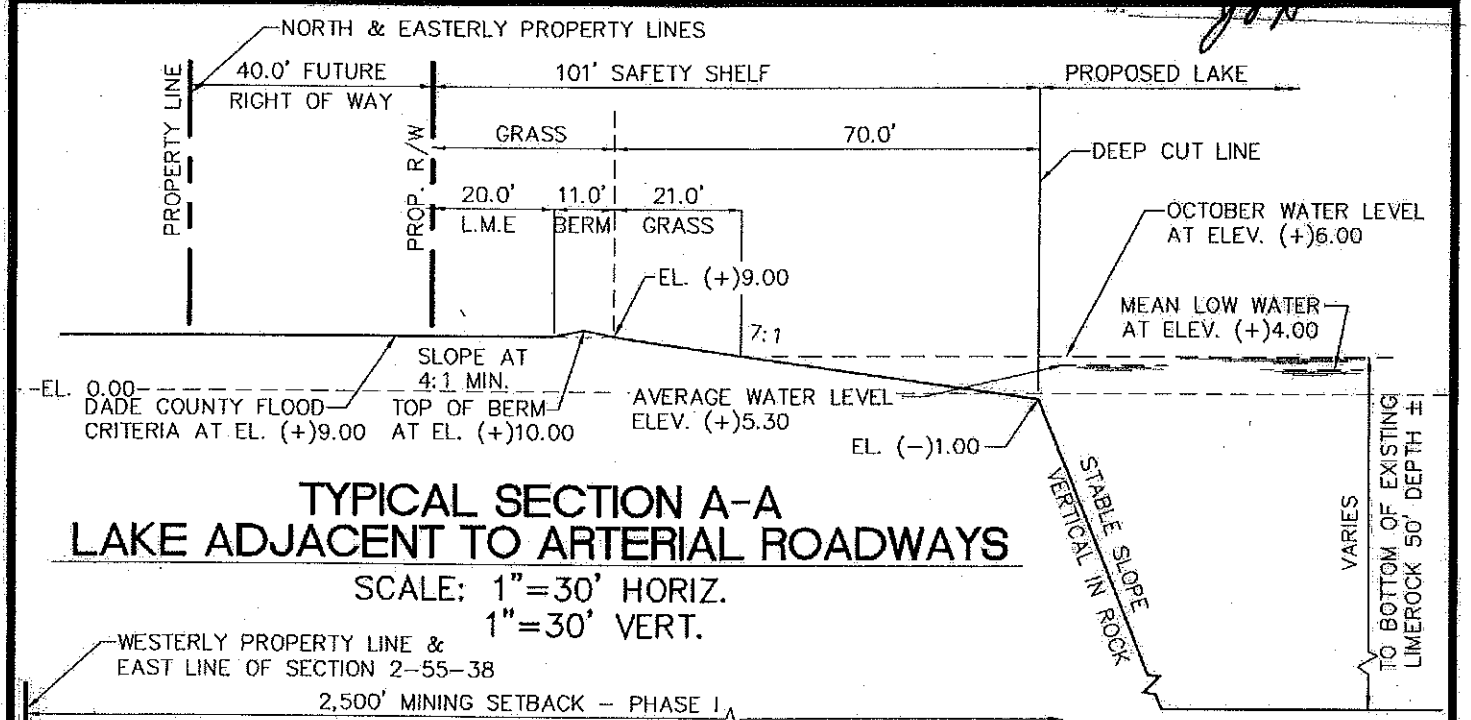
| | |
|---|---|
| Drawn By | REP |
| Cad. No. | 061816-EX |
| Ref. Dwg. | 3006-075 |
| Plotted: | 9/22/10 9:35a |

**Lake Excavation Plan (Phase I & Phase II) - Section 1-55-38**

**FORTIN, LEAVY, SKILES, INC.**
CONSULTING ENGINEERS, SURVEYORS & MAPPERS
FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER: 00003653
180 Northeast 168th Street / North Miami Beach, Florida 33162
Phone 305-653-4493 / Fax 305-651-7152 / Email fls@flssurvey.com

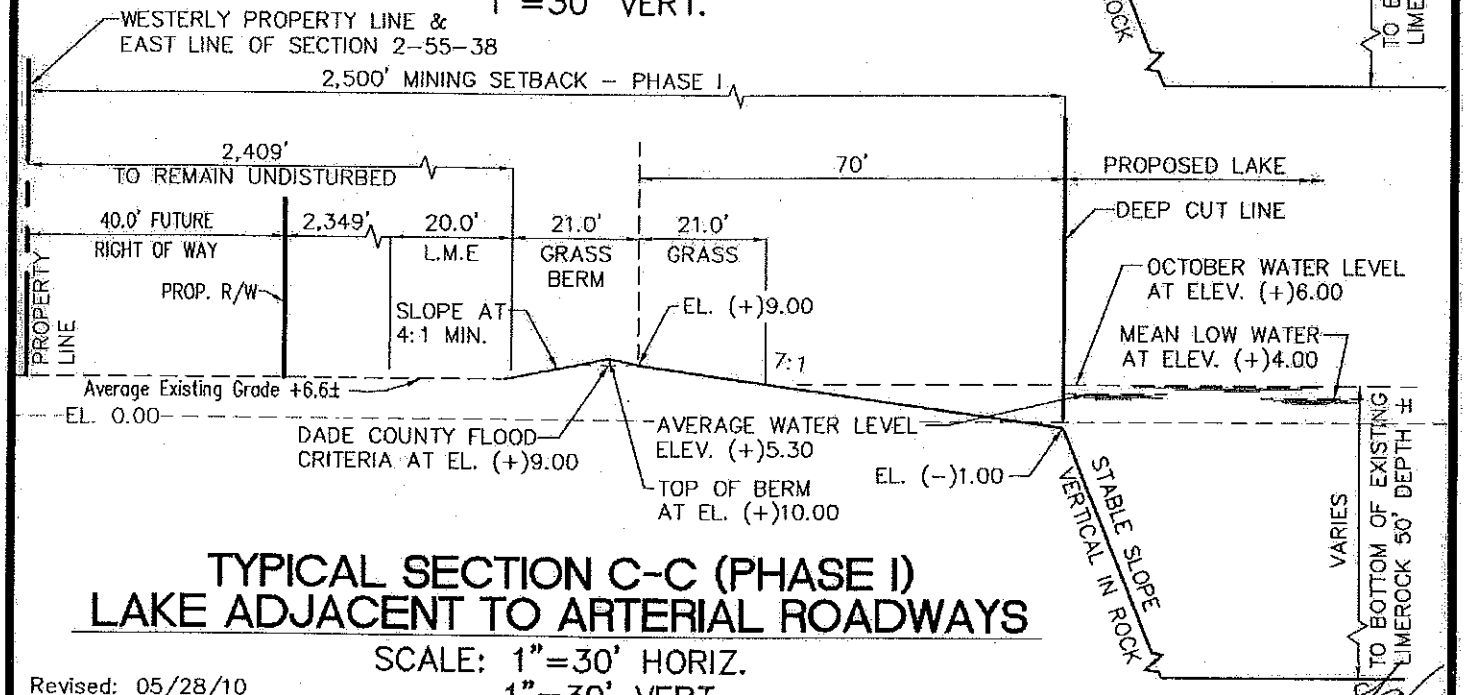
| | |
|---|---|
| Date | 09/22/10 |
| Scale | 1"=800' |
| Job. No. | 067027 |
| Dwg. No. | 1006-192-Ex |
| Sheet | 2A of 6 |

RECEIVED
Z09-176
Revt 1 AUG 17 2010
ZONING HEARINGS SECTION
MIAMI-DADE PLANNING AND ZONING DEPT.




# TYPICAL SECTION A-A
# LAKE ADJACENT TO ARTERIAL ROADWAYS

SCALE: 1"=30' HORIZ.
1"=30' VERT.




# TYPICAL SECTION C-C (PHASE I)
# LAKE ADJACENT TO ARTERIAL ROADWAYS

SCALE: 1"=30' HORIZ.
1"=30' VERT.

Revised: 05/28/10
Revised: 05/05/09
Revised: 09/29/08
Revised: 07/09/08
Revised: 01/09/08

NOTE: ELEV. REFERS TO NATIONAL GEODETIC VERTICAL DATUM

8/9/10

CARL L. SKILES P.E.
FLA. REG. NO. 13617 (CIVIL)

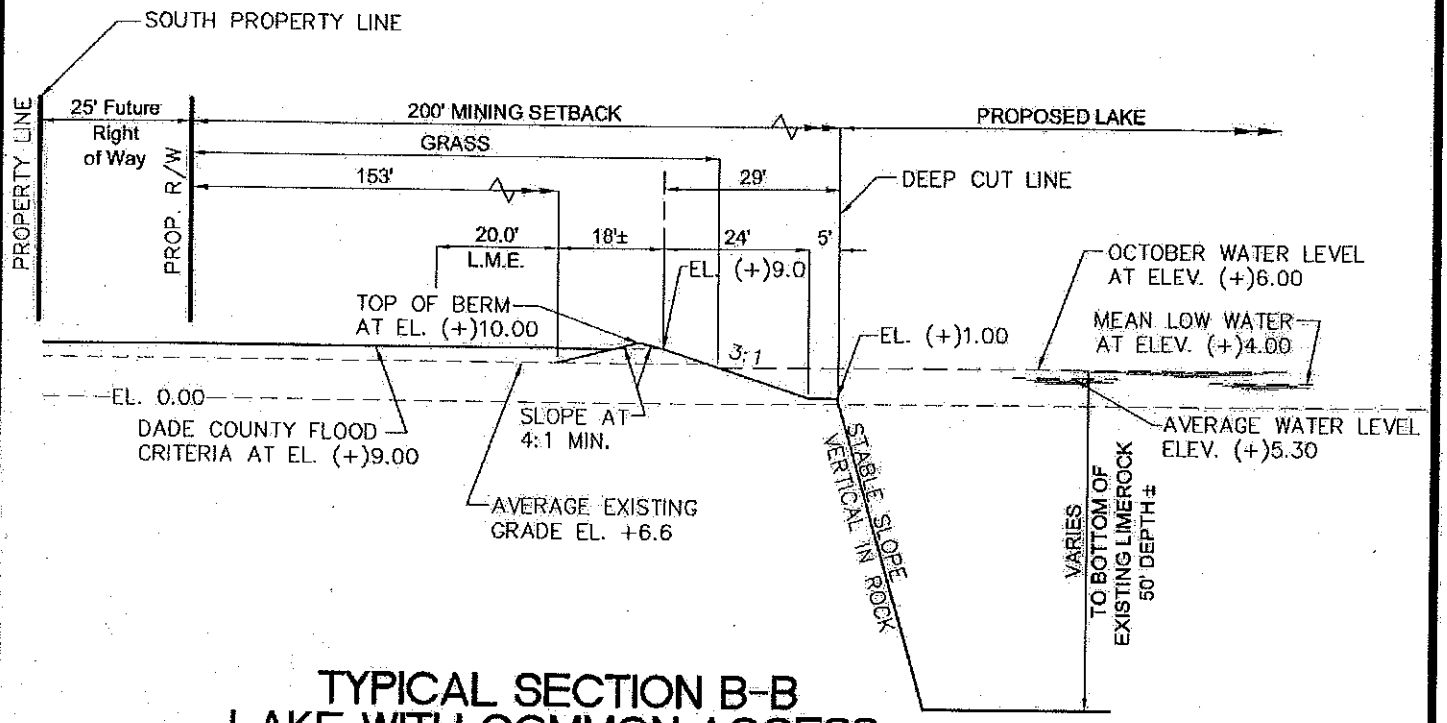
| | |
|---|---|
| Drawn By | REP |
| Cad. No. | 061816-2 |
| Ref. Dwg. | 3006-075 |
| Plotted: | 5/27/10 12:23o |

PROP. LAKE EXCAVATION - Section 1-55-38

FORTIN, LEAVY, SKILES, INC.
CONSULTING ENGINEERS, SURVEYORS & MAPPERS
FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER: 00003653
180 Northeast 168th Street / North Miami Beach, Florida 33162
Phone 305-653-4493 / Fax 305-651-7152 / Email fls@flssurvey.com

| | |
|---|---|
| Date | 09/18/06 |
| Scale | AS SHOWN |
| Job. No. | 067027 |
| Dwg. No. | 1006-192 |
| Sheet | 5 of 6 |

RECEIVED
209-176
Rev#1 AUG 17 2010
ZONING HEARINGS SECTION
MIAMI-DADE PLANNING & ZONING DEPT.
BY JSH




# TYPICAL SECTION B-B
# LAKE WITH COMMON ACCESS, NOT ADJACENT TO ROADWAYS

SCALE: 1"=30' HORIZ.
1"=30' VERT.

NOTE: ELEV. REFERS TO NATIONAL GEODETIC VERTICAL DATUM

Revised: 09/29/08
Revised: 01/09/08

8/9/10
CARL I. SKILES P.E.
FLA. REG. NO. 13617 (CIVIL)

| | |
|---|---|
| Drawn By | REP |
| Cad. No. | 061816-2 |
| Ref. Dwg. | 3006-075 |
| Plotted: | 5/27/10 12:23a |

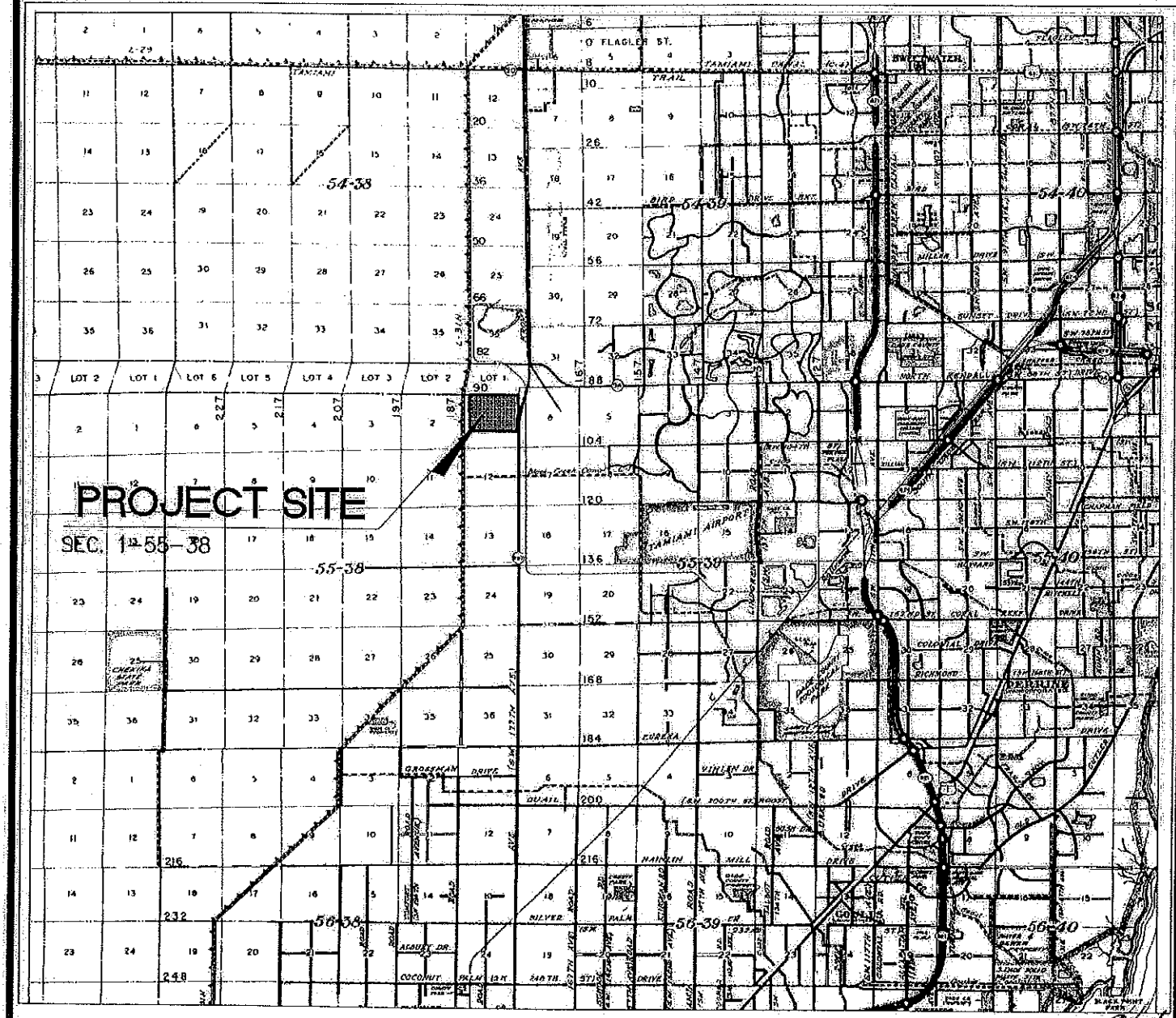
PROP. LAKE EXCAVATION - Section 1-55-38


FORTIN, LEAVY, SKILES, INC.
CONSULTING ENGINEERS, SURVEYORS & MAPPERS
FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER: 00003653
180 Northeast 168th Street / North Miami Beach, Florida 33162
Phone 305-653-4493 / Fax 305-651-7152 / Email fls@flssurvey.com


| | |
|---|---|
| Date | 09/18/06 |
| Scale | AS SHOWN |
| Job. No. | 067027 |
| Dwg. No. | 1006-192 |
| Sheet | 6 of 6 |

RECEIVED
209-176
AUG 17 2010
Rev#1

ZONING HEARINGS SECTION
MIAMI-DADE PLANNING AND ZONING DEPT.




# LOCATION SKETCH

SECT 1, TWP. 55s, RNG. 38e.
N.T.S.

Revised: 09/29/08
Revised: 07/09/08
Revised: 01/09/10

N

8/9/10

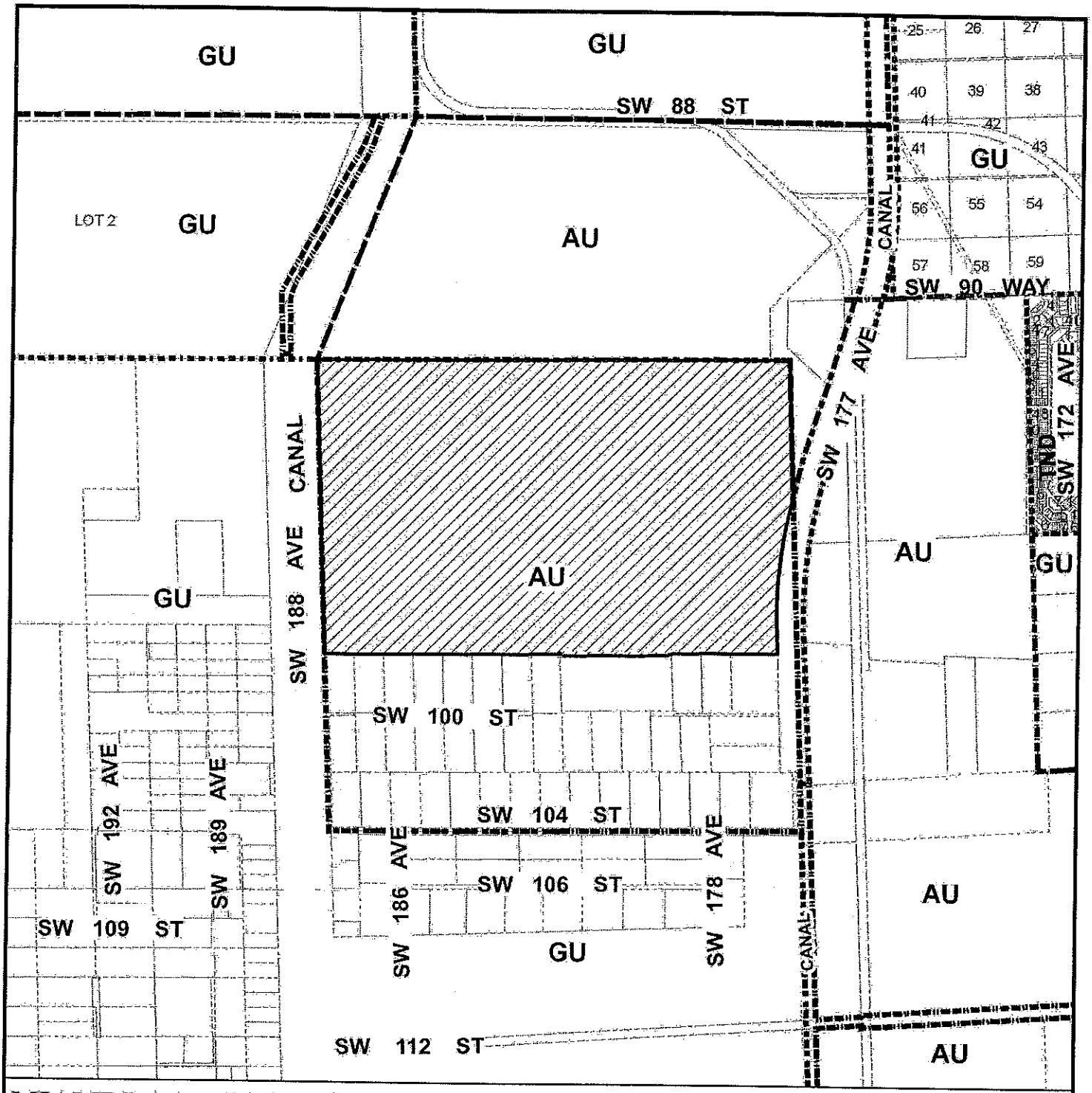
CARL L. SKILES P.E.
FLA. REG. NO. 13617 (CIVIL)

| | |
|---|---|
| Drawn By | REP |
| Cad. No. | 061816-2 |
| Ref. Dwg. | 3006-075 |
| Plotted: | 5/27/10 12:23a |

PROP. LAKE EXCAVATION - Section 1-55-38


FORTIN, LEAVY, SKILES, INC.
CONSULTING ENGINEERS, SURVEYORS & MAPPERS
FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER: 00003653
180 Northeast 168th Street / North Miami Beach, Florida 33162
Phone 305-653-4493 / Fax 305-651-7152 / Email fls@flssurvey.com


| | |
|---|---|
| Date | 09/18/06 |
| Scale | AS SHOWN |
| Job. No. | 067027 |
| Dwg. No. | 1006-192 |
| Sheet | 1 of 6 |




# MIAMI-DADE COUNTY
## HEARING MAP

**Process Number**

**09-176**

**Section: 01 Township: 55 Range: 38**
**Applicant: SANTA FE HACIENDAS LLC**
**Zoning Board: C11**
**Commission District: 11**
**Drafter ID: JEFFER**
**Scale: NTS**

N
W E
S

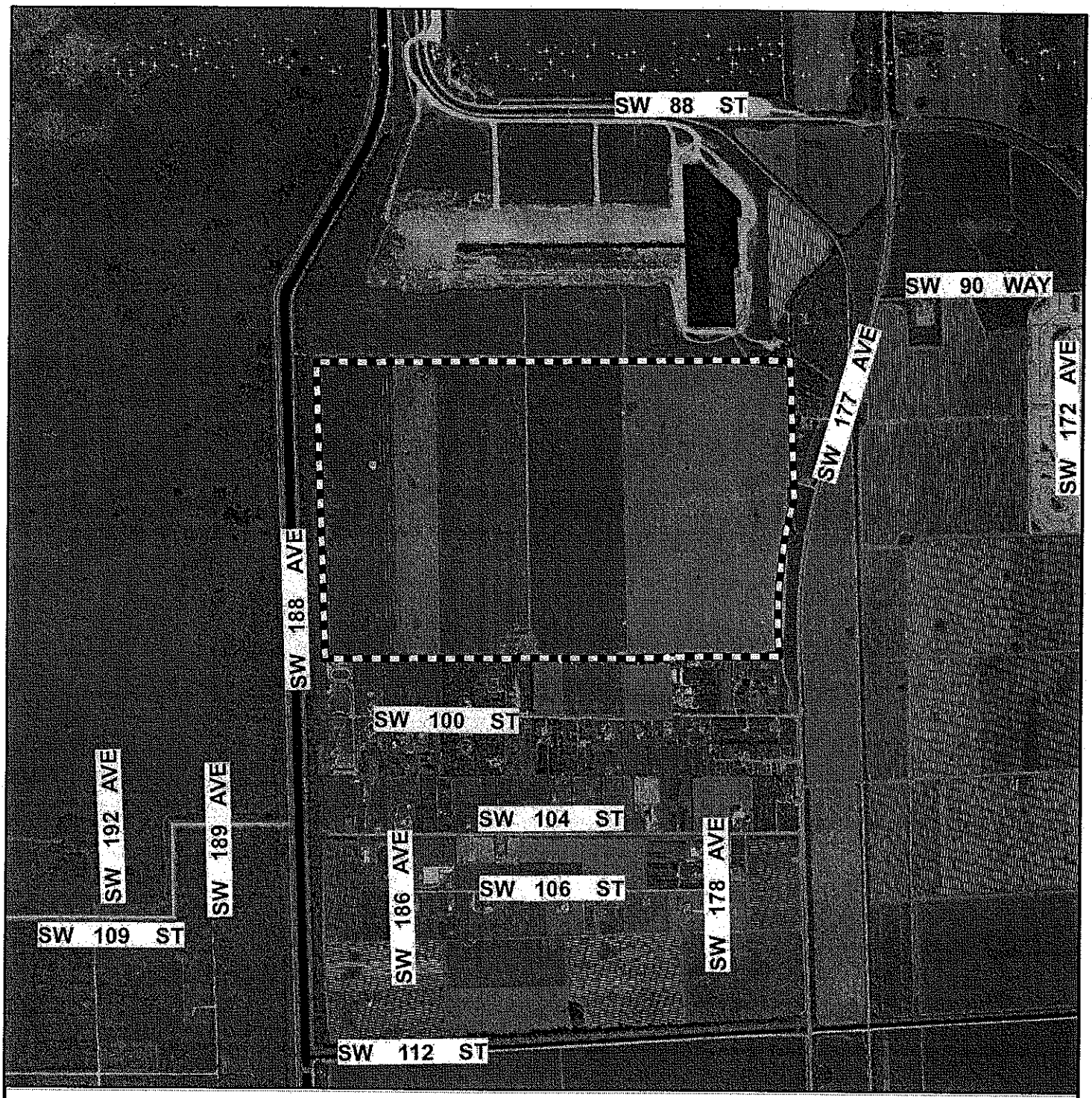
SUBJECT PROPERTY

MIAMI-DADE COUNTY

SKETCH CREATED ON: 01/25/10

| REVISION | DATE | BY |
|---|---|---|
| Revised Legal | 10/09/10 | Jgurd |

37




# MIAMI-DADE COUNTY

**AERIAL YEAR 2009**

**Process Number**

**09-176**

**Section: 01 Township: 55 Range: 38**
**Applicant: SANTA FE HACIENDAS LLC**
**Zoning Board: C11**
**Commission District: 11**
**Drafter ID: JEFFER**
**Scale: NTS**

N
W E
S

SUBJECT PROPERTY

MIAMI-DADE COUNTY

SKETCH CREATED ON: 01/25/10

| REVISION | DATE | BY |
|---|---|---|
| Revised Legal | 10/08/10 | Jgurd |

ZONING ACTION

MEMORANDUM
Harvey Ruvin
Clerk of the Circuit and County Courts
Clerk of the Board of County Commissioners
(305) 375-5126
(305) 375-2484 FAX
www.miami-dadeclerk.com

**DATE: 04/28/2011** **#Z-10-076**

**ITEM: 1**
**APPLICANT: NORTHSTAR GRACELAND, LLC**

**MOTION: DEFERRED – 6/23/11 W/O NOTICE**

| ROLL CALL | M/S | YES | NO | ABSENT |
|---|---|---|---|---|
| Barreiro | | X | | |
| Bell | M | X | | |
| Diaz | | | | E |
| | | | | |
| Heyman | S | X | | |
| Jordan | | | | E |
| Monestime | | X | | |
| Moss | | X | | |
| Sosa | | | | E |
| Souto | | X | | |
| **Vice Chairwoman Edmonson** | | | | E |
| **Chairman Martinez** | | X | | |
| **TOTAL** | | 7 | 0 | |

**C. NORTHSTAR GRACELAND, LLC**
**(Applicant)**

**11-4-CC-1 (10-076)**
**BCC/District 08/09**
**Hearing Date: 06/23/11**

Property Owner (if different from applicant) **Same.**

Is there an option to purchase ☐ / lease ☐ the property predicated on the approval of the zoning request? Yes ☐ No ☑

Disclosure of interest form attached? Yes ☑ No ☐

**Previous Zoning Hearings on the Property:**

| Year | Applicant | Request | Board | Decision |
|---|---|---|---|---|
| 1978 | Graceland Cemeteries Inc. | - Special Exception to permit a cemetery. | C04 | Approved w/conds. |
| 1979 | Paradie Memorial Gardens, Inc. | - Special Exception to modify site plans & Specail Exception to resubdivide platted lots.<br>- Non-Use Variance setbacks. | C04 | Approved w/conds. |
| 1988 | Pinelawn Memorial, Inc. | - Modification of previous plans.<br>- Non-Use Variance for office building.<br>- Unusual Use to permit Entrance Feature. | C04 | Approved in part w/conds. |
| 1992 | Osiris Holdings of Florida D/B/A Graceland Cemeeteries, Inc. and Pinelawn Memorial, Inc. | - Special Exception to resubdivide.<br>- Non-Use Variance of setbacks.<br>- Unusual Use to permit Entrance Feature.<br>- Modification of resolution. | C04 | Approved w/conds. |
| 1994 | Osiris Holdings | - Modification of Resolution.<br>- Non-Use Variance of setback.<br>- Non-Use Variance. | C05 | Approved w/conds. |
| 1997 | Osiris Holdings of Fla. | - Modification of resolution.<br>- Special Exception for site plan approval.<br>- Non-Use Variance. | BCC | Approved w/conds. |

Action taken today does not constitute a final development order, and one or more concurrency determinations will subsequently be required. Provisional determinations or listings of needed facilities made in association with this Initial Development Order shall not be binding with regard to future decisions to approve or deny an Intermediate or Final Development Order on any grounds.

TO: "2. That in the approval of the plan, the same be substantially in accordance with that submitted for the hearing entitled "Proposed Office Building for Graceland Memorial Park," as prepared by Gomez Associates Architects P.A. consisting of seventeen (17) sheets dated stamped received December 13, 2010."

The purpose of request #4 is to allow the applicant to submit revised plans showing the reconfiguration of the existing cemetery and the relocation of a previously approved office building.

Request #4 on Exhibit "A", "B", and "C"

- **LOCATION:** 13900 SW 117 Avenue, Miami-Dade County, Florida.
- **SIZE:** 36.02 Acres

## B. ZONING HEARINGS HISTORY:

In 1954, a portion of the subject site was granted approval of a special permit for a cemetery use, pursuant to Resolution No. 7696. In 1978, a portion of the subject site was granted approval of requests to permit a cemetery use and waive the required 80' right-of-way for SW 136th Street in order to permit said cemetery use to traverse the section line of theoretical SW 136th Street, pursuant to Resolution No. 4-ZAB-415-78. In 1979, a portion of the subject site was granted approval of requests to submit revised plans illustrating a proposed office and garage building and an expansion of the grave sites, to re-subdivide a platted tract of land into 20 grave sites, to permit the re-subdivision of 88 grave sites into a building site for the proposed office building, to permit the office building setback 50' from the front (east) property line, and to permit burial sites 22.5' (50' required) from a right-of-way which is 70' or more in width (SW 117 Avenue), pursuant to Resolution No. 4-ZAB-452-79. In 1988, a portion of the subject site was granted approval of requests to modify the previously approved site plan, to permit a proposed office building setback 37.2' (50' previously approved) from the front (east) property line, to permit a proposed mausoleum setback 22.5' (50' required) from a right-of-way which is 70' or more in width (SW 117 Avenue), and a request to permit two (2) entrance features, pursuant to Resolution No. 4-ZAB-428-88. In 1992, the subject site was granted approval of requests to modify the previously approved plans in order to permit the re-subdivision of platted tracts of land and grave sites into building sites for proposed mausoleums, proposed office buildings and proposed drives, to permit mausoleums setback 12' from SR-821 (Florida Turnpike), to permit an entrance feature with decorative masonry walls, sign copy, identification logo, gates and landscaping, pursuant to Resolution 4-ZAB-265-92. In 1997, the subject site was granted approval of requests to modify the previously approved site plans in order to show an expansion of the cemetery and a proposed funeral home and office site and a portion of the subject site (Parcel C) was granted a district boundary change from AU, Agricultural District, to BU-1A, Limited Business District, a special exception for the expansion of a cemetery and funeral home, and a request to waive the required 5' high masonry wall where a business lot abuts a GU zoned property along the interior side (north and south) and rear (west) property lines, all pursuant to Resolution No. Z-68-97. A Declaration of Restrictions recorded in ORB 17735, Pages 3054-3057, restricts the use permitted on the BU-1A zoned portion of the site to a funeral home and administrative office.

**MIAMI-DADE COUNTY DEPARTMENT OF PLANNING AND ZONING**
**RECOMMENDATION TO THE BOARD OF COUNTY COMMISSIONERS**

**APPLICANT:** Northstar Graceland, LLC **PH:** Z10-76 (11-4-CC-1)

**SECTION:** 24/13-55-39 **DATE:** June 23, 2011

**COMMISSION DISTRICT:** 8 and 9 **ITEM NO.:** C

==========

## A. INTRODUCTION

### o SUMMARY OF REQUESTS:

The applicant is requesting a district boundary change from BU-1A, Limited Business District, to GU, Interim District, a special exception to permit an existing cemetery and a deletion of a recorded agreement on a portion of the subject property in order to permit the continued use of an existing cemetery on said parcel. The applicant also seeks to modify a condition of a previous Resolution in order to submit revised plans showing the existing cemetery and the relocation of a previously approved office building.

### o REQUESTS:

(1) DISTRICT BOUNDARY CHANGE from BU-1A to GU.

(2) SPECIAL EXCEPTION to permit an existing cemetery.

(3) Deletion of a Declaration of Restrictions recorded in Official Record Book 17735, Pages 3054 through 3057.

The purpose of request #3 is to remove an agreement limiting the uses on this portion of the subject property to a funeral home and administrative office only and to allow the continued use of an existing cemetery.

Requests #1 through #3 on Exhibit "C"

(4) MODIFICATION of plans approved pursuant to Resolution No. 7696, last modified by Condition #2 of Resolution No. Z-68-97, both passed and adopted by the Board of County Commissioners, reading as follows:

FROM: "2. That in the approval of the plan, the same be substantially in accordance with that submitted for the hearing entitled "Graceland South" as prepared by Jack D. Raudenbush, Architect, dated received May 3, 1996, and consisting of 4 sheets, except as herein modified as follows:

2a. Remove the island at the entrance from the cemetery road and provide a 14' width for entrance and exit driveways."

*very-low income households. In order to efficiently use, and not prematurely deplete, the finite development capacity that exists inside the Plan's Urban Development Boundary (UDB), land should not be developed at densities lower than the minimum established for each category. Exceptions to the minimums may exist outside transportation or transit corridors where such an exception would serve the interest of compatibility or protect the public health, safety, or important resources. For purposes of this paragraph, transportation and transit corridors are land areas located within 660 feet of planned Major Roadways identified on the LUP map, and within one-quarter mile from existing rail transit stations, express busway stops, future transit corridors and planned transit centers identified in the CDMP.*

6. ***Policy LU-4A.*** *When evaluating compatibility among proximate land uses, the County shall consider such factors as noise, lighting, shadows, glare, vibration, odor, runoff, access, traffic, parking, height, bulk, scale of architectural elements, landscaping, hours of operation, buffering, and safety, as applicable.*

**D. NEIGHBORHOOD CHARACTERISTICS:**

| ZONING | LAND USE PLAN DESIGNATION |
|---|---|
| **Subject Property:** | |
| AU; GU; BU-1A; cemetery, vacant land | Low Medium Density Residential, 6-13 dua |
| **Surrounding Properties:** | |
| **NORTH:** AU; nursery | Low Medium Density Residential, 6-13 dua |
| **SOUTH:** GU; cemetery | Low Medium Density Residential, 6-13 dua |
| **EAST:** RU-1; single-family residences | Low Density Residential, 2.5-6 dua |
| **WEST:** GU; Florida Turnpike | Transportation |

**E. PERTINENT ZONING REQUIREMENTS/STANDARDS:**

*In evaluating an application for a* ***district boundary change, Section 33-311*** *provides that the Board shall take into consideration, among other factors the extent to which:*

*(1) The development permitted by the application, if granted, conforms to the Comprehensive Development Master Plan for Miami-Dade County, Florida; is consistent with applicable area or neighborhood studies or plans, and would serve a public benefit warranting the granting of the application at the time it is considered;*

*(2) The development permitted by the application, if granted, will have a favorable or unfavorable impact on the environmental and natural resources of Miami-Dade County, including consideration of the means and estimated cost necessary to minimize the adverse impacts; the extent to which alternatives to alleviate adverse impacts may have a substantial impact on the natural and human environment; and whether any irreversible or irretrievable commitment of natural resources will occur as a result of the proposed development;*

**C. COMPREHENSIVE DEVELOPMENT MASTER PLAN (CDMP) OBJECTIVES, POLICIES AND INTERPRETATIVE TEXT:**

1. *The Adopted 2015 and 2025 Land Use Plan designates the subject property as being within the Urban Development Boundary for **Low-Medium Density.** This category allows a range in density from a minimum of 6.0 to a maximum of 13 dwelling units per gross acre. The types of housing typically found in areas designated low-medium density include single-family homes, townhouses and low-rise apartments. Zero-lot-line single-family developments in this category shall not exceed a density of 7.0 dwelling units per gross acre.*

2. *Existing lawful residential and non-residential uses and zoning are not specifically depicted on the LUP map. They are however reflected in the average Plan density depicted. All such lawful uses and zoning are deemed to be consistent with this Plan as provided in the section of this chapter titled "Concepts and Limitations of the Land Use Plan Map." The limitations referenced in this paragraph pertain to existing zoning and uses. All approval of new zoning must be consistent with the provisions of the specific category in which the subject parcel exists, including the provisions for density averaging and definition of gross density.*

3. ***Public Facilities.** Large-scale public facilities, institutional and communications uses, and utilities are specifically identified in the Institutions, Utilities, and Communications category on the Plan map. Small-scale uses and the facilities intended to serve the immediate needs of the residential community may be permitted on compatible sites in Residential Communities subject to adequate design and buffering. These facilities include fire stations, electrical sub-stations and distribution facilities, cell antenna, natural gas, telephone, fiber optic, cable, water and sewer facilities. They are preferably located in activity nodes, transition areas, and along major thoroughfares, and also at section centers if designed to serve the immediate neighborhood. Larger uses and facilities which are designed to serve more than a local area are preferably located in or adjacent to Industrial and Office, or Business and Office areas. **Cemeteries** may also be permitted in Residential Communities where direct access to a Major or Minor Roadway is provided or where traffic would not disrupt adjacent residential areas.*

4. *Neighborhood or community-serving institutional uses, cell towers and utilities including schools, libraries, sanitary sewer pump stations and fire and rescue facilities in particular, and **cemeteries** may be approved where compatible in all urban land use categories, in keeping with any conditions specified in the applicable category, and where provided in certain Open Land subareas. Compatibility shall be determined in accordance to Policy LU-4A. Co-location of communication and utility facilities are encouraged. Major utility and communication facilities should generally be guided away from residential areas; however, when considering such approvals, the County shall consider such factors as the type of function involved, the public need, existing land use patterns in the area and alternative locations for the facility. All approvals must be consistent with the goals, objectives and policies of the Comprehensive Development Master Plan.*

5. *The Board of County Commissioners, or the appropriate Community Zoning Appeals Board, may approve residential development at a density up to 17 percent above the maximums provided below where it is certified that no less than 30 percent of the units in the development, excepting accessory dwelling units, will be priced to be affordable to low and*

## G. PLANNING AND ZONING ANALYSIS:

This item was deferred from the April 28, 2011 meeting of the Board of County Commissioners (BCC) due to an inadvertent error in the advertisement. The BCC shall have jurisdiction to directly hear applications encompassing property located in more than one Community Zoning Appeals Board (CZAB) pursuant to Section 33-314(A)(2). The subject property is located within two (2) separate CZAB Districts. A portion of the subject property is located within the CZAB 12 District and the remainder is located within CZAB 14 District.

The 36.02 acre subject property which consists of three (3) parcels ("A", "B" and "C"), located within the Urban Development Boundary (UDB) designated as **Low-Medium Density Residential** on the LUP map of the CDMP. *The CDMP indicates that this category allows a range in density from a minimum of 6.0 to a maximum of 13 dwelling units per gross acre. The types of housing typically found in areas designated low-medium density include single-family homes, townhouses and low-rise apartments.* However, the CDMP states that *existing lawful residential and non-residential uses and zoning are not specifically depicted on the LUP map. They are however reflected in the average Plan density depicted. All such lawful uses and zoning are deemed to be consistent with this Plan as provided in the section of this chapter titled "Concepts and Limitations of the Land Use Plan Map." The limitations referenced in this paragraph pertain to existing zoning and uses.* Said CDMP also states that, *Large-scale public facilities, institutional and communications uses, and utilities are specifically identified in the Institutions, Utilities, and Communications category on the Plan map. Small-scale uses and the facilities intended to serve the immediate needs of the residential community may be permitted on compatible sites in Residential Communities subject to adequate design and buffering.* ***Cemeteries*** *may also be permitted in Residential Communities where direct access to a Major or Minor Roadway is provided or where traffic would not disrupt adjacent residential areas.* Further, the interpretative text of the CDMP states that *neighborhood or community-serving institutional uses, including* ***cemeteries*** *may be approved where compatible in* ***all urban land use categories****, in keeping with any conditions specified in the applicable category.* The subject property was granted approval for a cemetery and ancillary uses which included mausoleums and offices in conjunction with the cemetery. Additionally, the interpretative text states that *exceptions to the minimums density guidelines may exist outside transportation or transit corridors where such an exception would serve the interest of compatibility or protect the public health, safety, or important resources.* The applicant also seeks to rezone a portion of the subject property from BU-1A, Limited Business District, to GU, Interim District. In staff's opinion, the proposed GU zoning is compatible with the existing zoning and uses on the remainder of the subject property. As such, staff opines that the continued use of the existing cemetery, mausoleum and the relocation of the previously approved office uses in conjunction with the cemetery, are **compatible** with the surrounding area and **consistent** with the interpretative text and LUP map of the CDMP.

When considering district boundary changes, *the Board shall hear and grant or deny applications by taking into consideration whether the proposed development will have a favorable or unfavorable impact on the environmental and natural resources of Miami-Dade County, including consideration of the means and estimated cost necessary to minimize the adverse impacts, the extent to which alternatives to alleviate adverse impacts may have a substantial impact on the natural and human environment, and whether any irreversible or irretrievable commitment of natural resources will occur as a result of the proposed development. Additionally, the Board shall consider whether the development will have a favorable or unfavorable impact on the*

*(3) The development permitted by the application, if granted, will have a favorable or unfavorable impact on the economy of Miami-Dade County, Florida;*

*(4) The development permitted by the application, if granted, will efficiently use or unduly burden or affect public transportation facilities, including mass transit, roads, streets and highways which have been constructed or planned and budgeted for construction, and if the development is or will be accessible by public or private roads, streets or highways.*

*(5) The development permitted by the application, if granted, will efficiently use or unduly burden or affect public transportation facilities, including mass transit, roads, streets and highways which have been constructed or planned and budgeted for construction, and if the development is or will be accessible by public or private roads, streets or highways.*

***Section 33-311(A)(3) Special Exceptions, Unusual Uses and New Uses.*** *The Board shall hear an application for and grant or deny special exceptions; that is, those exceptions permitted by regulations only upon approval after public hearing, new uses and* ***unusual uses*** *which by the regulations are only permitted upon approval after public hearing; provided the applied for exception or use, including exception for site or plot plan approval, in the opinion of the Community Zoning Appeals Board, would not have an unfavorable effect on the economy of Miami-Dade County, Florida, would not generate or result in excessive noise or traffic, cause undue or excessive burden on public facilities, including water, sewer, solid waste disposal, recreation, transportation, streets, roads, highways or other such facilities which have been constructed or which are planned and budgeted for construction, are accessible by private or public roads, streets or highways, tend to create a fire or other equally or greater dangerous hazards, or provoke excessive overcrowding or concentration of people or population, when considering the necessity for and reasonableness of such applied for exception or use in relation to the present and future development of the area concerned and the compatibility of the applied for exception or use with such area and its development.*

***33-311(A)(7) Generalized Modification Standards.*** *The Board shall hear applications to* ***modify*** *or eliminate any condition or part thereof which has been imposed by any final decision adopted by resolution, and to* ***modify*** *or eliminate any condition restrictive covenants, or parts thereof, accepted at public hearing, except as otherwise provided in Section 33-314(c)(3); provided, that the appropriate Board finds after public hearing that the modification or elimination, in the opinion of the Community Zoning Appeals Board, would not generate excessive noise or traffic, tend to create a fire or other equally or greater dangerous hazard, or provoke excessive overcrowding of people, or would not tend to provoke a nuisance, or would not be incompatible with the area concerned, when considering the necessity and reasonableness of the modification or elimination in relation to the present and future development of the area concerned.*

## F. NEIGHBORHOOD SERVICES PROVIDER COMMENTS:

| | |
|---|---|
| DERM | **No objection*** |
| Public Works | **No objection*** |
| Parks | **No objection** |
| MDT | **No comment** |
| Fire Rescue | **No objection** |
| Police | **No objection** |
| Schools | **No objection** |

*Subject to conditions indicated in their memoranda.

*necessity and reasonableness of the modification or elimination in relation to the present and future development of the area concerned.* Request #3, is germane to requests #1 and #2, of which staff is supportive. Approval of this request, would allow the applicant to delete a covenant which restricts the use on this parcel, Parcel "C", to a funeral home and administrative office. As previously noted, neither DERM, MDFRD nor the Public Works Department object to this application and as such, staff opines that approval would not create any dangerous hazards or provoke a nuisance that would be incompatible with the surrounding area. Further, staff opines that the removal of the funeral home use, which is a commercial use, would be consistent with the existing designation of the subject parcel on the LUP map of the CDMP.

Additionally, staff opines that approval of request #4, which would allow the applicant to submit revised plans showing the configuration of the existing cemetery and the relocation of the office that was previously approved on the site, would not also create any dangerous hazards or be incompatible with the surrounding area. Staff notes that the cemetery uses and office uses that were ancillary to the cemetery and mausoleums were approved pursuant to prior resolutions from 1954 through 1992. As such, the approval of request #3, and request #4, would not have a negative visual impact on the surrounding area, would not set a precedent for similar uses in this area and would be **compatible** with same. However, staff notes that condition #6 of Resolution No. Z-68-97, required a Unity of Title for the entire property. Staff notes that at the time of writing, said Unity of Title has not been submitted. As such, staff recommends that as a condition for approval that a Unity of Title be provided as required by condition #6 of the aforementioned 1997 resolution, within 60 days of the final approval for this hearing. **Therefore, staff recommends approval with conditions of requests #3 and #4, under the Generalized Modification Standards, Section 33-311(A)(7).**

**Based on the aforementioned, staff opines that approval of request #1 and approval with conditions of requests #2 through #4 would be compatible with the existing cemetery and mausoleum uses on the remainder of the subject property and the residential uses located to the east and would be consistent with the LUP map of the CDMP.**

## H. RECOMMENDATION:

**Approval of request #1 and approval with conditions of requests # 2 through #4.**

## I. CONDITION: (For requests #2 through #4 only)

1. That all the conditions of Resolution No. 7696, and Resolution No. Z-68-97 remain in full force and effect except as herein modified.

2. That a Unity of Title be provided, as required by Condition #6 of Resolution #Z-68-97, within 60 days of the final approval for this hearing.

3. That this Resolution will not be transmitted to the Clerk of the Commission until the required Declaration of Restrictions is submitted in final, recordable form acceptable to the Department.

*economy of Miami-Dade County, if it will efficiently use or unduly burden water, sewer, solid waste disposal, recreation, education, public transportation facilities which have been constructed or planned and budgeted for construction, and if the development is or will be accessible by public or private roads, streets or highways. Further, the Board shall take into consideration whether the development conforms to the CDMP.* As previously mentioned, a portion of the subject property, Parcel "C", was previously granted a district boundary change from AU to BU-1A in 1997, pursuant to Resolution No. Z-68-97. A Declaration of Use was at the time proffered by the then owners of the subject property which restricted the uses on this portion of the site (Parcel "C") to a funeral home and administrative office. However, the applicant is now seeking to rezone this portion of the property from BU-1A to GU and to allow the existing cemetery to remain. Staff is supportive of the approval of this request, which would be **compatible** with the remainder of the property (Parcel "A" and "B") which is zoned AU and GU, as well as the residentially zoned properties located to the east. Additionally, approval of request #1 would allow this portion of the property to be brought into conformity with the LUP map of the CDMP by the removal of the commercial zoning on this portion of the property. **Therefore, staff opines that approval of request #1 would be consistent with the CDMP.**

When request #2 is analyzed under Section 33-311(A)(3), Standards For **Special Exceptions**, Unusual Uses and New Uses, staff is of the opinion that approval would be **compatible** with the surrounding AU and GU district cemetery uses on the remainder of the property and would be **consistent** with the Low-Medium Density designation of the subject property on the LUP map of the CDMP. Staff notes that based on memoranda from DERM, the Public Works Department and the Miami-Dade Fire Rescue Department (MDFRD), approval of this request to permit the continued use of the cemetery on this parcel (Parcel "C"), will not *generate or result in excessive noise or traffic, cause undue or excessive burden on public facilities, including water, sewer, solid waste disposal, recreation, transportation, streets, roads, highways or other such facilities which have been constructed or which are planned and budgeted for construction, are accessible by private or public roads, streets or highways, tend to create a fire or other equally or greater dangerous hazards, or provoke excessive overcrowding or concentration of people or population, when considering the necessity for and reasonableness of such applied for exception or use in relation to the present and future development of the area concerned and the compatibility of the applied for exception or use with such area and its development.* Further, staff opines that approval of this request will not have an unfavorable effect on the economy of the County. Additionally, staff opines that this request is germane to request #1, and that the approval of the continued use of the existing cemetery will bring the parcel into conformity with the LUP map of the CDMP. **Therefore, staff recommends approval with conditions of request #2 under Section 33-311(A)(3) (Special Exceptions, Unusual Uses and New Uses).**

Similarly, when requests #3 and #4 are analyzed under the Generalized Modification Standards, Section 33-311(A)(7), staff opines that approval of these requests would be **compatible** with the surrounding cemetery and mausoleum uses and **consistent** with the Low-Medium Density designation of the subject property on the LUP map of the CDMP. Section 33-311(A)(7) states that the Board *shall hear applications to **modify** or **eliminate any condition or part thereof** which has been imposed by any final decision adopted by resolution, and to **modify** or **eliminate any condition restrictive covenants, or parts thereof,** accepted at public hearing, except as otherwise provided in Section 33-314(c)(3); provided that the appropriate Board finds after public hearing that the modification or elimination, in the opinion of the Community Zoning Appeals Board, would not generate excessive noise or traffic, tend to create a fire or other equally or greater dangerous hazard, or provoke excessive overcrowding of people, or would not tend to provoke a nuisance, or would not be incompatible with the area concerned, when considering the*

# Memorandum

MIAMI-DADE COUNTY

**Date:** July 7, 2010

**To:** Marc C. LaFerrier, AICP, Director
Department of Planning and Zoning

**From:** Jose Gonzalez, P.E., Assistant Director
Environmental Resources Management

**Subject:** C-12 #Z2010000076
Northstar Graceland, LLC
13900 S.W. 117th Avenue
District Boundary Change from AU to BU-1A, District Boundary Change from BU-1 to GU and Special Exception to Permit a Cemetery in the GU Zoning District
(BU-1) (36.02 Acres)
24-55-39

---

The Department of Environmental Resources Management (DERM) has reviewed the subject application and has determined that it meets the minimum requirements of Chapter 24 of the Code of Miami-Dade County, Florida (the Code). Accordingly, DERM may approve the application, and the same may be scheduled for public hearing.

Potable Water Service
Public water can be made available to the subject property. Therefore, connection of the proposed development to the public water supply system shall be required in accordance with the Code requirements.

Existing public water facilities and services meet the Level of Service (LOS) standards set forth in the Comprehensive Development Master Plan (CDMP). Furthermore, the proposed development order, if approved, will not result in a reduction in the LOS standards subject to compliance with the conditions required by DERM for this proposed development order.

Wastewater Disposal
The closest public sanitary sewer is located approximately 2,066 feet from the subject property. Based on the proposed request, the subject property is within feasible distance for connection to public sanitary sewers. Therefore, connection of any proposed development to the public sanitary sewer system shall be required in accordance with the Code requirements.

Existing public sanitary sewer facilities and services meet the (LOS) standards set forth in the CDMP. Furthermore, the proposed development order, if approved, will not result in a reduction in the LOS standards subject to compliance with the conditions required by DERM for this proposed development order.

**DATE TYPED:** 03/22/11
**DATE REVISED:** 03/22/11, 03/24/11, 04/19/11, 04/29/11
**DATE FINALIZED:** 04/29/11
MCL:GR:NN:AA:CH

Marc C. LaFerrier, AICP, Director
Miami-Dade County Department of
Planning and Zoning

NDN

Operating Permits
Section 24-18 of the Code authorizes DERM to require operating permits from facilities that could be a source of pollution. The applicant is advised that due to the nature of some land uses permitted under the proposed zoning classification, operating permits from DERM may be required. The Permitting Section of DERM's Pollution Regulation and Enforcement Division may be contacted at (305) 372-6600 for further information concerning operating requirements.

Fuel Storage Facilities
Section 24-45 of the Code outlines regulations for any proposed or existing underground storage facilities. The regulations provide design, permitting, installation, modification, repair, replacement and continuing operation requirements and criteria. In addition, monitoring devices, inventory control practices and pressure testing of fuel storage tanks is required. The applicant is advised to contact the Permitting Section of DERM's Pollution Regulation and Enforcement Division, at (305) 372-6600 concerning permitting requirements for fuel storage facilities.

Enforcement History
DERM has reviewed the Permits and Enforcement database and has found no open or closed enforcement records for the subject properties identified by Folios 30-5913-000-0033, 30-5913-000-0032, 30-5924-000-0040 and 30-5924-000-0051.

DERM has reviewed the Permits and Enforcement database and has found one closed enforcement records for the subject property identified by Folio 30-5924-001-0010. DERM has a case under the name Pine Lawn Memorial located at 13900 SW 117th Ave. Notices of Violations were issued on December 19, 1989 and February 22, 1990 for improper disposal of solid waste. An inspection on May 5, 1990 indicated the site all fill was removed and the case was subsequently closed.

Concurrency Review Summary
DERM has conducted a concurrency review for this application and has determined that the same meets all applicable LOS standards for an initial development order, as specified in the adopted CDMP for potable water supply, wastewater disposal, and flood protection. Therefore, the application has been approved for concurrency subject to the comments and conditions contained herein.

This concurrency approval does not constitute a final concurrency statement and is valid only for this initial development order, as provided for in the adopted methodology for concurrency review. Additionally, this approval does not constitute any assurance that the LOS standards would be met by any subsequent development order applications concerning the subject property.

This memorandum shall constitute DERM's written approval, as required by the Code.

If you have any questions concerning the comments, or wish to discuss this matter further, please contact Christine Velazquez at (305) 372-6764.

Notwithstanding the foregoing, and in light of the fact that the County's sanitary sewer system has limited sewer collection, transmission, and treatment capacity, no new sewer service connections can be permitted, unless there is adequate capacity to handle the additional flows that this project would generate. Consequently, final development orders for this site may not be granted if adequate capacity in the system is not available at the point in time when the project will be contributing sewage to the system. Lack of adequate capacity in the system may require the approval of alternative means of sewage disposal. Use of an alternative means of sewage disposal may only be granted in accordance with Code requirements, and shall be an interim measure, with connection to the public sanitary sewer system required upon availability of adequate collection/transmission and treatment capacity.

Stormwater Management

A Surface Water Management General Permit from DERM shall be required for the construction and operation of the required surface water management system. This permit shall be obtained prior to platting and/or site development, or Public Works approval of paving and drainage plans. The applicant is advised to contact the DERM Water Control Section for further information regarding permitting procedures and requirements.

All stormwater shall be retained on site utilizing properly designed seepage or infiltration drainage system. Drainage must be provided for the 5-year/1-day storm event. Site grading and development shall provide for the full retention of the 25-year/3-day storm event and shall also comply with the requirements of Section 11C of the Code, as well as with all State and Federal Criteria, and shall not cause flooding of adjacent properties.

Any proposed development shall comply with County and Federal flood criteria requirements. The proposed development order, if approved, will not result in a reduction in the LOS standards for flood protection set forth in the CDMP subject to compliance with the conditions required by DERM for this proposed development order.

Wetlands

The subject properties do not contain wetlands as defined by Section 24-5 of the Code; therefore, a Class IV Wetland Permit will not be required.

The applicant is advised that permits from the Army Corps of Engineers (305-526-7181), the Florida Department of Environmental Protection (561-681-6600) and the South Florida Water Management District (1-800-432-2045) may be required for the proposed project. It is the applicant's responsibility to contact these agencies.

Tree Preservation

According to the site and landscape plans submitted with this zoning application, the proposal of the new buildings will not impact tree resources. Therefore, the DERM Tree Program has no objection to this zoning application, however please be advised that a Miami-Dade County Tree Removal Permit is required prior to the removal or relocation of any tree that is subject to the Tree Preservation and Protection provisions of Section 24 of the Code.

Hazardous Materials Management

Due to the nature of uses allowed in the proposed zoning classification, the applicant may be required to obtain DERM approval for management practices to control the potential discharge and spillage of pollutants associated with some land uses permitted in the requested zoning district. The applicant is advised to contact the Permitting Section of DERM's Pollution Regulation and Enforcement Division, at (305) 372-6600 concerning management practices as related to the handling of hazardous materials.

REVISION 1

# Memorandum

**Date:** 22-FEB-11

**To:** Marc LaFerrier, Director
Department of Planning and Zoning

**From:** Herminio Lorenzo, Fire Chief
Miami-Dade Fire Rescue Department

**Subject:** Z2010000076

## Fire Prevention Unit:

This memo supersedes MDFR memorandum dated July 20, 2010.
APPROVAL
No objection to site plan date stamped December 13, 2010.

## Service Impact/Demand:

Development for the above Z2010000076
located at 13900 S.W. 117 AVENUE, MIAMI-DADE COUNTY, FLORIDA.
in Police Grid 2022 is proposed as the following:

| | | | |
|---|---|---|---|
| N/A (residential) | dwelling units | N/A (industrial) | square feet |
| 3,349 (Office) | square feet | N/A (institutional) | square feet |
| N/A (Retail) | square feet | N/A (nursing home/hospitals) | square feet |

Based on this development information, estimated service impact is: 0.74 alarms-annually.
The estimated average travel time is: 6:32 minutes

## Existing services

The Fire station responding to an alarm in the proposed development will be:

Station 53 - Turnpike - 11600 SW Turnpike Hwy
Rescue, Squad

## Planned Service Expansions:

The following stations/units are planned in the vicinity of this development:

None.

## Fire Planning Additional Comments

Current service impact calculated based on site plan date stamped December 13, 2010. Substantial changes to the plan will require additional service impact analysis.

For information regarding the aforementioned comments, please contact the Miami-Dade Fire Rescue Department Planning Section at 786-331-4540.

REVISION 1

PH# Z2010000076
CZAB - BCC

## PUBLIC WORKS DEPARTMENT COMMENTS

Applicant's Names: NORTHSTAR GRACELAND, LLC

This Department has no objections to this application.

Proposed median improvements/modifications along SW 117 Avenue are not part of this application and are subject to the approval of the Director.

Sidewalk may be required along the property line for SW 117 Avenue.

Additional improvements may be required at time of permitting/platting.

This land requires platting in accordance with Chapter 28 of the Miami-Dade County Code. Any road dedications and improvements required will be accomplished thru the recording of a plat.

This application does meet the traffic concurrency criteria for an Initial Development Order. It will generate 30 PM daily peak hour vehicle trips. The traffic distribution of these trips to the adjacent roadways reveal that the addition of these new trips does not exceed the acceptable level of service of the following roadways:

| Sta.# | | LOS present | LOS w/project |
|---|---|---|---|
| 9752 | SW 117 Ave. s/o SW 136 St. | C | C |
| 9754 | SW 117 Ave. s/o SW 152 St. | C | C |
| 9850 | SW 152 St. w/o SW 117 Ave. | D | D |
| F-56 | SW 152 St. e/o SW 107 Ave. | D | D |

The request herein, constitutes an Initial Development Order only, and one or more traffic concurrency determinations will subsequently be required before development will be permitted.

Raul A Pino, P.L.S.
03-JAN-11

Building Code:
No open cases.

CLOSED CASES:
Neighborhood Regulations:
No closed cases.

Building Code:
No closed cases.

_____
Ronald Szep, Neighborhood Regulations and Legal Services Division Director
Miami-Dade County Building and Neighborhood Compliance Department

**OUTSTANDING FINES, PENALTIES, COST OR LIENS INCURRED PURSUANT TO CHAPTER 8CC:**

**REPORTER NAME:**

**DATE:** 06-APR-11

# BUILDING AND NEIGHBORHOOD COMPLIANCE DEPARTMENT

## ENFORCEMENT HISTORY OF VIOLATIONS OF CHAPTER 19 AND CHAPTER 33 OF THE MIAMI-DADE COUNTY CODE

| | |
|---|---|
| NORTHSTAR GRACELAND, LLC | 13900 S.W. 117 AVENUE, MIAMI-DADE COUNTY, FLORIDA. |
| **APPLICANT** | **ADDRESS** |

Z2010000076

**HEARING NUMBER**

## HISTORY:

BUILDING & NEIGHBORHOOD COMPLIANCE DEPARTMENT

NEIGHBORHOOD REGULATIONS AND LEGAL SERVICES DIVISION

ENFORCEMENT HISTORY
10-076
ADDRESS: 13900 SW 117 AVE

FOLIO: 3059130000033, 3059130000032, 3059240010010, 3059240000051, 3059240000040

DATE: 4/6/11

NAME: NORTHSTAR GRACELAND, LLC

OPEN CASES:
Neighborhood Regulations:
No open cases.

## ZONING INSPECTION REPORT

COLUMNS ENTRANCE FEATURES WITH 12 FT IRON GATES AT THREE ACCESS ROADS ON THE EAST PROPERTY SIDE.

**LANDSCAPING:**

2 FT HEDGE ALONG EAST FENCE BUT NOT ALONG FOLIO NO. 30-5913-000-0033 WHICH IS NOT LANDSCAPED. LANDSCAPING WITHIN THE CEMETERY IS POOR.

**BUFFERING:**

20 FT ROW OF TREES PLANTED ABUTTING SW 117 AVE SWALE AREA EVERY 35 FT. BUFFERING REQUIRED ON THE WEST PROPERTY SIDE ABUTTING FLORIDA NORTH BOUND TURNPIKE.

**VIOLATIONS OBSERVED:**

NOTICE OF VIOLATION ISSUED BY DEPARTMENT OF PLANNING & ZONING FOR 33-8, CEMETERY UNDER NEW OWNERSHIP. NO PERMITS FOUND FOR SALES OFFICE MODULAR BUILDING WITHIN THE 50 FT FRONT SETBACK AND A CARGO STORAGE CONTAINER. DEATCHED SIGN ON PROPERTY FOLIO NO. 30-5913-000-0033 WITHOUT PERMIT. BNC MEMO DATED 04/06/2011ON FILE. NO OPEN CASES WITH BNC. NO OPEN CIVIL VIOLATION NOTICES WITH CLERK OF THE COURT.

**OTHER:**

THERE IS AN ILLEGAL OPEN STORAGE OF CRYPTS ON THE VACANT LOT FOLIO NO. 30-5913-000-0033.

| Process # | Applicant's Name |
|---|---|
| Z2010000076 | NORTHSTAR GRACELAND, LLC |

**SURROUNDING PROPERTY**

**NORTH:**

AU - PLANT NURSERY

**SOUTH:**

GU - DADE SOUTH MEMORIAL PARK CEMETERY

**EAST:**

RU-1 DAYCARE CENTER & SINGLE FAMILY RESIDENCE

**WEST:**

FLORIDA TURNPIKE - NORTH BOUND

**SURROUNDING AREA**

THIS AREA ALONG SW 117 AVE HAS VARIOUS CEMETERIES ABUTTING THE FLORIDA TURNPIKE.

**NEIGHBORHOOD CHARACTERISTICS**

THIS IS A LOW DENSITY AREA TO THE EAST OF THE PROPERTY DIVIDED BY A FULL SECTION ROADWAY WITH LANDSCAPED MEDIAN.

**COMMENTS:**

# ZONING INSPECTION REPORT

**Inspector:** HASSUN, PEDRO

**Evaluator:** N/A

**Inspection Dat**

04/01/11

| **Process #:** | **Applicant's Name** |
|---|---|
| Z2010000076 | NORTHSTAR GRACELAND, LLC |

**Locations:** 13900 S.W. 117 AVENUE, MIAMI-DADE COUNTY, FLORIDA.

**Size:** 36.02 ACRES **Folio #:** 3059240010010

**Request:**

1 DBC from BU-1A to AU
2 Special Exception to permit a proposed cemetary.

3 Deletion of a Declaration of Restrictions, recorded on Official record Book 17735, pages 3054 through 3057.

The purose of request #3 is to remove an agreement on the site limiting it to a funeral home and administrative offices only, to permit the cemetery in lieu thereof.

Requests #1 through #3 on Exhibit "C"
4 Modification of plans approved pursuant to Resolution No. 7696, last modified by condition #2 of Resolution No. Z-68-97, both passed and adopted by the Board of County Commissioners, reading as follows:

From: "2. That in the approval of the plan, the same be substantially in accordance with that submitted for the hearing entitled "Graceland South," as prpared by Jack D. Raudenbush, Architect, dated received May 3, 1996 and consisting of 4 sheets, except as herein modified as follows:

To: "2. That in the approval of the plan, the same be substancially in accordance with that submitted for the hearing entitled "Proposed Offices Building for Graceland Memorial Park" as prepared by Gomez Associates Architects P.A., consisting of seventeen (17) sheets dated stamped received December 13th, 2011.

The purpose of request #3 is to allow the applicant to submit plans showing the addition of an office building to the subject property.

Request #4 on Exhibits "A", "B" & "C"

**EXISTING ZONING**

**Subject Property** AU, BU-1A, GU,

**EXISTING USE** CEMETERY

**SITE CHARACTERISTICS**

**STRUCTURES ON SITE:**

THREE (3) ONE STORY MAUSOLEUM, ONE (1) ONE STORY MAINTENANCE BUILDING, ONE MODULAR BUILDING: OFFICE, & ONE 20 FT CARGO STORAGE CONTAINER.

**USE(S) OF PROPERTY:**

CEMETERY: "GRACELAND SOUTH MEMEMORIAL PARK"

**FENCES/WALLS:**

5 FT CBS PILARS CONNECTED WITH ONE CONCRETE ACROSS BETWEEN COLUMNS ON EAST PROPERTY LINE. 6 FT CHAINLINK FENCE WITH 3 STRAND BOB WIRE ON THE NORTH, WEST, AND SOUTH PROPERTY LINES. 3 FT CBS WALL AROUND THE ABOVE GROVE BURIAL AREA. 20 FT

**Inspector** ***HASSUN, PEDRO***
**Evaluator** ***N/A***
**Process Number:** ***Z2010000076*** **Applicant Name** ***NORTHSTAR GRACELAND, LLC***

Date: 12-APR-11

Comments: MAIN ENTRANCE FEATURE FOR THE CEMETERY ON THE EAST AND LAST ACCESS ENTRANCE TO THE SOUTH.

Date: 12-APR-11

Comments: SALES OFFICE AT THE CENTER ENTRANCE ON THE EAST ENCROACHING THE 50 FT SETBACK REQUIREMENT.

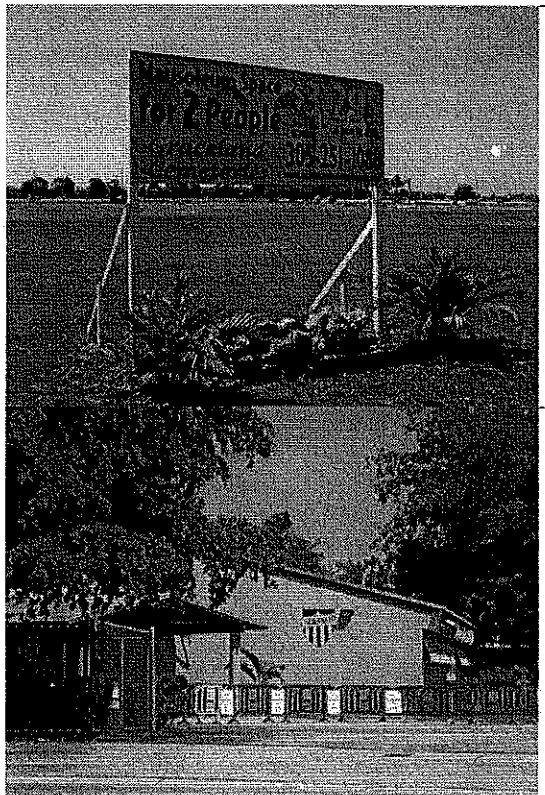
Date: 12-APR-11

Comments: SALES OFFICE AT MIDDLE ENTRANCE ON EAST SIDE OF THE PROPERTY REAR VIEW.

## ZONING INSPECTION REPORT

NO PERMITS WHERE FOUND FOR THE SALES OFFICE TO INCLUDE CARGO STORAGE CONTAINER WHICH IS BEING USE TO STORE FILE AND THE NEW PARKING CONFIGURATION.

**Inspector** *HASSUN, PEDRO*
**Evaluator** *N/A*
**Process Number:** *Z2010000076* **Applicant Name** *NORTHSTAR GRACELAND, LLC*



Date: 12-APR-11

Comments: CLASS B POINT OF SALE DETACHED SIGN WITHOUT PERMITS ON THE VACANT LOT FOLIO NO. 30-5913-000-0033.



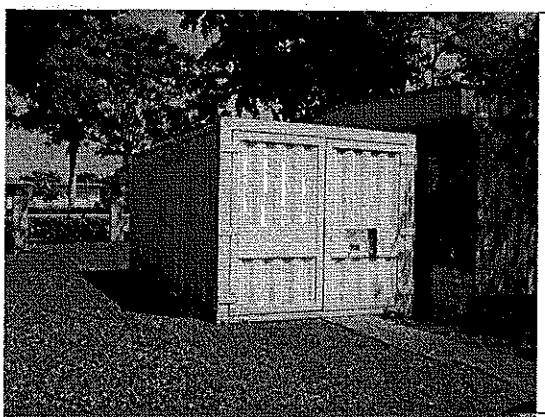
Date: 12-APR-11

Comments: PROPERTY TO HTE EAST ACROSS VACANT LOT AKA 13301 SW 117 AVE LINCOLN-MARTI CHILD CARE CENTER.

Date: 12-APR-11

Comments: CEMETERY TO THE SOUTH OF SUBJECT PROPERTY.

**Inspector** ***HASSUN, PEDRO***
**Evaluator** ***N/A***
**Process Number:** ***Z2010000076*** **Applicant Name** ***NORTHSTAR GRACELAND, LLC***

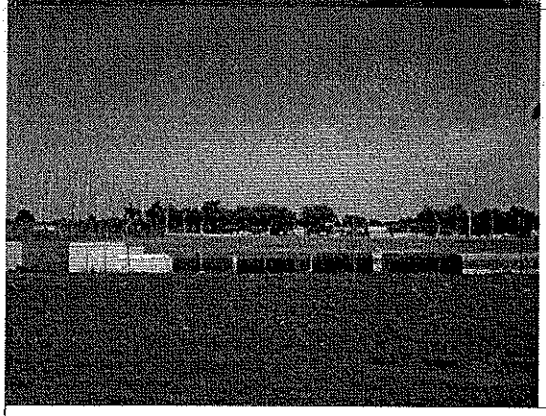


Date: 12-APR-11

Comments: CARGO STORAGE CONTAINER ON THE NORTH SIDE OF THE SALES OFFICE ON THE EAST SIDE ALSO ENCROACHING 5O FT SETBACK.

Date: 12-APR-11

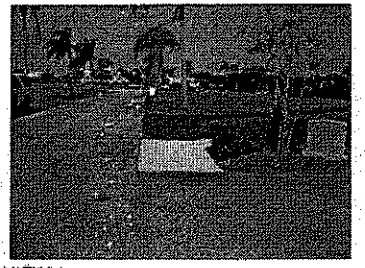
Comments: ILLEGAL OPEN LOT STORAGE OF CRYPTS ON THE NW PORTION OF CEMETERY EXPANSION VACANT LOT FOLIO NO, 30-5913-000-0033.



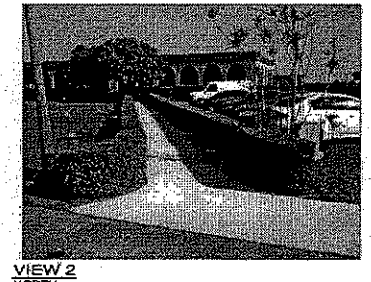
Date: 12-APR-11

Comments: ILLEGAL OPEN LOT STORAGE OF CRYPTS ON THE NW PORTION OF CEMETERY EXPANSION VACANT LOT FOLIO NO. 30-5913-000-0033.

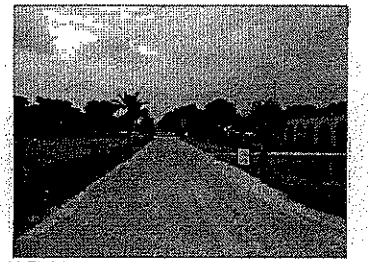
26



VIEW 1
EAST

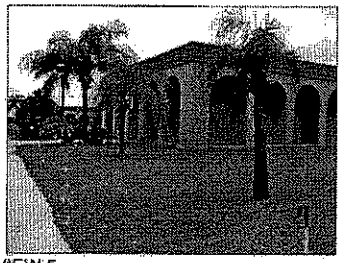


VIEW 2
NORTH



VIEW 3
EAST

VIEW 4
SOUTHWEST



VIEW 5
NORTHEAST

VIEW 6
SOUTHEAST

VIEW 13
SOUTHEAST

VIEW 14
SOUTHWEST

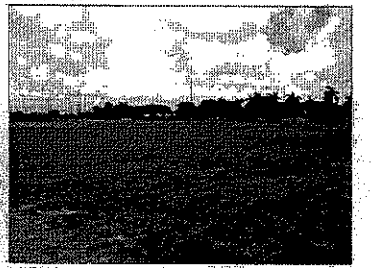
VIEW 15
NORTHWEST

VIEW 16
SOUTHWEST

VIEW 17
SOUTH

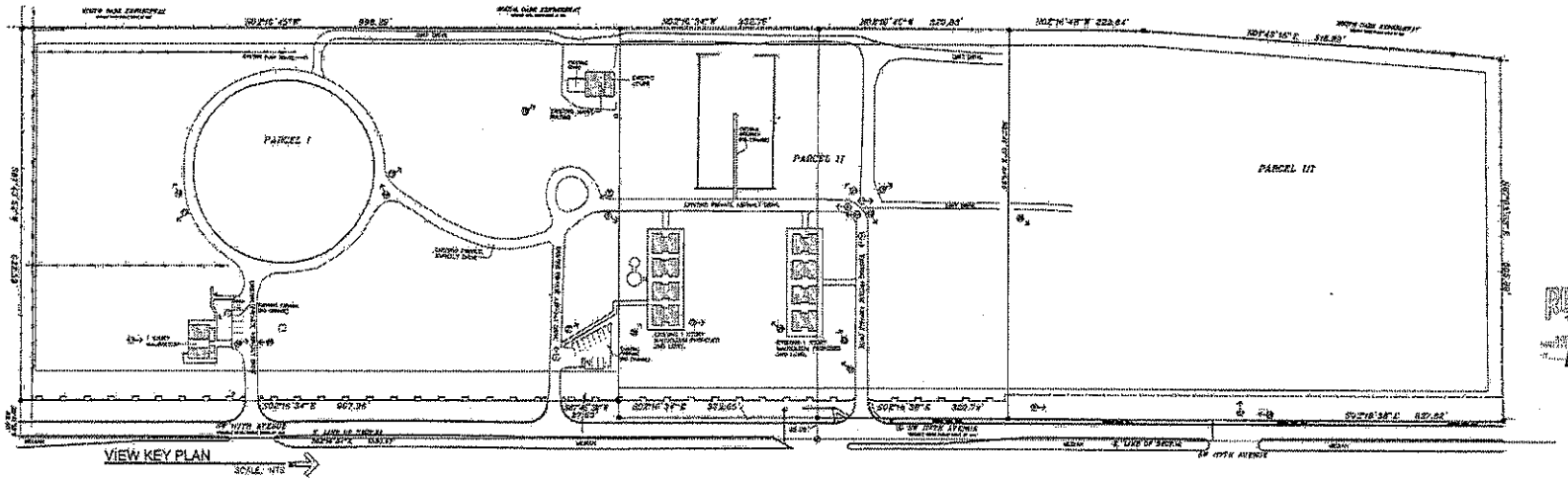
VIEW 18
NORTHWEST

VIEW 19
NORTHWEST



VIEW 20
NORTHEAST

VIEW 21
SOUTHWEST




VIEW KEY PLAN
SCALE: NTS

GOMEZ ASSOCIATES ARCHITECTS' P.A.
Architecture
Engineering
Interior Architecture
4621 N.W. 103rd AVE.
SUNRISE
FLORIDA 33351
PH.: (954) 746-5177
FAX: (954) 746-5179
Email: agomez05@aol.com

DO NOT SCALE DRAWINGS. DIMENSIONS MUST VERIFY ALL DIMENSIONS AND CONDITIONS ON SITE AND SUPPLY ARCHITECT IN WRITING OF ANY VARIATIONS BEFORE STARTING CONSTRUCTION.

CEMETERY - PHOTOS

PROPOSED OFFICES FOR
GRACELAND MEMORIAL PARK
13900 SW 117th AVENUE MIAMI FLORIDA 33853

Seal
Alberto F. Gomez
Lic. N : AR-0004164

Lic. No
AA 0003699
ID 0006771

Revisions

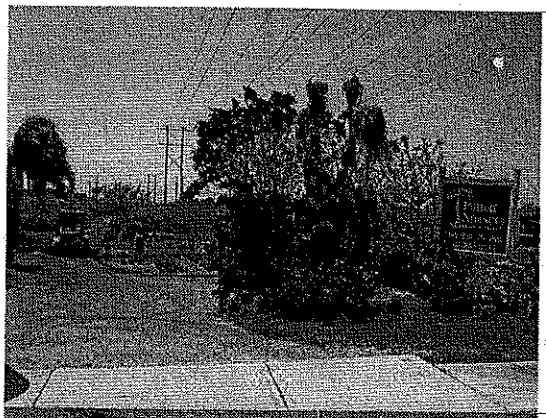
| No. | Date | By |
|---|---|---|
| 1 | 05-05-10 | JP |
| 2 | 07-22-10 | JP |
| | | |
| | | |
| | | |
| | | |

Date: 10-16-09
Drawn: JP
Approved: AG
Project No: 2009-46

PH1.01

OF 2

**Inspector** *HASSUN, PEDRO*
**Evaluator** *N/A*
**Process Number:** *Z2010000076* **Applicant Name** *NORTHSTAR GRACELAND, LLC*



Date: 12-APR-11

Comments: NURSERY TO THE NORTH OF PORPERTY.

Date: 12-APR-11

Comments: NORTH VIEW OF SW 117 AVE.

Date: 12-APR-11

Comments: SOUTH VIEW OF SW 117 AVE.

## DISCLOSURE OF INTEREST*

If a **CORPORATION** owns or leases the subject property, list principal stockholders and percent of stock owned by each. [Note: Where principal officers or stockholders consist of other corporation(s), trust(s), partnership(s) or similar entities, further disclosure shall be made to identify the natural persons having the ultimate ownership interest].

CORPORATION NAME: Northstar Graceland, LLC

| NAME AND ADDRESS | Percentage of Stock |
|---|---|
| William Hamilton | 20% |
| Brian Sullivan | 20% |
| Deborah Gilmore | 20% |
| Alan Teal | 20% |
| Detlef Taylpr | 20% |
| | |

RECEIVED
20-076
JUN 09 2016
ZONING HEARINGS SECTION
BY

If a **TRUST** or **ESTATE** owns or leases the subject property, list the trust beneficiaries and percent of interest held by each. [Note: Where beneficiaries are other than natural persons, further disclosure shall be made to identify the natural persons having the ultimate ownership interest].

TRUST/ESTATE NAME: _____

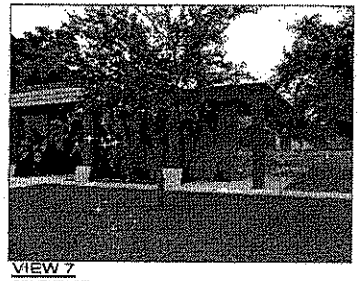
| NAME AND ADDRESS | Percentage of Interest |
|---|---|
| | |
| | |
| | |
| | |
| | |

If a **PARTNERSHIP** owns or leases the subject property, list the principals including general and limited partners. [Note: Where partner(s) consist of other partnership(s), corporation(s), trust(s) or similar entities, further disclosure shall be made to identify the natural persons having the ultimate ownership interests].

PARTNERSHIP OR LIMITED PARTNERSHIP NAME: _____

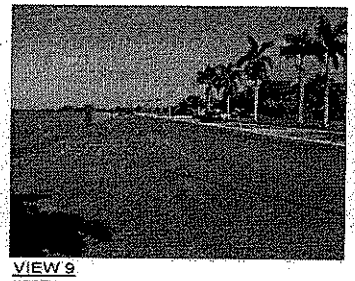
| NAME AND ADDRESS | Percent of Ownership |
|---|---|
| | |
| | |
| | |
| | |
| | |

27

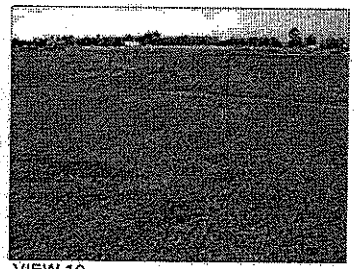


VIEW 7
SOUTHEAST

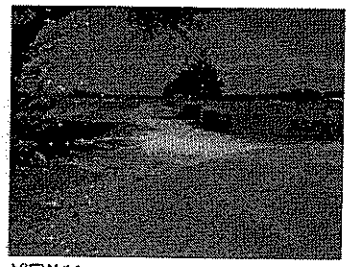
VIEW 8
SOUTHWEST



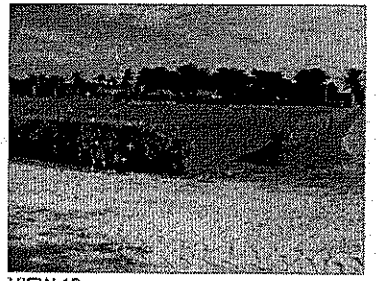
VIEW 9
NORTH



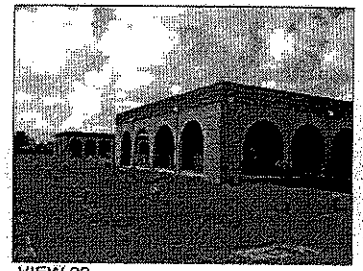
VIEW 10
EAST



VIEW 11
NORTH

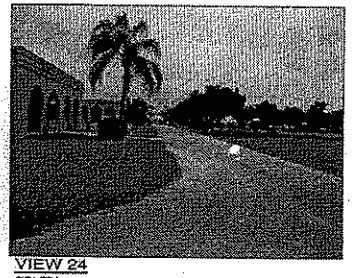


VIEW 12
NORTHEAST



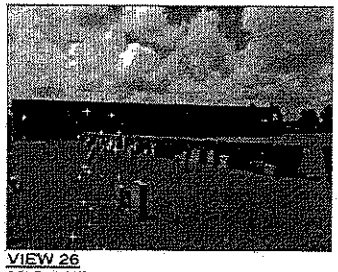
VIEW 22
SOUTHEAST

VIEW 23
SOUTHWEST

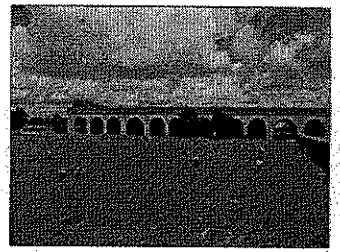


VIEW 24
SOUTH

VIEW 25
SOUTHWEST

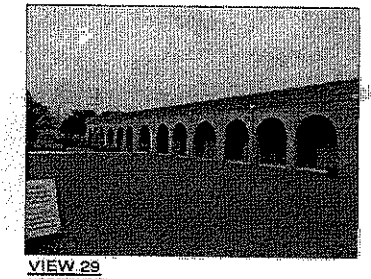


VIEW 26
SOUTHWEST



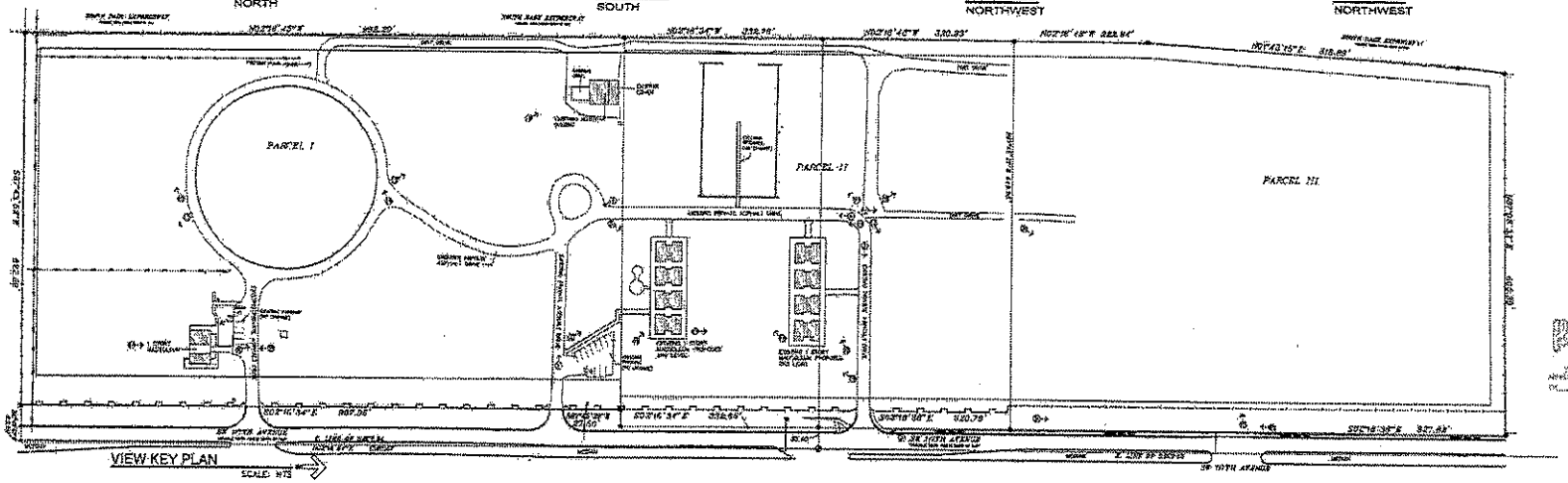
VIEW 27
NORTH

VIEW 28
SOUTH



VIEW 29
NORTHWEST

VIEW 30
NORTHWEST




VIEW KEY PLAN
SCALE: NTS

GOMEZ ASSOCIATES
ARCHITECTS P.A.
Architecture,
Engineering
Interior Architecture

4621 N.W. 103rd AVE.
SUNRISE
FLORIDA 33351
PH.: (954) 746-4177
FAX: (954) 746-5179
Email: agomez05@aol.com

DO NOT SCALE DRAWINGS
DIMENSIONS COVERN
VERIFY ALL DIMENSIONS AND
CONDITIONS ON SITE AND NOTIFY
ARCHITECT IN WRITING OF ANY
VARIATIONS WITHOUT STARTING
CONSTRUCTION.

CEMETERY - PHOTOS

PROPOSED OFFICES FOR
GRACELAND MEMORIAL PARK
13900 SW 117th AVENUE MIAMI FLORIDA 33186

Seal
Alberto F. Gomez
Lic. No.: AR-0004164

Lic. No.
AR-0004164
RR-0005774

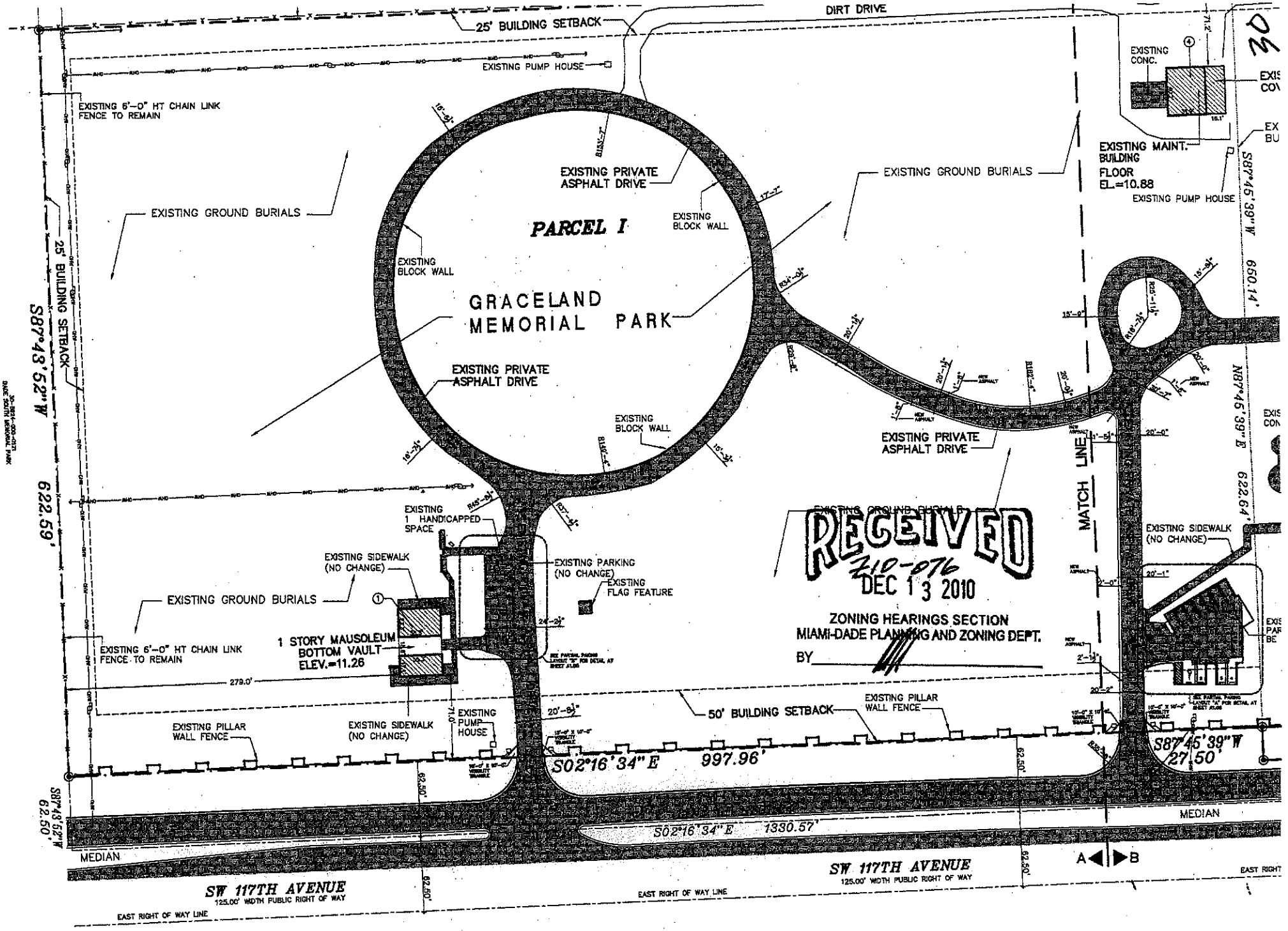
Revisions

| No. | Date | By |
|---|---|---|
| 1 | 06-06-10 | JP |
| 2 | 07-22-10 | JP |
| | | |
| | | |
| | | |
| | | |

Date: 10-16-05
Drawn: JP
Approved: AG
Project No: 2005-46

PH1.02

OF 2




ENLARGED SITE PLAN

If there is a **CONTRACT FOR PURCHASE** by a corporation, Trust or Partnership, list purchasers below, including principal officers, stockholders, beneficiaries or partners. [Note: Where principal officers, stockholders, beneficiaries or partners consist of other corporations, trusts, partnerships or similar entities, further disclosure shall be made to identify natural persons having ultimate ownership interests].

NAME OF PURCHASER:_____

| NAME ADDRESS AND OFFICE (if applicable) | Percentage of Interest |
|---|---|
| | |
| | |
| | |
| | |

Date of contract:_____

If any contingency clause or contract terms involve additional parties, list all individuals or officers, if a corporation, partnership or trust:

RECEIVED
210-076
JUN 03 2010
ZONING HEARINGS SECTION
MIAMI-DADE PLANNING AND ZONING DEPT.
BY:

**NOTICE:** For changes of ownership or changes in purchase contracts after the date of the application, but prior to the date of final public hearing, a supplemental disclosure of interest is required.

The above is a full disclosure of all parties of interest in his application to the best of my knowledge and belief.

Signature:_____
(Applicant)

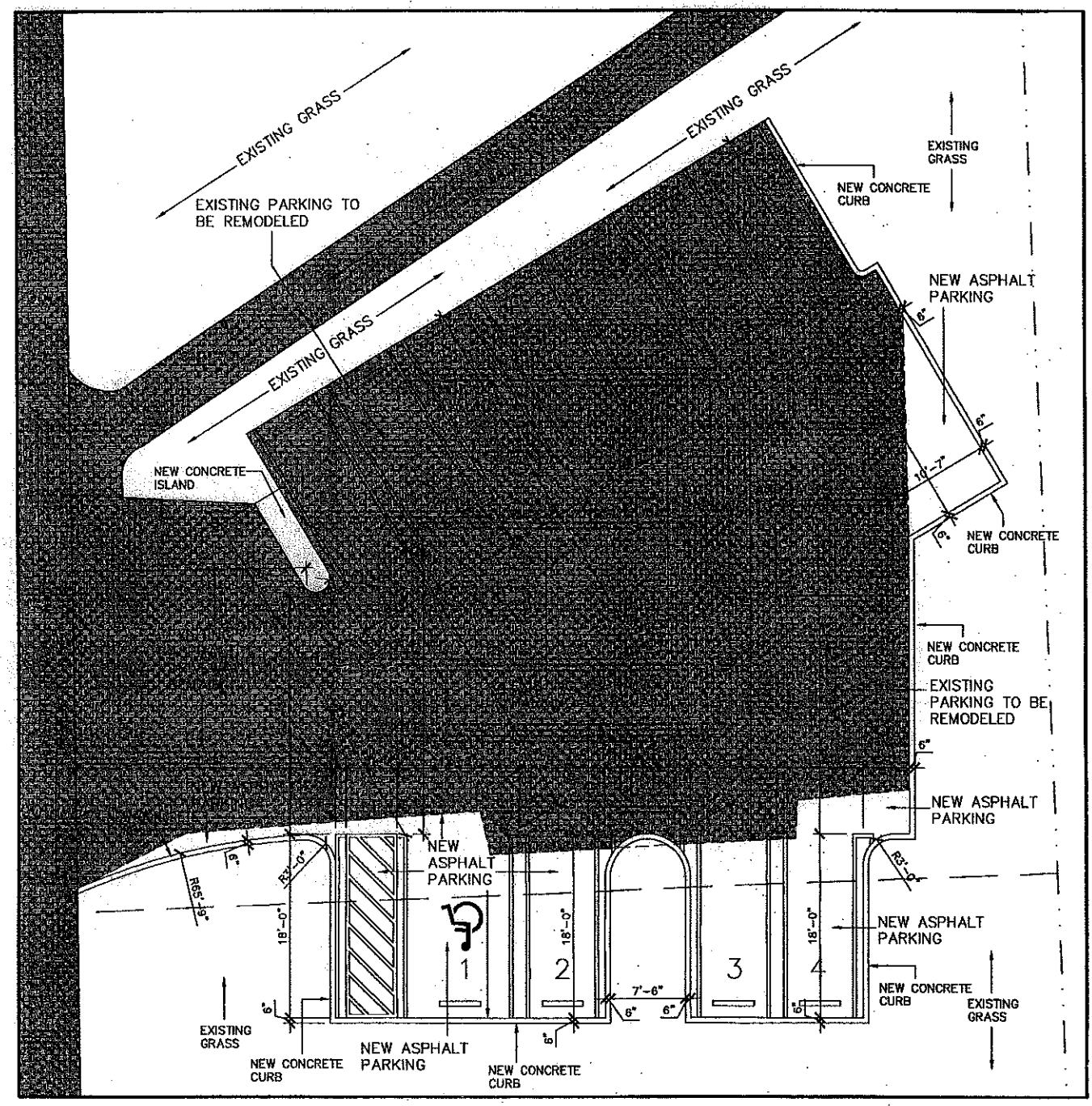
Sworn to and subscribed before me this day of MAY, 2010. Affiant is personally known to me or has produced PERSONALLY KNOWN as identification.

_____
(Notary Public)

My commission expires_____

NESTOR SEIJO
MY COMMISSION # DD 807755
EXPIRES: July 21, 2012
Bonded Thru Budget Notary Services

*Disclosure shall not be required of: 1) any entity, the equity interests in which are regularly traded on an established securities market in the United States or a other country; or 2) pension funds or pension trusts of more than five thousand (5,000) ownership interests; or 3) any entity where ownership interests are held in a partnership, corporation or trust consisting of more than five thousand (5,000) separate interests, including all interests at every level of ownership and where no one (1) person or entity holds more than a total of five percent (5%) of the ownership interest in the partnership, corporation or trust. Entities whose ownership interests are held in a partnership, corporation, or trust consisting of more than five thousand (5,000) separate interests, including all interests at every level of ownership, shall only be required to disclose those ownership interest which exceed five (5) percent of the ownership interest in the partnership corporation or trust.



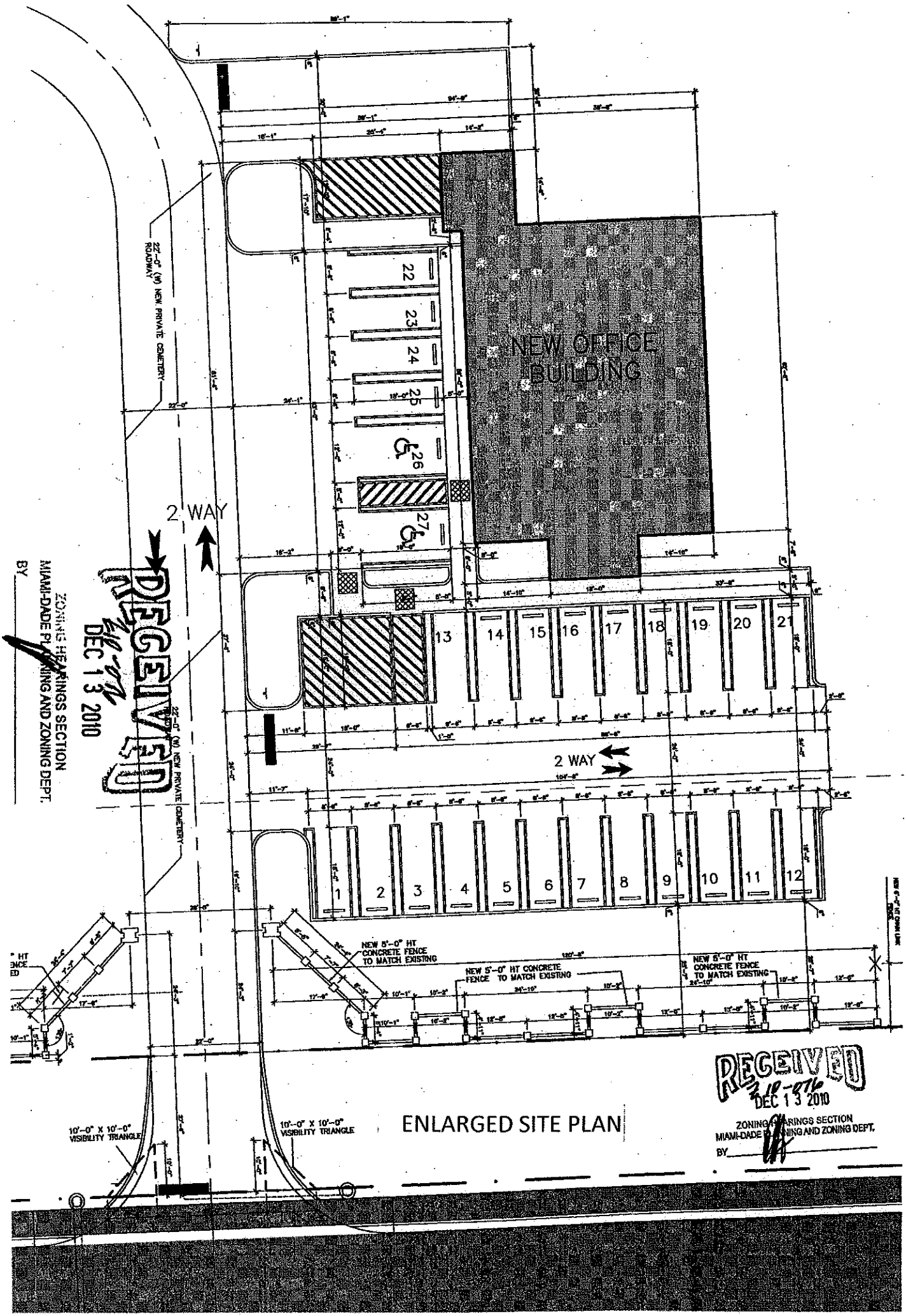

## PARTIAL PARKING LAYOUT "A"

EXISTING PARKING TO BE REMODELED

SCALE: 1/8"=1'-0"

RECEIVED
Z10-076
DEC 13 2010
ZONING HEARINGS SECTION
MIAMI-DADE PLANNING AND ZONING DEPT.
BY

ENLARGED SITE PLAN




ENLARGED SITE PLAN

RECEIVED
DEC 13 2010
ZONING HEARINGS SECTION
MIAMI-DADE PLANNING AND ZONING DEPT.
BY

RECEIVED
DEC 13 2010
ZONING HEARINGS SECTION
MIAMI-DADE PLANNING AND ZONING DEPT.
BY

OFFICES PARKING PLAN

FLORIDA
PH.: (954)
FAX: (954)
Email: ago

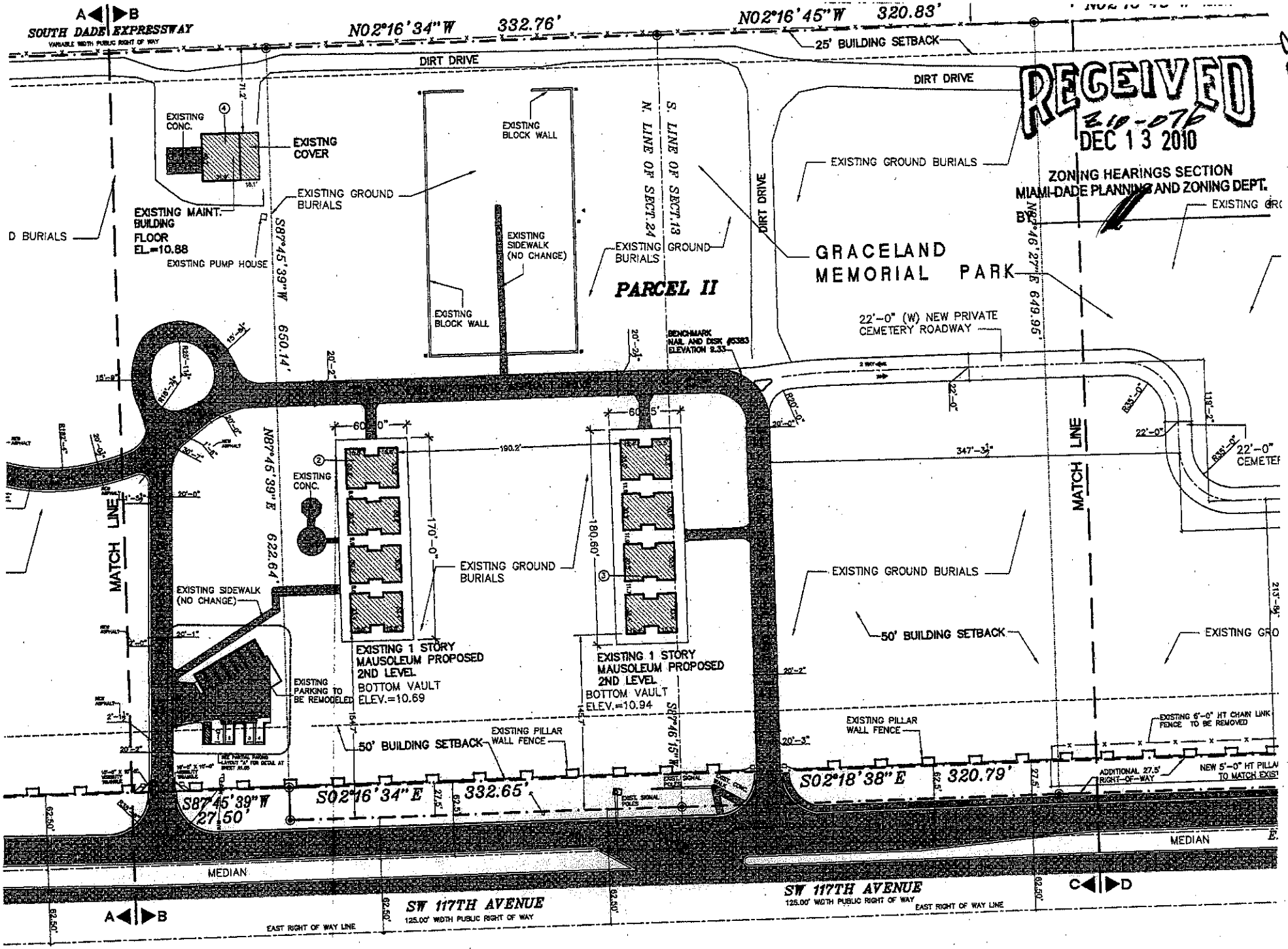
DO NOT SCAL
DIMENSIONS G
VERIFY ALL D
CONDITIONS O
ARCHITECT IN
VARIATIONS BI
CONSTRUCTION

Seal
Alberto F.
Lic. N : A

Lic. No
AA C001895
EB 000677

Re
No.
1
2
3
4

32




## SITE PLAN 'B-C' (MID- AREA)

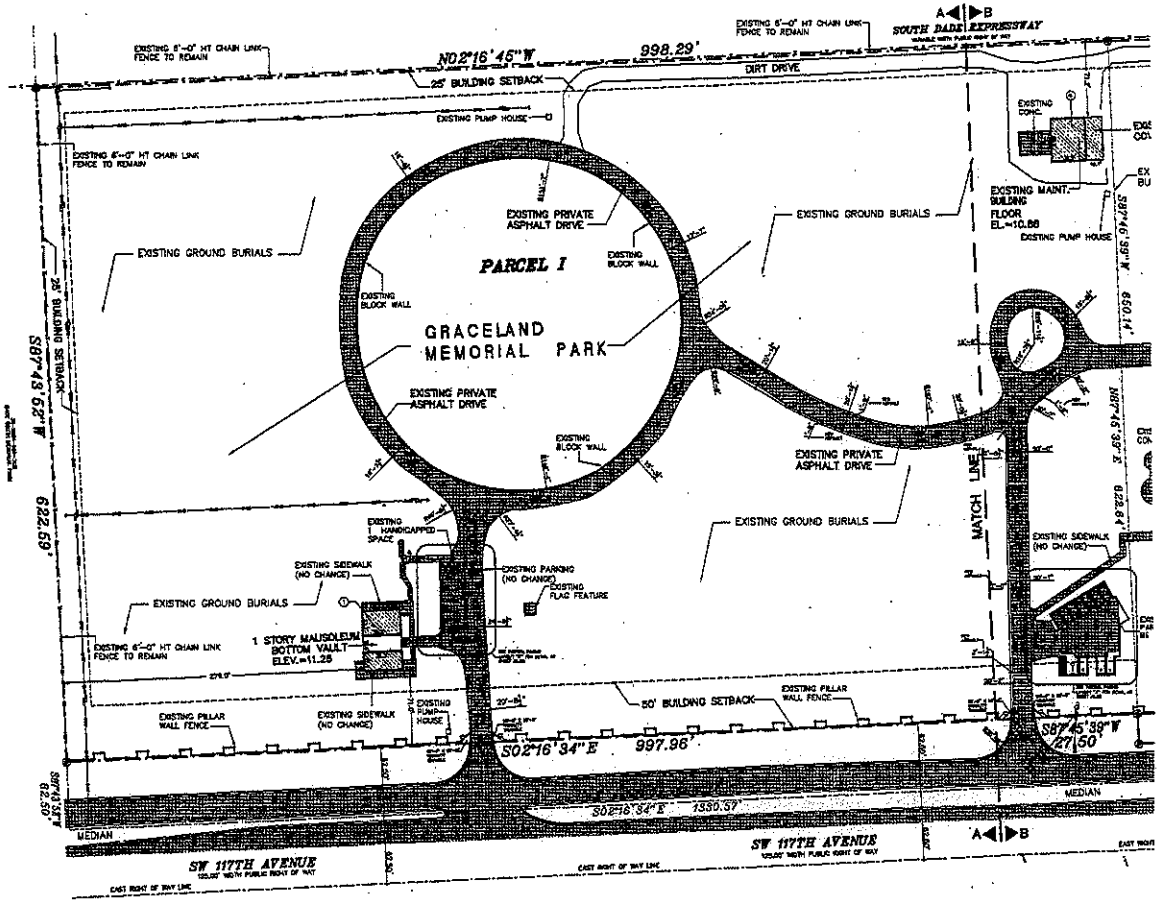
SCALE: 1"=50'

ENLARGED SITE PLAN

**LEGAL DESCRIPTION**

PARCEL I
PARADISE

THENCE SOUTH 02° 16' 34" EAST ALONG SAID WEST RIGHT-OF-WAY LINE OF S.W.




SITE PLAN 'A-A' (SOUTH AREA)
SCALE: 1"=50'

SIGNS AND GATES RESOLUTION APPROVAL No. 4-ZAB-255-92

RECEIVED
Z10-074
DEC 13 2010
ZONING HEARINGS
MIAMI-DADE PLANNING AND ZONING DEPT.
BY

**LEGAL DESCRIPTION:**

PARCEL I
A PORTION OF THE NORTHEAST QUARTER OF SECTION 13, TOWNSHIP 56 SOUTH, RANGE 39 EAST, MIAMI-DADE COUNTY, FLORIDA, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:
COMMENCE AT THE NORTHEAST CORNER OF SECTION 24, TOWNSHIP 56 SOUTH, RANGE 39 EAST, MIAMI-DADE COUNTY, FLORIDA; THENCE RUN SOUTH 02°16'34" EAST ALONG THE EAST LINE OF THE NORTHEAST 1/4 OF SAID SECTION 24 FOR A DISTANCE OF 1330.57 FEET TO A POINT ON THE SOUTH LINE OF THE NORTH 1/2 OF THE NORTHEAST 1/4 OF THE NORTHEAST 1/4 OF SAID SECTION 24; THENCE RUN SOUTH 87°45'39" WEST ALONG THE SOUTH LINE OF THE NORTH 1/2 OF THE NORTHEAST 1/4 OF THE NORTHEAST 1/4 OF SAID SECTION 24 FOR A DISTANCE OF 27.50 FEET TO THE POINT OF BEGINNING OF THE HEREINAFTER DESCRIBED PARCEL OF LAND; THENCE CONTINUE SOUTH 87°45'39" WEST ALONG THE SOUTH LINE OF THE NORTH 1/2 OF THE NORTHEAST 1/4 OF THE NORTHEAST 1/4 OF SAID SECTION 24 FOR A DISTANCE OF 622.50 FEET TO A POINT ON THE EAST LINE OF THE WEST 1/2 OF THE NORTHEAST 1/4 OF THE NORTHEAST 1/4 OF SAID SECTION 24; THENCE RUN SOUTH 02°16'34" EAST ALONG THE EASTERLY PROLONGATION OF THE EAST LINE OF THE WEST 1/2 OF THE NORTHEAST 1/4 OF THE NORTHEAST 1/4 OF SAID SECTION 24 FOR A DISTANCE OF 997.96 FEET TO A POINT ON THE NORTH LINE OF THE SOUTH 1/2 OF THE NORTHEAST 1/4 OF THE NORTHEAST 1/4 OF SAID SECTION 24; THENCE RUN NORTH 87°43'52" EAST ALONG THE NORTH LINE OF THE SOUTH 1/2 OF THE NORTHEAST 1/4 OF THE NORTHEAST 1/4 OF SAID SECTION 24 FOR A DISTANCE OF 622.69 FEET TO A POINT ON THE EAST LINE OF THE NORTHEAST 1/4 OF SAID SECTION 24; THENCE RUN NORTH 02°16'34" WEST ALONG THE EAST LINE OF THE NORTHEAST 1/4 OF SAID SECTION 24 FOR A DISTANCE OF 997.96 FEET TO THE POINT OF BEGINNING OF THE TRACT OF LAND HEREINAFTER DESCRIBED.

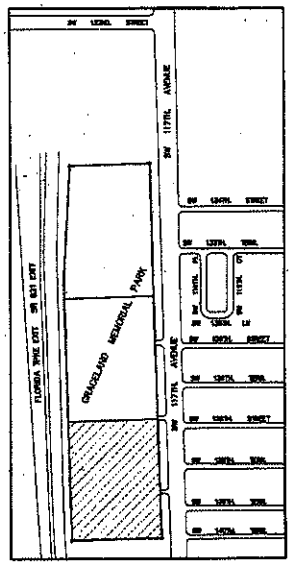
PARCEL II
A PORTION OF THE NORTHEAST 1/4 OF SECTION 13 AND A PORTION OF THE NORTH 1/2 OF THE NORTHEAST 1/4 OF THE NORTHEAST 1/4 OF SECTION 24, ALL IN TOWNSHIP 56 SOUTH, RANGE 39 EAST, MIAMI-DADE COUNTY, FLORIDA, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:
COMMENCE AT THE NORTHEAST CORNER OF SAID SECTION 24; THENCE RUN SOUTH 87°45'39" WEST ALONG THE NORTH LINE OF SAID SECTION 24 FOR A DISTANCE OF 27.50 FEET TO THE POINT OF BEGINNING OF THE TRACT OF LAND HEREINAFTER DESCRIBED; THENCE CONTINUE SOUTH 87°45'39" WEST ALONG THE NORTH LINE OF SAID SECTION 24 FOR A DISTANCE OF 622.50 FEET TO A POINT ON THE EAST LINE OF THE NORTHEAST 1/4 OF SAID SECTION 24; THENCE RUN SOUTH 02°16'34" EAST ALONG THE EASTERLY PROLONGATION OF THE EAST LINE OF THE WEST 1/2 OF THE NORTHEAST 1/4 OF THE NORTHEAST 1/4 OF SAID SECTION 24 FOR A DISTANCE OF 997.96 FEET TO A POINT ON THE NORTH LINE OF THE SOUTH 1/2 OF THE NORTHEAST 1/4 OF THE NORTHEAST 1/4 OF SAID SECTION 24; THENCE RUN NORTH 87°43'52" EAST ALONG THE NORTH LINE OF THE SOUTH 1/2 OF THE NORTHEAST 1/4 OF THE NORTHEAST 1/4 OF SAID SECTION 24 FOR A DISTANCE OF 622.69 FEET TO A POINT ON THE EAST LINE OF THE NORTHEAST 1/4 OF SAID SECTION 24; THENCE RUN NORTH 02°16'34" WEST ALONG THE EAST LINE OF THE NORTHEAST 1/4 OF SAID SECTION 24 FOR A DISTANCE OF 997.96 FEET TO THE POINT OF BEGINNING.

**PROJECT DATA:**

| DESCRIPTION | AREA | % OF COVERAGE / LOT (MAX) | BUILDING CUBIC CONTENT | REMARKS |
|---|---|---|---|---|
| COMMERCIAL DISTRICTS (GU (INTERIM) DISTRICT) | | | | |
| OFFICE AREA | N/A | | | |
| ADMIN. | 39,66 AC. | | | |
| NET AREA | 1,888,1306 SF. | 100 % | | |
| BUILDING AREAS DESCRIPTION | | | | |
| BUILDING No. 1(EXISTING MAUSOLEUM) | 1,977 SF. | | 39,488 CF | |
| BUILDING No. 2(EXISTING FIRST FLOOR MAUSOLEUM) | 18,782 SF | | 377,726 CF | |
| BUILDING No. 3 (EXISTING FIRST FLOOR MAUSOLEUM) | 11,991 SF. | | 266,186 CF | |
| BUILDING No. 4 (EXISTING MAINTENANCE BUILDING) | 1,200 SF. | | 12,000 CF | |
| BUILDING No. 5 (NEW OFFICES) | 3,749 SF. | | 33,402 CF | |
| | | | | |
| SUBTOTAL BUILDINGS COVERAGE AREA (EXISTING) | 39,918 SF. | 1.65 % | 790,402 CF | |
| SUBTOTAL BUILDINGS COVERAGE AREA (PROPOSED) | 3,749 SF. | 0.21 % | 33,402 CF | |
| TOTAL BUILDINGS COVERAGE AREA (EXISTING & NEW) | 43,667 SF. | 1.86 % | 819,817 CF | |
| LOT COVERAGE REQUIRED (%) | | 40 % | | |
| IMPERVIOUS AREA (EXISTING) | 65,140 SF. | 3.61 % | | INCLUDING ROAD, SIDEWALK & BUILDINGS |
| IMPERVIOUS AREA (NEW) | 1,396,402 SF. | 3.18 % | | INCLUDED ROAD, SIDEWALK & BUILDINGS |
| PERVIOUS AREA (EXISTING) | 1,478,988 SF. | 84.39 % | | |
| PERVIOUS AREA (NEW) | 1,443,994 SF. | 91.82 % | | |
| MAXIMUM BUILDING HEIGHT | 35'-0" (MAX) | | | |

**PARKING CALCULATIONS** (BASED ON AREAS)

| DESCRIPTION | (SF) | REQ. PARKING SPACES | | REMARKS |
|---|---|---|---|---|
| NEW OFFICES | 3,749 SF | 1/300 SF | 12 SPACES | |
| | | | | |
| TOTAL OF PARKING REQUIRED | | | 12 SPACES | |
| | | | | |
| TOTAL OF EXISTING PARKING SPACES ON SITE | | | 17 SPACES | |
| TOTAL OF NEW PARKING SPACES | | | 27 SPACES | |
| TOTAL OF PARKING PROVIDED | | | 44 SPACES | |
| REMARKS | | | | |




LOCATION SKETCH - KEY PLAN

GOMEZ ASSOCIATES ARCHITECTS P.A.
Architecture Engineering Interior Architecture
4021 N.W. 102nd AVE. DORAL FLORIDA 33351
PH.: (954) 748-8177
FAX: (954) 748-8178
Email: agomez654@aol.com

DO NOT SCALE DRAWINGS CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS ON SITE AND NOTIFY ARCHITECT IN WRITING OF ANY VARIATIONS BEFORE STARTING CONSTRUCTION.

SITE PLAN
PROPOSED OFFICE BUILDING FOR GRACELAND MEMORIAL PARK
13900 SW 117th AVENUE MIAMI FLORIDA 33353

Seal
Alberto F. Gomez
AR-0004164

RECEIVED
Z10-074
DEC 13 2010

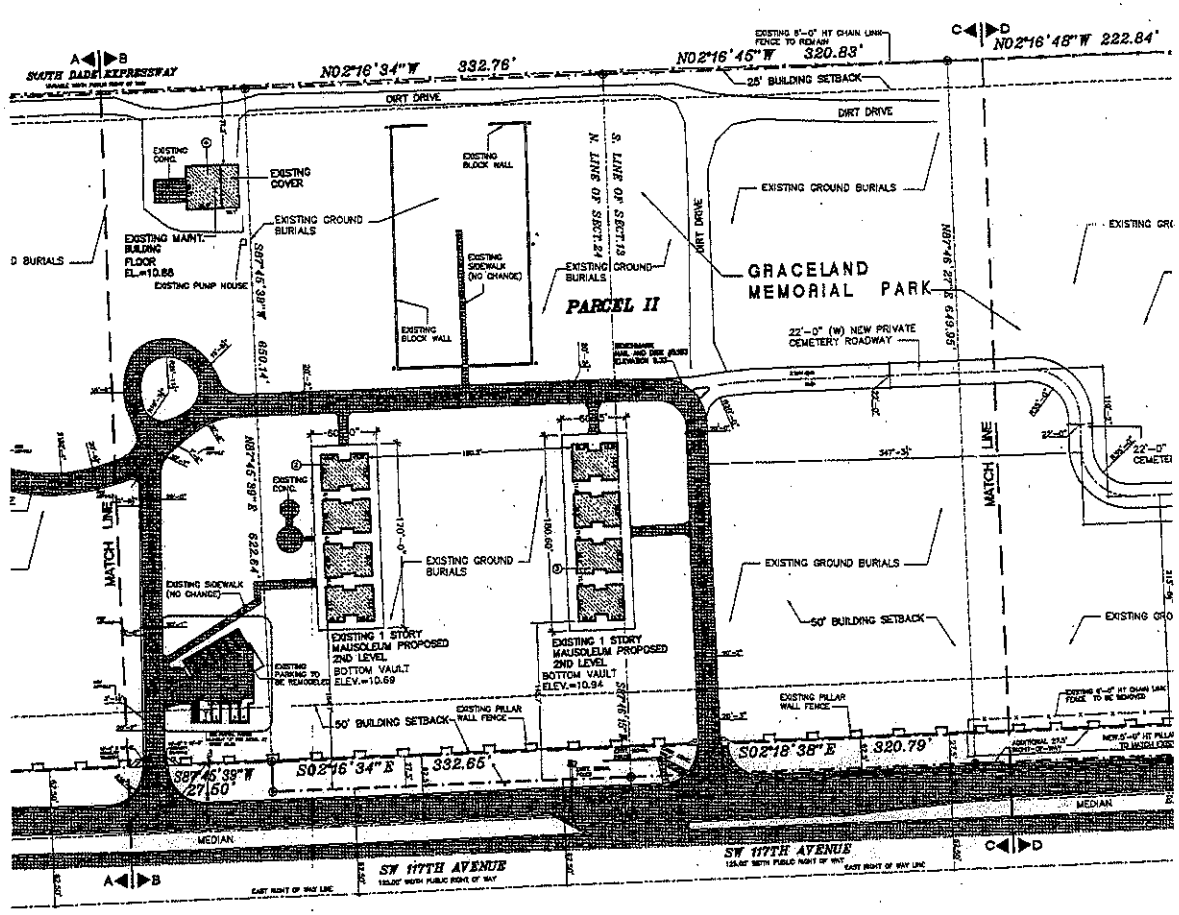
Lic. No
AA 0001693
EB 0001771

| Revisions | | |
|---|---|---|
| No. | Date | By |
| 1 | 05-05-10 | JP |
| 2 | 07-22-10 | JP |
| 3 | 08-07-10 | JP |
| 4 | 09-27-10 | JP |
| 5 | 11-11-10 | JP |
| 6 | | |

Date: 12-28-09
Drawn: JP
Approved: AG
Project N°: 2009-04

SP1.01

OF 5




SITE PLAN 'B-C' (MID- AREA)

SCALE: 1"=50'

SIGNS AND GATES RESOLUTION APPROVAL No. 4-ZAB-255-92

RECEIVED
E10-076
DEC 13 2010
ZONING HEARINGS SECTION
MIAMI-DADE PLANNING AND ZONING DEPT.
BY

**LEGAL DESCRIPTION:**

PARCEL I

ALL OF TRACT 1, ACCORDING TO THE PLAT THEREOF, AS RECORDED IN PLAT BOOK 32, PAGE 31, IN THE PUBLIC RECORDS OF MIAMI-DADE COUNTY, FLORIDA, LESS AND EXCEPTING ALL OF THE NORTH 1/2 OF THE NORTHEAST 1/4 OF THE NORTHEAST 1/4 OF SECTION 24, TOWNSHIP 55 SOUTH, RANGE 40 EAST, MIAMI-DADE COUNTY, FLORIDA, BEING MORE PARTICULARLY DESCRIBED AS:

COMMENCE AT THE NORTHEAST CORNER OF SECTION 24, TOWNSHIP 55 SOUTH, RANGE 40 EAST, MIAMI-DADE COUNTY, FLORIDA; THENCE RUN SOUTH 00°16'34" EAST ALONG THE EAST LINE OF THE NORTHEAST 1/4 OF SAID SECTION 24 FOR A DISTANCE OF 1324.77 FEET TO THE SOUTHEAST CORNER OF THE NORTHEAST 1/4 OF THE NORTHEAST 1/4 OF SAID SECTION 24; THENCE RUN SOUTH 89°46'39" WEST ALONG THE SOUTH LINE OF THE NORTHEAST 1/4 OF THE NORTHEAST 1/4 OF SAID SECTION 24 FOR A DISTANCE OF 50.00 FEET TO A POINT ON A LINE 50 FEET WEST, MEASURED AT RIGHT ANGLES TO, THE EAST LINE OF THE NORTHEAST 1/4 OF THE NORTHEAST 1/4 OF SAID SECTION 24; THENCE RUN NORTH 00°16'34" WEST ALONG SAID LINE 50 FEET WEST OF AND PARALLEL TO THE EAST LINE OF THE NORTHEAST 1/4 OF THE NORTHEAST 1/4 OF SAID SECTION 24 FOR A DISTANCE OF 1324.77 FEET TO A POINT ON THE NORTH LINE OF THE NORTHEAST 1/4 OF THE NORTHEAST 1/4 OF SAID SECTION 24; THENCE RUN NORTH 00°16'45" WEST ALONG A LINE 50 FEET WEST OF AND PARALLEL TO THE EAST LINE OF THE NORTHEAST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 13, TOWNSHIP 55 SOUTH, RANGE 40 EAST, MIAMI-DADE COUNTY, FLORIDA, FOR 1324.84 FEET TO A POINT ON THE NORTH LINE OF THE SOUTH 1/2 OF THE NORTHEAST 1/4 OF THE SOUTHEAST 1/4 OF SAID SECTION 13; THENCE RUN NORTH 89°46'39" EAST ALONG SAID NORTH LINE FOR 50.00 FEET TO THE POINT OF BEGINNING.

PARCEL II

A PORTION OF THE NORTHWEST 1/4 OF SECTION 24 AND A PORTION OF THE NORTH 1/2 OF THE NORTHEAST 1/4 OF THE NORTHEAST 1/4 OF SECTION 23, ALL IN TOWNSHIP 55 SOUTH, RANGE 40 EAST, MIAMI-DADE COUNTY, FLORIDA, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCE AT THE NORTHEAST CORNER OF SAID NORTHEAST 1/4 OF SECTION 24; THENCE SOUTH 00°16'34" EAST ALONG THE EAST LINE OF THE NORTHEAST 1/4 OF SAID SECTION 24 FOR A DISTANCE OF 1324.77 FEET TO THE SOUTHEAST CORNER OF THE NORTHEAST 1/4 OF THE NORTHEAST 1/4 OF SAID SECTION 24; THENCE RUN SOUTH 89°46'39" WEST ALONG THE SOUTH LINE OF THE NORTHEAST 1/4 OF THE NORTHEAST 1/4 OF SAID SECTION 24 FOR A DISTANCE OF 50.00 FEET TO A POINT ON A LINE 50 FEET WEST, MEASURED AT RIGHT ANGLES TO, THE EAST LINE OF THE NORTHEAST 1/4 OF THE NORTHEAST 1/4 OF SAID SECTION 24; THENCE RUN NORTH 00°16'34" WEST ALONG SAID LINE 50 FEET WEST OF AND PARALLEL TO THE EAST LINE OF THE NORTHEAST 1/4 OF THE NORTHEAST 1/4 OF SAID SECTION 24 FOR A DISTANCE OF 1324.77 FEET TO A POINT ON THE NORTH LINE OF THE NORTHEAST 1/4 OF THE NORTHEAST 1/4 OF SAID SECTION 24; THENCE RUN NORTH 00°16'45" WEST ALONG A LINE 50 FEET WEST OF AND PARALLEL TO THE EAST LINE OF THE SOUTHEAST 1/4 OF SECTION 13, TOWNSHIP 55 SOUTH, RANGE 40 EAST, MIAMI-DADE COUNTY, FLORIDA, FOR 1324.84 FEET TO A POINT ON THE NORTH LINE OF THE SOUTH 1/2 OF THE NORTHEAST 1/4 OF THE SOUTHEAST 1/4 OF SAID SECTION 13; THENCE RUN SOUTH 89°46'39" WEST ALONG SAID NORTH LINE FOR 650.11 FEET TO A POINT ON A LINE 650 FEET WEST, MEASURED AT RIGHT ANGLES TO, THE EAST LINE OF THE SOUTHEAST 1/4 OF SAID SECTION 13; THENCE RUN NORTH 00°16'45" WEST ALONG SAID LINE 650 FEET WEST OF AND PARALLEL TO THE EAST LINE OF THE SOUTHEAST 1/4 OF SECTION 13 FOR A DISTANCE OF 1324.84 FEET TO A POINT ON THE NORTH LINE OF THE SOUTHEAST 1/4 OF SAID SECTION 13; THENCE RUN NORTH 89°46'39" EAST ALONG SAID NORTH LINE FOR 650.11 FEET TO THE POINT OF BEGINNING.

THENCE SOUTH 00°16'34" EAST ALONG SAID WEST RIGHT-OF-WAY LINE OF S.W. 117TH AVENUE FOR 320.83 FEET; THENCE SOUTH 02°18'38" EAST ALONG SAID WEST RIGHT-OF-WAY LINE OF S.W. 117TH AVENUE FOR 320.79 FEET; THENCE SOUTH 02°16'34" EAST ALONG SAID WEST RIGHT-OF-WAY LINE OF S.W. 117TH AVENUE FOR 332.65 FEET; THENCE SOUTH 87°46'39" WEST FOR 27.50 FEET; THENCE SOUTH 02°16'34" EAST FOR 222.84 FEET TO A POINT ON THE NORTH LINE OF A 25 FOOT WIDE ROAD RIGHT-OF-WAY AS SHOWN ON THE PLAT OF "GRACELAND MEMORIAL PARK", ACCORDING TO THE PLAT THEREOF, AS RECORDED IN PLAT BOOK 117, PAGE 31, OF THE PUBLIC RECORDS OF MIAMI-DADE COUNTY, FLORIDA; THENCE NORTH 87°46'39" EAST ALONG SAID NORTH LINE FOR 650.11 FEET TO A POINT ON THE EAST LINE OF THE SOUTHEAST 1/4 OF SAID SECTION 13; THENCE NORTH 00°16'45" WEST ALONG SAID EAST LINE FOR 1324.84 FEET TO THE POINT OF BEGINNING.

LESS AND EXCEPTING THE FOLLOWING DESCRIBED PARCEL:

A PORTION OF THE NORTHWEST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 13, TOWNSHIP 55 SOUTH, RANGE 40 EAST, MIAMI-DADE COUNTY, FLORIDA, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

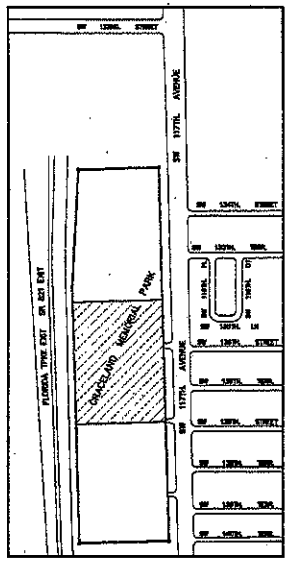
COMMENCE AT THE SOUTHWEST CORNER OF SAID SOUTHWEST 1/4 OF SECTION 13; THENCE SOUTH 89°46'39" EAST ALONG THE SOUTH LINE OF SAID SOUTHWEST 1/4 OF SECTION 13 FOR A DISTANCE OF 650.11 FEET; THENCE NORTH 00°16'45" WEST FOR 1324.84 FEET TO A POINT ON THE NORTH LINE OF THE SOUTH 1/2 OF THE NORTHEAST 1/4 OF THE SOUTHEAST 1/4 OF SAID SECTION 13; THENCE NORTH 89°46'39" EAST ALONG SAID NORTH LINE FOR 50.00 FEET TO A POINT ON A LINE 50 FEET EAST, MEASURED AT RIGHT ANGLES TO, THE WEST LINE OF THE SOUTHEAST 1/4 OF SAID SECTION 13; THENCE SOUTH 00°16'45" EAST ALONG SAID LINE 50 FEET EAST OF AND PARALLEL TO THE WEST LINE OF THE SOUTHEAST 1/4 OF SECTION 13 FOR A DISTANCE OF 1324.84 FEET TO A POINT ON THE SOUTH LINE OF THE SOUTHEAST 1/4 OF SECTION 13; THENCE SOUTH 89°46'39" WEST ALONG SAID SOUTH LINE FOR 50.00 FEET TO THE POINT OF BEGINNING.

**PROJECT DATA:**

| DESCRIPTION | AREA | % OF COVERAGE / LOT AREA | BUILDING CUBIC CONTENT | REMARKS |
|---|---|---|---|---|
| ZONING DISTRICT: GU (INTERIM DISTRICT) | | | | |
| GROSS AREA | N/A | | | |
| LESS: | 30,455 SF. | | | |
| NET AREA | 1,289,669 SF. | 100 % | | |
| BUILDING AREA DESCRIPTION | | | | |
| BUILDING No. 1 (EXISTING MAUSOLEUM) | 7,977 SF. | | 39,889 CF | |
| BUILDING No. 2 (EXISTING FIRST FLOOR MAUSOLEUM) | 14,700 SF. | | 277,230 CF | |
| BUILDING No. 3 (EXISTING FIRST FLOOR MAUSOLEUM) | 13,864 SF. | | 266,168 CF | |
| BUILDING No. 4 (EXISTING MAINTENANCE BUILDING) | 1,400 SF. | | 13,650 CF | |
| BUILDING No. 5 (NEW OFFICES) | 3,349 SF. | | 33,490 CF | |
| SUBTOTAL BUILDING COVERAGE AREA (EXISTING) | 35,618 SF. | 1.45 % | 799,427 CF | |
| SUBTOTAL BUILDING COVERAGE AREA (PROPOSED) | 3,349 SF. | 0.01 % | 33,490 CF | |
| TOTAL BUILDING COVERAGE AREA (EXISTING & NEW) | 38,967 SF. | 1.34 % | 832,917 CF | |
| LOT COVERAGE REQUIRED (%) | | 15 % | | |
| IMPERVIOUS AREA (EXISTING) | 66,749 SF. | 4.84 % | | INCLUDING ROADS, SIDEWALKS & BUILDINGS |
| IMPERVIOUS AREA (NEW) | 73,642 SF. | 5.13 % | | INCLUDING ROADS, SIDEWALKS & BUILDINGS |
| PERVIOUS AREA (EXISTING) | 1,429,886 SF. | 94.66 % | | |
| PERVIOUS AREA (NEW) | 1,446,884 SF. | 91.66 % | | |
| MAXIMUM BUILDING HEIGHT | 35'-0" (MAX.) | | | |

**PARKING CALCULATIONS** (BASED ON AREAS)

| DESCRIPTION | (SF) | REQ. PARKING SPACES | | REMARKS |
|---|---|---|---|---|
| NEW OFFICES | 3,349 SF | 1/300 SF | 12 SPACES | |
| | | | | |
| TOTAL OF PARKING REQUIRED | | | 12 SPACES | |
| | | | | |
| TOTAL OF EXISTING PARKING SPACES ON SITE | | | 17 SPACES | |
| TOTAL OF NEW PARKING SPACES | | | 27 SPACES | |
| TOTAL OF PARKING PROVIDED | | | 44 SPACES | |
| REMARKS | | | | |




LOCATION SKETCH - KEY PLAN

GOMEZ ASSOCIATES ARCHITECTS P.A.
Architecture
Engineering
Interior Architecture
4681 N.W. 103rd AVE.
SUNRISE
FLORIDA 33351
PH.: (954) 748-5177
FAX: (954) 746-5178
Email: agomez05@aol.com

DO NOT SCALE DRAWINGS. DRAWINGS SHOWN MUST ALL DIMENSIONS AND CONDITIONS ON SITE AND NOTIFY ARCHITECT IN WRITING OF ANY VARIATIONS BEFORE STARTING CONSTRUCTION.

SITE PLAN

PROPOSED OFFICES BUILDING FOR GRACELAND MEMORIAL PARK
13900 SW 117th AVENUE MIAMI FLORIDA 33353

Seal
Alberto F. Gomez
AR-0004164

RECEIVED
DEC 13 2010
ZONING HEARINGS SECTION
MIAMI-DADE PLANNING AND ZONING DEPT.

Lic. No
AR 0004164
ST OF FLORIDA

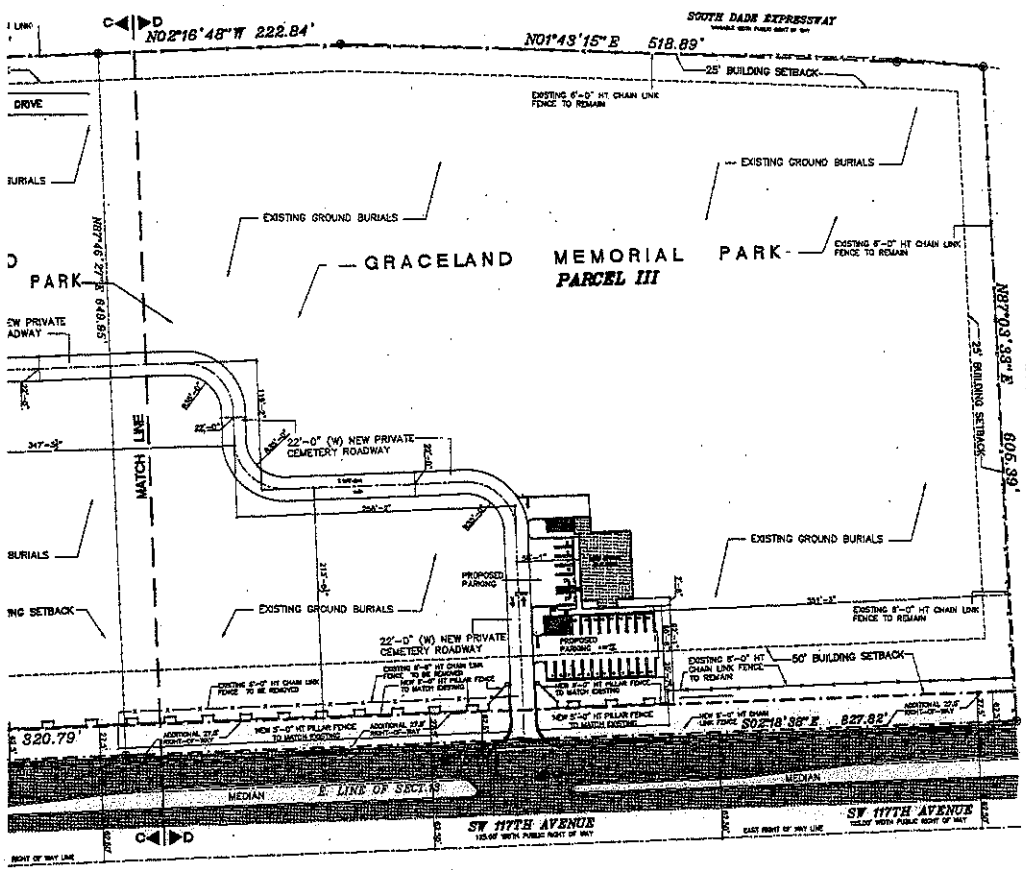
| Revisions: | | |
|---|---|---|
| No. | Date | By |
| 1 | 05-05-10 | JP |
| 2 | 07-22-10 | JP |
| 3 | 08-07-10 | JP |
| 4 | 09-27-10 | JP |
| 5 | 11-11-10 | JP |
| 6 | | |

Date: 12-28-09
Drawn: JP
Approved: AG
Project N°: 2009-04

SP1.02

OF 5

36




SITE PLAN 'D-D' (NORTH AREA)
SCALE: 1"=50'

**PROJECT DATA:**

| DESCRIPTION | AREA | % OF COVERAGE LOT (MAX) | BUILDING CURB CONTENT | REMARKS |
|---|---|---|---|---|
| ZONING DISTRICT: GU (INTERIM DISTRICT) | | | | |
| GROSS AREA | N/A | | | |
| ACRES | 20.02 AC. | | | |
| NET AREA | 1,000,000 SF. | 100 % | | |
| BUILDING AREAS DESCRIPTION | | | | |
| BUILDING No. 1 (EXISTING MAUSOLEUM) | 1,977 SF. | | 36,000 CF | |
| BUILDING No. 2 (EXISTING FIRST FLOOR MAUSOLEUM) | 18,700 SF | | 377,700 CF | |
| BUILDING No. 3 (EXISTING FIRST FLOOR MAUSOLEUM) | 11,800 SF. | | 349,100 CF | |
| BUILDING No. 4 (EXISTING MAINTENANCE BUILDING) | 1,300 SF. | | 20,000 CF | |
| BUILDING No. 5 (NEW OFFICES) | 3,349 SF. | | 33,400 CF | |
| SUBTOTAL BUILDINGS COVERAGE AREA (EXISTING) | 36,816 SF. | 1.83 % | 796,427 CF | |
| SUBTOTAL BUILDINGS COVERAGE AREA (PROPOSED) | 3,349 SF. | 0.31 % | 33,400 CF | |
| TOTAL BUILDINGS COVERAGE AREA (EXISTING & NEW) | 39,164 SF. | 1.94 % | 819,817 CF | |
| LOT COVERAGE REQUIRED (X) | | 10 % | | |
| IMPERVIOUS AREA (EXISTING) | 63,140 SF. | 3.14 % | | INCLUDING ROADS, SIDEWALKS & BUILDINGS |
| IMPERVIOUS AREA (NEW) | 126,482 SF. | 6.18 % | | INCLUDING ROADS, SIDEWALKS & BUILDINGS |
| PERVIOUS AREA (EXISTING) | 1,470,980 SF. | 94.88 % | | |
| PERVIOUS AREA (NEW) | 1,440,664 SF. | 91.82 % | | |
| MAXIMUM BUILDING HEIGHT | 35'-0" (MAX.) | | | |

**PARKING CALCULATIONS** (BASED ON AREAS)

| DESCRIPTION | (SF) | REQ. PARKING SPACES | | REMARKS |
|---|---|---|---|---|
| NEW OFFICES | 3,349 SF | 1/300 SF | 12 SPACES | |
| | | | | |
| TOTAL OF PARKING REQUIRED | | | 12 SPACES | |
| | | | | |
| TOTAL OF EXISTING PARKING SPACES ON SITE | | | 17 SPACES | |
| TOTAL OF NEW PARKING SPACES | | | 27 SPACES | |
| TOTAL OF PARKING PROVIDED | | | 44 SPACES | |
| REMARKS | | | | |

**LEGAL DESCRIPTION**

PARCEL I
PARCEL

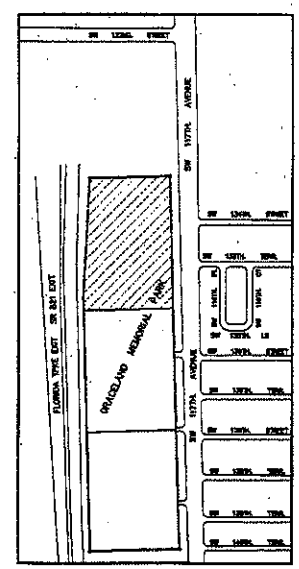
ALL OF THOSEBRIG CEMETERY OF PARADISE MEMORIAL GARDENS" ACCORDING TO THE MAP OR PLAT THEREOF AS RECORDED IN PLAT BOOK 82, PAGE 36, OF THE PUBLIC RECORDS OF MIAMI-DADE COUNTY, FLORIDA, ALSO DESCRIBED AS:
A PORTION OF THE NORTHEAST 1/4 OF THE NORTHEAST 1/4 OF SECTION 13, TOWNSHIP 56 SOUTH, RANGE 39 EAST, MIAMI-DADE COUNTY, FLORIDA, MORE PARTICULARLY DESCRIBED AS FOLLOWS:
COMMENCE AT THE NORTHEAST CORNER OF SECTION 13, TOWNSHIP 56 SOUTH, RANGE 39 EAST, MIAMI-DADE COUNTY, FLORIDA; THENCE RUN SOUTH 00° 14' 00" EAST ALONG THE EAST LINE OF THE NORTHEAST 1/4 OF SAID SECTION 13 FOR A DISTANCE OF 1,000.00 FEET TO THE SOUTHEAST CORNER OF THE NORTHEAST 1/4 OF THE NORTHEAST 1/4 OF SAID SECTION 13; THENCE RUN SOUTH 89° 45' 00" WEST ALONG THE SOUTH LINE OF THE NORTHEAST 1/4 OF THE NORTHEAST 1/4 OF SAID SECTION 13 FOR A DISTANCE OF 50.00 FEET TO A POINT ON SAID WESTERLY RIGHT-OF-WAY LINE OF SW 117TH AVENUE (EXISTING 50' RIGHT-OF-WAY), SAID POINT BEING THE POINT OF BEGINNING; THENCE CONTINUE SOUTH 89° 45' 00" WEST ALONG THE SOUTH LINE OF THE NORTHEAST 1/4 OF THE NORTHEAST 1/4 OF SAID SECTION 13 FOR A DISTANCE OF 1,000.00 FEET TO A POINT ON THE EASTERLY RIGHT-OF-WAY LINE OF THE WEST BANK EXPRESSWAY (STATE ROAD 826); THENCE RUN NORTH 00° 16' 48" WEST ALONG THE EASTERLY RIGHT-OF-WAY LINE OF THE WEST BANK EXPRESSWAY (STATE ROAD 826) FOR A DISTANCE OF 222.84 FEET; THENCE RUN NORTH 01° 43' 15" EAST ALONG THE EASTERLY RIGHT-OF-WAY LINE OF THE WEST BANK EXPRESSWAY (STATE ROAD 826) FOR A DISTANCE OF 518.89 FEET TO A POINT OF INTERSECTION WITH THE NORTH LINE OF THE NORTH 1/2 OF THE NORTHEAST 1/4 OF SAID NORTHEAST 1/4 OF SECTION 13; THENCE RUN NORTH 89° 45' 00" EAST ALONG THE NORTH LINE OF THE NORTH 1/2 OF THE NORTHEAST 1/4 OF SAID NORTHEAST 1/4 OF SECTION 13 FOR A DISTANCE OF 1,000.00 FEET TO THE EAST LINE OF THE NORTHEAST 1/4 OF SAID NORTHEAST 1/4 OF SECTION 13; THENCE RUN SOUTH 00° 14' 00" EAST ALONG THE EAST LINE OF THE NORTHEAST 1/4 OF SAID NORTHEAST 1/4 OF SECTION 13 FOR A DISTANCE OF 1,000.00 FEET TO THE POINT OF BEGINNING.

PARCEL II
PARCEL

A PORTION OF THE SOUTHEAST 1/4 OF SECTION 13 AND A PORTION OF THE NORTH 1/2 OF THE NORTHEAST 1/4 OF THE NORTHEAST 1/4 OF SECTION 24, ALL IN TOWNSHIP 56 SOUTH, RANGE 39 EAST, MIAMI-DADE COUNTY, FLORIDA, MORE PARTICULARLY DESCRIBED AS FOLLOWS:
COMMENCE AT THE NORTHEAST CORNER OF SAID SECTION 24; THENCE RUN SOUTH 89° 45' 00" WEST ALONG THE NORTH LINE OF SAID SECTION 24 FOR A DISTANCE OF 1,000.00 FEET TO THE POINT OF INTERSECTION OF THE NORTH LINE OF SAID SECTION 24 WITH THE EAST LINE OF THE NORTHEAST 1/4 OF THE NORTHEAST 1/4 OF SAID SECTION 24; THENCE RUN SOUTH 00° 14' 00" EAST ALONG THE EAST LINE OF THE NORTHEAST 1/4 OF THE NORTHEAST 1/4 OF SAID SECTION 24 FOR A DISTANCE OF 1,000.00 FEET TO THE POINT OF BEGINNING OF THE TRACT OF LAND HEREIN FOR DESCRIBED;
THENCE SOUTH 00° 14' 00" EAST ALONG SAID WEST RIGHT-OF-WAY LINE OF SW 117TH AVENUE FOR 2,000.00 FEET; THENCE SOUTH 89° 45' 00" WEST FOR 2,640.00 FEET ALONG THE SOUTH LINE OF THE NORTH 1/2 OF THE NORTHEAST 1/4 OF THE NORTHEAST 1/4 OF SAID SECTION 24, TOWNSHIP 56 SOUTH, RANGE 39 EAST, TO THE EASTERLY LIMITED ACCESS RIGHT-OF-WAY LINE OF STATE ROAD NO. 821, ALSO KNOWN AS FLORIDA'S TURNPIKE EXTENSION TO THE FLORIDA TURNPIKE; THENCE NORTH 00° 14' 34" WEST FOR 2,000.76 FEET; THENCE NORTH 00° 14' 00" WEST FOR 2,000.00 FEET ALONG SAID TWO MENTIONED COURSES BEING COINCIDENT WITH THE SAID EASTERLY LIMITED ACCESS RIGHT-OF-WAY LINE OF STATE ROAD NO. 821; THENCE NORTH 89° 45' 00" EAST FOR 2,640.00 FEET TO THE POINT OF BEGINNING, LYING AND BEING IN MIAMI-DADE COUNTY, FLORIDA.

PARCEL III
PARCEL

A PORTION OF THE SOUTHEAST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 14, TOWNSHIP 56 SOUTH, RANGE 39 EAST, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:
COMMENCE AT THE SOUTHEAST CORNER OF SAID SOUTHEAST 1/4 OF SECTION 14; THENCE RUN NORTH 00° 14' 00" WEST ALONG THE EAST LINE OF SAID SECTION 14, 30.00 FEET TO THE WEST RIGHT-OF-WAY LINE OF SW 117TH AVENUE; THENCE RUN NORTH 89° 45' 00" WEST ALONG THE SOUTH LINE OF THE SOUTHEAST 1/4 OF THE SOUTHEAST 1/4 OF SAID SECTION 14 FOR 2,640.00 FEET TO THE POINT OF BEGINNING OF THE TRACT OF LAND HEREIN AFTER DESCRIBED; THENCE SOUTH 00° 14' 00" WEST FOR 2,000.00 FEET; THENCE NORTH 89° 45' 00" WEST FOR 2,640.00 FEET TO THE EASTERLY LIMITED ACCESS RIGHT-OF-WAY LINE OF STATE ROAD NO. 821 (FLORIDA'S TURNPIKE EXTENSION); THENCE NORTHERLY ALONG SAID CURVILINEAR SURFACE TO THE RIGHT HAVING A RADIUS OF 1,004.28 FEET, DELTA 2 DEGREES 30 MINUTES 12 SECONDS FOR AN ARC DISTANCE OF 39.76 FEET TO A POINT OF SAID CURVE; SAID POINT BEING SOUTH 00° 14' 00" WEST FOR 2,000.76 FEET FROM THE NORTHEAST CORNER OF SAID SOUTHEAST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 14; THENCE NORTH 89° 45' 00" EAST FOR 2,640.00 FEET TO THE POINT OF BEGINNING, LYING AND BEING IN MIAMI-DADE COUNTY, FLORIDA.




LOCATION SKETCH - KEY PLAN
SCALE: N.T.S.

RECEIVED
DEC 13 2010
ZONING HEARINGS
MIAMI-DADE PLANNING AND ZONING DEPT.
BY

RECEIVED
DEC 13 2010


GOMEZ ASSOCIATES ARCHITECTS P.A.
Architecture
Engineering
Interior Architecture
4821 N.W. 103rd AVE.
SUNRISE
FLORIDA 33351
PH.: (954) 748-5177
FAX: (954) 748-5179
Email: ggomezassoc@aol.com


DO NOT SCALE DRAWINGS
DIMENSIONS GOVERN
VERIFY ALL DIMENSIONS AND CONDITIONS ON SITE AND NOTIFY ARCHITECT IN WRITING OF ANY VARIATIONS BEFORE STARTING CONSTRUCTION.

SITE PLAN

PROPOSED OFFICES BUILDING FOR
GRACELAND MEMORIAL PARK
13900 SW 117th AVENUE MIAMI FLORIDA 33853

Seal
Alberto F. Gomez
Lic. N : AR-0004164

Lic. No
AA 0001495
EB 0004771

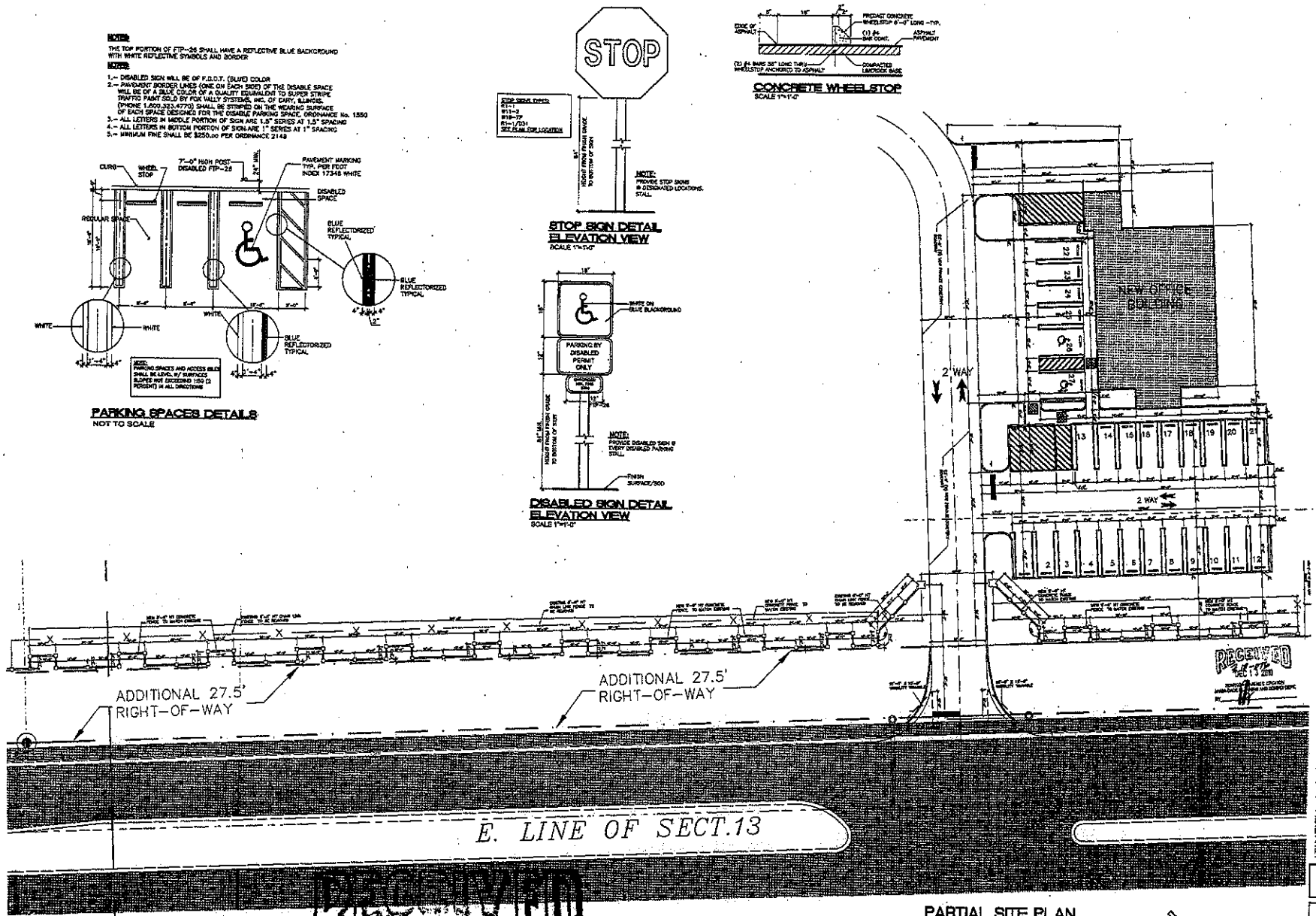
| Revisions | | |
|---|---|---|
| No. | Date | By |
| 1 | 05-05-10 | JP |
| 2 | 07-22-10 | JP |
| 3 | 08-07-10 | JP |
| 4 | 09-27-10 | JP |
| 5 | 11-11-10 | JP |
| 6 | | |

Date: 12-28-09
Drawn: JP
Approved: AG
Project N°: 2009-04

SP1.03

OF 5

37




PARTIAL SITE PLAN
AT PROPOSED OFFICE
SCALE: 1/16"=1'-0"

RECEIVED
E6-076
DEC 13 2010
ZONING H... N
MIAMI-DADE PL...NG AND ZONING DEPT.
BY

GOMEZ ASSOCIATES ARCHITECTS P.A.
Architecture
Engineering
Interior Architecture

4621 N.W. 103rd AVE.
SUNRISE
FLORIDA 33351
PH.: (954) 746-5177
FAX: (954) 746-5179
Email: agomez96@aol.com

DO NOT SCALE DRAWINGS
DIMENSIONS GOVERN
VERIFY ALL DIMENSIONS AND CONDITIONS ON SITE AND NOTIFY ARCHITECT IN WRITING OF ANY VARIATIONS BEFORE STARTING CONSTRUCTION.

OFFICES PARKING PLAN
PROPOSED OFFICES BUILDING FOR
GRACELAND MEMORIAL PARK
13900 SW 117th AVENUE MIAMI FLORIDA 33853

Seal
Alberto F. Gomez
Lic. N : AR-0004164

Lic. No
AA 0001695
SP 0004773

Revisions

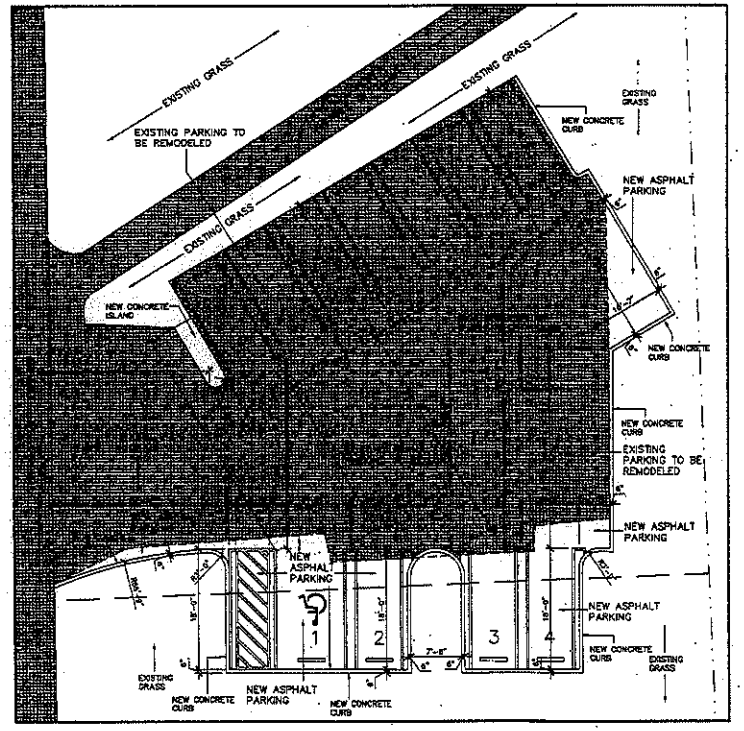
| No. | Date | By |
|---|---|---|
| 1 | 05-05-10 | JP |
| 2 | 07-22-10 | JP |
| 3 | 08-07-10 | JP |
| 4 | 09-27-10 | JP |
| 5 | 11-11-10 | JP |
| | | |

Date: 12-28-09
Drawn: JP
Approved: AC
Project N°: 2009-04

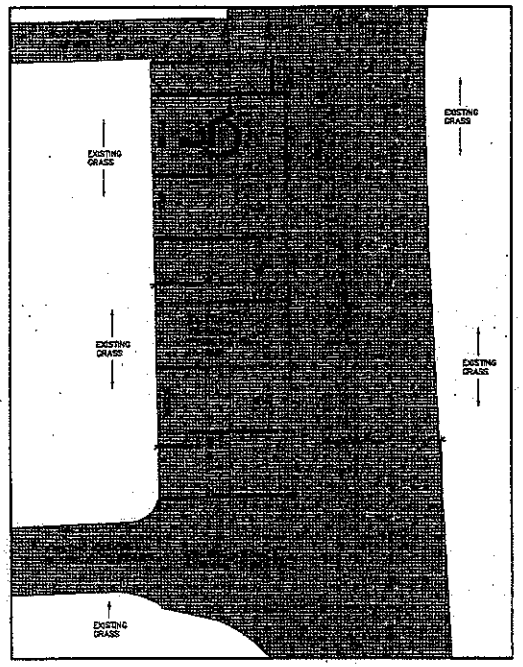
SP1.04

OF 5

38




PARTIAL PARKING LAYOUT 'A'
EXISTING PARKING TO BE REMODELED SCALE: 1/8"=1'-0"



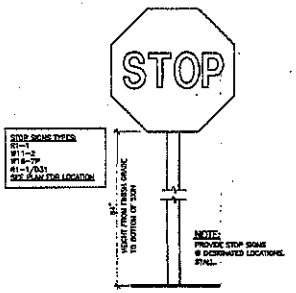

PARTIAL PARKING LAYOUT 'B'
EXISTING PARKING AT BUILDING No.1 SCALE: 1/8"=1'-0"

NOTES:

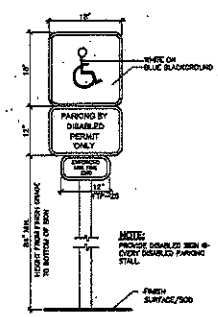
THE TOP PORTION OF FTP-26 SHALL HAVE A REFLECTIVE BLUE BACKGROUND WITH WHITE REFLECTIVE SYMBOLS AND BORDER

NOTES:

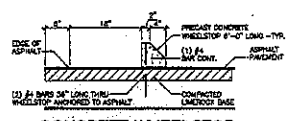
1.- DISABLED SIGN WILL BE OF F.D.O.T. (BLUE) COLOR
2.- PAVEMENT BORDER LINES (ONE ON EACH SIDE) OF THE DISABLE SPACE WILL BE OF A BLUE COLOR OF A QUALITY EQUIVALENT TO SUPER STRIPE TRAFFIC PAINT SOLD BY FOX VALLY SYSTEMS, INC. OF CARY, ILLINOIS. (PHONE 1.800.323.4770) SHALL BE STRIPED ON THE WEARING SURFACE OF EACH SPACE DESIGNED FOR THE DISABLE PARKING SPACE. ORDNANCE No. 1550
3.- ALL LETTERS IN MIDDLE PORTION OF SIGN ARE 1.5" SERIES AT 1.5" SPACING
4.- ALL LETTERS IN BOTTOM PORTION OF SIGN ARE 1" SERIES AT 1" SPACING
5.- MINIMUM FINE SHALL BE $250.00 PER ORDNANCE 2149



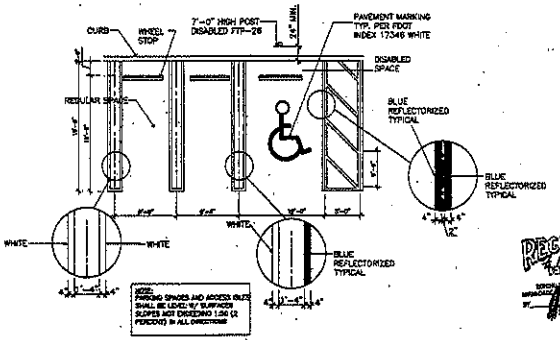

STOP SIGN DETAIL ELEVATION VIEW
SCALE 1"=1'-0"




DISABLED SIGN DETAIL ELEVATION VIEW
SCALE 1"=1'-0"




CONCRETE WHEELSTOP
SCALE 1"=1'-0"




PARKING SPACES DETAILS
NOT TO SCALE

RECEIVED
DEC 13 2010
ZONING HEARINGS SECTION
MIAMI-DADE PLANNING AND ZONING DEPT.
BY

RECEIVED
DEC 13 2010


GOMEZ ASSOCIATES ARCHITECTS P.A.
Architecture
Engineering
Interior Architecture
4821 N.W. 103rd AVE.
SUNRISE
FLORIDA 33351
PH.: (954) 748-5177
FAX: (954) 748-5179
Email: agomez@gmail.com


DO NOT SCALE DRAWINGS DIMENSIONS GOVERN VERIFY ALL DIMENSIONS AND CONDITIONS ON SITE AND NOTIFY ARCHITECT IN WRITING OF ANY VARIATIONS BEFORE STARTING CONSTRUCTION.

PARTIAL PARKING LAYOUT 'A - B'

PROPOSED OFFICES BUILDING FOR
GRACELAND MEMORIAL PARK
13900 SW 117th AVENUE MIAMI FLORIDA 33853

Seal
Alberto F. Gomez
Lic. N : AR-0004164

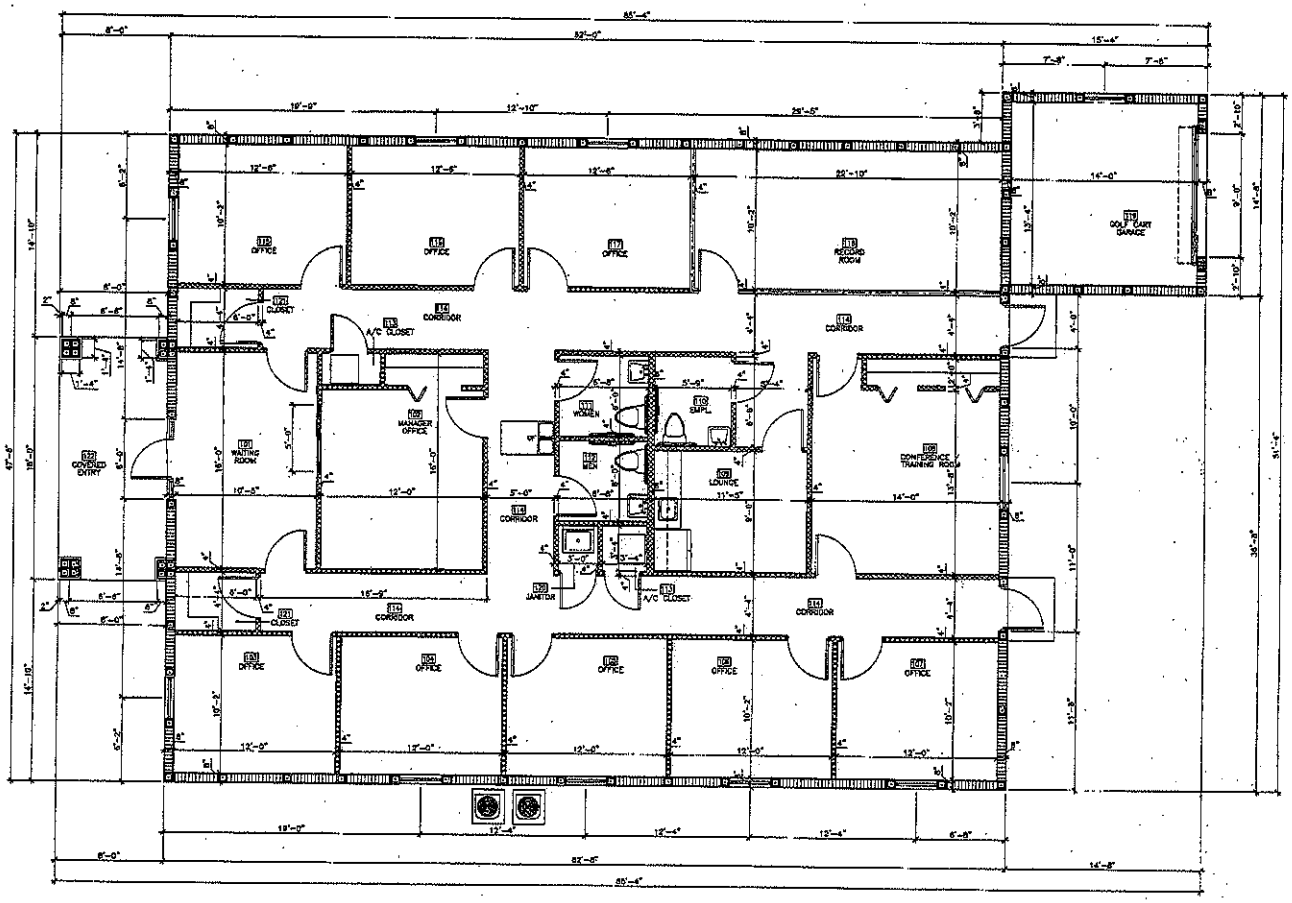
Lic. No
AA 0001565
BB 0006771

| Revisions | | |
|---|---|---|
| No. | Date | By |
| 1 | 05-05-10 | JP |
| 2 | 07-22-10 | JP |
| 3 | 08-07-10 | JP |
| 4 | 09-27-10 | JP |
| | | |
| | | |

Date: 12-28-09
Drawn: JP
Approved: AG
Project N°: 2009-04

SP1.05

OF 5




FLOOR PLAN
OFFICES
SCALE: 1/4"=1'-0"

| BUILDING AREAS | |
|---|---|
| FLOOR AREA (A/C) | 2,089 SF |
| GOLF CART GARAGE | 225 SF |
| COVERED ENTRY | 144 SF |
| TOTAL | 2,349 SF |
| REMARKS | |

RECEIVED
DEC 13 2010
ZONING HEARINGS SECTION
MIAMI-DADE PLANNING AND ZONING DEPT.
BY

RECEIVED
DEC 13 2010
ZONING HEARINGS SECTION
MIAMI-DADE PLANNING AND ZONING DEPT.
BY

GOMEZ ASSOCIATES ARCHITECTS P.A.
Architecture
Engineering
Interior Architecture
14521 N.W. 103rd AVE.
HIALEAH
FLORIDA 33551
TEL: (954) 748-5177
FAX: (954) 748-5179
Email: agomez80@aol.com

DO NOT SCALE DRAWINGS
CHECKING DOWN
VERIFY ALL DIMENSIONS AND CONDITIONS ON SITE AND NOTIFY ARCHITECT IN WRITING OF ANY VARIATIONS BEFORE STARTING CONSTRUCTION.

OFFICES FLOOR PLAN

PROPOSED OFFICES BUILDING FOR
GRACELAND MEMORIAL PARK
13900 SW 117th AVENUE MIAMI FLORIDA 33653

Seal
Alberto F. Gomez
Lic. N : AR-0004164

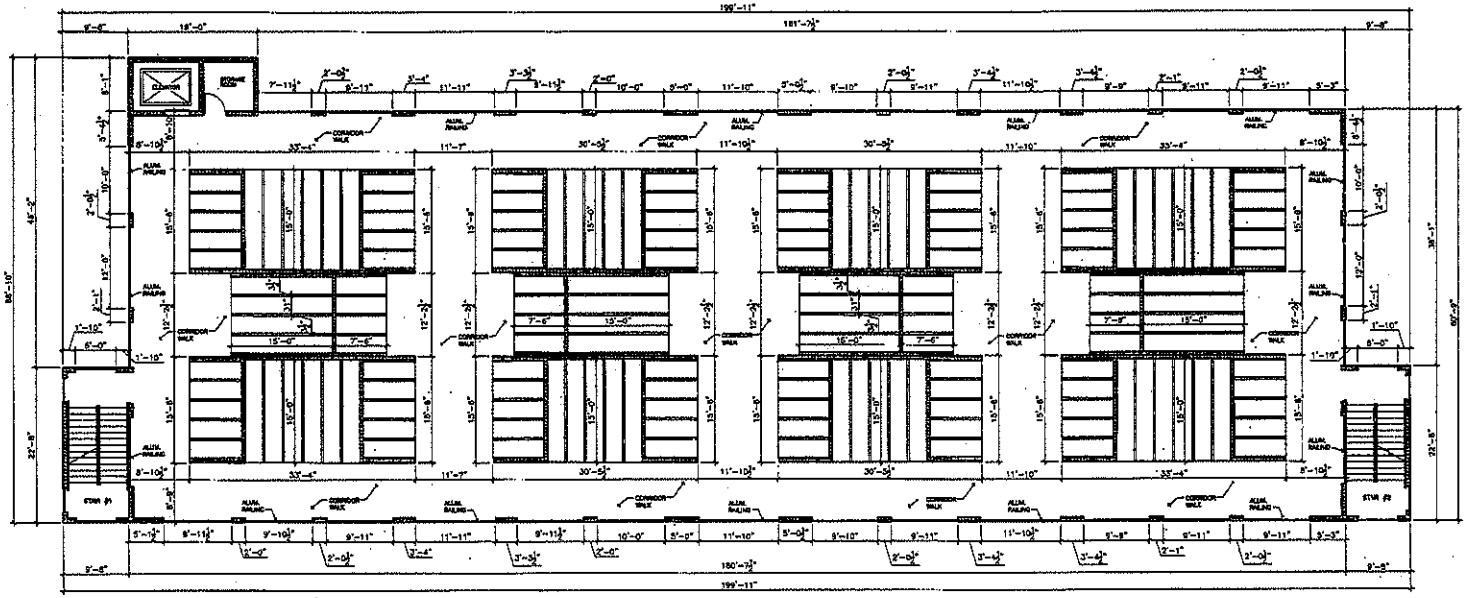
Lic. No
AA 0004164
ME 0004771

| Revisions | | |
|---|---|---|
| No. | Date | By |
| 1 | 05-05-10 | JP |
| 2 | 07-22-10 | JP |
| 3 | 08-07-10 | JP |
| 4 | 08-27-10 | JP |
| 5 | 11-11-10 | JP |
| 6 | | |

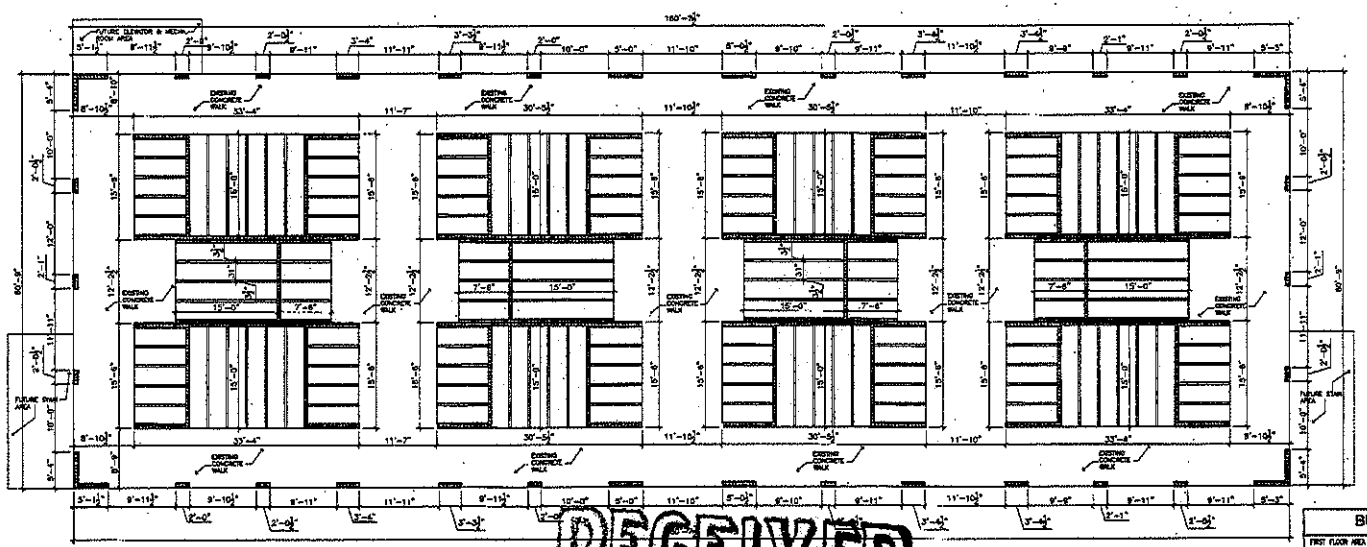
Date 10-16-09
Drawn: JP
Approved: AG
Project N°: 2009-46

A1.01

OF 6



SECOND FLOOR PLAN - BUILDING 3
FUTURE SECOND FLOOR (MAUSOLEUM) SCALE: 1/8"=1'-0"



FIRST FLOOR PLAN - BUILDING 3
EXISTING FIRST FLOOR (MAUSOLEUM) SCALE: 1/8"=1'-0"

| BUILDING 3 AREAS | |
|---|---|
| FIRST FLOOR AREA (BUILDING FOOT PRINT) | 11,384 SF |
| SECOND FLOOR AREA | 10,972 SF |
| TOTAL | 22,356 SF |
| REMARKS | |

RECEIVED
DEC 13 2010
ZONING HEARINGS SECTION
MIAMI-DADE PLANNING AND ZONING DEPT.
BY

RECEIVED
DEC 13 2010
ZONING HEARINGS SECTION
MIAMI-DADE PLANNING AND ZONING DEPT.
BY

GOMEZ ASSOCIATES
ARCHITECTS P.A.
Architecture
Engineering
Interior Architecture
4621 N.W. 103rd AVE.
DORADO
FLORIDA 33551
TEL: (954) 748-5177
FAX: (954) 748-5178
Email: agomez60@aol.com

DO NOT SCALE DRAWINGS CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS ON SITE AND NOTIFY ARCHITECT IN WRITING OF ANY VARIATIONS BEFORE STARTING CONSTRUCTION.

FIRST & SECOND FLOOR PLANS - BUILDING 3
PROPOSED OFFICES BUILDING FOR
GRACELAND MEMORIAL PARK
13900 SW 117th AVENUE MIAMI FLORIDA 33653

Seal
Alberto F. Gomez
Lic. N : AR-0004164

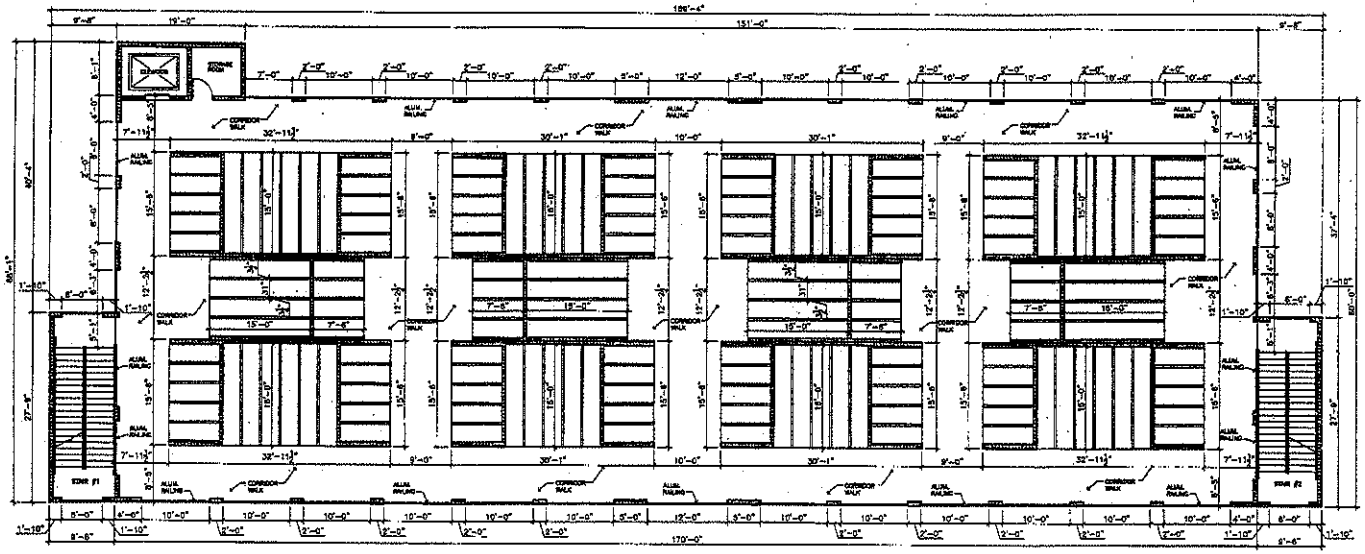
Lic. No
AA 0001695

| Revisions | | |
|---|---|---|
| No. | Date | By |
| 1 | 06-07-10 | JP |
| 2 | 09-27-10 | JP |
| 3 | | |
| 4 | | |
| 5 | | |
| 6 | | |

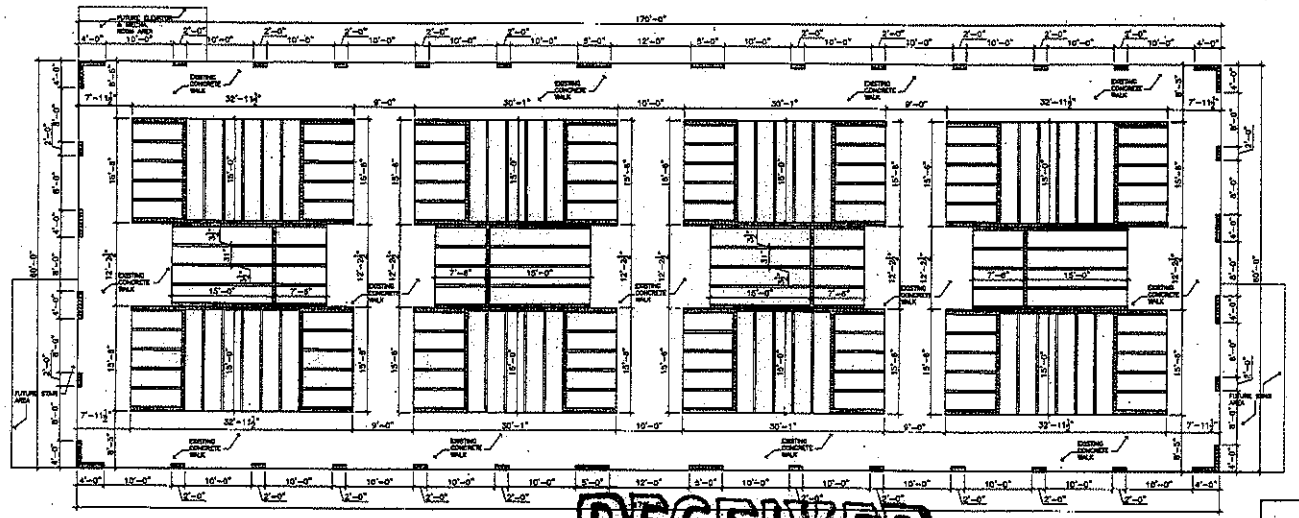
Date: 10-15-09
Drawn: JP
Approved: AG
Project N°: 2009-46

A1.03

OF 6



SECOND FLOOR PLAN - BUILDING 2
FUTURE SECOND FLOOR (MAUSOLEUM) SCALE: 1/8"=1'-0"



FIRST FLOOR PLAN - BUILDING 2
EXISTING FIRST FLOOR (MAUSOLEUM) SCALE: 1/8"=1'-0"

RECEIVED
DEC 13 2010
ZONING HEARINGS SECTION
MIAMI-DADE PLANNING AND ZONING DEPT.
BY

| BUILDING 2 AREAS | |
|---|---|
| FIRST FLOOR AREA (BUILDING FOOT PRINT) | 19,700 SF |
| SECOND FLOOR AREA | 19,200 SF |
| TOTAL | 29,002 SF |
| REMARKS | |

RECEIVED
DEC 13 2010


GOMEZ ASSOCIATES ARCHITECTS P.A.
Architecture
Engineering
Interior Architecture

4821 N.W. 103rd AVE.
SUNRISE
FLORIDA 33351
PH.: (954) 746-5177
FAX: (954) 746-5179
Email: agomez65@aol.com


DO NOT SCALE DRAWINGS
DIMENSIONS GOVERN
VERIFY ALL DIMENSIONS AND CONDITIONS ON SITE AND NOTIFY ARCHITECT IN WRITING OF ANY VARIATIONS BEFORE STARTING CONSTRUCTION.

FIRST & SECOND FLOOR PLANS - BUILDING 2

PROPOSED OFFICES BUILDING FOR
GRACELAND MEMORIAL PARK
13900 SW 117th AVENUE MIAMI FLORIDA 33853

Seal
Alberto F. Gomez
Lic. N : AR-0004184

Lic. No
AA 0001865

12/13/10

| Revisions | | |
|---|---|---|
| No. | Date | By |
| 3 | 08-07-10 | JP |
| 4 | 09-27-10 | JP |

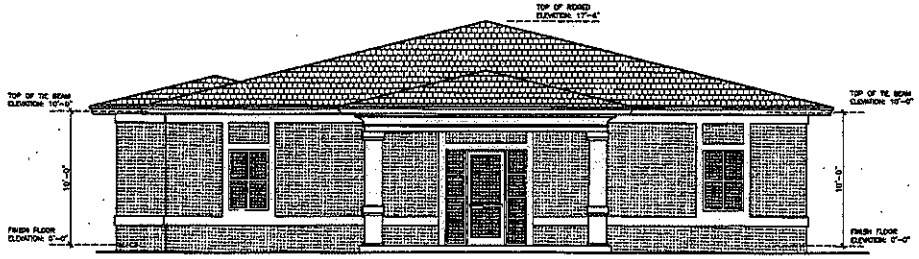
Date: 10-16-09
Drawn: JP
Approved: AC
Project N°: 2009-46

A1.04

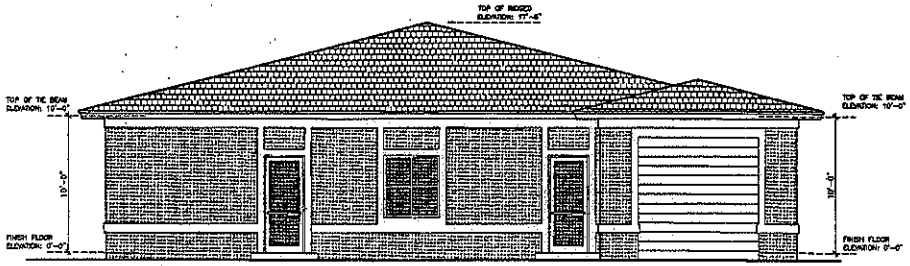
OF 6

42

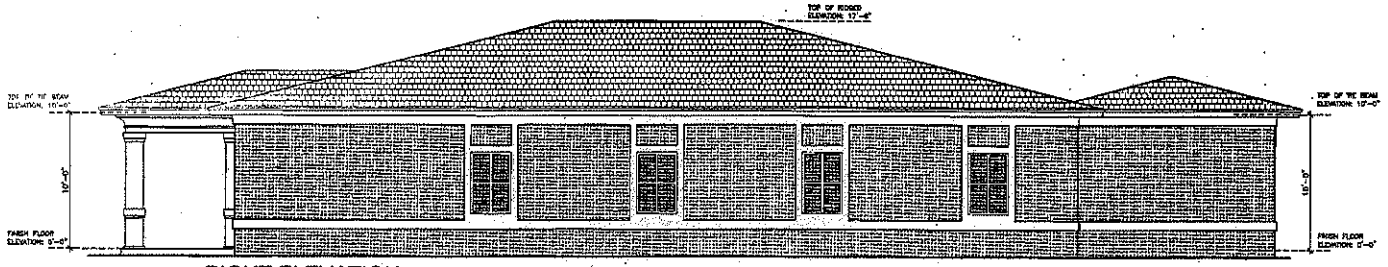
RECEIVED
MIAMI-DADE COUNTY



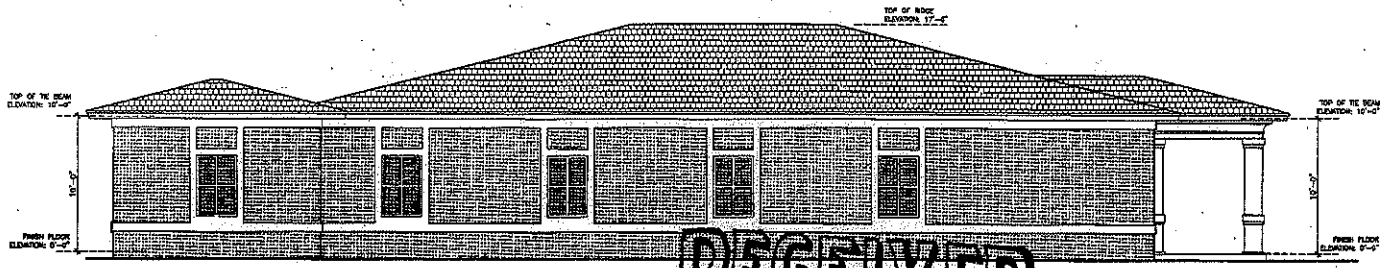

FRONT ELEVATION
OFFICES SCALE 1/4"=1'-0"




REAR ELEVATION
OFFICES SCALE 1/4"=1'-0"




RIGHT ELEVATION
OFFICES SCALE 1/4"=1'-0"




LEFT ELEVATION
OFFICES SCALE 1/4"=1'-0"

RECEIVED
DEC 13 2010
ZONING HEARING
MIAMI-DADE PLANNING AND ZONING DEPT.

RECEIVED
DEC 13 2010


GOMEZ ASSOCIATES ARCHITECTS P.A.
Architecture
Engineering
Interior Architecture

4521 N.W. 102nd AVE.
SUNRISE
FLORIDA 33351
PH.: (954) 746-5177
FAX: (954) 746-5179
EmaS: agomez65@aol.com


DO NOT SCALE DRAWINGS
DIMENSIONS GOVERN
VERIFY ALL DIMENSIONS AND CONDITIONS ON SITE AND NOTIFY ARCHITECT IN WRITING OF ANY VARIATIONS BEFORE STARTING CONSTRUCTION.

OFFICE ELEVATIONS

PROPOSED OFFICES BUILDING FOR
GRACELAND MEMORIAL PARK
13900 SW 117th AVENUE MIAMI FLORIDA 33853

Seal
Alberto F. Gomez
Lic. N : AR-0004164

Lic. No
AA 0001811
CG 0006771

| Revisions | | |
|---|---|---|
| No. | Date | By |
| 1 | 05-05-10 | JP |
| 2 | 07-22-10 | JP |
| 3 | 08-07-10 | JP |
| 4 | 09-27-10 | JP |
| 5 | 11-11-10 | JP |
| | | |

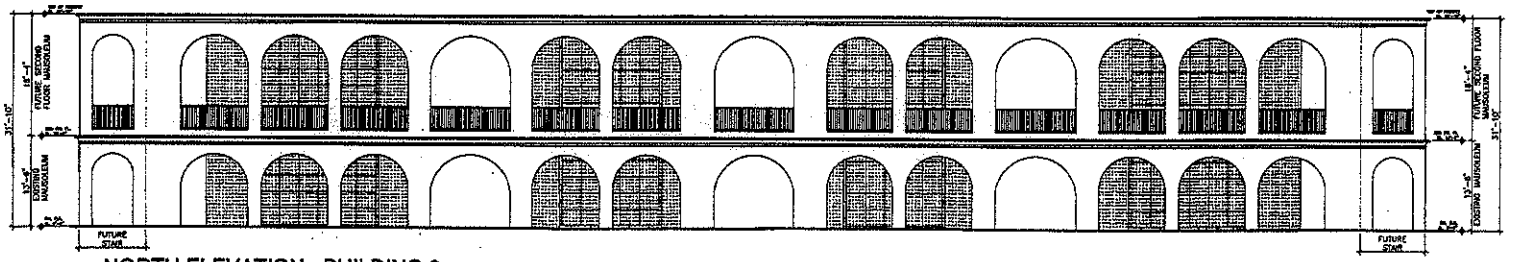
Date: 10-16-09
Drawn: JP
Approved: AG
Project N°: 2009-46

A1.02

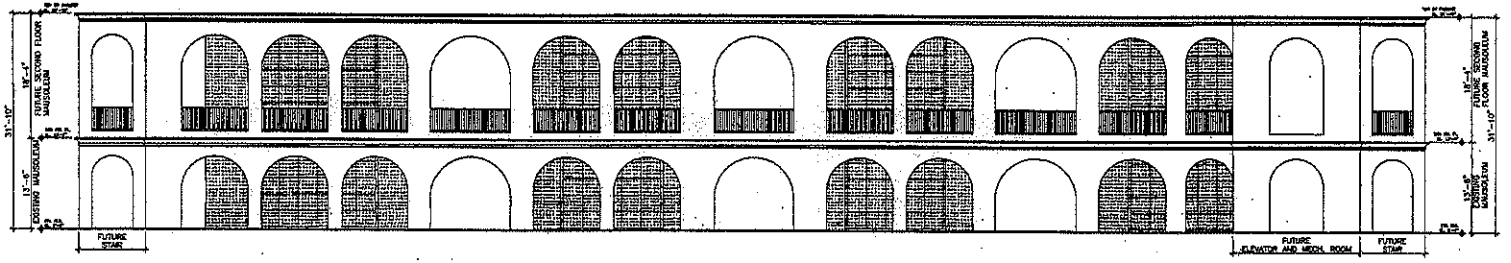
OF 6

43

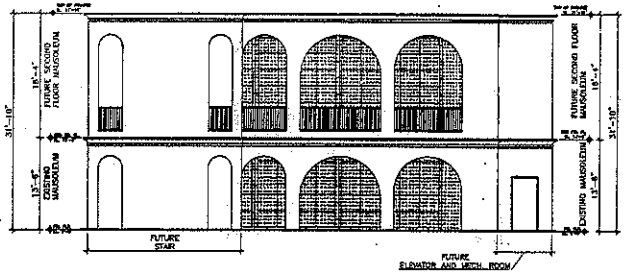
RECEIVED
MIAMI-DADE COUNTY
DIVISION OF ZONING
DATE: DEC 13 2010
BY: DAH



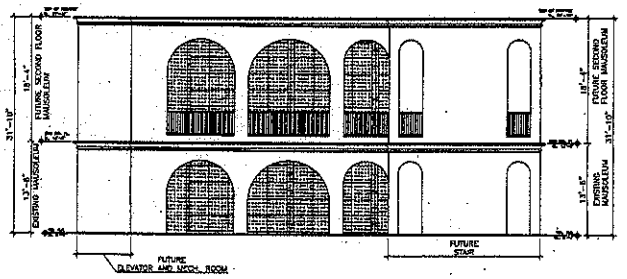

NORTH ELEVATION - BUILDING 3
FUTURE SECOND FLOOR (MAUSOLEUM) SCALE: 1/8"=1'-0"




SOUTH ELEVATION - BUILDING 3
FUTURE SECOND FLOOR (MAUSOLEUM) SCALE: 1/8"=1'-0"




WEST ELEVATION - BUILDING 3
FUTURE SECOND FLOOR (MAUSOLEUM) SCALE: 1/8"=1'-0"




EAST ELEVATION - BUILDING 3
FUTURE SECOND FLOOR (MAUSOLEUM) SCALE: 1/8"=1'-0"

RECEIVED
Z10-076
DEC 13 2010
ZONING HEARINGS SECTION
MIAMI-DADE PLANNING AND ZONING DEPT.
BY

RECEIVED
DEC 13 2010


GOMEZ ASSOCIATES ARCHITECTS P.A.
Architecture
Engineering
Interior Architecture
4621 N.W. 103rd AVE.
SUNRISE
FLORIDA 33351
PH.: (954) 746-5177
FAX: (954) 746-5179
Email: agomez65@aol.com


DO NOT SCALE DRAWINGS
DIMENSIONS COVERN
VERIFY ALL DIMENSIONS AND
CONDITIONS ON SITE AND NOTIFY
ARCHITECT IN WRITING OF ANY
VARIATIONS BEFORE STARTING
CONSTRUCTION.

ELEVATION PLANS - BUILDING 3

PROPOSED OFFICES BUILDING FOR
GRACELAND MEMORIAL PARK
13900 SW 117th AVENUE MIAMI FLORIDA 33653

Seal
Alberto F. Gomez
Lic. N : AR-0004164

Lic. No
AA 0001693

Revisions

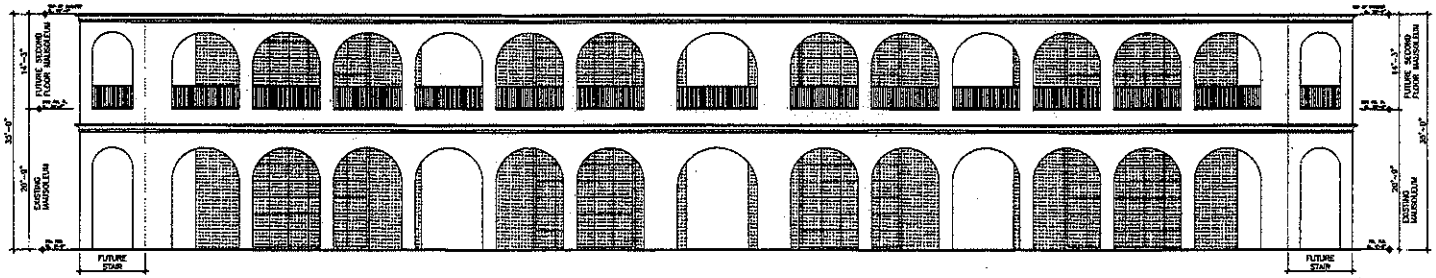
| No. | Date | By |
|---|---|---|
| 3 | 08-07-10 | JP |
| 4 | 09-27-10 | JP |

Date: 10-16-09
Drawn: JP
Approved: AG
Project N°: 2009-46

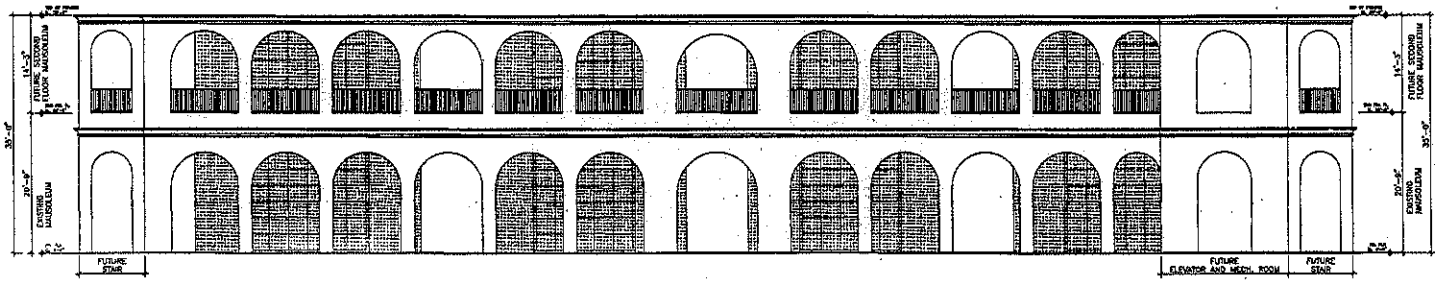
A1.05

OF 6

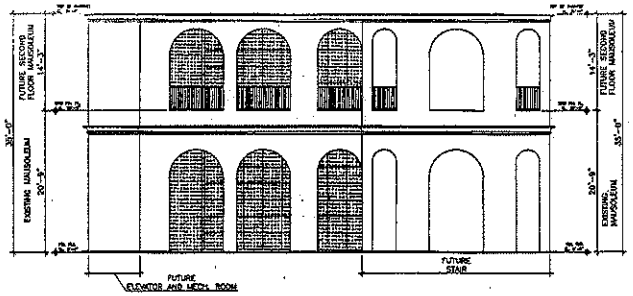
RECEIVED
MIAMI-DADE COUNTY
DEPT. OF PLANNING & ZONING
DATE RECEIVED
BY:



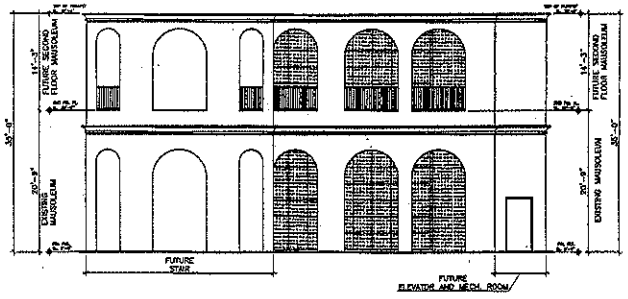

NORTH ELEVATION - BUILDING 2
FUTURE SECOND FLOOR (MAUSOLEUM) SCALE: 1/8"=1'-0"




SOUTH ELEVATION - BUILDING 2
FUTURE SECOND FLOOR (MAUSOLEUM) SCALE: 1/8"=1'-0"




EAST ELEVATION - BUILDING 2
FUTURE SECOND FLOOR (MAUSOLEUM) SCALE: 1/8"=1'-0"




WEST ELEVATION - BUILDING 2
FUTURE SECOND FLOOR (MAUSOLEUM) SCALE: 1/8"=1'-0"

RECEIVED
Ap-07-10
DEC 13 2010
ZONING HEARINGS
MIAMI-DADE PLANNING AND ZONING DEPT.
BY

GOMEZ ASSOCIATES ARCHITECTS P.A.
Architecture
Engineering
Interior Architecture
4861 N.W. 103rd AVE.
SUNRISE
FLORIDA 33351
TEL: (954) 748-9177
FAX: (954) 748-9179
Email: agomez56@aol.com

DO NOT SCALE DRAWINGS CHECK AND VERIFY ALL DIMENSIONS AND CONDITIONS ON SITE AND NOTIFY ARCHITECT IN WRITING OF ANY VARIATIONS BEFORE STARTING CONSTRUCTION.

ELEVATION PLANS - BUILDING 2

PROPOSED OFFICES BUILDING FOR
GRACELAND MEMORIAL PARK
13900 SW 117th AVENUE MIAMI FLORIDA 33653

Seal
Alberto F. Gomez
Lic. N : AR-0004164

Lic. No.
AA 0001695

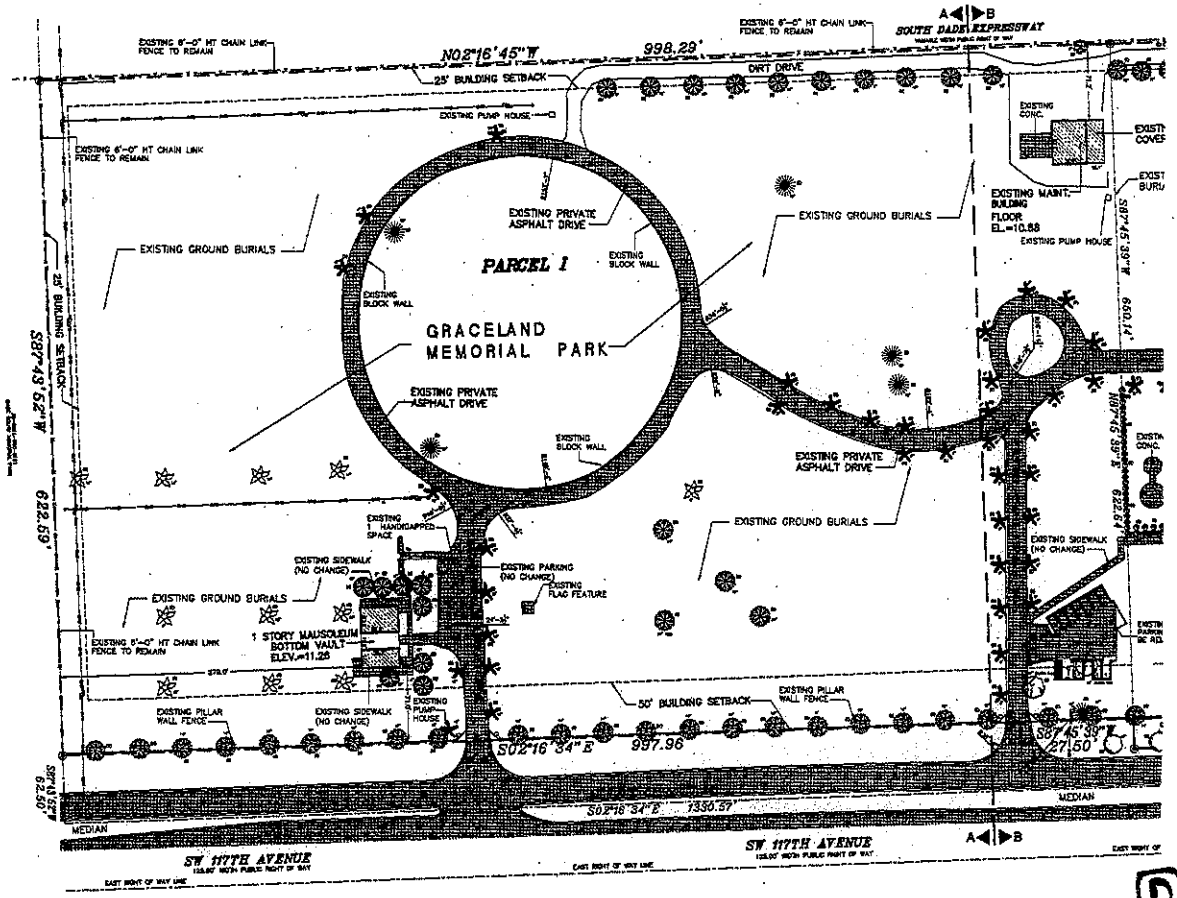
| Revisions | | |
|---|---|---|
| No. | Date | By |
| 1 | 08-07-10 | JP |
| 2 | 09-27-10 | JP |
| | | |
| | | |
| | | |
| | | |

Date: 10-15-09
Drawn: JP
Approved: AG
Project N°: 2009-46

A1.06

OF 6

45




LANDSCAPE PLAN 'A-A' (SOUTH AREA)

SCALE: 1"=50'

## LANDSCAPE MATERIALS LIST (NEW)

| SYMBOL | SCIENTIFIC NAME | | COMMON NAME | NATIVE | SPECIFICATIONS |
|---|---|---|---|---|---|
| | TREES AND PALMS | | | | |
| | SABAL PALME | | CABBAGE PALM | YES | |
| | QUERCUS VIRGINIANA | | LIVE OAK | YES | 4" CALIP. – 16' HT |
| | SHRUBS AND EXOTICS | | | | |
| | CHRYSOBALANUS IDACO | | COCOPLUM | YES | 3 GAL., 24" O.A. |
| STREET TREES | EXISTING TREES: 43 | TOTAL: 75 TREES | LIVE OAK | YES | 4" CALIP. – 12' HIGH AT TIME OF PLANTING STREET TREES AT 35'-0" O.C. MAX |
| | NEW TREES: 32 | | | | |

N NEW ITEM
E EXISTING ITEM TO REMAIN
R EXISTING ITEM TO BE REMOVED
EL EXISTING ITEM TO BE RELOCATED
NOTE: STREET TREES SHALL BE PLANTED 35'-0" O.C. MAX

## LANDSCAPE MATERIALS LIST (EXISTING)

| SYMBOL | COMMON NAME | REMARKS |
|---|---|---|
| | PALM TREE | |
| | PINE TREE | |
| | OAK TREE | |
| | BAY TREE | |
| | OLIVE TREE | |
| | CHINA BERRY TREE | |
| | HEDGE | |

## LANDSCAPE DATA

| DESCRIPTIONS | REQUIRED | PROVIDED | REMARKS | |
|---|---|---|---|---|
| STREET TREES | | | | |
| 2,480 LF / 35 O.C. = 71 TREES | 71 | 75 | PROVIDED | EXISTING 43 TREES |
| | | | | NEW 32 TREES |
| STREET TREES SPECIFICATIONS | | | | |
| 4" CALIP. – 12' HIGH AT TIME OF PLANTING | | | | |
| STREET TREES AT 35'-0" O.C. MAX | | | | |


GOMEZ ASSOCIATES ARCHITECTS P.A.
Architecture
Engineering
Interior Architecture
4861 N.W. 103rd AVE.
SUNRISE
FLORIDA 33351
PH.: (954) 746-5177
FAX: (954) 746-5179
Email: agomez55@aol.com


DO NOT SCALE DRAWINGS DIMENSIONS GOVERN
VERIFY ALL DIMENSIONS AND CONDITIONS ON SITE AND NOTIFY ARCHITECT IN WRITING OF ANY VARIATIONS BEFORE STARTING CONSTRUCTION.

# LANDSCAPE PLAN

## PROPOSED OFFICES BUILDING FOR GRACELAND MEMORIAL PARK

13900 SW 117th AVENUE MIAMI FLORIDA 33953

Seal
Alberto F. Gomez
Lic. N : AR-0004164

Lic. No
AA 0001695
EB 0004771

| Revisions | | |
|---|---|---|
| No. | Date | By |
| 1 | 05-05-10 | JP |
| 2 | 07-22-10 | JP |
| 3 | 08-07-10 | JP |
| 4 | 09-27-10 | JP |
| 5 | 11-11-10 | JP |
| | | |

Date: 12-28-09
Drawn: JP
Approved: AG
Project N°: 2009-04

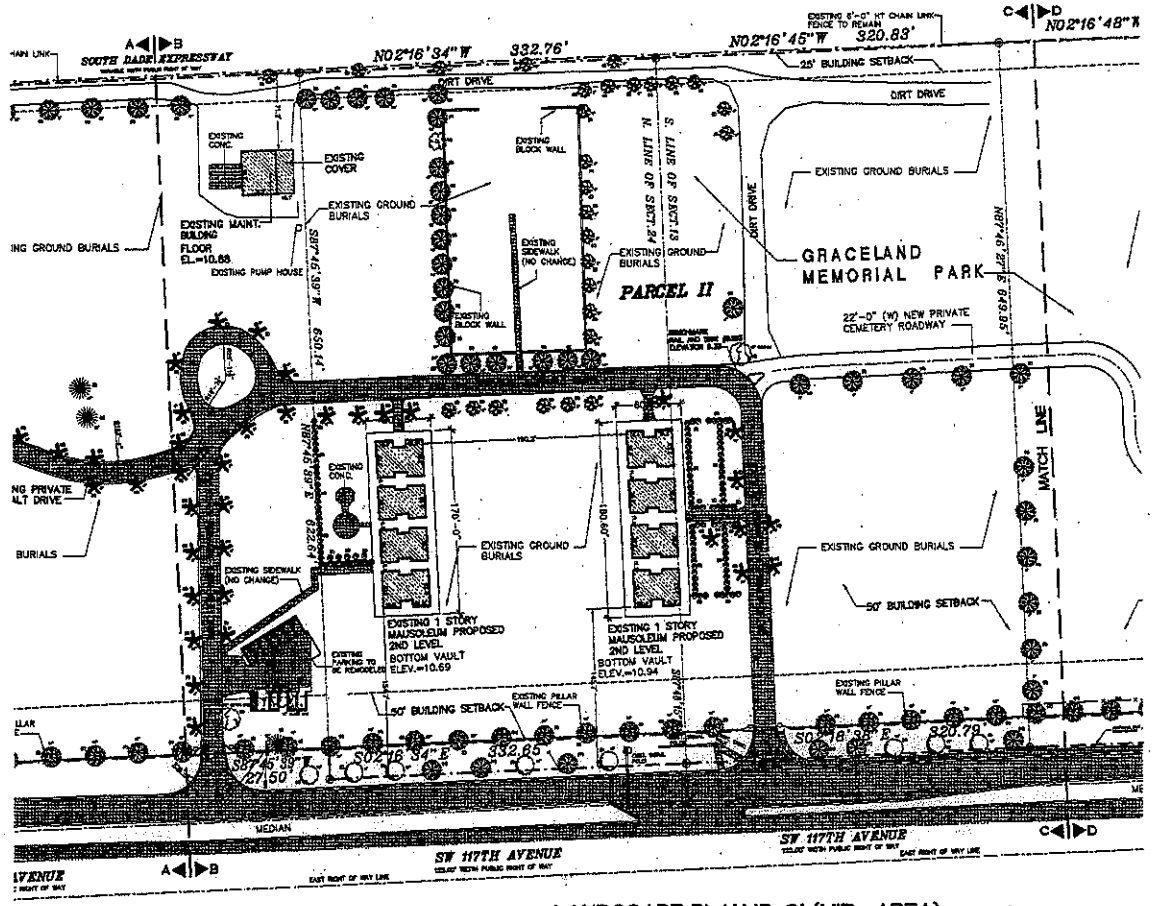
LP1.01

OF 4

RECEIVED
DEC 13 2010
ZONING HEARINGS SECTION
MIAMI-DADE PLANNING AND ZONING DEPT

RECEIVED
DEC 13 2010

46




LANDSCAPE PLAN 'B-C' (MID- AREA)
SCALE: 1"=50'

## LANDSCAPE MATERIALS LIST (NEW)

| SYMBOL | SCIENTIFIC NAME | COMMON NAME | NOTE | SPECIFICATIONS |
|---|---|---|---|---|
| | TREES AND PALMS | | | |
| | SABAL PALMS | CABBAGE PALM | YES | |
| | QUERCUS VIRGINIANA | LIVE OAK | YES | 4" CALIP. - 15' HT |
| | SHRUBS AND EXOTICS | | | |
| | CHRYSOBALANUS ICACO | COCOPLUM | YES | 3 GAL., 24" O.A. |
| STREET TREES | EXISTING TREES: 43 / NEW TREES: 32 — TOTAL: 75 TREES | LIVE OAK | YES | 4" CALIP. - 12' HIGH AT TIME OF PLANTING STREET TREES AT 35'-0" O.C. MAX |

N NEW ITEM
E EXISTING ITEM TO REMAIN
R EXISTING ITEM TO BE REMOVED
EL EXISTING ITEM TO BE RELOCATED
NOTE: STREET TREES SHALL BE PLANTED 35'-0" O.C. MAX.

## LANDSCAPE MATERIALS LIST (EXISTING)

| SYMBOL | COMMON NAME | REMARKS |
|---|---|---|
| | PALM TREE | |
| | PINE TREE | |
| | OAK TREE | |
| | BAY TREE | |
| | OLIVE TREE | |
| | CHINNA BERRY TREE | |
| | HEDGE | |

## LANDSCAPE DATA

| DESCRIPTIONS | REQUIRED | PROVIDED | REMARKS |
|---|---|---|---|
| STREET TREES | | | |
| 2,480 LF / 35 O.C. = 71 TREES | 71 | 75 | PROVIDED: EXISTING 43 TREES; NEW 32 TREES |
| STREET TREES SPECIFICATIONS | | | |
| 4" CALIP. - 12' HIGH AT TIME OF PLANTING | | | |
| STREET TREES AT 35'-0" O.C. MAX | | | |


GOMEZ ASSOCIATES ARCHITECTS P.A.
Architecture
Engineering
Interior Architecture
4821 N.W. 103rd AVE.
SUNRISE
FLORIDA 33351
PH.: (954) 748-5177
FAX: (954) 748-5179
Email: agomez65@aol.com


DO NOT SCALE DRAWINGS
EMERGENCY GOVERN
VERIFY ALL DIMENSIONS AND CONDITIONS ON SITE AND NOTIFY ARCHITECT IN WRITING OF ANY VARIATIONS BEFORE STARTING CONSTRUCTION.

# LANDSCAPE PLAN

PROPOSED OFFICES BUILDING FOR
GRACELAND MEMORIAL PARK
13900 SW 117th AVENUE MIAMI FLORIDA 33853

Seal
Alberto F. Gomez
Lic. N : AR-0004164

Lic. No
AA 0001895
ER 0006771

Revisions

| No. | Date | By |
|---|---|---|
| 1 | 05-05-10 | JP |
| 2 | 07-22-10 | JP |
| 3 | 08-07-10 | JP |
| 4 | 09-27-10 | JP |
| 5 | 11-11-10 | JP |

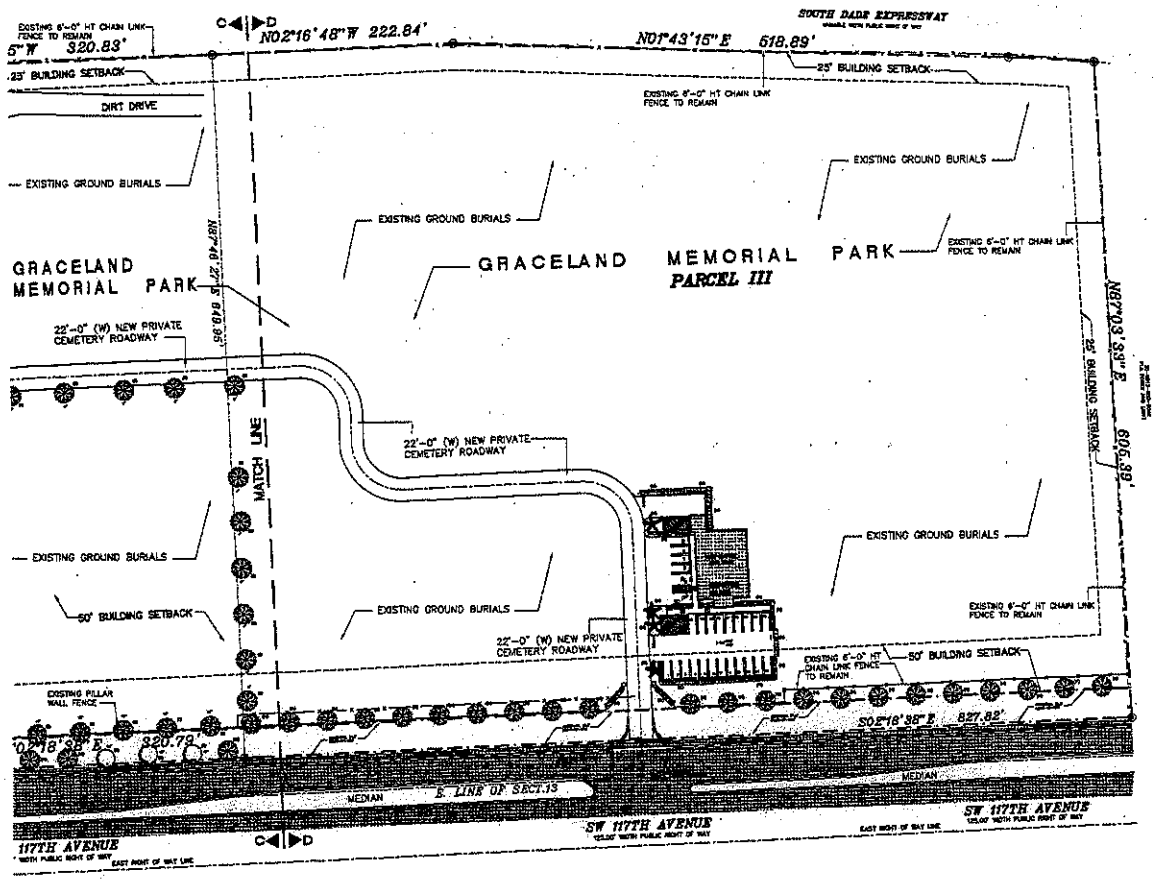
Date: 12-28-09
Drawn: JP
Approved: AG
Project N°: 2009-04

LP1.02

OF 4

RECEIVED
DEC 13 2010
HEARINGS SECTION
PLANNING AND ZONING DEPT.

RECEIVED
DEC 13 2010




LANDSCAPE PLAN 'D-D' (NORTH AREA)
SCALE: 1"=50'

## LANDSCAPE MATERIALS LIST (NEW)

| SYMBOL | SCIENTIFIC NAME | COMMON NAME | NATIVE | SPECIFICATIONS |
|---|---|---|---|---|
| | TREES AND PALMS | | | |
| | SABAL PALMS | CABBAGE PALM | YES | |
| | QUERCUS VIRGINIANA | LIVE OAK | YES | 4" CALIP. – 15' HT |
| | SHRUBS AND EXOTICS | | | |
| | CHRYSOBALANUS ICACO | COCOPLUM | YES | 3 GAL., 24" O.A. |
| STREET TREES | EXISTING TREES: 43 / NEW TREES: 32 — TOTAL: 75 TREES | LIVE OAK | YES | 4" CALIP. – 12' HIGH AT TIME OF PLANTING STREET TREES AT 35'-0" O.C. MAX |

N NEW ITEM
E EXISTING ITEM TO REMAIN
R EXISTING ITEM TO BE REMOVED
EL EXISTING ITEM TO BE RELOCATED
NOTE: STREET TREES SHALL BE PLANTED 35'-0" O.C. MAX

## LANDSCAPE MATERIALS LIST (EXISTING)

| SYMBOL | COMMON NAME | REMARKS |
|---|---|---|
| | PALM TREE | |
| | PINE TREE | |
| | OAK TREE | |
| | BAY TREE | |
| | OLIVE TREE | |
| | CHINNA BERRY TREE | |
| | HEDGE | |

## LANDSCAPE DATA

| DESCRIPTIONS | REQUIRED | PROVIDED | REMARKS |
|---|---|---|---|
| STREET TREES | | | |
| 2,480 LF / 35 O.C. = 71 TREES | 71 | 75 | PROVIDED: EXISTING 43 TREES; NEW 32 TREES |
| STREET TREES SPECIFICATIONS | | | |
| 4" CALIP. – 12' HIGH AT TIME OF PLANTING | | | |
| STREET TREES AT 35'-0" O.C. MAX | | | |

RECEIVED
ZD-076
DEC 13 2010
HEARINGS SECTION
PLANNING AND ZONING D.

RECEIVED
DEC 13 2010
ZONING HEARINGS SECTION
MAIN CAGE PLANNING AND ZONING DEPT.


GOMEZ ASSOCIATES ARCHITECTS P.A.
Architecture
Engineering
Interior Architecture
4621 N.W. 102nd AVE.
SUNRISE
FLORIDA 33351
PH.: (954) 748-6177
FAX: (954) 748-6179
Email: agomez65@aol.com


DO NOT SCALE DRAWINGS
DIMENSIONS CONSTRAINT
VERIFY ALL DIMENSIONS AND CONDITIONS ON SITE AND NOTIFY ARCHITECT IN WRITING OF ANY VARIATIONS BEFORE STARTING CONSTRUCTION.

# LANDSCAPE PLAN

PROPOSED OFFICES BUILDING FOR
GRACELAND MEMORIAL PARK
13900 SW 117th AVENUE MIAMI FLORIDA 33853

Seal
Alberto F. Gomez
Lic. N : AR-0004164

Lic. No
AA 0001695
BB 0004771

Revisions

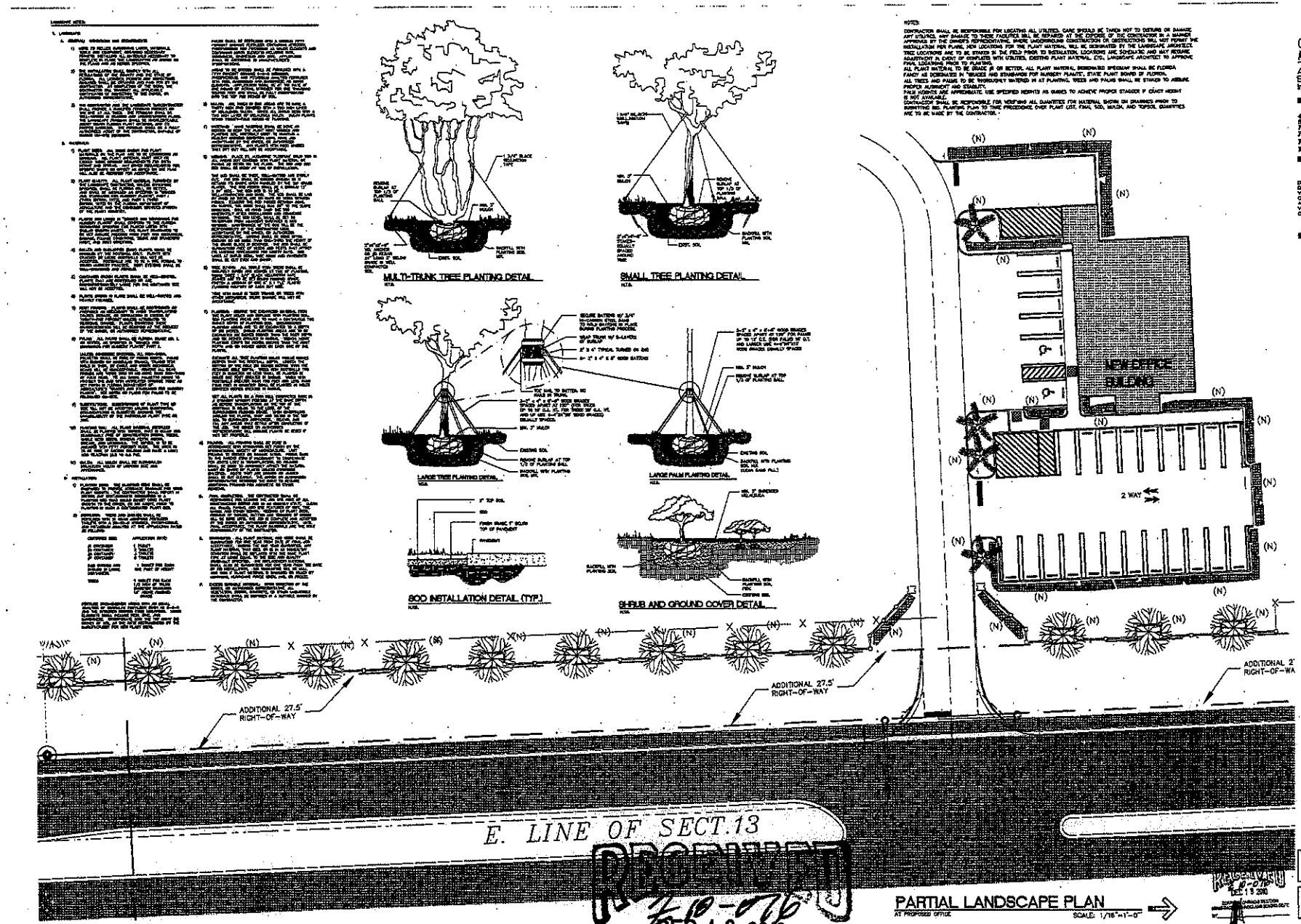
| No. | Date | By |
|---|---|---|
| 1 | 05-05-10 | JP |
| 2 | 07-22-10 | JP |
| 3 | 08-07-10 | JP |
| 4 | 09-27-10 | JP |
| 5 | 11-11-10 | JP |
| | | |

Date: 12-28-09
Drawn: JP
Approved: AG
Project N°: 2009-04

LP1.03

OF 4

47




RECEIVED
DEC 13 2010
ZONING HEARINGS SECTION
MIAMI-DADE PLANNING AND ZONING DEPT.
BY

GOMEZ ASSOCIATES ARCHITECTS P.A.
Architecture
Engineering
Interior Architecture

4521 N.W. 103rd AVE.
SUNRISE
FLORIDA 33351
TEL: (954) 748-0177
FAX: (954) 748-5179
Email: agomez66@aol.com

DO NOT SCALE DRAWINGS
DIMENSIONS GOVERN
VERIFY ALL DIMENSIONS AND CONDITIONS ON SITE AND NOTIFY ARCHITECT IN WRITING OF ANY VARIATIONS BEFORE STARTING CONSTRUCTION.

PARTIAL LANDSCAPE PLAN
PROPOSED OFFICES BUILDING FOR
GRACELAND MEMORIAL PARK
13900 SW 117th AVENUE MIAMI FLORIDA 33653

Seal
Alberto F. Gomez
Lic. N : AR-0004164

Lic. No
AR 0001872
BR 0006771

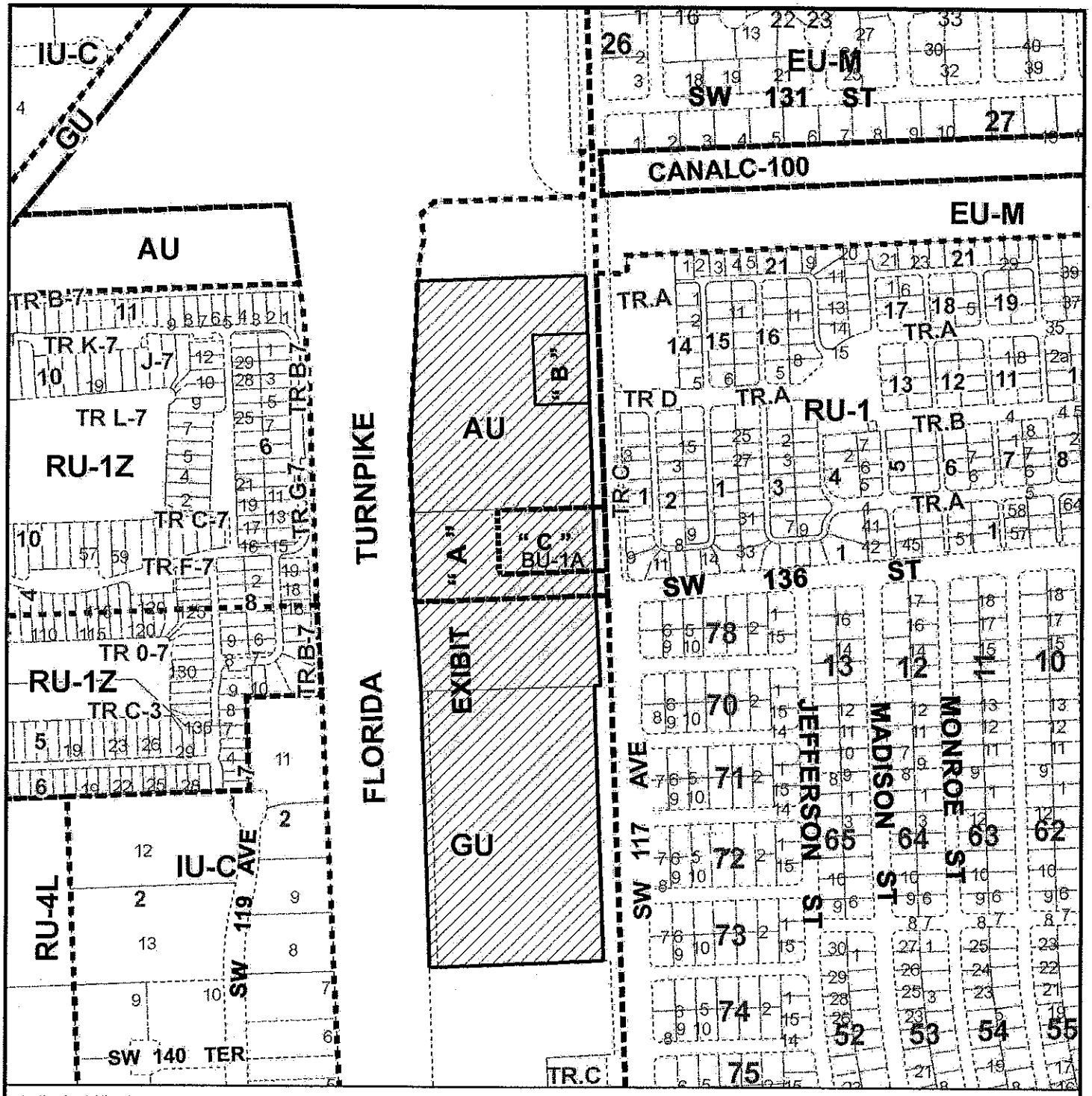
Revisions

| No. | Date | By |
|---|---|---|
| 1 | 05-05-10 | JP |
| 2 | 07-22-10 | JP |
| 3 | 08-07-10 | JP |
| 4 | 09-27-10 | JP |
| 5 | 11-11-10 | JP |

Date: 12-28-09
Drawn: JP
Approved: AG
Project N°: 2009-04

LP1.04

OF 4




# MIAMI-DADE COUNTY

**HEARING MAP**

**Process Number**

## Z2010000076

**Section: 24/13 Township: 55 Range: 39**
**Applicant: NORTHSTAR GRACELAND, LLC**
**Zoning Board: BCC**
**Commission District: 9/8**
**Drafter ID: JEFFER GURDIAN**
**Scale: NTS**

**Legend**

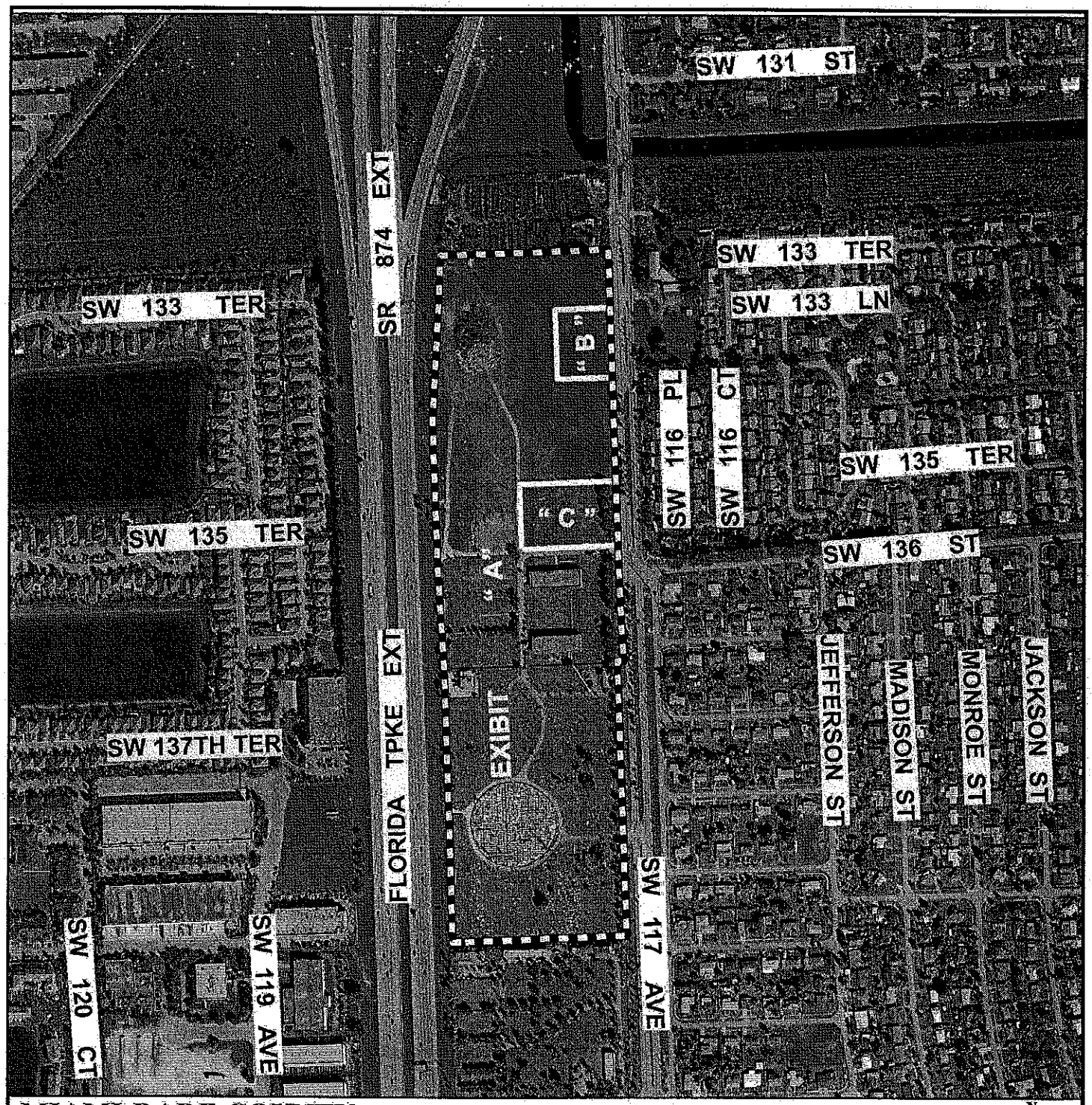
Subject Property Case

Zoning

MIAMI-DADE COUNTY

**SKETCH CREATED ON: Tuesday, June 22, 2010**

| REVISION | DATE | BY |
|---|---|---|
| | | 49 |




# MIAMI-DADE COUNTY

**AERIAL YEAR 2009**

**Process Number**

## Z2010000076

**Legend**

Subject Property

N
W E
S

**Section: 24/13 Township: 55 Range: 39**
**Applicant: NORTHSTAR GRACELAND, LLC**
**Zoning Board: BCC**
**Commission District: 9/8**
**Drafter ID: JEFFER GURDIAN**
**Scale: NTS**

MIAMI-DADE COUNTY

**SKETCH CREATED ON: Tuesday, June 22, 2010**

| REVISION | DATE | BY |
|---|---|---|
| | | |

**1. ARCHIMEDEAN PROPERTIES, LLC**
**(Applicant)**

**11-6-CC-1 (08-175)**
**BCC/District 10**
**Hearing Date: 06/23/11**

Property Owner (if different from applicant) **Same.**

Is there an option to purchase ☐ / lease ☐ the property predicated on the approval of the zoning request? Yes ☐ No ☑

Disclosure of interest form attached? Yes ☑ No ☐

**Previous Zoning Hearings on the Property:**

| Year | Applicant | Request | Board | Decision |
|---|---|---|---|---|
| 1985 | Monastery of the Exaltation of the Most Holy Cross, Inc. | - Special Exception to permit a charter school.<br>- Non-Use Variance of parking.<br>- Unusual Use of entrance feature. | ZAB | Approved w/conds. |
| 1985 | Monastery of the Exaltation of the Most Holy Cross, Inc. | - Special Exception to permit a charter school.<br>- Non-Use Variance of parking.<br>- Unusual Use of entrance feature. | BCC | Appeal Approved, Application Approved |
| 1987 | Monastery of the Exaltation of the Most Holy Cross, Inc. | - Special Exception to permit a church.<br>- Unusual Use for a daycare.<br>- Non-Use Variances for parking & signage.<br>- Modification of condition of resolution. | ZAB | Approved w/conds. |
| 2005 | Archimedean Properties, LLC | - Special Exception for a Charter School. | BCC | Approved w/conds. |
| 2006 | Archimedean Properties, LLC | - Special Exception to expand the chater school.<br>- Modify & Deletion of resolution & covenant. | BCC | Approved w/conds. |
| 2009 | Archimedean Properties, LLC | - Modificatin of resolution. | BCC | Approved w/conds. |

Action taken today does not constitute a final development order, and one or more concurrency determinations will subsequently be required. Provisional determinations or listings of needed facilities made in association with this Initial Development Order shall not be binding with regard to future decisions to approve or deny an Intermediate or Final Development Order on any grounds.

**AGENDA**
**DIC EXECUTIVE COUNCIL**
**May 25, 2011**
**9:30 a.m.**
**Stephen P. Clark Center**
**12th Floor DIC Conference Room**

**ZONING**

Archimedean Properties L.L.C.
Application No. 08-175

**ADJOURN**

# Memorandum

MIAMI-DADE COUNTY

**Date:** June 23, 2011

**To:** The Board of County Commissioners

**From:** Developmental Impact Committee
Executive Council

**Subject:** Developmental Impact Committee Recommendation

---

**APPLICANT:** Archimedean Properties L.L.C. (Z08-175)

**SUMMARY OF REQUESTS:**

The applicant is seeking to permit the expansion of an existing charter school onto additional property to the northeast and to increase the maximum number of students from 800 to 1,300 (a 62% increase over previous approval). The applicant also seeks to modify conditions of previous Resolutions, as well as to delete three (3) previously recorded Declarations of Restrictions in order to submit revised plans illustrating the school expansion, to allow a total of 24 special events per year and increase the maximum number of students. Moreover, the applicant is requesting to permit special event parking on natural terrain which is not permitted by the Zoning Code.

**LOCATION:** 12425 SW 72 Street (Sunset Drive), Miami-Dade County, Florida.

**COMMENTS:**

This application went before the Developmental Impact Committee because the applicant is requesting to modify a charter school. Section 33-303.1(D)(7) of the Code of Miami-Dade County charges the Developmental Impact Committee (DIC) to address applications with respect to: (I) conformance with all applicable plans; (II) environmental impact; (III) impact on the economy; (IV) impact on essential services; and (V) impact on public transportation facilities and accessibility.

Charter schools are educational institutions which are authorized and maintained in accordance with the provisions of Chapter 1002 and Chapter 1013.35, Florida Statutes, as same may be amended from time to time. All such public charter schools shall be additionally authorized locally by the Miami-Dade County School Board through a process established by that entity for the approval of the charter. Miami-Dade Land Use regulations relating to public charter school facilities are set forth in Sections 33-152 through 162 of the Code of Miami-Dade County which was established in 2004 pursuant to Ordinance 04-108. The purpose of this Section and relevant provisions of the CDMP are to provide standards for land use approval of public charter school facilities pursuant to said Ordinance. In addition, an Interlocal Agreement with the School Board of Miami-Dade County was also established pertaining to the siting of such facilities and is applicable in the unincorporated area.

The meeting of the DIC Executive Council was held on May 25, 2011 and the attached Department memoranda were reviewed and considered by said Committee.

**DIC RECOMMENDATION:**

**Denial without prejudice.**

The Executive Council found that the development will be **incompatible** with the surrounding area and would detrimentally impact same. Additionally, the proposed application is not in keeping with the Comprehensive Development Master Plan Land Use map designation for the subject parcel and, therefore, in relation to the present and future development of the area, the approval of the charter school expansion will be **inconsistent** with the Comprehensive Development Master Plan (CDMP).

APPLICATION NO. Z08-175
ARCHIMEDEAN PROPERTIES, LLC

Respectfully Submited,

DIC Executive Council
May 25, 2011

Susanne M. Torriente
Assistant County Manager — AYE

Giovannie Ulloa, Fire Chief
Miami-Dade Fire Rescue Department — AYE

Irma San Roman, Interim Director
Metropolitan Planning Organization Secretariat — AYE

Marc C. LaFerrier, AICP, Director
Department of Planning and Zoning — AYE

Esther Calas, P.E., Director
Public Works Department — Absent

Jose Gonzalez, P.E., Assistant Director
Department of Environmental Resources Mgmt — AYE

John W. Renfrow, P.E., Director
Miami-Dade Water and Sewer Department — Absent

**DEPARTMENT OF PLANNING AND ZONING**
**RECOMMENDATION TO THE DEVELOPMENT IMPACT COMMITTEE**

**APPLICANT:** Archimedean Properties L.L.C. **PH:** Z08-175

**SECTION:** 25-54-39 **DIC DATE:** May 25, 2011

**COMMISSION DISTRICT:** 10

==========

## A. INTRODUCTION

### o SUMMARY OF REQUESTS:

The applicant is seeking to permit the expansion of an existing charter school onto additional property to the northeast and to increase the maximum number of students from 800 to 1,300 (a 62% increase over previous approval). The applicant also seeks to modify conditions of previous Resolutions, as well as to delete three (3) previously recorded Declarations of Restrictions in order to submit revised plans illustrating the school expansion, to allow a total of 24 special events per year and increase the maximum number of students. Moreover, the applicant is requesting to permit special event parking on natural terrain (130 parking spaces) which is not permitted by the Zoning Code.

### o REQUESTS:

(1)SPECIAL EXCEPTION to permit the expansion of an existing charter school onto property to the northeast.

(2) SPECIAL EXCEPTION to permit the expansion of the existing charter school from 800 students to 1,300 students in grades K-12.

(3) MODIFICATION of Condition #6 of Resolution #Z-21-09, passed and adopted by the Board of County Commissioners, and reading as follows:

FROM: "6. That the charter school use be limited to grades Kindergarten through 12th and be limited to a maximum of 800 students."

TO: "6. That the charter school use be limited to grades Kindergarten through 12th and be limited to a maximum of 1,300 students."

(4) MODIFICATION of Conditions #3, #9 and #11 of Resolution #Z-16-05, last modified by Resolution Z-21-09, passed and adopted by the Board of County Commissioners and reading as follows:

FROM: "3. That in the approval of the plan, the same be substantially in accordance with that submitted for the hearing entitled 'Archimedean Academy, Inc. Charter School Addition of Grades 9 to 12,' as prepared by Anthony E. Tzamtzis, consisting of 4 sheets dated stamped received 3/31/09."

TO: "3. The in the approval of the plan, the same be substantially in accordance with that submitted for the hearing entitled 'Archimedean Academy, Inc. Master Plan for Middle and High School Expansion,' as prepared by Anthony E. Tzamtzis, AIA, consisting of 17 sheets dated stamped received 1/10/11."

FROM: "9. That night activities and/or functions at the charter school shall be limited to 12 events per year and shall end no later than 10:00 p.m."

TO: "9. That night activities and/or special events at the charter school shall be limited to 24 events per year and shall end no later than 10:00 p.m."

FROM: "11. That the charter school use shall be limited to Grades K-8th grade for a maximum of 800 students."

TO: "11. That the charter school use shall be limited to Grades K-12th grade for a maximum of 1,300 students."

(5) MODIFICATION of Condition #2 of Resolution Z-31-06 last modified by Resolution Z-21-09 passed and adopted by the Board of County Commissioners, and reading as follows:

FROM: "2. That the charter school use shall be limited to grades K through 12th for a total of 800 students as follows:

| | | |
|---|---|---|
| Year 1 | 2006-2007 School Year | addition of 80 students (620 Students) |
| Year 2 | 2007-2008 School Year | addition of 60 students (680 Students) |
| Year 3 | 2008-2009 School Year | addition of 60 students (740 Students) |
| Year 4 | 2009-2010 School Year | addition of 60 students (800 Students)" |

TO: "2. That the charter school use shall be limited to grades K through 12th with the expansion from 800 to 1,300 students as follows:

| | | |
|---|---|---|
| Year 1 | 2011-2012 School Year | No. of permitted students 800-950 |
| Year 2 | 2012-2013 School Year | No. of permitted students 950-1100 |
| Year 3 | 2013-2014 School Year | No. of permitted students 1100-1250 |
| Year 4 | 2014-2015 School Year | No. of permitted students 1250-1300." |

(6) Deletion of three (3) Declarations of Restrictions Recorded at Official Record Book 23679, Pages 4935-4943, Official Record Book 25853, pages 4991-5006 and Official Record Book 27020, Pages 0954-972.

The purpose of requests #3 - #6 is to permit the applicant to submit revised site plans showing the expansion of the charter school onto additional property and showing additional classroom buildings, to increase the number of students, to increase the number of night activities and special events and to delete three covenants in order to submit one consolidated covenant that encompasses the entire property.

(7) Applicant is requesting to permit special event parking on natural terrain (not permitted).

The aforementioned plans are on file and may be examined in the Department of Planning and Zoning. Plans may be modified at public hearing.

- **LOCATION**: 12425 SW 72 Street (Sunset Drive), Miami-Dade County, Florida.

- **SIZE:** 12.67 Gross Acres

## B. ZONING HEARINGS HISTORY:

In 1985, pursuant to Resolution #4-ZAB-178-85, the Zoning Appeals Board (ZAB), approved a special exception to permit a private school, grades 5 through 12, including a monastery, a non-use variance of parking requirements and an unusual use to permit two entry features on a portion of the subject property. Said application was appealed to the Board of County Commissioners, which upheld the decision of the ZAB, pursuant to Resolution #Z-156-85. In 1987, pursuant to Resolution #4-ZAB-133-87, the monastery was granted a special exception to permit a church in conjunction with a monastery and school, an unusual use and special exception to permit a day care center and a modification of Resolution #Z-156-85 to permit the expansion of the previously approved school to include kindergarten through 4th grade. A non-use variance of parking requirements and sign regulations was also granted.

In 1993, a portion of the subject property was part of a larger parcel of land which was granted approval of requests to expand an existing daycare center, private school (grades K-12), church and monastery onto additional property to the west, to permit a convent and outdoor chapel as well as requests to permit 92 parking spaces (201 spaces required), 268 students and to extend the expiration date of the temporary detached sign and modular classroom buildings, pursuant to Resolution No. 4-ZAB-177-93.

In 2005, pursuant to Resolution #Z-16-05, a special exception was granted to permit a charter school for a maximum of 540 students in grades K-8th on the western portion of the subject property. Additionally, in 2006 pursuant to Resolution #Z-31-06 a special exception was granted to permit the expansion of the charter school from 540 to 800 students in grades K-8, along with modifications of conditions of Resolution #Z-16-05. In 2009, modifications of conditions of Resolutions #Z-16-05 and Z-31-06 as well as modifications of several paragraphs of previously recorded Declarations of Restrictions were granted to permit the applicant to submit revised plans showing six (6) temporary modular classrooms, to increase the grade levels and to increase the number of night activities and functions per calendar year for the Charter School, pursuant to Resolution No. Z-21-09.

## C. COMPREHENSIVE DEVELOPMENT MASTER PLAN (CDMP) OBJECTIVES, POLICIES AND INTERPRETATIVE TEXT

1. *The Adopted 2015 and 2025 Land Use Plan designates the subject property as being approximately* ***4 mile east of and within the Urban Development Boundary for Agriculture use.*** *The area designated as "Agriculture" contains the best agricultural land remaining in Miami-Dade County. As stated in the Miami-Dade County Strategic Plan, approved in 2003 by the Board of County Commissioners, protection of viable agriculture is a priority. The principal uses in this area should be agriculture, uses ancillary to and directly supportive of agriculture such as packing houses, and farm residences. Uses ancillary to, and necessary to support the rural residential community of the agricultural area may also be approved, including houses of worship; however, schools shall not be approved in Agriculture areas but should be located inside the UDB in accordance with Policy EDU-3A.*

   *In order to protect the agricultural industry, uses incompatible with agriculture, and uses and facilities that support or encourage urban development are not allowed in this area. Residential development that occurs in this area is allowed at a density of no more than one unit per five acres. Creation of new parcels smaller than five acres for residential use may be approved in*

*the Agriculture area only if the immediate area surrounding the subject parcel on three or more sides is predominately parcelized in a similar manner, and if a division of the subject parcel would not precipitate additional land division in the area. No business or industrial use should be approved in the area designated Agriculture unless the use is directly supportive of local agricultural production, and is located on an existing arterial roadway, and has adequate water supply and sewage disposal in accordance with Chapter 24 of the County Code, and the development order specifies the approved use(s); however, packing houses for produce grown in Florida are not restricted to locating on an existing arterial roadway. Other uses compatible with agriculture and with the rural residential character may be approved in the Agriculture area only if deemed to be a public necessity or if deemed to be in the public interest and the applicant demonstrates that no suitable site for the use exists outside the Agriculture area. Existing quarrying and ancillary uses in the Agriculture area may continue operation and be considered for approval of expansion.*

2. *Existing lawful residential and non-residential uses and zoning are not specifically depicted on the LUP map. They are however reflected in the average Plan Density depicted. All such lawful uses and zoning are deemed to be consistent with this Plan as provided in the section of this CDMP titled "Concepts and Limitations of the Land Use Plan Map." The limitation referenced in this paragraph pertain to existing zoning and uses. All approval of new zoning must be consistent with the provisions of the specific category in which the subject parcel exists, including the provisions for density averaging and definition of gross density.*

3. *Neighborhood or community-serving institutional uses, cell towers and utilities including* ***schools****, libraries, sanitary sewer pump stations and fire and rescue facilities in particular, and cemeteries may be approved where compatible* ***in all urban land use categories****, in keeping with any conditions specified in the applicable category, and where provided in certain Open Land subareas. Compatibility shall be determined in accordance to Policy LU-4A.*

4. ***Educational Element Goal.*** *Develop, operate, and maintain a system of public education by Miami-Dade County Public Schools, in cooperation with the County and other appropriate governmental agencies, which will strive to improve the quality and quantity of public educational facilities available to the citizenry of Miami-Dade County, Florida.*

5. ***Objective EDU-1.*** *Work towards the reduction of the overcrowding which currently exists in the Miami-Dade County Public Schools, while striving to attain an optimum level of service pursuant to Objective EDU-2. Provide additional solutions to overcrowding so that countywide enrollment in Miami-Dade County's public schools will meet state requirements for class size by September 1, 2010.*

6. ***Policy EDU-1D.*** *Cooperate with the Miami-Dade County Public School System in their efforts to provide public school facilities to the students of Miami-Dade County, which operate on optimum capacity, in so far as funding available. Operational activities may be developed and implemented, where appropriate, which mitigate the impacts of overcrowding while maintaining the instructional integrity of the educational program.*

7. ***Policy EDU-3A.*** *It is the policy of Miami-Dade County that the Miami-Dade County Public Schools shall not purchase sites for schools nor build new schools outside of the Urban Development Boundary (UDB), and that new elementary schools constructed should be located at least 1/4 mile inside the UDB; new middle schools should be located at least 1/2 mile*

*inside the UDB, and; new senior high schools should be located at least one mile inside the UDB. In substantially developed areas of the County where suitable sites in full conformance with the foregoing are not available and a site or portion of a site for a new school must encroach closer to the UDB, the majority of the site should conform with the foregoing location criteria and the principal school buildings and entrances should be placed as far as functionally practical from the UDB. The same criteria of this paragraph that apply to public schools also pertain to private schools.*

6. ***Policy EDU-3E.*** *When considering a site for possible use as an educational facility, the Miami-Dade County Public Schools should review the adequacy and proximity of other public facilities and services necessary to the site such as roadway access, transportation, fire flow and portable water, sanitary sewers, drainage, solid waste, police and fire services, and means by which to assure safe access to schools, including sidewalks, bicycle paths, turn lanes, and signalization*

7. ***Policy LU-2A.*** *All development orders authorizing new, or significant expansion of existing, urban land uses shall be contingent upon the provision of services at or above the Level of Service (LOS) standards specified in the Capital Improvement Element (CIE).*

8. ***Policy LU-4A.*** *When evaluating compatibility among proximate land uses, the County shall consider such factors as noise, lighting, shadows, glare, vibration, odor, runoff, access, traffic, parking, height, bulk, scale of architectural elements, landscaping, hours of operation, buffering, and safety, as applicable.*

9. ***Policy LU-5B.*** *All development orders authorizing a new land use or development, or redevelopment, or significant expansion of an existing use shall be contingent upon an affirmative finding that the development or use conforms to, and is consistent with the goals, objectives and policies of the CDMP including the adopted LUP map and accompanying "Interpretation of the Land Use Plan Map". The Director of the Department of Planning and Zoning shall be the principal administrative interpreter of the CDMP.*

10. ***Policy LU-9B.*** *Miami-Dade County shall continue to maintain, and enhance as necessary, regulations consistent with the CDMP which govern the use and development of land and which, as a minimum, regulate:*

    *i) Land use consistent with the CDMP Land Use Element and CDMP Level of Service Standards;*
    *ii) Subdivision of land;*
    *iii) Protection of potable water wellfields;*
    *iv) Areas subject to seasonal or periodic flooding;*
    *v) Stormwater management*
    *vi) Signage; and*
    vii) *On-site traffic flow and parking to ensure safety and convenience and that no avoidable off-site traffic flow impediments are caused by development.*

## D. NEIGHBORHOOD CHARACTERISTICS:

| ZONING | LAND USE PLAN DESIGNATION |
|---|---|
| Subject Property: | |
| GU; charter school | Agriculture |
| Surrounding Properties: | |
| NORTH: GU; single-family residences and plant nursery | Agriculture |
| SOUTH: GU; churches, EU-M; single-family residences | Estate Density Residential, 1 to 2.5 dua |
| EAST: GU; plant nursery | Agriculture |
| WEST: GU; religious facility and private school | Agriculture |

## E. PERTINENT ZONING REQUIREMENTS/STANDARDS:

***Section 33-314*** *of the Code of Miami-Dade County:*

*(C) The County Commission shall have jurisdiction to directly hear other applications as follows:*

*(12) Hear application for and, upon recommendation of the Developmental Impact Committee, grant or deny those special exceptions for public charter school facilities permitted by the regulations only upon approval after public hearing, provided the applied for special exception, in the opinion of the Board of County Commissioners, is found to be in compliance with the standards contained in Article XI and Section 33-311(A)(3) of this Code.*

***Section 33-153. Public hearing required in all districts.***
*The establishment, expansion or modification of a charter school facility is permitted in any zoning district after public hearing upon demonstration that the standards established in this article have been met. Any existing covenant or declaration or restrictions relating to an existing charter school facility shall be modified or deleted only in accordance with the provisions of Article XXXVI of this code.*

***Section 33-159. Plan review standards***

(a) *Scale. The scale of proposed public charter school facilities shall be compatible with the scale of surrounding proposed or existing uses and shall be made compatible by the use of buffering elements.*

(b) *Compatibility. The design of public charter school facilities shall be compatible with the design, kind and intensity of uses and scale of the surrounding area.*

(c) *Buffers. Buffering elements shall be utilized for visual screening and substantial reduction of noise levels at all property lines where necessary.*

(d) *Landscape. Landscape shall be preserved in its natural state insofar as is practicable by minimizing the removal of trees or the alteration of favorable characteristics of the site. Landscaping and trees shall be provided in accordance with Chapter 18A of this code.*

(e) *Circulation. Pedestrian and auto circulation shall be separated insofar as is practicable, and all circulation systems shall adequately serve the needs of the facility and be compatible and functional with circulation systems outside the facility.*

(f) *Noise. Effective measures shall be provided to keep noise at acceptable levels.*

(g) *Service areas. Wherever service areas are provided, they shall be screened and so located as to be compatible with the adjacent properties.*

(h) *Parking areas. Parking areas shall be screened and so located as to be compatible with the adjacent properties.*

(i) *Operating time. The operational hours of a public charter school facility shall be compatible with the activities of other adjacent properties.*

(j) *Industrial and commercial. Where schools are proposed in or adjacent to, industrial or commercial areas, it shall be clearly demonstrated in graphic form and otherwise, how the impact on the commercial or industrial area has been minimized through site design techniques and/or operational modifications.*

(k) *Fences and walls. Outdoor recreation and/or play areas shall be enclosed with fences and/or walls.*

***Section 33-311(A)(3). Special exceptions, unusual and new uses.*** *The Board shall hear an application for and grant or deny* ***special exceptions****; that is, those exceptions permitted by regulations only upon approval after public hearing, new uses and unusual uses which by regulation are only permitted upon approval after public hearing; provided the applied for exception or use, including exception for site or plot plan approval, in the opinion of the Community Zoning Appeals Board, would not have an unfavorable effect on the economy of Miami-Dade County, Florida, would not generate or result in excessive noise or traffic, cause undue or excessive burden on public facilities, including water, sewer, solid waste disposal, recreation, transportation, streets, roads, highways or other such facilities which have been constructed or which are planned and budgeted for construction, are accessible by private or public roads, streets or highways, tend to create a fire or other equally or greater dangerous hazards, or provoke excessive overcrowding or concentration of people or population, when considering the necessity for and reasonableness of such applied for exception or use in relation to the present and future development of the area concerned and the compatibility of the applied for exception or use with such area and its development.*

***Section 33-311(A)(7) (Generalized Modification Standards).*** *The Board shall hear applications to modify or eliminate any condition or part thereof which has been imposed by any final decision adopted by resolution; provided, that the appropriate Board finds after public hearing that the modification or elimination, in the opinion of the Community Zoning Appeals Board, would not generate excessive noise or traffic, tend to create fire or other equally or greater dangerous hazard, or provoke excessive overcrowding of people, or would not be incompatible with the area concerned, when considering the necessity and reasonableness of the modification or elimination in relation to the present and future development of the area concerned.*

***Section 33-311(A)(4)(b) Non-Use Variances From Other Than Airport Regulations.*** *Upon appeal or direct application in specific cases, the Board shall hear and grant applications for* ***non-use variances*** *from the terms of the zoning and subdivision regulations and may grant a non-use variance upon a showing by the applicant that the non-use variance maintains the basic intent and purpose of the zoning, subdivision and other land use regulations, which is to protect the general welfare of the public, particularly as it affects the stability and appearance of the community and provided that the non-use variance will be otherwise compatible with the surrounding land uses and would not be detrimental to the community. No showing of unnecessary hardship to the land is required.*

## G. NEIGHBORHOOD SERVICES PROVIDER COMMENTS:

| | |
|---|---|
| DERM | **No objection*** |
| Public Works | **No objection*** |
| Parks | **No objection** |
| MDT | **No objection** |
| WASD | **No objection** |
| Fire Rescue | **No objection** |
| Police | **No objection** |
| Schools | **Surplus Student Stations: 1,227** |
| Aviation | **No objection** |

*Subject to conditions indicated in their memoranda.

## H. PLANNING AND ZONING ANALYSIS:

The subject property is a 12.67 gross acre parcel of land located at 12425 SW 72 Street which is currently developed as a K-12 charter school for 800 students. The applicant is requesting to expand the existing charter school onto adjacent property to the northeast, to increase the maximum number of students from 800 to 1,300, to permit a total of 24 night activities per year as well as to permit special event parking on natural terrain which is not permitted by the Zoning Code. Additional variances to modify conditions of prior Resolutions and to delete three (3) previously recorded Declarations of Restrictions are also being sought.

Approval of this application would permit an existing K-12 charter school to increase the number of students from 800 to 1,300. The Land Use Plan (LUP) map of the Comprehensive Development Master Plan (CDMP) designates this site for **Agriculture** use. *The area designated as "Agriculture" contains the best agricultural land remaining in Miami-Dade County.*

*As stated in the Miami-Dade County Strategic Plan, approved in 2003 by the Board of County Commissioners, protection of viable agriculture is a priority. The principal uses in this area should be agriculture, uses ancillary to and directly supportive of agriculture such as packing houses, and farm residences. Uses ancillary to, and necessary to support the rural residential community of the agricultural area may also be approved, including houses of worship; however,* ***schools*** *shall not be approved in Agriculture areas but should be located inside the UDB in accordance with Policy EDU-3A.* It should be noted that the existing charter school is located 4 miles east of and inside the UDB. Staff notes that the western portion of the subject property (4.6 acres) was approved for a private school in 1985, at which time, the applicant's contention that the school was a public necessity and of public interest in this area was confirmed by the Board of County Commissioners, pursuant to Resolution #Z-156-85. In 2006, pursuant to Resolution #Z-31-06, the BCC approved a maximum of 800 students (Kindergarten through 8th grade). In 2009, pursuant to Resolution #Z-21-09, the BCC granted approval to expand grades through 12th.

*The CDMP also indicates that* ***existing uses are deemed to be consistent with this Plan*** *as provided in the section of the CDMP titled "Concepts and Limitations of the Land Use Plan Map."* **As such, the existing charter school with the approved enrollment of 800 students is consistent with the CDMP and compatible with other institutional uses in the area.**

As previously mentioned, the subject property is located inside the UDB where schools are permitted provided all CDMP criteria, specifically compatibility criteria as indicated in Policy LU-4A, are met. ***Policy LU-5B*** *in the Land Use Element of the CDMP allows the Director to be "the principal administrative interpreter of the CDMP".* On November 10, 2003, The Department issued a "Letter of Interpretation" in response to an inquiry involving the "location of private schools in 'Agriculture' designated parcels within the Urban Development Boundary". In this letter, the Department concluded the following:

> "In conclusion, based on the relevant CDMP goals, objectives, policies and Land Use Plan map text provisions, I find that public and private schools may be approved, **where compatible**, in all urban land use categories, including Agriculture, inside the UDB, in keeping with any conditions specified in the applicable category. Outside the UDB, in areas designated "Agriculture", private schools are prohibited".

Staff notes that the subject property is located within an area known as "Horse Country" which encompasses a two square mile, agriculturally designated area inside the Urban Development Boundary west of the Homestead Extension to Florida's Turnpike between SW 40 Street and SW 72 Street. This area is characterized by large lot single family residences developed in accordance with the AU zoning district regulations. Staff notes that the residents in this area enjoy a rural-type lifestyle with equestrian activities and agricultural uses. Staff also acknowledges that there are several schools and churches in this area. However, the proposed expansion is of extraordinary scale and intensity.

Staff is of the opinion that the expansion of the existing charter school by increasing the student population from 800 to 1,300 (a 62% increase over previous approval) students as well as the requested expansion of the charter school campus onto additional property to the northeast is intrusive and **incompatible** with the area. **Further, staff opines that either the expansion of**

**the charter school property or the increase to 1,300 students would be incompatible with the area and, therefore, would be inconsistent with the CDMP.**
It should be noted that staff's research reveals that a multitude of private educational facilities have been approved over the years along SW 72 Street (Sunset Drive). Figure 1 below provides an overview of the private school educational facilities that have been approved within this section mile along SW 72 Street and their currently approved enrollment. Based on staff's research of approved educational facilities in the surrounding area, staff opines that the requested increase in student enrollment and scale of the proposed expansion is out of character with the approved enrollment and scale of the existing educational facilities located along SW 72 Street within this section mile.

Additionally, staff notes that there is another approved school along SW 56 Street at 5801 SW 120th Avenue, approximately 1 mile north of the subject property, where in 1996 the Zoning Appeals Board approved an increase of students to 1,177, pursuant to Resolution #5-ZAB-22-96. Staff opines that this school is an anomaly when compared with others schools within the Horse Country area, specifically along SW 72 Street. Based on the aforementioned, staff opines that the proposed 1,300 student population would create a negative impact to the surrounding area by creating an increase in traffic, especially during the morning and afternoon hours when students are dropped-off and picked-up from school activities. Notwithstanding the foregoing, staff acknowledges that the Public Works Department has no objections to this application. However, staff opines that the increase in student population when engaged in recreational activities and the additional special night events would have a negative aural impact on the surrounding properties. In addition, staff is of the opinion that the proposed expansion of the charter school use onto additional property to the northeast is intrusive to the existing rural residential community as it brings recreational facilities in the form of four (4) tennis courts onto a parcel of land that fronts on SW 123 Avenue and abuts an existing single-family residence to the north.

Staff further opines that said expansion will transform the school into a large scale educational facility that serves the needs of students from other areas of the County resulting in a negative impact to the surrounding area. Therefore, staff opines that the proposed expansion onto additional property to the northeast and the proposed enrollment of 1,300 students will provoke excessive overcrowding or concentration of people or population. *Section 33-311(A)(3) of the Zoning Code indicates that the Board shall consider the necessity for and reasonableness of such applied for exception in relation to the present and future development of the area concerned and the compatibility of the applied for exception with such area and its development.* Staff opines that the proposed expansion onto additional property and request for an additional 500 students is **incompatible** with the area and will detrimentally impact the rural character of this area known as Horse Country. **As such, staff recommends denial without prejudice of requests #1 and #2 under Section 33-311(A)(3).**

| *Educational Facilities Approved* | | | | |
|---|---|---|---|---|
| Name | Location | Resolution Number | Approved Enrollment | Grade Levels |
| Section 25 Township 54 Range 39 (North of Sunset Drive) | | | | |
| Kendale Faith United Methodist Church | 12601 SW 72 Street | 4-ZAB-200-76 | 95 students | Day nursery and Kindergarten |
| Freedom Baptist Church of DC, Inc. | 12515 SW 72 Street | Z-326-87 | 193 students | Kindergarten to 12th grade |

| | | | | |
|---|---|---|---|---|
| Sunset Church of Christ | 12001 SW 72 Street | CZAB11-12-99 | 325 students | Kindergarten to 10th grade |
| Sunset Preparatory School | 11925 SW 72 Street | 4-ZAB-65-70 | 263 students | Kindergarten to 8th grade |
| Section 36 Township 54 Range 39 (South of Sunset Drive) | | | | |
| Sunset Construction, LLC | 12400 SW 72 Street | CZAB11-18-99 | 80 students | Pre-Kindergarten to 1st grade |
| Praise & Worship Center Church of God | 12450 SW 72 Street | CZAB11-40-01 | 47 students | Day nursery and Kindergarten |
| Muslim Center of Miami, Inc. | Southwest corner of SW 72 Street and SW 123 Avenue (currently vacant) | Z-99-94 | 200 students | Day nursery and Kindergarten through 6th grade |

Figure 1.

When requests #3 through #6 are analyzed under the Generalized Modification Standards, Section 33-311(A)(7), the revised plans illustrating the expansion of the school campus onto additional property to the northeast, the requested increase of night events per year from 12 to 24 and the increase in the approved enrollment from 800 students to 1,300 students as well as the request to delete three (3) Declarations of Restrictions, in staff's opinion, are intertwine with requests #1 and #2, and will adversely impact the surrounding area and will be **incompatible** with same. Staff's review of both the previously approved plans and the newly submitted plans reveals that, in staff's opinion, the proposed expansion is too excessive and out of character with the surrounding area.

The revised plans submitted in conjunction with this application illustrate the proposed expansion of the existing charter school campus onto additional property located to the northeast of the current school site. The revised plans depict development of the campus in four (4) phases. **Phase 1** illustrates the construction of two (2) temporary modular classroom buildings which house a total of six (6) classrooms. **Phase 2** illustrates a proposed 2-story middle/high school building located on the eastern side of the site along with four (4) new tennis courts located along the northern portion of the site as well as a new 1-story tennis facility building located adjacent to the tennis courts. **Phase 3** illustrates the removal of two (2) temporary modular classroom buildings and the construction of a proposed multi-purpose athletic court behind the existing main school building as well as the removal of two (2) temporary modular classroom buildings along the east portion of the site and the construction of a proposed 2-story (34' high) gymnasium building with a seating capacity of 600 persons. **Phase 4** illustrates the demolition of the existing 1-story residence (administrative office) on the northeastern most portion of the site and the construction of a new 2-story cultural center building. The revised plans also illustrate the relocation of one of the existing driveways along SW 72 Street to the easternmost corner of the site and a new access driveway for emergency vehicles along SW 123 Avenue.

As previously mentioned, staff opines that the proposed expansion of the charter school use onto additional property to the northeast is intrusive to the existing rural residential community. Moreover, staff opines that the proposed improvements as illustrated on the revised plans are excessive and are germane to and an integral part of the request to increase the student population which staff does not support. In addition, it should be noted that in 2009, the applicant had also requested to increase the number of night activities from 10 events per year

to 24 events per year, which the BCC approved on a modified basis to allow 12 night activities per year, pursuant to Resolution No. Z-21-09. Although, in the 2009 application staff had originally supported the applicant's request to permit 24 night activities per year, it should be noted that the 2009 application did not seek an increase in the maximum number of students. Therefore, staff opines that the request to permit 24 night activities per year when considered in conjunction with the request to increase the number of students to 1,300 and the request to expand the school onto additional property to the northeast is excessive and is not in keeping with the spirit and intent of Resolution No. Z-21-09. Request #6, to delete three (3) Declarations of Restrictions, in order to allow the applicant to submit one (1) consolidated covenant that encompasses the entire subject property is, in staff's opinion, germane to and an integral part of the proposed school expansion and requested increase in student population, which staff does not support. When considering the necessity for and the reasonableness of the requests, staff is of the opinion that the approval of requests #3 through #6 will have an unfavorable effect on the area, and will be contrary to the public interest. As such, staff opines that the approval of requests #3 through #6 would be detrimental to the surrounding area and is **incompatible** with same. **As such, staff recommends denial without prejudice of requests #3 through #6 under Section 33-311(A)(7).**

When request #7 is analyzed under Section 33-311(A)(4)(b), the Non-Use Variance (NUV) Standards, staff is of the opinion that the approval of this request does not maintain the basic intent and purpose of the zoning, subdivision and other land use regulations and would be **incompatible** with the surrounding area. Staff does not support request #7, to permit 130 special event parking spaces on natural terrain. Staff acknowledges that property located one parcel to the west of the subject site was granted approval of a request to permit 18 parking spaces and 5 stacking spaces on natural terrain, pursuant to Resolution #Z-326-87. Notwithstanding the aforementioned approval, staff opines that the applicant's request is more intense because the number of parking spaces is greater than that previously approved under Resolution #Z-326-87 and will likely generate dust which may affect adjacent properties and as such will be incompatible with same. Additionally, this request is evidence of the intrusiveness of the proposed school expansion on the rural residential community located to the north of the site. **Therefore, based on the aforementioned, staff recommends denial without prejudice of request #7 under Section 33-311(A)(4)(b) (NUV).**

**Accordingly, staff recommends denial without prejudice of the application.**

I. RECOMMENDATION:

**Denial without prejudice.**

J. CONDITIONS: None.

**DATE TYPED:** 01/28/11
**DATE FINALIZED:** 05/20/11
MCL:GR:NN:AA:JV

Marc C. LaFerrier, AICP, Director
Miami-Dade County Department of
Planning and Zoning

# Memorandum

**Date:** May 12, 2011

**To:** Jorge Vital
Educational Facilities Coordinator
Department of Planning and Zoning

**From:** Esther Calas, P.E., Director
Public Works Department

**Subject:** Recommendations for Archimedean Academy, Process No. Z2008000175

---

Miami Dade County Public Works Department Traffic Engineering Division (TED) has no objections to this application provided the recommendations and comments, as indicated below, are adequately addressed in the related documentation, and found acceptable to TED.

TED has reviewed the Letter of Intent, revised date 04/04/2011; the Site Plan, dated revised 04/04/2011, received by Planning and Zoning on 04/04/2011; the Traffic Impact Analysis, dated revised 09/2010; the Supplemental Traffic Data Memorandum, dated 04/24/2011; and the Traffic Operations Plan, dated 09/15/2010, for the proposed facility located at 12425 SW 72 Street, and has the following recommendations and comments:

- Site Plan

  A clearly marked pedestrian pathway(s) crossing the stacking queue from the visitor parking areas (specifically the parking aisles nearest SW 72 Street) to the building's pedestrian walkways, like those walkways traversing the central parking lot that connects the ADA accessible parking stalls, must be proposed.

- Traffic Study

  The Traffic Impact Analysis with Supplemental Traffic Data Memorandum, dated 04/24/2011, is acceptable.

- Traffic Operations Plan (TOP)

  The Traffic Operations Plan, dated 09/15/2010, is acceptable.

- Project Requirements

  1. A "Declaration of Restrictions" in favor of the Miami-Dade County Public Works Department must be recorded in the Official Records of Miami-Dade County, Florida, prior to the date of the school expansion. The "Declaration of Restrictions" shall include a TOP narrative and plan that has been found acceptable by TED.
  2. The existing posted time intervals for the school speed zone are required to be modified for the new schedule, as needed. This can be included in the Paving and Drainage plans.
  3. The existing drop curbs, which will no longer be used, on Sunset Dr. along the school frontage must be reconstructed to standard sidewalk cross-section.
  4. All off-site improvements shall be constructed prior to the school expansion.

- Standard Comments:

1. Public sidewalks are required to extend across all school driveways around the site. This will include pedestrian (ADA) ramps where applicable. All pedestrian crosswalks around the school must have ladder pavement markings.

2. Safe sight distance clearance is required at all driveways; therefore, no trees shall remain or be planted in any clear zones. No tree foliage or branches shall descend below 7 ft within the public right-of-way. All tree placements in sight triangles shall meet or exceed FDOT Index 546. Any proposed planting, relocation or removal of trees and other foliage including any installation of irrigation systems in the public right-of-way must be approved by the R.A.A.M. Division of this Department. Also, any relocation or removal of trees must be approved by DERM. These approvals should be applied for, and received, prior to DIC Executive Council approval of this project. A "Covenant for Maintenance" agreement, recorded in the public record, must be provided prior to permitting any of these types of installations within the public right-of-way.

3. Plans submitted for Permit shall conform to MUTCD, MDPWD and other appropriate standards for engineering design in the public right-of-way. Prior to formal submittal of plans for approval and permitting, a Dry Run Paving and Drainage submittal is required to review compliance with DIC conditions for approval and appropriate standards, and to rectify any discrepancies between existing facilities, plans, conditions for approval, or standards. Existing and proposed striping, signs, and lane widths must be shown on these plans for all adjacent roadways. Also, plans must indicate any existing or proposed private driveways across the streets adjacent to the school site.

4. All roadway improvements including, but not limited to, traffic signs, markings and signals shall be installed by the applicant adjacent to, or nearby, this facility to ameliorate any adverse vehicular impacts caused by the traffic attracted to this facility. Also, traffic control devices, e.g., crosswalks, may be required at locations remote from this site along safe routes to school to provide for pedestrian student safety. These requirements may be determined at the time of Dry Run submittal of Paving and Drainage Plans.

5. The Public Works Department reserves the right to add or modify requirements based upon any additional information that may be received during this review process.

Should you need additional information or clarification on this matter, please contact Mr. Jeff Cohen at (305) 375-2030.

cc: Jeff Cohen, P.E., Assistant Chief, Traffic Engineering Division
Robert Williams, P.E., Acting Chief, Traffic Signals and Signs Division
Raul A. Pino, P.L.S., Chief, Land Development Division
David Cardenas, Chief, Right of Way and Aesthetic Assets Management Division
Harvey L. Bernstein, Educational Facilities Administrator, Traffic Engineering Division
Armando Hernandez, Concurrency Coordinator, Traffic Engineering Division
Vishnu Rajkumar, Signal Design Administrator, Traffic Engineering Division
Mohammed Mansuri, P.E., Public Works Land Development
Leandro Rodriguez, Public Works Land Development

# Memorandum

MIAMI-DADE COUNTY

**Date:** April 15, 2011

**To:** Marc C. LaFerrier, AICP, Director
Department of Planning and Zoning

**From:** Jose Gonzalez, P.E., Assistant Director
Environmental Resources Management

**Subject:** DIC#Z2008000175-3rd Revision
Archimedean Properties, LLC
12425 Sunset Drive
Special Exception to Expand an Existing Charter School, Modification of Resolution Z-31-06 to Permit a New Site Plan and Modification of a Declaration of Restrictions to Include Additional Property

(GU) (12 Acres)
25-54-39

---

The Department of Environmental Resources Management (DERM) has reviewed the subject application and has determined that it meets the minimum requirements of Chapter 24 of the Code of Miami-Dade County, Florida (the Code). Accordingly, DERM may approve the application, and the same may be scheduled for public hearing.

Wellfield Protection
The subject property is located within the Basic Wellfield Protection Area of the Southwest Wellfield. Development of the subject property shall be in accordance with the regulations established in Section 24-43 of the Code. Since the subject request is for a non-residential land use, the owner of the property has submitted a properly executed covenant in accordance with Section 24-43(5) of the Code which provides that hazardous materials or wastes shall not be used, generated, handled, discharged, disposed of or stored on the subject property.

Potable Water Service
The subject property is located within the franchised water service area of Miami-Dade Water and Sewer Department (MDWASD). Connection of the proposed development to the public water supply system shall be in accordance with Code requirements.

The source for this water supply is Alexander Orr Water Treatment Plant. This plant has sufficient capacity to provide current water demand. The plant is presently producing water that meets Federal, State, and County drinking water standards.

Sanitary Sewer Service
The subject property is located within the franchised sewer service area of Miami-Dade County Water and Sewer Department (MDWASD).

There is a private sanitary sewer system within the site. This system operates under DERM Private Sanitary Sewer Operating (PSO) Permit No. 236. This private system includes a pumping station (99-00236) that discharges its flows into a force main that abuts this property along SW 72nd St. The flows are directed either to pumping station 30-0001, 30-0559 or 30-0536. From 30-0001 the flows go to the Central District Wastewater Treatment Plant. From 30-0559 or 30-0536, the flows go to pump station 30-TANDEM and then to the South District Wastewater Treatment Plant.

The public sanitary system treatment plants and private sanitary sewer system are currently working within the mandated criteria set forth in the First and Second Partial Consent Decree.

Stormwater Management

Additional drainage restrictions may be applicable since the subject property is located within the Basic Wellfield Protection Area of the Southwest Wellfield. Specifically, the site is situated within 100-day travel time contour of said Wellfield. Section 24-43 of the Code dictates and regulates the allowable method for storm water within this area.

A Surface Water Management General Permit from DERM shall be required for the construction and operation of the required surface water management system. This permit shall be obtained prior to platting and/or site development, or Public Works approval of paving and drainage plans. The applicant is advised to contact the DERM Water Control Section for further information regarding permitting procedures and requirements.

All stormwater shall be retained on site utilizing properly designed seepage or infiltration drainage system. Drainage must be provided for the 5-year/1-day storm event.

Site grading and development shall provide for the full retention of the 25-year/3-day storm event and shall also comply with the requirements of Section 11C of the Code, as well as with all State and Federal Criteria, and shall not cause flooding of adjacent properties.

Site grading and development plans shall comply with the requirements of Section 11C of the Code, as well as with all State and Federal Criteria, and shall not cause flooding of adjacent properties.

Any proposed development shall comply with County and Federal flood criteria requirements. The proposed development order, if approved, will not result in a reduction in the LOS standards for flood protection set forth in the CDMP subject to compliance with the conditions required by DERM for this proposed development order.

Pollution Remediation

DERM has reviewed the information regarding the above referenced sites and indicates that there are no records of current contamination assessment/remediation issues on these properties or abutting these properties. Additionally, there are no historical records of contamination assessment/remediation issues regarding non-permitted sites associated with these properties or abutting these properties.

Air Quality Preservation

In the event that this project includes any kind of demolition, removal or renovation of any existing structure(s), an asbestos survey from a Florida-licensed asbestos consultant is required. If said survey shows friable asbestos materials in amounts larger than prescribed by federal law (260 linear feet of pipe insulation/thermal system insulation [TSI] or 160 square feet of surfacing material), then those materials must be removed/abated by a Florida-licensed asbestos abatement contractor. A NOTICE OF ASBESTOS RENOVATION or DEMOLITION form must be filed with the Air Quality Management

Division for both the abatement (renovation) work and the demolition activity at least 10 working days prior to starting the field operations.

According to the parking information provided, the amount of parking does not appear to be sufficient in size to generate a level of vehicular traffic equal to or in excess of the threshold values listed in the State of Florida (FDEP) Guidelines for Indirect Sources. Therefore, the Air Quality Management Division does not have any concerns regarding this project from a transportation (mobile sources) standpoint.

Wetlands
The subject properties do not contain jurisdictional wetlands as defined by Section 24-5 of the Code; therefore, a DERM Class IV Wetland Permit will not be required.

The applicant is advised that permits from the Army Corps of Engineers (305-526-7181), the Florida Department of Environmental Protection (561-681-6600) and the South Florida Water Management District (1-800-432-2045) may be required for the proposed project. It is the applicant's responsibility to contact these agencies.

Tree Preservation
Tree Removal Permit 2007-TREE-PER-00646 was issued for these properties to Archimidean Properties LLC, on December 18, 2007, an amendment of the permit was done on August 18, 2010; also the permit expiration has been extended. All approved tree removal/relocation, replanting and final inspection (a two weeks notice is required prior to the final inspection) must be completed prior to the scheduled expiration date of this permit on December 18, 2011 in order to avoid violation of permit conditions. Please be advised that a new Miami-Dade County Tree Removal Permit or an amendment to this permit is required prior to the removal or relocation of any other trees on the subject properties. Please contact this Program at 305-372-6574 for information regarding tree permits.

Enforcement History
DERM has found one (1) closed enforcement case for the referenced property address.

Archimedean Academy (PSO 236)

On November 12th 2008 a Warning Notice was issued to this facility for failure to submit the required Elapsed Time (ET) meter readings. The ET meter readings were later submitted and on May 1st 2009 the case was subsequently closed due to compliance.

Operating Permit
Section 24-18 of the Code authorizes DERM to require operating permits from facilities that could be a source of pollution. The applicant is advised that the requested use of the subject property may require operating permits from DERM. The Permitting Section of DERM's Pollution Regulation and Enforcement Division may be contacted at (305) 372-6600 for further information concerning operating requirements.

Concurrency Review Summary
DERM has conducted a concurrency review for this application and has determined that the same meets all applicable LOS standards for an initial development order, as specified in the adopted CDMP for potable water supply, wastewater disposal, and flood protection. Therefore, the application has been approved for concurrency subject to the comments and conditions contained herein.

This concurrency approval does not constitute a final concurrency statement and is valid only for this initial development order, as provided for in the adopted methodology for concurrency review. Additionally, this approval does not constitute any assurance that the LOS standards would be met by any subsequent development order applications concerning the subject property.

This memorandum shall constitute DERM's written approval, as required by the Code.

If you have any questions concerning the comments, or wish to discuss this matter further, please contact Christine Velazquez at (305) 372-6764.

cc: Nick Nitti, DIC Coordinator

# Memorandum

MIAMI-DADE COUNTY

**Date:** January 25, 2011

**To:** Marc C. LaFerrier, Director
Department of Planning & Zoning

**From:** Herminio Lorenzo, Director
Miami-Dade Fire Rescue Department

**Subject:** DIC 2008000175 - Archimedean Properties, Inc.
12425 Sunset Drive, Miami-Dade County, FL
Revision No. 3

---

SERVICE IMPACT/DEMAND

(A) Based on development information, this project is expected to generate approximately **45** fire and rescue calls annually. The estimated number of alarms results in a moderate impact to existing fire and rescue service. However, the existing station serving this area will be able to handle the expected number of alarms.

(B) Based on data retrieved during calendar year 2010, the average travel time to the vicinity of the proposed development was **6:16** minutes. Performance objectives of national industry standards require the assembly of 15-17 firefighters on-scene within 8-minutes at 90% of all incidents. Travel time to the vicinity of the proposed development complies with the performance objective of national industry.

(C) A suspected fire within this project would be designated as a building dispatch assignment. Such an assignment requires three (3) suppressions or engines, telesqurts or tankers, one (1) aerial, one (1) rescue and an accompanying command vehicle. This assignment requires twenty (20) firefighters and officers.

EXISTING SERVICES

| STATION | ADDRESS | EQUIPMENT | STAFF |
|---|---|---|---|
| 9 | 7777 SW 117th Avenue | Rescue, ALS Engine | 7 |
| 57 | 8501 SW 127th Avenue | Rescue | 3 |
| 37 | 4200 SW 142nd Avenue | Rescue, ALS Engine | 7 |
| 53 | 11600 SW Turnpike Hwy | Rescue | 3 |

SITE PLAN REVIEW:

(A) Fire Engineering & Water Supply Bureau has reviewed and approved the revised site plan entitled 'Archimedean Academy, Inc., Charter Schools Master Plan for Middle and High School Expansion' as prepared by Anthony M. Tzamtzis, AIA, dated stamp received January 10, 2011.

(B) This plan has been reviewed to assure compliance with the MDFR Access Road Requirements for DIC applications. Please be advised that during the platting and permitting stages of this project, the proffered site plan must be reviewed by the Fire Water & Engineering Bureau to assure compliance with the Florida Fire Prevention Code (FFPC) and National Fire Protection Association (NFPA) standards.

For additional information, please contact Mr. Carlos Heredia, Planning Section Supervisor at 786-331-4544.

HL:ch

# Memorandum

MIAMI-DADE COUNTY

**Date:** April 25, 2011

**To:** Jorge Vital
DIC Coordinator
Department of Planning and Zoning

**From:** Nilia Cartaya
Principal Planner
Miami-Dade Transit - Planning & Development Division

**Subject:** Review of DIC Project No. 08-175 (Archimedean Properties, Inc.)

---

## Project Description

The applicant is requesting a special exception to permit the expansion of an existing charter school onto additional property. In addition, the applicant is also requesting to increase the number of students from 800 to 1,300 to modify a previously approved resolution and delete a previously recorded declaration of restrictions. The subject property is 12 acres and is located at 12425 SW 72 Street in Miami-Dade County, Florida.

## Current Transit Service

There is direct transit service within the immediate vicinity of the application site. The closest transit service is provided by Metrobus Routes 72 and 272/Sunset KAT along SW 72nd Street (Sunset Drive). The service headways for the above mentioned routes (in minutes) are as follows:

**Metrobus Route Service Summary**
**Archimedean Properties, Inc. Application Site**

| Route(s) | Service Headways (in minutes) | | | | | | Proximity to Bus Route (miles) | Type of Service |
|---|---|---|---|---|---|---|---|---|
| | Peak (AM/PM) | Off-Peak (middays) | Evenings (after 8pm) | Overnight | Saturday | Sunday | | |
| 72 | 30 | 30 | 30 | N/A | 60 | 60 | 0.0 | F |
| 272 / Sunset KAT | 10 | N/A | N/A | N/A | N/A | N/A | 0.3 | E / F |

*Notes:* *L means Metrobus local route service*
*F means Metrobus feeder service to Metrorail*
*E means Express or Limited-Stop Metrobus service*

**Future Transportation/Transit Improvements**

Currently, the 2011 Transportation Improvement Plan (TIP) does not propose any improvements in the immediate vicinity of this project. The 2035 Long Range Transportation Plan (LRTP) does not propose any improvements in the immediate vicinity of this project.

The draft 2011 ten-year Transit Development Plan (TDP), that currently is in the review/approval phase before adoption by the Board of County Commissioners identifies in its 2021 Recommended Service Plan the following improvements/adjustments on the existing routes serving the vicinity of the project:

Route 72: No planned improvements.

Route 272: No planned improvements.

**MDT Comments/Recommendations**

Miami-Dade Transit (MDT) currently provides local bus service to the school and in addition, the westbound bus stop located directly in front of the subject property has a covered shelter. Based on the information presented, MDT has no objections to this project.

**Concurrency**

This project has been reviewed by MDT for mass transit concurrency and was found to be concurrent with the level-of-service standards established for Miami-Dade County.

# Memorandum

MIAMI-DADE COUNTY

**Date:** April 12, 2011

**To:** Jorge Vital, DIC Coordinator
Department of Planning and Zoning

**Thru** Maria I. Nardi, Chief
Planning and Research Division

**From:** John M. Bowers, AICP/RLA
Landscape Architect 2
Planning and Research Division

**Subject:** Z20080000175 – Archimedean Properties, LLC

---

**Application Name:** Archimedean Properties, LLC

**Project Location:** The site is located at 12425 SW 72 Street, Miami-Dade County. The site is currently used as a charter school, grades K-8 with an enrollment of 800 students.

**Proposed Development:** In the original letter of intent the applicant had requested approval for a Special Exception to expand the facility and enrollment to include 1,300 students in grades K-12. The applicant has submitted revised site plans (dated received 4-5-2011 by Miami-Dade County) and a revised letter of intent dated January 31, 2011 to include changes to the original application including the following:

- That night activities and/or special events at the charter school shall be limited to twenty-four (24) events per year and shall end no later than 10:00 pm;
- That the charter school use be limited to grades K-12 with the expansion from 800 to 1300 students as follows;
    - Year 1 2011-2012 School Year 800-950 students
    - Year 2 2012-2013 School Year 950-1100 students
    - Year 3 2013-2014 School Year 1100-1250 students
    - Year 4 2014-2015 School Year 1250-1300 students
- The applicant has deleted the suggested variance from Section 33-279(18) of the Miami-Dade County Code; and
- The applicant has provided a correction to the legal description of the property.

Subsequently a revised letter of intent dated April 4, 2011 was submitted addressing the recent updates to the site plan (dated received 4-5-2011 by Miami-Dade County).

**Impact and demand:** Because this application does not generate any residential population, the CDMP Open Space Spatial Standards do not apply and this Department has no objection to this application. Therefore, we have no comments concerning impact or demand on existing County parks, proposed or budgeted service expansion, nor do we perform a concurrency review.

If you need additional information or clarification on this matter, please contact John Bowers at (305) 755-5447.

MN:jb
Cc: John M. Bowers, RLA/AICP, Landscape Architect 2

Cancel

# Memorandum

MIAMI-DADE COUNTY

**Date:** April 28, 2011

**To:** Marc C. LaFerrier, Director
Department of Planning & Zoning

**From:** José A. Ramos, R.A., Chief, Aviation Planning Division
Aviation Department

**Subject:** DIC Application #08-175 - Revised Plans
Archimedean Properties, Inc.
DN-11-04-547

---

As requested by the Department of Planning and Zoning, the Miami-Dade Aviation Department (MDAD) has reviewed Developmental Impact Committee (DIC) Zoning Application #08-175, Archimedean Properties, Inc. The applicant is requesting a special exception to permit the expansion of an existing charter school into additional property. In addition, the applicant is also requesting to increase the number of students from 800 to 1300, to increase the grade levels from K-8 to K-12 and to modify a previously approved Resolution. The subject property is approximately 12 acres and is located at 12425 Sunset Drive, Miami-Dade County, Florida.

Based on the available information, MDAD has determined that the proposed land use is compatible with operations from MDAD's system of airports.

JR/rb

RECEIVED
MAY - 4 2011
MIAMI-DADE COUNTY
DIRECTOR'S OFFICE
DEPT. OF PLANNING & ZONING
20110513

**DATE:** 12-MAY-11

# BUILDING AND NEIGHBORHOOD COMPLIANCE DEPARTMENT

**ENFORCEMENT HISTORY OF VIOLATIONS OF CHAPTER 19 AND CHAPTER 33 OF THE MIAMI-DADE COUNTY CODE**

| ARCHIMEDEAN PROPERTIES, LLC | 12425 S.W. 72 STREET, MIAMI-DADE COUNTY, FLORIDA. |
|---|---|
| **APPLICANT** | **ADDRESS** |

Z2008000175

**HEARING NUMBER**

## HISTORY:

FOLIO:(3049250000620)/NO ZONING, BUILDING, OR LIEN VIOLATIONS FOUND
FOLIO: (3049250000681)/NO ZONING, BUILDING, OR LIEN VIOLATIONS FOUND
FOLIO: (3049250000690)/NO ZONING, BUILDING, OR LIEN VIOLATIONS FOUND

ARCHIMEDEAN PROPERTIES, LLC

## OUTSTANDING FINES, PENALTIES, COST OR LIENS INCURRED PURSUANT TO CHAPTER 8CC:

## REPORTER NAME:

# ZONING INSPECTION REPORT

**Inspector:** MARTINEZ, RAMIRO **Inspection Dat**

**Evaluator:** N/A 05/12/11

| **Process #:** | **Applicant's Name** |
|---|---|
| Z2008000175 | ARCHIMEDEAN PROPERTIES, LLC |

**Locations:** 12425 S.W. 72 STREET, MIAMI-DADE COUNTY, FLORIDA.

**Size:** 12.67 GROSS ACRES **Folio #:** 3049250000690

**Request:**

1 Special Exception to permit the expansion of an existing charter school onto adjacent property to the northeast.
2 Special Exception to permit additional students within the existing charter school from 800 students to 1,300 students in grades K-12.
3 Modification of Condition #6 of Resolution Z-21-09, passed and adopted by Board of County Commissioners on the 23rd day of July 2009, reading as follows:

FROM: "6. That the charter school use be limited to grades Kindergarten through 12th and be limited to a maximum of 800 students".

TO:"6. That the charter school use be limited to grades Kindergarten through 12th and be limited to a maximum of 1,300 students.
4 Modification of Conditions #3, #9 and #11 of Resolution Z-21-09, passed and adopted by Board of County Commissioners on the 23rd day of July 2009, reading as follows:

FROM: "3. That in the approval of the plan, the same be substantially in accordance with that submitted for the hearing entitled 'Archimedean Academy, Inc. Charter School Addition of Grades 9 to 12,' as prepared by Anthony E. Tzamtzis, consisting of 4 sheets dated stamped received 3/31/09."

TO: "3. That in the approval of the plan, the same be substantially in accordance with that submitted for hearing entitled 'Archimedean Academy, Inc. Master Plan for Middle and High School Expansion,' as prepared by Anthony E. Tzamtzis, AIA, consisting of 21 sheets dated stamped received April 12th, 2011", "Boundary Survey" prepared by Delta Surveyors, Inc. dated stamped received April 12, 2011.

FROM: "9. That night activities and/or functions at the charter school shall be limited to 12 events per year and shall end no later than 10:00 p.m.

TO: "9. That night activities and/or special events at the charter school shall be limited to 24 events per year and shall end no later than 10:00 p.m.

FROM: 11. That the charter school use shall be limited to Grades K-12th for a maximum of 800 students.

TO: 11. That the charter school use shall be limited to Grades K-12th for a maximum of 1,300 students.
5 Modification of Condition #2 of Resolution #Z-31-06 and further modified by Resolution Z-21-09, passed and adopted by the Board of County Commissioners on the 23rd day of July 2009, reading as follows:

FROM: 2. That the charter school use shall be limited to grades K through 12th for a total of 800 students as follows:

| | | |
|---|---|---|
| Year 1 | 2006-2007 School Year | addition of 80 students (620 Students) |
| Year 2 | 2007-2008 School Year | addition of 60 students (680 Students) |
| Year 3 | 2008-2009 School Year | addition of 60 students (740 students) |
| Year 4 | 2009-2010 School Year | addition of 60 students (800 Students) |

TO: 2. That the charter school use shall be limited to grades K through 12th with the expansion from 800 to 1,300 students as follows:

| | | |
|---|---|---|
| Year 1 | 2011-2012 School Year | No. of permitted students 800-950 |
| Year 2 | 2012-2013 School Year | No. of permitted students 950-1100 |
| Year 3 | 2013-2014 School Year | No. of permitted students 1100-1250 |

# ZONING INSPECTION REPORT

Year 4 2014-2015 School Year No. of permitted students 1250-1300

6 Deletion of three (3) Declaration of Restrictions recorded at Official Records Book 23679 pages 4935 - 4943, recorded at OR 25853, PG 4991-5006 and OR 27020, PG 0954-972.

The purpose of requests #3-#5 is to permit the applicant to submit plans showing the expansion of the charter school onto additional property and show additional classroom buildings, to increase the number of students,n increase the number of night activities and functions and to delete three covenants in order to submit one consolidated covenant.
7 Applicant is requesting to permit parking on natural terrain (not permitted)
OR IN THE ALTERNATIVE TO REQUEST #7

8 Applicant is requesting to permit 197 parking spaces (327 required).

**EXISTING ZONING**

**Subject Property** GU,

**EXISTING USE** SCHOOL

**SITE CHARACTERISTICS**

**STRUCTURES ON SITE:**

TWO STORY SCHOOL BUILDING, 5 MODULAR BUILDINGS, 2 PREFAB SHEDS, AND AN ACCESSORY STRUCTURE ON SITE.

**USE(S) OF PROPERTY:**

CHARTER SCHOOL.

**FENCES/WALLS:**

THE NORTHERN & EASTERN PORTIONS OF THE SITE ARE ENCLOSED BY A 6 FT WOODEN AND CHAIN LINK FENCE.

**LANDSCAPING:**

THE SITE IS SUFFICIENTLY LANDSCAPED THROUGHOUT THE INTERIOR AND PERIMETER OF PROPERTY. LOT TREES & STREET TREES COMPLY W/ 18A.

**BUFFERING:**

THERE ARE TREES ALONG THE FRONT AND REAR PROPERTY LINES OF THE PROPERTY THAT HELP SERVE AS A BUFFER.

**VIOLATIONS OBSERVED:**

THERE ARE TWO SHEDS ON THE NE CORNER OF PARCEL 1 (SEE SURVEY ENTITLED ALTA/ACSM) THAT DO NOT COMPLY W/SETBACKS. THESE TWO SHEDS ALONG WITH 3 METAL CONTAINERS HAVE TO BE LEGALIZE OR REMOVED FROM PROPERTY. SEE PICTURES ON PAGE 3. BNC ENFORCEMENT LETTER HAS NOT BEEN SUBMITTED AS OF YET, BUT A REVIEW OF BNC RECORDS & CLERK OF THE COURTS SHOWED NO OPEN CASES OR CITATIONS ON THIS PROPERTY.

**OTHER:**

| **Process #** | **Applicant's Name** |
|---|---|
| Z2008000175 | ARCHIMEDEAN PROPERTIES, LLC |

# ZONING INSPECTION REPORT

**SURROUNDING PROPERTY**

**NORTH:**

GU; SINGLE-FAMILY RESIDENCES & PLANT NURSERY.

**SOUTH:**

GU; CHURCHES & EUM; 2 STORY SINGLE FAMILY RESIDENCES.

**EAST:**

GU; PLANT NURSERY

**WEST:**

GU; CHURCHES

**SURROUNDING AREA**

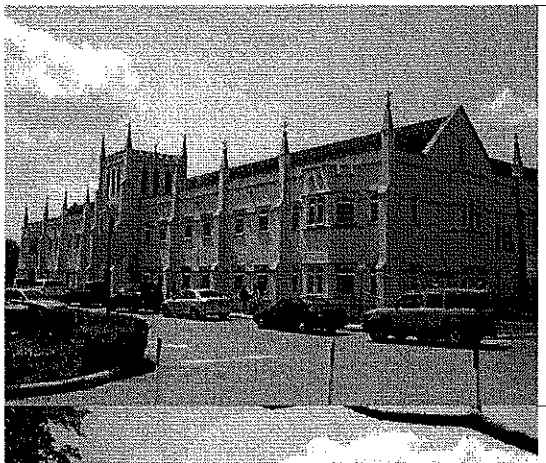
THE AREA SURROUNDING THE SUBJECT PROPERTY IS DEVELOPED W/INSTITUTIONAL USES SUCH AS CHURCHES. A SINGLE-FAMILY RESIDENTIAL SUBDIVISION LIES TO THE SOUTH AND PLANT NURSERIES ARE FOUND TO THE NORTH & EAST.

**NEIGHBORHOOD CHARACTERISTICS**

THE NEIGBORHOOD AREA IS CHARACTERIZED BY CHURCHES, SINGLE FAMILY RESIDENCES, AND PLANT NURSERIES.

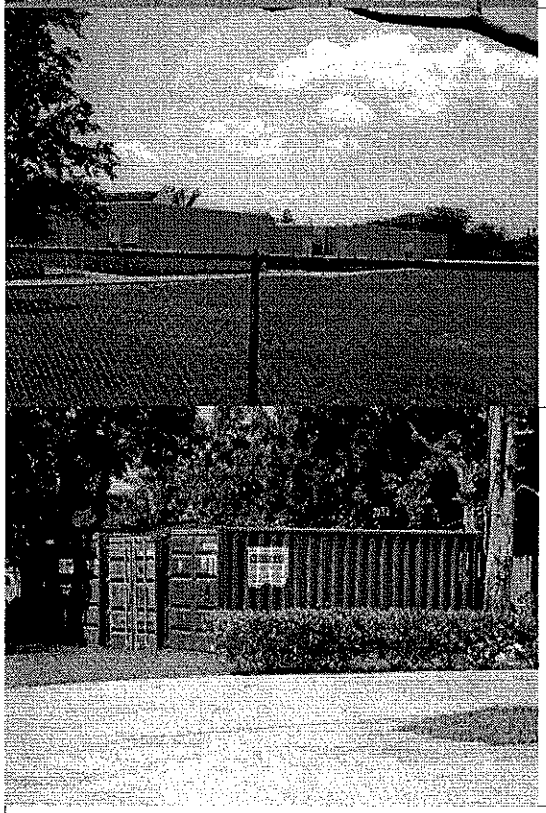
**COMMENTS:**

**Inspector** ***MARTINEZ, RAMIRO***
**Evaluator** ***N/A***
**Process Number:** ***Z2008000175*** **Applicant Name** ***ARCHIMEDEAN PROPERTIES, LLC***



Date: 12-MAY-11

Comments: NORTHWEST FRONT VIEW OF SUBJECT PROPERTY.



Date: 12-MAY-11

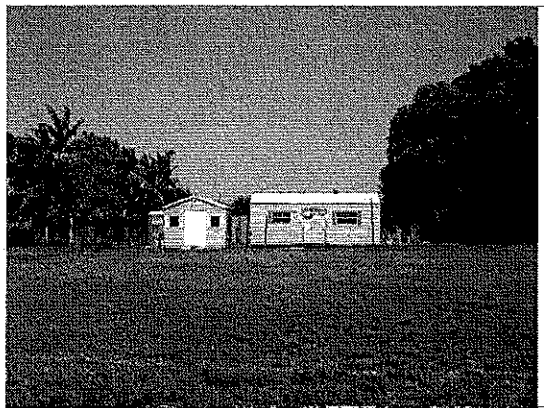
Comments: 5 MODULAR BUILDINGS LOCATED DIRECTLY BEHIND THE SCHOOL.



Date: 12-MAY-11

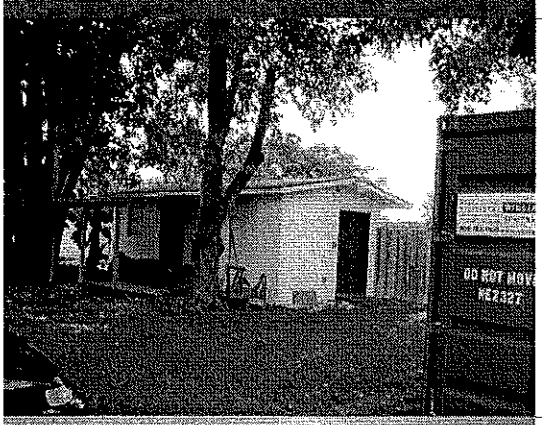
Comments: 3 ILLEGAL METAL CONTAINERS LOCATED AT THE NE CORNER OF PARCEL 2.

**Inspector** *MARTINEZ, RAMIRO*
**Evaluator** *N/A*
**Process Number:** *Z2008000175* **Applicant Name** *ARCHIMEDEAN PROPERTIES, LLC*



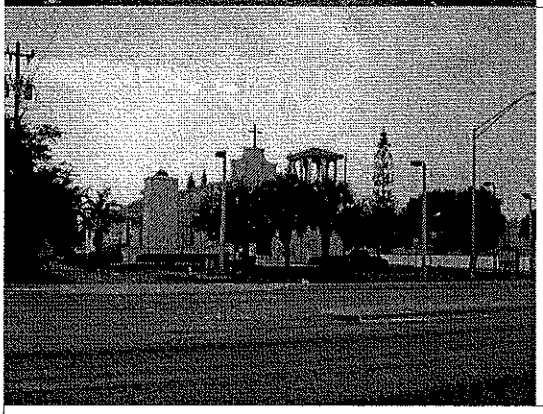
Date: 12-MAY-11

Comments: TWO ILLEGAL SHEDS LOCATED ON THE NE CORNER OF PARCEL 1.



Date: 12-MAY-11

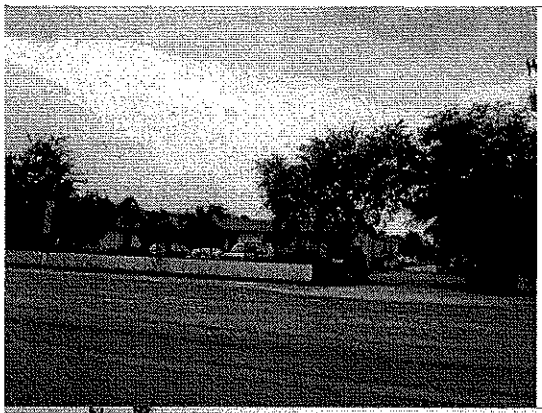
Comments: ACCESSORY STORAGE BLDG LOCATED IN THE CENTER PORTION OF PARCEL 2.



Date: 12-MAY-11

Comments: CHURCH LOCATED TO THE SW OF SUBJECT PROPERTY.

**Inspector** ***MARTINEZ, RAMIRO***
**Evaluator** ***N/A***
**Process Number:** ***Z2008000175*** **Applicant Name** ***ARCHIMEDEAN PROPERTIES, LLC***

| | |
|---|---|
|  | Date: 12-MAY-11<br>Comments: PRIVATE SCHOOL LOCATED DIRECTLY TO THE SOUTH OF SUBJECT PROPERTY. |
| | Date: 12-MAY-11<br>Comments: EUM SUBDIVISION LOCATED TO THE SE OF SUBJECT PROPERTY. |
| | Date: 12-MAY-11<br>Comments: RELIGIOUS FACILITY LOCATED TO THE SOUTH. |
| | |

**Inspector** ***MARTINEZ, RAMIRO***
**Evaluator** ***N/A***
**Process Number:** ***Z2008000175*** **Applicant Name** ***ARCHIMEDEAN PROPERTIES, LLC***

| | |
|---|---|
| | Date: 12-MAY-11<br>Comments: MODULAR BLDGS ON SUBJECT PROPERTY. LOCATED TO THE NORTH SIDE OF SCHOOL BLDG. |
| | Date: 12-MAY-11<br>Comments: PLANT NURSERY LOCATED TO THE EAST OF SUBJECT PROPERTY. |
| | Date: 12-MAY-11<br>Comments: TREE BUFFER LOCATED ALONG THE NORTH PROPERTY LINE OF SUBJECT PROPERTY. |
| | |

**Inspector** ***MARTINEZ, RAMIRO***
**Evaluator** ***N/A***
**Process Number:** ***Z2008000175*** **Applicant Name** ***ARCHIMEDEAN PROPERTIES, LLC***

Date: 12-MAY-11

Comments: LANDSCAPE BUFFER IN THE FRONT EAST SIDE OF SCHOOL.

Date: 12-MAY-11

Comments: LANDSCAPE BUFFER IN THE FRONT WEST SIDE OF SCHOOL.

# Miami-Dade County Public Schools

*giving our students the world*

***Superintendent of Schools***
*Alberto M. Carvalho*

***Miami-Dade County School Board***
*Agustin J. Barrera, Chair*
*Perla Tabares Hantman, Vice Chair*
*Renier Diaz de la Portilla*
*Evelyn Langlieb Greer*
*Dr. Wilbert "Tee" Holloway*
*Dr. Martin Karp*
*Ana Rivas Logan*
*Dr. Marta Pérez*
*Dr. Solomon C. Stinson*

November 05, 2008

Mr. Marc C. LaFerrier, Director
Department of Planning and Zoning
Miami-Dade County
111 NW 1 Street, 11th Floor, Suite 1110
Miami, FL 33128

**Received by**
**Zoning Agenda Coordinator**
**NOV 07 2008**

RE: **08-175, Archimedean Academy, Inc. Charter School Inc. (6-12)**
**12425 SW 72 Street**

Dear Mr. LaFerrier:

In response to your Department's request seeking information regarding traditional public and charter schools in the general area of the above-referenced charter school application, please see the attached Public School Projected Capacity Analysis (Attachment A).

As you will note under Attachment A, Miami Sunset is currently designated as the school to serve the area of this application at the 9 through 12 grade levels. In addition, the analysis provides capacity information for traditional public schools in the surrounding area, depicting an overall surplus of student stations at the senior high level of 1,227.

As always, thank you for your consideration and continued partnership in our mutual goal to enhance the quality of life for the residents of our community.

Sincerely,

Ivan M. Rodriguez, R.A.
Director II

IMR:ir
L 211
Attachments

Received by
Zoning Agenda Coordinator
NOV 07 2008

cc: Ms. Ana Rijo-Conde
Mr. Fernando Albuerne
Ms. Vivian G. Villaamil
Ms. Corina Esquijarosa
Ms. Maria-Teresa Fojo
Mr. Nick Nitti

*Facilities Planning*
*Ana Rijo-Conde, AICP, Planning Officer • 1450 N.E.2nd Avenue, Suite 525 • Miami, Florida 33132*
*305-995-7285 • FAX 305-995-4760 • Arijo@dadeschools.net*

**ATTACHMENT "A"**
**PUBLIC SCHOOL PROJECTED ANALYSIS**
November 5, 2008

Received by
Zoning Agenda Coordinator
NOV 0 7 2008

**APPLICATION:** 08-175, Archimedean Properties, LLC.

**SCHOOLS SERVING AREA OF APPLICATION**

**SENIOR:** Miami Sunset Senior High – 13125 SW 72 Street

School is located in South Regional Center.

**The following student population and available facility capacity data is based on student enrollment as of October 2008:**

| | STUDENT POPULATION | FISH DESIGN CAPACITY PERMANENT | % UTILIZATION FISH DESIGN CAPACITY PERMANENT | NUMBER OF PORTABLE STUDENT STATIONS | % UTILIZATION FISH DESIGN CAPACITY PERMANENT AND RELOCATABLE | DEFICIT OR SURPLUS CAPACITY |
|---|---|---|---|---|---|---|
| **Senior High Schools** | | | | | | |
| Miami Sunset Senior | 2,771 | 2,421 | 114% | 428 | 97% | 78 |
| Felix Varela Senior | 3,361 | 2,817 | 119% | 0 | 119% | -544 |
| G. Holmes Braddock Senior | 3,617 | 2,859 | 127% | 926 | 96% | 168 |
| John A. Ferguson Senior | 4,151 | 3,776 | 110% | 0 | 110% | -375 |
| S/S HHH1 (New Senior)* | 0 | 1,900 | 0% | 0 | 0% | 1,900 |
| | | | | | AVAILABLE STUDENT STATIONS | 1,227 |

* Currently Under Design

# Memorandum

MIAMI-DADE COUNTY

**Date:** April 15, 2011

**To:** Jorge Vital, DIC Coordinator
Department of Planning and Zoning

**From:** Maria A. Valdes, Section Chief
Comprehensive Planning & Water Supply Certification

**Subject:** Archimedean Properties, LLC - DIC Application # - Z2008000175 (REVISION # 1)

---

Below, please find the Miami-Dade Water and Sewer Department's (MDWASD) comments for the subject project.

**Application Name:** Archimedean Properties, LLC.

**Project Location:** 12425 SW 72nd Street, Miami, Florida.

**Proposed Development:** Requesting approval of a Special Exception to expand Archimedean's Charter Schools onto the property to the east and north of said school. Archimedean is requesting a gradual expansion of the school's current enrollment of 800 students in grades K-8 to an enrollment of 1,300 students in grades K-12. The school will have a total gross area of 76,791 square feet of which a total of 48,135 square feet is proposed with this application. The total water demand of the school is 9,215 gallons per day (gpd), based on new flow rates implemented on October 1, 2010. A total of 5,776 gpd is generated by the proposed development. Please see the table below which describes the project total net increase of water demand.

| Total Water Demand | | |
|---|---|---|
| USE | Rate | Water Demand (gpd) |
| **Proposed Total School Square Footage = 76,791 sq.ft.** | 12gpd/100sq.ft. | 9,215 |
| **Total Existing School Square Footage = 28,656 sq.ft.** | 12gpd/100sq.ft. | 3,439 |
| | **NET Increase** | **5,776** |

**Water:** The subject project is located within MDWASD's service area. The nearest point of connection for water is either an existing eight (8)-inch or twelve (12)-inch Water Mains on the property. The source of water for this project is the Alexander Orr Water Treatment Plant.

Additionally, on January 11, 2011, MDWASD implemented a Water Supply Certification Program to assure adequate water supply is available to all water users of the MDWASD as required by policy CIE-5D and WS-2C in the County's CDMP and in accordance with the permitted withdrawal capacity in the MDWASD's 20-year Water Use Permit. Please note that a Water Supply Certification will be required for this project. The certification letter is issued at the time an Agreement, Verification Form or Ordinance Letter is offered or during the Plat process prior to the final Development Order. MDWASD will be the utility providing water services subject to the following conditions:

- Adequate transmission and Plant capacity exist at the time of the applicant's request.
- Adequate water supply is available prior to issuance of a building permit or its functional equivalent.
- Approval of all applicable governmental agencies having jurisdiction over these matters are obtained.

**Sewer:** The subject project is located within MDWASD's service area. There is an existing private pump station within the property. The South District Wastewater Treatment Plant (WWTP) is the facility for treatment and disposal of the wastewater. This WWTP is currently operating under a permit from the Florida Department of Environmental Protection. MDWASD will be the utility providing sewer services subject to the following conditions:

- Adequate transmission and plant capacity exist at the time of the owner's request. Capacity evaluations of the plant for average flow and peak flows will be required, depending on the compliance status of the United States Environmental Protection Agency (USEPA) Second and Final Partial Consent Decree.

- Approval of all applicable governmental agencies having jurisdiction over these matters are obtained.

**Water Conservation:** All future development for the subject area will be required to comply with water use efficiency techniques for indoor water use in accordance with Section 8-31, 32-84 and 8A-381 of the Code of Miami-Dade County. In addition, the future development will be required to comply with the landscape standards in sections 18-A and 18-B of Miami-Dade County Code.

For more information about our Water Conservation Program please go to http://www.miamidade.gov/conservation/home.asp.

For information concerning the Water-Use Efficiency Standards Manual please go to http://www.miamidade.gov/conservation/library/WUE_standards_manual_final.pdf

Should you have any questions, please call me at (786) 552-8198.

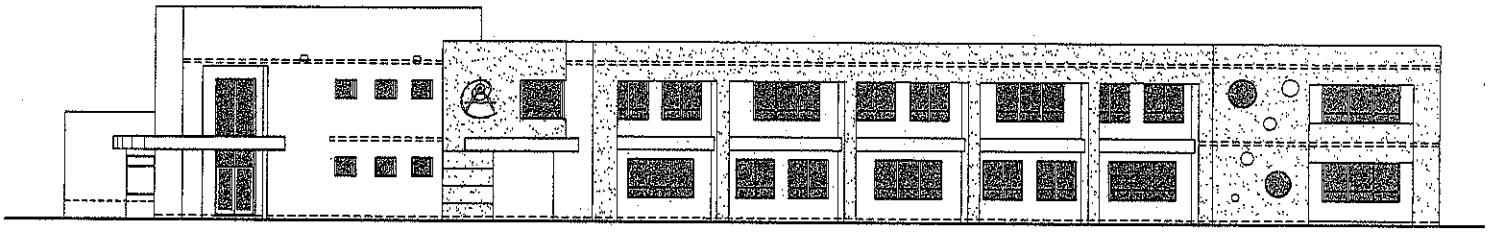
# ARCHIMEDEAN ACADEMY, INC

## • CHARTER SCHOOLS •

## MASTER PLAN FOR MIDDLE AND HIGH SCHOOL EXPANSION

12425 SUNSET DR. - MIAMI - FLORIDA - 33183

D.I.C. SUBMITTAL
SEPTEMBER 03, 2008



### OWNER

ARCHIMEDEAN PROPERTIES, LLC.

12425 SW 72ND STREET
MIAMI, FLORIDA, 33183

### TRAFFIC CONSULTANT

KIMLEY-HORN AND ASSOCIATES, INC.
4431 EMBARCADERO DRIVE
WEST PALM BEACH, FL 33407
TEL. (561) 845 0606

### ARCHITECT

ANTHONY E. TZAMTZIS, AIA
ARCHITECT AR 09207

2421 TIGERTAIL AVENUE, MIAMI, FL 33133
PH. (305) 389-9009 FAX (305) 857-3542
EMAIL: atzamtzis@bellsouth.net

RECEIVED
Z08-175
APR 05 2011
MIAMI-DADE COUNTY
DEPT. OF PLANNING & ZONING
DEVELOPMENTAL IMPACT COMMITTEE
BY

### INDEX OF DRAWINGS

COVER SHEET

EXISTING

MP/EX-1 EXISTING SITE PHOTOGRAPHS
MP/EX-2 EXISTING SITE PHOTOGRAPHS
MP/EX-3 EXISTING ELEMENTARY SCHOOL BLDG. FLOOR PLAN AND ELEVATIONS
MP/EX-4 EXISTING MODULARS AND CAFETERIA FLOOR PLAN AND ELEVATIONS
MP/EX-5 EXISTING AERIAL PHOTOGRAPHY

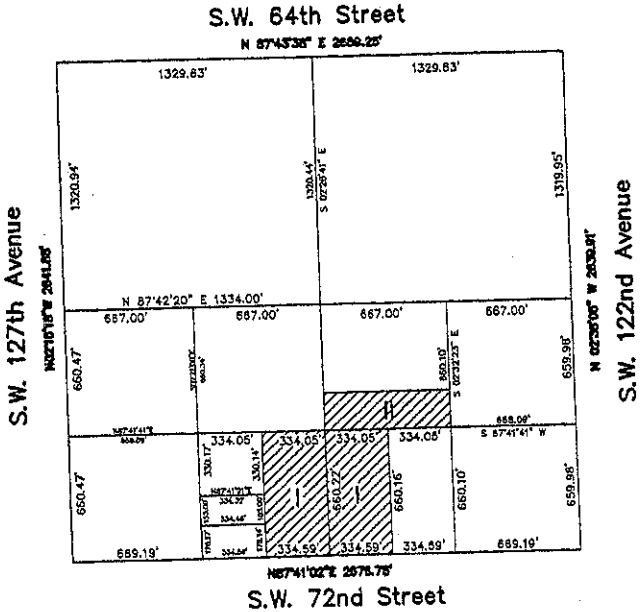
PROPOSED
Master Plan Set

MP-1 EXISTING SITE PLAN
MP-2 DEMOLITION SITE PLAN
MP-3.0 PHASING PLAN
MP-3.1 PROPOSED MASTER SITE PLAN AND SCOPE OF WORK
MP-3.2 PROPOSED VEHICULAR STACKING AND PARKING SITE PLAN
MP-3.3 SITE DETAILS
MP-4 MIDDLE & HIGH SCHOOL BLDG.- FLOOR PLAN
MP-4.1 MIDDLE & HIGH SCHOOL BLDG. - ELEVATIONS
MP-5 GYMNASIUM BLDG.- FLOOR PLAN
MP-5.1 GYMNASIUM BLDG. - ELEVATIONS
MP-6 CULTURAL CENTER BLDG. FLOOR PLAN AND ELEVATIONS
MP-7 TENNIS FACILITIES BLDG. FLOOR PLAN AND ELEVATIONS

LANDSCAPE

MP/L-1 EXISTING LANDSCAPE PLAN
MP/L-1a EXISTING LANDSCAPE SCHEDULES & SUMMARIES
MP/L-2 PROPOSED LANDSCAPE PLAN

| REVISIONS | | |
|---|---|---|
| NO | DATE | DESCRIPTION |
| 1 | 01-23-09 | RESPONSE TO ZONING AND TRAFFIC COMMENTS |
| 2 | 03-27-09 | RESPONSE TO ZONING COMMENTS |
| 3 | 03-22-10 | SUP. TO ZONING COMMENTS (Updated Survey) RESPONSE TO DERM COMMENTS |
| 4 | 09-09-10 | MDC Public Works Traffic Dept. Comments |
| 5 | 11-17-10 | Response to Zoning / Traffic Dept. Comments |
| 6 | 01-05-11 | Response to Zoning Comments |
| 7 | 04-04-11 | Response to Zoning Comments |




SW 1/4, Section 25-54-39
LOCATION SKETCH
Scale 1"= 500'

GRAPHIC SCALE

( IN FEET )
1 inch = 60 ft.

| SYMBOL LEGEND | | | |
|---|---|---|---|
| Curb Cut | | Concrete | |
| Palm Tree | X | Ground Elev. | |
| Palmetto Tree | | Wall | |
| Tree | | Baseline | |
| Flow of Traffic | —— | Iron Fence | |
| Survey Point | —— | Wood Fence | |
| Water Hose Bib | —— | Chain Link Fence | |
| Catch Basin | —— | Concrete | |
| Traffic Signal Control Box | | Metal Pole w/Sign | |
| Cell Box | | Wood Pole | |
| Guy Anchor | | Metal Pedestrian Signal Pole | |
| Sewer Valve | | Fire Hydrant | |
| Telephone Cable Meter | | Electric Transformer | |
| Traffic Signal Pole | | Electrical Box | |
| Telephone Box | | Water Meter | |
| Support Column | | Mail Box | |
| Gas Meter | | Parking Meter | |
| Sign/Post | | Electrical Manhole | |
| Aluminum Lt Pole | | Telephone Manhole | |
| Gas Handhole | | FPL Box | |
| Conc. Power Pole | | Water Valve | |
| Inlet | | Metal Post | |
| Manhole | | Gas Valve | |
| Cable TV Box | | Valve - Misc | |
| Storm Manhole | | | |

RECEIVED
APR 0 5 2011
MIAMI-DADE COUNTY
DEPT. OF PLANNING & ZONING
DEVELOPMENTAL IMPACT COMMITTEE
BY_____

LEGAL DESCRIPTION PARCEL I: The East 1/2 of the SE 1/4 of the SW 1/4 of the SW 1/4, LESS the South 50.0 feet thereof, in Section 25, Township 54 South, Range 39 East, Miami-Dade County, Florida.

PARCEL II
The West 1/2 of SW 1/4 of the SE 1/4 of the SW 1/4, LESS the South 50.0 feet thereof, in Section 25, Township 54 South, Range 39 East, Miami-Dade County, Florida.

The South 1/2 of the South 1/2 of the NW 1/4 of the SE 1/4 of the SW 1/4 of Section25, Township 54 South, Range 39 East, LESS the East 25.0 feet, lying and being in Dade County, Florida, now known as Miami-Dade County, Florida.

SURVEY FOR: 12425 SUNSET DRIVE
MIAMI, FLORIDA
5950 SW 122ND AVENUE
MIAMI, FLORIDA

I HEREBY CERTIFY: That the SKETCH OF SURVEY of the above captioned property was completed under my supervision and/or direction, to the best of my knowledge and belief. This survey meets or exceeds the Minimum Technical Standards set forth by the Florida Board of Land Surveyors in Chapter 61G-17-6 Florida Administrative Code. Pursuant to Section 472.027, Florida Statutes.

DELTA SURVEYORS, INC.

DELTA SURVEYORS, INC.
13052 SW 133RD COURT
MIAMI, FLORIDA 33186

CERTIFICATE OF AUTHORIZATION
L.B. NO. 3386
STATE OF FLORIDA

305-253-0909
FAX: 305-253-0933

WALDO F. PAEZ DATE SIGNED:
PROFESSIONAL SURVEYOR AND MAPPER
NO. 3264
STATE OF FLORIDA

1)FLOOD ZONE: X & AH BASE: AH 8.0' PANEL NO. 0260 J
COMMUNITY NO. 120635 DATE OF MAP: 7-17-03
2)THERE MAY BE ADDITIONAL RESTRICTIONS THAT ARE NOT SHOWN ON THIS SURVEY THAT MAY BE FOUND IN THE PUBLIC RECORDS OF THIS COUNTY.
3)EXAMINATION OF ABSTRACT OF TITLE WILL HAVE TO BE MADE TO DETERMINE RECORDED INSTRUMENTS, IF ANY, AFFECTING PROPERTY
4) THIS CERTIFICATION IS ONLY FOR THE LANDS AS DESCRIBED, IT IS NOT A CERTIFICATION OF TITLE, ZONING, EASEMENTS, OR FREEDOM OF ENCUMBRANCES. ABSTRACT NOT REVIEWED
5)LOCATION AND IDENTIFICATION OF UTILITIES, IF ANY ARE SHOWN IN ACCORDANCE WITH RECORDED PLAT
6)OWNERSHIP IS SUBJECT TO OPINION OF TITLE
7)TYPE OF SURVEY: BOUNDARY SURVEY
8)THE HEREIN CAPTIONED PROPERTY WAS SURVEYED AND DESCRIBED BASED ON THE SHOWN LEGAL DESCRIPTION: PROVIDED BY CLIENT
9)SURVEY MAP AND REPORT OR THE COPIES THEREOF ARE NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER
10)THIS PLAN OF SURVEY, HAS BEEN PREPARED FOR THE EXCLUSIVE USE OF THE ENTITIES NAMED HEREON. THE CERTIFICATE DOES NOT EXTEND TO ANY UNNAMED PARTIES
11)UNDERGROUND UTILITIES ARE NOT DEPICTED HEREON. CONTACT THE APPROPRIATE AUTHORITY PRIOR TO ANY DESIGN WORK OR CONSTRUCTION ON THE PROPERTY HEREIN DESCRIBED. SURVEYOR SHALL BE NOTIFIED AS TO ANY DEVIATION FROM UTILITIES SHOWN HEREON.
12)THE SURVEYOR OF RECORD DOES NOT DETERMINE OWNERSHIP OF FENCES. MEASUREMENTS SHOWN HEREON DEPICT PHYSICAL LOCATION OF FENCE
13)ACCURACY: THE EXPECTED USE OF LAND AS CLASSIFIED IN THE MINIMUM TECHNICAL STANDARDS (61G17-7-FAC), IS "SUBURBAN", THE MINIMUM RELATIVE DISTANCE ACCURACY FOR THE TYPE OF BOUNDARY SURVEY IS 1 FOOT IN 7,500 FEET. THE ACCURACY OBTAINED BY MEASUREMENT AND CALCULATION OF A CLOSED GEOMETRIC FIGURE WAS FOUND TO EXCEED THIS REQUIREMENT
14)IN SOME INSTANCES, GRAPHIC REPRESENTATIONS HAVE BEEN EXAGGERATED TO MORE CLEARLY ILLUSTRATE RELATIONSHIPS BETWEEN PHYSICAL IMPROVEMENTS AND/OR LOT LINES. IN ALL CASES, DIMENSIONS SHOWN SHALL CONTROL THE LOCATION OF THE IMPROVEMENTS OVER SCALED POSITIONS.
15)NO ATTEMPT HAS BEEN MADE TO LOCATE ANY FOUNDATION BENEATH THE SURFACE OF THE GROUND.
16)CONTACT THE APPROPRIATE AUTHORITY PRIOR TO ANY DESIGN WORK ON THE HEREIN DESCRIBED PARCEL FOR BUILDING AND ZONING INFORMATION.
17) ADDITIONS OR DELETIONS TO SURVEY MAPS OR REPORTS BY OTHER THAN THE SIGNING PARTY OR PARTIES IS PROHIBITED WITHOUT WRITTEN CONSENT OF THE SIGNING PARTY OR PARTIES

IF ELEVATIONS ARE SHOWN, THEY ARE BASED ON A CLOSED LEVEL LOOP USING THIRD ORDER PROCEDURE AND ARE RELATIVE TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929.
D.O DENOTES EXISTING ELEVATION
ELEVATION REFERS TO THE NATIONAL GEODETIC VERTICAL DATUM OF MEAN SEA LEVEL OF 1929
BENCHMARK: P-465-R ELEVATION: +8.84'
LOCATOR INDEX: 4915

FIELD SURVEY DATE: 2-22-08 SCALE: 1" = 100' DRAWN BY: Y.F.
DRAWING DATE: 2-25-08 FB: SKETCH DRAWING NO.: 08-0156 z
REVISED ON: 4-23-09 (UPDATE SURVEY)
REVISED DATE: 02-16-10 (UP-DATE) NEW DRAWING NO.: 10-0090 z

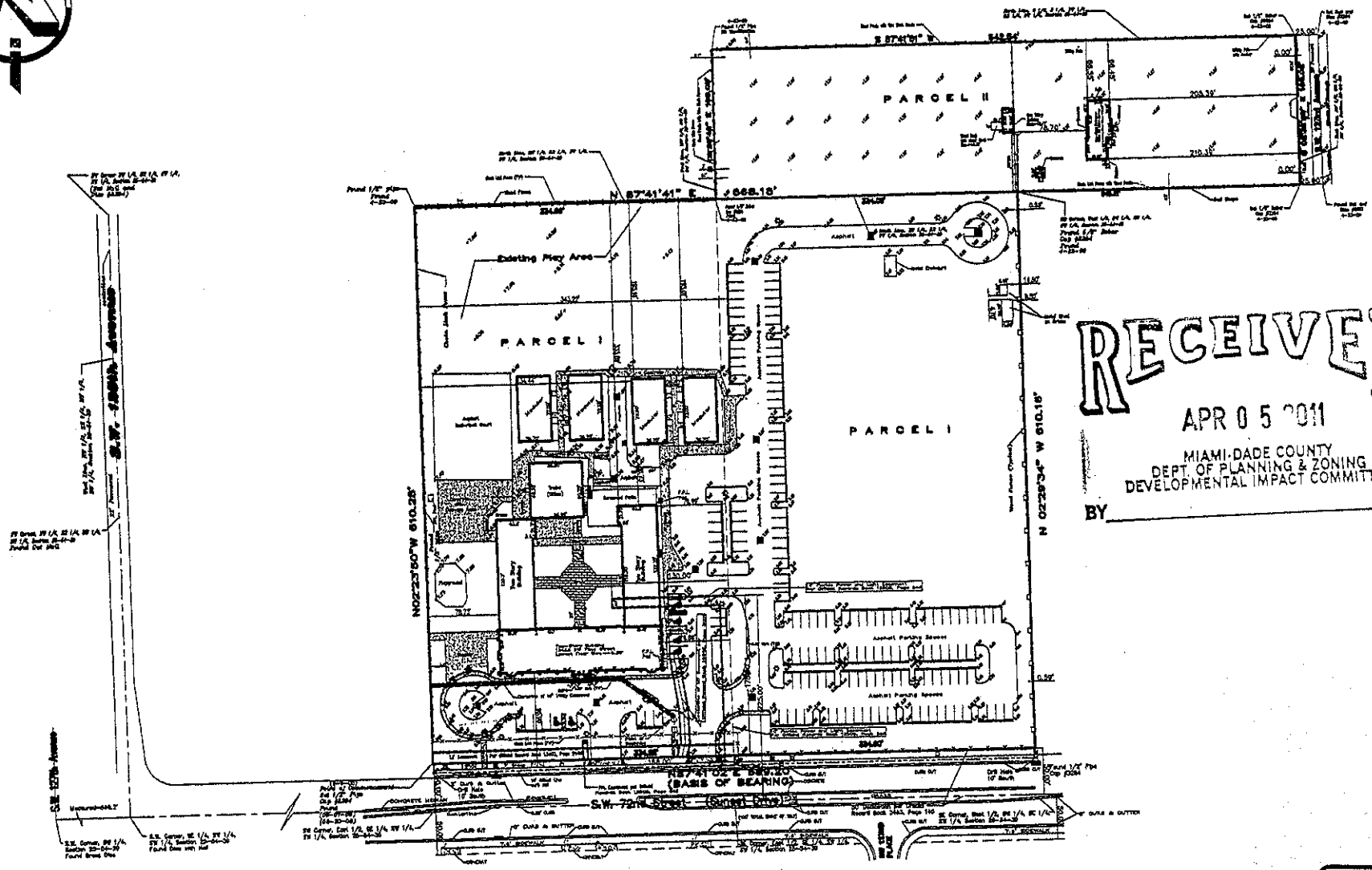
SEAL

Delta Surveyors, Inc.
13052 SW 133rd COURT MIAMI, FL 33186
PHONE: (305) 253-0909 E-MAIL: DELTA@BELLSOUTH.NET
Surveyors, Land Planners & Mappers

# BOUNDARY SURVEY

| REVISIONS |
|---|
| DATE: 02-16-10 |
| SCALE: 1"= 50' |
| DRAWN BY: Y.F. |
| DRAWING NO: 10-0090z |
| SHEET NO. 1 OF 1 |

# "ALTA/ACSM Land Title Survey"




RECEIVED

APR 0 5 2011

MIAMI-DADE COUNTY
DEPT. OF PLANNING & ZONING
DEVELOPMENTAL IMPACT COMMITTEE

BY

THIS DOCUMENT CONSIST OF TWO (2) SHEETS AND EACH SHEET SHALL NOT BE CONSIDERED FULL , VALID AND COMPLETE UNLESS ATTACHED TO THE OTHER.

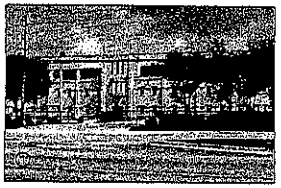
SEAL

Delta Surveyors, Inc.

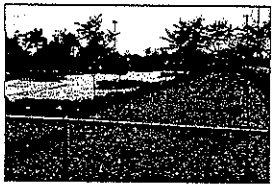
Surveying Land Planning & Mapping

ALTA/ACSM SURVEY

DATE: 02-15-10
SCALE: 1"= 50'
DRAWN BY: Y.F.
DRAWING NO.: 10-0002
SHEET NO.: 2 OF 2

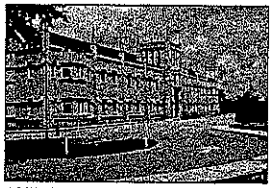


VIEW OF THE FRONT SCHOOL ENTRANCE FROM ACROSS SUNSET DRIVE



LOOKING WEST ALONG THE LANDSCAPED BUFFER ON SUNSET DRIVE

MATURE OAK TREE BORDER THE FRONT AREA ALONG SUNSET DR. IN FRONT OF THE EXISTING BUILDING.

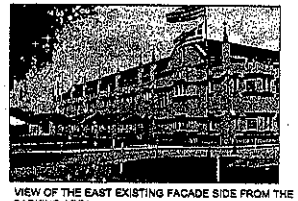


LOOKING EAST ON THE FRONT FACADE OF THE EXISTING SCHOOL BUILDING

VIEW OF THE WEST FACADE OF THE EXISTING SCHOOL WITH THE ELEMENTARY SCHOOL DROP OFF AND PICK-UP AREA

VIEW OF THE MATURE OAK TREES BORDERING ALONG SUNSET DRIVE

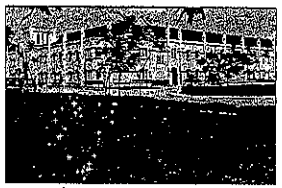
LOOKING INTO THE SCHOOL PROPERTY FROM THE EAST DRIVEWAY



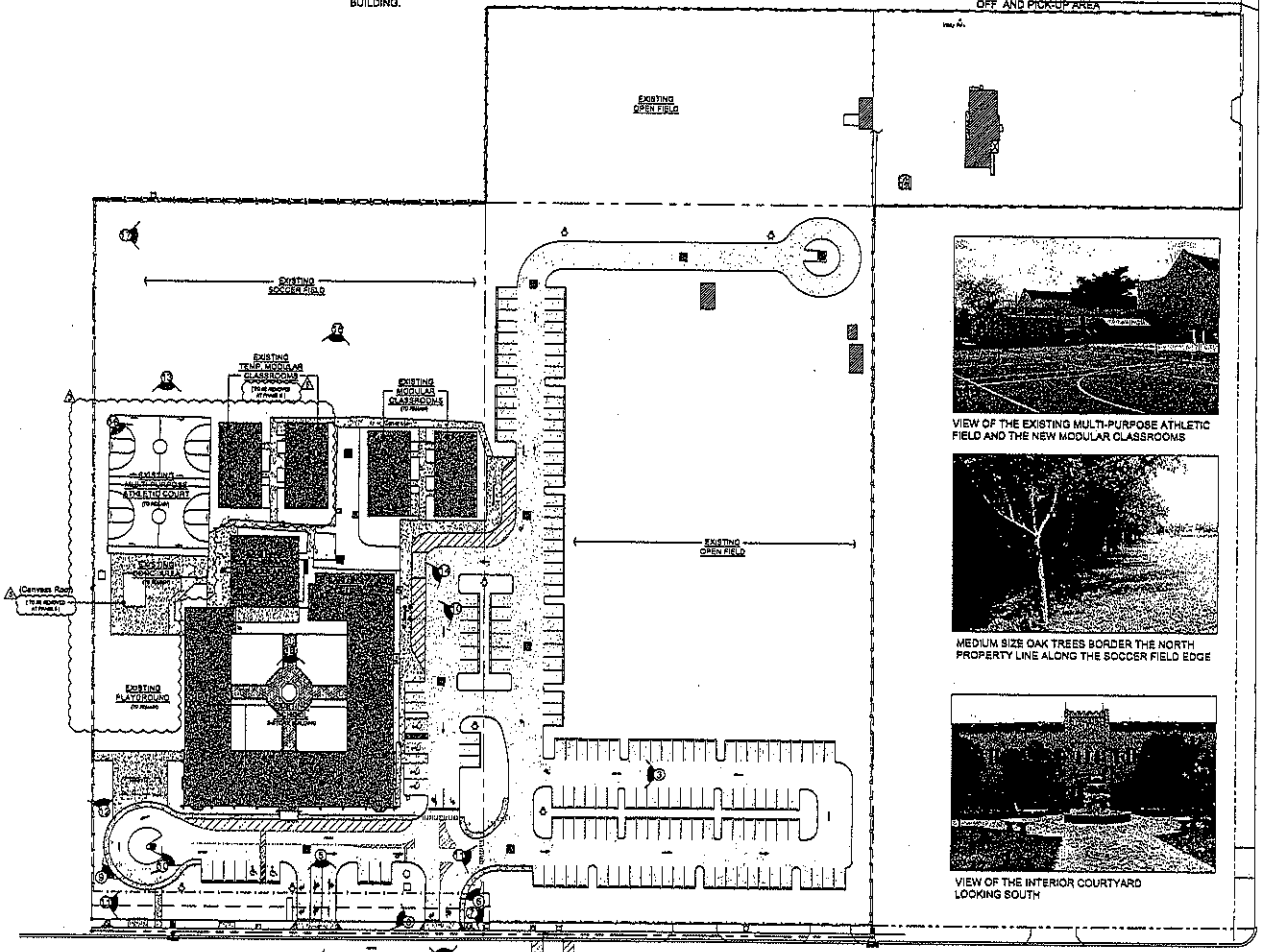
VIEW OF THE EAST EXISTING FACADE SIDE FROM THE PARKING AREA

LOOKING EAST ON SUNSET DRIVE. PEDESTRIAN CROSSING TRAFFIC LIGHT AT BACKGROUND

LOOKING ACROSS SUNSET DR OUT FROM THE WEST MAIN ACCESS DRIVEWAY



LOOKING WEST AT THE SW CORNER OF THE EXISTING BUILDING




EXISTING MASTER PLAN

SCALE: 1" = 50'



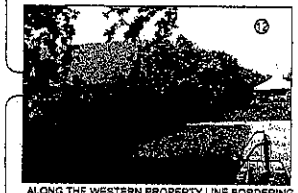
VIEW OF THE EXISTING MULTI-PURPOSE ATHLETIC FIELD AND THE NEW MODULAR CLASSROOMS



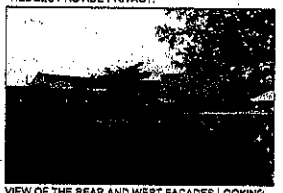
MEDIUM SIZE OAK TREES BORDER THE NORTH PROPERTY LINE ALONG THE SOCCER FIELD EDGE



VIEW OF THE INTERIOR COURTYARD LOOKING SOUTH

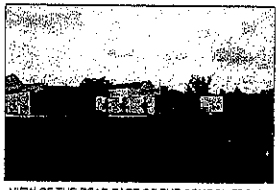


ALONG THE WESTERN PROPERTY LINE BORDERING AN EXISTING RELIGIOUS INSTITUTION THICK FICUS HEDGES PROVIDE PRIVACY.



VIEW OF THE REAR AND WEST FACADES LOOKING SOUTH WITH THE MULTI-PURPOSE ATHLETIC FIELDS IN FOREGROUND

VIEW OF THE REAR AND EAST FACADE WITH THE EXISTING TEMPORARY DINING AREA IN FOREGROUND



VIEW OF THE REAR PART OF THE SCHOOL FROM THE SOCCER FIELD WITH THE EXISTING MODULAR CLASSROOMS IN FOREGROUND.

RECEIVED

APR 0 5 2011

MIAMI-DADE COUNTY
DEPT. OF PLANNING & ZONING
DEVELOPMENTAL IMPACT COMMITTEE

BY

ANTHONY E. TZAMTZIS, AIA
ARCHITECT AR 09207

SITE PHOTOGRAPHS
TAKEN ON AUGUST 23, 2008
and SEPTEMBER 05,2010

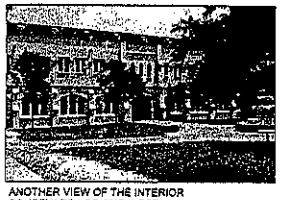
D.I.C. SUBMITTAL

ARCHIMEDEAN ACADEMY, INC

MASTER PLAN for Middle and High School Expansion

12425 Sunset Dr. Miami, Florida 33183

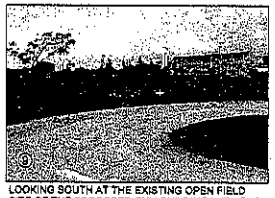
Date 09-03-08
Scale AS NOTED
Drawn
Job 08-1218.1
Sheet MP/EX-1



ANOTHER VIEW OF THE INTERIOR COURTYARD LOOKING WEST

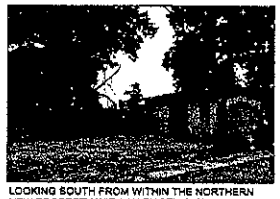
VIEW OF THE EXISTING OPEN FIELD SITE OF THE PROPOSED MIDDLE/HIGH SCHOOL BUILDING

LOOKING SOUTH ALONG THE EASTERN BOUNDARY LINE WITH FICUS TREES

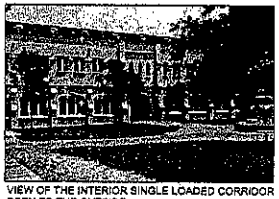


LOOKING SOUTH AT THE EXISTING OPEN FIELD SITE OF THE PROPOSED GYM BUILDING WITH THE EXISTING SCHOOL AT THE FAR BACKGROUND

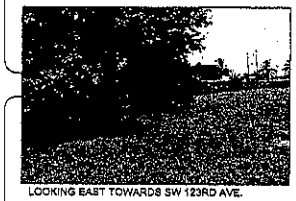
VIEW LOOKING EAST ACROSS THE EXISTING OPEN FIELD



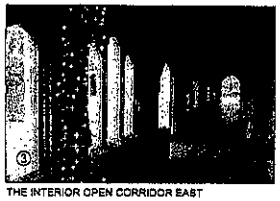
LOOKING SOUTH FROM WITHIN THE NORTHERN NEW PROPERTY WITH AN EXISTING DILAPIDATED STRUCTURE AT RIGHT



VIEW OF THE INTERIOR SINGLE LOADED CORRIDOR OPEN TO THE OUTSIDE



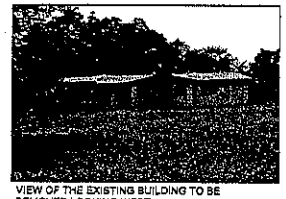
LOOKING EAST TOWARDS SW 123RD AVE.



THE INTERIOR OPEN CORRIDOR EAST

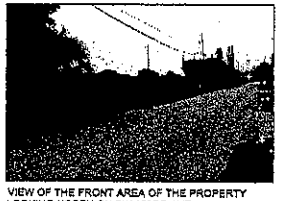


VIEW ACROSS THE STREET FROM THE PROPERTY ON SW 123RD AVENUE LOOKING EAST ONTO AN EXISTING HORSE FARM



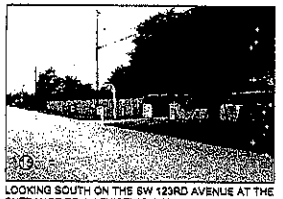
VIEW OF THE EXISTING BUILDING TO BE REMOVED LOOKING WEST

VIEW ACROSS THE UNSIGNALIZED INTERSECTION OF SUNSET AND SW 123rd AVE LOOKING EAST WITH ANOTHER NURSERY BUSINESS

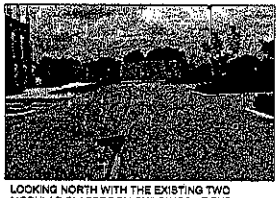


VIEW OF THE FRONT AREA OF THE PROPERTY LOOKING NORTH ON SW 123RD AVE.

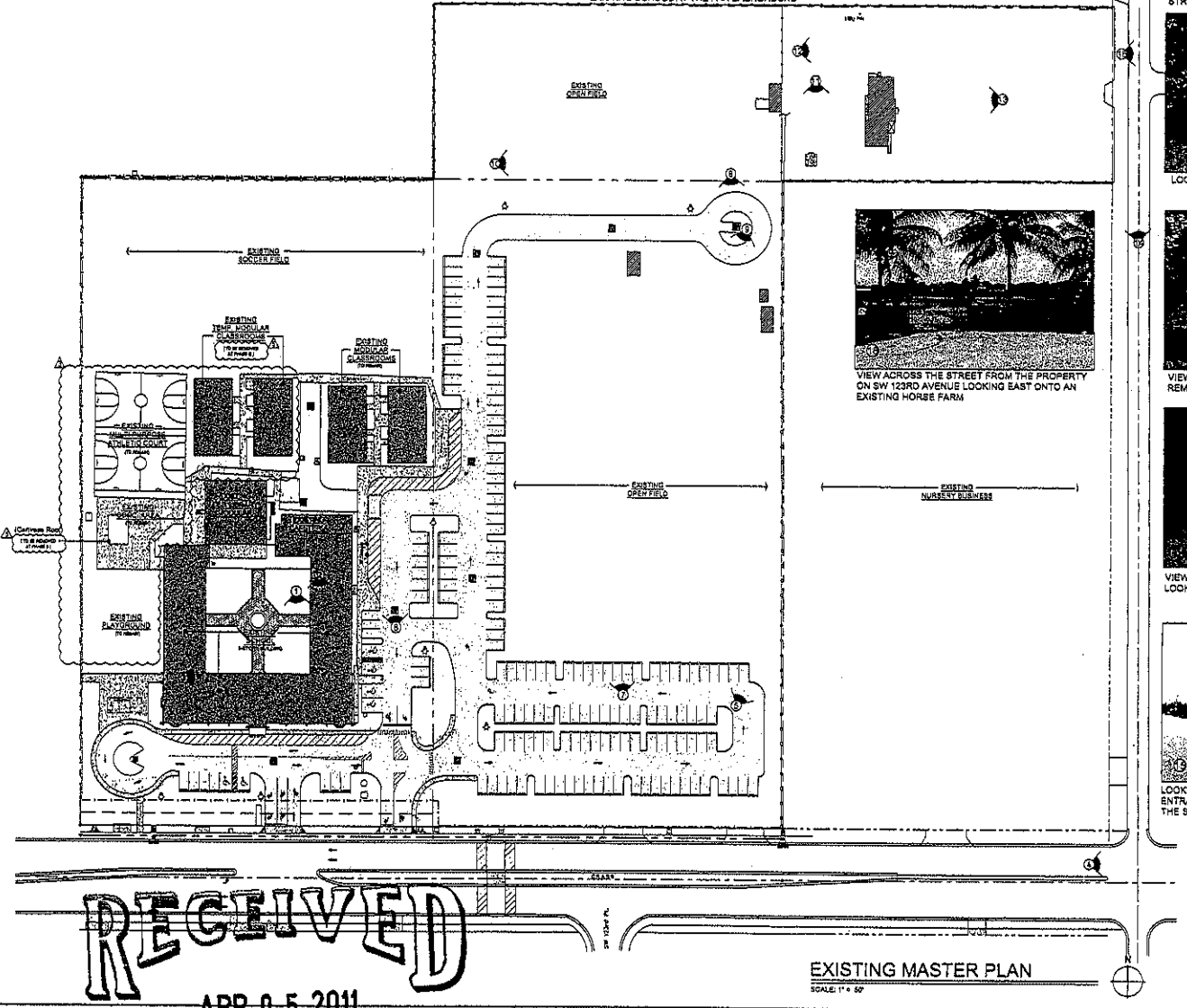
MATURE FICUS TREES BORDER THE SITE ALONG THE EAST PROPERTY LINE



LOOKING SOUTH ON THE SW 123RD AVENUE AT THE ENTRANCE TO AN EXISTING RESIDENCE ABUTTING THE SIDE ON THE NORTH SIDE



LOOKING NORTH WITH THE EXISTING TWO MODULAR CLASSROOM BUILDINGS AT THE BACKGROUND




EXISTING MASTER PLAN

SCALE: 1" = 50'

RECEIVED

APR 0 5 2011

MIAMI-DADE COUNTY
DEPT. OF PLANNING & ZONING
DEVELOPMENTAL IMPACT COMMITTEE

ANTHONY E. TZAMTZIS, AIA
ARCHITECT AR 95207
2421 TIGERTAIL AVENUE, MIAMI, FL 33133
PH. (305) 285-9005 FAX (305) 285-9051
EMAIL: atzamtzis@aol.com

SITE PHOTOGRAPHS
TAKEN ON AUGUST 23, 2008
and SEPTEMBER 05,2010

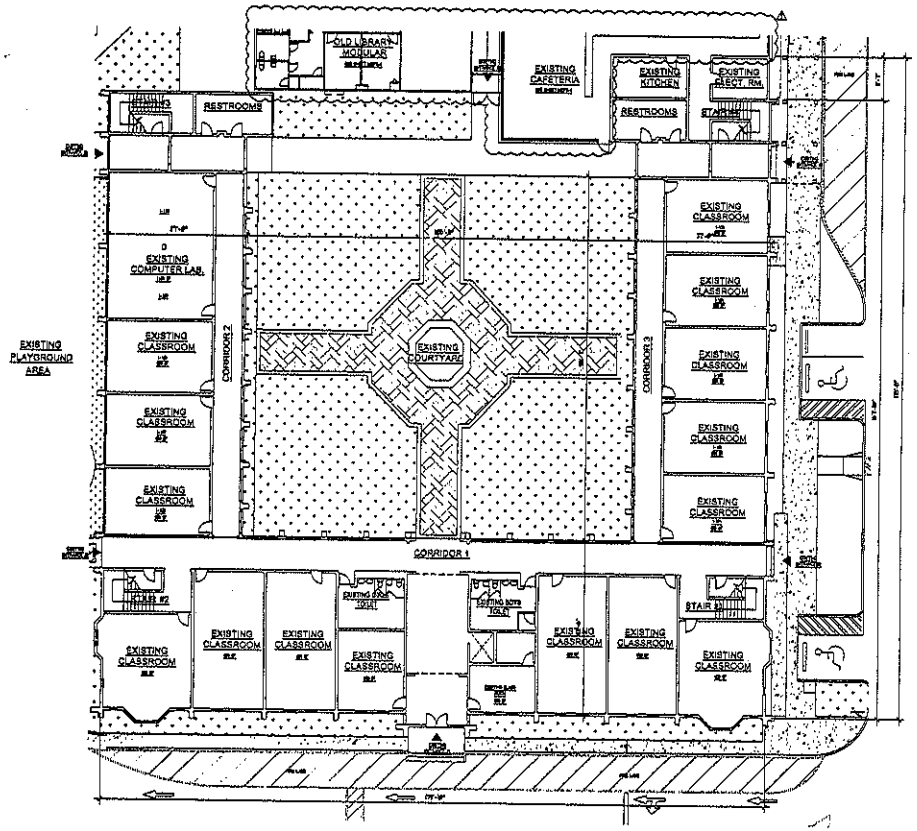
D.I.C. SUBMITTAL

ARCHIMEDEAN ACADEMY, INC
MASTER PLAN for Middle and High School Expansion
12425 Sunset Dr, Miami, Florida 33183

Date 09-03-08
Scale AS NOTED
Drawn
Job 08-1218.1
Sheet MP/EX-2
Of Sheets

RECEIVED
APR 0 5 2011
MIAMI-DADE COUNTY
DEPT. OF PLANNING & ZONING
DEVELOPMENTAL IMPACT COMMITTEE
BY

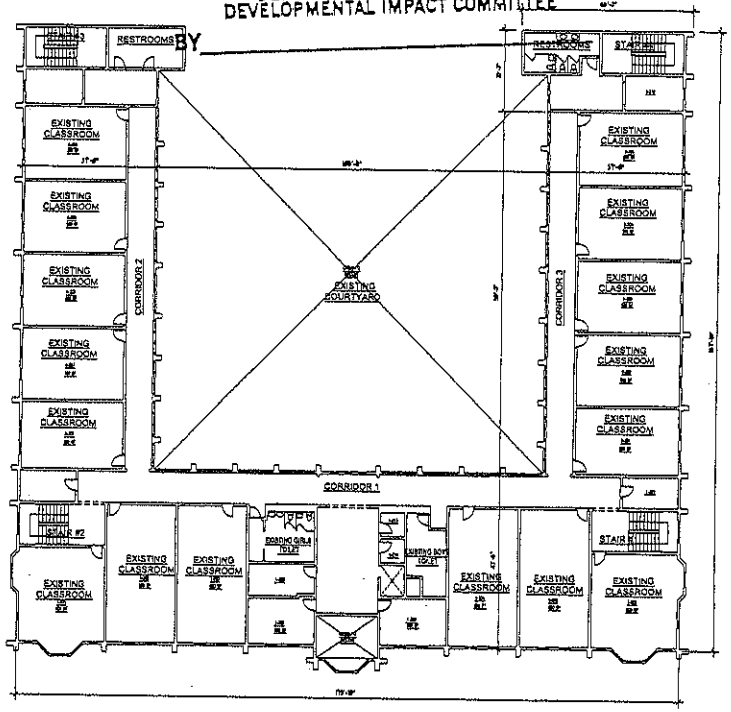





EXISTING ELEMENTARY SCHOOL BUILDING - FIRST FLOOR PLAN

SCALE: 1/16" = 1'-0"

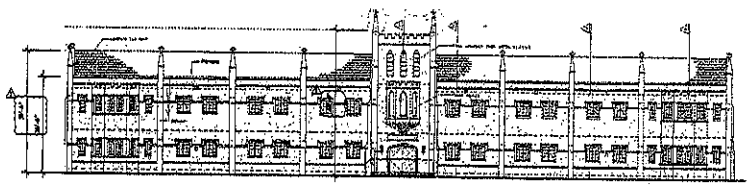
EXISTING ELEMENTARY SCHOOL BLDG.
GROUND FLOOR GROSS SF AREA (GSF): 17,770 SF




EXISTING ELEMENTARY SCHOOL BUILDING - SECOND FLOOR PLAN

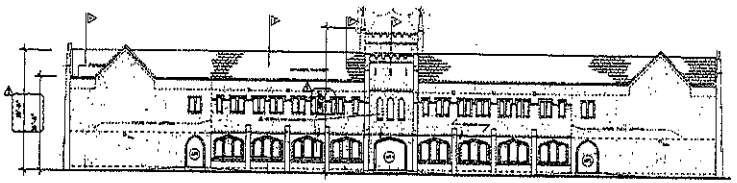
SCALE: 1/16" = 1'-0"

EXISTING ELEMENTARY SCHOOL BLDG.
SECOND FLOOR GROSS SF AREA (GSF): 17,750 SF



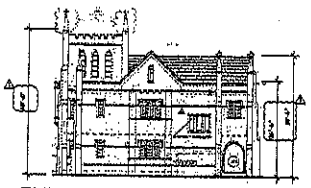
EXISTING SOUTH (FRONT) ELEVATION

SCALE: 1/16" = 1'-0"



EXISTING NORTH ELEVATION

SCALE: 1/16" = 1'-0"



EXISTING EAST ELEVATION

SCALE: 1/16" = 1'-0"

ANTHONY E. TZAMTZIS, AIA
ARCHITECT AR 89207
2121 ponce de leon avenue, miami, fl. 33134
ph (305) 444-8348 fax (305) 443-3642
email: tzamtzis@bellsouth.net

Sheet Title: EXISTING ELEMENTARY SCHOOL BUILDING PLANS & ELEVATIONS

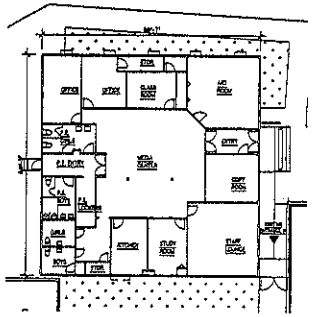
Submittal: D.I.C. SUBMITTAL

ARCHIMEDEAN ACADEMY, INC
MASTER PLAN for Middle and High School Expansion
12425 Sunset Dr. Miami, Florida 33183

Date: 09-03-09
Scale: AS NOTED
Drawn:
Job: 08-1218.1
Sheet: MP/EX-3
Of:

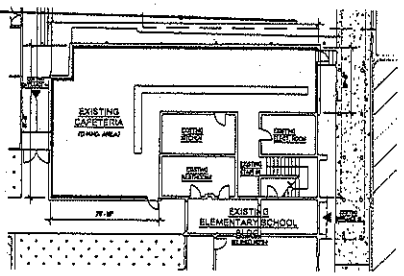
RECEIVED
APR 0 5 2011
MIAMI-DADE COUNTY
DEPT. OF PLANNING & ZONING
DEVELOPMENTAL IMPACT COMMITTEE
BY





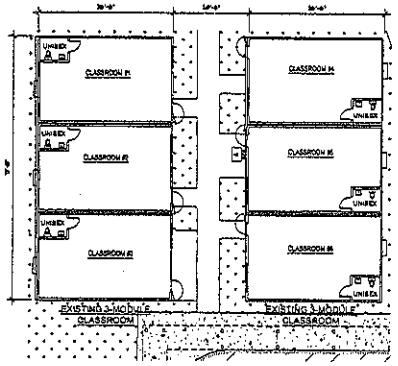
EXISTING OLD LIBRARY MODULAR - FLOOR PLAN

EXISTING OLD LIBRARY MODULAR
GROUND FLOOR GROSS SF AREA (GSF) : 3,530 SF




EXISTING SCREENED CAFETERIA - FLOOR PLAN

EXISTING CAFETERIA
GROUND FLOOR GROSS SF AREA (GSF) : 2,100 SF

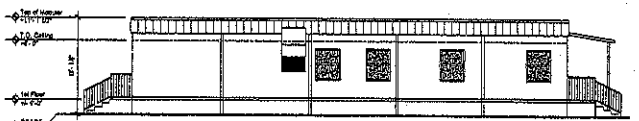



EXISTING MODULAR CLASSROOMS - FLOOR PLAN
( TYP. FOR PROPOSED TEMP. MODULAR CLASSROOMS AT PHASE I) - SEE MP-3.0

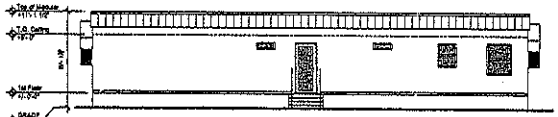
EXISTING 3- MODULAR CLASSROOMS
GROUND FLOOR GROSS SF AREA (GSF): 5,256 SF (Total for two)

EXISTING MODULAR - EAST ELEVATION

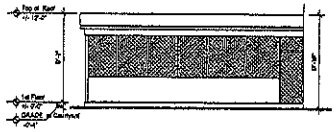
EXISTING MODULAR - NORTH ELEVATION



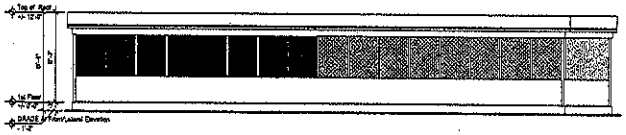
EXISTING MODULAR - SOUTH ELEVATION



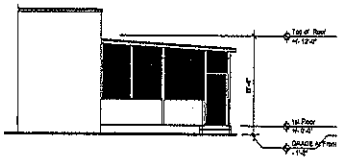
EXISTING MODULAR - WEST ELEVATION



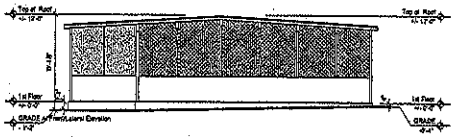
EXISTING CAFETERIA - S. ELEVATION



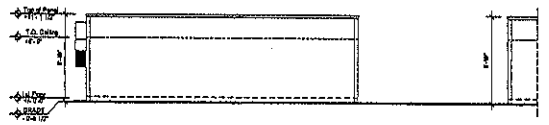
EXISTING CAFETERIA - N. ELEVATION



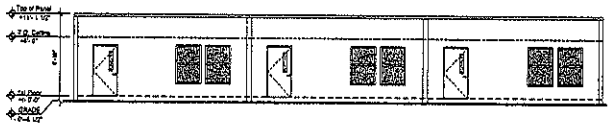
EXISTING CAFETERIA - E. ELEVATION



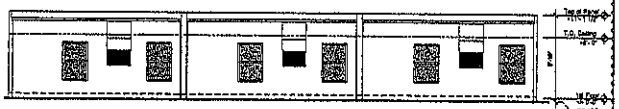
EXISTING CAFETERIA - W. ELEVATION



EXISTING MODULAR - S. & N. ELEVATION. (TYP.)



EXISTING MODULAR - WEST ELEVATION



EXISTING MODULAR - EAST ELEVATION

ANTHONY E. TZAMTZIS, AIA
ARCHITECT AR 09207
141 NAVARRA AVENUE, MIAMI FL 33134
PH (305) 304-5067 FAX (305) 443-3243
EMAIL atzamtzis@bellsouth.net

EXISTING MODULAR BUILDINGS
PLANS & ELEVATIONS
D.I.C. SUBMITTAL

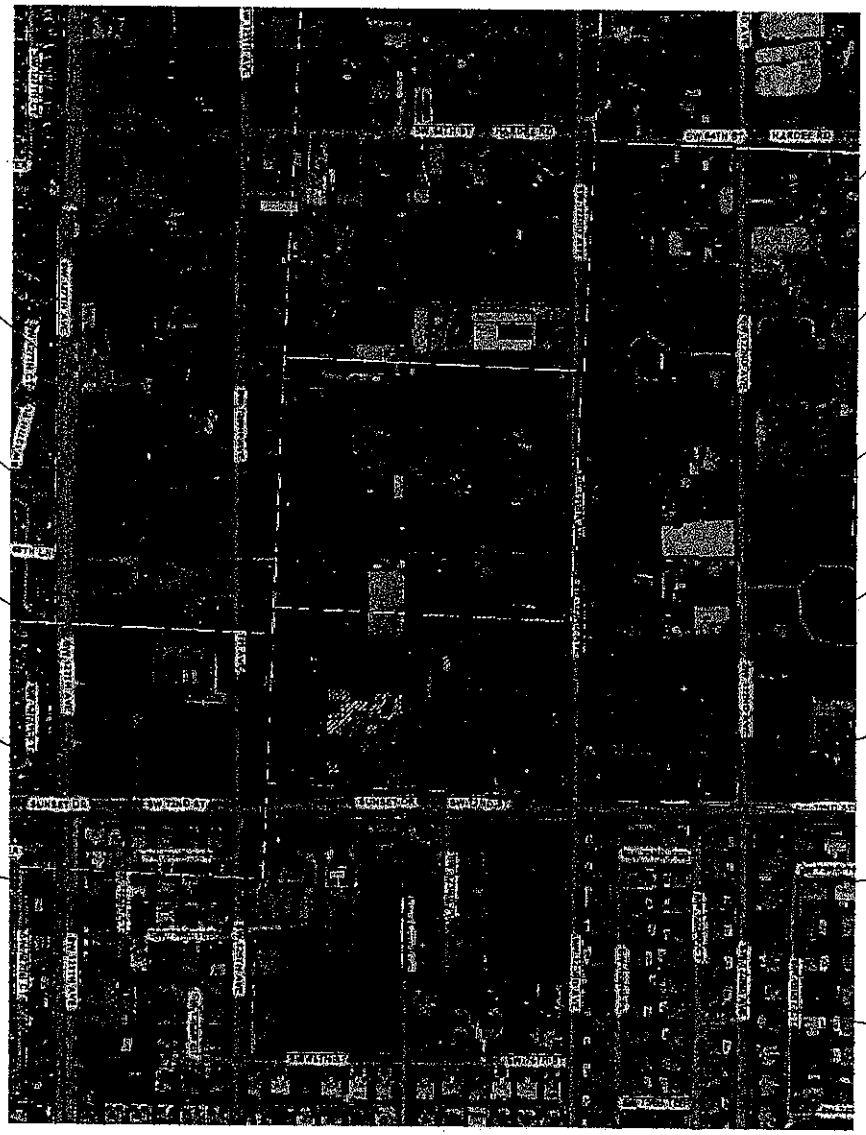
ARCHIMEDEAN ACADEMY, INC
MASTER PLAN for Middle and High School Expansion
12425 Sunset Dr. Miami, Florida 33183

09-03-08
AS NOTED
06-1218.1

MP/EX-4

RECEIVED
APR 0 5 2011
MIAMI-DADE COUNTY
DEPT. OF PLANNING & ZONING
DEVELOPMENTAL IMPACT COMMITTEE
BY






EXISTING AERIAL PHOTOGRAFY WITH ADJACENT USES
N.T.S.

N

ANTHONY E. TZAMTZIS, AIA
ARCHITECT AR 09267

EXIST. AERIAL PHOTO WITH ADJACENT USES

D.I.C. SUBMITTAL

ARCHIMEDEAN ACADEMY, INC
MASTER PLAN for Middle and High School Expansion
12425 Sunset Dr. Miami, Florida 33183

09-02-08
AS NOTED
08-1216.1

MP/EX-5

# EXISTING SITE PLAN

SCALE: 1" = 50'

REFER TO SURVEY BY DELTA SURVEYORS, INC.
DATE: 02-16-2010

## LOCATION MAP

N.T.S.

## LEGAL DESCRIPTION

The East 1/2 of the SE 1/4 of the SW 1/4 of the SW 1/4, LESS the South 50.0 feet thereof, in Section 25, Township 54 South, Range 39 East, Miami-Dade County, Florida.

The West 1/2 of SW 1/4 of the SE 1/4 of the SW 1/4, LESS the South 50.0 feet thereof, in Section 25, Township 54 South, Range 39 East, Miami-Dade County, Florida.

The South 1/2 of the South 1/2 of the NW 1/4 of the SE 1/4 of the SW 1/4 of Section25, Township 54 South, Range 39 East, LESS the East 25.0 feet, lying and being in Dade County, Florida, now known as Miami-Dade County, Florida.

Aproximately 11.80 Acres.

## LEGEND

- EXISTING BUILDINGS OR TEMPORARY PORTABLES
- EXISTING WALKWAYS
- EXIST. CONC. POLE PARKING LIGHTING

RECEIVED
APR 0 5 2011
MIAMI-DADE COUNTY
DEPT. OF PLANNING & ZONING
DEVELOPMENTAL IMPACT COMMITTEE
BY______

ANTHONY E. TZAMTZIS, AIA
ARCHITECT AR 09207

EXISTING SITE PLAN

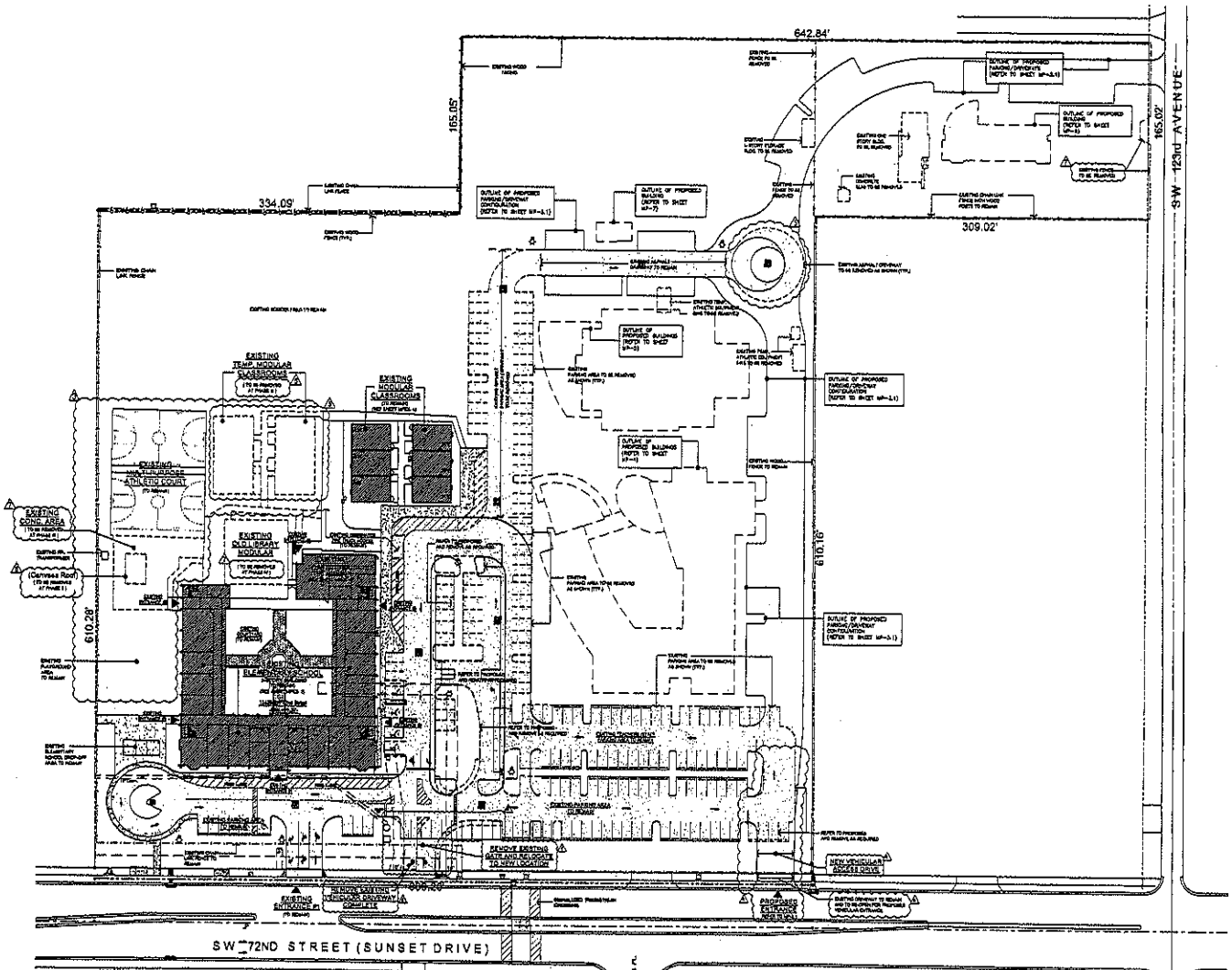
D.I.C. SUBMITTAL

ARCHIMEDEAN ACADEMY, INC
MASTER PLAN for Middle and High School Expansion
12425 Sunset Dr. Miami, Florida 33183

| | |
|---|---|
| Date | 09-03-08 |
| Scale | AS NOTED |
| Drawn | |
| Job | 08-1218.1 |
| Sheet | MP-1 |

51

52




DEMOLITION SITE PLAN

SCALE: 1" = 50'

N

## DEMOLITION NOTES:

1. The proposed improvements are scheduled to be phased. Demolition to be Phased as shown on Sheet MP-3.0
2. All existing improvements to be protected during demolition.
3. Maintain all safety to life systems operational and fire accessibility at all times.

RECEIVED

APR 0 5 2011

MIAMI-DADE COUNTY
DEPT. OF PLANNING & ZONING
DEVELOPMENTAL IMPACT COMMITTEE

BY_____

ANTHONY E. TZAMTZIS, AIA
ARCHITECT AR 09207

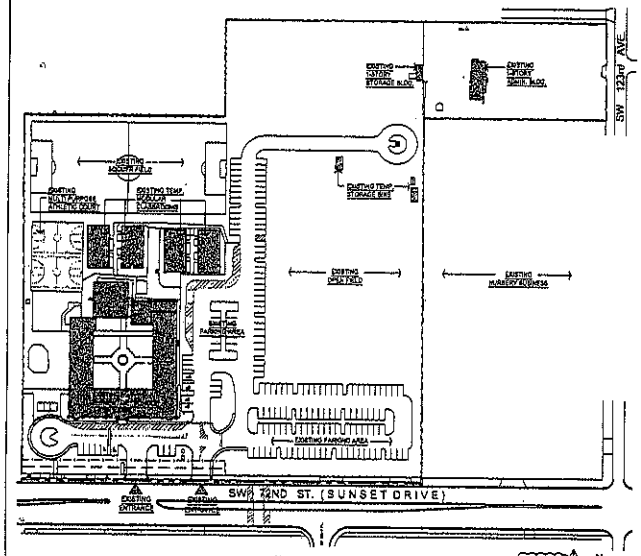
DEMOLITION SITE PLAN

D.I.C. SUBMITTAL

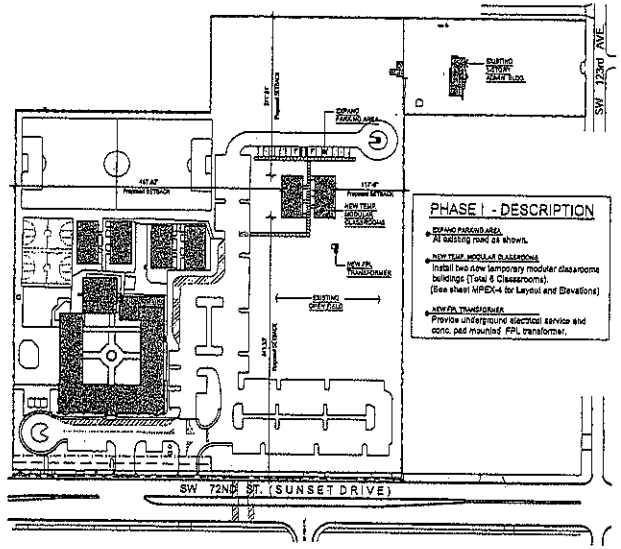
ARCHIMEDEAN ACADEMY, INC
MASTER PLAN for Middle and High School Expansion
12425 Sunset Dr. Miami, Florida 33183

Date 09-03-08
Scale AS NOTED
Drawn
Job 08-1215.1
Sheet MP-2

53




EXISTING CONDITIONS - 2011
(SEE MP-1/ MPEX-1&2 FOR DETAILS)
SCALE: 1" = 100'



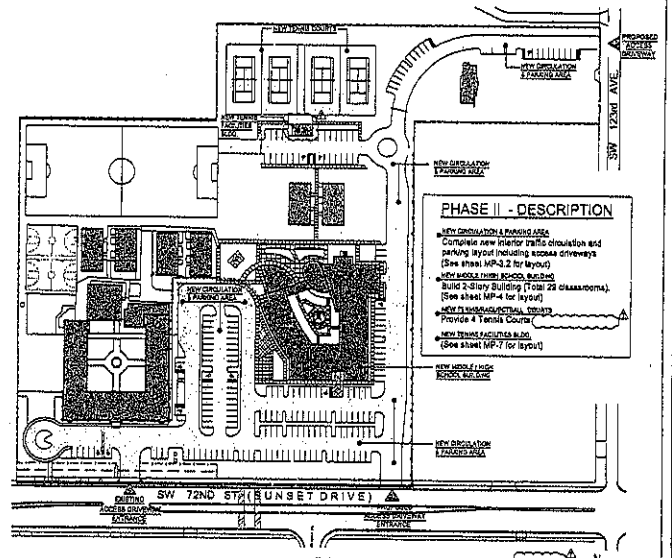

PHASE I - DESCRIPTION

EXPAND PARKING AREA
All existing road as shown.

NEW TEMP. MODULAR CLASSROOMS
Install two new temporary modular classrooms buildings (Total 6 Classrooms).
(See sheet MPEX-4 for Layout and Elevations)

NEW FPL TRANSFORMER
Provide underground electrical service and conc. pad mounted FPL transformer.

PHASE I - SUMMER 2011
SCALE: 1" = 100'




PHASE II - DESCRIPTION

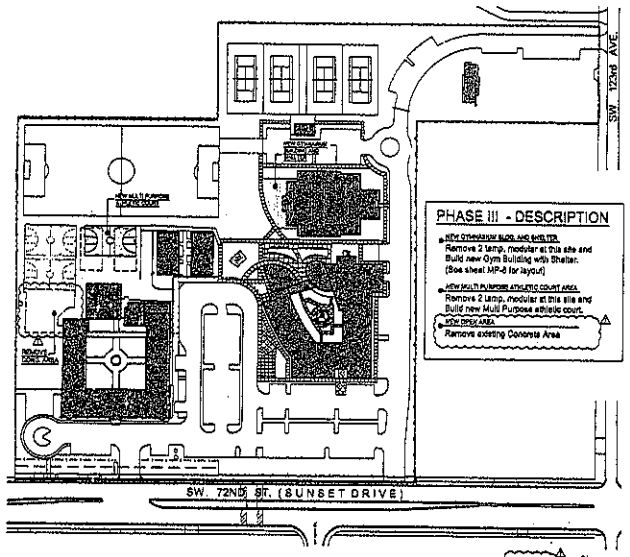
NEW CIRCULATION & PARKING AREA
Complete new interior traffic circulation and parking layout including access driveways
(See sheet MP-3.2 for layout)

NEW MIDDLE / HIGH SCHOOL BUILDING
Build 2-Story Building (Total 22 classrooms).
(See sheet MP-4 for layout)

NEW TENNIS FACILITIES BLDG.
(See sheet MP-7 for layout)

PHASE II - SUMMER 2013
SCALE: 1" = 100'

NEW CONSTRUCTION SHOWN IN BLUE IS IN A SEQUENTIAL AND CHRONOLOGICALLY ADDITIVE ORDER STARTING FROM THE EXISTING AT THE TOP LEFT




PHASE III - DESCRIPTION

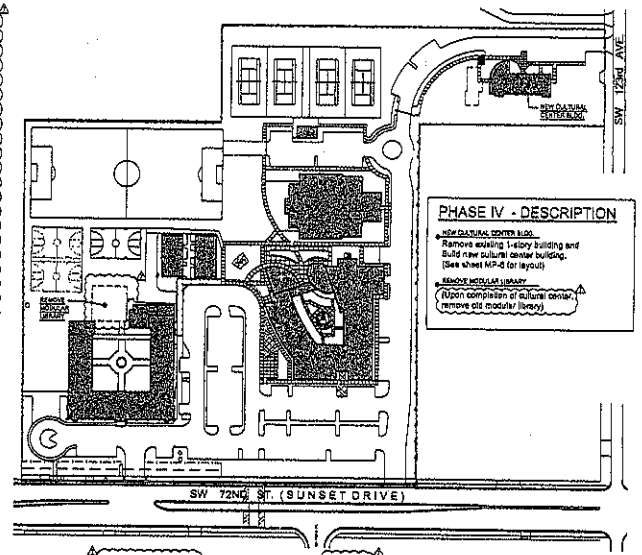
NEW GYMNASIUM BLDG. AND SHELTER
Remove 2 temp. modular at this site and Build new Gym Building with Shelter.
(See sheet MP-6 for layout)

NEW MULTI PURPOSE ATHLETIC COURT AREA
Remove 2 temp. modular at this site and Build new Multi Purpose athletic court.

NEW OPEN AREA
Remove existing Concrete Area

PHASE III - SUMMER 2015
SCALE: 1" = 100'

RECEIVED
APR 0 5 2011
MIAMI-DADE COUNTY
DEPT. OF PLANNING & ZONING
DEVELOPMENTAL IMPACT COMMITTEE
BY_____




PHASE IV - DESCRIPTION

NEW CULTURAL CENTER BLDG.
Remove existing 1-story building and Build new cultural center building.
(See sheet MP-6 for layout)

REMOVE MODULAR LIBRARY
(Upon completion of cultural center, remove old modular library)

PHASE IV - SUMMER 2020 - MASTER PLAN -
SCALE: 1" = 100'
(SEE MP-3.1 / MP-3.2 FOR DETAILS)

ANTHONY E. TZAMTZIS, AIA
ARCHITECT AR 09207

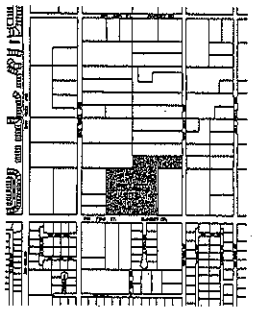
PHASING PLANS

D.I.C. SUBMITTAL

ARCHIMEDEAN ACADEMY, INC
MASTER PLAN for Middle and High School Expansion
12425 Sunset Dr. Miami, Florida 33183

Date 09-03-08
Scale AS NOTED
Drawn
Job 08-1216.1
Sheet MP-3.0

54



LOCATION MAP

N.T.S.

## LEGAL DESCRIPTION

The East 1/2 of the SE 1/4 of the SW 1/4 of the SW 1/4, LESS the South 60.0 feet thereof, in Section 25, Township 54 South, Range 39 East, Miami-Dade County, Florida.

The West 1/2 of SW 1/4 of the SE 1/4 of the SW 1/4, LESS the South 60.0 feet thereof, in Section 25, Township 54 South, Range 39 East, Miami-Dade County, Florida.

The South 1/2 of the South 1/2 of the NW 1/4 of the SE 1/4 of the SW 1/4 of Section25, Township 54 South, Range 39 East, LESS the East 25.0 feet, lying and being in Dade County, Florida, now known as Miami-Dade County, Florida.

## ZONING LEGEND

MIAMI-DADE COUNTY, FLORIDA - Chapter 33, Zoning

Existing Use: Elementary, Middle, and High School (K-12) with temporary Modular Classrooms
Proposed Use: New Middle and High School Building for K-12 grades
New Gymnasium and outdoor athletic support facilities
New Cultural Center Building.

ZONING DISTRICT : GU
NET LOT AREA : 514,444 SF or 11.81 acres

| SETBACKS & HEIGHT | REQUIRED [SEC. 33.27(3)] | PROVIDED |
|---|---|---|
| **EXISTING MAIN BUILDING** | | |
| Front | 25.0' | 89.90' measured at the closest point |
| Side (east) | 50.0' | 416.0' |
| Side (west) | 50.0' | 76.33' |
| Rear | 50.0' | 345.54' |
| Height | 35.0' | 25.0' at parapet<br>35.0' at tower |

The existing free standing one story modular prefabricated classroom buildings are temporary and meet all setback requirements as shown on the site plan and survey.
The proposed two temporary modular classroom buildings to be built in Phase I have compliant setbacks as shown on Sheet MP-3.1

| | | |
|---|---|---|
| **PROPOSED MIDDLE – HIGH SCHOOL BUILDING** | | |
| Front | 25.0' | 180.0' |
| Side (east) | 50.0' | 36.0' |
| Side (west) | 50.0' | 410.0' |
| Rear | 50.0' | 343.54' |
| Height | 35.0' | 32.5' |
| **PROPOSED GYMNASIUM BUILDING** | | |
| Front | 25.0' | 481.66' |
| Side (east) | 50.0' | 62.16' |
| Side (west) | 50.0' | 416.00' |
| Rear | 50.0' | 97.0' measured off main lot or<br>250.25' to the rear property |
| Height | 35.0' | 34.5' at main gym |
| **PROPOSED CULTURAL CENTER** | | |
| Front | 25.0' | 99.0' |
| Side (north) | 50.0' | 50.0' |
| Side (south) | 50.0' | 50.0' |
| Rear | 50.0' | 451.25' |
| Height | 35.0' | 31.1' to roof ridge |

LOT COVERAGE – Calculated on 2020 Master Plan (Phase IV) – See Sheet MP-3.0
Maximum allowed: 15% of 514,444 SF lot or 77,167 SF of building areas

**2011 EXISTING BUILDINGS TO REMAIN**

| | |
|---|---|
| Existing Building | : 17,770 SF |
| Existing Cafeteria | : 2,160 |
| Existing Library Module | : Will be removed – See Phasing Plan |
| Existing Contemporary Modular Classrooms (2 Buildings) | : 3,230 |
| Existing Westermman Modular Classroom (2 Buildings) | : Will be removed – See Phasing Plan |
| Sheltered Existing | : 351 SF |

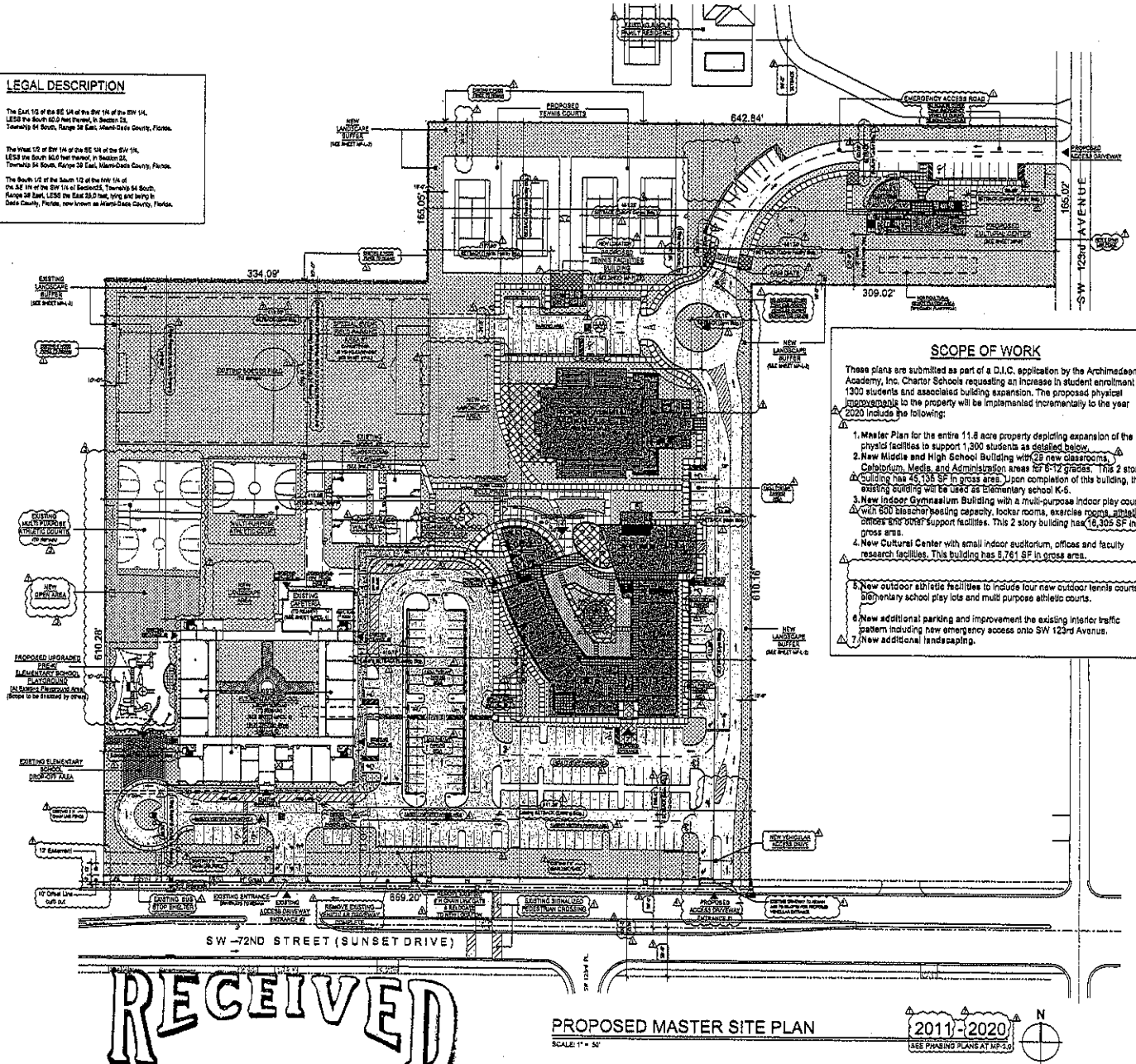
**2020 PROPOSED BUILDINGS**

| | |
|---|---|
| New MS/HS School Bldg. / Covered Terraces | : 34,680 SF (33,140 SF + 1,535 SF) |
| New Gym + PE Shelter | : 16,305 SF (14,355 SF + 1,950 SF) |
| New Covered Walkway | : 1,700 SF |
| New Tensile Fabrition Building | : 595 SF |
| New Cultural Center | : 5,760 SF |
| Subtotal New | : 47,190 SF |

**BUILDING AREA SUMMARY**

| | |
|---|---|
| Existing Buildings to Remain | : 25,136 |
| 2020 Proposed Additions | : 47,190 |
| TOTAL AREA EXISTING & PROPOSED | : 72,326 SF |

LOT COVERAGE
Lot Coverage is 14.06% <15%; complies with Zoning requirements.




PROPOSED MASTER SITE PLAN
SCALE: 1" = 50'

2011 - 2020
SEE PHASING PLANS AT MP-2.0

N

## SCOPE OF WORK

These plans are submitted as part of a D.I.C. application by the Archimedean Academy, Inc. Charter Schools requesting an increase in student enrollment to 1300 students and associated building expansion. The proposed physical improvements to the property will be implemented incrementally to the year 2020 include the following:

1. Master Plan for the entire 11.8 acre property depicting expansion of the physical facilities to support 1,300 students as detailed below.
2. New Middle and High School Building with 28 new classrooms, Cafetorium, Media, and Administration areas for 6-12 grades. This 2 story building has 45,135 SF in gross area. Upon completion of this building, the existing building will be used as Elementary school K-5.
3. New Indoor Gymnasium Building with a multi-purpose indoor play court with 600 bleacher seating capacity, locker rooms, exercise rooms, athletic offices and other support facilities. This 2 story building has 16,305 SF in gross area.
4. New Cultural Center with small indoor auditorium, offices and faculty research facilities. This building has 5,761 SF in gross area.
5. New outdoor athletic facilities to include four new outdoor tennis courts, elementary school play lots and multi purpose athletic courts.
6. New additional parking and improvement the existing interior traffic pattern including new emergency access onto SW 123rd Avenue.
7. New additional landscaping.

RECEIVED
APR 0 5 2011
MIAMI-DADE COUNTY
DEPT. OF PLANNING & ZONING
DEVELOPMENTAL IMPACT COMMITTEE
BY_____


ANTHONY E. TZAMTZIS, AIA
ARCHITECT AR 09207

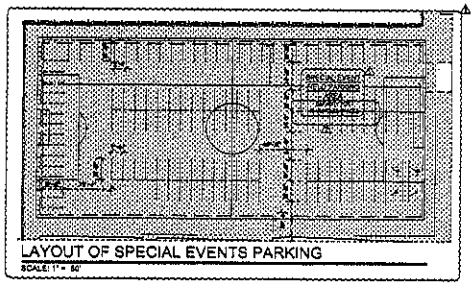

| | |
|---|---|
| 4/5/11 | RESPONSE TO DOMINANT TRAFFIC COMMENTS |
| 3/4/11 | RESPONSE TO DOMINANT TRAFFIC COMMENTS |
| 2/4/11 | SELF SUFFICIENCY CALCULATIONS |
| 2/4/11 | SELF SUFFICIENCY CALCULATIONS |
| 1/31/11 | REVISIONS TO DOMINANT TRAFFIC COMMENTS |
| 1/31/11 | REVISIONS TO DOMINANT TRAFFIC COMMENTS |
| 12/3/10 | D.I.C. SUBMITTAL |
| 11/5/10 | D.I.C. SUBMITTAL |
| Date | |

Sheet Title: PROPOSED MASTER SITE PLAN
Submittal: D.I.C. SUBMITTAL

ARCHIMEDEAN ACADEMY, INC
MASTER PLAN for Middle and High School Expansion
12425 Sunset Dr. Miami, Florida 33183

Date: 09-03-08
Scale: AS NOTED
Drawn:
Job: 08-1218.1
Sheet: MP-3.1

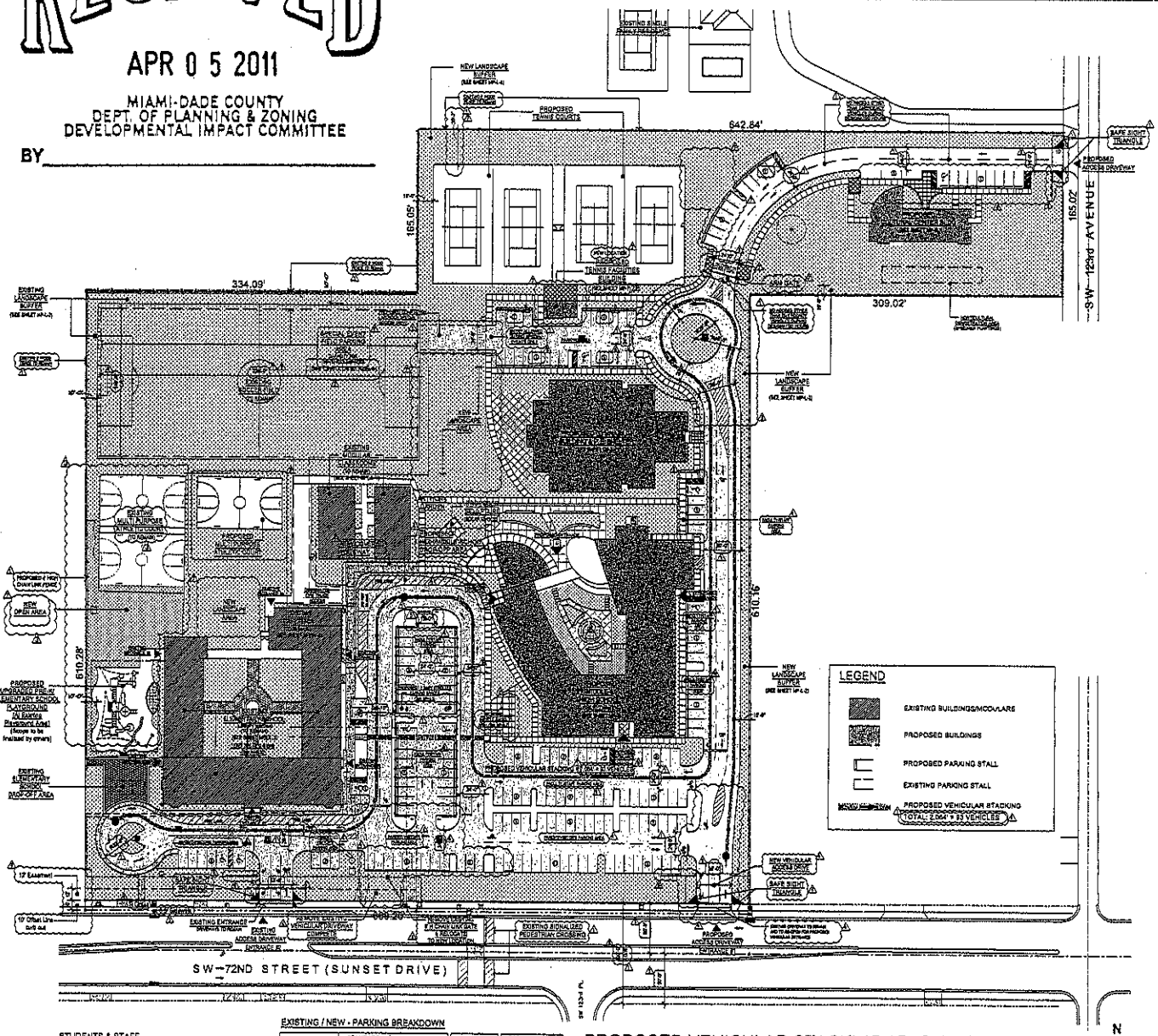
RECEIVED
APR 0 5 2011
MIAMI-DADE COUNTY
DEPT. OF PLANNING & ZONING
DEVELOPMENTAL IMPACT COMMITTEE
BY_____




**PARKING CALCULATIONS BASED ON MIAMI-DADE COUNTY ORDINANCE 33, ARTICLE VII, OFF-STREET PARKING SECTION 33-124, (I), ITEMS 1, 2, & 3.**

| SCHOOL TYPE | No. OF TEACHERS | No. OF OTHER STAFF | TOTAL PERSONNEL | No. OF TRANSP. VEHICLES | AREA IN SF CLASSROOMS, LIBRARY, ADMIN., AND GYMS (IN ADDITION) | PARKING SPACES REQUIRED | PARKING PROVIDED |
|---|---|---|---|---|---|---|---|
| KINDERGART. & ELEMENTARY GRADES K-5 | 34 | 18 | 52 | 0 | N/A | 52 See note #1 | |
| JUNIOR HI GRADES 6-8 | 20 | 6 | 26 | 0 | N/A | 33 See note #2 | |
| HIGH SCHOOL GRADES 9-12 | N/A See note #4 | 12 | 17 See note #4 | - | 13,475 See note #3 | (See personnel) + 68 (for area) | |
| CULTURAL CENTER AUDITORIUM | - | - | - | - | 700 See note #5 | 7 | |
| CULTURAL CENTER ADMIN. AREA | - | - | - | - | 2,313 See note #6 | 11 | |
| GYM CLASSRM. & ADMIN. AREA | - | - | - | - | 1,171 See note #7 | 7 | |
| GYM BASKETBL. COURT | - | - | - | - | 30 Team members See note #8 | 5 | |
| GYM SEATING | - | - | - | - | 600 Seat See note #9 | 30 | |
| TOTAL PARKING REQUIRED / PROVIDED | | | | | | 197 | 127 |

1. CODE REQUIRED PARKING FOR KINDERGARTEN AND ELEMENTARY SCHOOLS SHALL EQUAL THE COMBINED TOTAL OF PERSONNEL AND TRANSPORTATION VEHICLES.
2. CODE REQUIRED PARKING FOR JUNIOR HIGH SCHOOLS SHALL EQUAL 1 ½ TIMES THE COMBINED TOTAL OF PERSONNEL AND TRANSPORTATION VEHICLES.
3. CODE REQUIRED PARKING FOR HIGH SCHOOLS IS 1 SPACE/200 SF OF CLASSROOMS, LIBRARIES, AND ADMINISTRATION AREAS.
   - CLASSROOM AREA : 146,760 AREA ÷ 9,000/200 = 49
   - LIBRARY AREA : 7,195/200 = 11
   - ADMINISTRATION : 1,980/200 = 8
   TOTAL PARKING REQUIRED : 68
4. CODE REQUIRED PARKING FOR HIGH SCHOOLS IS 1 SPACE PER 4 RAINGLYSS INCLUDING TEACHERS.
5. CODE REQUIRED PARKING FOR AUDITORIUM IS 1 SPACE/100 SF.
6. CULTURAL CENTER ADMINISTRATION CALCULATED PER HIGH SCHOOL REQUIREMENTS I.E. 1 SPACE/200 SF.
7. GYM CLASSROOM AND ADMINISTRATION CALCULATED PER HIGH SCHOOL REQUIREMENTS
   - CLASSROOM AREA : 29,540 AREA ÷ 720/200 = 4
   - ADMINISTRATION AREA : 431/200 = 3
   TOTAL PARKING REQUIRED : 7
8. FOR BASKETBALL COURT PARKING PROVIDED AT 1 SPACE 4 TEAM MEMBERS AS DIRECTED BY ZONING STAFF I.E. 20/4 = 5 SPACES.
9. CODE REQUIRED PARKING FOR BASKETBALL COURT SEATING PROVIDED AT 1 SPACE 4 SEATS PER SECTION 33-124 (K) (3) (a) 9, OR 600/4 = 150 NEW SPACES PROVIDED AS FOLLOWS:
   - 120 SPACES IN PROPOSED STANDARD PAVED PARKING AREA, AND
   - 130 SPACES IN PROPOSED SPECIAL EVENT PARKING AREA




PROPOSED VEHICULAR STACKING / PARKING SITE PLAN
SCALE: 1" = 50'

**STUDENTS & STAFF**

| | No. OF STUDENTS | No. OF STAFF (Teachers + Admin.) |
|---|---|---|
| EXISTING (2010) | 740 | 64 |
| PROPOSED (2018) | 560 * | 51 |
| TOTAL | 1300 Students | 115 |

* Student enrollment to be increased incrementally

**EXISTING / NEW - PARKING BREAKDOWN**

| | STANDARD PARKING STALL | HANDICAP PARKING STALL | SUB-TOTAL | TOTAL PARKING PROVIDED |
|---|---|---|---|---|
| EXISTING PARKING | 165 | 6 | = 171 | 84 (Existing To Remain) |
| EXISTING PARKING TO BE REMOVED | - 65 | -2 | = (-) 67 | |
| NEW PARKING | 105 | 8 | = 113 | 113 (NEW) |
| TOTAL | 194 | 12 | 197 | 197 |

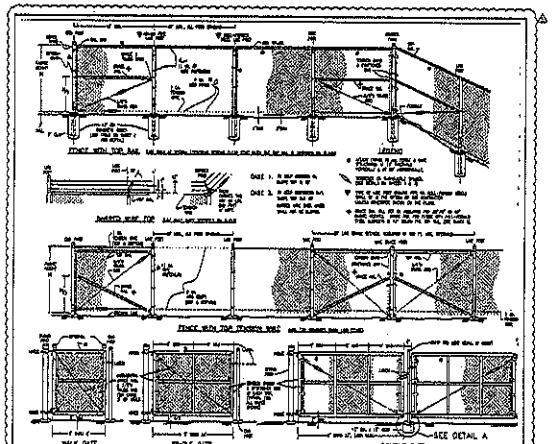
ARCHIMEDEAN ACADEMY, INC
MASTER PLAN for Middle and High School Expansion
12425 Sunset Dr. Miami, Florida 33183

PROP. VEHICULAR & PARKING SITE PLAN
D.I.C. SUBMITTAL

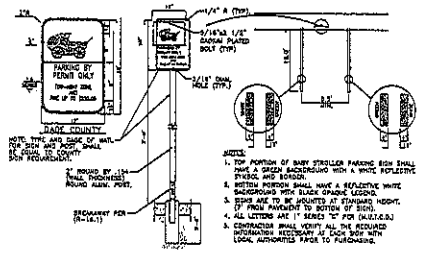
ANTHONY E. TZAMTZIS, AIA
ARCHITECT AR 09207
305 TZAMTZIS ARCHITECTURE, Miami, FL 33137
PH: (305) 345-3456 FAX: (305) 621-3242
EMAIL: atzamtzis@bellsouth.net

| NO. | DATE | REVISIONS |
|---|---|---|
| 1 | 03/28/11 | RESPONSE TO ZONING/DIC COMMENTS |
| 2 | 03/31/11 | RESPONSE TO ZONING COMMENTS |
| 3 | 04/04/11 | RESPONSE TO ZONING COMMENTS |
| 4 | 04/05/11 | MDC FINAL Parks, Dept. Comments |
| 5 | 07/27/11 | RESPONSE TO COMMUNITY/DIC COMMENTS |
| 6 | 08/11/11 | RESPONSE TO ZONING COMMENTS |
| 7 | 09/19/11 | RESPONSE TO DIC COMMENTS |

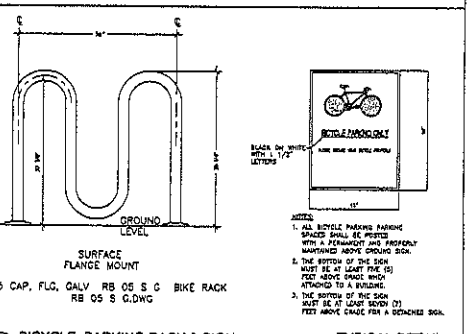
Date: 09-02-08
Scale: AS NOTED
Drawn:
Job: 08-1216.1
Sheet Number: MP-3.2



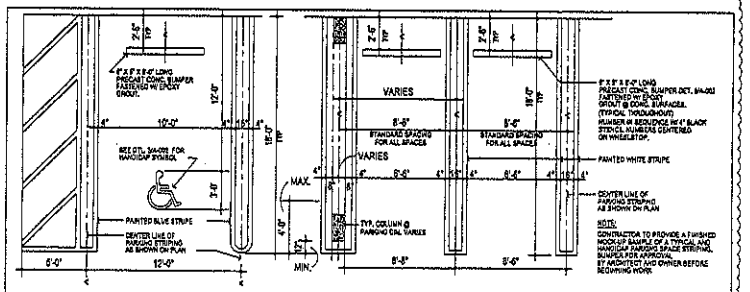
CHAIN LINK FENCE — TYPICAL DETAIL
N.T.S.



BABY STROLLER PARKING SIGN — TYPICAL DETAIL
N.T.S.

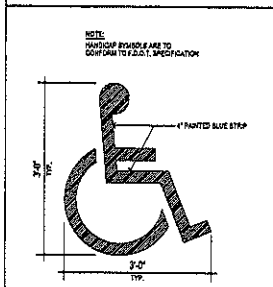


BICYCLE PARKING RACK & SIGN — TYPICAL DETAIL
N.T.S.

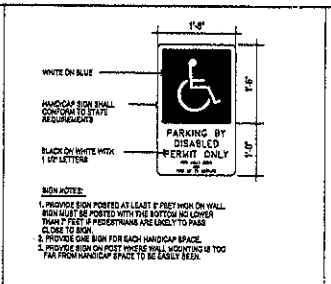


TYP. H.C. PARKING STRIPING
N.T.S.

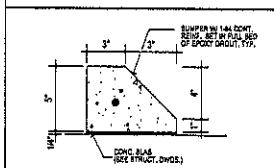
TYP. PARKING STRIPING
N.T.S.



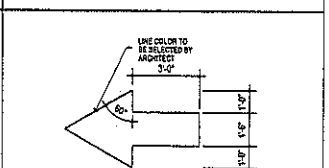
TYP. HANDICAP SYMBOL
N.T.S.



TYP. HANDICAP SIGN
N.T.S.



TYP. WHEELSTOP @ SLAB
N.T.S.



TYP. TRAFFIC ARROW
N.T.S.

RECEIVED
APR 0 5 2011
MIAMI-DADE COUNTY
DEPT. OF PLANNING & ZONING
DEVELOPMENTAL IMPACT COMMITTEE
BY _____

SITE PLAN DETAILS

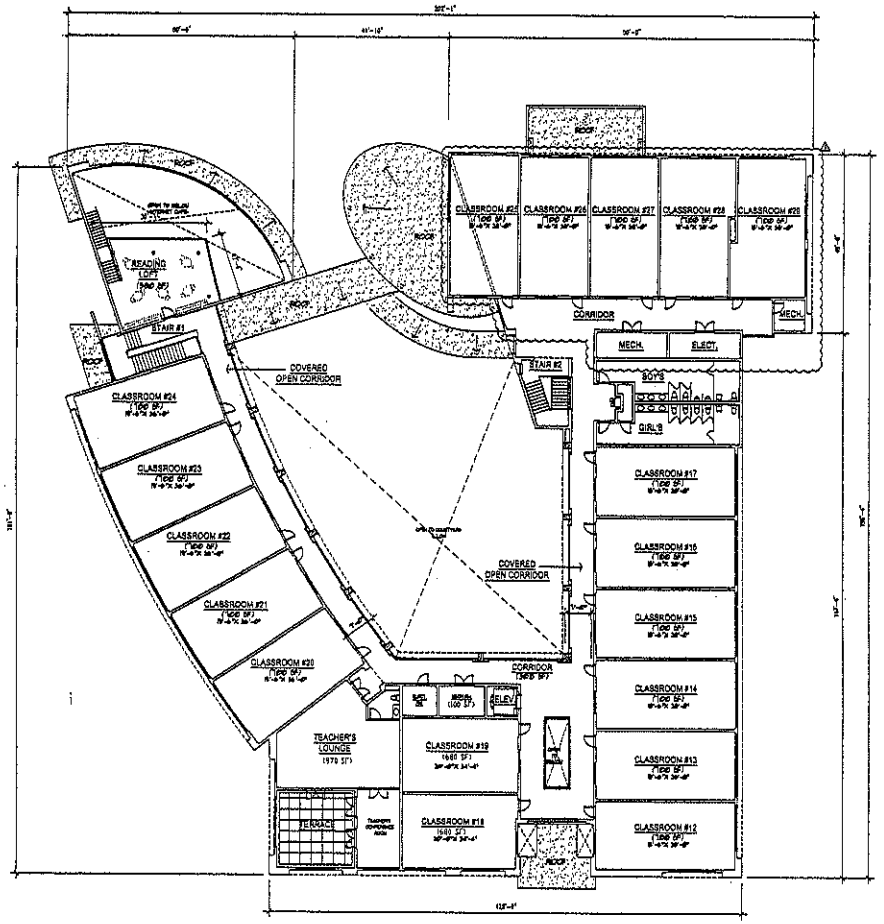
| | |
|---|---|
| 01.21.09 | RESPONSE TO ZONING/DNG TRAFFIC COMMENTS |
| 05.7.09 | RESPONSE TO ZONING COMMENTS |
| 05.21.10 | RESPONSE TO DERM COMMENTS (Removal of Trees) |
| 09.09.10 | MDC Public Works Traffic Dept. Comments |

ANTHONY E. TZAMTZIS, AIA
ARCHITECT AR 09207
[illegible]
PH. (305) 383-3099 FAX. (305) 661-3442
EMAIL: atzamtzis@bellsouth.net

Sheet Title: SITE PLAN DETAILS
Submittal: D.I.C. SUBMITTAL

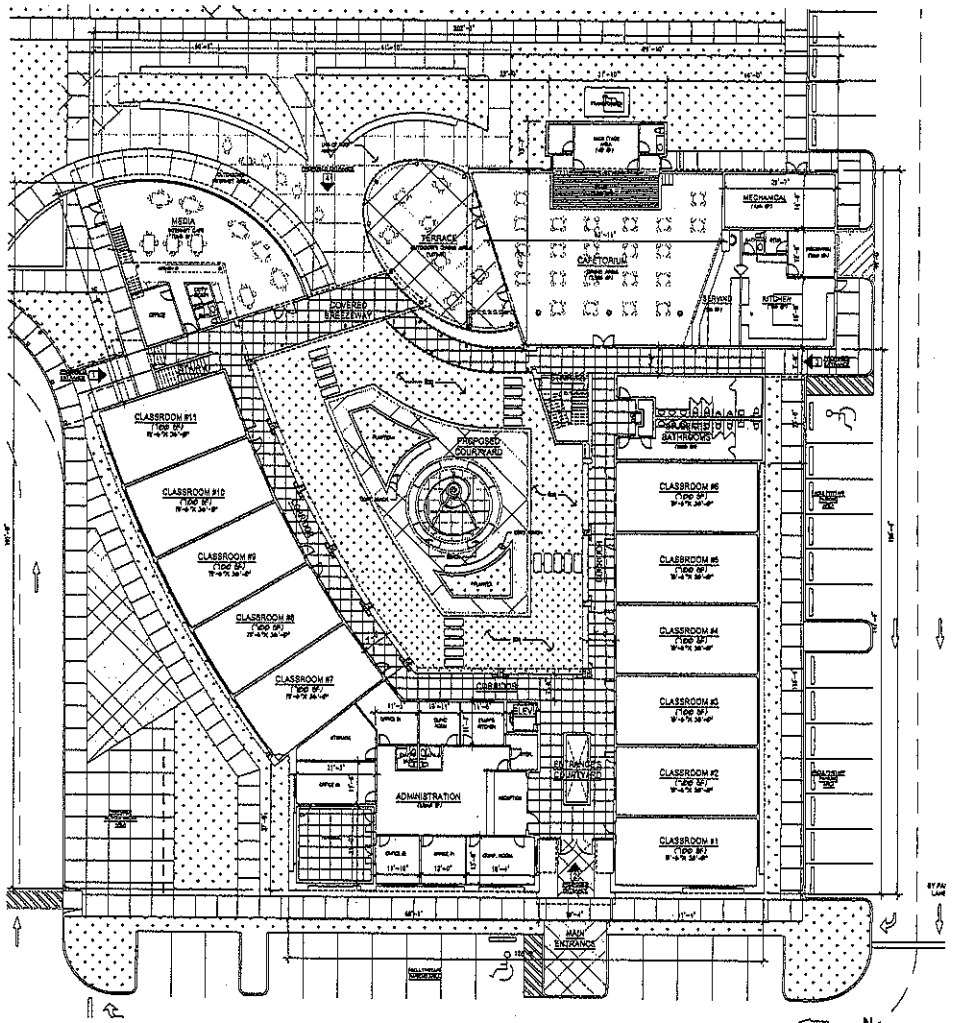
ARCHIMEDEAN ACADEMY, INC
MASTER PLAN for Middle and High School Expansion
12425 Sunset Dr. Miami, Florida 33183

| | |
|---|---|
| Date | 09-03-08 |
| Scale | AS NOTED |
| Drawn | |
| Job | 06-1218.1 |
| Sheet | MP-3.3 |
| Of | Sheets |




PROPOSED MIDDLE & HIGH SCHOOL BLDG. - SECOND FLOOR PLAN

SCALE: 1/16" = 1'-0"




PROPOSED MIDDLE & HIGH SCHOOL BLDG. - FIRST FLOOR PLAN

SCALE: 1/16" = 1'-0"

RECEIVED

APR 0 5 2011

MIAMI-DADE COUNTY
DEPT. OF PLANNING & ZONING
DEVELOPMENTAL IMPACT COMMITTEE

BY_____

| | |
|---|---|
| FIRST FLOOR GROSS SF AREA (GSF) | : 23,145 SF |
| COVERED TERRACE SF AREA (GSF) | : 1,535 SF |
| TOTAL LOT COVERAGE | : 24,680 SF |

| | |
|---|---|
| FIRST FLOOR GROSS SF AREA (GSF) | : 23,145 SF |
| SECOND FLOOR GSF AREA | : 21,990 SF |
| TOTAL BUILDING GSF | : 45,135 SF |

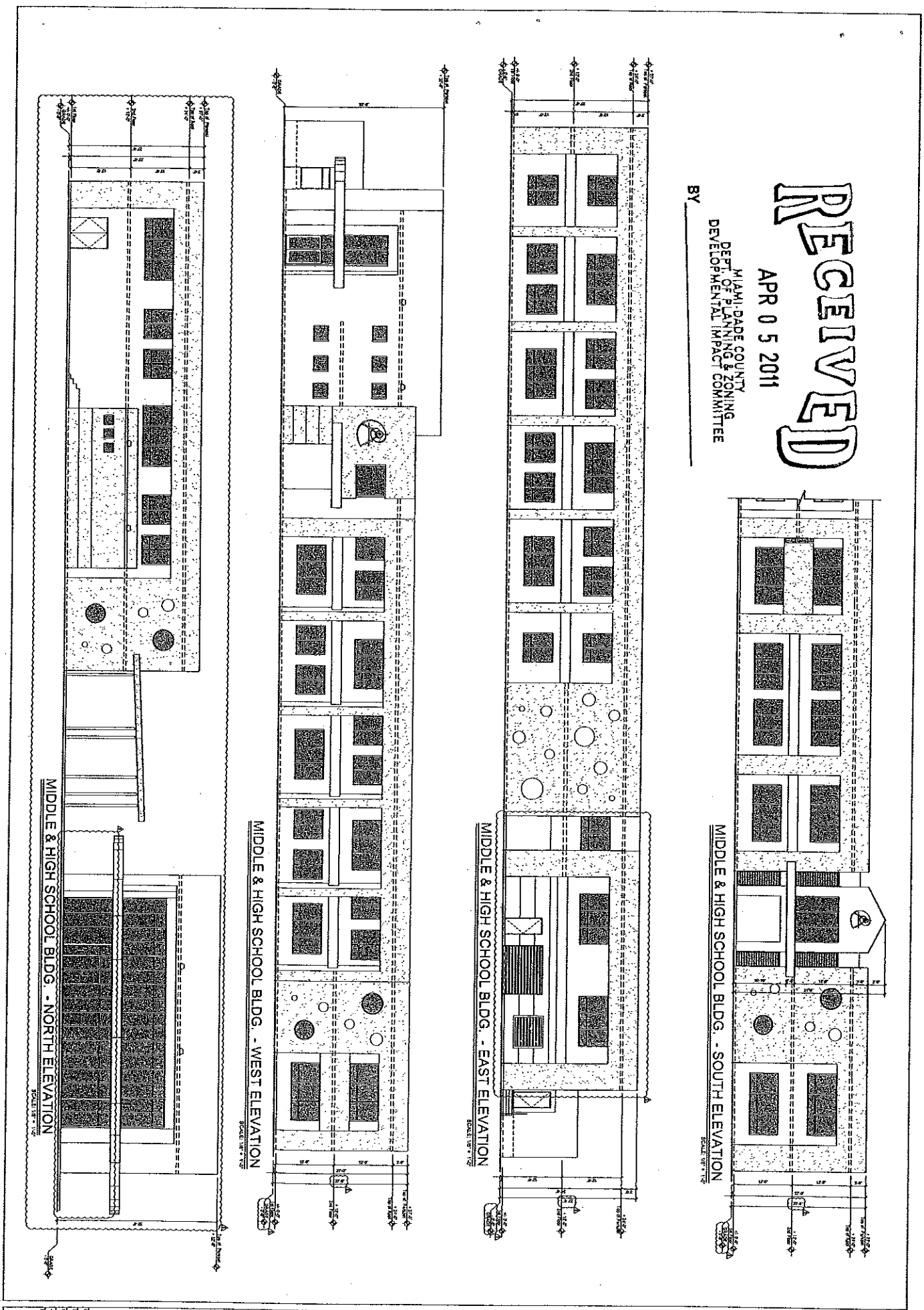
05-2/05 RESPONSE TO ZONING/DWD TRAFFIC COMMENTS
03/3/06 RESPONSE TO ZONING COMMENTS
05/2/19 RESPONSE TO ZONING COMMENTS (Dade County)
06/06/19 MDC Public Works Traffic Dept. Comments
11/1/10 RESPONSE TO ZONING/DWD TRAFFIC COMMENTS
01/01/11 RESPONSE TO ZONING COMMENTS

ANTHONY E. TZAMTZIS, AIA
ARCHITECT AR 09207
2421 SISTERNA AVENUE, MIAMI, FL 33133
PH: (305) 285-8005 FAX: (305) 861-2421
EMAIL: aetzamtzis@bellsouth.net

Drawn Title: MIDDLE & HIGH SCHOOL BLDG. FLOOR PLANS
Submittal: D.I.C. SUBMITTAL

ARCHIMEDEAN ACADEMY, INC
MASTER PLAN for Middle and High School Expansion
12425 Sunset Dr. Miami, Florida 33183

Date 06-03-06
Scale AS NOTED
Drawn
Job 06-1216.1
Sheet MP-4
Of Sheets




RECEIVED
APR 0 5 2011
MIAMI-DADE COUNTY
DEPT. OF PLANNING & ZONING
DEVELOPMENTAL IMPACT COMMITTEE
BY

ARCHIMEDEAN ACADEMY, INC
MASTER PLAN for Middle and High School Expansion
12425 Sunset Dr. Miami, Florida 33183

MIDDLE & HIGH SCHOOL BLDG. ELEVATIONS

D.I.C. SUBMITTAL

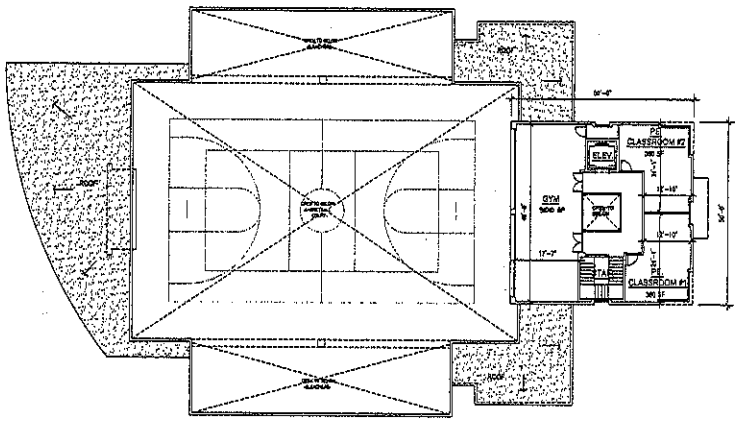
ANTHONY E. TZAMTZIS, AIA
ARCHITECT AR 09207

| | | |
|---|---|---|
| 01-25-08 | RESPONSE TO ZONING/AND TRAFFIC COMMENTS | |
| 03-27-09 | RESPONSE TO ZONING COMMENTS | |
| 03-22-10 | RESPONSE TO ZONING COMMENTS (Additional Submittal) | |
| 09-08-10 | MDC Public Works Traffic Dept. Comments | |
| 11-17-10 | RESPONSE TO ZONING/AND TRAFFIC COMMENTS | |
| 01-05-11 | RESPONSE TO ZONING COMMENTS | |

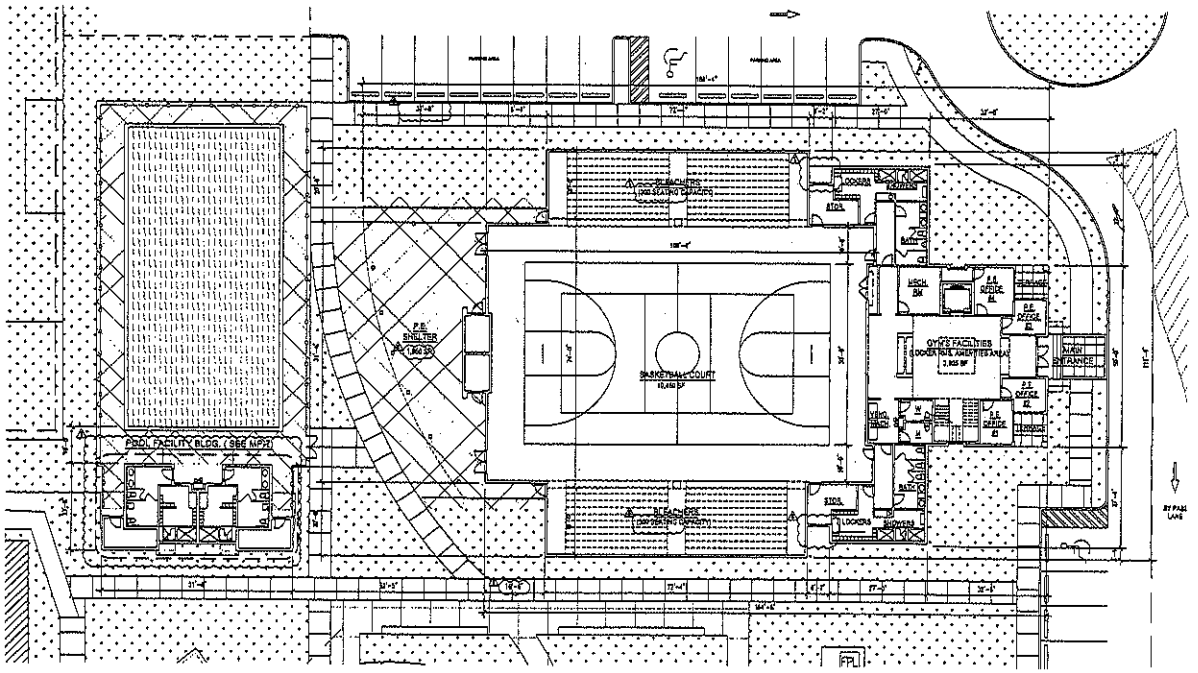
MP-4.1

58

RECEIVED
APR 0 5 2011
MIAMI-DADE COUNTY
DEPT. OF PLANNING & ZONING
DEVELOPMENTAL IMPACT COMMITTEE
BY



GYMNASIUM BUILDING - SECOND FLOOR PLAN



GYMNASIUM BUILDING - FIRST FLOOR PLAN

SEATING CAPACITY 600 Persons
(See Parking Calculations at sheet MP-3.2)

| | |
|---|---|
| BASKETBALL COURT / BLEACHERS | : 10,450 SF |
| FIRST FLOOR GSF AREA (BLDG. FACILITIES) | : 3,905 SF |
| TOTAL FIRST FLOOR GROSS SF AREA (GSF) | : 14,355 SF |
| + COVERED P.E. SHELTER | : 1,950 SF |
| TOTAL LOT COVERAGE | : 16,305 SF |

| | |
|---|---|
| FIRST FLOOR GSF AREA | : 14,355 SF |
| SECOND FLOOR GSF AREA | : 2,500 SF |
| TOTAL BUILDING GSF | : 16,855 SF |

| | |
|---|---|
| 01.25.08 | RESPONSE TO ZONING/DADI TRAFFIC COMMENTS |
| 03.27.08 | RESPONSE TO ZONING COMMENTS |
| 03.31.10 | DEPT. TO ZONING COMMENTS (Updated Survey) |
| 05.05.10 | MDC PUBLIC WORKS TRAFFIC Dept. Comments |
| 11.01.10 | RESPONSE TO ZONING/DADI TRAFFIC COMMENTS |
| 01.05.11 | RESPONSE TO ZONING COMMENTS |

ANTHONY E. TZAMTZIS, AIA
ARCHITECT AR 09207
201 INDUSTRIAL AVENUE, MIAMI, FL 33133
PH: (305) 444-4000 FAX: (305) 444-4004
EMAIL: atzamtzis@archimedean.com

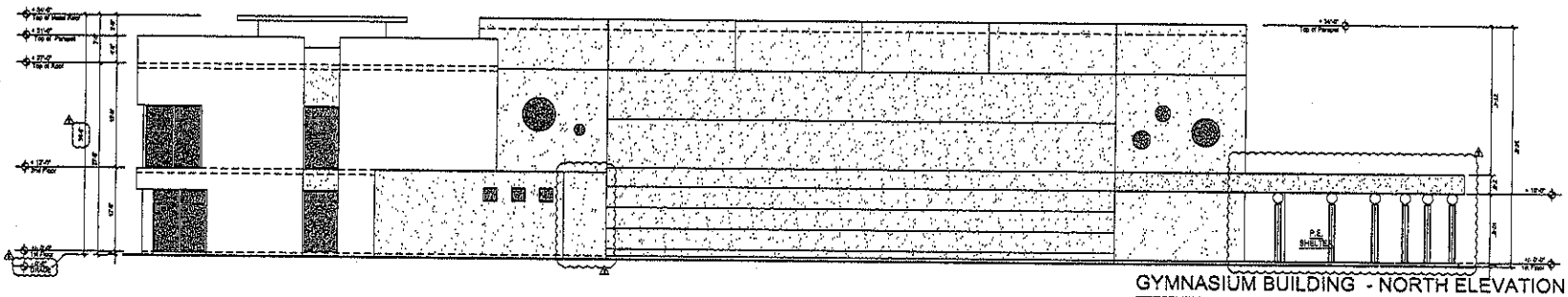
GYMNASIUM BLDG.
FLOOR PLANS

D.I.C. SUBMITTAL

ARCHIMEDEAN ACADEMY, INC
MASTER PLAN for Middle and High School Expansion
12425 Sunset Dr. Miami, Florida 33183

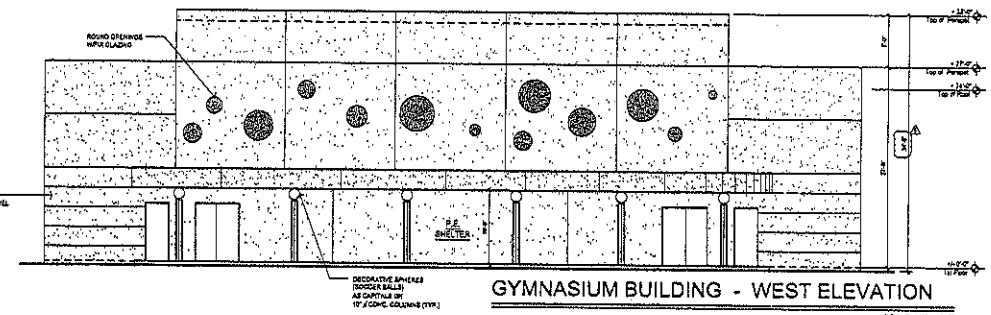
Drw 08-03-08
Scale AS NOTED
Drwn
Job 06-1218.1
Sheet MP-5
Ck'd Scale

60



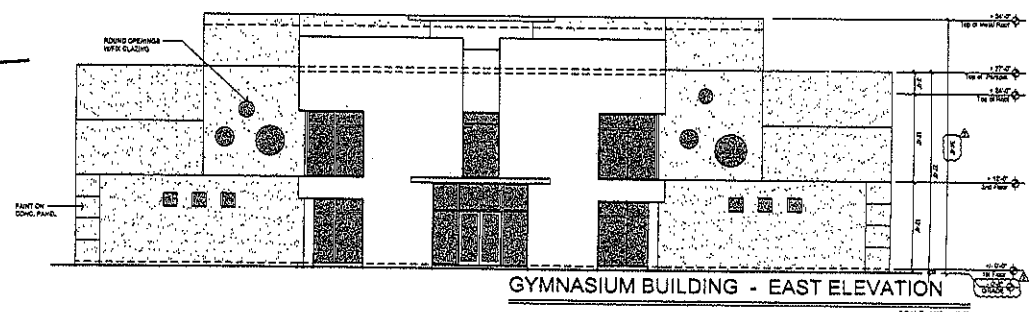

GYMNASIUM BUILDING - NORTH ELEVATION

SCALE: 1/8" = 1'-0"



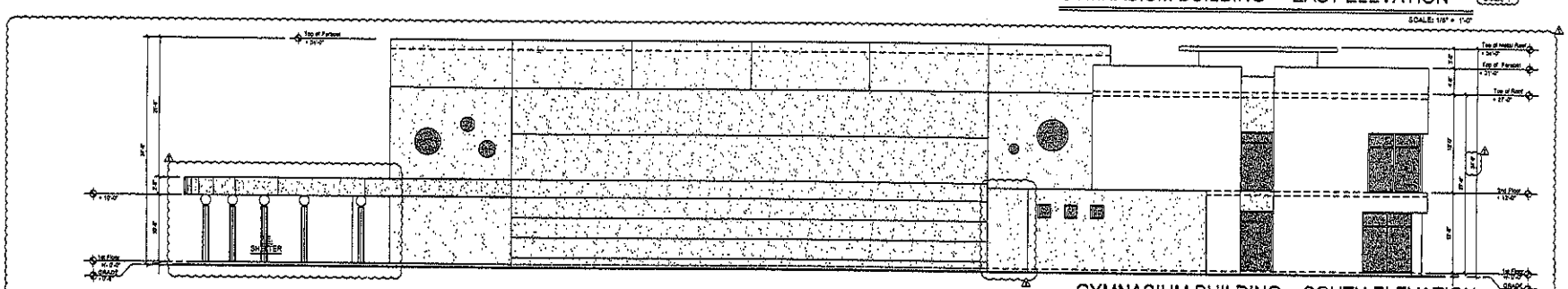

GYMNASIUM BUILDING - WEST ELEVATION

SCALE: 1/8" = 1'-0"




GYMNASIUM BUILDING - EAST ELEVATION

SCALE: 1/8" = 1'-0"




GYMNASIUM BUILDING - SOUTH ELEVATION

SCALE: 1/8" = 1'-0"

RECEIVED

APR 0 5 2011

MIAMI-DADE COUNTY
DEPT. OF PLANNING & ZONING
DEVELOPMENTAL IMPACT COMMITTEE

BY_____

| | | |
|---|---|---|
| 1 | 09-12-08 | RESPONSE TO ZONING/GRAND TRAFFIC COMMENTS |
| 2 | 09-27-08 | RESPONSE TO ZONING COMMENTS |
| 3 | 03-27-09 | RESP. TO ZONING COMMENTS (Applicant Survey) RESPONSE TO DRAW COMMENTS |
| 4 | 09-08-10 | MDC Public Works Traffic Dept. Comments |
| 5 | 11-17-10 | RESPONSE TO ZONING/GRAND TRAFFIC COMMENTS |
| 6 | 09-05-11 | RESPONSE TO ZONING COMMENTS |


ANTHONY E. TZAMTZIS, AIA
ARCHITECT AR 09207
7421 TEDESTAN AVENUE, MIAMI, FL 33133
PH. (305) 399-9008 FAX (305) 857-3242
EMAIL: antonytzamtzis@aol.com


Sheet Title: GYMNASIUM BLDG. ELEVATIONS

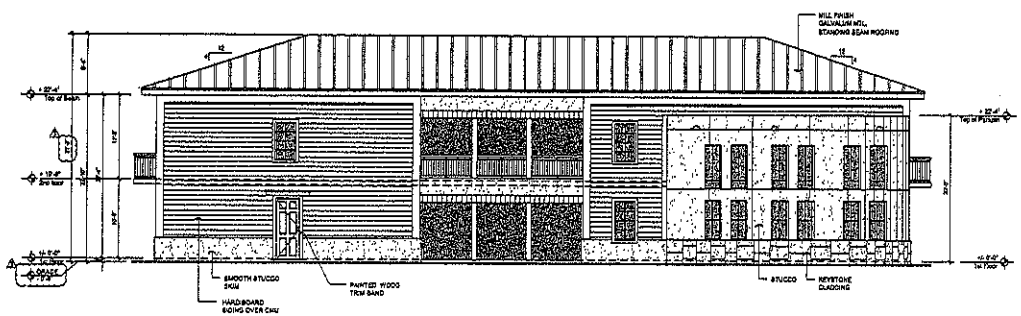
Submittal: D.I.C. SUBMITTAL

ARCHIMEDEAN ACADEMY, INC

MASTER PLAN for Middle and High School Expansion

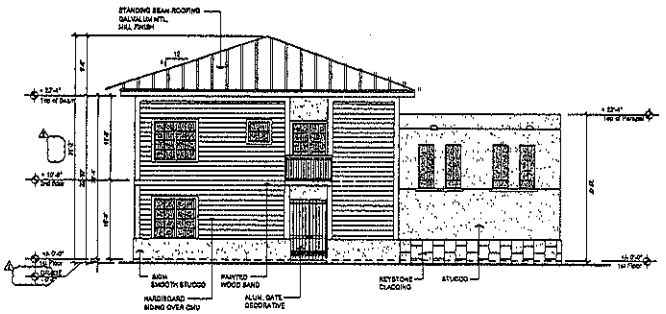
12425 Sunset Dr. Miami, Florida 33183

| | |
|---|---|
| Date | 08-03-08 |
| Scale | AS NOTED |
| Drawn | |
| Job | 08-1218.1 |
| Sheet | MP-5.1 |
| Of | Sheets |



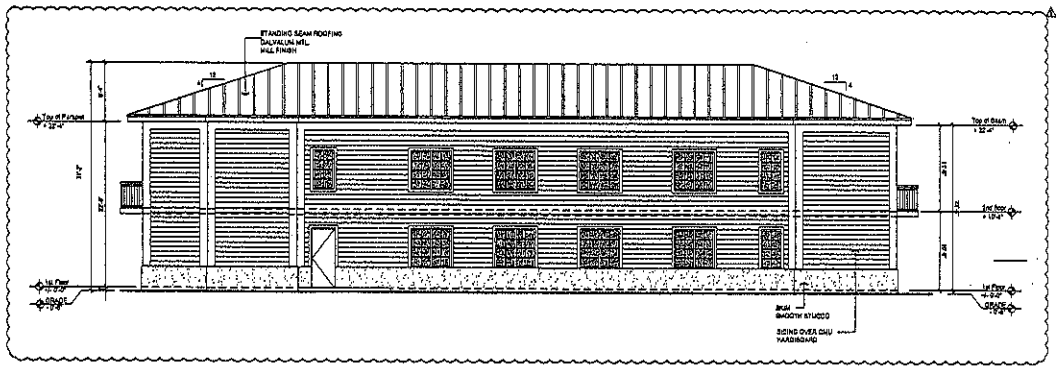

CULTURAL CENTER BUILDING - NORTH ELEVATION

SCALE: 1/8" = 1'-0"



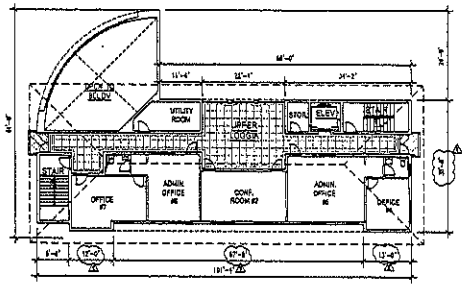

CULTURAL CENTER BUILDING - EAST ELEVATION

SCALE: 1/8" = 1'-0"



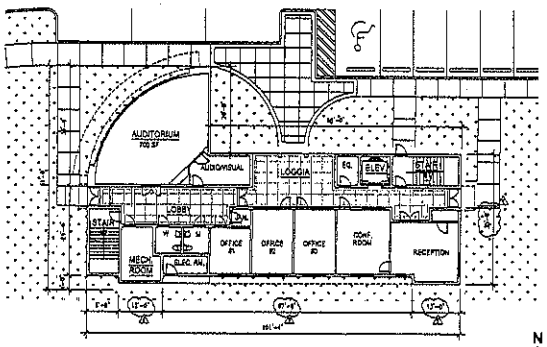

CULTURAL CENTER BUILDING - SOUTH ELEVATION

SCALE: 1/8" = 1'-0"




CULTURAL CENTER BLDG. - 2ND FLOOR PLAN

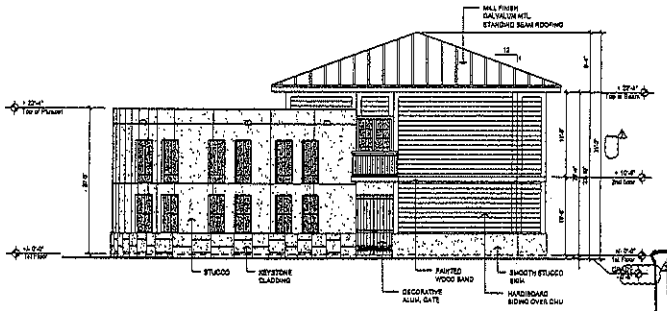
SCALE: 1/16" = 1'-0"




CULTURAL CENTER BLDG. - 1ST FLOOR PLAN

SCALE: 1/16" = 1'-0"

N




CULTURAL CENTER BUILDING - WEST ELEVATION

SCALE: 1/8" = 1'-0"

RECEIVED

APR 0 5 2011

MIAMI-DADE COUNTY
DEPT. OF PLANNING & ZONING
DEVELOPMENTAL IMPACT COMMITTEE

BY_____

AUDITORIUM AREA : 700 SF
SEATING CAPACITY 50 Persons

| | |
|---|---|
| FIRST FLOOR GROSS SF AREA (GSF) | : 3,920 SF |
| SECOND FLOOR GSF AREA | : 2,841SF |
| TOTAL BUILDING GSF | : 6,761 SF |

| | |
|---|---|
| 10.23.08 | RESPONSE TO ZONING/DADE TRAFFIC COMMENTS |
| 09.27.08 | RESPONSE TO ZONING COMMENTS |
| 09.22.08 | RESP. TO 3 Zoning Comments (Limited Scope) |
| 08.18.08 | RESP. TO DERM COMMENTS (Limited Scope) |
| 3.11.08 | MDC Public Works Traffic Dept. Comments |
| 2.6.08 | RESPONSE TO ZONING/DADE TRAFFIC COMMENTS |
| 1.30.08 | RESPONSE TO ZONING COMMENTS |

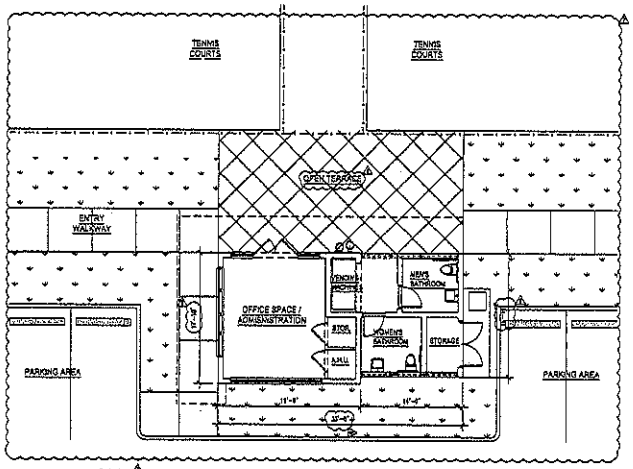
ANTHONY E. TZAMTZIS, AIA
ARCHITECT AR 09207
3471 HOSPITAL AVENUE, SUITE 31, 33133
PH (305) 448-2000 FAX (305) 448-2002
EMAIL: atzamtzis@archmia.net

Sheet Title: CULTURAL CENTER PLANS / ELEV.
Submittal: D.I.C. SUBMITTAL

ARCHIMEDEAN ACADEMY, INC
MASTER PLAN for Middle and High School Expansion
12425 Sunset Dr. Miami, Florida 33183

Date: 08-03-08
Scale: AS NOTED
Drawn:
Job: 08-1218.1
Sheet: MP-6

62




TENNIS FACILITY BLDG. - FLOOR PLAN

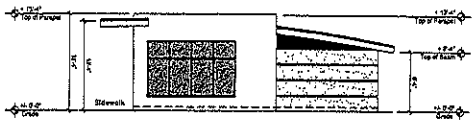
SCALE: 1/8" = 1'-0"

N

TENNIS FACILITY BUILDING
GROUND FLOOR GROSS SF AREA (GSF) : 585 SF

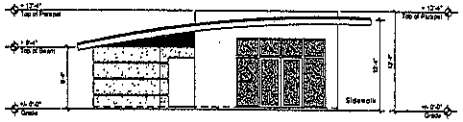
TENNIS FACILITY - SOUTH ELEVATION

SCALE: 1/8" = 1'-0"



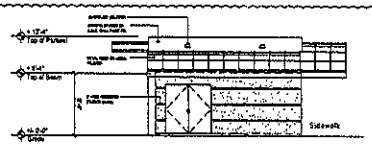
TENNIS FACILITY - EAST ELEVATION

SCALE: 1/8" = 1'-0"



TENNIS FACILITY - WEST ELEVATION

SCALE: 1/8" = 1'-0"



TENNIS FACILITY - NORTH ELEVATION

SCALE: 1/8" = 1'-0"

RECEIVED

APR 0 5 2011

MIAMI-DADE COUNTY
DEPT. OF PLANNING & ZONING
DEVELOPMENTAL IMPACT COMMITTEE

BY_____

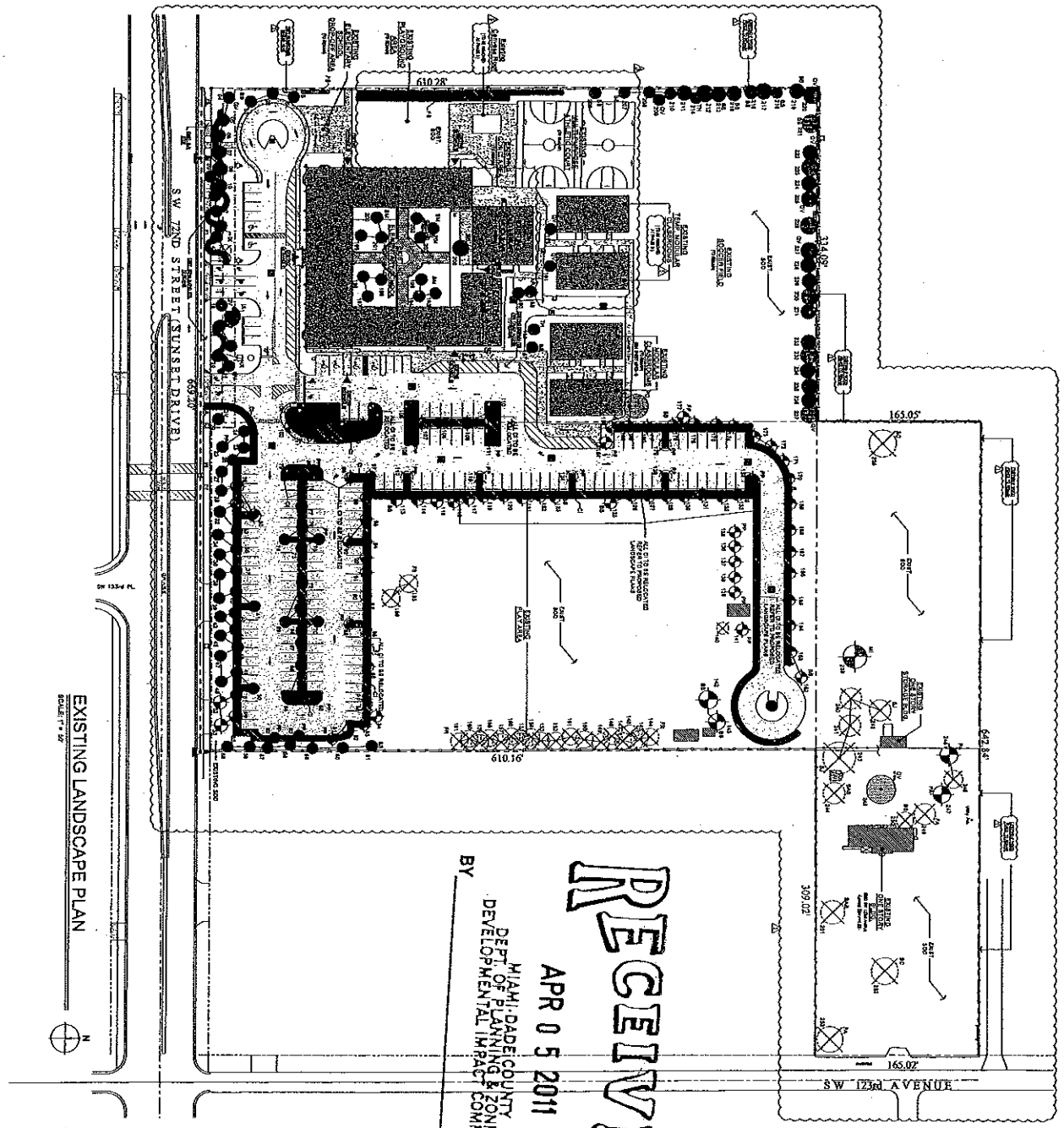
| | |
|---|---|
| 03.08 | RESPONSE TO DERMARAS TRAFFIC COMMENTS |
| 03.08 | RESPONSE TO DERMARAS COMMENTS |
| 03.08 | REVISIONS TO DERMARAS COMMENTS |
| 03.08 | REVISIONS TO DERMARAS COMMENTS |
| 03.08 | REVISIONS TO DERMARAS COMMENTS |
| 03.08 | REVISIONS TO DERMARAS TRAFFIC COMMENTS |
| 03.11 | RESPONSE TO DERMARAS COMMENTS |
| 03.11 | RESPONSE TO ZONING COMMENTS |

ANTHONY E. TZAMTZIS, AIA
ARCHITECT AR 0012017
10th TERRACE, OFFICE, MIAMI, FL 33133
PH: (305) 285-9000 FAX: (305) 285-3343
EMAIL: atzamtzis@atzarchitect.com

Sheet Title: POOL AND TENNIS FACILITY BLDGS.
Submitted: D.I.C. SUBMITTAL

ARCHIMEDEAN ACADEMY, INC
MASTER PLAN for Middle and High School Expansion
12425 Sunset Dr. Miami, Florida 33183

Date: 09-03-08
Scale: AS NOTED
Drawn:
Job: 08-1216.1
Sheet: MP-7




RECEIVED
APR 0 5 2011
MIAMI-DADE COUNTY
DEPT. OF PLANNING & ZONING
DEVELOPMENTAL IMPACT COMMITTEE
BY

RECEIVED
APR 0 5
MIAMI-DADE COUNTY
DEPT. OF PLANNING & ZONING
DEVELOPMENTAL IMPACT COMMITTEE
BY

| | | | | | |
|---|---|---|---|---|---|
| MP/L-1 | ARCHIMEDEAN ACADEMY, INC<br>MASTER PLAN for Middle and High School Expansion<br>12425 Sunset Dr. Miami, Florida 33183 | EXISTING LANDSCAPE PLAN<br>D.I.C. SUBMITTAL | ANTHONY E. TZAMTZIS, AIA<br>ARCHITECT AR 09207 | 03-22-10 | RESP. TO ZONING COMMENTS (Updated Survey) |

63

## EXISTING TREE INVENTORY AS OF MARCH 2010 AND PROPOSED ACTION

| PLAN TREE ID # | PLAN TREE TAG | COMMON NAME | BOTANICAL NAME | TRUNK Ø AT BREAST HEIGHT (in) | OVERALL HEIGHT (ft) | SPREAD (ft) | ACTION | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 1 | BB | Black Olive | Bucida Buceras | 12 | 35 | 25 | To Remain | |
| 2 | BB | Black Olive | Bucida Buceras | 12 | 35 | 25 | To Remain | |
| 3 | BB | Black Olive | Bucida Buceras | 12 | 35 | 25 | To Remain | |
| 4 | QV | Live Oak | Quercus Virginiana | 6 | 15 | 8 | To Remain | |
| 5 | QV | Live Oak | Quercus Virginiana | 10 | 20 | 15 | To Remain | |
| 6 | QV | Live Oak | Quercus Virginiana | 8 | 18 | 12 | To Remain | |
| 7 | QV | Live Oak | Quercus Virginiana | 10 | 16 | 12 | To Remain | |
| 8 | QV | Live Oak | Quercus Virginiana | 10 | 18 | 12 | To Remain | |
| 9 | QV | Live Oak | Quercus Virginiana | 10 | 15 | 12 | To Remain | |
| 10 | QV | Live Oak | Quercus Virginiana | 10 | 18 | 14 | To Remain | |
| 11 | QV | Live Oak | Quercus Virginiana | 10 | 18 | 12 | To Remain | |
| 12 | QV | Live Oak | Quercus Virginiana | 6 | 12 | 10 | To Remain | |
| 13 | QV | Live Oak | Quercus Virginiana | 11 | 25 | 20 | To Remain | |
| 14 | QV | Live Oak | Quercus Virginiana | 12 | 30 | 25 | To Remain | |
| 15 | BT | Brazilian Pepper | Schinus Terebinthifolius | 6 | 15 | 12 | Remove | Invasive and Permit Exempt |
| 16 | QV | Live Oak | Quercus Virginiana | 12 | 20 | 20 | To Remain | |
| 17 | QV | Live Oak | Quercus Virginiana | 8 | 15 | 12 | To Remain | |
| 18 | QV | Live Oak | Quercus Virginiana | 10 | 15 | 12 | To Remain | |
| 19 | QV | Live Oak | Quercus Virginiana | 10 | 18 | 12 | To Remain | |
| 20 | QV | Live Oak | Quercus Virginiana | 12 | 15 | 18 | To Remain | |
| 21 | QV | Live Oak | Quercus Virginiana | 10 | 20 | 18 | To Remain | |
| 22 | QV | Live Oak | Quercus Virginiana | 12 | 20 | 20 | To Remain | Planted on Raised mound |
| 23 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 2.0 | 10 | 5 | To Remain | Distressed and in poor condition |
| 24 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 3 | 12 | 8 | To Remain | Distressed and in poor condition |
| 25 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 2 | 6 | 5 | To Remain | Distressed and in poor condition |
| 26 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 2 | 10 | 5 | To Remain | Distressed and in poor condition |
| 27 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 2 | 10 | 8 | To Remain | Distressed and in poor condition |
| 28 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 2 | 10 | 8 | To Remain | Distressed and in poor condition |
| 29 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 2 | 10 | 8 | To Remain | Distressed and in poor condition |
| 30 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 4 | 10 | 12 | To Remain | |
| 31 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 2 | 10 | 5 | To Remain | Distressed and in poor condition |
| 32 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 2 | 10 | 5 | To Remain | Distressed and in poor condition |
| 33 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 3 | 10 | 8 | To Remain | Distressed and in poor condition |
| 34 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 2 | 10 | 8 | To Remain | Distressed and in poor condition |
| 35 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 2 | 10 | 6 | To Remain | Distressed and in poor condition |
| 36 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 2 | 10 | 8 | To Remain | Distressed and in poor condition |
| 37 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 3 | 12 | 8 | To Remain | Distressed and in poor condition |
| 38 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 3 | 12 | 8 | To Remain | Distressed and in poor condition |
| 39 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 2 | 10 | 6 | To Remain | Distressed and in poor condition |
| 40 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 2 | 10 | 5 | To Remain | Distressed and in poor condition |
| 41 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 3.5 | 12 | 8 | To Remain | Distressed and in poor condition |
| 42 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 2 | 10 | 6 | To Remain | Distressed and in poor condition |
| 43 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 2 | 10 | 5 | To Remain | Distressed and in poor condition |
| 44 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 2 | 10 | 5 | To Remain | Distressed and in poor condition |
| 45 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 2 | 10 | 5 | To Remain | Distressed and in poor condition |
| 46 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 2 | 10 | 8 | To Remain | Distressed and in poor condition |
| 47 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 3 | 12 | 12 | To Remain | |
| 48 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 3 | 12 | 12 | To Remain | |
| 49 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 2 | 10 | 5 | To Remain | Distressed and in poor condition |
| 50 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 2.5 | 8 | 8 | To Remain | Distressed and in poor condition |
| 51 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 3 | 12 | 10 | To Remain | |
| 52 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 3 | 12 | 12 | To Remain | |
| 53 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 2 | 10 | 8 | To Remain | Distressed and in poor condition |
| 54 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 4 | 18 | 20 | To Remain | |
| 55 | BS | Gumbo Limbo | Bursera Simaruba | 5 | 10 | 10 | To Remain | |
| 56 | BS | Gumbo Limbo | Bursera Simaruba | 8 | 18 | 10 | To Remain | |
| 57 | BS | Gumbo Limbo | Bursera Simaruba | 3 | 10 | 6 | To Remain | |
| 58 | BS | Gumbo Limbo | Bursera Simaruba | 7 | 18 | 16 | To Remain | |
| 59 | BS | Gumbo Limbo | Bursera Simaruba | 3.5 | 10 | 7 | To Remain | |
| 60 | BS | Gumbo Limbo | Bursera Simaruba | 8 | 15 | 12 | To Remain | |
| 61 | BS | Gumbo Limbo | Bursera Simaruba | 8 | 15 | 12 | To Remain | |
| 62 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 4 | 15 | 15 | To Remain | |
| 63 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 4 | 15 | 15 | To Remain | |
| 64 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 2 | 8 | 8 | To Remain | Distressed and in poor condition |
| 65 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 3 | 10 | 6 | To Remain | |
| 66 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 3 | 10 | 10 | To Remain | Two co-dominant leaders |
| 67 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 2 | 8 | 8 | To Remain | Distressed and in poor condition |
| 68 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 3 | 10 | 10 | To Remain | |
| 69 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 3 | 10 | 15 | To Remain | |
| 70 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 2 | 8 | 5 | To Remain | Distressed and in poor condition |
| 71 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 2 | 8 | 6 | To Remain | Distressed and in poor condition |
| 72 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 4 | 12 | 12 | To Remain | |
| 73 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 3 | 12 | 10 | To Remain | |
| 74 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 3 | 10 | 10 | To Remain | |
| 75 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 2 | 10 | 8 | To Remain | Distressed and in poor condition |
| 76 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 3 | 10 | 16 | To Remain | Two co-dominant leaders |
| 77 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 8 | 20 | 20 | To Remain | |
| 78 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 2 | 10 | 5 | To Remain | Distressed and in poor condition |
| 79 | PP | Yellow Poinciana | Peltophorum Pterocarpum | ≤2 | 6 | 5 | To Remain | Distressed and in poor condition |
| 80 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 3 | 15 | 10 | To Be Relocated | |

## EXISTING TREE INVENTORY AS OF MARCH 2010 AND PROPOSED ACTION

| PLAN TREE ID # | PLAN TREE TAG | COMMON NAME | BOTANICAL NAME | TRUNK Ø AT BREAST HEIGHT (in) | OVERALL HEIGHT (ft) | SPREAD (ft) | ACTION | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 81 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 4 | 16 | 10 | To Be Relocated | |
| 82 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 4 | 16 | 10 | To Be Relocated | |
| 83 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 3 | 15 | 10 | To Be Relocated | |
| 84 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 3 | 15 | 10 | To Be Relocated | |
| 85 | PP | Yellow Poinciana | Peltophorum Pterocarpum | ≤2 | - | - | Remove | Severely distressed. |
| 86 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 3 | 15 | 10 | To Be Relocated | |
| 87 | PP | Yellow Poinciana | Peltophorum Pterocarpum | ≤2 | - | - | Remove | Severely distressed. |
| 88 | PP | Yellow Poinciana | Peltophorum Pterocarpum | ≤2 | - | - | Remove | Severely distressed. |
| 89 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 3 | 12 | 8 | To Be Relocated | |
| 90 | PP | Yellow Poinciana | Peltophorum Pterocarpum | ≤2 | - | - | Remove | Severely distressed. |
| 91 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 3 | 10 | 10 | To Be Relocated | |
| 92 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 3 | 10 | 10 | To Be Relocated | |
| 93 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 2 | 10 | 8 | To Be Relocated | Distressed |
| 94 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 3 | 10 | 10 | To Be Relocated | |
| 95 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 4 | 12 | 15 | To Be Relocated | |
| 96 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 3 | 12 | 8 | To Be Relocated | |
| 97 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 3 | 12 | 8 | To Be Relocated | |
| 98 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 4 | 12 | 16 | To Be Relocated | |
| 99 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 3 | 12 | 10 | To Be Relocated | |
| 100 | PP | Yellow Poinciana | Peltophorum Pterocarpum | ≤2 | - | - | Remove | Severely distressed. |
| 101 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 2 | 10 | 8 | To Be Relocated | Distressed |
| 102 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 6 | 12 | 15 | To Be Relocated | |
| 103 | CS | Silver Palm | Coccothrinax Barbadensis | - | 5 | - | To Be Relocated | |
| 104 | CS | Silver Palm | Coccothrinax Barbadensis | - | 5 | - | To Be Relocated | |
| 105 | PP | Yellow Poinciana | Peltophorum Pterocarpum | ≤2 | 10 | 5 | Remove | Severely distressed. |
| 106 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 4 | 15 | 12 | To Be Relocated | |
| 107 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 3 | 12 | 8 | To Be Relocated | |
| 108 | PP | Yellow Poinciana | Peltophorum Pterocarpum | ≤2 | 10 | 5 | Remove | Severely distressed. |
| 109 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 3 | 14 | 10 | To Be Relocated | |
| 110 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 4 | 16 | 14 | To Be Relocated | |
| 111 | PP | Yellow Poinciana | Peltophorum Pterocarpum | ≤2 | 10 | 5 | Remove | Severely distressed. |
| 112 | PP | Yellow Poinciana | Peltophorum Pterocarpum | ≤2 | 10 | 5 | Remove | Severely distressed. |
| 113 | BS | Gumbo Limbo | Bursera Simaruba | 5 | 12 | 10 | To Be Relocated | |
| 114 | BS | Gumbo Limbo | Bursera Simaruba | 5 | 12 | 10 | To Be Relocated | |
| 115 | BS | Gumbo Limbo | Bursera Simaruba | 5 | 12 | 10 | To Be Relocated | |
| 116 | BS | Gumbo Limbo | Bursera Simaruba | 5 | 12 | 10 | To Be Relocated | |
| 117 | BS | Gumbo Limbo | Bursera Simaruba | 5 | 12 | 10 | To Be Relocated | |
| 118 | PP | Yellow Poinciana | Peltophorum Pterocarpum | ≤2 | - | - | Remove | Severely distressed. |
| 119 | BS | Gumbo Limbo | Bursera Simaruba | 6 | 12 | 10 | To Be Relocated | |
| 120 | BS | Gumbo Limbo | Bursera Simaruba | 5 | 12 | 10 | To Be Relocated | |
| 121 | BS | Gumbo Limbo | Bursera Simaruba | 4 | 10 | 10 | To Be Relocated | |
| 122 | BS | Gumbo Limbo | Bursera Simaruba | 4 | 10 | 10 | To Be Relocated | |
| 123 | BS | Gumbo Limbo | Bursera Simaruba | 4 | 10 | 10 | To Be Relocated | |
| 124 | PP | Yellow Poinciana | Peltophorum Pterocarpum | ≤2 | 9 | 6 | Remove | Severely distressed. |
| 125 | BS | Gumbo Limbo | Bursera Simaruba | 4 | 10 | 10 | To Be Relocated | |
| 126 | BS | Gumbo Limbo | Bursera Simaruba | 4 | 10 | 10 | To Be Relocated | |
| 127 | BS | Gumbo Limbo | Bursera Simaruba | 4 | 10 | 10 | To Be Relocated | |
| 128 | PP | Yellow Poinciana | Peltophorum Pterocarpum | ≤2 | - | - | Remove | Severely distressed. |
| 129 | BS | Gumbo Limbo | Bursera Simaruba | 4 | 10 | 10 | To Be Relocated | |
| 130 | BS | Gumbo Limbo | Bursera Simaruba | 4 | 10 | 10 | To Be Relocated | |
| 131 | BS | Gumbo Limbo | Bursera Simaruba | 4 | 10 | 10 | To Be Relocated | |
| 132 | BS | Gumbo Limbo | Bursera Simaruba | 4 | 10 | 10 | To Be Relocated | |
| 133 | BS | Gumbo Limbo | Bursera Simaruba | 4 | 15 | 10 | To Be Relocated | |
| 134 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 3 | 15 | 15 | To Be Relocated | |
| 135 | BS | Gumbo Limbo | Bursera Simaruba | 3 | 15 | 10 | To Be Relocated | |
| 136 | BS | Gumbo Limbo | Bursera Simaruba | 3 | 15 | 10 | To Be Relocated | |
| 137 | BS | Gumbo Limbo | Bursera Simaruba | 3 | 16 | 10 | To Be Relocated | |
| 138 | BS | Gumbo Limbo | Bursera Simaruba | 3 | 16 | 10 | To Be Relocated | |
| 139 | BS | Gumbo Limbo | Bursera Simaruba | 3 | 15 | 10 | To Be Relocated | |
| 140 | PP | Yellow Poinciana | Peltophorum Pterocarpum | ≤2 | 9 | 8 | Remove | Severely distressed. |
| 141 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 5 | 18 | 18 | To Be Relocated | |
| 142 | BS | Gumbo Limbo | Bursera Simaruba | 4 | 14 | 12 | To Be Relocated | |
| 143 | BS | Gumbo Limbo | Bursera Simaruba | 4 | 14 | 12 | To Be Relocated | |
| 144 to 161 | FR | Cuban Laurel - Total 18 trees interlocked | Ficus Retusa (Nitida) | 18 avg. | 26-30 | 15-20 | Remove - Total 18 trees | Whitefly infested, distressed and damaged from trimming |
| 162 | BS | Gumbo Limbo | Bursera Simaruba | 6 | 15 | 12 | To Be Relocated | |
| 163 | BS | Gumbo Limbo | Bursera Simaruba | 8 | 16 | 12 | To Be Relocated | |
| 164 | BS | Gumbo Limbo | Bursera Simaruba | 8 | 16 | 12 | To Be Relocated | |
| 165 | BS | Gumbo Limbo | Bursera Simaruba | 5 | 12 | 10 | To Be Relocated | |
| 166 | BS | Gumbo Limbo | Bursera Simaruba | 5 | 12 | 10 | To Be Relocated | |
| 167 | BS | Gumbo Limbo | Bursera Simaruba | 4 | 12 | 8 | To Be Relocated | |
| 168 | BS | Gumbo Limbo | Bursera Simaruba | 5 | 12 | 10 | To Be Relocated | |
| 169 | BS | Gumbo Limbo | Bursera Simaruba | 5 | 12 | 10 | To Be Relocated | |
| 170 | BS | Gumbo Limbo | Bursera Simaruba | 2 | 7 | 4 | To Be Relocated | |
| 171 | BS | Gumbo Limbo | Bursera Simaruba | 4 | 12 | 8 | To Be Relocated | |
| 172 | BS | Gumbo Limbo | Bursera Simaruba | 4 | 12 | 14 | To Be Relocated | |
| 173 | BS | Gumbo Limbo | Bursera Simaruba | 4 | 12 | 10 | To Be Relocated | |
| 174 | BS | Gumbo Limbo | Bursera Simaruba | 4 | 12 | 10 | To Be Relocated | |
| 175 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 8 | 18 | 18 | To Be Relocated | |
| 176 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 8 | 14 | 14 | To Be Relocated | |

## EXISTING TREE INVENTORY AS OF MARCH 2010 AND PROPOSED ACTION

| PLAN TREE ID # | PLAN TREE TAG | COMMON NAME | BOTANICAL NAME | TRUNK Ø AT BREAST HEIGHT (in) | OVERALL HEIGHT (ft) | SPREAD (ft) | ACTION | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 176 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 8 | 14 | 14 | To Be Relocated | |
| 177 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 3 | 12 | 10 | To Be Relocated | |
| 178 | BS | Gumbo Limbo | Bursera Simaruba | 4 | 16 | 8 | To Be Relocated | |
| 179 | PP | Yellow Poinciana | Peltophorum Pterocarpum | ≤2 | 6 | 6 | Remove | Severely distressed. |
| 180 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 3 | 14 | 10 | To Be Relocated | |
| 181 | PO | Pongam | Pongamia Pinnata | 20 | 26 | 30 | To Remain | Two codominant trunks. Needs trimming |
| 182 | BS | Gumbo Limbo | Bursera Simaruba | 4 | 18 | 12 | To Be Relocated | |
| 183 | BS | Gumbo Limbo | Bursera Simaruba | 4 | 16 | 12 | To Be Relocated | |
| 184 | PP | Yellow Poinciana | Peltophorum Pterocarpum | 3 | 10 | 10 | To Be Relocated | |
| 185 | FB | Benjamin Fig | Ficus Benjamina | 20 | 25 | 20 | Remove | Whitefly infested and distressed. |
| 186 | FB | Benjamin Fig | Ficus Benjamina | 20 | 22 | 18 | Remove | Whitefly infested and distressed. |
| 187 | BS | Gumbo Limbo | Bursera Simaruba | 6 | 12 | 15 | To Remain | |
| 188 | TH | Tabebuia | Tabebuia Heterophylla | 8 | 14 | 12 | To Remain | |
| 189 | AR | Queen Palm | Arecastrum Romanzoffianum | - | 20 | - | To Remain | Trunk Damage, distressed |
| 190 | AR | Queen Palm | Arecastrum Romanzoffianum | - | 20 | - | To Remain | |
| 191 | QV | Live Oak | Quercus Virginiana | 10 | 18 | 12 | To Remain | |
| 192 | QV | Live Oak | Quercus Virginiana | 12 | 20 | 18 | To Remain | |
| 193 to 204 | SM | Mahogany - Total 12 trees | Swietenia Mahogany | 6 | 20 | 18 | To Remain - Total 12 trees | In existing school courtyard |
| 205 | BB | Black Olive | Bucida Buceras | 18 | 35 | 40 | To Remain | |
| 206 | BB | Black Olive | Bucida Buceras | 12 | 25 | 20 | To Remain | |
| 207 | BS | Gumbo Limbo | Bursera Simaruba | 10 | 14 | 12 | To Remain | |
| 208 | BS | Gumbo Limbo | Bursera Simaruba | 6 | 12 | 10 | To Remain | Relocated here in 2008 under Permit # 2007-TREE-PER-00644 |
| 209 | QV | Live Oak | Quercus Virginiana | 8 | 18 | 18 | To Remain | Distressed |
| 210 | BS | Gumbo Limbo | Bursera Simaruba | 6 | 12 | 10 | To Remain | Relocated here in 2008 under Permit # 2007-TREE-PER-00644 |
| 211 | BS | Gumbo Limbo | Bursera Simaruba | 5 | 12 | 10 | To Remain | Relocated here in 2008 under Permit # 2007-TREE-PER-00644 |
| 212 | BS | Gumbo Limbo | Bursera Simaruba | 6 | 12 | 10 | To Remain | Relocated here in 2008 under Permit # 2007-TREE-PER-00644 |
| 213 | BS | Gumbo Limbo | Bursera Simaruba | 5 | 12 | 10 | To Remain | Relocated here in 2008 under Permit # 2007-TREE-PER-00644 |
| 214 | TH | Tabebuia | Tabebuia Heterophylla | 6 | 16 | 16 | To Remain | Distressed |
| 215 | BB | Black Olive | Bucida Buceras | 12 | 30 | 16 | To Remain | |
| 216 | BS | Gumbo Limbo | Bursera Simaruba | 3 | 12 | 7 | To Remain | Relocated here in 2008 under Permit # 2007-TREE-PER-00644 |
| 217 | BS | Gumbo Limbo | Bursera Simaruba | 3 | 12 | 7 | To Remain | Relocated here in 2008 under Permit # 2007-TREE-PER-00644 |
| 218 | BS | Gumbo Limbo | Bursera Simaruba | 3 | 12 | 7 | To Remain | Relocated here in 2008 under Permit # 2007-TREE-PER-00644 |
| 219 | BB | Black Olive | Bucida Buceras | 14 | 23 | 16 | To Remain | |
| 220 | QV | Live Oak | Quercus Virginiana | 12 | 18 | 12 | To Remain | |
| 221 | BS | Gumbo Limbo | Bursera Simaruba | 3 | 12 | 7 | To Remain | Relocated here in 2008 under Permit # 2007-TREE-PER-00644 |
| 222 | QV | Live Oak | Quercus Virginiana | 10 | 18 | 12 | To Remain | |
| 223 | QV | Live Oak | Quercus Virginiana | 10 | 18 | 12 | To Remain | |
| 224 | QV | Live Oak | Quercus Virginiana | 10 | 18 | 12 | To Remain | |
| 225 | QV | Live Oak | Quercus Virginiana | 10 | 18 | 12 | To Remain | |
| 226 | BS | Gumbo Limbo | Bursera Simaruba | 4 | 12 | 8 | To Remain | Relocated here in 2008 under Permit # 2007-TREE-PER-00644 |
| 227 | QV | Live Oak | Quercus Virginiana | 12 | 20 | 16 | To Remain | |
| 228 | QV | Live Oak | Quercus Virginiana | 12 | 20 | 16 | To Remain | |
| 229 | QV | Live Oak | Quercus Virginiana | 11 | 18 | 16 | To Remain | |
| 230 | QV | Live Oak | Quercus Virginiana | 12 | 20 | 16 | To Remain | |
| 231 | QV | Live Oak | Quercus Virginiana | 12 | 20 | 18 | To Remain | |
| 232 | QV | Live Oak | Quercus Virginiana | 12 | 20 | 18 | To Remain | |
| 233 | QV | Live Oak | Quercus Virginiana | 10 | 18 | 18 | To Remain | |
| 234 | QV | Live Oak | Quercus Virginiana | 8 | 14 | 12 | To Remain | |
| 235 | QV | Live Oak | Quercus Virginiana | 12 | 20 | 14 | To Remain | |
| 236 | QV | Live Oak | Quercus Virginiana | 6 | 12 | 12 | To Remain | |
| 237 | QV | Live Oak | Quercus Virginiana | 10 | 18 | 14 | To Remain | |
| 238 | SC | Jambolan Plum | Syzigium Cumini | 24 | 36 | 36 | Remove | Out of scale and invasive |
| 239 | MI | Mango | Mangifera Indica | 22 | 35 | 35 | To Be Relocated | Relocation feasibility pending |
| 240 | BJ | Java Bishopwood | Bischofia Javanica | 30 | 45 | 50 | Remove | |
| 241 | BJ | Java Bishopwood | Bischofia Javanica | 18 | 30 | 30 | Remove | Infested with scale, whitefly, and sooty mold; invasive. Permit exempt. |
| 242 | BJ | Java Bishopwood | Bischofia Javanica | 30 | 43 | 45 | Remove | |
| 243 | BJ | Java Bishopwood | Bischofia Javanica | 30 | 45 | 45 | Remove | |
| 244 | BAB | Hong Kong Orchid | Bauhinia Blakeana | 38 | 30 | 40 | Remove | Distressed trunk infested with termites. |
| 245 | QV | Live Oak | Quercus Virginiana | 23 | 30 | 30 | To Remain | |
| 246 | PA | Avocado | Persea Americana | 10 | 18 | 15 | To Be Relocated | Relocation feasibility pending |
| 247 | PA | Avocado | Persea Americana | 16 | 24 | 24 | To Be Relocated | Relocation feasibility pending |
| 248 | CT | Sour Orange | Citrus Aurantium | 8 | 14 | 10 | Remove | |
| 249 | FA | Fig Tree | Ficus Altissima | 19+ | 18 | 18 | Remove | Hosted by sabal palms. Permit exempt tree. |
| 250 | BB | Black Olive | Bucida Buceras | 18 | 20 | 20 | Remove | Distressed; trunk rot; hatracked |
| 251 | BAB | Hong Kong Orchid | Bauhinia Blakeana | 24 | 30 | 38 | Remove | Strangled by epiphytic vines, distressed trunk. |
| 252 | SC | Jambolan Plum | Syzigium Cumini | 48 | 25 | 28 | Remove | Trunk and branches distressed. |
| 253 | FA | Fig Tree | Ficus Altissima | 34 | 20 | 28 | Remove | Permit exempt tree |

## TREE REMOVAL SUMMARY

| TREE TYPE | HOW MANY <18" Ø | HOW MANY ≥18" Ø SPECIMEN | NATIVE OR INVASIVE | PERMIT EXEMPT | REMARKS | PLAN TREE # |
|---|---|---|---|---|---|---|
| Brazilian Pepper | 1 | - | Invasive | Yes | | 15 |
| Yellow Poinciana | 13 | - | Native | No | All distressed and less than 2" caliper. | 85, 87-88, 90,100,105,108, 112,118,124,128,140,& 179 |
| Ficus Nitida | 9 | 9 | Native | Yes | | 144-161 |
| Ficus Benjamina | | 2 | Native | No | | 185-186 |
| Ficus Altissima | 1 | 1 | Native | Yes | | 249, 253 |
| Black Olive | | 1 | Native | No | Distressed | 250 |
| Jambolan Plum | | 2 | Invasive | No | Too large in footprint of proposed improvement | 238, 252 |
| Java Bishopwood | | 4 | Invasive | Yes | Heavy whitefly and sooty mold | 240-243 |
| Hong Kong Orchid | | 2 | Non Native | No | | 244-251 |
| Sour Orange | 1 | | Native | No | Distressed | 248 |
| TOTALS | 25 | 21 | | | | |

## TREE RELOCATION SUMMARY

| TREE TYPE | HOW MANY <18" Ø | HOW MANY ≥18" Ø SPECIMEN | REMARKS | PLAN TREE # |
|---|---|---|---|---|
| Yellow Poinciana | 31 | - | All less than 6" in caliper | 80-84, 86, 89, 91-99, 101-102, 106-107, 109-110, 134, 141, 175-177, 180 & 184 |
| Gumbo Limbo | 41 | - | All less than 6" in caliper | 113-117, 119-123, 125-127, 129-133, 135-139, 142-143, 162-174, 178, & 182-183 |
| Silver Palm | 2 | - | Both with 3' CT, 5' OA height. | 103-104 |
| Mango | | 1 | Pending relocation feasibility | 239 |
| Avocado | 2 | - | Pending relocation feasibility | 246-247 |
| TOTALS | 76 | 1 | | |

RECEIVED
APR 0 5 2011
MIAMI-DADE COUNTY
DEPT. OF PLANNING & ZONING
DEVELOPMENTAL IMPACT COMMITTEE
BY______________

| Revision | Date | Description |
|---|---|---|
| △ | 03-22-10 | RESP. TO ZONING COMMENTS (Revised Survey) |
| △ | 04-06-11 | RESPONSE TO ZONING COMMENTS |
| △ | 04-04-11 | RESPONSE TO ZONING COMMENTS |

**ANTHONY E. TZAMTZIS, AIA**
ARCHITECT AR 09207
3471 [illegible] AVENUE, MIAMI, FL 33133
PH. (305) 389-8009 FAX (305) 657-3342
EMAIL: [illegible]

Sheet Title: **EXISTING LANDSCAPE SCHEDULES/SUMMARIES**
Submittal: D.I.C. SUBMITTAL

**ARCHIMEDEAN ACADEMY, INC**
MASTER PLAN for Middle and High School Expansion
12425 Sunset Dr. Miami, Florida 33183

Date: 09-03-06
Scale: AS NOTED
Drawn:
Job: 08-1218.1
Sheet: MP/L-1a
Of Sheets

64

## LANDSCAPE LEGEND - EXISTING TREES TO REMAIN

Refer to sheet MP/L1 for additional information on existing trees

| SYMBOL | BOTANICAL NAME/ COMMON NAME | HEIGHT | REMARKS | NATIVE | DROUGHT TOLERANT | COUNT |
|---|---|---|---|---|---|---|
| BS | Bursera Simaruba/ Gumbo Limbo | 20' to 40' | - | YES | YES | 7 |
| QV | Quercus Virginiana/ Live Oak | 15' to 25' | - | YES | YES | 36 |
| PP | Pelophytum Pentaphyllum/ Yellow Palmetto | 6' to 20' | - | NO | YES | 59 |
| DS | Delonix Silvestre/ Gumbo Limbo | 10' to 15' | - | YES | YES | 15 |
| PU | Pongamia Pinnata/ Pongam | 25' | - | NO | YES | 1 |
| TH | Tabebuia Heterophylla/ Tabebuia | 14' to 16' | - | NO | YES | 3 |
| SM | Swietenia Mahogani/ Mahogany | 20' | - | YES | YES | 12 |
| | | | TOTAL EXISTING TREES TO REMAIN | | | 129 |

## LANDSCAPE LEGEND - EXISTING PALMS

Refer to sheet MP/L1 for additional information on existing palms

| SYMBOL | BOTANICAL NAME/ COMMON NAME | HEIGHT | REMARKS | NATIVE | DROUGHT TOLERANT | COUNT |
|---|---|---|---|---|---|---|
| CB | Coccothrinax Borhidiana/ Silver palm | 5' overall | - | NO | YES | 2 |
| AR | Acoelorrhaphe Wrightii (Serenoa)/ Cuban Palm | 20' overall | Thatch trunk | NO | YES | 2 |
| | | | TOTAL EXISTING PALMS | | | 4 |
| | | | TOTAL PALMS of 10' MIN. OVERALL HEIGHT | | | 2 |

## LANDSCAPE LEGEND - EXISTING SHRUBS TO REMAIN

| SYMBOL | BOTANICAL NAME/ COMMON NAME | HEIGHT | REMARKS | NATIVE | DROUGHT TOLERANT | COUNT |
|---|---|---|---|---|---|---|
| CH | Chrysobalanus Icaco/ Cocoa Plum red tip | 30" | Established at all parking island planter areas. To be relocated at new planter areas as needed | YES | YES | Approx. 1,500 |
| JM | Jasminum Multiflorum/ Jasmine | 60" | - | YES | YES | 30 |
| IX | Ixora Coccinea/ Ixora | 24" | - | YES | YES | 46 |
| | | | TOTAL EXISTING SHRUBS | | | 1,576 |

## LANDSCAPE LEGEND - PROPOSED TREES

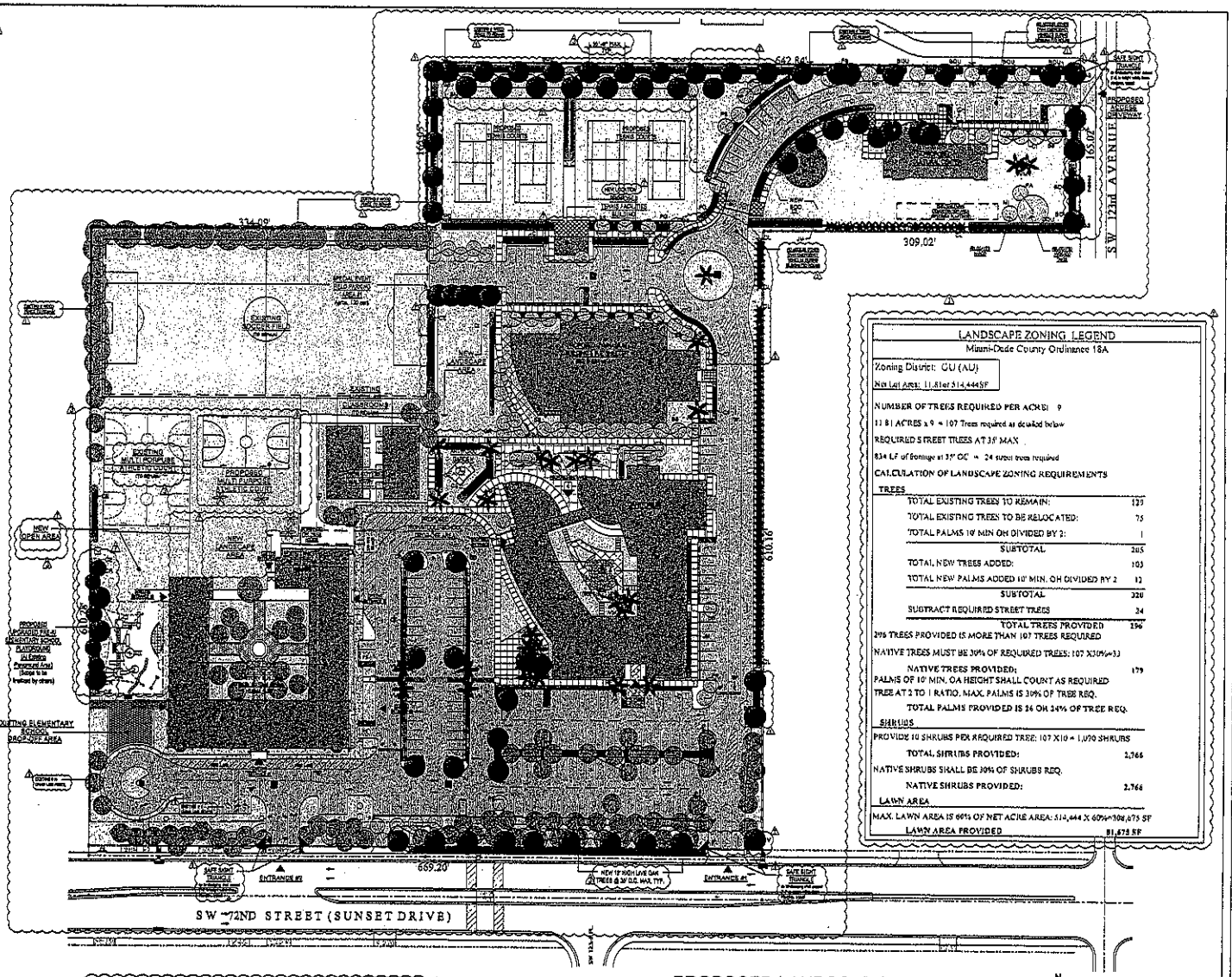
| SYMBOL | BOTANICAL NAME/ COMMON NAME | HEIGHT @ Planting | REMARKS | NATIVE | DROUGHT TOLERANT | COUNT |
|---|---|---|---|---|---|---|
| CS | Cordia Sebestena/ Geiger Tree | 8 to 10' | - | YES | YES | 10 |
| CR | Clusia Rosea/ Signature Tree | 8 to 10' | - | YES | YES | 22 |
| BS | Bursera Simaruba/ Gumbo Limbo | 8 to 12' | - | YES | YES | 43 |
| QV | Quercus Virginiana/ Live Oak | 10' | - | YES | YES | 10 |
| SM | Swietenia Mahogani/ Mahogany | 10' | - | YES | YES | 8 |
| | | | TOTAL PROPOSED TREES | | | 103 |

## LANDSCAPE LEGEND - PROPOSED PALMS

| SYMBOL | BOTANICAL NAME/ COMMON NAME | HEIGHT @ Planting | REMARKS | NATIVE | DROUGHT TOLERANT | COUNT |
|---|---|---|---|---|---|---|
| CL | Chrysalidocarpus Lutescens/ Areca | 4 to 7' | 5 to 7 Stems per plant; plant @ OC | NO | YES | 54 |
| RE | Roystonea Elata/ Royal Palm | 24' overall | 8" clear trunk | YES | YES | 14 |
| RE | Veitchia Merrillii/ Manila Palm | 24' overall | 8" clear trunk | NO | YES | 10 |
| | | | TOTAL PROPOSED PALMS | | | 78 |
| | | | TOTAL PALMS of 10' MIN. OVERALL HEIGHT | | | 24 |

## LANDSCAPE LEGEND - PROPOSED SHRUBS

| SYMBOL | BOTANICAL NAME/ COMMON NAME | HEIGHT @ Planting | REMARKS | NATIVE | DROUGHT TOLERANT | COUNT |
|---|---|---|---|---|---|---|
| PC | Podocarpus Macrophylla/ Podocarpus | 36" | 15 Gallon container Plant 24" OC | YES | YES | 140 |
| AM | Jasminum Multiflorum/ Jasmine | 24" | 7 Gallon container Plant 18" OC | YES | YES | 300 |
| BOU | Bougainvillea Spectabilis/ Bougainvillea | 24" | 5 Gallon container with trellis Plant 24" OC Alternate red and yellow | YES | YES | 500 |
| CV | Calocarpum Viridis/ Silver Buttonwood | 24" | 7 Gallon container Plant 24" OC | YES | YES | 360 |
| | | | TOTAL PROPOSED SHRUBS | | | 1300 |




## LANDSCAPE ZONING LEGEND

Miami-Dade County Ordinance 18A

Zoning District: GU (AU)

Net Lot Area: 11.81ac or 514,444SF

NUMBER OF TREES REQUIRED PER ACRE: 9

11.81 ACRES x 9 = 107 Trees required as detailed below

REQUIRED STREET TREES AT 30' MAX.

834 LF of frontage at 30' OC = 24 street trees required

CALCULATION OF LANDSCAPE ZONING REQUIREMENTS

TREES

| | |
|---|---|
| TOTAL EXISTING TREES TO REMAIN: | 129 |
| TOTAL EXISTING TREES TO BE RELOCATED: | 75 |
| TOTAL PALMS 10' MIN OH DIVIDED BY 2: | 1 |
| SUBTOTAL | 205 |
| TOTAL NEW TREES ADDED: | 103 |
| TOTAL NEW PALMS ADDED 10' MIN. OH DIVIDED BY 2 | 12 |
| SUBTOTAL | 320 |
| SUBTRACT REQUIRED STREET TREES | 24 |
| TOTAL TREES PROVIDED | 296 |

296 TREES PROVIDED IS MORE THAN 107 TREES REQUIRED

NATIVE TREES MUST BE 30% OF REQUIRED TREES: 107 X30%=33

NATIVE TREES PROVIDED: 179

PALMS OF 10' MIN. OA HEIGHT SHALL COUNT AS REQUIRED TREE AT 2 TO 1 RATIO. MAX. PALMS IS 30% OF TREE REQ.

TOTAL PALMS PROVIDED IS 24 OR 24% OF TREE REQ.

SHRUBS

PROVIDE 10 SHRUBS PER REQUIRED TREE: 107 X10 = 1,070 SHRUBS

TOTAL SHRUBS PROVIDED: 2,766

NATIVE SHRUBS SHALL BE 30% OF SHRUBS REQ.

NATIVE SHRUBS PROVIDED: 2,766

LAWN AREA

MAX. LAWN AREA IS 60% OF NET ACRE AREA: 514,444 X 60%=308,675 SF

LAWN AREA PROVIDED 81,675 SF

## TREE LEGEND

- EXISTING TREE TO REMAIN
- EXISTING PALM TO REMAIN
- EXISTING SHRUBS TO REMAIN OR TO BE RELOCATED AS SHOWN
- EXISTING TREE - RELOCATED
- PROPOSED TREE
- PROPOSED PALM
- NEW SHRUBS FOR LANDSCAPE BUFFER
- DENOTES SAME TYPE OF TREES
- ID = DENOTES TREE TYPE - REFER TO LANDSCAPE LEGENDS (MP/L1 & MP/L2)

PROPOSED LANDSCAPE PLAN

SCALE: 1" = 60'

N

RECEIVED

APR 0 5 2011

MIAMI-DADE COUNTY
DEPT. OF PLANNING & ZONING
DEVELOPMENTAL IMPACT COMMITTEE

BY_____

ANTHONY E. TZAMTZIS, AIA
ARCHITECT AR 09207

PROPOSED LANDSCAPE PLAN

D.I.C. SUBMITTAL

ARCHIMEDEAN ACADEMY, INC

MASTER PLAN for Middle and High School Expansion

12425 Sunset Dr. Miami, Florida 33183

Date 09-03-08
Scale AS NOTED
Drawn
Job 08-1216.1
Sheet MP/L2
Of Sheets

DISCLOSURE OF INTEREST*

If a CORPORATION owns or leases the subject property, list principal stockholders and percent of stock owned by each. [Note: Where principal officers or stockholders consist of other corporation(s), trust(s), partnership(s) or other similar entities, further disclosure shall be made to identify the natural persons having the ultimate ownership interest].

CORPORATION NAME: _____

| NAME AND ADDRESS | Percentage of Stock |
|---|---|
| | |
| | |
| | |
| | |

If a **TRUST** or **ESTATE** owns or leases the subject property, list the trust beneficiaries and the percent of interest held by each. [Note: Where beneficiaries are other than natural persons, further disclosure shall be made to identify the natural persons having the ultimate ownership interest].

TRUST/ESTATE NAME _____

| NAME AND ADDRESS | Percentage of Interest |
|---|---|
| | |
| | |
| | |
| | |
| | |
| | |

If a PARTNERSHIP owns or leases the subject property, list the principals including general and limited partners. [Note: Where the partner(s) consist of another partnership(s), corporation(s), trust(s) or other similar entities, further disclosure shall be made to identify the natural persons having the ultimate ownership interest].

PARTNERSHIP OR LIMITED PARTNERSHIP NAME: Archimedean Properties, LLC

| NAME AND ADDRESS | Percentage of Ownership |
|---|---|
| See Exhibit "C" attached | |
| | |
| | |
| | |
| | |
| | |

If there is a **CONTRACT FOR PURCHASE**, by a Corporation, Trust or Partnership list purchasers below, including principal officers, stockholders, beneficiaries or partners. [Note: Where principal officers, stockholders, beneficiaries or partners consist of other corporations, trusts, partnerships or other similar entities, further disclosure shall be made to identify natural persons having the ultimate ownership interests].

RECEIVED
SEP - 3 2008
ZONING HEARINGS SECTION
MIAMI-DADE PLANNING AND ZONING DEPT.
BY _____

MIADOCS 2935404 1
8/1/08

NAME OF PURCHASER: _____

| NAME, ADDRESS AND OFFICE (if applicable) | Percentage of Interest |
|---|---|
| | |
| | |
| | |
| | |
| | |

Date of contract: _____

If any contingency clause or contract terms involve additional parties, list all individuals or officers, if a corporation, partnership or trust.

| | |
|---|---|
| | |
| | |
| | |
| | |
| | |

NOTICE: For any changes of ownership or changes in purchase contracts after the date of the application, but prior to the date of final public hearing, a supplemental disclosure of interest is required.

The above is a full disclosure of all parties of interest in this application to the best of my knowledge and belief.

Archimedean Properties, LLC.

Signature: _____
(Applicant) Lambros Katsoufis, Manager

Sworn to and subscribed before me this 27 day of Aug, 2008. Affiant is personally know to me or has produced DL license as identification.

_____ NOTARY PUBLIC - STATE OF FLORIDA
(Notary Public) Linda Christian
Commission #DD651416
Expires: MAR. 23, 2011
BONDED THRU ATLANTIC BONDING CO., INC.

My commission expires: _____

*Disclosure shall not be required of: 1) any entity, the equity interests in which are regularly traded on an established securities market in the United States or another country; or 2) pension funds or pension trusts of more than five thousand (5,000) ownership interests; or 3) any entity where ownership interests are held in a partnership, corporation or trust consisting of more than five thousand (5,000) separate interests, including all interests at every level of ownership and where no one (1) person or entity holds more than a total of five per cent (5%) of the ownership interest in the partnership, corporation or trust. Entities whose ownership interests are held in a partnership, corporation, or trust consisting of more than five thousand (5,000) separate interests, including all interests at every level of ownership, shall only be required to disclose those ownership interest which exceed five (5) percent of the ownership interest in the partnership, corporation or trust.

RECEIVED
SEP - 3 2008
ZONING HEARINGS SECTION
MIAMI-DADE PLANNING AND ZONING DEPT.
BY _____

MIADOCS 2935404 1
8/1/08

**EXHIBIT "C"**

Disclosure of Interest for Archimedean Properties, LLC:

| Members of Archimedean Properties, LLC | Percentage Owned |
|---|---|
| 1. George Bavelis<br>c/o 1155 Brickell Bay Drive<br>Suite 2810<br>Miami, FL 33131 | 2.86% |
| 2. Passman Shipping Agency S.A.<br>c/o 8619 Westwood Center Drive<br>Suite 300<br>Vienna, Virginia 22182<br>Stockholders – Angelis Katsoufis – 100%<br>Euboias 30<br>11362 Kupseli<br>Greece | 31.14% |
| 3. Pelis International, S.A.<br>c/o Arias, Fabrega & Fabrega<br>Plaza Bancomer Building<br>50th Street<br>Panama, Republic of Panama<br>Stockholders – Angelis Katsoufis – 100%<br>Euboias 30<br>11362 Kupseli<br>Greece | 23% |
| 4. Cree Investments S.A.<br>c/o Arias, Fabrega & Fabrega<br>Plaza Bancomer Building<br>50th Street<br>Panama, Republic of Panama<br>Stockholders – Christos Hatziemmanouil – 100%<br>61 Heathcroft<br>Hamstead Way<br>London, NW 11 7HJ<br>United Kingdom | 8% |
| 5. Morphosis, LLC<br>c/o 3135 SW 3rd Avenue<br>Miami, FL 33129<br>Stockholders Dr. Nikos Georgoulakis – 50%<br>10855 SW 72 Street<br>Miami, Fl 33173<br>Kyriakos Georgoulakis – 50%<br>13580 SW 109 Ct.<br>Miami, FL 33176 | 21.43% |
| 6. Gus Andy<br>1317 Beach Dr.<br>Cape May, New Jersey 08204 | 5.71% |
| 7. Dimosthenis Kotis and Toribia Miranda<br>3348 SW 22 Street<br>Miami, FL 33145 | 4.29% |
| 8. Panagiotis Alexopoulos<br>1537 Hollywood Blvd.<br>Hollywood, FL 33020 | 2.86% |
| 9. Adis Hurtado Ambides<br>901 N. Venetian Dr.<br>Miami, FL 33129 | 5.71% |

RECEIVED
2008 175
SEP - 3 2008
ZONING HEARINGS SECTION
MIAMI-DADE PLANNING AND ZONING DEPT.
BY

Department of Planning and Zoning
111 NW 1 Street 11th Floor
Miami, Florida 33128

# CHILD CARE CHECK LIST FOR CHARTER SCHOOLS

*A signed charter contract from the Miami-Dade County School Board must accompany this application which matches the location, # of students and grade levels of the proposed application*

School Name: Archimedean Charter School

School Address: 12425 Sunset Drive

Tax Folio #30-4925-000-0620; #30-4925-000-0681; and # 30-4925-000-0690

Total size of site: 12 +/- acres

Is this an expansion to an existing school? ☒ yes ☐ no

If yes, indicate the # of students and grade levels previously approved:

800 students; K-8 and the Resolutions # Z-16-05 and Z-31-06

Number of children/students requested: 1300 Grade Levels: K-12 Ages: _____

Number of classrooms: ~~TBD~~ 66 Total square footage of classroom area: ~~TBD~~ 46,654

Total square footage of outdoor recreation/play area: 140,833 square feet

Number of parking spaces provided for staff, visitors, and transportation vehicles: 208

Days and hours of operation: Monday through Friday; 7:30 AM to 3:30 PM

THE INFORMATION ABOVE IS COMPLETE AND IS CORRECT TO THE BEST OF MY KNOWLEDGE.

Signed, sealed, executed and acknowledged on this 27 day of August at Miami-Dade County, Florida.

WITNESSES:

Archimedean Properties, LLC

By: _____
Lambros Katsoufis, Manager

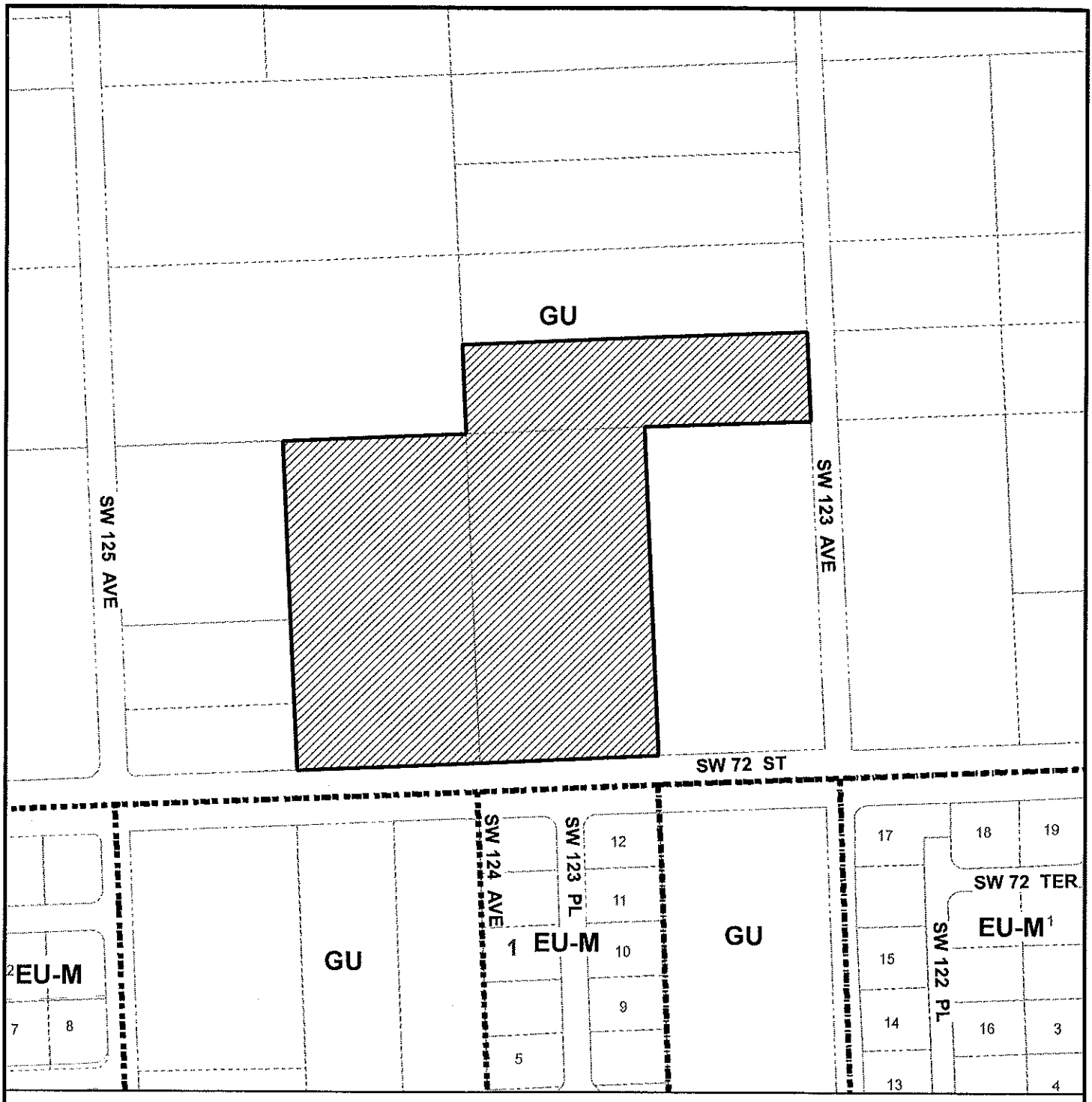
STATE OF FLORIDA
COUNTY OF MIAMI-DADE

I hereby certify that on this 27 day of August, 2008, before me personally appeared Lambros Katsoufis, as Manager of Archimedean Properties, LLC, to me known to be the person described in and who executed the foregoing instrument and he/she acknowledge to me the execution thereof to be his/her free ct for the uses and purposes therein mentioned.

NOTARY PUBLIC - STATE OF FLORIDA
Linda Christian
Commission #DD651416
Expires: MAR. 23, 2011
BONDED THRU ATLANTIC BONDING CO., INC.

My Commission Expires

MIADOCS 2947384 1




# MIAMI-DADE COUNTY
## HEARING MAP

**Process Number**
**08-175**

**Section: 25T ownship:54R ange: 39**
**Applicant: ARCHIMEDEAN PROPERTIES, LLC.**
**Zoning Board:C11**
**Commission District: 10**
**Drafter ID: ALFREDO**
**Scale: NTS**
**---------- Zoning**

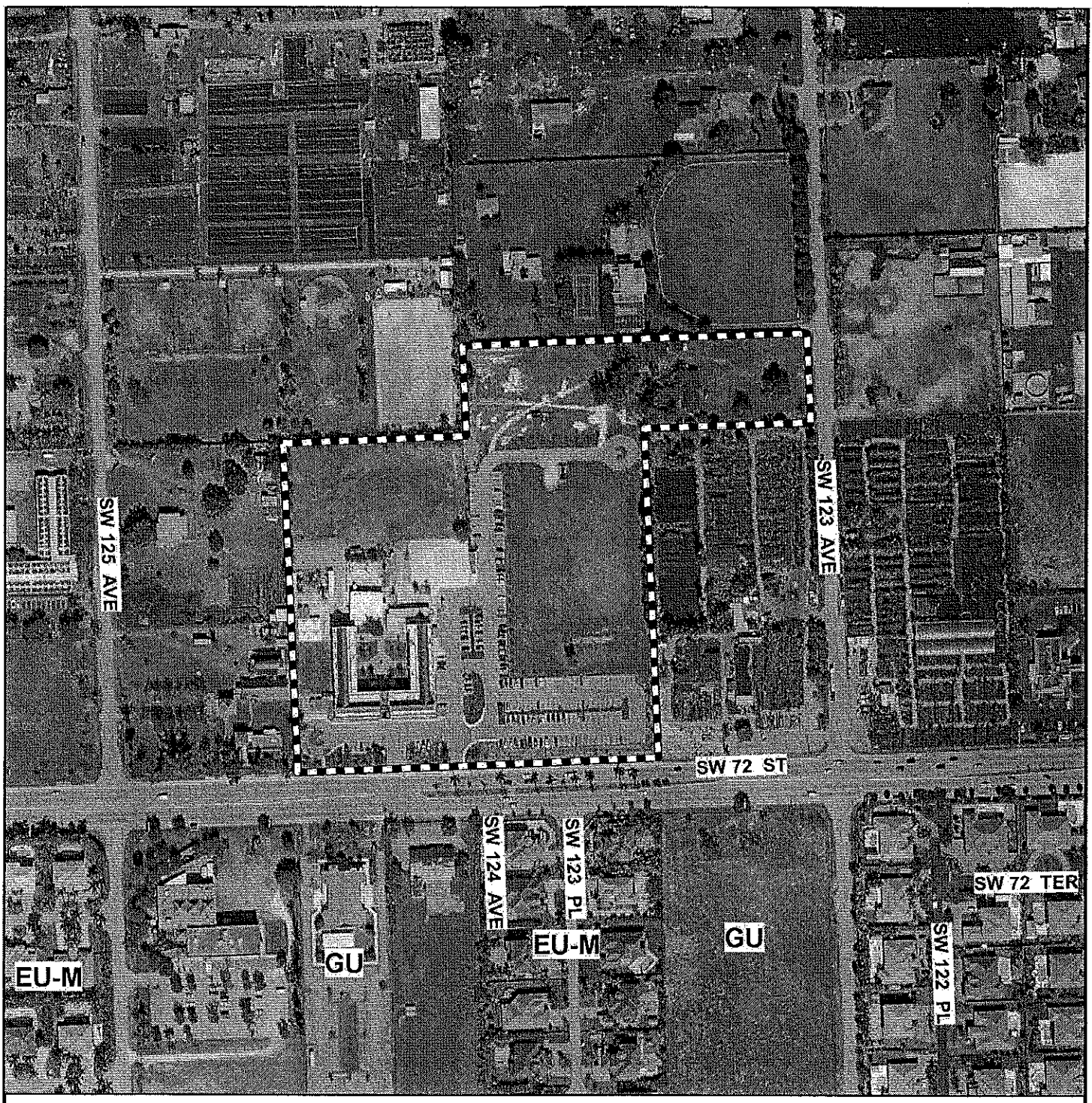
N
W E
S

**SUBJECT PROPERTY**

MIAMI-DADE COUNTY

SKETCH CREATED ON: 10/03/08

| REVISION | DATE | BY |
|---|---|---|
| | | 70 |




# MIAMI-DADE COUNTY

## AERIAL YEAR 2008

Section: 25 Township:54 Range: 39
Applicant: ARCHIMEDEAN PROPERTIES, LLC.
Zoning Board:C11
Commission District: 10
Drafter ID: ALFREDO
Scale: NTS
---------- Zoning

Process Number

**08-175**

SUBJECT PROPERTY

N
W E
S

MIAMI-DADE COUNTY

SKETCH CREATED ON: 10/03/08

| REVISION | DATE | BY |
|---|---|---|
| | | |

**2. MIAMI-DADE COUNTY AVIATION DEPARTMENT**
**(Applicant)**

**11-6-CC-2 (10-150)**
**BCC/District 12**
**Hearing Date: 06/23/11**

Property Owner (if different from applicant) **Same.**

Is there an option to purchase ☐ / lease ☐ the property predicated on the approval of the zoning request? Yes ☐ No ☑

Disclosure of interest form attached? Yes ☐ No ☑

**Previous Zoning Hearings on the Property:**

| Year | Applicant | Request | Board | Decision |
|---|---|---|---|---|
| 1984 | Kennely & Kaplan Inc. | - Use Variance for furniture store in IU-2. | BCC | Approved w/conds. |
| 1987 | Kaufman & Roberts | - Use Variance electrical appliance store.<br>- Modification of condition #2 of Resolution. | BCC | Approved w/conds. |

Action taken today does not constitute a final development order, and one or more concurrency determinations will subsequently be required. Provisional determinations or listings of needed facilities made in association with this Initial Development Order shall not be binding with regard to future decisions to approve or deny an Intermediate or Final Development Order on any grounds.

**DEPARTMENT OF PLANNING AND ZONING**
**RECOMMENDATION TO THE BOARD OF COUNTY COMMISSIONERS**

**APPLICANT:** The Miami-Dade County Aviation Department **PH:** Z10-150 (11-6-CC-2)

**SECTIONS:** 35-53-40 **DATE:** June 23, 2011

**COMMISSION DISTRICT:** 12 **ITEM NO.:** 2

==========

## A. INTRODUCTION

- **SUMMARY OF REQUESTS:**

  The applicant is seeking to rezone a portion of MDAD property from IU-2, Heavy Industrial Manufacturing District, to GP, Government Property.

- **REQUEST:**

  District Boundary Change from IU-2 to GP

- **LOCATION**: The northeast corner of NW 12 Street and Milam Dairy Road extension, Miami-Dade County, Florida.

- **SIZE:** 14.61 Acres

## B. ZONING HEARINGS HISTORY:

In November 1984, pursuant to Resolution #Z-248-84, the subject property was approved for a Use Variance to allow a furniture store in the IU-2 zone as would be permitted in the BU-1A, Limited Business District. Subsequently, in July 1987, the subject property was approved to allow an electrical appliance store in the IU-2 district as would be allowed in the BU-1A district as well as a modification of the previously approved plans, pursuant to Resolution #Z-209-87.

## C. COMPREHENSIVE DEVELOPMENT MASTER PLAN (CDMP) OBJECTIVES, POLICIES AND INTERPRETATIVE TEXT:

1. *The adopted 2015 and 2025 Land Use Plan designates the subject property as being within the Urban Development Boundary for* ***Transportation and Terminal*** *use. The LUP map includes a summarized portrayal of the major components of Miami-Dade County's existing and future transportation network. Included are roadways and major switching yards, and such major terminals as the County airports and the Miami-Dade Seaport. This information is included on the LUP map to provide orientation and locational references, and to relate future development patterns to the future transportation network. The Transportation and Capital Improvements Elements of the CDMP provide additional details about these facilities, including their intended sizes, functions, uses, and designs and, with the exception of local streets, schedules and improvements. As provided in the policies of the Transportation Element, transportation facilities such as terminals and transit stations shall contain the transportation uses and may contain other uses as provided in the applicable Transportation Subelement.*

2. **AVIATION SUBELEMENT**

***Goal***

***ENSURE THE PROVISION OF AN ECONOMIC, INTEGRATED ENVIRONMENT AND COMMUNITY-SENSITIVE, AND BALANCED SYSTEM OF AIRS TRANSPORTATION FACILITIES AND SERVICES TO MOVE PASSENGERS AND CARGO EFFECTIVELY AND EFFICIENTLY; ACCOMMODATE AND ENCOURAGE ALL TYPES OF GENERAL AVIATION ACTIVITY, INCLUDING BUSINESS, COMMERCIAL, INSTRUCTIONAL, AND PERSONAL ACTIVITY; AND ENHANCE THE ECONOMY AND QUALITY OF LIFE IN THE COUNTY AND REGION.***

***POLICIES***

***AV-7B*** *Miami-Dade County shall update its airport compatible zoning ordinances to promote compatible land use around Miami International, Opa-Locka Executive, Kendall-Tamiami Executive, and Homestead General Aviation Airports. These ordinances updates shall be based on the guidelines recommended in the following federal and state documents. Due to operational differences, all listed documents may not pertain to all airports.*

*(Federal) – Department of Transportation – Federal Aviation Regulation Part 77 (Objects affecting Navigable Airspace)*

*(Federal) – Department of Defense Air Installation Compatible Use Zone Report (AICUZ) for HAFB (August 1988)*

*(State) – Chapter 333, Florida Statutes, (Airport Zoning)*

***AV-8A*** *The Miami-Dade County Aviation Department, through the continued increase in the capacity of the County's airports to meet the forecast aviation demands, and the State and local governmental economic development entities through their commerce and industry promotion programs should expand the importance of the aviation industry to Miami-Dade County and the regional economy.*

***AV-8B*** *When consistent with aviation facility locational objectives for airspace safety and environmental and community compatibility, the Aviation Department shall provide additional facility and operational capacity in the aviation systems in locations that offer greatest potential for expansion of aviation-related economic development and redevelopment in the vicinity and opportunities for aviation-related employment for Miami-Dade County residents.*

3. ***Future Aviation Facilities:*** *Future aviation facility improvements are proposed to be made on or adjacent to the sites of existing airports. These sites are:*

- *Miami International Airport*
- *Opa-Locka Executive Airport*
- *Kendall-Tamiami Executive Airport*
- *Homestead General Aviation Airport*
- *Miami-Dade Collier Training and Transition Airport*

*The location and layout of these future facilities, including runway protection zones and points of ingress and egress, are indicated on the Physical Airport 2015-2025 map series below following this page. The configuration of the proposed site expansion and individual improvements at these locations are either yet to be determined or beyond the scope of this Subelement.*

*The natural resources and future land uses surrounding these facilities are identified in the map series and Future Land Use Plan map contained in the Land Use Element of this Plan.*

4. ***Aviation Facility Improvements***

*Meeting Miami-Dade County's current and future aviation needs will require numerous facility improvements to be made. These improvements are divided between those addressing existing deficiency needs, future growth needs, and other needs (i.e., renovation and remodeling, etc.) and between near term (2007-2012) and long term (2013-2025). These improvements are listed by facility on the following table and many near-term improvements are described in more detail in the Capital Improvements Element.*

*All proposed uses on lands owned by Miami-Dade County at the Opa-Locka Executive Airport, Kendall-Tamiami Executive Airport, Homestead General Aviation Airport, and Miami International Airport that are designated as Terminal on the LUP map, may be developed for the uses described in this subsection. All proposed uses on such lands shall comply with the requirements of the Future Aviation Facilities Section of the Aviation Subelement, shall be compatible with, and not disruptive of, airport operations occurring on such lands, and shall comply with all applicable regulations of the Federal Aviation Administration and other applicable law.*

*The portion of the Opa-Locka Executive Airport, Kendall-Tamiami Executive Airport, Homestead General Aviation Airport, and Miami International Airport designated in the Comprehensive Development Master Plan for aviation uses, shall be deemed to consist of all portions of the airports where general public access is restricted (but not including terminal concourses), shall generally be limited to aviation uses, including but not limited to airfield uses such as runways, taxiways, aprons, runway protection zones, landing areas, and support and maintenance facilities such as control towers, flight service stations, access roads, fire stations, storage and aircraft maintenance and repair facilities and hangars, aircraft and aircraft parts manufacturing and storage, fixed based operators, air cargo operations, specialized aircraft service operations, and fuel farms. Up to fifty (50) percent of the areas designated for aviation uses may be developed with aviation-related uses. Aviation-related uses shall include, but not be limited to, manufacturing, storage, office, service, or similar uses ancillary to or supportive of aviation uses. The Director of the Miami-Dade Aviation Department, or the Aviation Department's designee, in consultation with the Director of Miami-Dade Department of Planning and Zoning, shall determine whether any particular use is an aviation use or an aviation-related use. Where not otherwise prohibited by law, open space and interim or existing agricultural uses and zoning may also be permitted in the portions of these airports designated for aviation use, subject to such conditions and requirements as may be imposed to ensure public health and safety.*

*The portion of these airports designated in the Comprehensive Development Master Plan for aviation related and non-aviation uses, shall be deemed to consist of all portions of the*

*airports where general public access is not restricted and terminal concourses only at Miami International Airport, and may include aviation, aviation-related, and non-aviation uses that are compatible with airport operations and consistent with applicable law.*

*Aviation uses where general public access is allowed may include existing uses and the following or substantially similar uses:*

- *passenger terminal area, which may include non-aviation related uses designed to serve the traveling public and on-site employees, such as offices, personal services, retail activities, restaurants, auto rental businesses, and lodging establishments,*
- *parking garages and lots serving the airport,*
- *access roadways serving the airport,*
- *offices of aviation industry companies and the Miami-Dade County Aviation Department,*
- *facilities of fixed base operators,*
- *hangar rentals and tie downs,*
- *ground transportation services,*
- *aircraft and automobile rental establishments,*
- *aviation-related educational uses such as flight schools, simulator training facilities, helicopter and aerobatics training and other educational facilities providing aviation courses,*
- *aviation-related governmental agency facilities,*
- *flying club facilities,*
- *aviation-related entertainment uses such as skydiving establishments, museums and sightseeing services, and*
- *aviation-related retail uses such as aircraft sales, electronic an instrument sales and pilot stores.*

*Subject to the restrictions contained herein, the following non-aviation-related uses may be approved in the portions of the Opa-Locka Executive Airport, Kendall-Tamiami Executive Airport, Homestead General Aviation Airport, and Miami International Airport designated for non-aviation uses on the Airport Land Use Master Plan maps:*

- *lodgings such as hotels and motels (except for Homestead General),*
- *office buildings (except for Homestead General),*
- *lodgings and office buildings at Miami International Airport (except in terminal concourses),*
- *industrial uses such as distribution, storage, manufacturing research and development and machine shops (except for Homestead General),*
- *agricultural uses,*
- *retail, restaurants, and personal service establishments (except for Homestead General), and*
- *gaming establishments (limited to Miami International Airport only).*

*Such non-aviation uses at the Opa-Locka Executive Airport, Kendall-Tamiami Executive Airport, Homestead General Aviation Airport, and Miami International Airport shall be limited as follows:*

*(1) The land area within Opa-Locka Executive, Miami International, and Kendall-Tamiami Executive airports that may be devoted to particular non-aviation uses shall be limited to the following percentages of the land area designated for aviation–related and non-aviation uses within each airport. Non-aviation-related at Opa-Locka Executive Airport shall range from 20 to 85 percent for industrial uses, 5 to 35 percent for commercial uses, 5 to 25 percent for office uses, 0 to 10 percent for hotels and motels, and 0 to 20 percent for institutional uses. Non-aviation-related at Miami International Airport shall range from 20 to 85 percent for industrial uses, 5 to 50 percent for commercial uses and/or office uses, 0 to 50 percent for hotels and motels, and 0 to 20 percent for institutional uses. Non-aviation-related at Kendall-Tamiami Executive Airport shall range from 0 to 85 percent for industrial uses, 0 to 100 percent for commercial uses, 0 to 25 percent for office uses, 0 to 10 percent for hotels and motels, and 0 to 20 percent for institutional uses.*

*(2) Those portions of Homestead General Aviation Airport that are not developed for uses that are aviation-related or directly supportive of airport operations shall be developed with agricultural uses.*

*(3) Each non-aviation use shall comply with applicable law, including but not limited to FAA regulations and the current airport layout plan on file with the Miami-Dade County Aviation Department governing permissible uses on the entire airport property.*

*(4) At Kendall-Tamiami Executive Airport, the development of the 8.2 acre (973.52 ft x 363 ft) parcel for non-aviation uses at the southwest corner of SW 137 Avenue and theoretical SW 124 Street shall be limited to access roads, open space, parking and drainage facilities.*

5. ***Policy LU-5B.*** *All development orders authorizing a new land use or development, or redevelopment, or significant expansion of an existing use shall be contingent upon an affirmative finding that the development or use conforms to, and is consistent with the goals, objectives and policies of the CDMP including the adopted LUP map and accompanying "Interpretation of the Land Use Plan Map'. The Director of the Department of Planning and Zoning shall be the principal administrative interpreter of the CDMP.*

6. ***Uses and Zoning Not Specifically Depicted on the LUP Map.*** *Some existing lawful uses and zoning are not specifically depicted on the LUP map. However, all such existing lawful uses and zoning are deemed to be consistent with this Plan as provided in the section of this chapter titled "Concepts and Limitations of the Land Use Plan Map." The limitations referenced in this paragraph pertain to existing zoning and uses. All approval of new commercial locations must be consistent with the LUP map or the specific exceptions provided in the various LUP map categories, and the objectives and policies of this Plan.*

## D. NEIGHBORHOOD CHARACTERISTICS:

| ZONING | LAND USE PLAN DESIGNATION |
|---|---|
| Subject Property: | |
| IU-2: vacant land, parking lot, | Transportation and Terminal |
| Surrounding Properties: | |
| NORTH: IU-2: CSX rail tracks | Transportation and Terminal |
| SOUTH: IU-1: vacant land, warehouses and office buildings, | Industrial and Office |
| EAST: IU-2: warehouses | Industrial and Office, |
| WEST: IU-2: hotel and retail store | Industrial and Office |

## E. PERTINENT ZONING REQUIREMENTS/STANDARDS:

*In evaluating an application for a **district boundary change,** Section 33-311 provides that the Board take into consideration, among other factors, the extent to which:*

*(1) The development permitted by the application, if granted, conforms to the Comprehensive Development Master Plan for Miami-Dade County, Florida; is consistent with applicable area or neighborhood studies or plans, and would serve a public benefit warranting the granting of the application at the time it is considered;*

*(2) The development permitted by the application, if granted, will have a favorable or unfavorable impact on the environmental and natural resources of Miami-Dade County, including consideration of the means and estimated cost necessary to minimize the adverse impacts; the extent to which alternatives to alleviate adverse impacts may have a substantial impact on the natural and human environment; and whether any irreversible or irretrievable commitment of natural resources will occur as a result of the proposed development;*

*(3) The development permitted by the application, if granted, will have a favorable or unfavorable impact on the economy of Miami-Dade County, Florida;*

*(4) The development permitted by the application, if granted, will efficiently use or unduly burden water, sewer, solid waste disposal, recreation, education or other necessary public facilities which have been constructed or planned and budgeted for construction;*

*(5) The development permitted by the application, if granted, will efficiently use or unduly burden or affect public transportation facilities, including mass transit, roads, streets and highways which have been constructed or planned and budgeted for construction, and if the development is or will be accessible by public or private roads, streets or highways.*

## F. NEIGHBORHOOD SERVICESPROVIDER COMMENTS

| | |
|---|---|
| DERM | **No objection** |
| Public Works | **No objection** |
| Parks | **No comment** |
| MDT | **No objection** |
| Fire Rescue | **No objection** |
| Police | **No comment** |
| Schools | **No comment** |
| Aviation | **No objection** |

## G. PLANNING AND ZONING ANALYSIS

The development and operations at Miami International Airport (MIA) are guided by the Comprehensive Development Master Plan (CDMP). The Land Use Element and the Aviation Subelement of the CDMP contain the bulk of the policy framework under which MIA operates. The subject property, an integral part of MIA, is designated as **Transportation and Terminal** on the CDMP Land Use Plan Map. Included within this designation are roadways and major switching yards, and such major terminals as the County airports and the Miami-Dade Seaport.

The **Future Aviation Facilities** section of the **Aviation Subelement** of the CDMP states that *all proposed uses on lands owned by Miami-Dade County at the County's airports that are designated as Terminal on the LUP map, may be developed for the uses described in the subelement. In addition, it states that all proposed uses on such lands shall comply with the requirements of the Future Aviation Facilities Section of the Aviation Subelement, shall be compatible with, and not disruptive of, airport operations occurring on such lands, and shall comply with all applicable regulations of the Federal Aviation Administration and other applicable law.*

The **Future Aviation Facilities** section states that portions of an airport may be designated for aviation uses, aviation related uses or non-aviation uses. The **Airport Land Use Master Plan 2015-2025** maps contained in the Aviation Subelement of the CDMP provide for the land uses allowed at the County's major airports including MIA. The subject parcel is located in an area that is designated for non-aviation uses on the MIA Land Use Master Plan, 2015-2025 map. The Future Aviation Facilities section also states the type of non-aviation uses that are permissible at the airports and the ranges in which this non-aviation uses may occur. The permitted non-aviation uses are grouped under the categories of industrial, commercial, office, hotels and motels and institutional. In order to implement the CDMP, the Department of Planning and Zoning is preparing an update to Article XXXVIII of the Code [Miami International Airport (Wilcox Field) Zoning]. This update consists of the addition of a section that provides for the permitted uses at the given ranges for lands designated under the GP zoning classification within the airport. This allows the diversity of uses permitted in the CDMP in contrast with the limitations of the current zoning classification (IU-2).

The applicant is requesting a zone change from IU-2, Heavy Industrial Manufacturing District to GP, Government Property. Staff opines that approval of the applicant's request to rezone the subject parcel to GP would be **consistent** with the Transportation and Terminal designation of the LUP map of the CDMP and would be **compatible** with the surrounding area.

When considering district boundary changes, the Board shall hear and grant or deny applications by taking in consideration whether the proposed development conforms to the Comprehensive Development Master Plan for Miami-Dade County. This application is seeking approval for a district boundary change to GP. The proposed rezoning does not, as evidenced by the memoranda from DERM and the Public Works Department, generate detrimental effects on the County's environment or road services in the area and staff notes that the rezoning to GP would provide a logical continuum for future development for the site that would be consistent with the interpretative text of the Aviation Subelement and the LUP map for the MIA. Staff opines that there would be no negative impact on the economy of the County and that the approval of the proposed rezoning, would be **consistent** with the CDMP, and would be **compatible** with the surrounding area. **As such, staff recommends approval of the application.**

H. **RECOMMENDATION**:

**Approval.**

I. **CONDITIONS**: None

**DATE TYPED**: 05/02/11
**DATE REVISED**: 05/02/11, 05/06/11
**DATE FINALIZED**: 05/24/11
MCL:GR:NN:AA:CH

Marc C. LaFerrier, AICP, Director
Miami-Dade County Department of Planning
and Zoning

# Memorandum

MIAMI-DADE COUNTY

**Date:** October 6, 2010

**To:** Marc C. LaFerrier, AICP, Director
Department of Planning and Zoning

**From:** Jose Gonzalez, P.E., Assistant Director
Environmental Resources Management

**Subject:** BCC #Z2010000150
Miami-Dade County Aviation Department
West of Milam Dairy Road
District Boundary Change from IU-2 to GP
(IU-2) (14 Acres)
35-53-40

---

The Department of Environmental Resources Management (DERM) has reviewed the subject application and has determined that it meets the minimum requirements of Chapter 24 of the Code of Miami-Dade County, Florida (the Code). Accordingly, DERM may approve the application, and the same may be scheduled for public hearing.

Potable Water Service and Wastewater Disposal
Public water and public sanitary sewers can be made available to the subject property. Therefore, connection of the proposed development to the public water supply system and sanitary sewer system shall be required in accordance with Code requirements.

Existing public water and sewer facilities and services meet the Level of Service (LOS) standards set forth in the Comprehensive Development Master Plan (CDMP). Furthermore, the proposed development order, if approved, will not result in a reduction in the LOS standards subject to compliance with the conditions required by DERM for this proposed development order.

Notwithstanding the foregoing, and in light of the fact that the County's sanitary sewer system has limited sewer collection, transmission, and treatment capacity, no new sewer service connections can be permitted, unless there is adequate capacity to handle the additional flows that this project would generate. Consequently, final development orders for this site may not be granted if adequate capacity in the system is not available at the point in time when the project will be contributing sewage to the system. Lack of adequate capacity in the system may require the approval of alternate means of sewage disposal. Use of an alternate means of sewage disposal may only be granted in accordance with Code requirements, and shall be an interim measure, with connection to the public sanitary sewer system required upon availability of adequate collection/transmission and treatment capacity.

Stormwater Management
According to the survey submitted and the letter of intent which indicate just change of use, the proposed project will not affect the existing stormwater management system. Therefore, DERM Water Control has no pertinent comments.

Wetlands
The subject properties do not contain wetlands as defined by Section 24-5 of the Code; therefore, a Class IV Wetland Permit will not be required.

The applicant is advised that permits from the Army Corps of Engineers (305-526-7181), the Florida Department of Environmental Protection (561-681-6600) and the South Florida Water Management District (1-800-432-2045) may be required for the proposed project. It is the applicant's responsibility to contact these agencies.

Tree Preservation
An on site inspection performed by DERM staff on June 25, 2008 revealed that the subject properties contain specimen-sized (trunk diameter 18 inches or greater) trees. Section 24-49.2(II) of the Code requires that specimen trees be preserved whenever reasonably possible. A Miami-Dade County Tree Removal Permit is required prior to the removal or relocation of any tree that is subject to the Tree Preservation and Protection provisions of the Code. Said Tree Removal Permit shall meet the requirements of Sections 24-49.2 and 24-49.4 of the Code.

The applicant is required to comply with the above tree permitting requirements. DERM's approval of the subject application is contingent upon inclusion of said tree permitting requirements in the resolution approving this application.

The applicant is advised to contact DERM staff for additional information regarding tree permitting procedures and requirements prior to site development.

Enforcement History
DERM staff has reviewed this application and has found one (1) closed enforcement case for the referenced property address. The following is a summary of this closed enforcement case that is associated with the subject folio:

IGC REALTY/INTEGRATED DIST SYSTEM (IW5 1902).

In October 1996 Uniform Civil Violation Notice # (UCVN's) 178374 & 178375 were issued to this facility for operating a potential source of liquid and hazardous wastes on site while the property is being served by septic tank. The facility appealed the UCVN's in January 1997 and in April 1997 it was determined that the grandfather rule could be applied to this facility. In August 1997 the permit was secured and this case was subsequently closed due to compliance.

Hazardous Materials Management
Due to the nature of uses allowed in the proposed zoning classification, the applicant may be required to obtain DERM approval for management practices to control the potential discharge and spillage of pollutants associated with some land uses permitted in the requested zoning district. The applicant is advised to contact the Permitting Section of DERM's Pollution Regulation and Enforcement Division, at (305) 372-6600 concerning management practices as related to the handling of hazardous materials.

Operating Permits
Section 24-18 of the Code authorizes DERM to require operating permits from facilities that could be a source of pollution. The applicant is advised that due to the nature of some land uses permitted under the proposed zoning classification, operating permits from DERM may be required. The Permitting Section of DERM's Pollution Regulation and Enforcement Division may be contacted at (305) 372-6600 for further information concerning operating requirements.

Concurrency Review Summary

DERM has conducted a concurrency review for this application and has determined that the same meets all applicable LOS standards for an initial development order, as specified in the adopted CDMP for potable water supply, wastewater disposal, and flood protection. Therefore, the application has been approved for concurrency subject to the comments and conditions contained herein.

This concurrency approval does not constitute a final concurrency statement and is valid only for this initial development order, as provided for in the adopted methodology for concurrency review. Additionally, this approval does not constitute any assurance that the LOS standards would be met by any subsequent development order applications concerning the subject property.

This memorandum shall constitute DERM's written approval, as required by the Code.

If you have any questions concerning the comments, or wish to discuss this matter further, please contact Christine Velazquez at (305) 372-6764.

PH# Z2010000150
CZAB - BCC

## PUBLIC WORKS DEPARTMENT COMMENTS

Applicant's Names: MIAMI-DADE COUNTY AVIATION DEPARTMENT

This Department has no objections to this application.

This land requires platting in accordance with Chapter 28 of the Miami-Dade County Code. Any road dedications and improvements required will be accomplished thru the recording of a plat.

Additional improvements may be required at time of platting.

This project meets traffic concurrency because it lies within the urban infill area where traffic concurrency does not apply.

Raul A Pino, P.L.S.
08-DEC-10

# Memorandum

**Date:** 22-OCT-10

**To:** Marc LaFerrier, Director
Department of Planning and Zoning

**From:** Herminio Lorenzo, Fire Chief
Miami-Dade Fire Rescue Department

**Subject:** Z2010000150

## Fire Prevention Unit:

Not applicable to MDFR site requirements.

## Service Impact/Demand

Development for the above Z2010000150
located at LYING WEST OF MILAM DAIRY ROAD, BETWEEN THE SEABOARD AIRLINE RAILROAD AND NW 12 STREET, MIAMI-DADE COUNTY, FLORIDA.
in Police Grid 1211 is proposed as the following:

| | | | |
|---|---|---|---|
| N/A (residential) | dwelling units | N/A (industrial) | square feet |
| N/A (Office) | square feet | N/A (institutional) | square feet |
| N/A (Retail) | square feet | N/A (nursing home/hospitals) | square feet |

Based on this development information, estimated service impact is: N/A alarms-annually.
The estimated average travel time is: 6:12 minutes

## Existing services

The Fire station responding to an alarm in the proposed development will be:

Station 17 - Virginia Gdns - 7050 NW 36 Street
ALS 75' Ladder, Hazardous Material Unit, Battalion

## Planned Service Expansions:

The following stations/units are planned in the vicinity of this development:

None.

## Fire Planning Additional Comments

Not applicable to service impact analysis.

For information regarding the aforementioned comments, please contact the Miami-Dade Fire Rescue Department Planning Section at 786-331-4540.

**DATE:** 12-MAY-11

REVISION 1

# BUILDING AND NEIGHBORHOOD COMPLIANCE DEPARTMENT

## ENFORCEMENT HISTORY OF VIOLATIONS OF CHAPTER 19 AND CHAPTER 33 OF THE MIAMI-DADE COUNTY CODE

MIAMI-DADE COUNTY AVIATION DEPARTMENT

**APPLICANT**

THE NORTHEAST CORNER OF NW 12 STREET & MILAM DAIRY ROAD EXTENSION, MIAMI-DADE COUNTY, FLORIDA.

**ADDRESS**

Z2010000150

**HEARING NUMBER**

**HISTORY:**

FOLIO:(3030350000123)/NO ZONING, BUILDING,OR LIEN VIOLATIONS FOUND/
FOLIO:(3030350000126)/NO ZONING, BUILDING,OR LIEN VIOLATIONS FOUND/
FOLIO:(3030350000122)/NO ZONING, BUILDING,OR LIEN VIOLATIONS FOUND

MIAMI-DADE COUNTY AVIATION DEPARTMENT

**OUTSTANDING FINES, PENALTIES, COST OR LIENS INCURRED PURSUANT TO CHAPTER 8CC:**

**REPORTER NAME:**

# ZONING INSPECTION REPORT

**Inspector:** DIAZ, ROBERT **Inspection Dat**

**Evaluator:** CARL HARRISON 05/09/11

| **Process #:** | **Applicant's Name** |
|---|---|
| Z2010000150 | MIAMI-DADE COUNTY AVIATION DEPARTMENT |

**Locations:** THE NORTHEAST CORNER OF NW 12 STREET & MILAM DAIRY ROAD EXTENSION, MIAMI-DADE COUNTY, FLORIDA.

**Size:** 14.61 ACRES **Folio #:** 3030350000126

**Request:**

DBC FROM IU-2 TO GP.

**EXISTING ZONING**

**Subject Property** IU-2,

**EXISTING USE** CBS BLDG & PARKING

**SITE CHARACTERISTICS**

**STRUCTURES ON SITE:**

none vacant lot

**USE(S) OF PROPERTY:**

parking for const. worker

**FENCES/WALLS:**

6" chain link fence

**LANDSCAPING:**

palms, ficus trees 15 to 35 ft. on southnorthside

**BUFFERING:**

none

**VIOLATIONS OBSERVED:**

rock & sand pit. (working for xpressway)

**OTHER:**

| **Process #** | **Applicant's Name** |
|---|---|
| Z2010000150 | MIAMI-DADE COUNTY AVIATION DEPARTMENT |

# ZONING INSPECTION REPORT

**SURROUNDING PROPERTY**

**NORTH:**
railroad track & airport runway

**SOUTH:**
Iu1 commercial & office building

**EAST:**
warehouses (doral funiture)

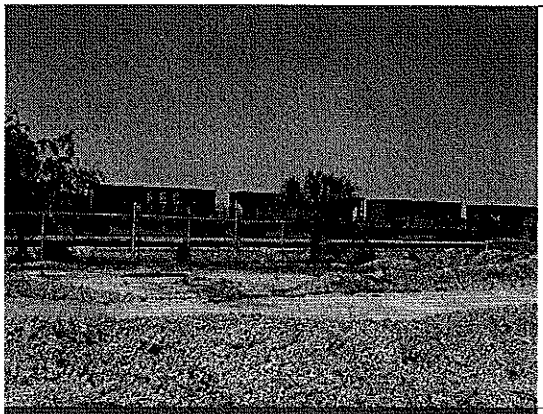
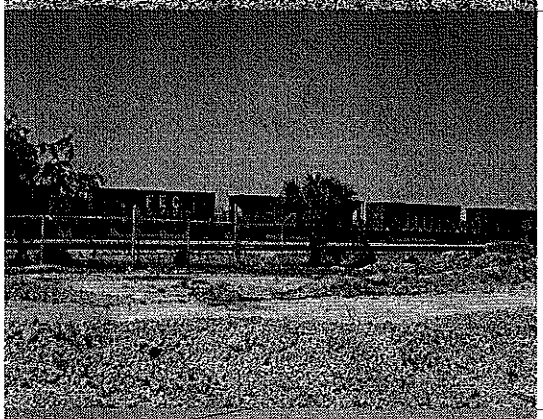
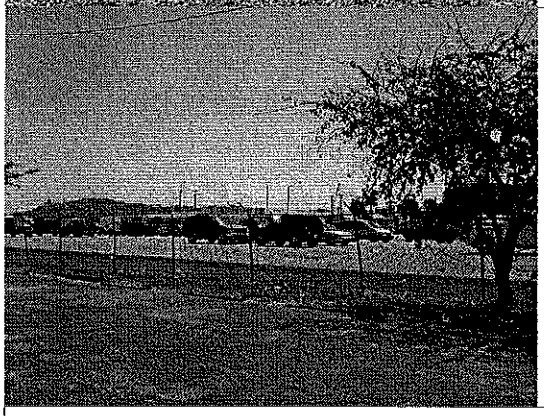
**WEST:**
west of 72 ave wendy on corner with warehouses

**SURROUNDING AREA**
mosty IU1 and IU2 warehouseing and office building

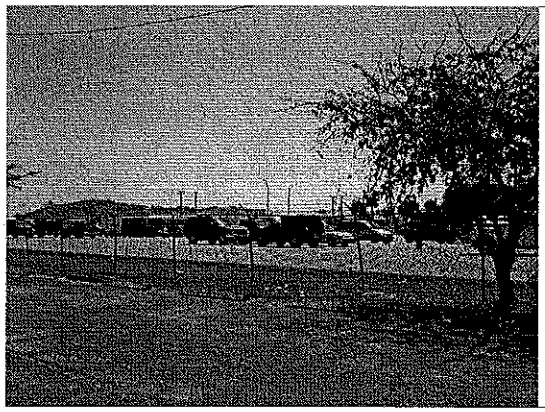
**NEIGHBORHOOD CHARACTERISTICS**
commercial/Industial

**COMMENTS:**

**Inspector** ***DIAZ, ROBERT***
**Evaluator** ***CARL HARRISON***
**Process Number:** ***Z2010000150*** **Applicant Name** ***MIAMI-DADE COUNTY AVIATION DEPARTMENT***

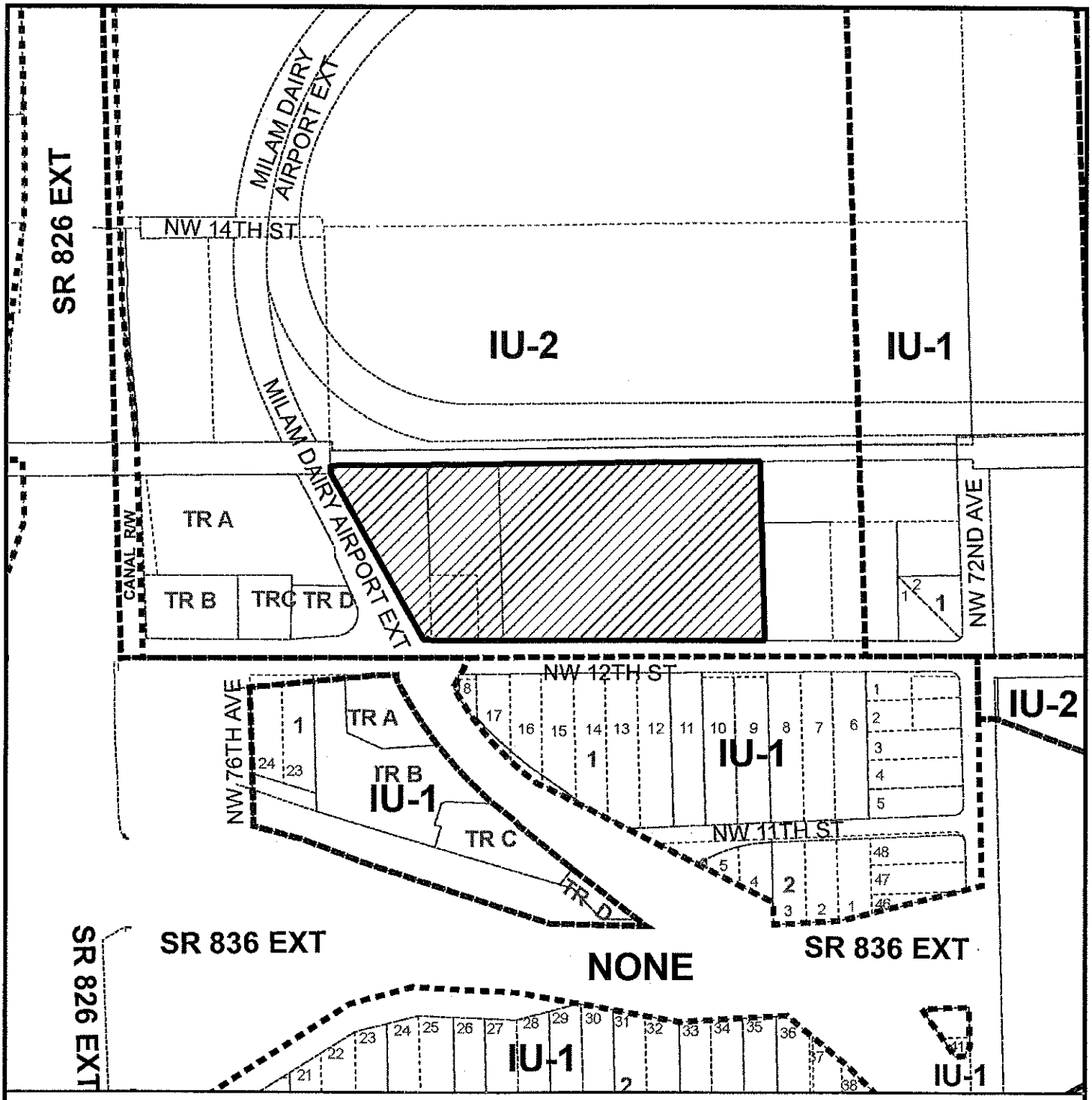
| | |
|---|---|
|  | Date: 09-MAY-11<br>Comments: NORTHSIDE OF PROPERTY. RAILROAD TRACK |
|  | Date: 10-MAY-11<br>Comments: northside of property.railroad track |
|  | Date: 10-MAY-11<br>Comments: SOUTHWEST CONER OF PROPERTY |

**Inspector** ***DIAZ, ROBERT***
**Evaluator** ***CARL HARRISON***
**Process Number:** ***Z2010000150*** **Applicant Name** ***MIAMI-DADE COUNTY AVIATION DEPARTMENT***



Date: 10-MAY-11

Comments:




# MIAMI-DADE COUNTY
## HEARING MAP

**Process Number**

# Z2010000150

**Section: 35 Township: 53 Range: 40**
**Applicant: MIAMI DADE COUNTY AVIATION DEPARTMENT**
**Zoning Board: BCC**
**Commission District: 12**
**Drafter ID: KEELING**
**Scale: NTS**

N
W E
S

**Legend**

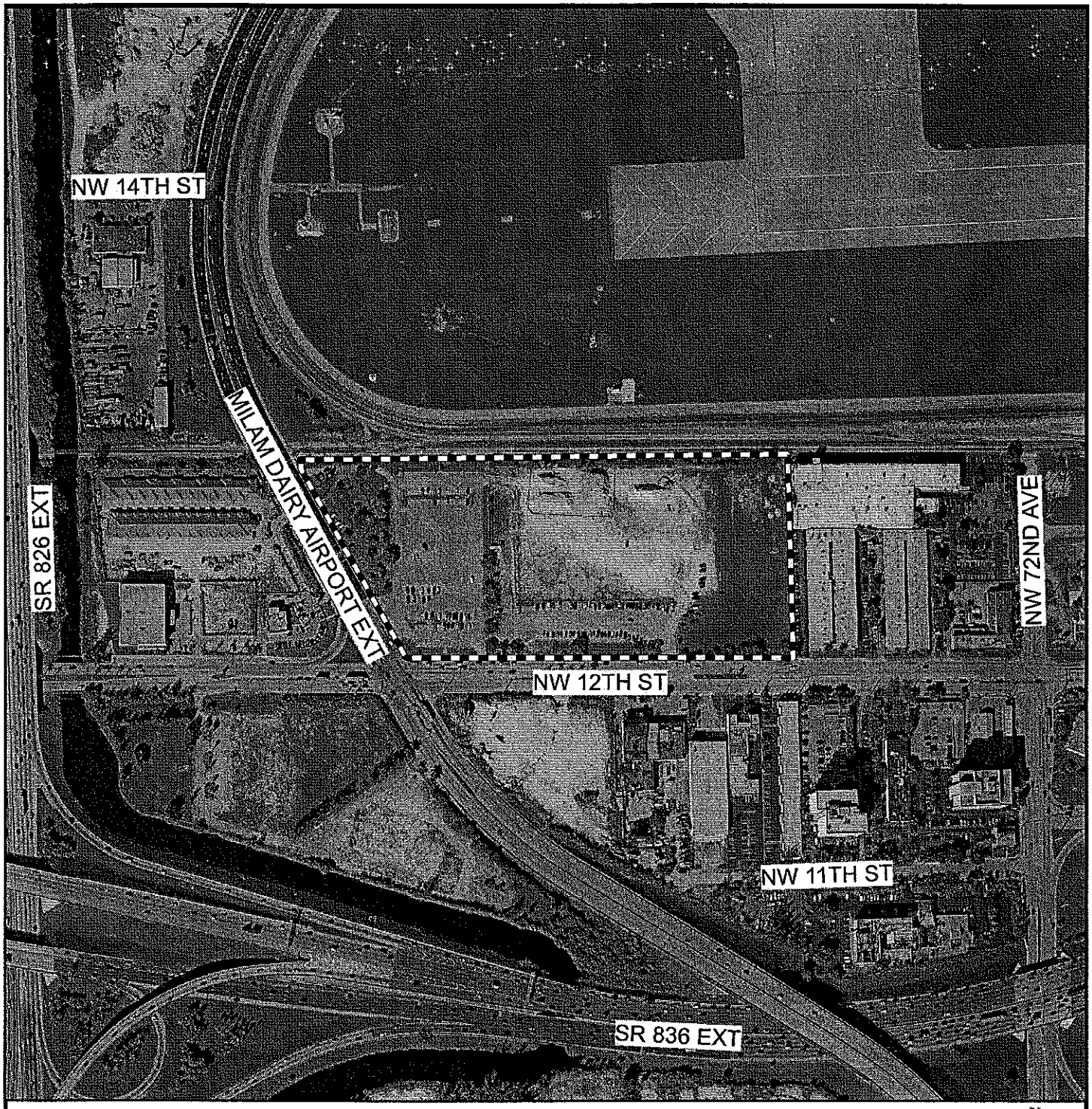
Subject Property Case

Zoning

MIAMI-DADE COUNTY

**SKETCH CREATED ON: Thursday, September 30, 2010**

| REVISION | DATE | BY |
|---|---|---|
| | | 20 |




# MIAMI-DADE COUNTY

**AERIAL YEAR 2009**

**Process Number**

## Z2010000150

N
W E
S

**Section: 35 Township: 53 Range: 40**
**Applicant: MIAMI DADE COUNTY AVIATION DEPARTMENT**
**Zoning Board: BCC**
**Commission District: 12**
**Drafter ID: KEELING**
**Scale: NTS**

**Legend**

Subject Property

MIAMI-DADE COUNTY

**SKETCH CREATED ON: Thursday, September 30, 2010**

| REVISION | DATE | BY |
|---|---|---|
| | | |

**3. MIAMI-DADE COUNTY AVIATION DEPARTMENT**
**(Applicant)**

**11-6-CC-3 (10-151)**
**BCC/District 12**
**Hearing Date: 06/23/11**

Property Owner (if different from applicant) **Same.**

Is there an option to purchase ☐ / lease ☐ the property predicated on the approval of the zoning request? Yes ☐ No ☑

Disclosure of interest form attached? Yes ☐ No ☑

**Previous Zoning Hearings on the Property:**

| Year | Applicant | Request | Board | Decision |
|---|---|---|---|---|
| No History | | | | |

Action taken today does not constitute a final development order, and one or more concurrency determinations will subsequently be required. Provisional determinations or listings of needed facilities made in association with this Initial Development Order shall not be binding with regard to future decisions to approve or deny an Intermediate or Final Development Order on any grounds.

**DEPARTMENT OF PLANNING AND ZONING**
**RECOMMENDATION TO THE BOARD OF COUNTY COMMISSIONERS**

**APPLICANT:** The Miami-Dade County Aviation Department **PH:** Z10-151 (11-6-CC-3)

**SECTIONS:** 35-53-40 **DATE:** June 23, 2011

**COMMISSION DISTRICT:** 12 **ITEM NO.:** 3

==========

## A. INTRODUCTION

- **SUMMARY OF REQUESTS:**

  The applicant is seeking to rezone a portion of MDAD property from IU-2, Heavy Industrial Manufacturing District, to GP, Government Property.

- **REQUEST:**

  District Boundary Change from IU-2 to GP

- **LOCATION**: Lying north of NW 14 Street, between Milam Dairy Road extension and the Palmetto Expressway, Miami-Dade County, Florida.

- **SIZE:** 26.5 Acres

## B. ZONING HEARINGS HISTORY: None.

## C. COMPREHENSIVE DEVELOPMENT MASTER PLAN (CDMP) OBJECTIVES, POLICIES AND INTERPRETATIVE TEXT:

1. *The adopted 2015 and 2025 Land Use Plan designates the subject property as being within the Urban Development Boundary for* ***Transportation and Terminal*** *use. The LUP map includes a summarized portrayal of the major components of Miami-Dade County's existing and future transportation network. Included are roadways and major switching yards, and such major terminals as the County airports and the Miami-Dade Seaport. This information is included on the LUP map to provide orientation and locational references, and to relate future development patterns to the future transportation network. The Transportation and Capital Improvements Elements of the CDMP provides additional details about these facilities, including their intended sizes, functions, uses, and designs and, with the exception of local streets, schedules and improvements. As provided in the policies of the Transportation Element, transportation facilities such as terminals and transit stations shall contain the transportation uses and may contain other uses as provided in the applicable Transportation Subelement.*

2. **AVIATION SUBELEMENT**

   ***Goal***

   ***ENSURE THE PROVISION OF AN ECONOMIC, INTEGRATED ENVIRONMENT AND COMMUNITY-SENSITIVE, AND BALANCED SYSTEM OF AIRS TRANSPORTATION***

***FACILITIES AND SERVICES TO MOVE PASSENGERS AND CARGO EFFECTIVELY AND EFFICIENTLY; ACCOMMODATE AND ENCOURAGE ALL TYPES OF GENERAL AVIATION ACTIVITY, INCLUDING BUSINESS, COMMERCIAL, INSTRUCTIONAL, AND PERSONAL ACTIVITY; AND ENHANCE THE ECONOMY AND QUALITY OF LIFE IN THE COUNTY AND REGION.***

***POLICIES***

***AV-7B*** *Miami-Dade County shall update its airport compatible zoning ordinances to promote compatible land use around Miami International, Opa-Locka Executive, Kendall-Tamiami Executive, and Homestead General Aviation Airports. These ordinances updates shall be based on the guidelines recommended in the following federal and state documents. Due to operational differences, all listed documents may not pertain to all airports.*

*(Federal) – Department of Transportation – Federal Aviation Regulation Part 77 (Objects affecting Navigable Airspace)*

*(Federal) – Department of Defense Air Installation Compatible Use Zone Report (AICUZ) for HAFB (August 1988)*

*(State) – Chapter 333, Florida Statutes, (Airport Zoning)*

***AV-8A*** *The Miami-Dade County Aviation Department, through the continued increase in the capacity of the County's airports to meet the forecast aviation demands, and the State and local governmental economic development entities through their commerce and industry promotion programs should expand the importance of the aviation industry to Miami-Dade County and the regional economy.*

***AV-8B*** *When consistent with aviation facility locational objectives for airspace safety and environmental and community compatibility, the Aviation Department shall provide additional facility and operational capacity in the aviation systems in locations that offer greatest potential for expansion of aviation-related economic development and redevelopment in the vicinity and opportunities for aviation-related employment for Miami-Dade County residents.*

3. ***Future Aviation Facilities:*** *Future aviation facility improvements are proposed to be made on or adjacent to the sites of existing airports. These sites are:*

- *Miami International Airport*
- *Opa-Locka Executive Airport*
- *Kendall-Tamiami Executive Airport*
- *Homestead General Aviation Airport*
- *Miami-Dade Collier Training and Transition Airport*

*The location and layout of these future facilities, including runway protection zones and points of ingress and egress, are indicated on the Physical Airport 2015-2025 map series below following this page. The configuration of the proposed site expansion and individual improvements at these locations are either yet to be determined or beyond the scope of this Subelement.*

*The natural resources and future land uses surrounding these facilities are identified in the map series and Future Land Use Plan map contained in the Land Use Element of this Plan.*

4. ***Aviation Facility Improvements***

*Meeting Miami-Dade County's current and future aviation needs will require numerous facility improvements to be made. These improvements are divided between those addressing existing deficiency needs, future growth needs, and other needs (i.e., renovation and remodeling, etc.) and between near term (2007-2012) and long term (2013-2025). These improvements are listed by facility on the following table and many near-term improvements are described in more detail in the Capital Improvements Element.*

*All proposed uses on lands owned by Miami-Dade County at the Opa-Locka Executive Airport, Kendall-Tamiami Executive Airport, Homestead General Aviation Airport, and Miami International Airport that are designated as Terminal on the LUP map, may be developed for the uses described in this subsection. All proposed uses on such lands shall comply with the requirements of the Future Aviation Facilities Section of the Aviation Subelement, shall be compatible with, and not disruptive of, airport operations occurring on such lands, and shall comply with all applicable regulations of the Federal Aviation Administration and other applicable law.*

*The portion of the Opa-Locka Executive Airport, Kendall-Tamiami Executive Airport, Homestead General Aviation Airport, and Miami International Airport designated in the Comprehensive Development Master Plan for aviation uses, shall be deemed to consist of all portions of the airports where general public access is restricted (but not including terminal concourses), shall generally be limited to aviation uses, including but not limited to airfield uses such as runways, taxiways, aprons, runway protection zones, landing areas, and support and maintenance facilities such as control towers, flight service stations, access roads, fire stations, storage and aircraft maintenance and repair facilities and hangars, aircraft and aircraft parts manufacturing and storage, fixed based operators, air cargo operations, specialized aircraft service operations, and fuel farms. Up to fifty (50) percent of the areas designated for aviation uses may be developed with aviation-related uses. Aviation-related uses shall include, but not be limited to, manufacturing, storage, office, service, or similar uses ancillary to or supportive of aviation uses. The Director of the Miami-Dade Aviation Department, or the Aviation Department's designee, in consultation with the Director of Miami-Dade Department of Planning and Zoning, shall determine whether any particular use is an aviation use or an aviation-related use. Where not otherwise prohibited by law, open space and interim or existing agricultural uses and zoning may also be permitted in the portions of these airports designated for aviation use, subject to such conditions and requirements as may be imposed to ensure public health and safety.*

*The portion of these airports designated in the Comprehensive Development Master Plan for aviation related and non-aviation uses, shall be deemed to consist of all portions of the airports where general public access is not restricted and terminal concourses only at Miami International Airport, and may include aviation, aviation-related, and non-aviation uses that are compatible with airport operations and consistent with applicable law.*

*Aviation uses where general public access is allowed may include existing uses and the following or substantially similar uses:*

- *passenger terminal area, which may include non-aviation related uses designed to serve the traveling public and on-site employees, such as offices, personal services, retail activities, restaurants, auto rental businesses, and lodging establishments,*
- *parking garages and lots serving the airport,*
- *access roadways serving the airport,*
- *offices of aviation industry companies and the Miami-Dade County Aviation Department,*
- *facilities of fixed base operators,*
- *hangar rentals and tie downs,*
- *ground transportation services,*
- *aircraft and automobile rental establishments,*
- *aviation-related educational uses such as flight schools, simulator training facilities, helicopter and aerobatics training and other educational facilities providing aviation courses,*
- *aviation-related governmental agency facilities,*
- *flying club facilities,*
- *aviation-related entertainment uses such as skydiving establishments, museums and sightseeing services, and*
- *aviation-related retail uses such as aircraft sales, electronic an instrument sales and pilot stores.*

*Subject to the restrictions contained herein, the following non-aviation-related uses may be approved in the portions of the Opa-Locka Executive Airport, Kendall-Tamiami Executive Airport, Homestead General Aviation Airport, and Miami International Airport designated for non-aviation uses on the Airport Land Use Master Plan maps:*

- *lodgings such as hotels and motels (except for Homestead General),*
- *office buildings (except for Homestead General),*
- *lodgings and office buildings at Miami International Airport (except in terminal concourses),*
- *industrial uses such as distribution, storage, manufacturing research and development and machine shops (except for Homestead General),*
- *agricultural uses,*
- *retail, restaurants, and personal service establishments (except for Homestead General), and*
- *gaming establishments (limited to Miami International Airport only).*

*Such non-aviation uses at the Opa-Locka Executive Airport, Kendall-Tamiami Executive Airport, Homestead General Aviation Airport, and Miami International Airport shall be limited as follows:*

*(1) The land area within Opa-Locka Executive, Miami International, and Kendall-Tamiami Executive airports that may be devoted to particular non-aviation uses shall be limited to the following percentages of the land area designated for aviation–related and non-*

*aviation uses within each airport. Non-aviation-related at Opa-Locka Executive Airport shall range from 20 to 85 percent for industrial uses, 5 to 35 percent for commercial uses, 5 to 25 percent for office uses, 0 to 10 percent for hotels and motels, and 0 to 20 percent for institutional uses. Non-aviation-related at Miami International Airport shall range from 20 to 85 percent for industrial uses, 5 to 50 percent for commercial uses and/or office uses, 0 to 50 percent for hotels and motels, and 0 to 20 percent for institutional uses. Non-aviation-related at Kendall-Tamiami Executive Airport shall range from 0 to 85 percent for industrial uses, 0 to 100 percent for commercial uses, 0 to 25 percent for office uses, 0 to 10 percent for hotels and motels, and 0 to 20 percent for institutional uses.*

*(2) Those portions of Homestead General Aviation Airport that are not developed for uses that are aviation-related or directly supportive of airport operations shall be developed with agricultural uses.*

*(3) Each non-aviation use shall comply with applicable law, including but not limited to FAA regulations and the current airport layout plan on file with the Miami-Dade County Aviation Department governing permissible uses on the entire airport property.*

*(4) At Kendall-Tamiami Executive Airport, the development of the 8.2 acre (973.52 ft x 363 ft) parcel for non-aviation uses at the southwest corner of SW 137 Avenue and theoretical SW 124 Street shall be limited to access roads, open space, parking and drainage facilities.*

5. ***Policy LU-5B.*** *All development orders authorizing a new land use or development, or redevelopment, or significant expansion of an existing use shall be contingent upon an affirmative finding that the development or use conforms to, and is consistent with the goals, objectives and policies of the CDMP including the adopted LUP map and accompanying "Interpretation of the Land Use Plan Map'. The Director of the Department of Planning and Zoning shall be the principal administrative interpreter of the CDMP.*

6. ***Uses and Zoning Not Specifically Depicted on the LUP Map.*** *Some existing lawful uses and zoning are not specifically depicted on the LUP map. However, all such existing lawful uses and zoning are deemed to be consistent with this Plan as provided in the section of this chapter titled "Concepts and Limitations of the Land Use Plan Map." The limitations referenced in this paragraph pertain to existing zoning and uses. All approval of new commercial locations must be consistent with the LUP map or the specific exceptions provided in the various LUP map categories, and the objectives and policies of this Plan.*

## D. NEIGHBORHOOD CHARACTERISTICS:

| ZONING | LAND USE PLAN DESIGNATION |
|---|---|
| Subject Property: | |
| IU-2: vacant land | Transportation and Terminal |

Surrounding Properties:

| | |
|---|---|
| NORTH: IU-2: office buildings | Industrial and Office |
| SOUTH: IU-2: vacant land, warehouses and office buildings | Industrial and Office & Transportation and Terminal |
| EAST: IU-2: warehouses, airstrip | Industrial and Office |
| WEST: GU: 826 Expressway | Transportation and Terminal |

## E. PERTINENT ZONING REQUIREMENTS/STANDARDS:

*In evaluating an application for a **district boundary change,** Section 33-311(F) provides that the Board take into consideration, among other factors, the extent to which:*

*(1) The development permitted by the application, if granted, conforms to the Comprehensive Development Master Plan for Miami-Dade County, Florida; is consistent with applicable area or neighborhood studies or plans, and would serve a public benefit warranting the granting of the application at the time it is considered;*

*(2) The development permitted by the application, if granted, will have a favorable or unfavorable impact on the environmental and natural resources of Miami-Dade County, including consideration of the means and estimated cost necessary to minimize the adverse impacts; the extent to which alternatives to alleviate adverse impacts may have a substantial impact on the natural and human environment; and whether any irreversible or irretrievable commitment of natural resources will occur as a result of the proposed development;*

*(3) The development permitted by the application, if granted, will have a favorable or unfavorable impact on the economy of Miami-Dade County, Florida;*

*(4) The development permitted by the application, if granted, will efficiently use or unduly burden water, sewer, solid waste disposal, recreation, education or other necessary public facilities which have been constructed or planned and budgeted for construction;*

*(5) The development permitted by the application, if granted, will efficiently use or unduly burden or affect public transportation facilities, including mass transit, roads, streets and highways which have been constructed or planned and budgeted for construction, and if the development is or will be accessible by public or private roads, streets or highways.*

## F. NEIGHBORHOOD SERVICES PROVIDER COMMENTS

| | |
|---|---|
| DERM | **No objection** |
| Public Works | **No objection** |
| Parks | **No comment** |
| MDT | **No objection** |
| Fire Rescue | **No objection** |
| Police | **No comment** |

| | |
|---|---|
| Schools | **No comment** |
| Aviation | **No objection** |

## G. PLANNING AND ZONING ANALYSIS

The development and operations at Miami International Airport (MIA) are guided by the Comprehensive Development Master Plan (CDMP). The Land Use Element and the Aviation Subelement of the CDMP contain the bulk of the policy framework under which MIA operates. The subject property, an integral part of MIA, is designated as **Transportation and Terminal** on the CDMP Land Use Plan Map. Included within this designation are roadways and major switching yards, and such major terminals as the County airports and the Miami-Dade Seaport.

The **Future Aviation Facilities** section of the **Aviation Subelement** of the CDMP states that *all proposed uses on lands owned by Miami-Dade County at the County's airports that are designated as Terminal on the LUP map, may be developed for the uses described in the subelement. In addition, it states that all proposed uses on such lands shall comply with the requirements of the Future Aviation Facilities Section of the Aviation Subelement, shall be compatible with, and not disruptive of, airport operations occurring on such lands, and shall comply with all applicable regulations of the Federal Aviation Administration and other applicable law.*

The **Future Aviation Facilities** section states that portions of an airport may be designated for aviation uses, aviation related uses or non-aviation uses. The **Airport Land Use Master Plan 2015-2025** maps contained in the Aviation Subelement of the CDMP provide for the land uses allowed at the County's major airports including MIA. The subject parcel is located in an area that is designated for non-aviation uses on the MIA Land Use Master Plan, 2015-2025 map. The Future Aviation Facilities section also states the type of non-aviation uses that are permissible at the airports and the ranges in which this non-aviation uses may occur. The permitted non-aviation uses are grouped under the categories of industrial, commercial, office, hotels and motels and institutional. In order to implement the CDMP, the Department of Planning and Zoning is preparing an update to Article XXXVIII of the Code [Miami International Airport (Wilcox Field) Zoning]. This update consists of the addition of a section that provides for the permitted uses at the given ranges for lands designated under the GP zoning classification within the airport. This allows the diversity of uses permitted in the CDMP in contrast with the limitations of the current zoning classification (IU-2).

The applicant is requesting a zone change from IU-2, Heavy Industrial Manufacturing District to GP, Government Property. Staff opines that approval of the applicant's request to rezone the subject parcel to GP would be **consistent** with the Transportation and Terminal designation of the LUP map of the CDMP and would be **compatible** with the surrounding area.

When considering district boundary changes, the Board shall hear and grant or deny applications by taking in consideration whether the proposed development conforms to the Comprehensive Development Master Plan for Miami-Dade County. This application is seeking approval for a district boundary change to GP. The proposed rezoning does not, as evidenced by the memoranda from DERM and the Public Works Department, generate detrimental effects on the County's environment or road services in the area and staff notes that the rezoning to GP would provide a logical continuum for future development for the site that would be consistent with the interpretative text of the Aviation Subelement and the LUP map for the MIA. Staff opines that

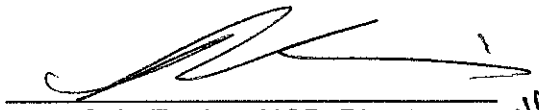
there would be no negative impact on the economy of the County and that the approval of the proposed rezoning, would be **consistent** with the CDMP, and would be **compatible** with the surrounding area. **As such, staff recommends approval of the application**.

H. **RECOMMENDATION**:

**Approval.**

I. **CONDITIONS**: None

**DATE TYPED**: 05/02/11
**DATE REVISED**: 05/06/11
**DATE FINALIZED**: 05/24/11
MCL:GR:NN:AA:CH



Marc C. LaFerrier, AICP, Director
Miami-Dade County Department of Planning
and Zoning

# Memorandum

MIAMI-DADE COUNTY

**Date:** October 15, 2010

**To:** Marc C. LaFerrier, AICP, Director
Department of Planning and Zoning

**From:** Jose Gonzalez, P.E., Assistant Director
Environmental Resources Management

**Subject:** BCC #Z2010000151
Miami-Dade County Aviation Department
Milam Dairy Road Airport Extension and N.W. 75th Avenue
District Boundary Change from IU-2 to GP
(IU-2) (26.5 Acres)
35-53-40

---

The Department of Environmental Resources Management (DERM) has reviewed the subject application and has determined that it meets the minimum requirements of Chapter 24 of the Code of Miami-Dade County, Florida (the Code). Accordingly, DERM may approve the application, and the same may be scheduled for public hearing.

Potable Water Service and Wastewater Disposal

Public water and public sanitary sewers can be made available to the subject property. Therefore, connection of the proposed development to the public water supply system and sanitary sewer system shall be required in accordance with Code requirements.

Existing public water and sewer facilities and services meet the Level of Service (LOS) standards set forth in the Comprehensive Development Master Plan (CDMP). Furthermore, the proposed development order, if approved, will not result in a reduction in the LOS standards subject to compliance with the conditions required by DERM for this proposed development order.

Notwithstanding the foregoing, and in light of the fact that the County's sanitary sewer system has limited sewer collection, transmission, and treatment capacity, no new sewer service connections can be permitted, unless there is adequate capacity to handle the additional flows that this project would generate. Consequently, final development orders for this site may not be granted if adequate capacity in the system is not available at the point in time when the project will be contributing sewage to the system. Lack of adequate capacity in the system may require the approval of alternate means of sewage disposal. Use of an alternate means of sewage disposal may only be granted in accordance with Code requirements, and shall be an interim measure, with connection to the public sanitary sewer system required upon availability of adequate collection/transmission and treatment capacity.

Stormwater Management

Any proposed development with more than 2.0 acres of impervious area will require an Environmental Resources Permit from the South Florida Water Management District.

In addition an Environmental Assessment and DERM Class VI permit will be required for any proposed drainage system on this site. All stormwater shall be retained on site utilizing a properly designed seepage or infiltration drainage system. Drainage must be provided for the 5-year/1-day storm event.

Site grading and development plans shall comply with the requirements of Section 11C of the Code, as well as with all state and federal criteria, and shall not cause flooding of adjacent properties.

Any proposed development shall comply with county and federal flood criteria requirements. The proposed development order, if approved, will not result in a reduction in the LOS standards for flood protection set forth in the CDMP subject to compliance with the conditions required by DERM for this proposed development order.

Wetlands
The subject properties do not contain wetlands as defined by Section 24-5 of the Code; therefore, a Class IV Wetland Permit will not be required.

The applicant is advised that permits from the Army Corps of Engineers (305-526-7181), the Florida Department of Environmental Protection (561-681-6600) and the South Florida Water Management District (1-800-432-2045) may be required for the proposed project. It is the applicant's responsibility to contact these agencies.

Tree Preservation
Tree Removal Permits 2010-TREE-PER-00447 and 2010-TREE-PER-00294 were issued for these properties. Tree Removal Permit 2010-TREE-PER-00294 requires the preservation of several specimen-sized (Trunk diameter 18 inches or greater) and non specimen-sized trees as identified in DERM-approved permitted plans.

All approved tree removal/relocation, replanting and final inspection (a two weeks notice is required prior to the final inspection) must be completed prior to the scheduled expiration date of these permits to avoid violation of permit conditions. Please be advised that a new Miami-Dade County Tree Removal Permit or an amendment to these permits is required prior to the removal or relocation of any other tree on the subject properties. Please contact this Program at 305-372-6574 for information regarding tree permits.

Enforcement History
DERM has found no open or closed enforcement records for the subject property(s) identified by Folio 30-3035-000-0090. A review of the database and system found one open enforcement case for the property identified by Folio 30-3035-000-0072.

DERM has a file (ARP-162) for under the name De Moya Hydraullic Spill. On December 14, 2009 a Notice of Violation was issued for petroleun spill to open ground. Additional Notices were issued on April 20, 2009 and August 10, 2010 and the case remains open for failure to submit the required Source Removal Report.

Concurrency Review Summary
DERM has conducted a concurrency review for this application and has determined that the same meets all applicable LOS standards for an initial development order, as specified in the adopted CDMP for potable water supply, wastewater disposal, and flood protection. Therefore, the application has been approved for concurrency subject to the comments and conditions contained herein.

This concurrency approval does not constitute a final concurrency statement and is valid only for this initial development order, as provided for in the adopted methodology for concurrency review. Additionally, this approval does not constitute any assurance that the LOS standards would be met by any subsequent development order applications concerning the subject property.

This memorandum shall constitute DERM's written approval, as required by the Code.

If you have any questions concerning the comments, or wish to discuss this matter further, please contact Christine Velazquez at (305) 372-6764.

REVISION 1

PH# Z2010000151
CZAB - BCC

## PUBLIC WORKS DEPARTMENT COMMENTS

Applicant's Names: MIAMI-DADE COUNTY AVIATION DEPARTMENT

This Department has no objections to this application.

This land requires platting in accordance with Chapter 28 of the Miami-Dade County Code. Any road dedications and improvements required will be accomplished thru the recording of a plat.

Additional improvements may be required at time of platting.

This project meets traffic concurrency because it lies within the urban infill area where traffic concurrency does not apply.

Raul A Pino, P.L.S.
08-DEC-10

REVISION 1

# Memorandum

**Date:** 22-OCT-10

**To:** Marc LaFerrier, Director
Department of Planning and Zoning

**From:** Herminio Lorenzo, Fire Chief
Miami-Dade Fire Rescue Department

**Subject:** Z2010000151

## Fire Prevention Unit:

Not aplicable to MDFR site requirements.

## Service Impact/Demand

Development for the above Z2010000151
located at LYING SOUTH OF APPROXIMATELY N.W. 19 STREET, BETWEEN N.W. 72 AVENUE AND THE PALMETTO EXPRESSWAY, MIAMI-DADE COUNTY, FLORIDA.
in Police Grid 1151 is proposed as the following:

| | | | |
|---|---|---|---|
| N/A residential | dwelling units | N/A industrial | square feet |
| N/A Office | square feet | N/A institutional | square feet |
| N/A Retail | square feet | N/A nursing home/hospitals | square feet |

Based on this development information, estimated service impact is: N/A alarms-annually.
The estimated average travel time is: 5:12 minutes

## Existing services

The Fire station responding to an alarm in the proposed development will be:

Station 17 - Virginia Gdns - 7050 NW 36 Street
ALS 75' Ladder, Hazardous Material Unit, Battalion

## Planned Service Expansions:

The following stations/units are planned in the vicinity of this development:

None.

## Fire Planning Additional Comments

Not applicable to service impact analysis.

For information regarding the aforementioned comments, please contact the Miami-Dade Fire Rescue Department Planning Section at 786-331-4540.

**DATE:** 12-MAY-11

REVISION 1

# BUILDING AND NEIGHBORHOOD COMPLIANCE DEPARTMENT

## ENFORCEMENT HISTORY OF VIOLATIONS OF CHAPTER 19 AND CHAPTER 33 OF THE MIAMI-DADE COUNTY CODE

| | |
|---|---|
| MIAMI-DADE COUNTY AVIATION DEPARTMENT | LYING NORTH OF NW 14 STREET, BETWEEN MILAM DAIRY EXT. & THE TURNPIKE EXTENSION, MIAMI-DADE COUNTY, FLORIDA. |
| **APPLICANT** | **ADDRESS** |

Z2010000151

**HEARING NUMBER**

**HISTORY:**

FOLIO: (3030350000090)/NO ZONING, BUILDING, OR LIEN VIOLATIONS FOUND
FOLIO: (3030350000072)/NO ZONING, BUILDING, OR LIEN VIOLATIONS FOUND

MIAMI-DADE COUNTY AVIATION DEPARTMENT

**OUTSTANDING FINES, PENALTIES, COST OR LIENS INCURRED PURSUANT TO CHAPTER 8CC:**

**REPORTER NAME:**

# ZONING INSPECTION REPORT

**Inspector:** EDWARDS, RALPH **Inspection Dat**

**Evaluator:** CARL HARRISON 05/20/11

| **Process #:** | **Applicant's Name** |
|---|---|
| Z2010000151 | MIAMI-DADE COUNTY AVIATION DEPARTMENT |

**Locations:** LYING NORTH OF NW 14 STREET, BETWEEN MILAM DAIRY EXT. & THE TURNPIKE EXTENSION, MIAMI-DADE COUNTY, FLORIDA.

**Size:** 26.5 ACRES **Folio #:** 3030350000090

**Request:**

DBC FROM IU2 TO GP

**EXISTING ZONING**

**Subject Property** IU-2,

**EXISTING USE**

**SITE CHARACTERISTICS**

**STRUCTURES ON SITE:**

None

**USE(S) OF PROPERTY:**

Vacant lot

**FENCES/WALLS:**

None

**LANDSCAPING:**

4 FT cocoplum hedge northsie of property/large oak and black olive trees, palms,crotons hedge.

**BUFFERING:**

Hedge all around north property line

**VIOLATIONS OBSERVED:**

Heavy equiptment without permit

**OTHER:**

| **Process #** | **Applicant's Name** |
|---|---|
| Z2010000151 | MIAMI-DADE COUNTY AVIATION DEPARTMENT |

# ZONING INSPECTION REPORT

**SURROUNDING PROPERTY**

**NORTH:**
Commercial office building

**SOUTH:**
Airport

**EAST:**
Commercial warehouses

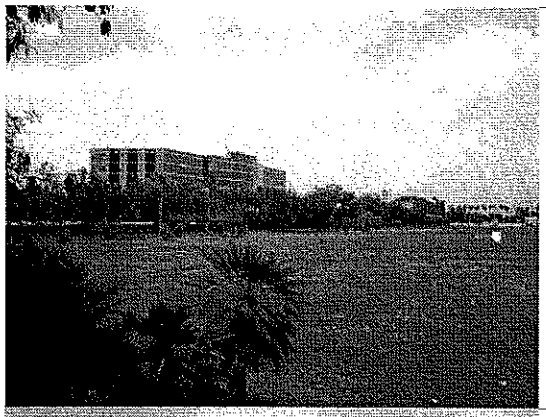
**WEST:**
Expressway

**SURROUNDING AREA**
Commercial office building with warehouses and airport.

**NEIGHBORHOOD CHARACTERISTICS:**
Industrial use and office buildings between Miami Internatioanl Airport and the 826 Palmetto Expressway.

**COMMENTS:**
PRETTY LANDSCAPING.

**Inspector** *EDWARDS, RALPH*
**Evaluator** *CARL HARRISON*
**Process Number:** *Z2010000151* **Applicant Name** *MIAMI-DADE COUNTY AVIATION DEPARTMENT*

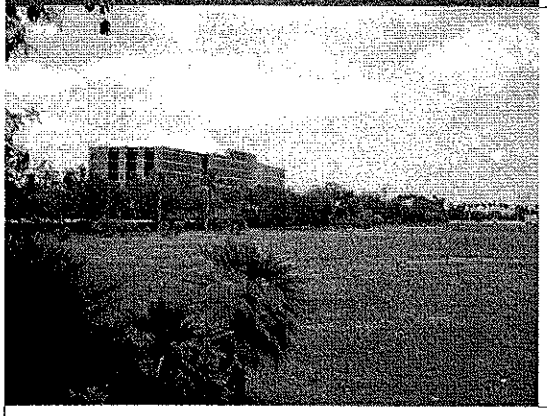


Date: 18-MAY-11

Comments: view of northeast corner of property

Date: 18-MAY-11

Comments: view of southwest side ofproperty



Date: 18-MAY-11

Comments: view of the northeast side of property

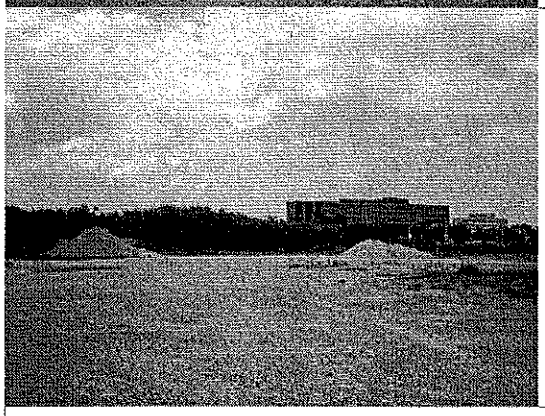
**Inspector** *EDWARDS, RALPH*
**Evaluator** *CARL HARRISON*
**Process Number:** *Z2010000151* **Applicant Name** *MIAMI-DADE COUNTY AVIATION DEPARTMENT*

Date: 18-MAY-11

Comments: view of westside of property on east side of corporate way st

Date: 18-MAY-11

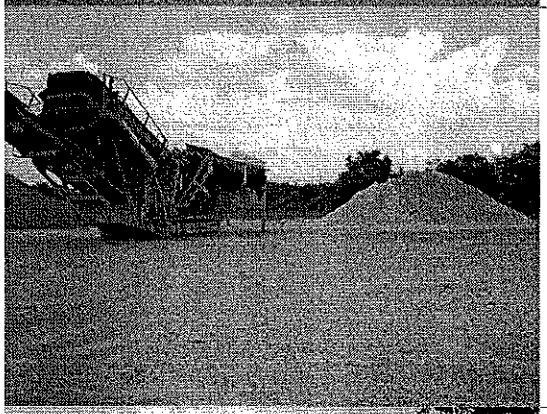
Comments: westside of property next to expressway. uses as rock pit for expreeway

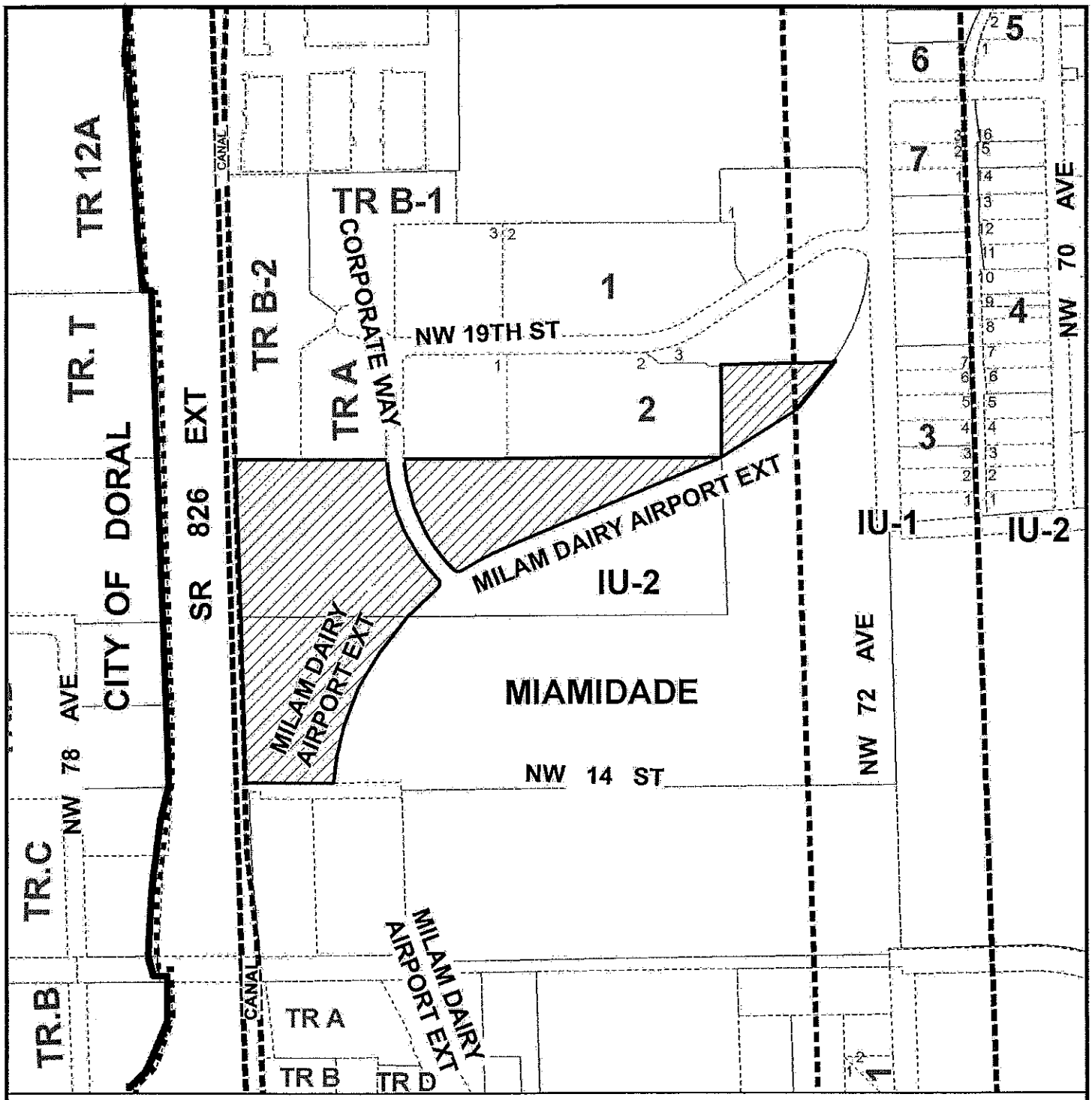


Date: 18-MAY-11

Comments: Rock pit on westside of property

**Inspector** *EDWARDS, RALPH*
**Evaluator** *CARL HARRISON*
**Process Number:** *Z2010000151* **Applicant Name** *MIAMI-DADE COUNTY AVIATION DEPARTMENT*

| | |
|---|---|
| | Date: 18-MAY-11<br>Comments: Expressway wall on westside of property |
|  | Date: 18-MAY-11<br>Comments: view of westside of property.violation of heavy equipment on property without a permit |
| | Date: 20-MAY-11<br>Comments: view ofsoutheast side of property |




# MIAMI-DADE COUNTY

HEARING MAP

Process Number

## Z2010000151

Section: 35 Township: 53 Range: 40
Applicant: MIAMI DADE COUNTY AVIATION DEPARTMENT
Zoning Board: BCC
Commission District: 12
Drafter ID: JEFFER GURDIAN
Scale: NTS

N
W E
S

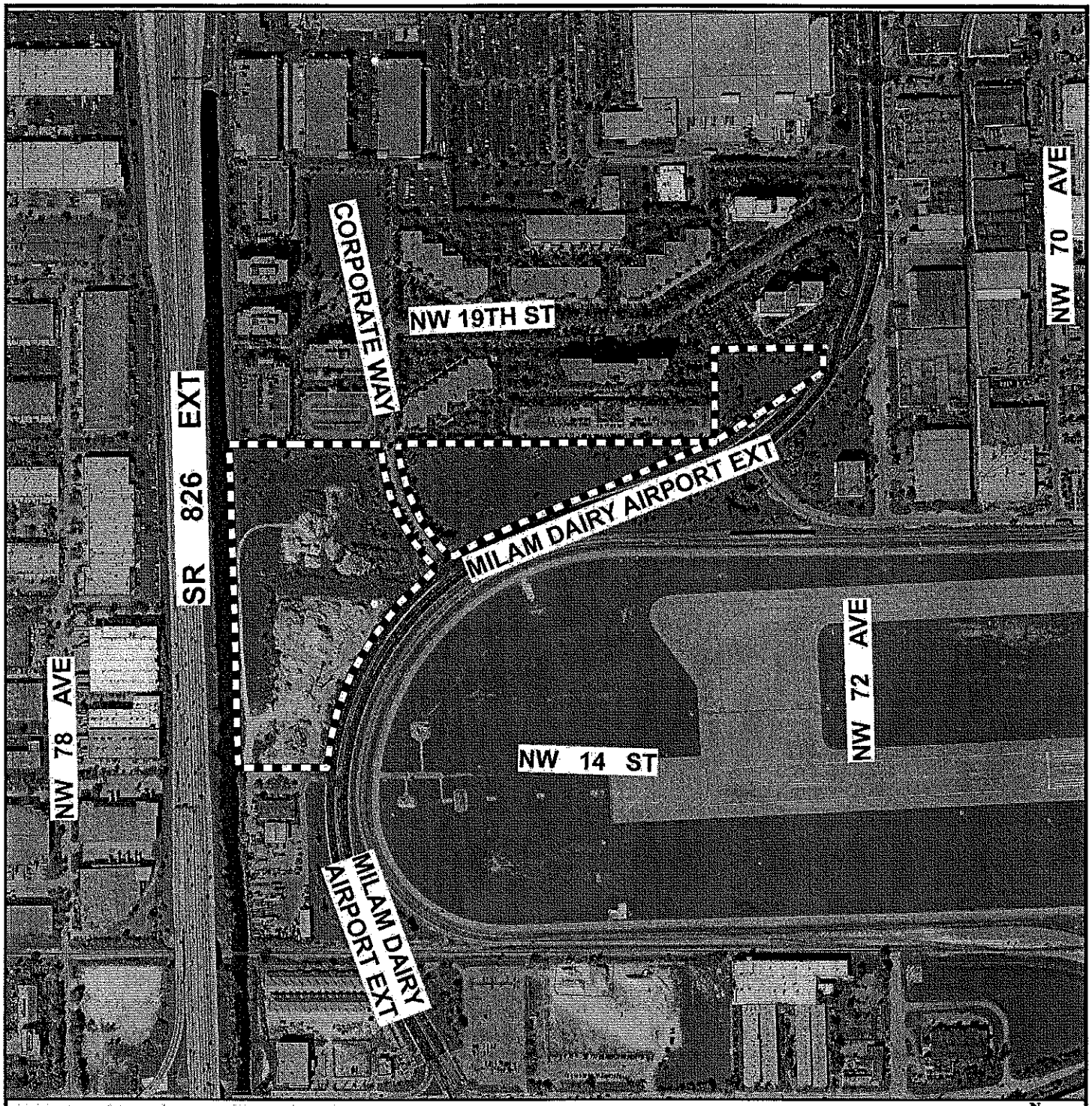
**Legend**

Subject Property Case

MIAMI-DADE COUNTY

SKETCH CREATED ON: Monday, October 4, 2010

| REVISION | DATE | BY |
|---|---|---|
| | | 21 |




# MIAMI-DADE COUNTY

AERIAL YEAR 2009

**Process Number**

**Z2010000151**

**Legend**

Subject Property

N W E S

**Section: 35 Township: 53 Range: 40**
**Applicant: MIAMI DADE COUNTY AVIATION DEPARTMENT**
**Zoning Board: BCC**
**Commission District: 12**
**Drafter ID: JEFFER GURDIAN**
**Scale: NTS**

MIAMI-DADE COUNTY

**SKETCH CREATED ON: Monday, October 4, 2010**

| REVISION | DATE | BY |
|---|---|---|
| | | |

**4. COLUMBIA LAGRANGE HOSPITAL, INC. & KENDALL HEALTHCARE GROUP, LTD.**
**(Applicant)**

**11-6-CC-4 (11-038)**
**BCC/District 10**
**Hearing Date: 06/23/11**

Property Owner (if different from applicant) **COLUMBIA LAGRANGE HOSPITAL, INC.**

Is there an option to purchase ☐ / lease ☐ the property predicated on the approval of the zoning request? Yes ☐ No ☑

Disclosure of interest form attached? Yes ☑ No ☐

**Previous Zoning Hearings on the Property:**

| Year | Applicant | Request | Board | Decision |
|---|---|---|---|---|
| 1962 | Village Green 10 Pin Lanes, Inc | - Variance of 250 sq. ft. detached sign setback 20'. | ZAB | Approved w/conds. |
| 1962 | Village Green 10 Pin Lanes, Inc | - Unusual Use & Variance for nightclub bowling alley spaced less than 2,500' from school. | ZAB | Approved w/conds. |
| 1967 | Michael Sossin | - Variance of setback requirement.<br>- Variance of spacing requirement (for conversion to convalescent home). | ZAB | Approved w/conds. |
| 1970 | Sossin System, Inc | - Special Exception & Unusual Use for a Hosptial in business zone setback spacing. | ZAB | Approved in part w/conds. |
| 1971 | American Hospital Development Corp. & Miami Sportfishing Club, Inc. | - Modify condition #3 of Resolution 4-ZAB-264-70. | ZAB | Approved w/conds. |
| 1978 | South Dade Health Complex | - Modifification of Resolution.<br>- Special Exception to permit expansion of existing hospital.<br>- Variance of setback. | ZAB | Approved w/conds. |
| 1979 | South Dade Health Complex LTD | - Modification of resolution. | ZAB | Approved w/conds. |
| 1990 | Amireit (Kendall) Inc. | - Modificatin of resolution. | ZAB | Approved w/conds. |

**MIAMI-DADE COUNTY DEPARTMENT OF PLANNING AND ZONING**
**RECOMMENDATION TO THE BOARD OF COUNTY COMMISSIONERS**

**APPLICANTS:** Columbia Lagrange Hospital, Inc., and Kendall Healthcare Group, Ltd.

**PH:** Z11-038 (11-6-CC-4)

**SECTION:** 13-54-39

**DATE:** June 23, 2011

**COMMISSION DISTRICT:** 10

**ITEM NO.:** 4

==========

## A. INTRODUCTION:

### o SUMMARY OF REQUESTS:

The applicants seek to modify a condition of a previously approved Resolution along with a paragraph of the accompanying Declaration of Restrictions in order to submit revised plans which show the location of a proposed heliport on the roof of one of the existing hospital buildings.

### o REQUESTS:

(1) UNUSUAL USE to permit a proposed heliport to be located on the roof of an existing hospital building.

(2) MODIFICATION of Condition #2 of Resolution # Z-8-04, passed and adopted by the Board of County Commissioners on the 18th day of December, 2004, only as it applies to the subject property and reading as follows:

FROM: "2. That the property, will be developed in substantial compliance with the site plan entitled Kendall Medical Center, prepared by Gresham Smith and Partners, dated the 2nd day of December, 2003."

TO: "2. That the property will be developed in substantial compliance with the site plan entitled Kendall Medical Center, prepared by Gresham Smith and Partners, dated the 2nd day of December, 2003, and "Kendall Medical Center Heliport Addition" prepared Gresham Smith and Partners, dated stamped received April 6, 2011.

(2) MODIFICATION of paragraph #1 of the a Declaration of Restriction recorded in ORB 22393, PGS 2160-2170, only as it applies to the subject property, reading as follows:

FROM: "1. That the property will be developed in substantial compliance with the site plan entitled Kendall Medical Center, prepared by Gresham Smith and Partners, dated the 2nd day of December, 2003. ("Site Plan"). If the property is developed in phases, each phase will be developed in substantial accordance with the site plan."

TO: "1. That the property will be developed in substantial compliance with the site plan entitled Kendall Medical Center, prepared by Gresham Smith and Partners, dated the 2nd day of December, 2003. ("Site

Plan") and "Kendall Medical Center Heliport Addition" prepared Gresham Smith and Partners, dated stamped received April 6, 2011. If property is developed in phases, each phase will be developed in substantial accordance with the site plan."

The purpose of requests #2 and #3 is to allow the applicants to submit plans showing the location of the proposed heliport on the roof of the existing building.

- **LOCATION:** 11750 Bird Road, Miami-Dade County, Florida.
- **SIZE:** 17.92 acres.

## B. ZONING HEARINGS HISTORY:

The subject property or portions thereof, has been the subject of a number of hearings from 1962 through 2004, most of which pertain to the existing hospital on the site. In 1970, pursuant to Resolution #4-ZAB-264-70, the subject property was approved to allow a hospital in a business zone. Subsequently, between 1971 and 1978, said hospital was approved for modifications to the site plan of the existing hospital which also included a parking lot located to the south of SW 42 Street, which was zoned BU-1A, Limited Business District. The southern parcel of the subject property that is located to the south of SW 42 Street was approved for a zone change from BU-1A to EU-1, Single-Family One-Acre Estate District in September 1978, pursuant to Resolution #Z-207-78. In addition, between 1990 and 2004, the hospital was approved for additional improvements which also included an expansion on properties located to the west including additional parking garages and an emergency room facility pursuant to Resolution #4-ZAB-341-90. The hospital uses were further expanded on properties located to the west including additional parking garages and a four-story addition to the hospital, pursuant to Resolution Z-8-04 at which time the applicant also proffered a covenant which, among other things, limited the development of the hospital to the approved plan.

## C. COMPREHENSIVE DEVELOPMENT MASTER PLAN (CDMP) OBJECTIVES, POLICIES AND INTERPRETATIVE TEXT:

1. The adopted 2015 and 2025 Land Use Plan designates **the northern portion of the subject property located to the north of SW 42 Street *for Institutions and Utilities***. *The Plan map illustrates, for information purposes, only the location of major institutional uses, communication facilities and utilities of metropolitan significance. Depicted are such uses as **major hospitals, medical complexes**, colleges, universities, regional water-supply, antenna fields, radio and television broadcast towers, wastewater and solid waste utility facilities such as the resources recovery plant, major government office centers and military installations. The full range of institutions, communications and utilities may be allowed under this land use category. Offices are also allowed in this map category. Internally integrated business areas smaller than 5 acres in size or up to 10 percent of the total floor area of an institutional, public facility or office use may also be approved in this map category. If the owner of land designated as Institutions, Utilities and Communications chooses to develop the land for a different use and no public agency intends to use the site for a public facility, the land may be developed for a use or a density comparable to and compatible with*

*surrounding development providing that such development is consistent with the goals, objectives and policies of the CDMP especially Policies LU-4A and LU-4B.*

*The Homestead Air Reserve Base is also included in this category on the Land Use Plan map. The range of uses that may occur on the Base as it is redeveloped shall emphasize military aviation and related uses, national security, recreation uses, educational and other institutional uses. All future uses on the former Base will be consistent with the Record of Decision issued by the Secretary of the Air Force as it pertains to County use of the Base property.*

*Neighborhood or community-serving institutional uses, cell towers and utilities including schools, libraries, sanitary sewer pump stations and fire and rescue facilities in particular, and cemeteries may be approved where compatible in all urban land use categories, in keeping with any conditions specified in the applicable category, and where provided in certain Open Land subareas. Compatibility shall be determined in accordance to Policy LU-4A. Co-location of communication and utility facilities are encouraged. Major utility and communication facilities should generally be guided away from residential areas; however, when considering such approvals, the County shall consider such factors as the type of function involved, the public need, existing land use patterns in the area and alternative locations for the facility. All approvals must be consistent with the goals, objectives and policies of the Comprehensive Development Master Plan.*

*Electric power transmission line corridors are permitted in every land use category when located in established right-of-ways or certified under the Florida Electrical Power Plant Siting Act (Sections 403.501-403.518, F.S.) as an ancillary use to a new power plant, or the Transmission Line Siting Act (Sections 403.52-403.5365 F.S.) for individual electrical transmission lines. If an electric power transmission line corridor does not meet either of the above conditions, it shall be situated in an area designated as Institutions, Utilities and Communications; Industrial and Office; Business and Office; or Parks and Recreation on the adopted Land Use Plan map. When compatible with adjacent uses and permitted by County and State regulations, non-utility ancillary uses that may be located in transmission line corridors include agriculture, parking lots, open space, golf courses, bikeways and paths for walking and exercising.*

2. *The Adopted 2015 and 2025 Land Use Plan designates* ***the portion of the subject property located to the south of SW 42 Street for Agriculture****. The area designated as "Agriculture" contains the best agricultural land remaining in Miami-Dade County. As stated in the Miami-Dade County Strategic Plan, approved in 2003 by the Board of County Commissioners, protection of viable agriculture is a priority. The principal uses in this area should be agriculture, uses ancillary to and directly supportive of agriculture such as packing houses, and farm residences. Uses ancillary to, and necessary to support the rural residential community of the agricultural area may also be approved, including houses of worship; however, schools shall not be approved in Agriculture areas but should be located inside the UDB in accordance with Policy EDU-2.A.*

3. ***Uses and Zoning Not Specifically Depicted on the LUP Map.*** *Within each map category numerous land uses, zoning classifications and housing types may occur. Many existing uses and zoning classifications are not specifically depicted on the Plan map. This is due largely to the scale and appropriate specificity of the countywide LUP*

*map, graphic limitations, and provisions for a variety of uses to occur in each LUP map category. In general, 5 acres is the smallest site depicted on the LUP map, and smaller existing sites are not shown. All existing lawful uses and zoning are deemed to be consistent with this Plan unless such a use or zoning (a) is found through a subsequent planning study, as provided in Policy LU-4E, to be inconsistent with the criteria set forth below; and (b) the implementation of such a finding will not result in a temporary or permanent taking or in the abrogation of vested rights as determined by the Code of Miami-Dade County, Florida.*

4. ***Policy LU-4A****. When evaluating compatibility among proximate land uses, the County shall consider such factors as noise, lighting, shadows, glare, vibration, odor, runoff, access, traffic, parking, height, bulk, scale of architectural elements, landscaping, hours of operation, buffering, and safety, as applicable.*

## D. NEIGHBORHOOD CHARACTERISTICS:

| ZONING | LAND USE PLAN DESIGNATION |
|---|---|
| **Subject Property:** | |
| BU-2; hospital and medical offices | Institution and Utilities |
| EU-1; hospital parking lot | Agriculture |
| **Surrounding Properties:** | |
| **NORTH:** GU: Turnpike ramp | Transportation |
| BU-2: service station and offices | Institution and Utilities |
| RU-1 & RU-TH: single-family residences and townhomes | Low Density Residential, 2.5 to 6 dua |
| **SOUTH:** EU-1; single-family residences and utility plant | Agriculture |
| **EAST:** GU; Florida Turnpike | Transportation |
| **WEST:** OPD; vacant land | Institution and Utilities |

## E. PERTINENT ZONING REQUIREMENTS/STANDARDS:

***Section 33-311(A)(3) Special Exceptions, Unusual and New Uses***
*The Board shall hear an application for and grant or deny special exceptions; that is, those exceptions permitted by regulations only upon approval after public hearing, new uses and* ***unusual uses*** *which by regulations are only permitted upon approval after public hearing; provided the applied for exception or use, including exception for site or plot plan approval, in the opinion of the Community Zoning Appeals Board, would not have an unfavorable effect on the economy of Miami-Dade County, Florida, would not generate or result in excessive noise or traffic, cause undue or excessive burden on public facilities, including water, sewer, solid waste disposal, recreation, transportation, streets, roads, highways or other such facilities which have been constructed or which are planned and budgeted for construction, are accessible by private or public roads, streets or highways, tend to create a fire or other*

*equally or greater dangerous hazards, or provoke excessive overcrowding or concentration of people or population, when considering the necessity for and reasonableness of such applied for exception or use in relation to the present and future development of the area concerned and the compatibility of the applied for exception or use with such area and its development.*

***33-311(A)(7) Generalized Modification Standards.*** *The Board shall hear applications to modify or eliminate any condition or part thereof which has been imposed by any final decision adopted by resolution, and to modify or eliminate any provisions of restrictive covenants, or parts thereof, accepted at public hearing, except as otherwise provided in Section 33-314(C)(3); provided, that the appropriate board finds after public hearing (a) that the modification or elimination, in the opinion of the Community Zoning Appeals Board, would not generate excessive noise or traffic, tend to create a fire or other equally or greater dangerous hazard, or provoke excessive overcrowding of people, or would not tend to provoke a nuisance, or would not be incompatible with the area concerned, when considering the necessity and reasonableness of the modification or elimination in relation to the present and future development of the area concerned, or (b) (i) that the resolution that contains the condition approved a school use that was permitted only as a special exception, (ii) that subsequent law permits that use as of right without the requirement of approval after public hearing, and (iii) that the requested modification or elimination would not result in development exceeding the standards provided for schools authorized as a matter of right without the requirement of approval after public hearing.*

## F. NEIGHBORHOOD SERVICES PROVIDER COMMENTS:

| | |
|---|---|
| DERM | **No objection*** |
| Public Works | **No objection*** |
| Parks | **No comment** |
| MDT | **No comment** |
| Fire Rescue | **No objection** |
| Police | **No objection** |
| MDAD | **No objection** |
| Schools | **No comment** |

*Subject to conditions.

## G. PLANNING AND ZONING ANALYSIS:

The BCC shall have jurisdiction to directly hear applications encompassing property located in more than one Community Zoning Appeals Board (CZAB) District pursuant to Section 33-314(A)(2). The subject property is located within two (2) separate CZAB Districts. A portion of the subject property is located within the CZAB 11 District and the remainder is located within CZAB 10 District.

The Land Use Plan (LUP) map of the Comprehensive Development Master Plan (CDMP) designates **the portion of the subject property located to the north of SW 42 Street for Institutions, Utilities and Communication** use. *This category accommodates the location of major institutional uses, communication facilities and utilities of metropolitan significance. Depicted are such uses as* ***major hospitals, medical complexes****, colleges, universities, regional water-supply, antenna fields, radio and television broadcast towers, wastewater and*

*solid waste utility facilities such as the resources recovery plant, major government office centers and military installations. The full range of institutions, communications and utilities may be allowed under this land use category. Offices are also allowed in this map category. The Adopted 2015 and 2025 Land Use Plan* designates **the portion of the subject property located to the south of SW 42 Street which currently contains a parking lot for hospital staff *for Agriculture.*** *The principal uses in this area should be agriculture, uses ancillary to and directly supportive of agriculture such as packing houses, and farm residences. However, the interpretative text of the CDMP states that all existing lawful uses and zoning are deemed to be consistent with this Plan unless such a use or zoning (a) is found through a subsequent planning study, as provided in Policy LU-4E, to be inconsistent with the criteria set forth below; and (b) the implementation of such a finding will not result in a temporary or permanent taking or in the abrogation of vested rights as determined by the Code of Miami-Dade County, Florida.* Staff's research indicated that a portion of the parcel, located to the south that contains the staff parking area was previously zoned BU-1A, Limited Business District and as such was a legally permitted use. The staff parking area which is located on Lot #41 and Lot #42 of "Exhibit B" of the submitted plans, has been identified on previous modifications of the hospital site plans which have been approved for modifications since 1978 and up until the current site plan that was approved pursuant to resolution #Z-8-04. Although the parcel containing Lot #41 and Lot #42 was rezoned to EU-1, Single-Family One Acre District in 1978, pursuant to Resolution #Z-207-78, the existing parking lot remains as a legally permitted non-conforming use. However, the area designated on Exhibit B as Lot #40 was never legally permitted for a parking lot use and thus does not qualify as an existing use or a legal non-conforming use. Accordingly, the use of Lot #40 as a parking lot would not be permitted by the EU-1 zoning district and would be **inconsistent** with the interpretive text and LUP map of the CDMP. As such, staff opines that the existing hospital uses located on the portion of the property that is designated Institutions, Utilities and Communications and the parking area on Lot #41 and Lot #42 located within the area designated Agriculture on the LUP map of the CDMP, **are compatible with the surrounding area and consistent with the interpretative text and the LUP map of the CDMP.**

Similarly, when the applicants' request to permit the proposed heliport use on top of one of the existing hospital buildings (request #1), is analyzed under Special Exceptions, Unusual and New Uses standards of Section 33-311(A)(3), staff opines that approval of this request will not cause undue or excessive burden on public facilities to the surrounding community. The existing hospital is located along Bird Road, a well travelled east/west major roadway and abuts the Turnpike Extension located to the east, which is a major north/south expressway. The applicants' letter of intent states that the requested modifications to the plan will allow the existing hospital to include a heliport which is required for the operation of a Level II Trauma Center. The submitted plans indicate the location of the proposed heliport on top of a four story building located approximately 250' to the north of the closest residentially zoned property. As such, staff opines that the proposed use is reasonably spaced and sufficiently buffered from the residentially zoned properties located to the south and therefore will not have a negative aural or visual impact on same. Further, staff notes that the approval of the applicants' request will allow the hospital to operate as a Level II Trauma Center and thereby provide the community with additional trauma services. When *considering the necessity for and reasonableness of such applied for exception or use in relation to the present and future development of the area concerned and the compatibility of the applied for exception or use with such area and its development,* staff opines that

approval with conditions of this request will be **compatible** with the surrounding area and will provide a needed benefit to the present and future development of the area.

When requests #2 and #3 are analyzed under the Generalized Modification Standards, Section 33-311(A)(7), the proposed modifications in staff's opinion, will not generate excessive traffic, provoke excessive overcrowding of people, tend to provoke a nuisance, and would be **compatible** with the area. Staff notes that the purpose of the proposed modifications is to allow the applicant to submit plans showing the location of the proposed heliport on the roof of the existing building. Further, staff acknowledges that DERM, Public Works, and the Miami-Dade Fire Rescue Departments do not object to the application. Based on their memoranda pertaining to this application, staff opines that approval of these requests will not unduly burden the services provided by the County in this area. Therefore, staff opines that the approval of the applicants' requests would not have a negative visual or aural impact on the residential developments to the west and south and therefore, would be **compatible** with the area concerned, when considering the necessity and reasonableness of the modifications or in relation to the present and future development of the area. However, staff notes that the survey submitted with the application indicates that currently, the hospital allows parking on Lot #40 of the south parcel, referred to as "Exhibit B", which was denied pursuant to Resolution #4-ZAB-180-78. Therefore, staff recommends as a condition for approval that the applicants provide a buffer in the form of a 6' high CBS wall, or chain link fence with a hedge, not less than 3' high at the time of planting, which shall grow to and be maintained at a height of 6', along the interior side (west) property line of Lot #41 of the southern parcel and also remove the existing parking stops and re-sod Lot #40 of the southern parcel in order to prevent parking on said parcel. Staff notes that the applicant has proffered a covenant addressing the aforementioned conditions. **As such, staff recommends approval with conditions of requests #2 and #3 under Section 33-311(A)(7), Generalized Modification Standards, subject to the Board's acceptance of the proffered covenant.**

Based on the aforementioned, staff maintains that approval of (request #1) to permit the proposed heliport on the roof of one of the existing hospital buildings and approval with conditions of requests #2 and #3, which would allow the applicants to modify a condition of a resolution and a paragraph of a declaration of restrictions, in order to submit revised plans showing the proposed heliport with the existing hospital would be **consistent** with the LUP map of the CDMP and **compatible** with the surrounding area. **Accordingly, staff recommends approval with conditions of request #1 under Section 33-311(A)(3) and requests #2 and #3 under Section 33-311(A)(7), subject to the Board's acceptance of the proffered covenant.**

## H. RECOMMENDATION:

**Approval with conditions, subject to the Board's acceptance of the proffered covenant**.

## I. CONDITIONS:

1. That all the conditions of Resolution #Z-8-04, and the Declaration of Restriction recorded in ORB 22393, PGS 2160-2170, remain in full force and effect except as herein modified.

2. That buffering be provided along the interior side (west) property line, of lot #41, referred to as "Exhibit B" in the submitted plans, in the form of a continuous 6' high CBS wall, or chain link fence with a hedge, not less than 3' high at the time of planting, which shall grow to and be maintained at a height of 6' in order to prevent overflow parking on Lot #40. Said buffering shall be installed prior to obtaining a certificate of use for the proposed heliport addition.

3. That no vehicles be allowed to park on Lot #40 of the south parcel of the hospital referred to as "Exhibit B" in the submitted plans.

4. That the parking stops and the gravel area on lot #40 be removed and replaced with sod.

5. That the applicant comply with all of the applicable conditions, requirements, recommendations, requests and other provisions of the various Departments as contained in the Departmental memoranda which are part of the record of this recommendation incorporated herein by reference.

6. That this Resolution will not be transmitted to the Clerk of the Commission until the required Declaration of Restrictions is submitted in final, recordable form acceptable to the Department.

**DATE TYPED:** 05/04/11
**DATE REVISED:** 05/05/11, 05/17/11, 05/18/11, 06/02/11, 06/07/11
**DATE FINALIZED:** 06/07/11
MCL:GR:NN:AA:CH

Marc C. LaFerrier, AICP, Director
Miami-Dade County Department of
Planning and Zoning

NDN

# Memorandum

MIAMI-DADE COUNTY

**Date:** April 22, 2011

**To:** Marc C. LaFerrier, AICP, Director
Department of Planning and Zoning

**From:** Jose Gonzalez, P.E., Assistant Director
Environmental Resources Management

**Subject:** BCC #Z2011000038
Kendall Healthcare Group, Ltd.
11750 Bird Road
Modification of a Previous Resolution/Agreement to Permit a Helipad and Unusual Use to permit a Helipad
(BU-2) (17.92 Acres)
13-54-40

---

The Department of Environmental Resources Management (DERM) has reviewed the subject application and has determined that it meets the minimum requirements of Chapter 24 of the Code of Miami-Dade County, Florida (the Code). Accordingly, DERM may approve the application, and the same may be scheduled for public hearing.

Potable Water Service and Wastewater Disposal

Public water and public sanitary sewers can be made available to the subject property. Therefore, connection of the proposed development to the public water supply system and sanitary sewer system shall be required in accordance with Code requirements.

Existing public water and sewer facilities and services meet the Level of Service (LOS) standards set forth in the Comprehensive Development Master Plan (CDMP). Furthermore, the proposed development order, if approved, will not result in a reduction in the LOS standards subject to compliance with the conditions required by DERM for this proposed development order.

Notwithstanding the foregoing, and in light of the fact that the County's sanitary sewer system has limited sewer collection, transmission, and treatment capacity, no new sewer service connections can be permitted, unless there is adequate capacity to handle the additional flows that this project would generate. Consequently, final development orders for this site may not be granted if adequate capacity in the system is not available at the point in time when the project will be contributing sewage to the system. Lack of adequate capacity in the system may require the approval of alternate means of sewage disposal. Use of an alternate means of sewage disposal may only be granted in accordance with Code requirements, and shall be an interim measure, with connection to the public sanitary sewer system required upon availability of adequate collection/transmission and treatment capacity.

Stormwater Management

The proposed project does not affect the existing drainage system.

Wetlands
The subject property does not contain wetlands as defined by Section 24-5 of the Code; therefore, a DERM Class IV Wetland Permit will not be required.

The applicant is advised that permits from the Army Corps of Engineers (305-526-7181), the Florida Department of Environmental Protection (561-681-6600) and the South Florida Water Management District (1-800-432-2045) may be required for the proposed project. It is the applicant's responsibility to contact these agencies.

Tree Preservation
According to the site plan submitted with this zoning application, the proposal of the helipad will not impact tree resources. Therefore, the Tree Program has no objection to this zoning application, however please be advised that a Miami-Dade County Tree Removal Permit is required prior to the removal or relocation of any tree that is subject to the Tree Preservation and Protection provisions of the Code.

Enforcement History
DERM has found no open or closed enforcement records for the subject property.

Concurrency Review Summary
DERM has conducted a concurrency review for this application and has determined that the same meets all applicable LOS standards for an initial development order, as specified in the adopted CDMP for potable water supply, wastewater disposal, and flood protection. Therefore, the application has been approved for concurrency subject to the comments and conditions contained herein.

This concurrency approval does not constitute a final concurrency statement and is valid only for this initial development order, as provided for in the adopted methodology for concurrency review. Additionally, this approval does not constitute any assurance that the LOS standards would be met by any subsequent development order applications concerning the subject property.

DERM does not have any environmental concerns for the approval of this application, therefore this memorandum shall constitute DERM's written approval, as required by the Code.

If you have any questions concerning the comments, or wish to discuss this matter further, please contact Christine Velazquez at (305) 372-6764.

# Memorandum

MIAMI-DADE COUNTY

**Date:** May 18, 2011

**To:** Marc C. LaFerrier, Director
Department of Planning & Zoning

**From:** José A. Ramos, R.A., Acting Director for Aviation Planning, Land-Use and Grants
Aviation Department

**Subject:** Columbia LaGrange Hospital, Inc. & Kendall Healthcare Group, LTD (PH:11-038)
MDAD DN-11-05-557

---

As requested by the Department of Planning and Zoning, the Miami-Dade Aviation Department (MDAD) has reviewed the applicant's request for an Unusual Use to permit a helipad and a modification of a previous resolution/agreement to permit a helipad at 11750 SW 40th Street, Miami-Dade County, Florida.

Please be advised that MDAD is not responsible for approving heliport locations; this is handled by the Federal Aviation Administration (FAA) and Florida Department of Transportation (FDOT). The heliport approval process is as follows:

The applicant completes form 7480-1 Notice of Landing Area Proposal to the FAA which is available at http://forms.faa.gov/forms/faa7480-1.pdf. The applicant then receives a letter of acknowledgement from the FAA. The applicant checks with local zoning for any heliport restrictions. Upon receipt of the FAA determination letter, the applicant contacts FDOT by applying on their website for site approval. There is a 45 day waiting period. If no opposition is offered, after 45 days, the applicant must register the landing area with FDOT Airport Registration Renewal & New Airport Site Approval by using their website at www.florida-aviation-database.com. The applicant must re-register every 2 years thereafter. FDOT issues a site approval letter by email. Please note that FDOT helicopter landing pad permits are handled by:

FDOT Aviation Office, Central Office, Tallahassee, FL
Telephone : 850-414-4500
Fax: 850-414-4508

Should you have any questions, please feel free to contact me at 305-876-8080.

JR/rb

PH# Z2011000038
CZAB - BCC

**PUBLIC WORKS DEPARTMENT COMMENTS**

Applicant's Names: COLUMBIA LAGRANGE HOSPITAL, INC,

This Department has no objections to this application.

This application does not generate any new additional daily peak hour trips, therefore no vehicle trips have been assigned. This meets the traffic concurrency criteria set for an Initial Development Order.

Raul A Pino, P.L.S.
19-APR-11

# Memorandum

**Date:** 02-MAY-11

**To:** Marc LaFerrier, Director
Department of Planning and Zoning

**From:** Herminio Lorenzo, Fire Chief
Miami-Dade Fire Rescue Department

**Subject:** Z2011000038

## Fire Prevention Unit:

APPROVAL
No objection via Case # Z2011000038

## Service Impact/Demand

Development for the above Z2011000038
located at 11750 BIRD RD, MIAMI-DADE COUNTY, FLORIDA.
in Police Grid 1585 is proposed as the following:

| | | | |
|---|---|---|---|
| N/A residential | dwelling units | N/A industrial | square feet |
| N/A Office | square feet | N/A institutional | square feet |
| N/A Retail | square feet | N/A nursing home/hospitals | square feet |

Based on this development information, estimated service impact is: N/A alarms-annually.
The estimated average travel time is: 6:30 minutes

## Existing services

The Fire station responding to an alarm in the proposed development will be:

Station 9 - Kendall - 7777 SW 117 Avenue
Rescue, ALS Engine

## Planned Service Expansions:

The following stations/units are planned in the vicinity of this development:

None.

## Fire Planning Additional Comments

Not applicable to service impact analysis.

For information regarding the aforementioned comments, please contact the Miami-Dade Fire Rescue Department Planning Section at 786-331-4540.

DATE: 28-APR-11

# BUILDING AND NEIGHBORHOOD COMPLIANCE DEPARTMENT

**ENFORCEMENT HISTORY OF VIOLATIONS OF CHAPTER 19 AND CHAPTER 33 OF THE MIAMI-DADE COUNTY CODE**

| | |
|---|---|
| COLUMBIA LAGRANGE HOSPITAL, INC, | 11750 BIRD RD, MIAMI-DADE COUNTY, FLORIDA. |
| **APPLICANT** | **ADDRESS** |
| Z2011000038 | |
| **HEARING NUMBER** | |

## HISTORY:

BLDG: 20090125665-B OPENED, 12/2/08 FOR FAILURE TO OBTAIN A PERMIT FOR INTERIOR RENOVATIONS. TICKET #B087901 WAS ISSUED. THE CASE WAS FORWARDED TO LIEN. THE CASE WAS CLOSED 4/13/11.
NC: NO ZONING OR LIEN VIOLATIONS FOUND.

COLUMBIA LAGRANGE HOSPITAL, INC

## OUTSTANDING FINES, PENALTIES, COST OR LIENS INCURRED PURSUANT TO CHAPTER 8CC:

## REPORTER NAME:

# ZONING INSPECTION REPORT

**Inspector:** MARTINEZ, RAMIRO **Inspection Dat**

**Evaluator:** N/A 05/16/11

| **Process #:** | **Applicant's Name** |
|---|---|
| Z2011000038 | COLUMBIA LAGRANGE HOSPITAL, INC, & KENDALL HEALTHCARE GROUP, LTD. |

**Locations:** 11750 BIRD RD, MIAMI-DADE COUNTY, FLORIDA.

**Size:** 17.92 ACRE **Folio #:** 3049130000011

**Request:**

1 UNUSUAL USE to permit a proposed heliport to be located on the roof of an existing hospital building.
2 Modification of Condition #2 of Resolution # Z-8-04 passed and adopted by Board of County Commissioners on the 18th day of December, 2004, only as it applies to the subject property and reading as follows:

From: "2. That the property will be developed in substantial compliance with the site plan entitled kendall Medical Center, prepared by Gresham Smith and Partners, dated the 2nd day of December, 2003.

To: "2. That the property will be developed in substantial compliance with the site plan entitled kendall Medical Center, prepared by Gresham Smith and Partners, dated the 2nd day of December, 2003, and "kendall Medical Center Helipad Addition" prepared Gresham Smith and Partners, dated stamped received April 6, 2011.
3 Modification of paragraph #1 of a Declaration of Restrictions recorded in ORB 22393, PGS 2160-2170, only as it applies to the subject property, reading as follows:

From: "2. That the property will be developed in substantial compliance with the site plan entitled kendall Medical Center, prepared by Gresham Smith and Partners, dated the 2nd day of December, 2003. ("site Plan"). If the property is developed in phases, each phase will be developed in substantial accordance with site plan.

To: "2. That the property will be developed in substantial compliance with the site plan entitled kendall Medical Center, prepared by Gresham Smith and Partners, dated the 2nd day of December, 2003. ("site Plan"), and "kendall Medical Center Helipad Addition" prepared by Gresham Smith and Partners, dated stamped received April 6, 2011. If the property is developed in phases, each phase will be developed in substantial accordance with the site plan.

The purpose of the request is to allow the applicant to submit plans showing the location of the proposed helipad on the roof of the existing building.

**EXISTING ZONING**

**Subject Property** BU-2,

**EXISTING USE** HOSPITAL

**SITE CHARACTERISTICS**

**STRUCTURES ON SITE:**

MULTI-STORY HOSPITAL, 7-STORY PARKING GARAGE, 4 STORY OFFICE BUILDING & A PARKING LOT TO THE WEST SIDE OF SITE.

**USE(S) OF PROPERTY:**

HOSPITAL USE & USE ANCILLARY TO A HOSPITAL USE.

**FENCES/WALLS:**

## ZONING INSPECTION REPORT

THERE IS A 6 FT ALUMINUM FENCE ALONG THE WEST, NORTH AND A SMALL PORTION OF THE SOUTH PROPERTY LINES.

**LANDSCAPING:**

THE SITE IS SUBSTANTIALLY LANDSCAPED THROUGHOUT THE SITE AS REQUIRED BY CHAPTER 33-253(2.1)(F) AND 18A. THE SITE HAS A VARIETY OF SPECIES SUCH AS LIVE OAKS, ROYAL PALMS & GUMBO LIMBO.

**BUFFERING:**

**VIOLATIONS OBSERVED:**

HOSPITAL IS CURRENTLY OPERATING WITHOUT A VALID CERTIFICATE OF USE. THERE IS A PENDING APPLICATION FOR A CHANGE OF OWNERSHIP IN 2008 (U2008009240), WHICH IS STILL PENDING. NOV ISSUED TO HOSPITAL FOR OPERATING W/O A VALID CU. NO OTHER VIOLATIONS WERE OBSERVED AT TIME OF INSPECTION. BNC ENFORCEMENT LETTER IS NOT ON FILE, BUT RESEARCH OF DADE CONTY RECORDS REVEAL NO OPEN ENFORCEMENT CASES UNDER FOLIO NO. 3049130000011.

**OTHER:**

| Process # | Applicant's Name |
|---|---|
| Z2011000038 | COLUMBIA LAGRANGE HOSPITAL, INC, & KENDALL HEALTHCARE GROUP, LTD. |

**SURROUNDING PROPERTY**

**NORTH:**

FLORIDA TURNPIKE RIGHT OF WAY & RU-TH/RU-1; TOWMHOUSES & SINGLE FAMILY HOMES.

**SOUTH:**

CANAL & EU-1; SINGLE FAMILY RESIDENCES & FPL SUBSTATION.

**EAST:**

FLORIDA TURNPIKE.

**WEST:**

OPD - UNIMPROVED PROPERTY.

**SURROUNDING AREA**

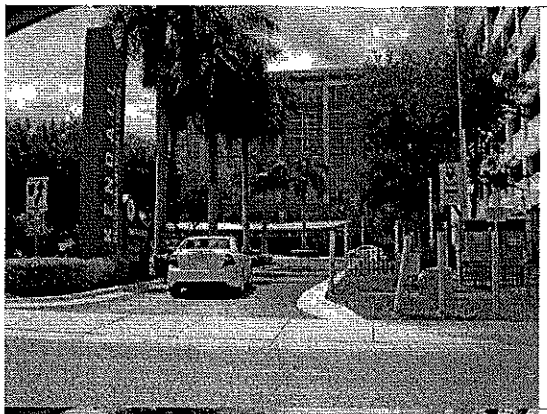
THE SITE IS SURROUNDED BY THE TURNPIKE TO THE EAST, RESIDENTIAL TO THE NORTH & SOUTH AND VACANT LAND ZONED OPD TO THE WEST.

**NEIGHBORHOOD CHARACTERISTICS**

THE NEIGHBORHOOD CHARACTERISTICS ARE CHARACTERIZED BY SINGLE FAMILY HOMES, TOWNHOMES, AND A FUTURE OFFICE PARK DISTRIC LOCATED TO THE WEST OF SUBJECT PROPERTY.

**COMMENTS:**

**Inspector** ***MARTINEZ, RAMIRO***
**Evaluator** ***N/A***
**Process Number:** ***Z2011000038*** **Applicant Name** ***COLUMBIA LAGRANGE HOSPITAL, INC, & KENDALL HEALTHCARE GROUP, LTD.***

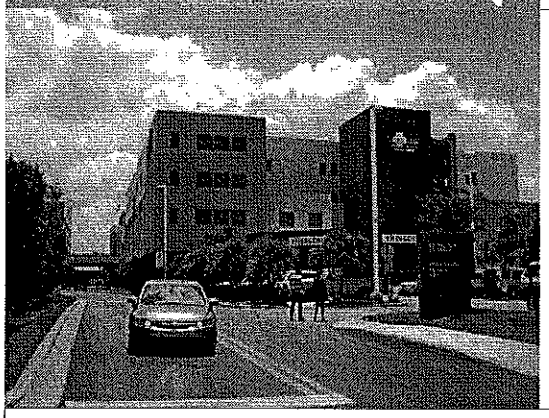


Date: 16-MAY-11

Comments: NORTH FRONT ELEVATION OF HOSPITAL.

Date: 17-MAY-11

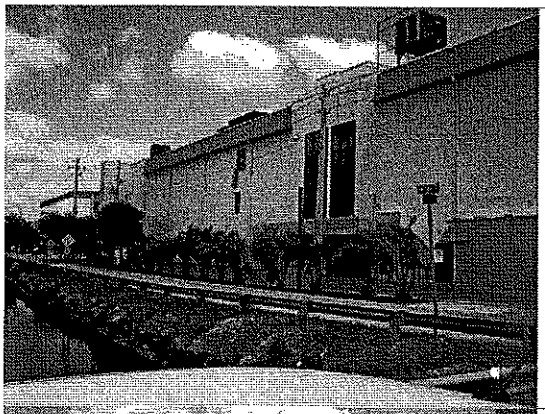
Comments: NORTH FRONT ELEVATION OF SUBJECT PROPERTY.



Date: 16-MAY-11

Comments: EAST ELEVATION OF SUBJECT PROPERTY.

**Inspector** ***MARTINEZ, RAMIRO***
**Evaluator** ***N/A***
**Process Number:** ***Z2011000038*** **Applicant Name** ***COLUMBIA LAGRANGE HOSPITAL, INC, & KENDALL HEALTHCARE GROUP, LTD.***

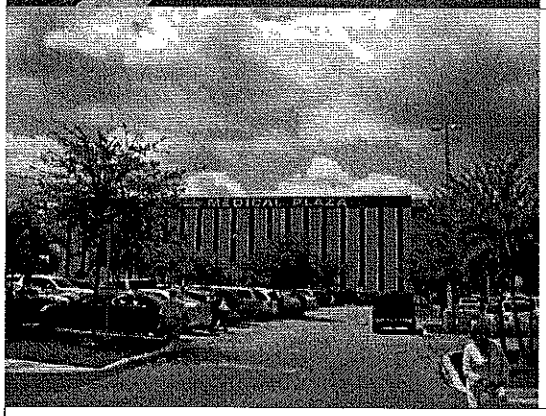


Date: 16-MAY-11

Comments: REAR SOUTH ELEVATION OF SUBJECT PROPERTY.

Date: 16-MAY-11

Comments: EAST ELEVATION OF PARKING GARAGE.



Date: 16-MAY-11

Comments: MEDICAL PLAZA LOCATED ON THE WESTERN HALF OF SUBJECT PROPETY.

**Inspector** ***MARTINEZ, RAMIRO***
**Evaluator** ***N/A***
**Process Number:** ***Z2011000038*** **Applicant Name** ***COLUMBIA LAGRANGE HOSPITAL, INC, & KENDALL HEALTHCARE GROUP, LTD.***

Date: 16-MAY-11

Comments: THERE IS A CANAL BETWEEN THE HOSPITAL & THE EU-1 RESIDENCES LOCATED TO THE SOUTH OF SUBJECT PROPERTY.

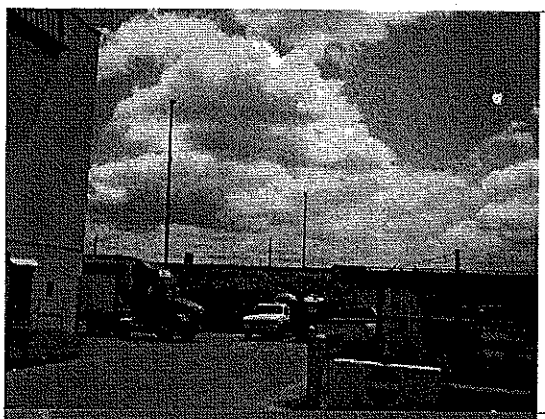
Date: 16-MAY-11

Comments: EMPLOYEE PARKING LOT LOCATED TO THE SOUTH SW 42 ST.

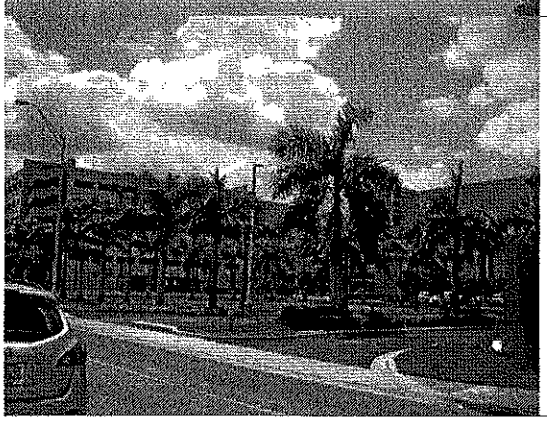
Date: 16-MAY-11

Comments: EU-1 RESIDENCES LOCATED TO THE SOUTH OF CANAL & SUBJECT PROPERTY.

**Inspector** ***MARTINEZ, RAMIRO***
**Evaluator** ***N/A***
**Process Number:** ***Z2011000038*** **Applicant Name** ***COLUMBIA LAGRANGE HOSPITAL, INC, & KENDALL HEALTHCARE GROUP, LTD.***

| | |
|---|---|
|  | Date: 16-MAY-11<br>Comments: FLORIDA TURNPIKE LOCATED TO THE EAST OF SUBJECT PROPERTY. |
| | Date: 16-JUN-11<br>Comments: OPD VACANT LAND LOCATED TO THE WEST OF SUBJECT PROPERTY. |
| | Date: 16-JUN-11<br>Comments: RU-1 SINGLE FAMILY RESIDENCES LOCATED TO THE NW OF SUBJECT PROPERTY. |

**Inspector** ***MARTINEZ, RAMIRO***
**Evaluator** ***N/A***
**Process Number:** ***Z2011000038*** **Applicant Name** ***COLUMBIA LAGRANGE HOSPITAL, INC, & KENDALL HEALTHCARE GROUP, LTD.***

| | |
|---|---|
| | Date: 16-MAY-11<br>Comments: RU-TH TOWNHOMES LOCATED TO THE NORTH OF SUBJECT PROPERTY. |
| | Date: 16-MAY-11<br>Comments: THERE IS A CANAL & HEAVY VEGETATION BETWEEN THE SUBJECT PROPERTY & EU-I RESIDENCES TO THE NORTH. |
|  | Date: 16-MAY-11<br>Comments: NW ENTRANCE TO SUBJECT PROPERTY. |

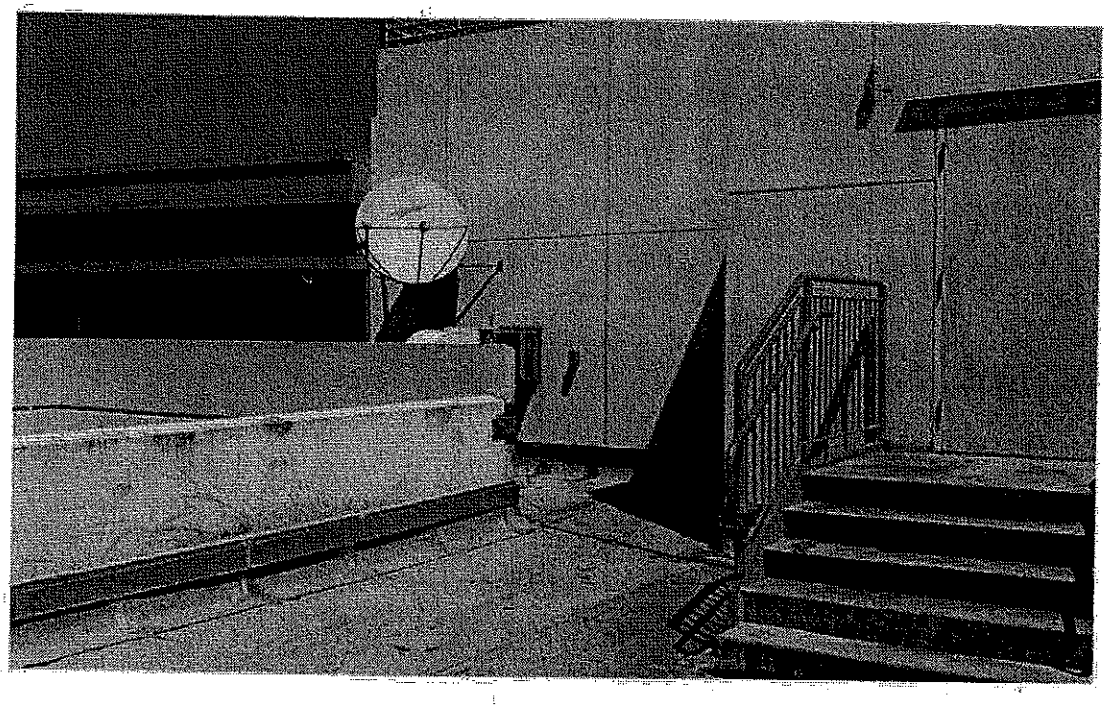


Photo #2

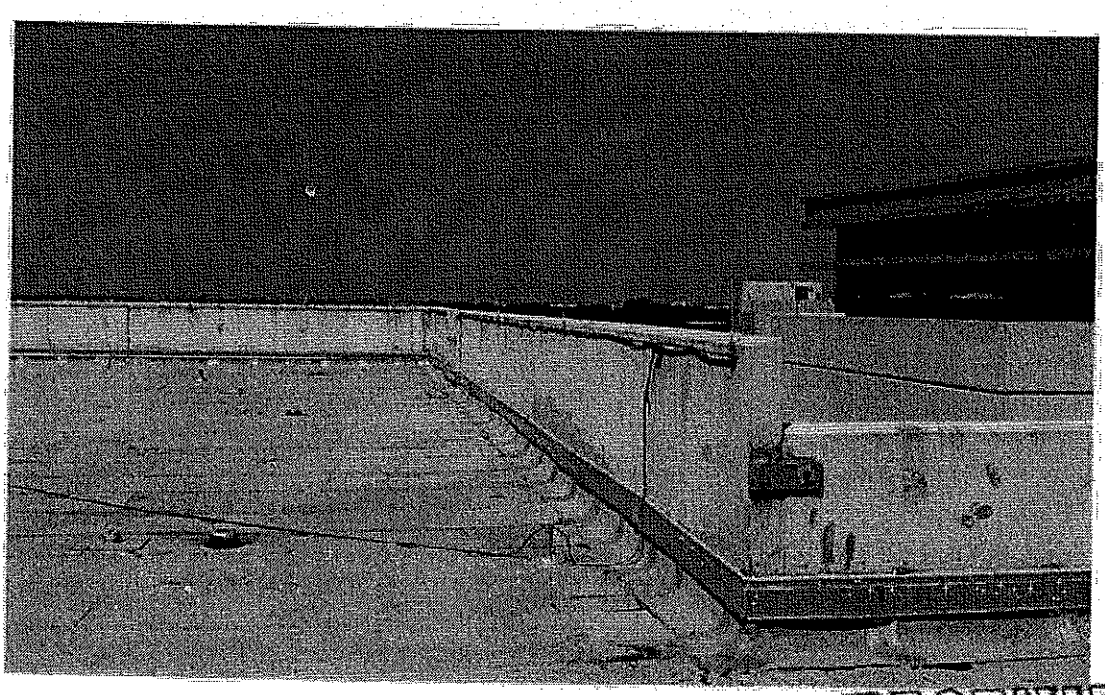


Photo #3

RECEIVED
Z11-038
APR 0 6 2011
ZONING HEARINGS SECTION
MIAMI-DADE PLANNING AND ZONING DEPT.
BY

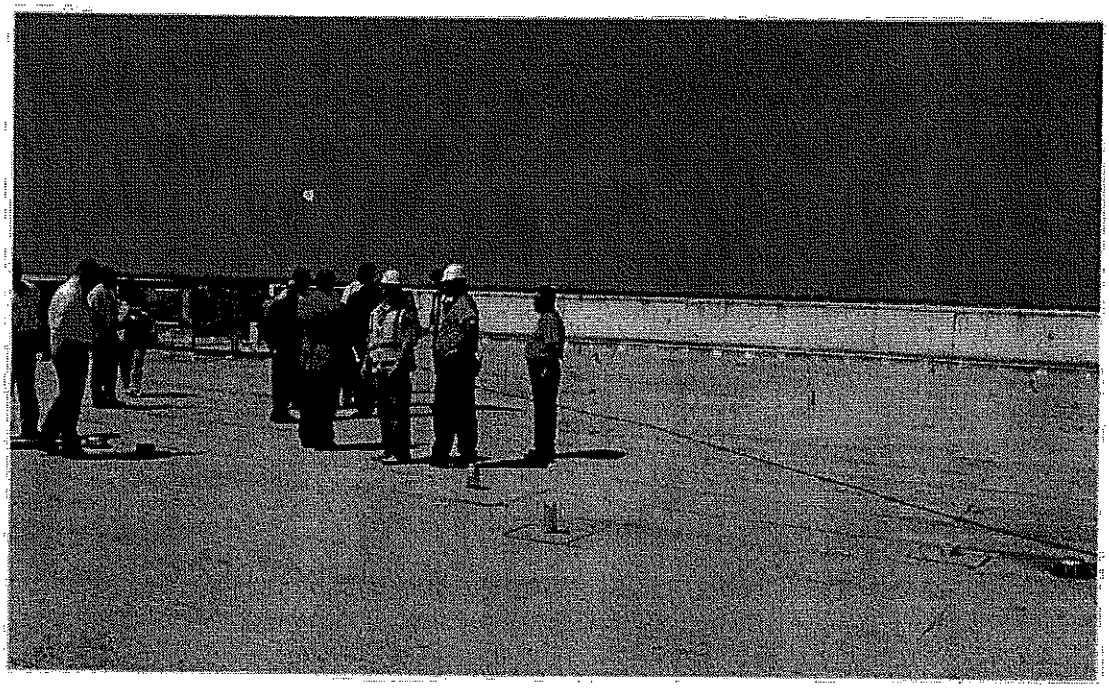


**Photo #4**

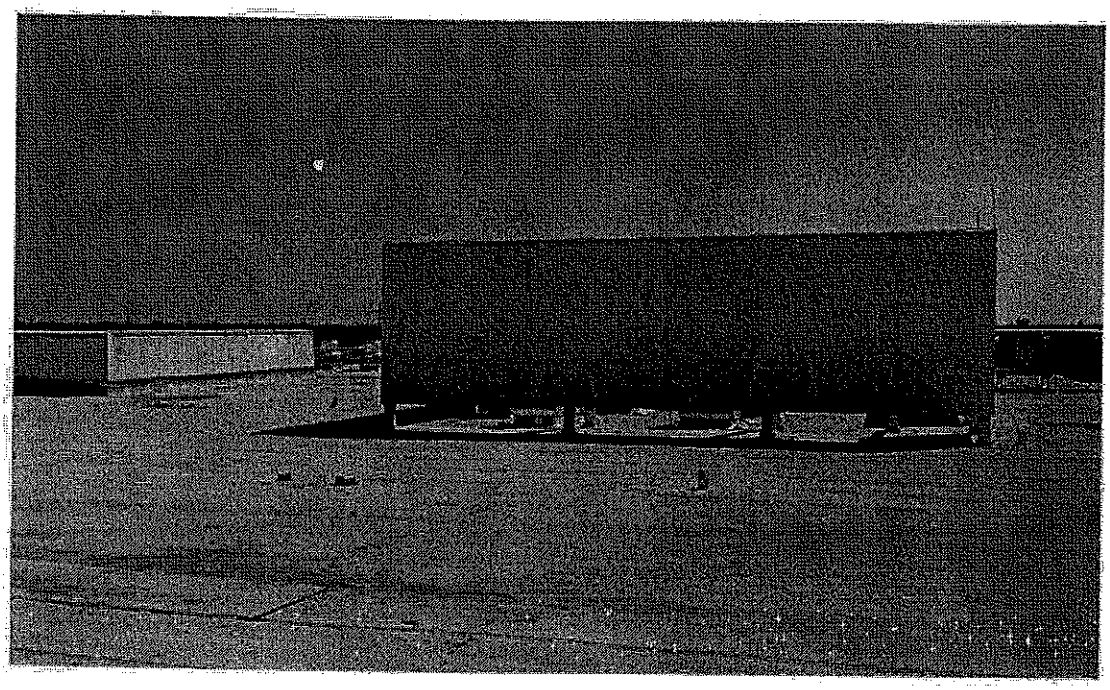


**Photo #5**

RECEIVED
11-038
APR 06 2011
ZONING HEARINGS SECTION
MIAMI-DADE PLANNING AND ZONING DEPT.
BY

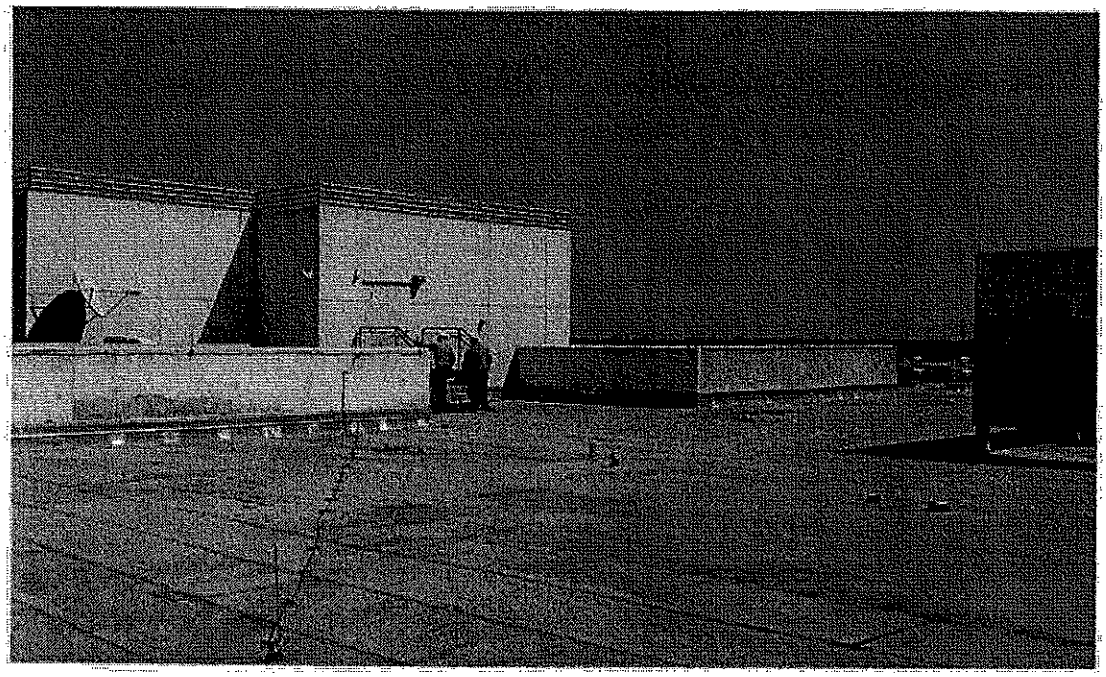


**Photo #6**

**Roof Aerial**

RECEIVED
11-038
APR 06 2011
ZONING HEARINGS SECTION
MIAMI-DADE PLANNING AND ZONING DEPT.
BY

DISCLOSURE OF INTEREST*

If a CORPORATION owns or leases the subject property, list principal stockholders and percent of stock owned by each. [Note: Where principal officers or stockholders consist of other corporation(s), trust(s), partnership(s) or other similar entities, further disclosure shall be made to identify the natural persons having the ultimate ownership interest].

CORPORATION NAME: Columbia LaGrange Hospital, Inc.

| NAME AND ADDRESS | Percentage of Stock |
|---|---|
| HCA Holdings, Inc.<br>One Park Plaza<br>P.O. Box 750<br>Nashville, TN 37202 | 100% of the stock of Columbia is ultimately owned by HCA Holdings, Inc., whose stock is publicly traded. |

*See attached for addresses

If a **TRUST** or **ESTATE** owns or leases the subject property, list the trust beneficiaries and the percent of interest held by each. [Note: Where beneficiaries are other than natural persons, further disclosure shall be made to identify the natural persons having the ultimate ownership interest].

TRUST/ESTATE NAME _____

| NAME AND ADDRESS | Percentage of Interest |
|---|---|
| | |

If a PARTNERSHIP owns or leases the subject property, list the principals including general and limited partners. [Note: Where the partner(s) consist of another partnership(s), corporation(s), trust(s) or other similar entities, further disclosure shall be made to identify the natural persons having the ultimate ownership interest].

PARTNERSHIP OR LIMITED PARTNERSHIP NAME: _____

| NAME AND ADDRESS | Percentage of Ownership |
|---|---|
| | |

If there is a **CONTRACT FOR PURCHASE**, by a Corporation, Trust or Partnership list purchasers below including principal officers, stockholders, beneficiaries or partners. [Note: Where principal officers

RECEIVED
APR 06 2011
ZONING HEARINGS SECTION
MIAMI-DADE PLANNING AND ZONING DEPT.
BY _____

MIADOCS 5229642 4
4/5/11

26

stockholders, beneficiaries or partners consist of other corporations, trusts, partnerships or other similar entities, further disclosure shall be made to identify natural persons having the ultimate ownership interests].

NAME OF PURCHASER:_____

| NAME. ADDRESS AND OFFICE (if applicable) | Percentage of Interest |
|---|---|
| | |
| | |
| | |
| | |
| | |

Date of contract:_____

If any contingency clause or contract terms involve additional parties, list all individuals or officers, if a corporation, partnership or trust.

| | |
|---|---|
| | |
| | |
| | |
| | |
| | |

**NOTICE:** For any changes of ownership or changes in purchase contracts after the date of the application, but prior to the date of final public hearing, a supplemental disclosure of interest is required.

The above is a full disclosure of all parties of interest in this application to the best of my knowledge and belief.

Signature:_____
Columbia LaGrange Hospital, Inc. (Applicant)

Sworn to and subscribed before me this 5 day of April, 2011. Affiant is personally known to me or has produced _____ as identification.

_____
(Notary Public)

CYNTHIA KIRSCH
Notary Public - State of Florida
My Commission Expires Oct 17, 2011
Commission # DD 725845
Bonded Through National Notary Assn.

My commission expires: 10-17-2011

*Disclosure shall not be required of: 1) any entity, the equity interests in which are regularly traded on an established securities market in the United States or another country; or 2) pension funds or pension trusts of more than five thousand (5,000) ownership interests; or 3) any entity where ownership interests are held in a partnership, corporation or trust consisting of more than five thousand (5,000) separate interests, including all interests at every level of ownership and where no one (1) person or entity holds more than a total of five per cent (5%) of the ownership interest in the partnership, corporation or trust. Entities whose ownership interests are held in a partnership, corporation, or trust consisting of more than five thousand (5,000) separate interests, including all interests at every level of ownership, shall only be required to disclose those ownership interest which exceed five (5) percent of the ownership interest in the partnership, corporation or trust.

RECEIVED
1-11-02E
APR 06 2011
ZONING HEARINGS SECTION
MIAMI-DADE PLANNING AND ZONING DEPT.
BY_____

MIADOCS 5229642 4
4/5/11

DISCLOSURE OF INTEREST*

If a CORPORATION owns or leases the subject property, list principal stockholders and percent of stock owned by each. [Note: Where principal officers or stockholders consist of other corporation(s), trust(s), partnership(s) or other similar entities, further disclosure shall be made to identify the natural persons having the ultimate ownership interest].

CORPORATION NAME:_____

| NAME AND ADDRESS | Percentage of Stock |
|---|---|
| | |

*See attached for addresses

If a **TRUST** or **ESTATE** owns or leases the subject property, list the trust beneficiaries and the percent of interest held by each. [Note: Where beneficiaries are other than natural persons, further disclosure shall be made to identify the natural persons having the ultimate ownership interest].

TRUST/ESTATE NAME _____

| NAME AND ADDRESS | Percentage of Interest |
|---|---|
| | |

If a PARTNERSHIP owns or leases the subject property, list the principals including general and limited partners. [Note: Where the partner(s) consist of another partnership(s), corporation(s), trust(s) or other similar entities, further disclosure shall be made to identify the natural persons having the ultimate ownership interest].

PARTNERSHIP OR LIMITED PARTNERSHIP NAME: Kendall Healthcare Group, Ltd.

| NAME AND ADDRESS | Percentage of Ownership |
|---|---|
| | |
| **See attached Exhibit "D"** | |

If there is a **CONTRACT FOR PURCHASE**, by a Corporation, Trust or Partnership list purchasers below, including principal officers, stockholders, beneficiaries or partners. [Note: Where principal officers, stockholders, beneficiaries or partners consist of other corporations, trusts, partnerships or other similar

RECEIVED
2-11-038
APR 06 2011
ZONING HEARINGS SECTION
MIAMI-DADE PLANNING AND ZONING DEPT.
BY _____

MIADOCS 5229642 4
4/5/11

entities, further disclosure shall be made to identify natural persons having the ultimate ownership interests].

NAME OF PURCHASER:_____

| NAME, ADDRESS AND OFFICE (if applicable) | Percentage of Interest |
|---|---|
| | |
| | |
| | |
| | |
| | |

Date of contract:_____

If any contingency clause or contract terms involve additional parties, list all individuals or officers, if a corporation, partnership or trust.

| | |
|---|---|
| | |
| | |
| | |
| | |
| | |

**NOTICE:** For any changes of ownership or changes in purchase contracts after the date of the application, but prior to the date of final public hearing, a supplemental disclosure of interest is required.

The above is a full disclosure of all parties of interest in this application to the best of my knowledge and belief.

Signature:_____

Kendall Healthcare Group, Ltd. (Applicant)

Sworn to and subscribed before me this 5 day of April, 2011. Affiant is personally known to me or has produced _____ as identification.

_____
(Notary Public)

My commission expires: 10-17-2011

CYNTHIA KIRSCH
Notary Public - State of Florida
My Commission Expires Oct 17, 2011
Commission # DD 725845
Bonded Through National Notary Assn.

*Disclosure shall not be required of: 1) any entity, the equity interests in which are regularly traded on an established securities market in the United States or another country; or 2) pension funds or pension trusts of more than five thousand (5,000) ownership interests; or 3) any entity where ownership interests are held in a partnership, corporation or trust consisting of more than five thousand (5,000) separate interests, including all interests at every level of ownership and where no one (1) person or entity holds more than a total of five per cent (5%) of the ownership interest in the partnership, corporation or trust. Entities whose ownership interests are held in a partnership, corporation, or trust consisting of more than five thousand (5,000) separate interests, including all interests at every level of ownership, shall only be required to disclose those ownership interest which exceed five (5) percent of the ownership interest in the partnership, corporation or trust.

RECEIVED
11-038
APR 06 2011
ZONING HEARINGS SECTION
MIAMI-DADE PLANNING AND ZONING DEPT.
BY_____

MIADOCS 5229642 4
4/5/11

30

# Kendall Medical Center

## Helipad Addition

## 11750 S.W. 40th STREET

## Miami, Florida

INDEX


| | |
|---|---|
| C0.1 | COVER SHEET |
| C1.0 | OVERALL CAMPUS MAP |
| C1.1 | DETAILED HELIPAD LAYOUT |


SITE DATA
(NO SITE MODIFICATIONS PLANNED BY THIS PROJECT)

ZONING DISTRICT: BU-2, SPECIAL BUSINESS DISTRICT

RESOLUTION NUMBER:

| | | |
|---|---|---|
| GROSS LAND AREA: | 780,589 SF = | 17.92 ACRES |
| PARKING PARCEL: | 134,044 SF = | 3.08 ACRES |
| HOSPITAL PARCEL: | 646,543 SF = | 14.84 ACRES |
| NET LAND AREA: | 780,589 SF = | 17.92 ACRES |
| LOT COVERAGE REQUIRED: | 312,236 SF = | 40% |
| LOT COVERAGE PROVIDED: | 304,805 SF = | 39% |
| SOUTH MOB: | 51,814 SF | |
| EAST MOB: | 20,224 SF | |
| EX. HOSPITAL: | 156,493 SF | |
| SOUTH PARKING GARAGE: | 26,084 SF | |
| NORTH PARKING GARAGE: | 31,529 SF | |
| EX. POWER PLANT: | 6,900 SF | |
| EX. 6-STORY PARKING GARAGE | 31,520 SF | |
| PAVED AREA PROVIDED: | 292,643 SF | |
| PARKING PARCEL: | 93,369 SF | |
| HOSPITAL PARCEL: | 199,281 SF | |

LANDSCAPE OPEN SPACE REQUIRED: 780,589 x 18.34% = 143,180 SF
LANDSCAPE OPEN SPACE PROVIDED: 182,954 SF

REQUIRED LANDSCAPED OPEN SPACE CALCULATIONS:
TABULATIONS OF BUILDING AREAS (SF) BY NUMBER OF STORIES
(SEE CODE SECTION 33-253.4)

PARKING SPACES REQUIRED: 1937 SPACES

(A) HOSPITAL USE: ONE PARKING SPACE EACH FOR THE FIRST THREE HUNDRED (300) BEDS AND ONE ADDITIONAL PARKING SPACE FOR EVERY TWO (2) ADDITIONAL BEDS THEREAFTER. IN ADDITION PROVIDE ON PARKING SPACE FOR EACH THREE (3) EMPLOYEES AND RESIDENT STAFF MEMBERS

| | |
|---|---|
| 412 BEDS | 159 SPACES |
| 1100 EMPLOYEES | 367 SPACES |

(B) OFFICE BUILDINGS: ONE PARKING SPACE FOR EACH THREE HUNDRED (300) SQUARE FEET OF GROSS FLOOR AREA.

SOUTH MOB: 75,064 SF
EAST MOB: 99,722 SF
TOTAL 174,586 SF — 552 SPACES

PARKING SPACES PROVIDED:

| | |
|---|---|
| 7-STORY GARAGE | 277 SPACES |
| 6-STORY GARAGE(S) | 809 SPACES |
| MOB UNDERGROUND | 45 SPACES |
| AT-GRADE (SOUTH) | 205 SPACES |
| AT-GRADE (NORTH) | 331 SPACES |
| TOTAL PROVIDED | 1463 SPACES |

H.C. SPACES REQUIRED: (20 + 1/100 OVER 1000) — 32 SPACES

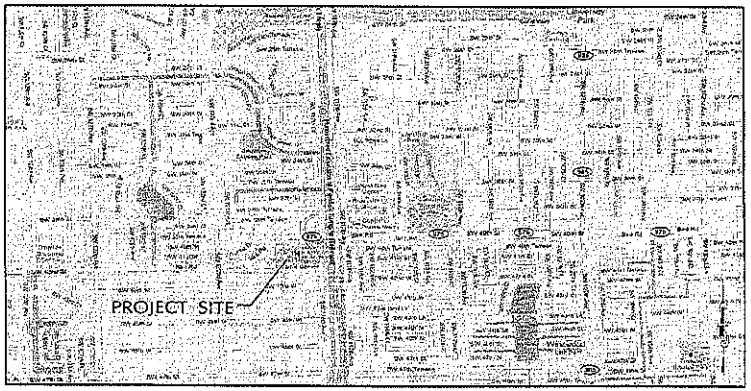
H.C. SPACES PROVIDED: — 32 SPACES
20 SPACES WITHIN PARKING GARAGES
12 SPACES ON SITE

MAXIMUM HEIGHT: 85 FEET (PROPOSED PARKING GARAGE)
MAXIMUM NUMBER OF STORIES: SEVEN (EX EAST MOB)

FLOOR AREA RATIO:

| PROVIDED:> FLOOR | POWER & MOB HOUSE | S. MOB | E. MOB | EX.HOSP. | TOTAL BSF | F.A.R. FACTOR | F.A.R. ACTUAL |
|---|---|---|---|---|---|---|---|
| 1ST | 5500 | 18,566 | 23,224 | 156,493 | 203,283 | 0.40 | 0.26 |
| 2ND | 5500 | 18,566 | 13,083 | 97,920 | 135,069 | 0.31 | 0.43 |
| 3RD | | 18,566 | 13,083 | 76,472 | 107,083 | 0.62 | 0.37 |
| 4TH | | 18,566 | 13,083 | 56,854 | 94,969 | 0.73 | 0.59 |
| 5TH | | | 13,083 | 20,483 | 56,852 | 0.84 | 0.73 |
| 6TH | | | 13,083 | | 31,645 | 0.95 | 0.75 |
| 7TH | | | 13,083 | | 34,718 | 1.05 | 0.78 |
| REQUIRED:> | | | | | 1.05 (7 STORIES) | | |

WATER: MIAMI-DADE WATER AND SEWER AUTHORITY
SEWER: MIAMI-DADE WATER AND SEWER AUTHORITY




Vicinity Map
Not to Scale

# ZONING HEARING EXHIBITS

## APRIL 5, 2011

RECEIVED
APR 05 2011

FIRM. CERT. NO. AAP000034 / EB0003806
GS&P Project No.: 28164.00
Owner's Account No. 359410010


GRESHAM, SMITH AND PARTNERS
Design Services for the Built Environment
Contact: Ryan Sweeney
615-770-8442 Office
866-718-3370 Fax
ryan_sweeny@gspnet.com


GS&P
Design Services For The Built Environment
Atlanta
Birmingham
Charlotte
Cincinnati
Columbus
Dallas
Fort Lauderdale
Jacksonville
Knoxville
Louisville
Nashville
Memphis
Richmond
Tampa
GRESHAM SMITH AND PARTNERS
Nashville City Center
511 Union Street
Nashville, Tennessee 37219
615.770.8100
www.gspnet.com

Kendall Medical Center
Helipad Addition
Miami, Florida

Florida Registration Number AA#0003806 / EB0003806

Michael D. Rhodes
FL Reg. No. 49733

REVISION

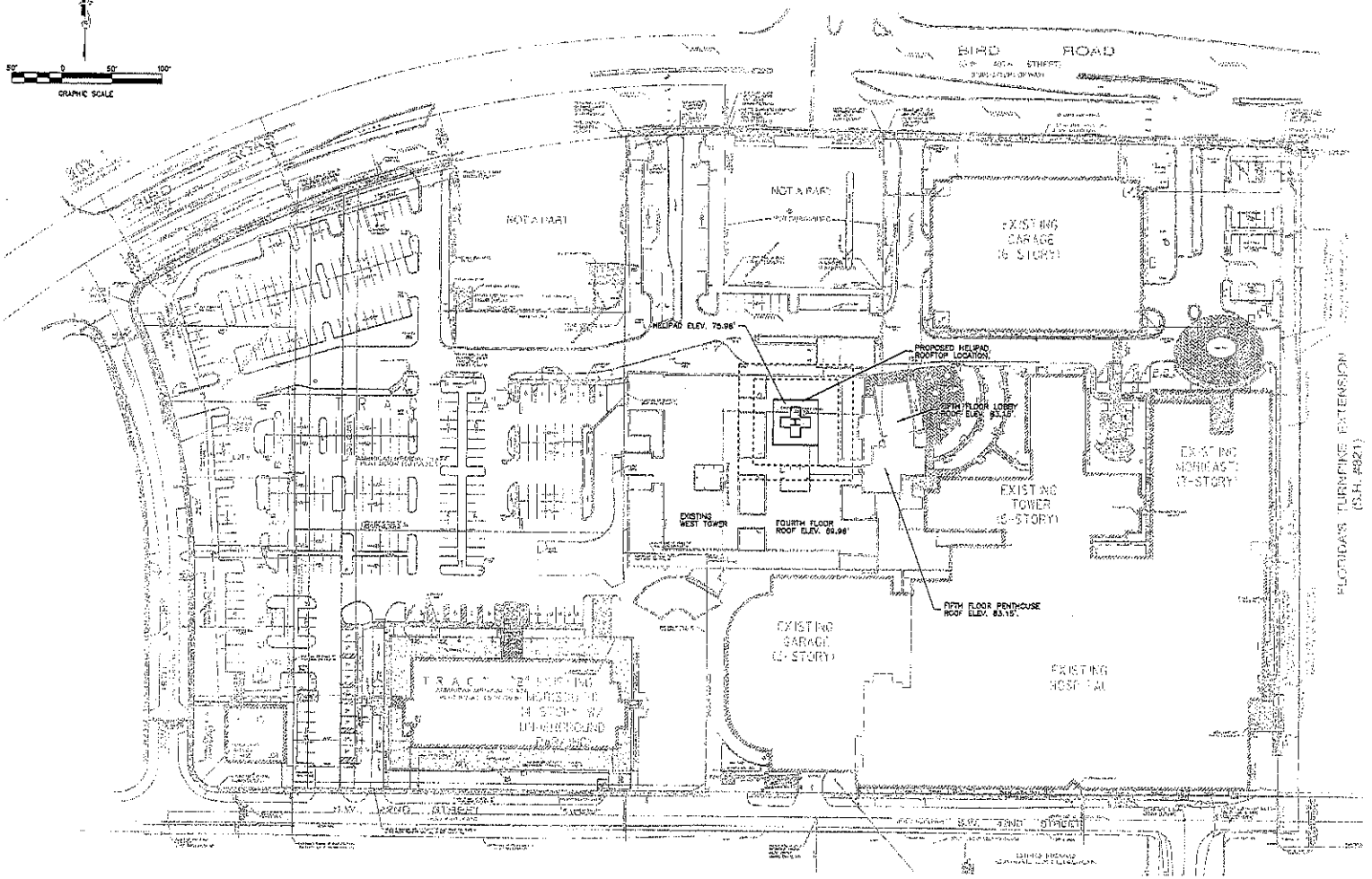
| No. | Date | Revision |
|---|---|---|

COVER SHEET

C0.1

FILE:
PROJECT:
DATE:

31




NOTES:
1.) OVERALL CAMPUS MAP TAKEN FROM SURVEY PERFORMED BY FORTIN, LEAVY, SKILES, INC., DATED 04/05/11. CONTRACTOR TO VERIFY EXISTING CONDTIONS PRIOR TO STARTING WORK.

G S & P

Design Services For The Built Environment

Atlanta
Birmingham
Charlotte
Cincinnati
Columbus
Dallas
Fort Lauderdale
Jacksonville
Knoxville
Louisville
Nashville
Memphis
Richmond
Tampa

GRESHAM SMITH AND PARTNERS

Kendall Medical Center
Helipad Addition
Miami, Florida

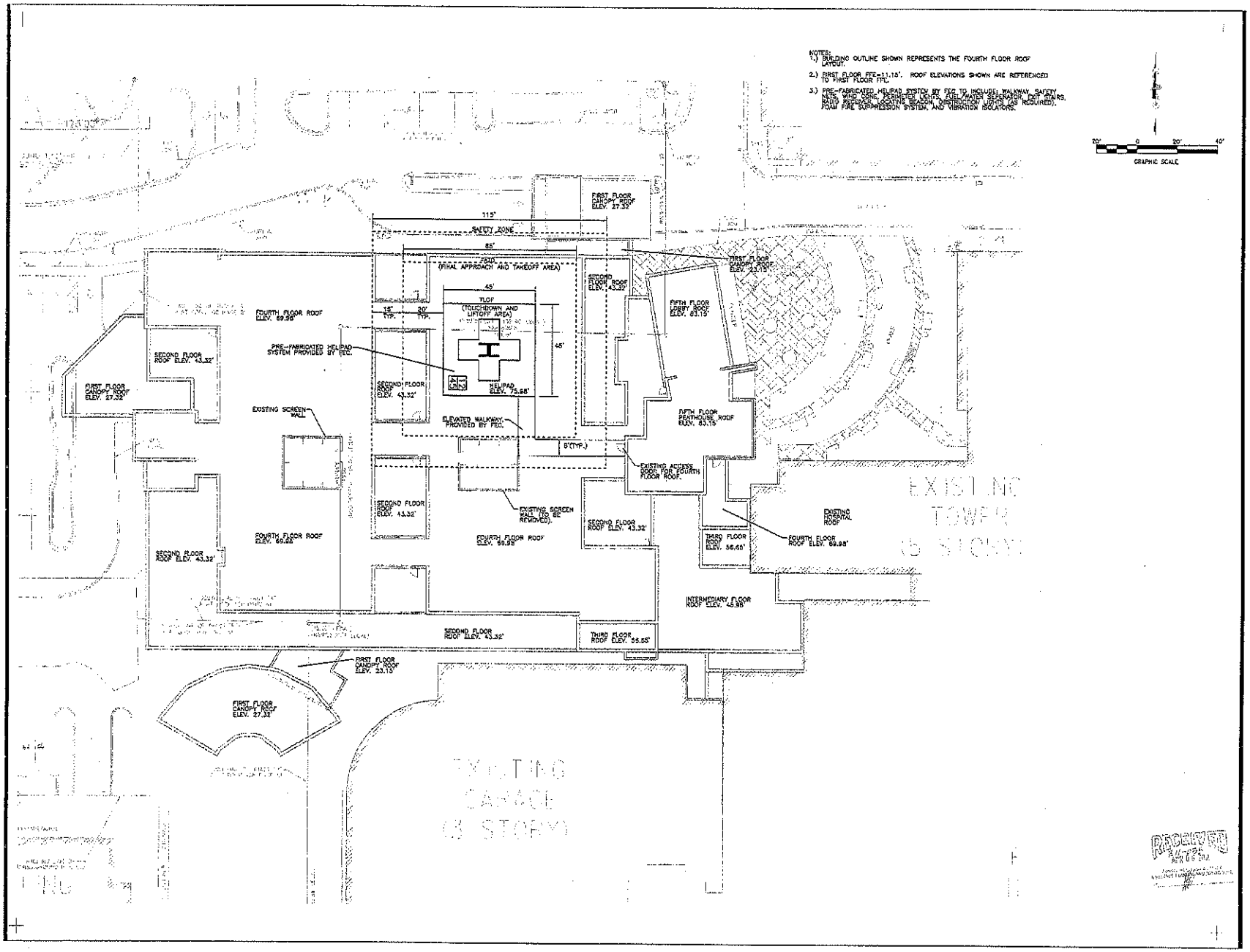
REVISION

| No. | Date | Revision |
|---|---|---|

OVERALL CAMPUS MAP

C1.1

32




G S & P

Design Services For The Built Environment

Atlanta
Birmingham
Charlotte
Cincinnati
Columbus
Dallas
Fort Lauderdale
Jacksonville
Knoxville
Louisville
Nashville
Memphis
Richmond
Tampa

GRESHAM SMITH AND PARTNERS

Kendall Medical Center
Helipad Addition
Miami, Florida

Florida Registration Number

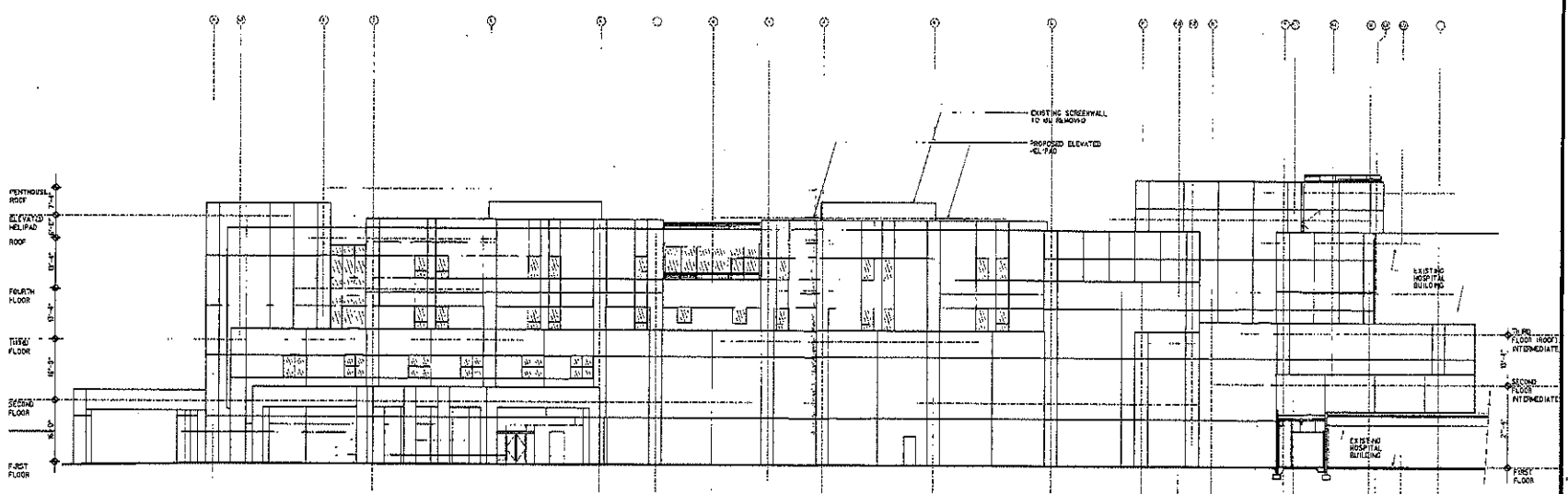
STATE OF FLORIDA
Michael J. Turkler

REVISION

| No. | Date | Revision |
|---|---|---|
| | | |

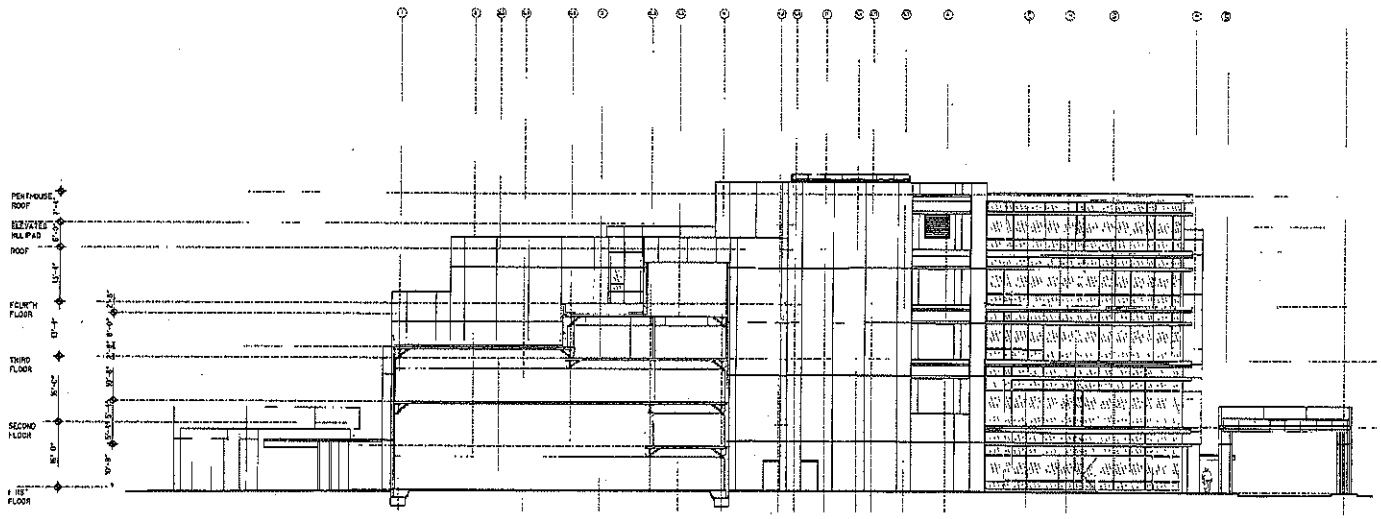
DETAILED HELIPAD LAYOUT

C1.2




1 SOUTH ELEVATION

KEY PLAN




2 EAST ELEVATION

KEY PLAN

RECEIVED
APR 15 2011

NOT FOR CONSTRUCTION

GS&P

Design Services For The Built Environment

Atlanta
Birmingham
Dallas
Fort Lauderdale
Jacksonville
Louisville
Nashville
Reston
Richmond
Tampa

GRESHAM SMITH AND PARTNERS

Florida Firm Certification Number: AAF000034 / EB0003300

ARCHITECT: GREGORY GORE AR 0014565

STRUCTURAL ENGINEER: SEAN SMITH PE 65631

RHON ERNEST-HOWKS CONSULTING ENGINEERS, INC.

Kendall Regional Medical Center

EDICU Surgery Addition
Miami, Florida

Owners Asst. No.: 359410010

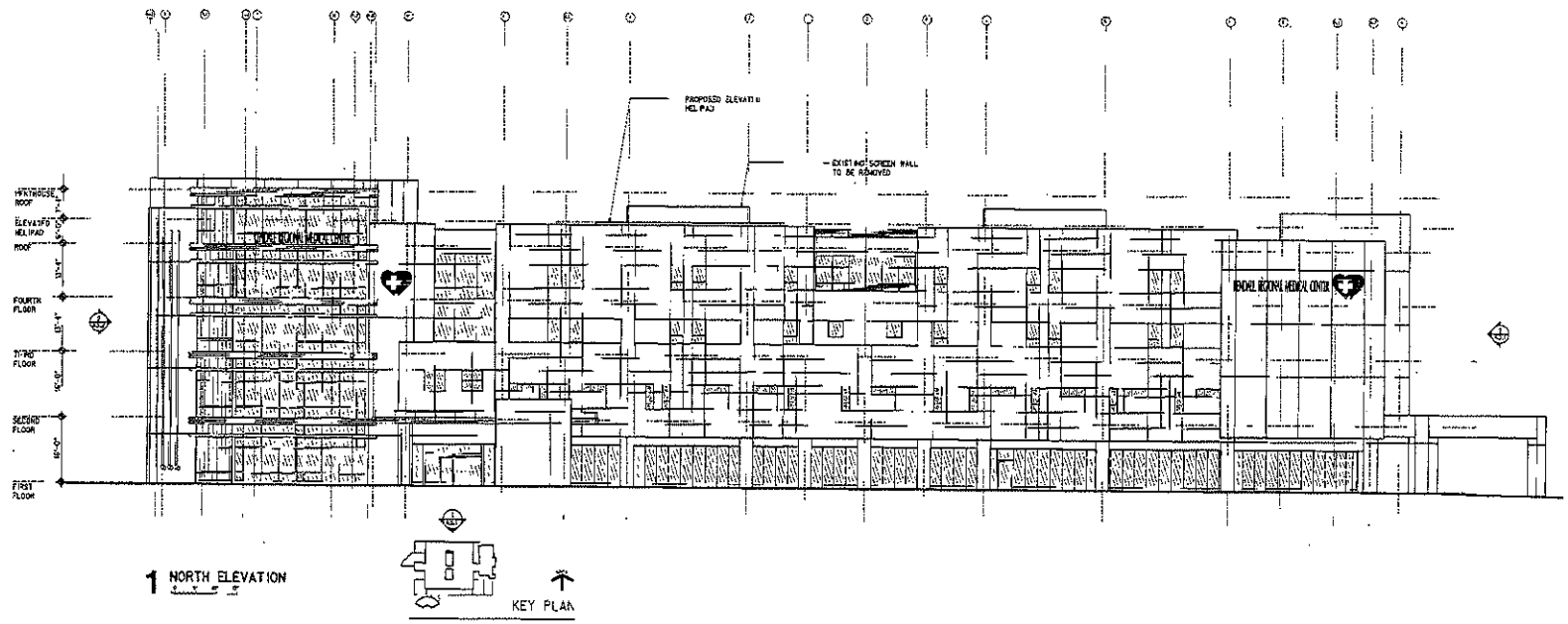
| ISSUE | | |
|---|---|---|
| No. | Date | ISSUE |

| REVISION | | |
|---|---|---|
| No. | Date | Revision |

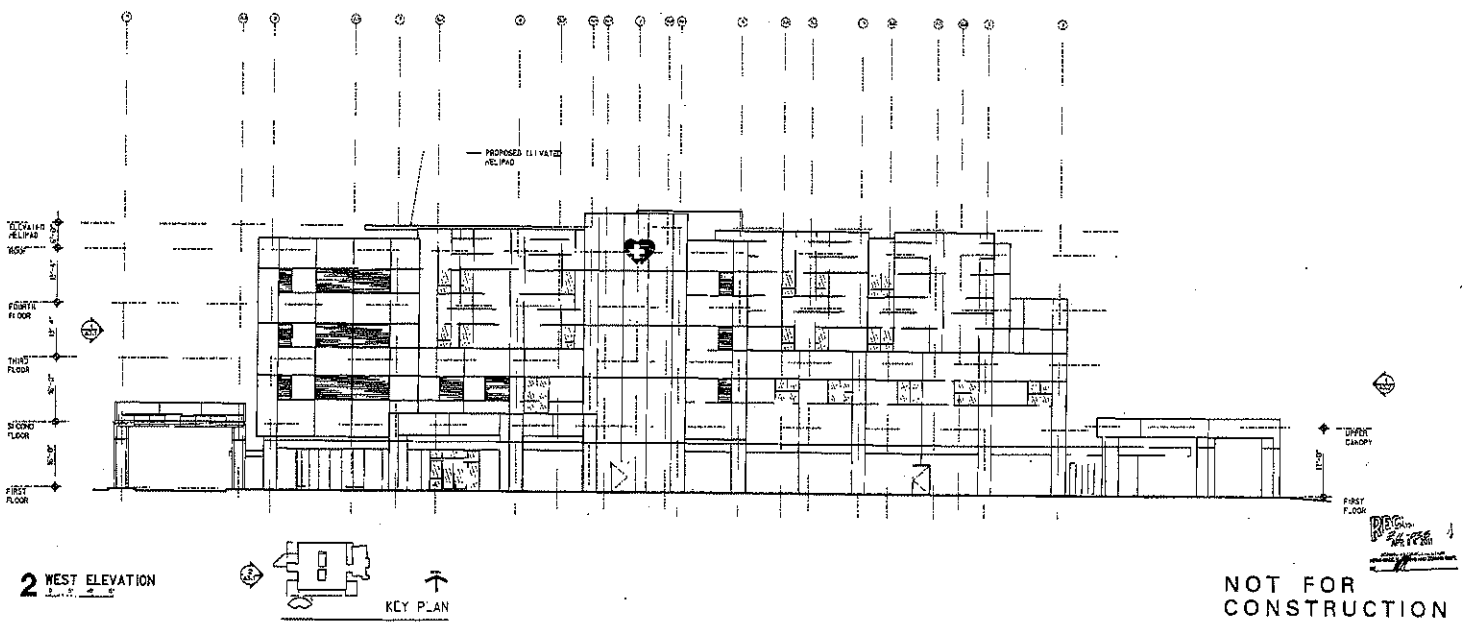
SOUTH AND EAST OVERALL ELEVATIONS

A3.2

FILE: D:\SEE\A3.2\ROOF\E1
PROJECT: 25-07-09
DATE: 03-04-06




1 NORTH ELEVATION




2 WEST ELEVATION

NOT FOR CONSTRUCTION

GS&P

Design Services For The Built Environment

Atlanta
Birmingham
Dallas
Fort Lauderdale
Jacksonville
Louisville
Nashville
Reston
Richmond
Tampa

GRESHAM SMITH AND PARTNERS

Florida Firm Certification Number: AAP000034 / EB0000896

ARCHITECT: GREGORY GORE AR 0014346

STRUCTURAL ENGINEER: SEAN SMITH PE 58631

RHON ERNEST-JONES CONSULTING ENGINEERS, INC.

SSR

Kendall Regional Medical Center

ED/ICU Surgery Addition
Miami, Florida

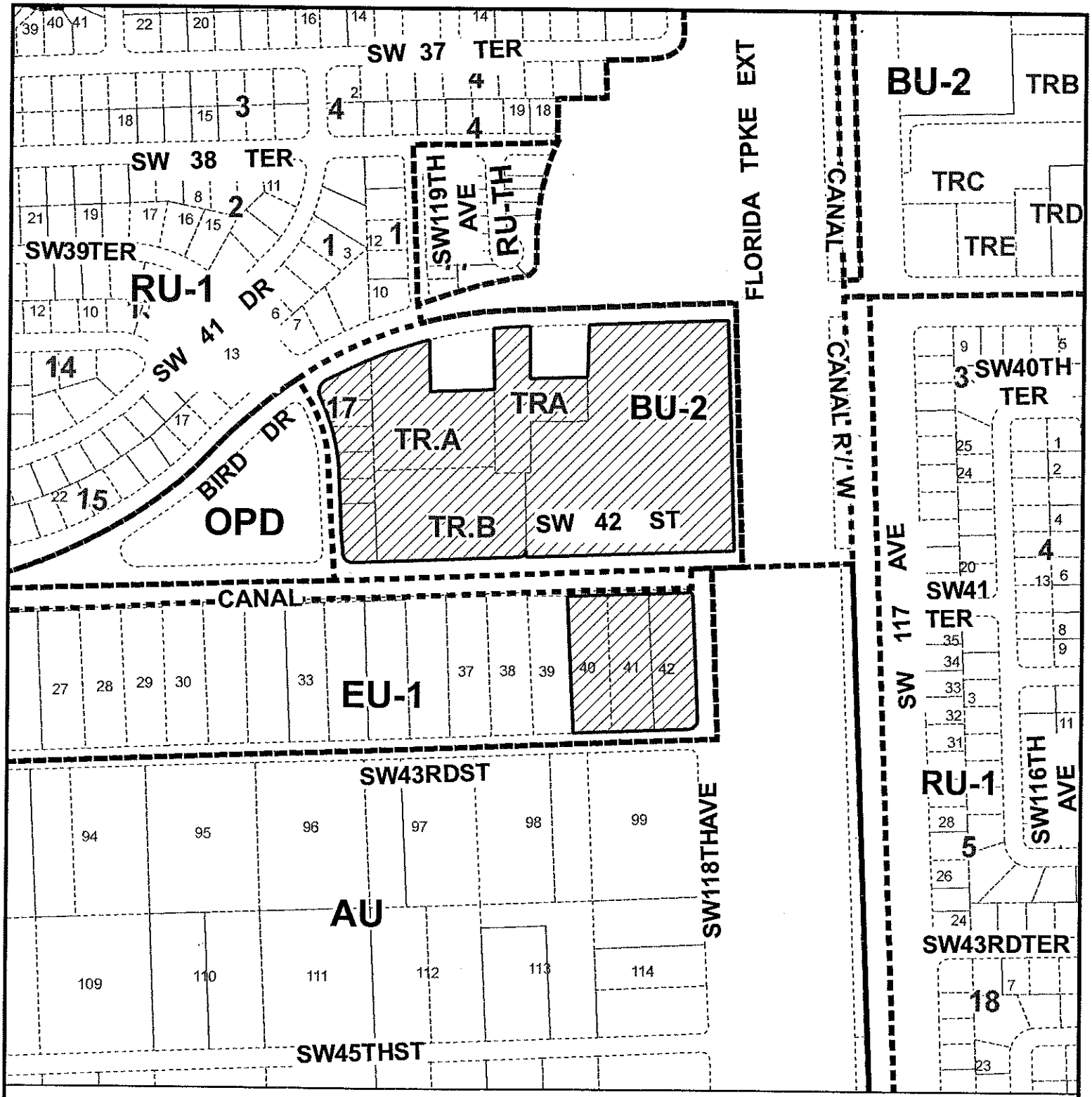
Owners Acct. No.: 399410010

| ISSUE | | |
|---|---|---|
| No. | Date | ISSUE |

| REVISION | | |
|---|---|---|
| No. | Date | Revision |

NORTH & WEST OVERALL ELEVATIONS

A3.1




# MIAMI-DADE COUNTY

**HEARING MAP**

**Process Number**

## Z2011000038

**Section: 13/24 Township: 54 Range: 39**
**Applicant: COLUMBIA LAGRANGE HOSPITAL, INC,**
**Zoning Board: BCC**
**Commission District: 10**
**Drafter ID: JEFFER GURDIAN**
**Scale: NTS**

**Legend**

Subject Property Case

MIAMI-DADE COUNTY

**SKETCH CREATED ON: Wednesday, April 13, 2011**

| REVISION | DATE | BY |
|---|---|---|
| | | |

# MIAMI-DADE COUNTY

**AERIAL YEAR 2009**

**Process Number**

## Z2011000038

N
W E
S

**Legend**

Subject Property

**Section: 13/24 Township: 54 Range: 39**
**Applicant: COLUMBIA LAGRANGE HOSPITAL, INC,**
**Zoning Board: BCC**
**Commission District: 10**
**Drafter ID: JEFFER GURDIAN**
**Scale: NTS**

MIAMI-DADE COUNTY

**SKETCH CREATED ON: Wednesday, April 13, 2011**

| REVISION | DATE | BY |
|---|---|---|
| | | |

# CO-APPLICANTS

**Property Owner:** **Santa Fe Haciendas, LLC**

**Quarry Operator:** **CEMEX Construction Materials Florida, LLC**

Item B
EXHIBIT

# Project Team

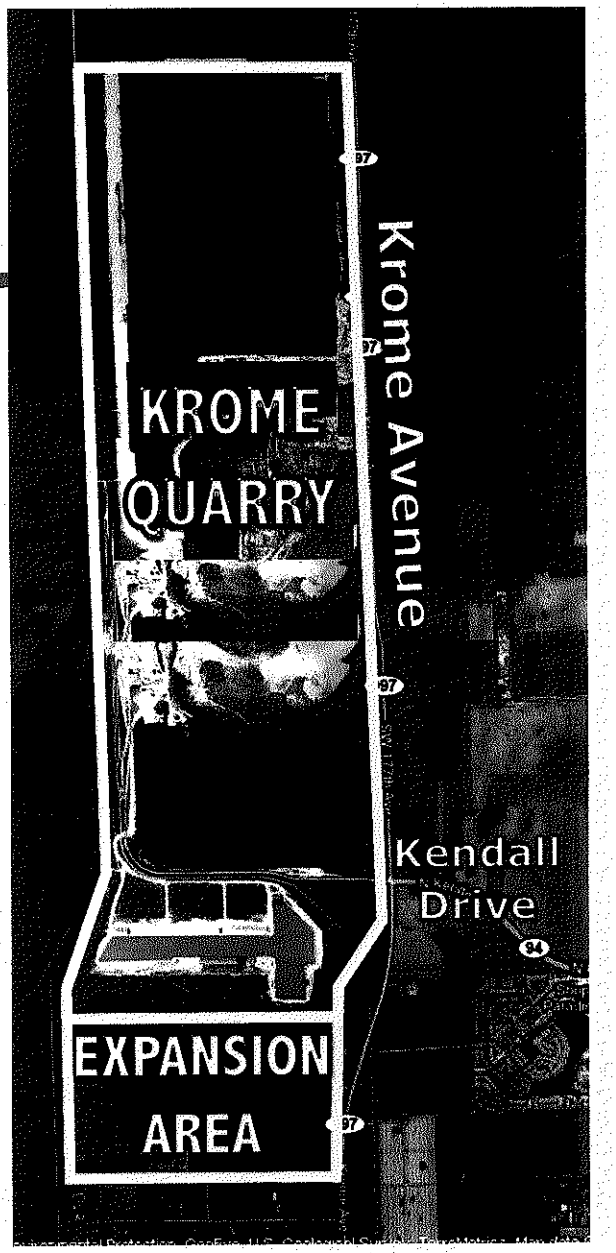
- Olmedillo X5, Inc.
- Fishkind & Associates
- MacVicar, Federico & Lamb
- Fortin, Leavy, Skiles, Inc.
- GeoSonics, Inc.
- David Plummer & Associates

# Request

**"Unusual Use" request to permit a lake excavation and ancillary uses by expanding an adjacent existing quarry**

# Quarry

- Over 2,100 acres within existing quarry property boundaries
- Mine Expansion area - 393.18 acres



# Krome Quarry Timeline

1956 – Mining Authorized at Site

1957 – 1st Expansion of Krome Quarry Permitted

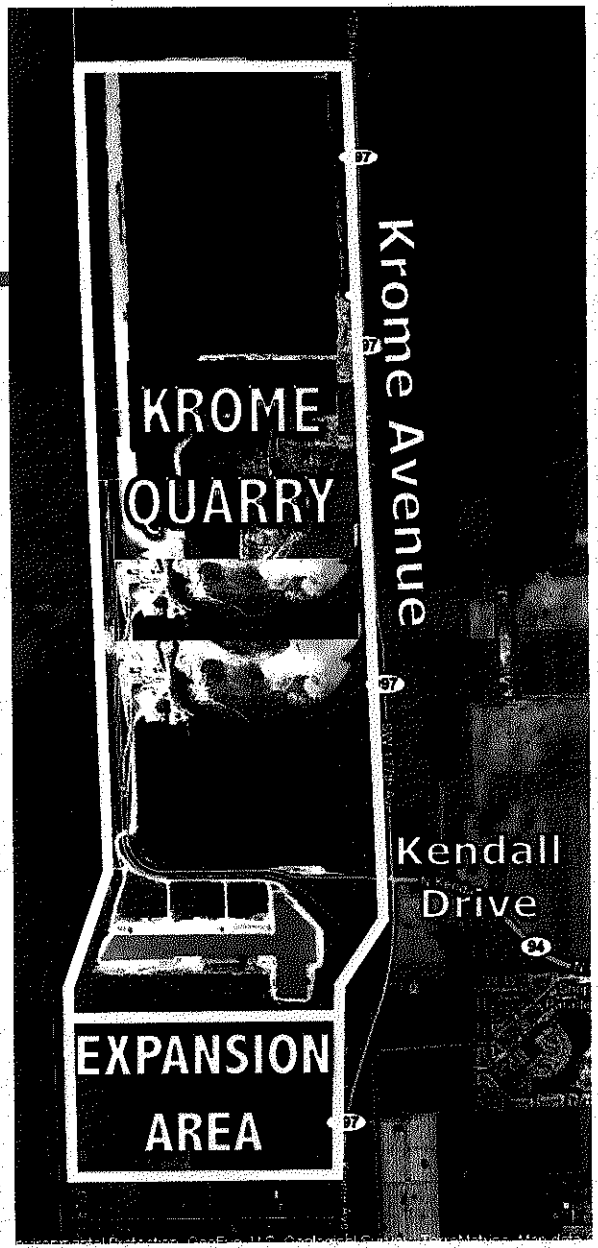
1972 – 2nd Expansion of Krome Quarry Permitted

2001 / 2006 – BCC Granted Extension of Underlying Approval to Permit Continued Mining

# Consistency and Compatibility

Guillermo Olmedillo
Olmedillo X5, Inc.

# Quarry


KROME
QUARRY
EXPANSION
AREA
Krome Avenue
Kendall
Drive
97
97
97
94

# CDMP "Agricultural" Land Use Text

- In order to protect the agricultural industry, uses incompatible with agriculture, and uses and facilities that support or encourage urban development are not allowed in this area.
- **Existing quarrying and ancillary uses in the Agricultural area may continue operation and be considered for approval of expansion.**

# Zoning Procedure

Se. 33-314(C) The County Commission shall have jurisdiction to directly hear other applications as follows:

(11.1)Notwithstanding the provisions of Section 33-13(e) of this code, applications for unusual uses for lake excavations to **expand bona fide rockmining operations,** as defined in Section 33-422(3) of the code, **onto property contiguous and immediately adjacent to existing bona fide rockmining operations;**

# Zoning Code

## Section 33-311(A)(3), Standards for Special Exceptions, Unusual Uses and New Uses

...would not have an unfavorable effect on the economy of Miami-Dade County, Florida, would not generate or result in excessive noise or traffic, cause undue or excessive burden on public facilities, including water, sewer, solid waste disposal, recreation, transportation, streets, roads, highways or other such facilities which have been constructed or which are planned and budgeted for construction, ... and the compatibility of the applied for ... use with such area and its development.

# Krome Avenue / UDB

- Quarry expansion will have no negative effects on the provision of services or the use of Krome Avenue
- Intended to prevent urban development along this corridor
- According to County staff, proximity to Krome Avenue and location outside of Urban Development Boundary requires two-thirds vote for approval

# Summary

- Compatible with Agricultural uses
- Does not support or encourage urban development
- Is an expansion of an adjacent existing quarry

# Environmental Considerations

Thomas MacVicar

MacVicar, Federico & Lamb, Inc.

# Water Resources

- Site Location
- Water Resource Issues Addressed
- Proximity to L-31N Canal and Everglades National Park
- Phased Mining Approach is responsive to issues raised by DERM and FDEP
- Everglades National Park Seepage Management Plan under development

# Water Quality

- No adverse impacts on water quality as supported by data at mining sites throughout Miami-Dade
- Department of Environmental Protection Permit Issued for expansion
- Water Quality Monitoring required by permit

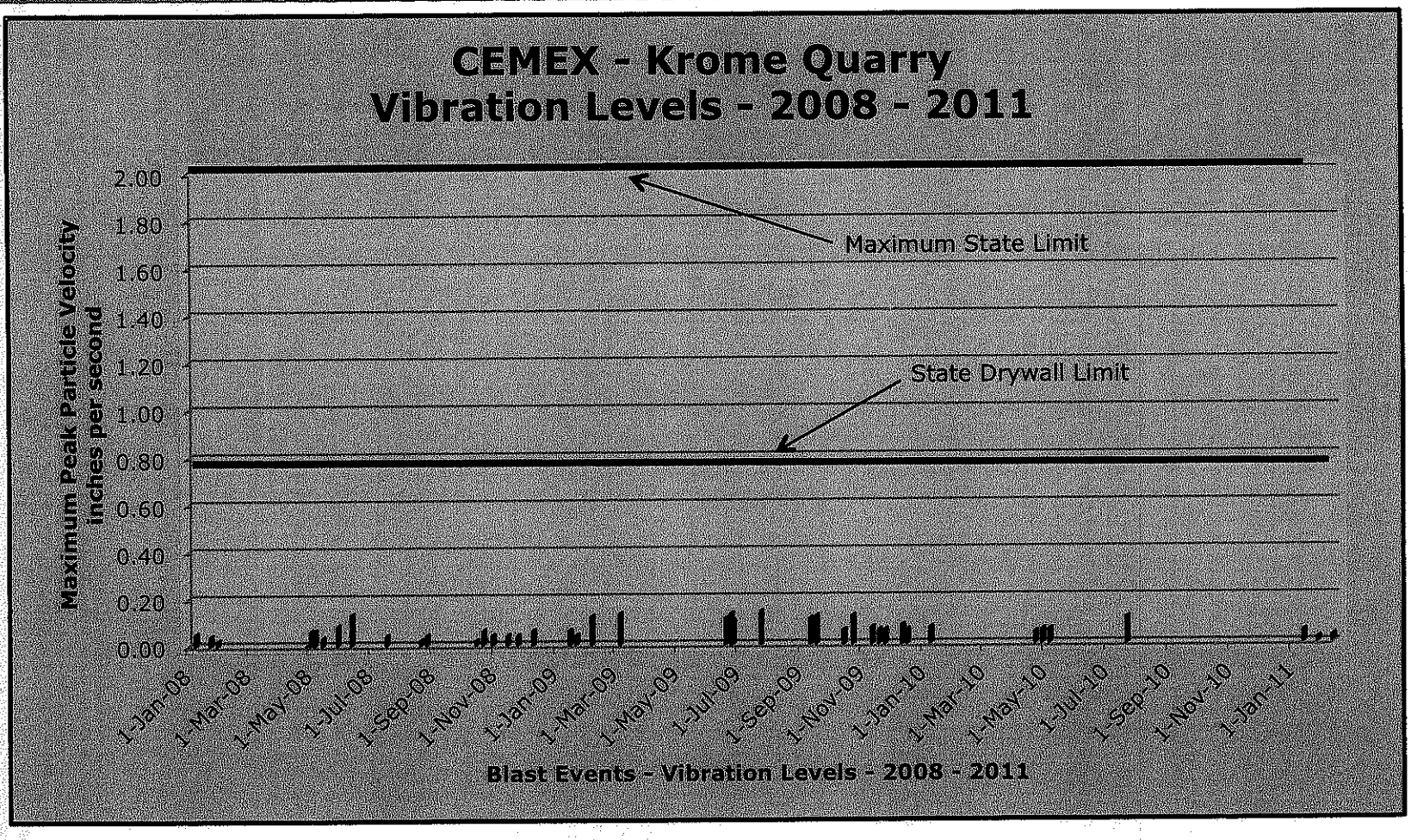
# Vibration Limits

Jeff Straw
GeoSonics, Inc.

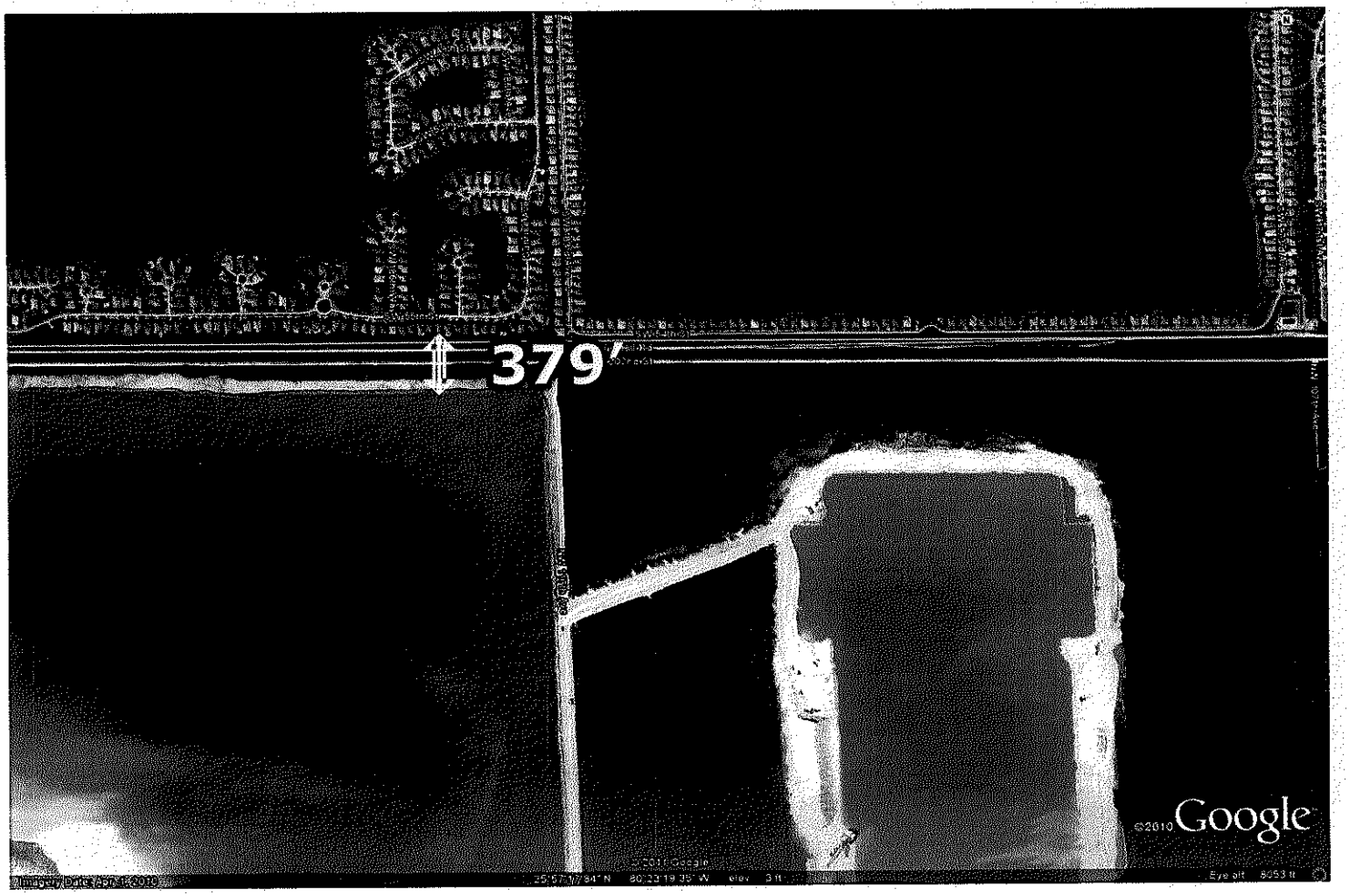
# Industry Regulation

- Industry heavily regulated by State Fire Marshal
- Strict vibration limits set for off-site impacts
- Constant monitoring of each and every shot

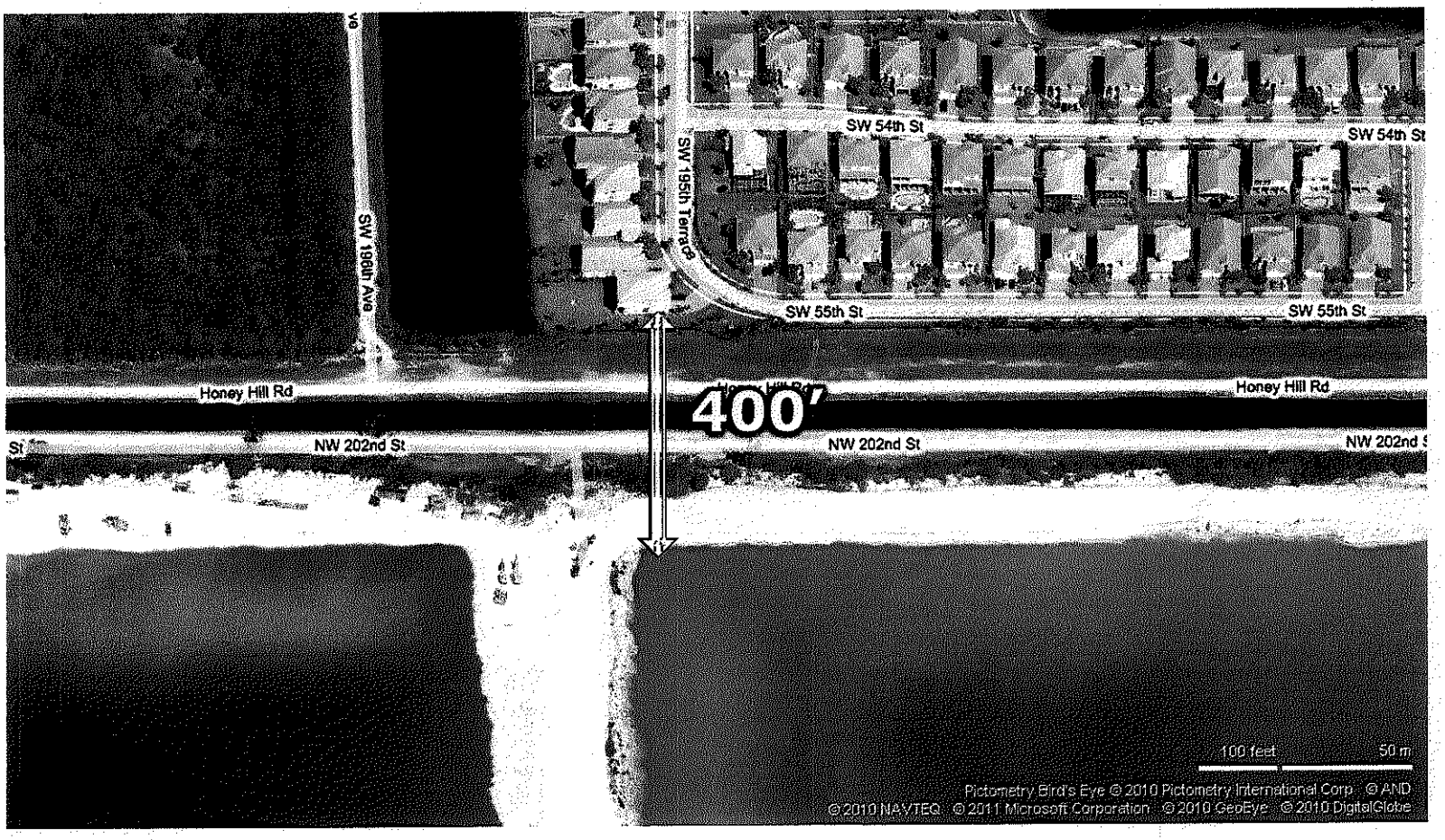
# Vibration Levels



# Proximity to Residences



# Proximity to Residences



# County Study (May 2000)

- Miami-Dade County commissioned a comprehensive evaluation of the effects of blasting on homes, at a cost of $200,000
- The team of independent experts assessed structural response, ground movement, and hydrological factors as part of the analysis
- The study included homes across the County, including near the Krome Quarry
- Study concluded that blasting was not damaging the homes

# Fiscal and Economic Benefits

G. Russ Weyer
Fishkind & Associates, Inc.

# Economic Assumptions

- Total Site – 393 acres
  - Phase 1 – 172 acres
- An average of 24 acres mined each year
- Mining Period lasts approximately 13 years
- 45 Direct Employees ($55k Cemex Avg. vs. $44k County Avg.)

# Economic Impact of the Quarry Expansion

| | |
|---|---|
| **Jobs** | **117** |
| **Economic Output** | **$32.9 million** |
| **Wages** | **$4.1 million** |

- The Expansion provides a significant economic impact for the County.
- 117 direct and indirect jobs are created.
- $32.9 million in average annual direct and indirect economic output.
- $4.1 million in average annual wages.

# Positive Net Fiscal Benefit of the Expansion

| | Total | Net Present Value |
|---|---|---|
| **Total Revenue** | **$2,903,129** | **$1,545,054** |
| **Total Cost** | **$217,036** | **$114,668** |
| **Net Fiscal Benefit** | **$2,686,093** | **$1,430,386** |

- The Quarry Expansion generates a $2.7 million total net fiscal benefit over the life of the mine.
- Creates a 10 to 1 ratio of Net Present Value to County over cost of services
- Over its life, the Expansion generates $2.8 million in property taxes to the County Commission.
- Separately, the School District receives $2.2 million in property taxes.

# Fiscal and Economic Benefits Recap

- The Quarry Expansion generates a significant positive fiscal and economic impact for the County.
- The Expansion generates over $200,000/yr in property taxes with very little in the way of County expenditures.
- $2.7 million total net fiscal impact.
- $32.9 million annual economic impact.
- 117 jobs with 45 directly employed by the Mine ($55k Cemex Avg. vs. $44k County Avg.)

# Public Interest Considerations

# Industry of Critical Need

## FL St. 337.0261 Construction aggregate materials

(2) LEGISLATIVE INTENT – The Legislature finds that there is a **strategic and critical need for an available supply of construction aggregate materials within the state** and that a disruption of the supply would cause a significant detriment to the state's construction industry, transportation system, and overall health, safety, and welfare. In addition, the Legislature recognizes that **construction aggregate materials mining is an industry of critical importance to the state** and that the mining of construction aggregate materials is in the public interest.

# Local Government Decision-Making

## FL St. 337.0261 Construction aggregate materials

(3) LOCAL GOVERNMENT DECISIONMAKING – **No local government shall approve or deny** a proposed land use zoning change, comprehensive plan amendment, land use permit, ordinance, or order regarding construction aggregate materials **without considering any information provided by the Department of Transportation** regarding the effect such change, amendment, permit decision, ordinance, or order would have **on availability, transportation, and potential extraction of construction aggregate materials on the local area, the region, and the state.**

# Aggregate Need – FDOT Letter to Planning and Zoning: February 28, 2011

*Florida Department of Transportation*

RICK SCOTT
GOVERNOR

605 Suwannee Street
Tallahassee, FL 32399-0450

OFFICE OF THE
SECRETARY

February 28, 2011

Mr. Mark LaFerrier
Department of Planning and Zoning, Miami-Dade County
Zoning Hearing Section
111 North West First Street, 11th Floor
Miami, Florida 33128

Re: Santa Fe Haciendas Zoning Application, P.H. No. 09-176
(Process Number Z2009000176)

..Essential to the continuance of FDOT's road and bridge construction work program..

..Only remaining significant upland tract...outside of the Lake Belt.

In order for Florida to maintain its economic growth and quality of life, the state must continue to improve its transportation infrastructure

This project will fulfill a critical need for aggregate material..

# State Strategic Aggregate Review Task Force

- 2008 Final Report Findings:
  - "Local governments should consider the **expansion of existing mines**."
  - "The Legislature should encourage a reliable, predictable, and sustainable supply of construction aggregate materials."

CEMEX

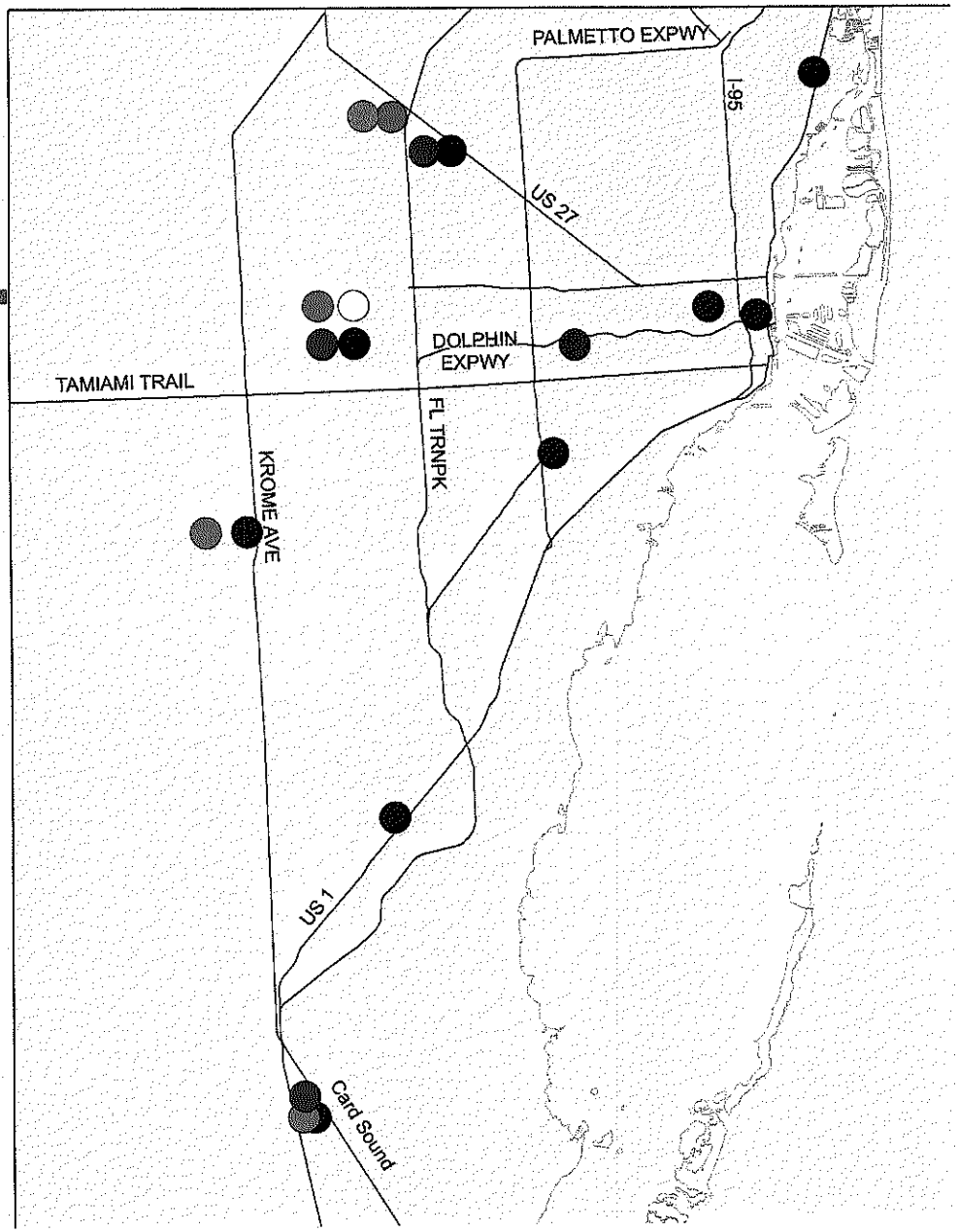
Cliff Kirkmyer
CEMEX Materials Florida

# CEMEX in Miami - Dade

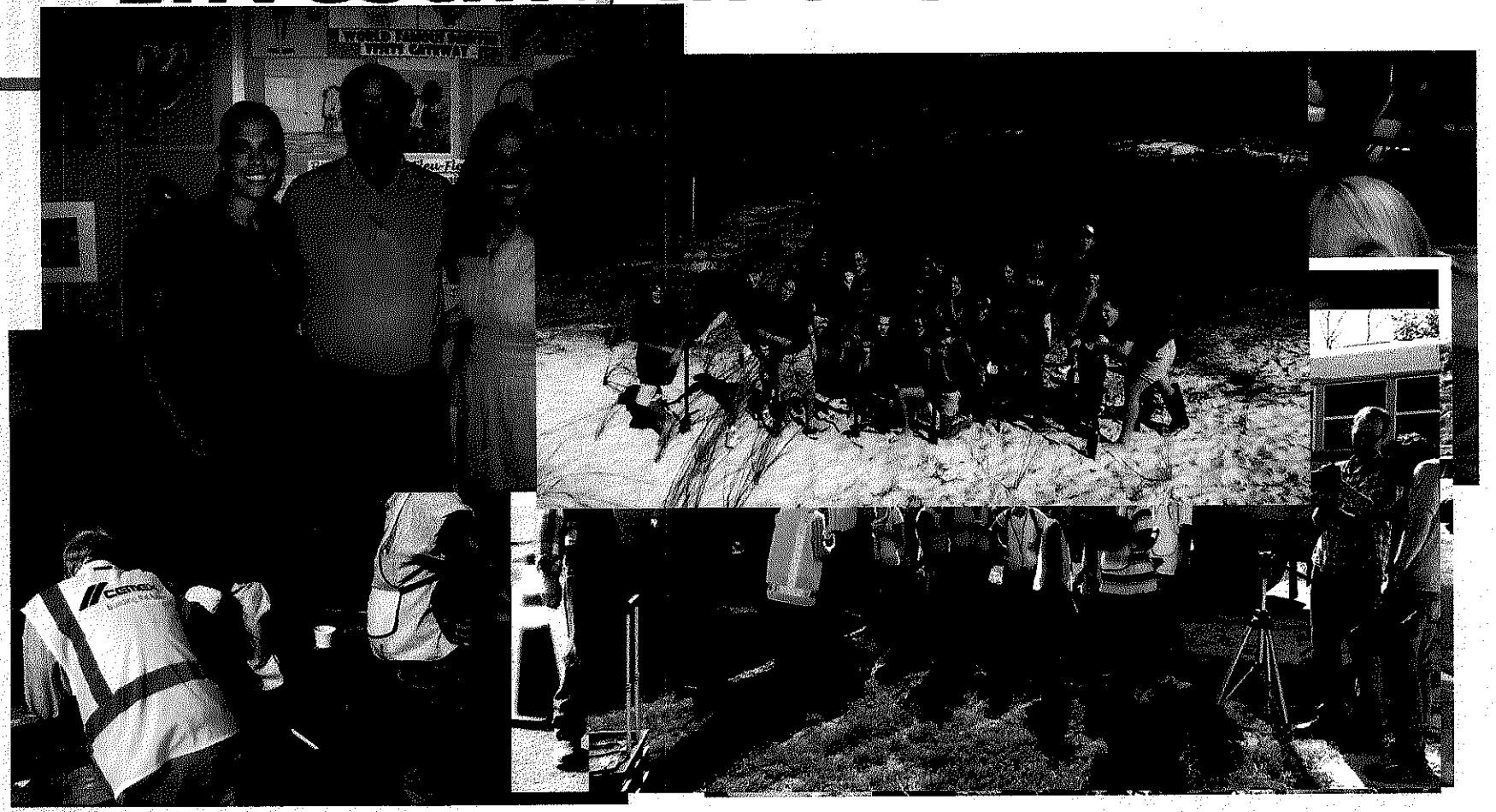
- Operations throughout Miami-Dade since 1950's (Rinker Materials)
- Currently employs a diverse workforce of **374**, men and women (down from a peak of 1,000 in 2006)
- Compatible operations within close proximity to rural and residential communities
- Proven record of educational, community, and philanthropic involvement throughout Florida

# CEMEX Facilities in Miami-Dade

- Ready Mix
- Block
- Cement
- Aggregates
- Pipe
- Neoris



# Educational Programs - Investing in the Future



# Mining Misconceptions

- Mining will impact water supply.
  - **Fact:** Data has shown no adverse impacts. (MacVicar, Federico & Lamb, Inc. Report, 3/7/11)
- Mining will damage my home.
  - **Fact:** No impacts to homes at regulated levels. (Division of State Fire Marshal letter of 3/14/11)
- No current need for additional mining.
  - **Fact:** Project will fulfill critical need. (FDOT letter 2/28/11)
  - **Fact:** Mining permitting takes 5 years or more. (Strategic Task Force Report, 2/1/08)

# Quarry Permitting

- Federal Permits
  - **United States Army Corps of Engineers – Nationwide Permit, as applicable**
- State Permits
  - **State of Florida Industrial Wastewater (IWG)** – FDEP
  - **State of Florida Air Permit** – FDEP
  - **Stationary Storage Tank Registration** – FDEP
  - **NPDES Stormwater Permit (if needed)** – FDEP (has federal delegation for this permit)
  - **State of Florida Environmental Resource Permit (ERP) and Mine Reclamation Programs-** FDEP
  - **Construction Materials Mining Activity Permit–** State Fire Marshal
- Regional Permits
  - **Consumptive Use Permit (CUP)** – SFWMD
- Local Permits
  - **Unusual Use Zoning Authorization**- Miami-Dade County
  - **Class IV Permit –** Miami-Dade County DERM

# Neighborhood Considerations

- Adherence to 19 proffered conditions of approval will ensure compatibility with neighbors
- Quarry operations setback 500' from the nearest occupied structure.
- Phasing of mining
- Implementation of Good Neighbor Plan
- Continuous 15' high landscaped berm; setback 100' from south property line

# Proposed Berm and Landscaping

# Benefits

- Provides platform for future economic growth
- Creates good-paying local jobs
  - Average median salary is 25% greater than County average
- Increases local tax revenue
- Provides vital aggregate material for the County and the State, at lower cost
- Supports public roadway projects and infrastructure development

# Findings

- Expansion of Existing and Adjacent Quarry Operations
- Consistent and Compatible with Agriculture
- Complies with All Criteria of Chapter 33 of the Miami-Dade (Zoning) Code
- No Adverse Environmental Impacts

# Thank you

ITEM B
EXHIBIT

# Redland Citizens Association, Inc.

CLERK OF THE BOARD
2011 JUN -9 AM 9:29
CLERK, CIRCUIT & COUNTY CTS
MIAMI-DADE COUNTY, FLA.
#1
RECEIVED
Item B
Exhibit
BCC ZONING

**We support:**
- Agriculture
- Conservation
- General Area Improvement
- Pollution Control
- Public Safety
- Tax Control
- Zoning

Mr. Harvey Ruvin
Clerk of the Board of County Commissioners
Miami Dade County
111 NW 1st Street
Miami, Florida 33128

Via: Fax 305-375-2484 (two pages)

RE: Zoning Application 09-176; Hearing Date: June 23, 2011 and south of theoretical SW 90 St.
Site Address: West of Krome Avenue (SW 177 Ave.)
Applicant: Santa Fe Haciendas LLC & Cemex Construction

Dear Honorable Mr. Ruvin:

Please forward a copy of this letter to all BCC Members regarding the above Zoning Application.

In a report dated December 2010 by the US EPA & Miami Dade County titled "Growing for a Sustainable Future", it states "Agricultural Land outside the UDB is dwindling. Combined with changing farm economics and competition from other countries, this gradual loss of farmland is threating the 'critical mass' required to sustain agricultural operations". The report furthers "The dwindling supply of Agricultural land is an especially urgent issue. Miami Dade still has roughly 67,000 acres of agricultural land in active use outside the boundary." This figure is from 2009 and we, the Redland Citizens Association, estimates this figure is closer to 62,000 acres of active agricultural land outside the UDB due to several recent zoning/CDMP approvals outside the UDB the past two years.

We are objecting to the above application for several reasons, in addition to what we've stated above. This application will take out over 400 acres of active/productive farmland. This will further erode our sustainable agriculture area. "If cultivation dips below 50,000 acres, then the county will begin to lose its agricultural area". Agriculture is the 2nd largest economic engine in Florida. We cannot afford the loss of the many jobs or the loss of revenue within this County and State.

This commission has recently approved alternative uses as ancillary to agriculture to make sure it remains viable. In addition, Publix has welcomed our farming community produce in to its' stores under the "Redland Raised" program. These were years long in the making and are working. By approving this unusual use application, you will be undoing all the hard work we've put in to these programs so our community can buy local, healthy and fresh produce.

We have some environmental concerns with this application as well:



P.O. Box 924245 • Princeton, Florida 33092-4245
Tel. 305-247-9383 • Fax 305-242-0535 • rca1@email.com

- Mining creates large rock pits or quarries. These sites fill with water and allow deadly microbes to enter. These microbes are pleomorphic (changing shapes and may become resistant to chemicals added to our drinking water to make is safe for human consumption). These microbes can migrate from quarry surface water into our aquifer when the protective limestone is removed.
- Can the South Florida Water Management, with its reduced operating budget, filter out these deadly microbes such as bacteria and viruses?
- This application is going to directly impact our drinking water wells. It is also adjacent to our environmentally endangered Everglades.

We are in a drought season. There is an excessive drawdown. This changes the pressure gradient and allows rising sea waters to pour in and contaminate our aquifer. This is a very dangerous situation and a public safety hazard.

This application is not necessary and will harm our community as a whole. We are urging each of you to vote against this zoning application.

Sincerely,

Pamela Gray
President, Redland Citizens Assocation
P.O. Box 924245.
Princeton, Florida 33092-4245
(305) 247-9383

ITEM B.
EXHIBIT

**Valverde, Olga (COC)**

**From:** Jane Walker [janewlker@aol.com]
**Sent:** Thursday, June 23, 2011 9:01 AM
**To:** Clerk of the Board (COC); Agenda Coordinator (OAC)
**Cc:** lezim@bellsouth.net; cornejo.stephanie@gmail.com; pamelagray@gmail.com
**Subject:** for this morning's meeting at bcc, resolution for record

Please open the attached. I apologize, but the fax did not go through evidently. I am following with phone call to ensure that you got this. Two pages.

Thanks for your service to our community!

Jane Walker

CLERK OF THE BOARD
2011 JUN 23 AM 9:34
CLERK, CIRCUIT & COUNTY CTS
MIAMI-DADE COUNTY, FLA.
#1

Date: June 22, 2011

To: Clerk of the Board
clerkbcc@miamidade.gov
Fax: 305-375-2484
Phone: 305-375-5126
Miami Dade County
111 NW 1 Street
Miami, Florida 33128
AND
Agenda Coordinator
Email: agendco@miamidade.gov
Phone: (305) 375-2035
Miami Dade County
111 NW 1 Street
Miami, Florida 33128

From: Kendall Federation of Homeowner Associations, Inc. (KFHA)

Attn: Chairman Joe Martinez, for distribution to all board members and Commissioners

Applicant: Santa Fe Haciendas LLC & Cemex Construction
Zoning Application 09-176
Hearing Date: June 23, 2011

Re: Resolution in opposition to application/request for global study(1)

We, The Kendall Federation of Homeowner Associations (an organization who represents several large homeowner associations and individuals in the greater Kendall area) are formally objecting to this application on the basis of the following concerns:

* Quality of Life (homes in the vicinity of this site)
    * noise
    * dust
    * vibrations
    * traffic and traffic safety

* CDMP
    * loss of agriculture lands
    * degradation of economic sustainability

Continued

* Economic factors
    * loss of critical mass in agriculture
    * stressing of third largest economic engine in largest agricultural region in state

* Water resources
    * saltwater intrusion(1)

* Public Heath and Safety
    * degradation water quality of private well fields (brown fields located within flood planes)

* Fiscal Responsibility:
    * elevated costs of future water processing (i.e., RO.)
    * potential Federal lawsuits
    * capitol obligations to provide county water outside UDB where private wells have been polluted or salted.(1)

* Disrespect for the Floridians/US Citizens (1)
    * willful creation of brown fields in environmentally sensitive areas(1)
    * misappropriate of future federal (citizens) tax dollars for cleaning up and revitalizing future brown fields that lie in environmentally sensitive areas (1)

* National Parks (Everglades National Park, Biscayne National Park) (1)
    * Environmental Impacts (1)
    * Potential federal litigation (1)
    * Stressing of largest economic engine in the state (tourism)

(P.P.) Lee Zimmerman — 06/23/11

Lee Zimmerman
President
Kendall Federation of Homeowner Associations, Inc.

Date

***(1) The KFHA requests that an inspection of surrounding areas be conducted for a.)illegal excavation, b.)unauthorized or unapproved activities and c.) resulting impacts that can be quantified based upon existing conditions and data.***

RECEIVED
By the Clerk for the record.
JUN 23 2011
Item
Exhibit
Meeting

# TABLE OF CONTENTS


| Exhibit | | Tab |
|---|---|---|
| **Background Information** | | |
| Aerial Photograph of Subject Property | | A |
| Proposed Mining Plan | | B |
| Rendering of Proposed Quarry | | C |
| Letters from Kerri L. Barsh re: Ordinance No. 10-09 | | D |
| **Consistency with CDMP and Compatibility** | | |
| Excerpt of Future Land Use Map | | E |
| Agriculture Land Use Element Text | | F |
| Open Land Use Element Text | | G |
| Outline of Testimony of Guillermo Olmedillo | | H |
| **Environmental Considerations** | | |
| Water Quality Summary by Thomas MacVicar, P.E. dated March 7, 2011 | | I |
| Outline of Testimony of Thomas MacVicar, P.E. | | J |
| ACOE Authorization to Mine | | K |
| FDEP Permit | | L |
| **Vibration Limitations** | | |
| Outline of Testimony of Jeffrey Straw | | M |
| Photo of Residential Communities in Close Proximity to Quarries | | N |
| Miami-Dade County Blasting Study (2000) | | O |
| Good Neighbor Program | | P |

## Economic Benefits

Outline of Testimony of G. Russ Weyer..... Q

Fiscal and Economic Impacts on Miami-Dade County..... R
Fishkind and Associates, Inc.

Map Indicating CEMEX facilities in Miami-Dade County..... S

## Other Supporting Information

Letter report dated June 9, 2011 by traffic expert Timothy J. Plummer..... T

Declaration of Restrictions with Proffered Conditions of Approval..... U

Florida Statute §552.30 Construction Materials Mining Activities..... V

Letter of Support from FDOT..... W

FDOT Strategic Aggregate Study (Excerpts)..... X

Florida Statute §337.0261 Construction Aggregate Materials..... Y

Letter from Division of State Fire Marshall dated March 14, 2011..... Z

## Resumes

Resume of Mr. Guillermo Olmedillo..... AA

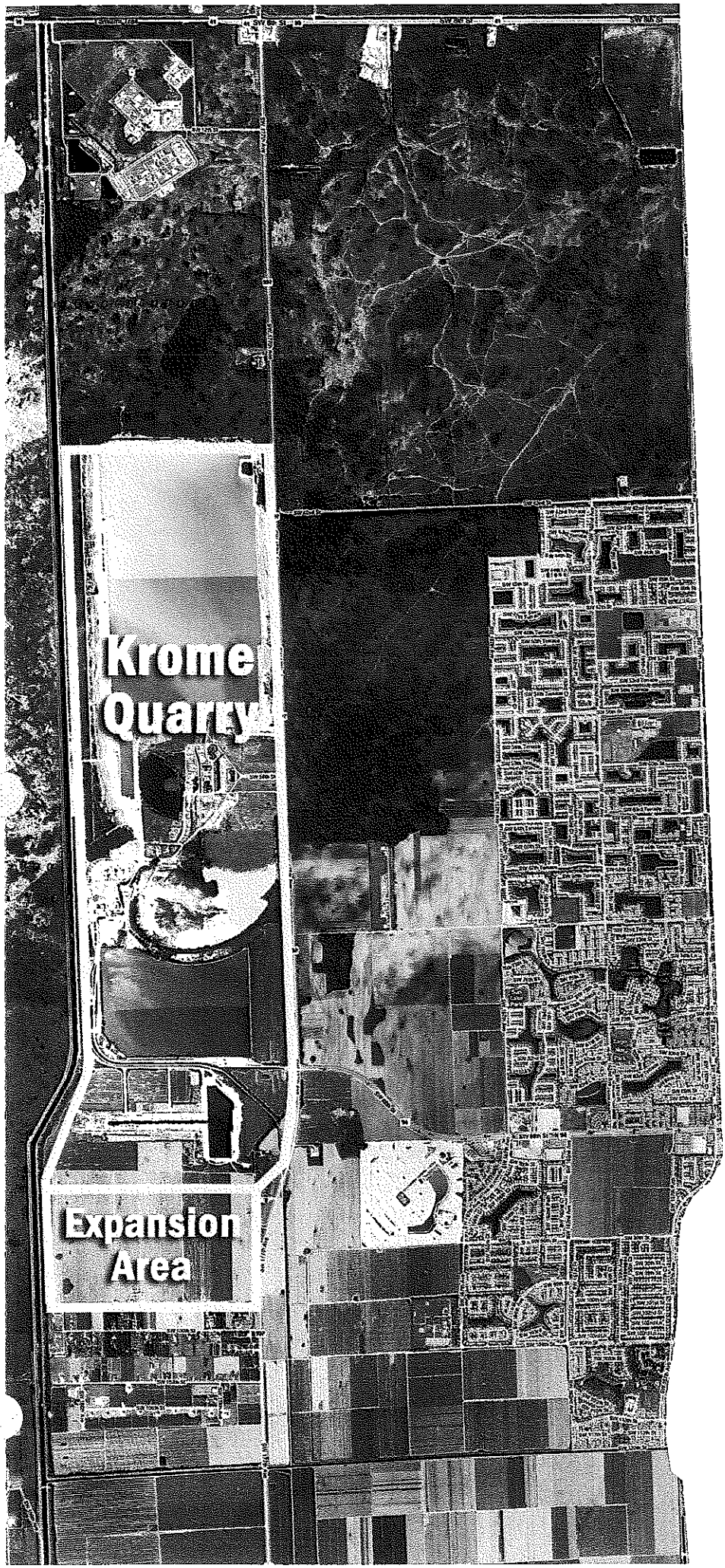
Resume of Mr. Thomas MacVicar..... BB

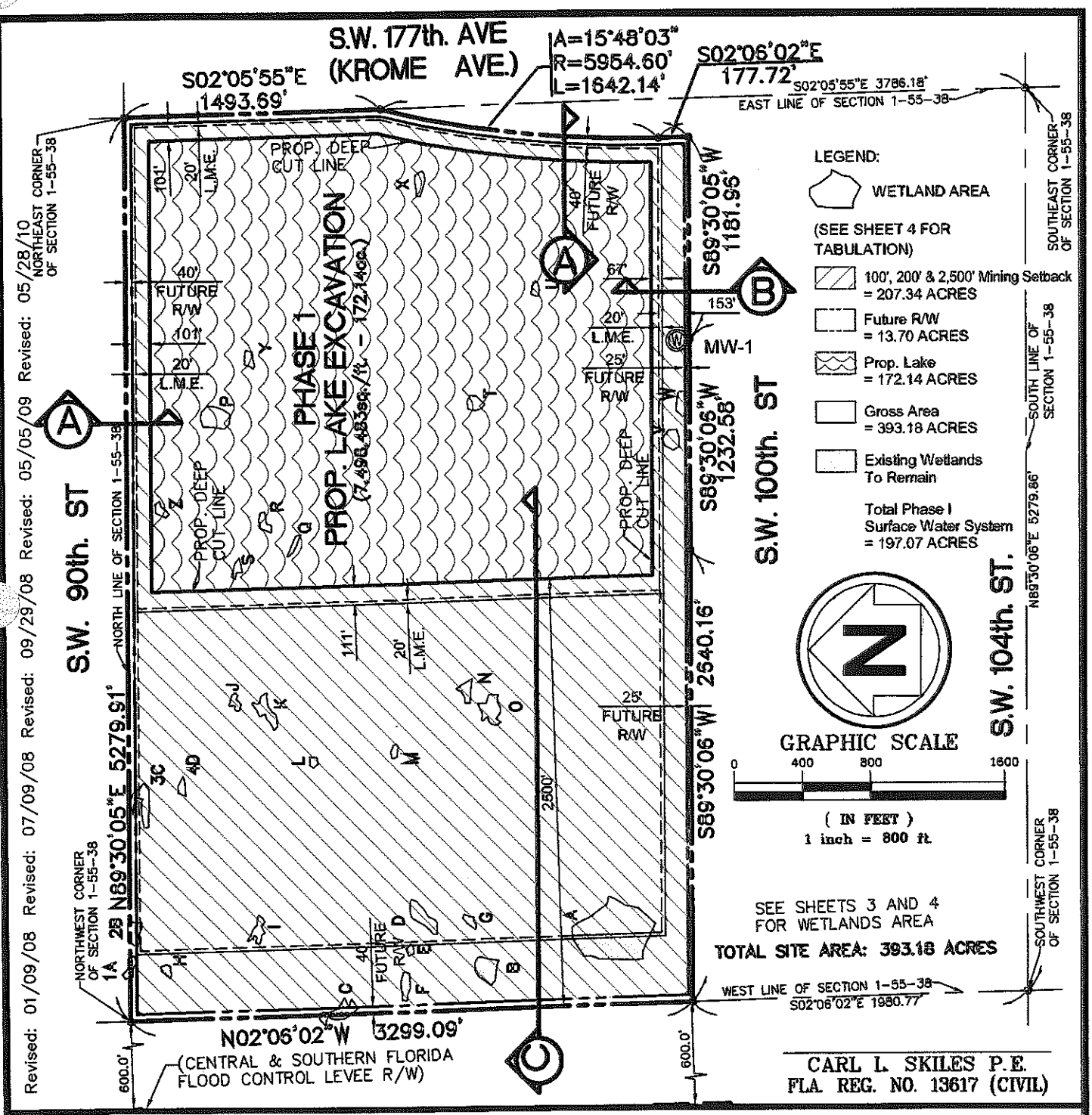
Resume of Mr. G. Russ Weyer..... CC

Resume of Mr. Jeffrey Straw..... DD

Resume of Mr. Tim Plummer..... EE

Resume of Mr. Cliff Kirkmyer..... FF


Krome
Quarry
Expansion
Area




Revised: 01/09/08 Revised: 07/09/08 Revised: 09/29/08 Revised: 05/05/09 Revised: 05/28/10

| | |
|---|---|
| Drawn By | REP |
| Cad. No. | 061816-2 |
| Ref. Dwg. | 3006-075 |
| Plotted: | 5/27/10 12:23a |

# LAKE MINING PLAN - Section 1-55-38


FORTIN, LEAVY, SKILES, INC.
CONSULTING ENGINEERS, SURVEYORS & MAPPERS
FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER: 00003653
180 Northeast 168th Street / North Miami Beach, Florida 33162
Phone 305-653-4493 / Fax 305-651-7152 / Email fls@flssurvey.com


| | |
|---|---|
| Date | 09/18/06 |
| Scale | 1"=800' |
| Job. No. | 067027 |
| Dwg. No. | 1006-192 |
| Sheet | 2 of 6 |

GT GreenbergTraurig

Kerri L. Barsh
Tel 305.579.0772
Fax 305.961.5772
barshk@gtlaw.com

January 12, 2011

**BY EMAIL AND HAND DELIVERY**

Mr. Marc C. LaFerrier
Director
Miami-Dade Department of Planning and Zoning
Stephen P. Clark Government Center
111 N.W. First Street, 11th Floor
Miami, Florida 33128

**Re: Santa Fe Haciendas, LLC, Unusual Use Application (P.H. No. 09-176)**

Dear Mr. LaFerrier,

I am writing in furtherance of my letters to you dated December 22, 2010, and January 6, 2011, in which I submitted materials and information in support of our position that the unusual use application referred to above (the "Unusual Use Application") satisfies the criteria of Miami-Dade County Ordinance No. 10-09 (the "Martinez Ordinance").

CEMEX Construction Materials Florida, LLC (formerly Rinker Materials of Florida, Inc) (hereinafter "Cemex"), currently conducts *bona fide* rock mining and ancillary activities at its "Krome Quarry" located just north of the property subject to the Unusual Use Application and south of the intersection of Krome Avenue and Kendall Drive, as depicted on the aerial photo at the end of this letter. The Krome Quarry exists on properties owned by two distinct entities, Kendall Properties and Investments and Krome Mining Partners, LLC. Cemex operates on both properties pursuant to Short-Form Limestone Purchase and Option Agreements that Cemex entered into with each of the respective property owners. Copies of these filed memoranda of agreement are attached as **Exhibit A.**

Cemex's existing mining operations at the Krome Quarry are conducted pursuant to a number of permits, including lake excavation permits issued by your Department, copies of the 2010 lake excavation permit renewals are attached as **Exhibit B**. Additional such permits include environmental resource permits ("ERPs") issued by the Florida Department of Environmental Protection ("FDEP") and Class IV permits issued by the County's Department of Environmental Resources Management.

The property that is the subject of the Unusual Use Application is located immediately south of the Krome Quarry and is owned by Santa Fe Haciendas, LLC (the "Santa Fe Haciendas Property"). Cemex has entered into a limestone purchase and lease agreement with Santa Fe Haciendas similar to ones that it has entered into with the owners of the land on which the Krome Quarry is located. A copy of the filed memorandum of the Cemex-Santa Fe Haciendas, LLC, agreement is attached as **Exhibit C.** Additionally, Cemex has sought the necessary

environmental permits required to expand rock mining operations onto the Santa Fe Haciendas Property.[1] The unusual use sought by the pending application is one of the final governmental authorizations required for the proposed expansion.

The Martinez Ordinance provides that the County Commission "shall have jurisdiction to directly hear" applications for unusual uses for lake excavations to: (a) expand; (b) *bona fide* rock mining operations; (c) onto a property contiguous and immediately adjacent to those *bona fide* rock mining operations. *See* Martinez Ordinance, Section 1. We maintain that the Unusual Use Application satisfies this criteria, as follows.

**A. The Unusual Use Application seeks to *expand existing* operations.**

As noted above, Cemex currently conducts *bona fide* rock mining and ancillary activities at its Krome Quarry located just north of the property subject to the Unusual Use Application and south of the intersection of Krome Avenue and Kendall Drive. The Krome Quarry "supplies limerock aggregate products to the local market via truck, and the regional market via the existing rail facility located on the property." *See* Affidavit of Peter Lyons, Vice President of Cemex, dated December 21, 2010, ¶ 6 attached as **Exhibit D** (the "Lyons Affidavit").

Limestone rock mining typically requires the use of a significant land area, not only for the extraction of materials but also to accommodate processing facilities, shipping facilities (rail and truck), and staging areas for each such facility. It is highly inefficient to conduct mining operations if these ancillary uses are not located at or very near the point of extraction because transporting extracted material to a more distant location is very costly. Additionally, constructing and maintaining redundant facilities is generally cost-prohibitive, given the considerable expense. The same is true with the pending application. The facilities at the Krome Quarry have sufficient capacity to accept not only the material extracted from the Krome Quarry but also the additional material that is proposed to be extracted from the Santa Fe Haciendas Property. *See* Lyons Affidavit at ¶ 7.

The purpose of the Unusual Use Application is to expand the rock mining and ancillary activities currently occurring at the Krome Quarry to the property to its immediate south, the Santa Fe Haciendas Property. Lyons Affidavit, ¶ 5. By doing so, Cemex will obtain additional flexibility and efficiency for its Krome Quarry operation. *Id.* at ¶ 6. Thus, the unusual use requested by the Unusual Use Application will not constitute a new or separate use but rather the expansion of the existing use at the Krome Quarry.

**B. Cemex's rock mining operations at the Krome Quarry are *bona fide* rock mining operations as defined by the Miami-Dade County Code.**

[1] Specifically, Cemex has (a) obtained ERP No. 2758949-001 from FDEP for the excavation of limestone at the Santa Fe Haciendas Property and (b) prepared and submitted a Class IV permit application for rock mining activities at the Santa Fe Haciendas Property.

The Martinez Ordinance applies to "*bona fide* rock mining operations, as defined in Section 33-422(3) of the Code." Section 33-422(3) of the Code defines such operations as:

> "the commercial extraction of limestone and sand suitable for production of construction aggregates, sand, cement and road base materials for shipment offsite by any person or company primarily engaged in the commercial mining of any such natural resources."

Cemex is one of the nation's leading building materials suppliers. Its U.S. network includes numerous cement plants and more than 100 aggregate quarries. The Krome Quarry is one such quarry. Cemex's operations at the Krome Quarry supply limestone aggregate products to the local market via truck and the regional market via the existing rail facility located on the property. Lyons Affidavit at ¶ 6. These limestone products are sold for use as subsurface leveling and fill, and for the production of concrete and asphalt. *Id.* Cemex's rock mining operations at the Krome Quarry are *bona fide* rock mining operations as defined in Section 33-422(3) because they are conducted by a company primarily engaged in commercial mining for the purpose of producing construction aggregates, cement, and road base materials for sale to third parties.

**C. The proposed expansion of rock mining operations will be onto a <u>contiguous and immediately adjacent property</u>.**

The Santa Fe Haciendas Property shares a common boundary to the north with the property on which the Krome Quarry is located. *See* Aerial Photo on page 5. The rock mining operations and ancillary uses proposed to be expanded from the Krome Quarry will extend across this boundary.

Within the industry, it is common for a single rock mining operation and its ancillary uses to be located across multiple properties owned by different and sometimes unrelated owners but to be operated by a single mining company. Lyons Affidavit at ¶ 8. This arrangement results from the practical necessity of having processing and shipping facilities at or near the extraction point and limiting the duplication of such facilities. Operating over a large expanse that includes multiple adjacent properties allows mine operators to layout their operations in a manner to limit redundancies and maximize the efficiency of processing and shipping facilities.

The Krome Quarry is one such example in which mining operations occur over properties owned by different entities but all operated by Cemex. As depicted in the aerial photo, the northern portion of the Krome Quarry is located on a property owned by Kendall Properties and Investments. Rock mining operations have expanded south onto a second property owned by a separate entity, Krome Mining Partners. As noted above and provided for in the Memorandum of Product Purchase and Sale Agreement and Lease between Cemex and Santa Fe Haciendas, LLC (*see* **Exhibit C**), the Unusual Use Application seeks authorization that would allow the expansion of Cemex's operations onto property that is contiguous and immediately adjacent to existing *bona fide* rock mining operations at the Krome Quarry.

In light of the foregoing, we request that the Unusual Use Application (P.H. No. 09-176) be transmitted to the Board of County Commissioners for their direct consideration as provided for by the Martinez Ordinance (Ord. No. 10-09).

Please contact me if I can answer any question you may have regarding the foregoing. I look forward to your determination.

Very truly yours,

Kerri L. Barsh

Enclosures

cc: Ms. Grisel M. Rodriguez
Joni Armstrong Coffey, Esq.
Felix LaSarte, Esq.
Stanley B. Price, Esq.

*MIA 181,640,6487 1-12-11*

## The Krome Quarry

The Krome Quarry exists over properties owned by two different entities. Cemex operates the Quarry subject to agreements with each of these land owners, pursuant to various governmental permits and approvals, including lake excavation permits granted by the County. Cemex has entered an agreement with Santa Fe Haciendas, LLC, to conduct rock mining and ancillary uses on the Santa Fe Haciendas Property and now seeks unusual use approval to expand its operations at the Krome Quarry onto the Santa Fe Haciendas Property.

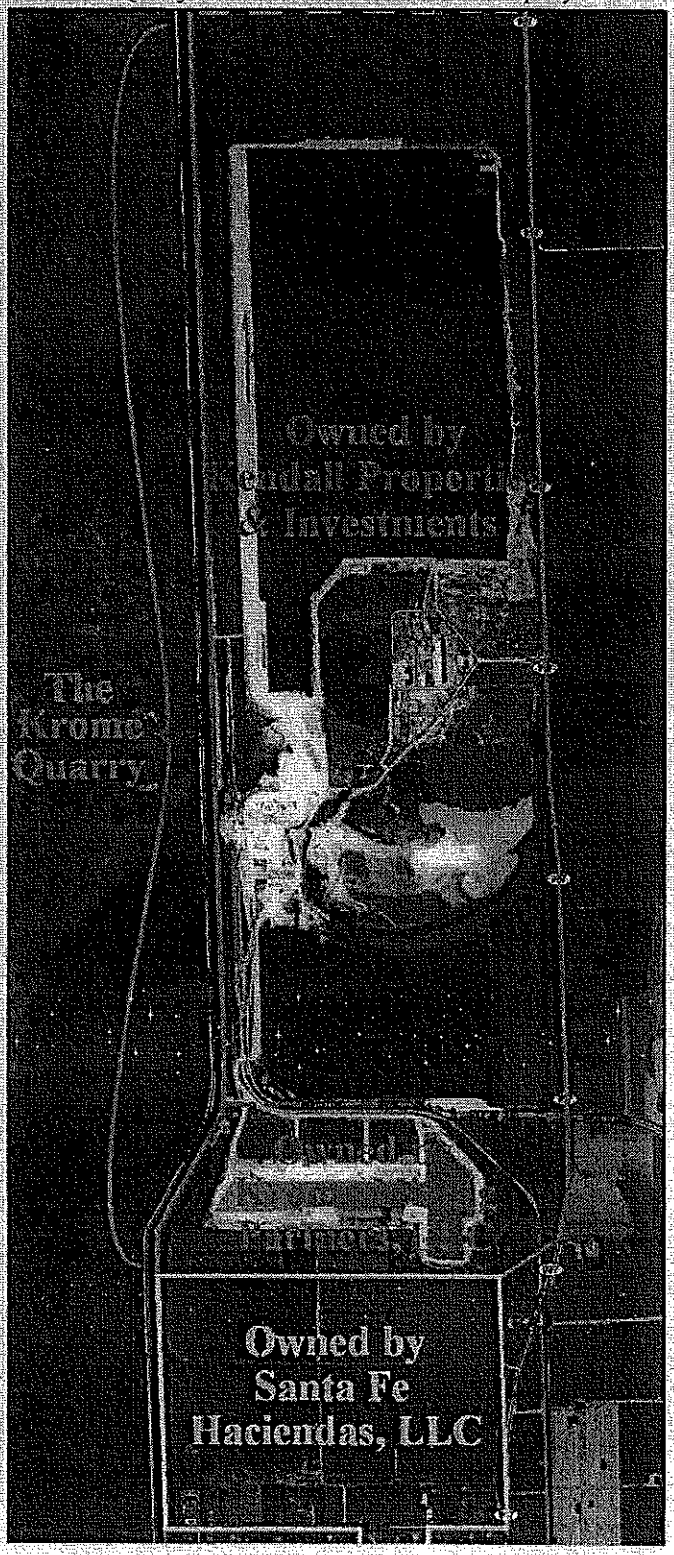


Exhibit "A"

CFN 2005R0288084
OR Bk 23197 Pgs 2943 - 2947; (5pgs)
RECORDED 03/24/2005 08:40:42
HARVEY RUVIN, CLERK OF COURT
MIAMI-DADE COUNTY, FLORIDA

Return to:

H. Collins Forman, Jr., Esquire
1323 S.E. Third Avenue
Ft. Lauderdale, FL 33316

SHORT FORM LIMESTONE PURCHASE AND OPTION AGREEMENT

THIS SHORT FORM LIMESTONE PURCHASE AND OPTION AGREEMENT ("Short Form Agreement") with an Effective Date of the 1st day of July, 2004, between Krome Mining Partners, a Florida general partnership, (hereinafter "KROME") and RINKER MATERIALS OF FLORIDA, INC., a Florida corporation (hereinafter "RINKER"), the terms Krome and Rinker shall include wherever the context admits or requires, singular or plural, and the heirs, legal representatives, successors and assigns of the respective parties.

WITNESSETH:

That Krome, pursuant to that Limestone Purchase and Option Agreement, has granted to Rinker, and Rinker has accepted, for the term hereinafter specified, a series of options to purchase the lime rock and other extractive and earthy materials, rubble, sand, fill or aggregate, in place, (hereinafter "Limestone Reserves") on a minimum of approximately 170 acres (hereinafter "Mining Acreage") lying within Krome's Property, which is legally described on **Exhibit "A"** attached hereto and incorporated herein. The exact location of the Mining Acreage is set forth on the attached **Exhibit "B"** ("the Mining Plan.") At the request of Krome, this Short Form Agreement will be amended from time to time to include legal descriptions of lands designated by Krome as Mining Acreage in accordance with the Limestone Purchase and Option Agreement (hereinafter "Agreement") of even date herewith and to release legal descriptions from this Short Form Agreement. This Agreement only affects those portions of Krome's Property that are recorded as part of this Agreement from time to time until such time as the legal description attached hereto is amended.

The term of the Agreement commences May 1, 2004 ("the Effective Date"). This Agreement shall not encumber and shall automatically terminate with respect to any portion of the Mining Acreage at such time as all of the Limestone Reserves have been excavated and mined, all Option Payments have been made to Krome as to such portion, and all Restoration and Reclamation of such portion has been completed as provided in Section 7 of the Agreement, or ten (10) years from the date hereof, whichever is earlier. In no event shall the Mining Acreage or any part thereof be encumbered by this Agreement at the end of ten (10) years from the Effective

5

Date of this Agreement. Notwithstanding the above, Rinker shall have a period of four (4) months from the Termination Date to remove its plant, stockpiles and equipment, if any.

If requested by Krome, Rinker shall provide Krome with documentation in recordable form, describing the land that is no longer encumbered by the Agreement or, in the event Rinker gives Notice of Intention to Krome not to exercise any option to purchase, all necessary documentation to disclaim and reconvey all rights, title and interest to the Mining Reserves.

Rinker shall not have any right, power or authority to create or include any lien on the Krome's Property. Notice is hereby given to all contractors, subcontractors, laborers, materialmen and other persons that Krome will not be liable for any labor, services or materials furnished to Rinker, and that no loans for any such labor, services or materials shall attach to or effect the Krome's Property.

It is understood and agreed that this Short Form Agreement sets forth certain provisions, terms, covenants and condition contained in the Limestone Purchase and Option Agreement executed by and between parties hereto and bearing even date therewith, said Agreement shall be a part of this instrument as fully and completely as if same were set forth herein.

For more information concerning this document is necessary, contact Krome Mining Partners, c/o Gillis Investments #2, Ltd., 888 S.E. 3rd Avenue, Suite 501, Fort Lauderdale, Florida 33316 and Rinker Materials of Florida, Inc., 1501 Belvedere Road, West Palm Beach, Florida 33406.

In witness whereof, Krome and Rinker have executed this instrument this 14 day of March, 2004.

WITNESSES:

Cynthia A. Colick
Cynthia A. Colick

H. Collier Forman, Jr.
H. Collier Forman, Jr.

**KROME:**
KROME MINING PARTNERS, a Florida general partnership
By: GILLIS INVESTMENTS #2, LTD., a Florida limited partnership, its Managing Partner
By: AMERICAN MARKETING AND MANAGEMENT OF GILLIS, INC., a Florida corporation, corporate general partner

By: _____
M. AUSTIN FORMAN, President

**RINKER:**

By: Rinker Materials of Florida, Inc.,
a Florida corporation

Diane M. Magaw

Sheryl M. Tyson

By: G. Cliff Kirkmyer III
G. Cliff Kirkmyer III
Vice President

STATE OF FLORIDA )
) SS:
COUNTY OF BROWARD )

The foregoing instrument was acknowledged before me this 4 day of March, 2004, by MILES AUSTIN FORMAN, President of AMERICAN MARKETING AND MANAGEMENT OF GILLIS, INC., a Florida corporation, general partner of GILLIS INVESTMENTS #2, LTD., the managing general partner of KROME MINING PARTNERS, a Florida general partnership, on behalf of the partnership. He is personally known to me or has produced a driver's license as identification.

Cynthia A. Cohick
SION # DD030415 EXPIRES
June 24, 2005
THRU TROY FAIN INSURANCE, INC.

Cynthia A. Cohick
Notary Public
Printed Name:
My Commission expires:

COUNTY OF PALM BEACH)
) SS:
STATE OF FLORIDA )

The foregoing instrument was acknowledged before me this 10th day of March 2004 by G. Cliff Kirkmyer III, Vice President of Rinker Materials of Florida, Inc., a Florida corporation, who is personally known to me or who has produced a driver's license as identification.

Monce Y. Smithe
My Commission DD202016
Expires April 10, 2007

Monce Y. Smithe
Notary Public
Printed Name: Monce Y. Smithe
My Commission expires: 4/10/07

**Exhibit "A"**

## LEGAL DESCRIPTION:

All that lot, piece or parcel of land, the same being a portion of Excess Lot 1 lying between Township 54 South and Township 55 South, in Range 38 East of Miami-Dade County, Florida, the same being more particularly described by metes and bounds as follows, viz.:

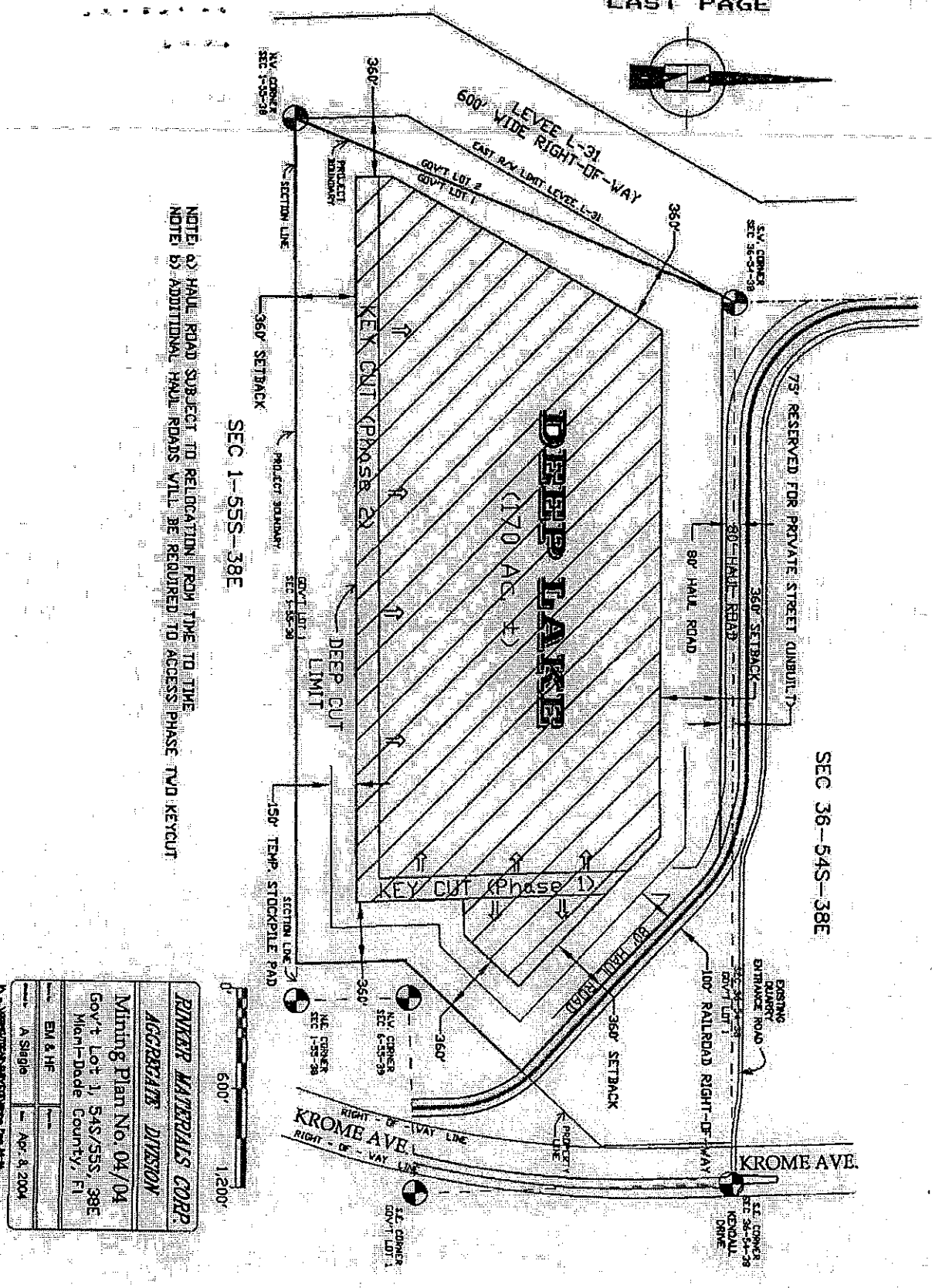
COMMENCE at the Southeast corner of said Excess Lot 1; thence S87°42'57"W along the South line of said Excess Lot 1 for 1389.69 feet to a Point of Intersection with the Westerly Right of Way Line of Krome Avenue (Florida State Road No. 997/S.W. 177th Avenue) and the POINT OF BEGINNING of the hereinafter described parcel of land; from said POINT OF BEGINNING, thence S87°42'57"W along said Westerly Right of Way line of Krome Avenue for 10.39 feet; thence S02°13'41"E along said Westerly Right of Way line of Krome Avenue for 655.41 feet to a Point of Intersection with the North line of Section 1, Township 55 South, Range 38 East, the same being coincident with the South line of said Excess Lot 1; thence S89°30'02"W along said North line of Section 1 for 5059.38 feet to the Northwest Corner of said Section 1; thence N22°08'00"E along the West line of said Excess Lot 1 for 2779.08 feet; thence N89°45'47"E along a line 75.00 feet Southerly of, as measured at angles to and parallel with the South line of Section 36, Township 54 South, Range 38 East, the same being coincident with the North line of said Excess Lot 1 for 3287.88 feet to a Point of Non-Tangent Intersection with the arc of a circular curve concave to the Southwest, with said curve also being the Southwesterly line of the 100 foot wide Easement as described in Deed Book 4331 at Page 285 of the Public Records of Dade County (now Miami-Dade County), Florida, and said Point of Non-Tangent Intersection bearing N21°19'38"E from the center of said curve; thence Southeasterly along said Southwesterly line of the 100 foot wide Easement and the arc of said curve, having a radius of 714.49 feet and a central angle of 21°14'36" for 264.91 feet to the Point of Tangency, thence S47°25'46"E along said Southwesterly line of the 100 foot wide Easement for 1448.95 feet to a Point of Curvature of a circular curve concave to the Southwest; thence along said Southwesterly line of the 100 foot wide Easement and the arc of said curve, having a radius of 714.49 feet and a central angle of 07°25'07" for 92.51 feet to a Point of Non-Tangent Intersection with a Northwesterly Right of Way Line of said Krome Avenue, with said Point of Non-Tangent Intersection bearing N49°59'21"E from the center of said curve; thence S42°35'13"W along said Northwesterly Right of Way line of Krome Avenue for 953.55 feet to the POINT OF BEGINNING.

TOGETHER WITH a portion of Excess Government Lot 2 lying East of the East Right of Way Line of the L-31 Canal, Townships 54 and 55 South, Range 38 East.

Less and Except from the above:

The North 75 feet of excess Lots 1, 2 and 3 more fully described in that certain Quit Claim Deed filed in Official Records Book 7403, Page 990 of the Public Records of Miami-Dade County, Florida.

Containing 280 acres more or less.


LEVEE L-31
600' WIDE RIGHT-OF-WAY
EAST R/W LIMIT LEVEE L-31
GOVT. LOT 2
GOVT. LOT 1
N.W. CORNER SEC 1-55-38
PROJECT BOUNDARY
SECTION LINE
360'
360' SETBACK
KEY CUT (Phase 2)
DEEP LAKE
(170 AC. ±)
KEY CUT (Phase 1)
DEEP CUT LIMIT
PROJECT BOUNDARY
GOVT. LOT 1 SEC 1-55-38
150' TEMP. STOCKPILE PAD
SECTION LINE
SEC 1-55-38
73' RESERVED FOR PRIVATE STREET (UNBUILT)
80' HAUL ROAD
100' RAILROAD RIGHT-OF-WAY
EXISTING QUARRY ENTRANCE ROAD
KROME AVE.
RIGHT-OF-WAY LINE
PROJECT LINE
N.E. CORNER GOVT. LOT 1
N.E. CORNER SEC 36-54-38 KENDALL DRIVE
SEC 36-54S-38E
SEC 1-55S-38E
NOTE: a) HAUL ROAD SUBJECT TO RELOCATION FROM TIME TO TIME
NOTE: b) ADDITIONAL HAUL ROADS WILL BE REQUIRED TO ACCESS PHASE TWO KEYCUT
0'
600'
1,200'
RINKER MATERIALS CORP.
AGGREGATE DIVISION
Mining Plan No. 04/04
Gov't Lot 1, 54S/55S, 38E
Miami-Dade County, FL
EM & HF
A Siegle
Apr. 8, 2004

CFN 2005R0288083
OR Bk 23197 Pgs 2937 - 2942F (6Pgs)
RECORDED 03/24/2005 08:40:42
HARVEY RUVIN, CLERK OF COURT
MIAMI-DADE COUNTY, FLORIDA

Return to:
H. Collins Forman, Jr., Esquire
1323 S.E. Third Avenue
Ft. Lauderdale, FL 33316

KENDALL SHORT FORM LIMESTONE
PURCHASE AND OPTION AGREEMENT

THIS SHORT FORM LIMESTONE PURCHASE AND OPTION AGREEMENT ("Short Form Agreement") with an Effective Date of the 1st day of January 2004, between Kendall Properties & Investments, a Florida general partnership, (hereinafter "KPI") and RINKER MATERIALS OF FLORIDA, INC., a Florida corporation (hereinafter "RINKER"); the terms KPI and Rinker shall include wherever the context admits or requires, singular or plural, and the heirs, legal representatives, successors and assigns of the respective parties.

WITNESSETH:

That KPI, pursuant to that certain unrecorded Limestone Purchase and Option Agreement of even date, has granted to Rinker, and Rinker has accepted, for the term hereinafter specified, a series of options to purchase the lime rock and other extractive and earthy materials, rubble, sand, fill or aggregate, in place, (hereinafter "Limestone Reserves") on a minimum of approximately 400 acres (hereinafter "Mining Acreage") lying within KPI's Property, which is legally described on Exhibit "A" attached hereto and incorporated herein. The exact location of the Mining Acreage is set forth on the attached Exhibit "B" ("the Mining Plan.") At the request of KPI, this Short Form Agreement will be amended from time to time to include legal descriptions of lands designated by KPI as Mining Acreage in accordance with the Limestone Purchase and Option Agreement (hereinafter "Agreement") of even date herewith and to release legal descriptions from this Short Form Agreement. This Agreement only affects those portions of KPI's Property that are recorded as part of this Agreement from time to time until such time as the legal description attached hereto is amended.

The term of the Agreement commences November 1, 2003 ("the Effective Date"). This Agreement shall not encumber and shall automatically terminate with respect to any portion of the Mining Acreage at such time as all of the Limestone Reserves have been excavated and mined, all Option Payments have been made to KPI as to such portion, and all Restoration and Reclamation of such portion has been completed as provided in Section 10 of the Agreement, or ten (10) years from the date hereof, whichever is earlier. In no event shall the Mining Acreage or any part thereof be encumbered by this Agreement at the end of ten (10) years from the Effective

Date of this Agreement. Notwithstanding the above, Rinker shall have a period of nine (9) months from the Termination Date to remove its plant, stockpiles and equipment, if any.

If requested by KPI, Rinker shall provide KPI with documentation in recordable form, describing the land that is no longer encumbered by the Agreement or, in the event Rinker gives Notice of Intention to KPI not to exercise any option to purchase, all necessary documentation to disclaim and reconvey all rights, title and interest to the Mining Reserves.

Rinker shall not have any right, power or authority to create or include any lien on the KPI's Property. Notice is hereby given to all contractors, subcontractors, laborers, materialmen and other persons that KPI will not be liable for any labor, services or materials furnished to Rinker, and that no loans for any such labor, services or materials shall attach to or effect the KPI's Property.

It is understood and agreed that this Short Form Agreement sets forth certain provisions, terms, covenants and condition contained in the Limestone Purchase and Option Agreement executed by and between parties hereto and bearing even date therewith, said Agreement shall be a part of this instrument as fully and completely as if same were set forth herein.

For more information concerning this document is necessary, contact Kendall Properties & Investments, c/o Gillis Investments, Ltd., 888 S.E. 3rd Avenue, Suite 501, Fort Lauderdale, Florida 33316 and Rinker Materials of Florida, Inc., 1501 Belvedere Road, West Palm Beach, Florida 33406.

In witness whereof, KPI and Rinker have executed this instrument this 14th day of November, 2005.

**OWNER/KPI:**

KENDALL PROPERTIES & INVESTMENTS, a Florida general partnership
By: GILLIS INVESTMENTS, LTD., a Florida limited partnership, its Managing Partner
By: AMERICAN MARKETING AND MANAGEMENT OF GILLIS, INC., a Florida corporation, corporate general partner

By: _____
M. AUSTIN FORMAN

WITNESSES:

_____
_____
_____
H. Collins Forman, Jr.

**RINKER/OPTIONEE:**

By: Rinker Materials of Florida, Inc.,
a Florida corporation

Diane M. Magnus

Sheryl M. Tyson

By: G. Cliff Kirkmyer III
G. Cliff Kirkmyer III
Vice-President

STATE OF FLORIDA )
) SS:
COUNTY OF BROWARD )

The foregoing instrument was acknowledged before me this 14th day of March, 2004, by MILES AUSTIN FORMAN, President of AMERICAN MARKETING AND MANAGEMENT OF GILLIS, INC., a Florida corporation, general partner of GILLIS INVESTMENTS, LTD., the managing general partner of KENDALL PROPERTIES & INVESTMENTS, a Florida general partnership, on behalf of the partnership. He is personally known to me or has produced _____ as identification.

Cynthia A. Cohick
MY COMMISSION # DD030415 EXPIRES
June 24, 2005
BONDED THRU TROY FAIN INSURANCE, INC.

Cynthia A. Cohick
Notary Public
Printed Name: _____
My Commission expires: _____

COUNTY OF BROWARD )
) SS:
STATE OF FLORIDA )

The foregoing instrument was acknowledged before me this 10th day of March, 2004 2005 by G. Cliff Kirkmyer, III, Vice-President of Rinker Materials of Florida, Inc., a Florida corporation, who is personally known to me or who has produced _____ as identification.

Monce Y Smith
My Commission DD202618
Expires April 10, 2007

Monce Y. Smith
Notary Public
Printed Name: Monce Y. Smith
My Commission expires: 4/10/07

EXHIBIT "A"

LEGAL DESCRIPTION

OFF. REC. 17076-0670

LEGAL DESCRIPTION

ALL OF SECTIONS 24, 25 AND 36 IN TOWNSHIP 54 SOUTH, RANGE 38 EAST IN DADE COUNTY, FLORIDA, LESS THE FOLLOWING DESCRIBED PARCELS OF LAND:

BEGIN AT THE SOUTHEAST CORNER OF SAID SECTION 36; THENCE S89°45'52"W ALONG THE SOUTH LINE OF SAID SECTION 36 FOR 225.14 FEET TO AN INTERSECTION WITH A LINE BEING 225.00 FEET WESTERLY OF, AS MEASURED AT RIGHT ANGLES AND PARALLEL TO THE EAST LINE OF SAID SECTION 36; THENCE N02°13'03"W ALONG SAID PARALLEL LINE FOR 714.06 FEET; THENCE CONTINUE ALONG SAID PARALLEL LINE N02°12'58"W FOR 1082.10 FEET; THENCE N87°47'08"E FOR 225.00 FEET TO AN INTERSECTION WITH THE EAST LINE OF SAID SECTION 36; THENCE ALONG THE EAST LINE OF SAID SECTION 36 FOR THE FOLLOWING TWO (2) COURSES; (1) S02°12'58"E FOR 1081.83 FEET; (2) S02°13'03"E FOR 722.10 FEET TO THE POINT OF BEGINNING.

TOGETHER WITH:

ALL THAT PORTION OF STATE ROAD 997 (KROME AVENUE) AS SHOWN IN THE FLORIDA DEPARTMENT OF TRANSPORTATION MAINTENANCE MAPS RECORDED IN ROAD PLAT BOOK 124 AT PAGE 69 OF THE PUBLIC RECORDS OF DADE COUNTY, FLORIDA LYING WITHIN THE AFOREMENTIONED SECTIONS 24, 25 AND 36, TOWNSHIP 54 SOUTH, RANGE 38 EAST.

AND TOGETHER WITH:

KILN DUST AREA
PARCEL 1

COMMENCE AT THE SOUTHEAST CORNER OF SAID SECTION 25; THENCE N02°11'55"W ALONG THE EAST LINE OF THE SOUTHEAST 1/4 OF SAID SECTION 25 FOR 1298.11 FEET; THENCE S87°48'05"W FOR 344.64 FEET TO THE POINT OF BEGINNING OF THE HEREINAFTER DESCRIBED PARCEL OF LAND; THENCE S02°44'39"W FOR 690.38 FEET; THENCE S01°43'10"E FOR 512.03 FEET; THENCE S15°35'57"W FOR 377.51 FEET; THENCE S70°50'28"W FOR 626.06 FEET; THENCE S85°46'05"W FOR 619.69 FEET; THENCE S87°39'48"W FOR 502.04 FEET; THENCE N02°49'18"E FOR 354.96 FEET; THENCE N02°02'51"W FOR 782.54 FEET; THENCE N85°29'09"E FOR 589.63 FEET; THENCE N03°03'11"E FOR 650.18 FEET; THENCE N89°47'31"E FOR 1218.28 FEET TO THE POINT OF BEGINNING.

KILN DUST AREA
PARCEL IIA

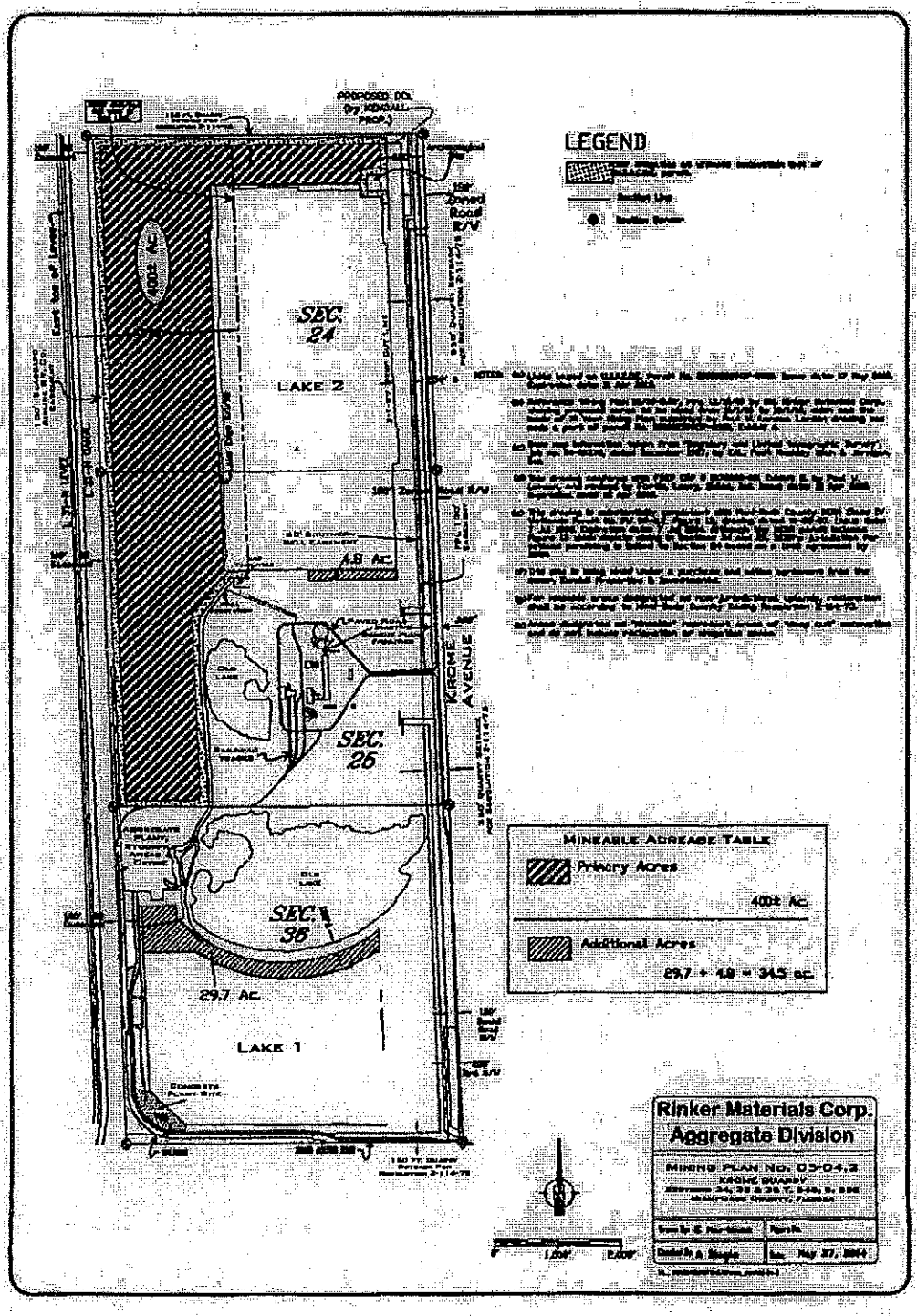
OFF. REC. 17076 PG 0671

COMMENCE AT THE SOUTHEAST CORNER OF SAID SECTION 25; THENCE N02°11'55"W ALONG THE EAST LINE OF THE SOUTHEAST 1/4 OF SAID SECTION 25 FOR 2075.36 FEET; THENCE S87°48'05"W FOR 225.00 FEET TO THE POINT OF BEGINNING OF THE HEREINAFTER DESCRIBED PARCEL OF LAND; THENCE S02°11'55"E FOR 777.24 FEET; THENCE S87°48'05"W FOR 119.64 FEET; THENCE S89°47'31"W FOR 1218.28 FEET; THENCE S03°03'11"W FOR 650.18 FEET; THENCE S85°29'09"W FOR 589.63 FEET; THENCE S02°02'51"E FOR 782.54 FEET; THENCE S02°49'18"W FOR 354.96 FEET; THENCE N87°29'57"W FOR 622.40 FEET; THENCE N02°31'06"W FOR 593.94 FEET; THENCE N36°11'51"E FOR 542.44 FEET; THENCE N41°03'00"E FOR 1448.81 FEET; THENCE N34°22'14"E FOR 518.27 FEET; THENCE N87°45'31"E FOR 1004.23 FEET TO THE POINT OF BEGINNING.

KILN DUST AREA
PARCEL IIB

COMMENCE AT THE SOUTHEAST CORNER OF SAID SECTION 25; THENCE N02°11'55"W ALONG THE EAST LINE OF THE SOUTHEAST 1/4 OF SAID SECTION 25 FOR 2132.69 FEET; THENCE S87°48'05"W FOR 225.00 FEET TO THE POINT OF BEGINNING OF THE HEREINAFTER DESCRIBED PARCEL OF LAND; THENCE S87°45'31"W FOR 1002.57 FEET; THENCE N38°40'41"W FOR 977.91 FEET TO A POINT OF CURVATURE OF A CIRCULAR CURVE CONCAVE TO THE SOUTHWEST; THENCE NORTHWESTERLY ALONG THE ARC OF SAID CURVE HAVING A RADIUS OF 182.00 FEET AND A CENTRAL ANGLE OF 50°00'00" FOR 158.82 FEET TO THE POINT OF TANGENCY; THENCE N88°40'41"W FOR 65.93 FEET; THENCE S12°14'05"W FOR 126.89 FEET; THENCE S83°23'23"W FOR 181.61 FEET; THENCE S77°52'44"W FOR 436.42 FEET; THENCE S05°16'30"W FOR 53.12 FEET; THENCE S77°24'12"E FOR 362.78 FEET TO A POINT OF INTERSECTION WITH THE ARC OF A CIRCULAR CURVE CONCAVE TO THE NORTHWEST, WITH SAID POINT OF INTERSECTION BEARING N59°21'45"E FROM THE CENTER OF SAID CURVE; THENCE SOUTHWESTERLY ALONG THE ARC OF SAID CURVE HAVING A RADIUS OF 475.80 FEET AND A CENTRAL ANGLE OF 44°00'16" FOR 365.42 FEET TO THE POINT OF TERMINATION ALONG THE ARC OF SAID CURVE, WITH SAID POINT OF TERMINATION BEARING S76°37'59"E FROM THE CENTER OF SAID CURVE; THENCE S45°20'01"W FOR 256.44 FEET; THENCE S40°57'56"W FOR 219.05 FEET; THENCE N71°49'50"W FOR 152.94 FEET; THENCE N11°20'06"W FOR 228.34 FEET; THENCE N48°27'57"W FOR 403.36 FEET; THENCE N04°56'06"E FOR 82.09 FEET; THENCE N61°14'46"W FOR 266.12 FEET; THENCE N78°14'24"W FOR 163.07 FEET; THENCE N17°11'38"E FOR 159.84 FEET; THENCE N00°14'10"W FOR 286.45 FEET; THENCE N20°28'58"E FOR 393.46 FEET; THENCE N62°15'16"E FOR 688.50 FEET; THENCE N86°15'50"E FOR 306.91 FEET; THENCE N45°06'50"E FOR 291.82 FEET; THENCE S81°11'00"E FOR 401.12 FEET; THENCE S14°11'16"E FOR 551.31 FEET; THENCE N71°26'59"E FOR 376.89 FEET; THENCE S61°35'34"E FOR 731.83 FEET; THENCE N89°50'38"E FOR 373.48 FEET; THENCE S02°11'55"E FOR 1041.06 FEET TO THE POINT OF BEGINNING.

EXHIBIT "B"
MINING PLAN



## MIAMI-DADE COUNTY DEPARTMENT OF PLANNING AND ZONING

**PERMIT** LAKE EXCAVATION

| | | | |
|---|---|---|---|
| **PERMIT NO:** | L201003015 | **EXPIRATION DATE:** | 01-FEB-11 |
| **PROPERTY OWNER:** | KROME MINING PARTNERS /CEMEX MATERIALS | **FOLIO NO:** | 3048510000010 |
| **JOB ADDRESS:** | 18250 SW 88 STREET | **SEC/TWP/RNG:** | 51-54- 38 |
| **CONTACT PERSON:** | ANDREW SLAGLE | **ASPR OR RESOLUTION NO:** | Z-1-02 |
| **CONTACT PHONE NO:** | (305) 821-5661 | **FEE PAID:** | $278.99 |
| **CONTACT ADDRESS:** | 13292 N.W. 118 AVENUE | **COMPLETION DATE:** | 31-DEC-15 |
| | | **COMMENTS:** | FILE 133 RENEWAL |
| | MIAMI, FL 33178 | | |

**THIS PERMIT MUST BE POSTED AT THE JOB SITE. IT IS VALID FOR A LIMITED TIME AS INDICATED ABOVE, AFTER WHICH TIME THE USE MUST BE DISCONTINUED. SHOULD YOU HAVE ANY QUESTIONS, CONTACT THE LEGAL ADVISOR'S OFFICES AT (305) 375-3075.**

MIAMI-DADE COUNTY

*"Delivering Excellence Every Day"*

"Exhibit B"

## MIAMI-DADE COUNTY DEPARTMENT OF PLANNING AND ZONING

### PERMIT LAKE EXCAVATION

| | | | |
|---|---|---|---|
| PERMIT NO: | L201003016 | EXPIRATION DATE: | 09-FEB-11 |
| PROPERTY OWNER: | KENDALL PROPERTIES/CEMEX CONSTRUCTION | FOLIO NO: | 3048240000010 |
| JOB ADDRESS: | 5800 SW 117 AVENUE | SEC/TWP/RNG: | 24-54- 38 |
| CONTACT PERSON: | ANDREW SLAGLE | ASPR OR RESOLUTION NO: | Z-114-75 |
| CONTACT PHONE NO: | (305) 821-5861 | FEE PAID: | $278.99 |
| CONTACT ADDRESS: | 13292 NW 118 AVENUE | COMPLETION DATE: | 07-JUL-14 |
| | | COMMENTS: | FILE 48 |

MIAMI, FL 33178

THIS PERMIT MUST BE POSTED AT THE JOB SITE. IT IS VALID FOR A LIMITED TIME AS INDICATED ABOVE, AFTER WHICH TIME THE USE MUST BE DISCONTINUED. SHOULD YOU HAVE ANY QUESTIONS, CONTACT THE LEGAL ADVISOR'S OFFICES AT (305) 375-3075.

MIAMI-DADE COUNTY

*Delivering Excellence Every Day*

Rec'd 3-15-10 AF

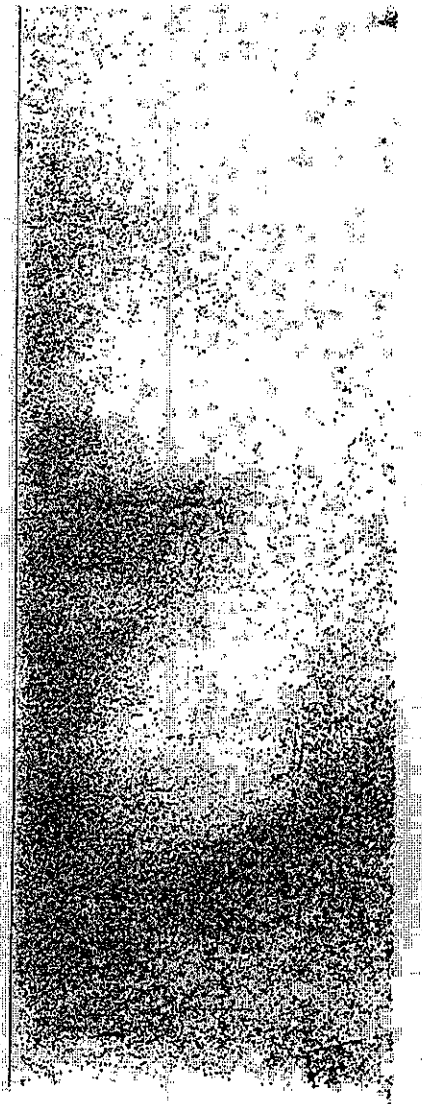


Exhibit "C"

CFN 2006R0337916
OR Bk 24375 Pgs 1838 - 1842 (5pgs)
RECORDED 03/29/2006 14:25:30
HARVEY RUVIN, CLERK OF COURT
MIAMI-DADE COUNTY, FLORIDA

This Instrument Was Prepared by, Record and Return to:
Richard Schanerman, Esq.
Akerman, Senterfitt & Eidson, P.A.
One S.E. 3rd Avenue
28th Floor
Miami, Florida 33131

SPACE ABOVE THIS LINE FOR RECORDER'S USE ONLY

# MEMORANDUM OF PRODUCT PURCHASE AND SALE AGREEMENT AND LEASE

This Memorandum of Product Purchase and Sale Agreement and Lease is made as of the 27 day of March, 2006, by and among SANTA FE HACIENDAS, LLC, a Florida limited liability company ("Owner"), whose mailing address is 5835 Blue Lagoon Drive, 4th Floor, Miami, Florida 33126, and RINKER MATERIALS OF FLORIDA, INC., a Florida corporation ("Rinker"), whose mailing address is 1501 Belvedere Road, West Palm Beach, Florida 33406.

**WHEREAS**, Owner is the record fee owner of that certain real property (the "Property") described in **Exhibit A** attached hereto and made a part hereof; and

**WHEREAS**, Owner and Rinker have entered into a certain Product Purchase and Sale Agreement and Lease dated March 27, 2006, as same may be or have been amended, modified, extended, supplemented, restated, and/or replaced from time to time (the "Agreement"), in connection with which this Memorandum is executed; and

**WHEREAS**, Owner and Rinker are desirous of recording a Memorandum of the Agreement in order to provide record notice of the existence thereof.

**NOW, THEREFORE**, in consideration of the Agreement and other good and valuable consideration in hand paid by each party to the other, the receipt and sufficiency of which is hereby acknowledged, the parties hereby acknowledge and agree as follows:

1. The foregoing recitals are true and correct as of the date hereof.

2. For purposes of this Memorandum, capitalized terms used herein and not otherwise defined herein shall have the meanings assigned to them in the Agreement.

3. Each party acknowledges the existence of the Agreement pursuant to the terms of which Owner has agreed to grant Rinker certain rights with respect to mining and excavation operations and activities on the Property on the terms, covenants and conditions contained in the Agreement.

4. The provisions set forth in the Agreement are hereby incorporated by reference into this Memorandum. This Memorandum is not intended to and shall not change any of the terms and conditions of the Agreement. In the event of any conflict between he terms and conditions of the Agreement and this Memorandum the Agreement shall control.

5. Rinker hereby agrees that any contractor's, subcontractor's, mechanic's, and any other such type of construction lien filed pursuant to Chapter 713 of the Florida Statutes shall extend only to, the right, title, and leasehold interest of Rinker and further agrees and gives notice to all persons that the interest of the Owner shall not be subject to liens for improvements made by or at the direction of Rinker as set forth in Florida Statute Section 713.10.

6. The Agreement is binding upon, shall inure to the benefit of, and be enforceable by, the parties thereto and their respective successors and assigns.

7. This Memorandum may be executed in any number of counterparts and by each of the parties hereto in separate counterparts, all such counterparts together constituting but one and the same instrument.

**[ SIGNATURE PAGES FOLLOW ]**

**IN WITNESS WHEREOF,** the parties have caused this instrument to be signed and delivered by duly authorized representatives, as of the date first above written.

**OWNER:**

**SANTA FE HACIENDAS, LLC,** a Florida limited liability company

By: _____
Name: Mahsoud Shojaee
Title: President

_____
Witness to Owner
Print Name: Antonia Vella

_____
Witness to Owner
Print Name: Claudia Useda

STATE OF FLORIDA )
)ss:
COUNTY OF )

The foregoing instrument was acknowledged before me this 27 day of March, 2006 by Mahsoud Shojaee, owner of SANTA FE HACIENDAS, LLC, a Florida limited liability company, on behalf of the company. He/she is personally known to me or has produced _____ (type of identification) as identification.

My Commission Expires:
ONCE
Notary Public - State of Florida
My Commission Expires Dec 17, 2008
Commission # DD 347592
Bonded By National Notary Assn.

_____
NOTARY PUBLIC
Print Name: I Ponce
Commission No.: _____

{M2383065;2}

**RINKER MATERIALS OF FLORIDA, INC., a Florida corporation**

By: _____
Name: PAUL A J BRITAIN
Title: VICE PRESIDENT

_____
Witness to Rinker

Print Name: NEVA M CARNEVALE

_____
Witness to Rinker

Print Name: MICHAEL E BOYD

STATE OF FLORIDA )
)ss:
COUNTY OF PALM BEACH)

The foregoing instrument was acknowledged before me this 27 day of March, 2006 by PAUL A.J. BRITAIN, VP of RINKER MATERIALS OF FLORIDA, INC., a Florida corporation, on behalf of the corporation. He/she is personally known to me or has produced _____ (type of identification) as identification.

My Commission Expires:

NEVA M. CARNEVALE
MY COMMISSION # DD 447701
EXPIRES: September 22, 2009
Bonded Thru Notary Public Underwriters

_____
NOTARY PUBLIC
Print Name: NEVA M CARNEVALE
Commission No.: DD 447701

# EXHIBIT "A"

## Description of Property

A PORTION OF SECTION 1, TOWNSHIP 55 SOUTH, RANGE 38 EAST, MIAMI-DADE COUNTY, FLORIDA, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCE AT THE SOUTHWEST CORNER OF SAID SECTION 1; THENCE N02°06'03" W, ALONG THE WEST LINE OF SAID SECTION 1, FOR A DISTANCE OF 1980.77 FEET TO THE POINT OF BEGINNING OF THE HEREINAFTER DESCRIBED PARCEL OF LAND; THENCE CONTINUE N02°06'03" W, ALONG THE LAST DESCRIBED LINE FOR A DISTANCE OF 3299.09 FEET TO THE NORTHWEST CORNER OF SAID SECTION 1; THENCE N89°30'05" E, ALONG THE NORTH LINE OF SAID SECTION 1, FOR A DISTANCE OF 5279.86 FEET TO THE NORTHEAST CORNER OF SAID SECTION 1; THENCE S02°06'00" E, ALONG THE EAST LINE OF SAID SECTION 1, FOR A DISTANCE OF 1493.52 FEET TO ITS INTERSECTION WITH THE ARC OF A CIRCULAR CURVE TO THE LEFT, CONCAVE TO THE SOUTHEAST, A RADIAL LINE TO SAID POINT BEARS N76°17'57" W; THENCE SOUTHWESTERLY ALONG THE ARC OF SAID CURVE, SAID ARC BEING COINCIDENT WITH THE WESTERLY RIGHT-OF-WAY LINE OF S.W. 177 AVENUE (KROME AVENUE), AS SHOWN ON FLORIDA DEPARTMENT OF TRANSPORTATION RIGHT-OF-WAY MAP SECTION 87150, SHEET 25 OF 29, SAID ARC HAVING A RADIUS OF 5954.58 FEET, THROUGH A CENTRAL ANGLE OF 15°48'03" FOR AN ARC DISTANCE OF 1642.14 FEET TO A POINT OF TANGENCY; THENCE S02°06'00" E, ALONG SAID WESTERLY RIGHT-OF-WAY LINE, A SAID LINE BEING 225.00 FEET WEST OF AND PARALLEL WITH THE EAST LINE OF SAID SECTION 1, FOR A DISTANCE OF 177.88 FEET; THENCE S89°30'05" W, ALONG A LINE 1980.00 FEET NORTH OF AND PARALLEL WITH THE SOUTH LINE OF SAID SECTION 1, FOR A DISTANCE OF 1181.98 FEET; THENCE S02°06'00" E, ALONG A LINE 1406.52 FEET WEST OF AND PARALLEL WITH THE EAST LINE OF SAID SECTION 1, FOR A DISTANCE OF 660.26 FEET; THENCE S89°30'05" W, ALONG A LINE 1320.00 FEET NORTH AND PARALLEL WITH THE SOUTH LINE OF SAID SECTION 1, FOR A DISTANCE OF 1232.57 FEET; THENCE N02°06'03" W, ALONG A LINE 2639.13 FEET EAST OF AND PARALLEL WITH THE WEST LINE OF SAID SECTION 1, FOR A DISTANCE OF 660.26 FEET; THENCE S89°30'05" W, ALONG A LINE 1980.00 FEET NORTH OF AND PARALLEL WITH THE SOUTH LINE OF SAID SECTION 1, FOR A DISTANCE OF 2640.16 TO THE POINT OF BEGINNING.

ALL OF THE ABOVE DESCRIBED LAND SITUATED, BEING AND LYING IN MIAMI-DADE COUNTY, FLORIDA.

# Exhibit "D"

**AFFIDAVIT OF PETER LYONS**

STATE OF FLORIDA

COUNTY OF PALM BEACH

BEFORE ME, the undersigned authority, personally appeared Peter Lyons, who, being first duly sworn, deposes and states as follows:

1. I am a Vice President of CEMEX Construction Materials Florida, LLC.

2. I am over the age of 18 and have personal knowledge of the matters stated herein as a result of my management responsibility and authority over all of the ongoing mining operations in the State of Florida for CEMEX Construction Materials Florida, LLC.

3. Pursuant to a Product Purchase and Sale Agreement and Lease between Santa Fe Haciendas, LLC and CEMEX Construction Materials Florida, LLC, CEMEX has the right to occupy the subject property and operate a rock mining operation for an initial period of fifteen years with extension rights.

4. I am aware of and fully knowledgeable on the Santa Fe Haciendas application (09-176) ("the application") being considered for Unusual Use Variance to allow lake excavation.

5. I affirm that the following describes the intent of this application by Santa Fe Haciendas, which, in conjunction with CEMEX Construction Materials Florida, LLC's Class IV Permit Application with the Miami Dade Department of Environmental Management, is for the purpose of expansion of the existing rock mining operation located on the property immediately adjacent to the North of the subject property.

6. CEMEX Construction Materials Florida, LLC currently operates the facility located immediately to the North of the subject property as their "Krome Quarry". This facility is currently used to supply limerock aggregate products to the local market via truck, and the regional market via the existing rail facility located on the property. The Krome Quarry already utilizes reserves from two different, but adjacent parcels under different ownership. The quarry produces a finished aggregate product that is used in concrete and asphalt production, as well as a limerock base product that is used for sub surface leveling and fill.

7. The subject property of this application will expand the existing operation and allow additional flexibility and efficiency of operation. The siting of a portable processing facility as part of this application will allow the production of a limerock base material directly out of this property at a cost reduction to the overall operation. The processing, finishing and rail shipping facilities on the existing Krome Quarry have sufficient capacity so that material excavated from the subject property may be hauled to the finishing plant on the existing Krome Quarry for further processing and shipment.

8. This operational structure is not unique to this location. CEMEX has several other operations around the state, and many of our competitors have operations that are similarly structured whereby a single "operation" encompasses property under multiple ownerships and multiple processing areas. In some cases, CEMEX may own one or more of the properties, and in some cases they are independent leases with different owners allowing our operation. In this common scenario, as will be the manner of operation of the subject property, mining equipment such as front end loaders, haul trucks, and excavating equipment is utilized across the entire project without concern over property ownership. Quarry employees operate the facility from a single office location as one facility with respect to their jobs and responsibilities. The site will

be managed by a single manager who oversees the entire operation. The marketing of the product, including customer pricing and billing is done from a single source and the customer and general public perceive the entire site as one ongoing operation.

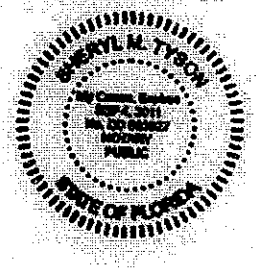
9. Other than accounting requirements that facilitate the accurate and equitable compensation to the individual property owners, these operations are functionally managed no different than operations entirely owned and operated by CEMEX Construction Materials Florida, LLC.

FURTHER AFFIANT SAYETH NAUGHT.

Peter Lyons

SWORN TO AND SUBSCRIBED before me this 21st day of Dec, 2010, by Peter Lyons, who is personally known to me or who produced _____ as identification and who did take an oath.

NOTARY PUBLIC
Print name: Sheryl M Tyson
My commission expires: 9/4/11



GT GreenbergTraurig

Kerri L. Barsh
Tel 305.579.0772
Fax 305.961.5772
barshk@gtlaw.com

December 22, 2010

*BY EMAIL AND HAND -DELIVERY*

Mr. Marc C. LaFerrier
Director
Department of Planning and Zoning
111 N.W. First Street, 11th Floor
Miami, FL 33128

Re : **Santa Fe Haciendas, LLC, Zoning Application (P.H. No. 09- 176) (the "Unusual Use Application")**

Dear Marc,

In furtherance of our meeting on Monday, December 20, 2010, I am providing you with certain requested information and materials in support of the fact that the rock mining and ancillary activities proposed in the Unusual Use Application are an expansion of the existing mining operation by CEMEX Construction Materials Florida, LLC. (CEMEX) (formerly known as Rinker Materials of Florida, Inc.), on the property immediately abutting and contiguous to the north of the Santa Fe Haciendas property. These supporting materials, which are attached, include:

1. An Affidavit dated December 21, 2010, and executed by Mr. Peter C. Lyons, Vice President of CEMEX. In his affidavit, Mr. Lyons details the manner in which the rock mining activities requested in the Unusual Use Application will expand CEMEX's current rock mining operations on the property located immediately adjacent to the North, which CEMEX operates as its Krome Quarry. These factors include, without imitation, the use of mining equipment (haul trucks, front-end loaders and excavating equipment) and quarry employees across the entire project, unified project management and common marketing, all of which help establish a single, *bona fide* rock mining operation that expands onto and includes the contiguous Santa Fe Haciendas property.

2. A Memorandum of Product Purchase and Sale Agreement and Lease dated March 27, 2006, and recorded in the public records of Miami-Dade County on March 29, 2006, between Rinker Materials of Florida, Inc., and Santa Fe Haciendas, LLC, the owner of the property subject to the application in question. As the Memorandum of Lease indicates, the Lease agreement itself was entered into in 2006 and since that time CEMEX has been in the process of obtaining the various permits and authorizations needed for its proposed

operations. In the short time since our meeting on Monday afternoon, we have attempted to confirm whether such memoranda exist for the property to the north but have been unable to do so. If we are able to locate any such memorandum, we will gladly provide the memorandum to the Department to supplement this correspondence.

3. An Environmental Resource Permit No. 275849-001, which was issued by the Florida Department of Environmental Protection (FDEP) on July 12, 2010. Among the entitlements that CEMEX sought and obtained since 2006 when its lease commenced, is an environmental resource permit from FDEP. CEMEX has also filed a Class IV permit application for this site with the Department of Environmental Resources Management, which is currently under review.

CEMEX maintains that the pending application meets the criteria of Ordinance No. 10-09, which grants the Board of County Commissioners the jurisdiction to directly hear applications for unusual uses for lake excavations to expand *bona fide* rock mining operations onto property contiguous and immediately adjacent to existing rockmining operations. For these reasons, we respectfully request that the Department schedule the application for a public hearing before the Board of County Commissioners at the next available hearing date, consistent with all applicable procedures.

I trust that the foregoing, along with the accompanying attachments, have addressed any outstanding factual issues or concerns with the application of Ordinance No. 10-09 but please contact me or my co-counsel if, for any reason, we can be of further assistance on the Unusual Use Application.

Best regards,

Kerri L. Barsh

Attachments

cc: Felix LaSarte, Esq.
Stanley B. Price, Esq.
Jorge Navarro, Esq.

*MIA 181,619,252v1 12-22-10HARSHK002062.042500*

# AFFIDAVIT OF PETER LYONS

STATE OF FLORIDA

COUNTY OF PALM BEACH

BEFORE ME, the undersigned authority, personally appeared Peter Lyons, who, being first duly sworn, deposes and states as follows:

1. I am a Vice President of CEMEX Construction Materials Florida, LLC.

2. I am over the age of 18 and have personal knowledge of the matters stated herein as a result of my management responsibility and authority over all of the ongoing mining operations in the State of Florida for CEMEX Construction Materials Florida, LLC.

3. Pursuant to a Product Purchase and Sale Agreement and Lease between Santa Fe Haciendas, LLC and CEMEX Construction Materials Florida, LLC, CEMEX has the right to occupy the subject property and operate a rock mining operation for an initial period of fifteen years with extension rights.

4. I am aware of and fully knowledgeable on the Santa Fe Haciendas application (09-176) ("the application") being considered for Unusual Use Variance to allow lake excavation.

5. I affirm that the following describes the intent of this application by Santa Fe Haciendas, which, in conjunction with CEMEX Construction Materials Florida, LLC's Class IV Permit Application with the Miami Dade Department of Environmental Management, is for the purpose of expansion of the existing rock mining operation located on the property immediately adjacent to the North of the subject property.

6. CEMEX Construction Materials Florida, LLC currently operates the facility located immediately to the North of the subject property as their "Krome Quarry". This facility is currently used to supply limerock aggregate products to the local market via truck, and the regional market via the existing rail facility located on the property. The Krome Quarry already utilizes reserves from two different, but adjacent parcels under different ownership. The quarry produces a finished aggregate product that is used in concrete and asphalt production, as well as a limerock base product that is used for sub surface leveling and fill.

7. The subject property of this application will expand the existing operation and allow additional flexibility and efficiency of operation. The siting of a portable processing facility as part of this application will allow the production of a limerock base material directly out of this property at a cost reduction to the overall operation. The processing, finishing and rail shipping facilities on the existing Krome Quarry have sufficient capacity so that material excavated from the subject property may be hauled to the finishing plant on the existing Krome Quarry for further processing and shipment.

8. This operational structure is not unique to this location. CEMEX has several other operations around the state, and many of our competitors have operations that are similarly structured whereby a single "operation" encompasses property under multiple ownerships and multiple processing areas. In some cases, CEMEX may own one or more of the properties, and in some cases they are independent leases with different owners allowing our operation. In this common scenario, as will be the manner of operation of the subject property, mining equipment such as front end loaders, haul trucks, and excavating equipment is utilized across the entire project without concern over property ownership. Quarry employees operate the facility from a single office location as one facility with respect to their jobs and responsibilities. The site will

be managed by a single manager who oversees the entire operation. The marketing of the product, including customer pricing and billing is done from a single source and the customer and general public perceive the entire site as one ongoing operation.

9. Other than accounting requirements that facilitate the accurate and equitable compensation to the individual property owners, these operations are functionally managed no different than operations entirely owned and operated by CEMEX Construction Materials Florida, LLC.

FURTHER AFFIANT SAYETH NAUGHT.

Peter Lyons

SWORN TO AND ~~SUBSCRIBED~~ before me this 21st day of Dec, 2010, by Peter Lyons, who is personally known to me or who produced _____ as identification and who did take an oath.

NOTARY PUBLIC
Print name: Sheryl M. Tyson
My commission expires: 9/4/11

SHERYL M. TYSON
My Comm. Expires SEP 4, 2011
No. DD 660627
NOTARY PUBLIC
STATE OF FLORIDA

CFN 2006R0337916
OR Bk 24375 Pgs 1838 - 1842; (5pgs)
RECORDED 03/29/2006 14:25:30
HARVEY RUVIN, CLERK OF COURT
MIAMI-DADE COUNTY, FLORIDA

This Instrument Was Prepared by, Record and
Return to:
Richard Schanerman, Esq.
Akerman, Senterfitt & Eidson, P.A.
One S.E. 3rd Avenue
28th Floor
Miami, Florida 33131

SPACE ABOVE THIS LINE FOR RECORDER'S USE ONLY

# MEMORANDUM OF PRODUCT PURCHASE AND SALE AGREEMENT AND LEASE

This Memorandum of Product Purchase and Sale Agreement and Lease is made as of the 27 day of March, 2006, by and among SANTA FE HACIENDAS, LLC, a Florida limited liability company ("Owner"), whose mailing address is 5835 Blue Lagoon Drive, 4th Floor, Miami, Florida 33126, and RINKER MATERIALS OF FLORIDA, INC., a Florida corporation ("Rinker"), whose mailing address is 1501 Belvedere Road, West Palm Beach, Florida 33406.

**WHEREAS**, Owner is the record fee owner of that certain real property (the "Property") described in **Exhibit A** attached hereto and made a part hereof; and

**WHEREAS**, Owner and Rinker have entered into a certain Product Purchase and Sale Agreement and Lease dated March 27, 2006, as same may be or have been amended, modified, extended, supplemented, restated, and/or replaced from time to time (the "Agreement"), in connection with which this Memorandum is executed; and

**WHEREAS**, Owner and Rinker are desirous of recording a Memorandum of the Agreement in order to provide record notice of the existence thereof.

**NOW, THEREFORE**, in consideration of the Agreement and other good and valuable consideration in hand paid by each party to the other, the receipt and sufficiency of which is hereby acknowledged, the parties hereby acknowledge and agree as follows:

1. The foregoing recitals are true and correct as of the date hereof.

2. For purposes of this Memorandum, capitalized terms used herein and not otherwise defined herein shall have the meanings assigned to them in the Agreement.

3. Each party acknowledges the existence of the Agreement pursuant to the terms of which Owner has agreed to grant Rinker certain rights with respect to mining and excavation operations and activities on the Property on the terms, covenants and conditions contained in the Agreement.

4. The provisions set forth in the Agreement are hereby incorporated by reference into this Memorandum. This Memorandum is not intended to and shall not change any of the terms and conditions of the Agreement. In the event of any conflict between he terms and conditions of the Agreement and this Memorandum the Agreement shall control.

5. Rinker hereby agrees that any contractor's, subcontractor's, mechanic's, and any other such type of construction lien filed pursuant to Chapter 713 of the Florida Statutes shall extend only to, the right, title, and leasehold interest of Rinker and further agrees and gives notice to all persons that the interest of the Owner shall not be subject to liens for improvements made by or at the direction of Rinker as set forth in Florida Statute Section 713.10.

6. The Agreement is binding upon, shall inure to the benefit of, and be enforceable by, the parties thereto and their respective successors and assigns.

7. This Memorandum may be executed in any number of counterparts and by each of the parties hereto in separate counterparts, all such counterparts together constituting but one and the same instrument.

**[ SIGNATURE PAGES FOLLOW ]**

**IN WITNESS WHEREOF,** the parties have caused this instrument to be signed and delivered by duly authorized representatives, as of the date first above written.

**OWNER:**

**SANTA FE HACIENDAS, LLC,** a Florida limited liability company

By: _____
Name: Masoud Shojaee
Title: President

_____
Witness to Owner

Print Name: Anamaria Urdi

_____
Witness to Owner

Print Name: Claudia Useda

STATE OF FLORIDA )
)ss:
COUNTY OF )

The foregoing instrument was acknowledged before me this 27 day of March, 2006 by Masoud Shojaee, owner of SANTA FE HACIENDAS, LLC, a Florida limited liability company, on behalf of the company. He/she is personally known to me or has produced _____ (type of identification) as identification.

My Commission Expires:

J. PONCE
Notary Public - State of Florida
My Commission Expires Dec 17, 2008
Commission # DD 347592
Bonded By National Notary Assn.

_____
NOTARY PUBLIC
Print Name J Ponce
Commission No.: _____

{M2383065;2}

**RINKER MATERIALS OF FLORIDA, INC.**, a Florida corporation

By: _____
Name: PAUL A J BRITTAIN
Title: VICE PRESIDENT

_____
Witness to Rinker

Print Name: NEVA M CARNEVALE

_____
Witness to Rinker

Print Name: MICHAEL E BOTOS

STATE OF FLORIDA )
)ss:
COUNTY OF PALM BEACH)

The foregoing instrument was acknowledged before me this 27 day of March, 2006 by PAUL AJ. BRITAIN, VP of RINKER MATERIALS OF FLORIDA, INC., a Florida corporation, on behalf of the corporation. He/she is personally known to me or has produced _____ (type of identification) as identification.

My Commission Expires:

NEVA M. CARNEVALE
MY COMMISSION # DD 447701
EXPIRES: September 22, 2009
Bonded Thru Notary Public Underwriters

_____
NOTARY PUBLIC
Print Name NEVA M CARNEVALE
Commission No.: DD 447701

# EXHIBIT "A"

## Description of Property

A PORTION OF SECTION 1, TOWNSHIP 55 SOUTH, RANGE 38 EAST, MIAMI-DADE COUNTY, FLORIDA, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCE AT THE SOUTHWEST CORNER OF SAID SECTION 1; THENCE N02°06'03" W, ALONG THE WEST LINE OF SAID SECTION 1, FOR A DISTANCE OF 1980.77 FEET TO THE POINT OF BEGINNING OF THE HEREINAFTER DESCRIBED PARCEL OF LAND; THENCE CONTINUE N02°06'03" W, ALONG THE LAST DESCRIBED LINE FOR A DISTANCE OF 3299.09 FEET TO THE NORTHWEST CORNER OF SAID SECTION 1; THENCE N89°30'05" E, ALONG THE NORTH LINE OF SAID SECTION 1, FOR A DISTANCE OF 5279.86 FEET TO THE NORTHEAST CORNER OF SAID SECTION 1; THENCE S02°06'00" E, ALONG THE EAST LINE OF SAID SECTION 1, FOR A DISTANCE OF 1493.52 FEET TO ITS INTERSECTION WITH THE ARC OF A CIRCULAR CURVE TO THE LEFT, CONCAVE TO THE SOUTHEAST, A RADIAL LINE TO SAID POINT BEARS N76°17'57" W; THENCE SOUTHWESTERLY ALONG THE ARC OF SAID CURVE, SAID ARC BEING COINCIDENT WITH THE WESTERLY RIGHT-OF-WAY LINE OF S.W. 177 AVENUE (KROME AVENUE), AS SHOWN ON FLORIDA DEPARTMENT OF TRANSPORTATION RIGHT-OF-WAY MAP SECTION 87150, SHEET 25 OF 29, SAID ARC HAVING A RADIUS OF 5954.58 FEET, THROUGH A CENTRAL ANGLE OF 15°48'03" FOR AN ARC DISTANCE OF 1642.14 FEET TO A POINT OF TANGENCY; THENCE S02°06'00" E, ALONG SAID WESTERLY RIGHT-OF-WAY LINE, A SAID LINE BEING 225.00 FEET WEST OF AND PARALLEL WITH THE EAST LINE OF SAID SECTION 1, FOR A DISTANCE OF 177.88 FEET; THENCE S89°30'05" W, ALONG A LINE 1980.00 FEET NORTH OF AND PARALLEL WITH THE SOUTH LINE OF SAID SECTION 1, FOR A DISTANCE OF 1181.98 FEET; THENCE S02°06'00" E, ALONG A LINE 1406.52 FEET WEST OF AND PARALLEL WITH THE EAST LINE OF SAID SECTION 1, FOR A DISTANCE OF 660.26 FEET; THENCE S89°30'05" W, ALONG A LINE 1320.00 FEET NORTH AND PARALLEL WITH THE SOUTH LINE OF SAID SECTION 1, FOR A DISTANCE OF 1232.57 FEET; THENCE N02°06'03" W, ALONG A LINE 2639.13 FEET EAST OF AND PARALLEL WITH THE WEST LINE OF SAID SECTION 1, FOR A DISTANCE OF 660.26 FEET; THENCE S89°30'05" W, ALONG A LINE 1980.00 FEET NORTH OF AND PARALLEL WITH THE SOUTH LINE OF SAID SECTION 1, FOR A DISTANCE OF 2640.16 TO THE POINT OF BEGINNING.

ALL OF THE ABOVE DESCRIBED LAND SITUATED, BEING AND LYING IN MIAMI-DADE COUNTY, FLORIDA.

Florida Department of Environmental Protection
Bureau of Mining and Minerals Regulation
2051 East Paul Dirac Drive
Tallahassee, Florida 32310-3760

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

## ENVIRONMENTAL RESOURCE PERMIT

**PERMITTEE/AUTHORIZED ENTITY:**
Cemex Construction Materials Florida, LLC
1501 Belvedere Road
West Palm Beach, Florida 33406

Permit/ Authorization No. 275849-001
Date of Issue: July 12, 2010
Expiration Date of Construction Phase: July 12, 2020
County: Miami-Dade
Project: Shoma Lake Excavation

**AGENT:**
Carl L. Skiles, P.E.
Fortin, Leavy and Skiles, Inc.
180 Northeast 168th Street
North Miami Beach, Florida 33162

This permit is issued under the authority of Part IV of Chapter 373, Florida Statutes (F.S.), and Title 62, Florida Administrative Code (F.A.C.). The activity is not exempt from the requirement to obtain an Environmental Resource Permit. Pursuant to Operating Agreements executed between the Department and the water management districts, as referenced in Chapter 62-113, F.A.C., the Department is responsible for reviewing and taking final agency action on this activity. This permit also constitutes a finding of consistency with Florida's Coastal Zone Management Program, as required by Section 307 of the Coastal Management Act. This permit also constitutes certification compliance with water quality standards under Section 404 of the Clean Water Act, 33 U.S.C. 1344.

A copy of this authorization also has been sent to the U.S. Army Corps of Engineers (USACOE) for review. The USACOE may require a separate permit. Failure to obtain this authorization prior to construction could subject you to enforcement action by that agency. You are hereby advised that authorizations also may be required by other federal, state, and local entities. This authorization does not relieve you from the requirements to obtain all other required permits and authorizations.

The above-named permittee is hereby authorized to construct the work shown on the application and approved drawing(s), plans, and other documents attached hereto or on file with the Department and made a part hereof. **This permit is subject to the limits, conditions, and locations of work shown in the attached drawings, and is also subject to the attached General Conditions and Specific Conditions, which are a binding part of this permit.** You are advised to read and understand these drawings

and conditions prior to commencing the authorized activities, and to ensure the work is conducted in conformance with all the terms, conditions, and drawings. If you are utilizing a contractor, the contractor also should read and understand these drawings and conditions prior to commencing the authorized activities. Failure to comply with all drawings and conditions shall constitute grounds for revocation of the permit and appropriate enforcement action. Operation of the facility is not authorized except when determined to be in conformance with all applicable rules and with the general and specific conditions of this permit/certification, as specifically described below.

**ACTIVITY DESCRIPTION**

The activity is a permit/water quality certification to establish a new surface water management system for a limestone mine within a 393.2-acre project area.

The site consists of rock-plowed agricultural fields that have been used for many years for truck crop farming. The site is predominantly uplands, but includes 30 herbaceous and shrubby-herbaceous isolated wetlands, totaling 7.54 acres.

The project area is located adjacent to the L-31N Canal and east of Everglades National Park. There is a potential for adverse hydrological impacts within wetlands west of the project area as a result of mining. Therefore, the applicant has requested authorization for mining in two distinct phases, Phase 1 (the East Portion of the mine) and Phase 2 (the West Portion). The application provides reasonable assurance that excavation within the Phase 1 area will not adversely impact the hydrology within wetlands west of the project area. Since mining within the Phase 2 area could contribute to seepage hydrological impacts, mining in this phase will not be authorized until the permit is modified. This modification would require a completed application providing reasonable assurance that the permittee will meet the conditions for issuance of a permit. This would include assurance that any adverse seepage impacts from the expanded mining are fully addressed and offset through structural improvements and/or seepage mitigation.

This permit will allow mining to occur only in the Phase 1 area. Phase 1 will consist of a 197.1-acre project area which will result in adverse impacts to 1.2 acres of wetlands. Mitigation will not be required for impacts to these wetlands, which are each below the one-half acre mitigation threshold described in Paragraph 4.2.2.1 of the Basis of Review for Environmental Resource Permit Applications in the South Florida Water Management District (B.O.R.). The completion of Phase 1, without the expansion into Phase 2 would result in the creation of a 172.1-acre lake, with 19.7 acres of sloped littoral zone shorelines and reclaimed upland areas. The lake will have gently sloping shorelines (seven feet horizontal to one foot vertical). The maximum depth of mining is

expected to be approximately 50 feet below existing grade, or no deeper than the upper confining unit of the Gray Limestone aquifer, whichever is shallower.

No additional impervious surfaces are proposed. Mining will progress without dewatering. The construction phase of this permit will last 10 years. During the construction phase, stormwater up to the 25-year, three-day storm will be contained on site. During mining, stormwater within the project area will be contained within the mine pit, by using a system of berms. At the completion of mining, the berms shall be removed and the site shall be contoured to slope gently toward the littoral zone wetlands surrounding the pit. The reclaimed lake will not connect with waters of the state.

The estimated life of the mine, including reclamation, is 10 years. The postreclamation land use will be lake and sloped, vegetated shorelines.

## ACTIVITY LOCATION

The project is located just south of the intersection of Krome Avenue and Kendall Drive, in Section 1, Township 55 South, Range 38 East, in Miami-Dade County, Florida.

## GENERAL CONDITIONS

1. All activities authorized by this permit shall be implemented as set forth in the plans, specifications and performance criteria as approved by this permit. Any deviation from the permitted activity and the conditions for undertaking that activity shall constitute a violation of this permit and Part IV, Chapter 373, F.S.

2. This permit or a copy thereof, complete with all conditions, attachments, exhibits, and modifications shall be kept at the work site of the permitted activity. The complete permit shall be available for review at the work site upon request by the Department staff. The permittee shall require the contractor to review the complete permit prior to commencement of the activity authorized by this permit.

3. Activities approved by this permit shall be conducted in a manner which does not cause violations of state water quality standards. The permittee shall implement best management practices for erosion and pollution control to prevent violation of state water quality standards outside of the active mine pit. For all construction outside of the active mine pit, temporary erosion control shall be implemented prior to and during construction, and permanent control measures shall be completed within seven days of any construction activity. Turbidity barriers shall be installed and maintained at all locations where the possibility of transferring

suspended solids into the receiving waterbody exists due to the permitted work. Turbidity barriers shall remain in place at all locations until construction is completed and soils are stabilized and vegetation has been established. All practices shall be in accordance with the guidelines and specifications described in Chapter 6 of the Florida Land Development Manual: A Guide to Sound Land and Water Management (Department of Environmental Regulation, 1988), incorporated by reference in rule 40E-4.091, F.A.C., unless a project-specific erosion and sediment control plan is approved as part of the permit. Thereafter the permittee shall be responsible for the removal of the barriers. The permittee shall correct any erosion or shoaling that causes adverse impacts to the water resources outside of the area being disturbed by active mining operations.

4. When the duration of construction will exceed one year, the permittee shall submit construction status reports to the Department on an annual basis utilizing an Annual Status Report Form. Status Report Forms shall be submitted by March 1 of each year.

5. Within 30 days after completion of construction of the permitted activity, the permittee shall submit a written statement of completion and certification by a registered professional engineer or other appropriate individual as authorized by law, utilizing the supplied Environmental Resource Permit Construction Completion/Construction Certification Form No. 62-343.900(5). The statement of completion and certification shall be based on on-site observation of construction or review of as-built drawings for the purpose of determining if the work was completed in compliance with permitted plans and specifications. This submittal shall serve to notify the Department that the system is ready for inspection. Additionally, if deviations from the approved drawings are discovered during the certification process, the certification must be accompanied by a copy of the approved permit drawings with deviations noted. Both the original and revised specifications must be clearly shown. The plans must be clearly labeled as "as-built" or "record" drawing. All surveyed dimensions and elevations shall be certified by a registered surveyor.

6. The operation phase of this permit shall not become effective until: the permittee has complied with the requirements of General Condition No. 5 above; has submitted a Request for Conversion of Environmental Resource Permit from Construction Phase to Operation Phase, Form No. 62-343.900(7); the Department determines the system to be in compliance with the permitted plans and specifications; and the entity approved by the Department in accordance with Sections 9.0 and 10.0 of the Basis of Review for Environmental Resource Permit Applications Within the South Florida Water Management District - August 1995, accepts responsibility for operation and maintenance of the system. The permit

shall not be transferred to such approved operation and maintenance entity until the operation phase of the permit becomes effective. Following inspection and approval of the permitted system by the Department, the permittee shall initiate transfer of the permit to the approved responsible operating entity if different from the permittee. Until the permit is transferred, pursuant to rule 62-343.130, F.A.C., the permittee shall be liable for compliance with the terms of the permit.

7. Should any other regulatory agency require changes to the permitted system, the permittee shall notify the Department in writing of the changes prior to implementation so that a determination can be made whether a permit modification is required.

8. This permit does not eliminate the necessity to obtain any required federal, state, local and special district authorizations prior to the start of any activity approved by this permit. This permit does not convey to the permittee or create in the permittee any property right, or any interest in real property, nor does it authorize any entrance upon or activities on property which is not owned or controlled by the permittee, or convey any rights or privileges other than those specified in the permit and Chapter 40E-4 or Chapter 40E-40, F.A.C.

9. The permittee is hereby advised that section 253.77, F.S., states that a person may not commence any excavation, construction, or other activity involving the use of sovereign or other lands of the state, the title to which is vested in the Board of Trustees of the Internal Improvement Trust Fund without obtaining the required lease, license, easement, or other form of consent authorizing the proposed use. Therefore, the permittee is responsible for obtaining any necessary authorizations from the Board of Trustees prior to commencing activity on sovereignty lands or *other state-owned lands.*

10. The permittee must obtain a water use permit prior to construction dewatering, unless the work qualifies for a general permit pursuant to rule 40E-20.302(4), F.A.C., also known as the "No Notice" rule.

11. The permittee shall hold and save the Department harmless from any and all damages, claims, or liabilities which may arise by reason of the construction, alteration, operation, maintenance, removal, abandonment or use of any system authorized by the permit.

12. Any delineation of the extent of a wetland or other surface water submitted as part of the permit application, including plans or other supporting documentation, shall

not be considered binding unless a specific condition of this permit or a formal determination under subsection 373.421(2), F.S., provides otherwise.

13. The permittee shall notify the Department in writing within 30 days of any sale, conveyance, or other transfer of ownership or control of a permitted system or the real property on which the permitted system is located. All transfers of ownership or transfers of a permit are subject to the requirements of rules 40E-1.6105 and 40E-1.6107, F.A.C. The permittee transferring the permit shall remain liable for corrective actions that may be required as a result of any violations prior to the sale, conveyance or other transfer of the system.

14. Upon reasonable notice to the permittee, Department authorized staff with proper identification shall have permission to enter, inspect, sample and test the system to insure conformity with the plans and specifications approved by the permit.

15. If historical or archaeological artifacts are discovered at any time on the project site, the permittee shall immediately notify the Department.

16. The permittee shall immediately notify the Department in writing of any previously submitted information that is later discovered to be inaccurate.

SPECIFIC CONDITIONS

1. **Permit Compliance.** The purpose of this permit is to authorize the creation of a surface water management system on certain described lands within the jurisdiction of the Department. In exchange for this authorization, the permittee is obligated to perform certain acts that are described herein. A material part of the reasonable assurances the Department is relying upon in issuing this permit is that the permittee will timely and completely implement all of the conditions of this permit. The permittee understands that its failure to completely and timely comply with all of the conditions of this permit may result in a revocation or suspension of the permit and if appropriate, that the area be restored.

2. **Listed Species.** Permits shall be obtained from the Florida Fish and Wildlife Conservation Commission prior to the "taking" of any listed animal species. Listed animal species are those animal species listed in rules 68A-27.003, 68A-27.004, and 68A-27.005, F.A.C. Taking means: taking, attempting to take, pursuing, hunting, molesting, capturing, or killing any listed species, their nests or eggs, by any means, whether or not such actions result in obtaining possession.

3. **"Good Cause Rule".** The permittee is hereby advised that rule 62-343.100(1)(c), F.A.C., provides that for good cause and after notice to the permittee, the Department may require the permittee to conform to new or additional conditions to this permit. Circumstances that constitute "good cause" shall include any of the situations listed in the referenced rule.

4. **Wetland Jurisdictional Determination.** For this application, the permittee and Department identified a line that may be upland to the presumed landward extent of the wetlands and other surface waters. Any delineation of the extent of a wetland or other surface waters submitted as part of the permit application, *including plans or other supporting documentation, shall not be considered* specifically approved unless a specific condition of this permit or a formal determination under subsection 373.421(2), F.S., provides otherwise.

**Construction**

5. **Drawing Conflicts.** The project shall be conducted in compliance with the permit drawings, plans, figures, and narratives which identify location, schedule, notification, and reclamation and mitigation activities. If the approved permit drawings conflict with the specific conditions, then the specific conditions shall prevail.

6. **Facility abandonment.** The following shall be properly abandoned and/or removed in accordance with the applicable regulations when in the path of construction:

   a. Any existing wells in the path of construction shall be properly plugged and abandoned by a licensed well contractor.

   b. Any existing septic tanks on site shall be abandoned at the beginning of construction.

   c. Any existing fuel storage tanks and fuel pumps shall be removed at the beginning of construction.

7. **Dredging and Filling Limits.** All wetland and surface water areas to be dredged or filled shall be in accordance with the attached permit drawings and shall not exceed the locations, areas and depths indicated on those drawings.

8. **Extraction Limits.** The expansion of the extraction area(s) beyond the limits identified as "Phase 1", as shown in sheet 2 of 6, is not authorized. Construction in

the area designated as "Phase 2" is not authorized until this permit has been modified by the Department after the submittal of a complete application that satisfies the conditions for issuance under rules 40E-4.301 and 40E-4.302, F.A.C., and provides reasonable assurance that any adverse seepage impacts that could occur as a result of the expanded mining have been fully addressed and offset through structural improvements and/or seepage mitigation.

9. **Excavation Depth.** Mining and excavation shall not extend below -45 feet National Geodetic Vertical Datum (NGVD), or two feet above the upper confining unit of the Gray Limestone aquifer, whichever is shallower.

10. **Stormwater Containment.** Mining and mining related activities shall be conducted at all times within a stormwater system capable of containing a 25-year, three-day storm. All construction, operation, and maintenance of the stormwater system shall be as set forth in the plans, specifications, and performance criteria contained in the Department file and approved by this permit.

11. **Hazardous Materials Containment.** A separate containment area for equipment maintenance and the storage of petroleum and hazardous substances shall be constructed on site to retain surface water from entering the mine pit. The containment area shall be built to confine any spilled petroleum or hazardous materials and stormwater to the volumetric requirements of Section 5.2 of the Basis of Review for Environmental Resource Permit Applications within the South Florida Water Management District.

12. **Water Conservation.** All surface water management systems shall be operated to conserve water in order to maintain environmental quality and resource protection; to increase the efficiency of transport, application and use; to decrease waste; to minimize unnatural runoff from the property and to minimize dewatering of off-site property.

13. **Surface Water Storage Structures.**

    a. On-site dams, including stormwater ponds, berms, dredge pond dikes, or tailings disposal area dikes shall not store flowable liquid more than four feet above natural grade.

    b. All water management structures shall be constructed of clean fill, devoid of materials or vegetation that could allow water to be piped through the structure. Earthen material should be placed in lifts no greater in depth than 1 foot and compacted until the density meets or exceeds a 95 percent Modified __

Proctor test. A minimum of three feet of freeboard should be provided above the expected high water level within the containment system. Tops of containment berms should provide a five to 10-foot top width and should be sloped downward at one to two percent toward the interior of the containment system. Interior and exterior sides of berms should be sloped no steeper than three horizontal to one vertical.

c. Vegetated surface water containment structures shall be mowed annually to control woody vegetation.

d. Topsoil storage piles or berms constructed as safety barriers shall not be utilized to store flowable liquid, but may be used to divert stormwater to sumps. Water deeper than one foot above grade shall be pumped away from these structures as expeditiously as possible.

14. **System Changes.** No modifications or additions shall be made to this facility which could alter the stormwater management and storage characteristics of the facility, without prior modification of this permit. The stormwater treatment facility shall at all times be maintained in good working order and operate as efficiently as practicable. All installed treatment facilities shall be operated to achieve the highest practical level of treatment and efficiency.

15. **Training.** The permittee shall provide permit compliance training.

a. Training shall be provided to the staff of the permittee and contractors who will be supervising construction, modification, alteration, or removal of the surface water management system, or conducting inspections of the surface water management system.

b. Training shall be conducted for newly hired staff or contractors within the first three months of their starting date.

c. Refresher training shall be conducted annually for all permittee staff and contractors who supervise construction, modification, alteration, or removal of the surface water management system, or permittee staff and contractors responsible for conducting inspections of the surface water management system.

d. The training shall explain the design, construction methods, operation, maintenance, inspection, and reporting requirements for the surface water management system.

e. The permittee shall maintain a list of individuals trained. The list shall include the training date and a brief identification of the individual's responsibility with regards to the surface water management system. The list shall be provided to the Department upon request.

16. **Off-site Flooding.** The permittee shall take all reasonable steps necessary to eliminate the risk that there will be flooding on lands not controlled by the permittee caused by silting or damming of stream channels, channelization, slumping or debris slides, uncontrolled erosion, or intentional spoiling or diking, or other similar actions within the control of the permittee.

17. **Water Quality of Discharges.** Activities approved by this permit shall be conducted in a manner that does not cause violations of state water quality standards. Water discharged from the project area shall achieve the water quality standards of Chapter 62-302, F.A.C., for Class III waters at the point where the water leaves the project area.

18. **Construction Adjacent to Wetlands or Other Surface Waters.** Prior to stockpiling material, waste, overburden, etc., in the vicinity of a wetland or other surface waters; or conducting any other earth-disturbing activity in the vicinity of a wetland or other surface waters, the permittee shall implement measures to protect on-site and off-site wetlands and other surface waters from turbidity and sediment.

    a. The permittee shall instruct all personnel associated with the project that earth-disturbing activities, including the stockpiling of material or waste, shall not occur within wetlands or other surface waters, nor adjacent to wetlands or other surface waters, where turbidity and sediment control devices are not present.

    b. To prevent secondary impacts to habitat functions of wetlands adjacent to activities conducted in uplands, the permittee shall maintain an upland buffer with a width of 25 feet abutting each wetland that will not be dredged or filled. Earth-disturbing activities, (including land clearing, mining, materials berm construction, and waste stockpiling), shall not be conducted within the buffers or the limits of any un-permitted (avoided) wetlands or other surface waters. Adjacent to any earth-disturbing activities or material/waste piles, the boundary of the upland buffer shall be clearly identified in the field with stakes and flagging at a 50-foot or shorter interval, or with sediment and turbidity control structures.

c. Best management practices for turbidity and erosion control shall be implemented and maintained, during earth-disturbing activities adjacent to wetlands or other surface waters, to prevent siltation and turbid discharges in excess of state water quality standards pursuant to Chapter 62-302, F.A.C. Staked filter cloth, staked hay bales, or other turbidity and sediment control devices shall be installed, where appropriate. The toe of each staked filter cloth shall be buried and panels shall have at least a three-foot staked overlap area. All turbidity and sediment control devices shall be installed prior to the disturbance. All turbidity and sediment control devices shall be maintained until disturbed areas have sufficiently stabilized and vegetated to prevent water quality violations, or the movement of sediment.

d. All wetland areas or other surface waters which are adjacent to the specific limits of construction authorized by this permit shall be protected from erosion, sedimentation, siltation, scouring, excess turbidity or dewatering. All exposed and disturbed land surfaces up gradient from wetlands or other surface waters shall be stabilized with sod, seed or mulch immediately following completion of final grades to prevent erosion. Land surfaces up gradient from wetlands or other surface waters shall be stabilized at all times during and after construction so as to prevent any erosion, sedimentation, siltation, or scouring. A vegetative cover that stabilizes and prevents erosion of the material shall be established within 60 days of final grading. Upon establishment of a substantial vegetative cover, all turbidity barriers/erosion control devices may be removed.

e. Should any of the avoided wetlands be degraded by activities, additional wetland mitigation may be required.

19. **Construction within Avoided Wetlands or Other Surface Waters.** The project includes dredging or filling activities adjacent to avoided wetlands or other surface waters. The permittee shall implement measures to protect the avoided portions of wetlands and surface waters from turbidity and sediment.

a. The permittee shall instruct all personnel associated with the project that earth-disturbing activities, including the stockpiling of material or waste, shall not occur within wetlands or other surface waters, nor adjacent to wetlands or other surface waters, where turbidity and sediment control devices are not present.

b. Prior dredging or filling, the limits of the proposed dredge or fill areas shall be clearly flagged and staked by the permittee. All construction personnel shall be

shown the location(s) of all wetland areas outside of the construction area to prevent encroachment from heavy equipment into these areas.

c. Prior to the initiation of any work authorized by this permit within wetlands or other surface waters, floating turbidity screens with weighted skirts that extend to the bottom shall be placed adjacent to the approved dredge or fill area. The screens shall be maintained and shall remain in place for the duration of the project construction to ensure that turbidity levels outside the construction area do not exceed 29 Nephelometric Turbidity Units (NTU's) above background levels. The permittee shall be responsible for ensuring that turbidity control devices are inspected daily and maintained in good working order so that there are no violations of state water quality standards outside of the turbidity screens. Turbidity shall be monitored as described in the monitoring portion of this permit.

d. Best management practices for turbidity and erosion control shall be implemented and maintained, during earth-disturbing activities adjacent to wetlands or other surface waters, to prevent siltation and turbid discharges in excess of state water quality standards pursuant to Chapter 62-302, F.A.C. Staked filter cloth, staked hay bales, or other turbidity and sediment control devices shall be installed, where appropriate. The toe of each staked filter cloth shall be buried and panels shall have at least a three-foot staked overlap area. All turbidity and sediment control devices shall be installed prior to the disturbance. All turbidity and sediment control devices shall be maintained until disturbed areas have sufficiently stabilized and vegetated to prevent water quality violations, or the movement of sediment.

e. All wetland areas or other surface waters which are adjacent to the specific limits of construction authorized by this permit shall be protected from erosion, sedimentation, siltation, scouring, excess turbidity or dewatering. All exposed and disturbed land surfaces up gradient from wetlands or other surface waters shall be stabilized with sod, seed or mulch immediately following completion of final grades to prevent erosion. Land surfaces up gradient from wetlands or other surface waters shall be stabilized at all times during and after construction so as to prevent any erosion, sedimentation, siltation, or scouring. A vegetative cover that stabilizes and prevents erosion of the material shall be established within 60 days of final grading. Upon establishment of a *substantial vegetative cover, all turbidity barriers/erosion control devices may* be removed.

f. Should any of the avoided wetlands be degraded by activities additional wetland mitigation shall be required.

20. **Fill Material.** All material used as fill in wetlands or other surface waters shall be clean sand, rock or shell material and shall not be contaminated with vegetation, garbage, trash, tires, hazardous, toxic waste or other materials that are not suitable for road construction within waters of the State as so determined by the Department.

21. **Construction Adjacent to Property Lines.** Prior to stockpiling material, waste, overburden, etc., in the vicinity of a property line or any other earth-disturbing activity in the vicinity of a property line, the permittee shall implement measures to protect adjacent property from sediment or other material.

    a. The permittee shall instruct all personnel associated with the project that earth-disturbing activities, including the stockpiling of material or waste, shall not occur adjacent to property lines where turbidity and sediment control devices are not present.

    b. A minimum setback distance of 100 feet shall be maintained between any earth-disturbing activities, (including land clearing, mining, materials, berm construction, and waste stockpiling), and the property line.

    c. The permittee shall prevent the movement of earthen materials, wastes, debris, etc., from leaving the property.

22. **Process Water Treatment.** No chemicals, except water conditioners or pH adjusters which have been approved by the Department as not adversely affecting the quality of the water contained in the mine, shall be added to the process water used for transporting, washing or processing of the sand or limestone.

23. **Dewatering.** Dewatering activities refer to pumping of water from an active work site, in order to maintain workable conditions. No dewatering is authorized by this permit.

24. **Blast Site Preparation.** When preparing a new location for blasting the permittee shall ensure that the site is free of all spilled fuels, lubricants, solvents, or any other groundwater pollutants. Prior to the initiation of drilling, all drilling equipment shall be inspected for leaks, and shall be maintained in a manner that minimizes ground contamination. If any leaks or spills are found within the blast area, these shall be collected and disposed of in accordance with state law prior to detonation.

Blasting compounds shall utilize vegetable oil, mineral oil or other material that is low in benzene as compared to fuel oil.

25. **Upland Reclamation.** Upland contouring and revegetation shall be established in the following manner:

    a. Contouring activities shall be initiated as soon as practical and be completed no later than one year after the calendar year in which an area becomes available for reclamation and would not interfere with mining operations.

    b. Upland slopes shall be contoured to the standards of Chapter 62C-36, F.A.C.

    c. Vegetation activities shall be initiated as soon as practical and completed no later than one year after the calendar year in which the final contours are established in an area and revegetation activities would not interfere with mining operations. Upland revegetation shall at least meet the standards of Chapter 62C-36.008, F.A.C.

    d. Other than in areas being reclaimed as agricultural or silvicultural areas, exotic and nuisance species shall be controlled during the establishment of vegetation. Exotic plant species include, but are not limited to those species listed as Category I or Category II, on the Florida Exotic Plant Council's List of Invasive Species. Nuisance species shall mean those species of flora whose noxious characteristics or presence in sufficient number, biomass, or areal extent may reasonably be expected to prevent, or unreasonably interfere with, the designated use of the waters under consideration, as defined in rule 62-302.200, F.A.C.

    e. Mulching, contouring, and other suitable techniques shall be used to enhance stabilization. Should washes or rills develop after revegetation and before final release of the area, the permittee shall repair the eroded areas and stabilize the slopes.

    f. Reclamation activities through revegetation shall be completed within three years of the final cessation of mining operations at the mine.

26. **Shoreline Reclamation.** The lake shorelines shall be contoured in accordance with the attached plans. The shorelines are not considered wetland mitigation. The lake shorelines shall be created in the following manner:

a. The contouring for the treatment of final shorelines using stockpiled overburden material shall be initiated and completed no later than one year after the calendar year in which the length and final location of the shoreline is established and other mining operations have ceased in the area. The permittee may request a waiver of this requirement for any reasonable length of time when necessary to prevent the unacceptable contamination of the resource being extracted.

b. Vegetation activities shall be initiated as soon as practical and completed no later than one year after the calendar year in which the final contours are established in an area and revegetation activities would not interfere with mining operations.

c. Littoral zone revegetation shall at least meet the standards of rule 62C-36.008, F.A.C. The permittee may use natural recruitment for the revegetation of shorelines; however, erosion shall be controlled and repaired, nuisance and exotic species shall be controlled, and the revegetation of the shorelines shall be completed to meet release standards.

d. Mulching, contouring, and other suitable techniques shall be used to enhance stabilization. Should washes or rills develop after revegetation and before final release of the area, the permittee shall repair the eroded areas and stabilize the slopes.

e. Exotic and nuisance species shall be controlled during the establishment of the shoreline vegetation. Exotic plant species include, but are not limited to those species listed as Category I or Category II, on the Florida Exotic Plant Council's List of Invasive Species. Nuisance species shall mean those species of flora whose noxious characteristics or presence in sufficient number, biomass, or areal extent may reasonably be expected to prevent, or unreasonably interfere with, the designated use of the waters under consideration, as defined in rules 62-312.310(8) and 62-302.200(14), F.A.C.. Nuisance species include but are not limited to: *Azolla caroliniana* (mosquito fern), *Ludwigia leptocarpa* (water-primrose), *Mikania scandens* (climbing hemp vine), *Salvinia rotundifolia* (water spangles), and *Typha* spp. (cattails).

f. Reclamation activities through revegetation shall be completed within three years of the final cessation of mining operations at the mine.

**Wetland Mitigation**

27. **Mitigation Credits.** Phase 2, if approved, would result in adverse impacts to 2.79 acres of herbaceous and shrubby-herbaceous wetlands. To offset impacts to these wetlands, the permittee shall purchase 2.81 herbaceous credits from the Hole-in-the-Donut Mitigation Bank. The permittee shall provide the Department with documentation that the credits have been deducted from the credit ledger of the mitigation bank, prior to the initiation of any mining activities within Phase 2. If mitigation credits are not available, alternative wetland mitigation shall be provided as part of the application for Phase 2.

**Monitoring and Reporting**

28. **Submittals.** Unless otherwise specified, all notices, plans, draft easements, reports or other documents or information required by this permit to be submitted to the Department shall be provided to:

    Florida Department of Environmental Protection
    Bureau of Mining and Minerals Regulation
    2051 East Paul Dirac Drive
    Tallahassee, Florida 32310-3760
    (850) 488-8217, facsimile (850) 488-1254.

29. **Reporting.** Failure to submit reports in a timely manner constitutes grounds for revocation of the permit.

30. **Agent Change.** The permittee shall notify the Department in writing within 14 days of any change in agents, address or telephone number for the permittee or project.

31. **Notice of Commencement.** At least 48 hours prior to commencement of activity authorized by this permit, the permittee shall submit to the Department a Construction Commencement Notice Form No. 62-343.900(3) indicating the actual start date and the expected completion date.

32. **Oil and Hazardous Substances.** Florida law requires reporting of oil and hazardous substances spills. Immediately report such spills to the Department's Division of Law Enforcement, Bureau of Emergency Response, State Warning Point: (850) 413-9911, (800) 320-0519, 24 hours. The discharge of less than 25 gallons of petroleum or petroleum products onto a pervious surface is not reportable, as long as the discharge is removed and properly treated or disposed, or

otherwise remediated, pursuant to the applicable provisions of rule 62-770.300, F.A.C., so that no contamination from the discharge remains on-site.

33. **Serious Conditions.** The permittee shall within 12 hours notify the Department by telephone whenever a serious problem occurs at this facility.

    a. Serious conditions are, but are not limited to, situations that have or have the potential to adversely affect avoided wetlands or other surface waters, water quality, listed species, public health, safety, or welfare, or the property of others.

    b. During regular business hours notification shall be made to the Department by telephone. If an emergency occurs outside regular business hours, the permittee shall submit notification by fax.

    c. Within seven days of notification, the permittee shall submit a written report explaining the extent of the problem, its cause, and what actions have been or will be taken to correct the problem. The report shall include the results of water quality monitoring if the incident included discharges to wetlands or other surface waters.

    d. In the event of any accident resulting in the submergence of any equipment (such as machinery and vehicles) or containers containing petroleum or hazardous materials into the mine pit, the permittee shall submit a written closure report within seven days of the completion of clean-up and recovery operations. The report shall include photographs and shall describe the clean-up and recovery, providing details on the methods employed to limit water pollution.

34. **Human Remains.** In the event that human remains are encountered anywhere on the subject property, all work associated with the area of the remains must stop immediately and the district medical examiner shall be notified, in accordance with section 872.05, F.S. The Department is to be notified following notification of the proper authorities. Work shall not recommence until the Department receives verification from the appropriate authorities that the permittee may continue activities authorized by this permit.

35. **Quality Assurance.** In order to assure minimum field and laboratory quality assurance, methodological and reporting requirements, all field sampling shall follow the applicable collection and quality control protocols and requirements

described in Chapter 62-160, F.A.C., and the appropriate Department of Environmental Protection Standard Operation Procedures.

36. **Water Quality Screening.** Water quality within the active mine pits shall be screened at each blasting location, prior to and after the blast. The water samples shall be collected adjacent to the blasting location, at a depth of five feet below the elevation of the mining bench. At each planned blasting location:

    a. The permittee shall collect pre-blast water quality samples, no more than 24 hours prior to the start of the loading of the explosive material.

    b. The permittee shall collect post-blast samples within 24 hours after the blast.

    c. Each sample shall be tested for the following constituents: total nitrogen, combined nitrate-nitrite, and benzene.

    The water quality samples shall be promptly analyzed and reported to the Department. The data shall be compiled into a monthly blasting report letter which shall be submitted within 28 days of the last day of the month. The monthly blasting report shall provide the following information:

    - A description of the blasting agents used during the month,
    - the number and dates of blasting events during the month,
    - the date, locations, and ultimate fate of blasting agents for any borehole locations where detonation did not occur on an initial firing or attempt, and
    - a location map for the sampling sites.

    If the monthly reports indicate potential surface or ground water quality concerns, the Department may require corrective steps, including additional monitoring or other new or additional conditions, in accordance with rule 62-343.100(1)(c), F.A.C. After this screening requirement has been completed for not less than 12 monthly reports with screening results, the permittee may request a minor modification to the permit to remove this condition.

37. **Water Quality Violations.** The following measures shall be taken immediately by the permittee whenever the water quality levels at a monitoring station, or any water leaving the project area, violates state water quality standards established pursuant to Chapter 62-302, F.A.C.:

    a. Cease all work contributing to the water quality violation;

b. modify the work procedures that were responsible for the violation, and repair any non-functioning containment devices;

c. within 12 hours of identifying the violation notify the Department of the time the violation is first detected, the extent of the violation, and the corrective measures that have been and will be implemented; and

d. continue water quality monitoring at eight-hour intervals until samples no longer violate water quality standards.

38. **Groundwater Quality Monitoring.** Prior to the initiation of any land clearing activity in preparation for mining in Phase 1, the permittee shall install the Phase 1 groundwater quality monitoring well MW-1, as shown on Sheet 2 of 6, Lake Mining Plan. The Phase 2 well shall be installed prior to submitting an application for a permit modification to authorize the expansion of mining into Phase 2. For each well location:

a. There shall be one deep well casing (open from 40 to 60 feet below land surface).

b. Complete the baseline water quality sampling. Baseline sampling parameters shall include chlorides, sulfates, phosphorous, total dissolved solids, iron oxides, cadmium, gross alpha, uranium, radium 226 and 228.

c. Thereafter, sampling shall be conducted on an **annual basis** at all wells for phosphorous, iron oxides, cadmium, gross alpha, radium 226 and 228. Sampling for sulfates, total dissolved solids, chlorides shall be conducted on a **quarterly basis**. The monitoring report detailing the results of all the sampling along with the certified laboratory analysis work sheets shall be submitted with the annual narrative report. The monitoring may be discontinued after all extraction has ended on the site.

39. **Groundwater Quality Protection.**

a. At each water quality monitoring well, the permittee shall establish a baseline value for each monitored parameter.

b. After the first year of monitoring, levels of each parameter at each well shall not exceed the baseline values for more than two consecutive quarters. If baseline values are exceeded for more than two consecutive quarters, the permittee shall contact the Department within seven days of the analysis.

c. If any value exceeds or is trending toward exceeding the standards set in rule 62-520.420(1), F.A.C., the permittee shall contact the Department within seven days of the analysis.

d. In the event of an exceedance, the Department shall review the data at each well location, and determine a remedial course of action. Possible remedial actions may include additional monitoring at new well locations, restrictions on mining depth or on mining locations, or the suspension or revocation of the permit with restoration of the disturbed areas.

40. **Stormwater System Inspections.** The stormwater management system shall be inspected.

a. Turbidity, sedimentation and erosion control devices, slopes and exterior sides of berms, immediately up gradient from property lines, wetlands, and other surface waters, shall be inspected daily and after each rainfall event that is greater than one inch in a 24-hour period until the vegetation has been established. Thereafter, inspections shall occur weekly and after each rainfall event that is greater than one inch in a 24-hour period. Should washes or rills develop, the permittee shall repair the eroded areas and stabilize the slopes within 48 hours. Where the possibility of cascading failure exists, up gradient dikes and berms must also meet this requirement.

b. Pumps in the water collection areas shall be inspected daily when running to ensure correct operation.

c. Each inspection shall be documented and kept on file at the facility office. Each inspection report shall contain, as a minimum: date, name of inspector, as-found condition of major system features, and nature and extent of maintenance/repair performed. A summary of the reports shall be provided to the Department when requested.

d. If the stormwater management system is not functioning as designed and permitted, operational maintenance must be performed immediately to restore the system. If operational maintenance measures are insufficient to enable the system to meet the design standards, the permittee must either replace the system or construct an alternative design. Based on the above, the permittee must submit a permit modification application within 60 days of the date the system was determined to be design deficient.

41. **Weather Station Report.** The permittee shall report the data from the weather station on an annual basis. The report shall also include a cumulative record of weather events since the start of monitoring. During each reporting period, the report shall include the minimum, maximum, mean and standard deviation for each parameter. Also, the permittee shall provide rainfall and wind data from the weather station within 48 hours after any off-site discharge through an emergency discharge point or failure in a surface water management structure.

42. **Narrative and Monitoring Reports.** Annual narrative and monitoring reports shall *be submitted to the Department on or before March 1 of each year. The reports* shall continue to be submitted until all work authorized has been completed. The first annual narrative report shall be provided March 1, 2011. Each report shall include the following information:

    a. The cover page shall indicate the permit number, project name and the permittee name. Just below the title, the certification of the following statement by the individual who supervised preparation of the report: **"This report represents a true and accurate description of the activities conducted during the period covered by this report."**

    b. The date activity began;

    c. a brief description and drawings showing the extent of the work completed during the previous calendar year;

    d. a brief description and drawings showing the work anticipated during the current calendar year; and

    e. dates of monitoring inspections, observations made during the inspections, and corrective actions implemented or proposed, if any.

**Release**

43. **Lake Surface Water Separation.** The reclaimed lake shall not connect to off-site wetlands or other surface waters below the 25-year, 24-hour storm. The created lake shall be entirely owned by one person and therefore will not be considered waters of the state. If any portion of the lake surface waters becomes subdivided into more than one ownership, the surface waters will be waters of the state and will be required to meet all water quality standards for surface waters. Based on the proposed lake design, it is expected that the surface waters within deeper

portions of the lake may not meet water quality standards for dissolved oxygen at depth during the summer months.

44. **General Release.** All lands disturbed by mining and reclamation activities shall meet the following standards:

    a. All lands shall be reclaimed to a neat, clean condition by removing or adequately burying, where allowed by law, all visible debris, litter, junk, worn-out or unusable equipment or materials, as well as all poles, pilings, and cables.

    b. Large rocks and boulders shall be pushed into the lakes or placed in common locations at the mine surface or buried to a minimum depth of four feet.

    c. All temporary buildings, pipelines, and other man-made structures shall be removed with the exception of those that are of sound construction with potential uses that are compatible with the reclamation goals.

45. **Upland Release.** In addition to the release standards provided by Specific Condition No. 44, upland areas shall at least meet the following standards:

    a. Uplands shall at least meet the slope and revegetation standards of rule 62C-36.008, F.A.C. Upland slopes shall be no steeper than four horizontal to one vertical. Land surfaces shall be vegetated and stabilized to control erosion. All washes and rills shall be repaired, vegetated and stabilized. No bare areas larger than one-quarter acre shall occur.

    b. The planting of native trees within the uplands to meet the reclamation performance standards of Chapter 62C-36, F.A.C., will not be inconsistent with this permit.

46. **Water Quality.** Water within all wetlands and waterbodies shall be of sufficient quality to allow recreation or support fish and other wildlife.

47. **Littoral Zone Release.** The wetlands within the created lake shorelines are not considered wetland mitigation for dredging or filling activities associated with this permit. In addition to the release standards provided by Specific Condition No. 44, lake shorelines shall at least meet the following standards:

    a. Shorelines shall at least meet the design and revegetation standards of rule 62C-36.008, F.A.C. Lake shorelines shall be no steeper than seven horizontal to

one vertical to a depth of six feet below the average water level. Land surfaces shall be vegetated and stabilized to control erosion. All washes and rills shall be repaired, vegetated and stabilized.

b. The planting of native trees within the littoral zones to meet the reclamation performance standards of Chapter 62C-36, F.A.C., will not be inconsistent with this permit.

48. **Operation Phase.** This permit is for the construction, alteration, maintenance and operation of a surface water management system for mining operations, and for the removal of all or part of the system as part of mine reclamation. General Condition No. 6 provides requirements for the transfer of the permit to the operation phase.

a. Within 30 days after completion of reclamation of the permitted system, or independent portion of the system, the permittee shall submit a written statement of completion and certification by a registered professional engineer or other appropriate individual as authorized by law, utilizing Form 62-343.900(5), Environmental Resource Permit As-Built Certification by a Registered Professional. The statement of completion and certification shall be based on on-site observation of construction (conducted by the registered professional engineer, or other appropriate individual as authorized by law, or under his or her direct supervision) or review of as-built drawings for the purpose of determining if the work was completed in compliance with approved plans and specifications. If the statement of completion is for a portion of a larger system, the statement shall be accompanied with plans clearly showing the portion of the system that is complete.

b. When the completed system which will remain after reclamation differs substantially from the permitted plans, any substantial deviations shall be noted and explained and two copies of as-built drawings submitted to the Department. As-built drawings shall be the permitted drawings revised to reflect any changes made during construction. Both the original and any revised specifications must be clearly shown. The plans must be clearly labeled as "as-built" or "record" drawing. All surveyed dimensions and elevations shall be certified by a registered surveyor.

c. The following information, at a minimum, shall be verified on the as-built drawings:

1) Dimensions and elevations of all discharge structures including all weirs, slots, gates, pumps, pipes, and oil and grease skimmers;

2) locations, dimensions, and elevations of all filter, exfiltration, or underdrain systems including cleanouts, pipes, connections to control structures, and points of discharge to the receiving waters;

3) dimensions, elevations, contours, or cross-sections of all treatment storage areas sufficient to determine stage-storage relationships of the storage area and the permanent pool depth and volume below the control elevation for normally wet systems, when appropriate;

4) dimensions, elevations, contours, final grades, or cross-sections of the system to determine flow directions and conveyance of runoff to the treatment system;

5) dimensions, elevations, contours, final grades, or cross-sections of all conveyance systems utilized to convey off-site runoff around the system;

6) existing water elevation(s) and the date determined; and

7) elevation and location of benchmark(s) for the survey.

d. Submittal of the completed form shall serve to notify the Department that the system is ready for inspection. The permittee shall afford Department personnel the opportunity to schedule and conduct enough on-site inspection to determine whether the permit conditions have been met. After the on-site inspection, the Department shall notify the permittee that:

1) *The permit conditions have been completed and the surface water* management system has been built in accordance with the approved plans; or

2) The permit conditions have not been completed, identifying specifically those elements that do not meet the conditions; or

3) The permit conditions cannot be determined at this time, identifying specifically the information lacking that prevents the determination from being made.

e. Following inspection and approval of the permitted system by the Department, the permittee shall request transfer of the permit to the approved responsible operation and maintenance entity, if different from the permittee, using Form 62-343.900(7), Request for Transfer of Environmental Resource Permit Construction Phase to Operation Phase.

Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

Richard W. Cantrell

Richard W. Cantrell, Deputy Director
Division of Water Resource Management
2051 East Paul Dirac Drive
Tallahassee, Florida 32310-3760
850/488-8217

Copies furnished to:

U.S. Army Corps of Engineers
DEP, Southeast District, Environmental Resource Permitting
DEP, Southeast District, Industrial Wastewater Section
DEP, Tracy Robb
South Florida Water Management District, Lawrence Gerry
South Florida Water Management District, Anthony Waterhouse
South Florida Water Management District, Kim Shugar
South Florida Water Management District, Matt Morrison
South Florida Water Management District, Scott Burns
Everglades National Park, Manager
Miami-Dade County, DERM, Mathew Davis
Miami-Dade County, DERM, Mike Spinelli
Lampl-Herbert Consultants, Inc., Gregory Hitz
Mitigation Marketing, LLC, Lynn M. Zenczak

## CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that this permit, including all copies was mailed before the close of business on July 12, 2010, to the above listed persons.

## FILING AND ACKNOWLEDGMENT

FILED, on this date pursuant to 120.52, Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

Arlene Arruda 7/12/10
Clerk Date

Prepared by: Alan Whitehouse

Attached: 11 pages

## LIST OF ATTACHMENTS

The following are hereby attached to, and become part of this permit:

1. Pollution Prevention and Best Management Practices Plan, as Signed and Sealed on September 7, 2007.
2. Sheet 1 of 6, Location Map, as Signed and Sealed on October 1, 2008.
3. Sheet 2 of 6, Lake Plan, as Signed and Sealed on June 1, 2010.
4. Sheet 3 of 6, Wetlands Map, as Signed and Sealed on May 8, 2009.
6. Sheet 4 of 6, Wetlands Area Summary, as Signed and Sealed on July 18, 2008.
7. Sheet 5 of 6, Proposed Lake Excavation, Sections A-A and C-C, as Signed and Sealed on June 1, 2010.
8. Sheet 6 of 6, Proposed Lakes Excavation, Section B-B, as Signed and Sealed on June 1, 2010.

# RINKER MATERIALS OF FLORIDA, INC.

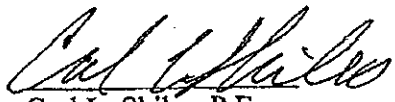
## ROCK MINE

## Section 1-53-39, Miami-Dade County

## POLLUTION PREVENTION
## and
## BEST MANAGEMENT PRACTICES

**Date:** **September 6, 2007**

Prepared By:



Carl L. Skiles, P.E.
Florida Reg. #13617

9/7/07

PERMIT # 0275849-001

RECEIVED
SEP 10 2007
Bureau of
Mine Reclamation

**ROCK MINES**
**POLLUTION PREVENTION BEST MANAGEMENT PRACTICES**

1. GENERAL MEASURES for POLLUTION PREVENTION

A. Stormwater management shall comply with the conditions of FDEP Environmental Resources Permit No. 275849-110

B. The use and storage of fuels and lubricants and other hazardous materials within the confines of the Project Area shall be in compliance with County Regulations and shall be limited to only those necessary for management of the lakes, mining and transport of rock, processing of rock, and ancillary uses.

C. Permittee shall not conduct, or allow to be conducted any water recreational activities, including motorized watercraft, within the confines of the Project.

D. Where possible, Permittee shall restrict public access to lake areas in the Project with guard gates, berms, fences or enclosures, based on industry practices.

E. Permittee shall not use, handle, store or discharge herbicides or pesticides within the confines of the Project, unless approved by the County.

F. Permittee's employees shall implement the attached Spill Prevention Control and Countermeasure Plan (SPCCP) in case of an accidental spill of pollution into open bodies of water.

G. All deposited material (overburden) shall consist of clean fill (soil, rock, sand, marl, muck, clay, stone, etc.). No trash, garbage, asphalt, roofing materials, tires, metals, building debris or toxic materials shall be deposited or disposed of in open waters, or buried on the project site.

H. Permittee shall not plant any invasive species within the littoral shelves (as defined in the Florida Exotic Pest Plant Council's List of Florida's Most Invasive Species).

I. No discharges of any fluid other than water and blasting explosives shall be made to the ground or lakes unless previously approved by the County.

J. A sufficient supply of containment booms, adsorbent booms, and adsorbent materials shall be stored and maintained on site, to be used to contain an open water spill. Employees shall be trained to know the location of the booms and materials, and in methods of proper deployment.

PERMIT # 0275849-110

RECEIVED
SEP 10 2007
Mine Reclamation

K. Open burning of oil, fuel, filters, rags, containers and other combustible wastes shall be prohibited.

2. MAINTENANCE and FUELING OF STATIONARY EQUIPMENT

A. All stationary equipment, such as draglines, crushers, screening plants, pumps, drill rigs and similar items shall be kept in good repair, free of leaks of fuel, oil, coolant, grease, hydraulic oil and other fluids. The equipment shall be inspected daily and any leaks repaired immediately.

B. Equipment shall be maintained and fueled as far as practical from open water, on a fill pad consisting of loose rock or sand which can easily be removed if contaminated by a spill.

C. Fuels and oils shall be pumped into the stationary equipment's tanks from a service truck, which shall use automatic shut-off devices to prevent overflow. The attendant shall continuously observe the operation to shut it down in case of malfunction.

D. Oils, coolant and other fluids removed from the equipment shall be pumped directly into the service truck tanks for removal from the project for disposal as required by the County.

E. If a spill to the ground occurs, the affected soil, rock and sand shall immediately be excavated and removed from the site for disposal at a site or by a process approved by the County. If a spill occurs that reaches open water, containment booms shall be deployed immediately and a response team called to remove the material from the water for disposal.

F. Fueling and maintenance of equipment shall be done only during daylight hours.

3. MAINTENANCE of MOBILE MINING EQUIPMENT

A. All mobile equipment such as loaders, off-highway trucks, graders, dozers and similar machines, shall be fueled and serviced on an impervious surface that is curbed or bermed to contain any spills.

B. Spills shall be cleaned immediately by service personnel or by calling the approved emergency response team, listed in the Spill Prevention and Countermeasure Plan (SPCCP) to be posted on the site.

C. Used oils, coolant and other fluids shall be stored in the waste tanks described in the SPCCP. Used filters, batteries and parts shall be stored in drums or other watertight containers, under cover, protected from rainfall, and shall be removed from the site at least monthly for disposal as approved by the County.

PERMIT # 0275849-001

RECEIVED
SEP 10 2007
Mine Reclamation

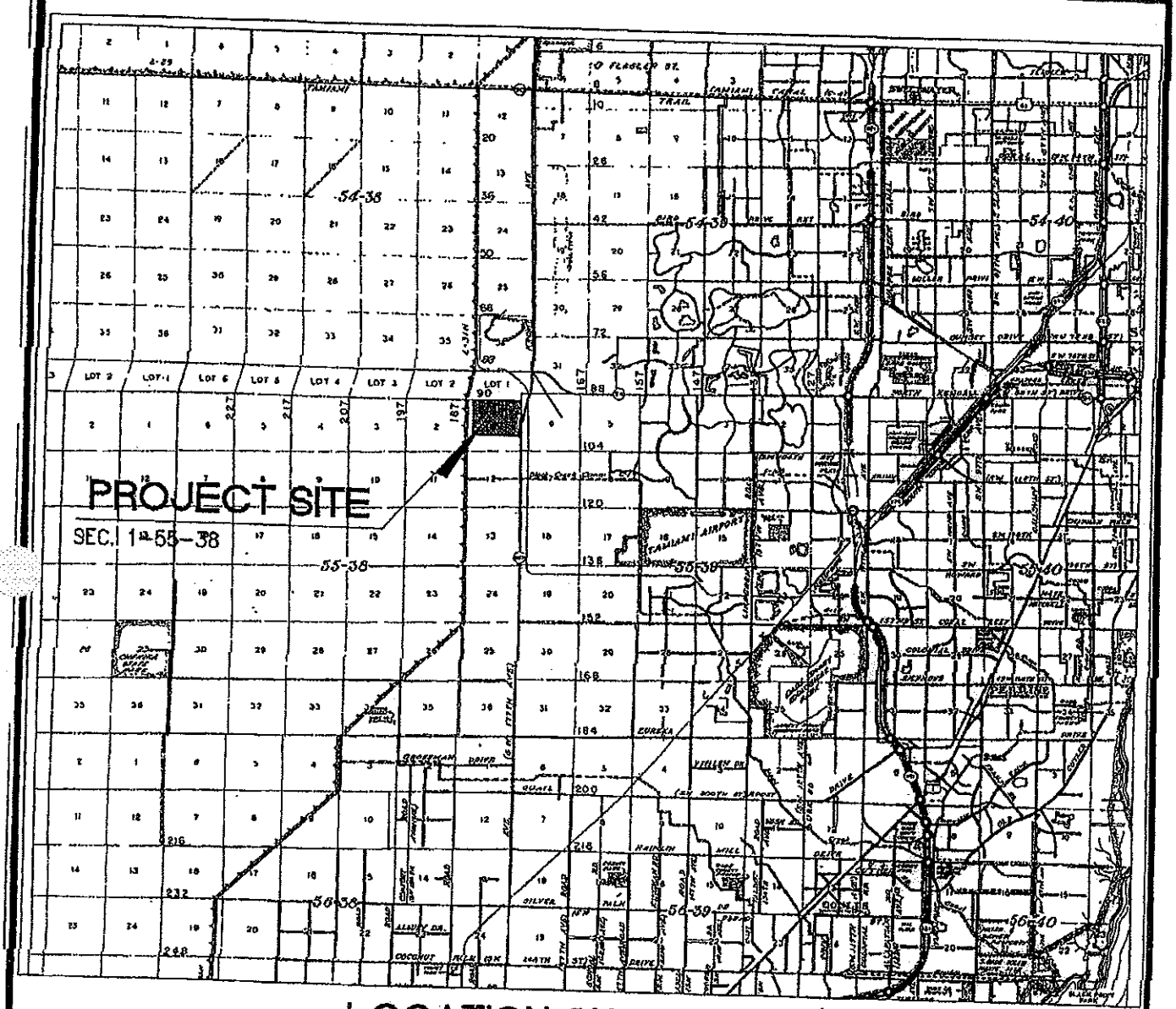
## STORMWATER MANAGEMENT PLAN

The intent of this Stormwater Management Plan is to prevent precipitation from becoming contaminated with petroleum products, which are stored on the fueling facility evaporation pad. Immediate capture of any inadvertently discharged petroleum products is paramount. Proper knowledge and use of the materials included in the spill containment kit referenced on page two of the SPCC is key to the success of this proactive plan. All fueling facility managers and employees will be thoroughly trained on the provisions of the SPCC, the contents and use of the spill containment kit and the safety features integral to the fueling system. A flow chart describing spill containment and notification procedures will be attached to the inside lid of the spill containment kit. The flow chart summarizes the information included in the fueling manager and employee training sessions. The first training session will be completed prior to operation of the proposed fueling facility. Subsequent training sessions will be conducted on an annual or as needed basis.

PERMIT # 0275849-001

RECEIVED
SEP 10 2007
Bureau of
Mine Reclamation

PERMIT # 0275849-001




# LOCATION SKETCH

SECT 1, TWP. 55s, RNG. 38e.
N.T.S.

Revised: 09/29/08
Revised: 07/09/08
Revised: 01/09/08

N

10/1/08

By [signature]
Fla. Reg. No. 13617

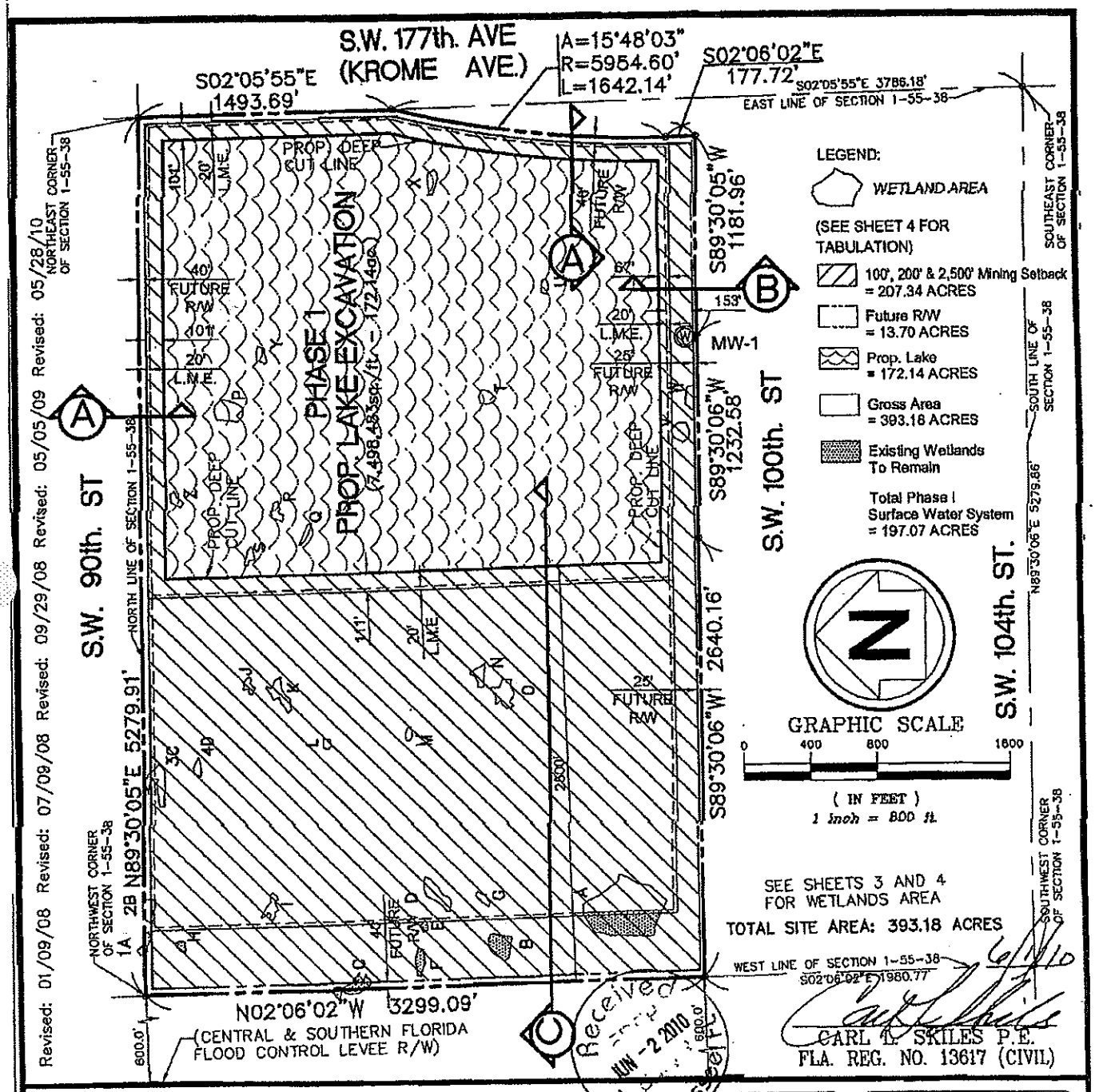
| | |
|---|---|
| Drawn By | REP |
| Cad. No. | 061816 |
| Ref. Dwg. | 3006-075 |
| Plotted: | 9/30/08 11:50a |

PROP. LAKE EXCAVATION - Section 1-55-38

FORTIN, LEAVY, SKILES, INC.
CONSULTING ENGINEERS, SURVEYORS & MAPPERS
FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER: 00003653
180 Northeast 168th Street / North Miami Beach, Florida 33162
Phone 305-653-4493 / Fax 305-651-7152 / Email fls@flssurvey.com

| | |
|---|---|
| Date | 09/18/06 |
| Scale | AS SHOWN |
| Job. No. | 067027 |
| Dwg. No. | 1006-192 |
| Sheet | 1 of 6 |

PERMIT # 0275849-001



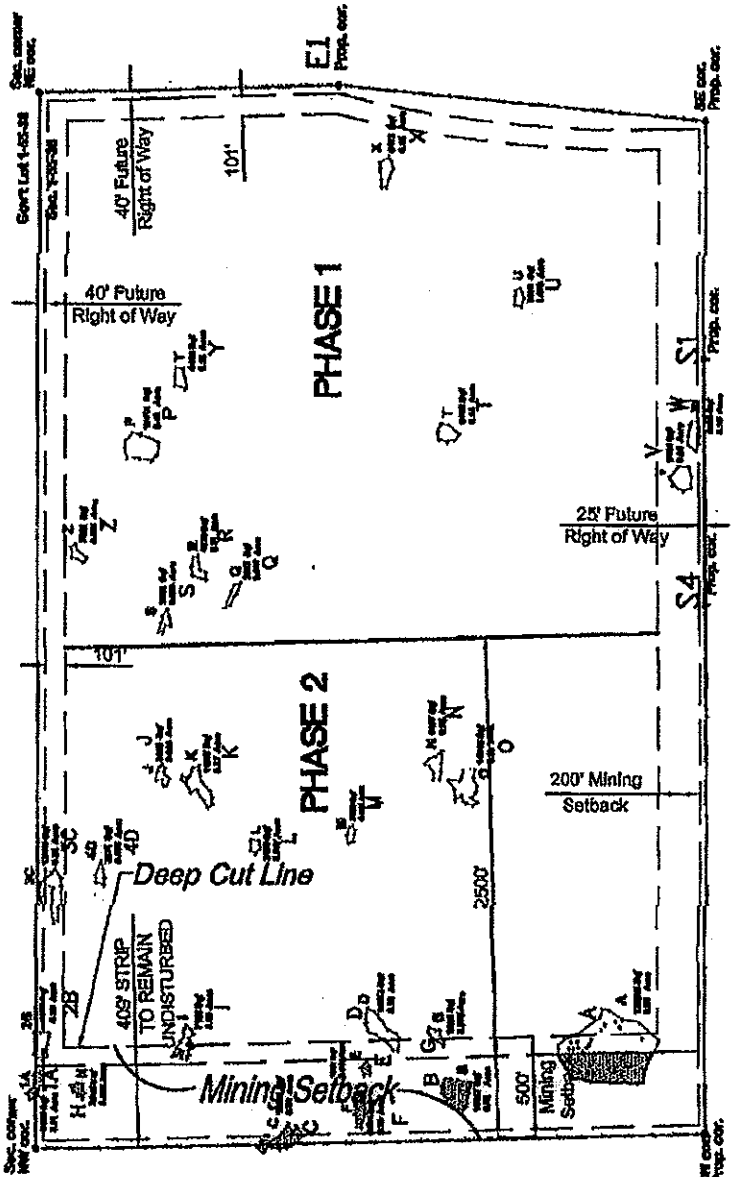

CARL L. SKILES P.E.
FLA. REG. NO. 13617 (CIVIL)

| | |
|---|---|
| Drawn By | REP |
| Cad. No. | 061816-2 |
| Ref. Dwg. | 3006-075 |
| Plotted: | 5/27/10 12:23o |

# LAKE MINING PLAN - SECTION 1-55-38


FORTIN, LEAVY, SKILES, INC.
CONSULTING ENGINEERS, SURVEYORS & MAPPERS
FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER: 00003653
180 Northeast 168th Street / North Miami Beach, Florida 33162
Phone 305-653-4493 / Fax 305-651-7152 / Email fls@flssurvey.com


| | |
|---|---|
| Date | 09/18/06 |
| Scale | 1"=800' |
| Job. No. | 067027 |
| Dwg. No. | 1006-192 |
| Sheet | 2 of 6 |




SHOMA PROPERY SEC 1-55-38

N

LEGEND:

WETLAND AREA

(SEE SHEET 4 FOR TABULATION)

WETLANDS TO REMAIN UNDISTURBED

Revised: 05/05/09
Revised: 09/29/08
Revised: 07/09/08
Revised: 01/09/08

PERMIT # 0275849-001

MAY - 8 2009

CARL L. SKILES P.E.
FLA. REG. NO. 13817 (CIVIL)

| | |
|---|---|
| Drawn By | REP |
| Cad. No. | 061816--1 |
| Ref. Dwg. | 3006--075 |
| | |
| Plotted: | 5/8/09 12:05p |

# WETLANDS MAP - Section 1-55-38


FORTIN, LEAVY, SKILES, INC.
CONSULTING ENGINEERS, SURVEYORS & MAPPERS
FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER: 00003653
180 Northeast 168th Street / North Miami Beach, Florida 33162
Phone 305-653-4493 / Fax 305-651-7152 / Email fls@flssurvey.com


| | |
|---|---|
| Date | 09/18/06 |
| Scale | NOT TO SCALE |
| Job. No. | 067027 |
| Dwg. No. | 1006--192 |
| Sheet | 3 of 6 |

PERMIT # 0275849-001

## WETLAND AREA SUMMARY

| AREA NAME | AREA (SQ FT.) | AREA (ACRES) | Part To Remain Undisturbed (Acres) | Part to Be Distrubed (Acres) |
|---|---|---|---|---|
| A | 121,825 | 2.797 | 1.296 | 1.501 |
| B | 15,817 | 0.363 | 0.363 | 0 |
| C | 13,874 | 0.319 | 0.319 | 0 |
| D | 14,274 | 0.328 | 0 | 0.328 |
| E | 1,921 | 0.044 | 0.044 | 0 |
| F | 6,628 | 0.152 | 0.152 | 0 |
| G | 3,258 | 0.075 | 0 | 0.075 |
| H | 2,968 | 0.068 | 0.068 | 0 |
| I | 7,158 | 0.164 | 0 | 0.164 |
| J | 3,839 | 0.088 | 0 | 0.088 |
| K | 11,879 | 0.273 | 0 | 0.273 |
| L | 2,493 | 0.057 | 0 | 0.057 |
| M | 2,530 | 0.058 | 0 | 0.058 |
| N | 6,407 | 0.147 | 0 | 0.147 |
| O | 14,545 | 0.334 | 0 | 0.334 |
| P | 17,415 | 0.400 | 0 | 0.400 |
| Q | 2,933 | 0.067 | 0 | 0.067 |
| R | 4,820 | 0.111 | 0 | 0.111 |
| S | 3,502 | 0.080 | 0 | 0.080 |
| T | 6,188 | 0.142 | 0 | 0.142 |
| U | 3,060 | 0.070 | 0 | 0.070 |
| V | 9,244 | 0.212 | 0 | 0.212 |
| W | 6,596 | 0.151 | 0 | 0.151 |
| X | 6,473 | 0.149 | 0 | 0.149 |
| Y | 4,440 | 0.102 | 0 | 0.102 |
| Z | 3,536 | 0.081 | 0 | 0.081 |
| 1A | 5,175 | 0.119 | 0.119 | 0 |
| 2B | 8,491 | 0.195 | 0 | 0.195 |
| 3C | 13,922 | 0.320 | 0 | 0.320 |
| 4D | 3,251 | 0.075 | 0 | 0.075 |
| TOTAL | 328,479 | 7.541 | 2.361 | 5.180 |

Revised: 07/09/08
Revised: 01/09/08

RECEIVED JUL 21 2008

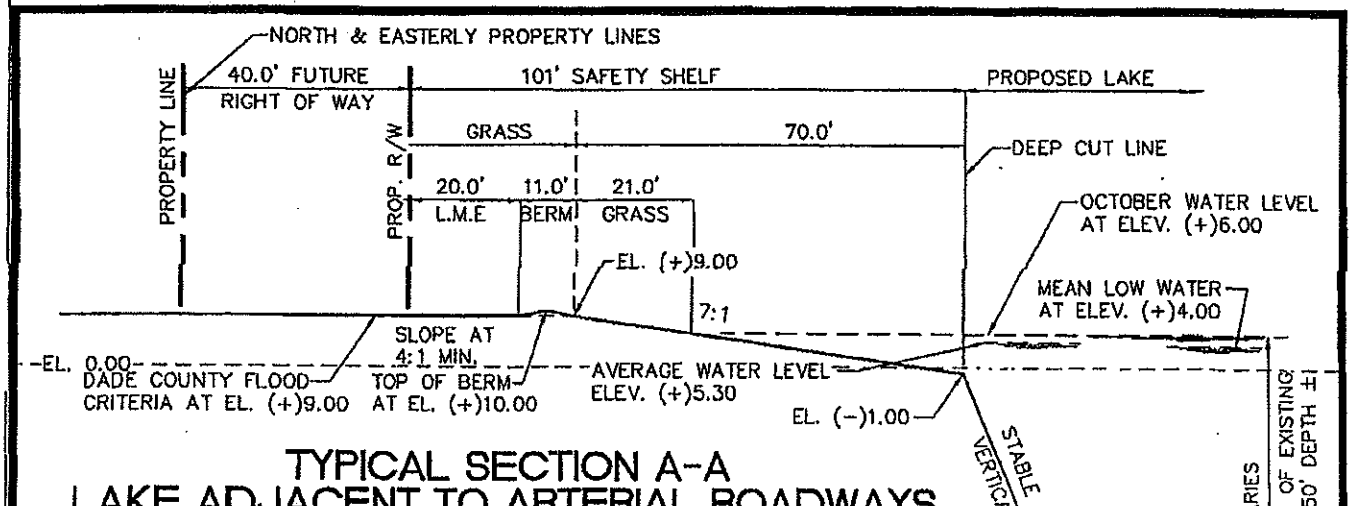
| | |
|---|---|
| Drawn By | REP |
| Cad. No. | 061816 |
| Ref. Dwg. | 3006-075 |
| Plotted: | 7/9/08 2:52p |

WETLANDS AREA SUMMARY - Section 1-55-38

FORTIN, LEAVY, SKILES, INC.
CONSULTING ENGINEERS, SURVEYORS & MAPPERS
FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER: 00003653
180 Northeast 168th Street / North Miami Beach, Florida 33162
Phone 305-653-4493 / Fax 305-651-7152 / Email fls@flssurvey.com

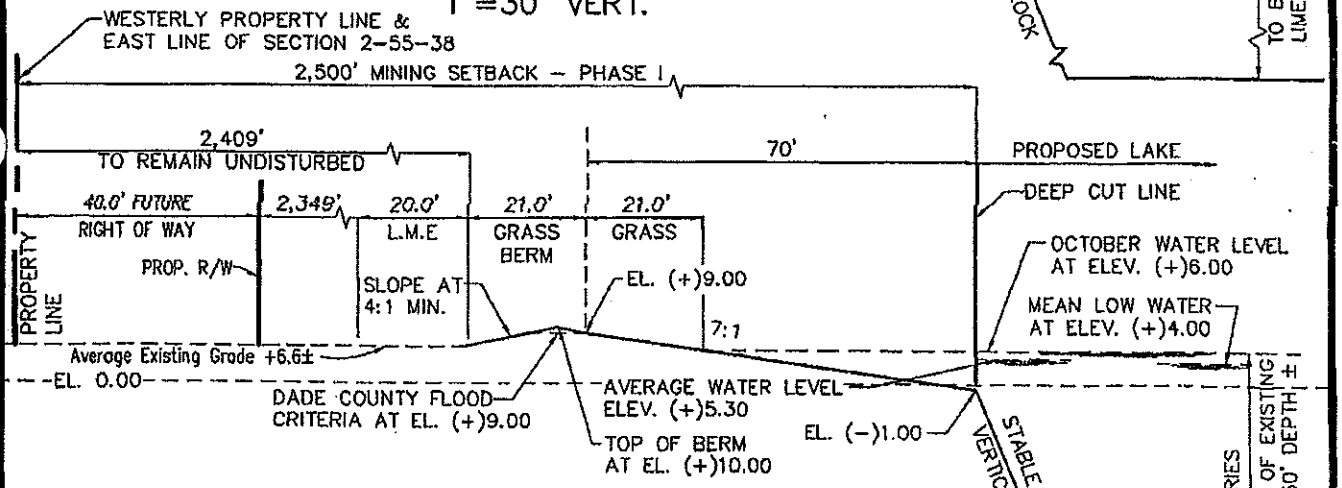
| | |
|---|---|
| Date | 09/18/06 |
| Scale | 1"=800' |
| Job. No. | 067027 |
| Dwg. No. | 1006-192 |
| Sheet | 4 of 6 |

PERMIT # 0275849-001




# TYPICAL SECTION A-A
# LAKE ADJACENT TO ARTERIAL ROADWAYS

SCALE: 1"=30' HORIZ.
1"=30' VERT.




# TYPICAL SECTION C-C (PHASE I)
# LAKE ADJACENT TO ARTERIAL ROADWAYS

SCALE: 1"=30' HORIZ.
1"=30' VERT.

Revised: 05/28/10
Revised: 05/05/09
Revised: 09/29/08
Revised: 07/09/08
Revised: 01/09/08

NOTE: ELEV. REFERS TO NATIONAL GEODETIC VERTICAL DATUM

Received JUN -2 2010 Tallahassee, FL

6/1/10

CARL L. SKILES P.E.
FLA. REG. NO. 13617 (CIVIL)

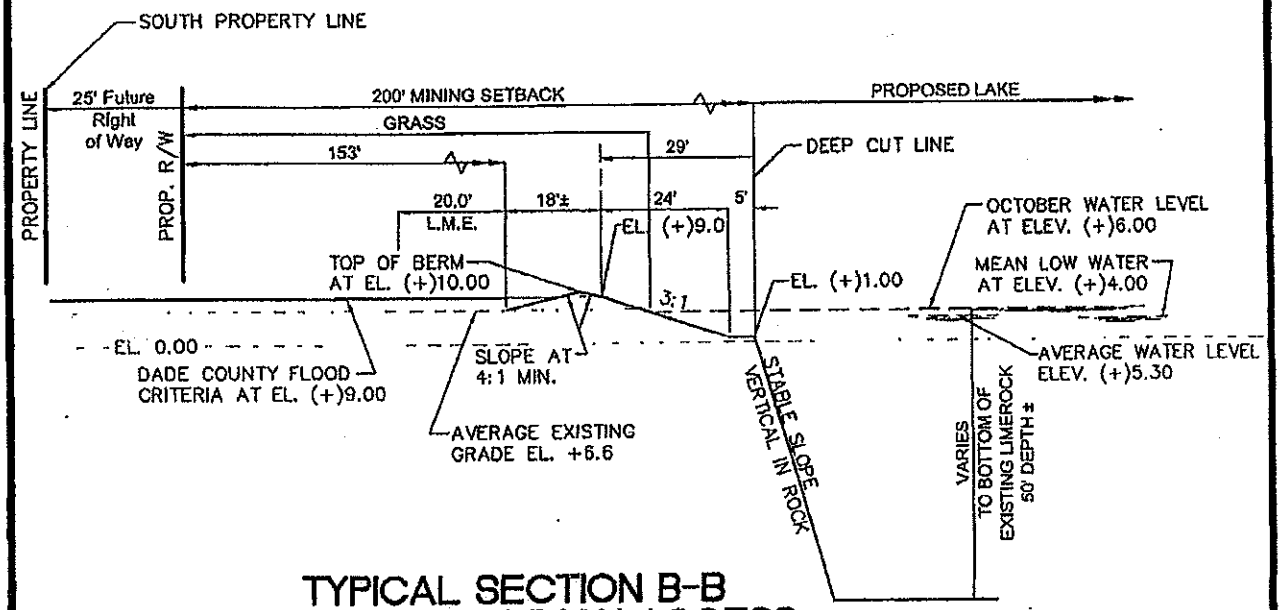
| | |
|---|---|
| Drawn By | REP |
| Cad. No. | 061816-2 |
| Ref. Dwg. | 3006-075 |
| Plotted: | 5/27/10 12:23a |

PROP. LAKE EXCAVATION - Section 1-55-38


FORTIN, LEAVY, SKILES, INC.
CONSULTING ENGINEERS, SURVEYORS & MAPPERS
FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER: 00003653
180 Northeast 168th Street / North Miami Beach, Florida 33162
Phone 305-653-4493 / Fax 305-651-7152 / Email fls@flssurvey.com


| | |
|---|---|
| Date | 09/18/06 |
| Scale | AS SHOWN |
| Job. No. | 067027 |
| Dwg. No. | 1006-192 |
| Sheet | 5 of 6 |

PERMIT # 0275849-001




# TYPICAL SECTION B-B
# LAKE WITH COMMON ACCESS, NOT ADJACENT TO ROADWAYS

SCALE: 1"=30' HORIZ.
1"=30' VERT.

NOTE: ELEV. REFERS TO NATIONAL GEODETIC VERTICAL DATUM

Revised: 09/29/08
Revised: 01/09/08

| | |
|---|---|
| Drawn By | REP |
| Cad. No. | 061816-1 |
| Ref. Dwg. | 3006-075 |
| Plotted: | 5/5/09 10:06a |

PROP. LAKE EXCAVATION - Section 1-55-38


FORTIN, LEAVY, SKILES, INC.
CONSULTING ENGINEERS, SURVEYORS & MAPPERS
FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER: 00003653
180 Northeast 168th Street / North Miami Beach, Florida 33162
Phone 305-653-4493 / Fax 305-651-7152 / Email fls@flasurvey.com


| | |
|---|---|
| Date | 09/18/06 |
| Scale | AS SHOWN |
| Job. No. | 067027 |
| Dwg. No. | 1006-192 |
| Sheet | 6 of 6 |

Select Year: 2010 Go

# The 2010 Florida Statutes

Title XXVI PUBLIC TRANSPORTATION | Chapter 337 CONTRACTING; ACQUISITION, DISPOSAL, AND USE OF PROPERTY | View Entire Chapter

**337.0261 Construction aggregate materials.—**

(1) DEFINITIONS.—"Construction aggregate materials" means crushed stone, limestone, dolomite, limerock, shell rock, cemented coquina, sand for use as a component of mortars, concrete, bituminous mixtures, or underdrain filters, and other mined resources providing the basic material for concrete, asphalt, and road base.

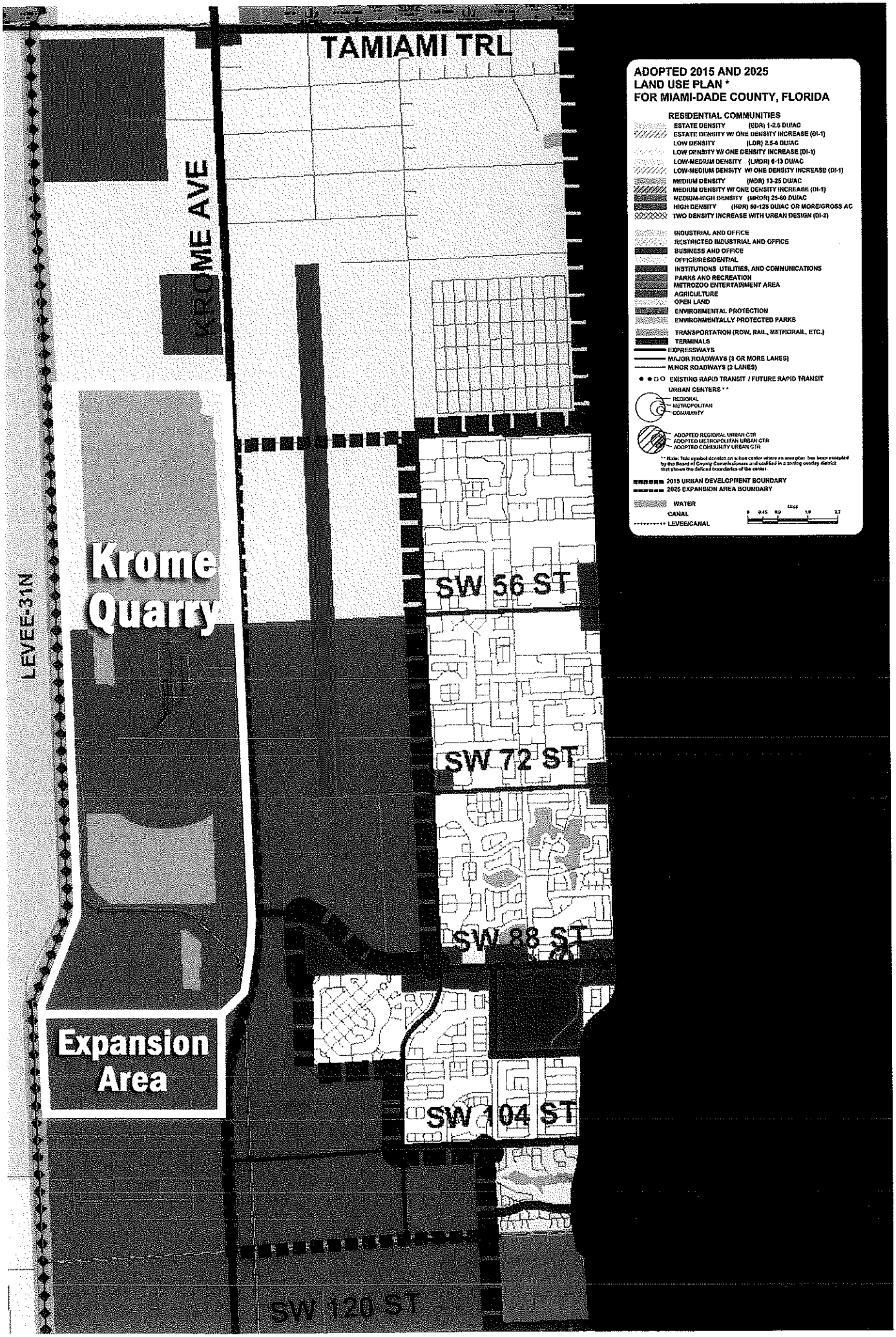
(2) LEGISLATIVE INTENT.—The Legislature finds that there is a strategic and critical need for an available supply of construction aggregate materials within the state and that a disruption of the supply would cause a significant detriment to the state's construction industry, transportation system, and overall health, safety, and welfare. In addition, the Legislature recognizes that construction aggregate materials mining is an industry of critical importance to the state and that the mining of construction aggregate materials is in the public interest.

(3) LOCAL GOVERNMENT DECISIONMAKING.—No local government shall approve or deny a proposed land use zoning change, comprehensive plan amendment, land use permit, ordinance, or order regarding construction aggregate materials without considering any information provided by the Department of Transportation regarding the effect such change, amendment, permit decision, ordinance, or order would have on the availability, transportation, and potential extraction of construction aggregate materials on the local area, the region, and the state. The failure of the Department of Transportation to provide this information shall not be a basis for delay or invalidation of the local government action. No local government may impose a moratorium, or combination of moratoria, of more than 12 months' duration on the mining or extraction of construction aggregate materials, commencing on the date the vote was taken to impose the moratorium. January 1, 2007, shall serve as the commencement of the 12-month period for moratoria already in place as of July 1, 2007.

(4) EXPEDITED PERMITTING.—Due to the state's critical infrastructure needs and the potential shortfall in available construction aggregate materials, limerock environmental resource permitting and reclamation applications filed after March 1, 2007, are eligible for the expedited permitting processes contained in s. 403.973. Challenges to state agency action in the expedited permitting process for establishment of a limerock mine in this state under s. 403.973 are subject to the same requirements as challenges brought under s. 403.973(14)(a), except that, notwithstanding s. 120.574, summary proceedings must be conducted within 30 days after a party files the motion for summary hearing, regardless of whether the parties agree to the summary proceeding.

History.—s. 30, ch. 2007-196; s. 67, ch. 2008-4; s. 3, ch. 2009-89; s. 65, ch. 2010-5.

Copyright © 1995-2011 The Florida Legislature • Privacy Statement • Contact Us


TAMIAMI TRL
KROME AVE
LEVEE-31N
Krome Quarry
Expansion Area
SW 56 ST
SW 72 ST
SW 88 ST
SW 104 ST
SW 120 ST
ADOPTED 2015 AND 2025
LAND USE PLAN *
FOR MIAMI-DADE COUNTY, FLORIDA
RESIDENTIAL COMMUNITIES
ESTATE DENSITY (EDR) 1-2.5 DU/AC
ESTATE DENSITY W/ ONE DENSITY INCREASE (DI-1)
LOW DENSITY (LDR) 2.5-6 DU/AC
LOW DENSITY W/ ONE DENSITY INCREASE (DI-1)
LOW-MEDIUM DENSITY (LMDR) 6-13 DU/AC
LOW-MEDIUM DENSITY W/ ONE DENSITY INCREASE (DI-1)
MEDIUM DENSITY (MDR) 13-25 DU/AC
MEDIUM DENSITY W/ ONE DENSITY INCREASE (DI-1)
MEDIUM-HIGH DENSITY (MHDR) 25-60 DU/AC
HIGH DENSITY (HDR) 50-125 DU/AC OR MORE/GROSS AC
TWO DENSITY INCREASE WITH URBAN DESIGN (DI-2)
INDUSTRIAL AND OFFICE
RESTRICTED INDUSTRIAL AND OFFICE
BUSINESS AND OFFICE
OFFICE/RESIDENTIAL
INSTITUTIONS, UTILITIES, AND COMMUNICATIONS
PARKS AND RECREATION
METROZOO ENTERTAINMENT AREA
AGRICULTURE
OPEN LAND
ENVIRONMENTAL PROTECTION
ENVIRONMENTALLY PROTECTED PARKS
TRANSPORTATION (ROW, RAIL, METRORAIL, ETC.)
TERMINALS
EXPRESSWAYS
MAJOR ROADWAYS (3 OR MORE LANES)
MINOR ROADWAYS (2 LANES)
EXISTING RAPID TRANSIT / FUTURE RAPID TRANSIT
URBAN CENTERS **
REGIONAL
METROPOLITAN
COMMUNITY
ADOPTED REGIONAL URBAN CTR
ADOPTED METROPOLITAN URBAN CTR
ADOPTED COMMUNITY URBAN CTR
** Note: This symbol denotes an urban center where an area plan has been accepted by the Board of County Commissioners and codified in a zoning overlay district that shows the defined boundaries of the center.
2015 URBAN DEVELOPMENT BOUNDARY
2025 EXPANSION AREA BOUNDARY
WATER
CANAL
LEVEE/CANAL

# Miami-Dade Land Use Element

**Agriculture**

The area designated as "Agriculture" contains the best agricultural land remaining in Miami-Dade County. As stated in the Miami-Dade County Strategic Plan, approved in 2003 by the Board of County Commissioners, protection of viable agriculture is a priority. The principal uses in this area should be agriculture, uses ancillary to and directly supportive of agriculture and farm residences. Uses ancillary to and directly supportive of agriculture are defined as those uses related to preserving, processing, packaging or selling of agricultural products from Florida, and farm supplies, as well as sale and service of farm machinery and implements, subject to the requirements of Chapter 24 of the County Code. Uses ancillary to, and necessary to support the rural residential community of the agricultural area may also be approved, including houses of worship. However, schools shall not be approved in Agriculture areas but should be located inside the UDB in accordance with Policy EDU-2.A.

In order to protect the agricultural industry, uses incompatible with agriculture, and uses and facilities that support or encourage urban development are not allowed in this area. Residential development that occurs in this area is allowed at a density of no more than one unit per five acres. Creation of new parcels smaller than five acres for residential use may be approved in the Agriculture area only if the immediate area surrounding the subject parcel on three or more contiguous sides is predominantly and lawfully parcelized in a similar manner, and if a division of the subject parcel would not precipitate additional land division in the area. No business or industrial use should be approved in the area designated Agriculture unless the use is directly supportive of local agricultural production, and is located on an existing arterial roadway, and has adequate water supply and sewage disposal in accordance with Chapter 24 of the County Code, and the development order specifies the approved use(s); however, agricultural processing facilities for produce grown in Florida are not restricted to locating on an existing arterial roadway. Other uses, including utility uses compatible with agriculture and with the rural residential character may be approved in the Agriculture area only if deemed to be a public necessity, or if deemed to be in the public interest and the applicant demonstrates that no suitable site for the use exists outside the Agriculture area.

Existing quarrying and ancillary uses in the Agriculture area may continue operation and be considered for approval of expansion.

**Open Land**

The land designated as "Open Land" is not needed for urban uses between now and the year 2015 and has been set aside for uses other than urban development. It is not simply surplus undeveloped land, but rather it is land that is intended to serve one or more of the following functions: production such as agriculture, limestone extraction or other resource-based activity such as development of potable water supplies; rural residential development at a maximum density indicated for the specific Open Land subarea, but no greater than one unit per five acres; recreation; commercial vehicle storage as indicated for the specific Open Land Subarea; compatible utility and public facilities as indicated for the specific Open Land Subarea, and conservation, maintenance or enhancement of environmental character. Lower residential densities may be required in some areas for purposes of avoiding flood conditions or to avoid degradation of environmental systems or features. Because of the water supply-related or other environmental functions of those areas, they may also be considered for acquisition by federal, State, regional, County or private institutions that would manage these areas to optimize environmental functions, and for location of project features such as reservoirs, stormwater treatment areas, canals, and flow-ways constructed pursuant to the Comprehensive Everglades Restoration Plan.

Also included in some Open Land areas are some existing year-round agricultural activities, and some enclaves of estate density residential use approved and grandfathered by zoning, ownership patterns and platting activities, which predate this Plan. The grandfather provisions of the Miami-Dade County Zoning Code shall continue to apply in Subareas 1, 2, 3 and 5, except that residential lots smaller than 15,000 square feet in area are not grandfathered hereby. Moreover, all existing lawful uses and zoning are deemed to be consistent with this Plan unless a use or zoning: (a) is found through a subsequent planning study, as provided in Policy LU-4E, to be inconsistent with the foregoing grandfather provisions or inconsistent with the CDMP as provided in the section of this chapter titled "Concepts and Limitations of the Land Use Plan Map". This paragraph does not, however, authorize the expansion of any use inconsistent with the specific provisions for the applicable Open Land subarea. To the contrary, it is the intent of this plan to contain and prevent the expansion of such inconsistent development in Open Land areas.

Because Open Land areas primarily consist of wetlands, all proposed uses will be reviewed on a case-by-case basis. No particular use, other than rural residential use at specified densities is definitively allowed. Following is an indication of the uses and residential densities that are likely to be permitted in each of five Open Land Subareas, subject to conformity with the pertinent goals, objectives, and policies of this Plan. The Land Use Plan map depicts the precise boundary of the entire Open Land area. The map titled "Open Land Subareas" (Figure 6) and the following text indicate the boundaries between Open Land Subareas.

Olmedillox5, Inc. Land Use Consultants
1450 Madruga Avenue
Suite 407
Coral Gables, Florida 33146

# OUTLINE

1. CDMP Applicable language. Land Use Element.
2. Definition of the Agriculture Land Use and the Open Land Use designations.
3. Comparison between permitted and permissible land uses in both Land Use Designations.
4. Compatibility among land uses within each Land Use Designation.
5. Consistency of the proposed use within the language of the Agriculture Designation.
6. Census figures of employment and wages generated by the agricultural and the mining activities.

Voice - 305.668 9878 / 786.252.0381
Facsimile - 305.668 9871
Electronic - Guillermo@olmedillox5.com

**Water Quality Summary: Santa Fe Hacienda Project**

Submitted by: Thomas K. MacVicar.P.E.

March 7, 2011

Rock mining at the Santa Fe Haciendas site will be conducted by Cemex Construction Materials Florida, LLC (CEMEX), formerly Rinker Materials, the largest mining company in Miami-Dade County and the state of Florida. They have been the leader of the mining industry in Miami-Dade County for 60 years.

CEMEX has obtained an environmental resource permit from the State Department of Environmental Protection to mine the Santa Fe Property in phases, as well as authorization from the U.S. Army Corps of Engineers that the Property does not contain jurisdictional wetlands and therefore does not require a Section 404 dredge - and -fill permit. CEMEX has filed a Class IV permit with the County Department of Environmental Resources Management and that permit is currently under review. The state permit for the site includes the following conditions:

a. The permittee shall collect pre-blast water quality samples, no more than 24 hours prior to the start of the loading of the explosive material.

b. The permittee shall collect post-blast samples within 24 hours after the blast.

c. Each sample shall be tested for the following constituents: total nitrogen, combined nitrate-nitrite, and benzene.

In addition, groundwater must be sampled for wells constructed on the property for that purpose. The groundwater must be tested for the presence of biological pathogens, hydrocarbon contaminants, volatile organic compounds, nutrients, metals, gross alpha, uranium, radium 226 and 228, and chloride.

The Miami-Dade Limestone Products Association (MDLPA), on behalf of the mining companies operating in the Lake Belt region of the County, implemented an extensive water quality monitoring program beginning in 2002. Hundreds of groundwater and surface water samples from the Biscayne aquifer, lakes, wetlands and canals near active rock mining quarries were collected and analyzed. New mining permits issued in 2009 required an even more extensive water quality monitoring program, including a requirement to analyze water samples from every active quarry lake to test for blasting related constituents. To date not a single water quality problem related to blasting or rock mining has been detected.

In 2008, in response to questions raised by the County, the MDLPA also performed a specific monitoring plan based on the Source Water Monitoring Guidance Manual developed by the United States Environmental Protection Agency for the Long-Term 2 Enhanced Surface Water Treatment Rule (EPA, 2006). The EPA Long-Term 2 Enhanced Surface Water Treatment Rule requires that large filtered public water supply systems that use surface water, or groundwater under the direct influence of surface water, sample for Cryptosporidium and turbidity once a month for two years. The Northwest and West wellfields are classified as groundwater sources and are not considered to be under the influence of surface water and therefore are not required to

perform this monitoring. From April 2008 through March 2010 (24 monthly sampling events), there were no detections of Cryptosporidium or Giardia in any of the 6 lakes adjacent to the wellfield. This confirms the results obtained during the three-year baseline monitoring program conducted between 2002 and 2005. The MDLPA has collected 302 lake and 315 monitoring well samples from 2002 through 2010. No Cryptosporidium or Giardia have been detected in any of these samples.

The MDLPA initiated an updated Lake Belt Monitoring Program during 2010. Through November 2010, a total of 32 lake and 51 monitoring well microbiological samples, 137 lake and 139 monitoring well chemical samples, 117 pre-/post DEP monthly blast samples, and 10 DEP annual deep monitoring well samples have been analyzed.

In addition, with a few exceptions (all of which were all below the Laboratory Practical Quantitation Limit [PQL] when resampled), no volatile organic compounds (VOC - indicators of gasoline/solvent contamination), polynuclear aromatic hydrocarbons (PAH - indicators of oil/diesel fuel contamination) or Total Petroleum Hydrocarbons (TPH) were detected in any of the lake or well samples.

Benzene has not been detected in any of the pre- or post-blast samples. Nor has the Total Nitrogen and "Nitrate + Nitrite" data has not shown any discernible trends.

Based on the results of extensive water quality monitoring in the rock mining areas, and the additional monitoring that will be required by the state permits already issued for the Santa Fe Hacienda site, there is no basis to conclude that mining at this site will cause any water quality problems for the surface or groundwater on or near the site.

SUMMARY OF PROPOSED TESTIMONY

Thomas K. MacVicar, P.E.

On Behalf of: Construction Materials Florida, LLC

Project: Santa Fe Haciendas, LLC and Cemex Materials of Florida, LLC

Areas of Testimony

1. General description of the site location relative to potential water resource impacts.
2. Water Resource issues associated with proposed rock mining at the site.
3. Description of the Phased mining approach to be used on the project.
4. Results of computer modeling of the phased mining approach.
5. Water Quality and Wellfield Protection Issues related to rock mining.
6. Conclusions and Recommendations.

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
4400 PGA BOULEVARD, SUITE 500
PALM BEACH GARDENS, FL 33410

REPLY TO
ATTENTION OF

SEP 0 5 2008

Palm Beach Gardens Section
SAJ-2007-4526(JD-LAO)
JURISDICTIONAL VERIFICATION

Mr. Matt D. Mouncey
CEMEX
13292 NW. 118th Avenue
Miami, Florida 33178

and

Santa Fe Haciendas, LLC
5835 Blue Lagoon Drive, 4th Floor
Miami, FL 33126-2062

Dear Mr. Mouncey:

Reference is made to information submitted to the U.S. Army Corps of Engineers (Corps) regarding the potential extent of Federal jurisdiction on a 412-acre agricultural lot (Folio No: 30-5801-000-0010) between SW 90th Street (north) and SW 100th Street (south) and SW 177th Avenue (east) and SW 187th Avenue (west), Miami (Section 1, Township 55 south, Range 38 east), Miami-Dade County, Florida. The evaluation of this jurisdictional determination involved many factors and may have included a field visit, review of aerial photographs, geological quad sheets, county soils maps, and site specific information provided by you. A copy of the approved jurisdictional determination form and any information used by our office to support our decision is enclosed. A Department of the Army permit will be required for any areas identified within that information as waters of the United States.

**Instructions for Objecting to an Approved Jurisdictional Determination:** Enclosed you will find a Notification of Appeal Process fact sheet and Request for Appeal (RFA) form. If you object to this determination, you may request an administrative appeal under Corps' regulations at 33 CFR Part 331. If you request to appeal this determination, you must submit a completed RFA form to the South Atlantic Division Office at the following address:

Mr. Michael F. Bell
South Atlantic Division
U.S. Army Corps of Engineers
CESAD-CM-CO-R, Room 9M15
60 Forsyth St., SW.
Atlanta, Georgia 30303-8801.

Mr. Bell can be reached by telephone number at 404-562-5137, or by facsimile at 404-562-5138.

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 CFR Part 331.5, and that it has been received by the Division office within 60 days of the date of the RFA. Should you decide to submit an RFA form, it must be received at the above address by 60 days from the date of this letter.

The determination shown on the enclosed information represents the upland/wetland boundary for purposes of determining the Corps jurisdictional line. As depicted on the enclosed drawing, it has been determined you have waters of the United States onsite (Wetland #1), which is subject to regulation by the Corps, and you have wetlands onsite which are considered to be isolated, and thus not subjected to regulation by the Corps. There is a ditch to the east of the property that is likely to be jurisdictional, but which has been identified as being outside of the property boundary. Please be advised that the jurisdictional determination shown is based on the Corps of Engineers Wetlands Delineation Manual (1987) or current regional supplement, and is valid for a period no longer than 5 years from the date of this letter unless new information warrants a revision of the determination before the expiration date. If, after the 5-year period, the Corps has not specifically revalidated this jurisdictional determination, it shall automatically expire. Any reliance upon this jurisdictional determination beyond the expiration date may lead to possible violation of current Federal laws and/or regulations. You may request revalidation of the jurisdictional determination prior to the expiration date. Any revalidation or updating will be considered under the method of jurisdictional determination and other applicable regulations in use at the time of the request. Additionally, this determination has been based on information provided by you or your agent; should we determine that the information was incomplete or erroneous this delineation would be invalid.

This determination has been conducted to identify the limits of the Corps Clean Water Act jurisdiction for the particular site identified in this request. This determination may not be valid for the wetland conservation provisions of the Food Security Act of 1985, as amended. If you or your tenant are U.S. Department of Agriculture (USDA) program participants, or anticipate participation in USDA programs, you should request a certified wetland determination from the local office of the Natural Resources Conservation Service prior to starting work.

You are cautioned that work performed below the ordinary high water line in waters of the United States, or the discharge of dredged or fill material into adjacent wetlands, without a Department of the Army permit could subject you to enforcement action. Receipt of a permit from the Department of Environmental Protection or the Water Management District does not obviate the requirement for obtaining a Department of the Army permit for the work described above prior to commencing work.

The Corps Jacksonville District Regulatory Division is committed to improving service to our customers. We strive to perform our duty in a friendly and timely manner while working to preserve our environment. We invite you to take a few minutes to visit the following link and complete our automated Customer Service Survey: http://regulatory.usacesurvey.com/. Your input is appreciated - favorable or otherwise.

Thank you for your cooperation with our permit program. If you have any questions concerning this matter please contact Leah Oberlin by mail at the letterhead address, by electronic mail at Leah.A.Oberlin@ usace.army.mil, or by telephone at 561-472-3506.

Sincerely,

Osvaldo Collazo
Chief, Regulatory Division

Enclosures

Copies Furnished: (w encls)

Denise Corrales,
CEMEX, 3820 Northdale, Suite 100B, Tampa, FL 33624
Jacob Varn, Fowler White Boggs Banker, 101 N. Monroe Street,
Suite 1090, Tallahassee, FL 32301
Tom MacVicar, MacVicar Frederico & Lamb (by email)
Jack Lange, Phoenix Environmental (by email)
Joan Lawrence, Department of Interior (by email)

## NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

| Applicant: TLC Investment Group, c/o George Campbell | File Number: SAJ-2006-7801(JD-LAO) | Date: SEP 0 5 2008 |
|---|---|---|
| Attached is: | | See Section below |
| | INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission) | A |
| | PROFFERED PERMIT (Standard Permit or Letter of permission) | B |
| | PERMIT DENIAL | C |
| X | APPROVED JURISDICTIONAL DETERMINATION | D |
| | PRELIMINARY JURISDICTIONAL DETERMINATION | E |

SECTION I: The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at http://usace.army.mil/inet/functions/cw/cecwo/reg or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- *ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.*
- OBJECT: If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- *ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.*
- APPEAL: If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- *ACCEPT: You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.*
- APPEAL: If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

**SECTION II- REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT**

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

**POINT OF CONTACT FOR QUESTIONS OR INFORMATION:**

| If you have questions regarding this decision and/or the appeal process you may contact: | If you only have questions regarding the appeal process you may also contact: |
|---|---|
| Project Manager as noted in letter | Michael F. Bell<br>404-562-5137 |

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

| | Date: | Telephone number: |
|---|---|---|
| _____<br>Signature of appellant or agent. | | |

**APPROVED JURISDICTIONAL DETERMINATION FORM**
**U.S. Army Corps of Engineers**

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

**SECTION I: BACKGROUND INFORMATION**

**A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD):**

**B. DISTRICT OFFICE, FILE NAME, AND NUMBER:Palm Beach Gardens Section, SAJ-2007-4526, Cemex - Shoma Mine**

**C. PROJECT LOCATION AND BACKGROUND INFORMATION:**
State:Florida County/parish/borough: Miami-Dade City: Miami
Center coordinates of site (lat/long in degree decimal format): Lat. 25.6759° N, Long. 80.4902° W.
Universal Transverse Mercator:
Name of nearest waterbody: L-31 Canal
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: L-31
Name of watershed or Hydrologic Unit Code (HUC): Biscayne Bay
☒ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.
☐ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc…) are associated with this action and are recorded on a different JD form.

**D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):**
☒ Office (Desk) Determination. Date: May 16, 2008
☒ Field Determination. Date(s): April 22, 2008

**SECTION II: SUMMARY OF FINDINGS**

**A. RHA SECTION 10 DETERMINATION OF JURISDICTION.**

There ☐ are ☒ no *"navigable waters of the U.S."* within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [*Required*]
☐ Waters subject to the ebb and flow of the tide.
☐ Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.
Explain:

**B. CWA SECTION 404 DETERMINATION OF JURISDICTION.**

There ☐ are ☒ no *"waters of the U.S."* within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [*Required*]

1. **Waters of the U.S.**
   a. **Indicate presence of waters of U.S. in review area (check all that apply):** [1]
      ☒ TNWs, including territorial seas
      ☒ Wetlands adjacent to TNWs
      ☐ Relatively permanent waters[2] (RPWs) that flow directly or indirectly into TNWs
      ☐ Non-RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
      ☐ Impoundments of jurisdictional waters
      ☐ Isolated (interstate or intrastate) waters, including isolated wetlands

   b. **Identify (estimate) size of waters of the U.S. in the review area:**
      Non-wetland waters: 3,380 linear feet: 100 width (ft) and/or acres.
      Wetlands: 0.9 acres.

   c. **Limits (boundaries) of jurisdiction** based on: 1987 Delineation Manual
      Elevation of established OHWM (if known):

2. **Non-regulated waters/wetlands (check if applicable):**[3]
   ☒ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.
   Explain: **Wetlands 2-7 are within the project area, yet appear to be isolated from the TNW.**

---

[1] Boxes checked below shall be supported by completing the appropriate sections in Section III below.
[2] For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).
[3] Supporting documentation is presented in Section III.F.

## SECTION III: CWA ANALYSIS

### A. TNWs AND WETLANDS ADJACENT TO TNWs

**The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.**

1. TNW
   Identify TNW: L-31.

   Summarize rationale supporting determination: The L-31 canal is navigable in fact. There is a public access boat ramp on the connected L-29 canal. Boaters can move from this canal into the L-31.

2. **Wetland adjacent to TNW**
   Summarize rationale supporting conclusion that wetland is "adjacent":

Per 33CFR 328.3(c) The term "adjacent" means bordering, contiguous, or neighboring. Wetlands separated from other waters of the United States by man-made dikes or barriers, natural river berms, beach dunes and the like are "adjacent wetlands."

The Rapanos Guidance states that finding a continuous surface connection is not required to establish adjacency under this definition.

Justice Kennedy writes: "As applied to wetlands adjacent to navigable-in-fact waters, the Corps' conclusive standard for jurisdiction rests upon a reasonable inference of ecologic interconnection, and the assertion of jurisdiction for those wetlands is sustainable under the Act by showing adjacency alone."

The L-31 canal and levee system was originally constructed in the 1960's. However, it was amplified in the late 1970's and early 1980's. Structures were added, and other adjustments made. It became part of the Congressionally authorized South Dade Conveyance System. The purpose of SDCS was to increase flows westward into Everglades National Park. It became fully operational in the early 1980's. Hurricane Dennis dumped large volumes of water into south Dade County and caused extensive flooding outside the Park. In response to that, water managers lowered the canal water levels in the L-31 system in 1982, and never allowed them to rise to pre-1982 levels. The levels within the canal have been kept consistently between 4 and 6 feet (4 feet nearly every June - 6 feet near December). Elevation within the project site, including the wetland perimeter, varies between 6 and 7 feet.

The water level in the L-31 canal was at 4.5 feet as of May 15, 2008. Note that the land elevation at the southeast corner (the location of an observed well on the site) is approximately 6.8 feet. The water level observed in this well was approximately 2.5 feet below grade (approximately 4.3 feet). Therefore, the water level in the L-31 is likely reflective of the groundwater table at this site. Based on site elevation, which seems to average roughly 6.5 feet and the historical canal levels (between 4 and 6 feet), there is rarely subsurface flow within the upper 6 inches on the site and frequently, no water within the upper foot.

The L-31 levee between the L-31 canal and the site appears to be approximately 20+ feet tall and forms a formidable barrier for wildlife access between the L-31 and the site, although there are breaks in the levee approximately every 1,500 feet. There is no pump system to pump water offsite and there is no known stormwater plan. The site is actively farmed for corn which is largely intolerant of damp soils and the site must be actively irrigated. The historic soils are non-hydric, gravelly loam which was observed onsite. There are some dark surface soils in the northwestern corner, but wetland vegetation is absent from this location. The Everglades National Park lies on the opposite bank of the L-31N canal. There is no equivalent berm between the ENP and the L-31 canal on that side.

Wetland 1 (0.9 acres) is a very low quality, exotic invaded wetland, that is in one of the breaks of the L31 levee. This wetland is elevated above the canal stage and is across a levee maintenance road, so a subsurface connection between this wetland and the TNW is not likely. There is no sign of flow between the wetland and the TNW. There is no vegetation within the L-31N canal and the associated right-of-way as they are maintained by the SFWMD, so there is no refuge along either canal bank for wildlife. The L-31 levee runs along side the eastern side of the canal and further minimizes available habitat on the eastern side of the canal There is refuge available on the opposite bank at the Everglades National Park. The L-31N canal supports aquatic life. It is reasonable to believe that wildlife which might access the canal is likely to seek refuge within Wetland #1 that lies only 120 feet from the canal. Therefore, there does appear to be reasonable ecological and physical connection to verify adjacency between this wetland and the TNW.

### B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

**This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.**

**The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.**

**A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.**

**If the waterbody[4] is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.**

1. **Characteristics of non-TNWs that flow directly or indirectly into TNW**

   (i) **General Area Conditions:**
   Watershed size: Pick List
   Drainage area: Pick List
   Average annual rainfall: inches
   Average annual snowfall: inches

   (ii) **Physical Characteristics:**
   (a) Relationship with TNW:
   ☐ Tributary flows directly into TNW.
   ☐ Tributary flows through Pick List tributaries before entering TNW.

   Project waters are Pick List river miles from TNW.
   Project waters are Pick List river miles from RPW.
   Project waters are Pick List aerial (straight) miles from TNW.
   Project waters are Pick List aerial (straight) miles from RPW.
   Project waters cross or serve as state boundaries. Explain:

   Identify flow route to TNW[5]:
   Tributary stream order, if known:

   (b) General Tributary Characteristics (check all that apply):
   **Tributary** is: ☐ Natural
   ☐ Artificial (man-made). Explain:
   ☐ Manipulated (man-altered). Explain:

   **Tributary** properties with respect to top of bank (estimate):
   Average width: feet
   Average depth: feet
   Average side slopes: Pick List.

   Primary tributary substrate composition (check all that apply):
   ☐ Silts ☐ Sands ☐ Concrete
   ☐ Cobbles ☐ Gravel ☐ Muck
   ☐ Bedrock ☐ Vegetation. Type/% cover:
   ☐ Other. Explain:

   Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain:
   Presence of run/riffle/pool complexes. Explain:
   Tributary geometry: Pick List
   Tributary gradient (approximate average slope): %

   (c) Flow:
   Tributary provides for: Pick List
   Estimate average number of flow events in review area/year: Pick List
   Describe flow regime:
   Other information on duration and volume:

---

[4] Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.
[5] Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

Surface flow is: Pick List. Characteristics:

Subsurface flow: Pick List. Explain findings:
☐ Dye (or other) test performed:

Tributary has (check all that apply):
☐ Bed and banks
☐ OHWM[6] (check all indicators that apply):
- ☐ clear, natural line impressed on the bank
- ☐ changes in the character of soil
- ☐ shelving
- ☐ vegetation matted down, bent, or absent
- ☐ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☐ water staining
- ☐ other (list):
- ☐ the presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ the presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ multiple observed or predicted flow events
- ☐ abrupt change in plant community

☐ Discontinuous OHWM.[7] Explain:

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):
☒ High Tide Line indicated by:
- ☐ oil or scum line along shore objects
- ☐ fine shell or debris deposits (foreshore)
- ☐ physical markings/characteristics
- ☐ tidal gauges
- ☐ other (list):

☒ Mean High Water Mark indicated by:
- ☐ survey to available datum;
- ☐ physical markings;
- ☐ vegetation lines/changes in vegetation types.

**(iii) Chemical Characteristics:**
Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).
Explain:
Identify specific pollutants, if known:

[6]A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.
[7]Ibid.

**(iv) Biological Characteristics. Channel supports (check all that apply):**

- ☐ Riparian corridor. Characteristics (type, average width):
- ☐ Wetland fringe. Characteristics:
- ☐ Habitat for:
  - ☐ Federally Listed species. Explain findings:
  - ☐ Fish/spawn areas. Explain findings:
  - ☐ Other environmentally-sensitive species. Explain findings:
  - ☐ Aquatic/wildlife diversity. Explain findings:

**2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW**

**(i) Physical Characteristics:**

(a) General Wetland Characteristics:

Properties:

Wetland size: acres

Wetland type. Explain:

Wetland quality. Explain:

Project wetlands cross or serve as state boundaries. Explain:

(b) General Flow Relationship with Non-TNW:

Flow is: Pick List. Explain:

Surface flow is: Pick List

Characteristics:

Subsurface flow: Pick List. Explain findings:

- ☐ Dye (or other) test performed:

(c) Wetland Adjacency Determination with Non-TNW:

- ☐ Directly abutting
- ☐ Not directly abutting
  - ☐ Discrete wetland hydrologic connection. Explain:
  - ☐ Ecological connection. Explain:
  - ☐ Separated by berm/barrier. Explain:

(d) Proximity (Relationship) to TNW

Project wetlands are Pick List river miles from TNW.

Project waters are Pick List aerial (straight) miles from TNW.

Flow is from: Pick List.

Estimate approximate location of wetland as within the Pick List floodplain.

**(ii) Chemical Characteristics:**

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain:

Identify specific pollutants, if known:

**(iii) Biological Characteristics. Wetland supports (check all that apply):**

- ☐ Riparian buffer. Characteristics (type, average width):
- ☐ Vegetation type/percent cover. Explain:
- ☐ Habitat for:
  - ☐ Federally Listed species. Explain findings:
  - ☐ Fish/spawn areas. Explain findings:
  - ☐ Other environmentally-sensitive species. Explain findings:
  - ☐ Aquatic/wildlife diversity. Explain findings:

**3. Characteristics of all wetlands adjacent to the tributary (if any)**

All wetland(s) being considered in the cumulative analysis: Pick List

Approximately ( ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

| Directly abuts? (Y/N) | Size (in acres) | Directly abuts? (Y/N) | Size (in acres) |
|---|---|---|---|

Summarize overall biological, chemical and physical functions being performed:

## C. SIGNIFICANT NEXUS DETERMINATION

**A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.**

**Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:**

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

**Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:**

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D:

2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

## D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
   - ☒ TNWs: 3,380 linear feet 100width (ft), Or, acres.
   - ☒ Wetlands adjacent to TNWs: 0.9 acres.

2. **RPWs that flow directly or indirectly into TNWs.**
   - ☒ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial:
   - ☒ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally:

Provide estimates for jurisdictional waters in the review area (check all that apply):
- ☒ Tributary waters: linear feet width (ft).
- ☒ Other non-wetland waters: acres.
  - Identify type(s) of waters: .

3. **Non-RPWs[8] that flow directly or indirectly into TNWs.**
   - ☒ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

   Provide estimates for jurisdictional waters within the review area (check all that apply):
   - ☒ Tributary waters: linear feet width (ft).
   - ☒ Other non-wetland waters: acres.
     - Identify type(s) of waters: .

4. **Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**
   - ☒ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
     - ☒ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .
     - ☒ Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

   Provide acreage estimates for jurisdictional wetlands in the review area: acres.

5. **Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**
   - ☒ Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisidictional. Data supporting this conclusion is provided at Section III.C.

   Provide acreage estimates for jurisdictional wetlands in the review area: acres.

6. **Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**
   - ☒ Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

   Provide estimates for jurisdictional wetlands in the review area: acres.

7. **Impoundments of jurisdictional waters.[9]**
   As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.
   - ☒ Demonstrate that impoundment was created from "waters of the U.S.," or
   - ☒ Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
   - ☒ Demonstrate that water is isolated with a nexus to commerce (see E below).

E. **ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):[10]**
- ☒ which are or could be used by interstate or foreign travelers for recreational or other purposes.
- ☒ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
- ☒ which are or could be used for industrial purposes by industries in interstate commerce.
- ☒ Interstate isolated waters. Explain: .
- ☒ Other factors. Explain: .

**Identify water body and summarize rationale supporting determination:** .

---

[8] See Footnote # 3.
[9] To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.
[10] **Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA *Memorandum Regarding CWA Act Jurisdiction Following Rapanos.***

Provide estimates for jurisdictional waters in the review area (check all that apply):
- ☒ Tributary waters: linear feet width (ft).
- ☒ Other non-wetland waters: acres.
  - Identify type(s) of waters: .
- ☒ Wetlands: 0.9 acres.

**F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):**
- ☒ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- ☒ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
  - ☒ Prior to the Jan 2001 Supreme Court decision in "*SWANCC*," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
- ☒ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: .
- ☒ Other: (explain, if not covered above): **Wetland #2 (0.7 acres) and #3 (2.0 acres), and smaller wetlands #4-7 (totaling about ~0.7 acres together) are very low quality, exotic invaded wetlands that appear within the farm fields in the review area. These wetlands are elevated above the canal stage, across the 20 foot levee and/or through the wetland break in the levee, across the active agricultural field and into the wetland. There is no indication of direct surface flow between the wetland and the TNW and as previously identified, shallow subsurface flow here is not likely. As the wetlands do not appear to be inundated and would not support fish species for any extensive period of time, they are unlikely to attract wading birds. The lack of native plants would further serve to minimize it's value as a food source for other birds. Birds observed onsite during the site visit were not in the wetland, but rather foraging in the farm fields themselves. Access to the wetlands by anything other than birds would be difficult. Beyond the fact that the Everglades National Park on the other side of the canal offers a preferential location to the area wildlife, it appears unlikely that wildlife which might access the canal would seek refuge within Wetlands #2 and 3 or Wetlands 4-7. These areas can only be accessed by either going over the 20+ foot berm or going through Wetland #1, which has minimal habitat value itself, crossing between 600 and 2,000 feet of an active farm field to one of these low quality wetland. Therefore, there does not appear to be a sufficient ecological connection to verify adjacency between these wetlands and the TNW..**

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):
- ☒ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
- ☒ Lakes/ponds: acres.
- ☒ Other non-wetland waters: acres. List type of aquatic resource: .
- ☒ Wetlands: 3.4 acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):
- ☒ Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
- ☒ Lakes/ponds: acres.
- ☒ Other non-wetland waters: acres. List type of aquatic resource: .
- ☒ Wetlands: acres.

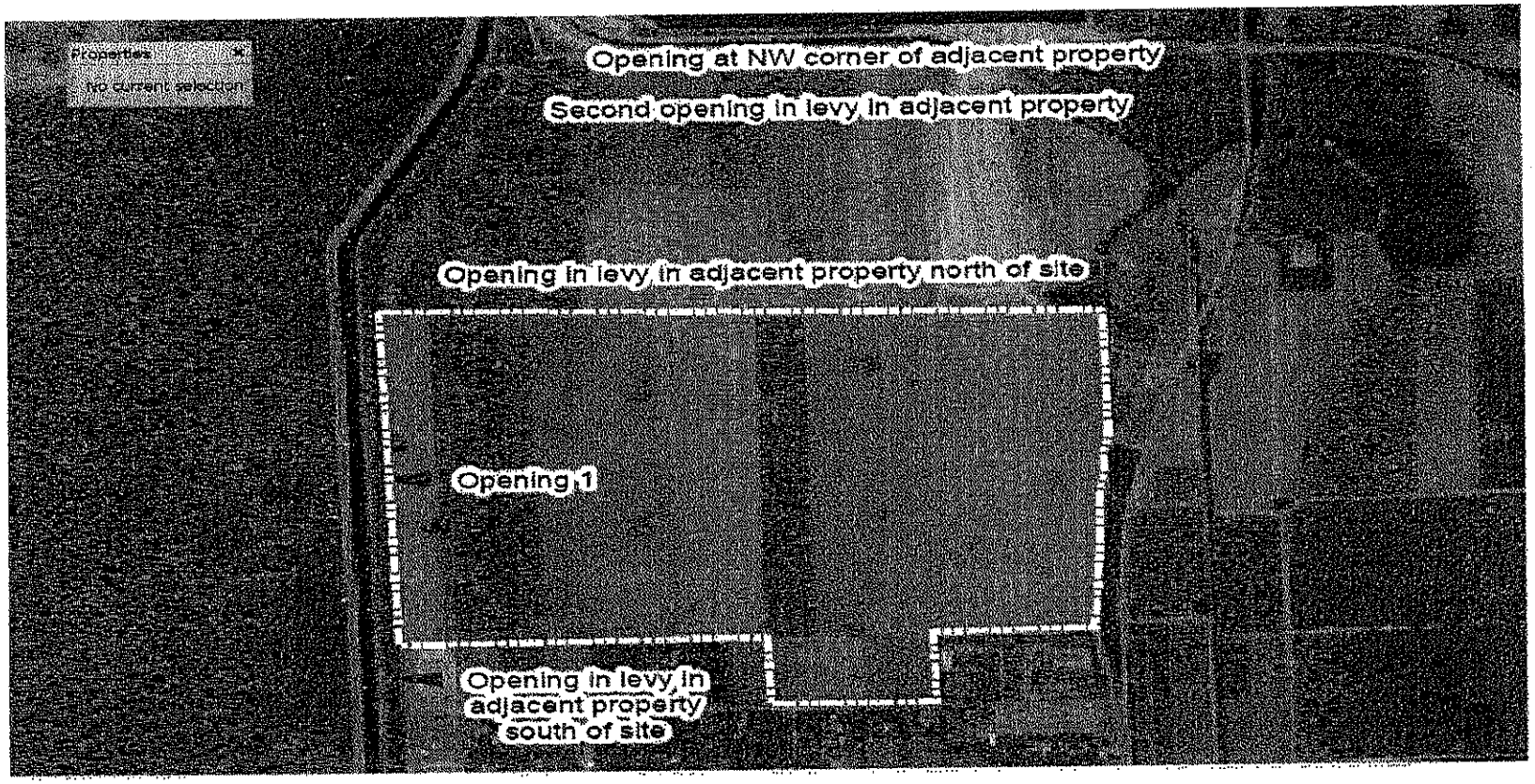
## SECTION IV: DATA SOURCES.

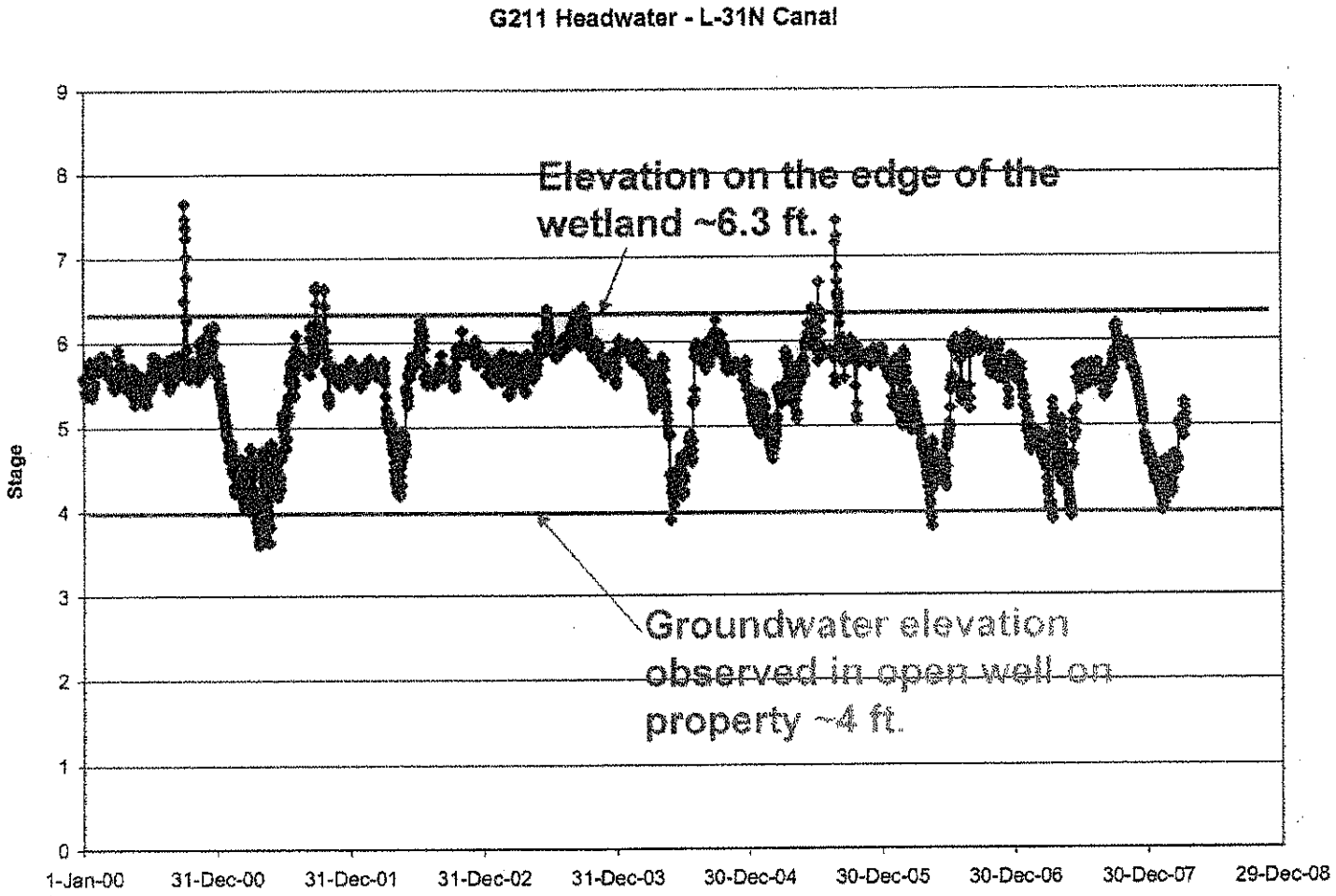
**A. SUPPORTING DATA. Data reviewed for JD (check all that apply** - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):
- ☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: .
- ☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - ☐ Office concurs with data sheets/delineation report.
  - ☐ Office does not concur with data sheets/delineation report.
- ☒ Data sheets prepared by the Corps: .
- ☒ Corps navigable waters' study: .
- ☒ U.S. Geological Survey Hydrologic Atlas: .
  - ☐ USGS NHD data.
  - ☐ USGS 8 and 12 digit HUC maps.
- ☒ U.S. Geological Survey map(s). Cite scale & quad name: .
- ☒ USDA Natural Resources Conservation Service Soil Survey. Citation: .
- ☒ National wetlands inventory map(s). Cite name: .
- ☒ State/Local wetland inventory map(s):FDEP/GIS/2004.
- ☒ FEMA/FIRM maps: .
- ☒ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)

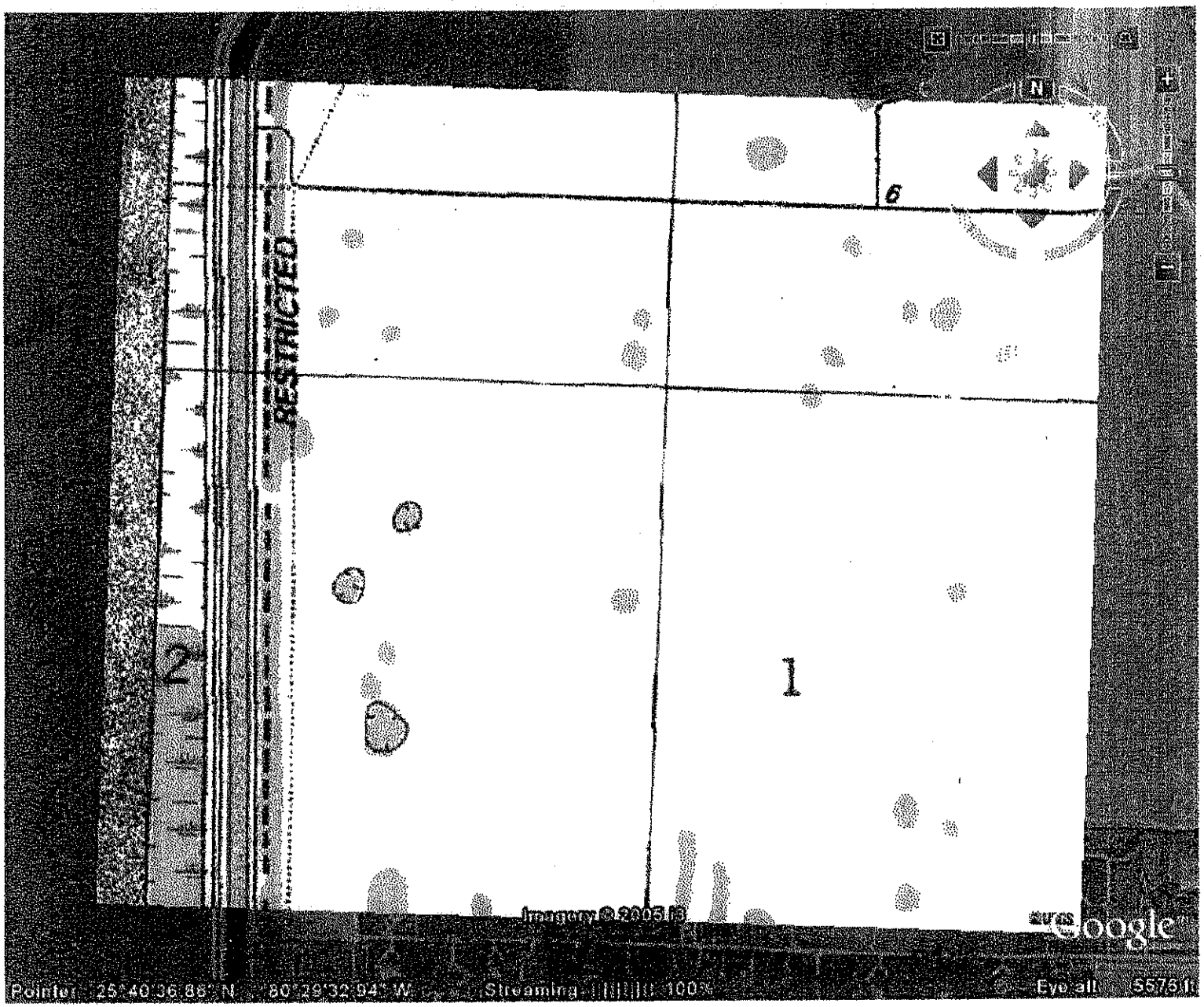
☒ Photographs: ☒ Aerial (Name & Date):FDEP GIS/2004 & Property Appraiser Website & Google Earth.
or ☐ Other (Name & Date):
Previous determination(s). File no. and date of response letter:
Applicable/supporting case law:Rapanos/SWANCC - Supreme Court Decisions.
Applicable/supporting scientific literature:
Other information (please specify):

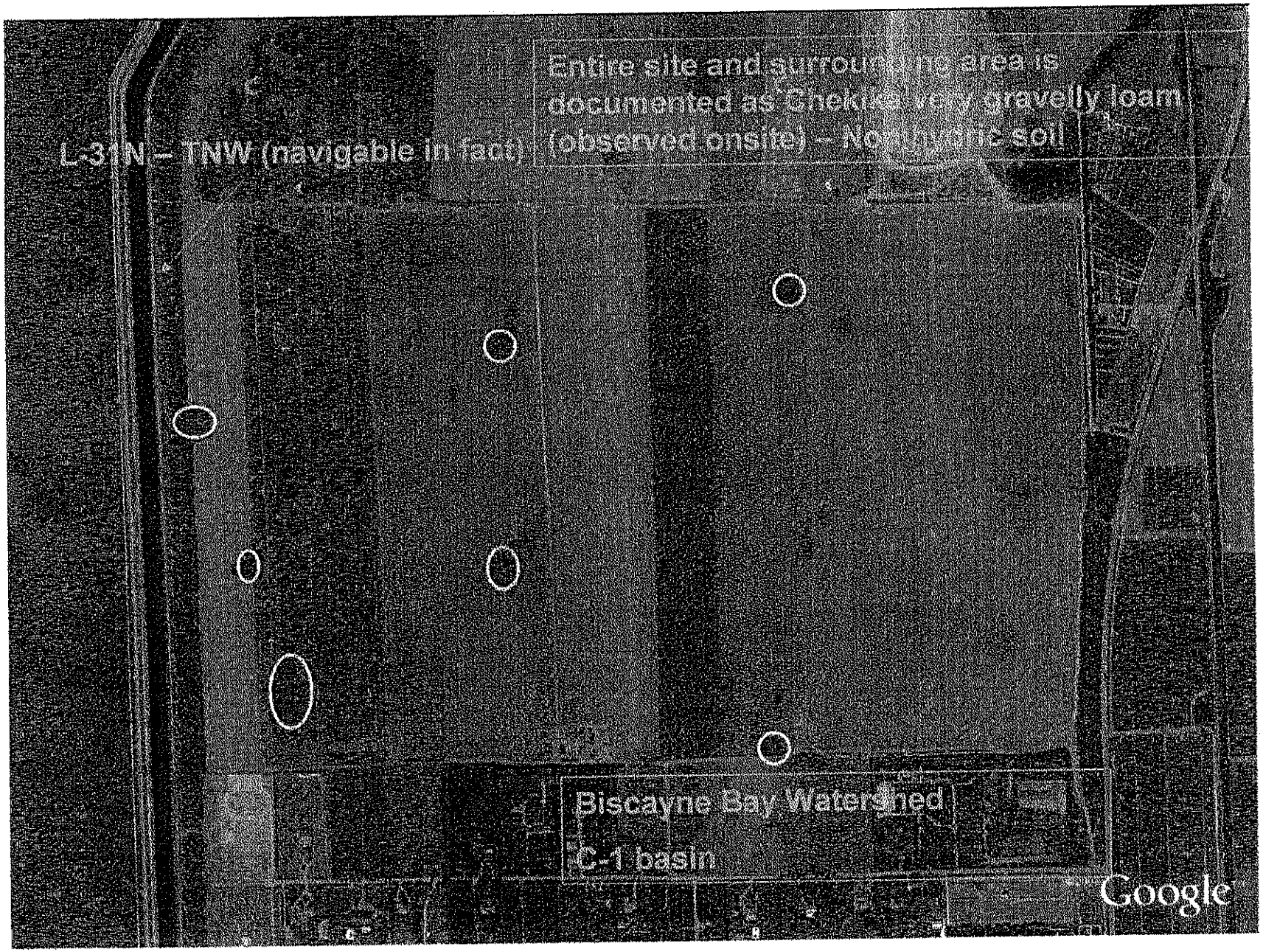
**B. ADDITIONAL COMMENTS TO SUPPORT JD:** Wetlands were determined to be isolated. No hydrologic connection to RPWs or TNWs was observed within the review area during inspection dated April 22, 2008. The nearest TNW is the L-31 canal located 100 feet from the western site boundary. There site is an active corn field with no field ditches and no discharge to the L-31. Wetlands at the site do not support a link to interstate or foreign commerce. The 0.51-acre wetland at the site is not currently used, nor is it likely to be used, by interstate or foreign travelers for recreational or other purposes. The Corps does not have information documenting interstate/foreign recreational or commercial uses at the site in its current condition. Wetlands at the site consist of low quality herbaceous vegetation with exotic species. Current site conditions would not support the presence of fish or shellfish that could be taken and sold in interstate or foreign commerce. Based on the nature and size of wetlands at the site, it is unlikely they would support industrial purposes by industries in interstate commerce. Therefore, wetlands at the site do not support a link to interstate or foreign commerce..

# Opening refers to opening in Levee between the site and the Canal

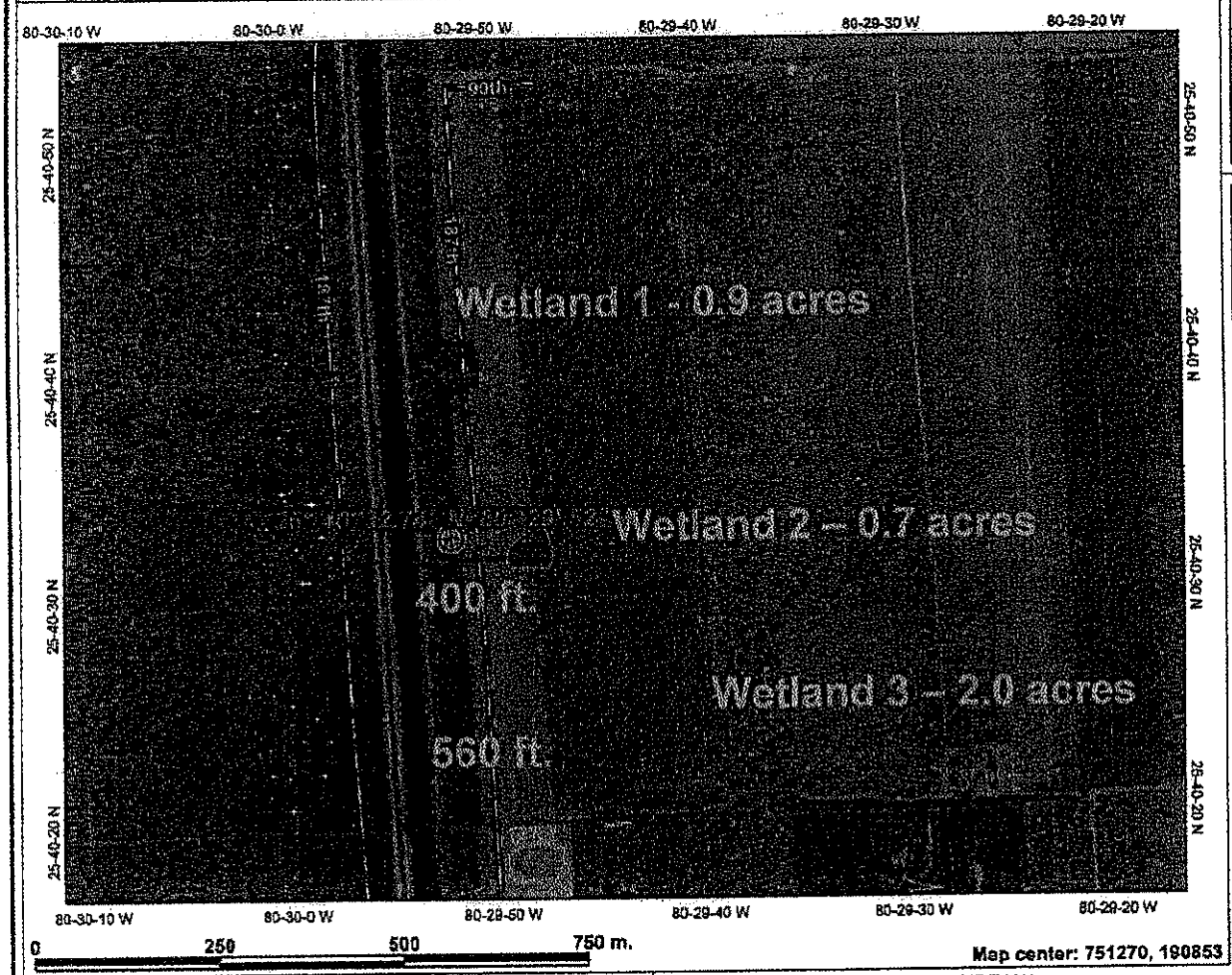


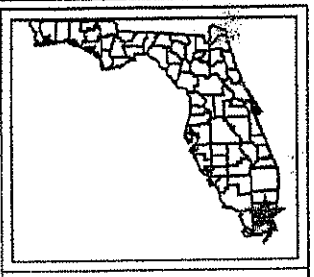

G211 Headwater - L-31N Canal
Stage
9
8
7
6
5
4
3
2
1
0
Elevation on the edge of the wetland ~6.3 ft.
Groundwater elevation observed in open well on property ~4 ft.
1-Jan-00
31-Dec-00
31-Dec-01
31-Dec-02
31-Dec-03
30-Dec-04
30-Dec-05
30-Dec-06
30-Dec-07
29-Dec-08


RESTRICTED
6
2
1
Imagery © 2005 i3
Google
Pointer 25°40'36.88" N 80°29'32.94" W
Streaming 100%
Eye alt 5576 ft


L-31N – TNW (navigable in fact)
Entire site and surrounding area is documented as Chekika very gravelly loam (observed onsite) – Non hydric soil
Biscayne Bay Watershed
C-1 basin
Google

# Cemex Wetlands 1-3



## Legend

- Interstates
- US Highways
- State Highways
- Local Roads
- TIGER Roads
- Cities (census places)
- Counties (generalized)

Scale: 1:8,206

Map center: 751270, 190853

[Florida Department of Environmental Protection] Disclaimer: This map is intended for display purposes only. It was created using data from different sources collected at different scales, with different levels of accuracy, and/or covering different periods of time.

Notes: Map produced on Fri May 16 13:43:34 EDT 2008

# Florida Department of Environmental Protection

Bureau of Mine Reclamation
2051 East Paul Dirac Drive
Tallahassee, Florida 32310-3760

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary


**SENT VIA FEDEX**

July 12, 2010

Carl L. Skiles, P.E.
Fortin, Leavy and Skiles, Inc.
180 Northeast 168th Street
North Miami Beach, Florida 33162

Dear Mr. Skiles:

RE: File No. 275849-001, Miami-Dade County
Cemex Construction Materials Florida – Shoma Quarry

Enclosed is the Individual Environmental Resource Permit, Permit No. 275849-001, issued pursuant to Part IV of Chapter 373, Florida Statutes, and Title 62, Florida Administrative Code. Any party to the Order (Permit) has the right to seek judicial review of the permit pursuant to Section 120.68, Florida Statutes, by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000; and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate Court of Appeal. The Notice of Appeal must be filed within 30 days from the date this Notice is filed with the Clerk of the Department.

Please review this document carefully to ensure compliance with both the general and specific conditions contained herein. If you have any questions about this document, please contact me at (850) 488-8217.

Sincerely,

Alan Whitehouse
Environmental Specialist

# Florida Department of Environmental Protection

Bureau of Mining and Minerals Regulation
2051 East Paul Dirac Drive
Tallahassee, Florida 32310-3760

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary


## ENVIRONMENTAL RESOURCE PERMIT

**PERMITTEE/AUTHORIZED ENTITY:**
Cemex Construction Materials Florida, LLC
1501 Belvedere Road
West Palm Beach, Florida 33406

Permit/Authorization No. 275849-001
Date of Issue: July 12, 2010
Expiration Date of Construction Phase:
July 12, 2020
County: Miami-Dade
Project: Shoma Lake Excavation

**AGENT:**
Carl L. Skiles, P.E.
Fortin, Leavy and Skiles, Inc.
180 Northeast 168th Street
North Miami Beach, Florida 33162

---

This permit is issued under the authority of Part IV of Chapter 373, Florida Statutes (F.S.), and Title 62, Florida Administrative Code (F.A.C.). The activity is not exempt from the requirement to obtain an Environmental Resource Permit. Pursuant to Operating Agreements executed between the Department and the water management districts, as referenced in Chapter 62-113, F.A.C., the Department is responsible for reviewing and taking final agency action on this activity. This permit also constitutes a finding of consistency with Florida's Coastal Zone Management Program, as required by Section 307 of the Coastal Management Act. This permit also constitutes certification compliance with water quality standards under Section 404 of the Clean Water Act, 33 U.S.C. 1344.

A copy of this authorization also has been sent to the U.S. Army Corps of Engineers (USACOE) for review. The USACOE may require a separate permit. Failure to obtain this authorization prior to construction could subject you to enforcement action by that agency. You are hereby advised that authorizations also may be required by other federal, state, and local entities. This authorization does not relieve you from the requirements to obtain all other required permits and authorizations.

The above-named permittee is hereby authorized to construct the work shown on the application and approved drawing(s), plans, and other documents attached hereto or on file with the Department and made a part hereof. **This permit is subject to the limits, conditions, and locations of work shown in the attached drawings, and is also subject to the attached General Conditions and Specific Conditions, which are a binding part of this permit.** You are advised to read and understand these drawings

and conditions prior to commencing the authorized activities, and to ensure the work is conducted in conformance with all the terms, conditions, and drawings. If you are utilizing a contractor, the contractor also should read and understand these drawings and conditions prior to commencing the authorized activities. Failure to comply with all drawings and conditions shall constitute grounds for revocation of the permit and appropriate enforcement action. Operation of the facility is not authorized except when determined to be in conformance with all applicable rules and with the general and specific conditions of this permit/certification, as specifically described below.

**ACTIVITY DESCRIPTION**

The activity is a permit/water quality certification to establish a new surface water management system for a limestone mine within a 393.2-acre project area.

The site consists of rock-plowed agricultural fields that have been used for many years for truck crop farming. The site is predominantly uplands, but includes 30 herbaceous and shrubby-herbaceous isolated wetlands, totaling 7.54 acres.

The project area is located adjacent to the L-31N Canal and east of Everglades National Park. There is a potential for adverse hydrological impacts within wetlands west of the project area as a result of mining. Therefore, the applicant has requested authorization for mining in two distinct phases, Phase 1 (the East Portion of the mine) and Phase 2 (the West Portion). The application provides reasonable assurance that excavation within the Phase 1 area will not adversely impact the hydrology within wetlands west of the project area. Since mining within the Phase 2 area could contribute to seepage hydrological impacts, mining in this phase will not be authorized until the permit is modified. This modification would require a completed application providing reasonable assurance that the permittee will meet the conditions for issuance of a permit. This would include assurance that any adverse seepage impacts from the expanded mining are fully addressed and offset through structural improvements and/or seepage mitigation.

This permit will allow mining to occur only in the Phase 1 area. Phase 1 will consist of a 197.1-acre project area which will result in adverse impacts to 1.2 acres of wetlands. Mitigation will not be required for impacts to these wetlands, which are each below the one-half acre mitigation threshold described in Paragraph 4.2.2.1 of the Basis of Review for Environmental Resource Permit Applications in the South Florida Water Management District (B.O.R.). The completion of Phase 1, without the expansion into Phase 2 would result in the creation of a 172.1-acre lake, with 19.7 acres of sloped littoral zone shorelines and reclaimed upland areas. The lake will have gently sloping shorelines (seven feet horizontal to one foot vertical). The maximum depth of mining is

expected to be approximately 50 feet below existing grade, or no deeper than the upper confining unit of the Gray Limestone aquifer, whichever is shallower.

No additional impervious surfaces are proposed. Mining will progress without dewatering. The construction phase of this permit will last 10 years. During the construction phase, stormwater up to the 25-year, three-day storm will be contained on site. During mining, stormwater within the project area will be contained within the mine pit, by using a system of berms. At the completion of mining, the berms shall be removed and the site shall be contoured to slope gently toward the littoral zone wetlands surrounding the pit. The reclaimed lake will not connect with waters of the state.

The estimated life of the mine, including reclamation, is 10 years. The postreclamation land use will be lake and sloped, vegetated shorelines.

## ACTIVITY LOCATION

The project is located just south of the intersection of Krome Avenue and Kendall Drive, in Section 1, Township 55 South, Range 38 East, in Miami-Dade County, Florida.

## GENERAL CONDITIONS

1. All activities authorized by this permit shall be implemented as set forth in the plans, specifications and performance criteria as approved by this permit. Any deviation from the permitted activity and the conditions for undertaking that activity shall constitute a violation of this permit and Part IV, Chapter 373, F.S.

2. This permit or a copy thereof, complete with all conditions, attachments, exhibits, and modifications shall be kept at the work site of the permitted activity. The complete permit shall be available for review at the work site upon request by the Department staff. The permittee shall require the contractor to review the complete permit prior to commencement of the activity authorized by this permit.

3. Activities approved by this permit shall be conducted in a manner which does not cause violations of state water quality standards. The permittee shall implement best management practices for erosion and pollution control to prevent violation of state water quality standards outside of the active mine pit. For all construction outside of the active mine pit, temporary erosion control shall be implemented prior to and during construction, and permanent control measures shall be completed within seven days of any construction activity. Turbidity barriers shall be installed and maintained at all locations where the possibility of transferring

suspended solids into the receiving waterbody exists due to the permitted work. Turbidity barriers shall remain in place at all locations until construction is completed and soils are stabilized and vegetation has been established. All practices shall be in accordance with the guidelines and specifications described in Chapter 6 of the Florida Land Development Manual: A Guide to Sound Land and Water Management (Department of Environmental Regulation, 1988), incorporated by reference in rule 40E-4.091, F.A.C., unless a project-specific erosion and sediment control plan is approved as part of the permit. Thereafter the permittee shall be responsible for the removal of the barriers. The permittee shall correct any erosion or shoaling that causes adverse impacts to the water resources outside of the area being disturbed by active mining operations.

4. When the duration of construction will exceed one year, the permittee shall submit construction status reports to the Department on an annual basis utilizing an Annual Status Report Form. Status Report Forms shall be submitted by March 1 of each year.

5. Within 30 days after completion of construction of the permitted activity, the permittee shall submit a written statement of completion and certification by a registered professional engineer or other appropriate individual as authorized by law, utilizing the supplied Environmental Resource Permit Construction Completion/Construction Certification Form No. 62-343.900(5). The statement of completion and certification shall be based on on-site observation of construction or review of as-built drawings for the purpose of determining if the work was completed in compliance with permitted plans and specifications. This submittal shall serve to notify the Department that the system is ready for inspection. Additionally, if deviations from the approved drawings are discovered during the certification process, the certification must be accompanied by a copy of the approved permit drawings with deviations noted. Both the original and revised specifications must be clearly shown. The plans must be clearly labeled as "as-built" or "record" drawing. All surveyed dimensions and elevations shall be certified by a registered surveyor.

6. The operation phase of this permit shall not become effective until: the permittee has complied with the requirements of General Condition No. 5 above; has submitted a Request for Conversion of Environmental Resource Permit from Construction Phase to Operation Phase, Form No. 62-343.900(7); the Department determines the system to be in compliance with the permitted plans and specifications; and the entity approved by the Department in accordance with Sections 9.0 and 10.0 of the Basis of Review for Environmental Resource Permit Applications Within the South Florida Water Management District - August 1995, accepts responsibility for operation and maintenance of the system. The permit

shall not be transferred to such approved operation and maintenance entity until the operation phase of the permit becomes effective. Following inspection and approval of the permitted system by the Department, the permittee shall initiate transfer of the permit to the approved responsible operating entity if different from the permittee. Until the permit is transferred, pursuant to rule 62-343.130, F.A.C., the permittee shall be liable for compliance with the terms of the permit.

7. Should any other regulatory agency require changes to the permitted system, the permittee shall notify the Department in writing of the changes prior to implementation so that a determination can be made whether a permit modification is required.

8. This permit does not eliminate the necessity to obtain any required federal, state, local and special district authorizations prior to the start of any activity approved by this permit. This permit does not convey to the permittee or create in the permittee any property right, or any interest in real property, nor does it authorize any entrance upon or activities on property which is not owned or controlled by the permittee, or convey any rights or privileges other than those specified in the permit and Chapter 40E-4 or Chapter 40E-40, F.A.C.

9. The permittee is hereby advised that section 253.77, F.S., states that a person may not commence any excavation, construction, or other activity involving the use of sovereign or other lands of the state, the title to which is vested in the Board of Trustees of the Internal Improvement Trust Fund without obtaining the required lease, license, easement, or other form of consent authorizing the proposed use. Therefore, the permittee is responsible for obtaining any necessary authorizations from the Board of Trustees prior to commencing activity on sovereignty lands or other state-owned lands.

10. The permittee must obtain a water use permit prior to construction dewatering, unless the work qualifies for a general permit pursuant to rule 40E-20.302(4), F.A.C., also known as the "No Notice" rule.

11. The permittee shall hold and save the Department harmless from any and all damages, claims, or liabilities which may arise by reason of the construction, alteration, operation, maintenance, removal, abandonment or use of any system authorized by the permit.

12. Any delineation of the extent of a wetland or other surface water submitted as part of the permit application, including plans or other supporting documentation, shall

not be considered binding unless a specific condition of this permit or a formal determination under subsection 373.421(2), F.S., provides otherwise.

13. The permittee shall notify the Department in writing within 30 days of any sale, conveyance, or other transfer of ownership or control of a permitted system or the real property on which the permitted system is located. All transfers of ownership or transfers of a permit are subject to the requirements of rules 40E-1.6105 and 40E-1.6107, F.A.C. The permittee transferring the permit shall remain liable for corrective actions that may be required as a result of any violations prior to the sale, conveyance or other transfer of the system.

14. Upon reasonable notice to the permittee, Department authorized staff with proper identification shall have permission to enter, inspect, sample and test the system to insure conformity with the plans and specifications approved by the permit.

15. If historical or archaeological artifacts are discovered at any time on the project site, the permittee shall immediately notify the Department.

16. The permittee shall immediately notify the Department in writing of any previously submitted information that is later discovered to be inaccurate.

SPECIFIC CONDITIONS

1. **Permit Compliance.** The purpose of this permit is to authorize the creation of a surface water management system on certain described lands within the jurisdiction of the Department. In exchange for this authorization, the permittee is obligated to perform certain acts that are described herein. A material part of the reasonable assurances the Department is relying upon in issuing this permit is that the permittee will timely and completely implement all of the conditions of this permit. The permittee understands that its failure to completely and timely comply with all of the conditions of this permit may result in a revocation or suspension of the permit and if appropriate, that the area be restored.

2. **Listed Species.** Permits shall be obtained from the Florida Fish and Wildlife Conservation Commission prior to the "taking" of any listed animal species. Listed animal species are those animal species listed in rules 68A-27.003, 68A-27.004, and 68A-27.005, F.A.C. Taking means: taking, attempting to take, pursuing, hunting, molesting, capturing, or killing any listed species, their nests or eggs, by any means, whether or not such actions result in obtaining possession.

3. **"Good Cause Rule".** The permittee is hereby advised that rule 62-343.100(1)(c), F.A.C., provides that for good cause and after notice to the permittee, the Department may require the permittee to conform to new or additional conditions to this permit. Circumstances that constitute "good cause" shall include any of the situations listed in the referenced rule.

4. **Wetland Jurisdictional Determination.** For this application, the permittee and Department identified a line that may be upland to the presumed landward extent of the wetlands and other surface waters. Any delineation of the extent of a wetland or other surface waters submitted as part of the permit application, including plans or other supporting documentation, shall not be considered specifically approved unless a specific condition of this permit or a formal determination under subsection 373.421(2), F.S., provides otherwise.

**Construction**

5. **Drawing Conflicts.** The project shall be conducted in compliance with the permit drawings, plans, figures, and narratives which identify location, schedule, notification, and reclamation and mitigation activities. If the approved permit drawings conflict with the specific conditions, then the specific conditions shall prevail.

6. **Facility abandonment.** The following shall be properly abandoned and/or removed in accordance with the applicable regulations when in the path of construction:

   a. Any existing wells in the path of construction shall be properly plugged and abandoned by a licensed well contractor.

   b. Any existing septic tanks on site shall be abandoned at the beginning of construction.

   c. Any existing fuel storage tanks and fuel pumps shall be removed at the beginning of construction.

7. **Dredging and Filling Limits.** All wetland and surface water areas to be dredged or filled shall be in accordance with the attached permit drawings and shall not exceed the locations, areas and depths indicated on those drawings.

8. **Extraction Limits.** The expansion of the extraction area(s) beyond the limits identified as "Phase 1", as shown in sheet 2 of 6, is not authorized. Construction in

the area designated as "Phase 2" is not authorized until this permit has been modified by the Department after the submittal of a complete application that satisfies the conditions for issuance under rules 40E-4.301 and 40E-4.302, F.A.C., and provides reasonable assurance that any adverse seepage impacts that could occur as a result of the expanded mining have been fully addressed and offset through structural improvements and/or seepage mitigation.

9. **Excavation Depth.** Mining and excavation shall not extend below -45 feet National Geodetic Vertical Datum (NGVD), or two feet above the upper confining unit of the Gray Limestone aquifer, whichever is shallower.

10. **Stormwater Containment.** Mining and mining related activities shall be conducted at all times within a stormwater system capable of containing a 25-year, three-day storm. All construction, operation, and maintenance of the stormwater system shall be as set forth in the plans, specifications, and performance criteria contained in the Department file and approved by this permit.

11. **Hazardous Materials Containment.** A separate containment area for equipment maintenance and the storage of petroleum and hazardous substances shall be constructed on site to retain surface water from entering the mine pit. The containment area shall be built to confine any spilled petroleum or hazardous materials and stormwater to the volumetric requirements of Section 5.2 of the Basis of Review for Environmental Resource Permit Applications within the South Florida Water Management District.

12. **Water Conservation.** All surface water management systems shall be operated to conserve water in order to maintain environmental quality and resource protection; to increase the efficiency of transport, application and use; to decrease waste; to minimize unnatural runoff from the property and to minimize dewatering of off-site property.

13. **Surface Water Storage Structures.**

    a. On-site dams, including stormwater ponds, berms, dredge pond dikes, or tailings disposal area dikes shall not store flowable liquid more than four feet above natural grade.

    b. All water management structures shall be constructed of clean fill, devoid of materials or vegetation that could allow water to be piped through the structure. Earthen material should be placed in lifts no greater in depth than 1 foot and compacted until the density meets or exceeds a 95 percent Modified

Proctor test. A minimum of three feet of freeboard should be provided above the expected high water level within the containment system. Tops of containment berms should provide a five to 10-foot top width and should be sloped downward at one to two percent toward the interior of the containment system. Interior and exterior sides of berms should be sloped no steeper than three horizontal to one vertical.

c. Vegetated surface water containment structures shall be mowed annually to control woody vegetation.

d. Topsoil storage piles or berms constructed as safety barriers shall not be utilized to store flowable liquid, but may be used to divert stormwater to sumps. Water deeper than one foot above grade shall be pumped away from these structures as expeditiously as possible.

14. **System Changes.** No modifications or additions shall be made to this facility which could alter the stormwater management and storage characteristics of the facility, without prior modification of this permit. The stormwater treatment facility shall at all times be maintained in good working order and operate as efficiently as practicable. All installed treatment facilities shall be operated to achieve the highest practical level of treatment and efficiency.

15. **Training.** The permittee shall provide permit compliance training.

a. Training shall be provided to the staff of the permittee and contractors who will be supervising construction, modification, alteration, or removal of the surface water management system, or conducting inspections of the surface water management system.

b. Training shall be conducted for newly hired staff or contractors within the first three months of their starting date.

c. Refresher training shall be conducted annually for all permittee staff and contractors who supervise construction, modification, alteration, or removal of the surface water management system, or permittee staff and contractors responsible for conducting inspections of the surface water management system.

d. The training shall explain the design, construction methods, operation, maintenance, inspection, and reporting requirements for the surface water management system.

e. The permittee shall maintain a list of individuals trained. The list shall include the training date and a brief identification of the individual's responsibility with regards to the surface water management system. The list shall be provided to the Department upon request.

16. **Off-site Flooding.** The permittee shall take all reasonable steps necessary to eliminate the risk that there will be flooding on lands not controlled by the permittee caused by silting or damming of stream channels, channelization, slumping or debris slides, uncontrolled erosion, or intentional spoiling or diking, or other similar actions within the control of the permittee.

17. **Water Quality of Discharges.** Activities approved by this permit shall be conducted in a manner that does not cause violations of state water quality standards. Water discharged from the project area shall achieve the water quality standards of Chapter 62-302, F.A.C., for Class III waters at the point where the water leaves the project area.

18. **Construction Adjacent to Wetlands or Other Surface Waters.** Prior to stockpiling material, waste, overburden, etc., in the vicinity of a wetland or other surface waters; or conducting any other earth-disturbing activity in the vicinity of a wetland or other surface waters, the permittee shall implement measures to protect on-site and off-site wetlands and other surface waters from turbidity and sediment.

a. The permittee shall instruct all personnel associated with the project that earth-disturbing activities, including the stockpiling of material or waste, shall not occur within wetlands or other surface waters, nor adjacent to wetlands or other surface waters, where turbidity and sediment control devices are not present.

b. To prevent secondary impacts to habitat functions of wetlands adjacent to activities conducted in uplands, the permittee shall maintain an upland buffer with a width of 25 feet abutting each wetland that will not be dredged or filled. Earth-disturbing activities, (including land clearing, mining, materials berm construction, and waste stockpiling), shall not be conducted within the buffers or the limits of any un-permitted (avoided) wetlands or other surface waters. Adjacent to any earth-disturbing activities or material/waste piles, the boundary of the upland buffer shall be clearly identified in the field with stakes and flagging at a 50-foot or shorter interval, or with sediment and turbidity control structures.

c. Best management practices for turbidity and erosion control shall be implemented and maintained, during earth-disturbing activities adjacent to wetlands or other surface waters, to prevent siltation and turbid discharges in excess of state water quality standards pursuant to Chapter 62-302, F.A.C. Staked filter cloth, staked hay bales, or other turbidity and sediment control devices shall be installed, where appropriate. The toe of each staked filter cloth shall be buried and panels shall have at least a three-foot staked overlap area. All turbidity and sediment control devices shall be installed prior to the disturbance. All turbidity and sediment control devices shall be maintained until disturbed areas have sufficiently stabilized and vegetated to prevent water quality violations, or the movement of sediment.

d. All wetland areas or other surface waters which are adjacent to the specific limits of construction authorized by this permit shall be protected from erosion, sedimentation, siltation, scouring, excess turbidity or dewatering. All exposed and disturbed land surfaces up gradient from wetlands or other surface waters shall be stabilized with sod, seed or mulch immediately following completion of final grades to prevent erosion. Land surfaces up gradient from wetlands or other surface waters shall be stabilized at all times during and after construction so as to prevent any erosion, sedimentation, siltation, or scouring. A vegetative cover that stabilizes and prevents erosion of the material shall be established within 60 days of final grading. Upon establishment of a substantial vegetative cover, all turbidity barriers/erosion control devices may be removed.

e. Should any of the avoided wetlands be degraded by activities, additional wetland mitigation may be required.

19. **Construction within Avoided Wetlands or Other Surface Waters.** The project includes dredging or filling activities adjacent to avoided wetlands or other surface waters. The permittee shall implement measures to protect the avoided portions of wetlands and surface waters from turbidity and sediment.

a. The permittee shall instruct all personnel associated with the project that earth-disturbing activities, including the stockpiling of material or waste, shall not occur within wetlands or other surface waters, nor adjacent to wetlands or other surface waters, where turbidity and sediment control devices are not present.

b. Prior dredging or filling, the limits of the proposed dredge or fill areas shall be clearly flagged and staked by the permittee. All construction personnel shall be

shown the location(s) of all wetland areas outside of the construction area to prevent encroachment from heavy equipment into these areas.

c. Prior to the initiation of any work authorized by this permit within wetlands or other surface waters, floating turbidity screens with weighted skirts that extend to the bottom shall be placed adjacent to the approved dredge or fill area. The screens shall be maintained and shall remain in place for the duration of the project construction to ensure that turbidity levels outside the construction area do not exceed 29 Nephelometric Turbidity Units (NTU's) above background levels. The permittee shall be responsible for ensuring that turbidity control devices are inspected daily and maintained in good working order so that there are no violations of state water quality standards outside of the turbidity screens. Turbidity shall be monitored as described in the monitoring portion of this permit.

d. Best management practices for turbidity and erosion control shall be implemented and maintained, during earth-disturbing activities adjacent to wetlands or other surface waters, to prevent siltation and turbid discharges in excess of state water quality standards pursuant to Chapter 62-302, F.A.C. Staked filter cloth, staked hay bales, or other turbidity and sediment control devices shall be installed, where appropriate. The toe of each staked filter cloth shall be buried and panels shall have at least a three-foot staked overlap area. All turbidity and sediment control devices shall be installed prior to the disturbance. All turbidity and sediment control devices shall be maintained until disturbed areas have sufficiently stabilized and vegetated to prevent water quality violations, or the movement of sediment.

e. All wetland areas or other surface waters which are adjacent to the specific limits of construction authorized by this permit shall be protected from erosion, sedimentation, siltation, scouring, excess turbidity or dewatering. All exposed and disturbed land surfaces up gradient from wetlands or other surface waters shall be stabilized with sod, seed or mulch immediately following completion of final grades to prevent erosion. Land surfaces up gradient from wetlands or other surface waters shall be stabilized at all times during and after construction so as to prevent any erosion, sedimentation, siltation, or scouring. A vegetative cover that stabilizes and prevents erosion of the material shall be established within 60 days of final grading. Upon establishment of a substantial vegetative cover, all turbidity barriers/erosion control devices may be removed.

f. Should any of the avoided wetlands be degraded by activities additional wetland mitigation shall be required.

20. **Fill Material.** All material used as fill in wetlands or other surface waters shall be clean sand, rock or shell material and shall not be contaminated with vegetation, garbage, trash, tires, hazardous, toxic waste or other materials that are not suitable for road construction within waters of the State as so determined by the Department.

21. **Construction Adjacent to Property Lines.** Prior to stockpiling material, waste, overburden, etc., in the vicinity of a property line or any other earth-disturbing activity in the vicinity of a property line, the permittee shall implement measures to protect adjacent property from sediment or other material.

    a. The permittee shall instruct all personnel associated with the project that earth-disturbing activities, including the stockpiling of material or waste, shall not occur adjacent to property lines where turbidity and sediment control devices are not present.

    b. A minimum setback distance of 100 feet shall be maintained between any earth-disturbing activities, (including land clearing, mining, materials, berm construction, and waste stockpiling), and the property line.

    c. The permittee shall prevent the movement of earthen materials, wastes, debris, etc., from leaving the property.

22. **Process Water Treatment.** No chemicals, except water conditioners or pH adjusters which have been approved by the Department as not adversely affecting the quality of the water contained in the mine, shall be added to the process water used for transporting, washing or processing of the sand or limestone.

23. **Dewatering.** Dewatering activities refer to pumping of water from an active work site, in order to maintain workable conditions. No dewatering is authorized by this permit.

24. **Blast Site Preparation.** When preparing a new location for blasting the permittee shall ensure that the site is free of all spilled fuels, lubricants, solvents, or any other groundwater pollutants. Prior to the initiation of drilling, all drilling equipment shall be inspected for leaks, and shall be maintained in a manner that minimizes ground contamination. If any leaks or spills are found within the blast area, these shall be collected and disposed of in accordance with state law prior to detonation.

Blasting compounds shall utilize vegetable oil, mineral oil or other material that is low in benzene as compared to fuel oil.

25. **Upland Reclamation.** Upland contouring and revegetation shall be established in the following manner:

    a. Contouring activities shall be initiated as soon as practical and be completed no later than one year after the calendar year in which an area becomes available for reclamation and would not interfere with mining operations.

    b. Upland slopes shall be contoured to the standards of Chapter 62C-36, F.A.C.

    c. Vegetation activities shall be initiated as soon as practical and completed no later than one year after the calendar year in which the final contours are established in an area and revegetation activities would not interfere with mining operations. Upland revegetation shall at least meet the standards of Chapter 62C-36.008, F.A.C.

    d. Other than in areas being reclaimed as agricultural or silvicultural areas, exotic and nuisance species shall be controlled during the establishment of vegetation. Exotic plant species include, but are not limited to those species listed as Category I or Category II, on the Florida Exotic Plant Council's List of Invasive Species. Nuisance species shall mean those species of flora whose noxious characteristics or presence in sufficient number, biomass, or areal extent may reasonably be expected to prevent, or unreasonably interfere with, the designated use of the waters under consideration, as defined in rule 62-302.200, F.A.C.

    e. Mulching, contouring, and other suitable techniques shall be used to enhance stabilization. Should washes or rills develop after revegetation and before final release of the area, the permittee shall repair the eroded areas and stabilize the slopes.

    f. Reclamation activities through revegetation shall be completed within three years of the final cessation of mining operations at the mine.

26. **Shoreline Reclamation.** The lake shorelines shall be contoured in accordance with the attached plans. The shorelines are not considered wetland mitigation. The lake shorelines shall be created in the following manner:

a. The contouring for the treatment of final shorelines using stockpiled overburden material shall be initiated and completed no later than one year after the calendar year in which the length and final location of the shoreline is established and other mining operations have ceased in the area. The permittee may request a waiver of this requirement for any reasonable length of time when necessary to prevent the unacceptable contamination of the resource being extracted.

b. Vegetation activities shall be initiated as soon as practical and completed no later than one year after the calendar year in which the final contours are established in an area and revegetation activities would not interfere with mining operations.

c. Littoral zone revegetation shall at least meet the standards of rule 62C-36.008, F.A.C. The permittee may use natural recruitment for the revegetation of shorelines; however, erosion shall be controlled and repaired, nuisance and exotic species shall be controlled, and the revegetation of the shorelines shall be completed to meet release standards.

d. Mulching, contouring, and other suitable techniques shall be used to enhance stabilization. Should washes or rills develop after revegetation and before final release of the area, the permittee shall repair the eroded areas and stabilize the slopes.

e. Exotic and nuisance species shall be controlled during the establishment of the shoreline vegetation. Exotic plant species include, but are not limited to those species listed as Category I or Category II, on the Florida Exotic Plant Council's List of Invasive Species. Nuisance species shall mean those species of flora whose noxious characteristics or presence in sufficient number, biomass, or areal extent may reasonably be expected to prevent, or unreasonably interfere with, the designated use of the waters under consideration, as defined in rules 62-312.310(8) and 62-302.200(14), F.A.C.. Nuisance species include but are not limited to: *Azolla caroliniana* (mosquito fern), *Ludwigia leptocarpa* (water-primrose), *Mikania scandens* (climbing hemp vine), *Salvinia rotundifolia* (water spangles), and *Typha* spp. (cattails).

f. Reclamation activities through revegetation shall be completed within three years of the final cessation of mining operations at the mine.

**Wetland Mitigation**

27. **Mitigation Credits.** Phase 2, if approved, would result in adverse impacts to 2.79 acres of herbaceous and shrubby-herbaceous wetlands. To offset impacts to these wetlands, the permittee shall purchase 2.81 herbaceous credits from the Hole-in-the-Donut Mitigation Bank. The permittee shall provide the Department with documentation that the credits have been deducted from the credit ledger of the mitigation bank, prior to the initiation of any mining activities within Phase 2. If mitigation credits are not available, alternative wetland mitigation shall be provided as part of the application for Phase 2.

**Monitoring and Reporting**

28. **Submittals.** Unless otherwise specified, all notices, plans, draft easements, reports or other documents or information required by this permit to be submitted to the Department shall be provided to:

    Florida Department of Environmental Protection
    Bureau of Mining and Minerals Regulation
    2051 East Paul Dirac Drive
    Tallahassee, Florida 32310-3760
    (850) 488-8217, facsimile (850) 488-1254.

29. **Reporting.** Failure to submit reports in a timely manner constitutes grounds for revocation of the permit.

30. **Agent Change.** The permittee shall notify the Department in writing within 14 days of any change in agents, address or telephone number for the permittee or project.

31. **Notice of Commencement.** At least 48 hours prior to commencement of activity authorized by this permit, the permittee shall submit to the Department a Construction Commencement Notice Form No. 62-343.900(3) indicating the actual start date and the expected completion date.

32. **Oil and Hazardous Substances.** Florida law requires reporting of oil and hazardous substances spills. Immediately report such spills to the Department's Division of Law Enforcement, Bureau of Emergency Response, State Warning Point: (850) 413-9911, (800) 320-0519, 24 hours. The discharge of less than 25 gallons of petroleum or petroleum products onto a pervious surface is not reportable, as long as the discharge is removed and properly treated or disposed, or

otherwise remediated, pursuant to the applicable provisions of rule 62-770.300, F.A.C., so that no contamination from the discharge remains on-site.

33. **Serious Conditions.** The permittee shall within 12 hours notify the Department by telephone whenever a serious problem occurs at this facility.

    a. Serious conditions are, but are not limited to, situations that have or have the potential to adversely affect avoided wetlands or other surface waters, water quality, listed species, public health, safety, or welfare, or the property of others.

    b. During regular business hours notification shall be made to the Department by telephone. If an emergency occurs outside regular business hours, the permittee shall submit notification by fax.

    c. Within seven days of notification, the permittee shall submit a written report explaining the extent of the problem, its cause, and what actions have been or will be taken to correct the problem. The report shall include the results of water quality monitoring if the incident included discharges to wetlands or other surface waters.

    d. In the event of any accident resulting in the submergence of any equipment (such as machinery and vehicles) or containers containing petroleum or hazardous materials into the mine pit, the permittee shall submit a written closure report within seven days of the completion of clean-up and recovery operations. The report shall include photographs and shall describe the clean-up and recovery, providing details on the methods employed to limit water pollution.

34. **Human Remains.** In the event that human remains are encountered anywhere on the subject property, all work associated with the area of the remains must stop immediately and the district medical examiner shall be notified, in accordance with section 872.05, F.S. The Department is to be notified following notification of the proper authorities. Work shall not recommence until the Department receives verification from the appropriate authorities that the permittee may continue activities authorized by this permit.

35. **Quality Assurance.** In order to assure minimum field and laboratory quality assurance, methodological and reporting requirements, all field sampling shall follow the applicable collection and quality control protocols and requirements

described in Chapter 62-160, F.A.C., and the appropriate Department of Environmental Protection Standard Operation Procedures.

36. **Water Quality Screening.** Water quality within the active mine pits shall be screened at each blasting location, prior to and after the blast. The water samples shall be collected adjacent to the blasting location, at a depth of five feet below the elevation of the mining bench. At each planned blasting location:

    a. The permittee shall collect pre-blast water quality samples, no more than 24 hours prior to the start of the loading of the explosive material.

    b. The permittee shall collect post-blast samples within 24 hours after the blast.

    c. Each sample shall be tested for the following constituents: total nitrogen, combined nitrate-nitrite, and benzene.

    The water quality samples shall be promptly analyzed and reported to the Department. The data shall be compiled into a monthly blasting report letter which shall be submitted within 28 days of the last day of the month. The monthly blasting report shall provide the following information:

    - A description of the blasting agents used during the month,
    - the number and dates of blasting events during the month,
    - the date, locations, and ultimate fate of blasting agents for any borehole locations where detonation did not occur on an initial firing or attempt, and
    - a location map for the sampling sites.

    If the monthly reports indicate potential surface or ground water quality concerns, the Department may require corrective steps, including additional monitoring or other new or additional conditions, in accordance with rule 62-343.100(1)(c), F.A.C. After this screening requirement has been completed for not less than 12 monthly reports with screening results, the permittee may request a minor modification to the permit to remove this condition.

37. **Water Quality Violations.** The following measures shall be taken immediately by the permittee whenever the water quality levels at a monitoring station, or any water leaving the project area, violates state water quality standards established pursuant to Chapter 62-302, F.A.C.:

    a. Cease all work contributing to the water quality violation;

b. modify the work procedures that were responsible for the violation, and repair any non-functioning containment devices;

c. within 12 hours of identifying the violation notify the Department of the time the violation is first detected, the extent of the violation, and the corrective measures that have been and will be implemented; and

d. continue water quality monitoring at eight-hour intervals until samples no longer violate water quality standards.

38. **Groundwater Quality Monitoring.** Prior to the initiation of any land clearing activity in preparation for mining in Phase 1, the permittee shall install the Phase 1 groundwater quality monitoring well MW-1, as shown on Sheet 2 of 6, Lake Mining Plan. The Phase 2 well shall be installed prior to submitting an application for a permit modification to authorize the expansion of mining into Phase 2. For each well location:

a. There shall be one deep well casing (open from 40 to 60 feet below land surface).

b. Complete the baseline water quality sampling. Baseline sampling parameters shall include chlorides, sulfates, phosphorous, total dissolved solids, iron oxides, cadmium, gross alpha, uranium, radium 226 and 228.

c. Thereafter, sampling shall be conducted on an **annual basis** at all wells for phosphorous, iron oxides, cadmium, gross alpha, radium 226 and 228. Sampling for sulfates, total dissolved solids, chlorides shall be conducted on a **quarterly basis**. The monitoring report detailing the results of all the sampling along with the certified laboratory analysis work sheets shall be submitted with the annual narrative report. The monitoring may be discontinued after all extraction has ended on the site.

39. **Groundwater Quality Protection.**

a. At each water quality monitoring well, the permittee shall establish a baseline value for each monitored parameter.

b. After the first year of monitoring, levels of each parameter at each well shall not exceed the baseline values for more than two consecutive quarters. If baseline values are exceeded for more than two consecutive quarters, the permittee shall contact the Department within seven days of the analysis.

c. If any value exceeds or is trending toward exceeding the standards set in rule 62-520.420(1), F.A.C., the permittee shall contact the Department within seven days of the analysis.

d. In the event of an exceedance, the Department shall review the data at each well location, and determine a remedial course of action. Possible remedial actions may include additional monitoring at new well locations, restrictions on mining depth or on mining locations, or the suspension or revocation of the permit with restoration of the disturbed areas.

40. **Stormwater System Inspections.** The stormwater management system shall be inspected.

a. Turbidity, sedimentation and erosion control devices, slopes and exterior sides of berms, immediately up gradient from property lines, wetlands, and other surface waters, shall be inspected daily and after each rainfall event that is greater than one inch in a 24-hour period until the vegetation has been established. Thereafter, inspections shall occur weekly and after each rainfall event that is greater than one inch in a 24-hour period. Should washes or rills develop, the permittee shall repair the eroded areas and stabilize the slopes within 48 hours. Where the possibility of cascading failure exists, up gradient dikes and berms must also meet this requirement.

b. Pumps in the water collection areas shall be inspected daily when running to ensure correct operation.

c. Each inspection shall be documented and kept on file at the facility office. Each inspection report shall contain, as a minimum: date, name of inspector, as-found condition of major system features, and nature and extent of maintenance/repair performed. A summary of the reports shall be provided to the Department when requested.

d. If the stormwater management system is not functioning as designed and permitted, operational maintenance must be performed immediately to restore the system. If operational maintenance measures are insufficient to enable the system to meet the design standards, the permittee must either replace the system or construct an alternative design. Based on the above, the permittee must submit a permit modification application within 60 days of the date the system was determined to be design deficient.

41. **Weather Station Report.** The permittee shall report the data from the weather station on an annual basis. The report shall also include a cumulative record of weather events since the start of monitoring. During each reporting period, the report shall include the minimum, maximum, mean and standard deviation for each parameter. Also, the permittee shall provide rainfall and wind data from the weather station within 48 hours after any off-site discharge through an emergency discharge point or failure in a surface water management structure.

42. **Narrative and Monitoring Reports.** Annual narrative and monitoring reports shall be submitted to the Department on or before March 1 of each year. The reports shall continue to be submitted until all work authorized has been completed. The first annual narrative report shall be provided March 1, 2011. Each report shall include the following information:

    a. The cover page shall indicate the permit number, project name and the permittee name. Just below the title, the certification of the following statement by the individual who supervised preparation of the report: **"This report represents a true and accurate description of the activities conducted during the period covered by this report."**

    b. The date activity began;

    c. a brief description and drawings showing the extent of the work completed during the previous calendar year;

    d. a brief description and drawings showing the work anticipated during the current calendar year; and

    e. dates of monitoring inspections, observations made during the inspections, and corrective actions implemented or proposed, if any.

**Release**

43. **Lake Surface Water Separation.** The reclaimed lake shall not connect to off-site wetlands or other surface waters below the 25-year, 24-hour storm. The created lake shall be entirely owned by one person and therefore will not be considered waters of the state. If any portion of the lake surface waters becomes subdivided into more than one ownership, the surface waters will be waters of the state and will be required to meet all water quality standards for surface waters. Based on the proposed lake design, it is expected that the surface waters within deeper

portions of the lake may not meet water quality standards for dissolved oxygen at depth during the summer months.

44. **General Release.** All lands disturbed by mining and reclamation activities shall meet the following standards:

    a. All lands shall be reclaimed to a neat, clean condition by removing or adequately burying, where allowed by law, all visible debris, litter, junk, worn-out or unusable equipment or materials, as well as all poles, pilings, and cables.

    b. Large rocks and boulders shall be pushed into the lakes or placed in common locations at the mine surface or buried to a minimum depth of four feet.

    c. All temporary buildings, pipelines, and other man-made structures shall be removed with the exception of those that are of sound construction with potential uses that are compatible with the reclamation goals.

45. **Upland Release.** In addition to the release standards provided by Specific Condition No. 44, upland areas shall at least meet the following standards:

    a. Uplands shall at least meet the slope and revegetation standards of rule 62C-36.008, F.A.C. Upland slopes shall be no steeper than four horizontal to one vertical. Land surfaces shall be vegetated and stabilized to control erosion. All washes and rills shall be repaired, vegetated and stabilized. No bare areas larger than one-quarter acre shall occur.

    b. The planting of native trees within the uplands to meet the reclamation performance standards of Chapter 62C-36, F.A.C., will not be inconsistent with this permit.

46. **Water Quality.** Water within all wetlands and waterbodies shall be of sufficient quality to allow recreation or support fish and other wildlife.

47. **Littoral Zone Release.** The wetlands within the created lake shorelines are not considered wetland mitigation for dredging or filling activities associated with this permit. In addition to the release standards provided by Specific Condition No. 44, lake shorelines shall at least meet the following standards:

    a. Shorelines shall at least meet the design and revegetation standards of rule 62C-36.008, F.A.C. Lake shorelines shall be no steeper than seven horizontal to

one vertical to a depth of six feet below the average water level. Land surfaces shall be vegetated and stabilized to control erosion. All washes and rills shall be repaired, vegetated and stabilized.

b. The planting of native trees within the littoral zones to meet the reclamation performance standards of Chapter 62C-36, F.A.C., will not be inconsistent with this permit.

48. **Operation Phase.** This permit is for the construction, alteration, maintenance and operation of a surface water management system for mining operations, and for the removal of all or part of the system as part of mine reclamation. General Condition No. 6 provides requirements for the transfer of the permit to the operation phase.

a. Within 30 days after completion of reclamation of the permitted system, or independent portion of the system, the permittee shall submit a written statement of completion and certification by a registered professional engineer or other appropriate individual as authorized by law, utilizing Form 62-343.900(5), Environmental Resource Permit As-Built Certification by a Registered Professional. The statement of completion and certification shall be based on on-site observation of construction (conducted by the registered professional engineer, or other appropriate individual as authorized by law, or under his or her direct supervision) or review of as-built drawings for the purpose of determining if the work was completed in compliance with approved plans and specifications. If the statement of completion is for a portion of a larger system, the statement shall be accompanied with plans clearly showing the portion of the system that is complete.

b. When the completed system which will remain after reclamation differs substantially from the permitted plans, any substantial deviations shall be noted and explained and two copies of as-built drawings submitted to the Department. As-built drawings shall be the permitted drawings revised to reflect any changes made during construction. Both the original and any revised specifications must be clearly shown. The plans must be clearly labeled as "as-built" or "record" drawing. All surveyed dimensions and elevations shall be certified by a registered surveyor.

c. The following information, at a minimum, shall be verified on the as-built drawings:

1) Dimensions and elevations of all discharge structures including all weirs, slots, gates, pumps, pipes, and oil and grease skimmers;

2) locations, dimensions, and elevations of all filter, exfiltration, or underdrain systems including cleanouts, pipes, connections to control structures, and points of discharge to the receiving waters;

3) dimensions, elevations, contours, or cross-sections of all treatment storage areas sufficient to determine stage-storage relationships of the storage area and the permanent pool depth and volume below the control elevation for normally wet systems, when appropriate;

4) dimensions, elevations, contours, final grades, or cross-sections of the system to determine flow directions and conveyance of runoff to the treatment system;

5) dimensions, elevations, contours, final grades, or cross-sections of all conveyance systems utilized to convey off-site runoff around the system;

6) existing water elevation(s) and the date determined; and

7) elevation and location of benchmark(s) for the survey.

d. Submittal of the completed form shall serve to notify the Department that the system is ready for inspection. The permittee shall afford Department personnel the opportunity to schedule and conduct enough on-site inspection to determine whether the permit conditions have been met. After the on-site inspection, the Department shall notify the permittee that:

1) The permit conditions have been completed and the surface water management system has been built in accordance with the approved plans; or

2) The permit conditions have not been completed, identifying specifically those elements that do not meet the conditions; or

3) The permit conditions cannot be determined at this time, identifying specifically the information lacking that prevents the determination from being made.

e. Following inspection and approval of the permitted system by the Department, the permittee shall request transfer of the permit to the approved responsible operation and maintenance entity, if different from the permittee, using Form 62-343.900(7), Request for Transfer of Environmental Resource Permit Construction Phase to Operation Phase.

Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

Richard W. Cantrell

Richard W. Cantrell, Deputy Director
Division of Water Resource Management
2051 East Paul Dirac Drive
Tallahassee, Florida 32310-3760
850/488-8217

Copies furnished to:

U.S. Army Corps of Engineers
DEP, Southeast District, Environmental Resource Permitting
DEP, Southeast District, Industrial Wastewater Section
DEP, Tracy Robb
South Florida Water Management District, Lawrence Gerry
South Florida Water Management District, Anthony Waterhouse
South Florida Water Management District, Kim Shugar
South Florida Water Management District, Matt Morrison
South Florida Water Management District, Scott Burns
Everglades National Park, Manager
Miami-Dade County, DERM, Mathew Davis
Miami-Dade County, DERM, Mike Spinelli
Lampl-Herbert Consultants, Inc., Gregory Hitz
Mitigation Marketing, LLC, Lynn M. Zenczak

## CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that this permit, including all copies was mailed before the close of business on July 12, 2010, to the above listed persons.

## FILING AND ACKNOWLEDGMENT

FILED, on this date pursuant to 120.52, Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

Arline Arruda 7/12/10
Clerk Date

Prepared by: Alan Whitehouse

Attached: 11 pages

## LIST OF ATTACHMENTS

The following are hereby attached to, and become part of this permit:

1. Pollution Prevention and Best Management Practices Plan, as Signed and Sealed on September 7, 2007.

2. Sheet 1 of 6, Location Map, as Signed and Sealed on October 1, 2008.

3. Sheet 2 of 6, Lake Plan, as Signed and Sealed on June 1, 2010.

4. Sheet 3 of 6, Wetlands Map, as Signed and Sealed on May 8, 2009.

6. Sheet 4 of 6, Wetlands Area Summary, as Signed and Sealed on July 18, 2008.

7. Sheet 5 of 6, Proposed Lake Excavation, Sections A-A and C-C, as Signed and Sealed on June 1, 2010.

8. Sheet 6 of 6, Proposed Lakes Excavation, Section B-B, as Signed and Sealed on June 1, 2010.

# RINKER MATERIALS OF FLORIDA, INC.

## ROCK MINE

## Section 1-53-39, Miami-Dade County

## POLLUTION PREVENTION
## and
## BEST MANAGEMENT PRACTICES

**Date:** **September 6, 2007**

Prepared By:

Carl L. Skiles, P.E.
Florida Reg. #13617

9/7/07

PERMIT # 0275849-001

RECEIVED
SEP 10 2007
Division of
Mine Reclamation

**ROCK MINES**
**POLLUTION PREVENTION BEST MANAGEMENT PRACTICES**

1. GENERAL MEASURES for POLLUTION PREVENTION

   A. Stormwater management shall comply with the conditions of FDEP Environmental Resources Permit No. 275849-110

   B. The use and storage of fuels and lubricants and other hazardous materials within the confines of the Project Area shall be in compliance with County Regulations and shall be limited to only those necessary for management of the lakes, mining and transport of rock, processing of rock, and ancillary uses.

   C. Permittee shall not conduct, or allow to be conducted any water recreational activities, including motorized watercraft, within the confines of the Project.

   D. Where possible, Permittee shall restrict public access to lake areas in the Project with guard gates, berms, fences or enclosures, based on industry practices.

   E. Permittee shall not use, handle, store or discharge herbicides or pesticides within the confines of the Project, unless approved by the County.

   F. Permittee's employees shall implement the attached Spill Prevention Control and Countermeasure Plan (SPCCP) in case of an accidental spill of pollution into open bodies of water.

   G. All deposited material (overburden) shall consist of clean fill (soil, rock, sand, marl, muck, clay, stone, etc.). No trash, garbage, asphalt, roofing materials, tires, metals, building debris or toxic materials shall be deposited or disposed of in open waters, or buried on the project site.

   H. Permittee shall not plant any invasive species within the littoral shelves (as defined in the Florida Exotic Pest Plant Council's List of Florida's Most Invasive Species).

   I. No discharges of any fluid other than water and blasting explosives shall be made to the ground or lakes unless previously approved by the County.

   J. A sufficient supply of containment booms, adsorbent booms, and adsorbent materials shall be stored and maintained on site, to be used to contain an open water spill. Employees shall be trained to know the location of the booms and materials, and in methods of proper deployment.

PERMIT # 0275849-110

RECEIVED
SEP 10 2007
Mine Reclamation

K. Open burning of oil, fuel, filters, rags, containers and other combustible wastes shall be prohibited.

2. MAINTENANCE and FUELING OF STATIONARY EQUIPMENT

A. All stationary equipment, such as draglines, crushers, screening plants, pumps, drill rigs and similar items shall be kept in good repair, free of leaks of fuel, oil, coolant, grease, hydraulic oil and other fluids. The equipment shall be inspected daily and any leaks repaired immediately.

B. Equipment shall be maintained and fueled as far as practical from open water, on a fill pad consisting of loose rock or sand which can easily be removed if contaminated by a spill.

C. Fuels and oils shall be pumped into the stationary equipment's tanks from a service truck, which shall use automatic shut-off devices to prevent overflow. The attendant shall continuously observe the operation to shut it down in case of malfunction.

D. Oils, coolant and other fluids removed from the equipment shall be pumped directly into the service truck tanks for removal from the project for disposal as required by the County.

E. If a spill to the ground occurs, the affected soil, rock and sand shall immediately be excavated and removed from the site for disposal at a site or by a process approved by the County. If a spill occurs that reaches open water, containment booms shall be deployed immediately and a response team called to remove the material from the water for disposal.

F. Fueling and maintenance of equipment shall be done only during daylight hours.

3. MAINTENANCE of MOBILE MINING EQUIPMENT

A. All mobile equipment such as loaders, off-highway trucks, graders, dozers and similar machines, shall be fueled and serviced on an impervious surface that is curbed or bermed to contain any spills.

B. Spills shall be cleaned immediately by service personnel or by calling the approved emergency response team, listed in the Spill Prevention and Countermeasure Plan (SPCCP) to be posted on the site.

C. Used oils, coolant and other fluids shall be stored in the waste tanks described in the SPCCP. Used filters, batteries and parts shall be stored in drums or other watertight containers, under cover, protected from rainfall, and shall be removed from the site at least monthly for disposal as approved by the County.

PERMIT # 0275849-001

RECEIVED
SEP 10 2007
Mine Reclamation

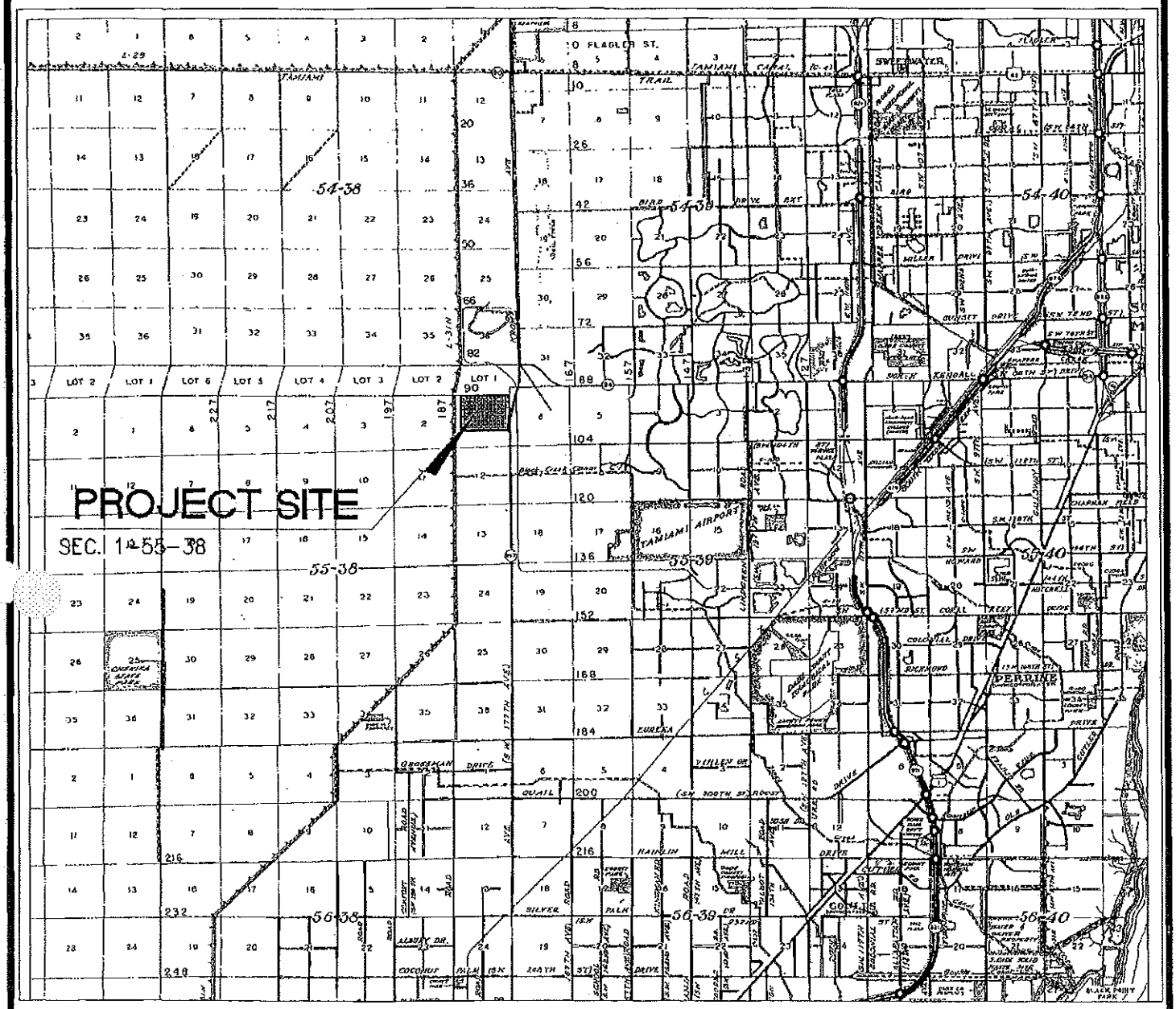
## STORMWATER MANAGEMENT PLAN

The intent of this Stormwater Management Plan is to prevent precipitation from becoming contaminated with petroleum products, which are stored on the fueling facility evaporation pad. Immediate capture of any inadvertently discharged petroleum products is paramount. Proper knowledge and use of the materials included in the spill containment kit referenced on page two of the SPCC is key to the success of this proactive plan. All fueling facility managers and employees will be thoroughly trained on the provisions of the SPCC, the contents and use of the spill containment kit and the safety features integral to the fueling system. A flow chart describing spill containment and notification procedures will be attached to the inside lid of the spill containment kit. The flow chart summarizes the information included in the fueling manager and employee training sessions. The first training session will be completed prior to operation of the proposed fueling facility. Subsequent training sessions will be conducted on an annual or as needed basis.

PERMIT # 0275849-001

RECEIVED
SEP 10 2007
Bureau of
Mine Reclamation

PERMIT # 0275849-001




# LOCATION SKETCH

SECT 1, TWP. 55s, RNG. 38e.
N.T.S.

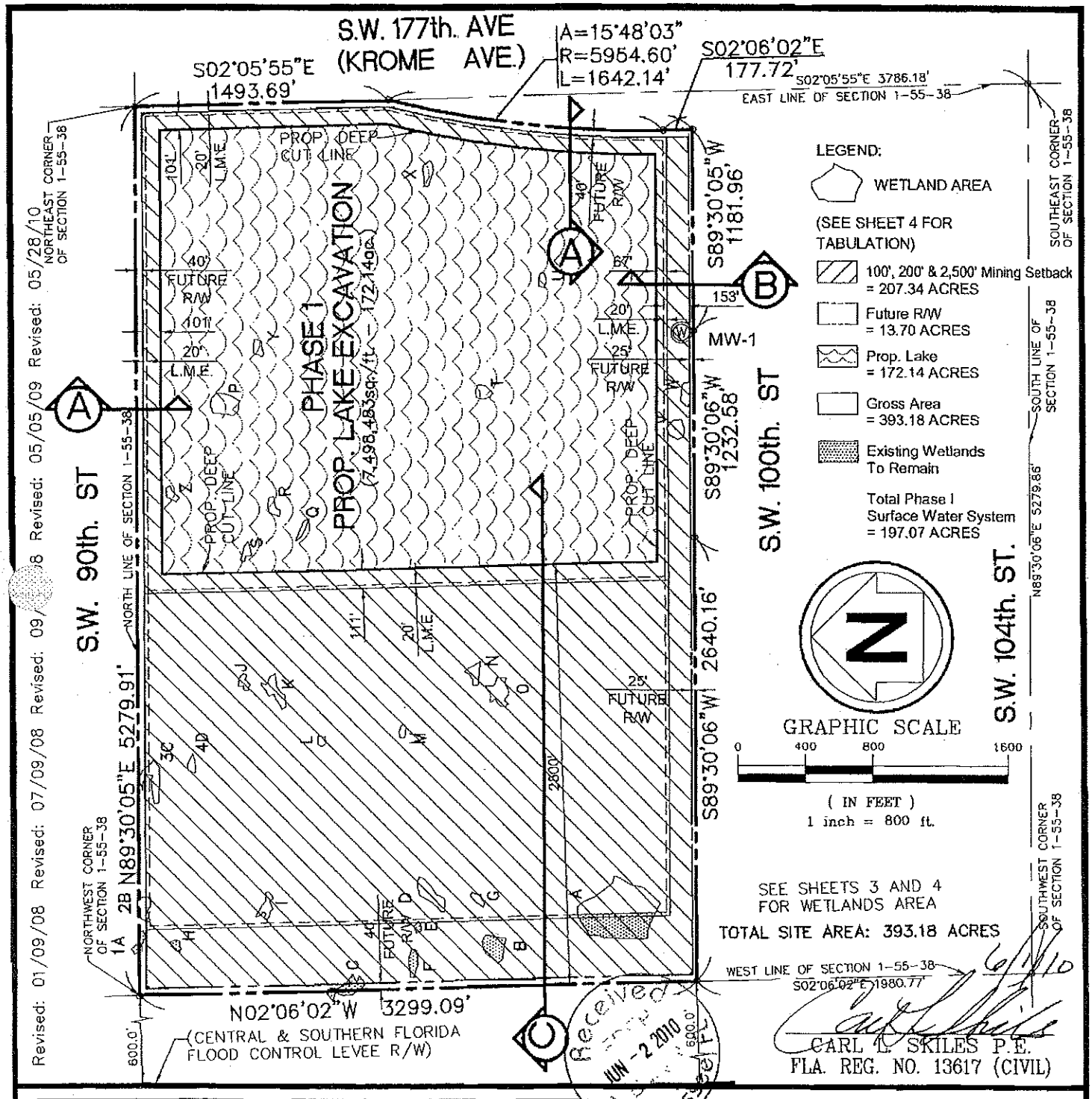
Revised: 09/29/08
Revised: 07/09/08
Revised: 01/09/08

10/1/08

By [signature]
Fla. Reg. No. 13617

| | | | |
|---|---|---|---|
| Drawn By | REP | PROP. LAKE EXCAVATION - Section 1-55-38 | Date 09/18/06 |
| Cad. No. | 061816 | FORTIN, LEAVY, SKILES, INC. | Scale AS SHOWN |
| Ref. Dwg. | 3006-075 | CONSULTING ENGINEERS, SURVEYORS & MAPPERS | Job. No. 067027 |
| | | FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER: 00003653 | Dwg. No. 1006-192 |
| Plotted: | 9/30/08 11:50a | 180 Northeast 168th Street / North Miami Beach, Florida 33162 | Sheet 1 of 6 |
| | | Phone 305-653-4493 / Fax 305-651-7152 / Email fls@flssurvey.com | |

PERMIT # 0275849-001



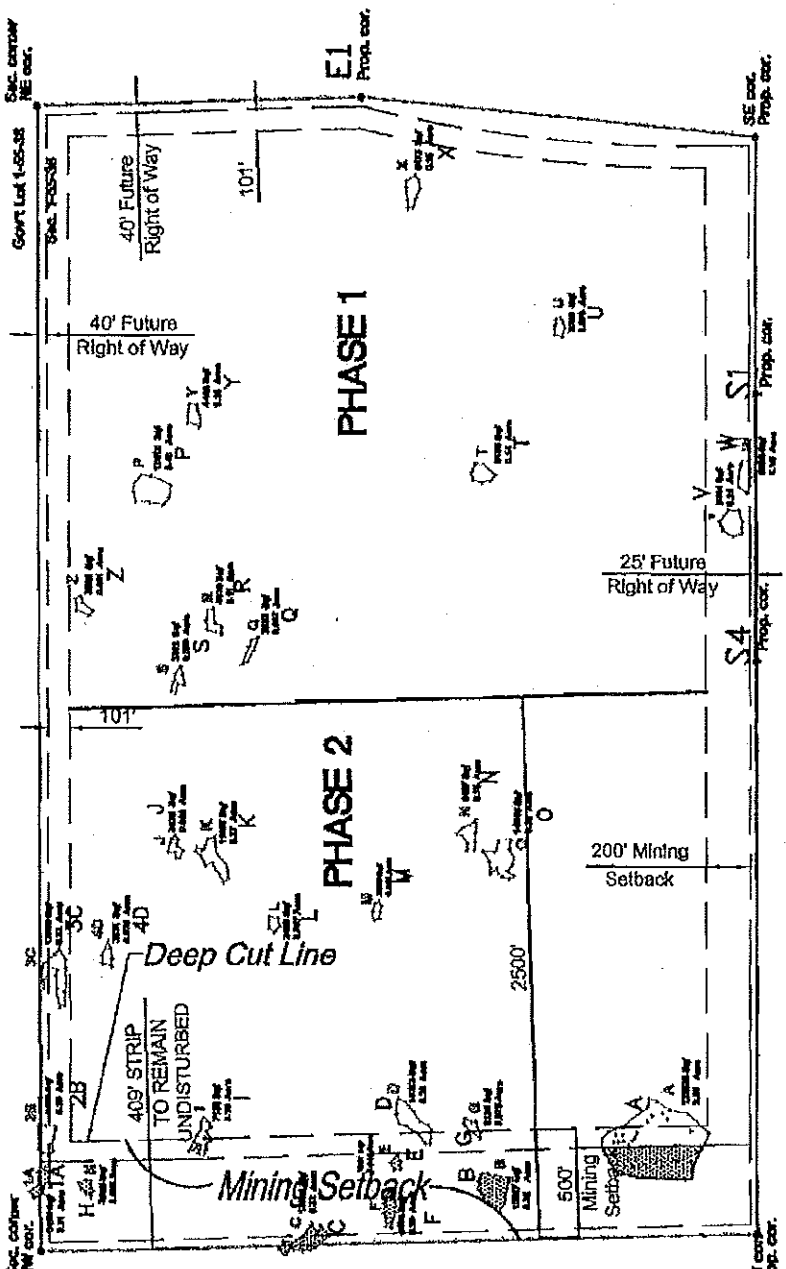

CARL L. SKILES P.E.
FLA. REG. NO. 13617 (CIVIL)

| | |
|---|---|
| Drawn By | REP |
| Cad. No. | 061816-2 |
| Ref. Dwg. | 3006-075 |
| Plotted: | 5/27/10 12:23a |

# LAKE MINING PLAN - Section 1-55-38


FORTIN, LEAVY, SKILES, INC.
CONSULTING ENGINEERS, SURVEYORS & MAPPERS
FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER: 00003653
180 Northeast 168th Street / North Miami Beach, Florida 33162
Phone 305-653-4493 / Fax 305-651-7152 / Email fls@flssurvey.com


| | |
|---|---|
| Date | 09/18/06 |
| Scale | 1"=800' |
| Job. No. | 067027 |
| Dwg. No. | 1006-192 |
| Sheet | 2 of 6 |




SHOMA PROPERY SEC 1-55-38

N

LEGEND:

WETLAND AREA

(SEE SHEET 4 FOR TABULATION)

WETLANDS TO REMAIN UNDISTURBED

Revised: 05/05/09
Revised: 09/29/08
Revised: 07/09/08
Revised: 01/09/08

PERMIT # 0275849-001

MAY - 8 2009

CARL L. SKILES P.E.
FLA. REG. NO. 13617 (CIVIL)

| | |
|---|---|
| Drawn By | REP |
| Cad. No. | 061816-1 |
| Ref. Dwg. | 3006-075 |
| Plotted: | 5/8/09 12:05a |

# WETLANDS MAP - Section 1-55-38


FORTIN, LEAVY, SKILES, INC.
CONSULTING ENGINEERS, SURVEYORS & MAPPERS
FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER: 00003653
180 Northeast 168th Street / North Miami Beach, Florida 33162
Phone 305-653-4493 / Fax 305-651-7152 / Email fls@flssurvey.com


| | |
|---|---|
| Date | 09/18/06 |
| Scale | NOT TO SCALE |
| Job. No. | 067027 |
| Dwg. No. | 1006-192 |
| Sheet | 3 of 6 |

PERMIT # 0275849-001

## WETLAND AREA SUMMARY

| AREA NAME | AREA (SQ FT.) | AREA (ACRES) | Part To Remain Undistrubed (Acres) | Part to Be Distrubed (Acres) |
|---|---|---|---|---|
| A | 121,825 | 2.797 | 1.296 | 1.501 |
| B | 15,817 | 0.363 | 0.363 | 0 |
| C | 13,874 | 0.319 | 0.319 | 0 |
| D | 14,274 | 0.328 | 0 | 0.328 |
| E | 1,921 | 0.044 | 0.044 | 0 |
| F | 6,628 | 0.152 | 0.152 | 0 |
| G | 3,258 | 0.075 | 0 | 0.075 |
| H | 2,968 | 0.068 | 0.068 | 0 |
| I | 7,158 | 0.164 | 0 | 0.164 |
| J | 3,839 | 0.088 | 0 | 0.088 |
| K | 11,879 | 0.273 | 0 | 0.273 |
| L | 2,493 | 0.057 | 0 | 0.057 |
| M | 2,530 | 0.058 | 0 | 0.058 |
| N | 6,407 | 0.147 | 0 | 0.147 |
| O | 14,545 | 0.334 | 0 | 0.334 |
| P | 17,415 | 0.400 | 0 | 0.400 |
| Q | 2,933 | 0.067 | 0 | 0.067 |
| R | 4,820 | 0.111 | 0 | 0.111 |
| S | 3,502 | 0.080 | 0 | 0.080 |
| T | 6,188 | 0.142 | 0 | 0.142 |
| U | 3,060 | 0.070 | 0 | 0.070 |
| V | 9,244 | 0.212 | 0 | 0.212 |
| W | 6,596 | 0.151 | 0 | 0.151 |
| X | 6,473 | 0.149 | 0 | 0.149 |
| Y | 4,440 | 0.102 | 0 | 0.102 |
| Z | 3,536 | 0.081 | 0 | 0.081 |
| 1A | 5,175 | 0.119 | 0.119 | 0 |
| 2B | 8,491 | 0.195 | 0 | 0.195 |
| 3C | 13,922 | 0.320 | 0 | 0.320 |
| 4D | 3,251 | 0.075 | 0 | 0.075 |
| **TOTAL** | **328,479** | **7.541** | **2.361** | **5.180** |

Revised: 07/09/08
Revised: 01/09/08

RECEIVED
JUL 21 2008

| | |
|---|---|
| Drawn By | REP |
| Cad. No. | 061816 |
| Ref. Dwg. | 3006-075 |
| Plotted: | 7/9/08 2:52p |

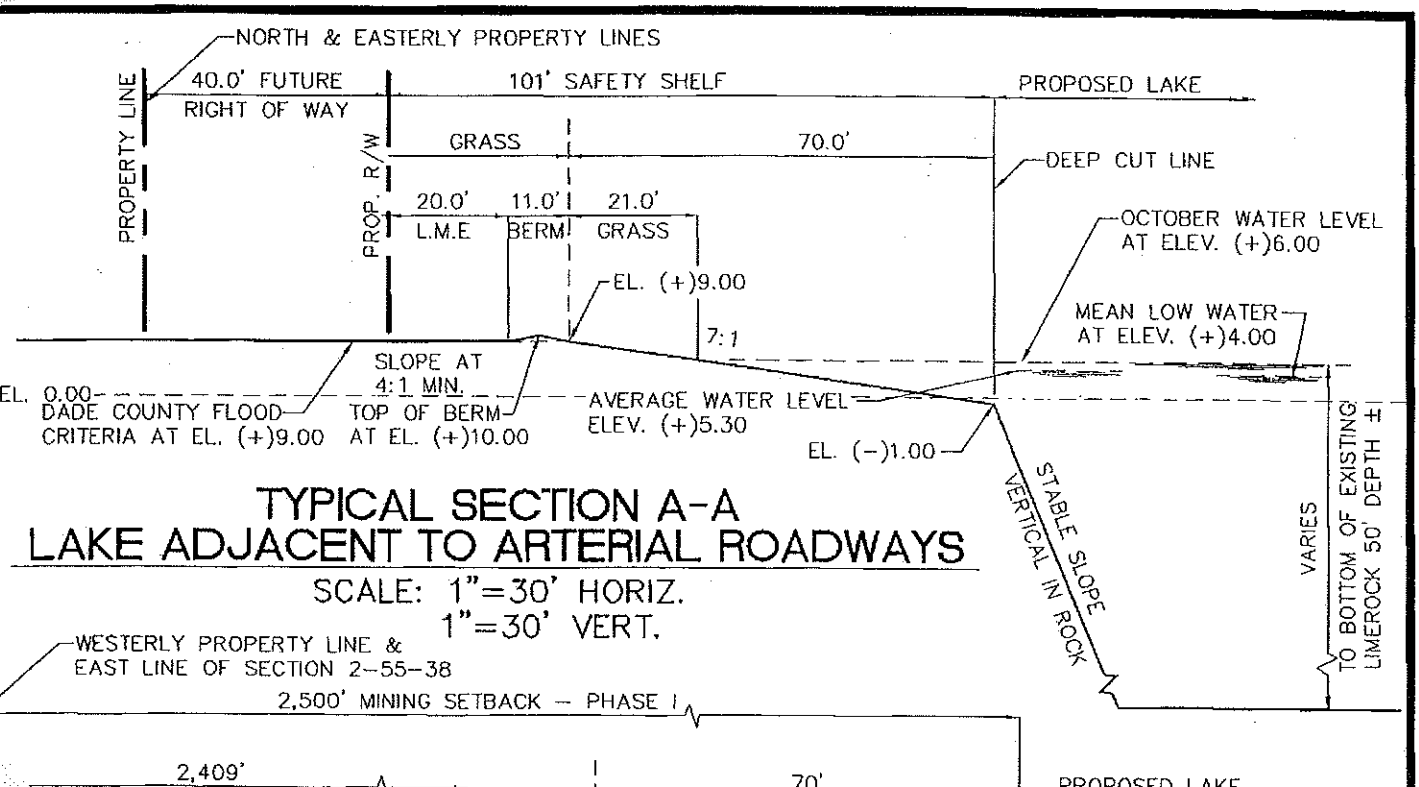
WETLANDS AREA SUMMARY - Section 1-55-38

FORTIN, LEAVY, SKILES, INC.
CONSULTING ENGINEERS, SURVEYORS & MAPPERS
FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER: 00003653
180 Northeast 168th Street / North Miami Beach, Florida 33162
Phone 305-653-4493 / Fax 305-651-7152 / Email fls@flssurvey.com

| | |
|---|---|
| Date | 09/18/06 |
| Scale | 1"=800' |
| Job. No. | 067027 |
| Dwg. No. | 1006-192 |
| Sheet | 4 of 6 |

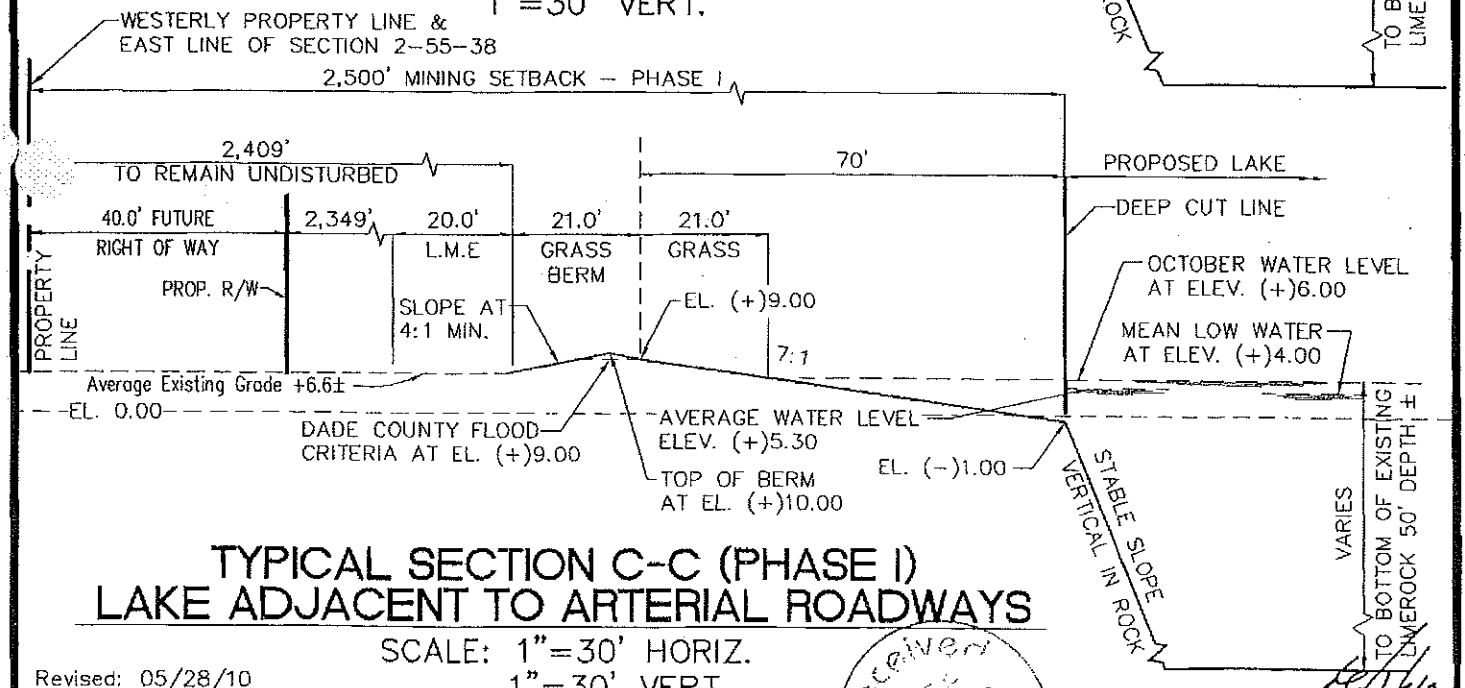
... a D 2008

PERMIT # 0275849-001




# TYPICAL SECTION A-A
# LAKE ADJACENT TO ARTERIAL ROADWAYS

SCALE: 1"=30' HORIZ.
1"=30' VERT.




# TYPICAL SECTION C-C (PHASE I)
# LAKE ADJACENT TO ARTERIAL ROADWAYS

SCALE: 1"=30' HORIZ.
1"=30' VERT.

Revised: 05/28/10
Revised: 05/05/09
Revised: 09/29/08
Revised: 07/09/08
Revised: 01/09/08

NOTE: ELEV. REFERS TO NATIONAL GEODETIC VERTICAL DATUM

Received JUN - 2 2010 Tallahassee, FL

6/1/10

CARL L. SKILES P.E.
FLA. REG. NO. 13617 (CIVIL)

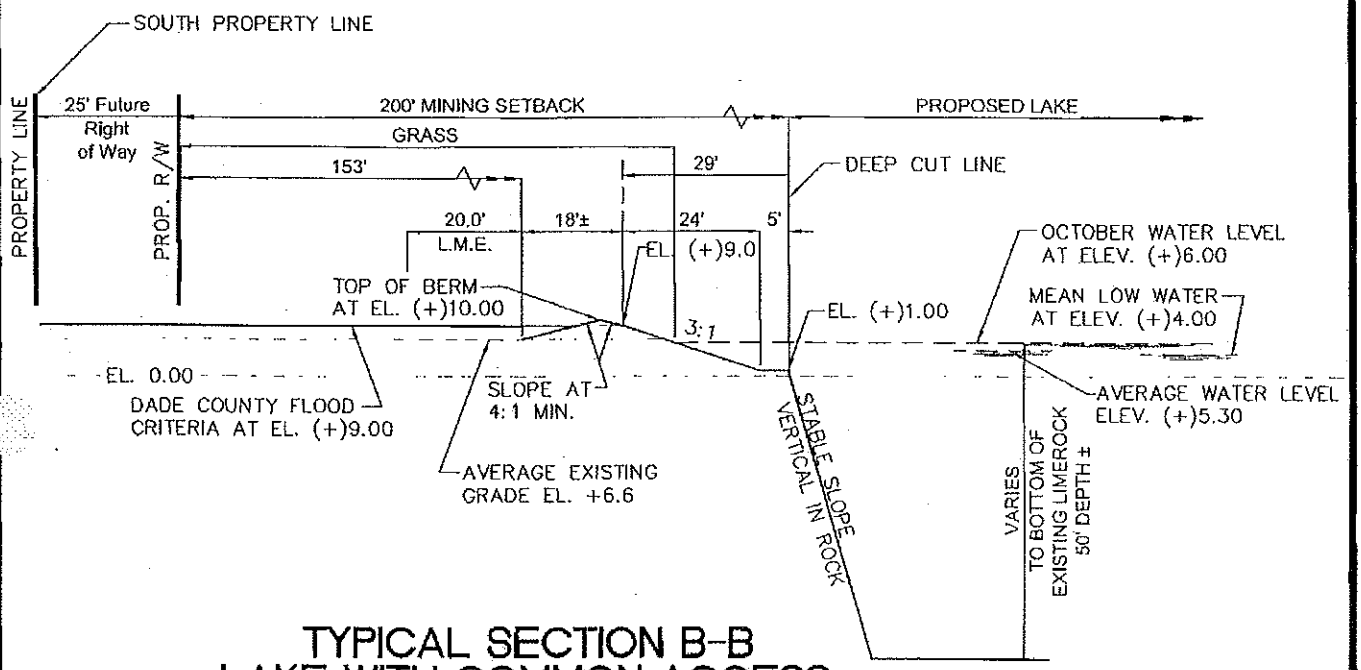
| | |
|---|---|
| Drawn By | REP |
| Cad. No. | 061816-2 |
| Ref. Dwg. | 3006-075 |
| Plotted: | 5/27/10 12:23o |

PROP. LAKE EXCAVATION - Section 1-55-38


FORTIN, LEAVY, SKILES, INC.
CONSULTING ENGINEERS, SURVEYORS & MAPPERS
FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER: 00003653
180 Northeast 168th Street / North Miami Beach, Florida 33162
Phone 305-653-4493 / Fax 305-651-7152 / Email fls@flssurvey.com


| | |
|---|---|
| Date | 09/18/06 |
| Scale | AS SHOWN |
| Job. No. | 067027 |
| Dwg. No. | 1006-192 |
| Sheet | 5 of 6 |

PERMIT # 0275849-001




# TYPICAL SECTION B-B
# LAKE WITH COMMON ACCESS, NOT ADJACENT TO ROADWAYS

SCALE: 1"=30' HORIZ.
1"=30' VERT.

NOTE: ELEV. REFERS TO NATIONAL GEODETIC VERTICAL DATUM

Revised: 09/29/08
Revised: 01/09/08

| | |
|---|---|
| Drawn By | REP |
| Cad. No. | 061816-1 |
| Ref. Dwg. | 3006-075 |
| Plotted: | 5/5/09 10:06a |

PROP. LAKE EXCAVATION - Section 1-55-38


FORTIN, LEAVY, SKILES, INC.
CONSULTING ENGINEERS, SURVEYORS & MAPPERS
FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER: 00003653
180 Northeast 168th Street / North Miami Beach, Florida 33162
Phone 305-653-4493 / Fax 305-651-7152 / Email fls@flssurvey.com


| | |
|---|---|
| Date | 09/18/06 |
| Scale | AS SHOWN |
| Job. No. | 067027 |
| Dwg. No. | 1006-192 |
| Sheet | 6 of 6 |

GeoSonics

GeoSonics.com

4313 Southwest 64 Avenue
Davie, FL 33314

**Phone** 954.327.7882
**Fax** 954.327.7886

February 28, 2011

CEMEX Construction Materials FL, LLC

Krome Quarry

Blasting information for Miami-Dade County Board of County Commissioners Meeting – March 17, 2011

1. Blasting is required for the project due to the depth of the aggregate and hardness of the rock. Borings taken over the surface and as the existing operation and expansion plan indicate rock is consistent for FDOT aggregate.

2. Blasting will be required and completed using commercial explosives formulated for Florida operations.

3. Blasting is permitted as Construction Materials Mining Activity and is controlled by the State of Florida. Chapter 552 F.S. covers explosives across the board with Chapter 552.30 covering CMMA permitting.

    a. Notwithstanding the provisions of s. 552.25, the State Fire Marshal shall have the sole and exclusive authority to promulgate standards, limits, and regulations regarding the use of explosives in conjunction with construction materials mining activities. Such authority to regulate use shall include, directly or indirectly, the operation, handling, licensure, or permitting of explosives and setting standards or limits, including, but not limited to, ground vibration, frequency, intensity, blast pattern, air blast and time, date, occurrence, and notice restrictions. As used in this section, "construction materials mining activities" means the extraction of limestone and sand suitable for production of construction aggregates, sand, cement, and road base materials for shipment offsite by any person or company primarily engaged in the commercial mining of any such natural resources.

    b. Licensure is completed for the Mining operation and with additional licenses for Explosive, Users, Manufacturers and Blasters at the State level.

c. As Krome Quarry has an existing permit with the State a modification to the permit will be required with an additional review made by the Fire Marshal's office.

4. Blast is completed with equipment and materials used specifically in Florida.

    a. Blast holes are drilled and will maintain a level above the confining layer. Holes are individually drilled and will be completed on a predetermined depth and pattern, separating holes and rows by distances of 17 – 22 feet. The depth is determined and consistent throughout the operation.

    b. Each hole will be logged and sleeved with a waxed cardboard / screened blast tube. This maintains hole integrity and explosive column distribution.

    c. Seismograph measurements are required by State rules at the closest off property structure for every blast detonated at the site.

5. Explosives products have been formulated to avoid contamination of the environment.

    a. Prior to 2006 typical products used bulk emulsion materials that contained Ammonium Nitrate and Fuel Oil (ANFO). Concerns in the Lake Belt area of South Florida raised concerns after Benzene was located during water testing. Miami-Dade County performed testing but did **not** find any link to explosives use.

    b. In an abundance of caution the Fuel oil was replaced with commercial grade mineral oil to remove the potential for Benzene generation.

    c. As a precaution as part of the ERP permit issued by FDEP water testing is required 24-hours before a blast, immediately prior and immediately following a blast with results provided to FDEP. Generally, there has not been a determination Benzene is created by the use of explosives.

General Considerations / Recommendations:

1. CEMEX has developed a Good Neighbor Blasting Program for the Krome Quarry. This supplements normal best practices for the operation and

incorporates some additional items due to the proximity to adjacent resident's properties.

a. The program incorporates testing completed in July 2010 for existing and future blasting.

    i. July testing complete regression evaluation to show reduction with distance specifically for the Krome quarry. This allows calculations of explosives weights for closer property blasting. Provides technical data for close proximity vibration level reduction.

    ii. Vibra-Map program complete to select blast hole detonators. Changes the vibration wave frequency to reduce house response from vibration waves.

b. Good Neighbor policy adds four additional seismographs for continued evaluation for reduction of vibration levels.

c. Structure inspections will be offered at no cost to adjacent residents prior to the start of work in the new land section. These consist of examinations of interior and exterior with copies provided to the owner.

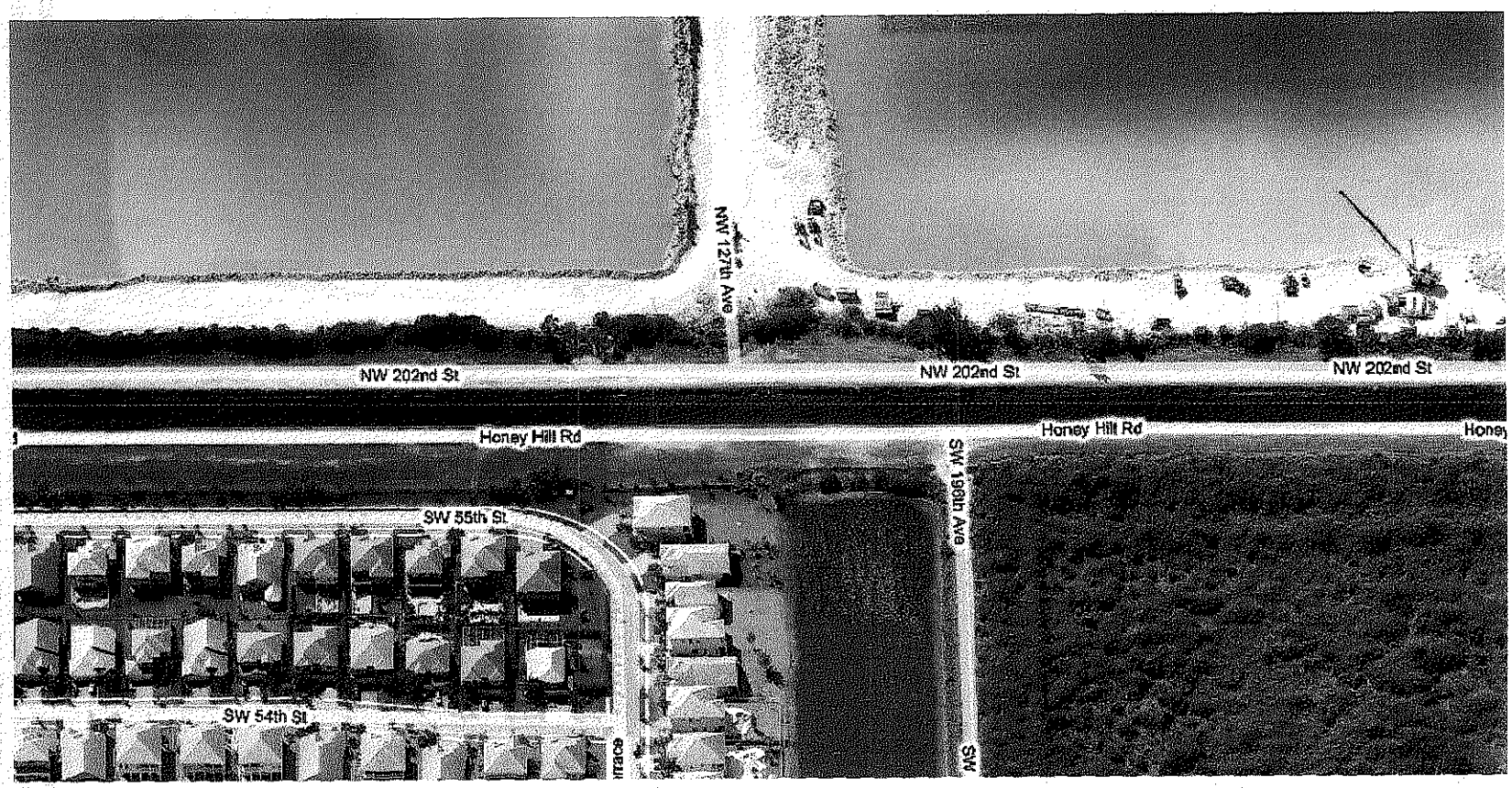
d. Notifications of blasting schedules will be made on the day of the blast and will have internet posting as well.

e. State provides a mechanism for complaint / claim investigations and CEMEX will enhance the investigation process. 24-hour response to call from adjacent residents.

    i. All complaints are forwarded to the State by law.

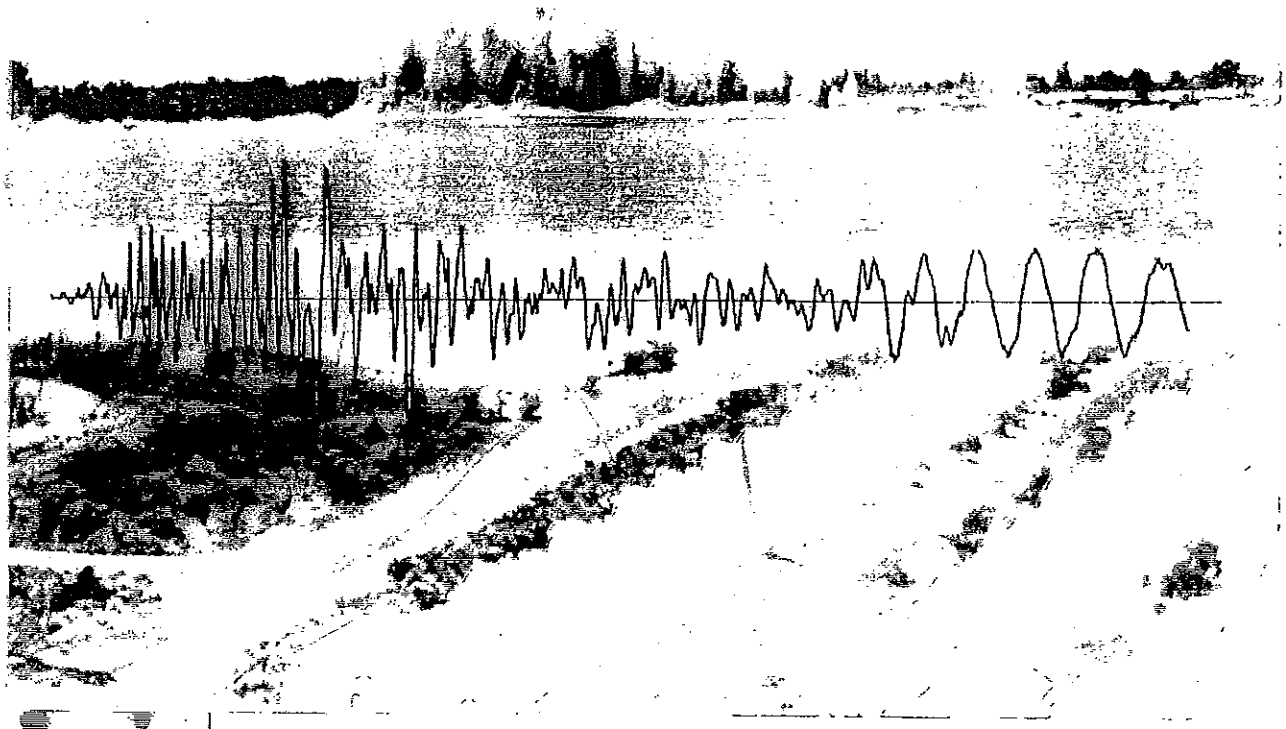
    ii. CEMEX will complete at request an independent evaluation using experts as necessary to evaluate and report the findings.

# Proximity to Residences



MIAMI-DADE

# BLAST VIBRATION DAMAGE ASSESSMENT STUDY AND REPORT



PREPARED FOR:
THE MIAMI-DADE COUNTY BLASTING TASK FORCE

## FINAL REPORT

May 31, 2000
C3TS Project No.: 1322-01

In Association With:
D.E. Siskind & Associates, LLC
Parsons Brinkerhoff Quade & Douglas, Inc.
Dunkelberger Engineering & Testing, Inc.

Engineers • Architects • Planners
901 Ponce de Leon Blvd., Ste. 900
Coral Gables, Florida 33134
Telephone Number: 305-445-2900

C3TS
CORZO
CASTELLA
CARBALLO
THOMPSON
SALMAN

## *INTRODUCTION TO STUDY*

In January 2000, the Miami-Dade Blasting Task Force commissioned the firm of C3TS to assemble a team of experts in the fields of seismology, structural engineering, geotechnical engineering and hydrogeology to conduct a study of the effects of blasting vibrations on residential structures built near limestone quarries in western Miami-Dade County.

The first general objective of the study was to assess reported blast related damages at several residences, and to determine if the damages were indeed due to blasting or if the damages are attributable to other causes.

The second general objective of the study was to determine if conditions in Miami-Dade County, such as soils, groundwater and type of construction, are markedly different from those at sites utilized by the US Bureau of Mines in their studies used in safe blasting criteria.

The third general objective of the study was to determine if existing blasting regulations contained in Chapter 13 of the Miami-Dade County Code are sufficiently protective of structures, or whether amendments are warranted.

The final report is presented in four parts, with each expert on the team producing a separate report of their study concentrating on their respective area of expertise. The following findings and recommendations combine and summarize the four individual reports.

## *FINDINGS AND RECOMMENDATIONS*

A total of ten houses with reported blast damages were inspected in great detail to analyze the characteristics of their damage. Six of the houses were located in the northwest area of the county, near the Country Club of Miami, two were located in the Doral area, and two were located in the Shoma Homes area. Exploration of subsoil conditions was performed at six of the houses where foundation settlement was apparent. In addition to the inspections and soil testing, all of the houses were fitted with seismographs and other equipment for a monitoring period of one month.

A few minor cracks in five of the houses were characterized as potentially from dynamic transient forces such as blasting or wind. Our study found wind to be the more likely cause. Even with the worst case measured superstructure application factor of 6.1, blasting vibrations amplitudes of over 0.50 ips would have been required to begin to produce this cracking. Nothing in the County's records indicates that blasting in the area produced amplitudes of that magnitude. Meteorological records indicate that recent storms such as Irene and Andrew more than likely produced wind gusts in the area of these houses capable of producing the cracks.

All of the other damages inspected were deemed to be not from blasting or wind-induced responses, including any kinds of floor cracks and the very similar and characteristic below-window damages found in many of the homes. These where all found to be construction related, environmental (e.g., water intrusion), or natural material responses such as shrinkage. Differential settlement of foundations was also found to be a problem as organic subsoils were discovered in three of the exploration borings performed.

The geology and hydrogeology of western Miami-Dade County was found to be of such a nature that blast vibrations are perceptible at very large distances from even relatively low detonations as compared to the other areas studied by the US Bureau of Mines. Vibrations are of long duration at the homes (some over 17 seconds) and are a mixture of frequencies including "low" frequencies of about 8 Hz, which are close to house structure resonant frequencies, and very low frequencies of 2 to 4 Hz. The house responses to these very low frequencies are particularly noticeable to persons and are understandably alarming.

Due to the extremely stiff nature of CBS construction, the response nature of the structure in Miami-Dade County is sufficiently different from frame structures studied elsewhere by the US Bureau of Mines to justify some concern. Walls of concrete blocks with concrete tie beams and extensive openings, and sometimes higher than standard 8-ft. ceilings, respond as if they have low effective damping. The highest dynamic superstructure amplification measured exceeded 6x and there were several blasts and structures above 3.6x.

Because of the very high amplification factors produced by the stiff nature of CBS construction, a vibration amplitude of about 0.50 ips could begin to crack masonry walls of certain structures with superstructure amplification factors approaching 6x. This is well below the 0.75 ips maximum limit allowed by Chapter 13. It should be noted that, because of additional restrictions placed on blasters by the County, and good practice by the blasters, in actuality blasting amplitudes experienced in Miami-Dade County are nowhere near this limit. However, the regulatory limit should nevertheless be lowered.

A safety factor should be applied to the 0.50 ips limit, which was found to be the threshold beyond which cracking could begin to occur in certain structures. The safety factor would account for amplification factors potentially higher than the highest measured in this study, and for other variables and factors, and should be between 1.5 and 2.0. This would result in a recommended maximum peak particle velocity limit of between 0.25 ips and 0.35 ips.

It is also recommended that the County work to encourage the rock mining industry to develop blasting methods and techniques which would reduce the 8 to 10 Hz vibration frequencies which approximate the house resonant frequencies, and the very low "ground roll" frequencies which are particularly noticeable to people.

Finally, it is recommended that construction practices be revisited by the County for future houses built in blasting areas, with particular attention on proper removal of the native organic subsoils, along with proper filling and compaction, and on the use of monolithic thickened edge concrete wall footings.

D.E.SISKIND&ASSOCIATES,LLC.
5812 Thomas Circle
Minneapolis, MN 55410-2936, USA
Tel/Fax (952) 929-4498
e-mail: desa@uswest.net

# ASSESSMENT OF BLAST VIBRATION IMPACTS FROM QUARRY BLASTING IN DADE COUNTY

David E. Siskind & Mark S. Stagg

May 10, 2000

Executive summary ..... 1
DESA Study of Dade County Quarry Blasting ..... 3
Purpose ..... 3
Scope of the project ..... 3
Study Procedures ..... 4
Selection of homes for monitoring and inspection ..... 4
Vibrations generated by blasting in Dade County Quarries ..... 12
Quarry procedures related to blast vibration ..... 12
Vibration amplitudes at south Florida homes, historical data ..... 13
Vibration measurements at area homes from Feb. to April 2000..... 18
Vibration predictions for Dade County homes ..... 20
Specific blasts identified during study period ..... 23
Vibration character: frequencies and durations ..... 23
Responses of South Florida structures to blast vibration ..... 29
Historical data ..... 29
DESA response data for Dade County homes Feb.to April 2000 ..... 29
Wall strains from structure response measurements ..... 41
Wind-induced structural responses ..... 42
Structural inspections by DESA ..... 44
Assessment of cracks and other damages in Dade Co. homes ..... 45
Conclusions ..... 59
References ..... 60

Appendix A: DESA vibration data, Feb to April 2000
Appendix B: Characteristics of blast damage
Appendix C: Ground Vibration Effects on Structures, summary ISEE paper, 1998
Appendix D: Diagnosing Crack Damage in Residential Structures, DR-40
Appendix E: Photos, DESA House Inspections, February to April 2000
Appendix F: Resume and client list for David E. Siskind

## EXECUTIVE SUMMARY

DESA examined Dade County blasting for the County through a contract with C3TS. Vibrations and structure responses were measured at 11 locations in the County between February and April, 2000. Also,10 homes were inspected to analyze the characteristics of their cracking and other damages. These results were combined with information collected by the County and other studies done in south Florida for a blasting impact assessment.

As a general conclusion, blasting in local quarries does not appear responsible for cracks and other damages existing in the Dade County residences examined. This is based on vibration amplitudes and frequencies, structure responses, theoretical analyses of material strength and strains, and the nature and degrees of the existing damages in the homes inspected. The existing Dade County blast vibration regulatory limit of 0.75in/s PPV, however, does need to be revisited.

Vibration Amplitude Analysis: The highest predicted vibrations for Dade County blasts at resident's homes are 0.18 in/s for the NW area and 0.35 in/s for the west Miami area based on the "Dade County Data Envelope" and the largest charge weights being used in each area. All amplitudes measured were below these levels, particularly in the west area. The envelope itself was derived from the highest individual measurements. Vibration amplitudes are relatively high for these distances and charge sizes. Attenuation with distance is less in Dade County than found elsewhere with quarries having to use scaled distances several times higher than similar sites in the north. The vibrations are perceptible at very large distances from even relatively low charge weights per delay.

Vibration Character: Vibrations are of long durations at the homes (some over 17 seconds) and are a mixture of frequencies including "low" frequencies of about 8 Hz, which are close to house resonant frequencies, and very low frequencies of 2 to 4 Hz. The house responses to these low frequencies are particularly noticeable to persons and are understandably alarming.

Structure responses: The response nature of south Florida structures is sufficiently different from frame structures studied elsewhere to justify some concern. Walls of concrete blocks with concrete caps and extensive openings, and sometimes higher than standard 8-ft ceilings, respond as if they have low effective damping. The highest dynamic superstructure amplification exceeded 6x and there were several blasts and structures above 3.6x. More structure response measurements are needed to establish exactly how serious and widespread are these high responses. However, a reduction of the County's limit of 0.75 in/s should be considered and a suggested interim value would be 0.50 in/s.

Wall strain calculations: Worst case vibration amplitude of 0.18 in/s and response of 6.1x in the NW area corresponds to a global or overall in-plane wall strain of about 42 με. This is sufficiently below the initial cracking levels of 100 με for CMU masonry walls that blasting should not have produced cracks in such walls. However, a vibration of 0.75 in/s with the same response factor would produce a global wall strain of over 150 με. This could cause cracking and justifies a reduction of the allowable limit by about 30 to 50 pct.

Assessments of house damages: Of the 10 houses inspected for the characteristics of damage, five have some wall cracks, mostly exterior, which *could be* from dynamic sources. These are: # 4, 11 (garage), 45, 34, and 42. "Dynamic" here is used for short-period or transient forces which cause superstructure racking and shear forces in the planes of the walls. Examples are blasting and winds. Long-term dynamic sources such as temperature, humidity and soil moisture cycles and unidirectional forces such as soil compaction, differential settlement, and material drying and curing all produce cracks with differing characteristics. The nature of responses from blasting and gusty winds are similar and the worst-case vibration-induced responses of 1.10 in/s (considering dynamic amplification) are equivalent to the effects of winds of about 57 mph. Considering recent Florida storms such as Irene and Andrew, this makes wind responses more likely than blasting to be responsible for the cracks.

Damages other than wall cracks: All other damages are not from blasting or wind-induced responses including any kinds of floor cracks and the very similar and characteristic below-window damages found in many of the homes. These are all construction related, environmental (e.g., water intrusion), or natural material responses such as shrinkage and compaction. There is a possible role in construction practices here also such as the question of sufficient foundation soil preparation, and proper stucco mixtures.

Floor damages of any and all sort are not characteristic of vibration responses. Racking of buildings from blast vibrations consists almost entirely of horizontal motions. Upper story floors simply go for a ride as load-bearing walls experience shear deformation and, if sufficiently racked, crack damage at stress concentrations (openings). Floors at ground level and anything below ground, e.g., pools, experience none of their racking and strain. These are only subjected to low-level compression, tension and flexing (bending) as described in Appendix B.

A general conclusion is that in most homes and in most places in the homes, there is a lack of the types of cracks in load-bearing superstructure walls that would be expected from vibration caused racking or any other conceivable vibration response. The few possible exceptions are individually discussed.

## DESA STUDY OF DADE COUNTY QUARRY BLASTING

This report is an assessment of blast vibrations generated by quarry blasting in Dade County and of cracking and other damage alleged to have resulted from the blasting. The following questions were addressed:

PURPOSE

1) How typical are these blast vibrations, structures, and site conditions to those studied by the U. S. Bureau of Mines (USBM) and others in establishing the widely-adopted safe level blast vibration criteria?

2) What are the relative responses of selected structures to blast vibrations and non-blasting causes of structural stresses including natural forces.

3) Are the degree and nature of cracking and other damages existing in these structures of the type expected to result from blasting?

4) If judged not typical of blasting, what are the likely causes based on site, structure, construction features, and temporal factors?

5) Does blasting activity accelerate natural soil consolidation thereby causing or contributing to settlement of structures?

6) Are the existing Dade County codes and procedures protective of property from blasting vibrations, and if not, how should they be amended?

SCOPE OF THE PROJECT

This assessment is based on the following:
House inspections made in February and April, 2000
Ground vibrations a measured at eleven sites over a two month period starting February 24, 2000 and involving 42 quarry blasts,
Crack-width measurements at 21 locations plus dynamic monitoring at one site,
About 83 NW Miami vibration records supplied by the County from their 1999 blast monitoring,
Approximately 673 other vibration measurements from quarry and construction blasts in Dade and Broward Counties,
Theoretical analyses of cracking of house materials,
Structure response measurements of representative structures,
Comparisons with studies of blast vibration generation and impacts done by the USBM and others which are described in the Appendices and references.

As this authors of this report, we have high confidence in identifying the effects of blast vibrations and comparing the nature and degree of described damage to the vast body of historical blasting studies. We can with certainty exclude blasting as a cause of most cracks and other damage in these homes. However, we would need to have additional tests done to determine the exact causes for every crack, and fault. Examples of such tests are removal of wall panels, long-term response measurements, soil tests, and excavations down to footings. Therefore, the conclusions on non-blast influences and the specific reasons for damage are on less firm grounds and dependent on further study or other expertise.

Treatment of the technical issues for this assessment was kept brief to make the report more generally useful and readable. However, three comprehensive appendices are provided (B, C and D). These describe the studies used to develop the safe blasting criteria, the nature of blast and non-blast damages, measurements of blasting and non-blasting forces affecting homes, and causes of damage in homes.

## STUDY PROCEDURES

The authors Installed seismographs for ground vibration (GV) and structural response (SR) monitoring at the time of their structural inspections. Phase I was the installation of 10 seismographs, February 24 to 27, 2000, in the NW Miami area: Miami Lakes and Palm Springs North (Table 1). In Phase II, five of the 10 seismographs were relocated to areas in west and SW Miami: Doral Landings, Shoma/Superior Homes, and Pelican Cove on April 9 and 10. The remaining five were left in place in the NW area. All instrumentation were removed the weekend of April 29.

Figure 1 shows the general distribution of monitoring sites and Figures 2 to 4 show the relationships of the monitored homes to specific quarries. Note that Riviera Isles (not shown) is just north of the Broward Co. line above Section 5.

### SELECTION OF HOMES FOR MONITORING AND INSPECTION

Phase I examined the NW metro area. Dade County officials supplied a list of 19 candidate homeowners in Miami Lakes and Palm Springs North, presumably from a list of those who had complained about the blasting. All had previously been contacted by the County and had expressed at least a tentative willingness to cooperate by allowing inspections of their homes and installation of seismographs. Selection was done by DESA researchers (the authors) based on the best combination of the following:

1) A geographical diversity (sites spread around the area and not concentrated),
2) Closest to the blasting (the most westerly sites),
3) Both single and two story homes,
4) The nature of damage claims,
5) Accessibility of the home via a final okay by the homeowner.

The last item was critical. The home could not be part of the study if access was denied or the homeowner couldn't be reached. In this first phase, 10 seismographs were installed in six homes, three of which included structure response monitoring. In addition, long-term crack-width monitoring equipment was installed in one of the homes (#4). Figure 2 shows these home locations plus the sites for the County's own 1999 measurement program.

Phase II involved areas farther south in west and SW Miami. Again, a list of candidate homes was supplied by the County, 29 in total. However, tentative approvals were not obtained in advance and the approach to them by DESA had mixed results. The selection criteria were the same as Phase I and there was good success in locating the best homes in Doral Landings and at Shoma/Superior Homes (Table 1). The Pelican Cove (Lake, Bay?) area, by contrast, was a shut-out. Of the 10 homes, five declined on advice of their lawyers, one had a scheduling demand that couldn't be met, three did not return calls, and one required someone who spoke Spanish. A public building was found in this area to provide a secure place to locate the last remaining seismograph (Structure #49). Locations of homes for this phase are shown in Figures 3 and 4.

Table 1.- DESA monitoring locations for quarry blasts in Dade Co., Year 2000, in the order instrumented.

| House | Location(s) in house | Dates | SN | Trigger |
|---|---|---|---|---|
| House #6 Palm Springs North, Lakes on the Green | Outside, west wall (GV). | 2-24 to 4-29 | 979 | 0.02 in/s |
| | 2nd floor ceiling truss in closet of MBR (SR). | 2-24 to 4-8 | 402 | 0.02 |
| | | 4-8 to 4-29 | 402 | 0.05 |
| House #13 Palm Springs North | Foundation slab SW corner (GV). | 2-24 to 4-29 | 407 | 0.02 |
| | Roof rafter @ house's SW corner (SR). | 2-24 to 4-8 | 1133 | 0.02 |
| | | 4-8 to 4-29 | 1133 | 0.05 |
| House #15 Palm Springs North | Slab, NW corner of patio (GV). | 2-25 to 4-8 | 642 | 0.02 |
| House #4 Miami Lakes (west) | Garage slab at N. wall (GV). | 2-25 to 4-30 | 690 | 0.02 |
| | Two crack monitors: inside garage on N-wall horiz. crack (SR). | 2-27 to 4-30 | - - | - - |
| House #12 Miami Lakes (west) | Garage slab, ctr. of south wall (GV). | 2-26 to 4-8 | 163 | 0.02 |
| | In ground at SW corner of garage slab (GV). | 2-26 to 4-8 | 187 | 0.02 |
| | First floor ceiling truss above garage. Trusses run N-S (SR). | 2-26 to 4-8 | 772 | 0.02 |
| House#11 Miami Lakes (east) | SW corner floor on second story bathroom floor (SR). | 2-26 to 4-8 | 776 | 0.05 |
| House #45 Doral Landings (NW Miami, close to #42) | Second floor ceiling truss in attic, floor centered (SR). | 4-9 to 4-30 | 642 | 0.05 |

Table 1.- DESA monitoring locations for quarry blasts in Dade Co., cont.

| House | Location(s) in house | Dates | SN | Trigger |
|---|---|---|---|---|
| House #34 Shoma Homes/ Superior Homes (west Miami) | N. side of home on slab (GV). | 4-9 to 4-30 | 772 | 0.025 |
| House #33 Shoma Homes/ Superior Homes (west Miami) | Back Yard, buried (GV). | 4-9 to 4-30 | 187 | 0.02 |
| House #42 Doral Park (NW Miami) | Back yard, buried (GV). | 4-9 to 4-30 | 776 | 0.02 |
| Structure #49 SW of West-wind Lakes (SW Miami) | Concrete slab in storage room (GV). | 4-10 to 5-1 | 163 | 0.04 |

Notes:
GV = ground vibration measurement
SR = structure response measurement

Houses #6, 11, 42, and 45 are two stories. All others are single story.

House 42 is part of a multi-unit town house oriented N-S. All others except structure #49 are single-family residences. Structure #49 is a public building.

Notes: airblasts were measured at locations # 6, 13, 15, 4, 12, 34, 33, and 42 with triggers set at 120 dB.

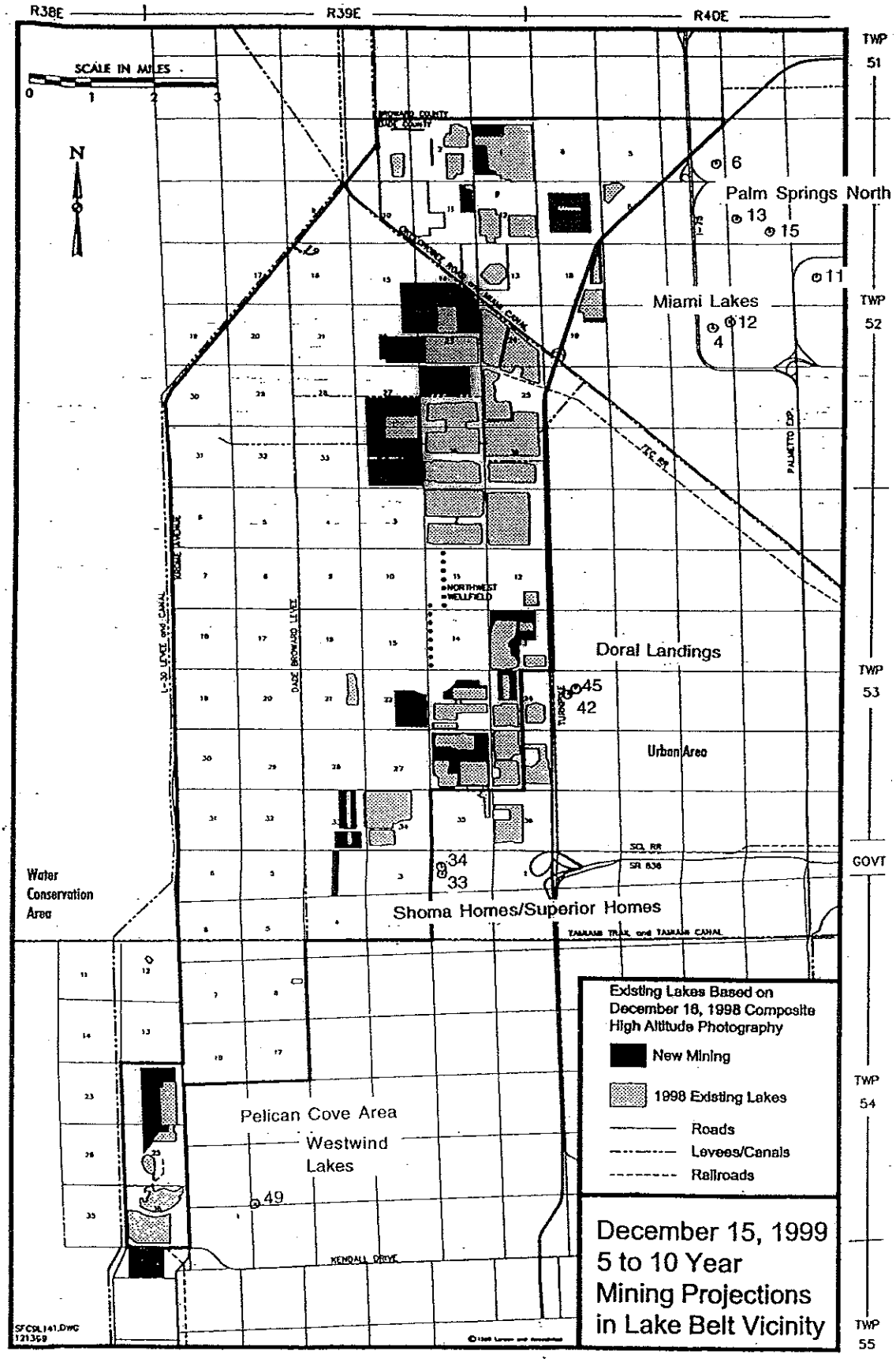



Figure 1.- Overall area of DESA monitoring of Dade County quarry blasts.

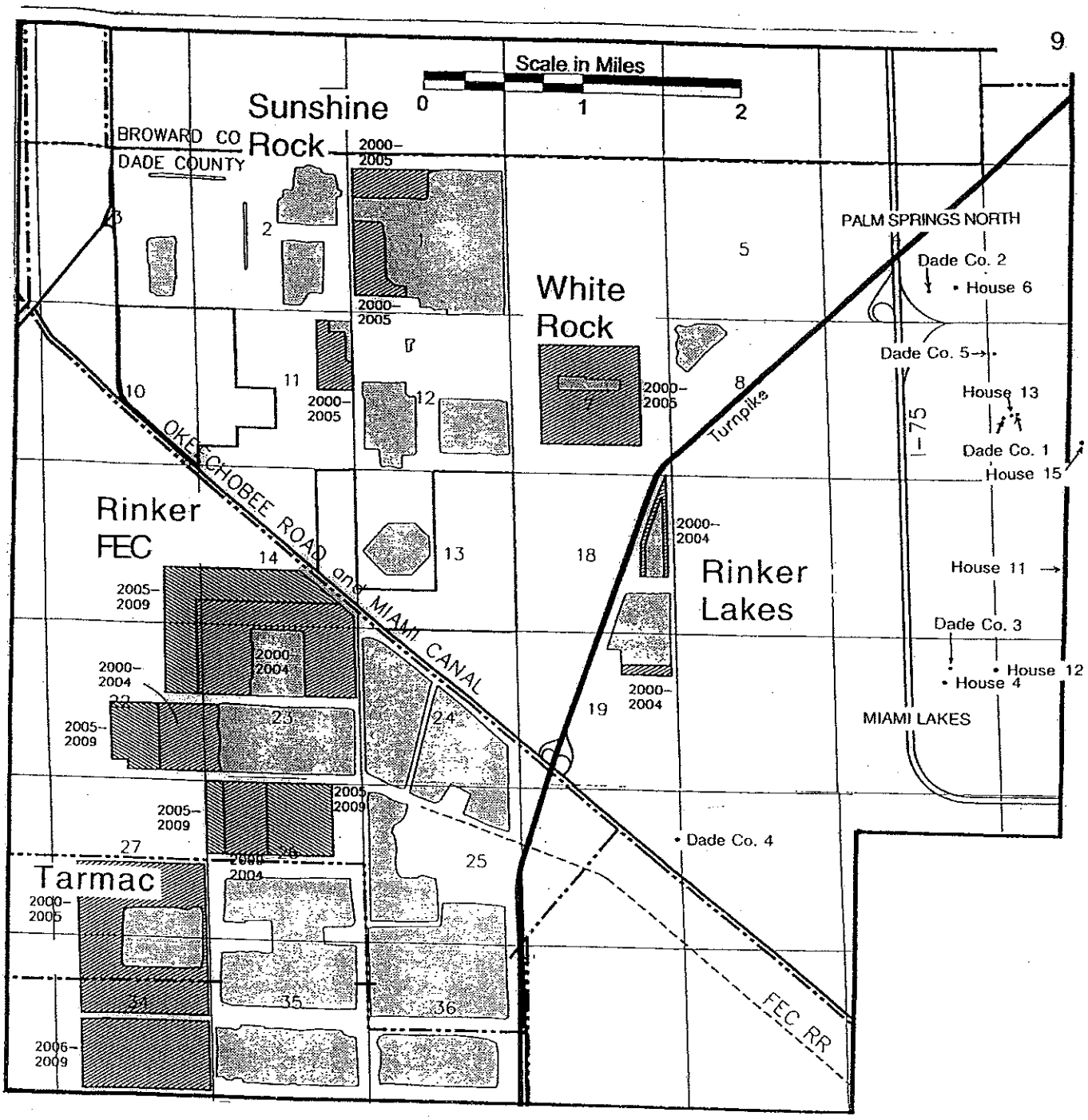



Figure 2.- DESA monitoring in NW Miami area, Dade County.

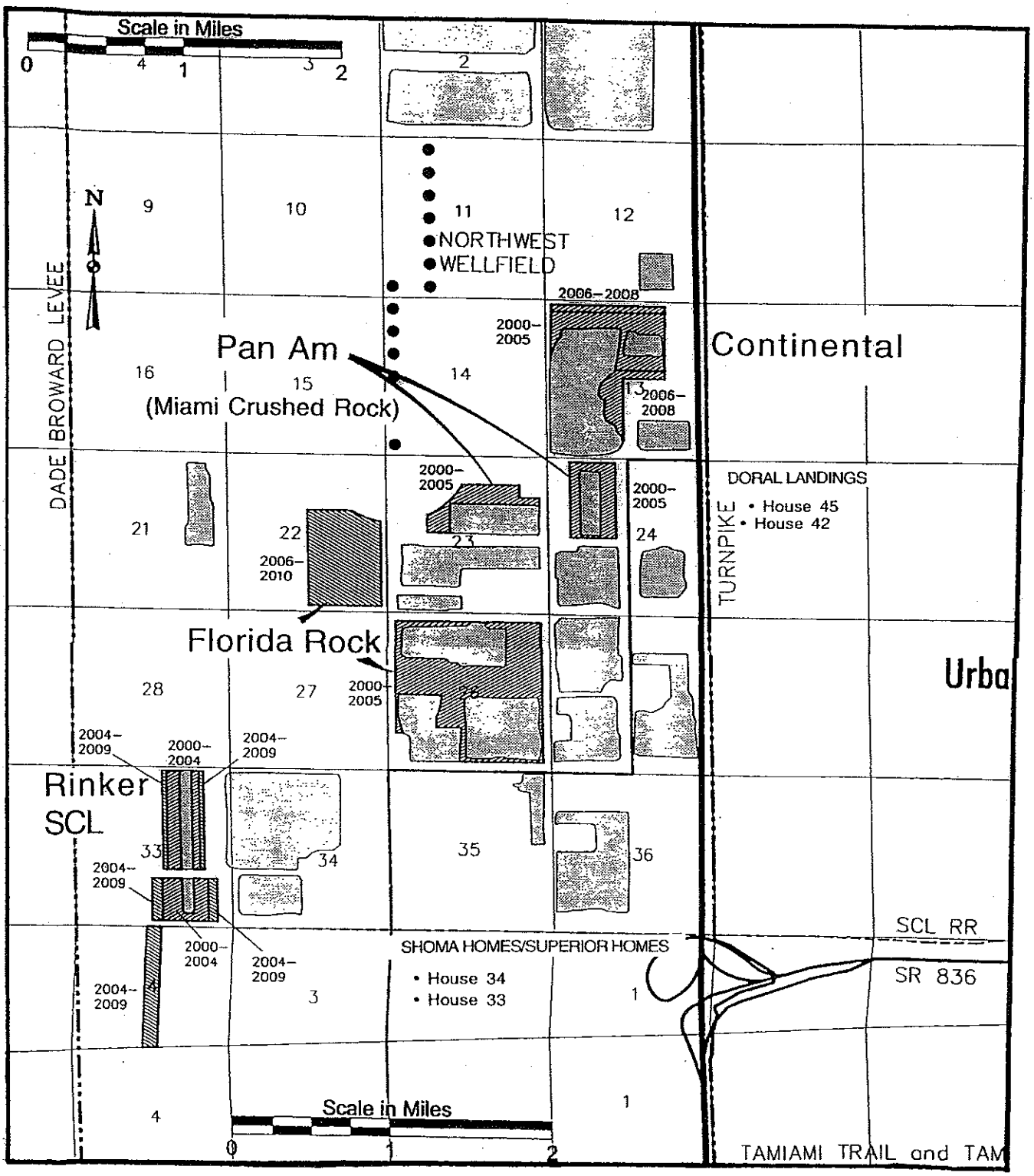



Figure 3.- DESA monitoring in west Miami area, Dade County.

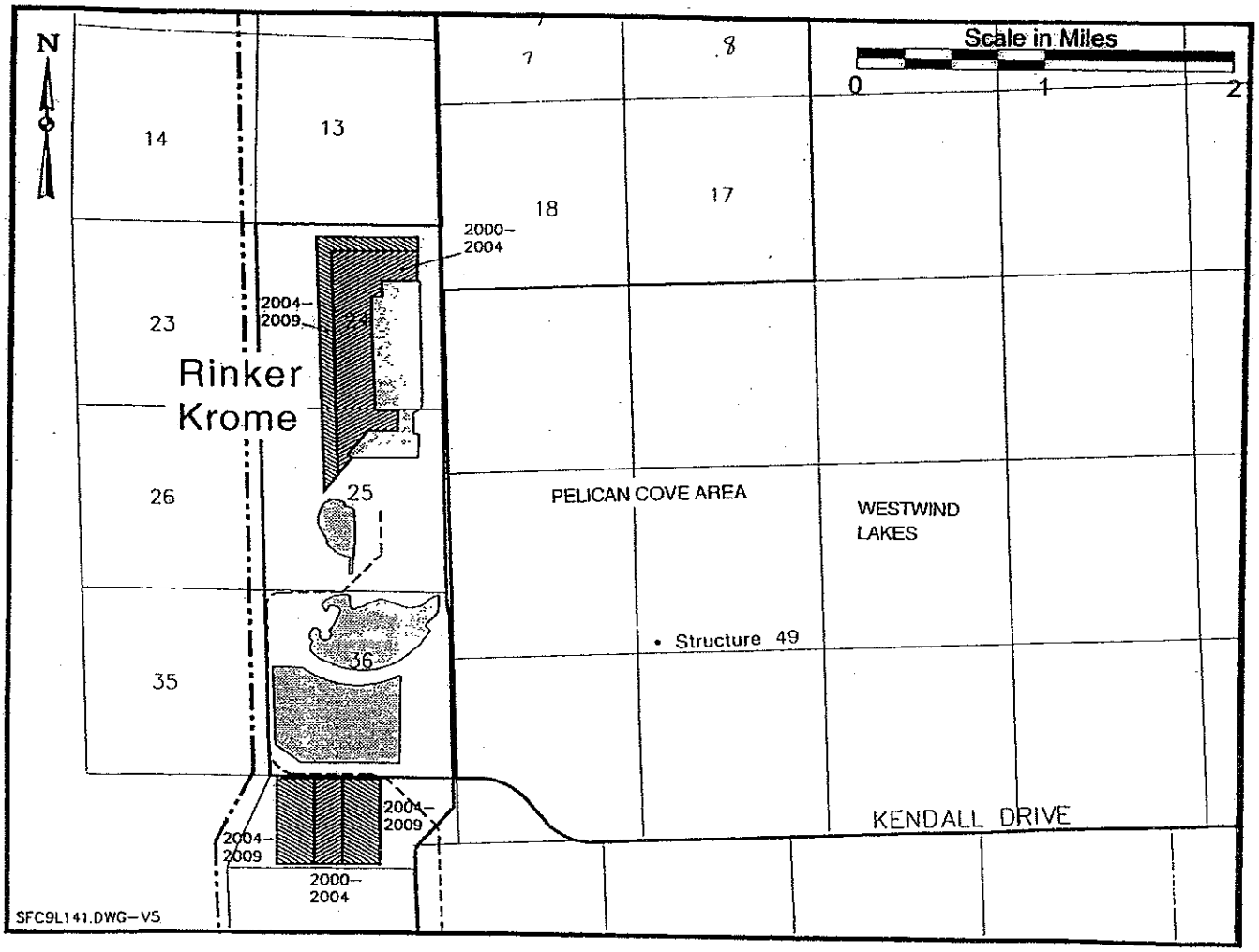



Figure 4.- DESA monitoring in SW Miami area, Dade County.

## VIBRATIONS GENERATED BY BLASTING IN DADE COUNTY QUARRIES

### QUARRY PROCEDURES RELATED TO BLAST VIBRATION

Blast designs and procedures used by Dade County quarries were beyond the scope of this study and not evaluated. However, DESA wanted to compare vibration amplitudes for this study period with previous times, such as the 1999 monitoring by the County. This required the charge weights per delay for all the blasts after February 25, 2000. Distances were determined from a master map, similar to Figures 2 to 4. Exact locations for blasts in the designated Year 2000 quarry production areas were not known relative to the city street map used to locate the homes. Therefore, blast-to-structure distances were determined from the center of the area designated for year 2000 production and provided the bases for the calculation of scaled distances (A few exceptions to this were blasts at Florida Rock and Miami Crushed Rock as described in the section on vibration amplitudes). This makes distances and scaled distances in doubt by 5 to 10 pct. However, this amount of tolerance is not very significant or even noticeable on the log-log plots which were prepared.

South Florida has become one of the most extensively studied area for blast vibration generation. Figures 5 to 8 are plots of vibration versus scaled distance for all the data collected in south Florida available to the authors. These kinds of plots of vibration amplitude versus distance are standard engineering practices for vibration assessment. The use of scaled rather than simple distances allows a single plot to represent blasts of all sizes. If all blasts were the same size, in pounds per delay, simple distance could then be used.

Peak particle velocities were used in this study and not resultants (vector sums). This is particularly important for structure response assessments where directions (motion components) of vibration and structure response are to be compared. For comparison purposes, resultants are about 10 pct higher that the maximum of the three single components of motion. Figure 5 is resultant data. In the other three plots, ground vibration is the maximum peak particle velocity of the largest component of motion (PPV). The general purpose of such plots are to allow vibration amplitude predictions and also comparisons between different sites and times of monitoring.

## VIBRATION AMPLITUDES AT SOUTH FLORIDA HOMES, HISTORICAL DATA

Four sets of historical south Florida data are known to the authors, including the 1999 Dade County monitoring results supplied for this study. Because these were collected from a variety of sites and represent two distinct ways to express vibration amplitude, there was no attempt to produce one grand statistical plot. However, one set is outstanding in the number of measurements and the wide range of scaled distances available for the plot (Johnson, et al., 2000).

Figure 5 shows the Johnson's summary plot of vibrations from 609 Broward County blasts. These are resultant values (vector sums) and not single-component amplitudes (PPV's), plotted by Johnson in accordance with Broward County regulations. There is great variability in this data, partly because measurements from four different sites are combined. However, even single sites were found to have much variability. For example, at a scaled distance of 300 ft/lb$^{1/2}$, the mean vibration amplitude was 0.07 in/s with a measurement range of about .035 to 0.17 in/s. This variability is from geologic differences at the measuring sites and in the vibration transmission paths and also possibly from differing blasting practices. Many quarries studied by the U.S. Bureau of Mines and others have had far less scatter (Siskind, 1997 and 2000).

There are two ways to produce worst-case vibration estimating lines from such data: using some number of standard deviations and using a line which envelopes the data. In this case, the authors chose the more conservative route, an envelope line based on the highest of Johnson's 609 amplitudes (dotted line). This line will also provides a basis of comparisons for the other vibration data sets.

The equation for this line is: $RPPV_{in/s} = 163(ft/lb^{1/2})^{-1.20}$

The "ft/lb$^{1/2}$" term is the square-root scaled distance. With resultants about 10 pct higher than the largest single component of motion, a maximum peak particle velocity line would be:

$$PPV_{in/s} \approx 146(ft/lb^{1/2})^{-1.20}$$

This is the "Johnson data envelope" which is shown on the subsequent plots.

Figure 6 is a summary of quarry blast vibrations collected by Dade County in the year 1999. This represent all the 1999 blasts in the NW Miami area where the seismograph triggers settings of 0.02 in/s were exceeded. Even with no values recorded for blasts below 0.02 in/s, there is still a large range of amplitudes for any given scaled distance. An envelope line was also derived from this data and is shown on the plots as the "Dade County Envelope." This line is close to, but slightly higher than, the Johnson Envelope.

$$PPV_{in/s} = 222(ft/lb^{1/2})^{-1.22}$$

As this is the highest prediction line, it was used to calculate worst-case vibrations for the Dade County blasting. All actual measurements were at or below this line.

Figure 7 shows the Weston data (Siskind, et al., 1996) and the 1979 Rinker Lake measurements (Andrews, 1979). The Weston data have extreme scatter, in part, because some monitoring was done on unconsolidated granular soil. The two high points, for example, would be absent if data measured on the foundation slabs were used. All the Weston and the Rinker Lake measurements fall below the Dade County Envelope and, except for the two high points, also below the envelope from Johnson's data set.

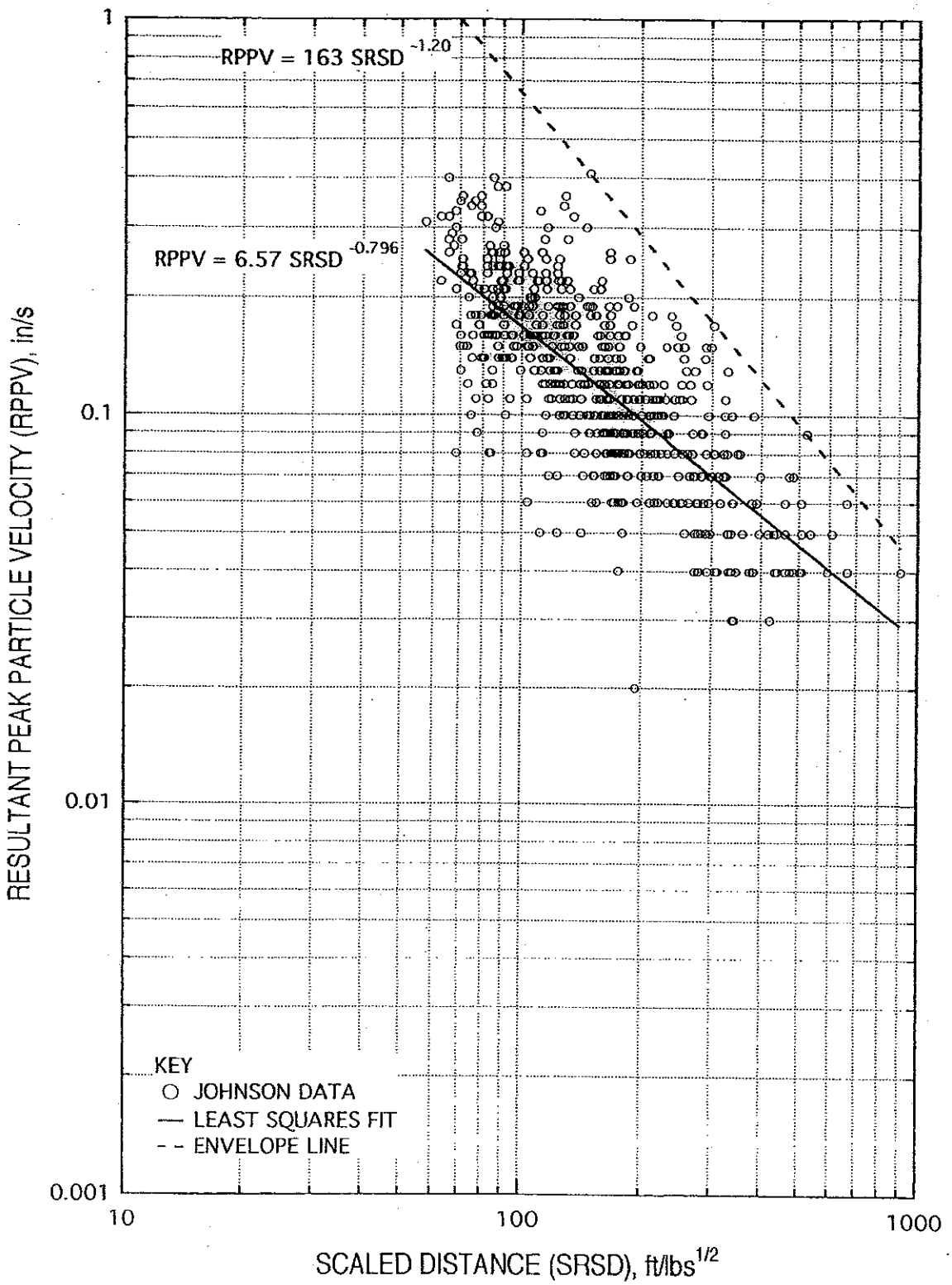



Figure 5.- Propagation plot, vibration amplitude versus distance from 609 blasts in Broward County, from Johnson, et al., 2000. Values plotted are resultants (vector sums).

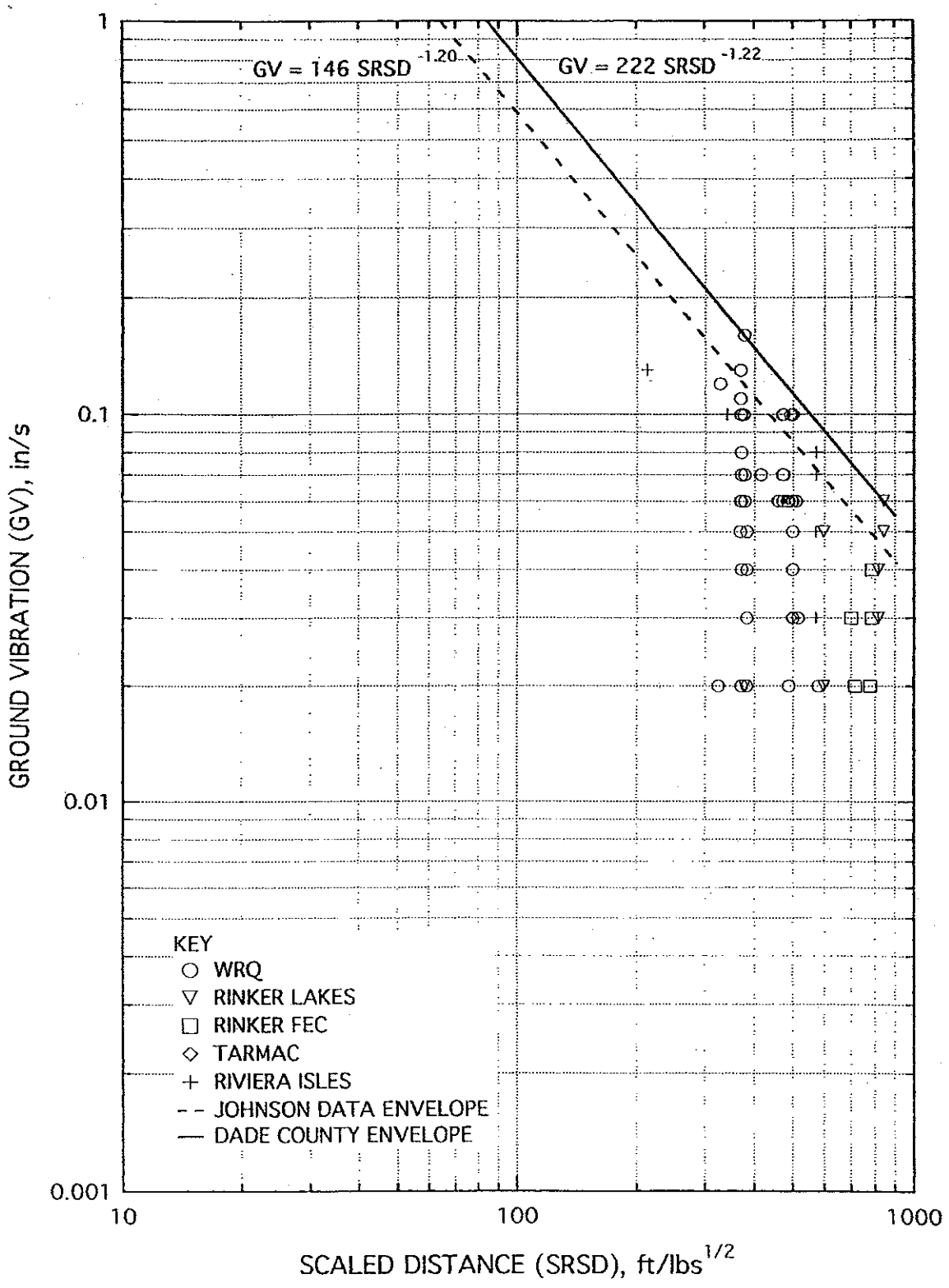



Figure 6.- Propagation plot, vibration amplitude versus distance from 1999 Dade County monitoring of quarry blasts in NW Miami areas of Miami Lakes and Palm Springs North.

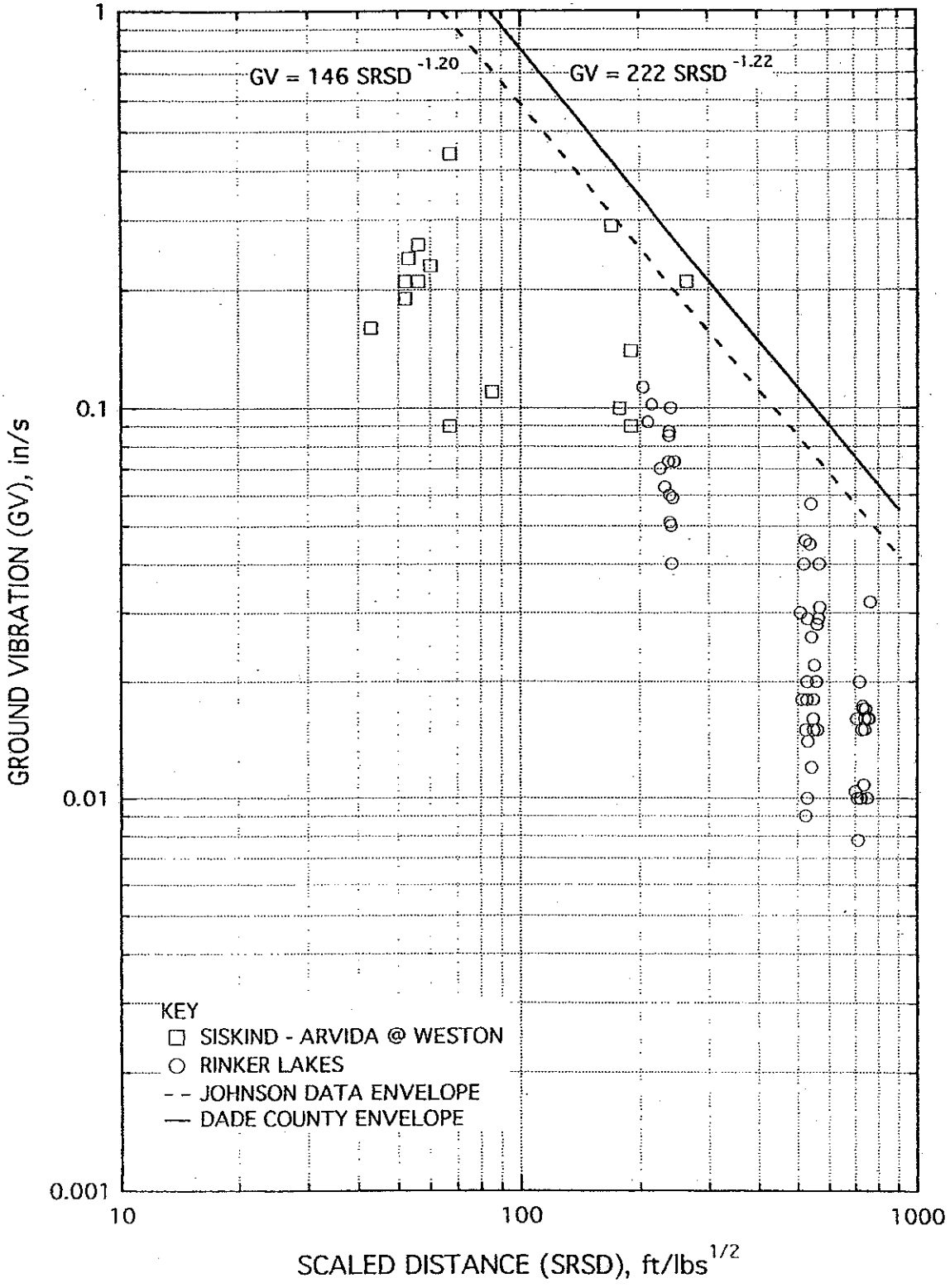



Figure 7.- Propagation plot, vibration amplitude versus distance from USBM's Weston Arvida site study (Siskind, et al., 1996) and the Andrews Rinker Lake study of 1979.

## VIBRATION MEASUREMENTS AT AREA HOMES FROM FEB. TO APRIL, 2000

Figure 8 summarizes data collected by DESA for this study with the measurements from the 41 of the 42 blasts listed in Appendix A. The scatter here is far less than the County's 1999 data, although it is only two months of monitoring compared to one year for the County. These amplitudes are, on the average, similar to those obtained by the County in 1999 and all are below the worst-case Dade County data envelope.

Some individual vibration amplitudes appear high. This and the high scatter or variability suggest the question is: did the blast detonated properly or was the effective charge weight per delay somehow not as designed or reported? The causes of the relatively high vibration are beyond the scope of this study, however, some ideas come to mind. The water filled pits likely provide additional confinement during the critical and short explosive detonation process when the vibrations are generated. This would lead to higher vibrations at the source. The geology and structure greatly influence the vibration decay with distance. The low attenuation is almost certainly from the highly permeable layer over more competent rock. This favors the generation of surface waves, particular vibration frequencies, and especially low frequencies (discussed in the next section).

The U.S. Bureau of Mines had found generally high vibration amplitudes at other low-frequency sites and correlated these to the use of two-short delays (Siskind et al., 1989). The usual practice of using 8-ms intervals to define charge weight per delay may not work effectively at sites where the wave periods are 100 ms and longer (vibrations of less than 10 Hz) and longer time intervals may be needed there to provide the destructive wave interference for multi-delayed blast rounds. Experimenting with delays is a possible tool for the quarries to reduce vibration amplitudes and possible impacts to neighbors.

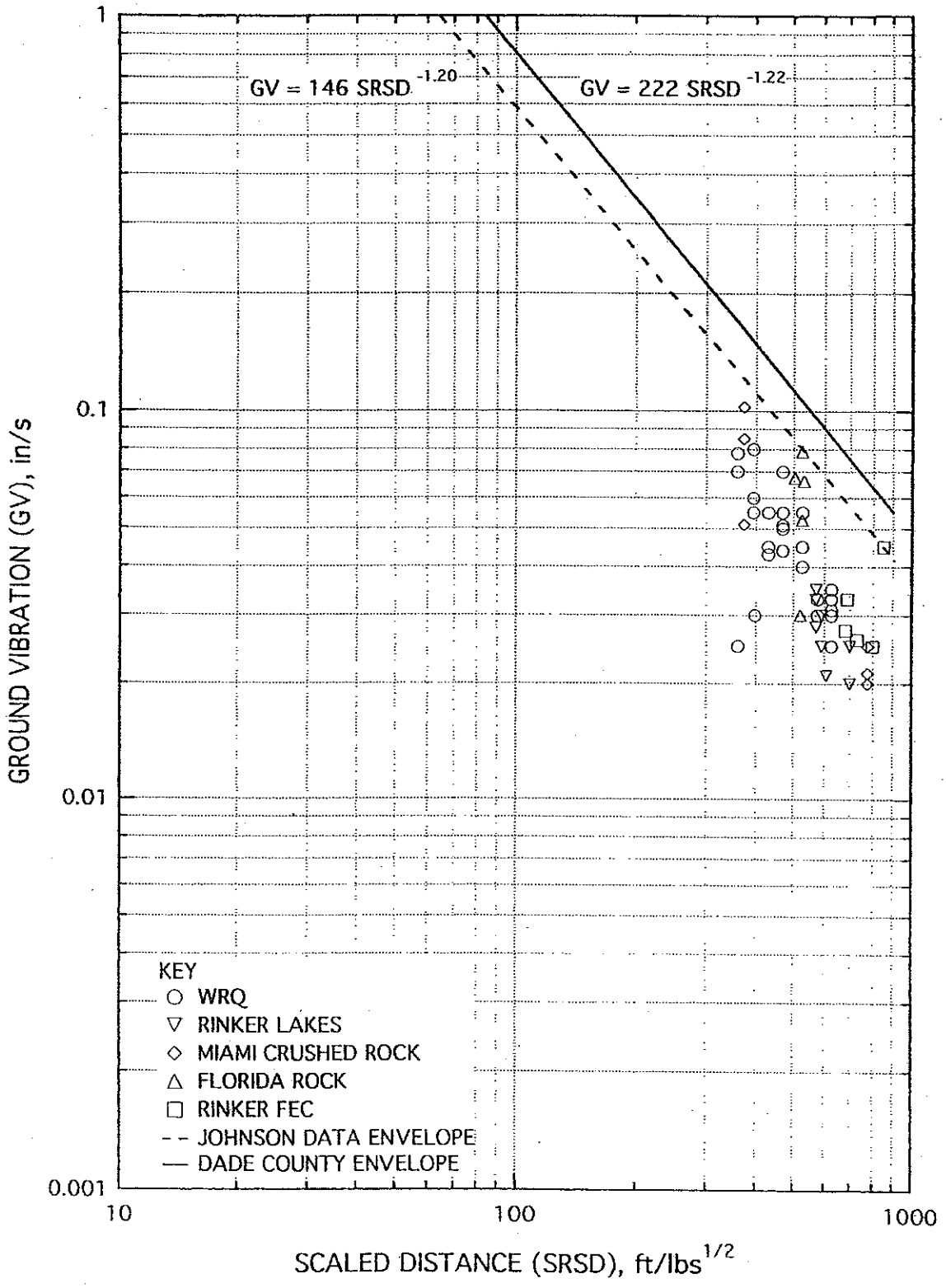



Figure 8.- Propagation plot, vibration amplitude versus distance from DESA monitoring of Dade County quarry blasts, February to April 2000.

## VIBRATION AMPLITUDE PREDICTIONS FOR DADE COUNTY HOMES

The purpose of the above plots and analyses are to answer the questions: Are the vibrations generated by Dade County blasts typical of other areas and were the vibrations measured by DESA during the February to April 2000 study period typical of other periods of blasting in the County? The answers are "no" and "yes," respectively.

Dade county blasting generates relatively high vibrations and great scatter (variation). Use of prediction formulas to control vibrations in place of monitoring would not be a good idea here. For example, a summary of eleven northern USA limestone quarries found a mean and maximum vibration of about 0.10 and 0.20 in/s, respectively, at a scaled distance of 100 ft/lb$^{1/2}$. The Dade County data suggests about 0.15 and 0.45 for this same scaled distance, even correcting for the differences between resultant and PPV. This difference becomes greater at larger distances. Some Dade County blasts had amplitudes of 0.06 in/s at scaled distances above 800. The maximum envelope (highest vibration amplitude) at 11 limestone quarries outside of Florida was 1/30 of this at the same at this scaled distance. Because 0.06 in/s creates perceptible house responses, this explains why people at great distances complain about blasting and are concerned about possible damages.

Figure 9 shows the Dade County measurements superimposed on the eleven-limestone quarry summary and their relatively high vibration amplitudes at large scaled distances.

Table 2 gives predicted worst-case amplitudes for the closest homes to the Dade County quarries based on the Dade County envelope of highest measured values. Some quarries cover an extensive area and distances to neighboring homes vary enormously depending where in the permit area they are blasting. This is particularly so with Miami Crushed Rock and Florida Rock which have homes closer than most of the NW area quarries. Because of their large operating areas relative to the blast-to-home distances, scaled distances for these two quarries were calculated from their blast coordinates and not average values. These two quarries would likely have to reduce their shot sizes when operating near their eastern borders.

Dade County had a monitoring program in place in the Doral Landings and Isles areas but the data were supplied too late to be incorporated into this analyses. The highest of the 46 readings between 1-4-00 and 4-5-00 were 0.24 in/s from Miami Crushed Rock, 0.145 in/s from Continental and 0.045 from Florida Rock blasts at monitored sites assumed to be near western-most homes.

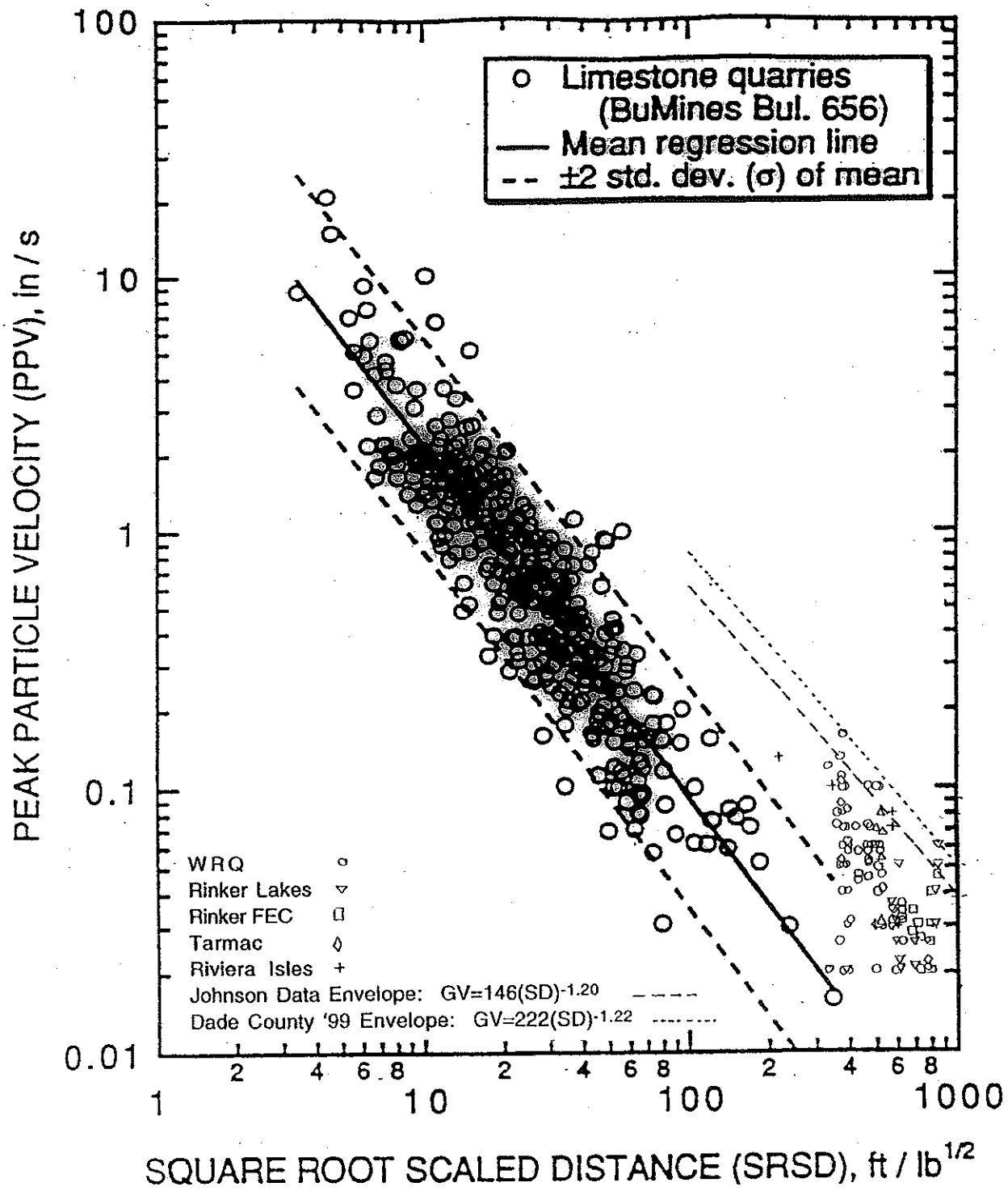



Figure 9.- Summary of 11 northern limestone quarries plus Dade County quarry vibration values. From, Crum, et al., 1995.

Table 2.- Vibration predictions for homes based on the Dade County data envelope.

Max or worst-case $PPV_{in/s} = 222(ft/lb^{1/2})^{-1.22}$
$ft/lb^{1/2}$ is scaled distance

| House number | Minimum dist., ft | Close Quarry | Max weight, lbs/delay | Minimum scaled dist | Maximum PPV, in/s |
|---|---|---|---|---|---|
| 6 | 11,800 | WRQ#7 | 1,242 | 335 | 0.18 |
| 13 | 13,000 | WRQ#7 | 1,242 | 369 | 0.16 |
| 13 | 11,400 | Rinker Lakes | 413 | 561 | 0.10 |
| 15 | 15,600 | WRQ#7 | 1,242 | 443 | 0.13 |
| 15 | 13,900 | Rinker Lakes | 413 | 684 | 0.08 |
| 4 | 14,600 | WRQ#7 | 1,242 | 414 | 0.14 |
| 4 | 9,200 | Rinker Lakes | 413 | 453 | 0.13 |
| 4 | 25,000 | Tarmac | 1,347 | 689 | 0.08 |
| 12 | 15,500 | WRQ#7 | 1,242 | 440 | 0.13 |
| 12 | 10,800 | Rinker Lakes | 413 | 531 | 0.11 |
| 11 | 20,900 | WRQ#7 | 1,242 | 593 | 0.09 |
| 11 | 18,400 | Rinker Lakes | 413 | 905 | 0.06 |
| 45 | 5,700 | Continental | NA | - - | - - |
| 45 | 4,600 | Miami Cr Rk | 473 | 211 | 0.32 |
| 45 | 8,200 | Fl Rock | 421 | 400 | 0.15 |
| 34 | 7,100 | Rinker SCL | NA | - - | - - |
| 34 | 7,600 | Fl Rock | 421 | 370 | 0.16 |
| 33 | 7,300 | Rinker SCL | NA | - - | - - |
| 33 | 7,900 | Fl Rock | 421 | 385 | 0.156 |
| 42 | 5,700 | Continental | NA | - - | - - |
| 42 | 4,300 | Miami Cr Rk | 473 | 198 | 0.35 |
| 42 | 7,600 | Florida Rock | 421 | 370 | 0.16 |
| 49 | 9,400 | Rinker Krome | NA | - - | - - |

NA = charge weights not available and calculations not made.

## SPECIFIC BLASTS IDENTIFIED DURING STUDY PERIOD

3-29-00 @ 10:30: This blast was of particular concern to neighbors but was measured as only 0.035 in/s. This is about half the amplitude of the blast of 3-27-00 which had similar frequency and duration characteristics. Unfortunately, there were no structure responses for these blasts.

## VIBRATION CHARACTER: FREQUENCIES AND DURATIONS

South Florida sites: Some of these are known to generate long-duration low-frequency vibrations of around 4 Hz. These can be particularly noticeable and alarming even at relatively low amplitudes. Low frequencies from blasting are not particularly unusual, resulting wherever there is a near-surface low-velocity layer over a more competent strata. Examples have been found in areas of thick glacial drift and old lake bed deposits near the surface. The USBM studied and reported on such sites in Kentucky, Pennsylvania, and Indiana . Specific to south Florida are the Weston tests and the 1979 study of Rinker Lake quarry in Dade County.

Procedures: All DESA seismograph measurements in Dade Co. had the R (radial) component oriented E-W and the T (transverse) oriented N-S, making the radial approximate the direction to the quarries. Initially, recording durations were set to 8 seconds with the expectation that continuing high vibration or a high airblast would retrigger the seismograph. Durations were increased to 16 seconds for the second phase. Some specific peaks have amplitudes and frequencies indicated on them as an aid in analysis.

Waveform examples: Figures 10 through 13 are waveform for vibrations measured at four of the homes. Additional results are given in the response section. The frequency and duration characteristics were generally similar at homes throughout the area. Two features stand out: 1) most waveform records exhibit two distinct frequencies, a high beginning of 8 to about 30 Hz and a later arriving surface wave of 2 to 4 Hz, and 2) they have long durations of up to and sometimes exceeding 16 seconds.

Figures 10 shows the long duration of recordings made at large distances. The amplitude here is low in terms of possible structure cracking but still within the range of producing noticeable structure rattling. The complexity of these waveforms indicates the significant and unpredictable influence of the layered geology and a possible but lesser role for the source function of design and geometry. The frequency complexity is evident by casual inspection. This waveforms start out at relatively high frequencies of 17 to 30 Hz. An 8-Hz

character begins to become visible at about 3 seconds with the higher frequency still present and riding the 8-Hz wave. This is joined by a 2-Hz starting after about 4.5 seconds which becomes the dominant wave after about 8 seconds and is still going at the record's end at 17 seconds. This tail-end ground-roll has the characteristics of a Rayleigh surface wave, strongest on the vertical, also present on the radial, but absent on the transverse. Rayleigh waves are generated by low velocity surface layers overlying stronger rock.

Figure 11 shows a somewhat different character with a low frequency of about 6 Hz right at the beginning. Figure 12 is from the southwest area (Shoma/Superior Homes) and has similar character to Figure 10 from Palm Springs North. Figure 13 from Dural Park (actually Dural Landings) has a resemblance to Figures 10 and 12 but a shorter duration from the closer blast and less geology (shorter travel path and time) to spread out the vibration wave.

**D. E. SISKIND & ASSOCIATES (DESA)**
**FOR C3TS / DADE COUNTY**
**STRUCTURE: 6**
**LOCATION: PALM SPRINGS NORTH**

Event Number: 036 Date: 4/24/00 Time: 9:45 + 2H
Acoustic Trigger: 120 dB Seismic Trigger: 0.02 in/s Serial Number: 979

| Amplitudes and Frequencies | Graph Information |
|---|---|
| *Acoustic:* 106 dB @ 19.6 Hz. | *Duration:* 0.000 sec To: 17.000 sec |
| *Radial:* 0.025 in/s @ 19.6 Hz. | *Acoustic:* 0.20 Mb (0.05 Mb/div) |
| *Vertical:* 0.0225 in/s @ 42.6 Hz. | *Seismic:* 0.02 in/s (0.005 in/s/div) .036 in/s IN OF GRAPH |
| *Transverse:* 0.0225 in/s @ 17.0 Hz. | *Time Lines at:* 1.00 sec intervals |
| *Vector Sum:* 0.025 in/s | |

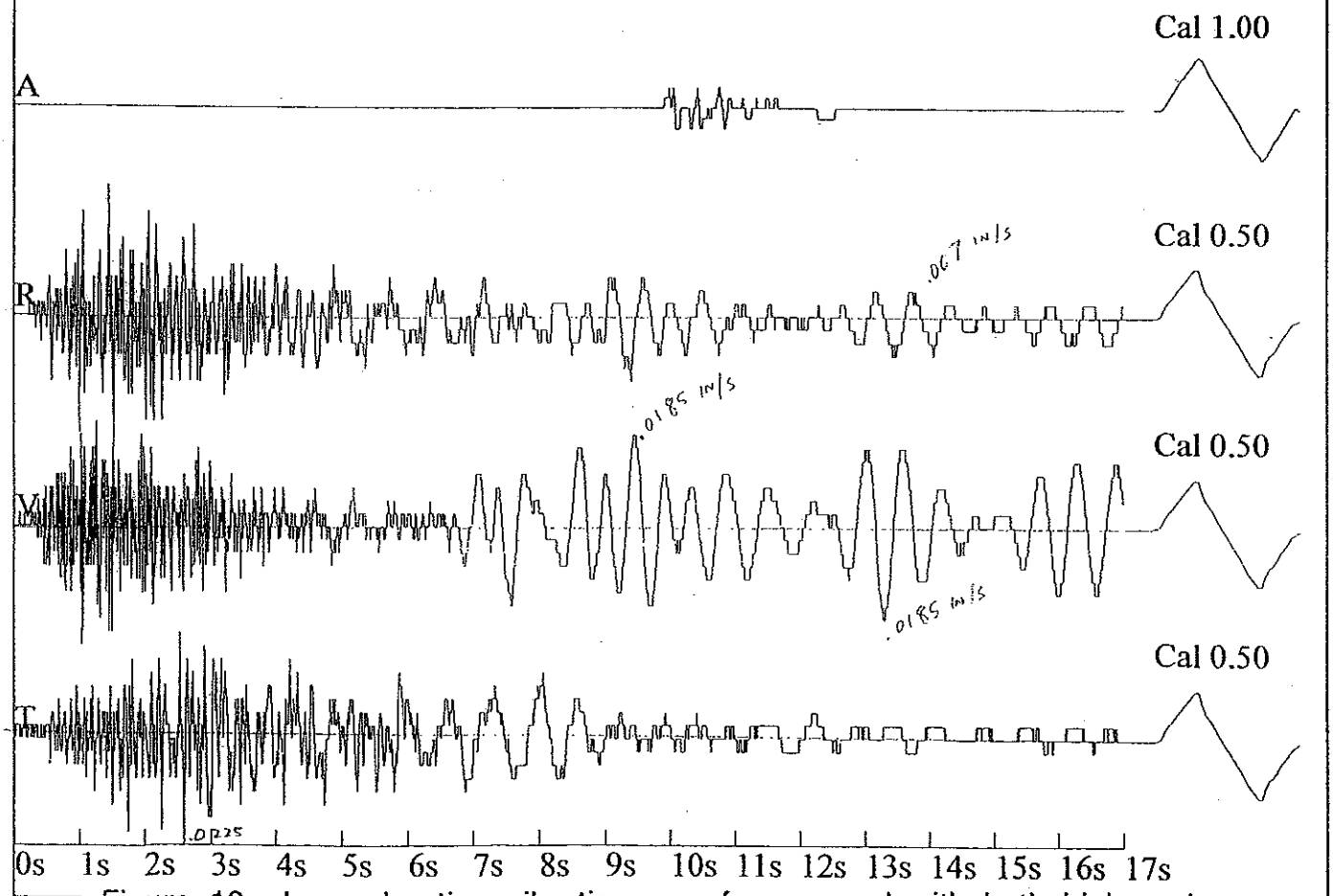



Figure 10.- Long duration vibration waveform record with both high and low frequencies. WRQ Section 7 blast at about 12,700 ft. Palm Springs North.

**D. E. SISKIND & ASSOCIATES (DESA)**
**FOR C3TS / DADE COUNTY**
**STUCTURE: 15**
**LOCATION: PALM SPRINGS NORTH**

Event Number: 019 Date: 3/27/00 Time: 14:34
Acoustic Trigger: 120 dB Seismic Trigger: 0.02 in/s Serial Number: 642

| Amplitudes and Frequencies | Graph Information |
|---|---|
| *Radial:* 0.07 in/s @ 5.3 Hz. | *Duration:* 0.000 sec To: 9.000 sec |
| *Vertical:* 0.06 in/s @ 2.9 Hz. | *Seismic:* 0.07 in/s (0.0175 in/s/div) |
| *Transverse:* 0.05 in/s @ 2.8 Hz. | *Time Lines at:* 1.00 sec intervals |
| *Vector Sum:* 0.07 in/s | |

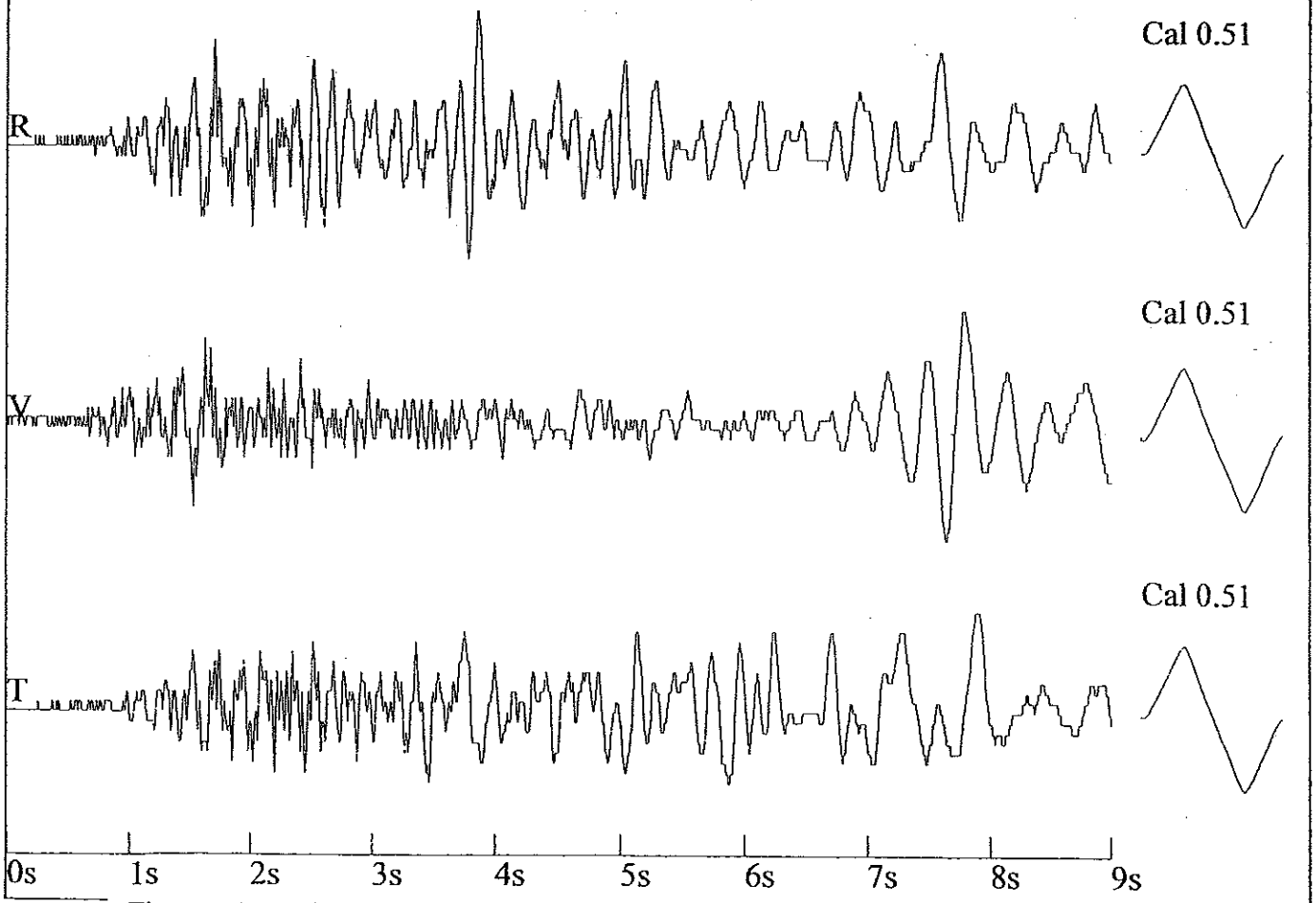



Figure 11.- Ground vibration record from WRQ Section 7 blast 15,500 ft from House 15.

**D. E. SISKIND & ASSOCIATES (DESA)**
**FOR C3TS / DADE COUNTY**
**STRUCTURE: 33**
**LOCATION: SHOMA HOMES**

Event Number: 029 Date: 4/26/00 Time: 12:03 + 1HR
Acoustic Trigger: 120 dB Seismic Trigger: 0.02 in/s Serial Number: 187

| Amplitudes and Frequencies | Graph Information |
|---|---|
| *Radial:* 0.025 in/s @ 19.6 Hz. | *Duration:* 0.000 sec To: 17.000 sec |
| *Vertical:* 0.04 in/s @ 32.0 Hz. | *Seismic:* 0.08 in/s (0.02 in/s/div) |
| *Transverse:* 0.0787 in/s @ 28.4 Hz. | *Time Lines at:* 1.00 sec intervals |
| *Vector Sum:* 0.0787 in/s | |

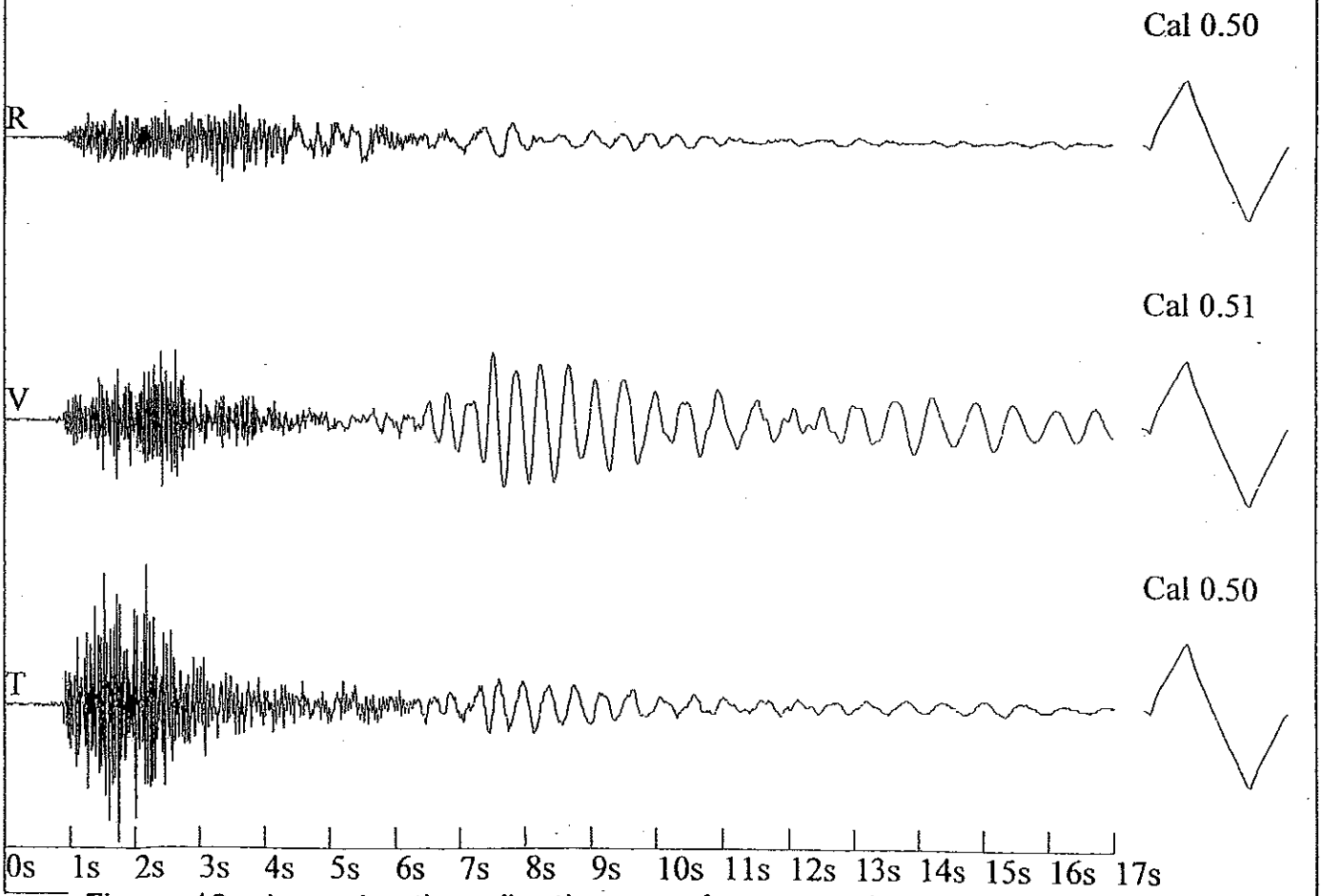



Figure 12.- Long-duration vibration waveform record with both high and low frequencies. Florida rock blast at about 10,900 ft. Shoma Homes area.

**D. E. SISKIND & ASSOCIATES (DESA)**
**FOR C3TS / DADE COUNTY**
**STRUCTURE: 42**
**LOCATION: DORAL PARK**

Event Number: 003 Date: 4/10/00 Time: 10:31 +1HR
Acoustic Trigger: 120 dB Seismic Trigger: 0.02 in/s Serial Number: 776

| Amplitudes and Frequencies | Graph Information |
|---|---|
| *Acoustic:* 100 dB @ 0.0 Hz. | *Duration:* 0.000 sec To: 17.000 sec |
| *Radial:* 0.1025 in/s @ 51.2 Hz. | *Acoustic:* 0.20 Mb (0.05 Mb/div) |
| *Vertical:* 0.0725 in/s @ 51.2 Hz. | *Seismic:* 0.10 in/s (0.025 in/s/div) |
| *Transverse:* 0.0413 in/s @ 32.0 Hz. | *Time Lines at:* 1.00 sec intervals .165 in/s/in of graph |
| *Vector Sum:* 0.1138 in/s | |

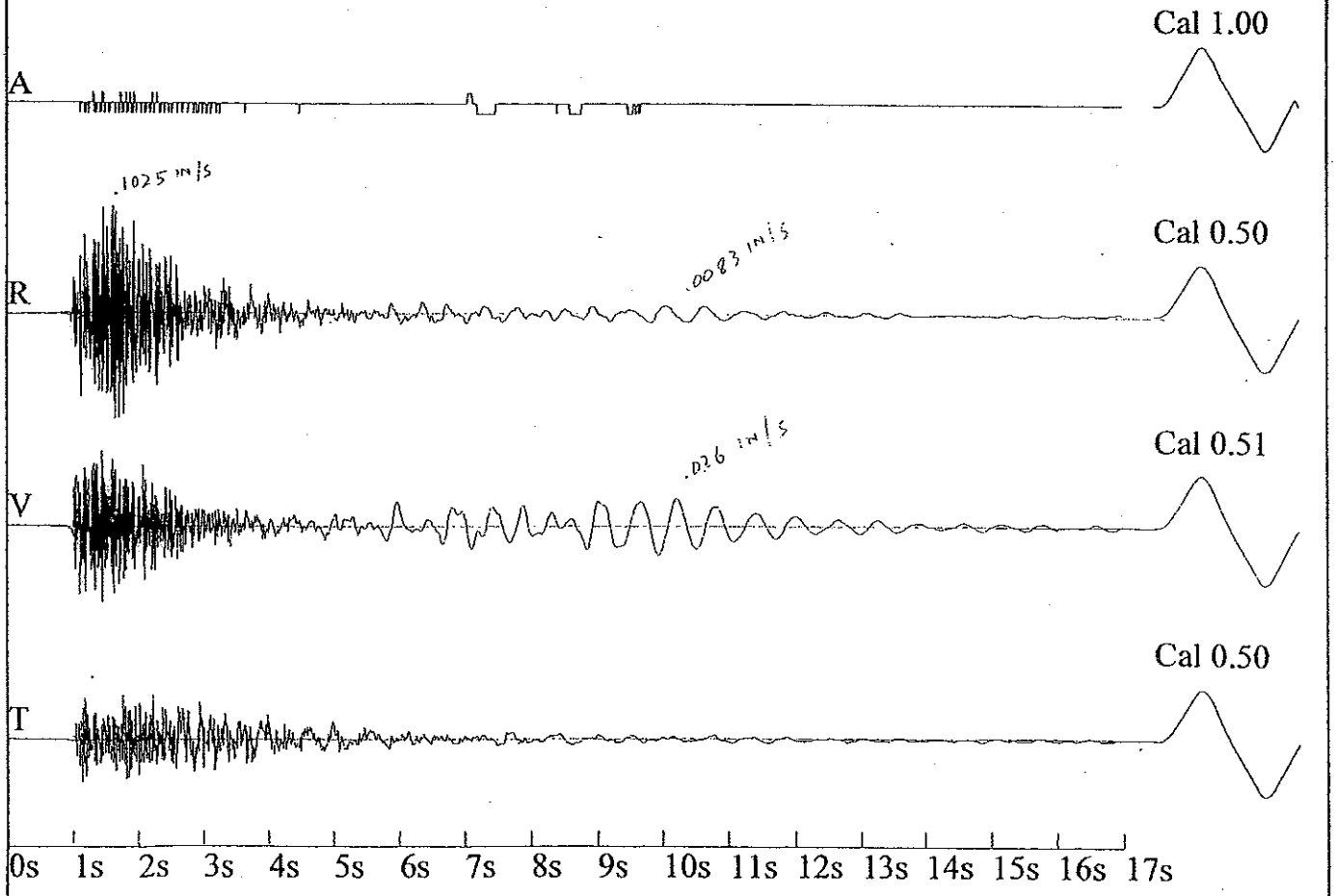



Figure 13.- Highest vibration record from monitoring at House 42. This is a Miami crushed Rock blast at 8,100 ft.

## RESPONSES OF SOUTH FLORIDA HOMES TO BLAST VIBRATION

### HISTORICAL DATA

Two previous studies examines structure responses from south Florida blasts. The first was the previously mentioned study of Rinker Lake quarry blasting and structure responses in the late 1970's (Andrews, 1979). Five structures total and four per blast were monitored for vibration and response at distances of 3/4 to 2-3/4 miles. The 18 production and six single-hole blasts were 300 and 400 lbs per delay. Researchers found frequencies as low as 3.3 Hz and high relative responses (up to 3.7x racking response amplification). Note, amplification factors are responses compared to ground vibrations, time correlated. With the highest PPV being 0.135 in/s, there were no new cracks or crack extensions although some homeowners found the responses alarming.

In 1995, U.S. Bureau of Mines studied the blasting at the Weston's Arvida Development in Broward County. Vibrations were again found to be low frequency. Most significantly, some of the structural responses, at 4.7x, were slightly higher than previous tests elsewhere on wood frame houses, which maxed at 4.3x (Appendix C). Analysis suggested that the reason was the large extent of glass represented by the full length windows and doors in a key high-ceiling structural corner and relatively high wall mass. This corner had less interior stiffening than would have existed with a stud/wallboard structure and therefore had a relatively low vibration damping. Response frequencies were still within the typical range of homes studied elsewhere, but the low damping apparently resulted in relatively high responses at resonance frequency. The relationship between frequency, damping, and response is discussed in Appendix C.

### DESA RESPONSE DATA FOR DADE COUNTY HOMES, FEBRUARY TO APRIL 2000

Blasting: Figures 14 and 15 are waveforms records for ground vibrations and structure responses, respectively, for House #6. Figures 16 and 17 are similar records for House 13. Because of the complexity of reading these records with their different amplitude scales, amplitudes and frequencies of significant parts of the waveforms have been measured and labeled on the figures. Additionally, dynamic amplification factors are given on the response plots (Figures 15 and 17) at the approximate times they apply. Note that separate response assessments were made for the high and low frequencies.

Generally, the most useful data for response and cracking potential are the horizontal responses. Vertical structure motions are not amplified. In addition in House 6 (Figure 15), the structural response transducer was on a second floor

**D. E. SISKIND & ASSOCIATES (DESA)**
**FOR C3TS / DADE COUNTY**
**STUCTURE: 6**
**LOCATION: PALM SPRINGS NORTH**

Event Number: 027 Date: 2/28/00 Time: 14:12 + 1 HR
Acoustic Trigger: 120 dB Seismic Trigger: 0.02 in/s Serial Number: 979

| Amplitudes and Frequencies | Graph Information |
|---|---|
| *Radial:* 0.07 in/s @ 7.0 Hz. | *Duration:* 0.000 sec To: 8.500 sec |
| *Vertical:* 0.0675 in/s @ 2.0 Hz. | *Seismic:* 0.07 in/s (0.0175 in/s/div) |
| *Transverse:* 0.0475 in/s @ 5.8 Hz. | *Time Lines at:* 1.00 sec intervals |
| *Vector Sum:* 0.075 in/s | 0.085 in/s / in of graph scale |

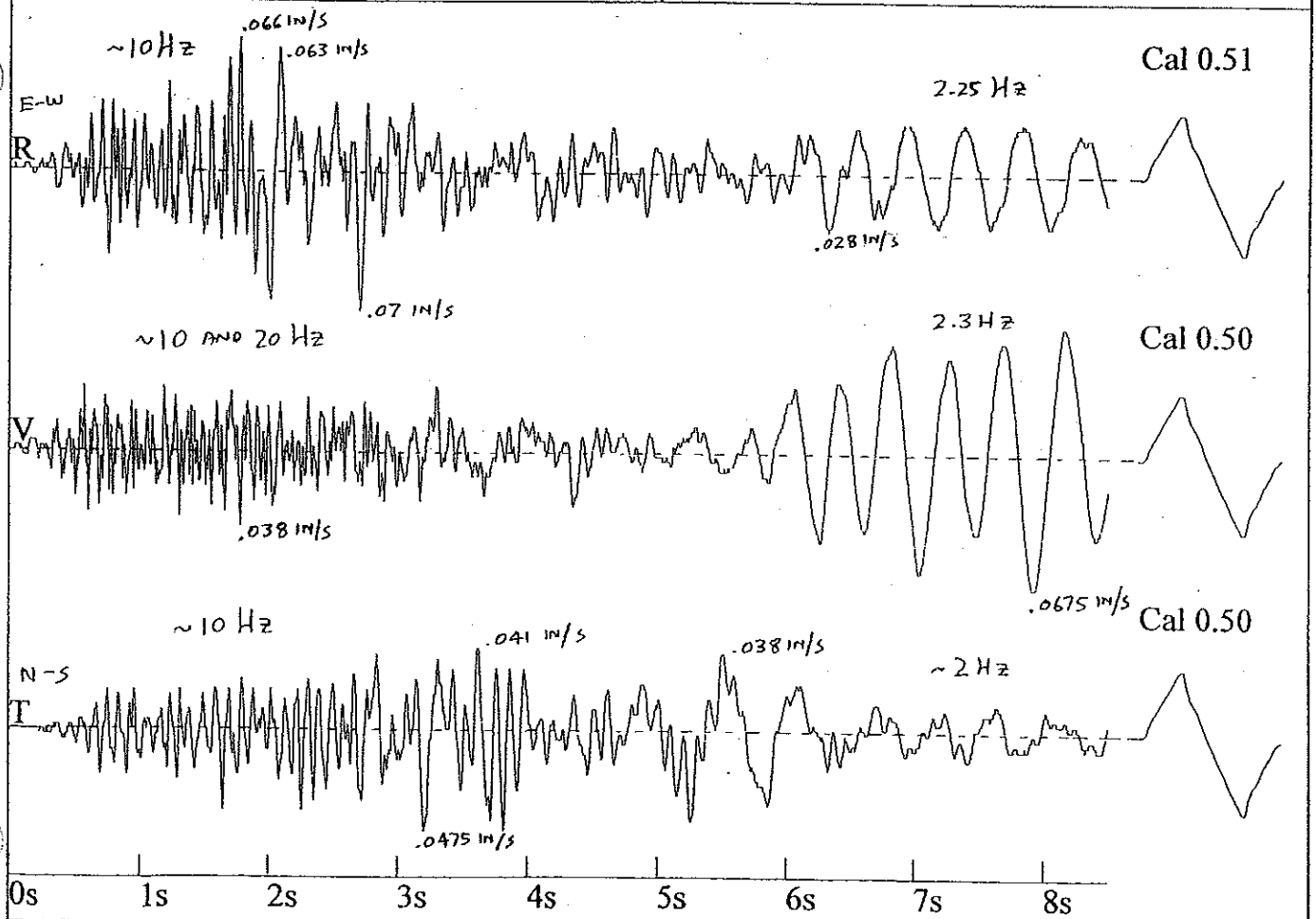



Figure 14.- Highest vibration record from monitoring at House 6. WRQ Section 7 blast at about 12,600 ft.

**D. E. SISKIND & ASSOCIATES (DESA)**
**FOR C3TS / DADE COUNTY**
**STUCTURE: 6**
**LOCATION: PALM SPRINGS NORTH**
**2ND STORY CEILING**

Event Number: 132 Date: 2/28/00 Time: 15:16
Acoustic Trigger: 128 dB Seismic Trigger: 0.02 in/s Serial Number: 402

| Amplitudes and Frequencies | Graph Information |
|---|---|
| *Radial:* 0.245 in/s @ 9.4 Hz. | *Duration:* 0.000 sec To: 8.500 sec |
| *Vertical:* 0.295 in/s @ 11.9 Hz. | *Seismic:* 0.30 in/s (0.075 in/s/div) |
| *Transverse:* 0.25 in/s @ 10.0 Hz. | *Time Lines at:* 1.00 sec intervals |
| *Vector Sum:* 0.36 in/s | 0.36 in/s/in of graph |

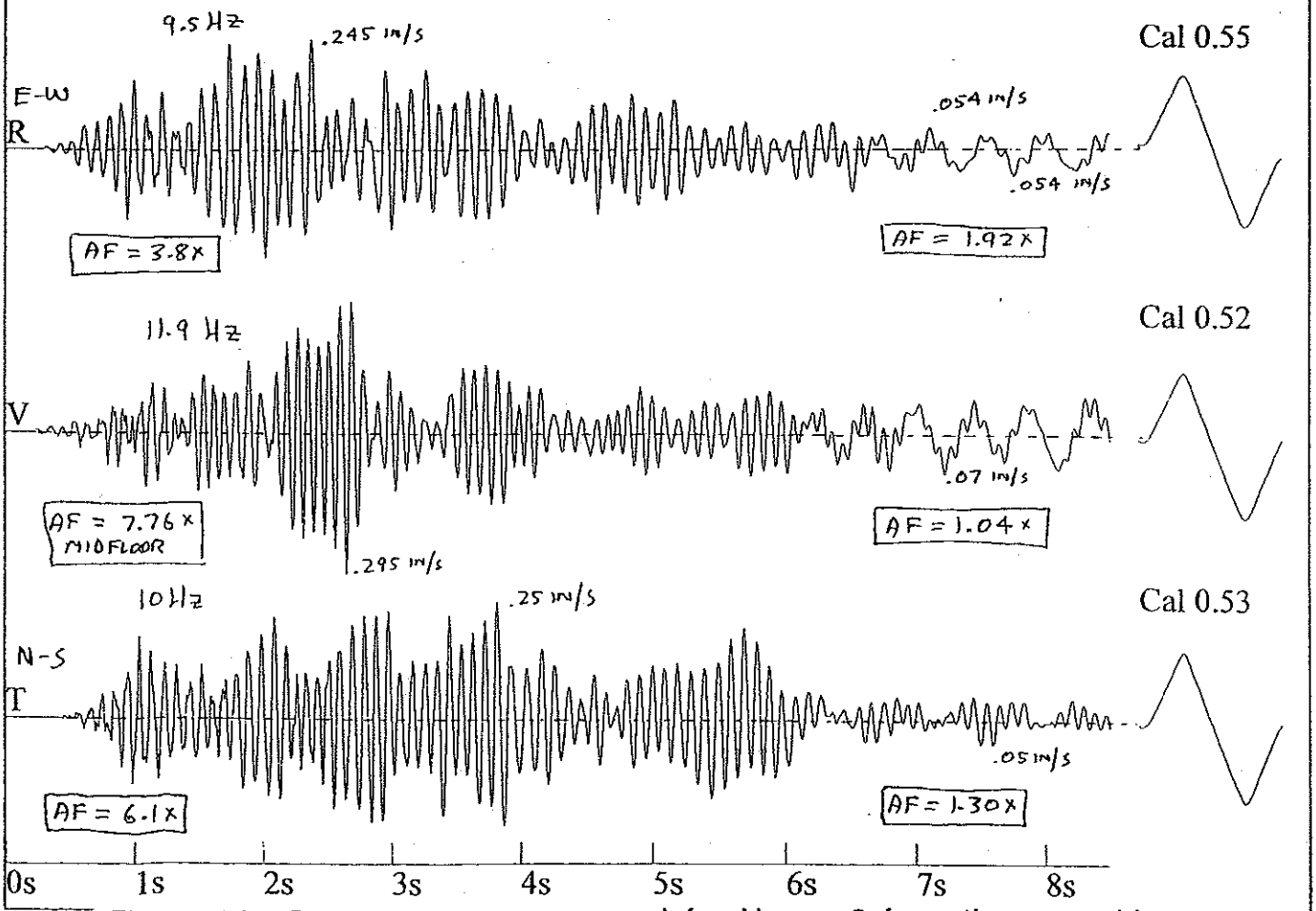



Figure 15.- Structure response record for House 6 from the same blast shown in Figure 14.

**D. E. SISKIND & ASSOCIATES**
**FOR C3TS / DADE COUNTY**
**STRUCTURE: 13**
**LOCATION: PALM SPRINGS NORTH**

Event Number: 001 Date: 2/25/00 Time: 14:44
Acoustic Trigger: 130 dB Seismic Trigger: 0.02 in/s Serial Number: 407

| Amplitudes and Frequencies | Graph Information |
|---|---|
| *Radial:* 0.045 in/s @ 6.7 Hz. | *Duration:* 0.000 sec To: 9.000 sec |
| *Vertical:* 0.045 in/s @ 2.1 Hz. | *Seismic:* 0.06 in/s (0.015 in/s/div) |
| *Transverse:* 0.055 in/s @ 1.3 Hz. | *Time Lines at:* 1.00 sec intervals |
| *Vector Sum:* 0.055 in/s | .072 in/s/in of graph |

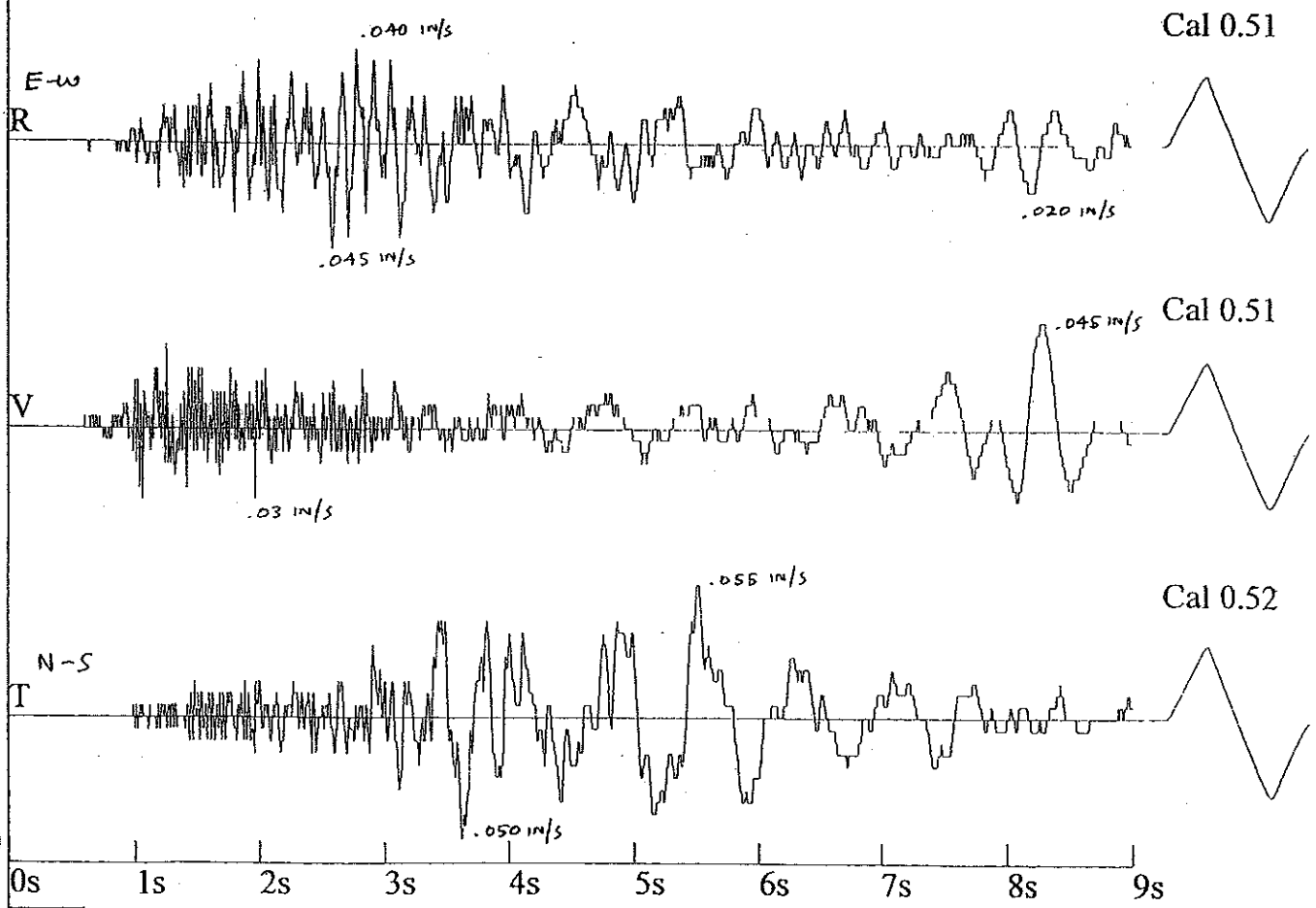



Figure 16.- Vibration record from monitoring at House 13 when structure response was also recorded (Figure 17). WRQ Section 7 blast at about 13,900 ft.

**D. E. SISKIND & ASSOCIATES (DESA)**
**FOR C3TS / DADE COUNTY**
**STUCTURE: 13**
**LOCATION: PALM SPRINGS NORTH**
**1ST STORY CEILING**

Event Number: 007 Date: 2/25/00 Time: 14:45
Acoustic Trigger: 120 dB Seismic Trigger: 0.02 in/s Serial Number: 1133

| Amplitudes and Frequencies | Graph Information |
|---|---|
| *Radial:* 0.0725 in/s @ 13.8 Hz. | *Duration:* 0.000 sec To: 8.500 sec |
| *Vertical:* 0.0525 in/s @ 30.1 Hz. | *Seismic:* 0.07 in/s (0.0175 in/s/div) |
| *Transverse:* 0.065 in/s @ 15.0 Hz. | *Time Lines at:* 1.00 sec intervals |
| *Vector Sum:* 0.075 in/s | .085 in/s/in of graph |

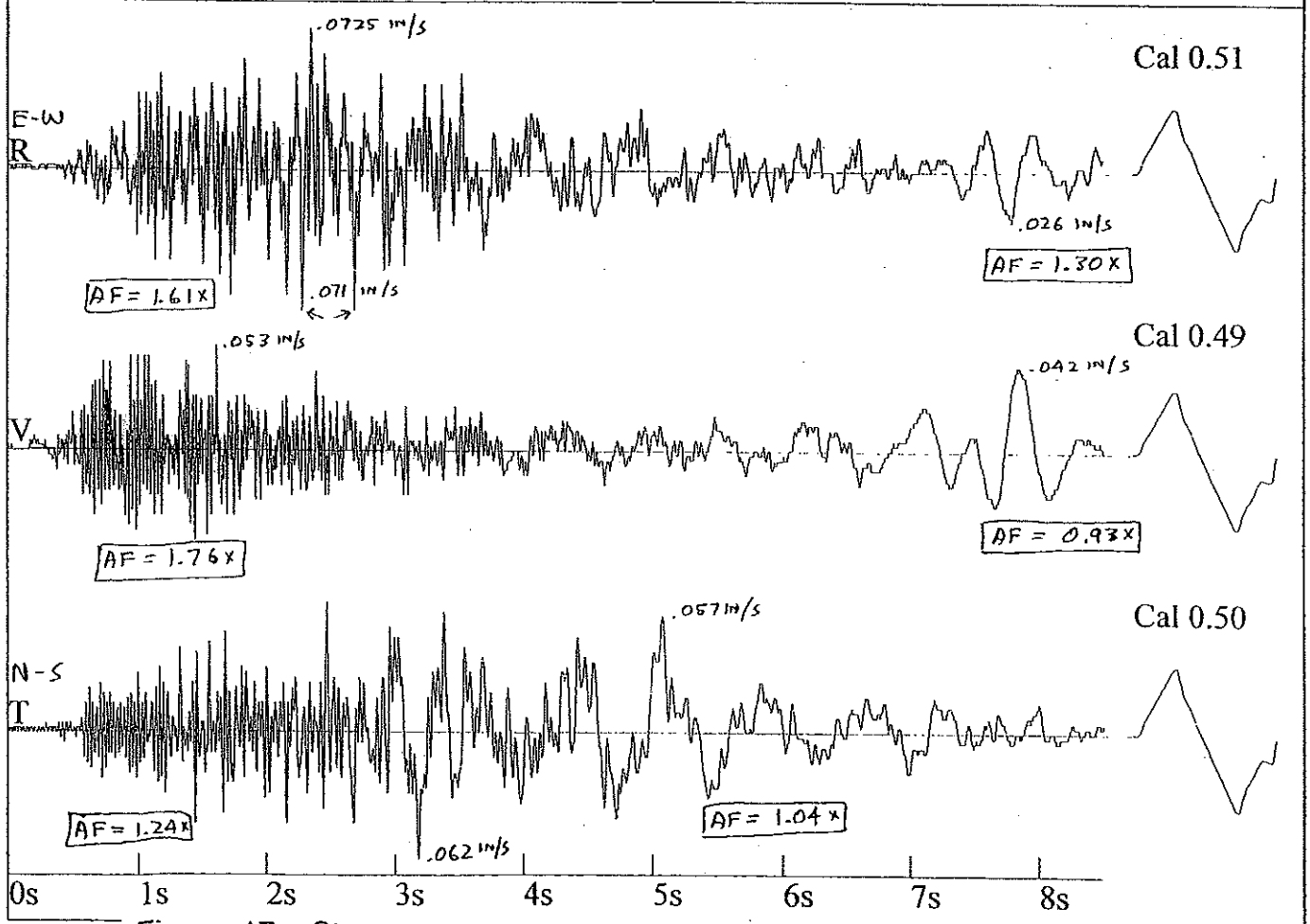



Figure 17.- Structure response record for House #13 from the same blast shown in Figure 16.

ceiling rafter and not a structural corner. Hence the vertical component does not measure whole structure response but rather mid-floor motion. House 13 by contrast measured corner responses with all three components of motion.

House 6: Most significant for two-story house were the large dynamic amplifications of horizontal vibrations 3.8x (E-W) and 6.1x (N-S) at the "higher" frequencies of 9 to 10 Hz. Previous non-Florida USBM data for amplifications found averages of about 2x and maximums of 4.3x. These responses are high, even without even knowing if the exact resonant frequencies were experienced and if these are the highest responses possible.

House 13: By contrast to House 6, the single story house's response was typical of homes studied previously and elsewhere with dynamic amplifications of around 1.2 to 1.76. Again unfortunately, there is no way with the small amount of response data to verify that this was the worst possible case. The initial part of the vertical response component is of such a high frequency, at 30 Hz, that it likely the vertical flexing of the mounting bracket or structural sub-component rather than representative of the structure as a whole. In any event, it is the horizontal responses which are relevant to high strains and cracking potential.

House 11: This house was far enough from the blasting that responses rather than ground vibrations were measured. There were only three triggers between 2-26 and 4-8 (23 blasts) and Figure 18 is the largest of these.

House 45: Like structure 6, this is a two-story house with structure response measured in the second floor attic. Ground vibration was not measured here but nearby at House 42 (Figure 13). With the close proximity of these two structures relative to the structure-to-blast distances, the ground vibration was assumed to apply to both homes. Fig 19 is the largest response measured at this house.

Summaries of measured structure responses and calculated amplification factors are given in Tables 3 and 4. Amplifaction factors are time-correlated.

Non-blast responses: Figures 20 and 21 are non-blast structure responses. The one for House 13, Figure 20, is likely the closing of the sliding door in the wall beneath the corner being monitored. This amplitude was as high as many of the blasts. The House 12 record, Figure 21, appears to be a real event (and not an electronic spike) and is of a significant amplitude of 0.64 in/s in the E-W direction and is the largest of 86 such events. As the trusses run N-S, there is likely little stiffness transverse to them and such response from a hard door closing is possible. The high frequency suggests a component response rather than whole-structure.

**D. E. SISKIND & ASSOCIATES (DESA)**
**FOR C3TS / DADE COUNTY**
**STRUCTURE: 11**
**LOCATION: MIAMI LAKES**
**2ND STORY FLOOR**

Event Number: 009 Date: 3/27/00 Time: 14:31
Acoustic Trigger: 142 dB Seismic Trigger: 0.05 in/s Serial Number: 776

| Amplitudes and Frequencies | Graph Information |
|---|---|
| *Radial:* 0.0562 in/s @ 4.7 Hz. | *Duration:* 0.000 sec To: 8.500 sec |
| *Vertical:* 0.025 in/s @ 2.8 Hz. | *Seismic:* 0.06 in/s (0.015 in/s/div) |
| *Transverse:* 0.0637 in/s @ 4.2 Hz. | *Time Lines at:* 1.00 sec intervals |
| *Vector Sum:* 0.0725 in/s | |

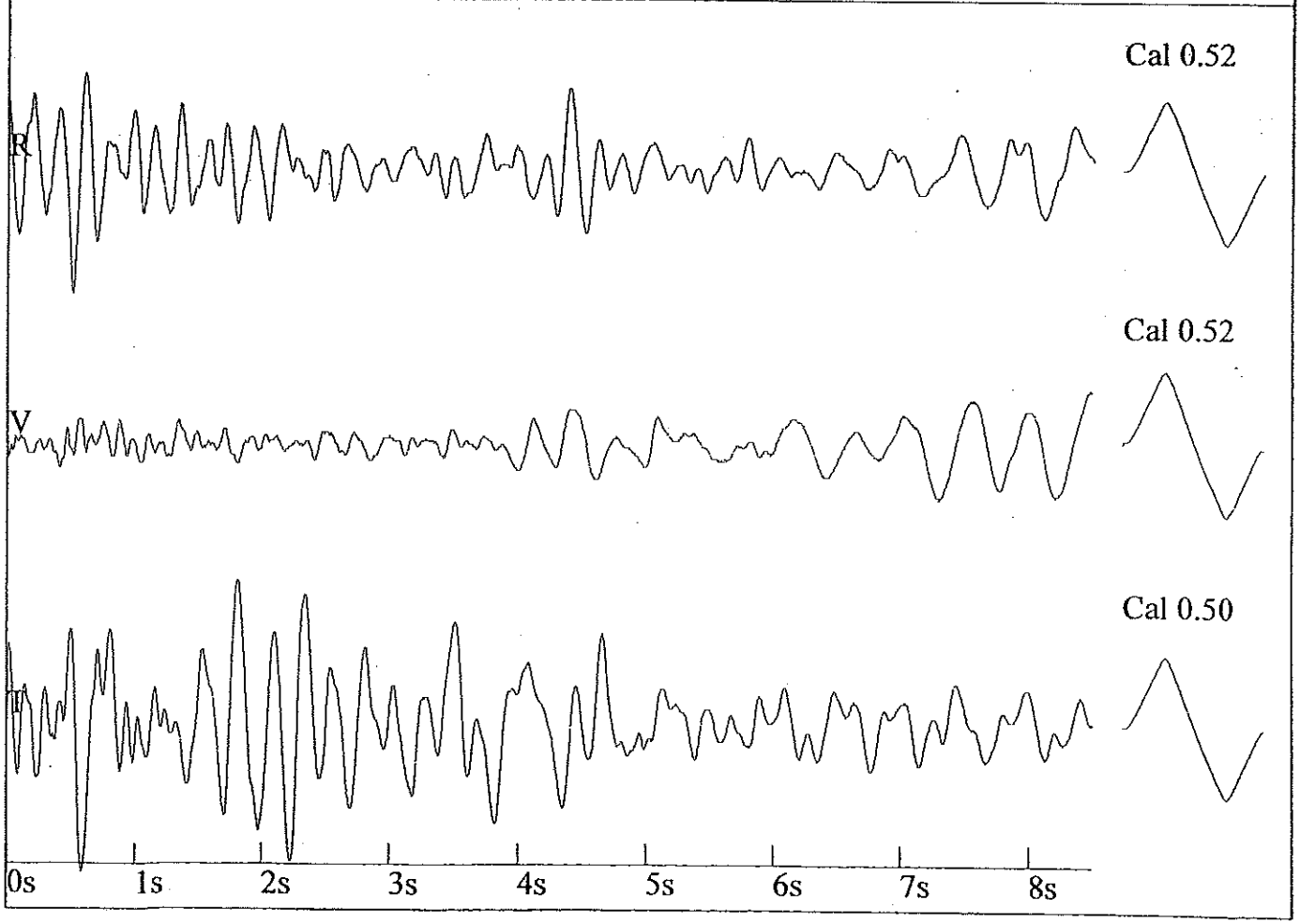



Figure 18.- Highest structure response record from House 11.

**D. E. SISKIND & ASSOCIATES (DESA)**
**FOR C3TS / DADE COUNTY**
**STRUCTURE: 45**
**LOCATION: DORAL PARK**
**2ND STORY CEILING**

Event Number: 003 Date: 4/10/00 Time: 10:34 + 1HR
Acoustic Trigger: 142 dB Seismic Trigger: 0.05 in/s Serial Number: 642

| Amplitudes and Frequencies | Graph Information |
|---|---|
| *Radial:* 0.095 in/s @ 28.4 Hz. | *Duration:* 0.000 sec To: 17.000 sec |
| *Vertical:* 0.08 in/s @ 13.4 Hz. | *Seismic:* 0.10 in/s (0.025 in/s/div) .12 IN/S/IN OF GRAPH |
| *Transverse:* 0.105 in/s @ 9.1 Hz. | *Time Lines at:* 1.00 sec intervals |
| *Vector Sum:* 0.115 in/s | |

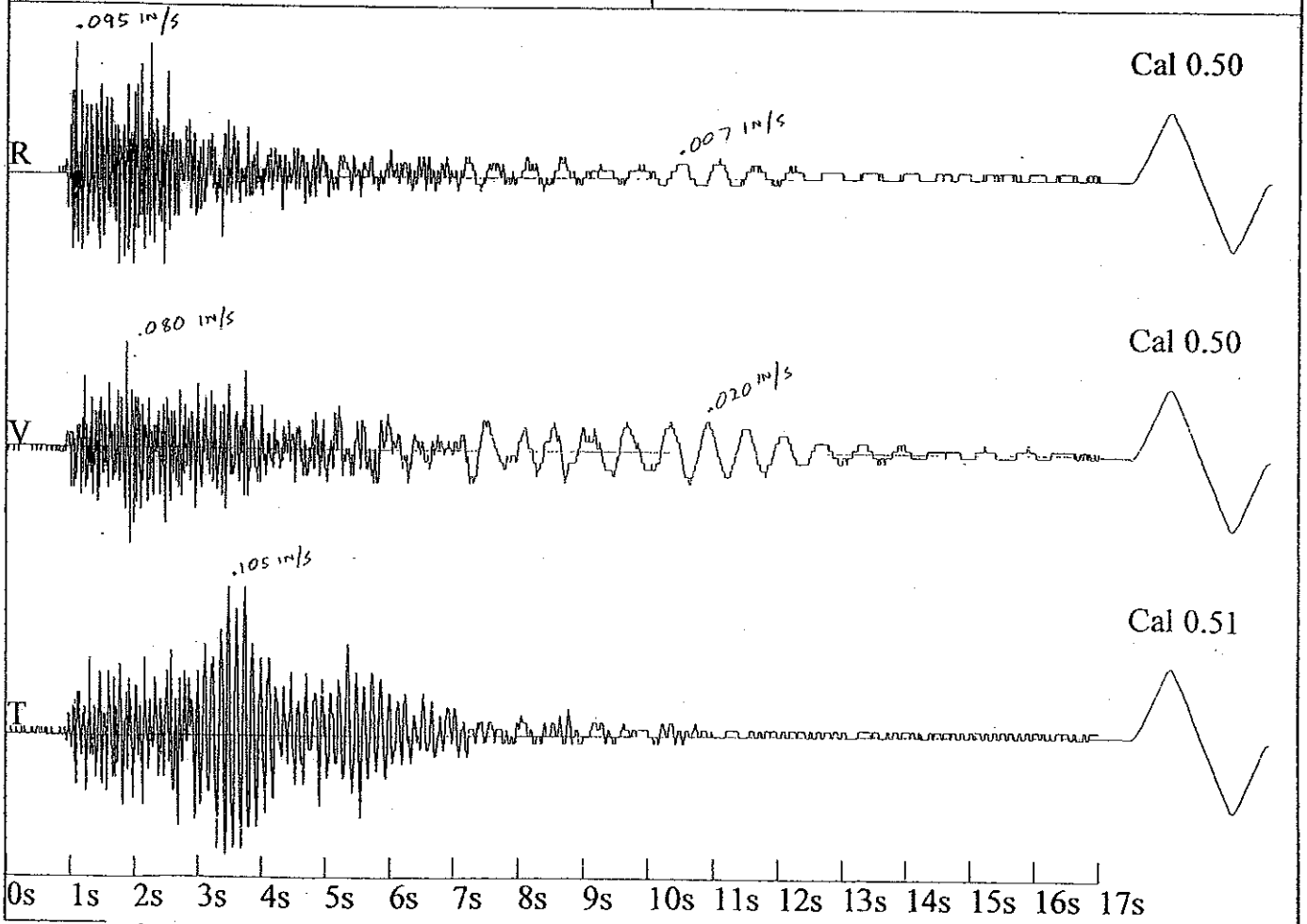



Figure 19.- Structure response waveforms corresponding to the ground vibration in Figure 13.

Table 3.- DESA structure response measurements in Dade Co, year 2000.

| Date | Time | Quarry | House | Response, in/s R | V | T | Location in house |
|---|---|---|---|---|---|---|---|
| 2-25 | 14:46 | WRQ#7 | 6 | .155 | .170 | .195 | 2nd floor ceiling |
| 2-28 | 15:16 | WRQ#7 | 6 | .254 | .295 | .250 | " |
| 3-3 | 13:53 | Tarmac | 6 | .030 | .025 | .030 | " |
| 4-11 | 14:32 | RinkerFEC | 6 | .050 | .040 | .060 | " |
| 4-17 | 16:57 | Sunshine | 6 | .060 | .050 | .055 | " |
| 4-18 | 11:37 | ???? | 6 | .070 | .090 | .095 | " |
| 4-24 | 11:50 | WRQ#7 | 6 | .095 | .070 | .085 | " |
| 2-25 | 14:45 | WRQ#7 | 13 | .073 | .053 | .065 | 1st floor ceiling |
| 2-28 | 15:14 | WRQ#7 | 13 | .070 | .055 | .070 | " |
| 4-18 | 11:36 | ???? | 13 | .085 | .050 | .055 | " |
| 4-24 | 11:49 | WRQ#7 | 13 | .065 | .045 | .045 | " |
| 2-28 | 15:15 | WRQ#7 | 11 | .026 | .019 | .063 | 2nd floor floor |
| 3-27 | 14:33 | WRQ#7 | 11 | .056 | .025 | .064 | " |
| 4-4 | 15:11 | WRQ#7 | 11 | .036 | .015 | .060 | " |
| 4-10 | 11:33 | M Cr Rk | 45 | .095 | .080 | .105 | 2nd floor ceiling |
| 4-12 | 13:10 | M Cr Rk | 45 | .075 | .050 | .045 | " |
| 4-13 | 15:42 | M Cr Rk | 45 | .045 | .050 | .085 | " |
| 4-17 | 13:57 | Fl Rock | 45 | .055 | .040 | .060 | " |
| 4-17 | 13:58 | Tarmac | 45 | .015 | .025 | .055 | " |
| 4-26 | 13:04 | Fl Rock | 45 | .045 | .045 | .070 | " |

Table 4:- Dynamic amplification factors measured by DESA for Dade Co. homes.

| Date | Time | House | R (E-W) | | T(N-S) | | V | |
|---|---|---|---|---|---|---|---|---|
| | | | hf | lf | hf | lf | hf | lf |
| 2-25 | 14:46 | 6 | 3.8 | 1.9 | 6.1 | 1.3 | 7.8 | 1.0 |
| 2-28 | 15:16 | 6 | 3.2 | 1.7 | 2.7 | 1.9 | 4.8 | 1.0 |
| 4-18 | 11:33 | 6 | 2.5 | 1.3 | 3.4 | none | 2.8 | 1.0 |
| 4-24 | 11:45 | 6 | 4.2 | 1.4 | 3.8 | none | 5.0 | 1.0 |
| 2-25 | 14:45 | 13 | 1.6 | 1.3 | 1.2 | 1.0 | 1.8 | 0.93 |
| 2-28 | 15:14 | 13 | 1.2 | 1.4 | 2.2 | 1.1 | 1.7 | 1.2 |
| 4-18 | 11:33 | 13 | 2.1 | 1.5 | 2.2 | 1.0 | 1.7 | 1.0 |
| 4-24 | 11:46 | 13 | 2.2 | none | 1.8 | 0.9 | 1.8 | 1.3 |
| 4-10 | 11:34 | 42/45 | 0.92 | 0.84 | 2.44 | none | 1.10 | 0.77 |
| 4-12 | 13:08 | 42/45 | 0.88 | 1.5 | 1.6 | none | 0.87 | 0.95 |
| 4-13 | 15:40 | 42/45 | 0.86 | 1.3 | 3.6 | none | 1.4 | 1.2 |
| 4-17 | 13:53 | 42/45 | 1.3 | none | 1.6 | none | 0.76 | 1.32 |
| 4-26 | 13:02 | 42/45 | 1.5 | none | 3.6 | none | 1.71 | 0.91 |

hf = high frequency, the early part of the ground vibration waveform. Was found to be anywhere from 8 to 30 Hz.

lf = low frequency, the later (surface wave) part of the waveform, typically 2 to 4 Hz.

Note: vertical response for House 6 was mid-span.

**D. E. SISKIND & ASSOCIATES (DESA)**
**FOR C3TS / DADE COUNTY**
**STUCTURE: 13**
**LOCATION: PALM SPRINGS NORTH**
**2ND STORY**

Event Number: 020 Date: 2/29/00 Time: 17:22
Acoustic Trigger: 120 dB Seismic Trigger: 0.02 in/s Serial Number: 1133

| Amplitudes and Frequencies | Graph Information |
|---|---|
| *Radial:* 0.01 in/s @ 36.5 Hz. | *Duration:* 0.250 sec To: 1.250 sec |
| *Vertical:* 0.0175 in/s @ 34.1 Hz. | *Seismic:* 0.03 in/s (0.0075 in/s/div) |
| *Transverse:* 0.025 in/s @ 46.5 Hz. | *Time Lines at:* 0.10 sec intervals |
| *Vector Sum:* 0.025 in/s | |

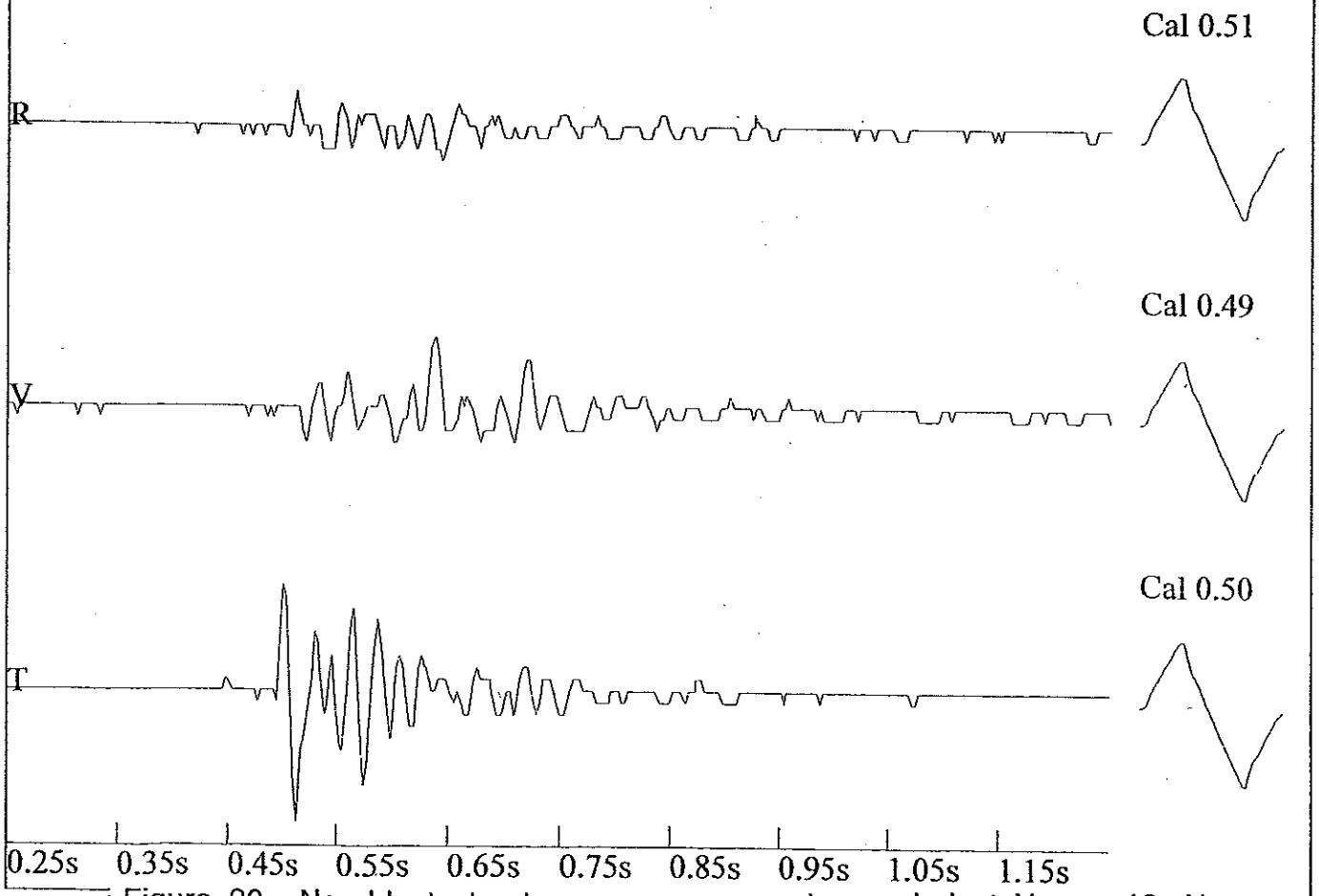



Figure 20.- Non-blast structure response event recorded at House 13. Note that the time scale has been expanded and that frequencies are relatively high.

**D. E. SISKIND & ASSOCIATES (DESA)**
**FOR C3TS / DADE COUNTY**
**STUCTURE: 12**
**LOCATION: MIAMI LAKES**

Event Number: 038 Date: 3/11/00 Time: 13:12
Acoustic Trigger: 142 dB Seismic Trigger: 0.102 in/s Serial Number: 772

| Amplitudes and Frequencies | Graph Information |
|---|---|
| *Radial:* 0.64 in/s @ 85.3 Hz. | *Duration:* 0.000 sec To: 3.000 sec |
| *Vertical:* 0.105 in/s @ 39.3 Hz. | *Seismic:* 0.64 in/s (0.16 in/s/div) |
| *Transverse:* 0.0675 in/s @ 256.0 Hz. | *Time Lines at:* 0.50 sec intervals |
| *Vector Sum:* 0.6425 in/s | |

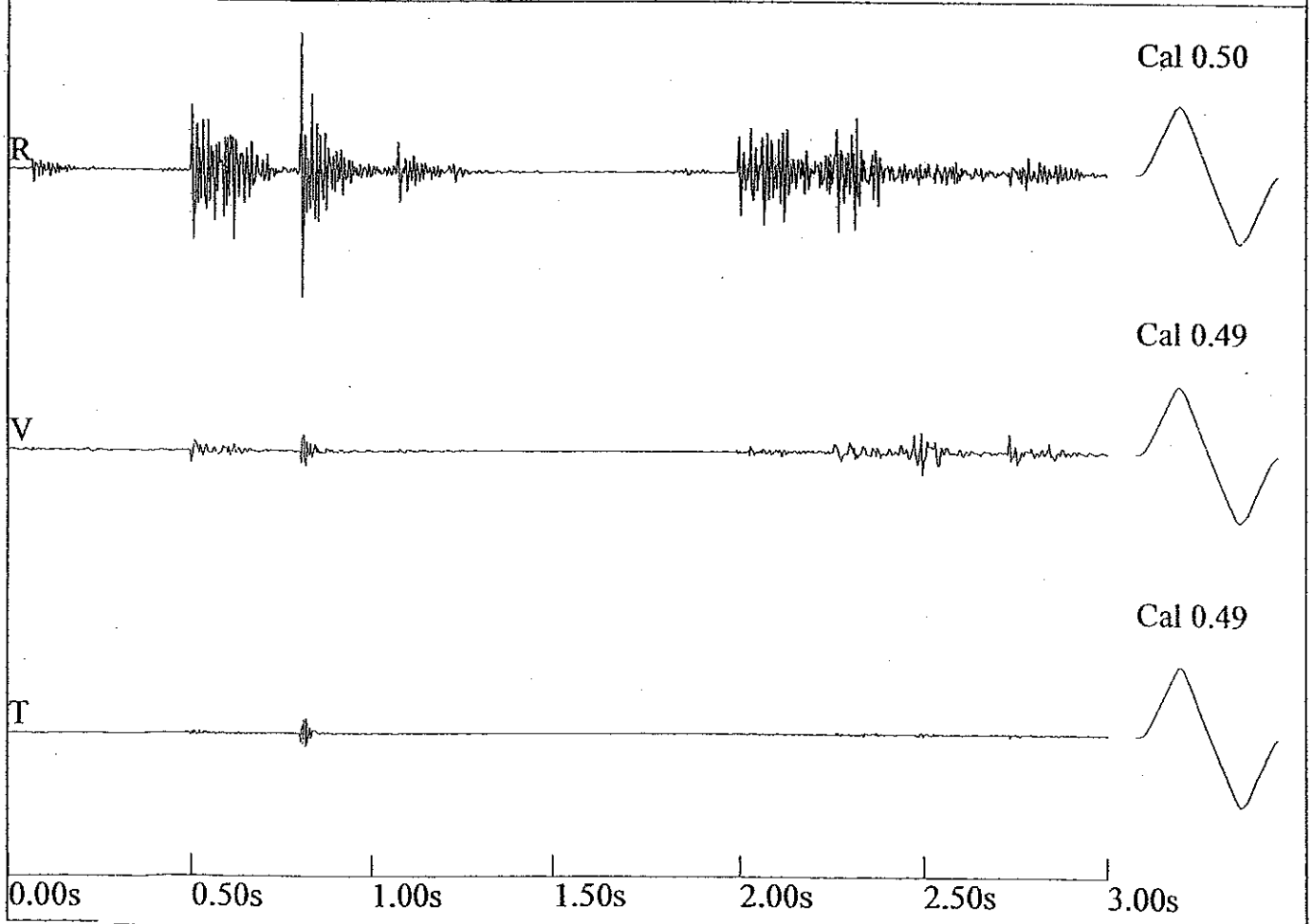



Figure 21.- Non-blast structure response event recorded at House 12. Note that the time scale has been expanded and that frequencies are relatively high.

DESA monitoring of structure responses were hampered by several factors. Some seismograph memories filled early because of many non-blast events, likely human habitation excitation, wind responses, and other unknowns. Others were affected directly by the outdoor site conditions such as rainwater and possibly high heat in attic spaces. Trigger levels were raised to reduce the number of non-blast events recorded during the Phase II trip, April 8 and 9, 2000.

## WALL STRAINS FROM STRUCTURE RESPONSE MEASUREMENTS

Structure response records are additionally useful in that they provide the data needed to estimate in-plane shear strains and theoretical cracking potential. As discussed previously, such analyses supplement observations of cracking versus non-cracking and also provide guidance in cases where data are not available.

Whole-house shear strains can approximated from:

$$\varepsilon = (\Delta D/L)\ \sin\varphi\cos\varphi$$

where $\varphi$ is the angle of the diagonal in the wall's plane of deformation, $\Delta D$ is the maximum horizontal displacement L is the vertical distance over which the displacement occurs (Appendix B, C ,and Stagg, 1984).

Having structure response velocities (V) and frequencies (f), displacements can be calculated through the relationship: $D = V(2\pi f)$.

NW area of Miami Lakes and Palm Springs North: strains are based on the worst-case predicted vibration of 0.18 in/s, the highest amplification factors of 6.1 at 10 Hz and 1.92 at 2.25 Hz, and an assumed approximate height of the 2nd floor attic for House 6 of 24 ft.

Approximating the $\sin\varphi\cos\varphi$ function as 0.5, the high frequency and low frequency responses are 31 and 42 $\mu\varepsilon$, respectively for House 6. These are sufficiently below the minimum masonry cracking thresholds of 100 $\mu\varepsilon$ to not be a possibility. Higher vibrations and/or higher responses could, however, be a problem. House 13 has lower amplifications, less displacement and hence less strain.

West area of Dural Landings and Shoma Homes: Here, the quarries and neighboring homes are closer and a reliable estimate of the highest vibration amplitudes are less reliable. Assuming the quarries use the same charge weights as the did for DESA-monitored blasts when they are blasting closest to the homes, vibrations as large as 0.35 in/s are possible. Strain calculations based on the possible 0.35

in/s vibration amplitude, the highest amplification factor of 3.6x, and the corresponding response frequency of 8.0 Hz gives a predicted maximum strain of 65 με. This is higher than the prediction for House 6 mainly because of the closer distances, but it is still below the initial CMU global cracking threshold of 100 με. Additional ground vibration and response data for this area would be useful.

## WIND-INDUCED STRUCTURAL RESPONSES

Winds and thunder are the only significant sources of short-period dynamic responses, besides blasting, making historical winds impacting south Florida homes germane to possible causes of superstructure wall cracks.

The Building Officials & Code Administers International, Inc. (BOCA, 1996) specifies a general requirement that residences be built to withstand wind-induced pressures of 10 psf (lbs/ft$^2$). The code gives the standard relationship between wind speed and pressure on a vertically-walled building:

$$P = .00256V^2$$

where P is in psf and V is mph.

Using this relationship, 10 psf is equivalent to a wind of 62.5 mph. (Note: The author believes that Florida requirements are higher than this, at about 110 mph.)

Measurements of pressure (airblast in this case) and vibration response of homes has provided the following relationship:

$$SR_{in/sec} = 0.0274 + 18.8\ P_{lb/in^2}$$ (Siskind, 1980a, Siskind 2000)

From this relationships, the BOCA wind tolerance requirement (of 62.5 mph) is equivalent to a structure response of 1.31 in/s and a 110-mph wind equivalent to about 4.04 in/s.

For Dade County homes, highest predicted ground vibrations in the NW area are about 0.18 in/s, from Table 2. Based on the amplification factors of Table 4, responses for these worst-case vibration amplitudes would be about 1.10 in/s for the two story house (6.1x) and 0.43 for the one-story (2.2x). These are equivalent to wind-induced responses from gusty winds of 57 and 30 mph, respectively.

Corresponding values in the west areas of Dural Landings and Shoma/Superior Homes are 0.35 in/s and 3.6x, giving possible response amplitudes of 1.26 in/s. This is equivalent to winds of 61 mph. These are wind velocities corresponding the wind-induced responses which are equal to the worst case vibration-induced responses.

This area has experienced severe storms, e.g., Andrews in 1992 and Irene in 1999. These storms were measured to have gusts to 150 and 70 mph, respectively, at the Miami airport. However, there is no way to know how much wind these or any specific houses experienced with the complexities of sheltering structures and turbulence. It is not unreasonable to assume that the homes have received winds close to 60 mph since built and the influence of such winds on the structures is possibly and even probably greater than the blasting.

## STRUCTURAL INSPECTIONS BY DESA

This section is a house-by-house description and analysis of the cracking and other damages observed by DESA personnel during their inspections in February and April, 2000. The purpose is to address questions #3 and 4 on the nature of the damage and likely causes.

Most of the inspection effort for all homes was a search for structural cracks. These are cracks which suggest stress and movement and are described in Appendix B , C and D. The movement could be response to dynamic events such as blast vibrations, winds, and thermal and humidity response stresses or long-term such as differential settlement, material curing and drying, and soil forces.

Researchers have found dynamic amplifications of house superstructures in their horizontal responses from vibrations originating in the foundations or bases (eg, from blast vibrations). The highest motions are found high up on the superstructures and strains which can cause cracking arise from the differential displacements between the upper parts and the bases. These strains can cause cracks around openings and other weakness areas in vertical load-bearing walls, which are first sign of blasting damage. However, they are not a guarantee of blast damage because of the other dynamic causes listed above can also cause wall strains. Most important as a diagnostic is the *absence* of such cracks. No such cracks is strong evidence that blasting hasn't caused any of the existing cracking or other damage. The nature and patterns of the cracking reveal or at least suggest the cause or causes.

Although some of the homes have extensive cracking, none appears to be structural in the sense that utility or structural integrity is in question. These cracks are of the type found in most homes regardless of the presence of blasting. The main departure from historical blast damage studies are the below-window horizontal cracks. These appear to be a construction-related feature in this area possibly aggravated by strong thermal responses or water intrusion and damage.

A total of 107 photos of the houses and most cracked areas in them are in Appendix E. References to figures in the next section pertain to this Appendix.

## ASSESSMENTS OF CRACKS AND OTHER DAMAGES IN DADE COUNTY HOMES

HOUSE 6

This two-story home is the farthest north. Like most of the homes inspected, it has a stucco exterior and a clay tile roof. Only one structural crack was found, beneath the exterior south wall window (Figure E4). The width of this vertical-oriented crack was measured in two places and had narrowed between each of the three sets of inspections (Table 5). The cracking around the interior sill area of this window suggests expansion response of the wood sill framing (inside the wall) which likely also produced the external crack. Most of the houses had this problem, e. g., House 13.

A few interior cracks exists at places suggesting normal wood responses to humidity or thermal-caused shrinkage such as the door frame molding joints in the first floor bathroom, second floor hall, and the master bedroom. The wood door frame in the bathroom off the master BR is also cracked at floor level.

As with all the homes in the NW area, GeoSonics, Inc. had done an inspection in response to blasting complaints and provided a list of specific claim items to DESA via the County offices. House #6 descriptions include claims of displaced roof tiles (also mentioned by the homeowner to DESA personnel) and floor cracks in the bathroom. The roof is difficult to analyze as past blasting studies did not examine the responses of such heavy roofs. Generally, roofs structures move as rigid units, specially is response to the more serious vibration components, the horizontal vibrations and corresponding horizontal structure responses. If the roof surface is specially flexible rather than rigid from the triangulated truss structures, it might flex from vibration response but would also be specially responsive to wind forces (AISG, 1990). Without having run any kind of test to evaluate the roof tiles, it is still most likely that the shifted roof tiles are workmanship issues and not related to the blasting.

Tile floor cracks are an issue in many of the homes. There are no experimental nor theoretical basis for ground vibrations of anywhere near the worst case amplitudes present in Dade County homes being responsible for such cracks. Strains from ground vibrations are orders of magnitude too small to produce such cracks either directly of through effects on the soils. These cracks are most likely related to concrete shrinkage or inadequate sub-floor preparation. Appendix B contains experimental results and theoretical treatment of what would be required to crack floor surfaces.

Summarizing for this house: It is in fine condition, having far less cracking than most homes inspected by DESA regardless of the proximity of blasting. There is a general lack of angled and symmetric in-wall cracks around doors and windows that would suggest in-plane shear forces from dynamic loading, blasting or otherwise. The kinds of cracks expected from blasting damage are absent and the few cracks which are present are not characteristic of blasting, indicating with high certainty that damages in this house are not blasting-related.

HOUSE 13

This single-story house had two distinct types of exterior cracks on different walls and almost a total lack of interior cracks in over 100 critical areas that were inspected.

The exterior north wall has horizontal cracks beneath the three larger windows through the storm shutter bolts (Figure E10). These are likely related to material response (e.g., thermal or water) and not blasting-caused motions. The mechanism for this damage is lateral expansion of the sill which responds by bowing upward and producing a horizontal tensile crack beneath the window. Compression at the ends produces local crushing and tensile cracks between the wallboard panel at the end of the sill and beneath the window. Hence, vertical cracks can form or initiate at these lower window corners). The cause is either from thermal expansion or from water-caused swelling, with the latter more likely. Note: The explanation for this was not totally the authors' but developed from discussions with Dr. LeRoy Thompson. However, the cracking and response patterns are exactly those observed by the authors in rock mechanics studies of material responses to compressive loading. These are: crushing damage at the ends from axial compressive forces plus transverse expansion (bowing outward) and tensile failure with open cracks parallel to the compressive axis.

The east and south walls are far more complex with the most serious cracks being horizontal along the lowest course of CMU (concrete blocks). In these two walls, there are also stucco cracks mostly below rather than all around window openings (Figures E13 to 18). The nature of these mostly horizontal and vertical (rather than angled) cracks in the east and south walls suggest static movement rather than whole-house responses to transients such as blasts (or wind). This is particularly so because of the absence of similar cracks in the north and west walls. It was noted that all crack edges showed considerable weathering suggesting they are not recent.

The effect of sun-caused heating is a possibility as only the east and south walls get any appreciable sun exposure (the west wall is shaded by the carport). Another possibility is settlement of the NE and SE corners from soil shrinkage (drying), suggested by the downward angling of the wall cracks towards the house's center lines on both east and south walls. However the most likely cause for the lower coarse block cracks is shrinkage of the concrete pad, a scenario which could be tested by determining if the blocks are laid on and attached to this pad rather than on independent footings.

The only notable interior crack was above a window in the NE corner (Figure E21), consistent with the exterior cracking in this corner (Figure E18).

The homeowner reported rain water had entering at the SE corner during storms. No obvious crack could be seen on the inside, however outside cracks existed there including the horizontal lower block course. This suggests that the crack, at least in this area, was all the way through the wall, and not a surface crack, and likely wider on the outside than on the inside. This is also consistent with shrinkage of the floor and the resulting bowing outward of the lower course.

Summarizing for House 13: Dynamic responses (e.g., blasting and wind) as causes for cracking appears unlikely but not with certainty. The cracks on the east and south sides are not inconsistent with such forces but their absence on the two other walls makes this unlikely. The exact cause of all cracks is ambiguous but both the localized nature of each kind of cracking and the general absence of dynamic cracks make dynamic sources unlikely to be the cause.

HOUSE 15

This older single-story house has cracks with patterns similar to House 13. There are stucco cracks in all exterior walls except the north and, with very few exceptions, they are below windows and notably absent above windows and doors. This pattern is not consistent with blast vibration responses.

Horizontal cracks directly below windows both outside and inside and vertical cracks at the lower window corners suggest sill boards being placed in too tight and expanding from thermal- or moisture-related responses. (The damage mechanism was described under Houses #6 and 13, except at this house, the vertical cracks at the ends are very evident and both inside and outside). These below-window cracks follow wallboard joints. This same mechanism would be responsible for the cracks and displacements in the interior window sill tiles.

In addition, the pattern of cracks at the NW and SE corners suggests differential settlement (e. g., from soil shrinkage), again similar to House 13. Other cracks are on the west side wall are below steel posts in the wall and are likely environmental (thermal). Five external and one internal crack widths were measured 2-25 and again 4-8. Two of the outside cracks had narrowed during the period, for example 0.1 mm to 0.05 mm (Table 5). The widest was 0.15 mm which is 6 thousandths of an inch (0.006 in). Although noticeable, most cracks are what are called "hairline" or less than 0.002 in, and of the type not uncommon in most homes.

Other cracks in this home were in ceilings in the SE corner BR and the kitchen. While cracks between wallboard panels in ceilings are common from load and support problems, they are not characteristic of responses from vibrations.

Summarizing for this House: Blasting (or wind responses) related damage appears unlikely from both the patterns and locations of each kind of cracking and the general absence of dynamic forces-related cracks. But, as with House 13, there remains some ambiguity on the exact cause of some of the cracks. Two of the corners in particular appear to have support problems such as would result from settlement. The damage beneath almost all windows is likely related to the construction features there and responses to water intrusion (as per Houses #6 and 13 and others later examined).

HOUSE 4

This modern one story house with vaulted ceilings and a clay tile roof. Most of the external wall cracking was on the north side including a significant crack in the garage wall of 0.5 mm width visible both inside and outside (Figures E38, 39 & 50). The pattern of the cracks in this wall is consistent with differential settlement of the corners (slope downward towards the centerline from both sides). As with the previous three homes, cracks were absent above windows in this wall but did exist in the east wall above and below one window (the SE corner, Figures E 41 & 42) and above the east wall sliding door (Figure E40).

There was a general lack on interior cracks around windows and doors with an exception being the SE corner of the master BR. This is the same SE corner with outside wall cracks shown in Figures 41 & 42.

On the nature of the crack damage, this house is more ambiguous than the previous ones examined. The cracking in the north house wall is unlikely from blast vibrations as are the MBR bathroom wall and floor tiles. The north wall

cracks are consistent with static failure and not characteristic of structural responses from vibration. The floor tile damage is totally inconsistent with the worst case floor responses (Appendix B & C).

However, the cracks in the east wall, the west wall window at the SW corner, and minor cracks in the south wall are difficult to diagnose. In particular, the direction of cracks in the SE corner and east wall are *not* consistent with differential settlement. The homeowner had reported repeatedly fixing problems in this area of the home.

Summarizing for House 4: In this author's opinion, SE corner cracks could be the result from dynamic responses with blasting and wind storms being the most obvious possibilities. Other cracks and damages are not likely related to dynamic forces.

HOUSE 12

This is also modern one story house with vaulted ceilings and a clay tile roof. This home had relatively few cracks and, like previous homes (#6, 13, 15), the ones which were found were generally below windows. These cracks initiated as vertical cracks at the ends of the sills (Figures E55 & 56) and were also visible inside the house (Figures E59 to E61). This is almost certainly the same problem and cracking mechanism as described for House 13 and others.

One north wall crack-width was measured 2-26 at 0.20 mm and 4-8 at 0.25, a change of .05 mm (or 0.002 in). This is near the resolution limit but could signify a minor thermal response between the two dates (Table 5).

The entrance alcove archways had hairline cracks in the inside corners. This is typical of humidity shrinkage of the wood used to frame the archway. The crack at the ceiling-wall joint is normal for locations where structural components are joined. The garage floor crack is the normal response to shrinkage. Floor responses and the possibility of floor cracks and other damage to floors is discussed in Appendix B.

Summarizing for House 12: The patterns and locations of each kind of cracking and the general absence of dynamic cracks make blasting vibrations unlikely to be the cause of cracks in this home. There was a lack of cracking in this structure consistent with what would be expected from dynamic responses. Like the previous homes, damage beneath the windows appears related to the construction features there and possible responses to water intrusion.

HOUSE 11

This is a very large and unique home located about one mile farther east (farther away) than the other NW area homes. Most of the external windows were either in protective alcoves or too far away to detect any existing hairline cracks. Few external opening cracks were noted, over a second floor door in the east-facing wall and over the left-hand garage door.

Most serious were horizontal cracks beneath windows and vertical cracks and compression damage at sill ends in the kitchen, SW ground floor bedroom, living room west wall (tower), spiral stairway west wall, master BR east-end on 2nd floor, south-central BR 2nd floor, and west-end BR on 2nd floor (Figures E69 to 73). This is certainly the same phenomena and mechanism found in Houses #6, 13, 15, and 12 and described in the House 13 analyses. In this case, compression was severe enough to visible bow the marble sill plate upward, break it in places, and open cracks in the wallboard strips beneath the windows of up to 1/2 inch width. There are water stains in some of these areas suggesting swelling form water leaks may have been one or possibly the main cause of there damages.

Much less clear is what has happened in the garage (Figures E74 to E77). This triple block-walled garage had cracks in every wall above all seven doors (four wall through and three garage doors) and three windows, but not noticed below those windows. This extensive cracking is not inconsistent with dynamic response from wind and/or blasting. The question is how a home so far from the blasting sites could have had enough vibration response (0.6 to 4.8 in/s) to have generated the 120 to 1,000 με required to crack such masonry walls (Appendices B). Visible cracks in non-reinforced shear-loaded block walls were produced in Bureau of Standards tests at 470 με. This is would be comparable to 1.5 in/s structure response at a low frequency of 4 Hz (Siskind, 2000).

Summarizing for House 11: Damages in the house are not dynamic response-related which includes blasting. The garage is more ambiguous, and based on crack pattern alone. could be from dynamic responses.

HOUSE 45

This is a modern two-story home with clay tile roof was instrumented for structure response. It is close enough to another home under study (#42) that the ground vibration measured there can represent the "vibration input" for both structures.

This house has cracks around all doors and ground-floor external windows (Figures E80 to E85). Second-floor windows were too far for inspection from the ground but appear to be uncracked. The patterns and presence on all corners and that they run at angles consistent with shear forces is consistent with dynamic loading, of which wind and blast vibrations are the most likely causes. The large window on the south wall is a good example with ≈45° hairline cracks at three corners and a larger crack at the lower left hand corner (Figure E82). A series of vertical cracks are also beneath this window.

There are few inside cracks. One is to the left of the entrance door. It does not match up with the outside crack above this door but that does not eliminate a causal relationship. The only other internal wall crack found was above the master BR east-wall window. This home has marble sill windows as found in most of the previously inspected homes (#6, 13, 12, 11). Most of the windows are undamaged however, the one in Family Room east-wall has that same characteristic below-window damage noted in most other homes and, in the worst way, in House #11. The sill here is warped and there is local wallboard crushing at the right end, consistent with expansion of the underlying sill structure.

There is a crack in the garage floor which is certainly not vibration related as per the discussions for Houses #6 and 4.

Summarizing for House 45: Wall cracks could be the result of dynamic loading based on their character and locations. Below-window cracking and concrete garage floors cannot be vibration-related.

HOUSE 34

This is the first of two similar single-story homes in the same neighborhood, the other being the next in this report, #33. Externally, the worst cracks are at the NE corner window. These are both on the outside and inside and resemble those in almost all the other homes, likely from window sill-end stresses. The difference is that the crack below the window on the outside extends to the ground (Figures E34 & 35). About half of the remaining windows and doorways have corner cracks (Figures E91 & 92) but with no consistency or pattern. For example, cracks on the west wall all run the same way, down toward the left. This would be consistent with differential settlement. Unfortunately, the south wall was not accessible to examine any pattern there to support this.

As with many of the homes, there were horizontal wall cracks near the ground, appearing to be the separation between the slab and the first course of blocks. This was most evident on the west wall where there were also cracks in the concrete pool deck.

This house could be susceptible to response from ground vibration (and also winds) based on the large number of major openings. For example, the back side or west-facing wall has a large opening for the porch alcove and two large sliding doors. This, and all the openings in the front or east wall, could make this structure have relatively low stiffness in the N-S direction. Such construction existed at Weston and the USBM study there found relatively high blast responses (Siskind, 1996). Instrumenting for structure response would have shown if this was the case but, unfortunately, that wasn't done.

In the front are a post and lintel structure forming a covered entrance. The post has cracks which could be from dynamic response (Figure E87 & E88), although they appear to only be in the surface coating. The lintel has a series of vertical cracks that are not likely motion related but simple shrinkage of the stucco coating. Only the post or post-lintel joint would experience any stress from dynamic horizontal structure responses.

Summarizing for House 34: Like many of the other houses, some of the cracks are ambiguous with regard to cause. There are 12 door and window openings in outside walls, a total of 38 accessible corners. Twenty six are uncracked. Of the remainder, six have the characteristic sill damage which is definitely not from shaking response, blasting or wind. The 10 remaining areas have cracks which appear consistent with dynamic loading, many of which are below sliding doors (Figures E94 & E95). There appears to be no settlement pattern to the cracks, so dynamic forces remain a possibility.

HOUSE 33

This home is just south of #34 and of similar construction (Figure E96). Of the four outside walls, only the north one has window or door opening corner cracks (Figures E 97 & E98). The two larger windows in this wall have those same below-window cracks observed nearly everywhere else although there is no damage visible on the inside. There are also cracks above all three windows in this wall consistent with possible dynamic responses.

Only one inside wall crack was noticed in 44 inspected areas which excludes a few that were inaccessible. That was a wallboard joint crack over a door in the

MBR bathroom. The homeowner pointed out a major tile floor crack which extended from the main bathroom into the hall and had a maximum width of about 0.5 mm. This crack, as well as outside concrete patio cracks, cannot be from dynamic forces for the reasons given in previous analyses and described in Appendix B.

Summarizing for this house: The presence of cracks in only one wall suggests workmanship issues rather than whole-structure responses to dynamic loading. Based on their character alone, the north wall cracks could be from shaking- or wind-induced stress. However, they lack the general symmetry usually found from such responses (and described for House 45). There is also a total lack of internal cracks which are traditional blast-damage signs. In total, damages appear not dynamically-related in this house.

HOUSE 42

This house was near House 45 but differed in being a central unit in a row of town houses (Figure E99). The north and south walls were common to neighboring town houses and had no windows or doors.

The front was east-facing and had only one wall crack which could be structurally-related, between the roof structure over the entryway and the second-floor window (Figure E100). Other cracks were in trim around all the windows and doors in this east wall, Figure E101 being an example. These cosmetic cracks are most certainly from shrinkage of the surface coating.

The rear or west-facing wall has corner cracks on the right side of the window, top and bottom, and upper right side of the sliding door (Figures E102 & E103). Although these could possibly be dynamically related, it is difficult to envision the significant N-S response that would be required to place these walls in shear deformation, considering that the Town house unit's long axis runs N-S. Overall torsional response is a possibility. That these cracks are dynamically related has to remain a possibility. Another possibility is suggested by the crack directions: relative settlement of the south side. In retrospect, this could have been investigated by examining the neighboring unit to the south.

Inside cracks were very few. The west-facing window in the kitchen/family room is undamaged in contrast to the cracks outside. There are wallboard joint cracks in the second floor bathroom (sink room), in internal rather than external load-bearing walls. The shower part of the second floor bathroom has tile grout which the homeowner reported had been fixed and had reappeared, and a cracked tile

(Figures E 104 & 105). There were gaps along the grout lines suggesting either major grout shrinkage or static movement opening these cracks. Repairs with flexible grout seems to have solved this problem, however, the cause is unknown.

Summarizing for this structure: Dynamic forces are a possibility for the cracks in this home including the shower tiles on the second floor.

STRUCTURE 49

This was a one-story school and was not inspected for cracks.

CRACK WIDTH MEASUREMENTS

DESA visual measurements: Selected cracks were measured by DESA in most homes to see if any long term changes would be noticeable. Results are given in Table 5 and discussed in the sections on each house. Many of these cracks gradually closed between the three inspections and during the two month study. This suggests a seasonal behavior to increasing temperatures.

Crack monitoring: In addition to occasional checks on selected crack widths, one significant crack in House #4 was instrumented for both long-term response (e.g., thermal effects) and also for transient responses. The long-term monitor sampled continuously and recorded the 24-hour temperature response cycles (Figure 22). The daily crack-width changes ranged from 2.34 to 4.54 mils and averaged 3.31 mils (thousandths of an inch). The minimums and maximums occurred in the early morning and late afternoon, as would be expected from daily outside temperatures. The low and high temperatures for April 11 were 70 and 79 degrees.

Transient responses for this crack were low and produced only one large enough to measure (Figure 23). This was for the blast of 4-11 which also triggered the House 4 seismograph. The crack-width change and ground vibration amplitudes were 0.230 mils (± about 30 pct) and 0.028 in/s, respectively. This blast produced only 1/10 as much response as that day's temperature response (based on peaks in both cases). Assuming the crack behavior is proportional to vibration amplitude, a ground vibration of 0.28 in/s would produce the same crack-width changes in this particular crack as the response from the temperature change of only nine degrees.

# Seismic Analysis

SN: 3262 Event: 64
Date: 04/11/2000 Start Time: 10:21:00 File Size: 1440 minutes
Client: Operation:
SSU Location: Distance: 0. ft
Operator: Comments:

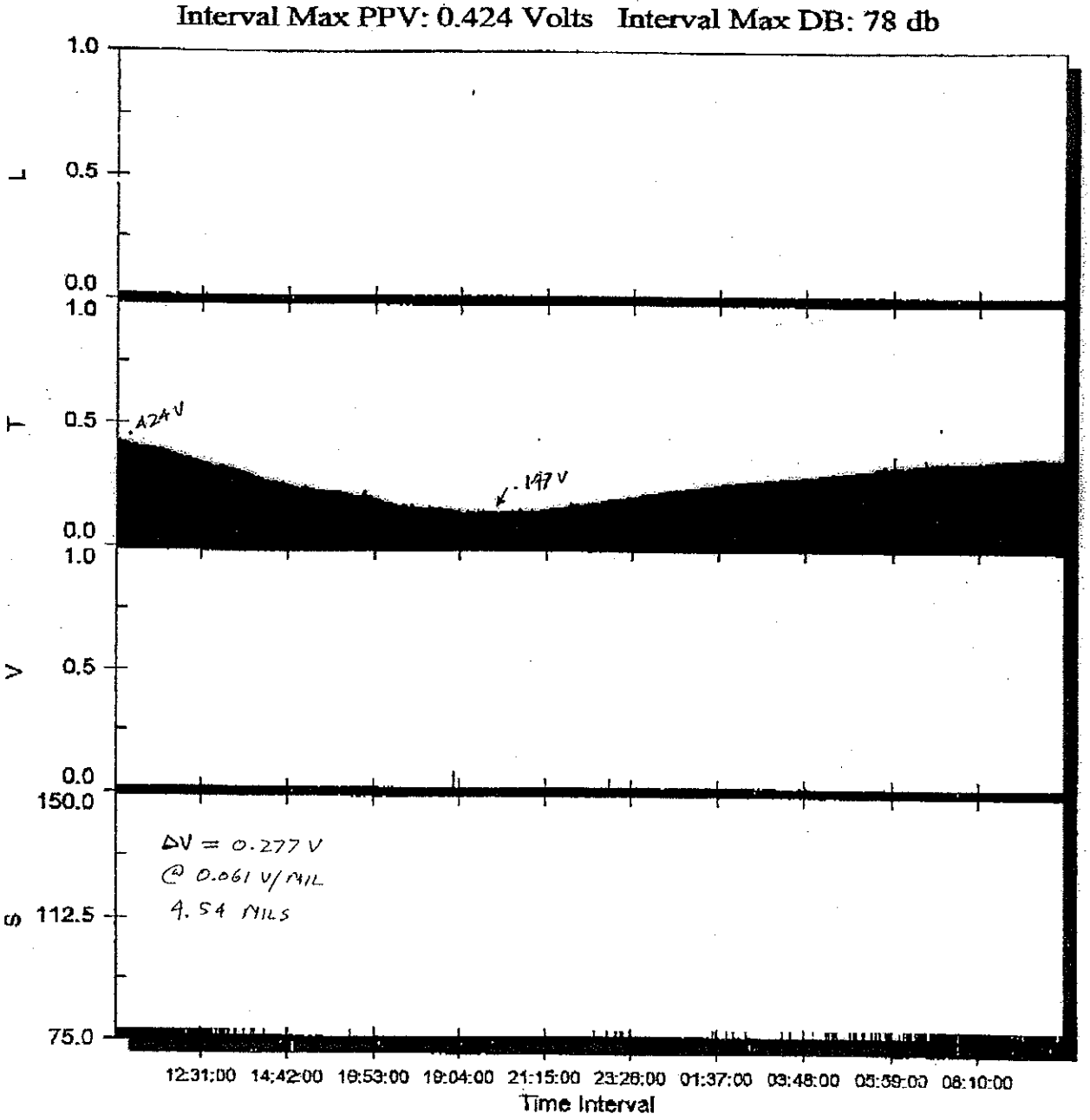



Figure 22.- Thermal response of garage wall crack in House 4. All the long-term measurements had 24-hour cycles. The difference between high and low of 0.277 volts corresponds to a crack width change of 4.54 mils.

# Seismic Analysis

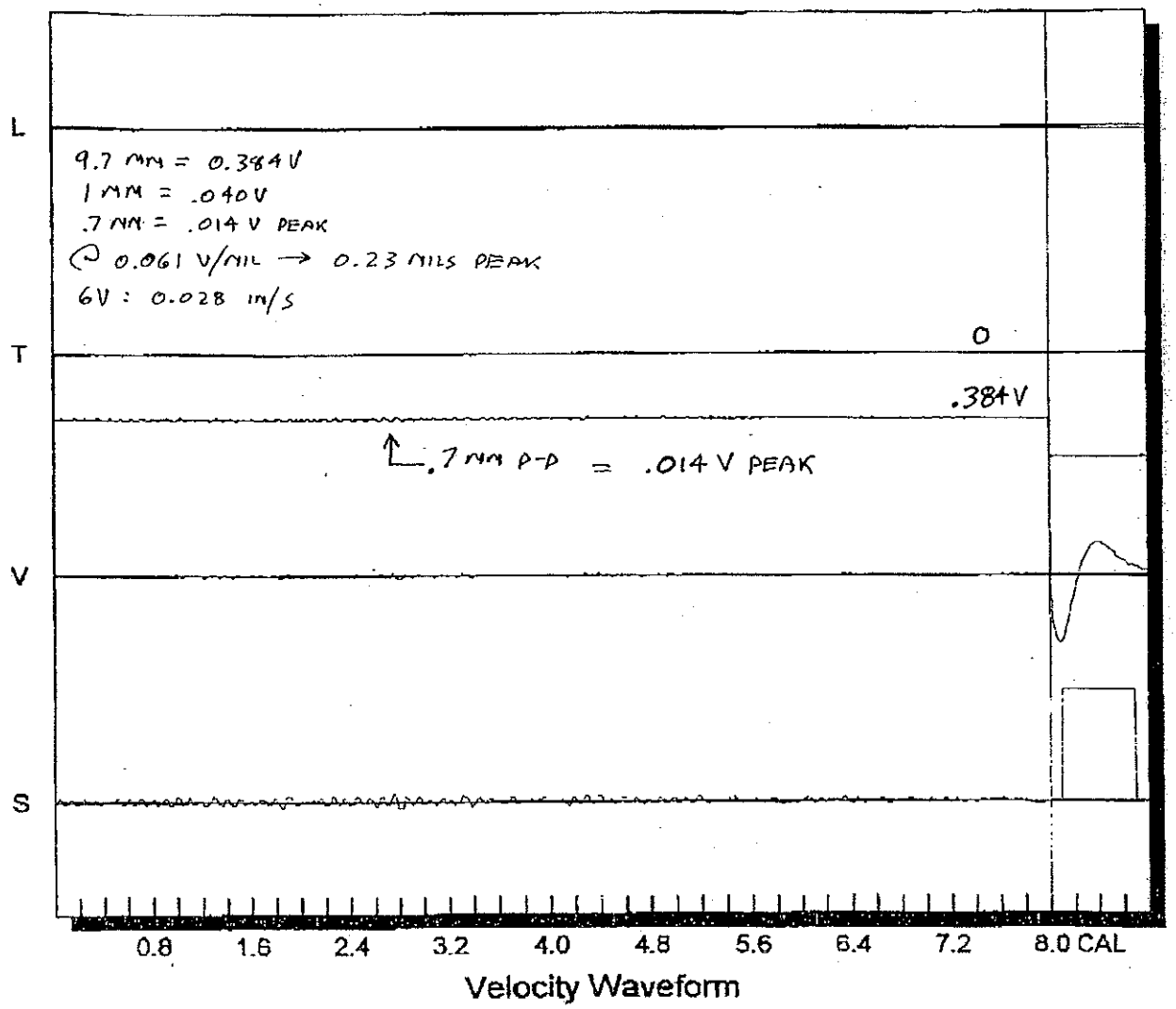
SN: 3209 V2.50 Event: 5

Date: 04/11/2000 Time: 14:34:03
Event: 5 Record Time: 8.0 s
Client:
Operation:
SSU Location:
Distance to blast: 0. ft
Operator:
Comments:
Trigger level: 5.0 Volts

| Summary Data | L | T | V |
|---|---|---|---|
| PPV Volts | 0.016 | 0.384 | 0.020 |
| PD na | 0.05 | 1.35 | 0.52 |
| PPA na | 0.007 | 0.007 | 0.013 |
| FREQ (Hz) | 500.0 | 500.0 | 8.3 |

RESULTANT PPV Volts : 0.380
PEAK AIR PRESSURE (dB): 89
na : 0.0002

DC OFFSET IS .384 V




Velocity Waveform

Velocity Waveform Graph Scale
Time = 0.200 s
Seismic = +/- 0.64Volts
Sound = +/- 0.0023 psi

Shaketable Calibrated: 02/23/2000
By GeoSonics Inc.
P.O. Box 779
Warrendale, PA 15095 U.S.A.
TEL: 724.934.2900 FAX: 724.934.2999

Figure 23.- Transient response of crack width from 4-11-00 blast at 14:34 with a peak amplitude of about 0.23 mils. The PPV for this blast was 0.028 in/s.

Table 5.- Crack-width measurements by DESA, February to April, 2000

| House no. | Location of measurement | Width measured, mm Meas#1 | Meas#2 | Meas#3 |
|---|---|---|---|---|
| 6 | S-wall window, lower l. corn (upper) | .25 | .10 | <.10 |
| | S-wall window, lower l. corn (lower) | .10 | .05 | closed |
| 13 | N-wall, left window, lower l. corner | .15 | .15 | <.10 |
| | N-wall, second window, lower l. corner | .10 | .10 | <.10 |
| | N-wall, right window, low center | .15 | .10 | .10 |
| | E-wall, left window, lower l. corner | .15 | .10 | .10 |
| | E-wall, sec. window, lower r. corner | .10 | <.10 | <.10 |
| 15 | E-wall, below l. window | .10 | <.05 | NM |
| | N-wall betw door & window | .10 | .10 | NM |
| | W-wall, below r. window | .15 | .15 | NM |
| | S-wall, right window, lower l. corner | .10 | <.05 | NM |
| | Bathrm, S-wall window well | .35 | .35 | NM |
| 4 | S-wall of garage | .50 | .50 | NM |
| 12 | W-wall, left window, lower l. corner | .05 | NM | NM |
| | N-wall, second window, lower rt. corn. | .20 | .25 | NM |
| 45 | S-wall, left window, lower l. corner | NM | .30 | .30 |
| | E-wall, left window, lower l. corner | NM | .10 | .15 |
| | Inside, MBR Bath Rm, window, lower rt | NM | .80 | .70 |
| 34 | N-wall, right window, lower l. corner | NM | .10 | .10 |
| | N-wall, right window, lower r. corner | NM | .20 | .20 |
| 33 | N-wall, ctr. window, lower r. corner | NM | .10 | .10 |

NM = not measured
All cracks are exterior unless indicated otherwise
Meas#1 was 2-24, 2-25 or 2-26
Meas#2 was 4-8 or 4-9
Meas#3 was 4-29 or 4-30

## SUMMARIZING STRUCTURAL INSPECTIONS AND ANALYSES

Some of the items in the above house-by-house analysis are consistent with dynamically-produced cracking, i.e., structure responses to transient forces. Blast vibrations are one possible source and gusty storm winds are the most obvious other. Specifically, there are cracks in load-bearing superstructure walls of the type and pattern that would be expected from vibration- and wind-caused racking. Much if not all of the other damages observed and claimed by homeowners appear to be workmanship-related, water intrusion damages, normal material curing and shrinkage, and material responses to humidity and thermal cycles.

The crack-width behavior suggests that slow or long-term cyclic responses are present. Many cracks experienced gradual closing over the two months, suggesting thermal effects from the warming of the season.

Only one house has a crack which the authors would call "structural" and which in traditional definitions would exceed "minor." That is the House #4's north garage wall. This particular crack was instrumented for response to both long-term and transient responses and found to be far more sensitive to temperature than the vibrations measured there.

## CONCLUSIONS

Dade County residences have some justification for their concerns about blast vibrations. They have been experiencing long duration and low frequency vibrations and their effects on structure responses noticeable at large distances from the many active quarries operating west of the built-up areas.

Some high response amplifications suggest that at least some of the homes respond more than those previously studied by the USBM and others and used to establish the widely accepted and adopted safe level criteria. Some adjustments are needed to insure protection of the public from the worst of these combinations of vibrations and responses. The exact and appropriate adjustments require additional research beyond the short study done by DESA and represented by this report. In terms of expertise, capability and scientific impartiality, the best organization to do this would have been the U.S. Bureau of Mines. The Bureau's Blasting Research Group had the expertise and objectiveness to run such a study. This capability is now lost and such problems must now be addressed and funded at the local governmental levels of which this study is a good example.

This author recommends against an arbitrary adjustment to the County standards, however, there is justification for a 50 pct reduction to a range of 0.38 in/s to 0.50 in/s based on the amplification factor of 6.1x found in one case.

All findings are summarized in the Executive Summary section.

## REFERENCES

AISG, 1990. Blasting Damage and Other Structural Cracking, A Guide for Adjusters and Engineers. American Insurance Services Group, Property Claim Services, 700 New Brunswick Ave., Rahway, NJ 07065, (908) 388-5700.

Andrews, A. B., 1979. An Investigation of Blasting Techniques at Rinker Lake Quarry to Reduce Community Annoyance in Dade County, Fla. E. I. du Pont de Nemours & Co., ≈100 pp.

BOCA National Building Code, 1996. Building Officials & Code Administers International, Inc. Available from ISEE @ 440-349-4004 as "BOCA Bldg".

Charlie, W. A., D. O. Doehring and W. A. Lewis, 1987. Explosive Induced Damage Potential to Earthfill Dams and Embankments. Proc. Intnl. Soc. Explosives Engineers. (ISEE), pp. 280-290. Available from ISEE @ 440-349-4004.

Hadala, P., 1992. Field and Laboratory Evaluation of Potential Causative Factors in Structural Damages in Daylight and McCutchanville, IN. U. S. Army Waterways Experimental Station, Corps of Engineers, 9-9-92. In OSM Technical Report, 1994 as Vol. VIII. Available from ISEE @ 440-349-4004 as "REP O49913".

Handy, R. L., 1995. The Day the House Fell. Home owner Soil Problems - From Landslides, to Expansive Clays and Wet Basements. ASCE Press, Am. Soc. Civil Engineers, 345 East 47th Street, NY, NY 10017-2398.

Hudson, D. E.,1961. Explosive Generated Ground Motions. In Shock and Vibration Handbook by C. M. Harris and C. E. Crede, McGraw-Hill Book Co., v.3, Section 50, Part II, pgs. 50-33 to 50-42.

Johnson, M., J. Pepper and G. Mclellen, 2000. Attenuation of Blasting Vibrations in South Florida. Proc. 26th Annual Symp. on Explosives and Blasting Research, Soc. of Explosives Engineers (ISEE), Anaheim, CA, pp. 83-95.

Seaquist, E. O.,1980. Diagnosing and Repairing House Structure Problems. 255 pp. Available from Professional Equipment as item "B117" for $29.95 plus postage and NY state tax, 800-334-9291.

Seed, H. B., 1979. Soil Liquefaction and Cyclic Mobility Evaluation for Level Ground During Earthquakes. J. Geotechnical Engineering Div. ASCE, Proceedings of the American Soc. Civil Engrs., Vol. 105, No. GT2, February 1979.

Siskind, D. E., V. J. Stachura, M. S. Stagg and J. W. Kopp, 1980a. Structure Response and Damage Produced by Airblast From Surface Mining. U. S. Bureau of Mines RI 8485, 111 pp. Available from the Author or from ISEE @ 440-349-4004.

Siskind, D. E., M. S. Stagg, J. W. Kopp and C. H. Dowding, 1980b. Structure Response and Damage Produced by Ground Vibration From Surface Mine Blasting. U. S. Bureau of Mines RI 8507, 74 pp. Available from the Author or from ISEE @ 440-349-4004.

Siskind, D. E., S. V. Crum, R. E. Otterness and J. W. Kopp, 1989. Comparative Study of Blasting Vibrations From Indiana Surface Coal Mines. U. S. Bureau of Mines RI 9226, 41 pp. Available from the Author or from ISEE @ 440-349-4004.

Siskind, D. E., M. S. Stagg, W. E. Pierce and S. V. Crum, 1996a. Low-Frequency Blast Vibrations at a High Water Table Site. Proc. 12th Annual Symp. on Explosives and Blasting Research, Soc. of Explosives Engineers (ISEE), Orlando, FL, pp. 21-31.

Siskind, D. E., 1997. Vibrations From Blasting. DR-31, 2nd Edition, June 15, 1997. DESA Consultants, 48 pp. Available from the Author.

Siskind, D. E., 2000. Vibrations From Blasting. International Society of Explosives Engineers, Cleveland, OH. In press.

Stagg, M. S., D. E. Siskind, M. G. Stevens and C. H. Dowding, 1984. Effects of Repeated Blasting on a Wood fame House. U. S. Bureau of Mines RI 8896, 82 pp. Available from the Author or from ISEE @ 440-349-4004.

## APPENDICES

Appendix A. - DESA blast vibration data, February to April 2000.
Appendix B. - Characteristics of blast damage.
Appendix C. - Ground vibration effects on structures by D. E. Siskind. Paper presented at the 24th annual conference on Explosives and Blasting Technique, International Society of Explosives Engineers. February 8-11, 1998, New Orleans, LA, pp. 1-14.
Appendix D. - Diagnosing crack damage in residential structures, a catalog of observations and causes of cracks in homes. DESA Consultants, DR-40, 9 pp.
Appendix E. - Photographs taken by D. E. Siskind during structural inspections.
Appendix F. - Resume of David E. Siskind and DESA client list.

Appendix A.- Dade County blast vibration measurements by DESA, February to April 2000.

| Date | Time | Quarry | lbs/del | House | Dist, ft | SRSD | Max PPV, in/s | R | V | T |
|---|---|---|---|---|---|---|---|---|---|---|
| 2-24 | 12:02 | RinkerFEC | 576 | 6 | | | NT | NT | NT | NT |
| | | | | 13 | | | NT | NT | NT | NT |
| | | | | 15 | | | NT | NT | NT | NT |
| | | | | 4 | | | NT | NT | NT | NT |
| | | | | 12 | | | NT | NT | NT | NT |
| | | | | 11 | | | NT | NT | NT | NT |
| 2-25 | 14:46 | WRQ#7 | 1,242 | 6 | 12,600 | 358 | .073 | .053 | .068 | .073 |
| | | | | 13 | 13,900 | 394 | .055 | .045 | .055 | .055 |
| | | | | 15 | 16,500 | 468 | .055 | .055 | .045 | .040 |
| | | | | 4 | | | NT | NT | NT | NT |
| | | | | 12 | | | NT | NT | NT | NT |
| | | | | 11 | | | NT | NT | NT | NT |
| 2-28 | 15:15 | WRQ#7 | 1,242 | 6 | 12,600 | 358 | .070 | .070 | .068 | .048 |
| | | | | 13 | 13,900 | 394 | .055 | .055 | .045 | .050 |
| | | | | 15 | 16,500 | 468 | .055 | .055 | .035 | .040 |
| | | | | 4 | 15,200 | 431 | .043 | .038 | .025 | .043 |
| | | | | 12 | 16,500 | 468 | .051 | .025 | .021 | .051 |
| | | | | 11 | | | SR | SR | SR | SR |
| 3-3 | 13:55 | Tarmac | 1,347 | 6 | | | Down | | | |
| | | | | 13 | | | NT | NT | NT | NT |
| | | | | 15 | | | NT | NT | NT | NT |
| | | | | 4 | | | NT | NT | NT | NT |
| | | | | 12 | | | NT | NT | NT | NT |
| | | | | 11 | | | SR | SR | SR | SR |
| 3-7 | 13:30 | WRQ#7 | 698 | 6 | | | Down | | | |
| | | | | 13 | 13,900 | 526 | .055 | .055 | .030 | .025 |
| | | | | 15 | 16,500 | 625 | .030 | .025 | .030 | .025 |
| | | | | 4 | 15,200 | 575 | .030 | .025 | .023 | .030 |
| | | | | 12 | 16,500 | 625 | .025 | .011 | .011 | .025 |
| | | | | 11 | | | NT | NT | NT | NT |
| 3-7 | 14:40 | Tarmac | 1,347 | 6 | | | Down | | | |
| | | | | 13 | | | NT | NT | NT | NT |
| | | | | 15 | | | NT | NT | NT | NT |
| | | | | 4 | | | NT | NT | NT | NT |
| | | | | 12 | | | NT | NT | NT | NT |
| | | | | 11 | | | NT | NT | NT | NT |
| 3-8 | 13:40 | RinkerFEC | 576 | 6 | | | Down | | | |
| | | | | 13 | | | NT | NT | NT | NT |
| | | | | 15 | | | NT | NT | NT | NT |
| | | | | 4 | | | NT | NT | NT | NT |
| | | | | 12 | | | NT | NT | NT | NT |
| | | | | 11 | | | NT | NT | NT | NT |

All airblasts were less than the trigger settings of 118 to 120 dB
NT = no trigger (< 0.020 in/s for ground vibration)

Appendix A.- Dade County blast vibration measurements by DESA, February to April 2000, cont.

| Date | Time | Quarry | lbs/del | House | Dist, ft | SRSD | Max PPV,in/s | R | V | T |
|---|---|---|---|---|---|---|---|---|---|---|
| 3-10 | 14:30 | Tarmac | 1,347 | 6 | | | Down | | | |
| | | | | 13 | | | NT | NT | NT | NT |
| | | | | 15 | | | NT | NT | NT | NT |
| | | | | 4 | | | NT | NT | NT | NT |
| | | | | 12 | | | NT | NT | NT | NT |
| | | | | 11 | | | NT | NT | NT | NT |
| 3-14 | 14:30 | WRQ#7 | 698 | 6 | | | Down | | | |
| | | | | 13 | 13,900 | 526 | .045 | .040 | .045 | .025 |
| | | | | 15 | 16,500 | 625 | .035 | .035 | .025 | .025 |
| | | | | 4 | 15,200 | 575 | .033 | .033 | .018 | .020 |
| | | | | 12 | 16,500 | 625 | .031 | .019 | .015 | .031 |
| | | | | 11 | | | NT | NT | NT | NT |
| 3-15 | 13:18 | RinkerFEC | 576 | 6 | | | Down | | | |
| | | | | 13 | | | NT | NT | NT | NT |
| | | | | 15 | | | NT | NT | NT | NT |
| | | | | 4 | | | NT | NT | NT | NT |
| | | | | 12 | | | NT | NT | NT | NT |
| | | | | 11 | | | NT | NT | NT | NT |
| 3-16 | 15:10 | Tarmac | 1,347 | 6 | | | Down | | | |
| | | | | 13 | | | NT | NT | NT | NT |
| | | | | 15 | | | NT | NT | NT | NT |
| | | | | 4 | | | NT | NT | NT | NT |
| | | | | 12 | | | NT | NT | NT | NT |
| | | | | 11 | | | NT | NT | NT | NT |
| 3-20 | 11:24 | Sunshine | 447 | 6 | | | Down | | | |
| | | | | 13 | | | NT | NT | NT | NT |
| | | | | 15 | | | NT | NT | NT | NT |
| | | | | 4 | | | NT | NT | NT | NT |
| | | | | 12 | | | NT | NT | NT | NT |
| | | | | 11 | | | NT | NT | NT | NT |
| 3-22 | 10:37 | Rinker Lk | 413 | 6 | | | Down | | | |
| | | | | 13 | 12,000 | 590 | .025 | .015 | .025 | .015 |
| | | | | 15 | 14,200 | 699 | .020 | .020 | .015 | .020 |
| | | | | 4 | 11,600 | 571 | .033 | .025 | .033 | .015 |
| | | | | 12 | 12,350 | 608 | .021 | .015 | .021 | .013 |
| | | | | 11 | | | NT | NT | NT | NT |
| 3-23 | 11:04 | WRQ#7 | 698 | 6 | | | Down | | | |
| | | | | 13 | 13,900 | 526 | .040 | .040 | .035 | .040 |
| | | | | 15 | 16,500 | 625 | .035 | .035 | .025 | .030 |
| | | | | 4 | 15,200 | 575 | .030 | .030 | .018 | .030 |
| | | | | 12 | 16,500 | 625 | .033 | .016 | .014 | .033 |
| | | | | 11 | | | NT | NT | NT | NT |

All airblasts were less than the trigger settings of 118 to 120 dB
NT = no trigger (< 0.020 in/s for ground vibration)

Appendix A.- Dade County blast vibration measurements by DESA, February to April 2000, cont.

| Date | Time | Quarry | lbs/del | House | Dist, ft | SRSD | Max PPV,in/s | R | V | T |
|---|---|---|---|---|---|---|---|---|---|---|
| 3-24 | 10:40 | Rinker Lk | 413 | 6 | | | Down | | | |
| | | | | 13 | | | NT | NT | NT | NT |
| | | | | 15 | 14,200 | 699 | .025 | .025 | .020 | .025 |
| | | | | 4 | 11,600 | 571 | .028 | .028 | .023 | .015 |
| | | | | 12 | | | NT | NT | NT | NT |
| | | | | 11 | | | NT | NT | NT | NT |
| 3-27 | 14:33 | WRQ#7 | 1,242 | 6 | | | Down | | | |
| | | | | 13 | 13,900 | 394 | .080 | .080 | .055 | .055 |
| | | | | 15 | 16,500 | 468 | .070 | .070 | .060 | .050 |
| | | | | 4 | 15,200 | 431 | .055 | .053 | .048 | .055 |
| | | | | 12 | 16,500 | 468 | .051 | .035 | .030 | .051 |
| | | | | 11 | | | SR | SR | SR | SR |
| 3-28 | 11:20 | RinkerFEC | 576 | 6 | | | Down | | | |
| | | | | 13 | | | NT | NT | NT | NT |
| | | | | 15 | | | NT | NT | NT | NT |
| | | | | 4 | | | NT | NT | NT | NT |
| | | | | 12 | | | NT | NT | NT | NT |
| | | | | 11 | | | NT | NT | NT | NT |
| 3-29 | 10:30 | Rinker Lk | 413 | 6 | | | Down | | | |
| | | | | 13 | 12,000 | 590 | .030 | .015 | .025 | .030 |
| | | | | 15 | 14,200 | 699 | .020 | .020 | .020 | .020 |
| | | | | 4 | 11,600 | 571 | .035 | .035 | .015 | .023 |
| | | | | 12 | | | NT | NT | NT | NT |
| | | | | 11 | | | NT | NT | NT | NT |
| 3-29 | 13:03 | Tarmac | 1,347 | 6 | | | Down | | | |
| | | | | 13 | | | NT | NT | NT | NT |
| | | | | 15 | | | NT | NT | NT | NT |
| | | | | 4 | | | NT | NT | NT | NT |
| | | | | 12 | | | NT | NT | NT | NT |
| | | | | 11 | | | NT | NT | NT | NT |
| 3-31 | 11:34 | Sunshine | 447 | 6 | | | Down | | | |
| | | | | 13 | | | NT | NT | NT | NT |
| | | | | 15 | | | NT | NT | NT | NT |
| | | | | 4 | | | NT | NT | NT | NT |
| | | | | 12 | | | NT | NT | NT | NT |
| | | | | 11 | | | NT | NT | NT | NT |
| 4-3 | 13:58 | RinkerFEC | 1,347 | 6 | | | | | | |
| | | | | 13 | 29,300 | 798 | .025 | .025 | .015 | .010 |
| | | | | 15 | 31,200 | 850 | .045 | .045 | .010 | .015 |
| | | | | 4 | 25,200 | 687 | .033 | .033 | .013 | .015 |
| | | | | 12 | 26,800 | 730 | .026 | .026 | .010 | .019 |
| | | | | 11 | | | NT | NT | NT | NT |

All airblasts were less than the trigger settings of 118 to 120 dB
NT = no trigger (< 0.020 in/s for ground vibration)

Appendix A.- Dade County blast vibration measurements by DESA, February to April 2000, cont.

| Date | Time | Quarry | lbs/del | House | Dist, ft | SRSD | Max PPV,in/s | R | V | T |
|---|---|---|---|---|---|---|---|---|---|---|
| 4-4 | 15:11 | WRQ#7 | 1,242 | 6 | | | Down | | | |
| | | | | 13 | 13,900 | 394 | .060 | .050 | .040 | .060 |
| | | | | 15 | 16,500 | 468 | .050 | .050 | .035 | .035 |
| | | | | 4 | 15,200 | 431 | .045 | .035 | .043 | .045 |
| | | | | 12 | 16,500 | 468 | .044 | .033 | .029 | .044 |
| | | | | 11 | | | SR | SR | SR | SR |
| 4-5 | 11:03 | Sunshine | 447 | 6 | | | Down | | | |
| | | | | 13 | | | NT | NT | NT | NT |
| | | | | 15 | | | NT | NT | NT | NT |
| | | | | 4 | | | NT | NT | NT | NT |
| | | | | 12 | | | NT | NT | NT | NT |
| | | | | 11 | | | NT | NT | NT | NT |
| 4-9 | 11:21 | RinkerFEC | 576 | 6 | | | NT | NT | NT | NT |
| | | | | 13 | | | NT | NT | NT | NT |
| | | | | 4 | | | NT | NT | NT | NT |
| | | | | 45 | | | SR | SR | SR | SR |
| | | | | 34 | | | NT | NT | NT | NT |
| | | | | 33 | | | NT | NT | NT | NT |
| | | | | 42 | | | NT | NT | NT | NT |
| | | | | 49 | | | NT | NT | NT | NT |
| 4-10 | 11:33 | Miami Cr Rk | 473 | 6 | | | NT | NT | NT | NT |
| | | | | 13 | | | NT | NT | NT | NT |
| | | | | 4 | | | NT | NT | NT | NT |
| | | | | 45 | | | SR | SR | SR | SR |
| | | | | 34 | | | NT | NT | NT | NT |
| | | | | 33 | 16,900 | 777 | .021 | .014 | .016 | .021 |
| | | | | 42 | 8,100 | 372 | .103 | .103 | .073 | .041 |
| | | | | 49 | | | NT | NT | NT | NT |
| 4-11 | 14:32 | RinkerFEC | 1,347 | 6 | | | NT | NT | NT | NT |
| | | | | 13 | | | NT | NT | NT | NT |
| | | | | 4 | 25,000 | 681 | .028 | .028 | .015 | .013 |
| | | | | 45 | | | SR | SR | SR | SR |
| | | | | 34 | | | NT | NT | NT | NT |
| | | | | 33 | | | NT | NT | NT | NT |
| | | | | 42 | | | NT | NT | NT | NT |
| | | | | 49 | | | NT | NT | NT | NT |
| 4-12 | 13:10 | Miami Cr Rk | 473 | 6 | | | NT | NT | NT | NT |
| | | | | 13 | | | NT | NT | NT | NT |
| | | | | 4 | | | NT | NT | NT | NT |
| | | | | 45 | | | SR | SR | SR | SR |
| | | | | 34 | | | NT | NT | NT | NT |
| | | | | 33 | 16,900 | 777 | .020 | .008 | .009 | .020 |
| | | | | 42 | 8,100 | 372 | .085 | .085 | .058 | .028 |
| | | | | 49 | | | NT | NT | NT | NT |

All airblasts were less than the trigger settings of 118 to 120 dB
NT = no trigger (< 0.020 in/s for ground vibration). SR = Structure response. See Table 3.

Appendix A.- Dade County blast vibration measurements by DESA, February to April 2000, cont.

| Date | Time | Quarry | lbs/del | House | Dist, ft | SRSD | Max PPV,in/s | R | V | T |
|---|---|---|---|---|---|---|---|---|---|---|
| 4-13 | 15:42 | Miami Cr Rk | 473 | 6 | | | NT | NT | NT | NT |
| | | | | 13 | | | NT | NT | NT | NT |
| | | | | 4 | | | NT | NT | NT | NT |
| | | | | 45 | | | SR | SR | SR | SR |
| | | | | 34 | | | NT | NT | NT | NT |
| | | | | 33 | 16,900 | 777 | .025 | .008 | .010 | .025 |
| | | | | 42 | 8,100 | 372 | .051 | .051 | .035 | .024 |
| | | | | 49 | | | NT | NT | NT | NT |
| 4-14 | 15:12 | Tarmac | 1,347 | 6 | | | NT | NT | NT | NT |
| | | | | 13 | | | NT | NT | NT | NT |
| | | | | 4 | | | NT | NT | NT | NT |
| | | | | 45 | | | SR | SR | SR | SR |
| | | | | 34 | | | NT | NT | NT | NT |
| | | | | 33 | | | NT | NT | NT | NT |
| | | | | 42 | | | NT | NT | NT | NT |
| | | | | 49 | | | NT | NT | NT | NT |
| 4-17 | 13:57 | Florida Rock | 421 | 6 | | | NT | NT | NT | NT |
| | | | | 13 | | | NT | NT | NT | NT |
| | | | | 4 | | | NT | NT | NT | NT |
| | | | | 45 | | | SR | SR | SR | SR |
| | | | | 34 | | | NT | NT | NT | NT |
| | | | | 33 | 10,900 | 531 | .066 | .019 | .050 | .066 |
| | | | | 42 | 10,800 | 526 | .053 | .044 | .053 | .038 |
| | | | | 49 | | | NT | NT | NT | NT |
| 4-17 | 13:58 | Tarmac | 1,347 | 6 | | | NT | NT | NT | NT |
| | | | | 13 | | | NT | NT | NT | NT |
| | | | | 4 | | | NT | NT | NT | NT |
| | | | | 45 | | | SR | SR | SR | SR |
| | | | | 34 | | | NT | NT | NT | NT |
| | | | | 33 | | | NT | NT | NT | NT |
| | | | | 42 | | | NT | NT | NT | NT |
| | | | | 49 | | | NT | NT | NT | NT |
| 4-17 | 16:57 | Sunshine | 447 | 6 | | | NT | NT | NT | NT |
| | | | | 13 | | | NT | NT | NT | NT |
| | | | | 4 | | | NT | NT | NT | NT |
| | | | | 45 | | | SR | SR | SR | SR |
| | | | | 34 | | | NT | NT | NT | NT |
| | | | | 33 | | | NT | NT | NT | NT |
| | | | | 42 | | | NT | NT | NT | NT |
| | | | | 49 | | | NT | NT | NT | NT |

All airblasts were less than the trigger settings of 118 to 120 dB
NT = no trigger (< 0.020 in/s for ground vibration)
SR = Structure response. See Table 3.

Appendix A.- Dade County blast vibration measurements by DESA, February to April 2000, cont.

| Date | Time | Quarry | lbs/del | House | Dist, ft | SRSD | Max PPV,in/s | R | V | T |
|---|---|---|---|---|---|---|---|---|---|---|
| 4-18 | 11:33 | ???? | ???? | 6 | ???? | ???? | .033 | .028 | .033 | .025 |
| | | | | 13 | ???? | ???? | .040 | .040 | .030 | .025 |
| | | | | 4 | ???? | ???? | .033 | .033 | .023 | .025 |
| | | | | 45 | | | SR | SR | SR | SR |
| | | | | 34 | | | NT | NT | NT | NT |
| | | | | 33 | | | NT | NT | NT | NT |
| | | | | 42 | | | NT | NT | NT | NT |
| | | | | 49 | | | NT | NT | NT | MT |
| 4-19 | 13:00 | Tarmac | 1,347 | 6 | | | NT | NT | NT | NT |
| | | | | 13 | | | NT | NT | NT | NT |
| | | | | 4 | | | NT | NT | NT | NT |
| | | | | 45 | | | SR | SR | SR | SR |
| | | | | 34 | | | NT | NT | NT | NT |
| | | | | 33 | | | NT | NT | NT | NT |
| | | | | 42 | | | NT | NT | NT | NT |
| | | | | 49 | | | NT | NT | NT | NT |
| 4-21 | 13:00 | Tarmac | 1,347 | 6 | | | NT | NT | NT | NT |
| | | | | 13 | | | NT | NT | NT | NT |
| | | | | 4 | | | NT | NT | NT | NT |
| | | | | 45 | | | SR | SR | SR | SR |
| | | | | 34 | | | NT | NT | NT | NT |
| | | | | 33 | | | NT | NT | NT | NT |
| | | | | 42 | | | NT | NT | NT | NT |
| | | | | 49 | | | NT | NT | NT | NT |
| 4-21 | 16:01 | Sunshine | 447 | 6 | | | NT | NT | NT | NT |
| | | | | 13 | | | NT | NT | NT | NT |
| | | | | 4 | | | NT | NT | NT | NT |
| | | | | 45 | | | SR | SR | SR | SR |
| | | | | 34 | | | NT | NT | NT | NT |
| | | | | 33 | | | NT | NT | NT | NT |
| | | | | 42 | | | NT | NT | NT | NT |
| | | | | 49 | | | NT | NT | NT | NT |
| 4-24 | 11:50 | WRQ#7 | 1,242 | 6 | 12,700 | 360 | .025 | .025 | .023 | .023 |
| | | | | 13 | 14,000 | 397 | .030 | .030 | .025 | .025 |
| | | | | 4 | | | NT | NT | NT | NT |
| | | | | 45 | | | SR | SR | SR | SR |
| | | | | 34 | | | NT | NT | NT | NT |
| | | | | 33 | | | NT | NT | NT | NT |
| | | | | 42 | | | NT | NT | NT | NT |
| | | | | 49 | | | NT | NT | NT | NT |

All airblasts were less than the trigger settings of 118 to 120 dB
NT = no trigger (< 0.020 in/s for ground vibration)
SR = Structure response. See Table 3.

Appendix A.- Dade County blast vibration measurements by DESA, February to April 2000, cont.

| Date | Time | Quarry | lbs/del | House | Dist, ft | SRSD | Max PPV,in/s | R | V | T |
|---|---|---|---|---|---|---|---|---|---|---|
| 4-24 | 15:15 | WRQ#11 | 199? | 6 | | | NT | NT | NT | NT |
| | | | | 13 | | | NT | NT | NT | NT |
| | | | | 4 | | | NT | NT | NT | NT |
| | | | | 45 | | | SR | SR | SR | SR |
| | | | | 34 | | | NT | NT | NT | NT |
| | | | | 33 | | | NT | NT | NT | NT |
| | | | | 42 | | | NT | NT | NT | NT |
| | | | | 49 | | | NT | NT | NT | NT |
| 4-25 | 13:53 | Rinker FEC | 576 | 6 | | | NT | NT | NT | NT |
| | | | | 13 | | | NT | NT | NT | NT |
| | | | | 4 | | | NT | NT | NT | NT |
| | | | | 45 | | | SR | SR | SR | SR |
| | | | | 34 | | | NT | NT | NT | NT |
| | | | | 33 | | | NT | NT | NT | NT |
| | | | | 42 | | | NT | NT | NT | NT |
| | | | | 49 | | | NT | NT | NT | NT |
| 4-26 | 13:04 | Florida Rock | 430 | 6 | | | NT | NT | NT | NT |
| | | | | 13 | | | NT | NT | NT | NT |
| | | | | 4 | | | NT | NT | NT | NT |
| | | | | 45 | | | SR | SR | SR | SR |
| | | | | 34 | 10,450 | 504 | .068 | .020 | .040 | .068 |
| | | | | 33 | 10,900 | 526 | .079 | .025 | .040 | .079 |
| | | | | 42 | 10,800 | 521 | .030 | .030 | .026 | .026 |
| | | | | 49 | | | NT | NT | NT | NT |
| 4-28 | 10:41 | Sunshine | 447 | 6 | | | NT | NT | NT | NT |
| | | | | 13 | | | NT | NT | NT | NT |
| | | | | 4 | | | NT | NT | NT | NT |
| | | | | 45 | | | SR | SR | SR | SR |
| | | | | 34 | | | NT | NT | NT | NT |
| | | | | 33 | | | NT | NT | NT | NT |
| | | | | 42 | | | NT | NT | NT | NT |
| | | | | 49 | | | NT | NT | NT | NT |
| 4-28 | 13:44 | Tarmac | 1,347 | 6 | | | NT | NT | NT | NT |
| | | | | 13 | | | NT | NT | NT | NT |
| | | | | 4 | | | NT | NT | NT | NT |
| | | | | 45 | | | SR | SR | SR | SR |
| | | | | 34 | | | NT | NT | NT | NT |
| | | | | 33 | | | NT | NT | NT | NT |
| | | | | 42 | | | NT | NT | NT | NT |
| | | | | 49 | | | NT | NT | NT | NT |

All airblasts were less than the trigger settings of 118 to 120 dB
NT = no trigger (< 0.020 in/s for ground vibration)
SR = Structure response. See Table 3.

# APPENDIX B. - CHARACTERISTICS OF BLAST DAMAGE

## CRACKS IN HOUSE SUPERSTRUCTURES

Initial signs of blast damage are cracks in superstructure load-bearing walls from vibration-produced racking. These major diagonal cracks result from shear forces in the planes of the walls. They would by generally symmetrical (tend to run at angles and in all directions), be at stress concentration points in the walls (over doors and over and beneath windows). Such initial and cosmetic cracks in frame low-rise structures such as homes would require structure responses generally exceeding about 2 in/sec corresponding to about 1 in/s ground vibration. The lowest ground vibration found for extensions of existing cracks was 0.50 in/sec, in plaster and 0.75 in/sec in wallboard (Siskind, 1980b). Cracks in concrete block foundations required between 2 and 5 in/sec. Cracks from blasting wider than hairline would only occur where accelerations (rather than particle velocities) exceed a significant fraction of one g (32.2 ft/sec$^2$).

## CRACKS IN MASONRY FOUNDATIONS

Masonry foundations, usually concrete block walls (CMU), can be either free standing or in intimate contact with the soil. For above-ground foundation walls, initial cracking from blasting was found to occur at 6 to 11 in/sec. Directional preferences for such cracks would strongly suggest static failure in the form of differential settlement, slope creep, subsidence, or inadequate structural load-carrying ability. Tests were run by the U. S. Bureau of Standards and the USBM on 15 full scale CMU walls (Stagg, 1986). Even under continuous vibrations at a global displacement of .013 in (equivalent to 2.9 in/sec) for 26 hours (3x100,000 cycles of vibration), walls under no prestrain would not crack. When initial cracking was produced, the global strain was about 100 $\mu\varepsilon$.

## CRACKS IN CONCRETE PADS, DRIVEWAYS, WALKWAYS AND FLOORS

Driveways and similar masonry structures on or in the ground are highly damped and not able to undergo free vibration response. This means they move *with* the ground and cannot undergo dynamic response amplification regardless of vibration frequency. Foundation walls below ground or in contact with the soil are also in this category. Cracks in mass concrete generally require vibration amplitudes measured in three digits (>100 in/sec), as discussed in Appendix C. There were no instances of cracks formed in concrete pads, driveways or walkways in any of the mining blast studies of the USBM including the follow-up fatigue study or in any of the work reported by others.

None of the USBM, Swedish, Canadian or the UK blasting studies, including those achieving 5 to 10 in/sec, found cases of slab and pavement cracking from blast vibrations. Above-ground masonry foundation walls were cracked. However, no damage occurred to horizontal masonry slabs, etc. from strictly elastic waves in anybody's tests. Therefore, feasibility of such cracks must be examined from theoretical approaches based on the motions from blasting and material elastic properties and strengths. Two cracking mechanisms are possible: bending and tensile loading:

1. Bending and shear failure: Bending occurs from vibration waves lifting part of a pad relative to another. Calculations require the size of a pad or section of concrete, vertical component vibration amplitude, and vibration wavelength. Differential displacements can then be computed and compared to cracking thresholds of about 100 $\mu\varepsilon$.

Differential vertical displacements are given by:

$$\Delta D = (V/2\pi f)\sin [90(L/75)]$$

where $\Delta D$ is height differential between two points (in), V is peak particle velocity (in/sec), f is vibration frequency, L is length between the same two points as $\Delta D$ (ft) and 75 is 1/4 wavelength, a worst case for blast vibrations, ft

As an example, a blast vibration of 1.0 in/sec at a frequency of 4 Hz (also worst case) gives a differential vertical displacement of about 0.016 in across a 20-ft pavement section. This is a small amount compared to natural movements.

Shear strains can approximated from:

$$\varepsilon = (\Delta D/L) \sin\varphi\cos\varphi$$

where $\varphi$ is the angle of the diagonal in the plane of deformation (RI 8896).

For a 6-in thick pad, the shear strain from the above amount of differential displacement would be about 2 $\mu\varepsilon$. This is inconsequential compared to concrete cracking threshold of about 100 $\mu\varepsilon$.

To reach a concrete cracking threshold of 100 $\mu\varepsilon$, a particle velocity of about 50 in/sec would be needed. This is consistent with studies of mass concrete which required vibrations measured in hundreds of in/sec, as described in Appendix C.

2. Tensile Failure: The second possible cracking mechanism is tensile failure

from compressional waves. From Appendix A: failure vibration levels can be estimated from the following equation for monolithic materials:

$$PPV_{in/sec} = S/(9.25 \times 10^{-5} \times p \times C_p)$$

where S is the tensile strength ($lb/in^2$), p is the specific gravity and $C_p$ is the P-wave propagation velocity in in/sec. For example, concrete with a tensile strength of 200 $lb/in^2$ (very weak), a specific gravity of 2.0, and a propagation velocity of 10,000 ft/sec would crack at about 9 in/sec. This is close to test results in concrete and rocks.

The vast majority of cracks in large expanses of masonry, including concrete pavement, are from differential settlement, frost action, thermal expansion stresses and/or curing shrinkage. Prevention of such cracks calls for periodic breaks or joints. Blasting is generally inconsequential compared to these forces.

## GROSS STRUCTURAL MOVEMENTS, OPEN CRACKS, AND SOIL COMPACTION

There are two possible issues: 1) direct vibration effects on a house and 2) vibration effects on the soil which then effect a house.

1. Direct Vibration Effects: The general criteria for vibrations sufficient to produce slippage and movement are not *particle velocity* but *acceleration* and the thresholds are 0.2 to 1.0 g. For example, 0.2 g is used as in vibration monitoring as a requirement for firm attachment of vibration transducers to prevent slippage. An acceleration of 0.2 g is equivalent to a velocity of 3.07 in/sec at 4 Hz, 2.05 in/sec at 6 Hz and 1.23 in/sec at 10 Hz. Earthquake scientists give a Mercalli Intensity of VIII as the first indication of things slipping and sliding and this has been roughly equated to a particle velocity of 7.2 in/sec (Hudson, 1961). At 2 Hz, a typical frequency for earthquakes, this is equivalent to 0.23 g.

These minimum "slippage and movement thresholds" are at least ten times higher than vibrations at Dade County homes and even more so for low frequencies.

2. Vibrations Affecting the Soils and Structures on Them: It is known that vibrations can effect soils and, in fact, are sometimes deliberately used to compact soils. However, only certain soils are susceptible to vibratory compaction and the vibrations have to be very high. Usually, the vibrator is placed directly on the soil being compacted. The question for the Dade County case is whether vibrations from a source over 4,000 ft away can cause compaction. Two

extreme soil types have been studied for vibration-induced compaction where such compaction would have been considered detrimental.

a) Saturated cohesionless soils: These are known to be susceptible to a vibration effect called "liquefaction" (quicksand is the best known example). Required are susceptible soils (saturated and cohesionless), long duration vibration (tens to hundreds of cycles), and high amplitudes. As with slippage, concern is again not vibration velocity but acceleration. These vibration conditions sometimes occur in earthquakes but not in blasting. The lowest known examples of vibration-induced liquefaction were 80 cycles of vibration (not frequency) at 0.165 g (equivalent to 2.5 in/sec at 4 Hz) and observed liquefaction at 2 in/sec (Seed, 1979 and Charlie, 1987). The Florida soils could theoretically be susceptible to this. However, proper site preparation is suppose to provide sufficient compaction and consolidation to provide a stable support for the homes.

b) Fine dry soil: The Army Corps of Engineers studied the collapse potential of a fine cohesionless loess soil from an area being studied for potential blast damage (Hadala, 1992). Six-inch long soil columns were subjected to 144,000 vibrational cycles at a shear strain levels of 100 and 400 $\mu\varepsilon$. These strains corresponded to vibration amplitudes of 0.5 and 2.0 in/sec, respectively. Compaction of the columns in these tests were found to be insignificant and of no risk to homes even for 100 ft of soil.

The extensive studies of wet soils by Seed and dry by Hadala represent the worst cases, respectively, for those two extremes of base materials. Seed's work was driven by concerns about critical structures, such as, earth-filled dams and vibrations from earthquakes, which can be both high amplitude and long duration. Hadala was testing a soil rated "marginal for structures" and where homes had experienced considerable static failure.

For purposes of this study of vibration impacts, the soils beneath Dade County homes were not tested by DESA for their engineering characteristics: bearing strength, or water responses. Questions exist on whether these soils were properly put in place and compacted sufficiently to support the house. It is also a question of them being subjected to water infiltration and their responses to wet and dry cycles.

Tests and discussions at the Weston development in Broward Co. included building foundation soil characteristics. The building pads were composed of material excavated to form ponds and reportedly sets up hard after placement. It was noticed that surface material (above water table) is fine and loose. Most likely, vibration response of such soils would resemble the Hadala case rather

than the Seed studies because the particles are loose, angular, and varied in sizes. In the Hadala case, 2 in/sec of continuous vibration (for 4 hours) had no affect on the soil.

Based on Hadala's study, detrimental vibration effects on Dade County house foundation soils are not possible at or anywhere near the vibrations experienced there.

Time Effects on Compaction and Settlement: Soil compaction under structures has both an initial response and a cyclic one. "Initial" refers to disturbed (non-natural) soils compacting and settling in response to load and time. This kind of compaction is normally expected to decrease with time, at least in non-slope areas. There are many exceptions to this including periods of unprecedented drought or flood where soils are water responsive. Other exceptions would be fill with decaying organic materials, which may not show effects for several years, and loss of soil through water intrusion and erosion which could be accumulative. (Handy, Chapter 8, 1995). Cyclic soil responses occur from such cyclic and continual phenomena as temperature, frost, drying and rehydration. These can cause gradual movements which accumulate into large separations through the action of debris filling cracks and not permitting them to close (Seaquist, p. 49).

REFERENCES

AISG, 1990. Blasting Damage and Other Structural Cracking, A Guide for Adjusters and Engineers. American Insurance Services Group, Property Claim Services, 700 New Brunswick Ave., Rahway, NJ 07065, (908) 388-5700.

BOCA National Building Code, 1996. Building Officials & Code Administers International, Inc. Available from ISEE @ 440-349-4004 as "BOCA Bldg".

Charlie, W. A., D. O. Doehring and W. A. Lewis, 1987. Explosive Induced Damage Potential to Earthfill Dams and Embankments. Proc. Intnl. Soc. Explosives Engineers. (ISEE), pp. 280-290. Available from ISEE @ 440-349-4004.

Hadala, P., 1992. Field and Laboratory Evaluation of Potential Causative Factors in Structural Damages in Daylight and McCutchanville, IN. U. S. Army Waterways Experimental Station, Corps of Engineers, 9-9-92. In OSM Technical Report, 1994 as Vol. VIII. Available from ISEE @ 440-349-4004 as "REP O49913".

Handy, R. L., 1995. The Day the House Fell. Home owner Soil Problems - From Landslides, to Expansive Clays and Wet Basements. ASCE Press, Am. Soc. Civil Engineers, 345 East 47th Street, NY, NY 10017-2398.

Hudson, D. E.,1961. Explosive Generated Ground Motions. In Shock and Vibration Handbook by C. M. Harris and C. E. Crede, McGraw-Hill Book Co., v.3, Section 50, Part II, pgs. 50-33 to 50-42.

Seaquist, E. O.,1980. Diagnosing and Repairing House Structure Problems. 255 pp. Available from Professional Equipment as item "B117" for $29.95 plus postage and NY state tax, 800-334-9291.

Seed, H. B., 1979. Soil Liquefaction and Cyclic Mobility Evaluation for Level Ground During Earthquakes. J. Geotechnical Engineering Div. ASCE, Proceedings of the American Soc. Civil Engrs., Vol. 105, No. GT2, February 1979.

Siskind, D. E., M. S. Stagg, J. W. Kopp, and C. H. Dowding, 1980b. Structure Response and Damage Produced by Ground Vibration From Surface Mine Blasting. U. S. Bureau of Mines RI 8507, 74 pp. Available from the Author or from ISEE @ 440-349-4004.

Stagg, M. S., D. E. Siskind, M. G. Stevens and C. H. Dowding, 1984. Effects of Repeated Blasting on a Wood fame House. U. S. Bureau of Mines RI 8896, 82 pp. Available from the Author or from ISEE @ 440-349-4004.

Appendix C:

**FOURTEENTH ANNUAL SYMPOSIUM ON EXPLOSIVES AND BLASTING RESEARCH**

**FEBRUARY 8-11, 1998**
**NEW ORLEANS, LOUISIANA U.S.A.**

# GROUND VIBRATION EFFECTS ON STRUCTURES

David E. Siskind

DESA, D. E. Siskind and Associates, LLC

## ABSTRACT

U.S. Bureau of Mines Report of Investigation 8507 was published in 1980. In a comprehensive analysis of all known blast damage studies plus new definitive data, the USBM authors adopted new safe level criteria of 0.5 & 0.75 in/sec for the frequency range corresponding to structure resonances. These were 3 to 4 times lower than the existing limit of 2 in/sec and are the most restrictive scientifically-based blasting criteria for the prevention of threshold hairline cracks in homes. The Bureau's own tests involved 76 homes in six states. In USBM RI 8507, those tests were combined with data from nine other studies from the US, Canada, Czechoslovakia and Sweden in an overall conservative summary analysis intended to preclude blasting damage.

Since the publication of RI 8507, the following additional work was either completed or found. These studies support the safe-level criteria in RI 8507 as protective of structures from all blasting damage:

Cracking and responses from blast vibration:
- A four-site USBM study of response and damage from low-frequency vibrations
- A seven-part fatigue study by the USBM, which also involved two Universities (Northwestern and Drexel) and two other Federal science labs (Bureau of Standards and Corps of Engineers)
- Additional blasting damage studies in England (Leeds University) and India (Ctrl. Mining Res. Station)
- An extensive study of structure responses from sonic booms by the FAA

Natural and cultural stresses on homes:
- 14 Reports or studies of weather-induced stresses from temperature & humidity
- 9 Reports of soils, water and slope effects on foundations and pavements
- 3 Reports which describe vibrations in homes from inside activities
- 3 Reports related to construction characteristics

The RI's criteria have been variously challenged in the 17 years since publication. Initial concerns were from industry, believing them to be too restrictive and not justified. More recently, claims have been made in courts, permit hearings, and by legislators that they are not protective enough. Technical reasons are sometimes given, but, all real issues such as low frequencies, fatigue, and preexisting strains, have been examined. The remaining concerns arise from cases of large numbers of claims and complaints from organized citizen groups. These are issues of perceptibility and attitude. Based on the science and all objective measures, the criteria in RI 8507 are still believed to represent appropriate, if not conservative, guidance for the prevention of threshold cosmetic cracking in homes.

International Society of Explosives Engineers
29100 Aurora Road
Cleveland, Ohio, USA, 44139-1800
Tel: (440) 349-4004
Fax: (440) 349-3788

## SAFE LEVEL BLASTING CRITERIA

Recommendations for safe blasting and regulations based on them apply to vibrations measured outside next to low-rise residential structures of concern, or alternately, on the foundations at ground level. The effects of structure responses and response amplifications are already included as are the assumptions about the "normalcy" of the structures. Consequently, safe guidelines for such relatively lightweight structures will also apply to others such as large-span or high-rise buildings if they have similar response frequencies and maximum structure response amplifications as those studied. In practice, most blasting damage issues do involve one- and-two story residences.

## STRUCTURE RESPONSE AND DYNAMIC AMPLIFICATION

Responses of residential structures are critical indicators of troublesome or potentially damaging ground vibrations. Essentially, cracking from blast vibrations occurs when excessive stresses and strains are produced within the planes of the walls or between walls at the corners. Corner responses are assumed to be better indicators of cracking potential than midwall motions because blast-induced crack patterns are indicative of the whole-structure and shearing forces that are created from racking or distortion responses. Midwall motions (perpendicular to the wall surface) are primarily responsible for window panes rattling, picture frames tilting, dishes jiggling, and nick-knacks falling, but low inplane shear and no damage.

Above-ground parts of structures tend to amplify horizontal ground motion. Response is dependent on the natural frequency and damping of the structure and the amplitude and frequency of the ground vibration. The highest responses are expected from ground vibration at structure natural frequencies, 4 to 12 Hz for one- and two-story homes (Siskind, et al., 1990). Figure 1 shows structure (corner) response factors at 46 different houses from USBM studies. The highest amplification factors of 2 to 4-1/2 times correspond to excitation frequencies within the 4- to 12- Hz range. "Amplification factor" is the time-correlated ratio of response of the upper story to excitation at ground level. They are not necessarily ratios of peak levels because the peaks may not occur at the same time. The amount of measured amplification corresponds to an effective vibration damping of 10 pct or more. For one house in Figure 1, the N-S and E-W responses differ because of different structural stiffnesses. Figure 2 shows theoretical single-degree-of-freedom (SDOF) absolute and relative (or differential) system responses for four values of damping.

A blast vibration waveform, close to the structure resonant frequency, and the resulting response are shown in Figure 3, from the USBM low-frequency response studies (Pierce, et al., 1996). The response frequency is 5.9 Hz. Damping ($\beta$) was calculated from the free response of the structure, ideally the rate of decay of the response vibration after the ground vibration or driving function ceases:

$$\beta(\text{pct}) = (1/2\pi m)100L_n(A_n/A_{n+m}),$$

where $A_n$ is the amplitude and $A_m$ is the amplitude m cycles later.

The Figure 3 vibration is not ideal in that the ground vibration has not ended and the waveform does not represent free response. However, rapid decay is evident with the high-level response decreasing to 23 pct amplitude after 2 cycles. This corresponds to a damping of 11.8 pct using the above equation. This is close to the 10 pct corresponding to an ideal response system (SDF) having a maximum amplification factor of 4.5x, but notably exceeds the values calculated in RI 8507, which were typically 2 to 5 pct.

## VIBRATION-INDUCED CRACKING IN HOMES

### U. S. Bureau of Mines RI 8507 Study and Findings

An historical summary of USBM efforts to establish guidance criteria for safe blasting has been given elsewhere (Siskind, 1997). The current and most comprehensive study of blasting vibration impacts on

homes is RI 8507 (Siskind, et al., 1980). This report described USBM measurements and inspections from 240 blasts at 76 homes combined with a summary analysis of studies by other researchers. Following this was USBM RI 8896, a comprehensive study of repeated long-term vibration effects on a single home's structure and components combined with four sets of laboratory tests on fatigue (Stagg, et al., 1984). These two studies summarized all the available and appropriate observations of blast-produced cracking from low-level ground vibrations done up to the time of the OSM regulations. Their scopes of study were low-rise residential structures, small to moderate-size blasts (up to about 4,000 lb per delay), and moderate distances of a few hundred feet to a few miles.

A major finding reported in RI 8507 was the importance of vibration frequency to both structural response and crack damage potential. The RI provided a simple 2-level criteria and a graphical alternative for safe ground vibration levels to avoid cracking in homes. Both involved frequency. The graphic version in Figure 4 shows the dynamic vibration response of low-rise residential structures (e.g., homes) of two or fewer stories and guidelines for the prevention of cosmetic threshold "hairline" cracking or worse. The "safe-envelope" is based on structural response and actual observations of threshold crack damage in residences from nine previous investigations plus the Bureau's own measurements described in RI 8507. This totals 718 blasts, 136 of which produced documented damage. Many of the blasts, even some non-damaging ones, produced relatively high-level ground vibration amplitudes, up to over 2 in/sec. "Threshold damage" was defined as superficial hairline interior cracking of the type which developes in all homes independently of blasting.

## Probability of Crack Damage in Homes

Analyses in RI 8507 produced plots of damage probability versus vibration level (in its Figs. 55-59). These kinds of log-normal plots and the discussion of structures under pre-existing stresses originally suggested that there is no actual zero threshold of damage and that blasting could be a trigger for cracking. This is not now believed to correspond to real situations following the fatigue studies and other measurements of natural and cultural forces affecting homes. The log-normal theoretical prediction line in the RI shows a 5% cracking probability at 0.50 in/sec. However, the actual damage versus nondamage data (points representing numbers of observations) departed from the prediction line and show an asymptotical approach to zero probability at about 0.50 in/sec (Figure 5).

The lack of positive cracking observations below 0.50 in/sec was recognized in 1980, but, the reason only suspected. There was no observed cracking below this vibration level from thousands of observations following hundreds of blasts and many non-damaging vibrations above, many even above 2.0 in/sec. The reason is believed to be the universal existence of natural and cultural stresses affecting homes corresponding to vibrations above about 1.2 in/sec. Virtually all homes have some crack damage as they respond to some and likely several causes of stress: thermal cycles, humidity-produced dimensional changes, material curing and shrinking, frost, soil shrink & swell, slope creep, settlement and compaction, activities by persons in and near homes, traffic, aircraft, sonic booms, wind, tree roots, failures through construction deficiencies and excessive load, etc. (Discussed later in this paper).

## Degrees of Blast Damage

Some have interpreted the USBM criteria to mean that extensive and widespread damage occurs just above 0.5 (or 0.75) in/sec. As described in the RI, the cracking threshold criteria are low probability values of cosmetic crack damage. Exceeding them by a small amount will not cause either *extensive* damage or crack every structure. The USBM researchers and others as well measured hundreds of non-damage blasts, some even above 2 in/sec. The same issue also applies to the nature of damage. Blasting will not produce wide or open cracks unless strong enough to disturb the underlying soil and/or the foundation. Cracking of concrete and other masonry would not be expected from vibration near the plaster or wallboard cosmetic cracking threshold. Any vibration strong enough to crack concrete driveways, sidewalks, foundations, etc. would also be expected to produce extensive superstructure damage.

## Nature of Blast-Produced Cracking

In general, blasting shakes structures in all directions with the strongest and most serious being the horizontal components of motions and responses. If cracks result from blasting, they will be at angles from the shear forces in the planes of walls which provide structural stiffness. They also will be symmetrical (both directions in each wall).

Cracks from blasting can only be wider than hairline where vibrations are high enough to both break and move the material. Structural or component separations require a significant fraction of a g (one g = 32.2 ft/sec$^2$) acting in one direction long enough for movement to occur. Inotherwords, both high acceleration and low frequency. Separations could approximate the peak displacements, but, more likely the maximum difference between displacements from successive cycles of vibration. As a worst case example, a 1/4-in separation could occur in a weak or already broken material from an acceleration of at least 0.2g and a peak displacement of 1/4 inch. Corresponding particle velocity and frequency are 4.4 in/sec and 3 Hz, respectively. This combination is more likely from an earthquake than blasting.

## Cracking From Other Causes

Responses from settlement, compaction, and slope failure will be at angles but not usually symmetric. That is, cracks will tend to run in specific directions (if N-end settles, cracks run from S-end low to N-end high from tensile forces). They will be open cracks that tend to widen with time. Level-loop transit surveys can show settlement and slope effects. Uneven loading results when outside load-bearing walls carry all the structure's weight. This can cause bending of slabs and tensile cracks on floors, typically down the center line.

Thermal responses and drying and curing of materials will cause cracks parallel to walls and ceilings and generally not at angles. Where humidity changes significantly, dimensional changes of up to 10 pct across the grain will occur affecting anything where wood provides the support. Generally, a structural engineer is needed to identify if humidity is a factor as it depends on how the support is provided and if the builder allowed for this. Cracks in floors and floor tiles will be from foundation problems such as settlement, lack of sufficient support, and workmanship. Vibration cannot crack massive concrete or effect floors nor anything in or on the ground unless the levels are very high, above at least 2 in/sec.

## Fatigue Study - U. S.Bureau of Mines RI 8896

A Bureau of Mines seven-part fatigue study followed RI 8507 (Stagg, et al., 1984). The main effort involved building an 1100-square foot house on a coal mine highwall. This structure was subjected to two years of environmental forces such as settlement, daily and seasonal temperature cycles, humidity variations, and wind, and 587 production blasts followed by one week of mechanically produced shaker vibrations. Examined were responses from 587 blasts over 0.10 in/sec, 108 of which exceeded 0.50 in/sec. After blasting and some initial damage, the structure was mechanically shaken in translation and torsion response for a total of 13 hours at up to over 6 in/sec (over 350,000 total vibration cycles). Only cosmetic cracking resulted from both the blasting and mechanical tests. The overall result of this study is that 1.0 in/s represents a ground vibration levels at which crack rates began to rise in response to blasting.

Supplementing these field tests, the Bureau of Mines fatigue-tested to failure construction materials such as gypsum plaster wallboard sections. It also sponsored similar tests at Northwestern University with their emphasis on failure under shear load. For concerns about masonry failure, the Bureau contracted with Drexel University in Philadelphia for a series of tests of miniature concrete block walls for in-plane fatigue failure. Finally, in a cooperative study with the USBM, full-scale concrete block wall panels and corners (13 total) were tested at the U. S. Bureau of Standards (now NIST) material testing facility near Washington, D. C.

Summarizing the fatigue tests and measured strains:

failure of wallboard core started at 300 με and was noticeable on the surface (paper covering) at about 1000 με

concrete block walls under no prestrain were undamaged at low levels and even after 100,000 cycles of vibration at 1.0 in/sec following 200,000 cycles at lower levels

concrete block walls under 70 % of static failure load had initial vibration-induced cracks after 25,000 cycles at 0.6 in/sec following a test of 100,000 cycles at 0.3 in/sec,

global strain corresponding to initial cracks in concrete block walls was about 100 με.

The overall findings from all these fatigue tests are that construction materials can be failed by fatigue. However, like most materials, the loads must be a significant fraction of the ultimate strength for this to occur. Levels well below failure will not produce failure no matter how long they are applied. In material science, this means that elastic limits are not being exceeded and, at the microscopic level, molecular bonds are not being broken. As applied to blasting, the 0.5 to 0.75 safe-level criteria is below the level at which fatigue could be expected. Interestingly enough, most houses near blasting or not, do have some cracks, particularly at structural joints and weak points. The reasons are everpresent ambient stresses.

## Strain-Based Failure Criteria

Studies described in RI's 8507 and 8896 examined damage potential through tests on homes and inspections before and after blasting. An alternative analytical approach is suggested by the results of the fatigue studies where stresses, strains and strengths of construction materials were measured. Figure 6 shows the failure curve for gypsum wallboard. Initial core failure was at 300 με and visible failure of the paper covering occurred at about 1,000 με. The fatigue tests of concrete block walls tested by the Bureau of Standards found initial failure at a global strain of about 100 με. Most of the yield was in the mortar. Dowding, 1996 gives 50 με as a minimum failure strain for concrete, corresponding to a particle velocity of 6 in/sec.

Measurements of structure response, and specifically measurements or estimates of differential displacements, can provide approximate values for global in-plane wall strains, as per Figure 7. As an example, a horizontal component particle velocity of 1.0 in/sec and an amplification factor of 4x at an 8-Hz resonance for a two story house (40-ft long wall and 24-ft height to top story) will produce a global strain of about 119 με in a uniform wall. This is about 1/3 of that required to produce initial core cracking, however, the existence of door and window openings complicates the actual resulting strains.

For monolithic materials, failure vibration levels can be estimated from the following:

$$PPV_{in/sec} = S/(9.25 \times 10^{-5} \times \rho \times C_p)$$

where S is the tensile strength (lb/in$^2$), $\rho$ is the specific gravity and $C_p$ is the P-wave propagation velocity in in/sec. For example, concrete with a tensile strength of 200 lb/in$^2$, a specific gravity of 2.0 and a propagation velocity of 10,000 ft/sec would crack at about 9 in/sec. This is roughly consistent with Dowding's figure above and tests described in the next section.(note: watch units, $C_p$ must be in/sec).

## Cracking of Concrete From Vibrations

Massive concrete is understandably very resistant to vibration-induced cracking. Work by Oriard, 1980 specified some historical guidelines for new (green) concrete that has not yet fully cured of 2 to 4 in/sec and estimating a more realistic safe level of 10 to 20 in/s after 7 to 10 days. The American Concrete Institute recommends similar criteria for peak vibrations: 2 to 7 in/s. In actual tests, Oriard found that over

100 in/s vibration was required to crack 8-day-old concrete and that "old" concrete could withstand 375 in/s. Oriard also listed Tennessee Valley Authority (TVA) criteria for mass concrete, which specify a safe level of 12 in/s for concrete over 10 days old at distances beyond 250 ft from the blast. Closer distances allow higher vibrations, up to 20 in/s within 50 ft, presumably because of higher frequencies which would lessen the probability for damage. The higher vibration levels are not of concern outside the immediate vicinity of a blast (a few tens of feet).

A more recent study by Oriard, 1992 described tensile failure in concrete with a threshold failure of about 700 με and skin spall at about 1200 με. Corresponding peak particle velocities for these strains are about 110 and 200 in/s, respectively. Frequencies were not specified but are assumed to be high because of the short shot-to-receiver distances described in the report. Additional information on concrete, including the green variety, is given in Chuck Dowding's new text (Dowding, 1996).

Although not cast concrete, the USBM collected a small amount of data on blast-produced cracks in concrete block basement-walls in its RI 8507 studies of vibration impacts on homes (Siskind, et al., 1980). Three observations of new cracks in these walls occurred from ground vibrations with amplitudes of 6 to 11 in/s, and frequencies of about 12 Hz.

## NATURAL STRESSES AND CULTURALLY-INDUCED VIBRATIONS AND STRESSES

### U. S. Bureau of Mines Measurements of Non-Blast Forces in Homes

Although only suspected at the time of publication of RI 8507, a vibration level criterion of 0.5 in/s was found to have special significance because it approximates typical minimum ambient, or regular, conditions in houses. Human activity such as walking and closing doors produced internal strains equivalent to ground vibrations of about 0.5 in/s. An even higher equivalent particle velocity above 1.2 in/s correspondeds to weather influences such as wind gusts, temperature and humidity cycles (Stagg, et al., 1984). Other vibration sources are traffic, trains and aircraft. Since houses are regularly immersed in such an environment, it is not surprising that no blast-produced cracking was observed in tests with vibrations below 0.5 in/s. As a result, Bureau researchers concluded that vibration levels below 0.5 in/s were likely insignificant, except for two possible cases: those involving particularly sensitive devices, such as scientific instruments, and those involving vibrations with frequencies below those studied for blasting (4 Hz). The so-called low frequency problem was addressed by follow-up USBM studies and found to generally be a non-problem for residences (Crum et al., 1995, Crum, 1997, Pierce, et al., 1996 and Siskind, et al., 1996). As expected from theory, the worst case was found to be blast vibrations at the fundamental structural resonance frequencies which is 4 to 12 Hz for most low-rise homes.

### Additional Studies of Vibrations and Stresses in Homes From Non-Blast Sources

Others have compared the effects of ambient forces to blasting. One study by H. Y. Fang, 1976 in Swedesburg, PA used strain gauges across cracks in 9 home. He reported that structure responses from non-blasting unknowns, environmental forces, and human activity including trains and traffic exceeded those from the blasts at the nearby McCoy quarry, then limited to 200 lbs/delay (≈0.4 in/sec). "Quasi-Static" changes (or slowly changing forces), such as temperature and humidity cycles, over periods of 1-7 days produced changes in crack widths in these structures from 0.28 to 5.0 mm. By contrast, dynamic changes from the blasting were typically 0.0025 to 0.0102 mm (the highest being 0.04 mm), making observed blasting effects relatively insignificant.

Two papers by authors from Leeds University (UK) also examined blasting impacts on structures and comparisons between blasting and ambient forces (White et al., 1993a & 1993b) Their results were entirely in agreement with the previous studies in terms of vibration levels corresponding to damage and responses to non-blasting forces. In particular, they found temperature cycles and human activity within the structure to have strong influences on crack widths, with blasting vibrations having little or no effect.

The Leeds researchers found crack extensions during non-blast periods which were attributed to periods of low outside temperature, while the lowest positive blast damage observation appeared to be from a vector sum amplitude (worst case magnitude) of 24.1 mm/s (0.95 in/s). They concluded that the amount of cracking was four times as high from "all causes" than from just ground vibrations, even with peak vector sum particle velocities reaching 60 mm/s (2.4 in/s). The Leeds studies support the Bureau's re-evaluation of its 0.5 to 2.0-in/s safe-level criteria from RI 8507, the 1.0 in/sec threshold from RI 8896, and the conclusion that these do provide protection to low-rise structures from cracking caused by blast vibrations, even under worst-case conditions.

Newspaper articles have described the effects on homes of soil shrinkage from drouth and extreme cold:
"Drouth Causing Houses Here to Settle and Walls to Crack" St. Louis Post-Dispatch, 9-22-76
"Cold Brings Natural Groans From Houses" Minneapolis Star Tribune, 1-20-96. "I literally thought it was an earthquake, "said Dave Grimsrud" and I lived in California for 12 years."

## Equivalent Vibration Velocities (in/sec) Based on House Wall Responses and/or Strains

USBM fatigue study test-house in Indiana, RI 8896, Stagg, et al.,1984:
- Slamming of front door ..... 0.15-1.9
- Jumping on the floor & walking..... 0.10-0.50
- Humidity change inside (10 pct)..... 1.2-2.4
- Temperature change inside (Δ10°F)..... 1.2-3.2
- Wind (20 mph)..... 0.6-2.6

A study of five homes in Penna by Fang, 1976:
- Temp. and humidity over 7 days..... 1.75-5.0
- Auto traffic..... 0.04-0.20
- Pushing on the wall..... 0.025-0.36

UK studies for British Coal Board by Leeds University, White, et al., 1993a & b:
- Outside temperature changes (Δ18°F)..... 0.34+
- Pushing on wall near doorway..... 0.6-1.2
- Pushing on wall next to window..... 2.4
- Heel drop & jumping..... 0.15-0.9

ISEE paper by Simms, et al.,1994:
- Closing door..... 0.3-0.45

Sonic boom summary by Wlye Labs., Sutherland, et al.,1968 :
- Wind (50 mph)..... 1.1-6.7

Florida home, ISEE paper by Siskind, et al., 1996:
- Temperature outside (Δ10°F)..... 0.5-1.7

From Dowding's Text, 1996:
- Temperature and humidity..... 0.75-2.6

## Soil and Foundation Problems

A recent study was completed by the Bureau (working with OSM and other agencies) examining the possibility of cracking through failures of foundations in a community five miles from a large surface coal mine (Crum, et al., 1992 and Siskind, et al., 1993). Despite the low vibration amplitudes of 0.02-0.06 in/s, homeowners were concerned that observed cracks may have been a consequence of the blasting. The most seriously damaged homes were located on an upland area of loess (wind deposited silt-sized particles) which is highly susceptible to water-caused erosion and piping. In addition, some of the soils contained moderately expansive clays which can shrink or swell depending on moisture content and are therefore dimensionally sensitive to rainfall amounts. In a summary analysis by four science agencies, the existing cracks were determined to be from one or more of water intrusion along the foundations, erosion removing support, and soil forces from the expansive clays. Level-loop surveys also showed slope problems and slope creep. A more distant but similar upland area not exposed to blast vibrations was also examined and found to have similar types and amounts of damage (Office of Surface Mining, 1994).

Problems with soils and foundations are of two general types, failure to adequately support the load of the house and forces acting laterally on foundation walls. Both of these are static or long-period cyclic and can be strong enough to cause major damage such as large open cracks, separations and rotations of parts of a home and even collapse of basement walls. Causes of failure include inadequate or too shallow footings, partially unconsolidated soil, organics in the soil, slope creep, erosion through inadequate water management, shrink-swell soils, frost cycles, tree roots and, if high enough, blast and other vibrations.

## COMMUNITY COMPLAINTS ABOUT BLASTING

Blasts can cause noticable structure response and rattling from ground vibration and/or airblast at levels well below damage thresholds. Being noticed by home owners, they create concern about potential damage. A particularly strong event will spur a search and cracks which will inevitably be found, as all homes have them regardless of blasting. Every consultant involved in pre- and post-blast inspections has stories about cracks sworn to be new but were present in the pre-blast inspection reports that, in some cases, the home owner also had but failed to review. Other examples often mentioned are supposedly new cracks with old paint, and other evidence of old age.

Cracks exist in virtually all homes from the universal existence of natural and cultural stresses affecting these homes, many discussed previously. Virtually all homes are stressed from thermal cycles, humidity-produced changes, material curing and shrinking, frost, soil shrink & swell, slope creep, settlement and compaction, activities by persons in and near homes, traffic, aircraft, sonic booms, wind, tree roots, failures through construction deficiencies and excessive load, etc. Many of these act over long time intervals such as the 24-hr temperature cycle and the major one-year humidity cycle in temperate and cold climates. The forces from these can be far larger than any conceivable mine or construction blast. With a few exceptions, such as storms, they are not as noticeable as blasts because they act over longer cyclic periods. However, many researchers have measured the relative effects of blasting and other transient forces on structure response and the behavior of existing cracks. Because the effects of natural forces are generally not noticeable it is understandable that blasting gets blamed for cracks that could have been present before but ignored.

## REFERENCES


Crum, S. V., Siskind, D. E. and Eltschlager, K., 1992, "Blast Vibration Measurements at Far Distances and Design Influences on Ground Vibrations", Proc. 18th Annual Conf. on Explosives and Blasting Technique, Soc. of Explosives Engineers, Orlando, FL, pp. 167-179.

Crum, S. V. and Pierce, W. E., 1995, "House Responses to Low Frequency Ground Vibrations from Coal Mine Overburden Blasting: A Technical Update", Proc. 11th Annual Symp. on Explosives and Blasting Research, Soc. of Explosives Engineers, Nashville, TN, pp. 76-88.

Crum, S. V., 1997, "House Response From Blast-Induced Low Frequency Ground Vibrations and Inspections For Related Interior Cracking", Final Rpt. for the Office of Surface Mining, Contract 143868-PO96-12616, 77 pp.

Dowding, C. H., 1996, "Construction Vibrations", Prentice Hall, 610 pp.

Fang, H. Y., 1976, "Field Studies of Structural Response to Blasting Vibrations and Environmental Effects", Lehigh University.

Office of Surface Mining Reclamation and Enforcement, 1994, "Investigation of Damage to Structures in the McCutchanville-Daylight Area of Southwestern Indiana", Technical Report, 990 pp.

Oriard, L. L. and Coulson, J. H., 1980, "TVA Blast Vibration Criteria For Mass Concrete", Proc. Conf. of ASCE, Portland, OR, Preprint 80-175.

Oriard, L. L., 1992, "Near Source Attenuation of Seismic Waves From Spatially Distributed Sources", Proc. 8th Annual Symp. on Explosives and Blasting Research, Soc. of Explosives Engineers, Orlando, FL, pp. 83-96.

Pierce, W. E., Crum S. V. and Siskind, D. E., 1996, "Assessment of Low-Frequency Blast Vibrations and Potential Impacts on Structures", Contract Research Report by the U. S. Bureau of Mines for the Office of Surface Mining, Reclamation and Enforcement (EF68-IA 92-12180), 22 pp.

Simms, D. R., 1994, "A Good Neighbors Policy; the Evolution of O & G Industries, Inc.'s Public Relations Policy Working With Local Towns", Proc. 12th Annual Conf. on Explosives and Blasting Technique, Soc. of Explosives Engineers, Austin, TX, pp. 467-478.

Siskind, D. E., Stagg, M. S., Kopp, J. W. and Dowding, C. H., 1980, "Structure Response and Damage Produced by Ground Vibration From Surface Mine Blasting", U. S. Bureau of Mines RI 8507, 74 pp.

Siskind D. E., Crum S. V. and Plis, M. N., 1993, "Blast Vibrations and Other Causes of Damage in Homes Near a Large Surface Coal Mine in Indiana", U. S. Bureau of Mines RI 9445, 62 pp.

Siskind, D. E., Stagg, M. S., Pierce, W. E. and Crum, S. V., 1996, " Low-Frequency Blast Vibrations at a High Water Table Site", Proc. 12th Annual Symp. on Explosives and Blasting Research, Soc. of Explosives Engineers, Orlando,FL, pp. 21-31.

Siskind, D. E., 1997, "Vibrations from Blasting", DESA Consultants DR-31.

Stagg, M. S., Siskind, D. E., Stevens, M. G. and Dowding, C. H., 1984, " Effects of Repeated Blasting on a Wood Frame House", U. S. Bureau of Mines RI 8896, 82 pp.

Sutherland, L. C., 1968, "Sonic and Vibration Environments for Ground Facilities... A Design Manual", Wlye Laboratories Report for NASA, Contract NAS8-11217, 633 pp.

White, T., Farnfield, R. and Kelly, M., 1993a, "The Effect of Low Level Blast Vibrations and the Environment on a Domestic Building", Proc. 9th Annual Symp. on Explosives and Blasting Research, Soc. of Explosives Engineers, San Diego, CA, pp. 71-81.

White, T., Farnfield, R. and Kelly, M., 1993b, "The Effects of Surface Mine Blasting on Buildings", Proc. 4th International Symp. on Rock Fragmentation by Blasting (Fragblast 4), Vienna Austria, pp. 105-111.

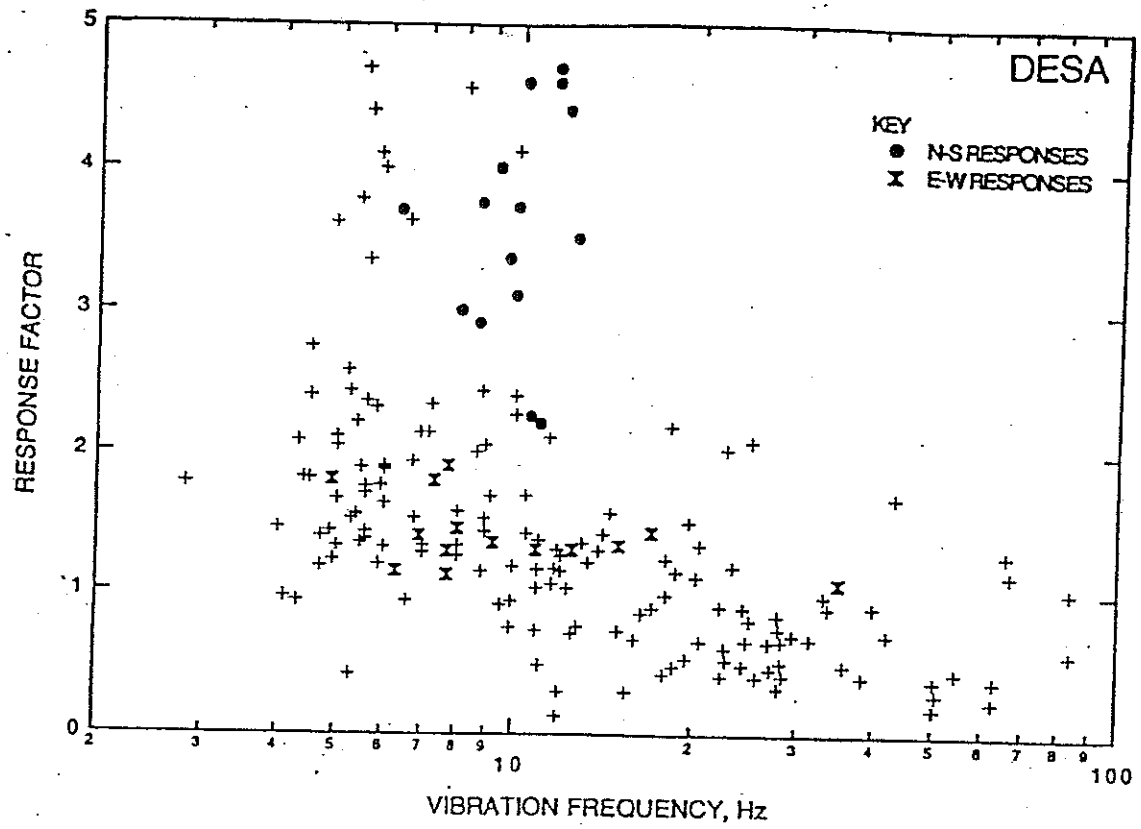



Figure 1. Structure response amplification factors for houses studied by the USBM (Siskind, et al., 1996). The highest responses occur at the fundamental resonance frequencies, which for homes are in the range of 4 to 12 Hz. The highest amplifications are about 4 x, corresponding to an effective damping of 10 pct.

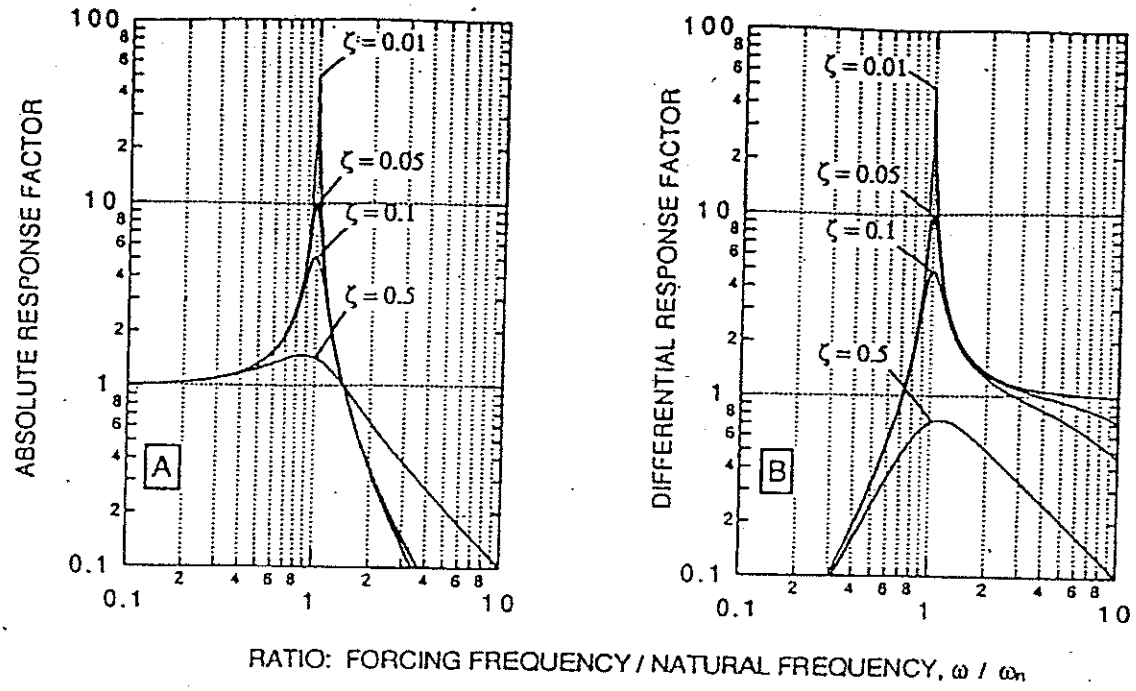



Figure 2. Absolute response factors (A) and differential responses (B) for a steady-state SDOF model for damping values of 1, 5, 10 and 50 percent (Crum, et al., 1995). For both absolute and differential responses, maximum amplifications occur at the resonance frequency. Because of low differential responses, frequencies below resonance are not a problem (no relative displacement and, hence, no strain).

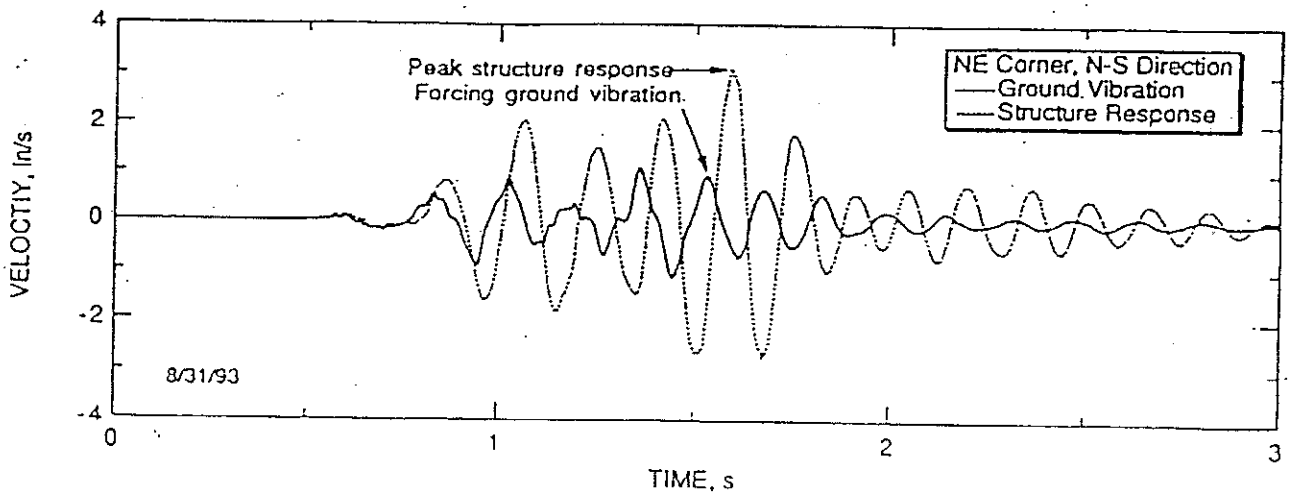



Figure 3. Vibration near structure resonance. Natural frequency and damping can be measured from waveforms of this type, being about 5.8 Hz and 11.7 pct, respectively (Pierce, et al., 1996).

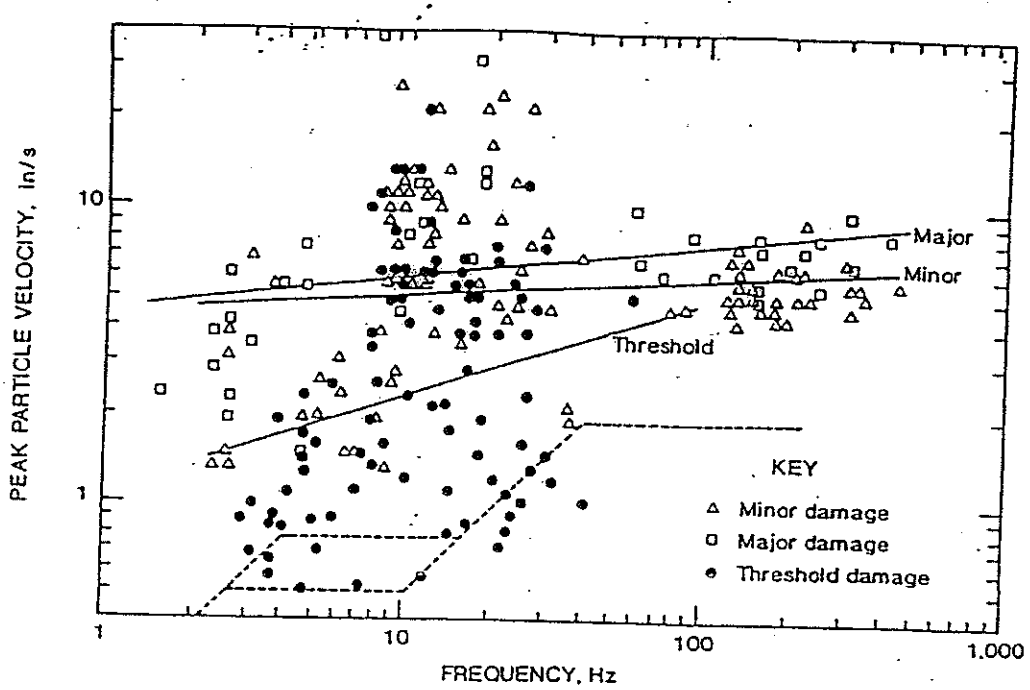



Figure 4. Ground vibration damage summary adopted from RI 8507 (Siskind, et al., 1980). Dashed lines define USBM recommended safe limits using a combination of velocity (horizontal lines) and displacement (angled lines). The result is a tighter standard for low frequencies. Solid lines are the earlier USBM Bulletin 656 mean regressions and symbols shown are positive damage observations. The many non-damage values, some even exceeding 2 in/sec, are not shown.

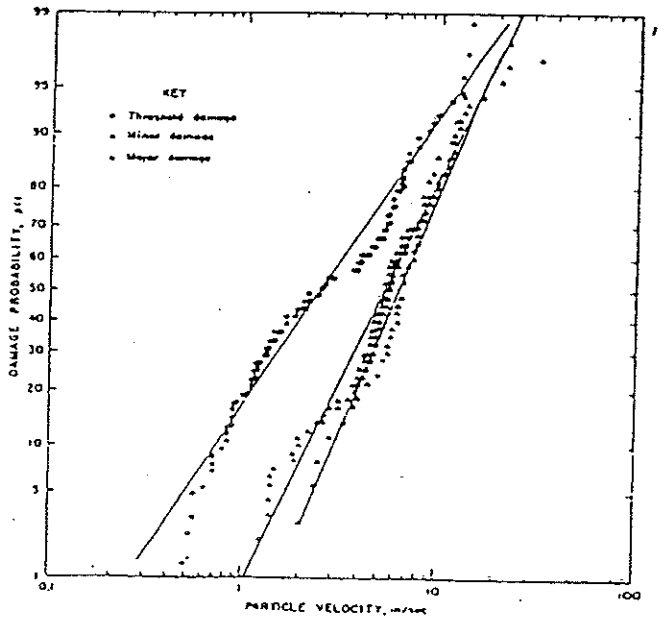



Figure 5. Cumulative probability analysis of the summary USBM RI 8507 damage data based on positive versus negative damage observations. The departure of the actual observations from the theoretical (Gaussian) predictions suggests a minimum threshold of 0.50 in/sec

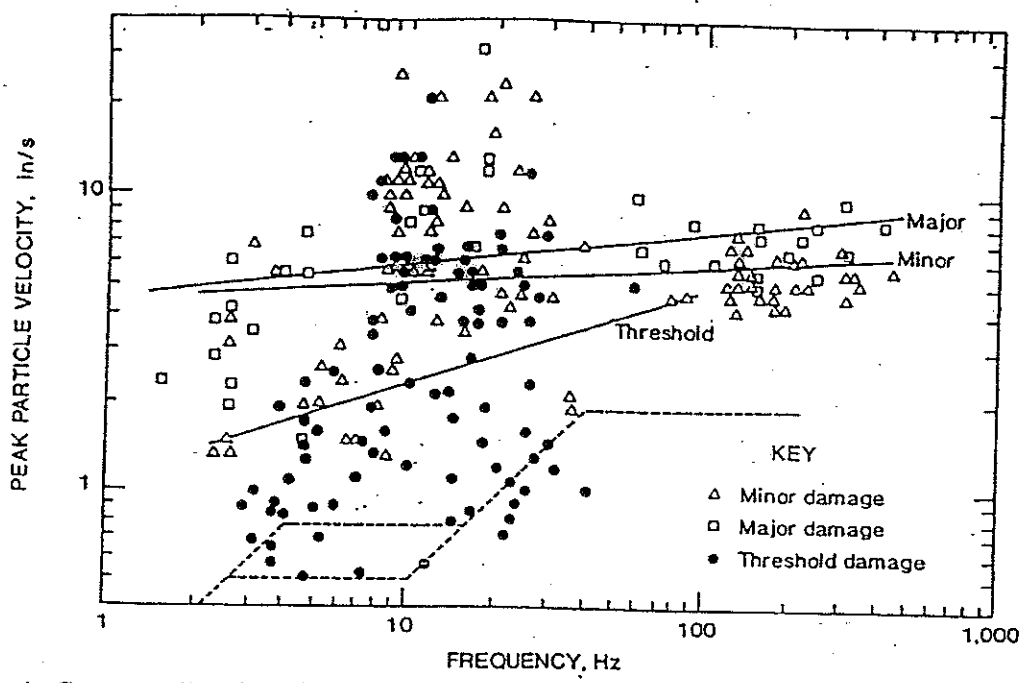



Figure 4. Ground vibration damage summary adopted from RI 8507 (Siskind, et al., 1980). Dashed lines define USBM recommended safe limits using a combination of velocity (horizontal lines) and displacement (angled lines). The result is a tighter standard for low frequencies. Solid lines are the earlier USBM Bulletin 656 mean regressions and symbols shown are positive damage observations. The many non-damage values, some even exceeding 2 in/sec, are not shown.

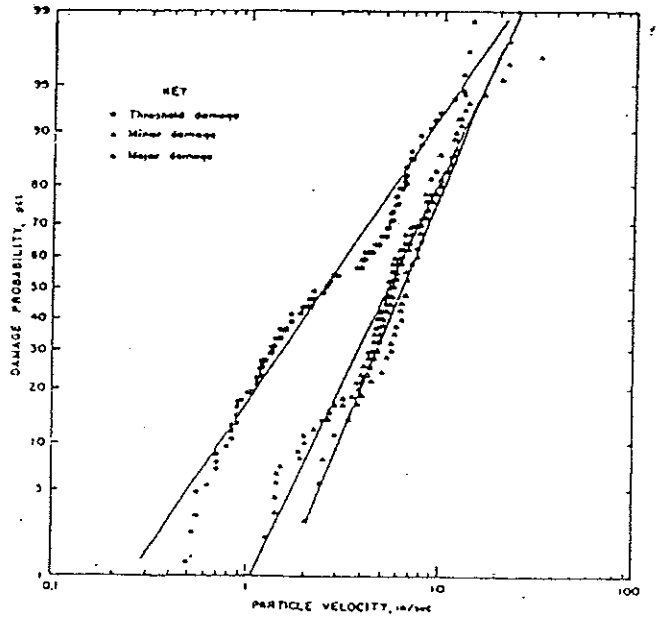



Figure 5. Cumulative probability analysis of the summary USBM RI 8507 damage data based on positive versus negative damage observations. The departure of the actual observations from the theoretical (Gaussian) predictions suggests a minimum threshold of 0.50 in/sec

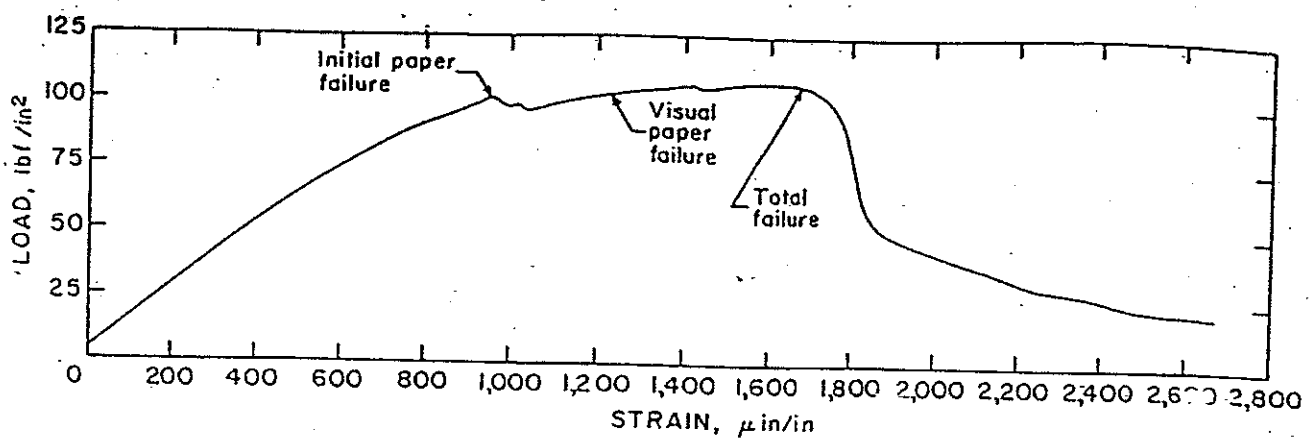



Figure 6. Tensile stress-strain deformation curve for 1/2-in-thick wallboard (Stagg, et al., 1984). Initial failure is shown by a subtle departure from linearity at about 300 με. The paper covering started to fail at about 1,000 με.

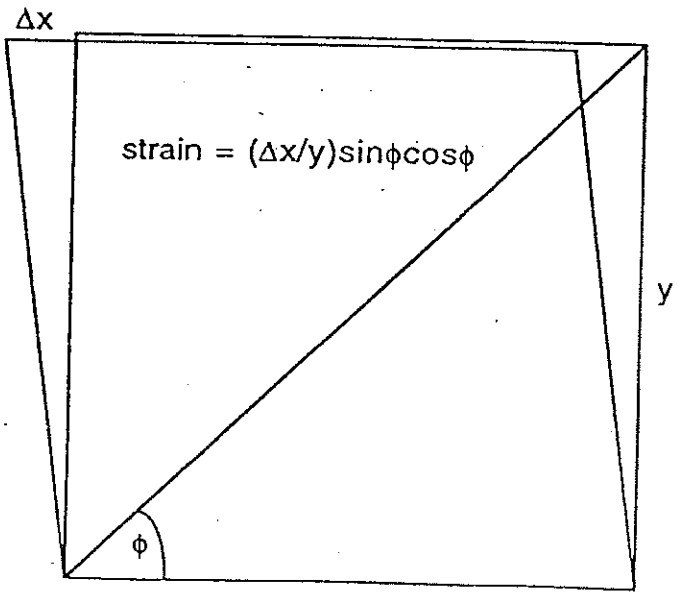



Figure 7. In-plane shear strain computation from relative displacement.

Appendix D:

D.E.SISKIND&ASSOCIATES,LLC.
5812 Thomas Circle
Minneapolis, MN 55410-2936, USA
Tel/Fax (612) 929-4498

# DIAGNOSING CRACK DAMAGE IN RESIDENTIAL STRUCTURES

A Catalog of Observations and Causes of Cracks in Homes

by David E. Siskind
DESA Consultants, DR-40
February 17, 1998

Table 1. - Foundations and Foundation Walls

Table 2. - Superstructure Exteriors

Table 3. - Superstructure Interiors

References

## TABLE 1. - DIAGNOSING CRACK DAMAGE TO RESIDENTIAL STRUCTURES: FOUNDATIONS AND FOUNDATION WALLS

| OBSERVATION | CAUSES OF DAMAGE | REFERENCES AND EXAMPLES, PGS | | |
|---|---|---|---|---|
| | | AISG | Seaquist | Allen |
| A. Open cracks, structural separations and/or rotations | 1. Settlement: compaction of fill, peat soil, collapsible soil | 26-29 | 18-21,24-25, 60-62,220-222 | - - - |
| | 2. Footings too shallow or narrow for load | 27-28 | 15, 22 | 181 183 |
| | 3. Subsidence | - - - | - - - | - - - |
| | 4. Slope creep | 29 | 18, 25-26 | - - - |
| | 5. Loss of support, erosion, low soil moisture | 27-28 | 19-22,26-27, 219-222 | 218 |
| | 6. Inadequate or improper drainage of water around foundation | 25-26 | 22,26-27, 35,54-58 | 110-112 |
| | 7. Exposure and load during construction | - - - | 53-54 | - - - |
| | 8. Insufficient support for interior columns | - - - | 23 | - - - |
| | 9. Improper repair of creep failure | - - - | 30-32 | - - - |
| | 10. Uplift, excess hydration | 29-30 | 26-27,35,54-58 | - - - |
| | 11. Frost cycles | 27-30 | 52 | 185 |
| | 12. Tree roots | - - - | 234 | 185 |
| | 13. Continual thermal & humidity cycles | - - - | 47-49 | - - - |
| B. Minor vertical cracks in masonry | 1. Uncured concrete blocks shrinkage | 31-32 | 42-46 | - - - |
| | 2. Expansion and contraction of concrete and concrete block walls, and lack of control joints | 31-32 | 47-49 | 186 |
| | 3. Shrink and swell specifically from moisture changes | - - - | 47 | - - - |
| | 4. Under strength concrete or excessive curing shrinkage | - - - | 66 | 186 |

## TABLE 1. - cont.

| | | | | |
|---|---|---|---|---|
| C. Bowing in or failed basement walls | 1. Lateral forces from expansive soil..... | 29-30 | 22,25 | - - - |
| | 2. Water along the foundation..... | 25-30 | 35,54-58 | - - - |
| | 3. Excessive lateral soil forces and lack of reinforcing pilasters or partitions | 29-30 | 34,38-39, 46-47,49-50 | - - - |
| | 4. Low mortar strength..... | 32 | 36-37 | - - - |
| D. Minor horizontal cracks in masonry, bowing in of above-ground walls | 1. Near ground level: soil forces and restraint from floor attachment | 29-30 | 49-51 | - - - |
| | 2. Bowing in from lack of wall stiffness or action against restraining floor-joist attachment | 29-32 | 51-52 | - - - |
| | 3. Bowing outward in winter and inward in summer from thermal differential | - - - | 115-117, 198 | - - - |
| E. Water leakage | 1. Water along foundation and porous wall | 25-26 | 35,54-58 | - - - |
| | 2. Infiltration along outside basement wall | 25-26 | 55 | - - - |
| F. Deterioration of masonry | 1. Physical breakage, e.g., freezing cycles... | - - - | 62-63,118,220 | - - - |
| | 2. Chemical decomposition, e.g., acids and salts wicked into masonry (damp rise) | - - - | 119-123, 232 | 185 |

## TABLE 2. - DIAGNOSING CRACK DAMAGE TO RESIDENTIAL STRUCTURES: SUPERSTRUCTURE EXTERIORS

| OBSERVATION | CAUSES OF DAMAGE | REFERENCES AND EXAMPLES, PGS | | |
|---|---|---|---|---|
| | | AISG | Seaquist | Allen |
| A. Wide cracks at angles and preferred directions (distortion of frame) | 1. Foundation failure (see foundation damage table) | 27-32 | 19-60 | - - - |
| | 2. Excessive static load such as second story addition | - - - | 78-79,82-84 | - - - |
| | 3. Isolated event such as severe wind storm | - - - | - - - | - - - |
| | 4. Dry and wet rot, insects..... | - - - | 80-82 | - - - |
| B. Multi-directional cracks at angles to walls | 1. Insufficient stiffness against distortion, inadequate bracing or material | 51-52 | 88-90 | 181 |
| | 2. Large windows and doors compromising load carrying capacity | - - - | 91 | - - - |
| | 3. Large dynamic transients: windstorms, blasts | - - - | - - - | - - - |
| C. Cracks parallel to walls and ceilings | 1. Excessive load or insufficient construction: truss, wall, or floor deflection or distortion | 33-36, 59, 61 | 147-149, 78-84,112, 206 | 174-178 |
| | 2. Major site-related discontinuity: ground level or bearing material | 28-32 | - - - | - - - |
| | 3. Thermal cycles: wall bowing (T-1, D.3) | - - - | 115-117 | - - - |
| | 4. Failure to provide joints in long masonry walls (> 60 ft) | 33-34 | 125 | 185 |
| | 5. Dimensional changes from humidity cycles in mixed wood & masonry | 33-34 | - - - | - - - |
| D. Stucco cracks | 1. Shrinkage: improper mix or curing (too much sand or lime) | 35-36 | 96 | - - - |
| | 2. Stucco directly over masonry, thermal cycle stresses and freezing effects on entrapped water | 35-36 | 93 | - - - |
| | 3. Stucco over wood and differential responses to changes in humidity, cracks permitting water intrusion | 35-36 | 75-76,92-97 | - - - |
| | 4. Harsh thermal environment for the stucco because of heavy insulation behind | - - - | 75 | - - - |

**TABLE 2. - cont.**

| | | | | |
|---|---|---|---|---|
| E. Irregular cracks in facade of brick and stone | 1. Moisture and freezing in heavily-insulated walls | - - - | 61,78,118 | - - - |
| | 2. Chemical deterioration from water-borne acids and salts | - - - | 61,119-123, 232 | - - - |
| F. Doors and windows in masonry | 1. Differential shrinkage & expansion of frame & veneer | 37-38 | 48,83-84 | - - - |
| | 2. Lintels too short, made of wood, or installed improperly | 39-42 | 83-84 | - - - |
| | 3. Insufficient side confinement for bay windows and multi-window loft buildings | - - - | 103-105 | - - - |
| G. Arches in masonry | 1. Crushing of mortar | 43-44 | 103-105 | - - - |
| | 2. Static movement and shift of load (see A, B,& C above) | 43-44 | - - - | - - - |
| H. Cracks in parapet walls | 1. Uneven environment of sun, wetness and load | - - - | 110 | - - - |
| I. Isolated brick cracks and brick face spalling | 1. Shrinking during firing | - - - | 107-108 | - - - |
| | 2. Frost action on wet bricks | - - - | 109 | - - - |
| J. Isolated mortar-brick (or block) joint cracks | 1. Weak mortar-to-brick bond | - - - | 108 | - - - |
| | 2. Bricks too dry when laid | - - - | 108 | - - - |
| | 3. Mortar mix not optimum, too wet or bad materials | - - - | 108,122 | - - - |

DESA 2-17-98

## TABLE 3. - DIAGNOSING CRACK DAMAGE TO RESIDENTIAL STRUCTURES: SUPERSTRUCTURE INTERIORS

| OBSERVATION | CAUSES OF DAMAGE | REFERENCES AND EXAMPLES, PGS | | |
|---|---|---|---|---|
| | | AISG | Seaquist | Allen |
| A. Wide cracks at angles and preferred directions (distortion of frame) | 1. Foundation failure (see foundation damage table) | 27-32 | 19-60 | - - - |
| | 2. Excessive static load such as waterbeds, pianos, bookcases, etc. | - - - | 180-189 | - - - |
| | 3. Construction deficiencies related to loads: trusses, posts, floor joists, partition loads, bracing, and stairwell openings | 35-36, 49-52 | 154-158, 180-183, 195-198 | - - - |
| | 4. Dry and wet rot, insect damage | - - - | 80-82 | - - - |
| B. Multi-directional cracks at angles to walls | 1. Insufficient stiffness against distortion, inadequate bracing or material choice | 51-52 | 88-90 | 181 |
| | 2. Large windows and doors compromising load carrying capacity | - - - | 91 | - - - |
| | 3. Thermal and humidity effects on wood including main horizontal beam | 49-50, 55-56 | 6-9, 84 | 190-192 |
| | 4. Dynamic transients: storms, vehicle traffic, internal activities, blasting | 63-64 | - - - | - - - |
| C. Cracks in walls parallel to wall-ceiling joints | 1. Excessive load or insufficient construction: truss or floor deflection or distortion | 35-36, 59-60 | 147-149, 156-158, 180-181, 185-189, 195-199, 206 | - - - |
| | 2. Major material or structural discontinuity | 31-34, 53-54 | 143-145, 148 | - - - |
| | 3. Thermal cycles: | | | |
| | bowing of walls | - - - | 115-117 | - - - |
| | distortion of ceiling trusses | 59-60 | 149 | - - - |
| | 4. Humidity cycles | 33-34 55-56 | 6-9,84 | 190-192 |
| | 5. Curing and drying shrinkage | 31-32 | 133-134, 187-188 | - - - |
| | 6. Poor placement of joints between panels | - - - | 143 | - - - |
| D. Isolated, finite vertical cracks in walls | 1. Stud warping | - - - | 152-153 | - - - |

**TABLE 3.- cont.**

| | | | | |
|---|---|---|---|---|
| E. Cracks in ceilings parallel to walls | 1. Load and truss deflection, stairwell openings, and partition loads | 59-60, 61-62 | 149-150, 156-158, 180-181, 185-189, 195-199 | - - - |
| | 2. Poor joint connections, toe-nailed joists | - - - | 181-183, 195-198 | - - - |
| | 3. Small and/or weak ledgerboards..... | - - - | 183-184 | - - - |
| | 4. Omission of a finished floor..... | - - - | 188 | - - - |
| F. Cracks around doors and windows, sticking doors and windows | 1. Local bearing failure from construction deficiencies around openings | - - - | 78-79, 83-84 | - - - |
| | 2. Settlement or structure distortion (also see Table-1, A) | - - - | 153-155 | --- |
| | 3. Lintels too short, of wood, or installed improperly | - - - | 83-84 | - - - |
| | 4. Cyclic humidity response of wooden mainbeam | 49-50 | - - - | - - - |
| | 5. Cyclic humidity response of wood structural members in walls | 55-58 | 6-9, 84 | 190-192 |
| G. Floor uneven | 1. Load issues | - - - | A, B & C above also: 78-89 & 83-84 | - - - |
| | 2. Non-uniformity of joists, differential shrinkage | - - - | 187-188 | - - - |
| H. Arches of plaster | 1. Shrinkage and expansion of wood structure beneath | 45-46 | - - - | --- |
| I. Loose and falling plaster | 1. "Keys" into lath broken by thermal and humidity cycles, loose to the touch and with sags | - - - | 135 | - - - |
| | 2. Plaster applied directly to masonry..... | - - - | 136-137 | - - - |
| | 3. Omission of plaster layers or application before under-layers cure | - - - | 133-134 | |
| | 4. Structure holding plaster yields too much or too quickly | - - - | 139 | --- |
| | 5. Water on plaster | - - - | - - - | 223 |

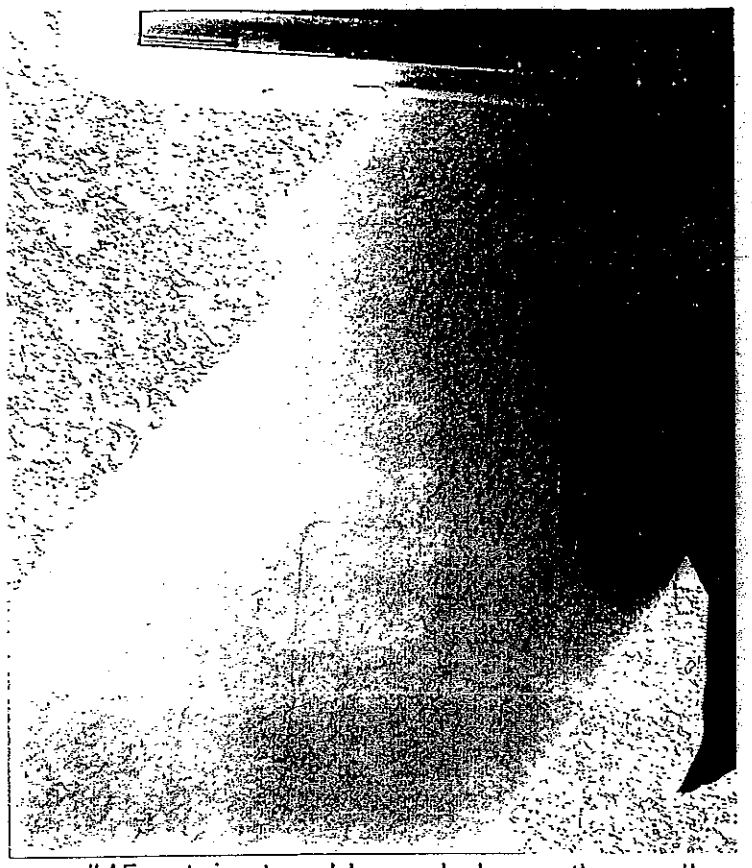


Figure 83.- House #45, stair-step hl crack beneath smaller ground-floor window (P5-6).

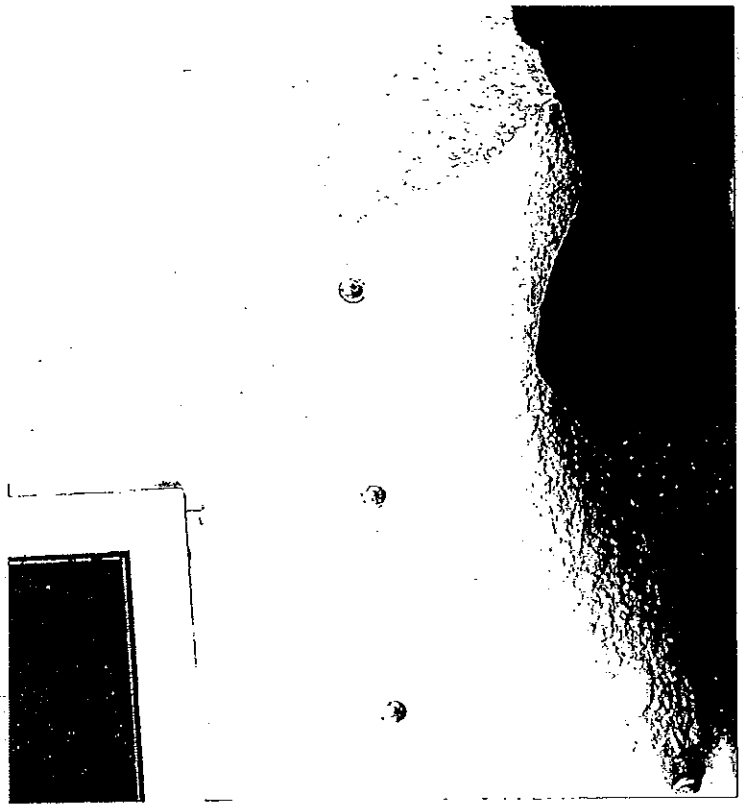


Figure 84.- House #45, crack above sliding door in south wall (P5-7). The sliding entrance door in north-facing wall also had a crack in the upper right corner.

Figure 85.- House #45, NE corner (P5-9). There were cracks above this door on both sides and also beneath the window on the east wall on both lower corners (window out of photo on the left).

Figure 86.- House #34, east-facing front from NE vantage (P5-11).

852

Figure 87.- House #34, east-facing main entryway (P5-12). The lintel has a spaced out series of vertical cracks and there are cracks in the right post (Figure 88).

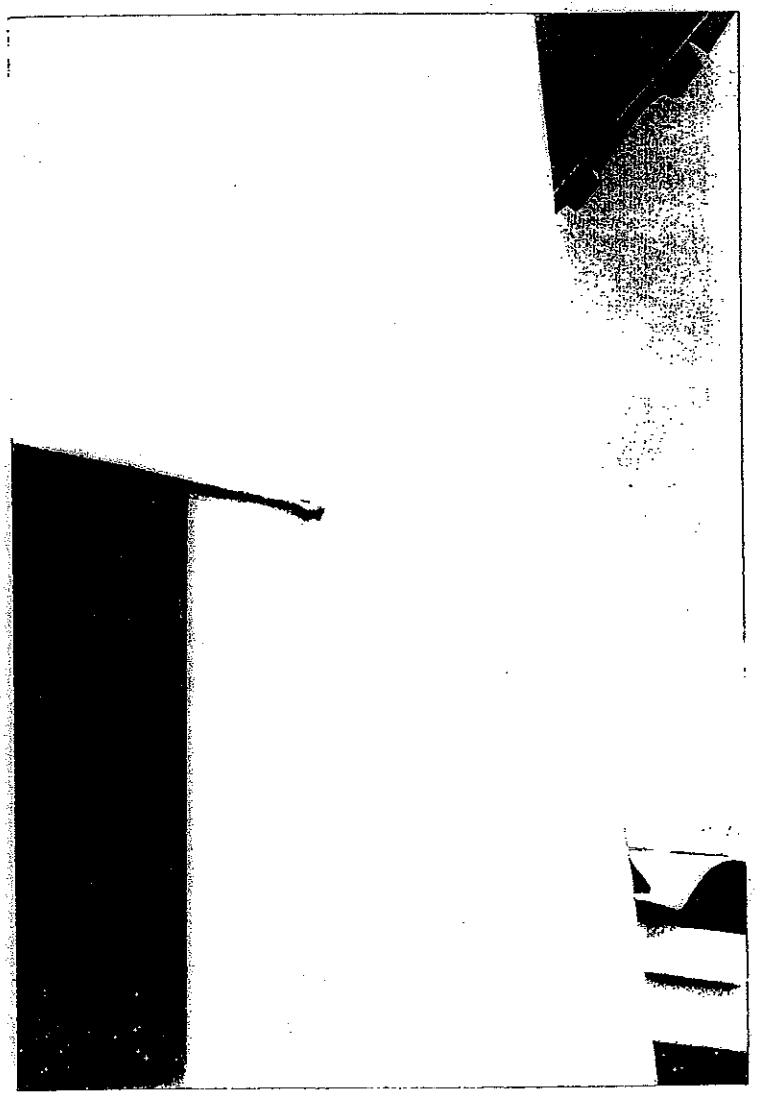


Figure 88.- House #34, close up of post at front entrance showing cracks above and below the lintel (P5-13).

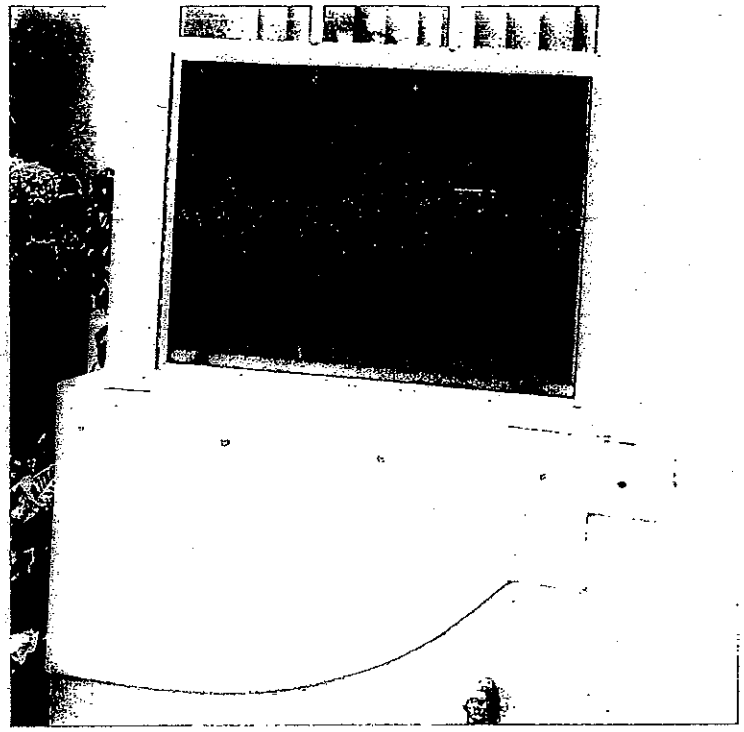


Figure 89.- House #34, north side of NE corner window (P5-16). A vertical crack is visible here and in Figure 90.

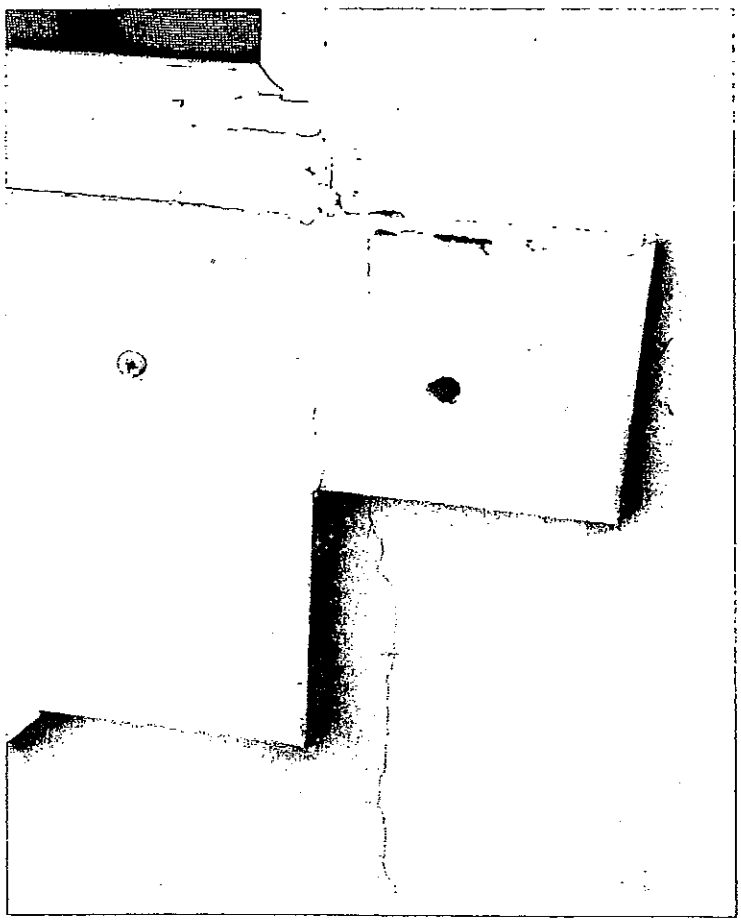


Figure 90.- House #34, close-up of crack below NE corner window shown in Figure 89 (P5-15).

Figure 91.- House #34, crack above window well (P5-18). North-side window to the right of one in Figures 89 and 90 .

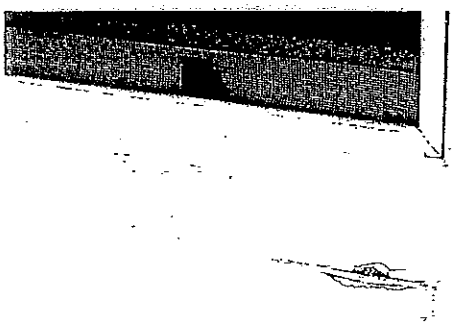


Figure 92.- House #34, same window as Figure 91. Crack below window well (P5-19).

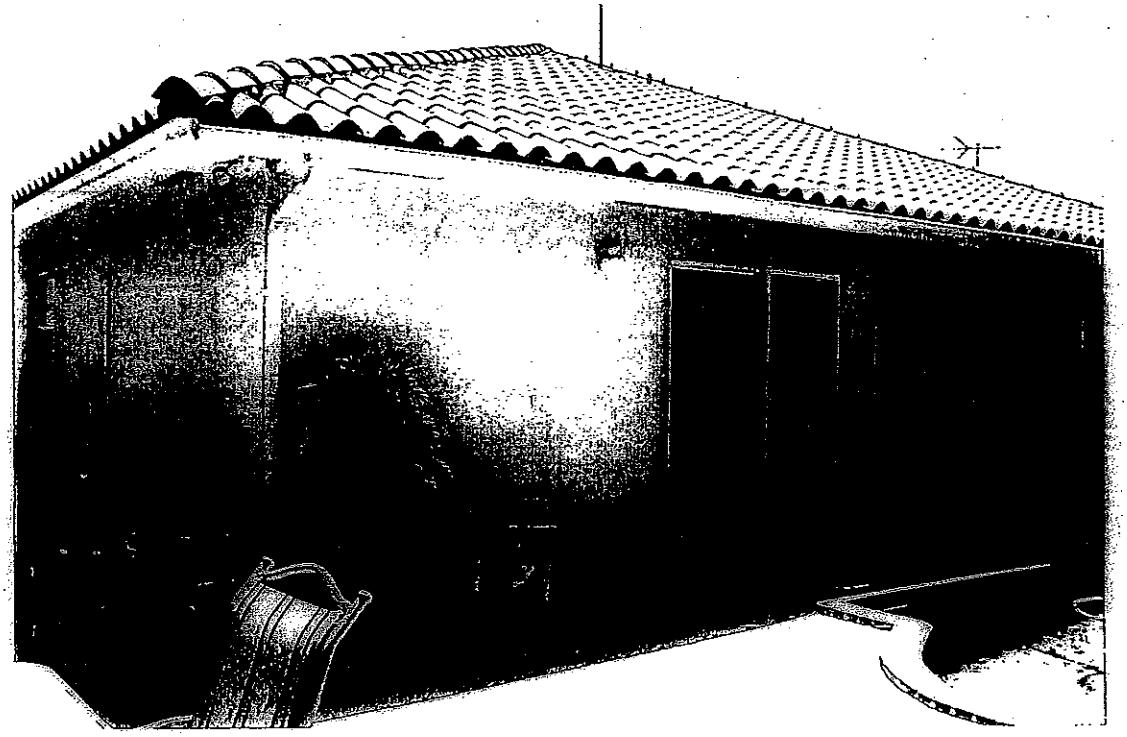


Figure 93.- House #34, west-facing rear of house showing patio and pool (P5-20). There is an old-looking crack at bottom of sliding door, shown closer in Figure 94.

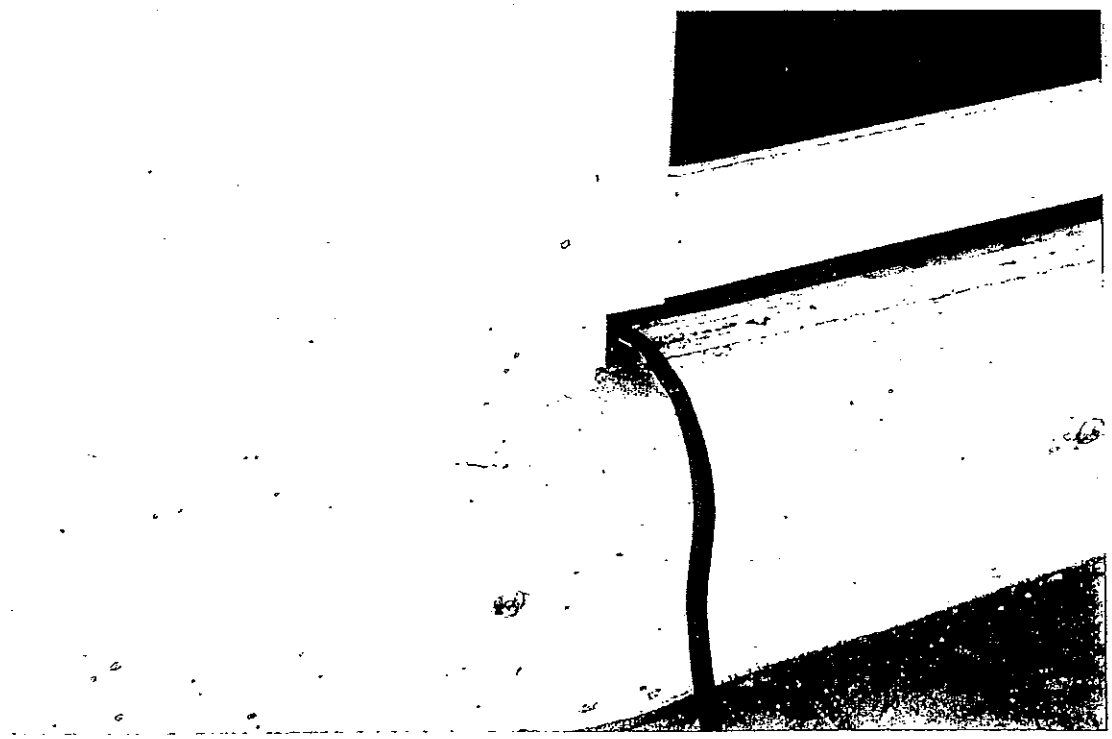


Figure 94.- House #34, close up of bottom of sliding door (P5-21).

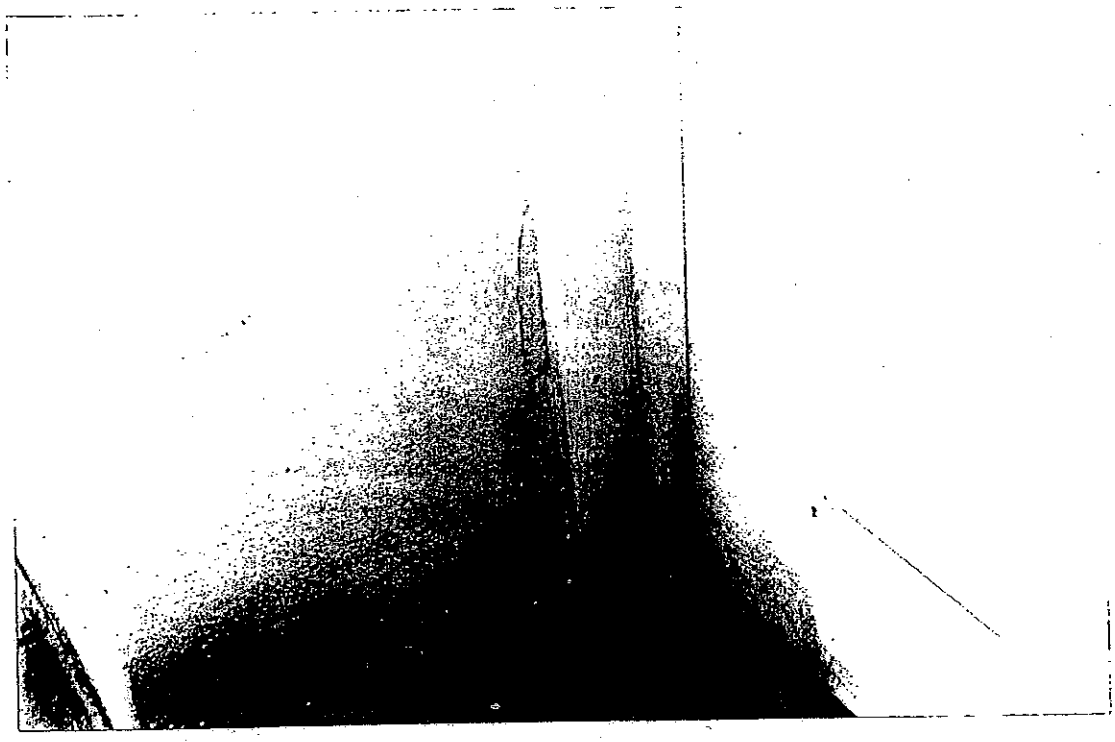


Figure 95.- House #34, cracking in corner on west facing wall in patio alcove (P5-23).

Figure 96.- House #33, west facing front (P5-24).

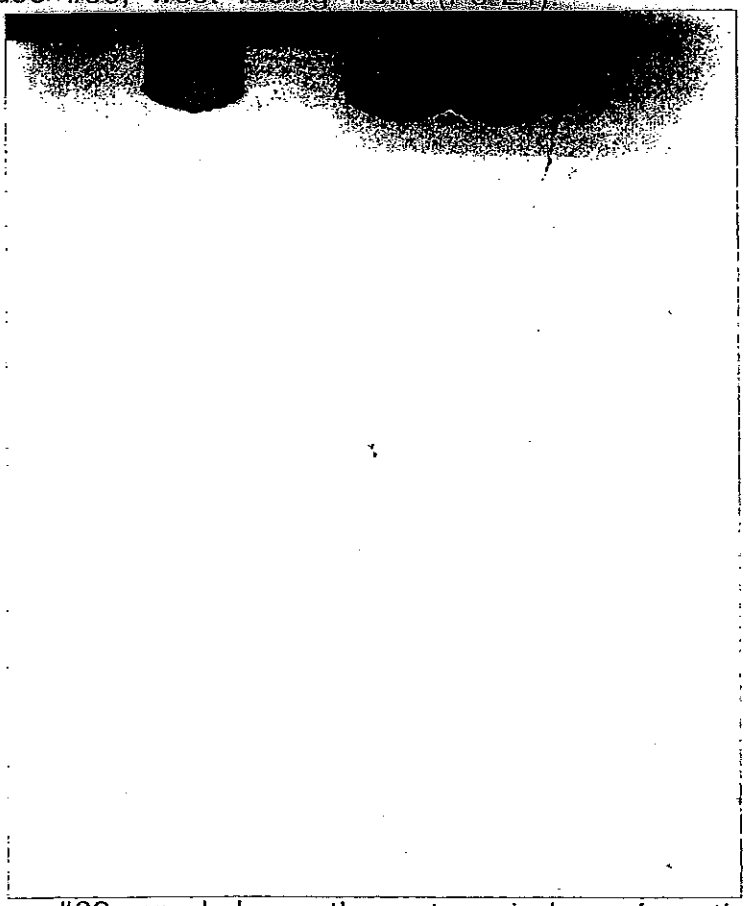


Figure 97.- House #33, crack beneath center window of north wall of width 0.1 mm (P6-2). There was a similar crack beneath left-hand window in this wall plus cracks above both windows. All were at angles rather than vertical. Window and door openings in other walls were uncracked.

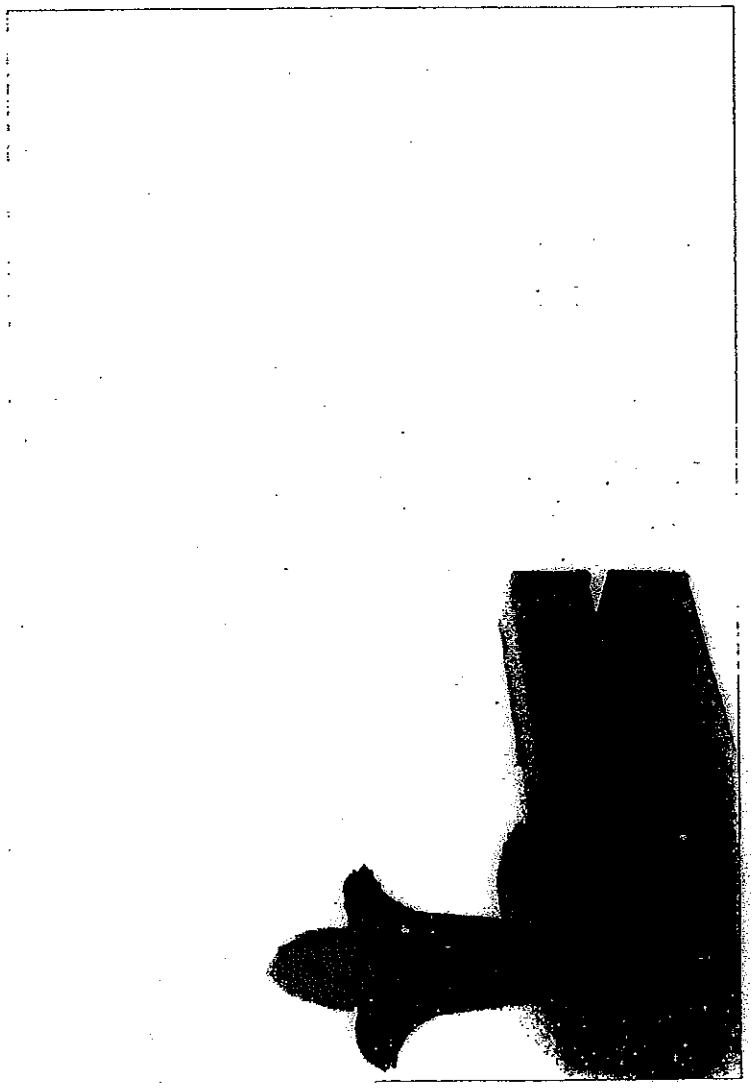


Figure 98.- House #33, crack above left-hand window in north wall and also in roof overhang (P6-3).

Figure 99.- House #42, east facing front. Unit was one in a row of town houses (P6-8).

Figure 100.- House #42, window above garage in east wall. Nearly horizontal crack runs left from upper corner of entrance roof plus crack between sill unit and wall beneath window (P6-12).

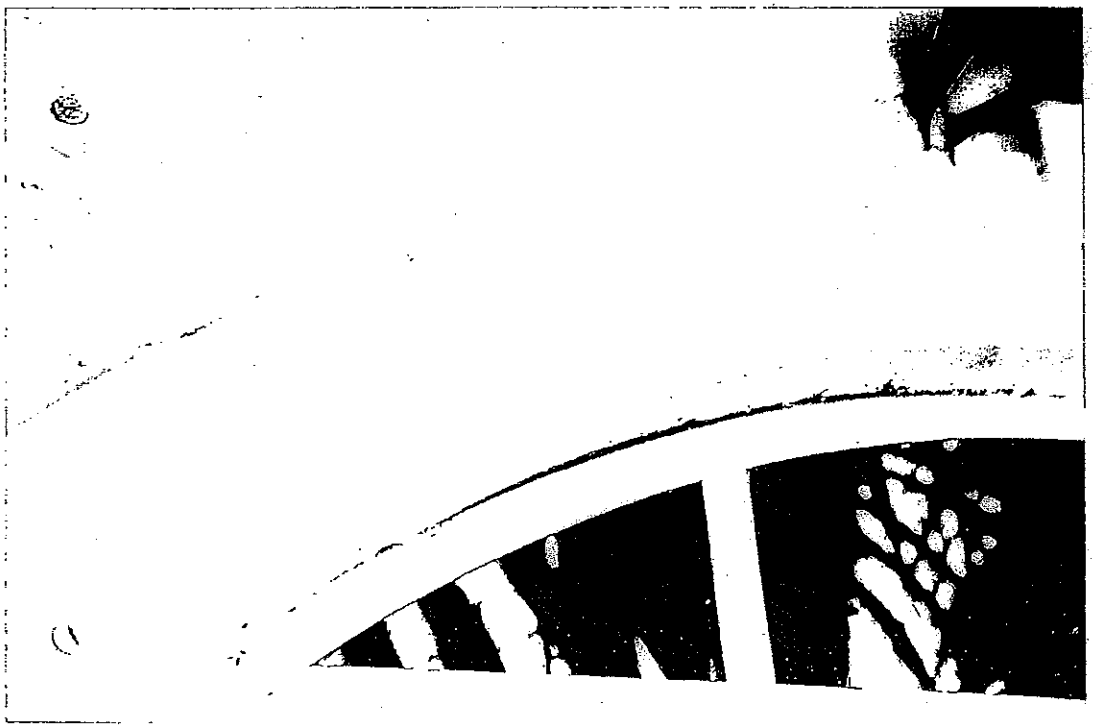


Figure 101.- House 42, crack in arch detailing above window to the right of entrance door (P6-13). Similar cracks were in other detailing including above garage door and numerous such cracks around second-floor window.

Figure 102.- House 42, crack above sliding door in west wall (P6-5).

Figure 103.- House 42, crack beneath window in west wall (P6-4). Crack runs vertically from window box corner and then angles to the left side of the electrical box.

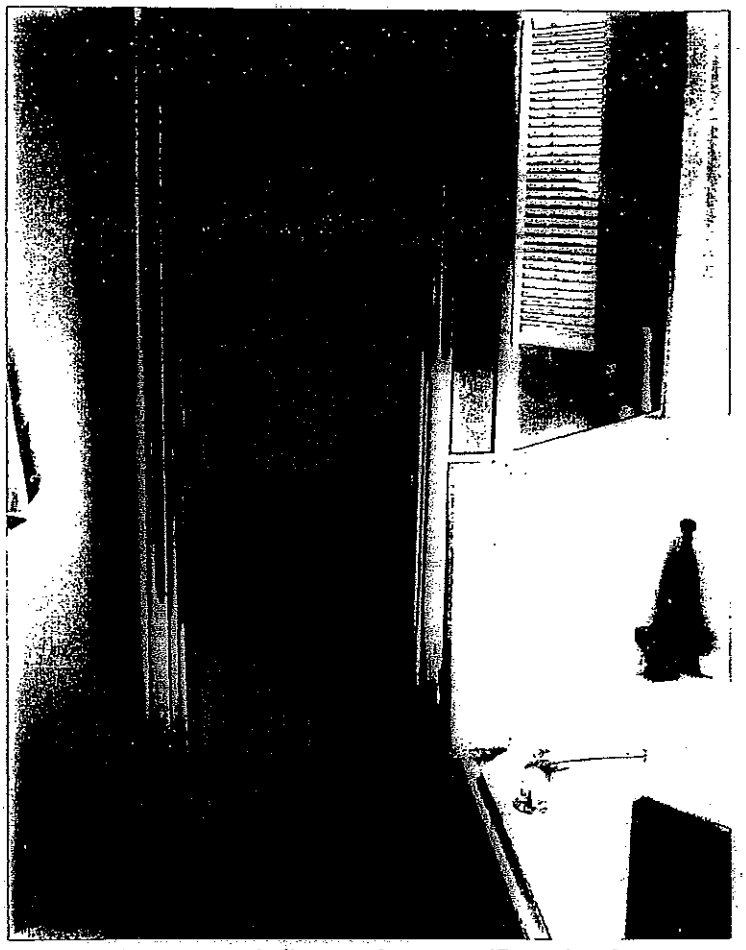


Figure 104.- House 42, second floor shower (P6-6). Grout around many tiles is cracked except where replaced by more elastic material. Cracks have stair-step pattern and suggest relative motions.

Figure 105.- House 42, close-up of bottom of shower door with cracked tile (P6-7).

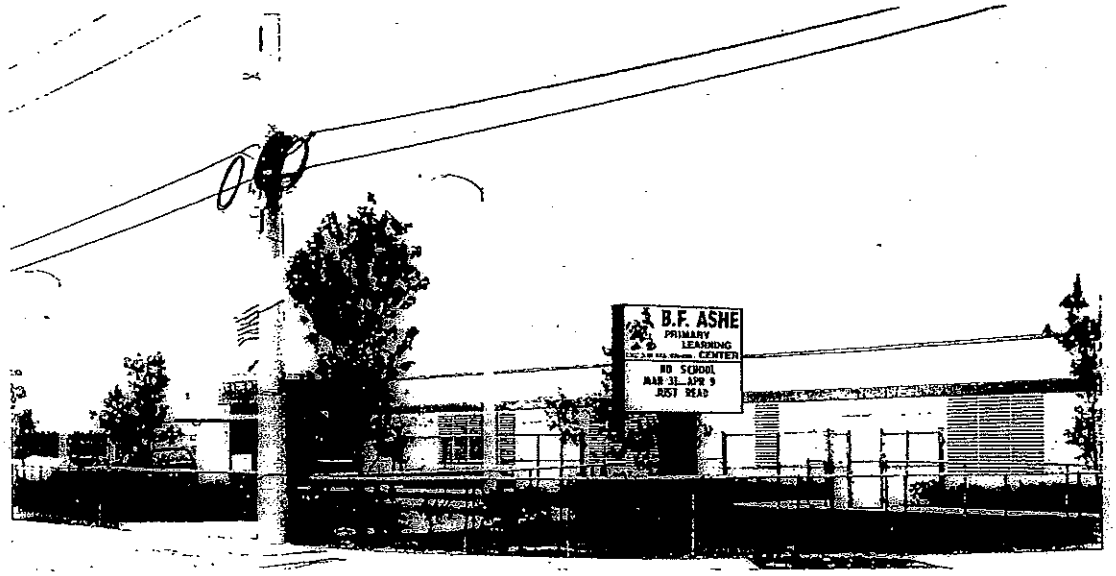



Figure 106.- Structure 49, public school building SW of Westwind Lakes in SW Miami, SW 72 St. & SW 162 Ave. (P6-14). View is south side.

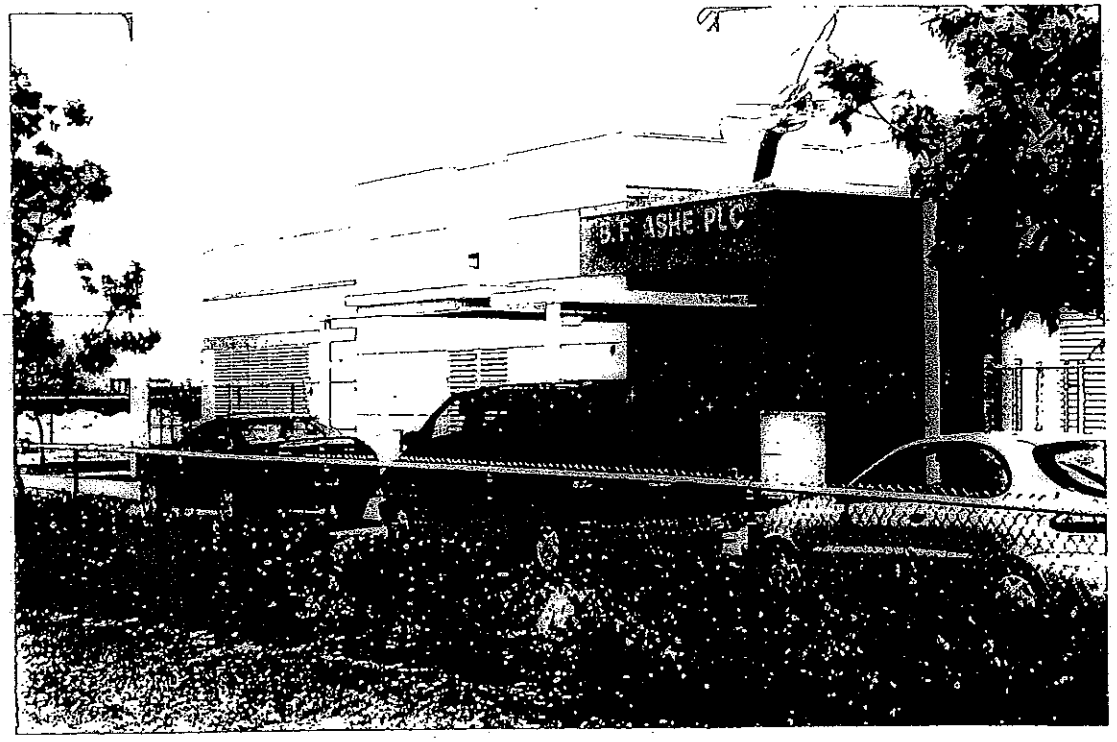



Figure 107.- Structure 49, same structure as Figure 106 (P6-15). Quarry buildings are visible in the background.

Appendix F: Resume and client list for David E. Siskind

David E. Siskind, Ph.D.
5812 Thomas Circle
Minneapolis, MN 55410
(612) 929-4498 Tel/Fax
desa @uswest.net

February 8, 2000

## CAREER SUMMARY

Over 30 years of technical and supervisory experience in geophysics, mining and blasting. Heading up consulting company (DESA) providing services in blasting, vibrations, and acoustics. For the U. S. Bureau of Mines, led and worked with research teams solving problems in blast vibrations, airblast, structure response, rock fragmentation, and safety. Demonstrated skills in program management, field studies, and working with industry, government research and regulatory agencies. Provided training courses, and extensive technical reporting.

## PRINCIPAL AREAS OF EXPERIENCE

Blasting Science

Studied problems in blast vibration generation and impacts, dynamic rock fracture, and blasting safety (see list at end). Have identified appropriate practices to make rock blasting more effective and safer. Headed USBM projects to measure vibration and airblast effects on homes and other structures and develop criteria for safe blasting for mines, quarries and construction. Results from these studies were adopted as industry standards and specifically by Federal regulators in 1983 (Office of Surface Mining) and also by State and local governments as they updated and adopted new and technically-based regulations for blasting and similar vibrations. Authored 100 papers and gave over 150 technical presentations in the areas of blast vibration, fragmentation, and safety.

Examples of significant work include three landmark studies. These combined existing data with definitive new tests from dozens of blasting sites to produce safe-level criteria for both ground vibration and airblast and addressed the long term impacts of blasting, USBM RI's 8485, 8507 & 8896. The vibration study, RI 8507, received the National Science Foundation, U. S. Committee for Rock Mechanics 1981 Applied Science Award. More recently, both environmental blasting studies were recognized by the 1994 Distinguished Service Award from the International Society of Explosives Engineers. A 1993-94 project on blasting impacts to transmission pipelines is saving the mining and related industries millions of dollars by allowing more realistic setback buffers and increased mineral recovery (RI 9523).

Program Management

For USBM, headed research group averaging 12 scientists, engineers and technicians studying 4 to 7 ongoing in-house projects. Funded at about $1.2 million per year, these examined blasting efficiency, safety, and environmental impacts. Had a dual role of senior researcher and first-line supervisor from 1980 to 1995. Coordinated scheduling, cooperation, use of shared resources between teams, and reported results for both in-house program, technical assistance, and cooperative studies with other agencies.

Between 1971 and 1984, excess funds allowed a 45-project contracting-out program to research organizations and Universities. Many of these were USBM-managed ARPA funds intended to improve rapid excavation and tunneling. Starting in 1985, in-house USBM funding on blasting was supplemented by outside funds from government agencies seeking major assistance on blasting issues. These ten outside-funded studies brought in $470K and all involved vibration and airblast impacts to structures.

Consultation and Teaching

Provide guidance on safe and effective blasting through reports, presentations and problem-specific analyses. As a USBM senior scientist, responded to over 2200 outside requests for assistance on blasting and similar technical areas. In the technical areas of blast vibrations and structure response, provided training courses for OSM, State of Wisconsin and the United Nations Development Agency in Poona, India. Provided seminar lectures for the Universities of Minn and Wisconsin and wrote chapters for mining and environmental handbooks. Currently heading up DESA, a consulting company providing assistance and training on problems of commercial rock blasting, vibrations, and acoustics. Have had over 75 clients since January 1996.

## PUBLICATION SUMMARY

Total: 100

- Blasting vibration and airblast generation and propagation: 24
- Vibration and airblast responses of structures and persons: 46
- Comprehensive blast vibrations: 13
- Fragmentation and rock mechanics: 6
- Other science and engineering: 11

Of the above, 81 are first authorships and 19 are USBM Reports (RI's or IC's)

Citations: over 509 listed in 282 papers and texts.

During Siskind's USBM employment (1970-1995), The Blasting Research Group prepared or managed (through the contract program) a total of 284 publications.

## PRESENTATION SUMMARY

Total: 206

Technical conferences: 60
Seminars and course lectures: 129
Public hearings and government briefings: 17

Publication and presentation lists are available upon request.

## EMPLOYMENT HISTORY

| | |
|---|---|
| 1996- | Principle, D. E. Siskind & Assoc.,LLC (DESA) |
| 1980-1996 | Supervisor and research geophysicist in the Blasting Technology Group, U. S. Bureau of Mines, Minneapolis, MN |
| 1984, 1989 | Independent consultant for United Nations Development Agency, Poona, India (1984) and the State of Wisconsin (1989) |
| 1970-1980 | Geophysicist and project Principal Investigator, Blasting, USBM |

## EDUCATION

| | |
|---|---|
| Continuing Ed | 69 short courses in management, supervision and technology |
| Ph. D. | Geophysics and Mining, Pennsylvania State University, 1971 |
| M. S. | Geophysics, Pennsylvania State University, 1966<br>Summary for graduate studies:<br>Geophysics: 27 Semester hours<br>Geology and Mining: 15 Semester hours<br>Physics and Math: 21 Semester hours |
| B. S. | Physics, Drexel University, Philadelphia, PA, 1964<br>Physics: 60 Quarter hours<br>Math: 42 Quarter hours<br>Engineering and Chemistry: 52 Quarter hours |

## KEY MEMBERSHIPS

International Society of Explosives Engineers (ISEE):
Program participant since 1977
Member since 1986
Governing Board Member and Chair of Technical Committee, 1995-

American National Standards Institute (ANSI) and International Standards Organization (ISO): Technical expert and U. S. Delegate on response of persons and structures to vibration, 1979 -1995. Working Group Chair, 1992-1995

Science and Engineering Career Explorer Post Advisor for Boy Scouts of America at the U. S. Bureau of Mines, 1989-1995.

## RESEARCH EXPERIENCE

Generation of Vibrations and Airblast
Ground vibrations produced by mining, quarrying, & construction blasting
Airblast produced by mining, quarrying, & construction blasting
Generation of vibrations and airblast from surface blasts
Generation of vibration from underground face rounds
Vibrations from machinery, pile driving, traffic, and trains
Blast designs and practices effecting vibrations and airblast
Effect of confinement and burial on vibration and airblast generation
Source-region geology and structure effects on vibration generation
Blast design and practices for vibration control
Vibrations from blasting compared to earthquakes and nuclear events
Elastic versus inelastic effects in the immediate blast zone

Propagation of Vibration and Airblast
Propagation of vibration and airblast from mine and quarry blasting
Effects of geology and geo-structure on vibration amplitudes and frequency
Effects of wind and temperature inversions on airblast propagation
Propagation equations for vibration and airblast levels
Standardized propagation equations for vibrations and airblast
Distance factor for control of vibration through design
Rayleigh waves from low-velocity layers

Impacts of Vibration and Airblast on Homes
Racking and wall responses of homes to vibrations, airblast, and wind
Frequency-dependence of structural response
Damage risks of low-frequency vibration
Responses of homes to internal activity and cultural stresses

Crack-width and whole-structure responses to temperature and humidity
Responses of homes to settlement and static forces
Safe-level criteria for vibrations and airblast affecting homes
Effects of repeated blasting on homes (fatigue)
Strength and fatigue tests on plaster and wallboard
Strength and fatigue tests on concrete and concrete block walls
Response and fatigue from continuous vibration at natural frequency
Alternative damage causes in homes
Standards for vibration impact assessment (ANSI & ISO)

Impacts to Other Structures
Strain responses and safe-level criteria for transmission pipelines
Responses of wells subjected to blast vibrations
Responses of fiber optic and copper cables subjected to blast vibrations
Response and damage to underground workings from surface blasts
Soil responses to vibration including liquefaction potential
Vibration tolerances of laboratory equipment and computers

Impacts to Persons
Human physiological response to vibrations
Human psychological response to vibrations and airblast
Perceptions of transient vibrations inside buildings
Community response and complaints from blasting and similar sources

Analysis and Measurement of Vibration and Noise
Measurement practices and instrumentation for ground vibrations
Measurement practices and instrumentation for airblast
Standardized performance requirements for seismographs
Calibration and testing of seismographs
Unit conversion schemes for airblast and other sounds
Dosage measurement for airblast recording
Response analyses models for vibration
Scaled distance prediction schemes for vibration and airblast
Frequency analyses & exposure levels assessment techniques
Federal regulatory limits for ground vibrations and damage in homes
Federal limits for airblast and damage in homes
Drafts and reviews of State and local government regulations
ANSI & ISO standards for vibrations and airblast monitoring
Comprehensive Test Ban monitoring and large mine blasts
Education & training on blasting vibration issues
Technical leadership re blasting through ISEE Board & Committee

Fragmentation and Productivity
Borehole zone fracture extent in various rock types
Blasting to increase rockmass permeability for in situ mining
Blast designs and fragmentation size distributions
Blast design and rock throw
Modeling fragmentation and rock throw
Stress, strain and failure
Rock properties

Blasting Safety
Blasting accident analyses
Flyrock generation and stemming effectiveness
Blast designs to reduce overbreak and fall of highwall
Blasting practices for reducing damage to roof and rib in underground mines
Blasting safety training

## SURFACE MINE EXPERIENCE

All over the continental USA. Surface coal, surface and UG Metal/nonmetal, surface quarries plus other blasting projects for construction, and the military. Worked at sites in AL, AK, AZ, CT, CO, FL, GA, IA, IL, IN , KY, MA, MD, MI, MN, MO, MT, NM, OH, OK, PA, SD, TN, TX, VA, WA, WI, WV, WY.

## UNDERGROUND MINE EXPERIENCE

Personal Experience:
Centennial copper mine, MI - blast design and fragmentation, assisted PI
White Pine, MI - Data analysis and report author (did not work in mine)
Pilot Knob, MO - blast vibrations generation and propagation, was PI
Homestake, SD - blast design for overbreak control - assisted PI
UMR, Rolla, MO - visit
Sullivan, MO - visit, potential fieldwork site
Edgar Mine, CO - visit to assess suitability for fieldwork
Tower Sudan, MN - visit (not official business)
Others - reviewed reports of vibration damage

Group Experience:
White Pine , MI - tests on blast design to reduce overbreak in room & pillar mine
Edgar Mine, CO - fragmentation tests for simulated in-situ stope
Doe Run, MO - fragmentation studies

# SELECTED DESA CLIENTS

March 21, 1999

1. International Society of Explosives Engineers (ISEE)
David E. Siskind is on the Board of Directors and heading up the new Blast Vibration and Seismograph Section. DESA is responsible for the analyses of blasting seismograph performance and coordinating the development of specifications, standardization, laboratory calibration and field use procedures for blast vibration measurement (1995-1999).

2. ICI Explosives USA, Inc.
DESA assisted with a major explosives disposal project in Gillette, WY. A test blast and monitoring program was set up to establish site propagation conditions. Blast vibration impact assessments were required for a variety of structures within 4,000 ft of the blast including homes, a water pipeline, bridges, three coal-fired power plants, petroleum wells, power and telephone switching equipment, and Interstate 90. (1996).

3. County of Palm Beach, FL
DESA reviewed permit plans and participated in public hearings for a major quarry expansion. Representing the County, DESA was required to insure that good environmental practices would be followed. A follow-up task was preparation of a model ordinance for safe blasting procedures and control of vibration impacts (1996-1997).

4. U. S. Department of Justice
DESA studied blast vibrations and airblast from munitions disposal blasts at the Red River U. S. Army Ammunition Depot in Texas. Generation, propagation and impacts to nearby homes were measured using six 4-channel seismographs over a period of two months. Reports of results were used to assess the validity of damage claims (1997).

5. State of Florida Dept of Transportation
DESA advised the FL DOT on the mining and blasting aspects of a road construction project in the vicinity of an active surface quarry (1997-1998).

6. Pennsylvania Turnpike Commission
DESA assisted the State of Pennsylvania on the vibration and damage concerns from new highway construction over a large active underground coal mine in the Pittsburgh area. Potential issues were vibrations, mine stability, and safety of underground mine workers. A monitoring program was run on two occasions in this mine and an impact assessment made for the highway construction (1997-1998).

7. Northeast Ohio Regional Sewer District

DESA did an assessment of vibration impacts from sewer construction blasting in Cleveland. Evaluated were vibrations generated and the causes of cracks in homes in two neighborhoods near the shaft construction operations.

Other DESA activities:

Training and Education Provided

A. Blast vibration courses with Precision Blasting (1996), Society of Explosives Engineers (1996, 1997) and GeoSonics/Vibra-Tech (1997, 1998).
B. Pennsylvania state inspectors on vibration response, damage assessments, and identification of the causes of cracks in homes. (1997).
C. Preparation of sections of handbooks, manuals, and texts on blast vibration generation, impacts to structures and safe blasting procedures: US Army Corps of Engineers, Society of Explosives Engineers, Oxford University Press' Environmental handbook and Office of Surface mining (1995- 1999).

Monitoring programs and impact assessments for non-blast impulsive sources such as pile driving, Vibra-seis, and traffic (1996-1998)

Blasting impact evaluations for construction operations, quarries, and mines in Alabama, Alaska, Florida, Georgia, Minnesota, Missouri, Ohio, and Pennsylvania (1996-1998)

Evaluation of blast vibration responses on underground mines and tunnels, for three clients (1996-1997)

Permit approvals for construction and mining projects (1996-1997)

Assessments of magazine placement for mines and construction projects (1996, 1998)

Testimony in depositions and court on vibration and airblast impacts for four clients (1997-1999)

# STRUCTURAL ENGINEERING INVESTIGATION

# OF THE RESIDENCE STRUCTURES

# IN THE

# BLAST VIBRATION DAMAGE ASSESSMENT STUDY

# OF

# MIAMI-DADE COUNTY, FLORIDA

**For the Submittal to:**

## THE MIAMI-DADE COUNTY

## BLASTING TASK FORCE

**May 2000**

**Prepared by:**

Engineers • Architects • Planners
901 Ponce de Leon Blvd., Suite 900 • Miami, Florida 33134 • Telephone No. 305.445.2900

## 1. INTRODUCTION

The structural engineering investigation consisted of a scope of work to investigate problematic concerns whether there is a relationship between blasting and claimed structural damaging effects to residences in Western Miami-Dade County. The engineering firm of Corzo Castella Carballo Thompson Salman, P.A. (C3TS) was retained as one of its assignments to provide additional independent monitoring, testing and to provide an assessment study of limestone quarry blasting vibrations causing structural damages to the neighboring residential structures.

The investigative tasks included the collection of data from its uses of seismographs and structural responses monitoring instrumentation and from the data acquired by Miami-Dade County Public Works Department over the recent years of the blasting events and the blasting permit process. The field-testing phase conducted by the C3TS Study was from late February to April 30, 2000. This work involved the monitoring of vibrations at sites and selected residence structures over the period of normal quarry operation blasting events. The selected residence structures to be further evaluated and used in the study were at ten sites. These ten structures were among forty-nine residences that were from a group of homes that could be considered to have blast related structural damages and owners had provided filed complaints to the County. The residence owners further authorized the use of their homes to be conducted in the assessment study. It should be noted that there were homes that were considered to be in the study; however, the owner(s) would not authorize the use of their residences for the inclusion in the study in a timely schedule fashion.

The ten sites were dispersed in the adjacent areas of the County, Northwest, Central Western, and the Southern part, as related to the major dominant part of the quarry industry. The geographical locations are cited in this study report. The ranges of the test sites from the active quarries were normally less than two to three miles distance. There were inspections and initial surveys made of existing conditions and characteristics of the tested sites and selected structures to be monitored. The field monitoring equipment was installed to assess and evaluate the effects on the structures from monitored ground vibrations, air blasts and structural responses subjected to blasting events undertaken during normal quarry operations. When the field testing phase was completed at a site, then a post-inspection survey of the exhibited conditions were made for the study. The structural inspections were further complemented by geotechnical engineering inspections and appropriate field soil testing as deemed necessary to evaluate the conditions and effects upon the structure.

## 2. OBJECTIVE

The objective of the test phase of the program assessment study was to review the subjected selected residential structures for conditions as sustained over the test period for normal quarry operation blasting events. The structural review was made to not realistic expect exhibited structural damages to occur because of the intensity of the ground vibrations during the quarry blasting operations must adhere within the limits of the authorized blasting permit. It must be pointed out that by understanding and knowing the defined limits and by obtaining the actual test data for exhibited blast intensities and from those structural responses of the structures during specific tests; then, that data can be correlated and extrapolated to an unobserved blast intensity to cause structural damages in a specific structure placed in a specific location in the blast related residential area of Miami-Dade County.

The analysis of structural damage to structures does not require knowledge of what occurs between the blast source and the receiving input which is the structure. The analysis does require the vibrational input to the house at its foundation. That input required from the blast are the characteristics of the ground vibrations, frequencies, period, duration, and amplitudes. The seismographs will provide the numerical data as well as having the capabilities of providing the waveforms which fully describes in graphical information on what had occurred in time lines for the triggered blast event on a given date and time. The seismographs place outside a structure have the capability to give the acoustic data to quantify air blast information at the structure. The waveform data can be reviewed to indicate what amount of damping or decay of the vibration occurred during the event duration.

The seismographs placed in the ground near the structure or on the structure foundation, or placed on-grade slabs will provide the input data of the ground vibrations upon the structure. The seismographs placed in attic-ceiling lines or on tie-beams or on upper level floors will provide input data of the structural responses of the structure or elements of the structure. Should one have the gleaned data inputs from multiple seismographs (ground line elevation input and upper elevation input at roof lines or upper story-levels); one can evaluate the amplification factors caused by the dynamic force on the structure at its location on the responding elements.

The data measured for particle velocity amplitudes and related vibration frequency is reduced to determine the effects upon the structure. The peak particle velocity is the best criterion of potential damage to residential structures. The records are related in time-history, vibration amplitudes and frequencies, structure responses, wave-form duration and period of vibration. Knowing the velocity records and frequencies, consequently the accelerations amplitudes and displacement amplitudes can be interpreted, evaluated and numerically found.

Knowing and evaluating the blast-structural information obtained and inspecting the conditions of the structures will enable one to determine structure responses to the quarry blast vibrations and comparisons can be made to non-blast causes. It can be evaluated if the damages are typical of that caused by blasting, or are there other probable causes for the exhibited damages.

## 3. TEST BUILDINGS

The sites of the residence structures were in the range of normally less than two to three miles from the nearest quarry where blasting is occurring in the Miami-Dade County limestone mining industry. There were ten test sites of residences evaluated in the assessment study. The structural investigation of the residences was performed in the testing phase while normal blast events were occurring during the mining operations. The investigation was performed to evaluate the exhibited data, weighing evidence, and using reasoning deductively to ascertain the extent of structural damages to residences that maybe attributed to blasting from the limestone quarries in Western Miami-Dade County. The investigation involved the survey of residences that have placed complaints from owners who thought to have damages attributable to ground vibrations or air blasts generated by the quarry industry blasting.

The study must be made on the test structures in accordance to available evidence, technical expertise and measurements and then ascertain why or how exhibited structural damage happened. The study is to use available data relating to the potential for structural damages that can be caused by blast related ground vibrations. That data is evaluated for the potential to cause structural damages as compared to measurements of peak particle velocities and frequencies from the quantity of blasting intensity levels that were detonated as related to the distance from the blast site. The investigation required identification and exploration of all factors that might be relevant to the study before evaluating and forming opinions. The structural design plans were made available for the test structures. That information from the plans provided geometry, framing, foundations, construction details and materials which are essential for evaluation of the residences.

The ten residences are typical of the Miami-Dade County construction practices, techniques, and materials used in homes construction. The houses are one or two story levels using concrete masonry units (CMU), 8 inch thick CMU walls, on shallow reinforced concrete foundations integral with floor slab on compacted fill grade. The exterior finish is stucco on the masonry and concrete surfaces. There are reinforced concrete tie beams placed at the top of the masonry bearing wall levels. The multi-story residences will have reinforced concrete tie-columns and masonry reinforcement constructed per the South Florida Building Code requirements at the time period of the constructed residences. The single story residences will be normally unreinforced with vertical steel in the concrete masonry bearing walls while having reinforced concrete tie beams. All the residences have timber roof trusses with plywood roof sheathing and the roofing being either shingles or tiles. The two-story residences have timber floor trusses framing for the second floor level. The masonry (CMU) exterior walls bears the roof trusses and the second floor trusses should the residence be multi-story.

In general, the interior walls are gypsum wallboard applied to stud walls or to wood furring strips on the interior of the masonry walls. All of the ceilings are gypsum wallboard attached to the lower chords of the timber roof trusses and on the timber floor trusses should the structure is multi-story.

## 4. BUILDING DESCRIPTIONS

Each monitored structure is referred to a reference number and are keyed to the given locations as defined on the reported geographical area of the assessment study area.

### 4.1 Structure 6

This structure is the closest Northwest monitored structure to active quarry blasting conducted during the testing phase period. The straight distance is approximately 12,600 ft. between the residence structure and location of the quarry blast. The structure is two-story and has approximately 1,450 sq. ft. of floor area per story level. The residence was constructed in 1992.

The structure was monitored for both ground vibrations and structural response. The ground vibrations were monitored on the exterior face of the west wall foundation (Figure 6-1). Air blast monitoring was in place as well on the west side of the residence. The structural response was monitored in the attic area on the bottom chord (ceiling) of the roof trusses in the area of the master bedroom closet. That area would provide the opportunity to observe the exhibited magnitudes for the maximum amplification factors and frequencies for a two-story level structure of masonry CMU construction as defined earlier in the test buildings description.

As an example, for one of the largest blast events that had occurred during the testing operation period; a radial East-West velocity amplitude had the maximum 0.070 in/s for the site ground vibrations on the foundation and the structural response was 0.245 in/s in the second floor ceiling for the higher 10 Hz frequencies during the earliest 4 seconds duration. This represents an amplification factor of 3.50 for the response level motion at the second story ceiling. The radial East-West velocity amplitude was 0.028 in/s ground vibrations on the foundation and the structural response was 0.054 in/s in the second floor ceiling for the low 2.25 Hz frequencies. That represents an amplification factor of 1.92 for the response level motion at the second story ceiling for the low frequency range.

The surveyed conditions were made at the time the instrumentation was installed on 2-24-00. The residence showed no distress of cracking or racking. On the exterior south wall an exterior vertical crack was observed at the corner on the lower right of the stairway window (Figure 6-2). There was another crack about 16" below the window. All the exterior cracks were of a minimal width of less than 0.1 mm. The interior had experienced some minor molding separation in the corner of a bedroom doorway. There was a minor horizontal crack at the corner in the ceiling of master bath. The bath had experienced some cracking in the grout line on shower floor and near the water closet. The post survey of conditions were made at the time the instrumentation was removed on 4-29-00. It was noted that there were no newer cracks, nor wider or growth extension of the cracks on the south exterior wall at the stairway window. In fact, the crack had closed which indicated that the crack involvement was thermal sensitive for its cause and movements.

### 4.2 Structure 13.

This structure is located approximately 13,900 ft. from the location of the nearest quarry blast. The structure is a one-story residence that was constructed in 1963 and has

approximately 1,760 sq. ft. plus a cover carport and rear terrace. The structure was monitored for both ground vibrations and structural response. The ground vibrations were monitored on the exterior southwest terrace slab and the structural response was located off the tie-beam and roof rafter of the southwest terrace roof (Figure 13-1). Air blast monitoring was done at the same location. The structural response was monitored at the roof line (ceiling/top of wall) to provide the opportunity to observe the exhibited magnitudes for the maximum amplification factors and frequencies for a one-story level structure of masonry CMU construction as defined earlier in the test building description.

The test result, as an example, for one of the largest blast events that had occurred during the testing operation period for the site; a radial east-west velocity amplitude of 0.045 in/s on the ground slab and the structural response was 0.071 in/s on the ceiling and top of wall for the higher frequencies 6.7 Hz to 13.8 Hz respectively. This occurrence was during the earliest 4 seconds duration. That represents an amplification factor of 1.58 for the response level motion at ceiling/roof of the one-story residence structure. In the following 4.5 seconds of the total 8.5 second duration, the radial East-West velocity amplitude was 0.020 in/s on the ground slab and the structural response was 0.026 in/s at the ceiling/roof of the one-story structure. That represents an amplification factor of 1.3 for the response level motion at that level of the structure for the low frequency range of 2.1 Hz frequencies.

The surveyed conditions were made at the time the instrumentation was installed on 2-24-00. The interior condition was in good condition without any noticeable cracking of walls, ceilings or floors. The floors were of tiles and terrazzo. The exterior masonry walls had exhibited much cracking, especially the east and south walls. The south wall had continuous long aged horizontal cracking at the top of the slab elevation and this continued around the perimeter of the house to its east and north (front elevation) wall. In addition, the south and east walls had other horizontal cracking at intervals of 24 in. to 40 in. above the floor slab elevation, with some stair-step cracking between those described intervals. The post survey of the exhibited conditions were made at the time the instrumentation was removed on 4-29-00. It was then noted that there were no changes observed in the cracking on the exterior walls during the test assessment period. The significance of the behavior cracking can be attributed due to movements that had occurred since the early life of the structure. Those movements can be attributed to shrinkage of slab constructed integrally within the exterior walls and from the accumulative vertical movements of the walls which occurred from some differential settlements over the earlier life of the structure. Refer to the exhibited cracking conditions as can be noted in Figures 13-2, 13-3, 13-4, 13-5, and 13-6.

### *4.3 Structure 15*

The structure is located approximately 16,500 feet from the location of the nearest quarry blast. The structure is on a one-story residence that was constructed in 1962, and has approximately 1,300 sq. ft. of floor area. The structure was monitored for ground vibrations on the Northwest corner on the concrete slab of the rear patio. Air blast monitoring was done at the same exterior location.

The surveyed conditions were made at the time the instrumentation was installed on 2-25-00. There were cracks in all the perimeter exterior walls with the south wall showing the most exhibited cracking, especially dominating on the southeast bedroom. All of the cracks have shown considerable age and were not created during the recent years. The

Figures 15-1, 15-2, 15-3, 15-4 and 15-5 are of the south wall, where Figure 15-1 is for the lower part of the wall with horizontal and stair step cracking in the lower five courses of blocks in the wall. Figures 15-2 and 15-3 illustrates the exterior horizontal cracking beneath windows. Figure 15-4 shows that the interior of the south wall in the southeast bedroom which has cracked vertically downward from the window. The Figure 15-5 illustrates the longitudinal cracking along the ceramic tile window sill of the kitchen south window. There was a post survey made on the structure on 4-8-00 when the instrumentation was removed from the site. It was then noted that the cracks tended to close to a lesser crack width which meant that they are then thermal sensitive at variable temperature changes.

In the interior of the house, there are several locations where cracking had occurred. Those were in the ceiling of the southeast bedroom with a transverse crack and at the windowsill of the bathroom window. There was corner crack in the laundry room and cracking at the dining room doorway from the family room. There was horizontal cracking below the east windowsill of the master bedroom. The major cracking in the exterior walls of house have occurred several years ago and are felt to be caused in the early life shrinkage movement of the integral slab on grade with the slab thickened edge footing. There were no masonry control joints in the walls of the structure for the allowance of potential movements. There could be a settlement problem of the foundation of the south wall which may be addressed by the geotechnical report of this assessment study.

### *4.4 Structure 4.*

This structure is located approximately 15,200 feet from the location of the nearest quarry blast. The structure is a one-story residence that was constructed in 1990. The original owner possess the residence. The residence has approximately 1,650 sq. ft. of area plus a single garage. The structure was monitored for ground vibrations on the garage grade slab which is on the northwest corner of the residence. (Figure 4-1). The north exterior wall of the garage had experienced major structural cracking and that wall had two crack monitors placed on the inside of the wall (Figure 4-2).

The monitoring of the crack width will ascertain if there is a crack growth response during blasting events or are there ongoing movements in the crack occurring during the non-blasting period. As mentioned, there was major cracking on the north wall in the garage, there is a horizontal crack where the masonry wall has separated downward from the above reinforced concrete tie-beam (Figure 4-3 and 4-4). The north wall at its northeast corner has exhibited stair step cracking through the progressive masonry courses of block units which indicate vertical movement of the north wall (Figure 4-5). There is exhibited rotational movement of the rear terrace from the east rear wall of the residence (Figure 4-6). The structure has exhibited vertical movements and wall cracking on the south wall near the A/C unit and for the walls of the master bedroom and its bathroom, noted in Figures 4-7, 4-8 and 4-9.

The interior ceiling and walls of the master bedroom and its bathroom have experienced cracking in the drywall (Figures 4–10 and 4-11) and tile floor. The Figure 4-12 depicts the master bathroom floor cracking. The Figures 4-13 and 4-14 are of the interior in the master bathroom, which Figure 4-13 is noting the cracking and bulging of the drywall and Figure 4-14 illustrates the closed sliding pocket door of the bathroom which is no longer plumb with the adjacent door frame, the top of the door has a 7/8 inch open

separation from the door frame while it is touching the frame at the base of the door. There are exhibited cracking in grouted joints of tiles and bathroom fixtures.

The instrumentation was removed on 4-30-00 and the post-survey conditions of the cracks appear to be observed in the same conditions as at the time of the instrumentation installation on 2-25-00. The electronic crack monitor on the garage wall cracks are to be evaluated after the reduction of gleaned data from the test period. There was settlement problems associated with the foundation in areas as previously mentioned, which will be addressed by the geotechnical study, tests and report of this assessment study.

### *4.5 Structure 12*

The structure is located approximately 16,500 feet from the location of the nearest quarry blast. The structure is a one-story residence that was constructed in 1995 and is owned by the original owner. The residence has approximately 1,700 sq. ft. of floor area, plus a single garage and a rear covered patio. The structure was monitored for ground floor vibrations on the inside garage concrete grade slab which is in the northwest part of the residence (Figure 12-1), and monitored in the ground at the southwest corner of the garage slab. This will enable a study of the differences in frequencies to be evaluated. The ground floor should provide lower frequency and the foundation of wall of garage should have higher frequency. There was monitoring instrumentation done for structural response which was placed on the bottom chord of the roof trusses, above the garage. The trusses in that area span in the North-South direction. The instrumentation was installed on 2-26-00 and was removed on 4-8-00.

There were cracks (transverse and diagonal) in the concrete garage floor. Nearly all the windows openings had cracks that had propagated downward from the lower corners on the exterior face of the stucco masonry wall, and an example is illustrated in Figure 12-2. On the interior of the residence, there was ceramic tile throughout and it can be said that the condition was good without any crack tiles. There were some noticeable minor cracking in tile grout lines about bathroom fixtures on their adjacent wall or floor. A post-survey was made on 4-8-00 on the exhibited cracks and it was found that they were essentially unchanged in crack widths and extensions. There could be settlement problems associated with the foundations, which will be addressed by further field tests and geotechnical study and be reported in this assessment study.

### *4.6 Structure 11*

The structure is located approximately 23,000 ft. from the location of the nearest quarry blast. The structure is the largest of all the test buildings and was the farthest from the quarries. It is a two-story structure that was totally renovated and with constructed additions in 1991. The elegant residence was large, with three-car garage, terraces, and pool. The structure was instrumented for structural response on the floor of a second story bathroom (see Figure 11-1). The instrumentation and initial assessment survey were performed on 2-26-00. There were exhibited cracking on the front elevation in the first story fascia, on side of garage, on the wall, at the left of the front entry, and a vertical cracks in the stucco over a construction joints on the second story front wall, approximately 30 feet from the west end of the building and about the first story wing wall, on the southwest corner (Figure 11-2). The garage area had numerous cracks which were more noticeable from the interior sides of the garage walls. There were

cracks in the northeast corner on the north wall. There was masonry cracking and spalling on inside of wall above the north garage door. On the north wall of the garage there were five vertical cracks near the top of the wall that were spaced 3' to 4' apart. On the inside partition wall of garage from the living area, there were numerous cracks above entry doors and on the top of partition wall, with many being 8" to 16" long. On the southwest inside corner of the garage, there were exhibited vertical corner cracks and at the top of the corner, there were horizontal cracks in the adjacent corner walls and above ceiling.

The second story west bedroom has a four foot cantilever second floor, facing the rear (Figure 11-3). There was a major horizontal cracking beneath the large rear window, (see Figure 11-4). This can be attributed to deflection of the rear bearing wall eccentrically cantilevered outward from the lower first story bearing wall. The vertical movement is very appreciable as can be noted from the above rigid metal window framing, as well, the interior drywall surface has a major horizontal crack that is greater than ¼" wide and about 9 feet long. It was noticed that there are water penetration related problems and damages in the window-wall area. The sill of the window has moved and rotated outward. Moisture from water penetration has caused swelling and movements which, in turn, could be attributed to the deflection movements of the wall. That west bedroom on the second story has a continuous transverse crack in the ceiling from near the mid-part of the window to the opposite wall partition at the bathroom, and the crack continues to be a vertical crack above the bathroom door and also propagates into the ceiling of the bathroom (Figure 11-5).

The front middle bedroom, on the second story, has an appreciable horizontal separation in the top of the wall, below the marble window sill, and the wall has a vertical crack in the wall below the window (Figure 11-6). The excessive movements at the windows have cracked the marble sill.

The breakfast-dining room front wall, below the window, has experienced appreciable vertical downward movements and resulting cracks (Figure 11-7). The crack was about 2 mm in width. The marble sill of the window had cracked approximately 10 in. from left window facing. There was exhibited cracking in the wall at the right edge of the window, at about 3 ft. from the top of the wall. It is felt that this could be settlement problems associated with the foundation, which will be addressed by further field tests and geotechnical study and be reported in this assessment study.

It was noticed, as mentioned previously, that there has been some water penetration problems on exterior walls and about windows. This can be noted by stains and indicative movements and swelling on drywall and wood face framing about windows. Moisture conditions such as that are attractive to termite infestation which were noted (Figure 11-8) in the family room area. The instrumentation was removed on 4-8-00. The structural responses were found to be of very low intensities upon the structure from blasting and in many cases, the magnitudes were low and below the trigger threshold level to activate the seismograph. It can be stated that no structural damages can be attributed to the quarry blastings, nor for any blasts at higher permitted particle velocity levels. The structure is very remote in distance from the blast event with the resulting effects in velocity, acceleration and displacement being low for the levels as allowed by the County Ordinance and Permit Process.

### *4.7 Structure 45.*

The structure is located approximately 5,000 ft. from the location of the nearest quarry blast. The structure is a two-story residence of approximately 2,000 sq. ft. living area plus a double garage. The residence was construction in 1997. The structure was monitored for structural response with the instrumentation placed on the bottom chord of the roof trusses, in the attic above the master bedroom walk-in closet. The instrumentation was installed on 4-9-00 and was removed on 4-30-00.

The exterior of the residence had vertical cracking below the first floor largest window, on the south wall (Figure 45-1). There were several vertical cracks, which ran upward from the floor slab on the exterior east elevations of the residence (Figure 45-2), and on the right wall at front entry. There was some exhibited cracking at the corners of the east doors and window in the patio terrace area. The interior had some noted settlement movement at the stairs (Figure 45-3), there was 1/8" movement of the stairs below the baseboard finish along the wall, and this separation propagated upward along at least four steps. The living area of the first floor is of ceramic tiles. It was noted that there are movements of the baseboard from the wall (Figure 45-4). There are separations of the grouted tile from the wall/baseboard (Figures 45-5 and 45-6). The Figure show the movement separation on a marked paper that was measured to be 7/32 inch, which was about 54" from the southeast corner of the family room, along the east wall. At the north wall of the family room, there was 3/16 inch separation of the tile from the baseboard, at about 32 inches from the northeast corner (Figure 45-8). Those horizontal movements of the floor can be attributed to shrinkage movement of the concrete slab on grade being integral with the thickened edge slab foundation. Those types of movements occurs over the first three years of the aging concrete and the movement rate will discontinue and becomes stabilized. The second floor interior was in good condition other than some minor cracking in the grout lines of the master bath tub-wall.

### *4.8 Structure 34.*

The structure is located approximately 7,000 ft. from the location of the nearest quarry blast. The structure is a one-story residence of approximately 1,600 sq. ft. plus a single garage and covered terrace. The residence has a swimming pool and deck. The structure was monitored for ground vibrations and air blast with the instrumentation installation placed on the terrace slab, on the north side of the residence (Figure 34-1). The instrumentation was installed on 4-9-00 and was removed on 4-30-00. The house was constructed in 1995.

The exterior of the residence had perimeter cracking about the house on the wall elevation at the top of the floor slab on grade (Figure 34-2). There are numerous cracks that start at the lower corners of window openings and propagate downward toward the base of the exterior masonry wall. (See Figures 34-3, 34-4, and 34-5). The interior master bedroom had a vertical crack on the Northwest corner and its bathroom had cracking in grout lines of the tiles on the tub-wall, on the wall at the edge of the tile line. The second bathroom had experienced transverse cracking in the tile floor and there was a vertical crack in the southeast corner of the partition wall between the bathroom and garage. The cracking in the floor and walls can be attributed to shrinkage movement of the concrete slab on grade being integral with the thickened edge slab

foundation. The three cracks in the concrete pool deck, which are near the corners of the pool, are also from volumetric shrinkage movements of the concrete slab. There are no construction joints or saw cuts placed in the slabs on grade to control the movements and to relieve the associated strains caused by the constraint of forces from the effects of shrinkage and thermal effects. There were no significant changes noted in the phenomenon at the time of the post assessment survey made when the instrumentation was removed.

### *4.9 Structure 33.*

This structure is located approximately 7,000 ft. from the location of the nearest quarry blast. The structure is a one-story residence of approximately 1,560 sq. ft. plus a rear covered terrace. The house was constructed in 1995. The structure was monitored for ground vibrations in the rear of the residence, on its east side. The instrumentation was installed on 4-9-00 and was removed on 4-30-00.

The exterior of the residence had vertical cracking at the windows on the north elevation exterior masonry wall. Those cracks were extended from the upper and lower corners of the two largest windows. A typical corner crack may be seen on Figure 33-1. The interior of the residence had a crack in the drywall popcorn vaulted ceiling of the family room. The house has ceramic tiles throughout, however, the tiles in the hall and bathroom have cracked progressively from the bathtub in the bathroom floor inward through the hallway floor. This may be noted and exhibited with Figures 33-2, 33-3, 33-4, and 33-5. There were no significant changes noted in the cracking on the exterior or interior cracks at the time the instrumentation was removed.

The cracking in the floor and walls can be attributed to shrinkage movement of the concrete slab on grade being integral with the thickened edge slab foundation. There are no means of construction joints or sawn cuts placed in the slab to relieve the associated stains caused by shrinkage effects and to control the anticipated movements. The interior floor cracks at the bathroom-hall area are also on the north side where exhibited cracking occurred on the exterior north wall and windows. It is felt that this could be related to a settlement problem associated with the foundation in that given area which maybe addressed further by the geotechnical report in this assessment study.

### *4.10 Structure 42.*

This structure is located approximately 4,000 ft. from the location of the nearest quarry blast and is one of the closest structures of the study. The structure is a two-story townhouse residence which was built in 1998. The overall building is on one side of the street, composed of seven townhouse units, which are each two-story and separated by common masonry firewall. This unit is one of the interior townhouse units. The structure was monitored for ground vibrations and air blast in the rear of the townhouse, on its west side. The instrumentation was installed 4-9-00 and was removed on 4-30-00.

The exterior rear elevation had vertical cracking on the masonry wall at the upper south corner of the sliding doorway to the rear terrace, a vertical crack at the lower story rear window on its lower south corner, and there was a vertical crack near the mid-width of the unit that extended upward through and to the second story level of the rear exterior

wall. The Figures 42-1, 42-2, 42-3, and 42-4 show the rear elevation areas where the cracking occurred with the 42-4 being a close-up view of the exhibited vertical cracking.

The interior tile floor of the first floor kitchen has a continuous crack of 64 inches of length through four tiles (Figure 42-5). The second story level master bathroom had exhibited cracking in grout-lines of wall tile, the floor tiles were cracked (Figure 42-6), and cracked baseboard tile to enclosed shower area (Figure 42-7). The second bathroom on the second floor had some cracking in the grout lines of the tiles on wall about the tub.

There was a horizontal crack in the gypsum drywall at about four feet above the second floor, in the north hall area to the master bath and master bedroom (Figure 42-8). In the master bedroom, there were noted movements of the baseboards relative to the adjacent drywall, at the northwest corner and west wall. On the first story level, in the living room at the front-east wall, there were vertical movements of the baseboard relative to the wall and horizontal movement of the baseboard relative to the floor tile (Figure 42-9). The movement of the floor can be attributed to shrinkage movements of the concrete slab on grade being integral with the foundation. There are no construction joints or noted saw cuts in the slab to control the movements and to relieve the associated stains caused by the constraint of forces from the effects of shrinkage. It is felt that there could be also movement related to a settlement problem associated with the foundation which will be addressed by further field tests and geotechnical study and expected to be reported in this assessment study.

## 5.0 OBSERVATION AND ANALYSIS

The structures are to resist lateral forces from ground induced vibrations. The roof framing and decking system provides horizontal diaphragm action. Resistance from the ground forces is provided by a mechanism dependent on the relative in-plane rigidity of the roof and the wall components. The out-of-plane rigidity of the walls and the flexural stiffness of wall connections to the roof are negligible in resisting lateral loads from the roof. The roof structure simply provides the top support for out-of-plane loads on walls. The out-of-plane walls of a masonry house must have sufficient flexural strength to resist their own inertia forces when acting in a vertical span direction; while the in-plane walls must have the capacity to resist the inertia forces on the roof system plus the top half of the walls, as a shear wall supporting system. Partially reinforced concrete masonry walls have approximately a minimum of twenty percent more capacity intensity to resist horizontal transverse acceleration forces as compared to unreinforced concrete masonry walls.

No structural damage cracking should occur on unreinforced walls with peak acceleration less than 0.2 g. The highest intensity to cause cracking in non-bearing in-plane masonry walls is slightly less than the intensity to cause structural damage cracking of out-of-plane walls. The peak particle velocity associated with required accelerations to cause structural cracking are low from the blasting levels permitted and unreinforced and partially-reinforced walls will perform satisfactory. The resulting strains are low as compared to the strains required for the threshold of structural damage cracking and are inconsequential in comparison to cause a structural failure.

The structural analysis indicates that the concrete masonry system of masonry block units as infills between reinforced concrete tie beams and foundations comprises a stiff structural system for the buildings, whether being a single or double story structure. The prominent stiffness and rigidity is resisted by in-plane concrete masonry shear walls as compared to the bending upon the out-of-plane concrete masonry walls. Using the normal range (24 ft. to 40 ft.) of continuous length of walls in the test building residences, it was found that the major lateral resistance was provided by shear (86 to 91 percent) for the structures.

The bending component offered the least stiffness resistance to forces caused by the ground vibration induced forces. To that end, it is logical that no structural damage cracking will occur due to bending from the induced inertia forces caused by the permissible range of induced blasting ground forces. No flexural structural cracking was exhibited in masonry walls nor should any be expected. From that reasoning, should structural cracking occur at a given threshold level, it will be attributed to shear loads.

It must be noted that structural cracking in masonry can be easily denoted and distinguished in regard to being caused by shear or flexural bending. The cracking that was exhibited in the masonry walls can be said to be caused by shearing forces and their related strains and stresses. Shear forces can be attributed to several types of causes for shearing action. The culprit force to cause shearing strains and stresses is not only dynamic blast induced forces. It can be caused by other factors, such as volumetric movements from soils that supports structures, settlements of constructed subgrades, or deeper underlying soil strata that is not appropriate to bear structures even if those foundations are shallow foundations. In this latter case, it is commonly known in the south Florida area and Miami-Dade County that shallow layers of organic soils do exist.

The organic soils are the results of decomposition of vegetation. The organic soil deposits are not uniform in thickness of layers beneath a structure, if it does occur or not at all in some locations. The organic soils are known as peat and also referred to as muck. This soil layer slowly decomposes by oxidation, with a resulting compaction and subsiding of the overburden land surface, followed by differential settling of structures built above the peat layer. This differential settling can be a contributory element to foundation failures, floor cracks, wall cracks, and other building deficiencies. The organic soils shall be removed prior to setting a foundation or supporting slab for a building. The soils must be replaced with clean compacted fill material and built to the level of land brought to flood elevation criteria.

The minimal compliance requirements for soil improvements are mandated in the South Florida Building Code, Section 2409. That section of the Code does address the issue relative to organic materials in subsurface of foundations.

It was discussed earlier that the residences of the area are stiff masonry structures. The natural frequencies of the buildings are dependent upon the stiffness of the masonry walls and framing constructed system. The local geographical area has indicated that ground motions from blasts occur over somewhat long duration and which does sometimes have a range of low frequencies for about one-fourth (four seconds) of the total duration of the blast event. The usual blast events caused ground motions from a range of eight to seventeen seconds in total elapsed time duration. This revolves around the fact that the local ground motion is largely in frequencies close to the natural frequency found in the buildings. When this occurs for a constructed structural design system such as is evident in Miami-Dade County, then the structure will take the maximum punishment from ground vibration induced forces. The geology of the local sub-soil conditions, as found out in comparing the waveforms of the ground vibrations to the structural responses of the test structures, do filter out much of the high frequency ground motion. When this event and phenomenon occurs along with the encountered stiff structures of their natural frequencies, then the stiff structures should be subjected to lower ground vibration forces than structures that are flexible. There are ranges of frequencies in eight to ten hertzs from the ground vibrations for about four seconds that are in near resonance with the structures.

This does not necessarily means that stiff structures can not be made to work and tolerate the induced effects from the ground motions. The structures will not fail with structural damage cracking at the levels expected to be endured as permitted by the County. It is the structure responses to these low frequencies that are justifiably and particularly noticeable to the occupants of the building. The blast events do also cause very low frequencies of two to four hertz at the ending time interval of two to three seconds of the ground motion duration; when that occurs, the noise is amplified and the movement displacements are more pronounced to the occupants experiencing the event in residence. This is what is being experienced and somewhat alarms the occupants and causes movements of smaller loose household items and misalignments of pictures on walls. The occupants then fear possible structural damages from the perceptibility what was experienced but is unfounded for the low levels of velocities endured and permitted by the County.

There was one common denominator which concerned an inherent design problem for all the assessed structures made in the study. That problem is associated with the foundation system constructed per design documents. The structures are supported by as shallow foundation system that is designed as a monolithic thickened edge slab foundation that is integral with a concrete floor slab on compacted fill grade. The foundations extend continuously about the perimeter of the structure and supports the major concrete 8-inch thick masonry bearing walls. These foundations are normally a 12-inch thickened edge with a 16-inch width for the single-

story buildings and with a 24-inch width for the double-story buildings. The thickened edge slab foundations is integral with a 4-inch thick concrete slab that bears upon compacted fill material. The concrete is normally of 28-day compressive strength of 2500 psi. The longitudinal reinforcement in the edge is 2 No. 5 steel bars in the 16-inch width foundations and 3 No. 5 steel bars in the 24-inch width foundations. The 4-inch thick concrete slab has steel welded-wire fabric of w 1.4 x 1.4, 6 x 6 mesh.

If some allowance is not made for expected movements from drying shrinkage of concrete in the design of concrete slab systems; then unacceptable cracking may occur which is affected by various parameters of the placed concrete, construction practices and environmental conditions. The drying shrinkage will indeed occur but the predicted amount will vary with the collective parameters, from a smaller normal expected amount to an ultimate amount of shrinkage for drying volumetric movements in the earlier life of the concrete.

One of the major parameters that influence drying shrinkage is the water-cement ratio. In the case of lower strength concretes and for the placement of that concrete in a slab for its finishing and workability, the water-cement ratio is high and is not closely controlled in the construction process. In most cases, it has been found that the water-cement ratios are in the higher values of ranges to 0.65, where it should be about 0.40 and definitely be less than 0.50. The quality control taken during concrete curing is a very important factor in serviceability and expected drying shrinkage.

Concrete shrinkage is the change in volume that occurs when concrete loses water and dries in the early age of the life of the concrete. This water loss is the result of both physical and chemical actions, and it occurs before, during, and after the hardening of the concrete. The shrinkage rate is accelerated in the earliest life and slows down later. Most of the concretes will have seventy-five percent of the total shrinkage dissipated over the first two to three years. When that three year time period is doubled in the early life of the concrete, it has exceeded ninety percent shrinkage and is nearly complete for expected long-term life. All concretes will experience shrinkage and the cumulative rates of shrinkage is dependent on the practices used in the placed concrete. Low shrinkage rate is in a range of 0.0004 to 0.0005 in./in., medium shrinkage is 0.0006 in./in., and high shrinkage is 0.0007 to 0.0008 in./in. The water and the cement are the major characteristics that influences shrinkage as was mentioned, however, maximum size of aggregate, concrete temperature, type of aggregate and cement and uses of admixture also affects the shrinkage values.

To place the amount of predicted shrinkage in perspective to what can highly be expected for only the job control factors in cumulative effect for a residence slab of forty foot width, it results into an expected total movement of nearly 0.40 inch, or 0.20 in. of shortening at each of the two ends of that slab width. Should the slab be restrained, such as the case of the slab being monolithic with the thickened edge foundation; this causes a restraining force that places the tensile concrete stresses to exceed the concrete modules of rupture and thus cracks the slab. The slab cracking can be either a major irregular crack or an accumulation of smaller width cracks that allows for the released of expected movements due to shrinkage. The restraining force at the base of the exterior concrete masonry wall can also cause the wall to be cracked at the base of the wall and above the top elevation of the concrete slab. That loss of restraint at the perimeter exterior masonry wall from the slab cause separation and movements near the wall. One will find differential movements within the base of the masonry wall, or movement of the concrete slab from the wall. This may be evident by the separation of the baseboards from

the wall or tiles from the face of the interior of the wall or from the wall baseboard. Movements will also be evident in exhibited cracked floor tiles and cracked grout lines of the tile.

The concrete floor slabs should be designed to allow for the expected floor movements from expected drying shrinkage and volumetric movements. The thickened edge slab foundation design does not allow for a freedom of movement and it provides the restraint that indeed cause the mechanism for cracking of the concrete floor slab and concrete masonry walls. It should be point out that this inherent foundation-slab design is not only determinant to concrete dry shrinkage movements in slabs. It also limits the similar movements for expected differential thermal changes in the slab which causes movements to a lesser extent. The design condition allows for temperature to be directly conducted in a thermal way from the exterior wall into the interior slab. It does not allow for a barrier or a discontinuity of a joint between the edge of the floor slab at its perimeter interior of the exterior wall. The design is not prudent for the conservation energy to cool or heat the interior of residences when the perimeter of the concrete floor slab is directly exposed to the climatic exterior or outside temperatures.

The design of thickened edge slab foundations for the support of perimeter bearing walls of residences consequently causes eccentric vertical load paths from the center of the bearing wall to the center of the foundation that bears the load. Should the residence be a single-story with a 16-inch width foundation, the eccentricity is 4 inches. If the residence is two-story with a 24-inch width foundation, the eccentricity is increased to 8 inches and the wall loads are much higher to result in larger eccentric moment. The bearing pressure beneath the foundation varies in intensity and allows deformation beneath the foundation to not be uniform and results into some rotational movement about the longitudinal axis parallel to the wall. Being that an eccentric moment occurs, this causes flexural stresses in the transverse direction on the foundation with the rotational movement as noted.

## 6.0 CONCLUSIONS AND SUMMARY

The structural constructed system used in the residences constructed in western Miami-Dade County are of a framing system of reinforced concrete and concrete masonry units with stucco exterior wall finish. The residences have timber roof trusses with plywood roof sheathing which are secured to reinforced concrete tie-beams at the top of the bearing walls. The foundations for the masonry bearing walls are monolithic thickened edge reinforced concrete footing integral with a four inch concrete slab on grade of compacted fill material.

The structural performance is satisfactory for blast related forces conducted and permitted in the assessment study without structural cracking. The peak particle velocity from blasts may sustain recommended limits to 0.50 in./second. The recommended velocity limit is less than the ground vibration peak particle velocity of 0.75 in./s as referred to in the United States Bureau of Mines (USBM) Report of Investigations 8507 and was a recognized standard and referenced in Chapter 13 – Explosives Code adopted by Miami-Dade County.

The characteristics and behavior of ground vibrations in the western part of the county were found to be different than those ground vibrations found in other locations of the nation and the local constructed structures are much different in their structural response to the ground vibrations from blasting as compared to other structural systems.

The South Florida geology in the County is shallow layer of top soil above normally silica sands and fragmented limestone. Those overburden materials are upon a shallow mantle of a porous cap of limestone. The shallow water table ranges from five to eight feet below ground elevation. The ground vibrations sustained from local blasts in limestone mines have high frequencies with low frequencies. The duration of the ground vibration events are longer and the decay of ground vibration (damping) is small. The shallow limestone is porous with water to cause higher ground vibration frequency with less damping. The upper layer of the geology results into surfaces waves that follows in low frequency intensity.

The low frequency results into larger displacements than those related to the higher frequencies which are more noticeable and have higher perceptibly. The velocity is the largest during the initial higher frequencies and is smaller in the ending lower frequency range of the given event. Even thought the perceptibly is higher for the lower frequencies, the inertia forces are then said to be low and not causing structural damage. The structures will experience low frequency responses with induced displacement and related noises in an alarming manner without structural damage.

The structural constructed system of bearing concrete masonry walls and reinforced concrete tie-beams provides a stiff structural system. The natural frequency of that structural system are in the near range of resonance response for a short time period interval of the structure versus the ground vibrations of the local conditions were noted. That period of near resonance was in the earliest time of the duration of the time-line event. That was the period of time where the larger amplifications of velocities were experienced in ceiling lines and second-story of residences. The velocity levels and magnitudes endured and for those permitted will not cause structural damage.

The Miami-Dade County houses are much different being made of reinforced concrete and masonry as compared to timber frame houses such as were tested and used in the USBM report. The natural frequencies, structural responses, and geological characteristics are different in Miami-Dade County to justify the allowance of a recommended criteria of peak

particle velocity of 0.50 in./s. and is less than the USBM report criteria of 0.75 in./s. The 0.50 in./s. would be the suggested maximum limit for structural concerns in the western area of Miami-Dade County where limestone mining blasts are conducted near residential areas.

A common denominator for the residences in the blasting area were the construction of the use of designed monolithic thickened edge reinforced concrete foundation with a concrete floor slab on the grade of fill. These foundations beared the perimeter bearing walls of the residences. This foundation system allowed restraint to the concrete slab which attributes to transverse cracking of the slab on grade when the drying shrinkage of the concrete causes high internal strains during the earlier life of the concrete slab. This causes cracking of the floor itself and tiles, and movements about the floor perimeters. The slab itself may separate and causes movement and/or cracking of the exterior wall as the result of forces created from the internal drying shrinkage strains. Those cracks are at the base of the exterior masonry walls and are horizontal and may extend upward from the base of the wall.

There were occurrences of differential settlement of foundations. It was found that about half of the residence foundations had organic soils in the subsurface at one or more locations which led to differential movements that caused extended cracking and misalignment of walls. The walls may be cracked or displaced vertically, which are either exterior walls or interior gypsum drywall ceilings and walls.

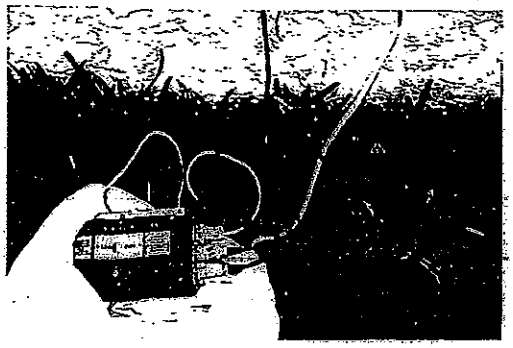


FIGURE 6-1

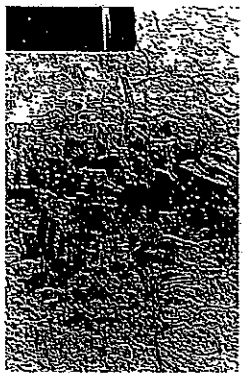


FIGURE 6-2

FIGURE 13-1

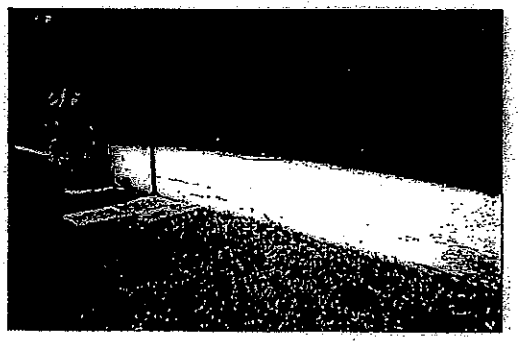


FIGURE 13-2

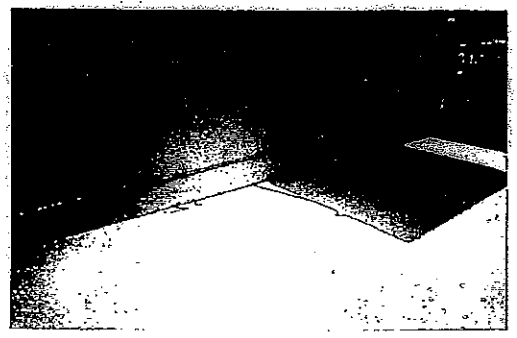


FIGURE 13-3

FIGURE 13-4

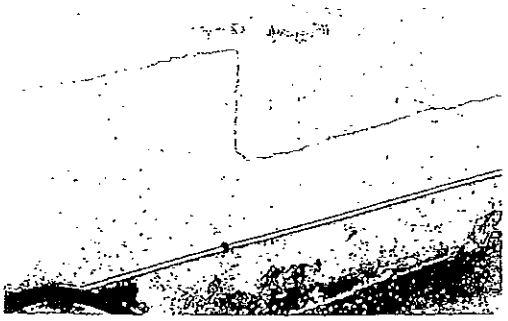


FIGURE 13-5

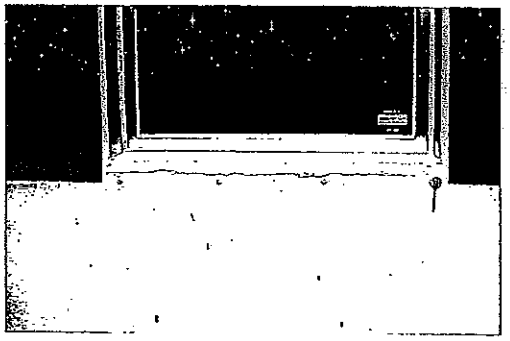


FIGURE 13-6

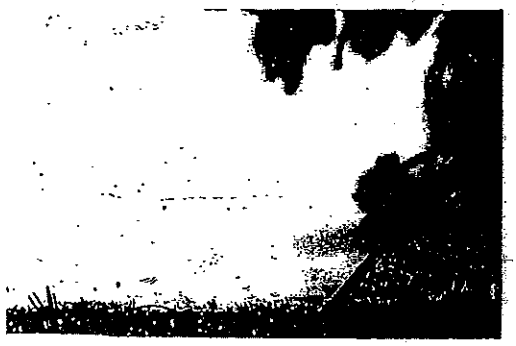


FIGURE 15-1

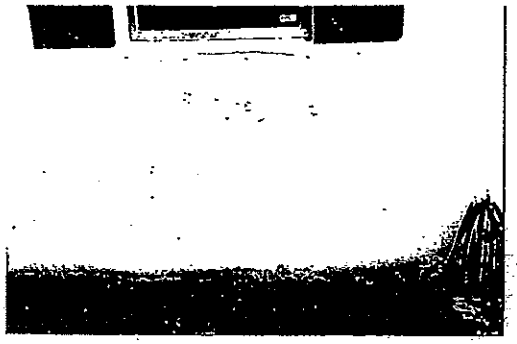


FIGURE 15-2

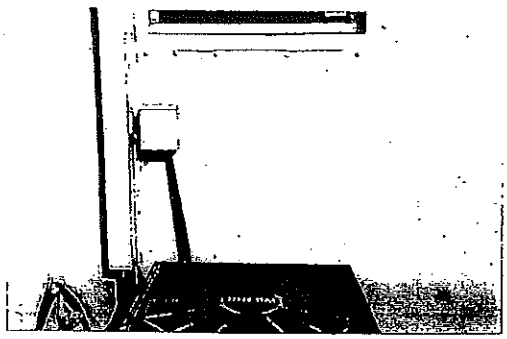


FIGURE 15-3

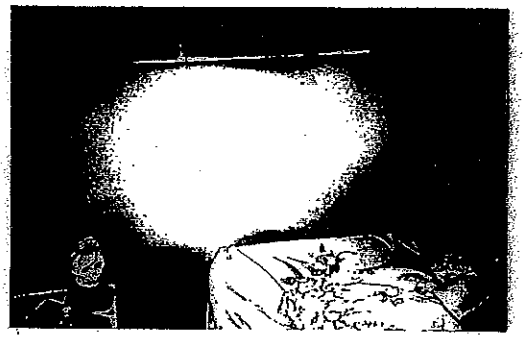


FIGURE 15-4

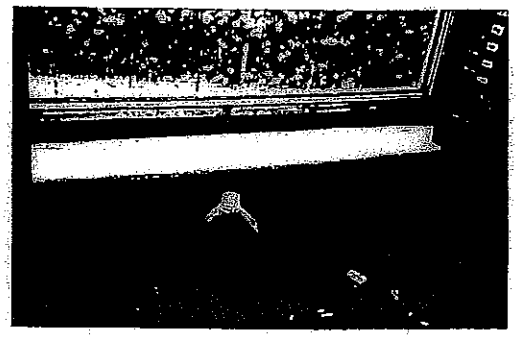


FIGURE 15-5

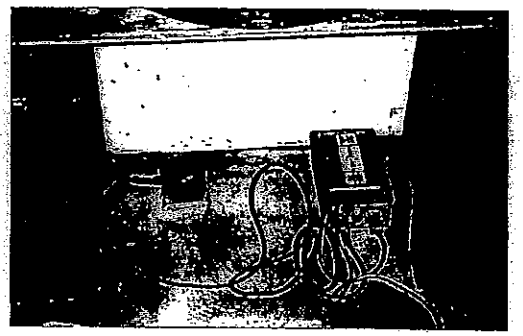


FIGURE 4-1

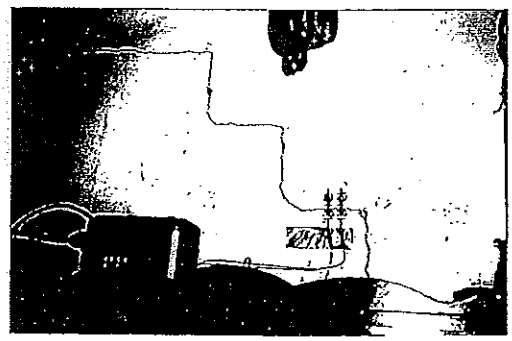


FIGURE 4-2

FIGURE 4-3

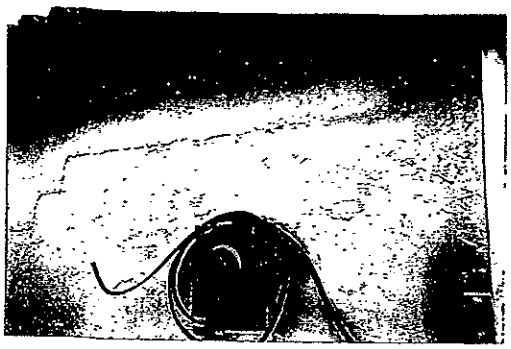


FIGURE 4-4

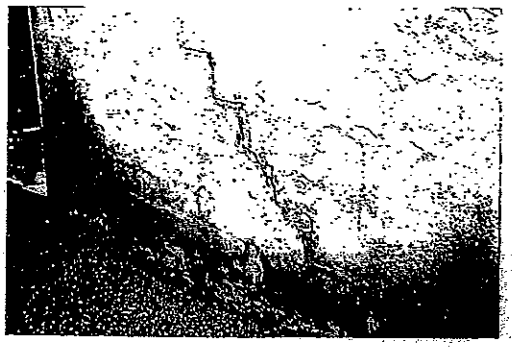


FIGURE 4-5

FIGURE 4-6

FIGURE 4-7

FIGURE 4-8

FIGURE 4-9

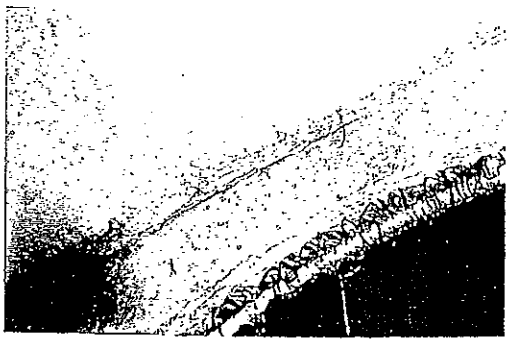


FIGURE 4-10

FIGURE 4-11

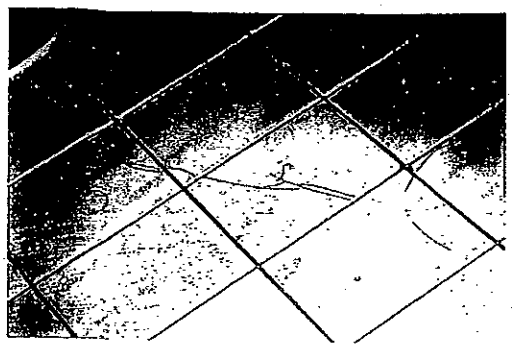


FIGURE 4-12

FIGURE 4-13

FIGURE 4-14

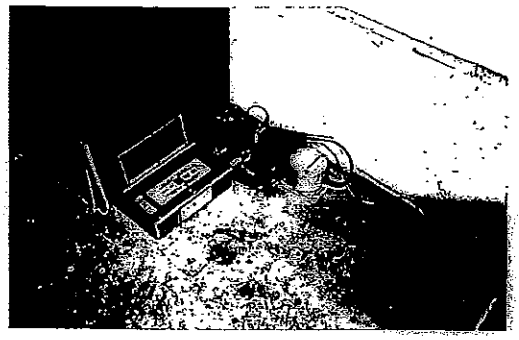


FIGURE 12-1

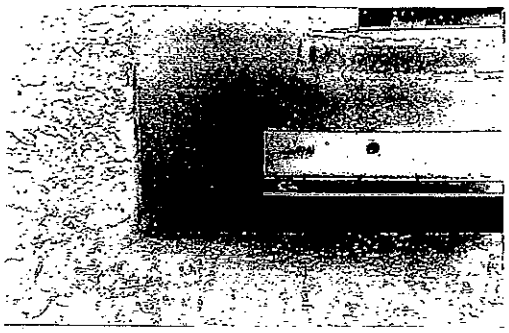


FIGURE 12-2

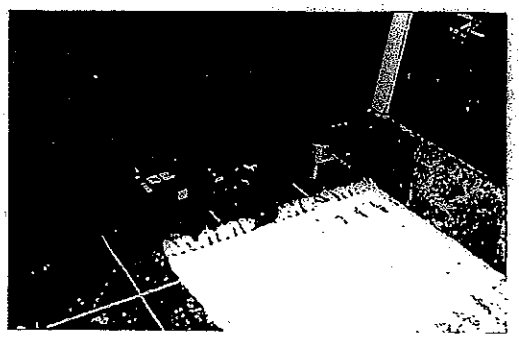


FIGURE 11-1

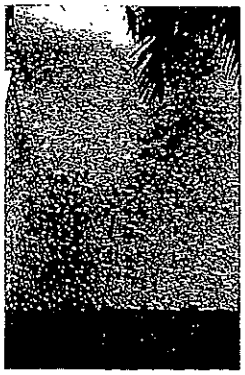


FIGURE 11-2

FIGURE 11-3

FIGURE 11-4

FIGURE 11-5

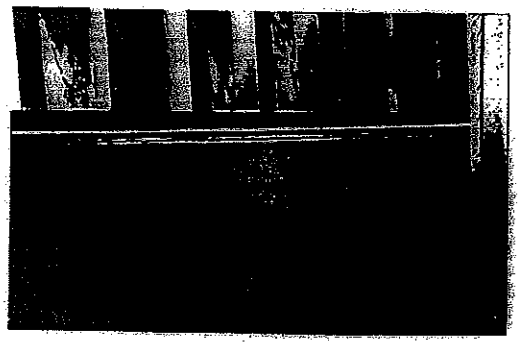


FIGURE 11-6

FIGURE 11-7

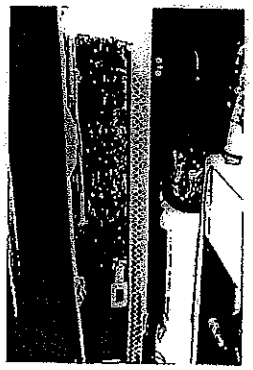


FIGURE 11-8

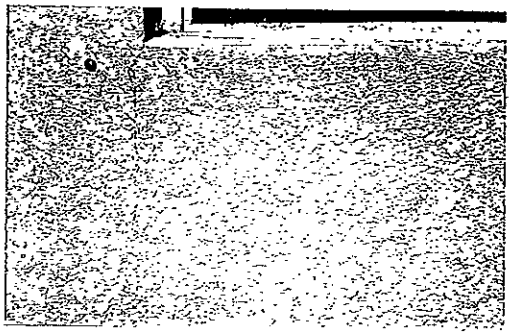


FIGURE 45-1

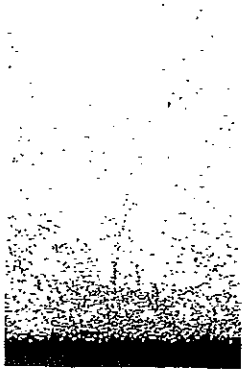


FIGURE 45-2

FIGURE 45-3

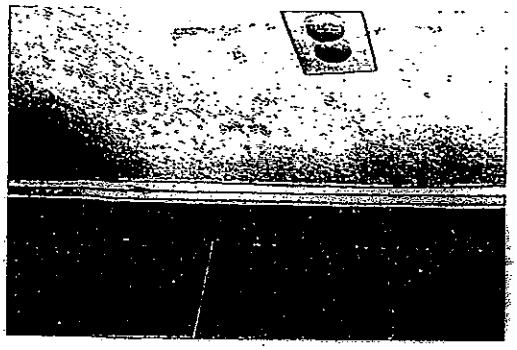


FIGURE 45-4

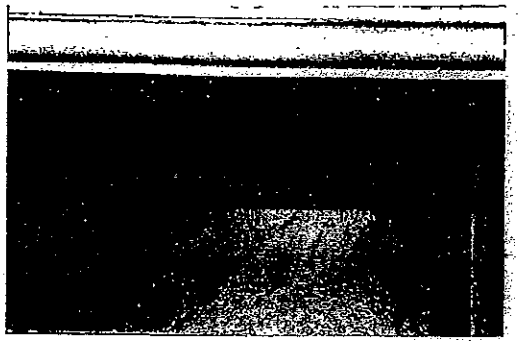


FIGURE 45-5

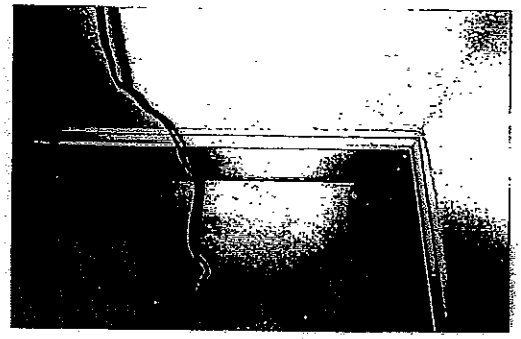


FIGURE 45-6

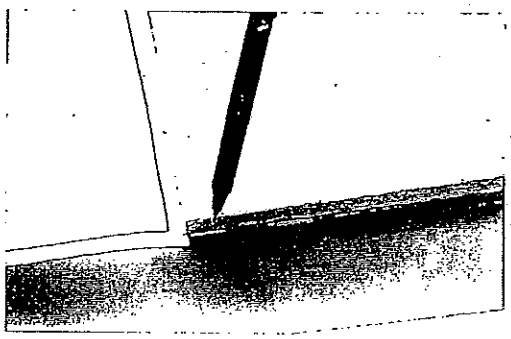


FIGURE 45-7

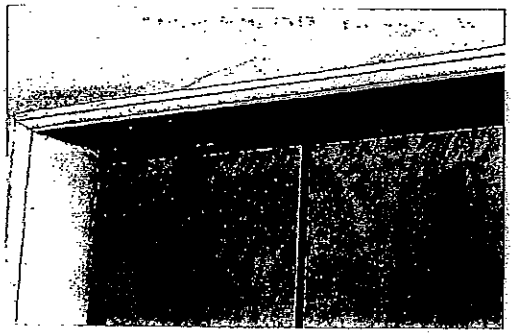


FIGURE 45-8

FIGURE 34-1

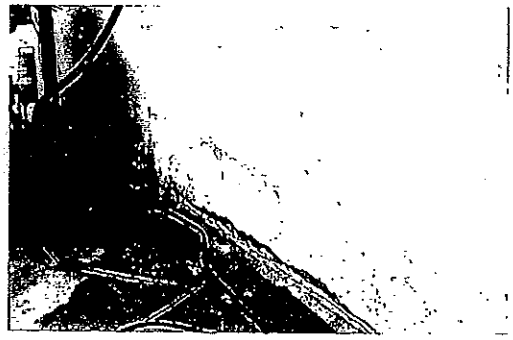


FIGURE 34-2

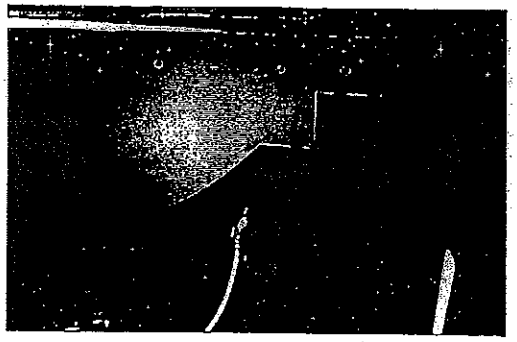


FIGURE 34-3

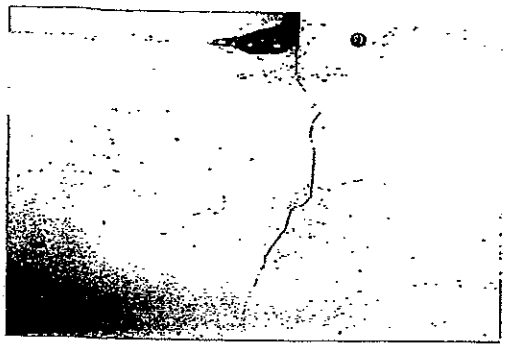


FIGURE 34-4

FIGURE 34-5

FIGURE 33-1

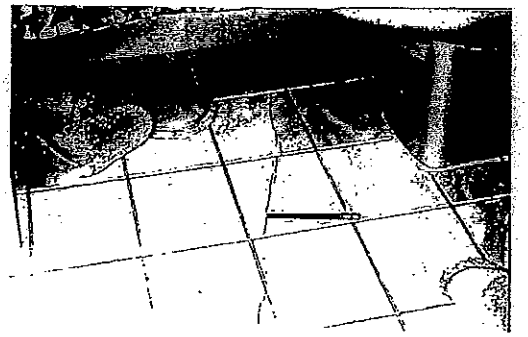


FIGURE 33-2

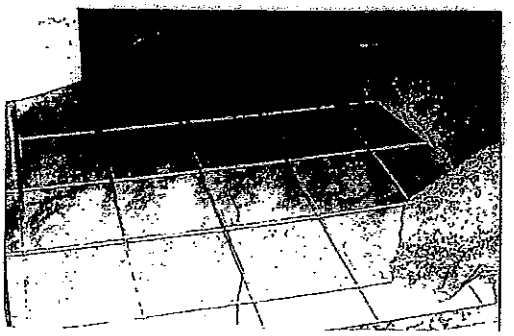


FIGURE 33-3

FIGURE 33-4

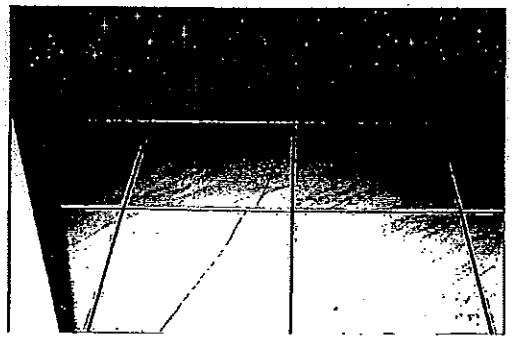


FIGURE 33-5

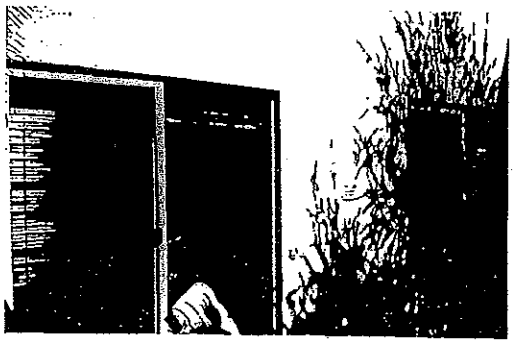


FIGURE 42-1

FIGURE 42-2

FIGURE 42-3

FIGURE 42-4

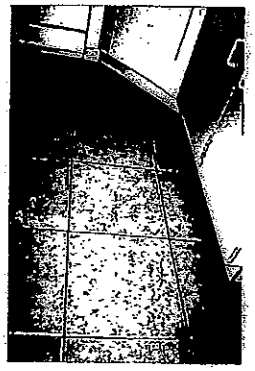


FIGURE 42-5

FIGURE 42-6

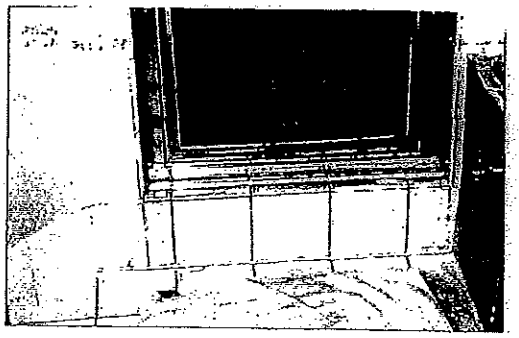


FIGURE 42-7

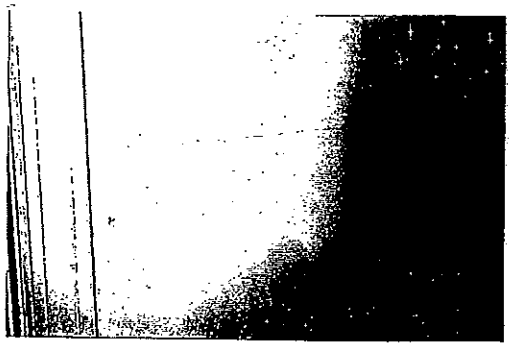


FIGURE 42-8

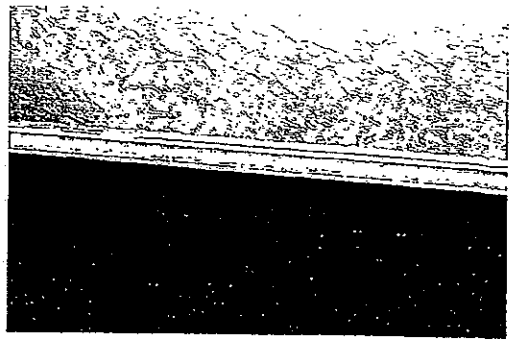


FIGURE 42-9

*Assessment of Blast Vibration Impacts*
*From Quarry Operations On*
*Foundation Settlement Performance*
**Dade County, Florida**

DE&T

# TABLE OF CONTENTS


| | Page No. |
|---|---|
| **Transmittal Letter** | i |
| **Executive Summary** | iii |
| **Introduction** | 1 |
| **Purpose And Scope Of Work** | 1 |
| **Geotechnical Overview Of Study Area** | 2 |
| **Description Of Structures Included In Survey** | 2 |
| **Building Cracks** | 3 |
| Origin and Character | 3 |
| Visual Survey Cracks | 4 |
| **Subsurface Conditions** | 6 |
| **Laboratory Testing** | 7 |
| **Foundation Settlement** | 7 |
| **Settlement Performance Of Foundations** | 8 |
| Relevant Structures | 8 |
| Elastic Settlement | 8 |
| Consolidation Settlement | 9 |
| Seismic Compaction and Liquefaction Settlement | 10 |
| **Conclusions** | 11 |

| | Appendix |
|---|---|
| Crack Survey Summary | A |
| Logs of Test Borings | B |

## EXECUTIVE SUMMARY

An evaluation of the contribution of foundation settlement to cracking of residential structures has been made as part of a comprehensive study to determine the impact of quarry blast vibrations on these structures and the urban environment. The evaluation involved visual inspection of ten selected residences for cracks, exploration of the subsurface conditions at six of the ten residence sites and an assessment of factors that can contribute to foundation settlement.

The structures that were surveyed have masonry walls supported on shallow foundations, pre-fabricated wooden roof trusses and slab-on-grade floors. Their masonry walls exhibited signs of cracking which had a variety of orientations that included vertical, horizontal, inclined and stair step. The cracking is hairline in width or only slightly wider and has affected neither the structural integrity nor the serviceability of the dwellings. Stair step cracking is attributed to differential foundation settlement caused by compression of the profile components on which the footings rest. Although the magnitude of the differential settlement that the foundations have sustained is modest, it produces angular distortion (i.e. differential settlement of wall divided by deflected length of wall) that exceeds the permissible level for the block work, which is quite small and on the order of $6 \times 10^{-4}$ inches per inch (about one-eighth inch differential settlement over roughly 17 feet of wall length).

Consideration was also given to the contribution of ground subsidence on foundation settlement caused by seismic compaction and liquefaction due to blasting. Based upon review of available information concerning blasting induced settlement in granular soils deposits, we conclude that the geographic separation that exists between the quarries and residential areas precludes seismic compaction and liquefaction as contributors to foundation settlement.

## INTRODUCTION

A Blasting Task Force comprised of county executives, members of southeast Florida's construction aggregates industry, community councils and homeowners was established by the Miami-Dade County Commission in late 1999. The 21-member task force, which is chaired by County Commissioner Dr. Miriam Alonso, was given the responsibility of evaluating a broad scope of issues relating to the effects of blasting in Dade County's limestone quarries on existing residential development and to find a balance between protecting people's homes and preserving the viability of a long established industry.

One of the initial steps taken by the task force was to retain a team of experts to study the impact of blasting on residential neighborhoods in the County's "lake belt". It chose the architecture and engineering firm of Corzo, Castella, Carballo, Thompson & Salman (C3TS) as prime consultant and team leader. C3TS selected three sub-consultants to assist in the effort: D.E. Siskind & Associates, Ltd. (DESA - consultants in blasting, seismology and acoustics), Parsons Brinckerhoff Quade and Douglas, Inc. (PB Water-hydrogeologic consultants) and Dunkelberger Engineering & Testing, Inc. (DET - geotechnical engineering consultant).

## PURPOSE AND SCOPE OF WORK

The primary purpose of the work undertaken by the C3TS team was to make a detailed investigation of the effects of blasting on private property and, if warranted, make recommendations for changes in the existing blasting regulations to mitigate any adverse conditions that were found. The focus of DET's efforts in the overall investigation was the assessment of foundation settlement performance of the residential structures affected by the blasting. Toward that end DET undertook the following scope of work:

- Made a visual survey of selected residential structures to identify distress related to foundation movement.
- Reviewed available foundation plans for the structures that were surveyed.
- Identified the nature, sequencing and condition of the subsurface materials that exist within the study area.
- Evaluated the foundation settlement performance of selected structures.

## GEOTECHNICAL OVERVIEW OF STUDY AREA

The study area exists within a region of Dade County where the native surface soils consist of fine grained to fibrous peat (muck) one to three feet thick. Mineral soils consisting of sand two to four feet thick and marl up to two feet thick underlie the peat in many areas but are absent locally. Weakly to well cemented limestone exists thereafter and continues to comparatively great depth. Under natural conditions, the groundwater table is virtually coincident with the surface of the muck.

Development of the area for residential purposes normally involves removal of the organic soils (demucking), which are weak and highly compressible, from the building areas and filling to grades which provide protection against flooding. Good construction practice involves wholesale removal of the muck from a structure's footprint together with a perimeter margin that extends some five horizontal feet beyond the maximum outside lines of the building superstructure. Replacement fill for the excavation plus additional fill needed to attain construction grades typically consists of sand or a run-of-pit mixture of sand and fragmental limestone. The fill is placed and compacted to a condition that will provide safe support to a dwelling's shallow foundation system and an on-grade floor slab.

## DESCRIPTION OF STRUCTURES INCLUDED IN SURVEY

A total of ten single-family residences were included in the survey. These dwellings were identified by a distinct number to assure homeowner anonyminity. Information regarding the locations of the dwellings, their height and approximate age is presented below.

| Structure Identification Number | Structure Location | Number Of Stories | Approximate Year Built |
|---|---|---|---|
| 4 | Miami Lakes (West) | 1 | 1990 |
| 6 | Palm Springs North | 2 | 1992 |
| 11 | Miami Lakes (East) | 2 | 1991 |
| 12 | Miami Lakes (West) | 1 | 1995 |
| 13 | Palm Springs North | 1 | 1963 |
| 15 | Palm Springs North | 1 | 1962 |
| 33 | Shoma Homes | 1 | 1995 |
| 34 | Shoma Homes | 1 | 1995 |
| 42 | Doral Landings | 2 | 1998 |
| 45 | Doral Landings | 2 | 1997 |

All of the structures included in the survey have a shallow foundation system. Most are supported on monolithic, thickened edge slab foundations. Structure 11 is supported on conventional spread footings and has a slab-on-grade floor. The structures have load bearing masonry walls, reinforced concrete tie beams and tie columns, and pre-fabricated wooden roof trusses. Typically, the foundations are designed for an allowable soil bearing pressure of 2,000 pounds per square foot (psf).

Single story structures with monolithic thickened edge slab foundations have 16-inch wide (minimum) continuous footings beneath their main bearing walls and two-story structures 24-inch wide (minimum) footings. The widths of the continuous, conventional spread foundations range from 16 to 40 inches.

Interior walls and ceilings of all structures appeared to be composed of gypsum board.

## BUILDING CRACKS

Origin and Character

Cracks in buildings can be caused by one or more of the following factors:

- Differential thermal expansion
- Shrinkage and swelling of the materials used for construction
- Chemical changes in masonry block, mortar and wall board materials
- Fatigue and aging of wall coverings
- Structural overloading
- Differential foundation settlement
- Vibrations from blasting and construction

Burland, Broms and De Mello (1997) provide an excellent description of cracking damage that buildings can sustain and the effects which cracking can have upon a structure's serviceability and integrity. Portions of their cracking damage severity criteria are presented below.

| Severity Of Cracking Damage | | |
|---|---|---|
| **Damage Category** | **Description Of Typical Damage** | **Approximate Crack Width** |
| Negligible | Hairline cracks | <0.1 mm |
| Very Slight | Fine cracks that can be easily treated during normal decoration, perhaps an isolated fracture in building and cracks in external brickwork visible on close inspection | 1 mm* |
| Slight | Cracks that can be easily filled and re-decoration probably required; several slight fractures may appear showing the inside of the building; cracks are visible externally and some re-pointing may be necessary; and doors and windows may stick | 5 mm |
| Moderate | Cracks that require some opening up and patching by a mason; recurrent cracks that can be masked by suitable linings; re-pointing of external brickwork and possibly a small amount of brickwork replacement may be required; doors and windows stick; service pipes may fracture; and weather tightness is often impaired | 5 to 15 mm or a number of cracks >3 mm |

* 1 millimeter (mm) approximately equal to 0.04 inch

Settlement cracks in building walls are usually diagonal in orientation although vertical cracks are possible under certain circumstances. Horizontal cracks are normally not associated with foundation movement. In the case of structures with masonry walls, the settlement cracks ordinarily follow a stair step configuration along the mortar joints.

Visual Survey of Cracks

A visual survey was made of each of the ten residential structures to identify and catalogue cracks that they contain. Detailed descriptions of the cracks that were observed on a structure by structure basis are provided in Appendix A. A synopsis of the type and severity of the cracks is presented hereafter.

| Synopsis Of Observed Cracks | | |
|---|---|---|
| **Structure Designation** | **Type Of Cracks** | **Severity Of Cracks*** |
| 4 | Exterior: Horizontal, vertical and stair step cracks ranging in width from hairline to one-eighth inch in exterior walls. Patio slab has subsided about one-half inch and rotated easterly. Interior: Not inspected. | Negligible to slight |
| 6 | Exterior: Vertical hairline width crack in south wall beneath lower window corner. Interior: Not inspected. | Negligible |

| Synopsis Of Observed Cracks | | |
|---|---|---|
| **Structure Designation** | **Type Of Cracks** | **Severity Of Cracks*** |
| 11 | Exterior: Vertical and inclined hairline width cracks in walls and architectural columns. Hairline to one-eight inch wide crack in brick pavers of pool patio. Vertical hairline crack in pool shell. Interior: Vertical, inclined and horizontal cracks from hairline to three-sixteenth inch wide in walls. Cracks do not extend into exterior plane of wall. Hairline cracks in ceiling. Hairline cracks in ceramic tile of residence with no elevation difference across fracture. One-sixteenth inch and slightly larger cracks in garage slab. Slight elevation difference across slab crack at northwest garage corner. | Negligible |
| 12 | Exterior: Vertical, inclined and stair step hairline cracks in walls. Interior: No cracking observed. | Negligible |
| 13 | Exterior: Vertical, horizontal, and stair step cracks in walls. Interior: Diagonal hairline cracks in walls above window corners and one vertical hairline crack in wall above corner of office door. | Negligible |
| 15 | Exterior: Stair step, vertical and horizontal cracks in walls. Interior: Vertical and inclined hairline cracks in walls plus one horizontal hairline crack beneath bedroom window. | Negligible |
| 33 | Exterior: Hairline cracks in underside of roof overhangs. Hairline vertical cracks in vertically mounted ceramic tile at entrance and doorway at northeast corner of dwelling. Interior: Hairline cracks in ceiling and vertical hairline crack above top corner of one door. Hairline cracks in ceramic floor tile. No elevation difference across fractures. | Negligible |
| 34 | Exterior: Vertical to inclined hairline cracks in walls. Hairline cracks in roof overhang and patio ceiling. One-sixteenth to one-eight inch wide crack in pool patio. Slight elevation difference across fracture. Interior: Hairline crack in ceiling. Hairline cracks in ceramic floor tile, one with slight elevation difference across the fracture line. | Negligible |
| 42 | Exterior: Stair step and vertical hairline cracks in walls. Interior: Horizontal and vertical hairline cracks in walls at second level. Hairline cracks in ceramic floor tiles at first and second levels. No elevation difference across fractures. | Negligible |
| 45 | Exterior: Inclined vertical and horizontal hairline cracks in walls. Interior: Hairline cracks in ceramic floor tiles. No elevation difference across fractures. | Negligible |

* Per Burland et al.

## SUBSURFACE CONDITIONS

Site specific subsurface information was gathered at six of the ten residences, namely Structures 4, 11, 12, 13, 15 and 42. Virtually all of these residential sites were chosen for exploration because portions of their main bearing walls exhibited a stair step cracking pattern in the masonry block work that is indicative of foundation settlement.

One to three 15-foot deep Standard Penetration Test (SPT) borings were drilled at the referenced residence sites at locations prescribed by DET. Drilling services were provided by Wingerter Laboratories, Inc. Logs of the borings are presented in Appendix B.

Review of the logs shows that most of the borings encountered granular profile components over the full vertical limits of exploration. The profile components typically include sand and sand intermixed with fragmental limestone in the upper 8 to 13 feet followed by limestone to the termination depth of the borings. On a site by site basis, the relative density of the sandy soils generally ranges from loose to medium dense while the consistency of the limestone varies from soft to moderately hard.

Noteworthy exceptions to the previously described subsurface conditions were found in the profiles at Structures 4, 12 and 42:

- Two of the three borings drilled at the site of Structure 4 encountered a layer of firm peat intermixed with sand. Boring CO-1 penetrated a one-foot thick layer of this material at six feet below grade while Boring CO-3 intercepted the peat/sand layer in the depth interval of four to eight feet beneath the ground surface.

- One of the two borings drilled at the residential lot of Structure 12 encountered a one-foot thick layer of firm peat intermixed with sand in the depth interval of 6 to 7 feet beneath the ground surface.

- The single boring drilled at the site of Structure 42 found granular fill soils in the depth interval of 4 to 6 feet beneath the ground surface that contained some finely divided organic material.

Groundwater levels at the residential sites were measured at depths between 5.5 feet and 8 feet beneath the ground surface when the borings were drilled (period of early April to early May 2000).

## TABLE 3.- cont.

| | | | | |
|---|---|---|---|---|
| J. Bathroom cracking and/or sagging | 1. Excessive load, use of concrete pad..... | - - - | 174-175 | --- |
| | 2. Rotting joists beneath floor..... | - - - | 174-175 | - - - |
| K. "Craze" cracks in plaster | 1. Improper mix or installation procedures | 47-48 | 140-141 | - - - |
| | 2. Poor bond between plaster layers | 47-48 | 133-134<br>140-141 | - - - |
| | 3. Moisture response differences between plaster and wood | --- | 141 | - - - |
| L. Visible wallboard nailheads | 1. Green studs and drying shrinkage, humidity cycles | - - - | 90, 160 | - - - |
| | 2. Blast-induced structure response, (if wallboard core crushing from motion is visible) | - - - | - - - | --- |

DESA 2-17-98

## REFERENCES

1. (AISG) Blasting Damage and Other Structural Cracking, A Guide for Adjusters and Engineers. Property Claim Services and Engineering and Safety Service of American Insurance Services Group, Third Edition, 1990, 72 pp. Available from the ISEE Blasters Library as MAN0991 for $27 (members) and $33.60 (non-members) plus postage and Ohio state tax, 440-349-4004.

Well illustrated and suitable for showing or even giving to homeowners. Blasting-related damage is mentioned as one example of stress in structures, However, most problems discussed are related to construction practices.

2. Diagnosing and Repairing House Structure Problems. Edgar O. Seaquist, 1980, 255 pp. Available from Professional Equipment as item #B117 for $29.95 plus postage and NY state tax, 800-334-9291.

Paperback volume with detailed discussions of natural and construction-related distresses to foundations, walls, roof structures and other residential features. Remedial measures for various problems are also presented. Blasting and construction vibrations are only discussed in passing. Most problems described are natural forces on homes, such as gravity and moisture and thermal cycles, and measures, or lack of measures, for dealing with them in the construction process. Illustrated. This volume cannot just be read but has to be studied.

3. How Buildings Work, The Natural Order of Architecture. Edward Allen, Oxford University Press, 2nd Edition, 1995, 245 pp. Obtainable through booksellers, retail price $39.95.

This is not a damage volume, per se, but rather one on how buildings are constructed in an environment of dead and live load, wind, heating and humidity considerations, etc. Chapter 18 describes the need to provide for building movement from thermal and humidity cycle-related stresses. Other topics include good roof, wall and foundation design for load-carrying capacity and other items related to potential building damage. Well illustrated.

Figure 1. - House #6, east-facing front from NE vantage (P1-1).

Figure 2. - House #6, SE corner (P1-2).

Figure 3. - House #6, west-facing rear wall. Seismograph sensor is buried and attached to foundation wall (P1-4).

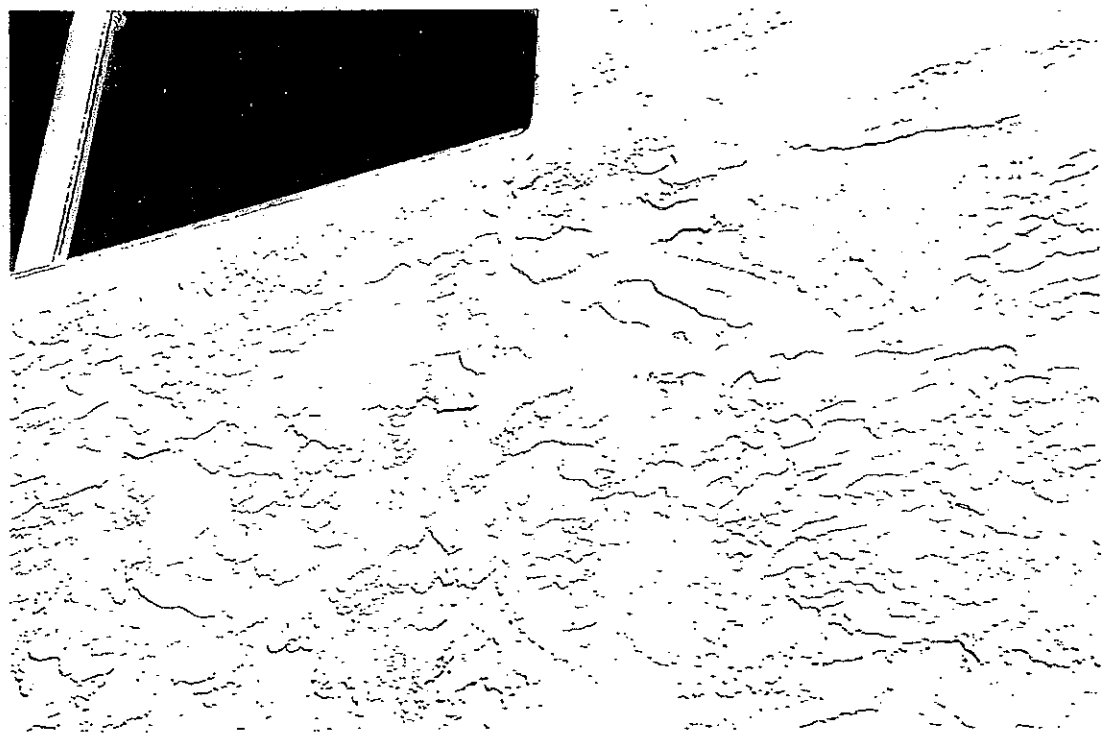


Figure 4. - House #6, hairline (hl) crack below window of south wall (P1-3).

Figure 5. - House #6, ground floor interior, looking SW (P1-9).

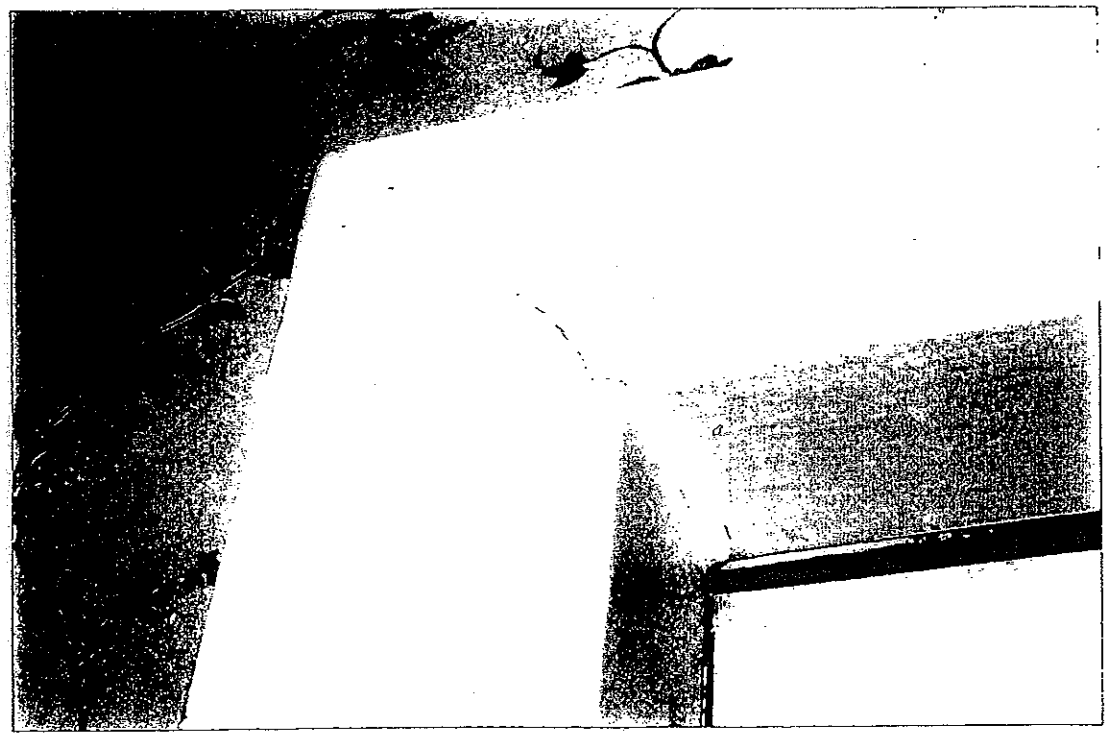


Figure 6. - House #6, bathroom interior on ground floor at NW corner, door to outside. Tapering separation crack of molding (P1-5). Similar separation is not visible on other side.

Figure 7. - House #6, stairwell interior window on south-facing wall, lower right corner. Crack in well and on wall, marked for length (P1-7)

Figure 8. - House #6, second floor bathroom off MBR. Door to toilet and shower on south interior wall with separation (P1-10).

Figure 9. - House #13, North-facing front (P1-13).

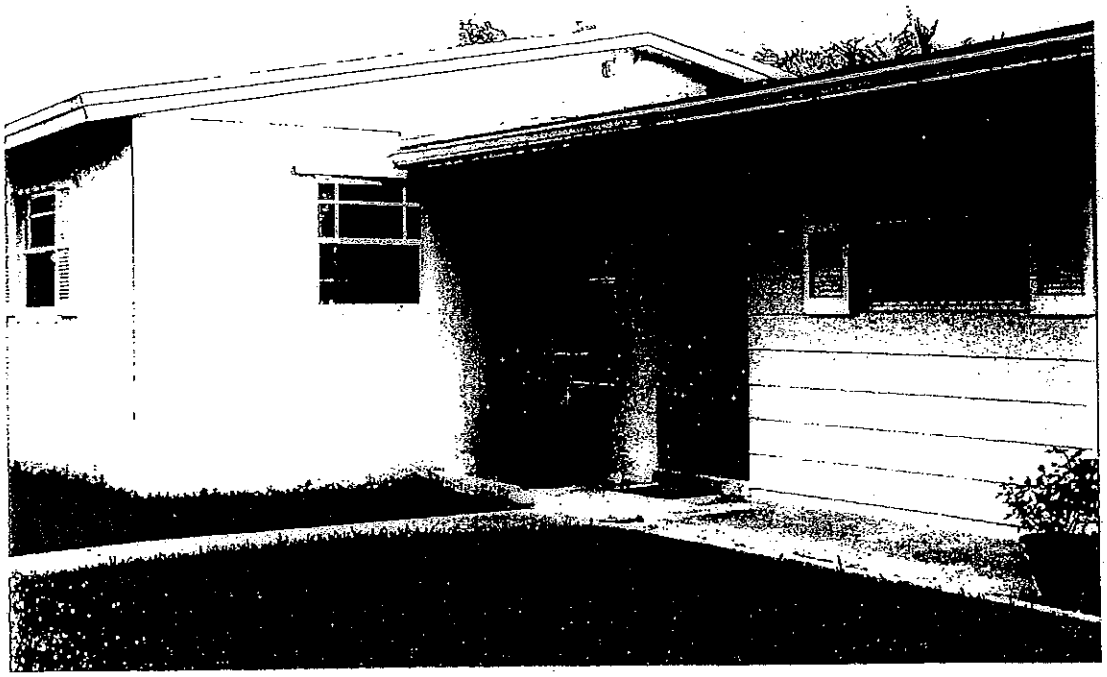


Figure 10. - House #13, close-up of front entrance. Storm shutter bolts are below windows (P1-17).

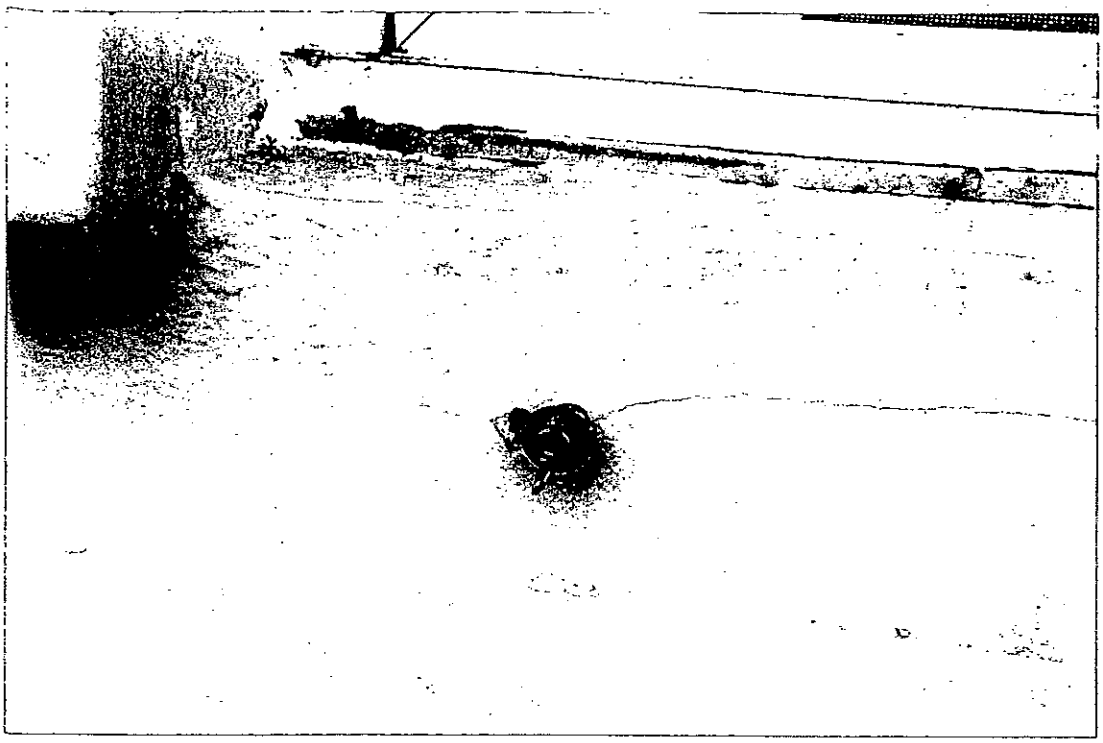


Figure 11. - House #13, North exterior wall window and horizontal cracks (P1-15).

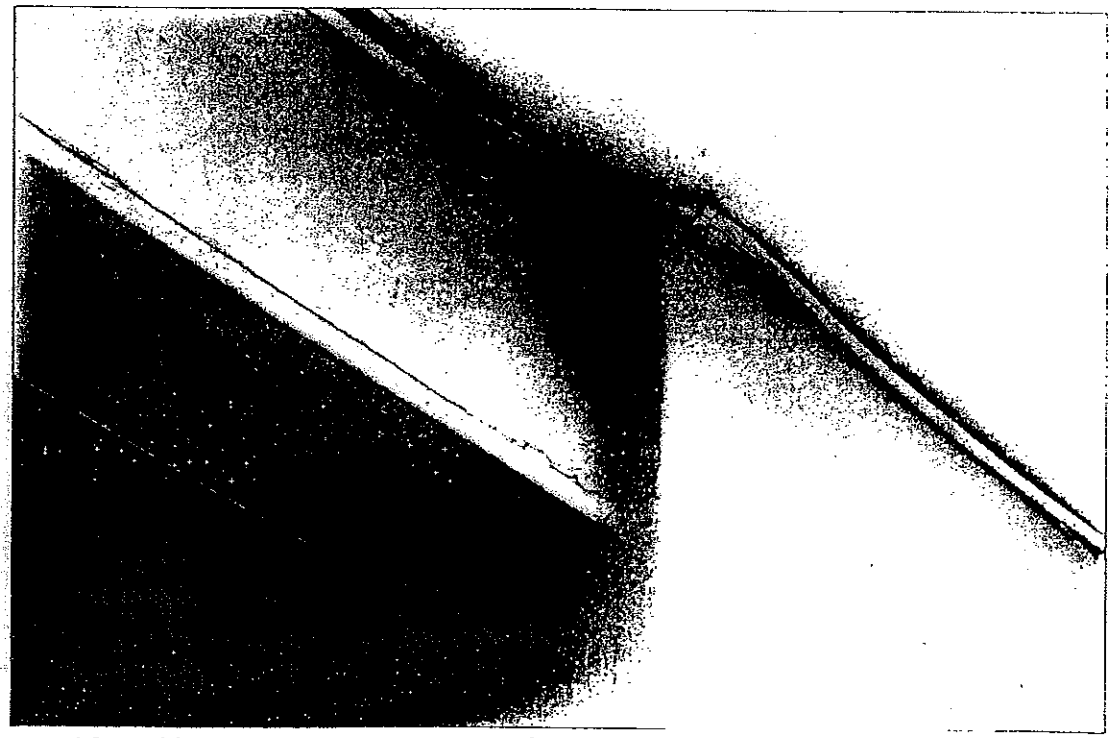


Figure 12. - House #13, carport roof support beam, SW corner (P1-18).

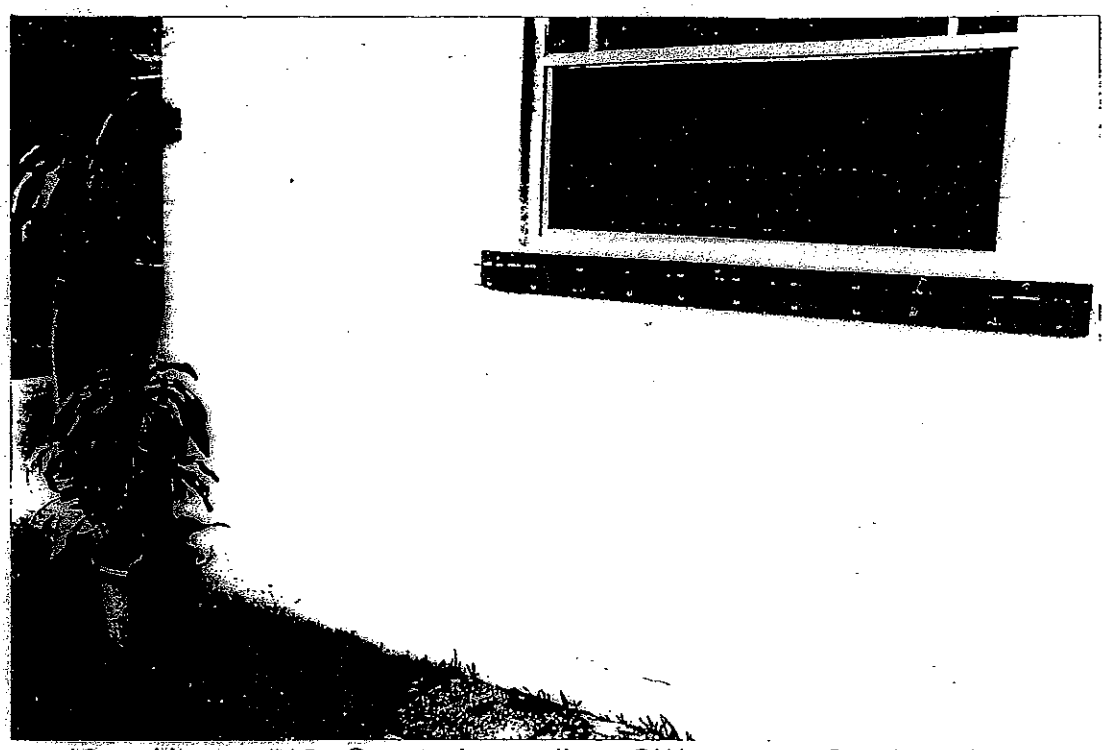


Figure 13. - House #13, S exterior wall at SW corner. Crack at bottom course of CMU (P1-19).

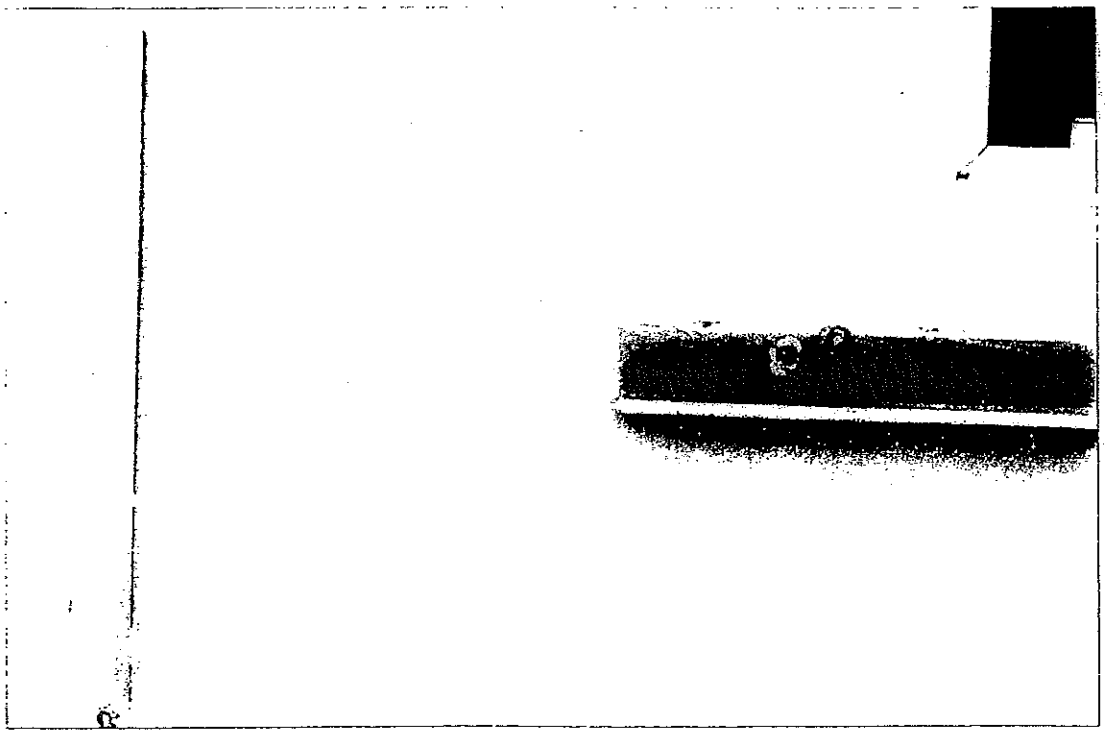


Figure 14. - House #13, south facing exterior wall of right-hand SE corner with crack extending from window to frame of rear entrance door (P1-23)

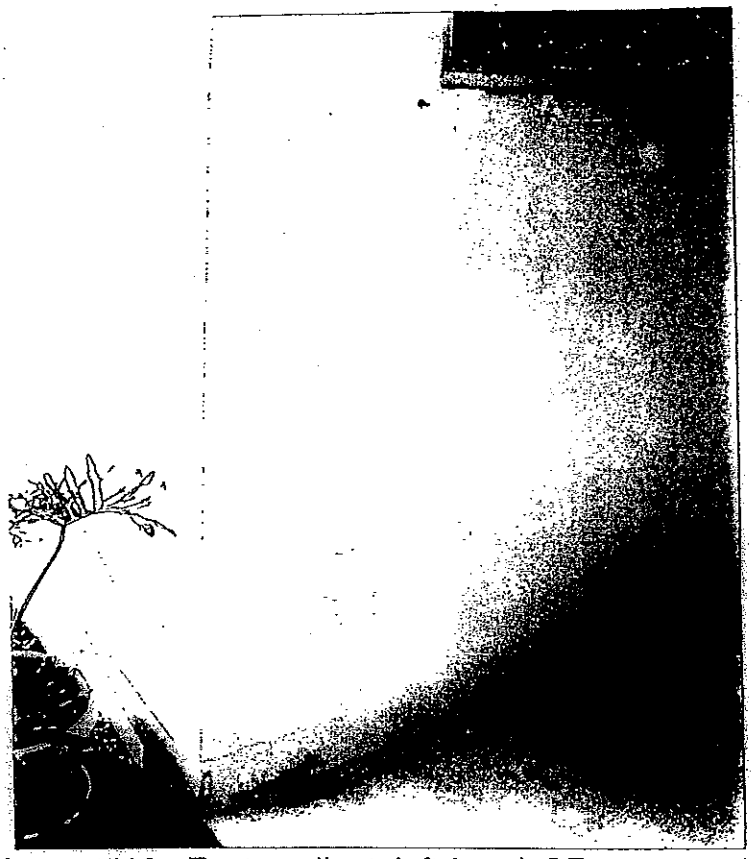


Figure 15. - House #13, East wall at left-hand SE corner with below-window and bottom course cracks (P1-21).

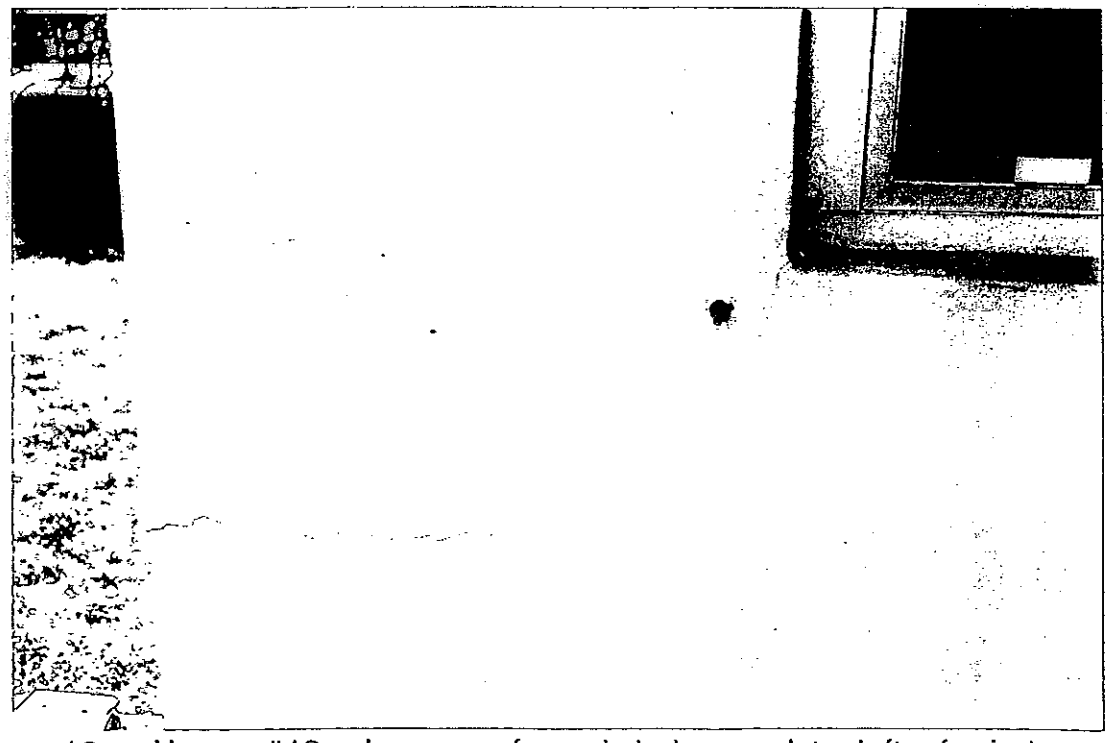


Figure 16. - House #13, close-up of crack below and to left of window shown in Fig. 15 (P1-20).

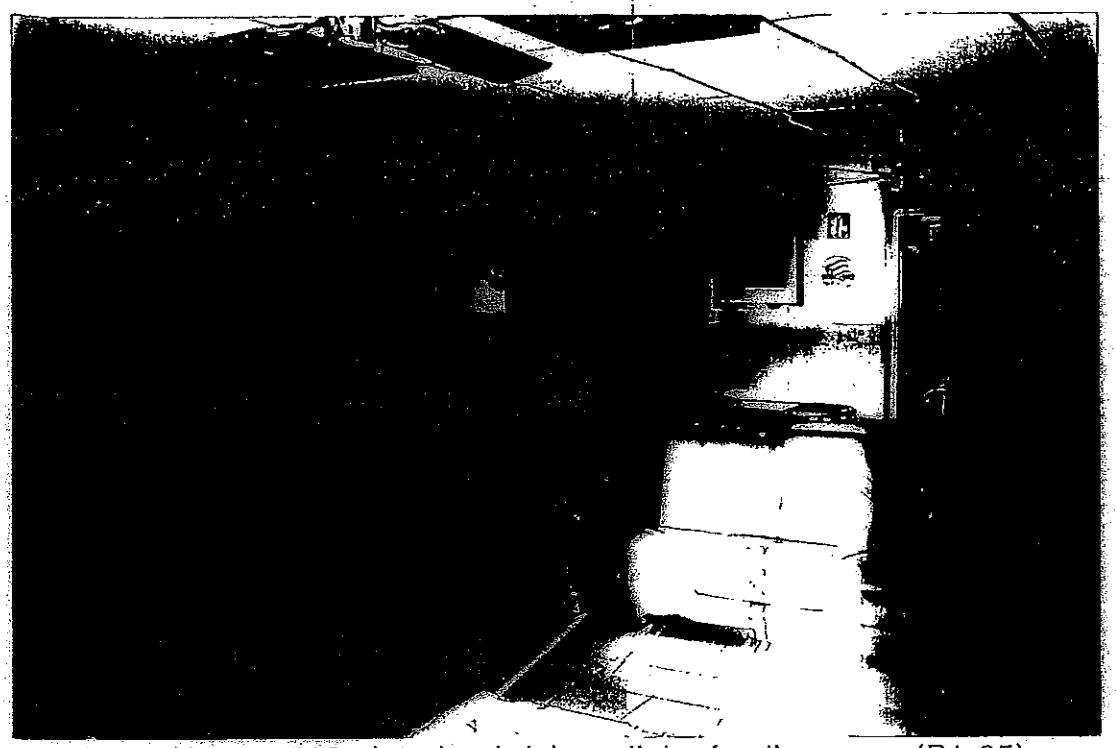


Figure 19. - House #13, interior brick wall in family room (P1-25).

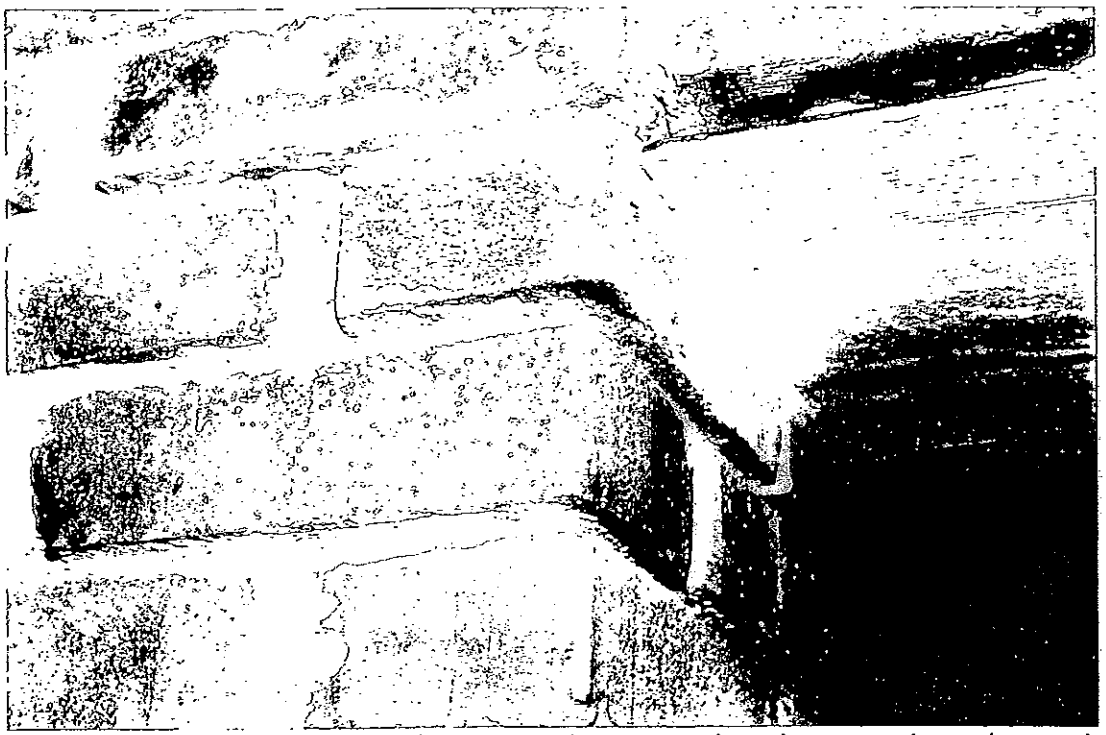


Figure 20. - House #13, steel support beam at interior opening shown in Fig 19 (P2-2).

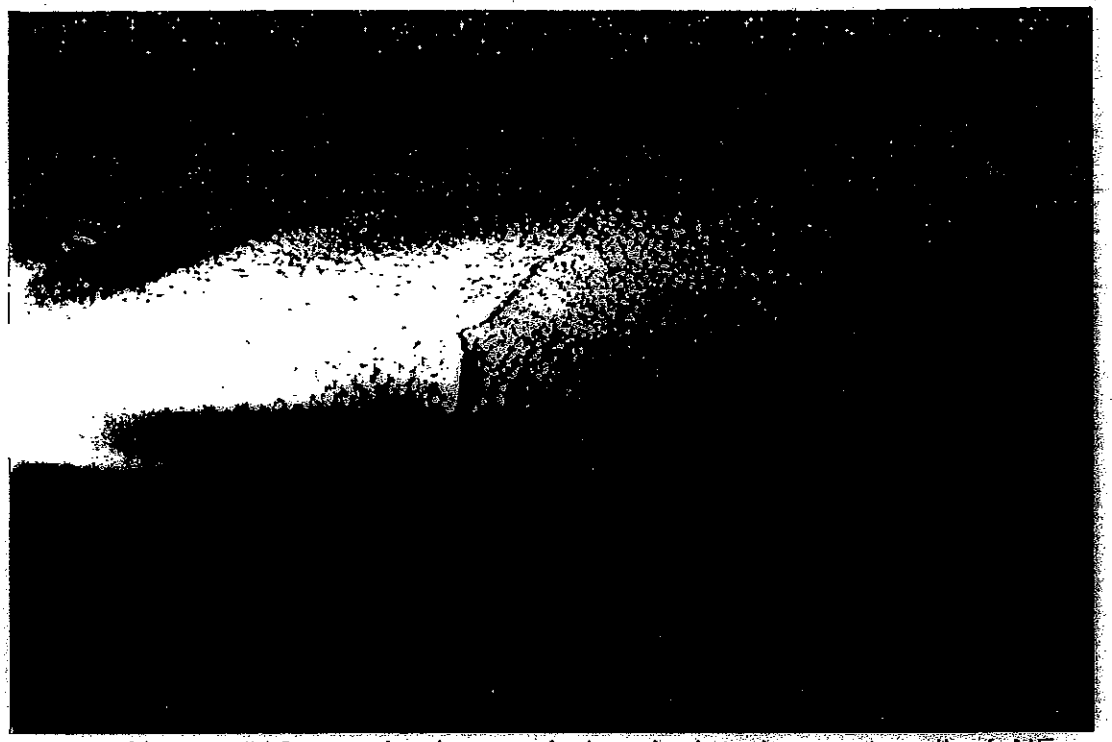


Figure 21. - House #13, crack above window in interior east wall of NE corner office/den (P2-4).

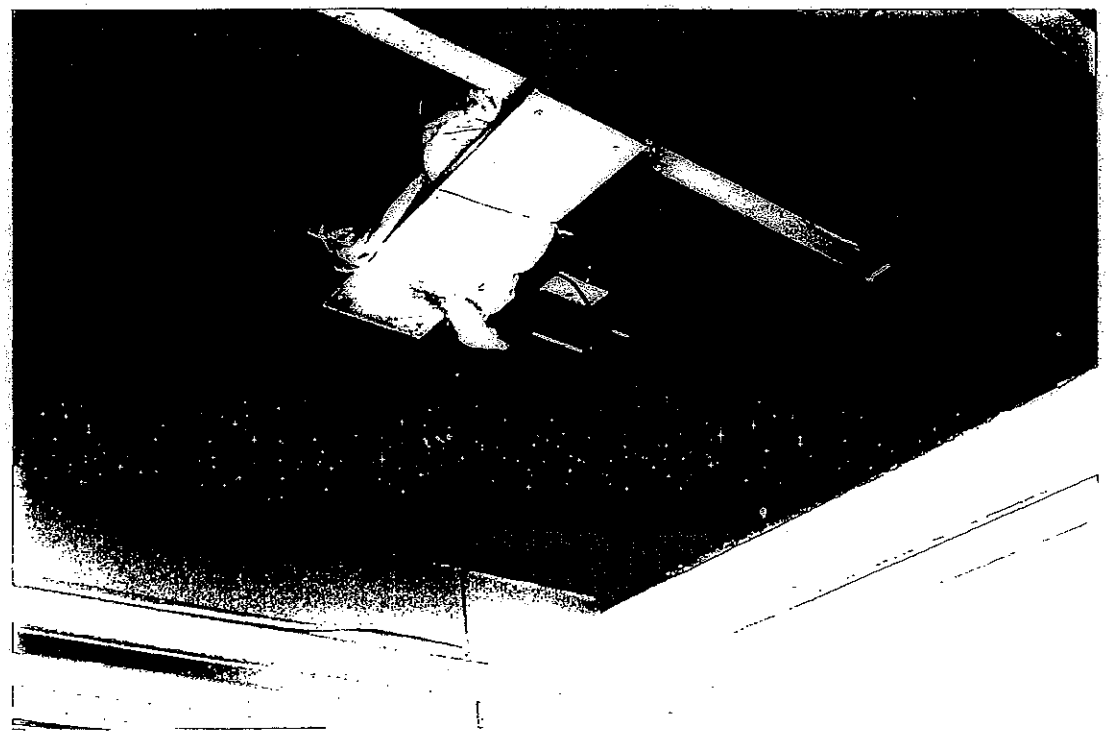


Figure 22. - House #13, placement of seismograph for structure response measuring on rafter above carport (P2-6).

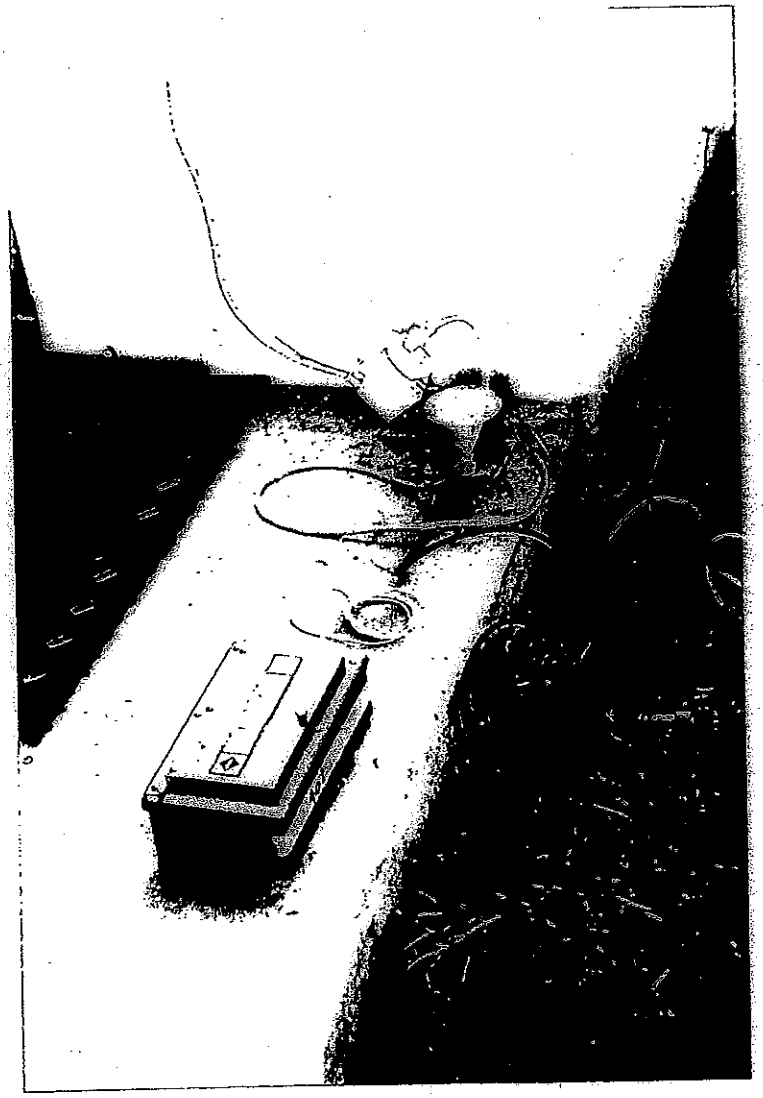


Figure 23. - House #13, seismograph at SW corner on slab (P2-5)

Figure 24. - House #15, east side (P2-7).

Figure 25. - House #15, west side from NW vantage (P2-8). Seismograph is located at NW corner of porch extension at location of plant on stand.

Figure 28. - House #15, horizontal crack under exterior south side window (P2-17).

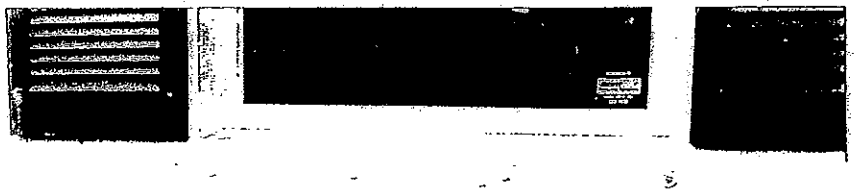


Figure 29. - House #15, horizontal crack under exterior south side window and stair-step crack to ground (P2-18).

Figure 30. - House #15, close up of lower left corner of window on Fig. 29 (P2-19).

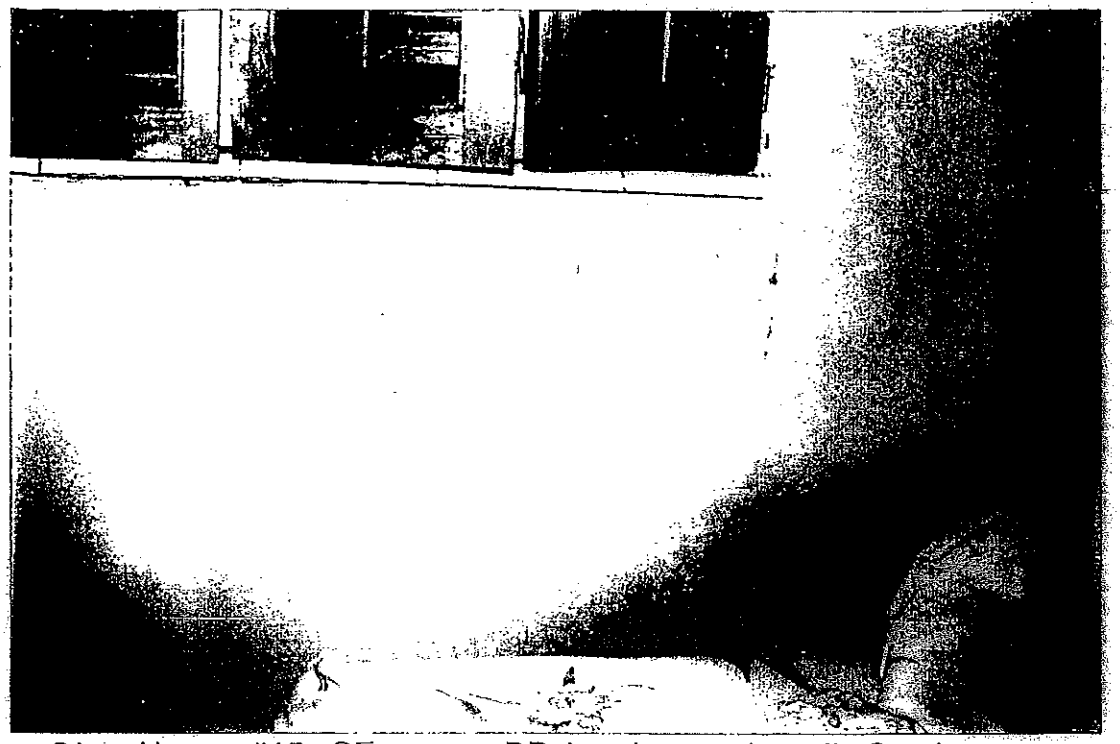


Figure 31. - House #15, SE corner BR interior south wall. Cracks are beneath window sill and stair-step (P2-12).

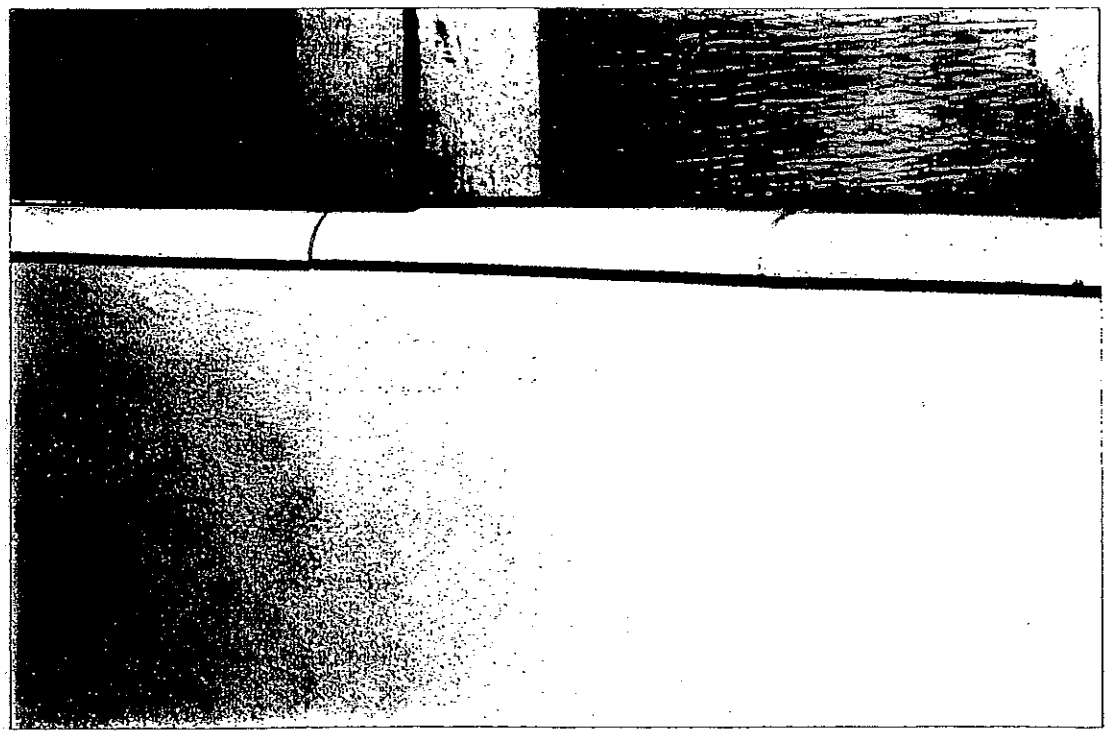


Figure 32. - House #15, close up of crack beneath sill in Fig. 31 (P2-11).

Figure 33. - House #15, interior kitchen window sill with cracked tiles that had been repaired (P2-13).

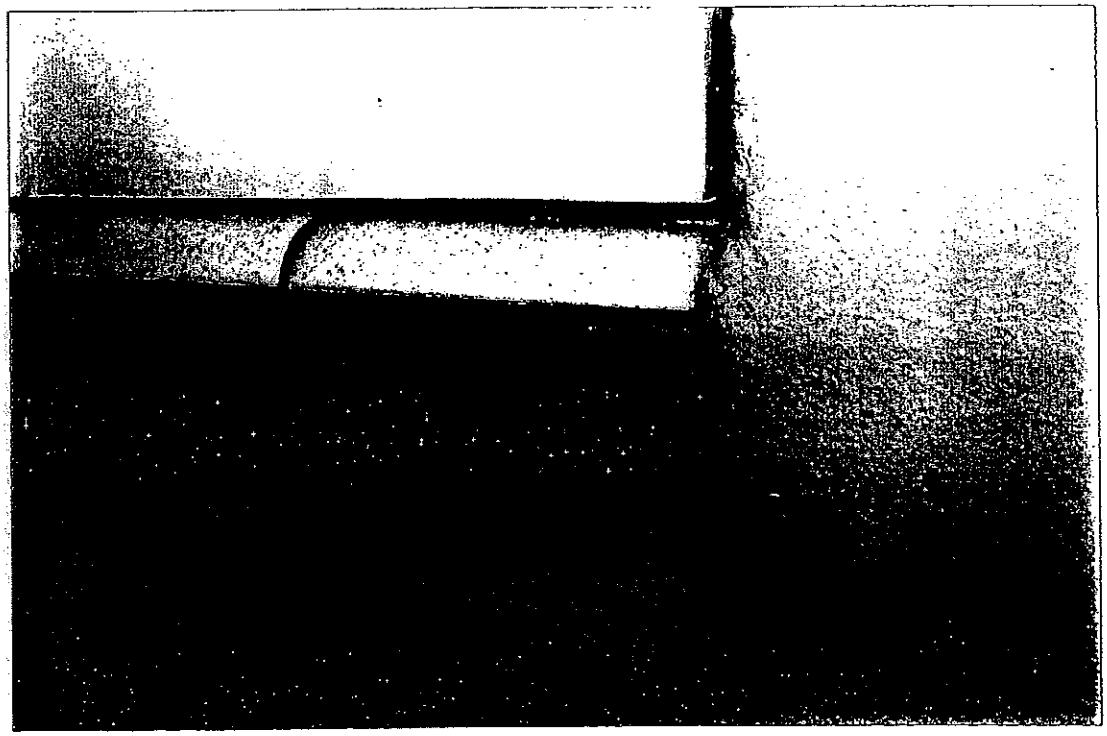


Figure 34. - House #15, crack beneath interior east window sill in east side family room (P2-10).

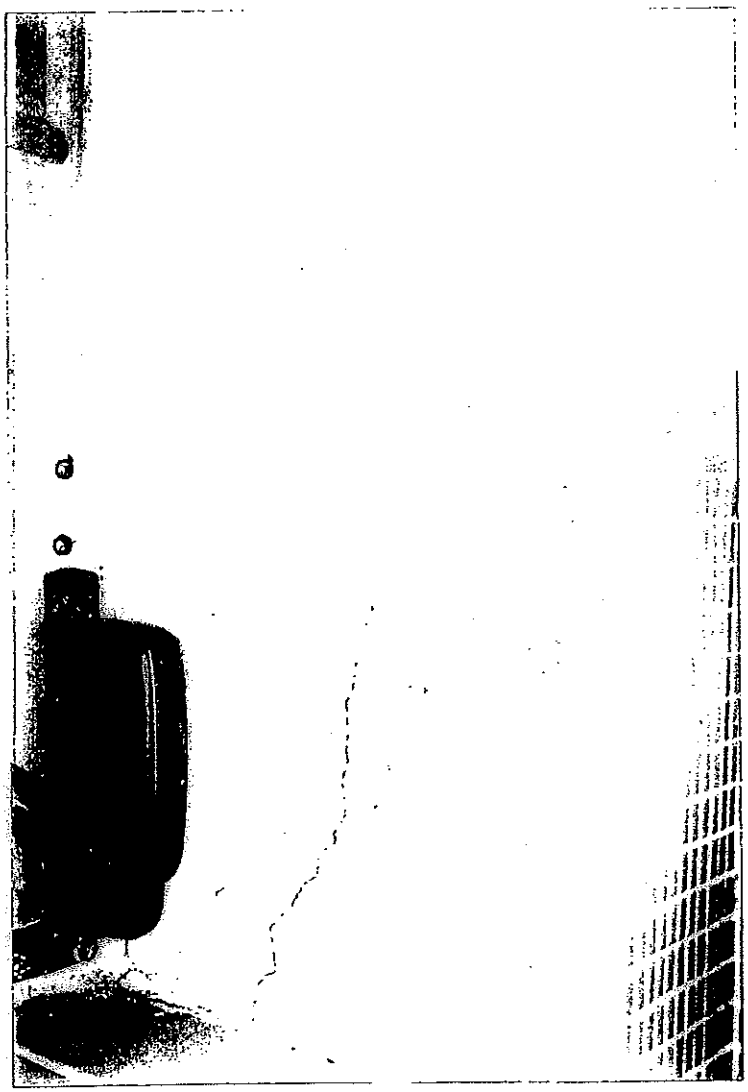


Figure 35. - House #15, cracks in recessed window in south-end bathroom (P2-14).

Figure 36. - House #4, west-facing front (P3-2).

Figure 37. - House #4, west-facing main entry way (P3-3).

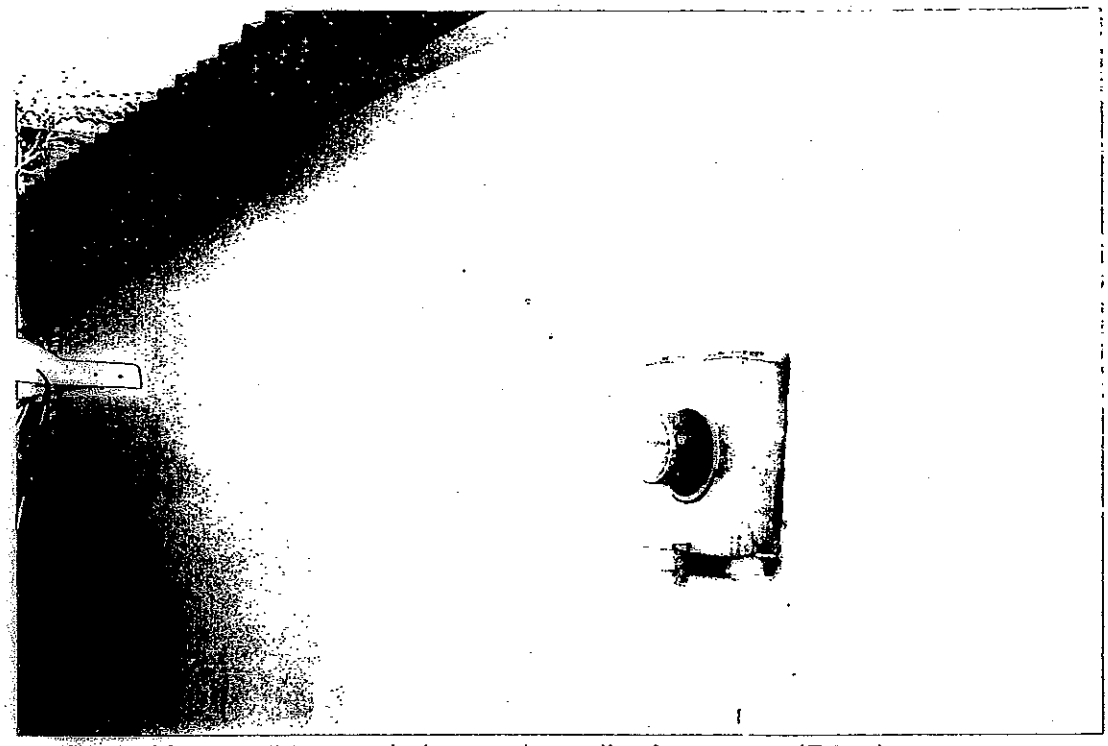


Figure 38. - House #4, crack in north wall of garage (P3-4).

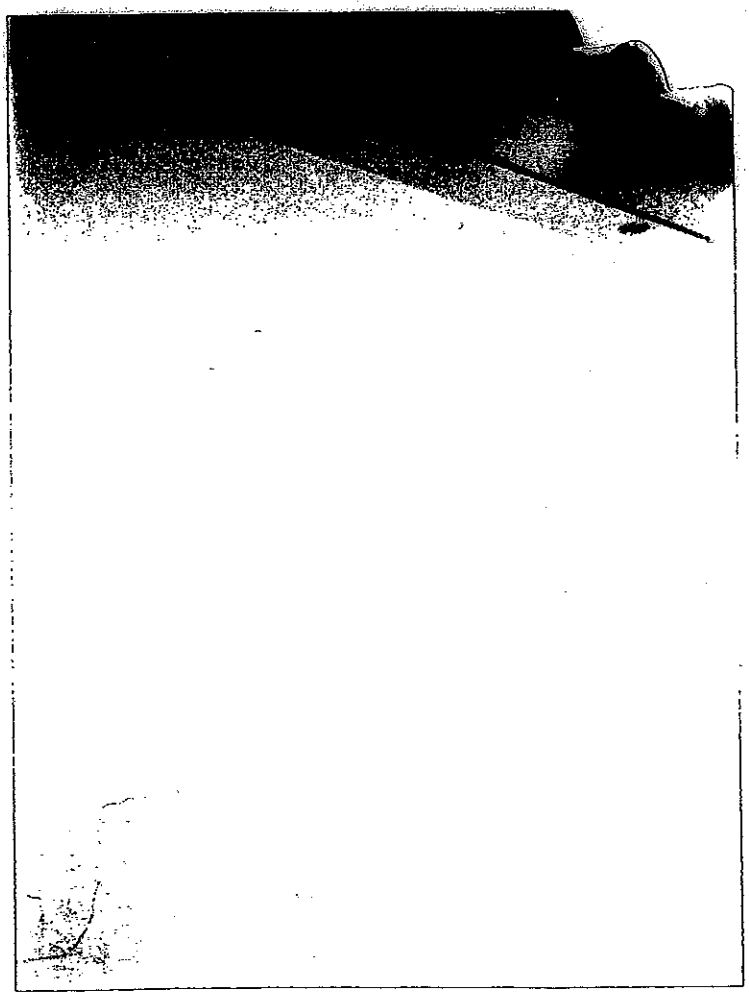


Figure 39. - House #4, crack in north wall of garage (P3-5).

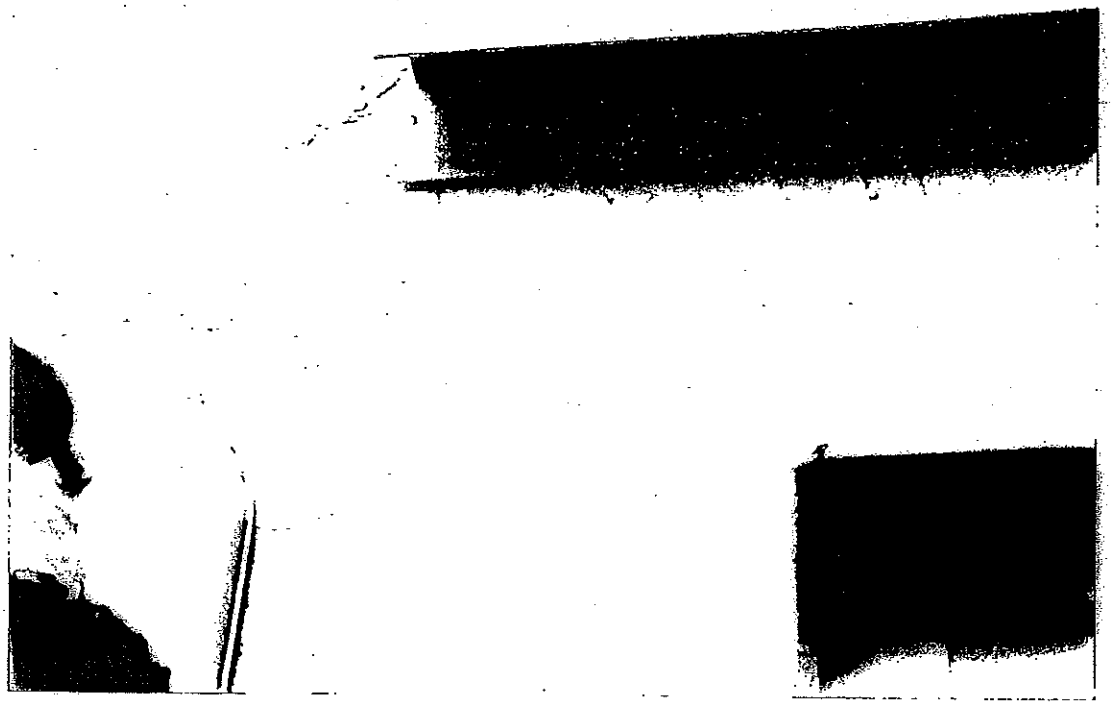


Figure 40. - House #4, crack over sliding doors on east side (P3-7).

Figure 41. - House #4, crack over east-facing window in SE corner (P3-9)

Figure 42. - House #4, crack under east-facing window in SE corner (P3-10).

Figure 44. - House #4, LR interior looking west (P3-11).

Figure 45. - House #4, LR interior looking north (P3-12).

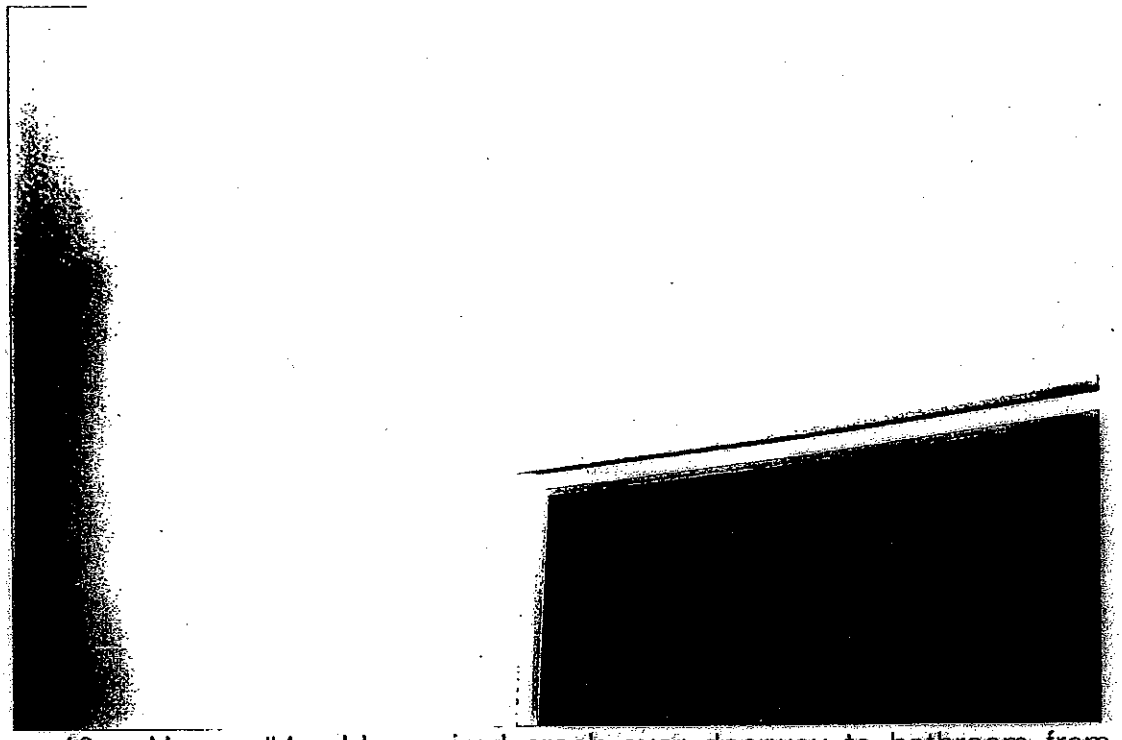


Figure 46. - House #4, old repaired crack over doorway to bathroom from MBR (P3-13).

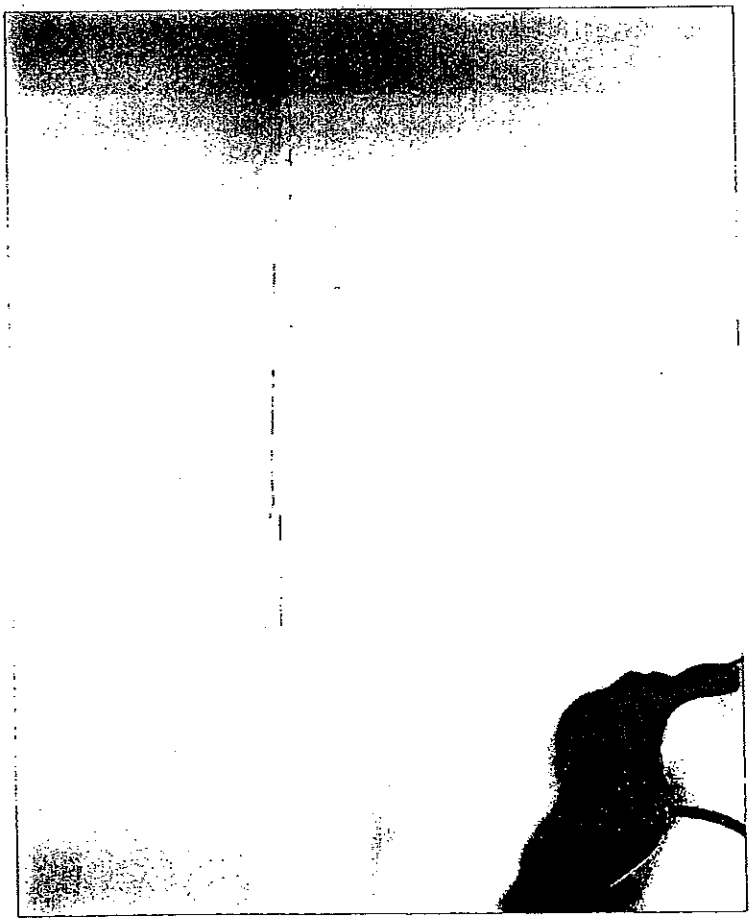


Figure 47. - House #4, corner joint crack where sliding doors had formally been located (P3-14).

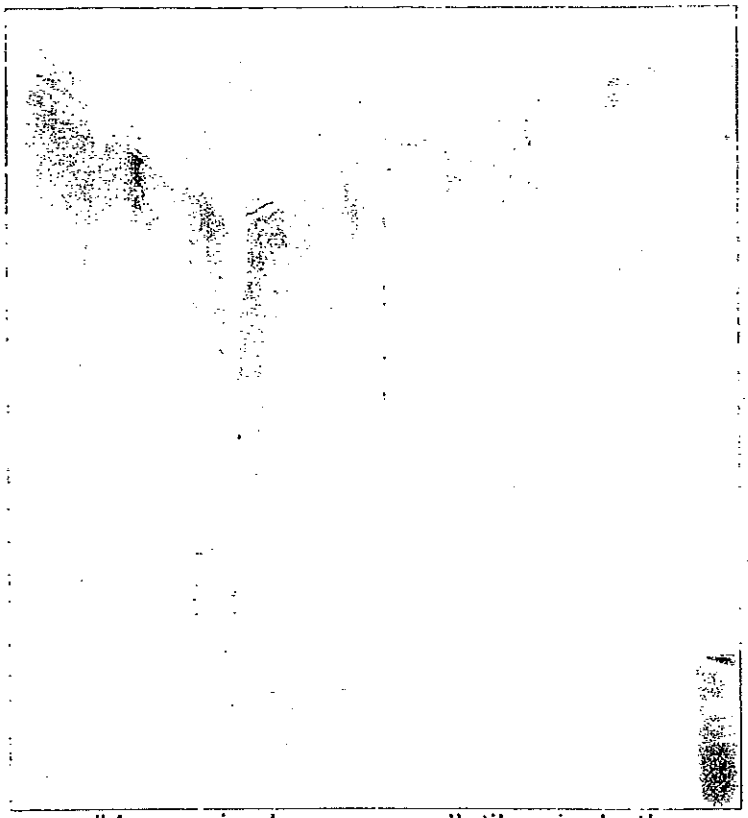


Figure 48. - House #4, repaired corner wall tiles in bathroom off the MBR (P3-15).

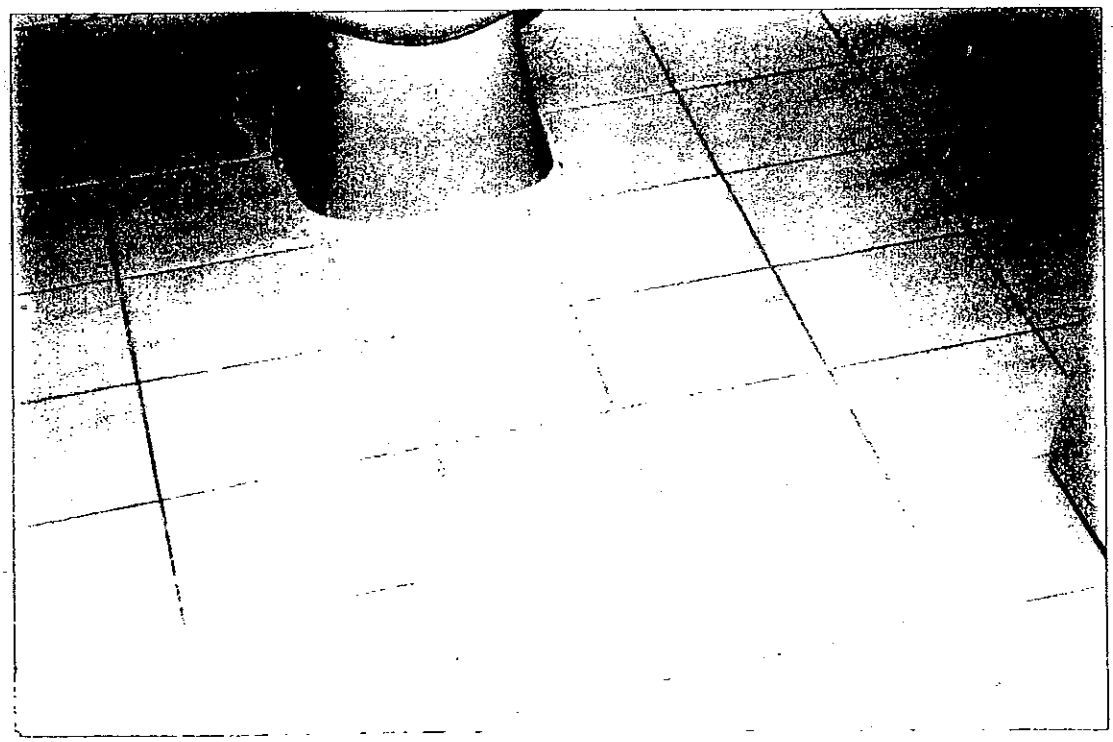


Figure 49. - House #4, floor tile crack in bathroom off MBR (P3-16).

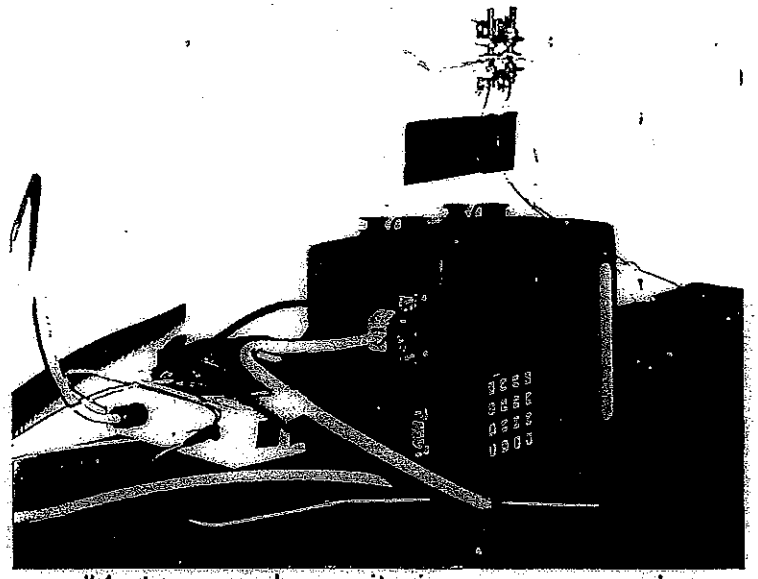


Figure 50. - House #4, two crack monitoring sensors and one of the data recorders on north interior garage wall (P3-18).

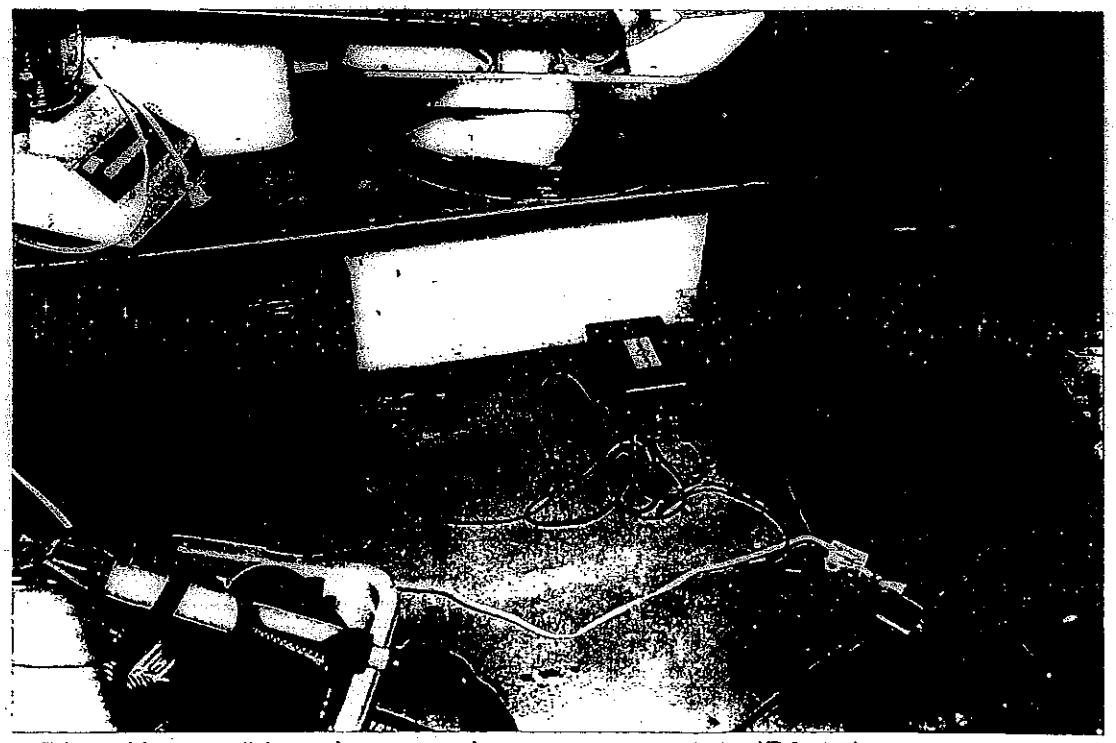


Figure 51. - House #4, seismograph on garage slab (P3-19).

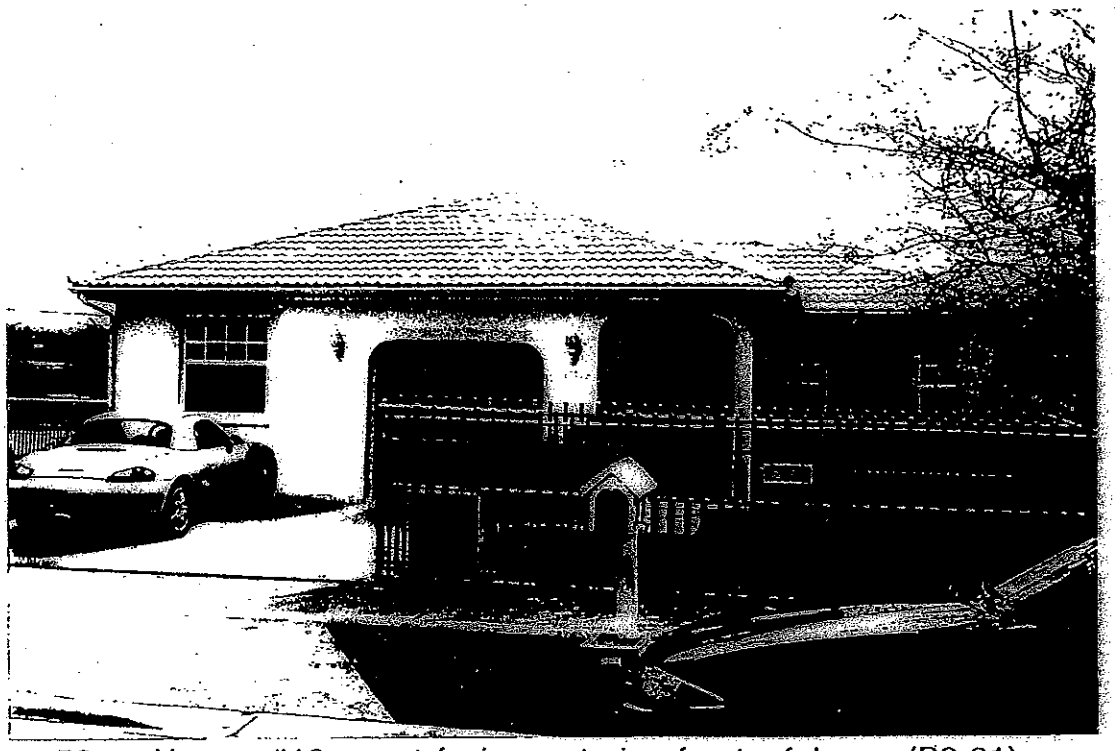


Figure 52. - House #12, west-facing exterior front of house(P3-21).

Figure 53. - House #12, NW corner exterior (P3-22).

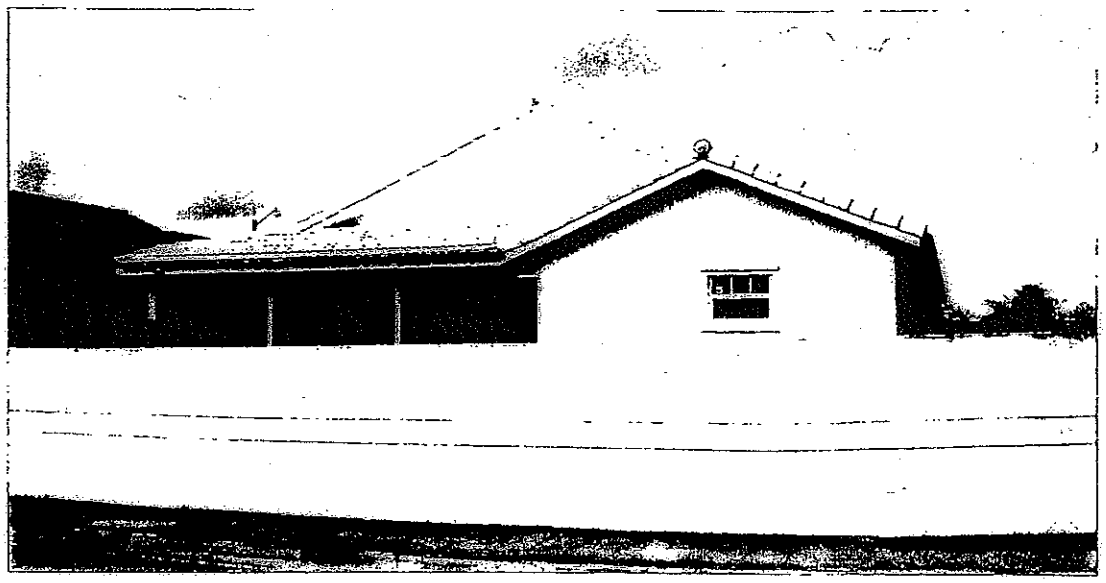


Figure 54. - House #12, east-facing exterior rear (P3-23).

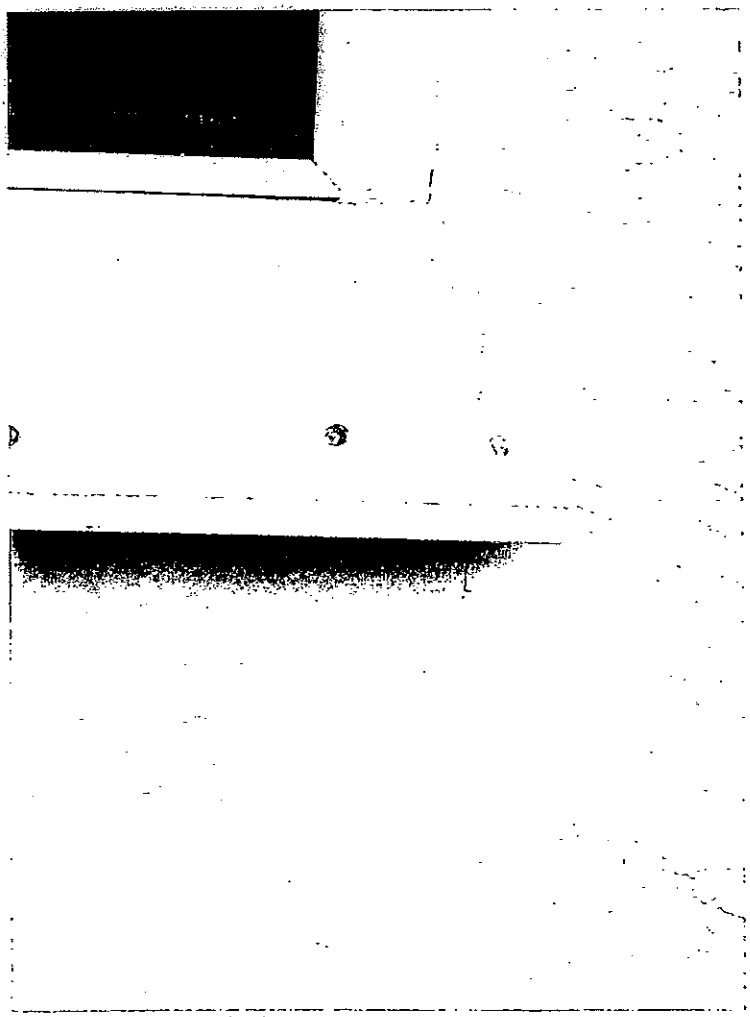


Figure 55. - House #12, crack beneath window on north wall to the left of the sliding door (P3-24).

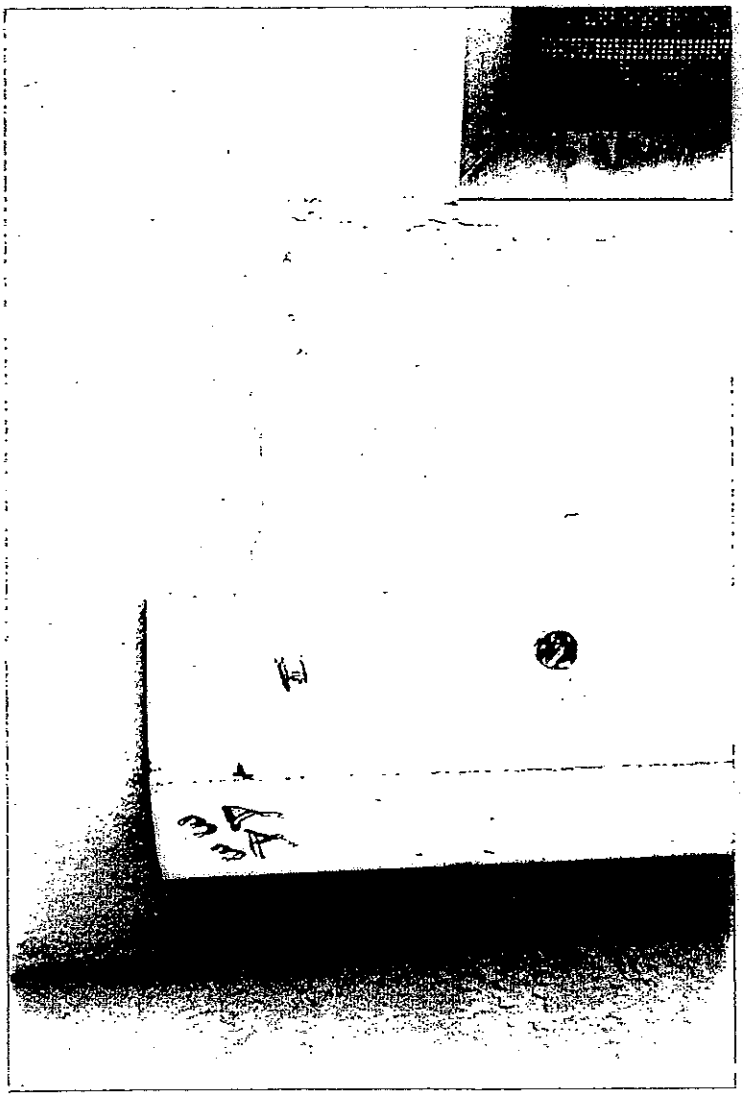


Figure 56. - House #12, crack beneath window on west wall to the left of garage door (P3-25).

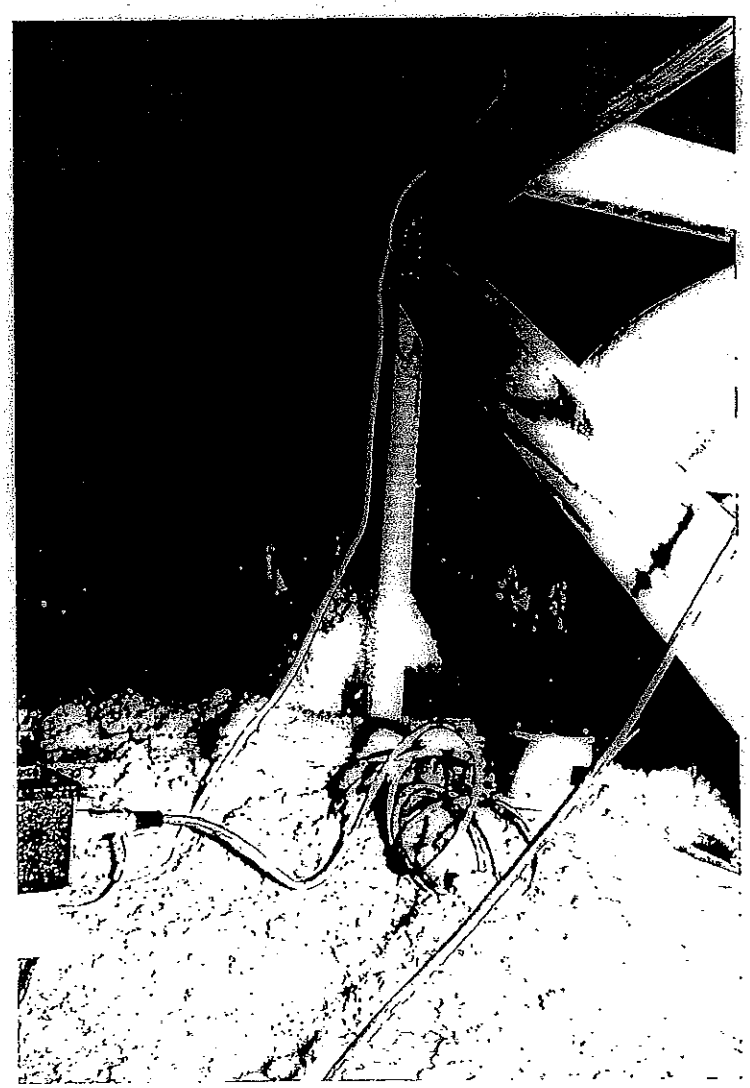


Figure 57. - House #12, seismograph on ceiling truss above garage for measuring structure response (P4-1A).

Figure 58. - House #12, inside living area and entrance looking west (P4-7A).

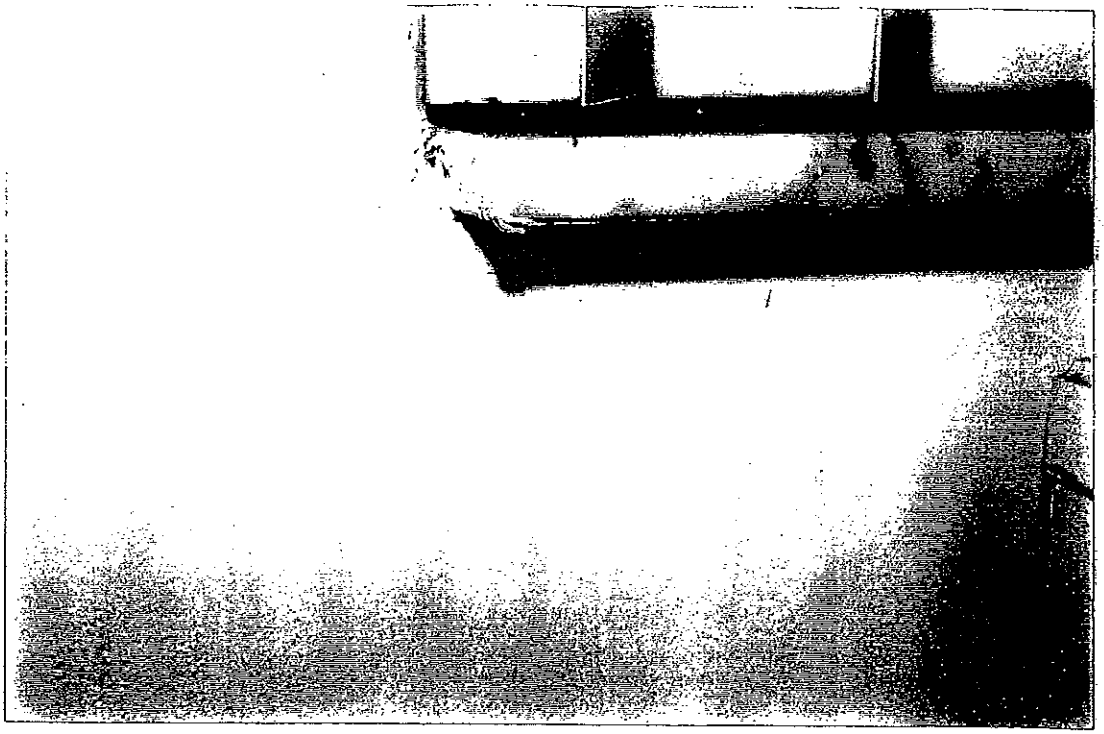


Figure 59. - House #12, cracks below window corner on interior north wall window in NW bedroom. Direction is essentially horizontal (P4-5A).

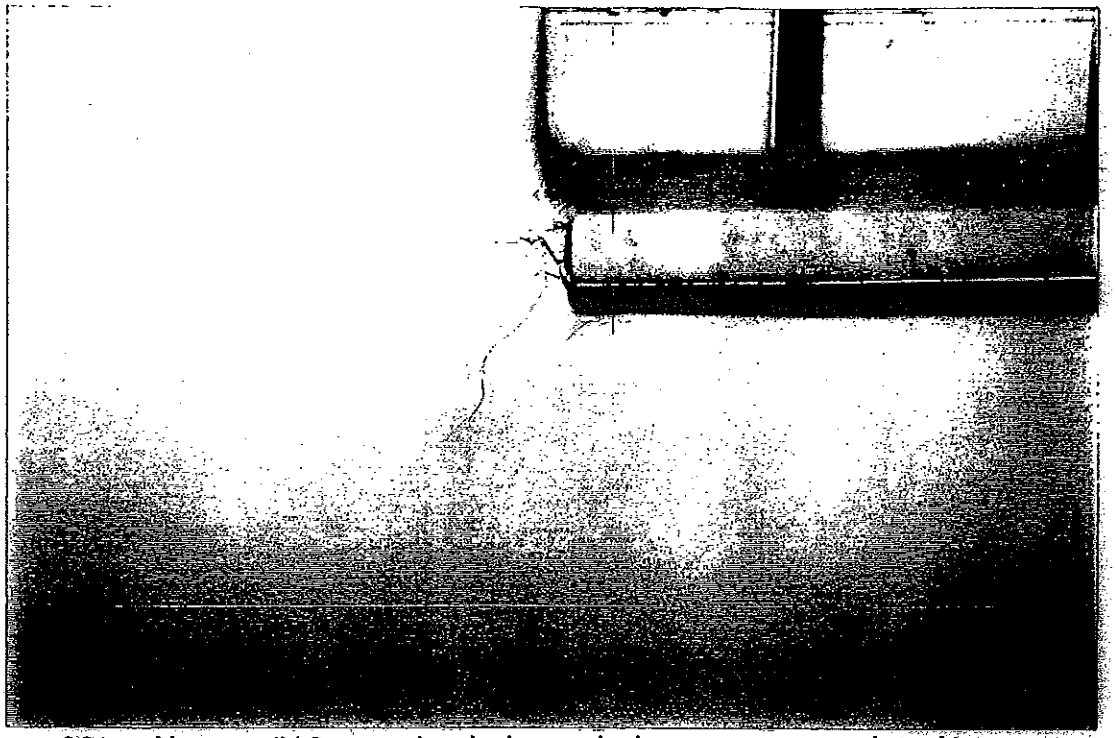


Figure 60. - House #12, cracks below window corner on interior west wall window in NW bedroom (P4-6A).

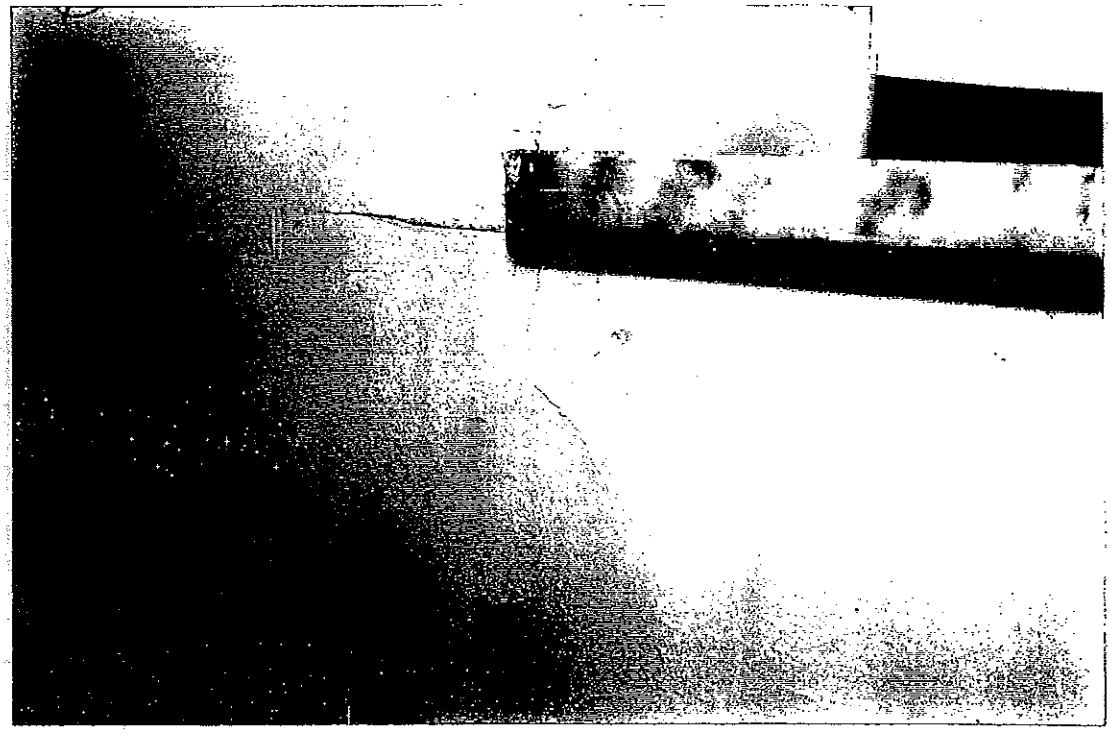


Figure 61. - House #12, cracks below window corner on interior north wall window in NE (master) bedroom (P4-8A).

Figure 62. - House #12, seismograph at SW corner of garage, transducer buried in soil (P4-2A).

Figure 63. - House #12, seismograph on south edge of garage slab (P4-4A)

Figure 64.- House #11, south side from SE vantage (P4-9A).

Figure 65.- House #11, south side from SW vantage (P4-10A).

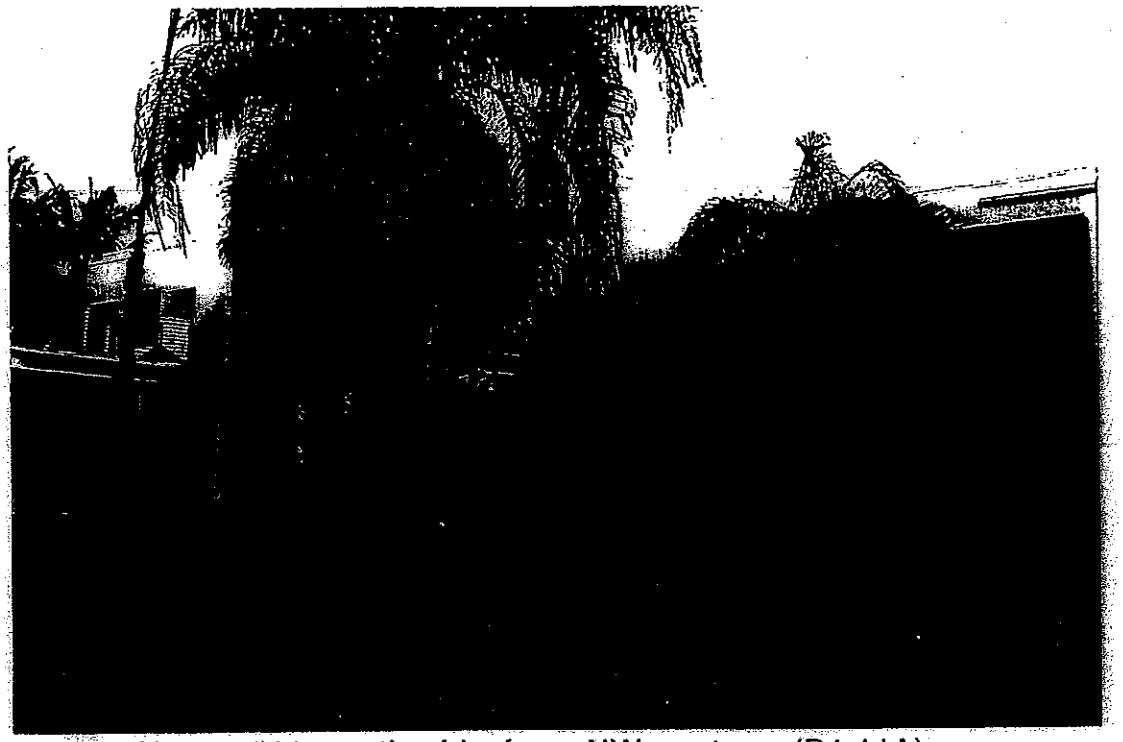


Figure 66.- House #11, north side from NW vantage (P4-11A).

Figure 67.- House #11, north side from NE vantage (P4-12A).

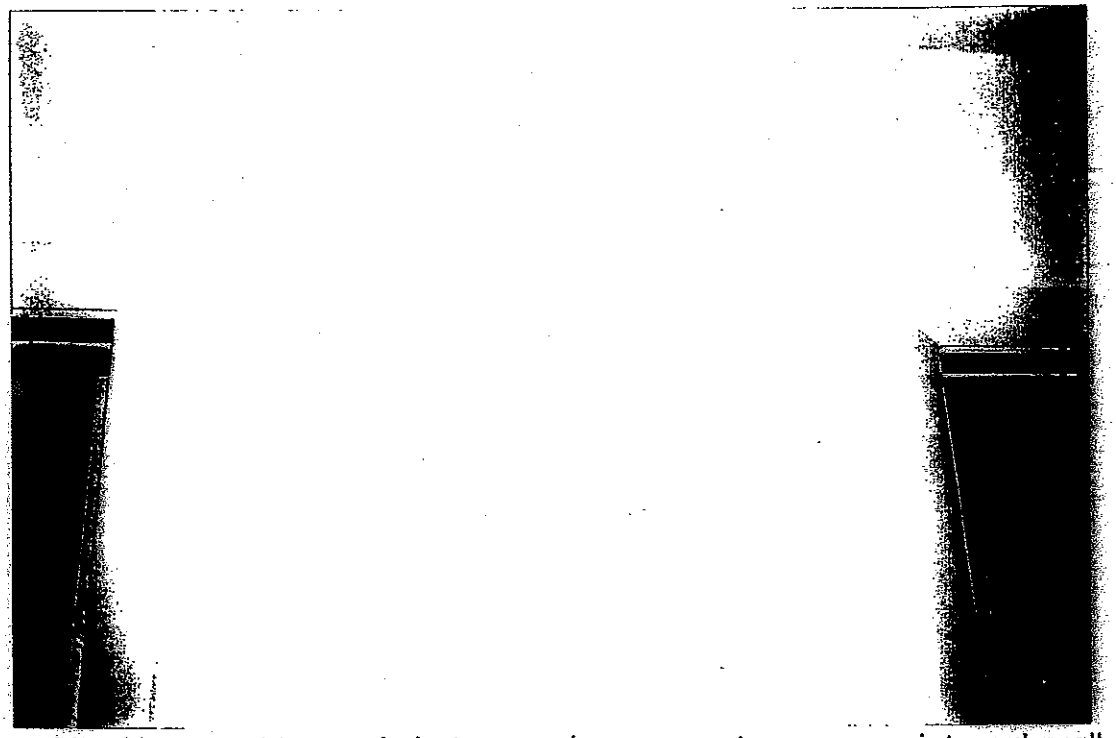


Figure 68.- House #11, crack between doorway entrances on internal wall in SW corner bedroom on the ground floor (P4-13A).

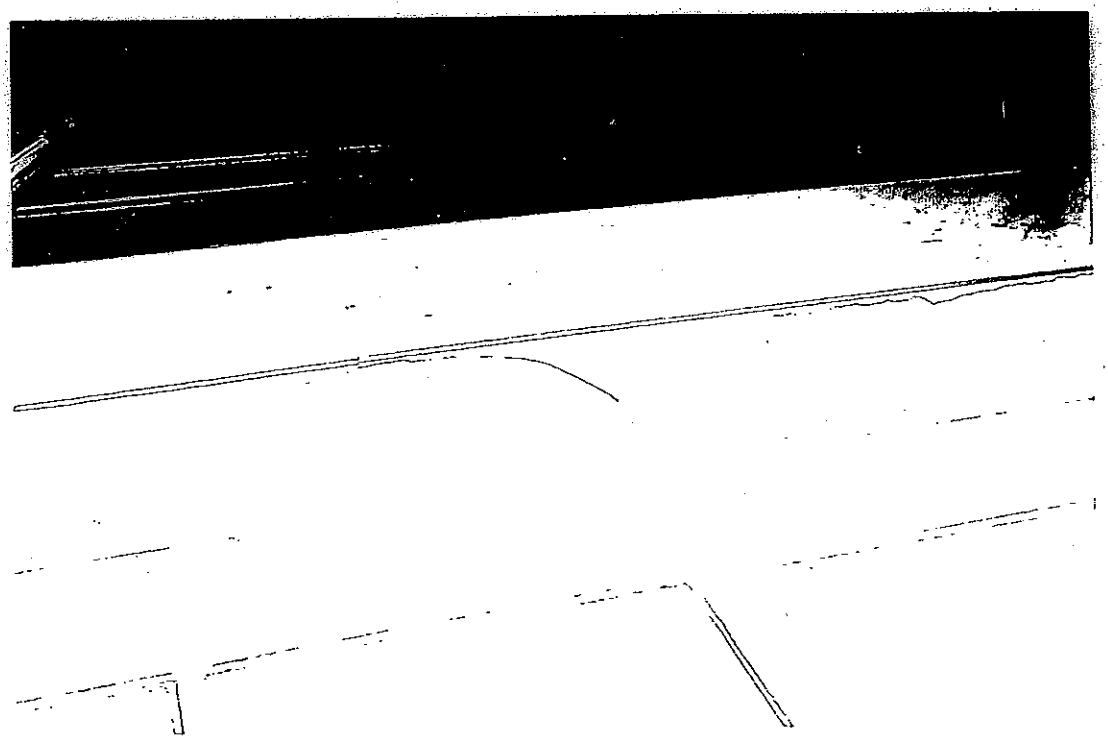


Figure 69.- House #11, crack and wallboard separation beneath sill of south wall window in kitchen, width of 2 mm (P4-15A).

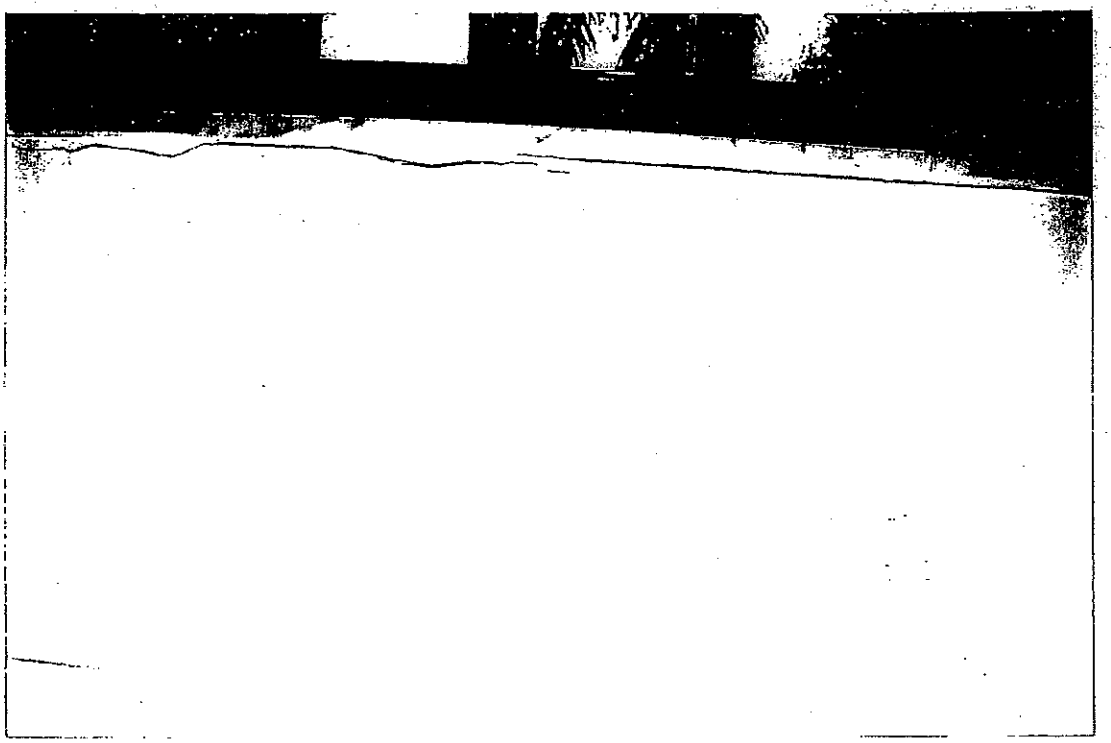


Figure 70.- House #11, crack and wallboard separation beneath sill of south wall window in south-central second floor bedroom. Marble sill is bowed upward (P4-17A).

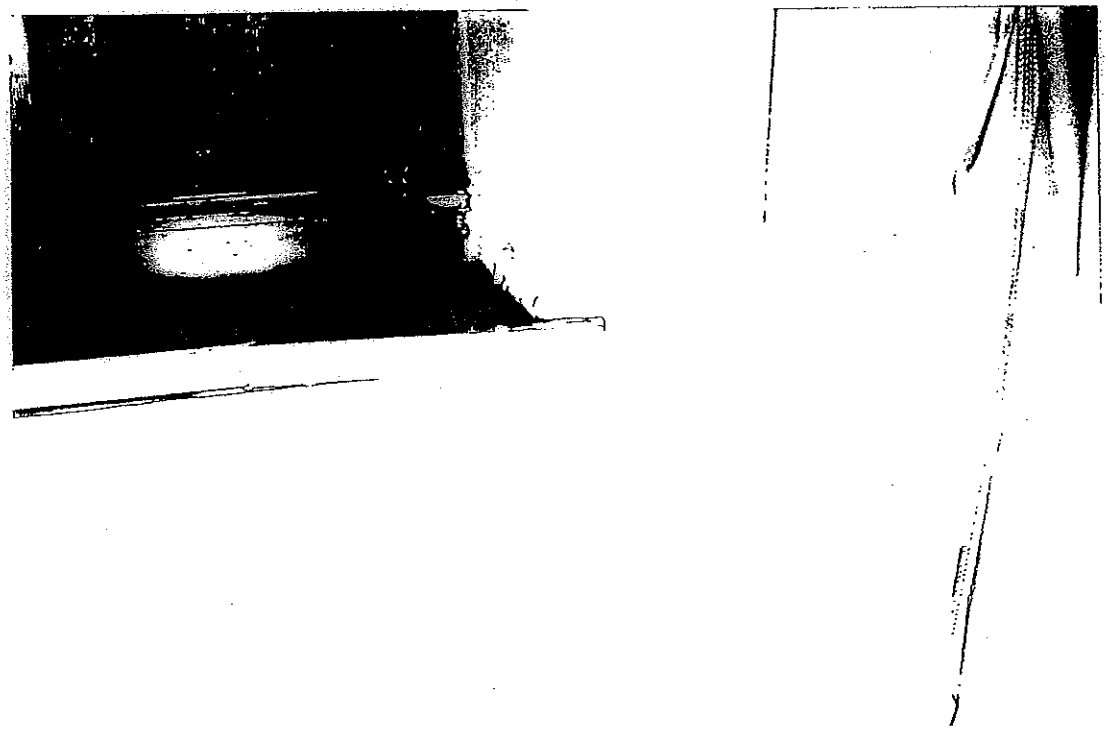


Figure 71.- House #11, right hand end of window sill of Fig. 70. Wallboard damage in window well and bowed and broken marble sill suggest compression forces (P4-18A).

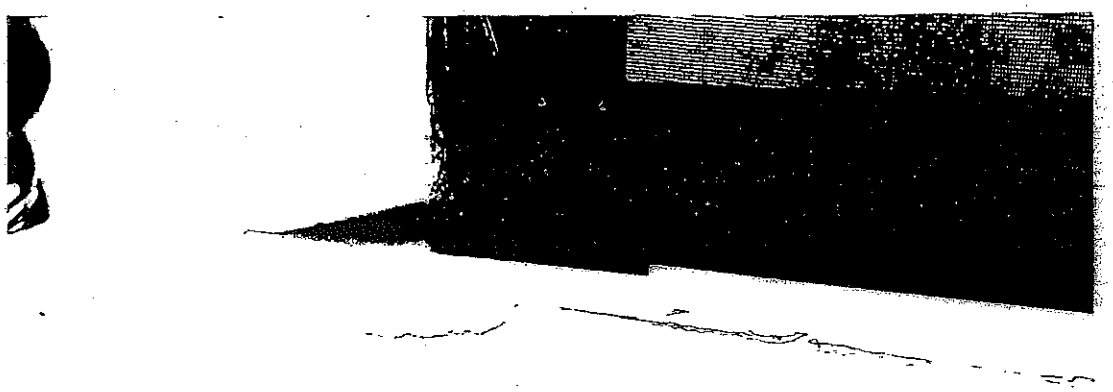


Figure 72.- House #11, west end bedroom on second floor. Similar damage as shown in Figs. 69 to 71 (P4-20A).

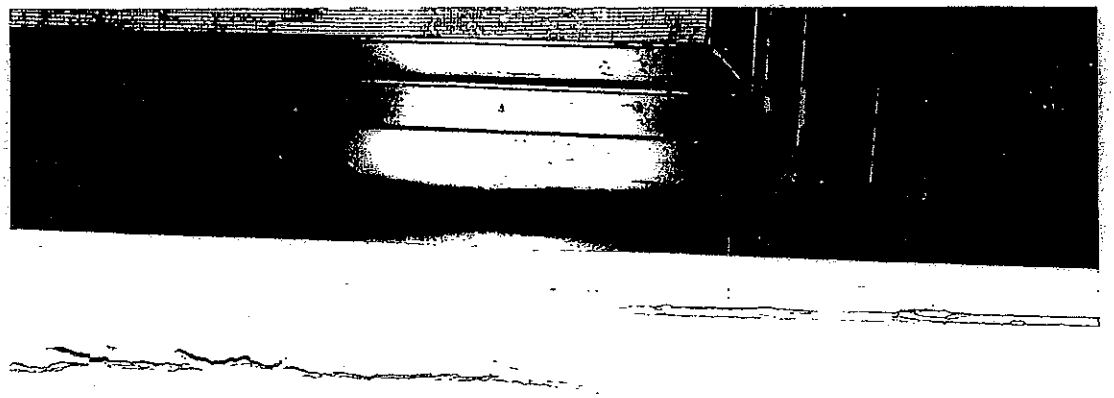


Figure 73.- House #11, same window as Fig. 72, but area to the right and under the center of the window (P4-21A).

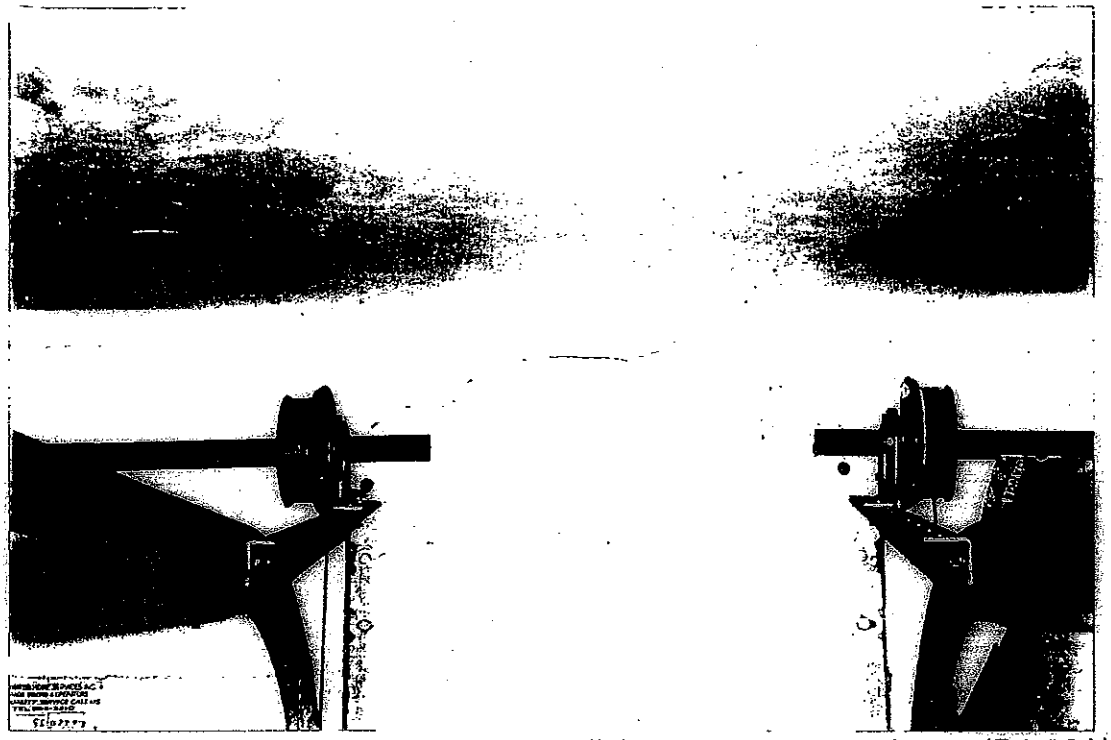


Figure 74.- House #11, east garage wall between garage doors (P4-22A).

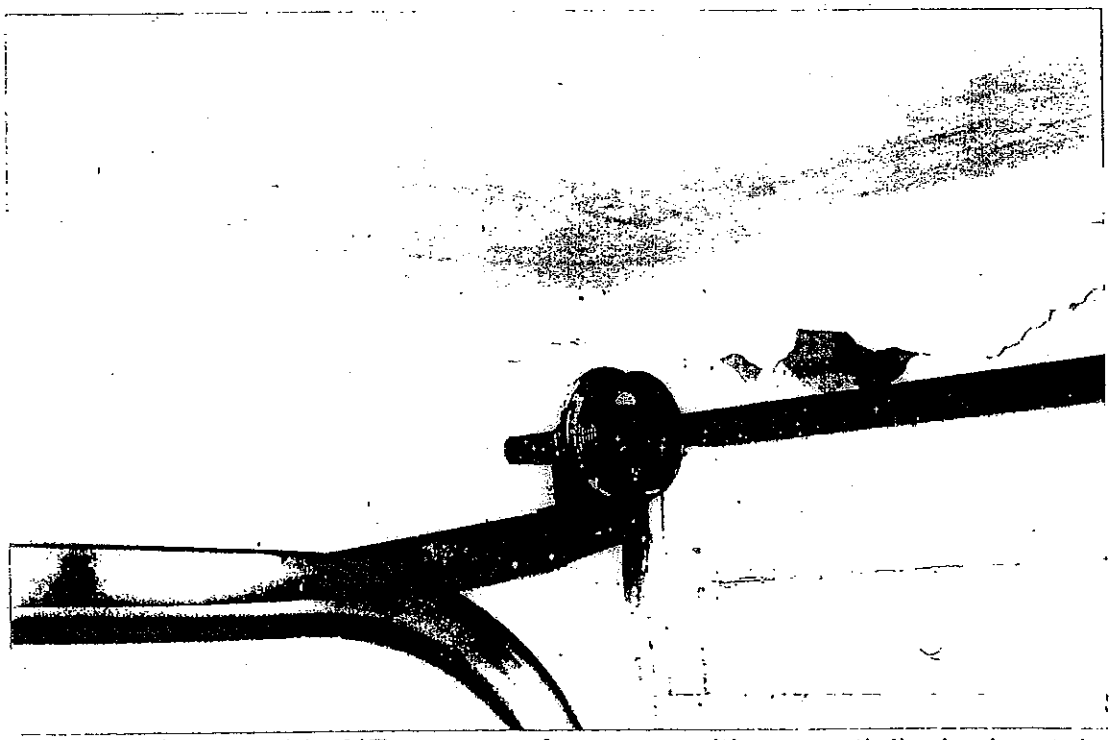


Figure 75.- House #11, NE corner of garage with essentially horizontal cracks (P4-25A).

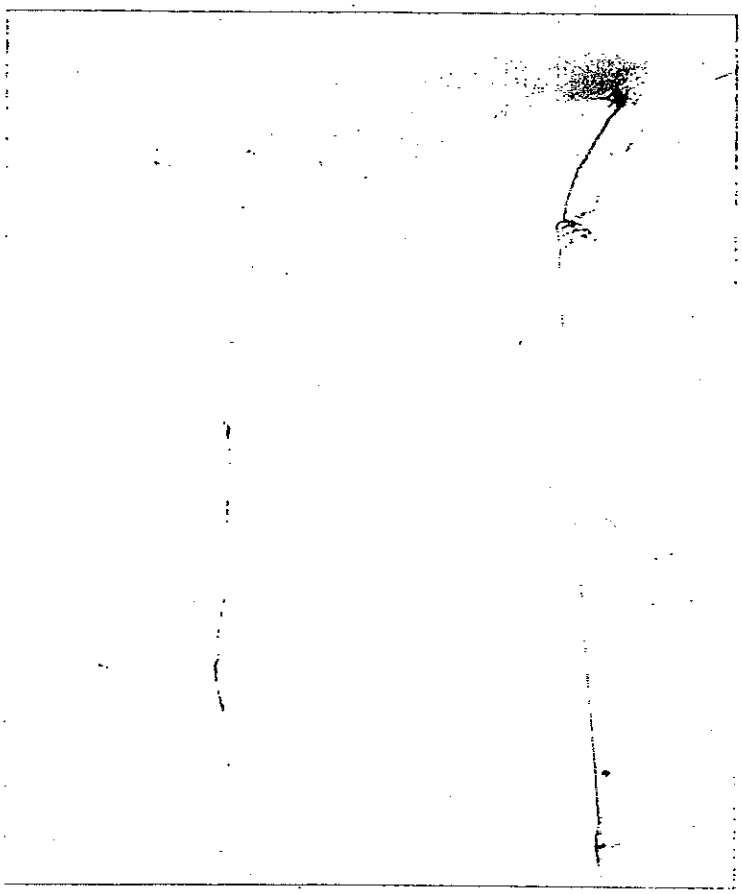


Figure 76.- House #11, corner and wall cracks in NW corner of garage where garage and house are joined (P4-24A).

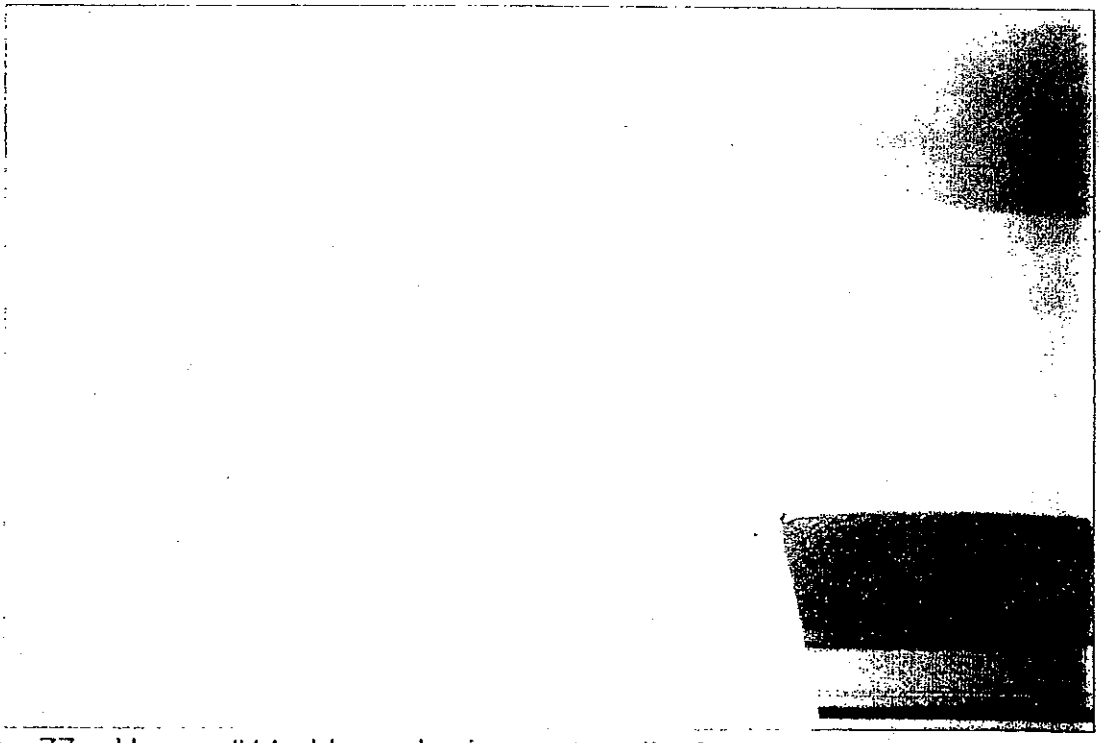


Figure 77.- House #11, hl cracks in west wall of garage (P4-23A).

Figure 78.- House #45, west-facing front (P5-10).

Figure 79.- House #45, front entrance with "archway" (P5-1).

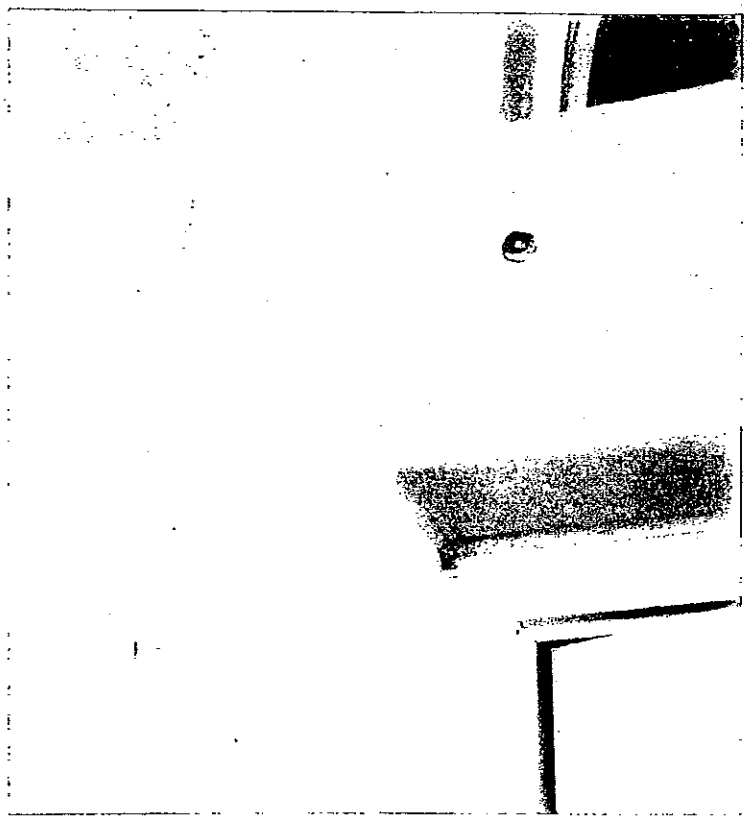


Figure 80.- House #45, crack at left side of entry door (P5-2). There was no noticeable crack on the right side .

Figure 81.- House #45, crack at right side of "archway." The faint crack is in the lower corner and runs at about a 30° angle (P5-3).

Figure 82.- House #45, cracks at lower left corner of left hand ground-floor window in south-facing wall, the widest being 0.3 mm (P5-4). There were a series of vertical cracks beneath this window and angled cracks at all corners.

## LABORATORY TESTING

Selected soil samples obtained from borings drilled at Structures 4 and 12 were analyzed for moisture content (ASTM D 4959) and organic content (ASTM D 2974). Results of the tests are presented below.

| Structure Number | Boring Number & Sample Depth | Moisture Content (%) | Organic Content (%) |
|---|---|---|---|
| 4 | CO-3: 4' to 6' below grade | 68.2 | 62.8 |
| 12 | QU-1: 6' to 7' below grade | 21.8 | 28.9 |

## FOUNDATION SETTLEMENT

Foundation settlement can be caused by one or a combination of the following factors depending on soil type:

- Elastic compression of the materials beneath the footing induced by the foundation load (granular materials).
- Consolidation of the materials beneath the footing caused by the foundation load (saturated organic and cohesive soils).
- Creep movement due to distortion of the soil mass (granular soils with clayey fines, organic soils and cohesive soils).
- Seismic compaction caused by construction vibrations or earthquakes (loose, dry granular soils).
- Liquefaction caused by construction vibrations or earthquakes (loose, saturated granular soils).

No damage will be done to a structure no matter the magnitude of settlement provided that the settlement is uniform. When settlement is not uniform, which is always the case, the difference in settlement (i.e. differential settlement) between two adjacent footings or along the length of a wall foundation may cause distress to a structure. To avoid distress, empirical rules have been established for foundation design which are based on the simple logic that if total settlement is limited to a reasonable amount, differential settlement will be a fraction thereof. It is customary in American foundation design practice to limit the maximum total settlement for buildings, including residential structures, to about one inch. With total settlement limited to one inch, differential settlement will be limited to some fraction of this amount, which is generally not more than three-quarters.

Foundation design practice also places limits on the amount of angular distortion that a structure can safely accept as a result of differential settlement. Angular distortion is defined as the amount of differential settlement that occurs between two points divided by the distance between the points. For brick and masonry walls, Polshin and Tokar (1957) recommend limiting the distortion to $3 \times 10^{-4}$ inches per inch for walls having a length (L) to height (H) ratio of two or less and $1 \times 10^{-3}$ inches per inch for L/H equal to eight. They recommend using linear interpolation to establish permissible values of distortion for walls with intermediate L/H values.

## SETTLEMENT PERFORMANCE OF FOUNDATIONS

### Relevant Structures

Five of the ten structures that were surveyed for the study exhibited stair step cracking in their masonry walls suggestive of differential settlement. They include Structures 4, 12, 13, 15, and 42. Cracking patterns observed in the remaining residential structures are not of the type that is normally caused by foundation settlement.

### Elastic Settlement

Elastic foundation settlements for the structures were estimated using procedures developed by Schmertmann (1978). Compressibility properties for the granular profile components were estimated from the SPT data assuming a cone penetration resistance to SPT resistance ratio of 3.5 for the clean sands. A lower ratio of 2 was used for mixed profile components that include sand plus organic material. Maximum total foundation settlements estimated for the structures are tabulated below.

| Structure | Maximum Estimated Total Settlement (inches) |
|---|---|
| 11 | 3/16 * |
| 13 | 1/4 * |
| 15 | 1/8 * |
| 42 | 1/8 ** |

* Includes no correction for creep.
** Includes correction for creep.

Reference to the above shows that the maximum total settlements for the structures ranges from about one-eighth inch to one-quarter inch. Based on earlier discussions, the maximum estimated differential settlements would be about three-quarters of these values, which would yield a range of about 3/32 to 3/16 inch. Most of the observed stair step cracking involved deflected wall lengths of about three to five feet. Dividing the differential settlements by the deflected wall lengths yields the values of angular distortion tabulated on the following page.

| Structure | Estimated Differential Settlement (inches) | Angular Distortion (in/in x $10^{-4}$) |
|---|---|---|
| 11 | 9/64 | 23 to 39 |
| 13 | 3/16 | 31 to 52 |
| 15 | 3/32 | 16 to 26 |
| 42 | 3/32 | 16 to 26 |

Assuming an average wall length to height ratio of 4, the permissible distortion of the walls per the Polshin and Tokar criteria would be about 6 x $10^{-4}$ inch per inch (in/in). As may be seen from the tabulated values, the computed distortions exceed the permissible value and cracking would thus be expected.

Consolidation Settlement

Settlement of the foundations of Structures 4 and 12 was estimated by consolidation theory assuming that a majority of the movement results from compression of the organic soil strata, whose thickness was taken as 4 feet for Structure 4 and 1 foot for Structure 12. The organic soils were assumed to be normally consolidated and assigned compression ratios of 0.30 (Structure 4) and 0.10 (Structure 12) based on experience. Secondary compression settlements were neglected. Total calculated settlements for the wall foundations of Structures 4 and 12 are one-half inch and one-quarter inch, respectively.

Given that one of the three borings drilled for Structure 4 encountered no organic soils within its explored depths, it was assumed that the potential differential settlement which a wall footing at this location would sustain is equal to the total settlement. The total settlement of one-half inch was divided by deflected wall lengths of 5, 10, and 15 feet to evaluate the angular distortion that would result from differential settlement. The computed distortions are tabulated below.

| Deflected Length of Wall (feet) | Estimated Differential Settlement (inch) | Angular Distortion (in/in x $10^{-4}$) |
|---|---|---|
| 5 | 1/2 | 83 |
| 10 | 1/2 | 42 |
| 15 | 1/2 | 28 |

Angular distortions for Structure 12 based on a differential settlement of one-quarter inch over deflected lengths of 3 and 5 feet are 69 x $10^{-4}$ in/in and 42 x $10^{-4}$ in/in, respectively.

From the above, it may be seen that the Polshin and Tokar permissible distortion criterion of 6 x $10^{-4}$ is exceeded and that cracking of the block work could occur.

Seismic Compaction and Liquefaction Settlement

Detonation of buried explosives in loose sand deposits has been used as a method for improving the strength and reducing the compressibility of the soils. Shearing forces produced by the blast will force the soil particles into a denser state of packing in dry soil masses (seismic compaction). In saturated loose sands, the shock from blasting will liquefy the soils and they will be re-deposited into a denser state of packing (liquefaction).

The areal extent of soil improvement has been found to be a function of the size of the charge used in blasting. Depending upon the relative density of the soil deposit, multiple blasting events can be used to attain an increased degree of densification (i.e. an increased state of soil particle packing). Measurement of surface settlements and their attenuation away from the blast point has been used to evaluate the degree of densification attained.

Empirical information developed from the well documented but limited investigative work related to blast densification effects may be used to assess potential settlement at the Dade County lake belt residential sites that is caused by quarry blasting. The following equation by Ivanov (1967) allows an approximation to be made of the radius of influence at which blasting will cause a 1 centimeter (about 0.4 inch) subsidence of a loose deposit of sand:

$$R_c = K_3 W^{0.33}$$

where = $R_c$ is the radius of influence (feet)

$K_3$ is a coefficient dependent on soil texture and relative density

W is the weight of charge per delay (pounds)

Assuming a very conservative value of 20 for $K_3$ (relative density of 40 percent for fine sand) and taking a weight of charge per delay of 1,347 pounds (maximum used in local quarry operations) one computes the radius of influence $R_c$ to be 220 feet. Extrapolation beyond the 220 feet radius indicates that the ground subsidence will be nil at about 450 feet from the point of blast. Given the geographic separation that exists between the quarry sites and residential areas, we conclude that ground subsidence from blasting is not a factor in the foundation settlement.

## CONCLUSIONS

An evaluation of foundation settlement caused by quarry blasting has been completed using ten residential structures in the Dade County lake belt region as a basis for the study. Of the ten structures surveyed in the study, five (Structures 4, 12, 13, 15 and 42) exhibited a distinctive stair step cracking pattern in their exterior masonry walls which is characteristic of differential foundation settlement. While the other residences exhibited some degree of vertical, horizontal and inclined cracking, the distress patterns are not of the type related to foundation movement.

The foundation settlement is due to the compression of the profile components that underlie the footings and which are influenced by the imposed foundation stresses. In the case of Structures 4 and 12, the foundation settlement is likely being exacerbated by the presence of compressible organic soils that were found in the profiles of the residential sites. Cracking due to foundation settlement arising from ground subsidence from seismic compaction and liquefaction caused by blasting vibrations was also considered but ruled out due to the significant horizontal separation that exists between the quarries and the residential areas.

Most of the cracks observed in the residential structures are hairline in nature. Consequently, they have not affected either the structural integrity or the serviceability of the dwellings.

____oOo____

Project No. 00-21-1923

## REFERENCE LIST


1. Burland, J.B., Broms, B.B. and DeMello, V.F.B.; *Behavior of Foundations and Structures: State of the Art Report*; Proceedings of 9th International Conference on Soil Mechanics and Foundation Engineering; Japanese Geotechnical Society; Tokyo, Japan; 1977.

2. Ivanov, P.L.; *Prediction and Control Techniques to Compact Loose Soils by Explosives;* Proceedings of 8th European Conference on Soil Mechanics and Foundation Engineering; Volume 1; 1983.

3. Polshin, D.E., and Tokar, R.A.; *Maximum Allowable Non-Uniform Settlement of Structures*; Proceedings of 4th International Conference on Soil Mechanics and Foundation Engineering; Volume 1; London, England; 1957.

4. Schmertmann, J.H.; *Guidelines for Cone Penetration Test, Performance and Design*; U.S. Department of Transportation Publication FHWA-TS-78-209; 1978.


5/10/00-1923ref:kat

# APPENDIX A

# CRACK SURVEY SUMMARY FOR RESIDENTIAL STRUCTURES

# APPENDIX A

## Crack Survey Summary For Residential Structures
## Assessment of Blast Vibration Impacts From
## Quarry Operations On Foundation Settlement Performance
## Dade County, Florida

---

Structure 4: Horizontal hairline crack in south exterior wall of garage just west of main entrance. Vertical hairline crack in west exterior wall of house at bottom corner of window. In-filled horizontal crack near base of west exterior wall. Vertical hairline crack in exterior wall above north corner of garage door on west side of dwelling. Stair step cracks about 1/8-inch wide in west one-third of north exterior wall. Stair step cracks about 1/8-inch wide in north exterior wall just west of northeast corner of dwelling. Patio slab on east side of dwelling has subsided about 1/2-inch and rotated to the east. Stair step hairline cracks in south exterior wall just west of westernmost southeast corner of building.

Structure 6: Vertical hairline crack in exterior wall at bottom southeast corner of second floor window on south side of dwelling.

Structure 11: Vertical hairline to slightly wider crack in exterior architectural columns at southeast and southwest corners of dwelling. Hairline inclined crack in exterior wall above top corner of door frame at sundeck entrance to master bedroom ($2^{nd}$ floor). Vertical hairline crack in south exterior wall of residence just west of main entrance. Hairline to 1/8-inch wide cracks in brick pavers of pool patio. Vertical hairline crack in pool shell. One-sixteenth inch plus wide crack in floor slab at northwest corner of garage. Slight elevation difference across crack. Vertical and horizontal hairline plus cracks in wall board at northwest corner of garage. Hairline vertical and horizontal cracks in wall board at southeast corner of garage. Hairline horizontal cracks in interior wall above garage doors. Sculpted horizontally oriented cracks about 3/16-inch wide in interior wall below window sill of dinette on south side of dwelling. Window sill has 1/16-inch wide crack. Hairline cracks in marble window sill of guest bedroom ($2^{nd}$ floor). Horizontal hairline cracks in interior wall at top corners of doors to laboratory and closet in guest bedroom. Longitudinal hairline cracks in ceiling of master bedroom ($2^{nd}$ floor). Hairline vertical and inclined cracks in interior wall radiating from window corners in master bedroom. Hairline cracks in ceramic floor tile of master bedroom bath ($2^{nd}$ floor). Hairline cracks in window casement at interior of daughter's bedroom plus 3/16-inch wide horizontal crack beneath window sill. Hairline crack in ceiling of this room. Hairline crack in marble sink top and ceramic tile floor of bathroom of this room plus hairline crack in cornice.

Vertical hairline crack in wall at top corner of door to bedroom. Horizontal hairline crack at top of balcony door entrance to bedroom. Also hairline cracks in window casement at exterior of room. One-quarter inch wide horizontal cracks in interior wall beneath window sill of northwest bedroom (2nd floor). Marble window sill is raised. Hairline cracks in exterior sill of window. Hairline plus size longitudinal cracks in ceiling of this bedroom. Vertical hairline cracks in interior wall above corners of door to bath. Hairline stair step crack in north exterior wall at bottom west corner of window located near northwest corner of dwelling. Crack extends to ground line. Inclined hairline crack in north exterior wall at eastern third point. Crack begins at underside of window corner and descends to ground line. Vertical hairline crack in north exterior wall at bottom corner of west end of bath window. Vertical hairline crack in south exterior wall of garage near the southwest corner of garage. Crack begins at bottom corner of window and descends to ground. Vertical hairline crack in east exterior wall at northeast corner. Crack begins at bottom corner of window and descends to ground.

Structure 13: Hairline horizontal crack in exterior north wall below window located at midpoint of structure. Hairline vertical crack descends downward from east bottom corner of window located due east of above. Horizontal hairline crack on exterior face of north wall above window located just east of north entrance. Horizontal hairline crack about 4 feet above ground line on exterior face of west wall at extreme southwest corner of structure. Crack identical to above on exterior wall at northeast corner of residence. Stair step hairline cracks in exterior face of east wall at window just south of northeast corner. Cracks begin at bottom corners of window and descend to ground line. Faint stair step plus horizontal cracks at several locations of exterior face of east wall. Hairline horizontal cracks on exterior wall face about 3 to 4 feet above ground line at southeast corner. Hairline stair step and vertical cracks at several locations on exterior face of south wall. Hairline diagonal crack in interior wall above top of window corner in office at northeast corner of residence. Vertical hairline crack in interior wall above corner of doorway leading out of office. Similar crack in interior wall above corner of window on north wall of office.

Structure 15: Hairline stair step crack in exterior face of east wall near the northeast corner of residence. Crack begins at bottom corner of window and descends to ground line. Hairline vertical crack on east face of exterior wall south of northeast corner of dwelling. Crack extends from bottom of window corner to ground level. Hairline stair step crack on east face of exterior wall just north of southeast corner of dwelling. Hairline horizontal crack and vertical cracks on exterior face of south half of east wall at about 3 feet above ground line. Hairline horizontal crack at about 4 feet above ground line on exterior of north wall just east of main entrance.

Crack continues around northeast corner into east wall. Hairline horizontal crack on exterior face of north wall, east half, about 2 feet above ground line. Hairline horizontal crack on exterior face of north wall at about 5 feet above ground line just east of northwest corner of dwelling. Crack continues into south wall. Stair step hairline crack on exterior face of south wall just east of southwest corner of dwelling. Crack begins at bottom corner of window and descends to ground line. Horizontal hairline crack on exterior face of west wall adjacent to easternmost southwest corner of dwelling. Crack exists about 4 feet above ground line. Horizontal hairline crack on exterior face of south wall at about 4 feet above ground line near east-west midpoint of dwelling. Similar crack at southeast corner of dwelling which extends around corner into face of east wall. Vertical hairline crack in east interior wall of northeast bedroom. Hairline ceiling crack in same room. Hairline vertical crack in casement of window within bathroom located along east wall of residence. Hairline vertical crack in ceiling of kitchen along east wall. Vertical and inclined hairline cracks in south wall of kitchen. One-eighth inch wide crack in window sill of kitchen plus hairline vertical crack in wall beneath the sill. Hairline plus horizontal crack beneath window sill of north wall in northwest bedroom. Similar crack beneath south wall window in this bedroom.

Structure 33: Near vertical hairline crack in vertical oriented ceramic tile at exterior of elevated slab. Hairline cracks in roof overhang on east edge of residence near north-south midpoint. Hairline vertical crack in vertically oriented ceramic tile at exterior of dwelling near northeast corner. Hairline plus crack in ceiling of kitchenette. Hairline crack in ceramic floor tile in master bath. No elevation difference across crack. Vertical hairline crack in wall over top corner of door frame in master bath. Hairline crack in ceramic floor tile in hallway leading to guest bathroom in northwest corner of residence. No elevation difference across crack.

Structure 34: Vertical to inclined hairline cracks beneath bottom window corners on west exterior wall near northeast corner of residence. Horizontal hairline crack about eight inches above ground line on west exterior wall. Vertical to inclined hairline cracks beneath bottom corners of window on exterior of north wall near east-west midpoint of residence. One top corner of window has a vertical to inclined hairline crack extending upward. Horizontal crack in underside of roof overhang at northwest corner of residence. Hairline crack in ceiling of outdoor patio in area of sliding door at west wide of kitchen. Hairline vertical crack beneath bottom corner of sliding glass door on west exterior wall of residence. Hairline vertical crack in exterior wall beneath one bottom corner of bathroom window on west wall of residence. Hairline crack in underside of roof overhang on west edge of house near south end. One-sixteenth to one-eighth inch wide crack at southwest edge of pool patio slab. Slight elevation difference across fracture. Hairline

crack with slight elevation difference across fracture in ceramic floor tile of guest bathroom. Hairline crack in ceramic floor tile at entrance to bedroom along east side of dwelling. No elevation difference across fracture. Hairline crack in ceramic floor tile in entrance foyer. No elevation difference across fracture. Hairline crack in ceramic floor tiles of master bath. No discernable elevation difference across fractures. Hairline crack in ceiling at hall to kitchen transition.

Structure 42: Stair step hairline crack beneath bottom corner of window on west exterior wall at southwest corner of residence. This area is immediately adjacent to the north of a transverse aligned bearing wall. There are also hairline cracks in sill of the window. Hairline vertical crack on exterior of west wall above corner of sliding glass door. Hairline vertical crack in exterior wall at upper corner of window at east entry to residence. Hairline crack at junction of wall and eave at east entry to residence. Hairline vertical crack beneath bottom corner of east exterior wall window at second story. Hairline crack in ceramic tile of kitchen adjacent to sink. No vertical offset across fracture. Horizontal hairline crack at about 4 feet above floor on north wall to entrance of master bath ($2^{nd}$ level). Crack radiates throughout most of bathroom. Hairline crack in ceramic floor tile of master bath near sink. No apparent elevation difference across fracture. Hairline vertical crack in ceramic coping tile of master bath adjacent to shower. Hairline vertical crack in wall junction at northwest corner of master bathroom.

Structure 45: Inclined hairline crack on exterior of north wall of residence adjacent to northwest corner. Crack begins at ground line and rises at about 2 horizontal to 1 vertical before disappearing. No crack on west wall face at this corner. Faint hairline crack with horizontal orientation about 12 inches above ground line just east of northwest corner of dwelling. Inclined to vertical hairline crack at bottom corner of window on south exterior wall at first floor. A meandrous hairline crack extends from upper corner of this window to bottom corner of window at second level. Inclined to vertical hairline crack at top corner of sliding glass door at exterior of south wall. Crack rises to second level where it disappears. Vertical hairline crack at bottom corner of window on east exterior wall. Vertical to inclined hairline crack at top opposing corner of window. Inclined to vertical hairline crack at bottom of sliding glass door on exterior of east wall of dwelling. Hairline cracks in ceramic floor tile in kitchen area. No elevation difference across fractures. Similar cracks in ceramic floor tile of raised foyer at main entrance.

# APPENDIX B

# LOGS OF TEST BORINGS

WINGERTER LABORATORIES INC.
Professional Engineering & Testing

# TEST BORING LOG

**BORING NO.: CO-1**

**CLIENT:** *Miami Dade County Public Works Dept.*
**PROJECT:** *Blast Monitoring Program - Structure 4 - Miami Lakes (West)*
**LOCATION:** *Northwest Corner of Residence*
**DRILLER:** *J. Cooper*
**DRILL RIG:** *Portable*
**DEPTH TO WATER:** *6.5'*

**ELEVATION:** -
**DATE STARTED:** *5-3-00*
**DATE COMPLETED:** *5-3-00*

| DEPTH (feet) | SOIL SYMBOLS, AND BLOWS PER SIX INCHES | SOIL DESCRIPTION | STANDARD PENETRATION TEST | | | |
|---|---|---|---|---|---|---|
| | | | SAMPLE NO. | SAMPLING INTERVAL | N | N-value CURVE |
| 0 | 8 | Dark brown to black SAND and ORGANICS (topsoil) with trace fragmented limestone | 1 | 0.0-0.5 | | |
| 1 | 14 | | 2 | 0.5-2.0 | 24 | |
| 2 | 10 12 | | 3 | 2.0-4.0 | | |
| 3 | 7 10 | Tan LIMESAND and fragmented LIMESTONE (fill) | | | 17 | |
| 4 | 7 5 | | 4 | 4.0-6.0 | | |
| 5 | 17 22 | | | | 34 | |
| 6 | 12 4 | | 5 | 6.0-7.0 | | |
| 7 | 1 2 | Dark brown to black SAND and decomposed ORGANIC MATERIAL (peat) with trace fragmented limestone | 6 | 7.0-8.0 | 4 | |
| 8 | 2 2 4 | | 7 | 8.0-9.0 | | |
| 9 | 6 8 | Brown silica SAND | 8 | 9.0-10.0 | 14 | |
| 10 | 8 10 | Tan LIMESTONE with trace limesand | 9 | 10.0-12.0 | | |
| 11 | 5 4 | | | | 9 | |
| 12 | 3 | | | | | |
| 13 | 3 1 | | 10 | 13.0-15.0 | | |
| 14 | 1 2 | | | | 2 | |
| 15 | | Boring terminated at 15.0' | | | | |
| 16 | | | | | | |
| 17 | | | | | | |
| 18 | | | | | | |
| 19 | | | | | | |
| 20 | | | | | | |
| 21 | | | | | | |
| 22 | | | | | | |
| 23 | | | | | | |
| 24 | | | | | | |
| 25 | | | | | | |
| 26 | | | | | | |
| 27 | | | | | | |
| 28 | | | | | | |
| 29 | | | | | | |
| 30 | | | | | | |
| 31 | | | | | | |
| 32 | | | | | | |
| 33 | | | | | | |

N-value CURVE: 10 30 50 70 90

This information pertains to this boring location and may not be completely indicative to the entire site.

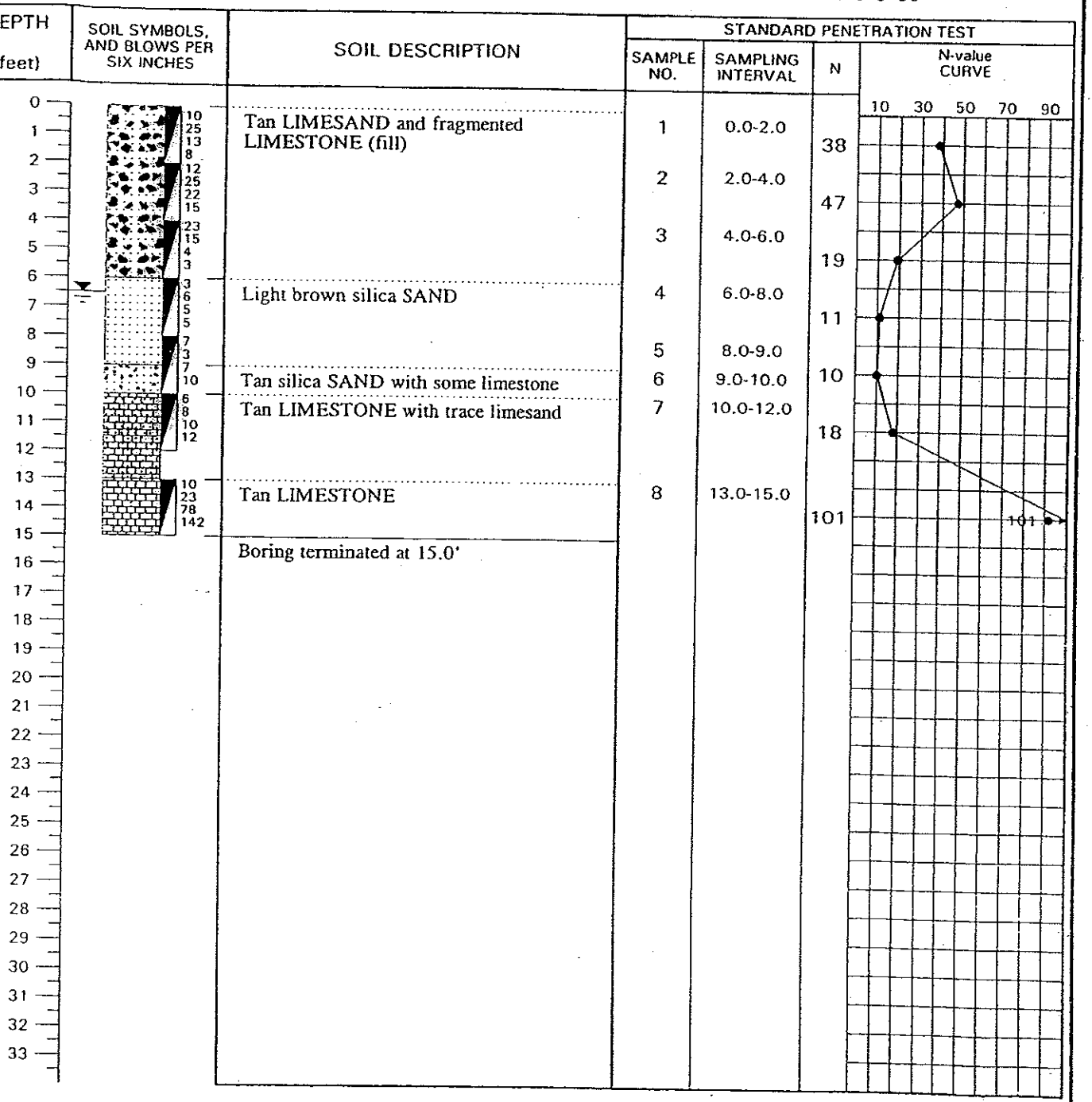
WINGERTER LABORATORIES INC.
Professional Engineering & Testing

# TEST BORING LOG

BORING NO.: CO-2

CLIENT: *Miami Dade County Public Works Dept.*
PROJECT: *Blast Monitoring Program - Structure 4 - Miami Lakes (West)*
LOCATION: *Southwest Corner of Residence*
DRILLER: *J. Cooper*
DRILL RIG: *Portable*
DEPTH TO WATER: *6.5'*

ELEVATION: -
DATE STARTED: *5-3-00*
DATE COMPLETED: *5-3-00*




This information pertains to this boring location and may not be completely indicative to the entire site.

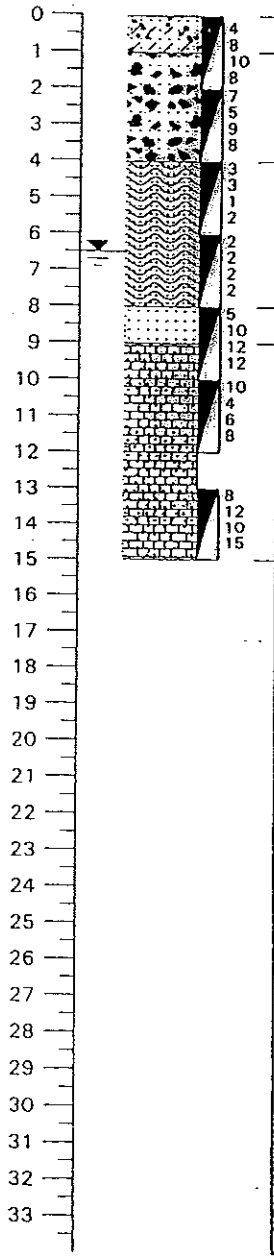
WINGERTER LABORATORIES INC.
Professional Engineering & Testing

# TEST BORING LOG

**BORING NO.: CO-3**

**CLIENT:** *Miami Dade County Public Works Dept.*
**PROJECT:** *Blast Monitoring Program - Structure 4 - Miami Lakes (West)*
**LOCATION:** *Southeast Corner of Residence*
**DRILLER:** *J. Cooper*
**DRILL RIG:** *Portable*
**DEPTH TO WATER:** *6.5'*

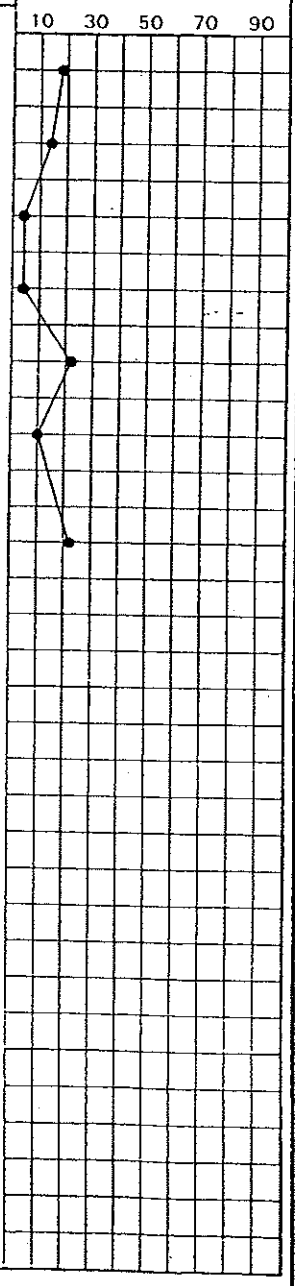
**ELEVATION:** -
**DATE STARTED:** *5-3-00*
**DATE COMPLETED:** *5-3-00*




| SOIL DESCRIPTION | SAMPLE NO. | SAMPLING INTERVAL | N |
|---|---|---|---|
| Gray silica SAND with trace fragmented limestone (fill) with trace organics (topsoil) | 1 | 0.0-1.0 | |
| | 2 | 1.0-2.0 | 18 |
| Tan LIMESAND and fragmented LIMESTONE (fill) | 3 | 2.0-4.0 | |
| | | | 14 |
| Dark brown to black decomposed ORGANIC MATERIAL (peat) and SAND | 4 | 4.0-6.0 | |
| | | | 4 |
| | 5 | 6.0-8.0 | |
| | | | 4 |
| Light brown silica SAND | 6 | 8.0-9.0 | |
| Tan LIMESTONE with trace limesand | 7 | 9.0-10.0 | 22 |
| | 8 | 10.0-12.0 | |
| | | | 10 |
| | 9 | 13.0-15.0 | |
| | | | 22 |
| Boring terminated at 15.0' | | | |

STANDARD PENETRATION TEST

N-value CURVE




This information pertains to this boring location and may not be completely indicative to the entire site.

WINGERTER LABORATORIES INC.
Professional Engineering & Testing

# TEST BORING LOG

**BORING NO.: KE-1**

**CLIENT:** *Miami Dade County Public Works Department*
**PROJECT:** *Blast Monitoring Program* - Structure 11 - Miami Lakes (East)
**LOCATION:** Planted Area Adjacent to Dinette
**DRILLER:** *J. Cooper*
**DRILL RIG:** *Portable*
**DEPTH TO WATER:** *6.5'*

**ELEVATION:** -
**DATE STARTED:** *4-4-00*
**DATE COMPLETED:** *4-4-00*

| DEPTH (feet) | SOIL SYMBOLS, AND BLOWS PER SIX INCHES | SOIL DESCRIPTION | STANDARD PENETRATION TEST | | | |
|---|---|---|---|---|---|---|
| | | | SAMPLE NO. | SAMPLING INTERVAL | N | N-value CURVE |
| 0 | 2 1 3 4 | Dark gray silica SAND with trace organics | 1 | 0.0-2.0 | 4 | 10 30 50 70 90 |
| 1 | | | | | | |
| 2 | 8 8 12 15 | Tan silica SAND | 2 | 2.0-4.0 | 20 | |
| 3 | | | | | | |
| 4 | 12 10 10 15 | | 3 | 4.0-6.0 | 20 | |
| 5 | | | | | | |
| 6 | 8 12 12 10 | Gray to light brown silica SAND | 4 | 6.0-8.0 | 24 | |
| 7 | | | | | | |
| 8 | 12 6 6 6 | Light brown silica SAND | 5 | 8.0-10.0 | 12 | |
| 9 | | | | | | |
| 10 | 3 4 5 5 | | 6 | 10.0-12.0 | 9 | |
| 11 | | | | | | |
| 12 | | | | | | |
| 13 | 2 3 2 2 | Dark tan LIMESTONE and silica SAND | 7 | 13.0-15.0 | 5 | |
| 14 | | | | | | |
| 15 | | Boring terminated at 15.0' | | | | |
| 16 | | | | | | |
| 17 | | | | | | |
| 18 | | | | | | |
| 19 | | | | | | |
| 20 | | | | | | |
| 21 | | | | | | |
| 22 | | | | | | |
| 23 | | | | | | |
| 24 | | | | | | |
| 25 | | | | | | |
| 26 | | | | | | |
| 27 | | | | | | |
| 28 | | | | | | |
| 29 | | | | | | |
| 30 | | | | | | |
| 31 | | | | | | |
| 32 | | | | | | |
| 33 | | | | | | |

This information pertains to this boring location and may not be completely indicative to the entire site.

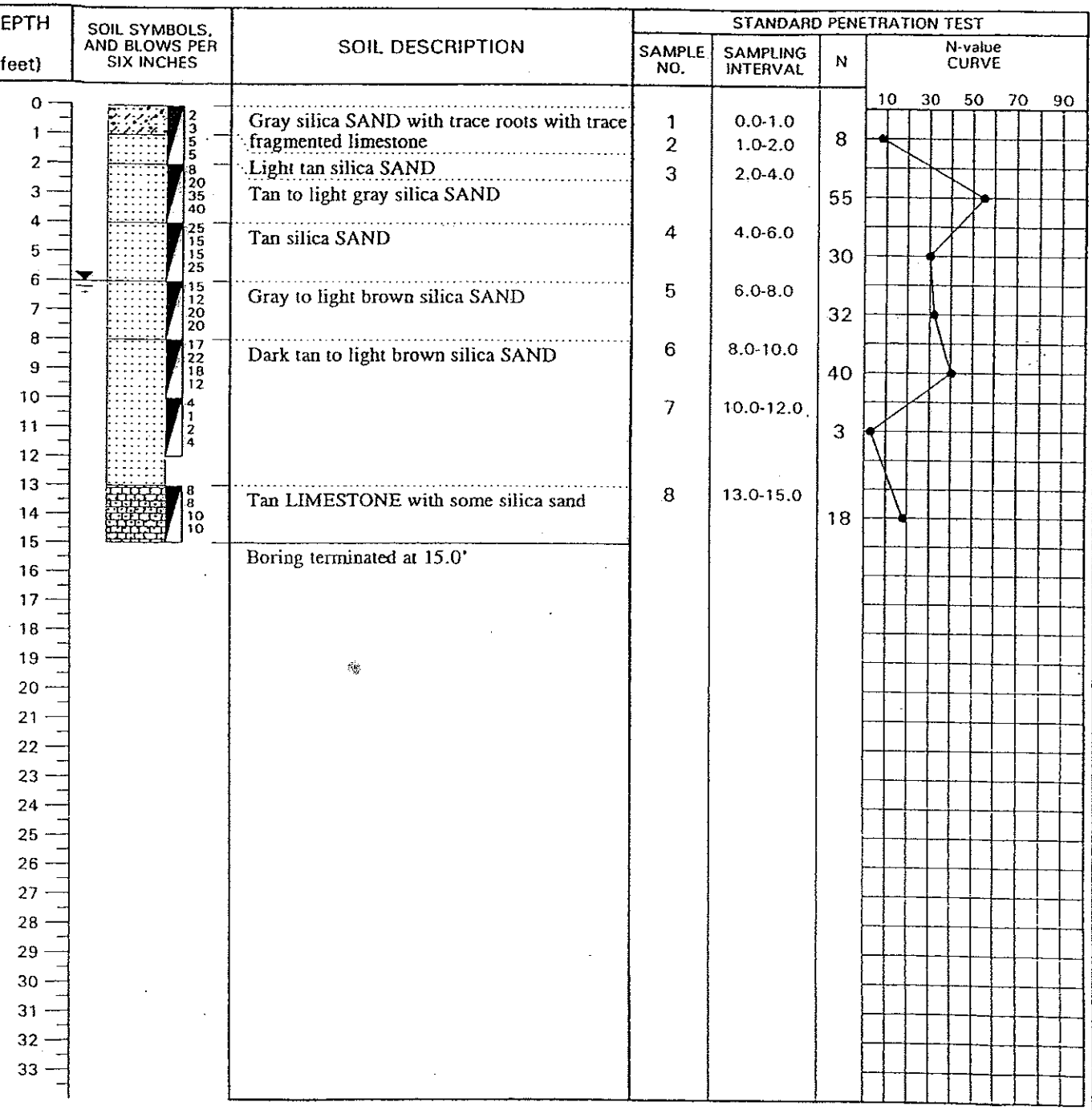
WINGERTER LABORATORIES INC.
Professional Engineering & Testing

# TEST BORING LOG

**BORING NO.: KE-2**

**CLIENT:** *Miami Dade County Public Works Department*
**PROJECT:** *Blast Monitoring Program* - Structure 11 - Miami Lakes (East)
**LOCATION:** Northwesterly Corner of Garage
**DRILLER:** *J. Cooper*
**DRILL RIG:** *Portable*
**DEPTH TO WATER:** *6.0'*

**ELEVATION:** -
**DATE STARTED:** *4-4-00*
**DATE COMPLETED:** *4-4-00*




This information pertains to this boring location and may not be completely indicative to the entire site.

WINGERTER LABORATORIES INC.
Professional Engineering & Testing

# TEST BORING LOG

**BORING NO.: KE-3**

**CLIENT:** *Miami Dade County Public Works Department*
**PROJECT:** *Blast Monitoring Program* - Structure 11 - Miami Lakes (East)
**LOCATION:** Southwesterly Corner of Residence
**DRILLER:** *J. Cooper*
**DRILL RIG:** *Portable*
**DEPTH TO WATER:** *7.0'*

**ELEVATION:** -
**DATE STARTED:** *4-4-00*
**DATE COMPLETED:** *4-4-00*

| DEPTH (feet) | SOIL SYMBOLS, AND BLOWS PER SIX INCHES | SOIL DESCRIPTION | STANDARD PENETRATION TEST | | | |
|---|---|---|---|---|---|---|
| | | | SAMPLE NO. | SAMPLING INTERVAL | N | N-value CURVE |
| 0 | 2 2 3 4 | Dark gray silica SAND with trace organics | 1 | 0.0-2.0 | 5 | |
| 1 | | | | | | |
| 2 | 8 14 18 22 | Light tan silica SAND | 2 | 2.0-4.0 | 32 | |
| 3 | | | | | | |
| 4 | 15 12 12 15 | | 3 | 4.0-6.0 | 24 | |
| 5 | | | | | | |
| 6 | 10 10 15 15 | Gray to light brown silica SAND | 4 | 6.0-8.0 | 25 | |
| 7 | | | | | | |
| 8 | 8 7 8 8 | Dark tan silica SAND | 5 | 8.0-10.0 | 15 | |
| 9 | | | | | | |
| 10 | 8 9 9 11 | Dark tan silica SAND with some fragmented limestone | 6 | 10.0-12.0 | 18 | |
| 11 | | | | | | |
| 12 | | | | | | |
| 13 | 4 6 8 8 | Tan LIMESTONE with some silica sand | 7 | 13.0-15.0 | 14 | |
| 14 | | | | | | |
| 15 | | Boring terminated at 15.0' | | | | |
| 16 | | | | | | |
| 17 | | | | | | |
| 18 | | | | | | |
| 19 | | | | | | |
| 20 | | | | | | |
| 21 | | | | | | |
| 22 | | | | | | |
| 23 | | | | | | |
| 24 | | | | | | |
| 25 | | | | | | |
| 26 | | | | | | |
| 27 | | | | | | |
| 28 | | | | | | |
| 29 | | | | | | |
| 30 | | | | | | |
| 31 | | | | | | |
| 32 | | | | | | |
| 33 | | | | | | |

N-value CURVE: 10 30 50 70 90

This information pertains to this boring location and may not be completely indicative to the entire site.

WINGERTER LABORATORIES INC.
Professional Engineering & Testing

# TEST BORING LOG

**BORING NO.: QU-1**

**CLIENT:** *Miami Dade County Public Works Department*
**PROJECT:** *Blast Monitoring Program* - Structure 12 - Miami Lakes (West)
**LOCATION:** Northwesterly Corner of Residence
**DRILLER:** *J. Cooper*
**DRILL RIG:** *Portable*
**DEPTH TO WATER:** *8.0'*

**ELEVATION:** -
**DATE STARTED:** *4-6-00*
**DATE COMPLETED:** *4-6-00*

| DEPTH (feet) | SOIL SYMBOLS, AND BLOWS PER SIX INCHES | SOIL DESCRIPTION | STANDARD PENETRATION TEST | | | |
|---|---|---|---|---|---|---|
| | | | SAMPLE NO. | SAMPLING INTERVAL | N | N-value CURVE |
| 0 | 6 | Dark brown SAND with some roots | 1 | 0.0-0.5 | | |
| 1 | 18 | | | | | |
| 2 | 40 | Tan to light gray LIMESAND and fragmented LIMESTONE | 2 | 0.5-2.0 | 58 | |
| 3 | 45 30 | | 3 | 2.0-4.0 | | |
| 4 | 23 17 | | | | 40 | |
| 5 | 10 8 | | 4 | 4.0-6.0 | | |
| 6 | 7 4 | | | | 11 | |
| 7 | 5 2 | Black ORGANIC MATERIAL (peat) with trace sand | 5 | 6.0-7.0 | | |
| 8 | 2 6 | | 6 | 7.0-8.0 | 8 | |
| 9 | 5 5 | Light brown silica SAND with trace fragmented limestone | 7 | 8.0-10.0 | | |
| 10 | 7 7 | Tan LIMESTONE with trace limesand | | | 12 | |
| 11 | 6 5 | | 8 | 10.0-12.0 | | |
| 12 | 5 5 | | | | 10 | |
| 13 | 4. | | | | | |
| 14 | 5 6 | | 9 | 13.0-15.0 | | |
| 15 | 6 | | | | 11 | |
| 16 | | Boring terminated at 15.0' | | | | |
| 17 | | | | | | |
| 18 | | | | | | |
| 19 | | | | | | |
| 20 | | | | | | |
| 21 | | | | | | |
| 22 | | | | | | |
| 23 | | | | | | |
| 24 | | | | | | |
| 25 | | | | | | |
| 26 | | | | | | |
| 27 | | | | | | |
| 28 | | | | | | |
| 29 | | | | | | |
| 30 | | | | | | |
| 31 | | | | | | |
| 32 | | | | | | |
| 33 | | | | | | |

N-value CURVE: 10 30 50 70 90

This information pertains to this boring location and may not be completely indicative to the entire site.

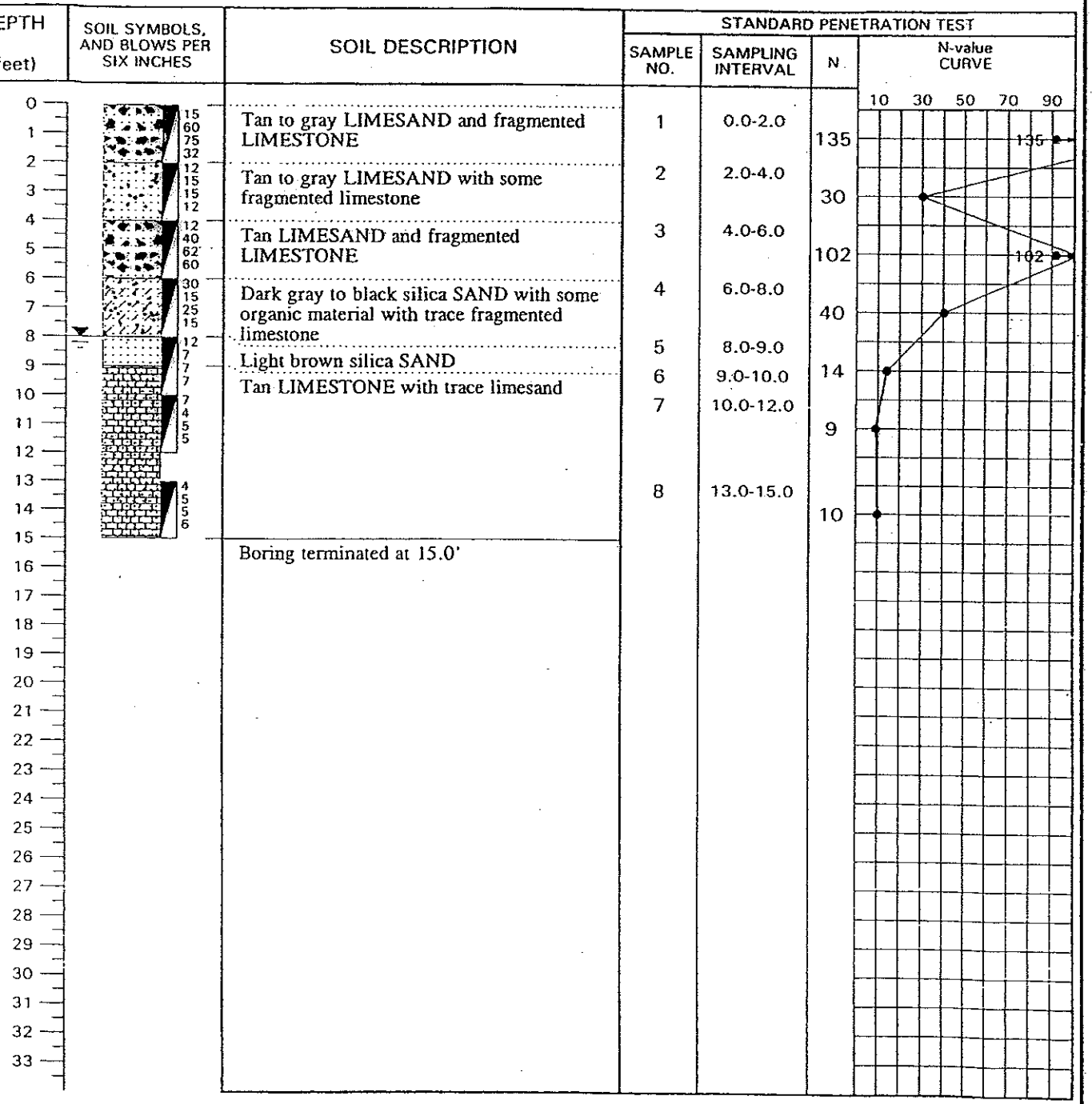
WINGERTER LABORATORIES INC.
Professional Engineering & Testing

# TEST BORING LOG

**BORING NO.: QU-2**

**CLIENT:** *Miami Dade County Public Works Department*
**PROJECT:** *Blast Monitoring Program* - Structure 12 - Miami Lakes (West)
**LOCATION:** Southwesterly Corner of Residence
**DRILLER:** *J. Cooper*
**DRILL RIG:** *Portable*
**DEPTH TO WATER:** *8.0'*

**ELEVATION:** -
**DATE STARTED:** *4-6-00*
**DATE COMPLETED:** *4-6-00*




This information pertains to this boring location and may not be completely indicative to the entire site.

WINGERTER LABORATORIES INC.
Professional Engineering & Testing

# TEST BORING LOG

**BORING NO.: CA-1**

CLIENT: *Miami Dade County Public Works Dept.*
PROJECT: *Blast Monitoring Program* - Structure 13 - Palm Springs North
LOCATION: Northeasterly Corner of Residence
DRILLER: *J. Cooper*
DRILL RIG: *B-53*
DEPTH TO WATER: *6.0'*

ELEVATION: -
DATE STARTED: *4-21-00*
DATE COMPLETED: *4-21-00*

| DEPTH (feet) | SOIL SYMBOLS, AND BLOWS PER SIX INCHES | SOIL DESCRIPTION | STANDARD PENETRATION TEST | | | |
|---|---|---|---|---|---|---|
| | | | SAMPLE NO. | SAMPLING INTERVAL | N | N-value CURVE |
| 0 | 4 5 7 4 | Dark gray to dark brown silica SAND with some roots with trace fragmented limestone (topsoil) | 1 | 0.0-1.0 | | 10 30 50 70 90 |
| 1 | | | 2 | 1.0-2.0 | 12 | |
| 2 | 1 2 4 8 | Light tan silica SAND with trace fragmented limestone | 3 | 2.0-4.0 | 6 | |
| 3 | | | | | | |
| 4 | 8 6 6 6 | Gray to brown silica SAND | 4 | 4.0-6.0 | 12 | |
| 5 | | Brown silica SAND | | | | |
| 6 | 4 4 2 3 | | 5 | 6.0-8.0 | 6 | |
| 7 | | | | | | |
| 8 | 3 5 6 12 | Brown silica SAND with trace roots | 6 | 8.0-10.0 | 11 | |
| 9 | | | | | | |
| 10 | 12 17 20 20 | Dark tan to light brown silica SAND and fragmented LIMESTONE | 7 | 10.0-12.0 | 37 | |
| 11 | | | | | | |
| 12 | | | | | | |
| 13 | 14 17 22 17 | | 8 | 13.0-15.0 | 39 | |
| 14 | | | | | | |
| 15 | | Boring terminated at 15.0' | | | | |
| 16 | | | | | | |
| 17 | | | | | | |
| 18 | | | | | | |
| 19 | | | | | | |
| 20 | | | | | | |
| 21 | | | | | | |
| 22 | | | | | | |
| 23 | | | | | | |
| 24 | | | | | | |
| 25 | | | | | | |
| 26 | | | | | | |
| 27 | | | | | | |
| 28 | | | | | | |
| 29 | | | | | | |
| 30 | | | | | | |
| 31 | | | | | | |
| 32 | | | | | | |
| 33 | | | | | | |

This information pertains to this boring location and may not be completely indicative to the entire site.

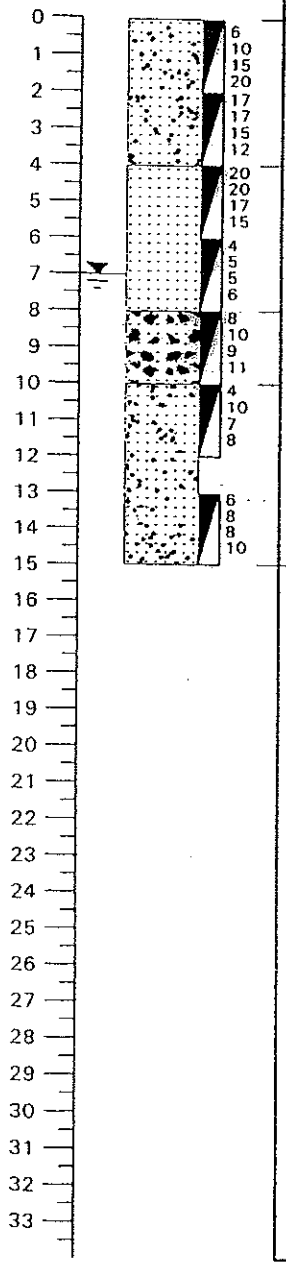
WINGERTER LABORATORIES, INC.
Professional Engineering & Testing

# TEST BORING LOG

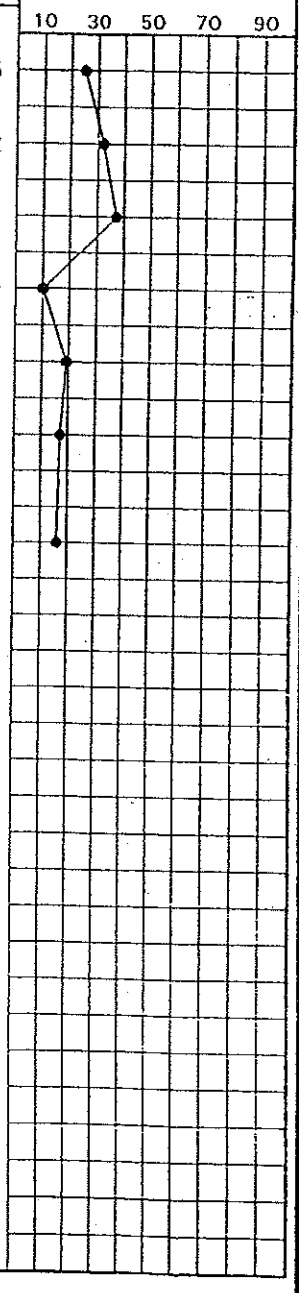
**BORING NO.: CA-2**

**CLIENT:** *Miami Dade County Public Works Dept.*
**PROJECT:** *Blast Monitoring Program* Structure 13 - Palm Springs North
**LOCATION:** Northwesterly Corner of Residence
**DRILLER:** *J. Cooper*
**DRILL RIG:** *B-53*
**DEPTH TO WATER:** *7.0'*

**ELEVATION:** -
**DATE STARTED:** *4-21-00*
**DATE COMPLETED:** *4-21-00*




| DEPTH (feet) | SOIL DESCRIPTION | STANDARD PENETRATION TEST | | |
|---|---|---|---|---|
| | | SAMPLE NO. | SAMPLING INTERVAL | N |
| 0 | Light tan silica SAND with trace fragmented limestone | 1 | 0.0-2.0 | 25 |
| | | 2 | 2.0-4.0 | 32 |
| 4 | Brown silica SAND | 3 | 4.0-6.0 | 37 |
| | | 4 | 6.0-8.0 | 10 |
| 8 | Brown silica SAND and fragmented LIMESTONE | 5 | 8.0-10.0 | 19 |
| 10 | Dark tan to light brown silica SAND with some fragmented limestone | 6 | 10.0-12.0 | 17 |
| | | 7 | 13.0-15.0 | 16 |
| 15 | Boring terminated at 15.0' | | | |




This information pertains to this boring location and may not be completely indicative to the entire site.

WINGERTER LABORATORIES INC.
Professional Engineering & Testing

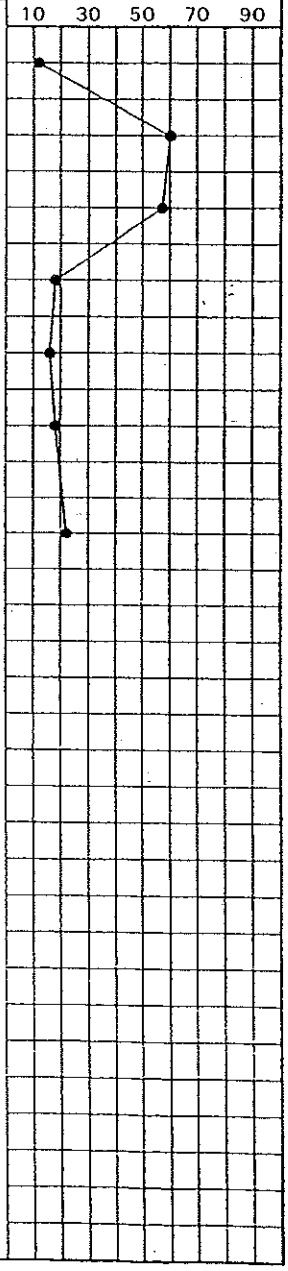
# TEST BORING LOG

**BORING NO.: GE-1**

**CLIENT:** *Miami Dade County Public Works Department*
**PROJECT:** *Blast Monitoring Program* - Structure 15 - Palm Springs North
**LOCATION:** Northeasterly Corner of Residence
**DRILLER:** *J. Cooper*
**DRILL RIG:** *Simco*
**DEPTH TO WATER:** *6.0'*

**ELEVATION:** -
**DATE STARTED:** *4-5-00*
**DATE COMPLETED:** *4-5-00*

| DEPTH (feet) | SOIL SYMBOLS, AND BLOWS PER SIX INCHES | SOIL DESCRIPTION | STANDARD PENETRATION TEST | | | |
|---|---|---|---|---|---|---|
| | | | SAMPLE NO. | SAMPLING INTERVAL | N | N-value CURVE |
| 0 | 2 3 9 18 | Gray to brown silica SAND with trace roots | 1 | 0.0-0.5 | | |
| 1 | | | 2 | 0.5-2.0 | 12 | |
| 2 | 20 20 40 44 | Light tan silica SAND with trace fragmented limestone | 3 | 2.0-4.0 | | |
| 3 | | | | | 60 | |
| 4 | 30 30 27 25 | Dark tan to light brown silica SAND with trace fragmented limestone | 4 | 4.0-6.0 | | |
| 5 | | | | | 57 | |
| 6 | 18 12 6 6 | Tan silica SAND with trace fragmented limestone | 5 | 6.0-8.0 | | |
| 7 | | | | | 18 | |
| 8 | 12 10 6 5 | Gray to light brown silica SAND with trace fragmented limestone | 6 | 8.0-10.0 | | |
| 9 | | | | | 16 | |
| 10 | 4 8 10 10 | Light brown silica SAND | 7 | 10.0-12.0 | | |
| 11 | | | | | 18 | |
| 12 | | | | | | |
| 13 | 7 10 12 12 | Dark tan to light brown silica SAND with trace fragmented limestone | 8 | 13.0-15.0 | | |
| 14 | | | | | 22 | |
| 15 | | Boring terminated at 15.0' | | | | |
| 16 | | | | | | |
| 17 | | | | | | |
| 18 | | | | | | |
| 19 | | | | | | |
| 20 | | | | | | |
| 21 | | | | | | |
| 22 | | | | | | |
| 23 | | | | | | |
| 24 | | | | | | |
| 25 | | | | | | |
| 26 | | | | | | |
| 27 | | | | | | |
| 28 | | | | | | |
| 29 | | | | | | |
| 30 | | | | | | |
| 31 | | | | | | |
| 32 | | | | | | |
| 33 | | | | | | |




This information pertains to this boring location and may not be completely indicative to the entire site.

WINGERTER LABORATORIES INC.
Professional Engineering & Testing

# TEST BORING LOG

**BORING NO.: GE-2**

**CLIENT:** *Miami Dade County Public Works Department*
**PROJECT:** *Blast Monitoring Program* - Structure 15 - Palm Springs North
**LOCATION:** Northwesterly Corner of Residence
**DRILLER:** *J. Cooper*
**DRILL RIG:** *Portable*
**DEPTH TO WATER:** *5.5'*

**ELEVATION:** -
**DATE STARTED:** *4-4-00*
**DATE COMPLETED:** *4-4-00*

| DEPTH (feet) | SOIL SYMBOLS, AND BLOWS PER SIX INCHES | SOIL DESCRIPTION | STANDARD PENETRATION TEST | | | |
|---|---|---|---|---|---|---|
| | | | SAMPLE NO. | SAMPLING INTERVAL | N | N-value CURVE |
| 0 | 8 10 20 20 | Dark tan silica SAND with some fragmented limestone | 1 | 0.0-2.0 | 30 | |
| 3 | 20 25 45 67 | Light tan silica SAND with some fragmented limestone | 2 | 2.0-4.0 | 70 | |
| 5 | 62 64 83 76 | Tan silica SAND with some fragmented limestone | 3 | 4.0-6.0 | 147 | 147 |
| 7 | 35 35 25 20 | Gray silica SAND | 4 | 6.0-8.0 | 60 | |
| 8 | 9 7 7 8 | Light brown silica SAND | 5 | 8.0-10.0 | 14 | |
| 10 | 14 15 17 17 | Dark tan to light brown silica SAND and fragmented LIMESTONE | 6 | 10.0-12.0 | 32 | |
| 14 | 8 10 8 12 | | 7 | 13.0-15.0 | 18 | |
| 15 | | Boring terminated at 15.0' | | | | |

10 30 50 70 90

This information pertains to this boring location and may not be completely indicative to the entire site.

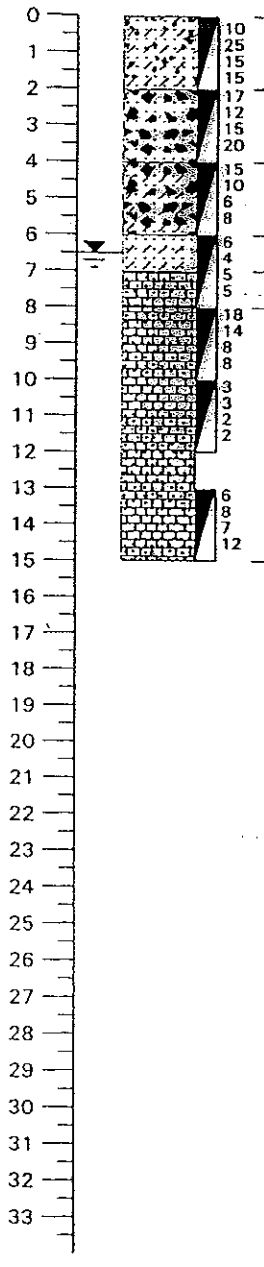
WINGERTER LABORATORIES INC.
Professional Engineering & Testing

# TEST BORING LOG

**BORING NO.: B-1**

**CLIENT:** *Miami Dade County Public Works Dept.*
**PROJECT:** *Blast Monitoring Program-Structure 42-Doral Landings*
**LOCATION:** *Southwest Corner of Townhome*
**DRILLER:** *J. Cooper*
**DRILL RIG:** *Portable*
**DEPTH TO WATER:** *6.5'*

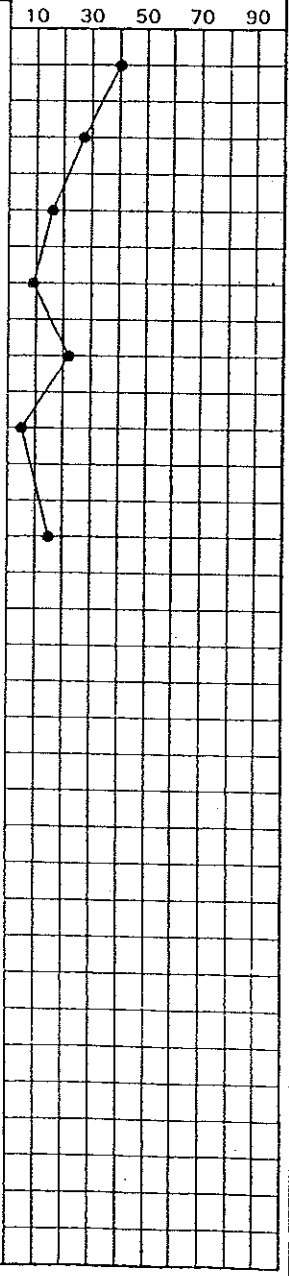
**ELEVATION:** -
**DATE STARTED:** *5-3-00*
**DATE COMPLETED:** *5-3-00*




| DEPTH (feet) | SOIL DESCRIPTION | SAMPLE NO. | SAMPLING INTERVAL | N |
|---|---|---|---|---|
| 0 | Gray to brown silica SAND with trace organic material (topsoil) with some fragmented limestone (fill) | 1 | 0.0-2.0 | 40 |
| 2 | Gray to dark tan LIMESAND and fragmented LIMESTONE (fill) | 2 | 2.0-4.0 | 27 |
| 4 | Gray LIMESAND and fragmented LIMESTONE (fill) with some organic material | 3 | 4.0-6.0 | 16 |
| 6 | Brown silica SAND with trace organics | 4 | 6.0-7.0 | 9 |
| 7 | Light brown LIMESTONE with some limesand | 5 | 7.0-8.0 | |
| 8 | Dark tan LIMESTONE with trace limesand | 6 | 8.0-10.0 | 22 |
| 10 | | 7 | 10.0-12.0 | 5 |
| 13 | | 8 | 13.0-15.0 | 15 |
| 15 | Boring terminated at 15.0' | | | |

STANDARD PENETRATION TEST

N-value CURVE




This information pertains to this boring location and may not be completely indicative to the entire site.

# HYDROGEOLOGIC INVESTIGATION OF THE EFFECTS OF BLASTING FOR ROCK MINING OPERATIONS IN MIAMI-DADE COUNTY, FLORIDA

PREPARED FOR
CORZO CASTELLA CARBALLO THOMPSON AND SALMAN, P A.
ENGINEERS ARCHITECTS AND PLANNERS
CORAL GABLES. FLORIDA

BY
PB WATER
(a division of)
PARSONS BRINCKERHOFF QUADE AND DOUGLAS, INC.
PLANNING ENGINEERING AND CONSTRUCTION MANAGEMENT
MIAMI. FLORIDA

FOR SUBMITTAL TO THE MIAMI-DADE COUNTY
BLASTING TASK FORCE

May 2000

**Parsons Brinckerhoff**
5775 Blue Lagoon Drive
Suite 360
Miami, FL 33126-2077
305-261-4785
Fax: 305-261-5735

May 10, 2000

Mr. LeRoy E. Thompson, Ph.D., P.E.
Corzo, Castella, Carballo, Thompson & Salman, PA.
901 Ponce de Leon Boulevard, Suite 900
Coral Gables, Florida 33134

Reference: **Hydrogeologic Investigation of the Effects of Blasting for Rock Mining Operations in Miami-Dade County, Florida**

Dear Dr. Thompson:

The hydrogeologic investigation referenced above has now been completed. The attached report describes our work and presents the data we used to arrive at our recommendations and conclusions. The work was conducted in accordance with the agreed to Scope of Work and we believe we have fulfilled all the requirements of our agreement. We trust that you will find the report complete and understandable. Should you have any questions or require additional input from us please let us know.

We will be available to assist you with the public presentation of the final report if you so desire it.

Sincerely,
For
**Parsons, Brinckerhoff, Quade & Douglas, Inc.**

William A. J. Pitt, P.E., P.H.
Senior Principal Engineer
P.E. Registration No. 12577
P.H. Certification No. AIH-545

# HYDROGEOLOGIC INVESTIGATION OF THE EFFECTS OF BLASTING FOR ROCK MINING OPERATIONS IN MIAMI-DADE COUNTY, FLORIDA

## TABLE OF CONTENTS


1. INTRODUCTION

2. PURPOSE AND SCOPE

3. ROCK QUARRYING
   - 3.1 Quarrying History
   - 3.2 Quarrying Methods

4. GEOLOGIC HISTORY AND SETTING
   - 4.1 Geologic Setting
   - 4.2 Miami Limestone Formation
   - 4.3 Hydrogeologic Framework
   - 4.4 The Groundwater System

5. PHYSIOGRAPHIC FEATURES AND SETTINGS
   - 5.1 Lake Belt Mining Area
   - 5.2 Soil Associations Mapping
   - 5.3 Urban Development Area (UDA)
   - 5.4 Mining Areas (Quarry Locations)

6. GEOLOGIC RESPONSES
   - 6.1 Transmission of Vibrations
     - 6.1.1 Wave Theory
     - 6.1.2 Particle Velocity
     - 6.1.3 Amplitude, Frequency, and Duration
   - 6.2 Effects of Stratification

7. CONCLUSIONS AND RECOMMENDATIONS
   - 7.1 Conclusions
   - 7.2 Recommendations

REFERENCES

APPENDICES

## LIST OF TABLES


| Table | Title | Page |
|---|---|---|
| 1-1 | Blasting Task Force Members and County Staff | 1- |
| 5-1 | Soil Descriptions and Soil Thickness Requiring Removal (De-mucking) | 5- |

## LIST OF FIGURES


| Figure | Title | Page |
|---|---|---|
| 3-1 | Active and Inactive Quarries Locations | 3- |
| 3-2 | Basic Blast Hole Arrays | 3- |
| 3-3 | Detonation of Explosives | 3- |
| 3-4 | Piles of Quarried Limestone | 3- |
| 4-1 | Idealized Geologic Cross Section | 4- |
| 4-2 | Oölitic and Bryozoan Facies of the Miami Limestone | 4- |
| 4-3 | Hydrogeologic Cross Section Showing Aquifers, Semiconfining, and Confining Units | 4- |
| 5-1 | Physiographic Features of Miami-Dade County Prior to Development | 5- |
| 5-2 | Soils Association Map (1958) | 5- |
| 5-3 | Early Development Limits Map Showing Area B | 5- |
| 5-4 | Land Use Development Map | 5- |
| 5-5 | Current Development Boundary Line | 5- |
| 5-6 | The Lake Belt Area | 5- |
| 5-7 | Current Limestone Mines and Corresponding 2-Mile Radius | 5- |
| 6-1 | Location of Geologic Cross Section | 6- |
| 6-2 | Geologic Cross Section Across Study Site | 6- |

# HYDROGEOLOGIC INVESTIGATION OF THE EFFECTS OF BLASTING FOR ROCK MINING OPERATIONS IN MIAMI-DADE COUNTY, FLORIDA

## 1.0 INTRODUCTION

Mining activities for the extraction of limestone in Miami-Dade County often use explosives as part of the mining process. This practice has resulted in complaints from nearby residents and from others who feel negatively affected by the explosions. In response, the Miami-Dade County Commission has formed a twenty-one member "Blasting Task Force", with Commissioner Dr. Miriam Alonso as Chairperson, to study the problem and suggest solutions (see Table 1-1). Assisting this task force, is a team of consultants selected for their individual expertise in the issues of concern to the task force .

The consulting team is lead by the prime consultant, Corzo, Castella, Carballo, Thompson and Salman (C3TS), a consulting engineering and architectural firm specializing in structural engineering and construction practices. Assisting the prime consultant are three other firms: Parsons Brinckerhoff Quade and Douglas, Inc. (PB Water), a full service national firm with expertise in hydrogeologic investigations. D.E. Siskind & Associates, Ltd. (DESA), a firm specializing in blasting, seismology and acoustics, and Dunkelberger Engineering and Testing, Inc. (DE&T) specialists in geotechnical engineering.

Table 1-1 Blasting Task Force Members and County Staff

| | | |
|---|---|---|
| Alonso, Miriam | Chairperson | Miami-Dade County Commissioner, District 12 |
| Alonso, Fernando | Member | District 9 |
| Alonso, Roberto | Member | Royal Oaks, District 12 |
| Behar, Robert | Member | |
| Benyon, Scott | Member | CSR Rinker Materials |
| Bosch, Alina | Member | Royal Oaks |
| Boucle, Julio | Member | Shoma Homes, District 12 |
| Capp, Peter Lawrence | Member | Miami Crushed Rock |
| Crabtree, Walter | Member | Florida Rock Industries |
| Curbelo, Robert | Member | Community Council Area 11 |
| Goldstein, Lester | Member | Bilzin Sumberg Dunn Price &Axelrod |
| Hale, L. Stevens | Member | White Rock Quarries |
| Hoyer, John | Member | Tarmac |
| Jones, Jesse A. | Member | Doral |
| McKay, Rose A. | Member | Marbella Park West, District 12 |
| Ortiz, Braulio | Member | Royal Oaks, District 12 |
| Pereira, Maria A. | Member | Royal Oaks |
| Rinehart, Wayne | Member | Country Club Council Area 5 |

| | | |
|---|---|---|
| Rivera, Aristides | Member | Public Works Department |
| Slayton, C. Wayne | Member | Miami Lakes Council Area 6 |
| Donovan, White | Member | Esplanade. District 12 |
| | | |
| Goldstein, Tom | County Staff | County Attorney's Office |
| Hernandez, Pete | County Staff | County Manager's Office |
| Moreno, Antonio B. | County Staff | Public Works Department |

## 2.0 PURPOSE and SCOPE

The purpose of the investigation as outlined in the scope of work of the consulting team is to investigate the problem, determine the effects of blasting on existing property and on the environment, monitor and document the effects, and ultimately determine if existing blasting regulations should be amended.

For PB Water, as hydrogeologic sub-consultant to the team, the most important element of its assignment is the investigation of hydrogeologic conditions beneath the area of study (Appendix A). Geologically, the investigation includes the evaluation of the geologic strata at and near the blast sites. That evaluation is important because blasting vibrations are transmitted at varying velocities and intensities through different geologic formations. The shock waves travel faster in hard consolidated rock formations, but the vibrations are greater in loosely consolidated or unconsolidated materials. Hydrologically, the investigation examines the physical characteristics of the formations, such as porosity and permeability (hydraulic conductivity), and the ground water levels in the aquifer. The hydrologic examination is important because both the hydrologic characteristics and the water levels in the aquifer contribute to variations in the blasting effects. A water saturated geologic formation facilitates the transmission of shock waves.

Above all, the effects of blasting depend on the intensity of the blast, and that in turn depends on the quantity and type of explosives, the time delays between detonations, the layout of the charges, etc. Those issues are beyond the scope of the hydrogeologic investigation but are discussed in the report of the other consultants. However, understanding these issues is still important to the hydrologic investigations because of the effects that can be brought upon the aquifer system. Water supply wells tapping geologic formations in areas subject to blasting vibrations may be affected by the explosions.

In addition, the type, thickness and physical conditions of the soils in and near the study area, and in particular near and beneath nearby structures is part of the scope of work of this investigation. It is important to study the soils just as much as the geologic stratification in the blast area and in the areas affected by the blast vibrations because the soils are also affected by the blasting. Structures built above soils subject to excessive vibration may suffer structural damage. Consequently, PB Water's assignment includes an evaluation of the effects of blasting on the soils in the area and the formations below.

# 3. 0 ROCK QUARRYING

## 3.1 Quarrying History

In the 1920's the first large scale mining of limestone began, and by the middle of the decade three limestone mining companies were active in Dade County producing approximately 500,000 tons of limestone in 1925 (FSGS, 1927). With the advent of widespread use of reinforced concrete construction and the rapidly expanding system of streets and highways in Dade County in the 1940's, the hard rock mining industry grew rapidly and became a major industry in the county. By 1950 ten hard rock mining establishments were operating in Dade County (FSGS, 1955), by 1960 there were thirty (Edgerton, 1974). A period of consolidation of the number of rock mining companies began at that time, but the demand for crushed limestone continued to increase. By 1973 there were 19 quarries producing 23 million tons, and by 1985 (less than sixty years from the start of mining) the yearly output had reached 35 million tons. It is estimated that output will be around 90 million tons in 2000.

The mining procedures have changed through the years and refinements to improve the efficiency of the operations are always being pursued; however, the basic mining method has not changed much since the 1960's. A description of the mining method used in Miami-Dade County is presented below.

## 3.2 Quarrying Methods

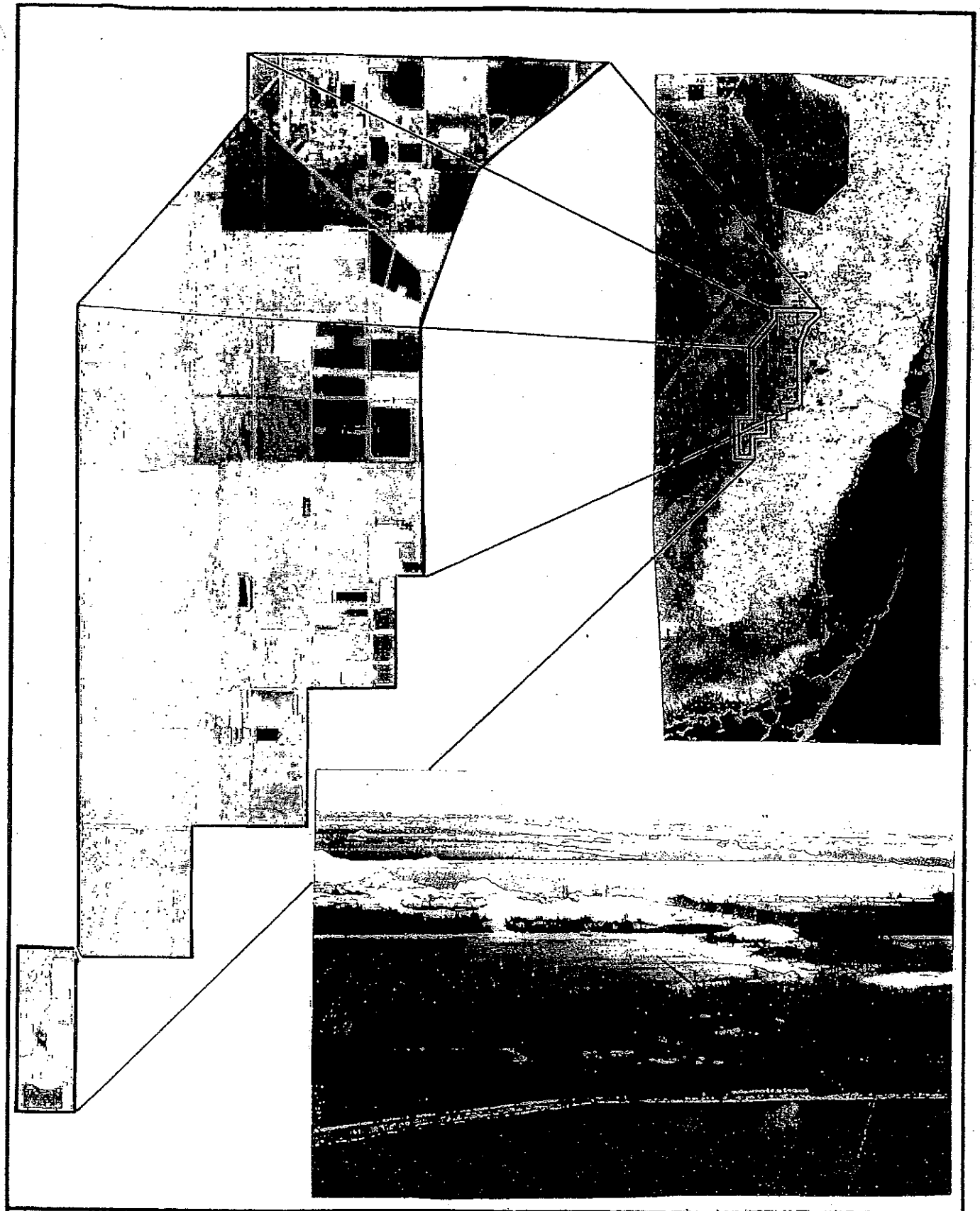
The soils, generally consisting of Everglades peat (muck) must first be removed. This overburden is scraped off by bulldozing and removed from the quarry site. It is sometimes piled and compacted around the perimeter of the quarry, other times it is removed from the site. The water table in the mining areas is close to land surface, and it is not unusual to reach it even before all the overburden is removed.

After removal of the overburden quarrying operations begin. The first few feet of material may be dredged without the need of blasting, but it is not practical to dredge to any significant depth without first blasting and loosening the limestone.

Because of the high water table, all blasting is done under water; and this is a very significant condition of southeast Florida quarrying because water readily transmits the blasting shock waves to the surrounding areas near the quarry. On the other hand, this underwater blasting muffles the noise and suppresses dust while the limestone is wet.

The mining process creates a lake as the limestone is removed, and the lake increases in size as its borders are mined. Water in the lake becomes very turbid during mining operations and the suspended particles of limestone give the water a milky white appearance. It is possible to determine that mining operations are underway in a quarry from the light blue color of the water. Inactive quarries are a dark blue color. (See Figure 3-1).

Arrays of holes are bored with a drilling rig into the limestone to the depth desired for the insertion of explosives (some quarries are blasting in holes as much as 90 feet deep). The arrays are patterned in rectangular or staggered fashion along the edge of the quarry with the holes drilled at pre-selected distances from each other. (See Figure 3-2).



PB PARSONS BRINCKERHOFF
100 YEARS

FIGURE 3-1
Active and Inactive Quarries Locations

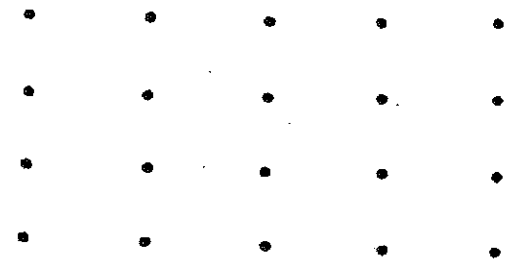
**Blasting Patterns**

**Hole Arrays**

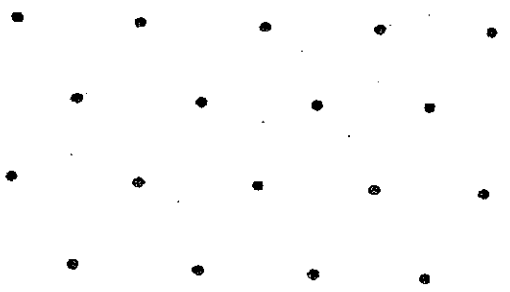
Hole array is the arrangement of blast holes both in plan and section. The basic blast hole arrays in plan are single-row, square, rectangular, and staggered arrays. Irregular arrays have also been used to take in irregular areas at the edge of a rectangular array. The term "spacing" denotes the lateral distance on centers between holes in a row. The "burden" is the distance from a single row to the face of the excavation, or between rows in the usual case where rows are fired in sequence.

Blast hole arrays in profile have characteristic hole depths and inclination. Deep and shallow holes are sometimes alternated to achieve particular results.

USA COE
Manual 1110-2-3800



RECTANGULAR PATTERN



STAGGERED PATTERN

SINGLE ROW

PARSONS BRINCKERHOFF

100 YEARS

FIGURE 3-2
Basic Blast Hole Arrays

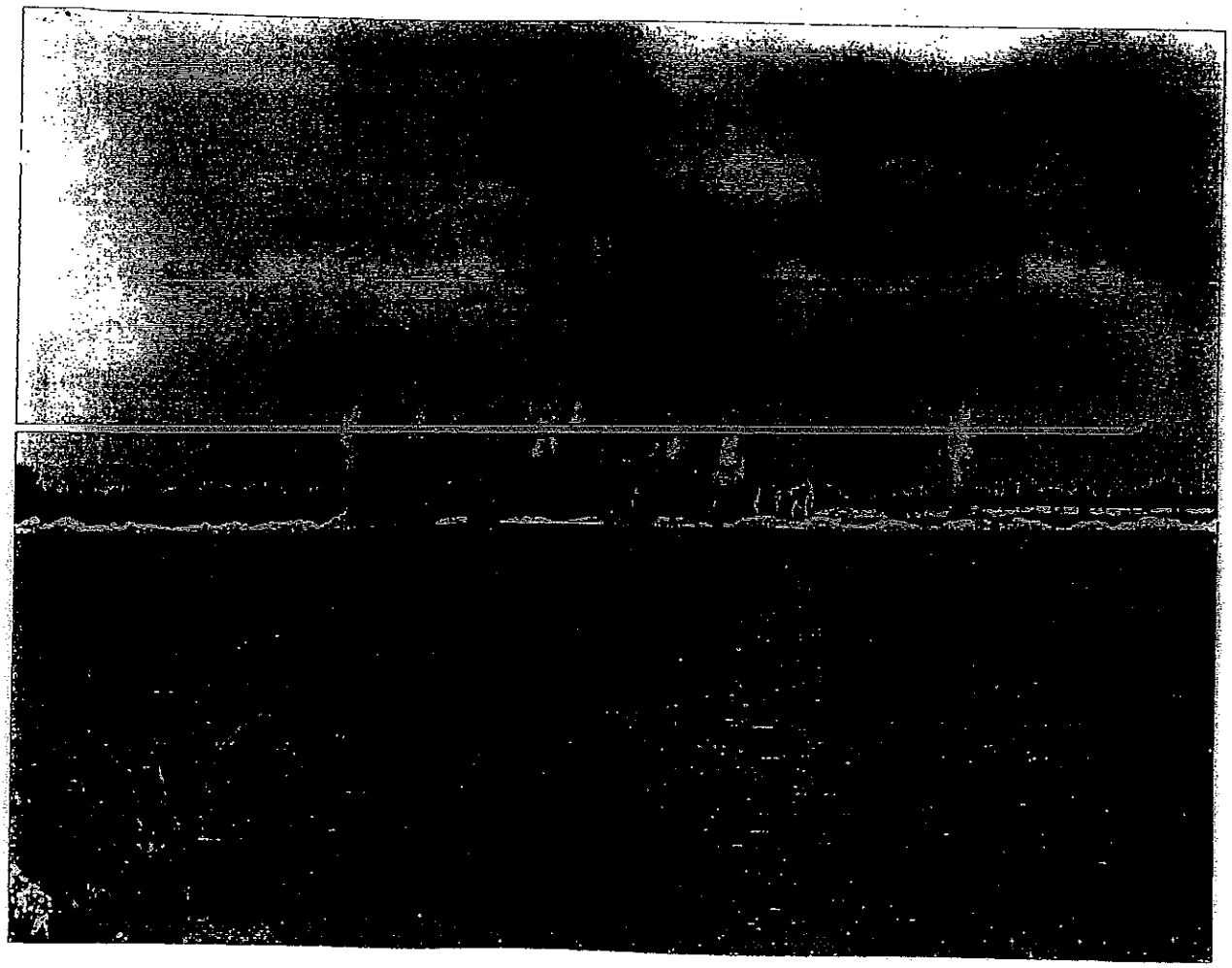
Variations of a specialized technique for loading the explosives called "kelly bar loading" is used. The technique involves the use of a hollow tube that follows the drill bit into the hole. When the drill bit reaches the desired bottom for that hole, the drill bit is withdrawn but the kelly bar is left in place. The explosive cartridges are then inserted in the hole through the kelly bar and the kelly bar is then withdrawn. Then the explosives are detonated. (See Figure 3-3). The explosives used have changed through the years. Dynamite was used in the early days, but now other gelatinized explosives or blasting agents are used. Popular ones are Iregel 1160, Dyno SMS 1116, and QSO 11. Other blasting agents are available for special purposes. Explosive solutions vary in charge density per length of hole, diameter, velocity of detonation, fume characteristics, etc. Blast holes normally range from 3 to 6 inches in diameter and the explosive agent is usually packaged in cardboard tubes that can be coupled into a continuous column as they are placed in the holes. A typical hole may contain more than 1,000 pounds of explosives or as little as 200 pounds or less.

A blasting round (a blast) will include many blast holes. As few as one or as many as two hundred or more holes make up a blasting round (blast). Since each hole can have more than a thousand pounds of explosives and since there can be more than 200 blast holes, a very large amount of explosives may be detonated in one round. Rounds with more than 200,000 pounds of explosive are rare in Miami-Dade County, the majority are less than 100,000 pounds.

The blast holes are drilled in a pattern at preset distances along lines paralleling the edge of the wall of the excavation (lake). Several parallel lines of boreholes at various distances from the edge of the lake are included in a blasting round. Normally the holes are staggered in each line to improve fragmentation of the rock. Time delays are used to sequence the detonations and the timing and this limits the amount of explosives detonated at any exact time. Delays of 20, 25, 42, 67, or 500 milliseconds are normally used. Varying the direction of throw (area where the blasted limestone is deposited) can be done by regulating the time of the delays and the location of the blast holes.

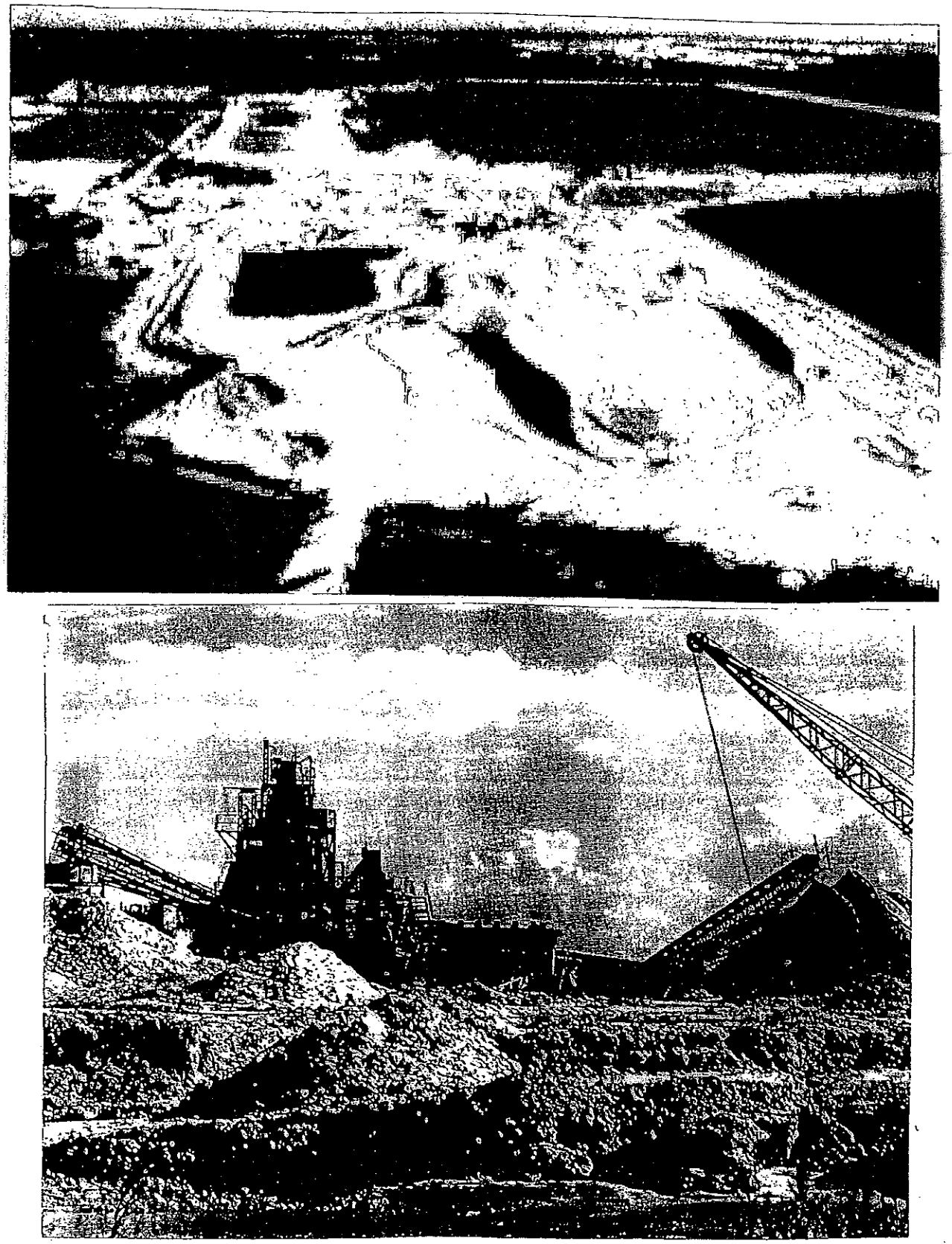
Appendix B is a typical Daily Blasting Report submitted as part of the Miami-Dade County permit requirements. The report shows a typical layout of blast holes at the edge of a lake and the staggering normally used. The arrows indicate the direction of the delays and the numbers refer to the delay time in milliseconds. After blasting, draglines are used to remove the loosened fragmented pieces of limestone. It is important to direct the fragmentation to fall where the dragline will be able to excavate it. Because the water is turbid, the dragline operator does not see where the material is and can only dredge up in the area where the fragmentation was supposed to have occurred.

Large draglines with bucket capacities of more than 25 cubic yards are normally used. The draglines deposit the wet material in piles adjacent to the quarry where the limestone is allowed to dry. (See Figure 3-4). Eventually the limestone is transported from the surge pile (after it is partially dry) to the crushing plant. Trucks, railroads, and/or belt conveyors are used for this purpose. At the crushing plant the limestone goes to primary and secondary crushers for reduction and final sizing depending on the proposed use of the crushed stone.



PB PARSONS BRINCKERHOFF
100 YEARS

FIGURE 3-3
**Detonation of Explosives**



PARSONS BRINCKERHOFF

100 YEARS

FIGURE 3-4
Piles of Quarried Limestone

# 4.0 GEOLOGIC HISTORY AND SETTING

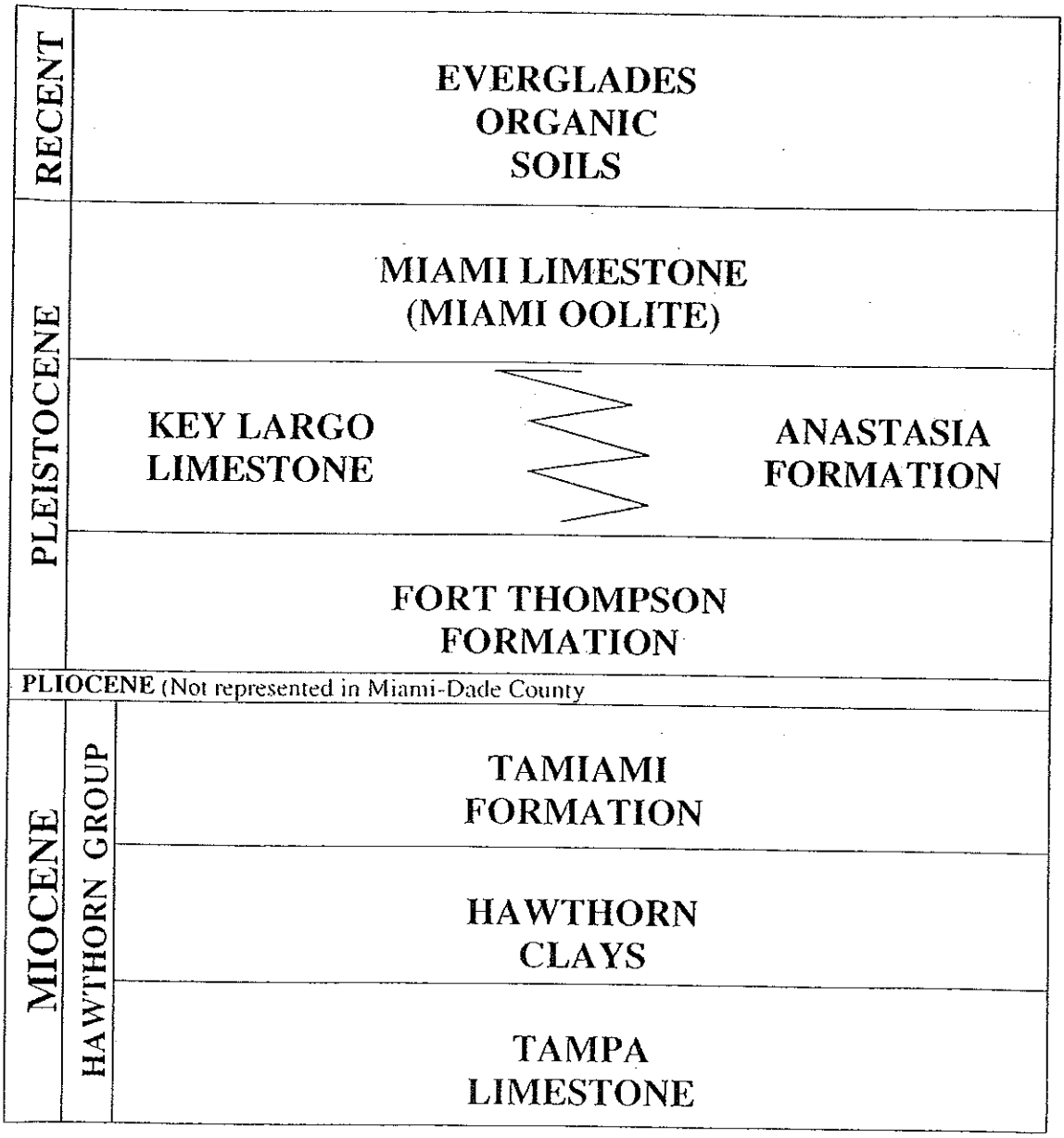
## 4.1 Geologic Setting

The geologic formations that are being mined in southeast Florida are among the youngest geologic formations of the United States (See Figure 4-1). The Tamiami Formation, a member of the Hawthorn Group of Formations deposited some 6 million years ago during the Miocene Age, is the lowest unit (the oldest unit) from which limestone is being mined. In Miami-Dade County a few thin limestone sections are found within the Hawthorn below the Tamiami, but the Hawthorn is typically represented by a clay interval and offers no value to rock mining. The other limestone deposits occurring below the clay interval of the Hawthorn Group, are too deep to be mined economically. Above the Tamiami Formation lie the Fort Thompson, Key Largo, Anastasia, and Miami Oolite formations. These formations are in part contemporaneous to each other, and were deposited intermittently during the Pleistocene Age (Ice Age). Although the Pleistocene started 2 million years ago and continued until the Recent Pleistocene (Holocene) starting some 11,000 years ago, it was probably not before at least 100,000 years or so ago that these formations were deposited. It was not until that time 100,000 +/- 20,000 years ago that sea level dropped to about 25 feet above today's level to allow the deposition and accumulation of materials in what is now southeast Florida. Changes in sea level caused by the ice ages and other environmental fluctuations caused by changing currents, depths of deposition, movement of land masses and rate of sediment transport, temperature, etc. contributed to the alternating and inter-fingering of these formations at different times and in different areas of southeast Florida.

## 4.2 Miami Limestone Formation

The name Miami Oolite Formation is a nomenclature applied by the U.S. Geological Survey, but some agencies of the state of Florida such as the Florida Geological Survey for example, refer to this formation as the Miami Limestone Formation. Most laypersons simply refer to it as Miami limerock, and a few refer to it as coral rock, although there are hardly any corals in this rock. The Miami Limestone nomenclature further subdivides the formation into two components of facies: a Oolitic Facies and a Bryozoan Facies. The Oolitic Facies overlies the Bryozoan Facies in the Atlantic Coastal Ridge, from the coast up to 5 miles west of the ridge. The Bryozoan Facies covers the whole county except the extreme southern edge next to Florida Bay. A map of the areas covered by each facies is shown in Figure 4-2.

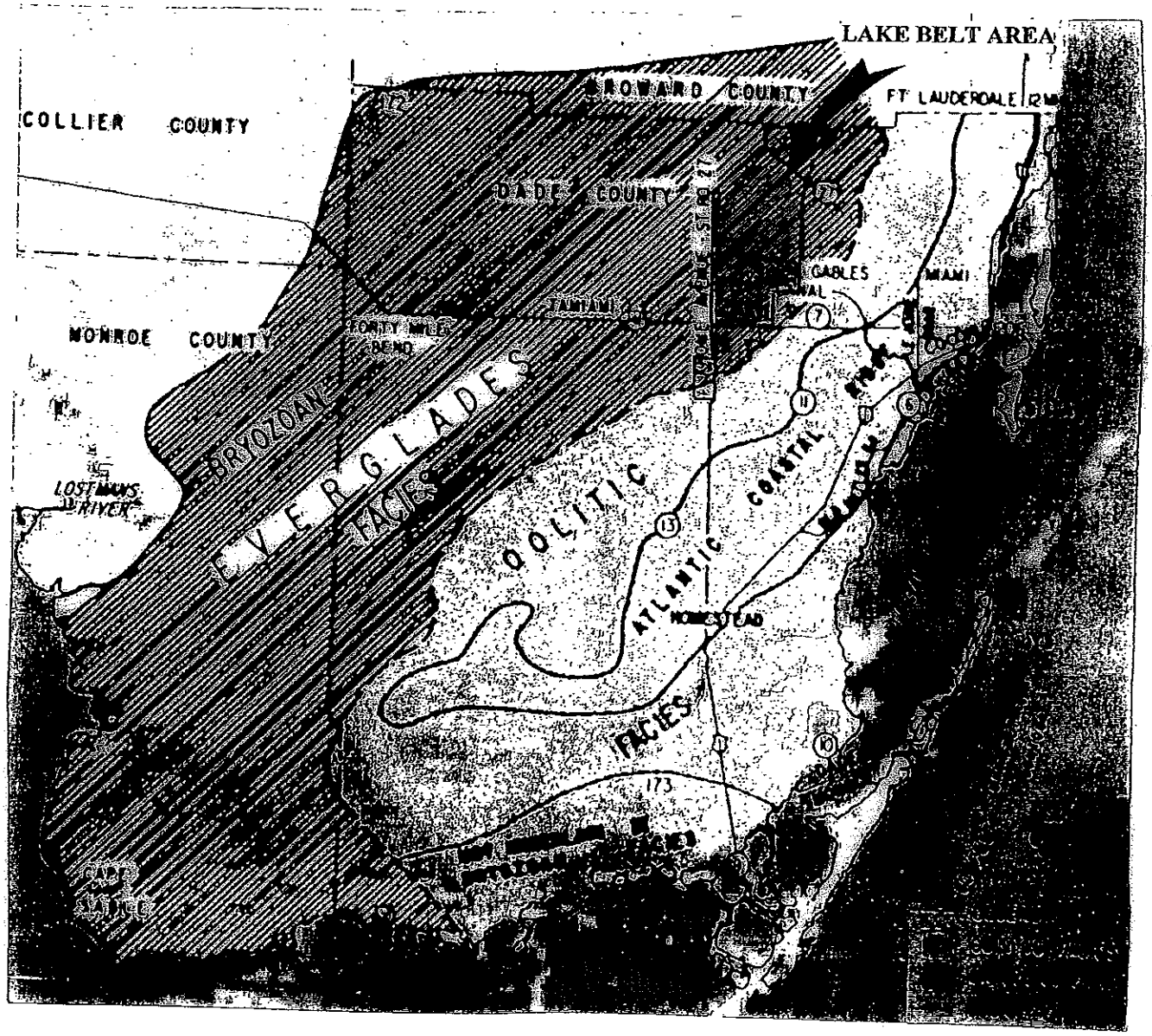
Whatever its nomenclature, this rock was the mainstay of the rock mining industry in southeast Florida for many years and since most quarries were located in the eastern part of Miami-Dade County, it was primarily the oolite facies of that formation that was being mined. However, demographic changes brought about by rapid urban growth in the western parts of the county also affected rock mining, pushing operations to the west. Most of the limestone quarries are now located in the western parts of the county, and in those areas, the oolitic phase thins out and is replaced by the bryozoan phase (See Figure 4-2). At the new mining areas, the lakes being dug are yielding rock minerals from other formations besides the Miami Limestone. In the areas now being mined the Oolite Facies is not present, and the remaining Bryozoan Facies is not very thick. It is




PARSONS BRINCKERHOFF

100 YEARS

FIGURE 4-1
Idealized Geologic Cross Section




PARSONS BRINCKERHOFF

100 YEARS

FIGURE 4-2
**Oolitic and Bryozoan Facies of the Miami Limestone**

therefore necessary for the economic development of the mines to mine deeper, into other formations. Those deeper formations include primarily the Fort Thompson Limestone and the Key Largo Limestone or the Anastasia Limestone where present. In a few areas, the lake bottoms may even reach into the Tamiami Limestone when the lakes are located in places where the top of this formation raises above the 80 foot depth of the lakes.

### 4.3 Hydrogeologic Framework

The geologic units or formations described above, are of varying degrees of hardness, consolidation, thickness, extent, hydraulic conductivity, etc. The units, extending from land surface to depths of more than 150 feet below land surface near the coast, form an unconfined aquifer system (or surficial aquifer system) that in western Miami-Dade County includes two aquifers: The Biscayne aquifer, named by Parker in 1951, and below it, a less known and also less permeable aquifer consisting of a series of water bearing strata collectively named the Gray Limestone aquifer by Fish in 1988 (See Figure 4-3). The Biscayne aquifer supplies most of the potable water used in southeast Florida. The Gray Limestone aquifer is not currently being tapped for public water supplies.

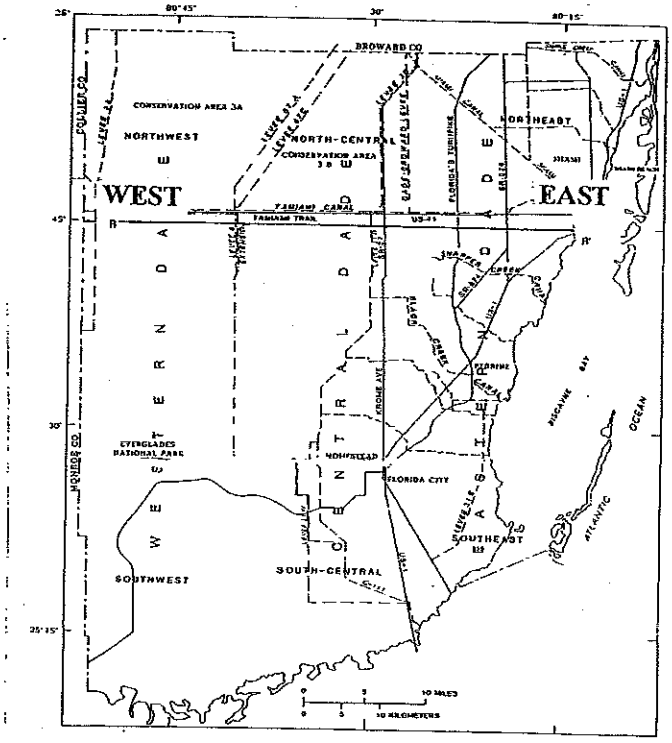
A third aquifer system exists under southeast Florida. This third system is the Floridan aquifer system. It consists of several zones, known as the Upper, Middle, and Lower Floridan, and a largely cavernous zone known as the Boulder Zone. This aquifer system is basically a salt water system in southeast Florida and as such is only a very minor provider of public water supplies. Because of that , and because of its location at depths exceeding 400 feet below land surface it is not included in this investigation.

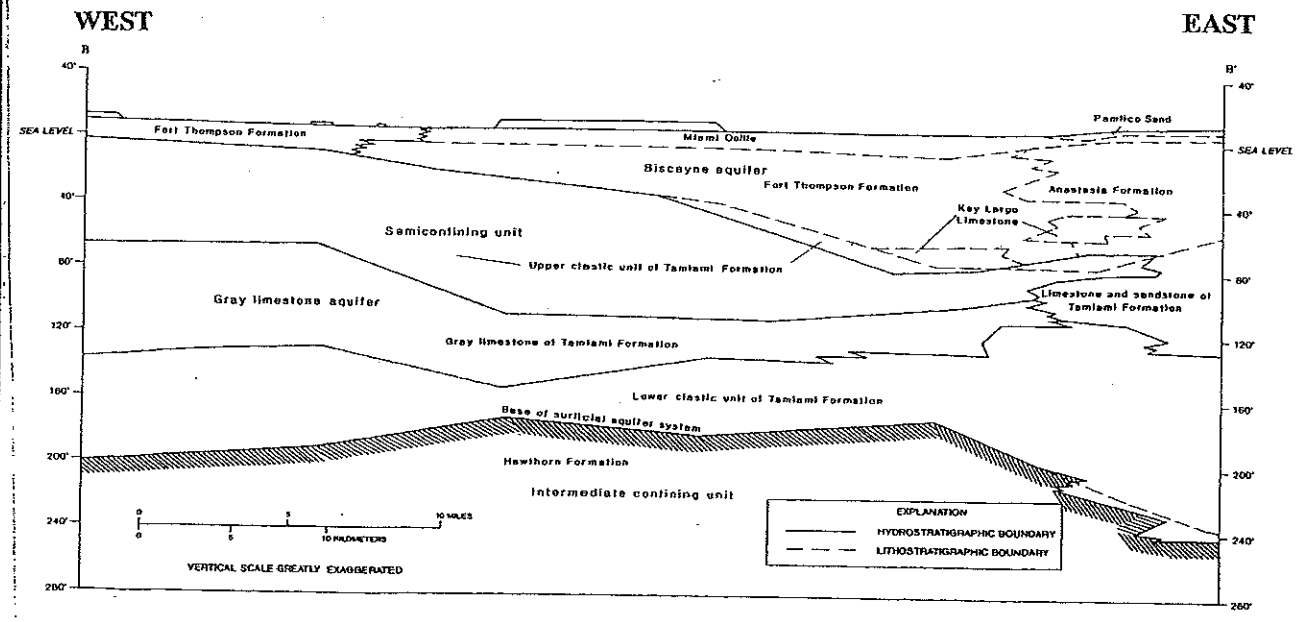
### 4.4 The Groundwater System

The Biscayne Aquifer is the sole source of drinking water in southeast Florida. It underlies all of Miami-Dade County, and most of Broward County, and parts of Monroe and Palm Beach County.

The aquifer is wedge shaped, with the thickest part of he wedge along the coast and the thinnest part toward the west. Near the coast it reaches nearly 200 feet in depth in central-easternmost Broward County and north-easternmost Miami-Dade County It thins out to a feather edge in the western part of Miami-Dade and Broward counties. In the area of the study (the Lake Belt area) and adjacent areas to the east it ranges from approximately 90 to 110 feet deep.

The aquifer is highly permeable and is one of the most water transmissive aquifers in the world. Its transmissivity in Miami-Dade County ranges from 3,500,000 gallons per day per foot in the northern part of the county to 15,000,000 gallons per day per foot in the southern parts of the county (Pitt, 1975). The higher transmissivity in the south is due to large holes in the solution riddled limestone. In the north many of the solution holes in the rock are filled with sand and calcified deposits. The lower part of the Biscayne Aquifer is composed of cavernous limestone of overall high permeability west of the coastal ridge, and limestone, sandstone and sand of lower permeability along the coastal areas. Municipal and irrigation wells penetrating the lower parts of the aquifer yield 7,000 gallons per minute and more. Most wells used for lawn sprinkling withdraw water from the shallow parts of the aquifer.




PARSONS BRINCKERHOFF

100 YEARS

FIGURE 4-3
Hydrogeologic Cross Section Showing Aquifers

Recharge to the aquifer occurs throughout the county during the rainy season and adjacent to canals during the dry season (Pitt, 1974). Water levels are usually highest during September and October and lowest during April and May. At the study site, the average yearly high groundwater level reaches an elevation of 7.5 feet above mean sea level (MSL) while the average yearly lowest groundwater level reaches only 4.5 feet MSL (Pitt, 1975). Groundwater flow is towards the east northeast in the northern part of the study area and changes gradually towards the east in the center of the study area, ending in as southeasterly flow in the southern end of the study area.

## 5.0 PHYSIOGRAPHIC FEATURES AND SETTINGS

### 5.1 Lake Belt Mining Areas

Prior to development, the area of study can be identified as being wholly within the Everglades physiographic province. Figure 5-1 (modified from Parker and others, 1955, plate 12), shows the physiographic features of Miami-Dade County, prior to development. The location of the study area, including the Lake Belt mining areas and the adjacent land within two miles of existing or proposed mining lakes, lies wholly within the Everglades.

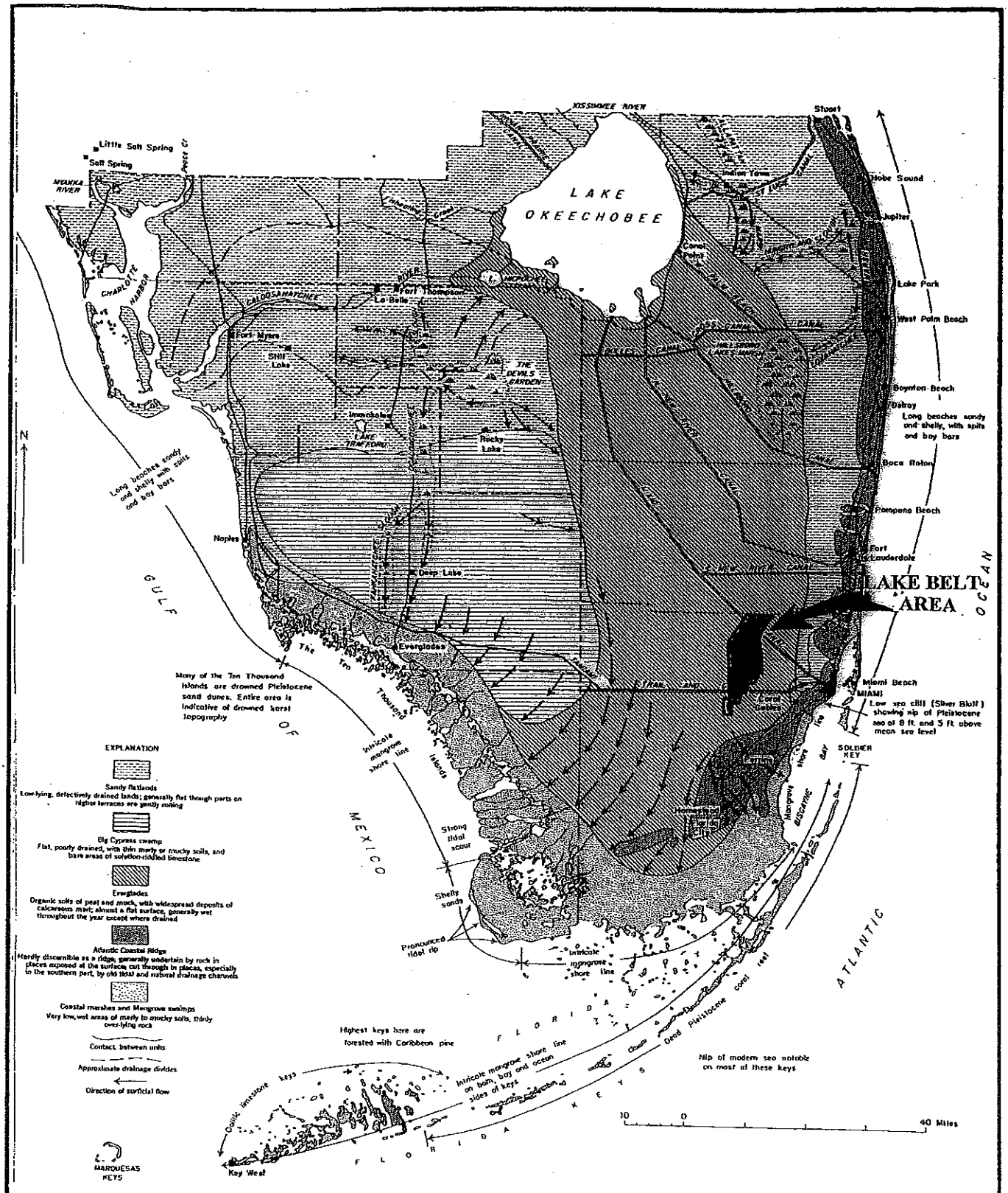
### 5.2 Soil Associations Mapping

The Dade County soil survey of 1958 provided the first detailed county-wide soils association map. Since then, the initial survey has been updated with information gathered in 1986 and 1987, and a new soils association map was published in 1996. The new survey describes the soils to a greater depth than the 1958 survey, and shows new names being used for various soils. However, the old survey is still a more accurate representation of the soils as they were in 1958. After the population explosion of the last four decades many of the original soils have been modified by drainage and land development. Although some of the original soil boundaries have been readjusted in the new soil maps, most are essentially the same as those in the original 1958 survey. For those reasons this investigation relies on the 1958 survey maps for the identification of soils within the Lake Belt mining area and the areas adjacent within two miles.

Using information on the soil types present before any portion of the study area was developed, the location of homes and other buildings can now be projected on the old soil maps, and the type of soil upon which homes and buildings have been constructed can be determined. There are of course county building and zoning regulations that address the kind of soils upon which a house or building can be built, and the ground-work that must be done to insure adequate foundations. For example, there are regulations requiring removal of organic soils and installation of clean fill to raise the land to the elevation required to prevent flooding. Similarly, insurance flood criteria regulations require that a certain elevation (or thickness of fill) be reached.

Figure 5-2 shows parts of the 1958 soils association map at a reduced scale, and on it the Lake Belt mining area has been superimposed. The map indicates the study site as well as all the surrounding areas are included in the soils identified variously as peat soils under one locality name or another.

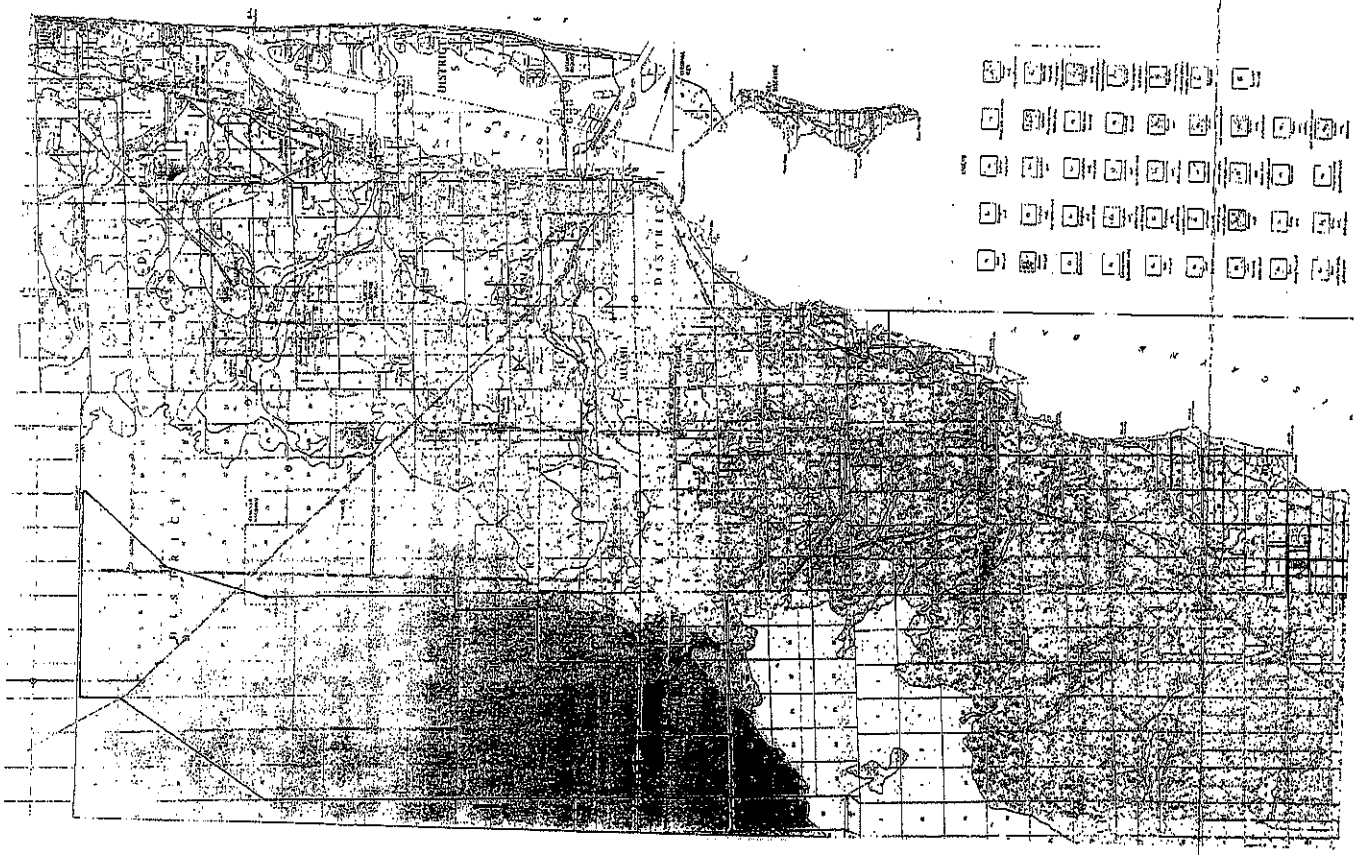
The peat is locally referred to as muck, and the muck soils are associated with the Everglades. These soils are the result of the organic decomposition of sawgrass and other wetland vegetation through the years. In some places these soils can be quite thick (as much as 40 inches). The main difference between the various designations of peat (Table 5-1) is the presence of limestone or sand, and sometimes the presence of even more peat and marl as basement material underneath the peat. Regardless of basement material, all these organic soils must be removed (de-mucked) prior to setting any footing or foundation for any building. In addition, after de-mucking, the soils must




PARSONS BRINCKERHOFF

100 YEARS

FIGURE 5-1
Physiographic Features of Miami-Dade County Prior to Development



PB PARSONS BRINCKERHOFF

Soils Association Map (1958)

FIGURE 5-2

be replaced with clean fill material and the level of the land brought to flood elevation criteria after compaction of the clean fill.

**Table 5-1 Soil Descriptions and Soil Thickness Requiring Removal (De-mucking)**

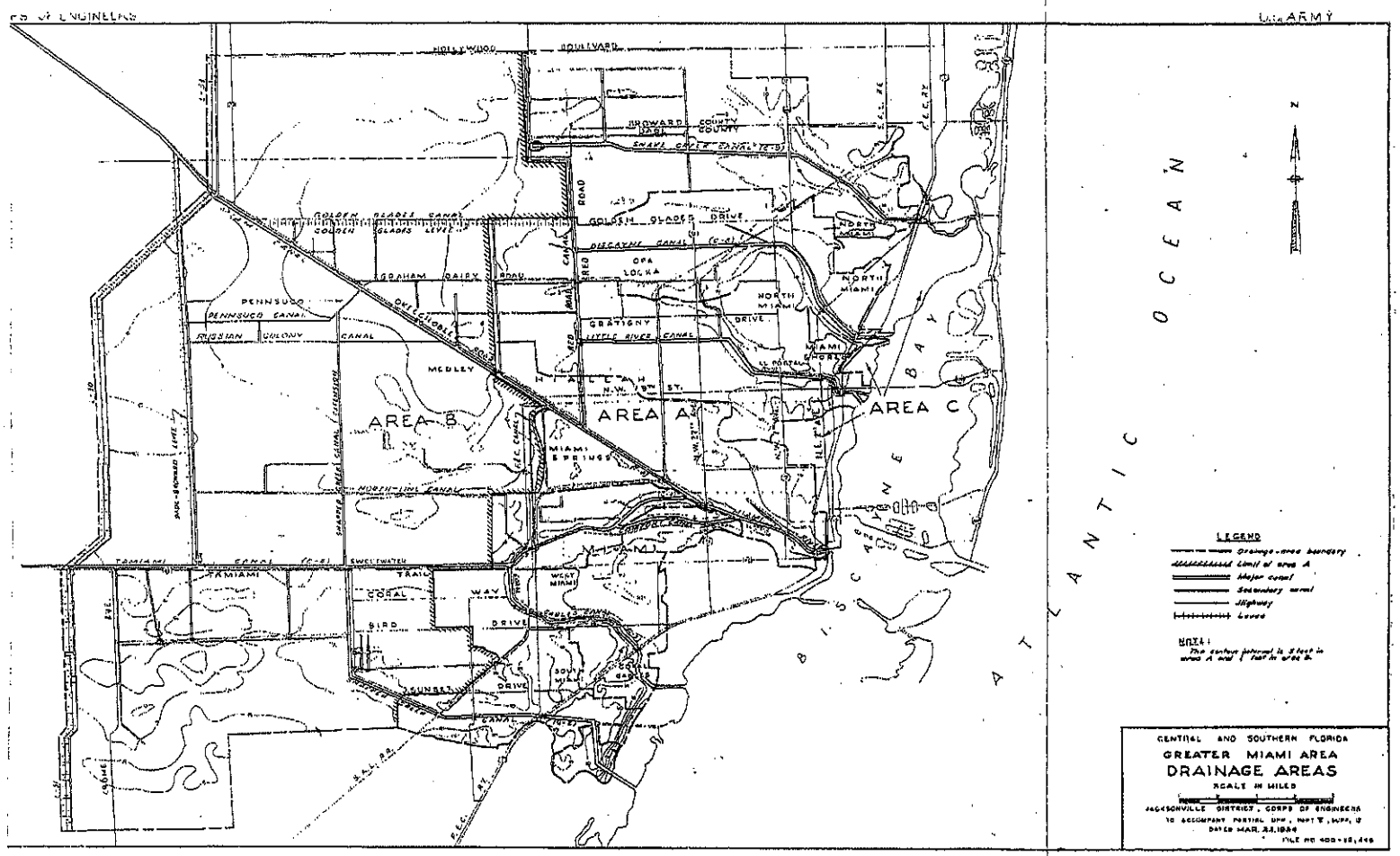
| | | |
|---|---|---|
| **Everglades peat** | **Ea** | From 0" to 12" black fine nonfibrous peat, from 12" to 40" grayish brown fibrous peat over limestone. |
| **Everglades peat, shallow phase** | **Ec** | From 0" to 12", black nonfibrous peat and grayish to brown fibrous peat. Limestone below. |
| **Everglades peat, shallow phase over deep sand** | **Ed** | Peat mantle up to 36" thick overlying a layer of sand 24" to 48" thick. Limestone below the sand. |
| **Everglades peat, shallow phase over shallow marl** | **Ee** | Peat mantle up to 36" thick over up to 24" of marl. Then limestone. |
| **Everglades peat, shallow phase over shallow sand** | **Ef** | Peat mantle up to 36" thick over 6" to 24" of sand over limestone. |
| **Loxahatchee peat** | **La** | From 0" to 10"gray to dark brown peat over 10" to 48" of redish brown fibrous peat. Then limestone |
| **Loxahatchee peat, deep phase** | **Lb** | Same as La but 60" to 96" thick. The spongy, fibrous soil of the Everglades. Over limestone. |
| **Loxahatchee peat, shallow phase over shallow marl** | **Le** | Up to 30" of fibrous peat over 6" to 24" of marl over limestone. |

Failure to remove all the muck will leave a layer of fibrous organic material that slowly decomposes by oxidation; with a resulting compaction and sinking of the land surface; followed by differential settling of structures built above the muck. This differential settling can be a contributory element to foundation failures, wall cracks, and other building deficiencies.

## 5.3 Urban Development Area (UDA)

The Urban Development Area (UDA) of Miami-Dade County is the area enclosed by a limiting boundary line set by local ordinance for the control of urban growth. The boundary line was originally considered to be that beyond which the county would not provide municipal services (fire, emergency, police, etc.) at the level provided within the boundary. Initially, in the early 1950's, although no legal boundary was identified, urban development was predicted to the edge of Levee 30 and Levee 31 Canals. That was the de facto boundary observed at that time. That boundary was the flow-divide line separating the developed portions of the county to the east from a flood prone area to the west known as Area B (See Figure 5.3).

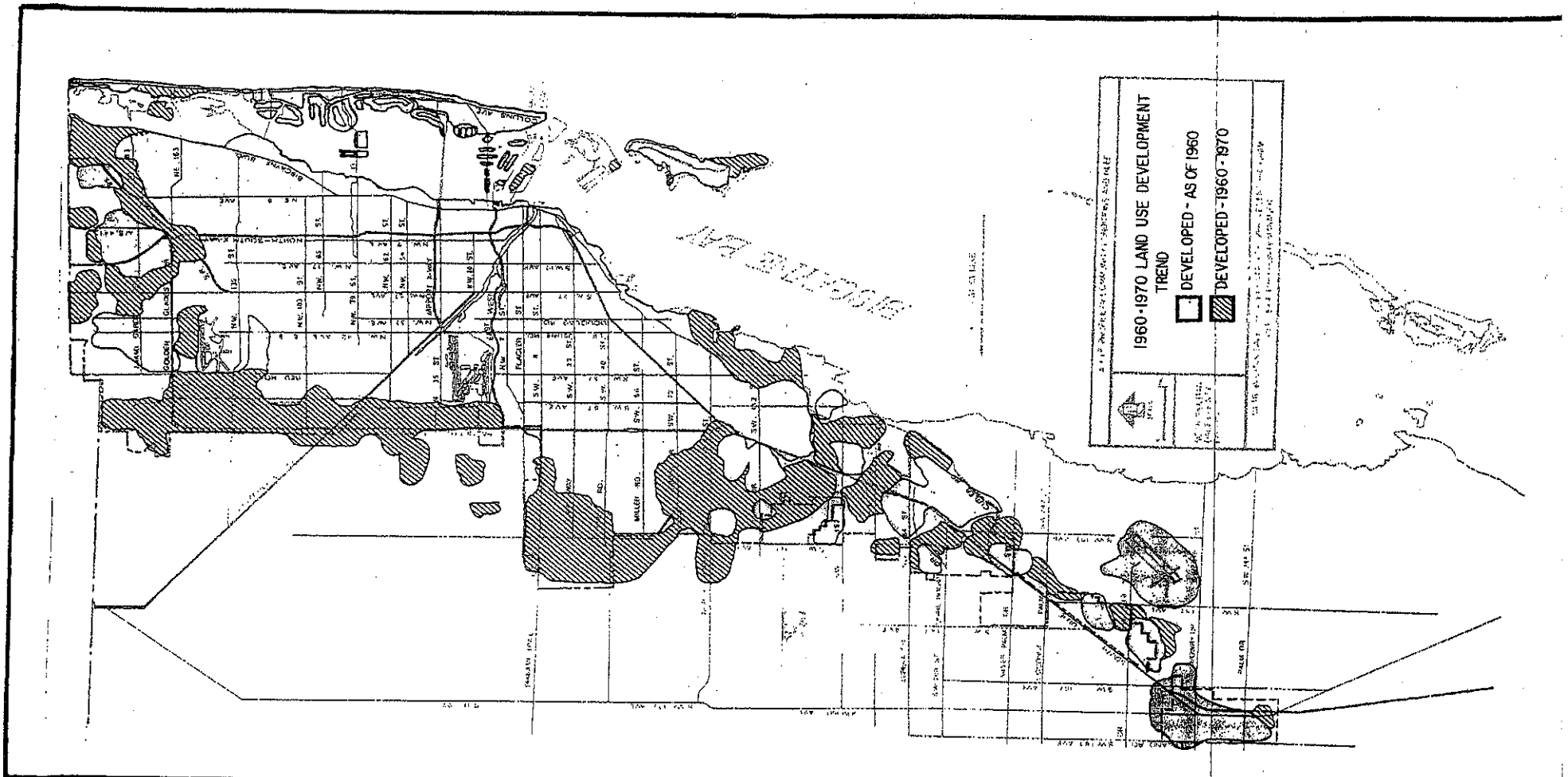
Control of the fast growth that began in the late 1950's and early 1960's, required a legally delineated boundary, and a theoretical line was then described by ordinance. The location of that line changed as the community grew and pressures were exerted for its relocation. By the 1960's the population was pushing at the boundary, and by 1970 the boundary was being crossed (See Figure 5-4). Today, a new boundary is in-place (See Figure 5-5). It follows almost perfectly the outline of the Lake Belt Area (See Figure 5-6), except for some areas that were deleted from the Lake Belt Area in 1999. Two other




PARSONS BRINCKERHOFF

Early Development Limits Map Showing Area B

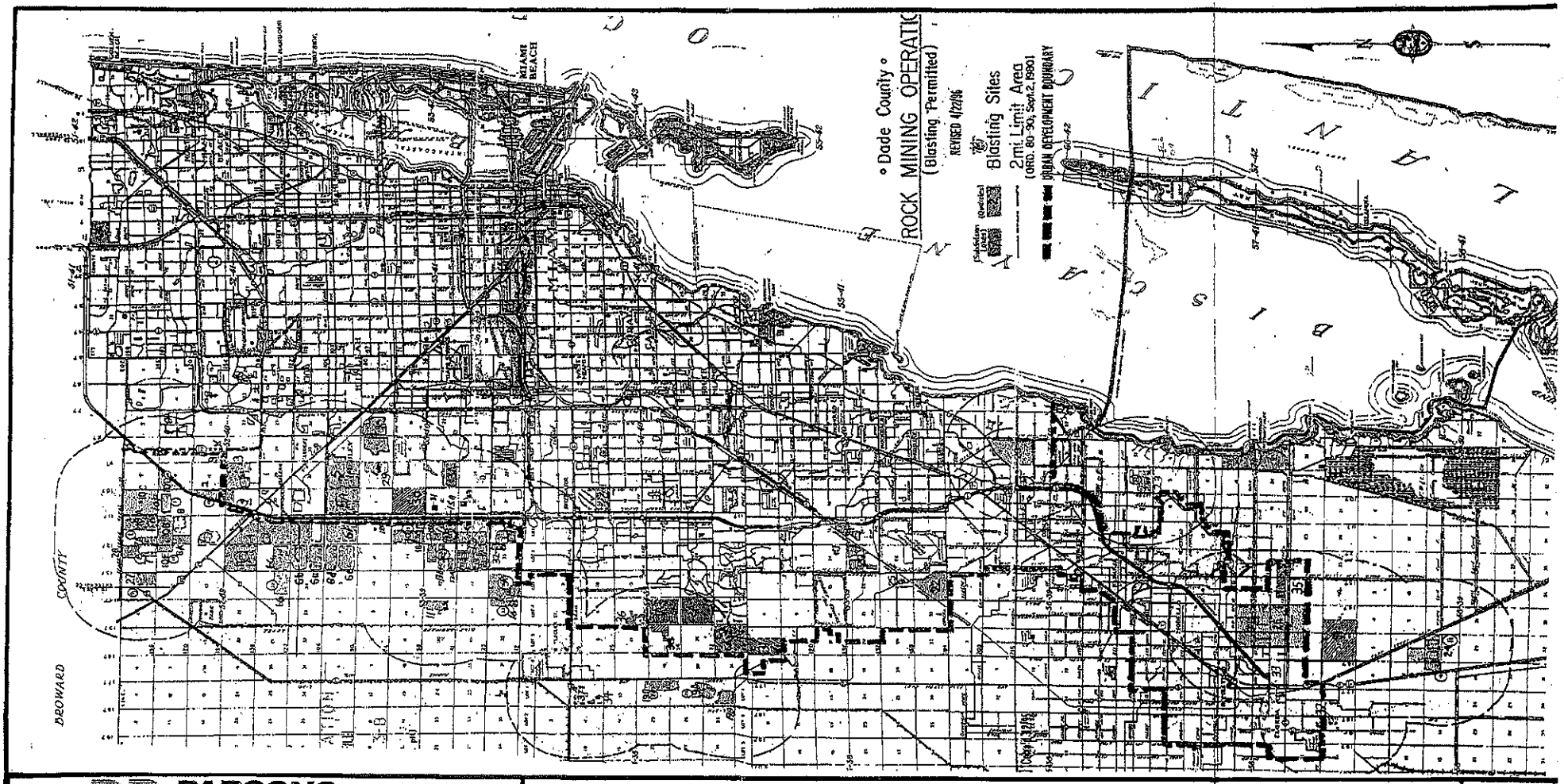
FIGURE 5-3




PB PARSONS BRINCKERHOFF

Land Use Development Map

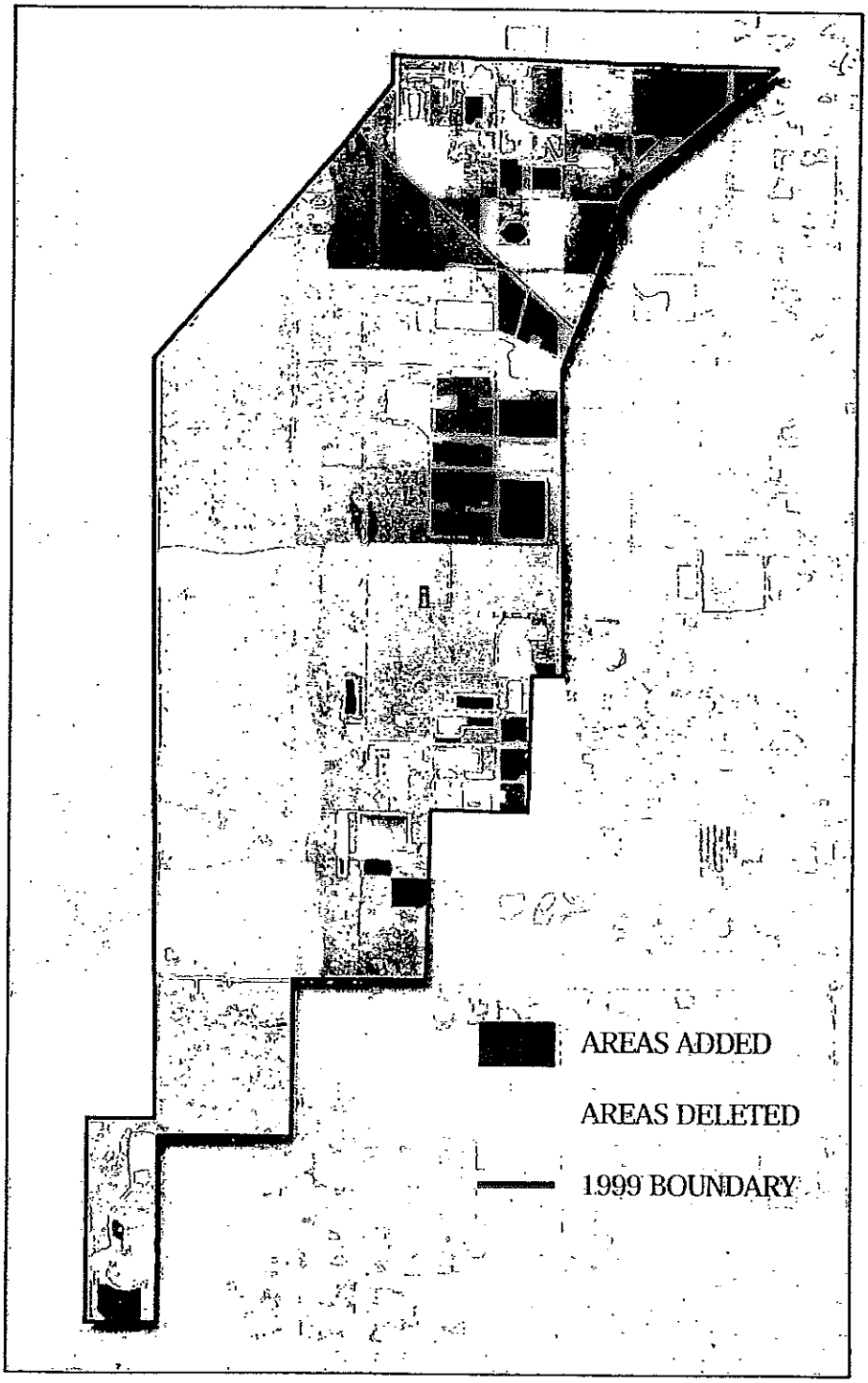
FIGURE 5-4




PARSONS BRINCKERHOFF

Current Development Boundary Line

FIGURE 5-5




PARSONS BRINCKERHOFF

100 YEARS

FIGURE 5-6

The Lake Belt Area

areas, a triangular area east of the Florida Turnpike at the extreme northern end of the area and a rectangular area just east of Krome avenue in the south are also outside the Lake Belt Area and outside the Urban Development Boundary (UDB).

## 5.4 Mining Areas (Quarry Locations)

All of the active and projected rock mining areas in Miami-Dade County are located outside the Urban Development Area. and all the existing and projected mining operations are all located within the Lake Belt Area except for the Rinker Lake quarry in parts of Sections 18 and 19, Township 52 South, Range 40 East, the Rinker Krome quarry in Lot 1 between Townships 54 and 55 South, Range 38 East., and the two Florida Rock and Sand quarries in South Miami-Dade. One in parts of Sections 17 and 18, Township 58 South Range 39 East (between U.S. 1 and Card Sound Road) and the other in Section 32, Township 56 South Range 40 East (northeast of Homestead Air Force Base).

The map in Figure 5-7 is based on the location of the active and projected quarries, and on current regulations limiting the intensity of blasting vibrations at distances of up to two miles from any specific blasting site. The map shows the projected 2-mile distance from the closest point of existing and projected quarries.

PARSONS BRINCKERHOFF

Current Limestone Mines and Corresponding 2- Mile Radius

FIGURE 5-7

# 6.0 GEOLOGIC RESPONSES

## 6.1 Transmission of Vibrations

### 6.1.1 Wave theory

The resulting shock wave generated from the explosive detonation starts propagating in all direction from the explosive charge within milliseconds. This shock wave produces work by exerting a compressive force that crushes the limestone in the formation near the explosion, and in the process of doing this work the intensity of the compressive force is reduced with distance from the blast hole. Eventually, and within a relatively short distance, the intensity of the shock wave drops below the compressive strength of the limestone. From that point outward from the explosion site there is no further rock crushing, but other waves continue to move through the formation. These continuing waves are known as Compressive (P-waves) and Shear (S-waves). Other acoustic waves such as boundary and surface waves are also present. These P and S sonic waves move faster through dense, hard, well consolidated formations and slower through soft, poorly cemented, weak formations. For example, in a hard limestone (Fort Thompson Formation) with a high compressive strength the P-waves travel at about 21,000 to 23,000 feet per second (ft./sec.) but a weaker limestone (Anastasia Formation) will transmit P-waves at only about 18,000 to 20,000 ft./sec. The porosity of the formation also plays an important part on the velocity of travel of the waves; with the velocity decreasing with increasing porosity (Schlumberger, 1972). The P-waves are propagated by the movement of particles in the medium in the direction of wave propagation. The S-waves are characterized by particle movement perpendicular to the direction of wave propagation, and have a higher amplitude than P-waves. S-waves travel at about half the velocity of P-waves. (Keys, 1971). The amplitude of both waves is affected primarily by distance but also, in a minor way, by porosity, the degree of consolidation of the formation, the fracturing of the formation, and the orientation of the fractures.

The P and S waves also perform work by moving the limestone particles longitudinally and transversally and for this reason they attenuate until they eventually die out.

### 6.1.2 Particle Velocity

The waves discussed above are the mechanism for the propagation of the vibrations from the blast area to any other area distant from the blast site, and all blasts can be explained by the wave theory. However, analysis of the effects of these waves individually produced at a blast site with multiple shots at various timed delays, of various charge weight, and at different depths and degree of confinement (stemming) results in such a complex production of waves that it becomes impossible to analyze as individual components. Instead, in order to determine the combined effect of all the individual components that result in the seismic vibration caused by a blast, a direct measurement of the vibration is used. Using this approach, the strength of a vibration is directly determined from an actual field measurement of the particle velocity resulting from a blast. The critical point of the particle velocity is the peak value obtained from the sine wave (harmonic motion) as the first derivative of the displacement. This

measurement, referred to as the peak particle velocity, is the vehicle used to determine the strength of blasts and the damage potential.

Regarding peak particle velocity, the county legal limit is 0.75 inches per second, and the current regulations specifically state that: "in a single blasting event the maximum peak" *particle* " velocity (PPV) limit established by the user permit" shall not be exceeded by ".05 inch per second as measured at any occupied residential unit located within the adopted (2005) UDB and within two miles of a specific blasting site". Also, the regulations state that after additional investigations, and in order to protect the welfare, health and safety, a maximum vibration limit of 0.1 inch per second may be set anywhere within the Urban Development Area.

Miami-Dade County regulations restrict vibrations to a maximum of 0.75 in./sec. at the nearest building or within one mile of a blast site. This intensity limit is expected to provide structural level of protection to all residential buildings. It is considerably safer (lower) than the standard of 2.0 in./sec. recommended by the Bureau of Mines Report 5968 published in 1962. The 0.75 in./sec. limit may be suitable to protect buildings from structural damage, but in day to day operations, more than structural damage comes into play.

Chapter 13 of Dade County Ordinance 96-45 (Appendix C) recognizes the importance of establishing vibration limits within the UDB and gives the Director of Public Works the authority to apply peak particle velocity limits of 0.1 inch per second. In addition, the regulation allows the Public Works Director to restrict the amount (weight) of explosives to be used at any one time whether detonated instantaneoulsy or with delays.

The mining industry in Miami-Dade County, has been operating at levels much below the standards, sometimes achieving levels as much as one order of magnitude below the standards. During the first eight weeks of the current year (2000), mining concerns have reported peak velocity values well below their permit levels, with not a single value above 0.2 in./sec

### 6.1.3 Amplitude, Frequency, and Duration

The amplitude of a seismic wave changes very little as the wave travels from one material to another in the geologic strata, but the frequency of the wave is affected by distance from the blast area, by the amount of explosives, and by the characteristics of the rock material underground. The duration is largely determined by the volume of explosives detonated and by the delays between explosions in a shot.

Delays, are time lapses introduced into the pattern of a detonation. A delay element is placed between the bridge wire and the primer charge in a delay electric detonator cap and this element creates a short lapse between the application of the electric current and the detonation of the explosives. Non-electric detonators are also used. These time delays assist with the efficiency of the detonation and increase rock fragmentation and breakage. The use of delays also reduce the size (weight) of a charge of explosives detonated at a given instant. A delay of a few milliseconds spreads the weight of explosives detonated in a shot over a longer time, even if the longer time is only a few milliseconds. This is significant because the effective charge size detonated per delay interval is what controls the level of vibration. A delay of a few milliseconds is sufficient to separate two detonations so that their blast wave effects do not overlap. For

example a charge of 50,000 pounds without any delays will produce a much higher level of vibration that the same 50,000 pounds exploded in five delayed sequences a few milliseconds apart. Additionally, the distance at which a vibration is felt, is decreased with reduction of charge per delay, even when the overall shot weight remains the same.

In addition to peak velocity of the wave, the other single most critical element in the intensity of the vibrations is the frequency of the wave. Low frequency waves are capable of producing larger displacements than high frequency waves and are more damaging in loosely consolidated materials. Also, low frequency waves can come close to the resonant frequencies of structures and this can increase the damage potential.

### 6.2 Effects of Stratification

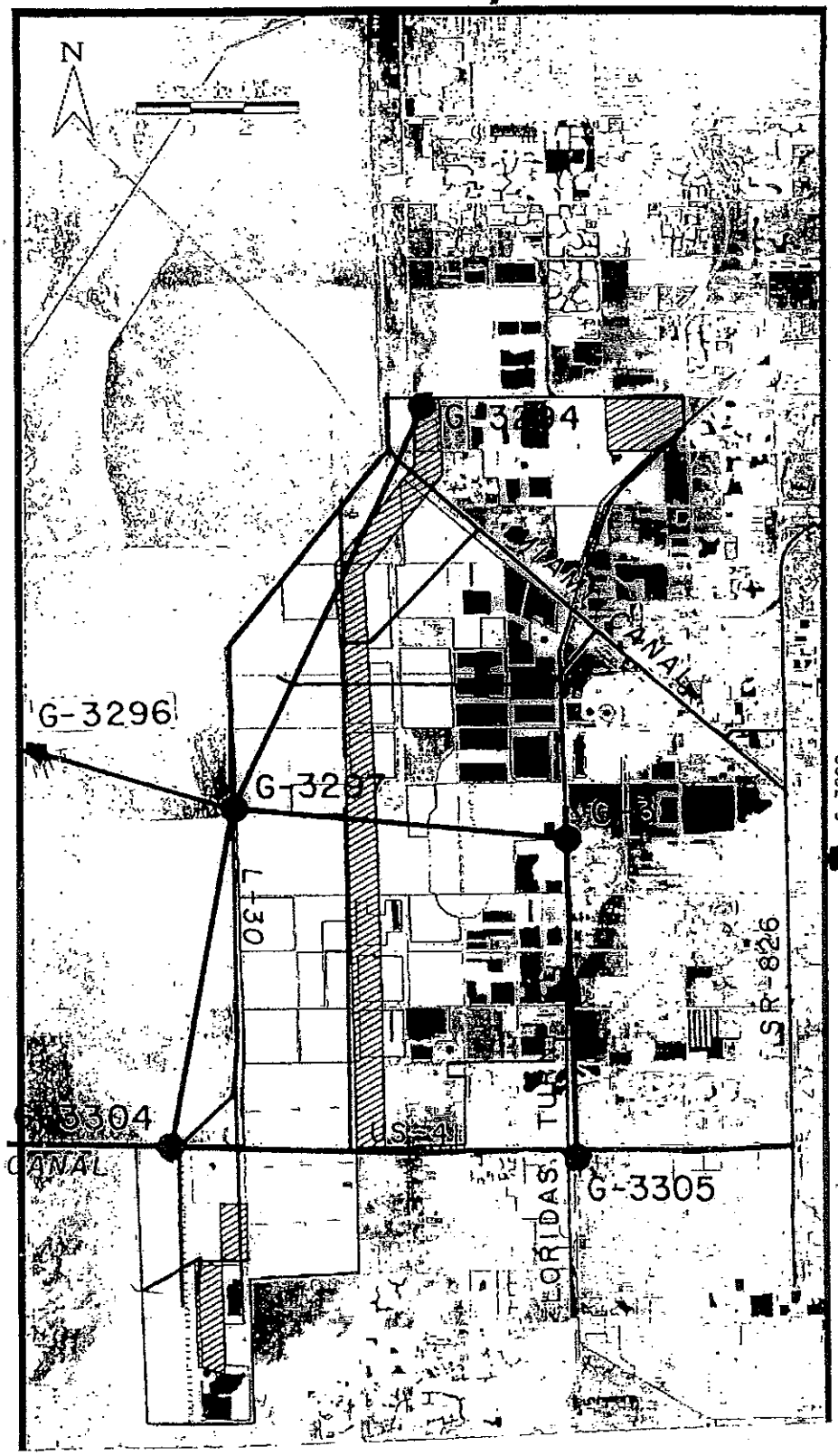
The geologic stratification within the study area is best described from the studies conducted by the USGS (Causarás, 1984). Geologic cross sections were developed by the USGS to the north, south, east and west of the study area during showing the various formations, their extent, and thickness in all directions. Figure 6-1 shows the location of the cross sections.

A geologic cross section cuts right through the middle of the study area and presents a picture of the degree of geologic stratification in the mining area and in the developed areas to the east (See Figure 6-2). The section interval from G-3297 through G-3298 and ending with G-3299 shows that there are a series of hard, well consolidated formations, poorly consolidated formations, and even some unconsolidated sandy formations throughout the area.

Under this scenario, a limestone quarry located west of the Florida Turnpike (west of G-3298) would typically mine limestone to a depth of approximately 85 feet, a few feet into the Tamiami Formation (Tt). Blast holes would first pass through about 10 feet of Miami Oolite (Qm) from land surface to about 10 feet below mean sea level (MSL), then through approximately 45 feet of an upper layer of the Fort Thompson Formation (Qf) to about -55 feet MSL, then through 10 feet of Key Largo Limestone (Qk) to –65 feet MSL and finally through 10 feet of a lower layer of Fort Thompson Formation to about –75 feet MSL before entering the Tamiami Formation. A blast shot would extend through this whole thickness of the aquifer, and the vibrations will be transmitted through each of the layers described.

Following up with this scenario, the first vibrations that residents located east of the Florida Turnpike will receive are the fast traveling vibrations moving horizontally through the upper layer of the hard (well consolidated) Fort Thompson Formation and then vertically through the weaker (less consolidated) Miami Oolite. This first wave train, transmitted through the Fort Thompson, is a high frequency wave and does not cause much vibration. Next to arrive, a fraction of a second later, will be the wave train moving horizontally through the deeper layer of the Fort Thompson and then continuing their horizontal travel through the inter-fingered Anastasia Formation (Qa) and up through the Fort Thompson and the Miami Oolite. This wave train will be a lower frequency wave and by moving through the less consolidated Anastasia Formation will produce much more vibration than the first wave train. This wave train is the one likely to produce the peak particle velocity felt by the residents. Other wave trains following other travel routes arrive at other times and with various degrees of attenuation.

# Northwest Dade County Freshwater Lake Belt Plan




**Rockmining Supported**
Owned or controlled by miners, consistent with appropriate buffers.

**Rockmining Supported**
Consistent with appropriate buffers. Not owned and/or not useable by miners.

**Rockmining Allowable**
To extent consistent with Everglades restoration recommendations of the July 1, 1999 Comprehensive Plan of the C&SF Restudy to Congress. Owned or controlled by miners.

**Rockmining Allowable**
To extent consistent with Everglades restoration recommendations of the July 1, 1999 Comprehensive Plan of the C&SF Restudy to Congress. Not Owned and/or not usable by miners.

**Potential Mitigation**
Development would result in significant environmental impacts/ suitable for mitigation

**Potential Mitigation**
Development would result in significant environmental impacts/ suitable for mitigation Owned by rock industry - Potential swaps for lands East of Dade/Broward levee.

**Excluded Areas**
No mining due to prisons, cemeteries, FP&L substation and wellfields.

**Existing Lakes**

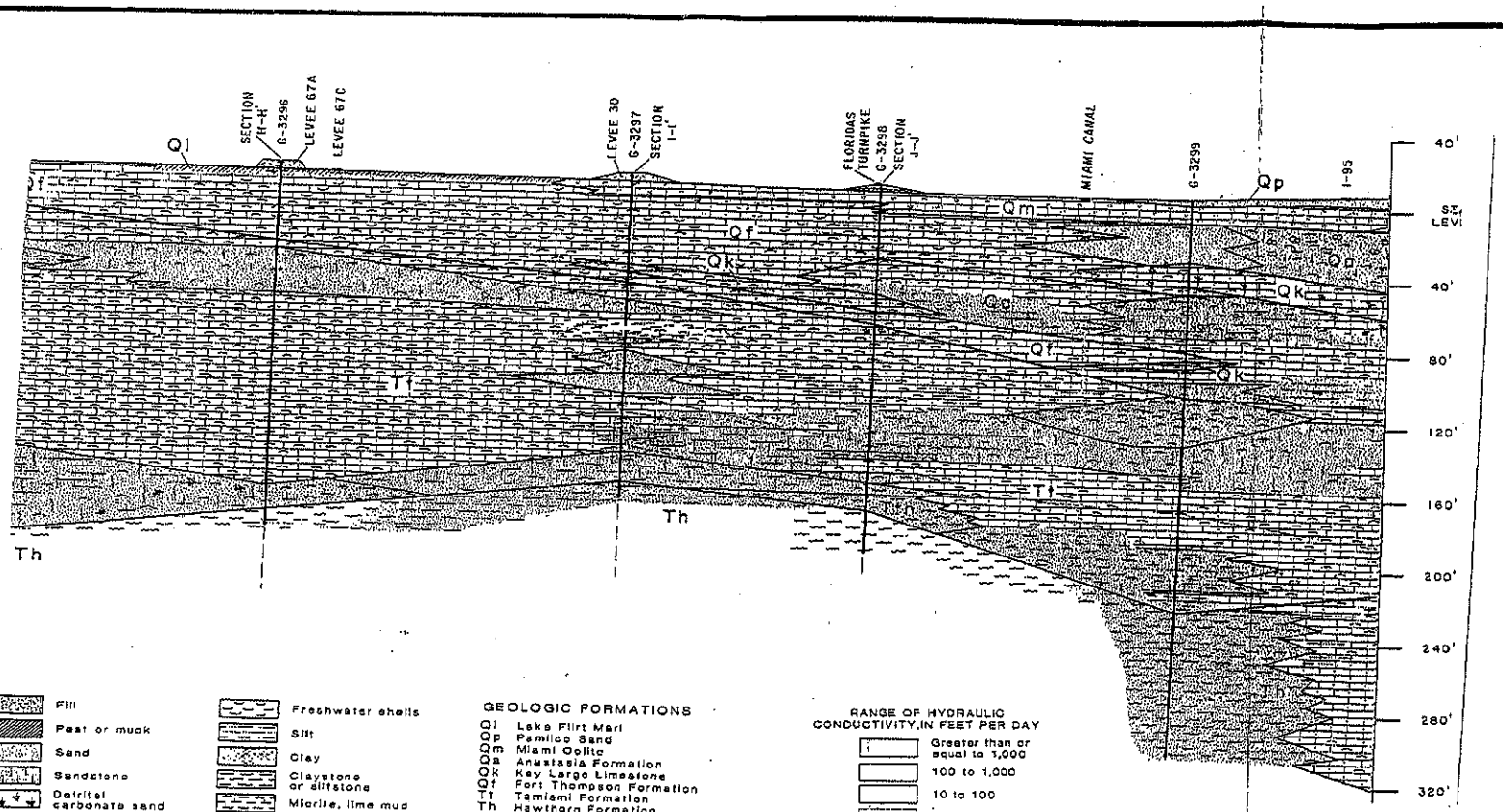
Authorized boundary of Everglades National Park

Cement Mill

Major rock processing plant

PARSONS BRINCKERHOFF
100 YEARS

FIGURE 6-1
Location of Geologic Cross Section




PARSONS BRINCKERHOFF

Geologic Cross Section Across Study Site

FIGURE 6-2

This scenario is but one example, in this case a two dimensional picture following an azimuth along an east west cross section, but knowing the geologic stratification. other conditions can be similarly analyzed along any azimuth from a blast area. The duration of the vibrations will be determined by the time from the arrival of the first wave train to the arrival of the last one and the duration of the displacing motion for the peak particle velocity.

## 7.0 CONCLUSIONS AND RECOMMENDATIONS

### 7.1 Conclusions

Vibrations from blasting are readily noticed by humans. Human perception is much more sentive to vibrations than structures. Instruments used to measure vibration are accurate and determine a real relative value of the intensity of blasting vibrations by measuring the peak particle velocity in inches per second. However, in addition to peak particle velocity. it is important to determine the frequency of the seismic wave producing that peak particle velocity. Low frequencies with the same peak particle velocity are more noticeable.

Nearly every neighborhood where complaints against blasting are frequently expressed, are neighborhoods built in areas originally covered by organic Everglades type soils. These Everglades soils contain layers of organic fibers ranging from half to eight feet thick. Removing those soils prior to construction is required to prevent differential settling and cracking of structures

Flood criteria requires that after removal of organic soils, clean fill be installed and compacted and the land brought to the minimum levels required to prevent flooding. Most of the areas were property owners have complained about blasting induced cracks. are located in flood prone areas that should have required from one half to several feet of fill.

There is no evidence. based on the readings recorded. that blasting vibrations have exceeded the existing legal criteria. However since the existing criteria is based on the effects observed in areas of the country dissimilar to the types of soils and geology found in South Florida. the criteria may need to be refined.

### 7.2 Recommendations

Short of changing the existing regulations to require a reduced maximum peak velocity, it is recommended that studies be conducted towards the development of blasting methods that could reduce the peak velocities. It is specifically recommended that the mining industry investigate the use of different and/or additional delays in each shot to reduce the combined effect of a shot. It is also recommended that changing the loads and reducing the number of holes in each shot be investigated. It is expected that by reducing the charges per hole and the number of holes in each delay would spread the force of a shot so that the resulting vibrations would be reduced. It is additionally recommended that current stemming practices be reviewed to determine if stemming through more of the softer formations would reduce the vibrations. Finally it is recommended that benching be investigated as a means of reducing the blasting impact.

It is recommended that consideration be given to reducing the allowable peak velocities in the regulations. It is obvious that specific site conditions in Miami-Dade County result in an increase in perception if not on actual structural damage. and stronger regulations may be required to solve this problem of perception.

## REFERENCES


Campbell, M.D., Lehr, J.H., 1974. Water Well Technology: National Water Well Association. McGraw Hill Book Company, New York.

Causarás, C.R., 1987, Geology of the Surficial Aquifer System, Dade County, Florida: U.S. Geological Survey Water Resources Investigation Report 86-4126. U. S. Dept. of Interior.

Dade County Lake Belt Plan Implementation Committee. 1997 Progress Report. Visual Communications Division. South Florida Water Management District.

Dade County Lake Belt Plan Implementation Committee. 1998 Progress Report. Visual Communications Division. South Florida Water Management District.

Crain, E.R., 1986. The Log Analysis Handbook. Volume One: Quantitative Analysis Methods: PennWell Publishing Company. Tulsa, Oklahoma.

Calver, J. L., 1957, Mining and Mineral Resources: Florida Geological Survey Geological Bulletin 39. Florida State Board of Conservation.

Edgerton, C.D., 1974. Effects of Urbanization Upon the Availability of Construction Minerals in Southeastern Florida: Bureau of Mines Information Circular 8664. U. S. Dept. of Interior.

Fish, J.E. and Stewart, M., 1991. Hydrogeology of the Surficial Aquifer System, Dade County, Florida: U. S. Geological Survey Water Resources Investigation Report 90-4108. U. S. Dept. of Interior.

Gunter, Herman. 1954. Florida Mineral Industry During 1952 and 1953: Eleventh Biennial Report. Florida Geological Survey. Florida State Board of Conservation.

Gallatin, M/H., and others. 1958. Soil Survey (Detailed Reconnaissance) of Dade County , Florida: Soil Conservation Service. U. S. Dept. of Agriculture.

Gunter, Herman. 1927. Statistics of Mineral Production in Florida During 1925: Eighteenth Annual Report. Florida Geological Survey.

Hoffmeister, J.E., 1974. Land from the Sea – The Geology of South Florida. University of Miami Press. Coral Gables, Florida.

Keys, W. S., MacCary, L. M., 1971, Application of Borehole Geophysics to Water Resources Investigations. Chapter E-1, Book 2. Techniques of Water Resources Investigations: U. S. Geological Survey. U. S. Dept. of Interior.

Kwader, T., 1982, Interpretation of Borehole Geophysics in Shallow Carbonate Environments and their Application to Ground Water Resources Investigations.

Miami-Dade County, 1996. Explosives. Chapter 13, Code of Metropolitan Dade County

Miami-Dade County Lake Belt Plan Implementation Committee. 1999 Progress Report. Visual Communications Division. South Florida Water Management District.

Noble, C.V., Drew, R.W. and Slabough, J.D., 1996. Soil Survey of Dade County Area, Florida: Natural Resources Conservation Service. U. S. Dept. of Agriculture.

Parker, G.G., and others, 1955. Water Resources of Southeastern Florida: U. S. Geological Survey Water-Supply Paper 1255. U. S. Dept. of Interior.

Parsons Brinckerhoff, Inc., 1991, Consulting Services for Mining Reports: Mining/ Operations Report 11/91. Parsons Brinckehoff Quade and Douglas, Inc., New York.

Pitt, W.A.J., 1974. Response of Groundwater Levels to Flood Control Operations in Three Basins, Southeastern Florida: U. S. Geological Survey Open File Report 74-86. U. S. Dept. of Interior.

Pitt, W.A.J., and others, 1975. Groundwater Quality in Selected Areas Serviced by Septic Tanks, Dade County, Florida: U. S. Geological Survey Open file Report 75-607. U. S. Dept. of Interior.

Goode, R. R., 1972. Profile of Metropolitan Dade County: Conditions and Needs. Metropolitan Dade County Community Improvement Program. Office of the County Manager.

Resource and Land Information (RALI Report) for South Dade County, Florida, 1973: U. S. Geological Survey Investigation I-850. U. S. Dept. of Interior.

Sanford, F. and others, 1983. Community Response to Blasting: Journal Acoustical Society of America. Sept. 1983.

Schlumberger Limited, 1972. Log Interpretation. Vloume I-Principles. New York

Schroeder, M.C., Klein, H. and Hoy, N.D., 1958. Biscayne Aquifer of Dade and Broward Counties, Florida: Florida Geological Survey Report of Investigations 17. Florida State Board of Conservation.

Siskind, D.E., Stagg, M.S., Kopp, J.W. and Dowding, C.H., 1980, Structure Response and Damage Produced by Ground Vibration from Surface Mine Blasting: Bureau of Mines Report of Investigations 8507. U. S. Dept. of Interior.

Stowasser, W.F. and Hendry, JR, C.W., 1976, The Mineral Industry of Florida 1973. Florida Geological Survey Information Circular 89. Florida Department of Natural Resources.

U. S. Army Corps of Engineers, 1954, Partial Definite Project Report. Central and Southern Florida Project for Flood Control and Other Purposes. Part V, Supplement 12. Office of the District Engineer. Jacksonville, Florida. Dept. of the Army.

U. S. Army Corps of Engineers. 1972, Systematic Drilling and Blasting for Surface Excavations. Engineering and Design Section. Engineer Manual 1110-2-3800. Dept. of the Army.

U. S. Army Corps of Engineers, 1997. Tunnels and Shafts in Rock. Engineering and Design Section. Engineering Manual 1110-2-2901. Dept. of the Army.

Wang, J., 1993. Seismic Design of Tunnels: 1991 William B.Parsons Fellowship. Monograph 7. Parsons Brinckerhoff Quade and Douglas, Inc., New York.

Wilsnack, M.M., and others, 1998. Hydrologic Impacts of a Proposed Mining Plan with Structural Improvements in the Northwest Dade County Freshwater Lake Belt: Hydrologic Systems Modeling Division. Planning Department. South Florida Water Management District.

# APPENDIX A

# MIAMI-DADE COUNTY BLASTING TASK FORCE HYDROGEOLOGIC INVESTIGATION PROPOSAL

**PREPARED FOR**
**CORZO CASTELLA CARBALLO THOMPSON AND SALMAN, P.A. (C3TS)**
Engineers • Architects • Planners
901 Ponce de Leon Boulevard, Suite 900
Coral Gables, Florida 33134

**PREPARED BY**
**PARSONS BRINCKERHOFF QUADE AND DOUGLAS, INC. (PB WATER)**
5775 Blue Lagoon Drive, Suite 360
Miami, Florida 33126

## INTRODUCTION

Mining activities for the extraction of limestone in Miami-Dade County often use explosives as part of the mining process. This practice has resulted in complaints from nearby residents and from others who feel negatively affected by the explosions. In response, the Miami-Dade County Commission has formed a "Blasting Task Force" whose function is to investigate the problem, determine the effects of blasting on existing property and on the environment, monitor and document the effects, and ultimately determine if existing regulations should be amended.

One important element of the task force assignment is investigation of the hydrogeology of the areas being studied. Blasting vibrations are transmitted at different velocities and intensities depending on the type of geologic formation through which the shock waves travel. Similarly, the effects of blasting on the formations depend on the intensity of the shock waves. Water supply wells tapping geologic formations in areas subject to blasting have been known to be affected by explosions. Consequently it is important that the effects of blasting on the Miami-Dade public water supply wellfields located adjacent to the blast areas be investigated.

PB Water, a division of Parsons Brinckerhoff Quade and Douglas, Inc. is pleased to propose the following scope of work in response to the hydrogeologic requirements of the investigation.

## SCOPE OF WORK

### Task 1. Hydrogeologic Evaluation of the Study Area

PB Water will investigate the geology and hydrology of the study area.

The geologic investigation will be accomplished by reviewing published information of local, state and federal agencies. The investigation will produce geologic cross sections and geologic maps to describe the type of formations present in the study area and in the adjacent areas that can potentially be affected by blasting. Accompanying text will describe the characteristics of those formations to absorb/transmit the blasting vibrations to nearby areas.

The hydrologic evaluation will include investigation of the Biscayne Aquifer in the area, including description of the productive zones and the depth ranges from which water production is maximized. Hydrologic cross sections will be developed for the study area and they will be combined with the geologic information to provide full integration of the hydrogeologic regime.

### Task 2. Hydrogeologic Characteristics, Soil Characteristics, and Physical Properties

The hydrogeologic and physical characteristics of the geologic formations in the area of the study will be evaluated. Existing literature will be researched to create an association between the physical characteristics of the geologic formations and their ability to absorb/transmit blast vibrations through the saturated formations.

Pre-disturbed soil maps (1950 period) and current soil maps (late 1990s) will be reviewed and used to determine the potential for shock wave transmission through the unsaturated soils.

### Task 3. Effects of Blasting on Water Table Aquifer (Biscayne Aquifer)

A review of existing literature will be made and comparisons will be made between documented occurrences of aquifers affected by blasting and the potential for similar occurrences in the Biscayne Aquifer. Similarly, the literature will be researched and comparisons made with documented cases of wells affected by blasting.

### Task 4. Investigative Report, Technical Presentations, and Meeting Participation

PB Water will present the results of the various phases of the investigation in a comprehensive report. The report will include appendices with all the data reviewed and collected. A draft copy of the report will be prepared for technical review by the Task Force committee members. A final copy will be provided in camera ready form as well as in electronic format.

PB Water staff will be available to make a technical presentations of their findings once at the Task Force level and once at the County Commission level. PB Water staff members will also be available to participate in meetings associated with the subject of this investigation.

# APPENDIX B

IRECO OF FLORIDA

**DAILY BLASTING REPORT** Customer Order 66744

METROPOLITAN DADE COUNTY CODE

chapter 13 Section 13 - 15

USER: Westwind DATE: 5-21-99

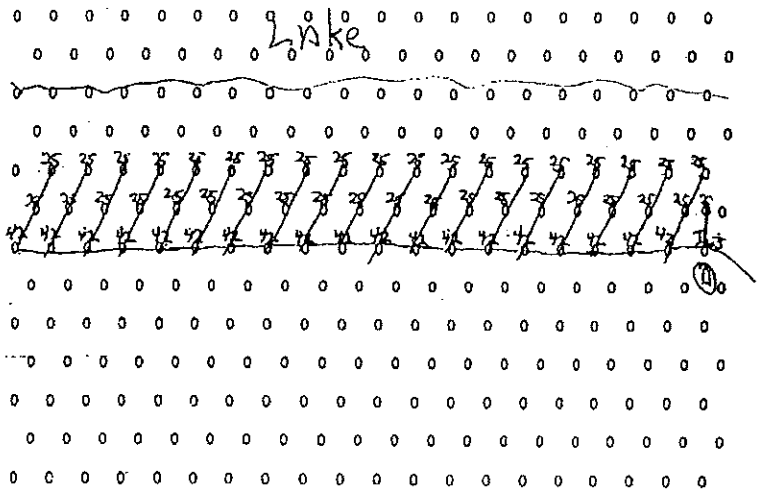
BLAST SITE: Union Rock East Lt. Sa Fpo Hole Diam: 4½ Hole Depth: 65' Collar: 10'

No. of Holes: 59' Lbs per hole 455 Lbs per deck (Bottom) _____ (Top) _____ Lbs per delay 455

Total lbs fired: 26845 Burden: 18 Spacing: 18 Weather: Clear Wind direction: NE

Seismograph Location: 6400 NW 114 Ave Distance from blast: 2218' Airblast: Normal Loud Excessive (Please circle one)

SKETCH: Show shot layout and delay system ⊕ North ////////// face //////




GPS Reference Points _____

| NO. | Time | No of Holes | Delay Periods | Latitude | Longitude | Bearing | Distance |
|---|---|---|---|---|---|---|---|
| | 1027 | 59 | #2 25,42 | 25 50 06.3 | 080 22 21.5 | 108° | 2217.6' |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

Bearing of 0 is north, 90 is east, 180 is south, and 270 is west.

| EXPLOSIVES | | | MATERIALS | | | | |
|---|---|---|---|---|---|---|---|
| Type | Lbs | Lot No | Caps | Cord (ft) | Primers | Conn | Other |
| SMS 1116 | 26845 | Bulk | 138 | 0 | 118 | | |

Blaster in Charge Joseph Hitchman Dade County Permit # C1925

USERS Representative [signature]

# APPENDIX C

## Chapter 13 Explosives

# Chapter 13

# EXPLOSIVES*

*Editor's note—Ord. No. 96-45, § 1, adopted March 19, 1996, amended Ch. 13, relative to explosives, in its entirety to read as herein set out. Prior to amendment by said Ord. No. 96-45, Ch. 13 derived from Ord. No. 73-44, § 1, adopted April 16, 1973; Ord. No. 77-21, adopted April 19, 1977; Ord. No. 80-90, adopted Sept. 2, 1980; Ord. No. 80-113, adopted Oct. 7, 1980; and Ord. No. 95-215, § 1, adopted Dec. 5, 1995. Prior to the adoption of Ord. No. 73-44, Ch. 13 derived from Ord. No. 58-24, §§ 2—7, 9, 11, adopted June 24, 1958; Ord. No. 59-10, § 1, adopted May 12, 1959; and Ord. No. 60-34, § 1, adopted Oct. 25, 1960.

Note—The County fire prevention and safety code is not included herein, but is on file with the County.

Cross references—Water supply for fire suppression, § 2-103.20 et seq.; South Florida Fire Prevention Code, § 14-40 et seq.; wilful or malicious bombing or threats of bombing, § 21-1 et seq.

State law reference—Explosives, F.S. ch. 552.

### Sec. 13-1. Application of provisions; to whom permit application made.

This chapter shall apply to both the incorporated and unincorporated areas of Dade County, Florida. This chapter shall apply, at blasting sites, to the use and storage of explosives and blasting agents. Application for county licenses and/or user permits required herein shall be made to the Director of the Dade County Public Works Department.
(Ord. No. 96-45, § 1, 3-19-96)

### Sec. 13-2. Exceptions.

Nothing in this chapter shall be construed as applying to:

(a) The armed forces of the United States or the State militia.

(b) Explosives in forms prescribed by the official United States Pharmacopoeia.

(c) The sale or use of fireworks as defined in Article 29 of the South Florida Fire Prevention Code, as may be amended from time to time, hereinafter referred to as the "County Fire Code."

(d) The possession, transportation and use of small arms, ammunition or special industrial explosive devices.

(e) The use of explosives or blasting agents by the United States Bureau of Mines, the Federal Bureau of Investigation, the United States Secret Service, or police and fire departments acting in their official capacity.

(f) The manufacture, sale or transportation of explosives and blasting agents, or their storage as regulated by Article 28 of the South Florida Fire Prevention Code, as may be amended from time to time, hereinafter referred to as the "County Fire Code," except that storage of explosives and blasting agents on blasting sites is herein regulated.

(g) The following three situations, but only with respect to the application of amendments in Sections 13-7, 13-15, 13-18, and 13-22 to those three specific situations, on the effective date of the amendments: (1) there is an existing unexpired county user permit for the use of explosives on a specific site, (2) a property has had a final plat approval by the Board of County Commissioners within the past year, or (3) a plat has been recorded within the past five (5) years. The properties covered by this exception shall be governed by the Code as it existed prior to the adoption of the above enumerated amendments.
(Ord. No. 96-45, § 1, 3-19-96)

### Sec. 13-3. Definitions.

For the purpose of this chapter, the following terms, phrases, words and their derivations shall have the meaning given herein. The word "shall" is always mandatory and not merely directory.

(a) *Blast area:* The area in which concussion (shock wave), flying material, or gases from an explosion may cause injury to persons. In determining the blast area, the following factors shall be considered:

(1) Geology or material to be blasted.

(2) Blast pattern.

(3) Burden, depth, diameter, and angle of the holes.

(4) Blasting experience of the operation.

(5) Delay system, powder factor, and pounds per delay.

(6) Type and amount of explosive material.

(7) Type and amount of stemming.

(b) *Blaster:* An individual who must be employed by a user and properly licensed, who detonates or otherwise effects the explosion of an explosive or who is in immediate personal charge and supervision of one (1) or more other persons engaged in such activity.

(c) *Blasting agent:* Any material or mixture, consisting of a fuel and oxidizer, intended for blasting, not otherwise classified as an explosive, in which none of the ingredients is classified as an explosive, provided that the finished product, as mixed and pack-

aged for use or shipment, cannot be detonated by means of a No. 8 test blasting cap when unconfined. Materials or mixtures classified as nitro carbo nitrates by the Department of Transportation regulations shall be included in this definition.

(d) *Blast site:* The area where explosive material is handled during loading including the perimeter formed by the blastholes and fifty (50) feet in all directions from loaded holes. The fifty-foot requirement also applies in all directions along the full depth of the hole.

(e) *Carrier:* Person who engages in the transportation of particles or materials by rail, highway, water or air. (Regulated by Article 28 of the County Fire Code).

(f) *Dealer:* A person engaged in the wholesale or retail business of buying and selling explosives; provided that should a manufacturer-distributor make sales to users, such manufacturer shall not be required to obtain an additional license as a dealer. (Regulated by Article 28 of the County Fire Code).

(g) *Detonator:* Any device containing a detonating charge that is used for initiating detonation in an explosive. The term includes, but is not limited to, electric blasting caps of instantaneous and delay types, blasting caps for use with safety fuses, detonating cord delay connectors, and nonelectric instantaneous and delay blasting caps.

(h) *Director:* The Director of the Dade County Public Works Department.

(i) *Explosive:* Any mixture, compound or material capable of producing an explosion, including but not limited to dynamite, nitroglycerin, trinitrotoluene, blasting caps and detonators; but not including cartridges for firearms, and not including fireworks as defined in (the) County Fire Code.

(j) *Helper:* An individual who assists the user or blaster and who is licensed to handle but not to purchase, possess or detonate explosives.

(k) *Magazine:* Any building or structure approved for the storage of explosives.

(l) *Manufacturer-distributor:* A person engaged in the manufacture, production and distribution of explosives to others for resale or use. (Regulated by Article 28 of the County Fire Code).

(m) *Person:* Any natural person, partnership, association, corporation, or legal entity.

(n) *Purchase:* As used herein shall include acquisition of any explosive by a person with or without consideration.

(o) *Small arms ammunition:* Any shotgun, rifle, or handgun ammunition.

(p) *Special industrial explosive device:* Any explosive power-pak containing an explosive charge in the form of a cartridge or construction device. The term includes but is not limited to explosive rivets, explosive bolts, explosive charges for driving pins or studs, cartridges for explosive-actuated power tools and charges of explosives used in pet tapping of open hearth furnaces and jet perforation of oil well casings.

(q) *Special industrial high explosive material:* Sheets, extrusions, pellets and packages of high explosives, containing dynamite, trinitrotoluene, pentaerythritoltetrate, cyclotrimethylene-trinitramine, or other similar compounds used for high-energy-rate forming, expanding and shaping metal fabrication, and for dismemberment and quick reduction of scrap metal.

(r) *Terminal:* Those facilities used by carriers for the receipt, transfer, temporary storage or delivery of articles or materials. (Regulated by Article 28 of the County Fire Code.)

(s) *Test blasting cap No. 8:* One (1) containing two (2) grams of mixture of eighty (80) percent mercury fulminate and twenty (20) percent potassium chlorate, or a cap of equivalent strength.

(t) *Two pound user:* Same as user as described in Section 13-3(u) except with the following limitation: that the amount of explosives to

be used at any one (1) time whether fired or detonated as a single charge or delay series does not exceed the total explosive power or capacity of two (2) pounds of forty (40) percent dynamite.

(u) *User:* The person who conducts an operation that requires the use of explosives or blasting agents, purchases same from a dealer or manufacturer-distributor, or acquires the possession of any explosive by any other means. A user shall be responsible for the consequences of all its blasting activity involving explosives or blasting agents and shall ensure that all its personnel handling or using same are properly licensed by the County. A user shall possess a county user permit in the name of one (1) or more individuals who shall obtain this County user permit in accordance with the procedures outlined in Section 13-5 and/or section 13-7 as applicable.

(v) *Recognized standards and references* shall mean the most restrictive applicable blasting standard or reference on the particular issue (i.e., air blast, vibration, scaled distance factor, etc.) among, but not limited to, the following: United States Bureau of Mines' Reports of Investigations, Information Circulars, papers, and presentations; International Society of Explosives Engineers' conference proceedings, relevant blasting reports, information circulars, and presentations; the American National Standards Institute's standards and reports on explosives, blasting and related subjects; and United States or State Agencies' regulations and reports.

(Ord. No. 96-45, § 1, 3-19-96)

## Sec. 13-4. County licenses and/or user permits required; types.

(a) It shall be unlawful for any person to conduct an operation that requires the use of explosives or blasting agents, acquire, possess, purchase, handle, dispose of, store or use same on any site without first obtaining a county license and/or user permit issued under and pursuant to the provisions of this chapter. The requirements of this chapter shall not relieve any person from compliance with the provisions of Chapter 552 of the Florida Statutes and all rules and regulations promulgated by the State Fire Marshal and Article 28 of the County Fire Code.

(b) It shall be unlawful for any person to purchase or store explosives or blasting agents, to conduct an operation that requires the use of explosives or blasting agents, to drill boreholes for the purpose of blasting or to engage in blasting at any site without first obtaining a County user permit. This restriction shall not include the drilling of exploratory test borings at a minimum distance of fifty (50) feet apart.

(c) It shall be unlawful for any individual to perform or supervise the handling or detonation of explosives or blasting agents at any site without first obtaining a County blaster license.

(d) It shall be unlawful for any individual to handle explosives while assisting a blaster without first obtaining a helper's license. A person possessing a helper's license may only handle explosives at an approved site under the direct supervision of an individual possessing a County blaster license.

(e) County licenses and/or user permits required by Section 13-4(a) shall not be issued for:

(1) Liquid nitroglycerin.

(2) Nitrocellulose in a dry and uncompressed condition in quantity greater than ten (10) pounds net weight in one (1) package.

(3) Fulminate of mercury in a dry condition and fulminate of all other metals in any condition except as a component of manufactured articles not hereinafter forbidden.

(4) Explosive compositions that ignite spontaneously or undergo marked decomposition, rendering the products or their use more hazardous, when subjected for forty-eight (48) consecutive hours or less to a temperature of one hundred sixty-seven (167) degrees Fahrenheit (seventy-five (75) degrees Celsius).

(5) New explosives until approved by the United States Department of Transportation, except that County licenses and/or user per-

mits may be issued to educational, governmental or industrial laboratories for instructional or research purposes.

(6) Explosives condemned by the United States Department of Transportation.

(7) Explosives not packed or marked in accordance with the "Hazardous Materials Regulations of the United States Department of Transportation."

(8) Explosives containing an ammonium salt and a chlorate.

(Ord. No. 96-45, § 1, 3-19-96)

**Sec. 13-5. Applications for County licenses and/or user permits; issuance.**

All applications for County user permits and County blaster licenses or helper licenses required under this chapter shall be filed with the Director of the Public Works Department or his designee and shall set forth in detail the purpose for which the County license and/or user permit is sought in relation to explosives, the full name and address of the applicant, his or her physical description, his or her fingerprints, and such other information as may be prescribed by the Director, and shall be accompanied by an accurate photograph of the applicant. Such application shall be signed and sworn to by the applicant. The Director shall prescribe the form of applications and furnish such application forms to applicants upon request. County blaster and helper licenses are not transferable. A County user permit shall be transferable so long as the transferee meets all the requirements of this chapter. No County license and/or user permit shall be issued to any person under the age of eighteen (18) years, or who is addicted to the excessive use of alcohol, narcotics, drugs, stimulants, or depressants, or who, as a result of a physical or mental deficiency, cannot reasonably be expected to safely handle or utilize explosives or blasting agents, or who has been convicted of a felony. An applicant for a County user permit or County blaster's license must prove himself or herself thoroughly competent and familiar with explosives to be used and with the operation to be performed and with applicable regulations by an examination prepared and administered by the Director or his designee. The burden shall rest upon the applicant to establish his or her qualifications for the issuance of a County license or user permit. The County user permit issued hereunder shall show the purpose for which it is to be used, the location and the period of time for which it is valid. The County license issued hereunder shall show the purpose for which is to be used, and the period of the time for which it is valid.

(Ord. No. 96-45, § 1, 3-19-96)

**Sec. 13-6. Appeals from refusal to issue a County license or user permit and from revocation of a County license or user permit; public hearing; waiver of prior conviction.**

Any individual who is denied or refused a County license or any person who is denied or refused a County user permit for reasons other than as provided in Section 13-7 or whose County license or user permit has been revoked by the Director of the Public Works Department for reasons other than as provided in Section 13-7, may appeal to the Construction Trades Qualifying Board Division A, by filing a written petition of review setting forth the reasons why his application for a County license or user permit should have been granted, provided, however, that the Construction Trades Qualifying Board shall have no jurisdiction to entertain any such appeal unless a written petition or request for review is filed with the Secretary of the Construction Trades Qualifying Board within thirty (30) days after the date upon which the applicant receives notice that his application for a County license or user permit has been denied or refused or revoked. When an appeal has been filed, the Construction Trades Qualifying Board shall conduct a public hearing to determine whether the applicant qualifies for a County license or user permit. The Construction Trades Qualifying Board shall not authorize the granting of a County license or user permit unless it finds and determines that the applicant is qualified under the provisions of Section 13-5. The prohibition against issuance of a County license or user permit to any person who has been convicted of a felony may be waived by the Construction Trades Qualifying Board, provided that such conviction occurred more that ten

(10) years prior to the date of filing the application, and that the applicant has rehabilitated himself or herself completely.
(Ord. No. 96-45, § 1, 3-19-96)

**Sec. 13-7. Application for County user permit for lake excavation within the urban development boundary; public hearing before the Board of County Commissioners.**

(a) Except in the case of a two (2) pound County user permit all County user permit applications for lake excavations that lie within the urban development boundary (UDB) as shown on the adopted comprehensive master plan as authorized by Section 2-114 of the Code of Metropolitan Dade County, Florida, must be approved by the Board of County Commissioners. A County user permit application for a lake excavation that lies within the UDB shall be verified by the owner or the lessee of the property upon which the work is proposed. If the application for a County user permit for a lake excavation that lies within the UDB is verified by a lessee, an affidavit from the owner of the property indicating that the owner has no objection to the work proposed shall be submitted with the application.

(b) In addition to the application requirements of Section 13-5, a County user permit application for a lake excavation within the UDB which is filed with the Director of the Public Works Department shall include, as a minimum, the following:

(1) Evidence of ownership or a lease of the property upon which the lake excavation is proposed. Said evidence of ownership or lease may include, at the discretion of the Public Works Department, an affidavit of ownership or lease executed by the owner and/or lessee of the property.

(2) Three (3) copies of a plan or sketch of the proposed lake excavation(s) to include location, size and depth.

(3) A written statement signed by the County user permit applicant or the applicant's authorized agent stating that, if approval is granted for the proposed work by the Board of County Commissioners, complete and detailed plans and calculations of the proposed work shall be prepared by an engineer licensed in the State of Florida in accordance with the Dade County Public Works Manual. Said plans and calculations shall be subject to the review and approval of the Public Works Department.

(4) Certification by an engineer licensed in the State of Florida, who is qualified by education and experience in the area of construction that, to the best of the engineer's knowledge and belief, the proposed work does not violate any laws, rules or regulations of the State of Florida or any provisions of the Code of Metropolitan Dade County which may be applicable.

(5) A geotechnical report prepared and signed by an engineer licensed in the State of Florida having expertise in the geotechnical field. This geotechnical report shall provide a concise soil and rock strata description of the area proposed to be excavated, supported by the appropriate soil boring results of the site.

The geotechnical report must give full consideration for excavating the lakes without the use of explosives. If explosives are recommended, impact to nearby residential, commercial or industrial areas must be addressed. The report should state how the requirements of this chapter will be met.

(6) Names and addresses from the latest County tax rolls of all owners of property within one (1) mile of the perimeter of the proposed lake excavation.

(7) If the proposed work is within an incorporated area of the County, a letter from the zoning department of that incorporated area stating that the proposed usage of the property upon which the proposed work would occur does not violate any zoning law applicable to the area of the proposed work.

(8) The applicant, at his or her discretion, may provide evidence of public interest relating to the proposed work.

(c) Obtaining approval from the Board of County Commissioners:

(1) The Director of the Public Works Department shall review the County user permit application for the proposed lake excavation that lies within the UDB and shall make a recommendation to the Board of County Commissioners of approval, denial, or approval subject to conditions, limitations or restrictions for the proposed work. The Director's recommendation shall be based upon the applicable evaluation factors set forth in Section 13-7(d) of this Code. The Board of County Commissioners shall hold a public hearing concerning the proposed lake excavation that lies within the UDB. A notice of the time and place of said public hearing shall be published by the applicant in a newspaper of general circulation in Dade County a minimum of fourteen (14) days prior to the public hearing. Said notice shall include a brief description of the proposed work and the location of the proposed work. A courtesy notice containing substantially the same information set forth in said published notice shall be mailed by the County to those parties whose names appear on the application as the owners of property within one (1) mile of the perimeter of the proposed lake excavation. Failure to mail or receive said courtesy notice shall not affect any action or proceeding taken hereunder. The Board of County Commissioners shall, after holding the public hearing, approve, deny, or approve subject to conditions, limitations or restrictions, the lake excavation proposed under the permit application based upon the applicable evaluation factors set forth in Section 13-7(d) of this Code.

(2) If the Board of County Commissioners approves a permit application, the Public Works Department shall issue the County user permit subject to the conditions, limitations or restrictions required by the Board of County Commissioners. The Director of the Public Works Department is authorized from time to time to change, amend or modify the imposed conditions and limitations regarding any County user permit in order to meet the purpose for which they were imposed if changing conditions or circumstances so dictate and after first considering recognized standards and references, any relevant historical data, studies, and results obtained during the regulation of blasting operations in Dade County, the adverse effects under Section 13-14, and the guidelines enumerated under Section 13-18. The Director of the Public Works Department is further authorized to revoke a County user permit for failure of the permittee to comply with any conditions, restrictions, or limitations placed on such County user permit.

(d) Factors for evaluation of County user permit applications within the UDB: Dade County Public Works Department shall base its recommendation for approval, denial or approval subject to conditions, limitations, or restrictions, and the Board of County Commissioners shall make its decision for approval, denial, or approval subject to conditions, limitations or restrictions, for any of the permits provided for under this article, upon the following evaluation factors, when applicable:

(1) Potential adverse effects of the proposed blasting project as prescribed by Section 13-14 with respect to preventing damage to property, preventing personal injury or loss of life, protecting the public health, welfare and safety and the reduction of nuisance.

(2) Conformance with all applicable federal, state and local laws and regulations.

(3) The recommendation to the Board of County Commissioners as to approval or denial from the municipality within which the proposed work is located.

(4) All materials submitted with the application as required by this section.

(e) Appeals:

(1) Any individual or person appearing of record at any hearing held pursuant to this section may, within thirty (30) days, appeal the decision of the Board of County Commissioners to the Circuit Court.

(2) Any person whose County user permit, which has been authorized by the Board of County Commissioners pursuant to this section, is subsequently revoked by the Director of the Public Works Department may, within thirty (30) days, appeal such revocation to the Board of County Commissioners.

(f) Time of completion of blasting work; extension of completion time; timely application for extension of time.

(1) All blasting work authorized by a County user permit for a lake excavation within the UDB issued pursuant to this article shall begin no later than three (3) months after Board of County Commission approval and shall be completed within eighteen (18) months from the date of the issuance of the first County user permit for said lake excavation or any extension thereof, unless another period of time is provided by the Board of County Commissioners as set forth in the resolution authorizing approval for the issuance of a County user permit.

(2) Extensions of time for completion of work being performed pursuant to a County user permit issued pursuant to this article may be granted by the Director of the Public Works Department or his designee provided that:

a. The application form for the extension of time is filed at least thirty (30) days prior to the expiration of the County user permit.

b. The application form for the extension of time is filed at least thirty (30) days prior to the expiration of the County user permit.

c. The Director has determined that the applicant for the extension of time has affirmatively established by competent factual data and information in the application that:

1. There have been no substantial changes in the surrounding area that may be affected by the permitted work.

2. Neither an adverse impact nor cumulative adverse impact will occur if the extension of time is granted.

3. The work authorized by the County user permit has been performed, to date, in accordance with the County user permit and its restrictions, limitations or conditions.

4. The applicant for the extension of time has agreed to any additional conditions, limitations or restrictions if required by the Director.

(3) Applications for extensions of time which are not timely filed pursuant to Section 13-7(f)(2) hereinabove shall be returned to the applicant. The applicant shall be required to file an application for a new County user permit pursuant to the provisions of this article.

(Ord. No. 96-45, § 1, 3-19-96)

### Sec. 13-8. Violations of State laws deemed violation of this chapter, revocation of County license and/or user permit.

Any person who violates any of the provisions of Chapter 552, Florida Statutes, or any of the regulations of the State Fire Marshal promulgated thereunder, shall be deemed to have violated the provisions of this chapter and may be prosecuted in the proper court. County licenses and/or user permits issued hereunder shall be revoked for any violation of this chapter or of the State law or of regulations of the State Fire Marshal.

(Ord. No. 96-45, § 1, 3-19-96)

### Sec. 13-9. General requirements.

(a) *Stolen explosives, reporting.* In the event that any explosive is stolen, misplaced, or lost, such occurrence shall be reported immediately to the directors of public works, Metro-Dade Police Department, Metro-Dade Fire and Rescue Departments, and the Federal Bureau of Alcohol, Tobacco, and Firearms. The area in which the inci-

dent occurs shall be secured until investigation has been made and the scene released by the proper authority.

(b) *Sale to person without County user permit.* It shall be unlawful for any person to sell or otherwise dispose of any explosive to any person who does not have a valid County user permit issued hereunder or under the provisions of Article 28 of the County Fire Code.

(c) *Inventory, reporting.* Every user having any explosive in his possession, dominion or control shall file with the Director on the fifteenth day of each and every month, a schedule or inventory accurately setting forth the quantity and description of such explosives on a form prescribed by the Director.
(Ord. No. 96-45, § 1, 3-19-96)

**Sec. 13-10. Storage of explosives and blasting agents at blasting sites.**

(a) Blasting agents and explosives, including special industrial high explosive materials, shall be stored in accordance with the requirements of Article 28 of the South Florida Fire Prevention Code (adopted as part of Chapter 14 of the Dade County Code), Florida Statutes Chapter 552, or any of the regulations of the State Fire Marshal promulgated thereunder, and Title 27, Code of Federal Regulations Part 55, Commerce in Explosives,. Sub Part K-Storage. In case of conflict between codes and regulations, the more stringent shall apply.

(b) Every person in possession of any explosive shall cause the same to be stored in a safe place and shall maintain such security measures as shall be reasonably necessary to prevent all unauthorized persons from gaining access to such explosives. Any person who shall fail to use reasonable precautions for the security and safety of explosives in his or her possession shall be deemed guilty of violating this chapter, and subject to the penalties provided for herein, and in addition thereto, shall be subject to revocation of his or her County license and/or user permit.

(c) Magazine operations.

(1) Smoking, matches, open flames and spark producing devices shall be prohibited inside or within fifty (50) feet of magazines. Combustible materials shall not be stored within fifty (50) feet of magazines.

(2) The land surrounding magazines shall be kept clear of brush, dried grass, leaves, trash and debris for a distance of at least fifty (50) feet.

(3) Magazines shall be kept locked except when being inspected or when explosives are being placed therein or being moved therefrom.

(4) Packages of explosives shall not be unpacked or repacked in a magazine nor within fifty (50) feet of a magazine nor in close proximity to other explosives.

(5) Magazines shall be kept clean, dry, and free of grit, paper, empty packages and rubbish. Floors shall be regularly swept. Brooms and other cleaning utensils shall have no spark producing metal parts. Floors stained by leakage from explosive material shall be cleaned according to instructions of the manufacturer.

(6) When an explosive has deteriorated to an extent that it is in an unstable or dangerous condition, or if nitroglycerin leaks from any explosive, then the person in possession of such explosive shall immediately report the fact to the Director of the Public Works Department and upon his authorization shall proceed to destroy such explosives and magazines in accordance with the instruction of the manufacturer. Only experienced persons shall do the work of destroying explosives.

(7) The user or blaster shall be in charge of the magazine and shall be held responsible for the enforcement of all safety precautions. All magazines shall be furnished with locking devices that conform to the provisions of Title 27, Code of Federal Regulations Part 55, Commerce in Explosives, Sub Part K-Storage. At any time that a magazine does not have such locks in an operating condition then a twenty-four-hour security guard must be furnished.
(Ord. No. 96-45, § 1, 3-19-96)

**Sec. 13-11. Use and handling of explosives.**

(a) Blasting operations shall be conducted during the hours of 8:00 a.m. to 5:00 p.m. except that the Director of the Public Works Department may extend the blasting time to all daylight hours for sites remote from residential development. Blasting shall not be done on Sundays or legal holidays except in emergencies involving the health, safety and welfare of the public.

(b) The handling and firing of explosives shall be performed by the person possessing a County blaster license or by County helper license holders under his or her direct supervision who are at least eighteen (18) years old. When two (2) or more blasters are working together, one shall be the blaster-in-charge designated by the user or the blasters themselves.

(c) No person shall handle explosives while under the influence of intoxicants, or narcotics.

(d) No person shall smoke or carry matches while handling explosives or while in the vicinity thereof.

(e) No open flame light shall be used in the vicinity of explosives.

(f) Whenever blasting is being conducted in the vicinity of gas, electric, water, fire alarm, telephone, telegraph or steam utilities which may be affected by adverse effects as prescribed by Section 13-14(a), (b), and (c), the user shall notify the appropriate representative of such utilities at least forty-eight (48) hours, excluding days other than business days, in advance of blasting, specifying the location and intended time of such blasting. Verbal notice shall be confirmed with written notice. In an emergency this time limit may be waived by the Director. The user shall comply with all applicable notification provisions of Chapter 556 of Florida Statutes, "Underground Facility Damage Prevention and Safety Act," as amended from time to time.

(g) Blasting operations shall be conducted in accordance with nationally recognized good practice.

(h) Before a blast is fired, the person in charge shall make certain that all surplus explosives are in a safe place, all persons and vehicles are at a safe distance or under sufficient cover, and a loud warning signal has been sounded.

(i) Firing with cap and fuse will not be approved for use unless specifically approved for job site by the Director.

(j) Due precautions shall be taken to prevent accidental discharge of electric blasting caps from current induced by radio or radar transmitters, lighting, adjacent power lines, dust storms or other sources of extraneous electricity. These precautions shall include:

(1) The suspension of all blasting operations and removal of persons from the blast area during the approach and progress of an electric storm.

(2) The posting of signs warning against the use of mobile radio transmitters on all roads within three hundred fifty (350) feet of the blasting operations.

(3) Compliance with nationally recognized good practice when blasting in the vicinity of radio transmitters or power lines.

(k) When blasting is done in congested areas or in close proximity to a building, structure, railway, highway or any other installation that may be damaged, the blast shall be covered before firing, with a mat constructed so that it is capable of preventing rock from being thrown into the air.

(l) Tools used for opening packages of explosives shall be constructed of nonsparking materials.

(m) Empty boxes and paper and fiber packing materials which have previously contained high explosives shall not be used again for any purpose, but shall be destroyed by burning at an approved isolated location out of doors, and no person shall be nearer than one hundred (100) feet after the burning has started.

(n) Explosives shall not be abandoned.

(o) Personal vehicles shall not be stopped or parked within five hundred (500) feet of a magazine or blast site. The Director may waive this provision for certain vehicles as requested by the

user in written application. This section is not intended to exclude vehicles used in the blasting or quarrying operation.
(Ord. No. 96-45, § 1, 3-19-96)

### Sec. 13-12. Drilling boreholes and loading explosive material.

(a) All drill holes shall be checked prior to loading to determine depth and condition. Holes shall be cleared of any obstructions prior to loading.

(b) Machines and all tools not used for loading explosives into boreholes shall be removed from immediate location of holes before explosives are delivered. Equipment shall not be operated within fifty (50) feet of loaded holes.

(c) Loading shall not commence until all drilling is completed, unless this procedure is impracticable under conditions encountered. When conditions justify simultaneous loading and drilling in the same blast area, such operations shall be separated as widely as practicable and in no case less than the length of the deepest hole in the shot or fifty (50) feet whichever is greater.

(d) No vehicular traffic shall be permitted over loaded holes.

(e) No loaded holes will be left unattended or unprotected.
(Ord. No. 96-45, § 1, 3-19-96)

### Sec. 13-13. Misfires.

(a) The blaster shall inspect the entire blast site for misfires before allowing other personnel to return to the blast area.

(b) If a misfire is found, the blaster shall provide the proper safeguards for excluding all personnel from the blast area.

(c) No other work shall be done except that necessary to remove the hazard of the misfire. Only those personnel necessary to do the work shall remain at the blast site.

(d) No attempt shall be made to extract explosive materials from a misfired hole. A new primer shall be inserted, and the hole shall be refired. If refiring presents a hazard, the explosive materials may be washed out with water, or, where the misfire is under water, blown out with air.

(e) If there are any misfires using cap and fuse, all personnel shall stay out of the blast site for at least one (1) hour. If there are any misfires using other nonelectric detonators (i.e., other than cap and fuse) or using electric detonators, all personnel shall stay out of the blast site for at least thirty (30) minutes.

(f) Misfires shall be handled under the direction of a qualified blaster.

(g) If a misfire is suspected, all initiating circuits (electric or non-electric) shall be carefully traced and a search made for unexploded charges.

(h) No drilling or digging, except as necessary to safely remedy a misfire problem, shall be allowed until all misfires have been detonated or until the authority having jurisdiction approves the resumption of work.

(i) All misfires or premature detonations shall be reported in writing to the Director within three (3) days of such occurrence. The blaster shall provide information regarding the date and time of the occurrence, type of explosives and initiation system used, and the cause of the malfunction if it is known.
(Ord. No. 96-45, § 1, 3-19-96)

### Sec. 13-14. Adverse effects.

(a) Maximum allowable airblast measured at the nearest building or structure not owned by the user, or when measured at a distance of five thousand two hundred eighty (5,280) feet from the blast shall not exceed one hundred twenty-nine (129) decibels when measured by an instrument having a flat frequency response over a range of at least 6 to 200 hertz. If the airblast is measured with an instrument having a flat frequency measure over a range of at least 2 to 200 hertz, the corresponding limit is one hundred thirty-three (133) decibels.

(b) Fly rock traveling in the air or along the ground:

(1) Shall remain within the controlled blast area and;

(2) Shall not be cast from the blast site more than one-half the distance to the nearest inhabited building within or outside the controlled blast area.

(c) Ground vibration shall be measured as particle velocity. The maximum allowable peak particle velocity shall not exceed 0.75 inch per second measured at the nearest building or structure not owned by the user or when measured at a distance of five thousand two hundred eighty (5,280) feet from the blast when the nearest structure not owned by the user is more distant than one (1) mile from the blast. Particle velocity shall be recorded in three (3) mutually perpendicular directions. The maximum allowable peak particle velocity shall apply to each of the three (3) measurements.

(d) Whenever blasting in the vicinity of a utility as set forth in Section 13-11(f) the user shall protect said utility from damage by establishment of a maximum allowable vibration level submitted by the user and agreed to in writing by the person from the utility who has authority to enter into said agreement. If there is a dispute between the user and the utility, the Director shall determine the maximum allowable vibration level.
(Ord. No. 96-45, § 1, 3-19-96)

### Sec. 13-15. Preblast survey and notification.

In order to provide a baseline record of the condition of a structure against which the effects of blasting can be assessed, to help the user to maintain good community relations, and to provide possible protection against later legal claims of damage, the user shall offer, at his or her cost, the following preblast survey and notification for each new blast site:

(a) All structures within a Scaled-Distance Factor of 150 of the proposed blast site shall be inspected by an independent, recognized seismologist, vibration engineer, structural engineer, or their representative. The Scaled-Distance Factor shall be determined by the following formula: Scaled-Distance Factor $= D/\sqrt{W}$ where W is the charge weight, in pounds, of explosives per delay and D is the distance, in feet, from the blast site to the structure not owned by the user. If occupants of a structure refuse inspection or access is not possible, the user shall notify the Director in writing of the address of said structure.

(b) The preblast survey inspection shall consist of complete documentation of all visible interior and exterior defects observed at the structures examined. A list of all preblast surveys shall be forwarded to the Director for approval no later than five (5) days prior to the planned commencement of blasting. A location map indicating the streets and structures involved shall be submitted together with this list.

(c) An update survey of any additions, modifications or renovations requiring a building permit shall be performed on previously inspected structures if requested by a resident or owner.

(d) The user shall provide written notification of pending blast operations to all residents within one (1) mile of the proposed blast site at least ten (10) but no more than thirty (30) days prior to the commencement of blasting. The written notification shall describe the blasting which will take place, its expected effects, and how to contact the user or his or her representative with any blast related complaints or claims.

(e) If blasting is suspended in an area for a period of ninety (90) days or longer, renotification of all residents within one (1) mile shall be accomplished at least seven (7) days prior to the recommencement of blasting.
(Ord. No. 96-45, § 1, 3-19-96)

### Sec. 13-16. Claims.

(a) All claims of property damage arising out of the use of explosives shall be acknowledged by the user (or the user's agent) and notification given to the Director within seven (7) days of receipt. The notification to the Director shall include the following information:

(1) Date and time of the claim.

(2) Name, address, and telephone number of the claimant.

(3) Nature of the claim.

(b) The user shall promptly process any and all property damage claims. The user is responsible to ensure that the claimed damage will be inspected within a reasonable time not to exceed thirty (30) calendar days of initial receipt of the claim and shall estimate the total amount of the damages claimed and provide the claimant and the Director with a copy of the estimate. Based on the estimated amount of damages, any claim that falls within the jurisdiction of the County Court shall be honored, denied or compromised within six (6) months of the date of inspection. All other claims shall, after the initial inspection and estimate, be promptly and diligently processed to a conclusion.
(Ord. No. 96-45, § 1, 3-19-96)

**Sec. 13-17. Director of the Public Works Department to issue County licenses and/or user permits.**

(a) The Director of the Public Works Department is hereby authorized to:

(1) Issue County user permits and County blaster licenses only to persons who hold state licenses or permits required by Florida law and who meet the requirements of this chapter.

(2) Issue County helper licenses in accord with and pursuant to the provisions of this chapter.

(b) Such County licenses and/or user permits shall be issued only after:

(1) Payment of a fee established by administrative order which shall not become effective until approved by resolution of the Board of County Commissioners.

(2) The filing of an application on a form prescribed by the Director signed and sworn to be the applicant showing the applicant's name, address, that he or she holds a valid State License and/or permit, the location or locations where the blasting is to be performed, that blasting at such location is authorized or permitted pursuant to County or municipal zoning regulations, and the distance between the location of the proposed blasting and any improved property.

(3) The issuance of a County user's permit shall not authorize blasting in any area or location where the same is prohibited by any zoning regulations or other law, and shall be limited to the location designated in the application; provided, however, that if the amount of explosives to be used at any one (1) time whether fired or detonated as a single charge or by delay series does not exceed the total explosive power or capacity of two (2) pounds of forty (40) percent dynamite, the Director is authorized to issue a two-pound County user permit for the use of such amount of explosives without the same being limited to a particular location, provided, further, that the firing, detonating or exploding of any quantity of explosives on or against a boulder, rock strata, stump, tree or other object, or on the ground surface or in the open air and not confined in a bore, hole or any blasting commonly referred to as mudcapping or adobe blasting, is prohibited unless upon application and the payment of the required fee a user is granted a special user's permit for each and every location where such blasting is to be performed.

(c) The Public Works Director is hereby authorized to revoke and/or to suspend County licenses and/or user permits for the following reasons:

(1) Noncompliance with any order of the issuing authority within the time specified in such order.

(2) In the event that the County license or user permit applicant or holder is under indictment for, or has been convicted of a crime punishable by imprisonment for a term exceeding one (1) year.

(3) In the event the applicant is a fugitive from justice.

(4) In the event the applicant is an unlawful user of, or is addicted to narcotics or dangerous drugs.

(5) In the event the applicant has been adjudicated as mentally incompetent.

(6) In the event that the County license or user permit applicant or holder suffers from a mental or physical defect that would reasonably interfere with the applicant's safe handling of explosives.

(7) Violation by the County license or user permit applicant or holder of any provision of any explosives law or regulation; or in the event that false information was given or a misrepresentation was made to obtain the County license or user permit.

(d) Appeal from revocation and/or suspension may be made in accordance with the provisions of Section 13-6 or Section 13-7(e) as applicable.
(Ord. No. 96-45, § 1, 3-19-96)

**Sec. 13-18. Limitations and conditions.**

(a) The Director of the Public Works Department shall impose in each County user permit issued by him or her such limitations and conditions as to:

(1) Days and hours when blasting may be performed.

(2) The period of time for which it is valid.

(3) The amount and type of explosive which may be employed at any one (1) time, whether fired or detonated instantaneously as a single charge or by a delay series charge, as may be deemed by him or her reasonable under the conditions existing in the locale for which the County user permit is issued. The Director may impose conditions concerning borehole stemming.

(4) Vibration limits within the urban development boundary (UDB). Vibration limits measured within the UDB may be reduced to a peak particle velocity as low as 0.1 inch per second, after first considering recognized standards and references, and any relevant historical data, studies, and results obtained during the regulation of blasting operations in Miami-Dade County. The Director may conduct a series of tests witnessed by neighborhood property owners to determine acceptable limits of vibration, after first considering recognized standards and references, and any relevant historical data, studies, and results obtained during the regulation of blasting operations in Miami-Dade County.

(b) In determining and imposing such reasonable conditions and limitations the Director, with the assistance of the Fire Chief, shall be governed by preventing damage to property, preventing personal injury or loss of life, protecting the public health, welfare and safety and the reduction of nuisance.

(c) The Director is authorized from time to time to change, amend or modify the imposed conditions and limitations regarding any County user permit in order to meet the purpose for which they were imposed if changing conditions or circumstances so dictate. It is intended here that the Director may impose more restrictive conditions and limitations if circumstances and conditions in the area concerned so warrant or prove to be necessary in order to carry out the purpose for which the conditions and limitations were imposed. If such conditions and limitations are found by the Director to be too restrictive, he or she may modify them accordingly within the bounds of the purposes for which they were imposed. However, the imposed limitations and conditions as to the amount of explosives authorized in any County user permit shall not be increased by the Director until and unless the user shall first demonstrate to the Director by good and sufficient evidence that the desired increase would not in any event provoke or result in adverse effects as prescribed by Section 13-14 hereof. The Director will require, in order to protect the public health, welfare or safety, the user to submit a recognized instrument test for any blasting operations to ascertain that the above described limits are not exceeded at the nearest building, or structure not owned by the user. In the event that the Director determines that measurements from more than one (1) location are necessary, the user shall be responsible for supplying any and all additional instrument testing. The Director may specify the location at which measurements are taken and the degree of detail necessary in the measurement. Any actions taken by the Director under authority granted by this subsection shall only be

taken after the Director has first considered recognized standards and references, the guidelines enumerated above in subsections (a) and (b), and any relevant historical data, studies, and results obtained during the regulation of blasting operations in Miami-Dade County.

(d) The blaster shall provide, at his or her cost, a seismic instrument at each site. Such instrument may be removed from a site, after written notice has been given to the Director of Public Works, when the blasting at the site has been completed or indefinitely suspended.

(e) The Director shall be notified of any scheduled blast. The user shall call the Director at least two (2) hours prior to scheduled blasting to indicate the location, pattern, quantities of explosives being used, and the time of detonation as can best be determined. Should any blast be more than thirty (30) minutes from the proposed time set, renotification to the Director will be required. The user shall call and notify the Director immediately after each blast to give the exact time of detonation in order for the Director to identify a particular blast with any complaints which may be received.

(f) Any user who exceeds in a single blasting event the maximum peak particle velocity (PPV) limit established by the user permit by .05 inch per second as measured at any occupied residential unit located within the adopted (2005) UDB and within two (2) miles of a specific blasting site shall be subject to a civil fine of five hundred dollars ($500.00) to one thousand dollars ($1,000.00). Any subsequent blast at the same blast site within a calendar year of the first violation which exceeds the PPV limit as provided herein shall be subject to a civil penalty of three thousand dollars ($3,000.00) to ten thousand dollars ($10,000.00). A third violation at the same site during the same calendar year of the second violation shall result in a fine of ten thousand dollars ($10,000.00) and blasting at that site will be suspended pending an expedited hearing before the Construction Trades Qualifying Board. A finding by that Board that a violation has occurred shall result in a revocation of the permit or non-issuance of any subsequent permit for the remainder of that calendar year or a period of six (6) months, whichever period of time is greater. After revocation or non-issuance, a permit for the remainder of the calendar year can only be reinstated or issued by action of the Board of County Commissioners at a public hearing. All fines collected hereunder shall be placed in a separate fund and expended solely for the purposes of offsetting the costs of regulation under this chapter.
(Ord. No. 98-15, § 1, 2-3-98)

### Sec. 13-19. Notice to purchasers of residential property of rock mining operations where blasting is permitted.

(a) Any person constructing a residential structure located within two (2) miles of a permitted rock mining operation where blasting is permitted shall, prior to the issuance of the first development permit, record in the public records a notice that the proposed development is located within two (2) miles of a blasting site. The notice shall provide the location of the blasting site and that such blasting is regulated by Chapter 13 of the Code of Miami-Dade County. Notice shall be given to and signed by buyers contemporaneous with signing purchase contracts within said developments.

(b) The Director of the Miami-Dade County Public Works Department and the Director of the Miami-Dade County Department of Planning, Development and Regulation shall maintain detailed maps of all permitted rock mining operations where blasting is permitted within Miami-Dade County. Any developer may request a written opinion from the Director of Public Works as to whether his or her development is located within the two-mile area.

(c) The Directors of the Miami-Dade County Public Works Department and Miami-Dade County Department of Planning, Development and Regulation shall provide adequate notice of this section with the official application forms for development permits.
(Ord. No. 96-45, § 1, 3-19-96)

## Sec. 13-20. Blasting records.

(a) All users of explosives shall keep daily records for a period of three (3) years of all blasting performed on a form or forms prescribed by the Director of the Public Works Department which shall be made available at reasonable times and hours at a location approved by the Director for inspection by him or her or his or her designee and signed copies of such records shall be furnished to the Director within seven (7) days from the date of the actual blast.

(b) The minimum data to be shown on such record shall be:

(1) Name and location of blasting site.

(2) Date and time of firing.

(3) Arrangements and spacing of charges.

(4) The amount of explosive for each blast or delay series.

(5) Delay interval.

(6) Name of person in charge of loading and firing.

(7) County user permit number, and signature and title of person making report.

(c) (1) Records of instrument readings taken as required by Section 13-18 shall be analyzed by an independent recognized seismologist or vibration engineer and shall be reported by him or her to the Director of Public Works with full and complete details within thirty (30) days from the date of the actual blast or upon demand. This seismologist or vibration engineer shall be

qualified in blast monitoring and shall have documented prior experience within this field.

(2) All original records will be the property of the blasting company with a copy certified by a seismologist or vibration engineer furnished to the Director of Public Works.

(d) Unless otherwise authorized by the Director, all instruments used for compliance with this chapter shall meet the following minimum specifications:

(1) Seismic frequency range: 2 to 200HZ (± 3HZ)

(2) Acoustic frequency range: 2 to 200HZ (± 1db)

(3) Velocity range: 0.02 to 4.0 inches/second

(4) Sound range: 110 to 140 db linear

(5) Transducers: Three mutually perpendicular axis

(6) Recording: Provide time history of waveform.

(7) Each instrument shall be calibrated annually, preferably on a shake table, and such calibration certified except for instruments which are certified as self-calibrating.

(e) A copy of preblast inspection documentation as required by Section 13-15(b) and (c) shall be forwarded, in its entirety, to the Director upon demand.
(Ord. No. 96-45, § 1, 3-19-96)

### Sec. 13-21. Waterway blasting operations.

When blasting operations involve drill boats or barges operating on or near, navigable waterways, the following shall be required in addition to all applicable federal, state, and local regulations including those set forth in this chapter.

(a) *Drill boat or barge safety.*

(1) All onboard magazines shall be permanently secured to the deck as required by the Coast Guard.

(2) No explosives shall be stored on the boat or barge deck in the open except for the one case that is to be loaded immediately into the bore holes. Any explosives remaining on deck shall be returned to the day magazine prior to the firing of any blast.

(3) The firing line reel or spool shall be mounted on the rig in a manner that it cannot be lost overboard.

(4) The amount of explosives allowed aboard the drill boat at any one time will be subject to the approval of the Director, but in no case shall such amount exceed that amount allowed by appropriate codes and regulations.

(5) The user shall make necessary arrangements, as may be required by the Director, to prevent damage to any vessel, moored or underway, building or structure, and preserve the crew or occupants thereon from exposure to injury as a result of the users operations.

(6) The user shall have a certified marine survey of all floating plant proposed for underwater blasting work performed prior to starting any work, and shall provide the results to the Director.

(7) Lightning: The user shall furnish, maintain, and operate lightning-detection equipment during the entire period of blasting operations and/or during the periods that explosives are stored at the site. The equipment shall be installed in a location approved by the Director. A lightning detector shall be operated at all times to detect lightning within a ten (10) mile radius. When the lightning-detection device indicates a blasting hazard potential, the user shall perform the following:

a. Shall notify the Director of the potential hazard.

b. Shall clear the buoyed blast area of all vessels and personnel.

c. Terminate all loading of holes and return unused explosive to the day storage area.

d. After sounding the All Clear Signal, shall notify the Director that the potential hazard has passed.

e. Resume operations only after all potential of hazard has passed.

f. The lightning detector shall be taken off the drill barge with the last evacuation vessel and continuously monitored until danger has passed.

g. The user shall monitor the blast area to prevent any boat or vessels from inadvertently entering the blast area during the lightning hazard.

(b) *Navigation control during drilling, loading, and blasting operations.*

(1) The user shall buoy the blast area with warning signs. The warning signs shall be legible from a distance of two hundred (200) feet and shall contain the message "DANGER — EXPLOSIVES IN USE." The user may be required by the Director to operate two (2) or more patrol boats during blasting operations whose sole function shall be to monitor and maintain security in the blast area. Patrol boats shall be stationed at the drill barge and remain in the blast area during all blasting operations. Land oriented access control and visual observation locations should be determined and approved by the Director. The user shall inspect and insure that no boat traffic exists within the buoyed blast area prior to the detonation of the blast and until such time as the blaster in charge has sounded the "All Clear Signal." The user shall equip and maintain his or her floating plant with radio equipment capable of communications with the Coast Guard. The user shall inspect the blast area after each blast and immediately notify the Coast Guard and the Director if an all clear or misfire is noted.

(2) Coordination with the U.S. Coast Guard: The user shall notify the Coast Guard twenty-four (24) hours prior to a scheduled shot and two (2) hours prior to the actual shot. The waterway must be kept open to vessel traffic at all times except as authorized by the Coast Guard.

(3) No blast shall be fired while any vessel under way is closer than one thousand five hundred (1,500) feet to the blast area. Those on board vessels or craft moored or anchored within one thousand five hundred (1,500) feet shall be notified before a blast is fired. No blast shall be fired while any swimming or diving operations are in progress in the vicinity of the blast area. If such operations are in progress, signals and arrangements shall be agreed upon to assure that no blast shall be fired while any person is in the water. Blasting flags shall be displayed.

(c) *Contingency plan in case of misfire, inadvertent initiator extraction, or accidental loss of down lines.*

(1) All loading of blast holes shall be done early enough each day to allow time, in case of a misfire, inadvertent initiator extraction, or accidental loss of down lines, to implement a contingency plan for removing or detonating the explosives before dark.

(2) The user shall submit a contingency plan to the Coast Guard and the Director prior to the commencement of any blasting and shall notify both parties in the event of a misfire, inadvertent initiator extraction, or accidental loss, of down lines. All undetonated explosives due to misfire, inadvertent initiator extraction, or accidental loss of down lines must be detonated.

(3) The user shall immediately notify the Coast Guard upon giving the "All Clear Signal" after correcting the misfire, inadvertent initiator extraction, or accidental loss of down lines.

(4) When more than one (1) charge is placed under water, a float device shall

be attached to an element of each charge in such manner that it will be released by the firing.

(d) *Bulk product specifications.*

(1) Bulk blasting agents or explosives delivered to the blast site shall be weighed by a certified weigh master at the transfer location nearest the blast site to determine the actual quantity of explosives delivered each day.

(2) Bulk product storage tanks or vessels on barges shall be permanently attached to the barge and electrically grounded. A containment dike shall be erected to contain the maximum rated capacity of the storage vessel and all associated pumps and hoses.

(3) All bulk product storage tank or vessel access ports, valves, vents, pumps, hoses, and drains shall be secured to prevent vandalism or theft of the explosive product.

(4) A flow metering device capable of measuring the quantity of explosives to within five (5) percent of the actual quantity in pounds shall be utilized for all bulk transfers to or from the bulk storage vessel.

(5) The delivery system to load holes on each drill frame shall be designed to load each hole to within five (5) percent of the design quantity required for each drill hole.

(6) Each drill frame shall measure the quantity of explosives loaded in all holes with weigh scales or flow metering devices to within five (5) percent of the design quantity for each hole. The total of all loaded holes shall be checked with the total quantity delivered prior to subsequent bulk deliveries. Should the bulk quantity delivered vary from the recorded quantity loaded and detonated all measuring devices and or meters shall be recalibrated to within the specified accuracy.

(7) Each hole loaded with emulsions or slurries shall be initiated with two (2) separate downlines, caps, and boosters. At least one (1) booster shall be secured in the hole with a mechanical lock in system or spider to prevent extraction of the booster or priming charge.

(8) As a minimum the top elevation of the emulsion or slurry product shall be measured to check for voids and actual quantity loaded.

(e) *Surface blasting.* Doby or surface blasting will not be allowed for the fragmentation of bedrock. Doby blasting is an option for fragmenting boulders or large blast rubble when water depths are at least thirty (30) feet.

(f) *Water wave propagation.* The user is responsible to ensure that water wave propagation resulting from blasting activity will not cause damage to shoreline structures.

(Ord. No. 96-45, § 1, 3-19-96)

### Sec. 13-22. Insurance requirements.

(a) No County user permit shall be issued without the user having first obtained and filed with the Public Works Department a certificate of insurance with limits of liability no less than one million dollars ($1,000,000.00) per occurrence for bodily injury and one million dollars ($1,000,000.00) per occurrence for property damage against any liability arising from any activity or operation incidental to blasting, mining or quarrying operations. Failure to provide current certificates of insurance or to maintain appropriate insurance coverage shall be grounds for revocation of the County user permit. In the event the required insurance is terminated, all blasting operations must cease immediately until full coverage is restored. Blasting insurance shall not be terminated without having obtained another insurance policy that will provide the required insurance without any gap in coverage.

(b) The insurance required by this section will be written by an insurance company authorized to do business in the State of Florida.

(c) Each insurance policy shall be endorsed to provide for thirty (30) days notice by registered

mail to the Director, Public Works Department of any material change, cancelation or expiration. No policy will be accepted for a shorter period than six (6) months.
(Ord. No. 96-45, § 1, 3-19-96)

**Sec. 13-23. Penalty for violation.**

In addition to the penalty provided by Section 1-5 or any other penalty, any person who violates the provisions hereof or the conditions and limitations imposed in a County license and/or user permit shall be deemed to have violated this chapter, and the County license and/or user permit may be revoked by the Director of the Public Works Department; provided an appeal may be filed pursuant to Section 13-6 or Section 13-7(e) hereof as applicable.
(Ord. No. 96-45, § 1, 3-19-96)

METROPOLITAN DADE COUNTY, FLORIDA

METRO-DADE

STEPHEN P. CLARK CENTER

PUBLIC WORKS DEPARTMENT
SUITE 1610
111 N.W. 1st STREET
MIAMI, FLORIDA 33128-1970

May 24, 1996

ERRATUM NOTICE TO ALL USERS OF EXPLOSIVES:

Enclosed is a certified copy of Ordinance No. 96-45, amending Chapter 13 of the Code of Metropolitan Dade County with corrections of two scrivener errors as follows:

1) Section 13-15 (a): Insertion of the missing square root symbol on the Scaled-Distance Factor formula.

2) Section 13-20 (c) (1): Replacement of reference to subsection 14 with subsection 18 in the first sentence.

If you have any questions or comments, please call me at (305) 375-2708.

Sincerely,

Victor J. Deutsch
Explosives Regulation

Building the future™

# Good Neighbor Program

## Krome Quarry & Santa Fe Haciendas Expansion

## CEMEX – Krome Quarry & Santa Fe Haciendas Expansion

### Aesthetic Berm and Noise Attenuation

In an effort to provide an aesthetic view from the neighbors to the South, a landscaped berm will be installed along the South edge of the Santa Fe Haciendas property consistent with permitted setbacks. The specifications of the berm are included in Appendix A.

In addition to providing an aesthetic presence, the berm will also serve to attenuate noise from the mining operation. The berm will be constructed prior to the commencement of the excavation on the Santa Fe Haciendas property and maintained throughout the course of the operation.

### Dust Control

The control of dust is an important piece of being a good neighbor. Although mining is a wet process, the dry weather and heat can sometimes require dust control on the mine haul roads.

To control dust, the following measures will be implemented.

1. Haul roads will be watered once every two hours by a 769 Caterpillar Water Truck (10,000 gallons) equipped with water spray bar.

2. In the event that this truck is inoperable, a replacement will be rented to meet the watering requirements of the haul roads in operation.

3. The frequency of watering under # 1 may be reduced during the rainy season as rain serves as a natural dust suppressant.

4. The entrance road (driveway to the Krome Quarry) , the pavement in and around the scales, and other paved areas will be watered periodically to wash -off accumulated dirt and dust.

5. If the foregoing measures are not sufficient to manage the airborne dust, then the frequency of items 2 and 4 will be increased.

**Minimizing Vibrations**

Blasting is a necessary part of the mining operation due to the nature of the South Florida limestone deposit. To minimize any impacts from the blasting operations, the following best practices are part of the routine operations at the Krome Quarry and will be implemented at the Santa Fe Haciendas property as well .

Each blast will be monitored on an individual basis to ensure compliance and document blast parameters. This data will be used to evaluate blast performance and identify potential modifications that may further minimize impacts.

1. Current blasting is in excess of 4000 feet from the Santa Fe Haciendas property located to the south. As blasting continues to advance to the south, it is important to collect as much data as practical to evaluate improvement opportunities. To build upon the data collected from the July, 2010 study, an array of three seismographs will be initially installed at 500', 750', and between 1,000' - 1,500' in a line south of the current blast area. This array will provide continuous collection of blast data as operations continue.

    a. The seismograms will be reviewed to determine peak particle velocity levels at known distances.

    b. Each seismograph location on the array (Item No. 1) will be surveyed to establish the exact location. In addition, the four corners of each shot will be surveyed to determine the exact position of the blast allowing for precise accounting in distance calculations for continued analysis.

    c. Seismograph units on-site and within the community will be evaluated regularly to maintain the correct orientation and distance separation for monitoring and optimum data recovery.

    d. The data being collected will include blast loading configuration details, ground vibration data, and air-blast levels and will be evaluated by a team of qualified experts. Based upon the data, blast parameters may be adjusted to improve performance.

2. One additional seismograph will be installed at a structure, or along the north property lines of structures, located on the north side of S. W. 100$^{th}$ Avenue. For best results, this instrument should be installed at a location east or west of the array line. The information from this seismograph will assist in the evaluation of blast performance.

**Additional Safeguards**

1. Prior to the start of blasting operations within new sections of the Santa Fe Haciendas quarry, an inspection would be offered to property owners within 3000 feet of the proposed blasting area. The offer will be made via Certified Mail.

   The inspection would consist of an existing crack survey by a professional engineer contracted by CEMEX with documentation of the existing cracks, separations, water marks and other existing cosmetic defects noted in a written summary report including photographs. The documentation establishes a baseline for CEMEX and the property owner.

   Following the inspection, the report will be forwarded to the property owner and CEMEX along with digital copies of any photographs taken.

2. Prior to any blasting event on site, notification will be made via telephone for interested residents within a 3000 foot radius of the blast. The call will be completed on the day of the blast indicating the approximate time that the blast will occur. If blasting plans are modified more than 4 hours from the original planned time, a second call would be made as feasible. Plans may be modified for a number of reasons including, but not limited to, mechanical breakdown of drilling and blasting equipment, heavy rain or other weather related concerns, or other circumstances beyond the control of CEMEX. CEMEX will maintain a list of contacts, the date and time the call was placed, and whether the property owner was reached or a message left. In addition, the planned time for each blast will be posted on-line (MDLPA.org website) on a weekly basis, subject to change for meteorological and other reasons.

**Blasting Inquiries:**

1. A log will be maintained for each blasting related call received by CEMEX, including the date, time, caller's name, address, and contact information. The nature of the call will be documented along with a general summary of the overall discussion.

2. Callers will be referred to the State of Florida, Division of State Fire Marshal as required by Chapter 69-A2 of the Florida Administrative Code .

3. CEMEX representatives will contact the property owner within 24 hours in response to his or her inquiry and concerns will be investigated in cooperation with the property owner.

4. If requested by the property owner, CEMEX, at no cost to the property owner, will contract with blasting experts to evaluate any relationship between the damage and the blasting. In addition, a General Contractor may be enlisted to inspect the structure to

evaluate potential construction defects not related to blasting. Upon completion of the field inspections, a formal report will be produced and provided to CEMEX.

5. Following completion of the investigation, CEMEX representatives will review the information with the homeowner at a mutually convenient time.

CEMEX remains committed to responsible management of the blasting process throughout its operations on the Krome Quarry and the Santa Fe Haciendas property. Through the implementation of these good neighbor protocols, the impacts of CEMEX's operations, if any, will be closely monitored.

**GOOD NEIGHBOR PROGRAM**
**Krome Quarry & Santa Fe Haciendas Expansion**

**APPENDIX A**

**Aesthetic Berm**

CEMEX shall, prior to the commencement of lake excavation activities, construct and maintain a continuous landscaped berm at a 100-foot setback from the southern property line of the Santa Fe Haciendas property. The berm shall be an average of 15 feet in height and shall be planted with native trees and shrubs to provide a visual buffer to the neighboring residents.

# Mine Specifications

- Total site – 393 acres.
  - Phase 1 – 172 acres
  - Phase 2 – 221 acres
- An average of 24 acres mined each year.
- 2.3 million tons of rock mined each year.
- Mining period approximately 13 years.
- 45 Direct Employees

# Economic Impact of the Krome Quarry Expansion on Miami-Dade County

| | |
|---|---|
| Jobs | 117 |
| Economic Output | $32.9 million |
| Wages | $4.1 million |

- The expansion provides a significant economic impact for the County.
- 117 direct and indirect jobs are created.
- $32.9 million in average annual direct and indirect economic output.
- $4.1 million in average annual wages.

# Net Fiscal Impact of the Expansion to the Miami-Dade County Commission

| | Total | Net Present Value |
|---|---|---|
| Total Revenue | $2,903,129 | $1,545,054 |
| Total Cost | $217,036 | $114,668 |
| Net Fiscal Benefit | $2,686,093 | $1,430,386 |

- The Krome Quarry Expansion generates a $2.7 million total net fiscal benefit over the life of the mine.
- The NPV of the net fiscal benefit is $1.4 million.
- Over its life, the Expansion generates $2.8 million in property taxes to the County Commission.
- Separately, the School District receives $2.2 million in property taxes.
- The Expansion generates a very positive fiscal benefit for the County and School District.

# Conclusions

- The Krome Quarry Expansion generates a significant fiscal and economic impact for the County.
- The Expansion generates over $200,000/yr in property taxes with very little in the way of County expenditures.
- $2.7 million total net fiscal impact.
- $32.9 million annual economic impact.
- 117 jobs with 45 directly employed by the Mine.

# The Fiscal and Economic Impacts of the Krome Quarry Expansion and CEMEX on Miami-Dade County

February 4, 2011

Prepared by

Fishkind & Associates, Inc.
12051 Corporate Boulevard
Orlando, Florida 32817
407-382-3256
brianm@Fishkind.com

## Executive Summary

The Krome Quarry Expansion ("the Mine") is an expansion of an existing mine located in Miami-Dade County ("the County"). The Mine contains 393 acres and will be mined over a period of approximately thirteen years. The Mine's fiscal and economic impacts on the County and the School District will be examined. In addition, the fiscal and economic impacts to the County for all of CEMEX's operations such as mining, pipe, cement, and ready mix concrete will examined.

The Mine pays for itself in terms of fiscal impacts to the County and the School District. The total net fiscal impact to the County is $2.7 million with a NPV of $1.4 million. The net fiscal impact takes all County revenues associated with the Mine and subtracts the associated expenses to determine the net benefit of the Mine to the County. The ongoing operations of CEMEX generate a net fiscal impact of $24.3 million with a NPV of $9.4 million. CEMEX's operations also generate substantial ad Valorem revenue with an estimated $25.0 million for the County and $20.4 million for the School District over a 20-year period.

**Net Fiscal Impacts of the Krome Quarry Expansion and CEMEX**

| | |
|---|---|
| Net Total Fiscal Impact of the Krome Quarry Expansion | $2.7 million |
| NPV of Total Fiscal Impact Krome Quarry Expansion | $1.4 million |
| Net Total Fiscal Impact of CEMEX's Operations | $24.3 million |
| NPV of Total Fiscal Impact CEMEX's Operations | $9.4 million |
| Ad Valorem Revenue to County over 20 –years from CEMEX's Operations | $25.0 million |
| Ad Valorem Revenue to School District over 20 –years from CEMEX's Operations | $20.4 million |

There is a substantial economic benefit to be derived from the Mine's development. An additional 117 jobs will be created from the direct and indirect employment impacts, $32.9 million in economic output, and $4.1 million in annual employee earnings. CEMEX's ongoing operations generate an economic impact of 777 jobs, $122.4 million in economic output, and $25.7 million in employee earnings.

**Direct and Indirect Net Economic Impacts to the Local Economy**

| | |
|---|---|
| Jobs from the Krome Quarry Expansion | 117 |
| Jobs from all CEMEX Operations | 777 |
| Average Annual Economic Output of the Krome Quarry Expansion | $32.9 million |
| Average Annual Economic Output from CEMEX Operations | $122.4 million |
| Average Annual Employee Earnings from the Krome Quarry Expansion | $4.1 million |
| Average Annual Employee Earnings from CEMEX Operations | $25.7 million |

The bottom line is that the Mine will be a revenue generator to the County for many years to come by increasing the overall taxable property base.

## 1.0 Introduction

### 1.1 Background

The Mine lies in Miami-Dade County and will consist of approximately 393 acres to be mined over a period of thirteen years. Approximately 2.3 million tons of rock will be mined annually.

### 1.2 Assignment

Fishkind & Associates, Inc ("the Consultant") has been contracted to conduct a fiscal and economic impact analysis to determine the impact of the Mine on the County and the School District. In addition, the fiscal and economic impact for all of CEMEX's operations in the County will be determined.

## 2.0 Fiscal Methodology

### 2.1 Introduction

The Consultant has developed a Fiscal Impact Analysis Model (FIAM) under contract with the Florida Department of Community Affairs ("DCA"). FIAM is designed to serve as the prototype fiscal and economic assessment tool for local governments in Florida. FIAM provides estimates of the costs and revenues to local governments associated with their land use decisions. FIAM examines both the long-range and near-term impacts, and it provides estimates for the effects of land use decisions on both the operating budget and the capital budget of the local government. FIAM is suitable for conducting analysis of individual projects, development corridors, and entire comprehensive plans. FIAM has been used for fiscal impact analysis in over fifty Florida communities.

### 2.2 Fiscal Impact Analysis Model Calibration

The FIAM model used in the development scenario has been calibrated based on the latest adopted budget and demographics for the County. In this way, FIAM is properly calibrated to reflect the specific environment of the County with its unique budget and characteristics. Furthermore, FIAM also includes ten years of budgetary history for the County. This provides the base for FIAM to project inflation rates over the long term.

### 2.3 Modified Per Capita Method

Local governments receive revenues from the land, development and the activities of their populations of residents, workers and visitors. The major portion of these revenues is in the form of taxes and fees, assessments and charges for service.

Local governments also render services to all residents, to all who are working in the County, and to all visitors to the County. Therefore, on the cost side of the equation, counties incur costs to provide services to residents, those employed in the County, and to visitors. At some point during a 24-hour period, a resident may become a person employed in the County, and then later in the day may be a resident again. To such an individual, the County has rendered services for a full 24-hours. Other residents may leave the County to work in another County. In this case, the County only provides services to that person when they are physically in the town. For those workers that do not live in the County, services are only provided to those workers when they are in the County. Finally, visitors receive service during the whole time period of their visit, but obviously not when they leave.

To properly measure the services provided to each of these groups, a weighting procedure is needed that reflects the duration of time each group is present in the County. This calculation provides us with the full-time equivalent (FTE) population, employees and visitors. For both residents and workers, a working period assumption of 2,000 hours per year is applied. In this way, the fiscal impact of the FTE residents, employees and visitors can be properly identified.

A variety of methods exist for quantifying the revenue and cost impacts flowing from a development opportunity such as the one presented here. The approach used in this FIAM is the modified per capita approach. When possible, the revenues and expenditures that can be identified from the subject population(s) are directly estimated or calculated. For this project, ad Valorem revenues were calculated using current millage rates. The remaining cost and revenue categories were estimated based on modified per capita estimates.

The modified per capita approach involves the calculation of revenues using the latest published budgets for the appropriate population basis (i.e. per person, per employee, per tourist, per student). From an economic perspective, this is equivalent to assuming that average revenue generation applies to the particular situation being evaluated. This is a reasonable assumption in most cases for two reasons. First, local governments must run balanced budgets, so that current costs and current revenues balance and are appropriate for current circumstances. Secondly, using long run averages also means that any excess capital is maintained in the various systems and not allocated to the Mine. Furthermore, there is nothing peculiar about the location or the type of this particular Mine that indicates that per capita parameters estimated from the latest budgets would not be reflective of actual costs and revenues.

The numerator for each cost or revenue item is the cost or revenue shown in the County's budget. The denominator depends upon the type of cost or revenue. Each category of cost and revenue was examined to determine the impact of population and/or employment (businesses). Then each category was divided by the appropriate divisor (FTE population; FTE population + FTE employment, etc.) to yield the average per capita revenues and expenditures for all budget categories. The arithmetic is shown below.

$$\frac{\text{Revenue}}{\text{FTE Population + FTE Employees + FTE Visitors}} = \text{Per Capita}$$

2.4 Fiscal Impact Calculations

Appendix Table 3 provides the annual budget with projected revenues by source and expenditure detail by function for the County. Property taxes are calculated by multiplying the taxable property value (Appendix Table 2) by the current millage rates (Appendix Table 4) and adjusting for homestead exemptions and the taxable assessment ratio.

The other budget revenues and expenditures were calculated using the per capita methodology. The per capita numbers used are the full-time equivalents (FTE) residents and employees calculated using the University of Florida data and Fishkind estimates of employment. The revenues and expenditures are calculated by multiplying the FTE residents and employees by the per capita revenue and expenditure amounts from the budget. The County averages were used to maintain a conservative methodology.

The per capita calculations for the County's budget were calculated using revenues and expenditures from the budget's General and Special Revenue Funds. The revenues and expenditures from these funds were divided by the County's FTE Population, FTE Employees and FTE Visitors. These Budget per capita amounts are then multiplied by the number of new FTE residents and FTE employees and FTE visitors in order to generate the projected revenues and expenditures found in Appendix Table 3.

2.5 Assumptions

Appendix Table 4 contains the basic data, assumptions and sources used in the County's fiscal impact model. These are provided for completeness and allow for the replication of our results.

## 3.0 FIAM Results

3.1 Fiscal Impacts of the Krome Quarry Expansion on the County

The FIAM forecasts the fiscal impact of the Mine on the future revenues and expenditures for the County based upon the County's budget. The total values look at the aggregate value associated with the development of the Mine and are simply the sum of the annual revenues, expenditures, or net impacts generated from the Mine's operations.

The net present value ("NPV") calculation displays how much a future investment is worth in today's dollars. The NPV formula takes the annual revenues, expenses, or net impacts and discounts them by a present value factor of 10% a year for 20-years. NPV is a common tool used by the public and private sectors to gauge a Mine's net effect on operations and capital in order to make sound business decisions. NPV assumes a person can take their money and invest it elsewhere for a given rate and then discounts each future year's cost or revenue by that rate in order to compensate for what could have been received on the money in the alternative investment. Once each annual amount has been adjusted, the values are summed in order to obtain the net present value of the future costs or revenues. Next, by deducting the expenses from the revenues, a net operating and capital present value impact can be determined. The Mine's overall NPV is calculated by summing the net capital impact and the net operating impact. A positive NPV indicates a good investment.

The greater the number, the greater the positive impact the development will have on the County. Mines with overall negative NPV's should be avoided. Table 1 presents the results of the fiscal impacts calculated by the FIAM.

**Table 1. Fiscal Impact of the Krome Quarry Expansion on the County**

| | Total | Present Value |
|---|---|---|
| Total Revenue | $2,903,129 | $1,545,054 |
| Total Cost | $217,036 | $114,668 |
| Net Fiscal Impact | $2,686,093 | $1,430,386 |

Over the life of the mine, the net fiscal benefit provided to the County is $2.7 million with a NPV of $1.4 million. This includes $2.7 million of ad valorem taxes paid by the Mine.

Table 2 presents the fiscal impact for all of CEMEX's operations on the County. Over a 20-year period, CEMEX's operations generate a total net fiscal benefit of $24.3 million with a NPV of $9.4 million. This includes the payment of $25.0 million worth of ad valorem taxes to the County.

**Table 2. Fiscal Impact of CEMEX's operations on the County**

| | Total | Present Value |
|---|---|---|
| Total Revenue | $26,617,368 | $10,336,543 |
| Total Cost | $2,297,024 | $893,196 |
| Net Fiscal Impact | $24,320,344 | $9,443,347 |

## 3.2 Fiscal Impacts of the Mine on the School District

The Mine will generate ad valorem revenues for the School District, too. The Mine expansion generates $2.3 million for schools over its lifetime and all of CEMEX's operations in the County generate $20.4 million for the schools over a 20-year period.

**Table 3. Ad Valorem Revenue to the School District**

| | |
|---|---|
| Krome Quarry Expansion | $2.3 million |
| All of CEMEX's Operations | $20.4 million |

## 4.0 Economic Impacts of the Mine

The proposed Mine will contribute greatly to the local economy. A new development creates not only fiscal impacts for a municipality, but also economic impacts. Direct economic benefits are the result of people purchasing goods or services from a business. For example, a person buying a new car from a dealership creates a direct impact on the economy. Indirect economic benefits are created by a 'ripple effect' through the economy. For example, if enough people buy new cars from a dealership, the owner must then hire more clerical workers, salespeople, mechanics, etc. These workers in turn purchase additional goods and services in the local municipality, thus further impacting the economy.

**Table 4. Direct and Indirect Economic Impacts of the Mine**

| | |
|---|---|
| Jobs | 117 |
| Average Annual Economic Output | $32.9 million |
| Average Annual Employee Earnings | $4.1 million |

Table 4 summarizes the economic impacts of the Mine to the local economy. A total of 117 jobs are created through the increased demand for goods and services. An average of $32.9 million of additional output will be contributed annually into the local economy. Total employee earnings will average $4.1 million per year. These numbers are indicative of a development that provides an economic stimulus to its surrounding areas.

In addition to the Mine expansion, CEMEX's other operations in the County generate an enormous economic impact for the County. As Table 5 shows,

CEMEX's operations generate 777 jobs, $122.4 million in economic output, and $25.7 million in employee earnings every year.

**Table 5. Direct and Indirect Economic Impacts of CEMEX's Operations in the County**

| | |
|---|---|
| Jobs | 777 |
| Average Annual Economic Output | $122.4 million |
| Average Annual Employee Earnings | $25.7 million |

## 5.0 Conclusion

Based on the fiscal impact summarized above, the County will benefit from the development of the Mine. In addition, CEMEX's ongoing operations also provide for fiscal stimulus for the County.

**Net Fiscal Impacts**

| | |
|---|---|
| Net Total Fiscal Impact of the Krome Quarry Expansion | $2.7 million |
| NPV of Total Fiscal Impact Krome Quarry Expansion | $1.4 million |
| Net Total Fiscal Impact of CEMEX's Operations | $24.3 million |
| NPV of Total Fiscal Impact CEMEX's Operations | $9.4 million |
| Ad Valorem Revenue to County over 20 –years from CEMEX's Operations | $25.0 million |
| Ad Valorem Revenue to School District over 20 –years from CEMEX's Operations | $20.4 million |

There is also a substantial economic benefit to be derived from the Mine's development. By generating jobs and business activity, CEMEX provides the County with an economic stimulus.

**Net Economic Impacts**

| | |
|---|---|
| Jobs from the Krome Quarry Expansion | 117 |
| Jobs from all CEMEX Operations | 777 |
| Average Annual Economic Output of the Krome Quarry Expansion | $32.9 million |
| Average Annual Economic Output from CEMEX Operations | $122.4 million |
| Average Annual Employee Earnings from the Krome Quarry Expansion | $4.1 million |
| Average Annual Employee Earnings from CEMEX Operations | $25.7 million |

The ultimate conclusion is clear. From a fiscal and economic viewpoint, the County will benefit greatly from the Mine's development.

# Appendix Tables

# Krome Quarry Expansion

Table 1
Krome Quarry Expansion - Miami- Dade County
Development Impact Summary

| (End of Year Totals) | 2015 | 2016 | 2017 | 2018 | 2019 |
|---|---|---|---|---|---|
| Employment | | | | | |
| Mining | 45 | 45 | 45 | 45 | 45 |
| Full-Time Equivalent Employees-Residents | 11 | 11 | 11 | 11 | 11 |

| Krome Quarry Expansion - Miami- Dade County | 2015 | 2016 | 2017 | 2018 | 2019 |
|---|---|---|---|---|---|
| Total Revenues Generated | $197,304 | $201,351 | $205,473 | $209,671 | $213,946 |
| Total Expenditures Generated | $14,148 | $14,573 | $14,997 | $15,422 | $15,846 |
| Net Fiscal Impact | $183,156 | $186,778 | $190,475 | $194,249 | $198,100 |

Table 2
Krome Quarry Expansion - Miami- Dade County
Taxable Property Values

| | 2015 | 2016 | 2017 | 2018 | 2019 |
|---|---|---|---|---|---|
| Total Taxable Value | $19,891,080 | $20,288,902 | $20,694,680 | $21,108,573 | $21,530,745 |

Table 1
Krome Quarry Expansion - Miami- Dade County
Development Impact Summary

| (End of Year Totals) | 2020 | 2021 | 2022 |
|---|---|---|---|
| Employment | | | |
| Mining | 45 | 45 | 45 |
| Full-Time Equivalent Employees-Residents | 11 | 11 | 11 |

| Krome Quarry Expansion - Miami- Dade County | 2020 | 2021 | 2022 |
|---|---|---|---|
| Total Revenues Generated | $218,302 | $222,738 | $227,257 |
| Total Expenditures Generated | $16,271 | $16,695 | $17,120 |
| Net Fiscal Impact | $202,031 | $206,043 | $210,138 |

Table 2
Krome Quarry Expansion - Miami- Dade County
Taxable Property Values

| | 2020 | 2021 | 2022 |
|---|---|---|---|
| Total Taxable Value | $21,961,360 | $22,400,587 | $22,848,599 |

Table 1
Krome Quarry Expansion - Miami- Dade County
Development Impact Summary

| (End of Year Totals) | 2023 | 2024 | 2025 | 2026 | 2027 |
|---|---|---|---|---|---|
| Employment | | | | | |
| Mining | 45 | 45 | 45 | 45 | 45 |
| Full-Time Equivalent Employees-Residents | 11 | 11 | 11 | 11 | 11 |

| Krome Quarry Expansion - Miami- Dade County | 2023 | 2024 | 2025 | 2026 | 2027 |
|---|---|---|---|---|---|
| Total Revenues Generated | $231,861 | $236,550 | $241,328 | $246,195 | $251,153 |
| Total Expenditures Generated | $17,544 | $17,968 | $18,393 | $18,817 | $19,242 |
| Net Fiscal Impact | $214,317 | $218,582 | $222,935 | $227,377 | $231,911 |

Table 2
Krome Quarry Expansion - Miami- Dade County
Taxable Property Values

| | 2023 | 2024 | 2025 | 2026 | 2027 |
|---|---|---|---|---|---|
| Total Taxable Value | $23,305,570 | $23,771,682 | $24,247,116 | $24,732,058 | $25,226,699 |

Table 3
Krome Quarry Expansion - Miami- Dade County
Fiscal Impact Detail

| | 2015 | 2016 | 2017 | 2018 | 2019 |
|---|---|---|---|---|---|
| Revenues | | | | | |
| Ad Valorem Taxes-Property Value Taxes (1) | $187,245 | $190,990 | $194,809 | $198,706 | $202,680 |
| Local Option Fuel Taxes (1) | $247 | $254 | $262 | $269 | $276 |
| Local Option Sales Taxes (1) | $1,669 | $1,719 | $1,769 | $1,819 | $1,869 |
| Utility Taxes (1) | $596 | $614 | $632 | $650 | $668 |
| Occupational Licenses (1) | $274 | $283 | $291 | $299 | $307 |
| Building Permits (1) | $206 | $212 | $218 | $224 | $230 |
| Federal Grants (1) | $1,887 | $1,943 | $2,000 | $2,056 | $2,113 |
| State Grants (1) | $612 | $631 | $649 | $667 | $686 |
| Sales Tax - Half Cent | $641 | $661 | $680 | $699 | $718 |
| Charges for Services (1) | $1,448 | $1,492 | $1,535 | $1,578 | $1,622 |
| Court Related Revenues (3) | $315 | $325 | $334 | $343 | $353 |
| Judgments, Fines and Forfeitures (3) | $215 | $222 | $228 | $234 | $241 |
| Interest and Other Earnings (1) | $221 | $227 | $234 | $240 | $247 |
| Rents and Royalties (1) | $38 | $39 | $40 | $42 | $43 |
| Miscellaneous Revenues (1) | $491 | $506 | $520 | $535 | $550 |
| Interfund Transfers (1) | $1,044 | $1,076 | $1,107 | $1,138 | $1,170 |
| Debt Proceeds & Other Sources (1) | $19 | $20 | $20 | $21 | $21 |
| Balancing Revenue | $136 | $140 | $144 | $148 | $152 |
| Total Revenues | $197,304 | $201,351 | $205,473 | $209,671 | $213,946 |

Table 3
Krome Quarry Expansion - Miami- Dade County
Fiscal Impact Detail

| | 2020 | 2021 | 2022 |
|---|---|---|---|
| Revenues | | | |
| Ad Valorem Taxes-Property Value Taxes (1) | $206,733 | $210,868 | $215,085 |
| Local Option Fuel Taxes (1) | $284 | $291 | $299 |
| Local Option Sales Taxes (1) | $1,920 | $1,970 | $2,020 |
| Utility Taxes (1) | $685 | $703 | $721 |
| Occupational Licenses (1) | $315 | $324 | $332 |
| Building Permits (1) | $237 | $243 | $249 |
| Federal Grants (1) | $2,170 | $2,226 | $2,283 |
| State Grants (1) | $704 | $722 | $741 |
| Sales Tax - Half Cent | $738 | $757 | $776 |
| Charges for Services (1) | $1,665 | $1,709 | $1,752 |
| Court Related Revenues (3) | $362 | $372 | $381 |
| Judgments, Fines and Forfeitures (3) | $247 | $254 | $260 |
| Interest and Other Earnings (1) | $254 | $260 | $267 |
| Rents and Royalties (1) | $44 | $45 | $46 |
| Miscellaneous Revenues (1) | $564 | $579 | $594 |
| Interfund Transfers (1) | $1,201 | $1,232 | $1,264 |
| Debt Proceeds & Other Sources (1) | $22 | $23 | $23 |
| Balancing Revenue | $156 | $160 | $165 |
| Total Revenues | $218,302 | $222,738 | $227,257 |

Table 3
Krome Quarry Expansion - Miami- Dade County
Fiscal Impact Detail

| | 2023 | 2024 | 2025 | 2026 | 2027 |
|---|---|---|---|---|---|
| Revenues | | | | | |
| Ad Valorem Taxes-Property Value Taxes (1) | $219,387 | $223,775 | $228,250 | $232,815 | $237,472 |
| Local Option Fuel Taxes (1) | $306 | $314 | $321 | $328 | $336 |
| Local Option Sales Taxes (1) | $2,070 | $2,120 | $2,170 | $2,220 | $2,270 |
| Utility Taxes (1) | $739 | $757 | $775 | $793 | $811 |
| Occupational Licenses (1) | $340 | $348 | $357 | $365 | $373 |
| Building Permits (1) | $255 | $261 | $267 | $274 | $280 |
| Federal Grants (1) | $2,339 | $2,396 | $2,453 | $2,509 | $2,566 |
| State Grants (1) | $759 | $777 | $796 | $814 | $833 |
| Sales Tax - Half Cent | $795 | $815 | $834 | $853 | $872 |
| Charges for Services (1) | $1,796 | $1,839 | $1,883 | $1,926 | $1,969 |
| Court Related Revenues (3) | $391 | $400 | $410 | $419 | $429 |
| Judgments, Fines and Forfeitures (3) | $267 | $273 | $280 | $286 | $293 |
| Interest and Other Earnings (1) | $274 | $280 | $287 | $293 | $300 |
| Rents and Royalties (1) | $47 | $48 | $50 | $51 | $52 |
| Miscellaneous Revenues (1) | $609 | $623 | $638 | $653 | $667 |
| Interfund Transfers (1) | $1,295 | $1,326 | $1,358 | $1,389 | $1,420 |
| Debt Proceeds & Other Sources (1) | $24 | $24 | $25 | $25 | $26 |
| Balancing Revenue | $169 | $173 | $177 | $181 | $185 |
| Total Revenues | $231,861 | $236,550 | $241,328 | $246,195 | $251,153 |

Table 3
Krome Quarry Expansion - Miami- Dade County
Fiscal Impact Detail

| | 2015 | 2016 | 2017 | 2018 | 2019 |
|---|---|---|---|---|---|
| Expenditures | | | | | |
| Legislative-General (1) | $76 | $78 | $81 | $83 | $85 |
| Executive-General (1) | $45 | $46 | $47 | $49 | $50 |
| Financial and Administrative (1) | $464 | $478 | $492 | $506 | $519 |
| Legal Counsel (1) | $84 | $86 | $89 | $91 | $94 |
| Comprehensive Planning (1) | $19 | $19 | $20 | $20 | $21 |
| Debt Service Payments (1) | $872 | $898 | $924 | $950 | $977 |
| Other General Government (1) | $1,099 | $1,132 | $1,165 | $1,198 | $1,231 |
| Law Enforcement (1) | $2,415 | $2,488 | $2,560 | $2,633 | $2,705 |
| Fire Control (1) | $1,494 | $1,539 | $1,584 | $1,628 | $1,673 |
| Detention/Corrections (1) | $1,277 | $1,316 | $1,354 | $1,392 | $1,431 |
| Protective Inspections (1) | $220 | $226 | $233 | $239 | $246 |
| Emergency and Disaster Relief (1) | $37 | $38 | $39 | $40 | $41 |
| Medical Examiners, Other Public Safety (1) | $285 | $293 | $302 | $310 | $319 |
| Water/Sewer Services (1) | $1 | $1 | $1 | $1 | $2 |
| Conservation/Resource Management (1) | $63 | $65 | $67 | $69 | $71 |
| Other Physical Environment (1) | $227 | $234 | $241 | $248 | $255 |
| Road/Street Facilities (1) | $223 | $230 | $236 | $243 | $250 |
| Mass Transit (1) | $10 | $10 | $11 | $11 | $11 |
| Other Transportation (1) | $183 | $189 | $194 | $200 | $205 |
| Industry Development (1) | $4 | $4 | $4 | $5 | $5 |
| Other Economic Development (1) | $447 | $460 | $473 | $487 | $500 |
| Interfund Transfers Out (1) | $3,829 | $3,943 | $4,058 | $4,173 | $4,288 |
| Clerk of Court & Court Administration (3) | $497 | $512 | $527 | $542 | $557 |
| Balancing Expenditure | $278 | $287 | $295 | $303 | $312 |
| Total Expenditures | $14,148 | $14,573 | $14,997 | $15,422 | $15,846 |

(1) Divisor includes FTE Population + FTE Employment + FTE Tourists
(2) Divisor includes FTE Population
(3) Divisor includes FTE Population + FTE Employment
(4) Divisor includes FTE Tourists

Table 3
Krome Quarry Expansion - Miami- Dade County
Fiscal Impact Detail

| | 2020 | 2021 | 2022 |
|---|---|---|---|
| Expenditures | | | |
| Legislative-General (1) | $88 | $90 | $92 |
| Executive-General (1) | $51 | $53 | $54 |
| Financial and Administrative (1) | $533 | $547 | $561 |
| Legal Counsel (1) | $96 | $99 | $101 |
| Comprehensive Planning (1) | $21 | $22 | $22 |
| Debt Service Payments (1) | $1,003 | $1,029 | $1,055 |
| Other General Government (1) | $1,264 | $1,297 | $1,330 |
| Law Enforcement (1) | $2,778 | $2,850 | $2,923 |
| Fire Control (1) | $1,718 | $1,763 | $1,808 |
| Detention/Corrections (1) | $1,469 | $1,507 | $1,546 |
| Protective Inspections (1) | $253 | $259 | $266 |
| Emergency and Disaster Relief (1) | $42 | $43 | $44 |
| Medical Examiners, Other Public Safety (1) | $327 | $336 | $345 |
| Water/Sewer Services (1) | $2 | $2 | $2 |
| Conservation/Resource Management (1) | $73 | $75 | $77 |
| Other Physical Environment (1) | $262 | $268 | $275 |
| Road/Street Facilities (1) | $256 | $263 | $270 |
| Mass Transit (1) | $11 | $12 | $12 |
| Other Transportation (1) | $211 | $216 | $222 |
| Industry Development (1) | $5 | $5 | $5 |
| Other Economic Development (1) | $514 | $527 | $540 |
| Interfund Transfers Out (1) | $4,403 | $4,518 | $4,633 |
| Clerk of Court & Court Administration (3) | $572 | $587 | $601 |
| Balancing Expenditure | $320 | $328 | $337 |
| Total Expenditures | $16,271 | $16,695 | $17,120 |

Table 3
Krome Quarry Expansion - Miami- Dade County
Fiscal Impact Detail

| | 2023 | 2024 | 2025 | 2026 | 2027 |
|---|---|---|---|---|---|
| Expenditures | | | | | |
| Legislative-General (1) | $94 | $97 | $99 | $101 | $104 |
| Executive-General (1) | $55 | $57 | $58 | $59 | $61 |
| Financial and Administrative (1) | $575 | $589 | $603 | $617 | $631 |
| Legal Counsel (1) | $104 | $107 | $109 | $112 | $114 |
| Comprehensive Planning (1) | $23 | $24 | $24 | $25 | $25 |
| Debt Service Payments (1) | $1,081 | $1,107 | $1,134 | $1,160 | $1,186 |
| Other General Government (1) | $1,363 | $1,396 | $1,429 | $1,462 | $1,495 |
| Law Enforcement (1) | $2,995 | $3,068 | $3,140 | $3,213 | $3,285 |
| Fire Control (1) | $1,852 | $1,897 | $1,942 | $1,987 | $2,032 |
| Detention/Corrections (1) | $1,584 | $1,622 | $1,661 | $1,699 | $1,737 |
| Protective Inspections (1) | $272 | $279 | $286 | $292 | $299 |
| Emergency and Disaster Relief (1) | $46 | $47 | $48 | $49 | $50 |
| Medical Examiners, Other Public Safety (1) | $353 | $362 | $370 | $379 | $387 |
| Water/Sewer Services (1) | $2 | $2 | $2 | $2 | $2 |
| Conservation/Resource Management (1) | $79 | $81 | $83 | $84 | $86 |
| Other Physical Environment (1) | $282 | $289 | $296 | $302 | $309 |
| Road/Street Facilities (1) | $276 | $283 | $290 | $296 | $303 |
| Mass Transit (1) | $12 | $13 | $13 | $13 | $14 |
| Other Transportation (1) | $227 | $233 | $238 | $244 | $249 |
| Industry Development (1) | $5 | $5 | $5 | $6 | $6 |
| Other Economic Development (1) | $554 | $567 | $581 | $594 | $607 |
| Interfund Transfers Out (1) | $4,747 | $4,862 | $4,977 | $5,092 | $5,207 |
| Clerk of Court & Court Administration (3) | $616 | $631 | $646 | $661 | $676 |
| Balancing Expenditure | $345 | $353 | $362 | $370 | $378 |
| Total Expenditures | $17,544 | $17,968 | $18,393 | $18,817 | $19,242 |

Table 4
Krome Quarry Expansion - Miami- Dade County
Fiscal Impact Assumptions

| | | | |
|---|---|---|---|
| Millage | | | |
| Miami- Dade County | 4.8379 Mills | | |
| Unincorporated | 2.0083 Mills | | |
| Fire & EMS | 2.1851 Mills | | |
| Library | 0.3822 Mills | | |
| | | Equivalent Factor | Full-Time Equivalent |
| Population-Working Residents | 950,954 | 0.7619 | 724,532 |
| Population-Non-Working Residents | 1,483,406 | 1.0000 | 1,483,406 |
| Population- Seasonal | 81,953 | 0.3750 | 30,732 |
| Population (peak season) | 2,516,314 | | 2,238,671 |
| Population (total) | 2,472,344 | | |
| (Fl Population Studies) | | | |
| Employment (total) | 950,954 | 0.2381 | 226,422 |
| (State of Florida ) | | | |
| Persons per Household | 2.77 | | |
| (Fl Population Studies) | | | |
| Total Households | 874,347 | (Fl Population Studies) | |
| Hotel Assumptions | | | |
| Total Number of Rooms | 47,809 | (Occupational Licenses Data Base) | |
| Average Occupancy | 60.8% | (Smith Travel / Fishkind estimate) | |
| Average Persons per Room | 2.4 | (FLA USA Visit Florida 2002) | |
| Average Annual Change in Property Value: | 2.0% | | |

# Appendix Tables

# CEMEX's Total Operations in Miami-Dade County

Table 1
CEMEX Operations - Miami- Dade County
Development Impact Summary

| (End of Year Totals) | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|---|---|---|---|---|---|---|---|
| Employment | | | | | | | |
| CEMEX OPERATIONS | 254 | 254 | 254 | 254 | 254 | 299 | 299 |
| Full-Time Equivalent Employees-Residents | 60 | 60 | 60 | 60 | 60 | 71 | 71 |
| Full-Time Equivalent Visitors-Residents | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| CEMEX Operations - Miami- Dade County | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|---|---|---|---|---|---|---|---|
| Total Operating Revenues Generated | $951,778 | $971,381 | $991,342 | $1,011,669 | $1,032,368 | $1,252,260 | $1,277,773 |
| Total Operating Expenditures Generated | $79,860 | $82,256 | $84,651 | $87,047 | $89,443 | $108,110 | $110,930 |
| Net Fiscal Impact of Operations | $871,918 | $889,125 | $906,691 | $924,622 | $942,925 | $1,144,151 | $1,166,843 |

Table 2
CEMEX Operations - Miami- Dade County
Taxable Property Values

| | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|---|---|---|---|---|---|---|---|
| Total Taxable Value | $95,075,852 | $96,977,369 | $98,916,916 | $100,895,255 | $102,913,160 | $124,862,503 | $127,359,753 |

Table 1
CEMEX Operations - Miami- Dade County
Development Impact Summary

| (End of Year Totals) | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|---|---|
| Employment | | | | | | | |
| CEMEX OPERATIONS | 299 | 299 | 299 | 299 | 299 | 299 | 299 |
| Full-Time Equivalent Employees-Residents | 71 | 71 | 71 | 71 | 71 | 71 | 71 |
| Full-Time Equivalent Visitors-Residents | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| CEMEX Operations - Miami- Dade County | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|---|---|
| Total Operating Revenues Generated | $1,303,756 | $1,330,219 | $1,357,171 | $1,384,622 | $1,412,582 | $1,441,061 | $1,470,069 |
| Total Operating Expenditures Generated | $113,750 | $116,570 | $119,390 | $122,211 | $125,031 | $127,851 | $130,671 |
| Net Fiscal Impact of Operations | $1,190,006 | $1,213,649 | $1,237,781 | $1,262,411 | $1,287,551 | $1,313,209 | $1,339,398 |

Table 2
CEMEX Operations - Miami- Dade County
Taxable Property Values

| | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|---|---|
| Total Taxable Value | $129,906,948 | $132,505,087 | $135,155,189 | $137,858,293 | $140,615,459 | $143,427,768 | $146,296,323 |

Table 1
CEMEX Operations - Miami- Dade County
Development Impact Summary

| (End of Year Totals) | 2024 | 2025 | 2026 | 2027 |
|---|---|---|---|---|
| Employment | | | | |
| CEMEX OPERATIONS | 299 | 299 | 299 | 299 |
| Full-Time Equivalent Employees-Residents | 71 | 71 | 71 | 71 |
| Full-Time Equivalent Visitors-Residents | 0 | 0 | 0 | 0 |

| CEMEX Operations - Miami- Dade County | 2024 | 2025 | 2026 | 2027 |
|---|---|---|---|---|
| Total Operating Revenues Generated | $1,499,618 | $1,529,717 | $1,560,378 | $1,591,612 |
| Total Operating Expenditures Generated | $133,492 | $136,312 | $139,132 | $141,952 |
| Net Fiscal Impact of Operations | $1,366,126 | $1,393,405 | $1,421,246 | $1,449,660 |

Table 2
CEMEX Operations - Miami- Dade County
Taxable Property Values

| | 2024 | 2025 | 2026 | 2027 |
|---|---|---|---|---|
| Total Taxable Value | $149,222,249 | $152,206,694 | $155,250,828 | $158,355,845 |

Table 1
CEMEX Operations - Miami- Dade County
Development Impact Summary

| (End of Year Totals) | 2028 | 2029 |
|---|---|---|
| Employment | | |
| CEMEX OPERATIONS | 254 | 254 |
| Full-Time Equivalent Employees-Residents | 60 | 60 |
| Full-Time Equivalent Visitors-Residents | 0 | 0 |

| CEMEX Operations - Miami- Dade County | 2028 | 2029 |
|---|---|---|
| Total Operating Revenues Generated | $1,607,939 | $1,640,053 |
| Total Operating Expenditures Generated | $122,984 | $125,380 |
| Net Fiscal Impact of Operations | $1,484,955 | $1,514,673 |

Table 2
CEMEX Operations - Miami- Dade County
Taxable Property Values

| | 2028 | 2029 |
|---|---|---|
| Total Taxable Value | $161,522,962 | $164,753,421 |

Table 3
CEMEX Operations - Miami- Dade County
Fiscal Impact Detail

| | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|---|---|---|---|---|---|---|---|
| Revenues | | | | | | | |
| Ad Valorem Taxes-Property Value Taxes (1) | $894,997 | $912,896 | $931,154 | $949,777 | $968,773 | $1,175,393 | $1,198,901 |
| Local Option Fuel Taxes (1) | $1,393 | $1,435 | $1,477 | $1,519 | $1,561 | $1,886 | $1,936 |
| Local Option Sales Taxes (1) | $9,421 | $9,704 | $9,987 | $10,269 | $10,552 | $12,754 | $13,087 |
| Utility Taxes (1) | $3,364 | $3,465 | $3,566 | $3,667 | $3,768 | $4,555 | $4,673 |
| Occupational Licenses (1) | $1,548 | $1,595 | $1,641 | $1,688 | $1,734 | $2,096 | $2,151 |
| Building Permits (1) | $1,161 | $1,196 | $1,231 | $1,266 | $1,300 | $1,572 | $1,613 |
| Federal Grants (1) | $10,649 | $10,968 | $11,288 | $11,607 | $11,927 | $14,416 | $14,792 |
| State Grants (1) | $3,455 | $3,559 | $3,663 | $3,766 | $3,870 | $4,678 | $4,800 |
| Sales Tax - Half Cent | $3,620 | $3,729 | $3,838 | $3,946 | $4,055 | $4,901 | $5,029 |
| Charges for Services (1) | $8,174 | $8,419 | $8,664 | $8,909 | $9,154 | $11,065 | $11,354 |
| Court Related Revenues (3) | $1,778 | $1,832 | $1,885 | $1,939 | $1,992 | $2,408 | $2,470 |
| Judgments, Fines and Forfeitures (3) | $1,214 | $1,251 | $1,287 | $1,323 | $1,360 | $1,644 | $1,687 |
| Interest and Other Earnings (1) | $1,245 | $1,283 | $1,320 | $1,357 | $1,395 | $1,686 | $1,730 |
| Rents and Royalties (1) | $215 | $222 | $228 | $235 | $241 | $291 | $299 |
| Miscellaneous Revenues (1) | $2,770 | $2,853 | $2,936 | $3,020 | $3,103 | $3,750 | $3,848 |
| Interfund Transfers (1) | $5,895 | $6,071 | $6,248 | $6,425 | $6,602 | $7,980 | $8,188 |
| Debt Proceeds & Other Sources (1) | $108 | $111 | $115 | $118 | $121 | $146 | $150 |
| Balancing Revenue | $768 | $791 | $814 | $837 | $860 | $1,039 | $1,066 |
| Total Revenues | $951,778 | $971,381 | $991,342 | $1,011,669 | $1,032,368 | $1,252,260 | $1,277,773 |

Table 3
CEMEX Operations - Miami- Dade County
Fiscal Impact Detail

| | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|---|---|
| Revenues | | | | | | | |
| Ad Valorem Taxes-Property Value Taxes (1) | $1,222,879 | $1,247,337 | $1,272,283 | $1,297,729 | $1,323,684 | $1,350,157 | $1,377,160 |
| Local Option Fuel Taxes (1) | $1,985 | $2,034 | $2,083 | $2,132 | $2,182 | $2,231 | $2,280 |
| Local Option Sales Taxes (1) | $13,420 | $13,752 | $14,085 | $14,418 | $14,750 | $15,083 | $15,416 |
| Utility Taxes (1) | $4,792 | $4,911 | $5,030 | $5,149 | $5,268 | $5,386 | $5,505 |
| Occupational Licenses (1) | $2,205 | $2,260 | $2,315 | $2,370 | $2,424 | $2,479 | $2,534 |
| Building Permits (1) | $1,654 | $1,695 | $1,736 | $1,777 | $1,818 | $1,859 | $1,900 |
| Federal Grants (1) | $15,168 | $15,544 | $15,920 | $16,296 | $16,672 | $17,048 | $17,424 |
| State Grants (1) | $4,922 | $5,044 | $5,166 | $5,288 | $5,410 | $5,532 | $5,654 |
| Sales Tax - Half Cent | $5,157 | $5,285 | $5,413 | $5,540 | $5,668 | $5,796 | $5,924 |
| Charges for Services (1) | $11,642 | $11,931 | $12,220 | $12,508 | $12,797 | $13,085 | $13,374 |
| Court Related Revenues (3) | $2,533 | $2,596 | $2,659 | $2,722 | $2,784 | $2,847 | $2,910 |
| Judgments, Fines and Forfeitures (3) | $1,729 | $1,772 | $1,815 | $1,858 | $1,901 | $1,944 | $1,987 |
| Interest and Other Earnings (1) | $1,774 | $1,818 | $1,862 | $1,906 | $1,950 | $1,994 | $2,038 |
| Rents and Royalties (1) | $307 | $314 | $322 | $329 | $337 | $345 | $352 |
| Miscellaneous Revenues (1) | $3,946 | $4,044 | $4,141 | $4,239 | $4,337 | $4,435 | $4,533 |
| Interfund Transfers (1) | $8,396 | $8,604 | $8,812 | $9,021 | $9,229 | $9,437 | $9,645 |
| Debt Proceeds & Other Sources (1) | $154 | $158 | $162 | $166 | $169 | $173 | $177 |
| Balancing Revenue | $1,093 | $1,120 | $1,148 | $1,175 | $1,202 | $1,229 | $1,256 |
| Total Revenues | $1,303,756 | $1,330,219 | $1,357,171 | $1,384,622 | $1,412,582 | $1,441,061 | $1,470,069 |

Table 3
CEMEX Operations - Miami- Dade County
Fiscal Impact Detail

| | 2024 | 2025 | 2026 | 2027 |
|---|---|---|---|---|
| Revenues | | | | |
| Ad Valorem Taxes-Property Value Taxes (1) | $1,404,704 | $1,432,798 | $1,461,454 | $1,490,683 |
| Local Option Fuel Taxes (1) | $2,329 | $2,378 | $2,428 | $2,477 |
| Local Option Sales Taxes (1) | $15,749 | $16,081 | $16,414 | $16,747 |
| Utility Taxes (1) | $5,624 | $5,743 | $5,862 | $5,980 |
| Occupational Licenses (1) | $2,588 | $2,643 | $2,698 | $2,752 |
| Building Permits (1) | $1,941 | $1,982 | $2,023 | $2,064 |
| Federal Grants (1) | $17,800 | $18,177 | $18,553 | $18,929 |
| State Grants (1) | $5,776 | $5,898 | $6,020 | $6,142 |
| Sales Tax - Half Cent | $6,052 | $6,180 | $6,308 | $6,435 |
| Charges for Services (1) | $13,663 | $13,951 | $14,240 | $14,529 |
| Court Related Revenues (3) | $2,973 | $3,036 | $3,098 | $3,161 |
| Judgments, Fines and Forfeitures (3) | $2,030 | $2,072 | $2,115 | $2,158 |
| Interest and Other Earnings (1) | $2,082 | $2,126 | $2,170 | $2,214 |
| Rents and Royalties (1) | $360 | $367 | $375 | $383 |
| Miscellaneous Revenues (1) | $4,631 | $4,728 | $4,826 | $4,924 |
| Interfund Transfers (1) | $9,853 | $10,061 | $10,270 | $10,478 |
| Debt Proceeds & Other Sources (1) | $181 | $185 | $188 | $192 |
| Balancing Revenue | $1,283 | $1,310 | $1,337 | $1,364 |
| Total Revenues | $1,499,618 | $1,529,717 | $1,560,378 | $1,591,612 |

Table 3
CEMEX Operations - Miami- Dade County
Fiscal Impact Detail

| | 2028 | 2029 |
|---|---|---|
| Revenues | | |
| Ad Valorem Taxes-Property Value Taxes (1) | $1,520,496 | $1,550,906 |
| Local Option Fuel Taxes (1) | $2,146 | $2,188 |
| Local Option Sales Taxes (1) | $14,509 | $14,792 |
| Utility Taxes (1) | $5,181 | $5,282 |
| Occupational Licenses (1) | $2,385 | $2,431 |
| Building Permits (1) | $1,788 | $1,823 |
| Federal Grants (1) | $16,399 | $16,719 |
| State Grants (1) | $5,321 | $5,425 |
| Sales Tax - Half Cent | $5,576 | $5,684 |
| Charges for Services (1) | $12,587 | $12,833 |
| Court Related Revenues (3) | $2,739 | $2,792 |
| Judgments, Fines and Forfeitures (3) | $1,870 | $1,906 |
| Interest and Other Earnings (1) | $1,918 | $1,955 |
| Rents and Royalties (1) | $331 | $338 |
| Miscellaneous Revenues (1) | $4,266 | $4,349 |
| Interfund Transfers (1) | $9,078 | $9,255 |
| Debt Proceeds & Other Sources (1) | $167 | $170 |
| Balancing Revenue | $1,182 | $1,205 |
| Total Revenues | $1,607,939 | $1,640,053 |

Table 3
CEMEX Operations - Miami- Dade County
Fiscal Impact Detail

| | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|---|---|---|---|---|---|---|---|
| Expenditures | | | | | | | |
| Legislative-General (1) | $430 | $443 | $456 | $469 | $482 | $582 | $597 |
| Executive-General (1) | $252 | $260 | $267 | $275 | $282 | $341 | $350 |
| Financial and Administrative (1) | $2,618 | $2,696 | $2,775 | $2,853 | $2,932 | $3,544 | $3,636 |
| Legal Counsel (1) | $473 | $488 | $502 | $516 | $530 | $641 | $658 |
| Comprehensive Planning (1) | $105 | $108 | $111 | $114 | $117 | $142 | $145 |
| Debt Service Payments (1) | $4,922 | $5,069 | $5,217 | $5,364 | $5,512 | $6,662 | $6,836 |
| Other General Government (1) | $6,204 | $6,390 | $6,576 | $6,762 | $6,948 | $8,398 | $8,617 |
| Law Enforcement (1) | $13,634 | $14,043 | $14,452 | $14,861 | $15,270 | $18,457 | $18,938 |
| Fire Control (1) | $8,432 | $8,685 | $8,938 | $9,191 | $9,444 | $11,415 | $11,713 |
| Detention/Corrections (1) | $7,210 | $7,427 | $7,643 | $7,859 | $8,076 | $9,761 | $10,015 |
| Protective Inspections (1) | $1,240 | $1,277 | $1,314 | $1,352 | $1,389 | $1,679 | $1,722 |
| Emergency and Disaster Relief (1) | $207 | $213 | $220 | $226 | $232 | $281 | $288 |
| Medical Examiners, Other Public Safety (1) | $1,607 | $1,655 | $1,704 | $1,752 | $1,800 | $2,176 | $2,232 |
| Water/Sewer Services (1) | $8 | $8 | $8 | $8 | $8 | $10 | $11 |
| Conservation/Resource Management (1) | $358 | $369 | $380 | $391 | $401 | $485 | $498 |
| Other Physical Environment (1) | $1,284 | $1,322 | $1,361 | $1,399 | $1,438 | $1,738 | $1,783 |
| Road/Street Facilities (1) | $1,258 | $1,296 | $1,333 | $1,371 | $1,409 | $1,703 | $1,747 |
| Mass Transit (1) | $56 | $58 | $60 | $61 | $63 | $76 | $78 |
| Other Transportation (1) | $1,034 | $1,065 | $1,096 | $1,127 | $1,158 | $1,400 | $1,437 |
| Industry Development (1) | $24 | $24 | $25 | $26 | $26 | $32 | $33 |
| Other Economic Development (1) | $2,521 | $2,597 | $2,672 | $2,748 | $2,823 | $3,413 | $3,502 |
| Interfund Transfers Out (1) | $21,610 | $22,259 | $22,907 | $23,555 | $24,204 | $29,255 | $30,018 |
| Clerk of Court & Court Administration (3) | $2,806 | $2,890 | $2,974 | $3,058 | $3,142 | $3,798 | $3,897 |
| Balancing Expenditure | $1,570 | $1,617 | $1,664 | $1,712 | $1,759 | $2,126 | $2,181 |
| Total Expenditures | $79,860 | $82,256 | $84,651 | $87,047 | $89,443 | $108,110 | $110,930 |

(1) Divisor includes FTE Population + FTE Employment + FTE Tourists
(2) Divisor includes FTE Population
(3) Divisor includes FTE Population + FTE Employment
(4) Divisor includes FTE Tourists

Table 3
CEMEX Operations - Miami- Dade County
Fiscal Impact Detail

| | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|---|---|
| Expenditures | | | | | | | |
| Legislative-General (1) | $612 | $628 | $643 | $658 | $673 | $688 | $704 |
| Executive-General (1) | $359 | $368 | $377 | $386 | $395 | $404 | $413 |
| Financial and Administrative (1) | $3,729 | $3,821 | $3,914 | $4,006 | $4,099 | $4,191 | $4,283 |
| Legal Counsel (1) | $674 | $691 | $708 | $725 | $741 | $758 | $775 |
| Comprehensive Planning (1) | $149 | $153 | $156 | $160 | $164 | $167 | $171 |
| Debt Service Payments (1) | $7,010 | $7,184 | $7,358 | $7,531 | $7,705 | $7,879 | $8,053 |
| Other General Government (1) | $8,837 | $9,056 | $9,275 | $9,494 | $9,713 | $9,932 | $10,151 |
| Law Enforcement (1) | $19,420 | $19,901 | $20,383 | $20,864 | $21,346 | $21,827 | $22,309 |
| Fire Control (1) | $12,011 | $12,309 | $12,606 | $12,904 | $13,202 | $13,500 | $13,798 |
| Detention/Corrections (1) | $10,270 | $10,525 | $10,779 | $11,034 | $11,289 | $11,543 | $11,798 |
| Protective Inspections (1) | $1,766 | $1,810 | $1,854 | $1,898 | $1,941 | $1,985 | $2,029 |
| Emergency and Disaster Relief (1) | $295 | $302 | $310 | $317 | $324 | $332 | $339 |
| Medical Examiners, Other Public Safety (1) | $2,289 | $2,346 | $2,403 | $2,459 | $2,516 | $2,573 | $2,630 |
| Water/Sewer Services (1) | $11 | $11 | $11 | $12 | $12 | $12 | $12 |
| Conservation/Resource Management (1) | $511 | $523 | $536 | $548 | $561 | $574 | $586 |
| Other Physical Environment (1) | $1,828 | $1,874 | $1,919 | $1,964 | $2,009 | $2,055 | $2,100 |
| Road/Street Facilities (1) | $1,792 | $1,836 | $1,881 | $1,925 | $1,969 | $2,014 | $2,058 |
| Mass Transit (1) | $80 | $82 | $84 | $86 | $88 | $90 | $92 |
| Other Transportation (1) | $1,473 | $1,510 | $1,546 | $1,583 | $1,619 | $1,656 | $1,693 |
| Industry Development (1) | $34 | $34 | $35 | $36 | $37 | $38 | $39 |
| Other Economic Development (1) | $3,591 | $3,680 | $3,769 | $3,858 | $3,947 | $4,036 | $4,125 |
| Interfund Transfers Out (1) | $30,781 | $31,544 | $32,308 | $33,071 | $33,834 | $34,597 | $35,360 |
| Clerk of Court & Court Administration (3) | $3,996 | $4,095 | $4,194 | $4,294 | $4,393 | $4,492 | $4,591 |
| Balancing Expenditure | $2,237 | $2,292 | $2,347 | $2,403 | $2,458 | $2,514 | $2,569 |
| Total Expenditures | $113,750 | $116,570 | $119,390 | $122,211 | $125,031 | $127,851 | $130,671 |

Table 3
CEMEX Operations - Miami- Dade County
Fiscal Impact Detail

| | 2024 | 2025 | 2026 | 2027 |
|---|---|---|---|---|
| Expenditures | | | | |
| Legislative-General (1) | $719 | $734 | $749 | $764 |
| Executive-General (1) | $421 | $430 | $439 | $448 |
| Financial and Administrative (1) | $4,376 | $4,468 | $4,561 | $4,653 |
| Legal Counsel (1) | $791 | $808 | $825 | $842 |
| Comprehensive Planning (1) | $175 | $179 | $182 | $186 |
| Debt Service Payments (1) | $8,227 | $8,401 | $8,574 | $8,748 |
| Other General Government (1) | $10,370 | $10,589 | $10,808 | $11,027 |
| Law Enforcement (1) | $22,790 | $23,272 | $23,753 | $24,234 |
| Fire Control (1) | $14,095 | $14,393 | $14,691 | $14,989 |
| Detention/Corrections (1) | $12,053 | $12,307 | $12,562 | $12,816 |
| Protective Inspections (1) | $2,073 | $2,117 | $2,160 | $2,204 |
| Emergency and Disaster Relief (1) | $346 | $354 | $361 | $368 |
| Medical Examiners, Other Public Safety (1) | $2,686 | $2,743 | $2,800 | $2,857 |
| Water/Sewer Services (1) | $13 | $13 | $13 | $13 |
| Conservation/Resource Management (1) | $599 | $612 | $624 | $637 |
| Other Physical Environment (1) | $2,145 | $2,191 | $2,236 | $2,281 |
| Road/Street Facilities (1) | $2,103 | $2,147 | $2,191 | $2,236 |
| Mass Transit (1) | $94 | $96 | $98 | $100 |
| Other Transportation (1) | $1,729 | $1,766 | $1,802 | $1,839 |
| Industry Development (1) | $39 | $40 | $41 | $42 |
| Other Economic Development (1) | $4,214 | $4,303 | $4,392 | $4,481 |
| Interfund Transfers Out (1) | $36,123 | $36,887 | $37,650 | $38,413 |
| Clerk of Court & Court Administration (3) | $4,690 | $4,789 | $4,888 | $4,987 |
| Balancing Expenditure | $2,625 | $2,680 | $2,736 | $2,791 |
| Total Expenditures | $133,492 | $136,312 | $139,132 | $141,952 |

Table 3
CEMEX Operations - Miami- Dade County
Fiscal Impact Detail

| | 2028 | 2029 |
|---|---|---|
| Expenditures | | |
| Legislative-General (1) | $662 | $675 |
| Executive-General (1) | $388 | $396 |
| Financial and Administrative (1) | $4,031 | $4,110 |
| Legal Counsel (1) | $729 | $743 |
| Comprehensive Planning (1) | $161 | $164 |
| Debt Service Payments (1) | $7,579 | $7,727 |
| Other General Government (1) | $9,554 | $9,740 |
| Law Enforcement (1) | $20,996 | $21,405 |
| Fire Control (1) | $12,986 | $13,239 |
| Detention/Corrections (1) | $11,104 | $11,320 |
| Protective Inspections (1) | $1,910 | $1,947 |
| Emergency and Disaster Relief (1) | $319 | $325 |
| Medical Examiners, Other Public Safety (1) | $2,475 | $2,523 |
| Water/Sewer Services (1) | $12 | $12 |
| Conservation/Resource Management (1) | $552 | $563 |
| Other Physical Environment (1) | $1,977 | $2,015 |
| Road/Street Facilities (1) | $1,937 | $1,975 |
| Mass Transit (1) | $87 | $88 |
| Other Transportation (1) | $1,593 | $1,624 |
| Industry Development (1) | $36 | $37 |
| Other Economic Development (1) | $3,882 | $3,958 |
| Interfund Transfers Out (1) | $33,280 | $33,928 |
| Clerk of Court & Court Administration (3) | $4,321 | $4,405 |
| Balancing Expenditure | $2,418 | $2,465 |
| Total Expenditures | $122,984 | $125,380 |

Table 4
CEMEX Mine Expansion - Miami- Dade County
Fiscal Impact Assumptions

| | | | |
|---|---|---|---|
| Millage | | | |
| Miami- Dade County | 4.8379 | Mills | |
| Unincorporated | 2.0083 | Mills | |
| Fire & EMS | 2.1851 | Mills | |
| Library | 0.3822 | Mills | |

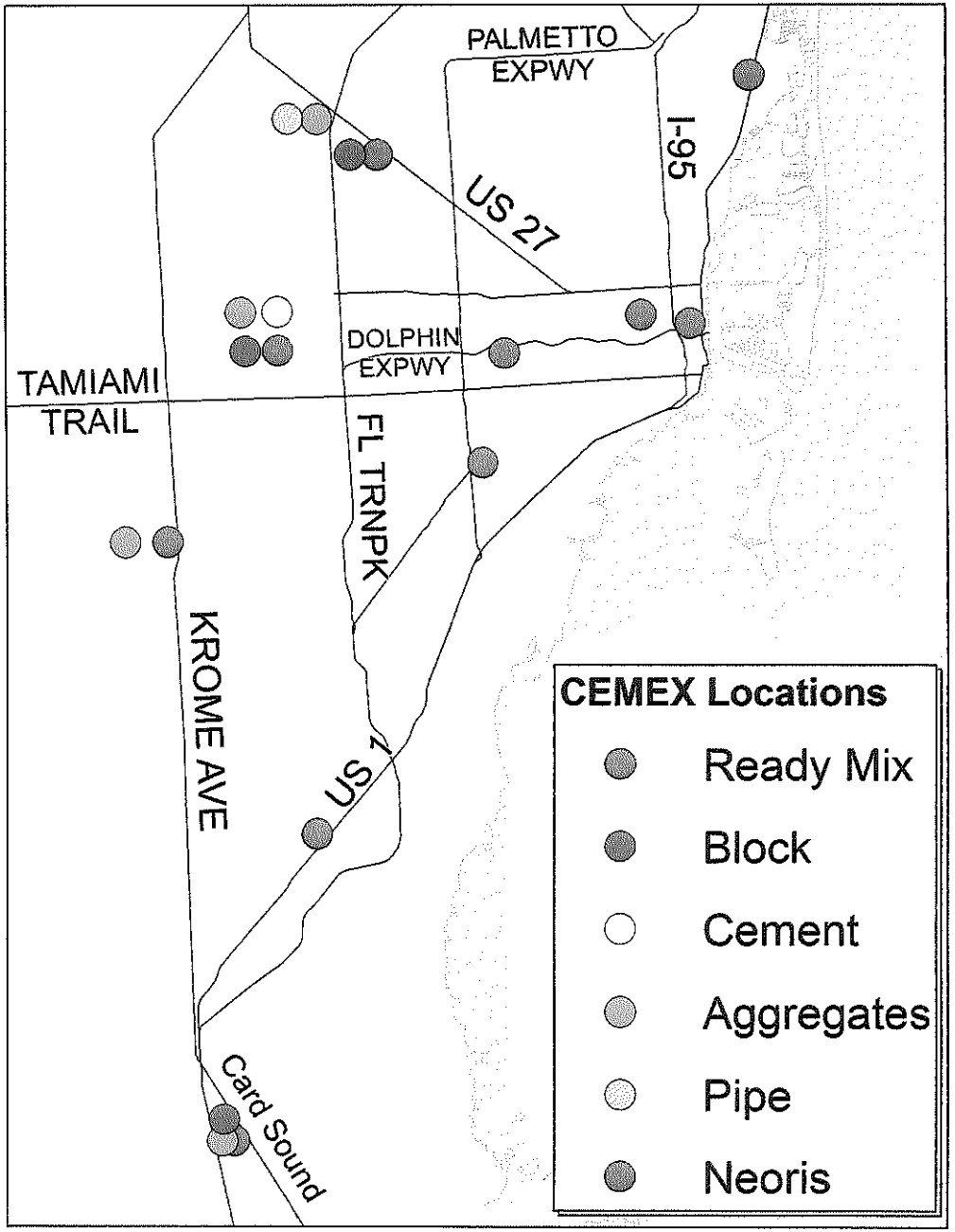
| | | Equivalent Factor | Full-Time Equivalent |
|---|---|---|---|
| Population-Working Residents | 950,954 | 0.7619 | 724,532 |
| Population-Non-Working Residents | 1,483,406 | 1.0000 | 1,483,406 |
| Population- Seasonal | 81,953 | 0.3750 | 30,732 |
| Population (peak season) | 2,516,314 | | 2,238,671 |
| Population (total) | 2,472,344 | | |
| (Fl Population Studies) | | | |
| Employment (total) | 950,954 | 0.2381 | 226,422 |
| (State of Florida ) | | | |

| | | |
|---|---|---|
| Persons per Household | 2.77 | |
| (Fl Population Studies) | | |
| Total Households | 874,347 | (Fl Population Studies) |

| | | |
|---|---|---|
| Hotel Assumptions | | |
| Total Number of Rooms | 47,809 | (Occupational Licenses Data Base) |
| Average Occupancy | 60.8% | (Smith Travel / Fishkind estimate) |
| Average Persons per Room | 2.4 | (FLA USA Visit Florida 2002) |

| | |
|---|---|
| Average Annual Change in Property Value: | 2.0% |

# CEMEX Facilities in Miami-Dade



DAVID PLUMMER & ASSOCIATES
TRANSPORTATION • CIVIL • STRUCTURAL • ENVIRONMENTAL

1750 PONCE DE LEON BOULEVARD, CORAL GABLES, FLORIDA 33134
305 447 0900 • FAX: 305 444 4986 • DPA@DPLUMMER.COM

June 9, 2011

Mr. Marc C. LaFerrier
Director, Dept. of Planning & Zoning
Miami-Dade County
111 NW First Street, 11th Floor
Miami, FL 33128

**Re: Santa Fe Haciendas / PH 09-176 – DPA #11105**

Dear Mr. LaFerrier:

The purpose of this letter is to summarize my findings of the potential traffic impacts associated with the Santa Fe Haciendas, LLC application. This application seeks to allow lake excavation south of the existing CEMEX operation. The project is located west of SW 177 Avenue (Krome Avenue, SR 997) and south of theoretical SW 90 Street in Miami-Dade County (MDC), FL.

Currently, CEMEX operates a rock crushing and screening plant west of SW 177 Avenue and north and south of SW 88 Street (Kendall Drive, SR 94). Access to this facility is from a signalized intersection on SW 177 Avenue at SW 88 Street.

Truck counts to/from the current facility for the year 2010 were provided by CEMEX. The following information was derived from the 2010 truck counts:

- Trucks enter and exit the facility between 5am and 3pm on Mondays through Fridays.
- The average daily truck counts (by month) range from a low of approximately 130 trucks per day (tpd) in December to a high of approximately 575 tpd in February.
- The average daily truck traffic is approximately 260 tpd.
- The peak months for truck traffic to/from the existing facility were January, February, and March.

The following can be concluded from the above information:

- All of the truck traffic from this facility enter and exit the site outside of the critical pm peak hour time period, which is the period used by MDC for traffic concurrency.
- The average hourly truck traffic is 26 trucks per hour, which is less than one truck every two minutes.

Further, FDOT is developing roadway capacity improvements on Krome Avenue from SW 8 Street to SW 136 Street. Construction of the capacity improvements on Krome Avenue from Kendall Drive

to SW 8 Street is under design and scheduled for construction in 2014. The capacity improvements from Kendall Drive to SW 136 Street are scheduled for design in 2011.

Access to the proposed site will continue from the existing signalized intersection on SW 177 Avenue at Kendall Drive. No new access points to Krome Avenue are proposed with this application. Therefore, there are no additional traffic operational issues to FDOTs access management plan for the Krome Avenue (SR 997) corridor associated with this application.

In summary, this application is an expansion of CEMEXs existing quarry operation that extends the life of the facility. Ingress and egress to the public roadway system will remain unchanged. FDOT has plans for capacity improvements to Krome Avenue between SW 8 Street and SW 136 Street that are currently being designed and a majority of which are scheduled for construction in 2014. Finally, I am in agreement with MDCs Public Works Department that there are no additional pm peak hour trips associated with this application.

Please call me at (305) 447-0900 if you have any questions or need more information.

Sincerely,

Timothy J. Plummer, PE
President

cc: Alan MacVicar (CEMEX), Kerri Barsh (GT), file

LaFerrier-let

**This instrument was prepared by:**
**Name: Kerri L. Barsh, Esq.**
**Address: Greenberg Traurig**
**333 Ave. of the Americas**
**40th Floor**
**Miami, FL 33131**

**(Space reserved for Clerk)**

---

# DECLARATION OF RESTRICTIONS

*WHEREAS*, the undersigned Owner holds the fee simple title to the land in Miami-Dade County, Florida, described in Exhibit "A" attached hereto (the "Property"), which is supported by the attorney's opinion, and

*IN ORDER TO ASSURE* the **County** that the representations made by the Owner and its co-applicant, CEMEX Construction Materials Florida, LLC (the "Operator"), during consideration of Public Hearing No. 09-176 will be abided by, the Owner freely, voluntarily and without duress makes the following Declaration of Restrictions covering and running with the Property:

1. The approved lake excavation use and ancillary uses shall be established and maintained in accordance with the approved plan.

2. The complete lake excavation plans prepared and sealed by a Florida-licensed surveyor and/or professional engineer shall be submitted to and meet with the approval of the Director of Planning and Zoning (the "Director") upon the submittal of an application for an excavation use permit; said plans shall be substantially in accordance with that submitted for the hearing entitled "Prop. Lake Excavation," as prepared by Fortin, Leavy, Skiles, Inc., Sheet "2A," dated stamped received 9/27/10 and the remaining sheets dated stamped received 8/17/10, for a total of 5 sheets.

3. The grading, leveling, sloping of the banks and perimeter restoration shall be on a progressive basis as the project develops and the excavation progresses. In accordance with this requirement, the Operator shall submit "as built" surveys prepared and sealed by a Florida-licensed surveyor and/or professional engineer upon request of the Director or the Director of the Department of Environmental Resources Management (DERM).

4. Upon completion of the project, the Property shall be restored and left in an acceptable condition meeting with the approval of the Director and the Director of the DERM.

5. If the lake excavation operation is discontinued, abandoned, or inactive for a period of 12 months (starting from the commencement date of lake excavation) without any mining activity, the existing excavation shall be sloped to conform with the approved plans.

6. The time for the completion of the project, including the lake excavation and grading, shall be 25 years, depending upon the time required to secure the Phase II permits, and the work shall be carried on expeditiously so that the work will be completed within the allocated time.

7. If, in the opinion of the Miami-Dade County Board of County Commissioners, the excavation is hazardous to the surrounding area, the Property will be fenced in by the Owner.

8. The hours of the lake excavation operation shall be controlled by the Director, except that the Operator shall be permitted to operate between the hours of 7:00 A.M. and 5:00 P.M. on weekdays, Saturday and Sunday operation and/or hours of operation other than 7:00 A.M. to 5:00 P.M. on weekdays, may be allowed by the Director only if the same does not become a nuisance to the surrounding area.

9. To ensure compliance with all terms and conditions imposed, a cash bond or substantially equivalent instrument meeting with the approval of the Director shall be posted with the Department of Planning and Zoning, payable to Miami-Dade County, in an amount as may be determined and established by the Director; said instrument shall be in such form that the same may be recorded in the public records of Miami-Dade County and said instrument shall be executed by the property owner and any and all parties who may have an interest in the land, such as mortgagees. The bond amount shall be based on the volume of cut required to create the approved slope configuration.

10. All excavations shall be posted every 50 feet with warning signs a minimum of 18" x 18" in size.

11. The Owner and/or Operator, as applicable, shall comply with all applicable conditions and requirements of the Department of Environmental Resources Management.

12. The Owner and/or Operator, as applicable, shall comply with all applicable conditions and requirements of the Public Works Department.

13. The Owner and/or Operator, as applicable, shall comply with all applicable conditions and requirements of the Fire-Rescue Department.

14. All applicable federal, state and local permits must be obtained prior to commencement of the lake excavation. In the event that any federal, state or local permit related to excavation is revoked or otherwise held to be invalid, the excavation operation shall immediately cease.

15. The Operator shall, prior to the commencement of the lake excavation, construct and maintain a continuous landscaped berm at a 100-foot setback from the southern property line The berm shall be an average of 15 feet in height and shall be planted with native trees and shrubs to provide a visual buffer to the neighboring residents.

16. The Operator shall not excavate or blast within 200 feet of the southern property line, in accordance with that submitted for the hearing entitled "Prop. Lake Excavation," as prepared by Fortin, Leavy, Skiles, Inc., Sheet "2A," dated stamped received 9/27/10 and the remaining sheets dated stamped received 8/17/10, for a total of 5 sheets.

17. The Operator agrees not to conduct blasting operations within 500 feet of any occupied residence existing at the time of the approval of Public Hearing Item No. 09-176.

18. The Operator shall obtain and renew on an annual basis, an Excavation Use Permit from the Department of Planning and Zoning, upon compliance with all terms and conditions, subject to cancellation upon violation of any of the conditions. Once issued, the Excavation Use Permit for the subject Property and the Excavation Use Permit(s) for the existing contiguous quarrying operations for the property to the north of the subject property shall remain active and be maintained by the same operator until the Operator's excavation of the respective quarry property has been completed and/or unless the respective bond has been released. Other operational permits and approvals required by Miami-Dade County for the quarrying operations on the Property and for the existing contiguous quarrying operations shall also be maintained by the same Operator until the Operator's excavations on the respective quarry property are completed or unless the respective bond has been released.

19. The Operator shall comply with the dust and noise abatement practices and vibration minimization protocols set forth in the Good Neighbor Program dated June 13, 2011, and attached to this Declaration as Exhibit "B."

20. **County Inspection.** As further part of this Declaration, it is hereby understood and agreed that any official inspector of Miami-Dade County, or its agents duly authorized, may have the privilege at any time during normal working hours of entering and inspecting the use of the premises to determine whether or not the requirements of the building and zoning regulations and the conditions herein agreed to are being complied with.

21. **Covenant Running with the Land**. This Declaration shall constitute a covenant running with the land and may be recorded, at Owner's expense, in the public records of Miami-Dade County, Florida, and shall remain in full force and effect and be binding upon the undersigned Owner, and its heirs, successors, and assigns until such time as the covenant is modified or released. These restrictions during their lifetime shall be for the benefit of, and limitation upon, all present and future owners of the real property and for the benefit of Miami-Dade County and the public welfare. Owner, and its heirs, successors and assigns, acknowledge that acceptance of this Declaration does not in any way obligate or provide a limitation on the County.

22. **Term.** This Declaration is to run with the land and shall be binding on all parties and all persons claiming under it for a period of thirty (30) years from the date this Declaration

is recorded after which time it shall be extended automatically for successive periods of ten (10) years each, unless an instrument signed by the, then, owner(s) of the Property has been recorded agreeing to change the covenant in whole, or in part, provided that the Declaration has first been modified or released by Miami-Dade County.

23. **Modification, Amendment, Release.** This Declaration may be modified, amended or released as to the land herein described, or any portion thereof, by a written instrument executed by the, then, owner(s) of all of the Property, including joinders of all mortgagees, if any, provided that the same is also approved by the Board of County Commissioners or Community Zoning Appeals Board of Miami-Dade County, Florida, whichever by law has jurisdiction over such matters, after public hearing.

    Should this Declaration be so modified, amended or released, the Director or the executive officer of the successor of such Department, or in the absence of such director or executive officer by his assistant in charge of the office in his absence, shall forthwith execute a written instrument effectuating and acknowledging such modification, amendment or release.

24. **Enforcement**. Enforcement shall be by action against any parties or person violating, or attempting to violate, any covenants. The prevailing party in any action or suit pertaining to or arising out of this declaration shall be entitled to recover, in addition to costs and disbursements allowed by law, such sum as the Court may adjudge to be reasonable for the services of his attorney. This enforcement provision shall be in addition to any other remedies available at law, in equity or both.

25. **Authorization for Miami-Dade County to Withhold Permits and Inspections**. In the event the terms of this Declaration are not being complied with, in addition to any other remedies available, the County is hereby authorized to withhold any further permits, and refuse to make any inspections or grant any approvals, until such time as this Declaration is complied with.

26. **Election of Remedies.** All rights, remedies and privileges granted herein shall be deemed to be cumulative and the exercise of any one or more shall neither be deemed to constitute an election of remedies, nor shall it preclude the party exercising the same from exercising such other additional rights, remedies or privileges.

27. **Presumption of Compliance**. Where construction has occurred on the Property or any portion thereof, pursuant to a lawful permit issued by the County, and inspections made and approval of occupancy given by the County, then such construction, inspection and approval shall create a rebuttable presumption that the buildings or structures thus constructed comply with the intent and spirit of this Declaration.

28. **Severability**. Invalidation of any one of these covenants, by judgment of Court, shall not affect any of the other provisions which shall remain in full force and effect. However, if any material portion is invalidated, the County shall be entitled to revoke any approval predicated upon the invalidated portion

29. **Recording**. This Declaration shall be filed of record in the public records of Miami-Dade County, Florida, at the cost of the Owner following the approval of the application

for Public Hearing No. 09-176. This Declaration shall become effective immediately upon recordation. Notwithstanding the previous sentence, if any appeal is filed, and the disposition of such appeal results in the denial of the application, in its entirety, then this Declaration shall be null and void and of no further effect. Upon the disposition of an appeal that results in the denial of the application for Public Hearing No. 09-176, in its entirety, and upon written request, the Director t or the executive officer of the successor of the Department of Planning and Zoning, or in the absence of such director or executive officer by his/her assistant in charge of the office in his/her absence, shall forthwith execute a written instrument, in recordable form, acknowledging that this Declaration is null and void and of no further effect.

30. **Acceptance of Declaration.** Acceptance of this Declaration does not obligate the County in any manner, nor does it entitle the Owner to a favorable recommendation or approval of any application, zoning or otherwise, and the Board of County Commissioners and/or any appropriate Community Zoning Appeals Board retains its full power and authority to deny each such application in whole or in part and to decline to accept any conveyance or dedication.

31. **Owner.** The term Owner shall include the Owner, and its heirs, successors and assigns.

[Execution Pages Follow]

**(Space reserved for Clerk)**

Signed, witnessed, executed and acknowledged on this 19 day of April , 2011.

*IN WITNESS WHEREOF*, Santa Fe Hacienda, LLC, (the "Owner"), has caused this Declaration of Restrictions to be signed in its name by its proper officials.

**Witnesses:**

| | |
|---|---|
| Signature Paulette Gonzalez | **Santa Fe Haciendas, LLC, a Florida limited liability company** |
| Print Name PauletteGonzalez | |
| Signature | By Masoud Shojaee, **Managing Member** |
| Print Name JORGE NAVARRO | |
| **STATE OF FLORIDA** | **COUNTY OF MIAMI-DADE** |

The foregoing instrument was acknowledged before me by Masoud Shojaee, the Managing Member of Santa Fe Haciendas, LLC, on behalf of the LLC. He is personally known to me or has produced FL Driver's License as identification.

Witness my signature and official seal this 19 day of April, 2011 , in the County and State aforesaid.

| | |
|---|---|
| IRIS V. ESCARRA Notary Public - State of Florida My Comm. Expires Oct 8, 2012 Commission # DD 813581 Bonded Through National Notary Assn. | Signature |
| | Notary Public-State of Florida |
| | Print Name IRIS ESCARRA |
| My Commission Expires: | |

(Public Hearing)
09-176

Section-Township-Range: Section 1- Township 55 South - Range 38 East
Folio number: 30-5801-000-0010

Exhibit "A"

Legal Description:

A PORTION OF SECTION 1, TOWNSHIP 55 SOUTH, RANGE 38 EAST, MIAMI-DADE COUNTY, FLORIDA, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCE AT THE SOUTHWEST CORNER OF SAID SECTION 1; THENCE NO2'06'03"W, ALONG THE WEST LINE OF SAID SECTION 1, FOR A DISTANCE OF 1980.77 FEET TO THE POINT OF BEGINNING OF THE HEREINAFTER DESCRIBED PARCEL OF LAND; THENCE CONTINUE NO2'06'03"W, ALONG THE LAST DESCRIBED LINE FOR A DISTANCE OF 3299.09 FEET TO THE NORTHWEST CORNER OF SAID SECTION 1; THENCE N89'30'05"E, ALONG THE NORTH LINE OF SAID SECTION 1, FOR A DISTANCE OF 5279.86 FEET TO THE NORTHEAST CORNER OF SAID SECTION 1; THENCE S02'06'00"E, ALONG THE EAST LINE OF SAID SECTION 1, FOR A DISTANCE OF 1493.52 FEET TO ITS INTERSECTION WITH THE ARC OF A CIRCULAR CURVE TO THE LEFT, CONCAVE TO THE SOUTHEAST, A RADIAL LINE TO SAID POINT BEARS N76'17'57"W; THENCE SOUTHWESTERLY ALONG THE ARC OF SAID CURVE, SAID ARC BEING COINCIDENT WITH THE WESTERLY RIGHT-OF-WAY LINE OF S.W. 177$^{TH}$ AVENUE (KROME AVENUE), AS SHOWN ON FLORIDA DEPARTMENT OF TRANSPORTATION RIGHT-OF WAY MAP SECTION 87150, SHEET 25 OF 29, SAID ARC HAVING A RADIUS OF 5954.58 FEET, THROUGH A CENTRAL ANGLE OF 15'48'03" FOR AN ARC DISTANCE OF 1642.14 FEET TO A POINT OF TANGENCY; THENCE S02'06'00"E, ALONG SAID WESTERLY RIGHT-OF-WAY LINE, SAID LINE BEING 225.00 FEET WEST OF AND PARALLEL WITH THE EAST LINE OF SAID SECTION 1, FOR A DISTANCE OF 177.88 FEET; THENCE S89'30'05"W, ALONG A LINE 1980.00 FEET NORTH OF AND PARALLEL WITH THE SOUTH LINE OF SAID SECTION 1, FOR A DISTANCE OF 1181.98 FEET; THENCE S02'06'00"E, ALONG A LINE 1406.52 FEET WEST OF AND PARALLEL WITH THE EAST LINE OF SAID SECTION 1, FOR A DISTANCE OF 660.26 FEET; THENCE 589'30'05"W, ALONG A LINE 1320.00 FEET NORTH AND PARALLEL WITH THE SOUTH LINE OF SAID SECTION 1, FOR A DISTANCE OF 1232.57 FEET; THENCE NO2'06'03"W, ALONG A LINE 2639.13 FEET EAST OF AND PARALLEL WITH THE WEST LINE OF SAID SECTION 1, FOR A DISTANCE OF 660.26 FEET; THENCE S89'30'05"W, ALONG A LINE 1980.00 FEET NORTH OF AND PARALLEL WITH THE SOUTH LINE OF SAID SECTION 1, FOR A DISTANCE OF 2640.16 FEET TO THE POINT OF BEGINNING.

ALL OF THE ABOVE DESCRIBED LAND SITUATED, BEING AND LYING IN MIAMI-DADE COUNTY, FLORIDA.

Exhibit "B"

Building the future™

# Good Neighbor Program

## Krome Quarry
## & Santa Fe Haciendas Expansion

**CEMEX – Krome Quarry & Santa Fe Haciendas Expansion**

**Aesthetic Berm and Noise Attenuation**

In an effort to provide an aesthetic view from the neighbors to the South, a landscaped berm will be installed along the South edge of the Santa Fe Haciendas property consistent with permitted setbacks. The specifications of the berm are included in Appendix A.

In addition to providing an aesthetic presence, the berm will also serve to attenuate noise from the mining operation. The berm will be constructed prior to the commencement of the excavation on the Santa Fe Haciendas property and maintained throughout the course of the operation.

**Dust Control**

The control of dust is an important piece of being a good neighbor. Although mining is a wet process, the dry weather and heat can sometimes require dust control on the mine haul roads.

To control dust, the following measures will be implemented.

1. Haul roads will be watered once every two hours by a 769 Caterpillar Water Truck (10,000 gallons) equipped with water spray bar.

2. In the event that this truck is inoperable, a replacement will be rented to meet the watering requirements of the haul roads in operation.

3. The frequency of watering under # 1 may be reduced during the rainy season as rain serves as a natural dust suppressant.

4. The entrance road (driveway to the Krome Quarry) , the pavement in and around the scales, and other paved areas will be watered periodically to wash -off accumulated dirt and dust.

5. If the foregoing measures are not sufficient to manage the airborne dust, then the frequency of items 2 and 4 will be increased.

**Minimizing Vibrations**

Blasting is a necessary part of the mining operation due to the nature of the South Florida limestone deposit. To minimize any impacts from the blasting operations, the following best practices are part of the routine operations at the Krome Quarry and will be implemented at the Santa Fe Haciendas property as well .

Each blast will be monitored on an individual basis to ensure compliance and document blast parameters. This data will be used to evaluate blast performance and identify potential modifications that may further minimize impacts.

1. Current blasting is in excess of 4000 feet from the Santa Fe Haciendas property located to the south. As blasting continues to advance to the south, it is important to collect as much data as practical to evaluate improvement opportunities. To build upon the data collected from the July, 2010 study, an array of three seismographs will be initially installed at 500', 750', and between 1,000' - 1,500' in a line south of the current blast area. This array will provide continuous collection of blast data as operations continue.

    a. The seismograms will be reviewed to determine peak particle velocity levels at known distances.

    b. Each seismograph location on the array (Item No. 1) will be surveyed to establish the exact location. In addition, the four corners of each shot will be surveyed to determine the exact position of the blast allowing for precise accounting in distance calculations for continued analysis.

    c. Seismograph units on-site and within the community will be evaluated regularly to maintain the correct orientation and distance separation for monitoring and optimum data recovery.

    d. The data being collected will include blast loading configuration details, ground vibration data, and air-blast levels and will be evaluated by a team of qualified experts. Based upon the data, blast parameters may be adjusted to improve performance.

2. One additional seismograph will be installed at a structure, or along the north property lines of structures, located on the north side of S. W. 100$^{th}$ Avenue. For best results, this instrument should be installed at a location east or west of the array line. The information from this seismograph will assist in the evaluation of blast performance.

**Additional Safeguards**

1. Prior to the start of blasting operations within new sections of the Santa Fe Haciendas quarry, an inspection would be offered to property owners within 3000 feet of the proposed blasting area. The offer will be made via Certified Mail.

   The inspection would consist of an existing crack survey by a professional engineer contracted by CEMEX with documentation of the existing cracks, separations, water marks and other existing cosmetic defects noted in a written summary report including photographs. The documentation establishes a baseline for CEMEX and the property owner.

   Following the inspection, the report will be forwarded to the property owner and CEMEX along with digital copies of any photographs taken.

2. Prior to any blasting event on site, notification will be made via telephone for interested residents within a 3000 foot radius of the blast. The call will be completed on the day of the blast indicating the approximate time that the blast will occur. If blasting plans are modified more than 4 hours from the original planned time, a second call would be made as feasible. Plans may be modified for a number of reasons including, but not limited to, mechanical breakdown of drilling and blasting equipment, heavy rain or other weather related concerns, or other circumstances beyond the control of CEMEX. CEMEX will maintain a list of contacts, the date and time the call was placed, and whether the property owner was reached or a message left. In addition, the planned time for each blast will be posted on-line (MDLPA.org website) on a weekly basis, subject to change for meteorological and other reasons.

**Blasting Inquiries:**

1. A log will be maintained for each blasting related call received by CEMEX, including the date, time, caller's name, address, and contact information. The nature of the call will be documented along with a general summary of the overall discussion.

2. Callers will be referred to the State of Florida, Division of State Fire Marshal as required by Chapter 69-A2 of the Florida Administrative Code .

3. CEMEX representatives will contact the property owner within 24 hours in response to his or her inquiry and concerns will be investigated in cooperation with the property owner.

4. If requested by the property owner, CEMEX, at no cost to the property owner, will contract with blasting experts to evaluate any relationship between the damage and the blasting. In addition, a General Contractor may be enlisted to inspect the structure to

evaluate potential construction defects not related to blasting. Upon completion of the field inspections, a formal report will be produced and provided to CEMEX.

5. Following completion of the investigation, CEMEX representatives will review the information with the homeowner at a mutually convenient time.

CEMEX remains committed to responsible management of the blasting process throughout its operations on the Krome Quarry and the Santa Fe Haciendas property. Through the implementation of these good neighbor protocols, the impacts of CEMEX's operations, if any, will be closely monitored.

Select Year: 2010 Go

# The 2010 Florida Statutes(including Special Session A)

Title XXXIII
REGULATION OF TRADE, COMMERCE, INVESTMENTS, AND SOLICITATIONS

Chapter 552
MANUFACTURE, DISTRIBUTION, AND USE OF EXPLOSIVES

View Entire Chapter

**552.30 Construction materials mining activities.—**

(1) Notwithstanding the provisions of s. 552.25, the State Fire Marshal shall have the sole and exclusive authority to promulgate standards, limits, and regulations regarding the use of explosives in conjunction with construction materials mining activities. Such authority to regulate use shall include, directly or indirectly, the operation, handling, licensure, or permitting of explosives and setting standards or limits, including, but not limited to, ground vibration, frequency, intensity, blast pattern, air blast and time, date, occurrence, and notice restrictions. As used in this section, "construction materials mining activities" means the extraction of limestone and sand suitable for production of construction aggregates, sand, cement, and road base materials for shipment offsite by any person or company primarily engaged in the commercial mining of any such natural resources.

(2) The State Fire Marshal shall establish statewide ground vibration limits for construction materials mining activities which conform to those limits established in the United States Bureau of Mines, Report of Investigations 8507, Appendix B - Alternative Blasting Level Criteria (Figure B-1). The State Fire Marshal may, at his or her sole discretion, by rule or formal agreement, delegate to the applicable municipality or county, the monitoring and enforcement components of regulations governing the use of explosives, as recognized in this section, by construction materials mining activities. Such delegation may include the assessment and collection of reasonable fees by the municipality or county for the purpose of carrying out the delegated activities.

History.—s. 30, ch. 2000-266; s. 1, ch. 2003-62.

Copyright © 1995-2011 The Florida Legislature • Privacy Statement • Contact Us

**Florida Department of Transportation**

RICK SCOTT
GOVERNOR

605 Suwannee Street
Tallahassee, FL 32399-0450

OFFICE OF THE
SECRETARY

February 28, 2011

Mr. Mark LaFerrier
Department of Planning and Zoning, Miami-Dade County
Zoning Hearing Section
111 North West First Street, 11th Floor
Miami, Florida 33128

Re: Santa Fe Haciendas Zoning Application, P.H. No. 09-176
(Process Number **Z2009000176**)

Dear Mr. Mark LaFerrier:

It has come to my attention Santa Fe Haciendas and Cemex, Inc. has a pending application for an unusual use approval for a limestone mining expansion to supply material to their Florida Department of Transportation (FDOT) approved Source 87089 on Krome Avenue, Miami, Florida.

Because of its strategic location along the CSX rail corridor, Cemex's Krome mine has historically been a valuable supply source of construction aggregates to rail redistribution terminals in the following areas: Orlando, Jacksonville, Tampa, Daytona, Gainesville, Ocala, Mulberry, and Largo. This successful network is essential to the continuance of FDOT's road and bridge construction work program commitments across a large portion of the state.

This property is the only remaining significant upland (non-jurisdictional by US Army Corps of Engineers) tract, which is also outside of the Lake Belt. Krome is the only mine that was able to operate fully during the Lake Belt shutdown period. It has always been a critical supply link and that is even more so if something were to interrupt the Lake Belt mining again.

In order for Florida to maintain its economic growth and quality of life, the state must continue to improve its transportation infrastructure. A stable supply of all types of aggregate, including Miami limestone, is important to that effort and to ensure that road projects as well as private developments may move forward without delay.

Without locally available sources, the only viable alternative is to acquire this material from other states or countries. These sources are often more costly and delivery is sometimes not reliable. This project will fulfill a critical need for aggregate material and is located for convenient transport of the material north to where it is needed.

I hope you find this information useful in your deliberations. If you have any questions, please contact me at 850-414-5240.

Sincerely,

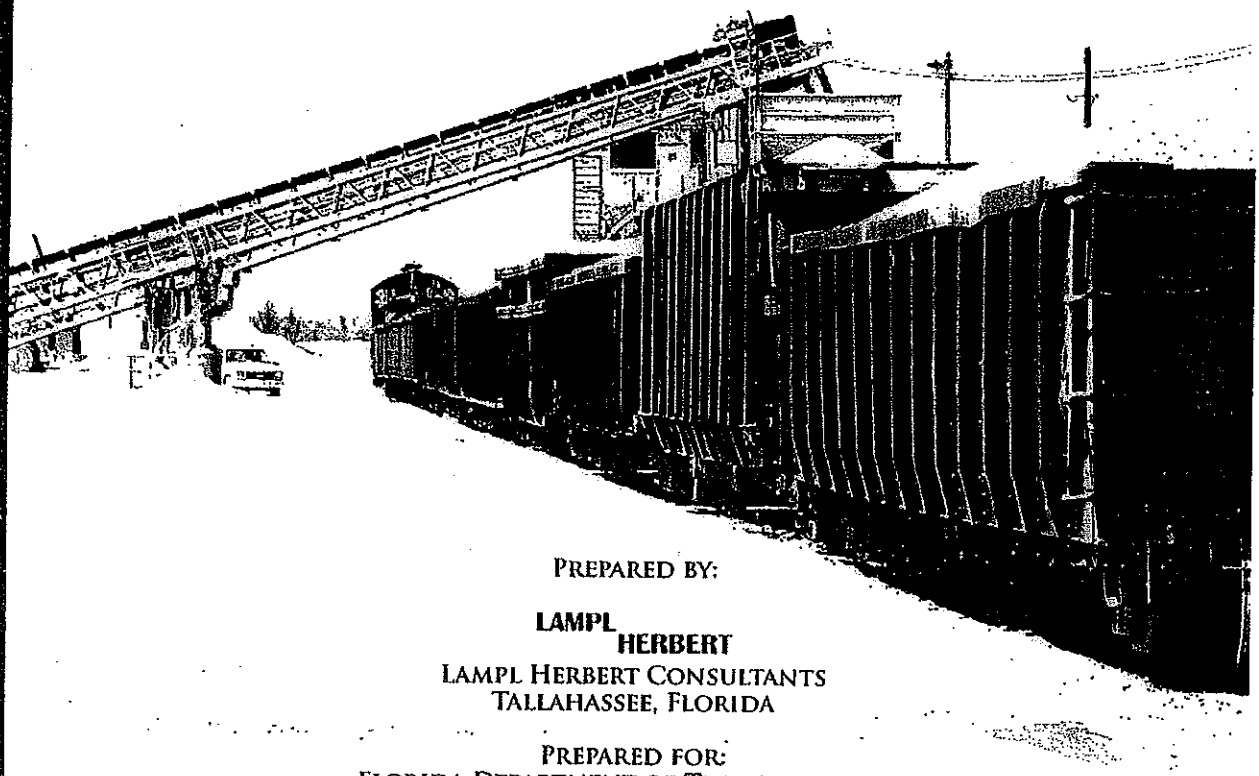
Brian Blanchard, P.E.
Chief Engineer

BB/jsi

cc: The Honorable Joe Martinez, Chair

FLORIDA DEPARTMENT OF TRANSPORTATION

# STRATEGIC AGGREGATES STUDY: SOURCES, CONSTRAINTS, AND ECONOMIC VALUE OF LIMESTONE AND SAND IN FLORIDA




PREPARED BY:

LAMPL HERBERT

LAMPL HERBERT CONSULTANTS
TALLAHASSEE, FLORIDA


PREPARED FOR:
FLORIDA DEPARTMENT OF TRANSPORTATION

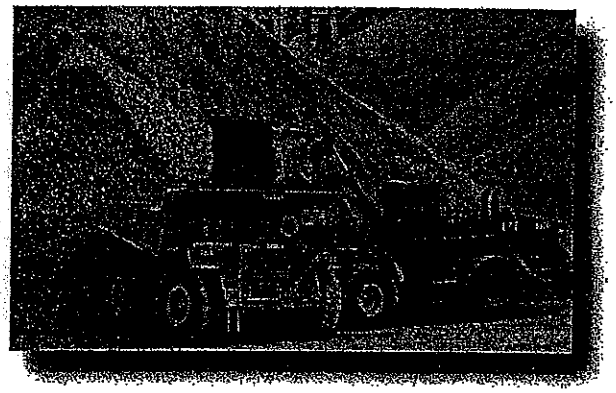
MARCH 12, 2007

FINAL REPORT

**Strategic Aggregate:**

"Strategic"... Highly important to or an integral part of a plan ...

"Aggregate" ... Crushed stone and high quality sand mined and processed for construction of roads, bridges and buildings.



The Florida Department of Transportation has undertaken a study to document the importance of aggregates materials and to evaluate ways to assure the quantity and quality of materials essential to the economic well- being of the state. Aggregates are the crushed stone and high quality sand mined and processed for construction of roads, bridges and buildings. The activities associated with mining, processing and transportation of aggregates and crushed stone materials are an integral but often overlooked part of the economic activities in the state.

Limestone and sand mined for aggregate materials are found in relatively small resource areas in deposits defined by geologic conditions. High quality deposits of limestone are "place based" in the sense that we cannot choose where these deposits are found but to a large measure we can chose where land development occurs. However, the mining industry in the state is increasingly constrained by surface development.

The economy of Florida consumes an estimated 143 million tons of aggregate materials each year. Approximately, 120 million tons are produced from mines in the state, 8

million tons are imported from U.S. domestic sources, and 5 million tons are imported internationally. Florida is successful in recycling and 10 millions tons are re-used each year. The Miami Limestone formation found along southeast coast in the Lake Belt Region of Miami-Dade County is the hardest and most durable geologic formation available in the state. Approximately 55 million tons of rock from this area is processed in to aggregate products each year and provides the main supply source for the entire construction industry. There are five "mega-mines" in the Lake Belt that provide this majority of this material. These mega-mines are among the top ten in production in the country: the first and second ranked mines are in the Lake Belt.

An integrated rail system moves Lake Belt materials to markets in Orlando and Jacksonville. At least five other limestone formations and a significant area of quality sand are found at the surface around the state in defined regions. They provide another 65 million tons from more than 100 smaller and geographically dispersed mines. These smaller, regional mines use truck hauling to move products to market.

The Florida Department of Transportation is the single largest contractor for aggregate materials through its construction and maintenance programs. The department also is the standards-setting entity for how the engineering properties of these materials are set established and tested. In this regard, the department is speaking on behalf of these strategic materials in almost any context or forum, whether county or municipality.

There are problems on the horizon in the aggregates supply chain. For example, existing mining permits have been challenged in the Lake Belt. The output from sources around the state continues but the quality is declining for many engineering purposes. Florida limestone formations outside the Lake Belt are generally not as high in quality. Both large and small land developments are over-running the lands where limestone and sand deposits are found. Local land use decisions fueled by homeowner and neighbor's complaints have made planning and permitting new mines extremely costly or impossible. Even expanding existing mines is impossible in some areas because the reserve lands have been hemmed in by development. The mega-mine complex in Lee County has seven years of remaining capacity and when it closes, the aggregates that it supplies to all of southwest Florida will need to be trucked in from other locations at a much higher price.

The economic review conducted in the study looked at the near-term issues related to a federal lawsuit that potentially could shut down production from the Lake Belt. The study also evaluated the economic impacts of mine closures in other parts of the state because of depletion or other causes. Any scenario that causes shut down of production from the Lake Belt will have serious economic consequences beginning within 30 days. The worst case modeling for a compete shut down of Lake Belt mines places the statewide total annual impact at $28.6 billion in lost economic output, $11.2 billion in lost wages, and loss of 288,000 jobs primarily in the development, construction, and real estate sectors. Modeling has also predicted that losses of even 5 percent of production of aggregates materials from regional mines annually will have significant and cumulative impacts because replacement is not often available within the existing supply chain.

This study has put in focus the challenges for the near term. The agenda is clear.

- In-state aggregate reserves are inadequate to provide for growth in the five to ten year period as major suppliers face continuing regulatory delays;
- Regulatory deliberations should consider the placed-based nature of the aggregate and crushed stone resources and their strategic importance to the economy ... changes will be required to reflect this;
- Florida's dependence on the Lake Belt as a single source makes the economy vulnerable to any supply chain disruptions ... diversification is needed ... sources need to be developed in Florida and other areas;
- Port capacities will need to be expanded and upgraded to handle a 5-10 fold increase in aggregate shipments;
- Multimodal improvements in the supply chain are required to achieve efficiencies in rail, truck, and waterborne transportation; and,
- New ideas for public/private funding should be examined to provide for these infrastructure needs.

The next steps should include a review of this agenda and the supporting materials by policy makers and stakeholders. A good forum for this seems to be a task force appointed to review and study the issues. The results of the task force deliberations should be presented as recommendations to the Governor, the Legislature, and the Transportation Commission by November, 2007.

# INTRODUCTION

The State of Florida is the 3rd largest consumer of crushed rock products in the United States. The Florida road-building and construction industries are expected to consume 143 million short tons of crushed stone in 2007[1]. If projections hold, construction of new homes and buildings may require 86 million tons of crushed stone -- almost half of those materials will be used to meet the housing needs of a rapidly expanding population. Forty-two million tons of rock will go to construction of roads, bridges, runways, and other infrastructure, making the Florida Department of Transportation (FDOT) the largest single contractor/user of crushed stone resources in the state.

Crushed stone in Florida is produced from limestone, which is mined or extracted from naturally occurring deposits found in 22 counties. Approximately 93 percent of crushed stone material used by the road-building and construction industries in Florida is mined within the state; 43 percent of this total comes from an area known as "the Lake Belt" in Miami-Dade, Southeast Florida, because of the characteristics of the rock resource. Nearly 55 million tons of limestone will be produced from 10 Lake Belt mines in 2007.

Some 8% of the rock materials used in Florida are imported from domestic (Georgia and Alabama in 2007) and 5% from offshore (Mexico, Canada, and Bahamas) sources; the remaining materials are produced by recycling aggregate or rock and used exclusively for road building.

Florida limestone is a strategic resource for the construction and maintenance of Florida highways, roads, and structures. Trends in local land use regulations, environmental issues linked with active mining, and a recent federal court decision regarding the Lake Belt district now threaten ready access to the in-state supplies of the rock resources that support Florida's transportation and construction industries.[2] Imported rock carries higher costs associated with shipping and handling.

## The Study

The FDOT initiated research in 2006 to address the current and future availability of crushed stone for building roads. The investigation looked at issues related to the location and quality of the rock formations that are presently mined throughout Florida to produce crushed stone materials for in-state markets. The research was designed to identify issues and impediments associated with development and recovery of crushed stone reserves statewide and the economic dimensions of the crushed stone market in Florida. The inquiry also considered the risks associated with dependence on mines in the Lake Belt Region.

[1] Part II of this report provides a detailed review of the data sources and the research methods used to aggregate production and consumption in the state.

[2] The terms crushed stone and crushed rock are used interchangeably in this report to describe rock materials that are removed from the ground by mining, then crushed and processed into size categories for construction purposes. Florida mines produce crushed rock that is sorted by screening into coarse and fine aggregates, which is the highest quality in the crushed stone categories. Florida rock is also used to create a crushed product called "limerock" that is used primarily for road base and specialty fill applications. Mines also produce natural silica sand for use in Portland cement concrete, concrete blocks, golf courses, and a variety of other uses.

The results of the research are presented in this report. Section I considers the resource *in situ* and examines issues associated with the quality the resource and with the context of human expectations and values. Section II was prepared by ECONorthwest in cooperation with LHC and focuses on the economic considerations associated with crushed stone material needs state-wide with special emphasis on the Lake Belt Region of Miami-Dade County. The economic analysis consider the effect of a shut down in the Lake Belt area and economic scenarios that anticipate increases in the importation of rock to meet the needs of Florida's road-building and construction industry.

The research was conducted over an 11-month period between March 2006-February 2007. A wide range of stakeholders contributed to the study including representatives of mining companies, environmental organizations, shipping interests, representatives of local government (municipalities and counties), and state agencies. The data gathering process included survey research, individual interviews, site visits, and workshops. Key findings and recommendations are presented below.

**Key Findings**

- Judicial decisions may limit access to the highest quality limestone in Florida;
- Mine expansion permits are routinely challenged and seriously delayed;
- Local governments consider or invoke moratoria on new mines;
- Residential developments, particularly large Developments of Regional Impact (DRI) in rural counties impinge on existing mine operations and limit options for expansions or new mines;
- Land use categories commonly associated with local government comprehensive plans may not be compatible with place-based resources such as limestone;
- Quality of rock available outside the Lake Belt Region for many engineering applications is declining;
- Identified aggregate reserves in Florida do not appear adequate to produce 150 million tons per year for 5-10 year growth period and beyond;
- Infrastructure for increasing imports – either by rail, barge or ship -- is not in place, and
- Florida is heavily dependent on resources from a single area: the Lake Belt of Miami-Dade County.

**Preliminary Recommendations**

- Regulatory changes will be needed to continue to mine existing reserves efficiently and cost effectively;
- Florida needs to consider limestone from a statewide perspective;
- Port capacities will need to be increased 5-10 fold, and
- Rail infrastructure improvements and additions will be needed to handle imports and efficient intrastate distribution of aggregates.


LAMPL HERBERT

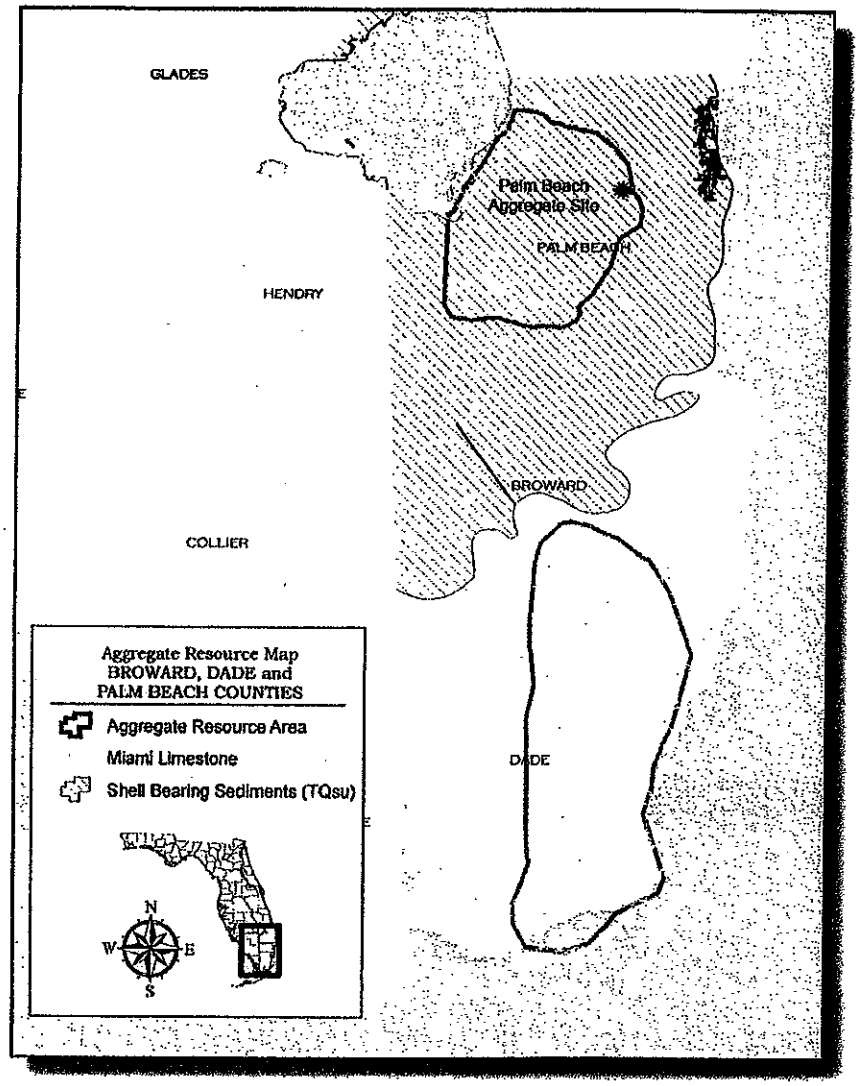



**Figure 31: Limestone resource areas in Palm Beach (and Miami-Dade) County**

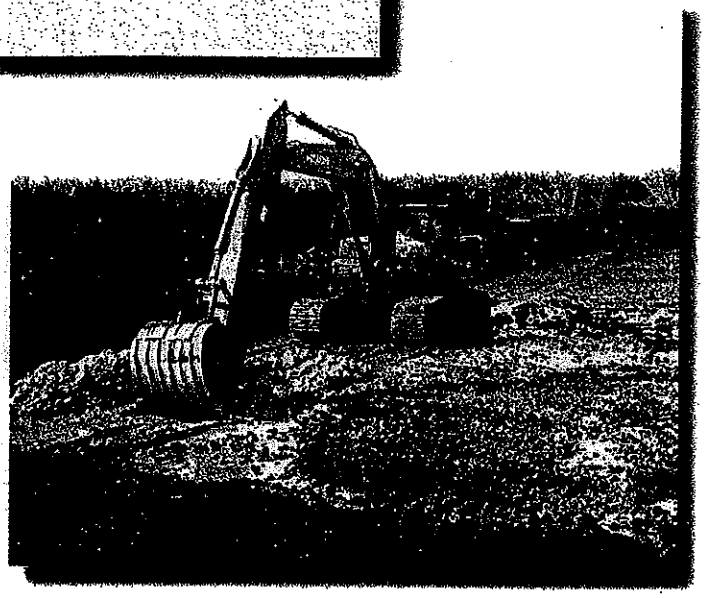


**Figure 32: Excavation for a test mine on sugar cane land in western Palm Beach County**
(Source: LHC)

## BACKGROUND AND SUMMARY OF FINDINGS

In 2004, approximately 43 percent of all the crushed stone mined in Florida came from one small area — the Lake Belt region, which is between Miami and the historic Everglades. This region contains abundant amounts of high quality limestone that can be mined efficiently and delivered throughout much of the state cost effectively.

Crushed stone or rock is the most common form of construction aggregate and an essential material to Florida's economy. It is used to construct new roads, buildings, utilities, and other basic infrastructure. Adequate supplies of crushed stone are also critical for the repair and maintenance of existing structures.

Although often thought of as an ordinary and uniform commodity, there are actually wide variations in the quality of crushed stone. A given grade of rock might be usable in one application but not another because of differences in its physical and chemical characteristics. For example, if rock has to provide underlying support, such as in road base and concrete support structures for buildings, high quality crushed stone with strong physical strength is required. Similarly, such a material is necessary for paving heavily traveled roads so that the surface is able to resist wear for many years and minimize skidding.

By virtue of its geology as discussed in Section I, Florida has an abundance of soft limestone that is unsuitable for many construction needs in the state. The limestone found in the Lake Belt region is unusual because it is considerably harder and stronger than most of the rock found in elsewhere in Florida. Because of the unusual characteristics of Lake Belt crushed stone, about half of the material that had been used by the FDOT in the past 40 years had come from the region.[1]

On March 22, 2006, the U.S. District Court entered an *Order on Motions for Summary Judgment*, which called into question the continued prospect of mining in the Lake Belt region in Miami-Dade County, Florida. As an addendum to an on-going study of aggregate resources, the Florida Department of Transportation asked the Tallahassee based firm Lampl Herbert Consultants to expand the work to assess the effects and risks a cessation of mining in the Lake Belt would have on the economy of Florida.

To assist in the analysis Lampl Herbert Consultants engaged ECONorthwest to quantify the dimensions of the crushed stone markets statewide and the economic impacts a cessation of Lake Belt production would have. The study also evaluated the impacts of the "depletion effects" arising from other mines shutting down throughout the state as reserved are used up.

### Data Reliability

Data reliability is always an issue when researching crushed stone markets. Mining companies are highly competitive and are reluctant to share price, reserve, and production information in normal times. The continuing litigation in the Lake Belt put an additional cloak over industry data sources. Indeed, recognizing this situation the mining industry in Florida was not asked to offer any such data for this report.

---

[1] Wood, R. Amicus curiae brief of State of Florida, Department of Transportation. April 2006. Page 3.

Instead, this analysis relies primarily on construction statistics and other data considered reliable to ascertain crushed stone consumption in Florida. These data allowed the analysis to forecast the economic impacts of various outcomes of mine production curtailment in the Lake Belt and to evaluate the depletion effects statewide irrespective of the Lake Belt litigation. However, the absence of highly accurate regional pricing data and reserve figures precluded a full assessment of the probabilities of some scenarios.

The construction data approach used here came from F.W. Dodge, a division of the McGraw Hill Corporation. They maintain a database of public and private construction contracts for all counties in Florida and around the country. Through known relationships between the amounts of crushed stone used in different types and sizes of construction projects, F.W. Dodge is able to estimate the bulk of crushed stone consumption in Florida through various data sources. The base year was 2004 for this study.

ECONorthwest estimated the remainder of crushed stone use, which consists mostly of materials used in manufacturing, forestry, farms, and on small construction projects not captured by F.W. Dodge. ECONorthwest also accounted for the use of recycled aggregate—a contributor to market supply—and crushed stone contained in manufactured concrete products.

To verify the reliability of the construction data approach, a second method was used, which calculated apparent consumption from the perspective of supply. Apparent consumption of crushed stone was estimated by compiling reported production, import, and export data, and factoring estimates for recycling and inventory changes. For this method, production data from the U.S. Geological Survey ("USGS"), which does rely on mining industry reporting, the U.S. Census (a source of international trade statistics), the Association of American Railroads (for out-of-state rail shipments), and the U.S. Corps of Engineers, which collects waterborne shipments from domestic sources, were used.

Data sources for domestic rail and barge deliveries into Florida combine crushed stone with other mineral product shipments such as sand and clay. It was estimated that 60 percent of these shipments were composed of crushed stone. The amount of these shipments was estimated to be less than five percent of statewide supply in 2004, although the information was from less robust sources than other data

The Florida Department of Revenue's Office of Tax Research Mine provided production data for the Lake Belt. Labor data came from the U.S. Department of Labor and the Florida Department of Labor and Employment Security. State mine price data was taken from USGS reports. Import prices for crushed stone were derived from international trade statistics reported by the U.S. Census.

## Major Findings

The major finding of the analyses presented here is the appreciation of the sheer magnitude and importance of the Lake Belt mines to Florida's economy. Sudden cessation of production would damage the economy of Florida and, even after alternatives supplies develop, the losses would continue having an adverse effect on economic activity and the number of family wage jobs available in the state for a decade in all likelihood. Therefore, if there are to be closures, a gradual shift may allow

time for the development of comparable new supplies and help mitigate the negative economic consequences that would otherwise burden the state, especially if the alternatives come from in state sources.

Specifically, among the major findings of this economic analysis are:

- The size and market reach of the Lake Belt mines is far more extensive than typical crushed stone mining districts in the United States. This is clear evidence that most alternative in-state sources are both less efficient and produce lower quality crushed stone. Thus, the loss of Lake Belt production would result in a major and long lasting disruption to the state's economy.
- In 2004, the construction industry in Florida directly consumed 130+ million tons of crushed stone materials, which also includes about 10 million tons of recycled aggregate. For all uses, over 139 million tons were consumed in the state.
- In 2009, if production is allowed to continue, mines in the Lake Belt are forecast to produce about 55 million tons of crushed stone, which would be about 46 percent of statewide output.
- There are several alternatives to Lake Belt production, but all have significant limitations. Finding replacements for Lake Belt rock and reducing demand would be especially challenging for Florida and fraught with risks. The ten mines in the Lake Belt produce as much material as 80 average mines in the rest of the state. Very little hard, durable limestone is found in other mines in Florida and the great majority of mines produce none at all. Thus, the Lake Belt production cannot be replaced by higher production from other mines in state without a major mine development program through expansions of existing mines, creation of new and larger mines and rail infrastructure improvements. Building new mines in sufficient numbers to replace the Lake Belt is highly unlikely. Even if good deposits could be identified, finding communities in Florida willing to have large new mines built near them would be problematic.
- The most ominous scenario would be one where a complete closure of the Lake Belt happens suddenly and the marketplace has little time to adjust. As shown in this scenario, the burden of shortages of crushed stone would fall on the construction industry. Annual losses to the economy in such a situation would exceed $28.6 billion, cost over a quarter million jobs, and reduce labor income statewide by $11.2 billion. Although such economic damage would gradually be overcome as new supplies come onto the market, new mineral developments have historically occurred slowly over several years, and are subject to legal and financial challenges. Thus, severe economic losses would likely persist **for a decade or more**, which would be followed by lesser, yet significant continuing losses because imported crushed stone is both more expensive than Lake Belt rock and represents a drain of dollars out of the state's economy.

- Even in a short-term shut down scenario of 15 days (amounting to about 5% of Lake Belt production) for construction activity to decline enough (in year 2009 production) to compensate for the curtailment of even five percent of Lake Belt production, the analysis reveals that Florida's economy would experience over a $2.4 billion loss in economic activity and loss or temporary layoffs of 24,627 jobs in that year.
- A scenario was run where regional mine production outside of the Lake Belt declines 5% (from where it would otherwise be in the base year of 2009) and is replaced with imported crushed stone. The reduction by 5 percent equals 3,226,188 tons of lost materials output for Florida, which would be worth over $22.5 million. To replace the lost output, the state could import rock, which would cost about $5.6 million more a year, an increase of 28%.

**337.0261 Construction aggregate materials. —**

(1) DEFINITIONS.—"Construction aggregate materials" means crushed stone, limestone, dolomite, limerock, shell rock, cemented coquina, sand for use as a component of mortars, concrete, bituminous mixtures, or underdrain filters, and other mined resources providing the basic material for concrete, asphalt, and road base.

(2) LEGISLATIVE INTENT.—The Legislature finds that there is a strategic and critical need for an available supply of construction aggregate materials within the state and that a disruption of the supply would cause a significant detriment to the state's construction industry, transportation system, and overall health, safety, and welfare. In addition, the Legislature recognizes that construction aggregate materials mining is an industry of critical importance to the state and that the mining of construction aggregate materials is in the public interest.

(3) LOCAL GOVERNMENT DECISIONMAKING.—No local government shall approve or deny a proposed land use zoning change, comprehensive plan amendment, land use permit, ordinance, or order regarding construction aggregate materials without considering any information provided by the Department of Transportation regarding the effect such change, amendment, permit decision, ordinance, or order would have on the availability, transportation, and potential extraction of construction aggregate materials on the local area, the region, and the state. The failure of the Department of Transportation to provide this information shall not be a basis for delay or invalidation of the local government action. No local government may impose a moratorium, or combination of moratoria, of more than 12 months' duration on the mining or extraction of construction aggregate materials, commencing on the date the vote was taken to impose the moratorium. January 1, 2007, shall serve as the commencement of the 12-month period for moratoria already in place as of July 1, 2007.

(4) EXPEDITED PERMITTING.—Due to the state's critical infrastructure needs and the potential shortfall in available construction aggregate materials, limerock environmental resource permitting and reclamation applications filed after March 1, 2007, are eligible for the expedited permitting processes contained in s. 403.973. Challenges to state agency action in the expedited permitting process for establishment of a limerock mine in this state under s. 403.973 are subject to the same requirements as challenges brought under s. 403.973(14)(a), except that, notwithstanding s. 120.574, summary proceedings must be conducted within 30 days after a party files the motion for summary hearing, regardless of whether the parties agree to the summary proceeding.

History.— s. 30, ch. 2007-196; s. 67, ch. 2008-4; s. 3, ch. 2009-89; s. 65, ch. 2010-5.

REPRESENTING
CHIEF FINANCIAL OFFICER
JEFF ATWATER
STATE OF FLORIDA

Jeffery A. Straw
Vice President
Geosonics
4313 SW 64 Ave.
Davie, Fl. 33314

March 14, 2011

Dear Mr. Straw,

Per your request, I have conducted a review of all blast reports on file generated from the Cemex Krome Rock Quarry.

This office has all blast reports from that quarry from January 2009 to present.

A review of these blast reports found that at no time were the blasting limits as mandated by the State of Florida FSS 552.30 and FAC 69A-2.024 exceeded.

If I can be of further assistance, please feel free to contact me.

Sincerely,

Laurence D. Pasko

FLORIDA DEPARTMENT OF FINANCIAL SERVICES
Laurence D. Pasko • Fire Protection Specialist
Division of State Fire Marshal • Bureau of Fire Prevention
6851 W. Sunrise Blvd. Plantation, Fl. 33313 • Tel. 954-321-3705 • Fax 954-797-1705
Email • Larry.Pasko@myfloridacfo.com
AFFIRMATIVE ACTION • EQUAL OPPORTUNITY EMPLOYER

GUILLERMO OLMEDILLO

1450 Madruga Avenue, Suite 407
Coral Gables, Florida 33146
Voice: 786-252-0381 or 305-668 9878
Facsimile: 305-668 9891
Electronic: guillermo@olmedillox5.com

## PROFESSIONAL EXPERIENCE

**01/01/01 TO PRESENT.** Land Use, Planning and Zoning Consultant

Relevant Projects:

- Coordination of Political Redistricting for Miami-Dade County. This project involved the coordination of 13 County Commissioners, community public meetings and all public hearings required by law to achieve the decennial redistricting of Miami-Dade County.
- Sole consultant for the preparation of the Finding of Necessity for two applications for CRA expansions. City of Miami Community Redevelopment Agency.
- Consultant for attorneys and property owners attempting to obtain development entitlements from different municipalities in Miami-Dade County.
- Land use and zoning expert in two legal cases for the Village of Key Biscayne.
- Land use and zoning expert for property owners in more than 15 legal cases.

**1992 – 2001** Director of the Departments of Planning and Zoning,; Building Planning and Zoning; and Planning for Miami-Dade County. During this period of time, the County modified the structure of the development review departments to manage the annual flow of 150,000 building permits, 450,000 building and zoning inspections and 40 public hearings; to review and manage the Comprehensive Plan; and to manage the platting process. The duties of the position were:

- Production and management of the Comprehensive Development Master Plan for Miami-Dade County, including its Capital Improvements Element. (Population 2.25 million). Management of the Planning Zoning functions of the Department.
- Responsibility for all recommendations on land use and zoning issues before all County boards.
- Management of the Planning, Building, Zoning, Platting and Code Enforcement functions of Miami-Dade County. (500 employees).
- Recommendations to the Board of County Commissioners on incorporation and annexation applications.

**1985 – 1992** Deputy Director of the Department of Planning, Building and Zoning and Chief of the Zoning and Neighborhood Planning Divisions City of Miami. The duties of the position were:

- Production and management of the Miami Comprehensive Neighborhood for the City of Miami, (Population 385,000).
- Responsibility for all recommendations on land use and zoning issues before the City boards.
- Responsibility for review and management of all neighborhood studies for the City of Miami.

**1977 – 1985** Developer and Project manager in Venezuela.

- Developer, Project Manager and Architect for two residential projects, totaling 740 dwelling units, in partnership with Samuel M. Beraja. Caracas, Venezuela.
- Member of the Board of Directors of Banco de Los Llanos, regional bank, Caracas, Venezuela.
- Advisor to the Board of Directors Crenca, Sociedad Financiera, Venezuelan mortgage bank.

**1976 – 1977** Division Chief of Urban Projects Division, Fondo Nacional de Desarrollo Urbano, (Venezuelan Public Sector financial institution which funded low and middle income housing projects). The duties of the position were:

- Coordination of all private sector residential projects that were receiving financial incentives from the National Government.
- Senior Advisor to the Director of Urban Planning, Caracas, Venezuela.

**1969 – 1976** Chief of Planning for the Capital Region, Caracas, Venezuela. The duties of the position were:

- Management of the urban development for all cities and towns in the Capital Region.

**1968 – 1969** Architect for Sentab (Swedish Development Corporation), Caracas.

**CERTIFICATIONS**

**1993** American Institute of Certified Planners.

**1977** National professional architectural registration, Caracas, Venezuela.

**EDUCATION**

**1975** Urban and Regional Planning Diploma, CENDES, Caracas, Venezuela.

**1973 – 1974** Urban and Regional Planning Fellowship, Massachusetts Institute of Technology (MIT).

**1968** Bachelor of Architecture degree, University of Miami. Coral Gables, Florida.

| FISHKIND & ASSOCIATES, INC. | | |
|---|---|---|
| | **GEORGE RUSSELL (RUSS) WEYER**<br>**Associate**<br><br>**239-254-8585**<br>**239-591-6601 (FAX)**<br><br>**RussW@Fishkind.com**<br><br> <br>G Russell Weyer.vcf | **Education**<br>MBA, University of Miami, FL 1993<br><br>Bachelor of Arts, Communications, Michigan State University, 1977 |
| **Areas of Expertise**<br>Residential Development Management & Analysis<br>Commercial Development Management & Analysis<br>Real Estate Amenity Management & Analysis<br>Residential Market Analysis<br>Commercial Market Analysis<br>Real Estate Amenity Market Analysis<br>Real Estate Fiscal Analysis | **Employment Record**<br>Senior Associate, Fishkind & Associates<br>JED of Southwest Florida, Inc., VP Development<br>GRW Management, Inc., President<br>London Bay Homes, Inc.-Romanza, Inc., President<br>Lake Las Vegas, Joint Venture, VP Resort Operations<br>Cavalear Corporation, President & CEO<br>Westinghouse Communities, Inc., Director of Commercial Sales & Amenity Management | 2004-Present<br>2003-2004<br>2001-2003<br>2000-2001<br><br>1999-2000<br><br>1997-1999<br>1984-1996 |

**Professional Synopsis**

As a former commercial and residential real estate developer in Florida, Ohio and Nevada, Mr. Weyer brings an extensive and distinct development point of view to Fishkind and Associates. He has over 20 years of real estate development experience with large corporations and family-owned companies that focused on commercial office, retail, industrial, hospitality, amenity, and residential development.

He has been a member of the Fishkind team for over 6 years and has successfully utilized his skills in economics, forecasting, community development district financing and management, and fiscal and financial analysis for our clients.

Mr. Weyer has on-point senior management experience with the entire development process from acquisition identification, due diligence, purchase negotiations, financing, planning and securing entitlements, horizontal and vertical construction, sales (leasing) and marketing, to property management, condominium turnover and disposition. He also has experience in working with governmental entities on budgeting, financing and identifying and implementing economic development programs.

Mr. Weyer is a full member of the Urban Land Institute and the past chairman of ULI's Southwest Florida District Council. He has also made many economic speeches across the state along with guest lecturing at Florida Gulf Coast University.

**Selected Client List**

Barron Collier Corporation
Collier Enterprises
Stock Development
Kitson – Babcock Ranch
WCI
Bonita Bay Properties
Algenol Biofuels
Benderson, Inc.
Ave Maria Stewardship District
Big Cypress Stewardship District
City Gate Community Development District
Downtown Doral Community Development District
Hillsborough County
Collier County
Martin County
Lee County
Miami-Dade County
City of Cape Coral
City of Bonita Springs
City of North Port
City of Tamarac

**Thomas K. MacVicar, P.E.,**
President, *MacVicar, Federico & Lamb, Inc.*

---

**EXPERIENCE:**

Thomas K. MacVicar is president of a private consulting firm specializing in the water resource and environmental issues of South Florida. Prior to beginning his consulting practice in 1994, Mr. MacVicar spent 16 years on the staff of the South Florida Water Management District.

As a consultant, Mr. MacVicar has been involved in numerous large-scale environmental planning initiatives in South Florida. He represented the Department of Agriculture and many agricultural companies in the multi-year, multi-agency Corps of Engineers Central and Southern Florida Restudy process. His firm has performed hydrologic computer modeling for the South Florida Water Management District. He has represented the Limestone industry on water resource issues during the development of the Lake Belt Plan, a state-led process to develop a long term plan for the largest mining area in Florida, which is located between Miami and the Everglades. He was also the chief consultant to the Miami-Dade Limestone Products Association in the process to obtain long term mining permits for the Lake Belt Quarries that culminated when permits were issued in 2010.

**CAREER SUMMARY**

**Limestone Mining.** The Lake Belt region of Miami-Dade provides in excess of 50% of the aggregate used in construction throughout the state of Florida. Mr. MacVicar began consulting to the Miami-Dade Limestone Products Association during the development of the Lake Belt Plan in the mid 1990s. When the federal permits for all the mining companies in the Lake Belt were vacated by the federal Courts in 2006 Mr. MacVicar served as the chief consultant through the complex process to obtain new permits. New 20-year mining permits were issued in 2010 after a lengthy state and federal process that required the preparation of a complex Environmental Impact Statement, a new Biological Opinion from the U.S. Fish and Wildlife Service and a lengthy Record of Decision by The Corps of Engineers.

Subsequent to permit issuance Mr. MacVicar has been responsible for the installation and testing of a shallow groundwater flow barrier to control seepage in the surficial aquifer adjacent to Everglades National Park.

**Water Resource Planning** Mr. MacVicar is an expert in the design and operation of the Central and Southern Florida Flood Control Project. He was an original author of two large scale computer models used to simulate the hydrology of South Florida. In addition, he spent four years as Deputy Director of the Operation and Maintenance Department of the SFWMD and exercised direct supervision of the operation of the federal project facilities. Some key special projects included:

**Comprehensive Everglades Restoration Plan** On behalf of the Florida Department of Agriculture and many private agricultural landowners, Mr. MacVicar participated as a

member of the Corps of Engineers' Alternative Evaluation and Alternative Design Teams. His understanding of the computer models used in the evaluation and his knowledge of the design, operation and history of the C and SF Project allowed him to consult on the technical, administrative and policy aspects of the Restudy. The Restudy led to the Comprehensive Everglades Restoration Plan, an 8 billion dollar project approved by Congress in 2000.

**Everglades Water Quality** Mr. MacVicar represented the SFWMD on all technical matters associated with the Everglades Water Quality dispute. He participated with the state/federal team in the design of Stormwater Treatment Areas to reduce the flow of nutrients into the Everglades. He had executive responsibility for the SFWMD technical team dealing with water quality and hydrologic issues associated with the Everglades Restoration effort.

**Everglades National Park** Mr. MacVicar was the author of the Rainfall Formula which has been used to control water flow into Everglades National Park since 1985. Implementation of the formula included changes to the regulation schedule for Water Conservation Area 3A, a 450,000 acre Everglades impoundment just north of the Park, and the operational rules for the canal system in south Miami-Dade County. Mr. MacVicar now serves on several committees related to water resource issues in Miami-Dade County and the Everglades.

**Florida Bay** Mr. MacVicar developed the C-111 Canal Interim Plan in 1989 in response to a major storm which highlighted the flaws in the canal system upstream of the Bay. The Plan resulted in two new water control structures to reduce seepage out of the east Everglades and allow better control of water upstream of Florida Bay. Mr. MacVicar developed the concept and supervised the design, permitting and construction.

## AWARDS

1987 Palladium Medal for Outstanding Engineering Achievement in Support of Environmental Conservation given jointly by the Board of the National Audubon Society and the American Association of Engineering Societies.

Marksman Award for Engineering Excellence given by Engineering News Record Magazine, 1987.

Engineer of the Year, 1987, Palm Beach Chapter of the American Society of Civil Engineers.

## RESEARCH COMMITTEES

National Research Council, Water Science and Technology Board, Panel on the Future of Irrigation in a World of Competing Demands and Water Quality Constraints, 1996.

National Research Council, Water Science and Technology Board, Committee on the Assessment of the Nations Water Resources Research Program, 2001- 2003.

## EDUCATION:

M.S., Water Resource Engineering, 1978, Cornell University

B.S., Agricultural Engineering, 1976, University of Florida
B.A., Political Science, 1971, University of South Carolina

**PUBLICATIONS:**

"Confronting the Nation's Water Problems, the Role of Research", 2004, by the Committee on Assessment of water Resources Research, Water Science and Technology Board, National Research Council.

Fennema, R.J., Neidrauer, C.J., MacVicar, T.K., and Johnson, R.A., "A Computer Model to Simulate Natural Everglades Hydrology," in Everglades, The Ecosystem and Its Restoration, 1994, S.M. Davis and J.C. Ogden, editors, St. Lucie Press, Delray Beach, FL

"Irrigated Agriculture in Florida," in A New Era for Irrigation, 1996, by the Committee on the Future of Irrigation in the face of Competing Demands, Water Science and Technology Board, National Research Council.

MacVicar, T.K., "Rescuing the Everglades", Civil Engineering Magazine (cover story), August 1987.

MacVicar, T.K., "The Rainfall Plan: A Rainfall/Evaporation-Based Formula for Restoring Natural Water Flow to Shark River Slough," South Florida Water Management District.

MacVicar, T.K., "A Wet Season Field Test of Experimental Water Deliveries to Northeast Shark River Slough," Technical Publication 85-3, South Florida Water Management District, August 1985.

MacVicar, T.K., and VanLent, T., "Evaluation Report: A Thirty-Day Field Experiment of Water Deliveries to Northeast Shark River Slough," South Florida Water Management District, July 1984.

MacVicar, T.K., VanLent, T., and Castro, A., "South Florida Water Management Model: Documentation Report," Technical Publication 84-3, South Florida Water Management District, February, 1984.

MacVicar, T.K., and Lin, S.T., "Historical Rainfall Activity in Central and Southern Florida," in Environments of South Florida, Past and Present II, P.J. Gleason, editor, published by Miami Geological Society, 1984.

MacVicar, T.K., "Rainfall Averages and Selected Extremes for Central and South Florida," Technical Publication 83-2, South Florida Water Management District, March 1983.

MacVicar, T.K., "Frequency Analysis of Rainfall Maximums for Central and South Florida," Technical Publication 81-3, South Florida Water Management District, May 1981.

**JEFFREY A. STRAW**

Consultant in Vibration and Acoustics
Vice President & Area Manager
GeoSonics, Inc.
Davie, Florida 33314

## EDUCATION

BS Environmental Science (Special Field - Land Use Planning) Slippery Rock State College, 1977

Airport Noise Modeling Seminar, Georgia Institute of Technology, 1986
Bruel & Kjaer Instruments, Inc. Vibration, 1988
Bruel & Kjaer Instruments, Inc. Acoustics, 1988
Blasting Explosives Safety and Use - Explosives Technologies International of Florida, Inc., 1990
Hewlett Packard, Dynamic Signal Analysis, 1991
Hewlett Packard, Acoustics Measurement, 1992
Practical Blasting Fundamentals, Level I, International Society of Explosives Engineers Certificate Program, 1994
Effective Drilling and Blasting Seminar, National Stone Association, 1992.

## PROFESSIONAL EXPERIENCE

Vice President & Area Manager, Philip R. Berger & Associates, Inc., December 1981 to July 31, 1988. August 1 to Present, GeoSonics, Inc. (Change in Company Name)

Firm Principal, Vibration Consultant. Responsible for Florida operations, North Carolina operations office consulting, direction of staff for monitoring on-going blasting, pile driving and vibratory compaction projects and recommendation of safeguards for projects. Additional vibration and acoustic monitoring for ground and structure vibration and evaluation of effects. Expert testimony regarding blasting ordinances, use of explosives, acoustics and damage potential in relation to explosive side effects. Consulting services, expert witness testimony on blasting effects during zoning/permitting hearings. Development of technical standards and presentation during development and legislation of blasting regulations for Broward, Dade, Collier, Citrus, Lee and Hernando counties, Florida. Completion of Damage Claim Investigations and presentation of expert testimony at mediation/arbitration hearings. Preparation of community noise studies on operational equipment, building generated noise, in relation to community and human annoyance issues.

Vibra-Tech Engineers, Inc. -- Board of Directors Member, November 2003 -- Present.
Vice President – November 28, 2007 -- Present

Area Manager, Philip R. Berger & Associates, Inc., March 1980 - December 1981

Responsible for field recording and consulting on blasting vibration. Public affairs presentations. Expert witness testimony on blasting seismology.

Technical Representative, Philip R. Berger & Associates, May 1978 - March 1980, Pennsylvania Office.

## SOCIETY AND COMMITTEE MEMBERSHIPS

International Society of Explosives Engineers - 1981 to present.

Society for Mining, Metallurgy, and Exploration, Inc.

Firm representative - National Stone, Sand & Gravel Association 1999-Present

National Stone, Sand & Gravel Association – Manufacturers and Services Division Board of Directors Member – 1999 - Present

Member - Mining & Reclamation Committee, National Stone, Sand & Gravel Association - 1991 to present.

National Stone Sand and Gravel Association, Manufacturers and Services Division, Executive Committee, Board of Directors, 2004 – Present. Second Vice Chair - Manufacturers and Services Division, 2007.

National Stone Sand and Gravel Association, Manufacturers and Services Division, Executive Committee, Board of Directors, 2004 – Present. First Vice Chair - Manufacturers and Services Division, 2008.

National Stone Sand and Gravel Association, Manufacturers and Services Division, Division Chairman, March 12, 2009.

National Stone Sand and Gravel Association, Board of Directors, Board of Directors Executive Committee, 2008 – present.

Blasting and Explosives Committee, Engineering Contractors Association of South Florida, Inc., - 1980 to 1982; Co-Chairman Blasting & Explosives Committee - 1983-1986; Chairman Blasting & Explosives Committee, ECA - 1987-1988.

Member – Society of Explosives Engineers, Seismograph Committee, 1998 – Present.

Corporate Representative – Florida Limerock and Aggregates Institute.

**PUBLICATIONS / PRESENTATIONS / SEMINAR INSTRUCTION**

Co-Author/Draftsman/Technician, U.S. Bureau of Mines, Minerals Research Contract Report, "**Survey of Blasting Effects on Ground Water Supplies in Appalachia**", May 1978 to February 1980.

National Stone Association - Effective Drilling and Blasting Seminar Instructor, Vibration and Public Relations section - 1993 – 1997, 2000.

International Society of Explosives Engineers - **Blast Vibration Effects Upon a Deep Injection Well and the Reduction of Ground Vibration over Depth** - February 1994.

Explosives Education Services - Blasting Safety and Application Training - Vibration and Noise Control section instructor - 1995 - 1997.

State of Florida Proposed Explosives Code Revisions, Florida Limerock & Aggregate Institute, October 5, 2000.

Automation of Blast Monitoring Devices and Advanced Service Instrumentation for Mining and Quarrying, National Stone Association, Automation Conference, October 17, 2000, Miami, Florida.

**The Basis for Safe-Level Vibration Limits for Residential Structures and Application to Multiple Structure Types**, GeoSonics, Inc. & Vibra-Tech Engineers, Inc., 6th Blasting Vibration Technology Conference, Key Largo, Florida, January 15, 2007

Explosives and Monitoring for Construction Materials Mining Activities, Seminar for State Fire Marshal, State of Florida representatives, Blasting Side Effects, Seminar planner and instructor, September 2, 2009.

**Managing Risk Through Public Perception, Development of Vibration Standards,** Jeffrey A. Straw, Douglas Rudenko, Joyce Watson, AGG1 2010, Forum and Expo, February 17, 2010

***EDUCATION:***
***Bachelor of Science, Civil Engineering,*** North Carolina State University

***Master of Business Administration,*** University of Colorado

***PROFESSIONAL ENGINEER:***
State of Colorado - #29878
State of Florida - #49676

***PROFESSIONAL AFFILIATIONS:***
Institute of Transportation Engineers

***CONTINUING EDUCATION:***
Advanced Traffic Signal Systems Technology Workshop, Iowa State University
Project Development and Environmental Documentation Course, FHWA
Fundamentals of Geometric Design Workshop, Northwestern University Traffic Institute
Transportation Exchange, Florida Atlantic University

***EXPERIENCE:***
Mr. Plummer is responsible for the overall transportation planning, traffic engineering, and civil design for the company. These responsibilities include: project management and strategies, technical analysis, and quality control/quality assurance. He has over 19 years of transportation/civil experience including two years with the Florida Department of Transportation's District 6 office.

Mr. Plummer's general experience includes tasks related to traffic operations and safety, transportation engineering, transportation planning, traffic engineering, access management, site design, traffic calming, parking analyses and geometric design. His transportation engineering experience includes traffic impact analyses, transit studies, access management, corridor studies parking studies, and safety studies. Mr. Plummer's design experience includes roadway design, site design, and signal design. His experience also includes signal timing (using TRANSYT-7F) and capacity analysis (Highway Capacity Software), as well as the interconnection of multiple traffic signal controllers.

***REPRESENTATIVE PROJECTS:***
Mr. Plummer has worked on various projects from planning through design. Several of the significant projects are:

***City of Boca Raton Downtown Parking Study***

Mr. Plummer managed the technical efforts for a comprehensive parking study for Downtown Boca Raton to reanalyze the adopted parking requirements and investigate new strategies to meet short-term and long-term parking needs. The basic work tasks included a detailed parking inventory, projecting parking demand, and recommending parking strategies to meet future demand.

***American Airlines Arena Transportation Management Plan & Parking Study***

Mr. Plummer was responsible for providing a comprehensive traffic and parking management plan for the American Airlines Arena in downtown Miami, FL. This effort included developing temporary street modifications, police control plans, fire-rescue access, bus/taxi/limo staging plans, surface street signs, expressway directional signs, and parking plans. This multi-jurisdictional effort led to one of the fastest parking garage unloading times for a National Basketball Association arena.

***Downtown Miami Transportation Master Plan***

Mr. Plummer spearheaded the management and technical efforts of this complex transportation master plan for downtown Miami. This plan guides future transportation improvements, solves transportation problems, improves the efficiency of the transportation system, and helps to achieve the desired vision for Downtown Miami for the next 25 years.

***OTHER SIGNIFICANT PROJECTS:***

- Town of Celebration, FL Parking Study
- Marlins Ballpark Parking Study
- Coral Gables Trolley
- Mercy Hospital Parking Study
- Boca Raton Circulator Feasibility Study
- City of Boca Raton Transportation Consultant
- MPO Congestion Management System
- Performing Arts Center Transportation Management Plan & Parking Study
- Museum Park Miami Transportation Consultant
- Doctors Hospital Parking Study
- Downtown Miami Circulator
- City of Miami Transportation Consultant
- FDOT District 6 Traffic Operations and Safety Studies
- FDOT District 6 General Planning Consultant

- FDOT District 6 Expert Witness
- City of Coral Gables Transportation Consultant

- Miami-Dade County Public Works Transportation Consultant
- Miami-Dade MPO Transportation Consultant
- FDOT District 4 General Planning Consultant
- FDOT Turnpike District SW 112 Avenue PD&E Study
- SR 826/NW 36 Street Interchange Final Design
- SR 836/NW 87 Avenue Interchange Modification Report (IMR)
- US 1 (SR 5) ADA Study
- Rocky Mountain National Park Traffic Operations and Safety Study
- Fort Lauderdale-Hollywood International Airport Terminal Loop Road Assessment
- Miami International Airport Trip Generation Study
- Miami-Dade County Integrated Transportation Management System (ITMS)
- Miami-Dade County Congestion Management System
- Brickell Key Traffic Calming Study

# CURRICULUM VITAE

**Name & Current Title:** Cliff Kirkmyer, Managing Member, GC3 Consulting

**Location:** 131 Old Meadow Way, Palm Beach Gardens, FL, USA, Phone (561) 373-3126
E-mail: Kirkmyer@comcast.net

**BUSINESS EXPERIENCE:**

1. **Dates:** Present
   **Position:** Managing Member
   **Company:** GC3 Consulting
   **Duties:** Provides management consulting, business advice and due diligence for construction materials businesses, including strategic development, logistics, marketing, distributions, operations and sales.

2. **Dates:** 2007 - 2010
   **Position:** Vice President and General Manager, Aggregates East
   **Company:** Cemex Construction Materials
   **Duties:** P&L responsibility for 28 operating aggregate sites with responsibility for marketing, sales, technical, environmental, transportation and distribution of construction related quarry products, totalling over 30m tons annually and revenue totalling over $400M. Added responsibilities include management of recycled aggregate ventures, joint venture relationships, development and execution of the company's off-shore and on-shore aggregate supply strategy, community relations, and organizational development.

3. **Dates:** 1997 – 2007
   **Position:** President, Quarries East Group; Vice President and General Manager, FL/GA Quarries and Construction
   **Company:** Rinker Materials Corporation
   **Duties:** Full P&L responsibility for 53 construction aggregate facilities in 6 states including general management of marketing, sales, operations, technical, environmental, property management, resource development and planning, scheduling, finance and control, transportation and product distribution. Total volume was over 65m tons annually with revenue totalling over $700M. Responsibilities also included general management of significant ready-mix concrete, concrete block businesses, asphalt plants, construction and asphalt paving operations, and trucking company.

4. **Dates:** 1996 - 1997
   **Position:** Corporate Vice President, Mining
   **Company:** Trinity Industries
   **Duties:** General management with P&L responsibility of mining division with rail and water distribution. Also responsible for a significant state-wide aggregate trucking operation.

5. **Dates:** 1976 - 1996
   **Position:** Division Vice President/General Manager, Division Sales Manager, Regional Sales Manager, District Sales Manager, Manager of Business Planning, Forecasting and Planning Supervisor, Product Service Supervisor, Product Service Rep.

**Company:** Vulcan Materials Company

**Duties:** Executive and general management with P&L responsibility of vertically integrated construction materials division with ready-mix concrete and asphalt businesses. Executive and general management w/P&L responsibility for start-up international venture, producing and marketing both domestically and internationally, including ocean shipping and logistics. Marketing, sales, and distribution roles for district, region, and division. Entry level in technical to general management for start-up international and heritage divisions.

**PROFESSIONAL QUALIFICATIONS:**

| Name of Qualification | Professional Body | Date Attained |
|---|---|---|
| 1. Board of Directors | Virginia Aggregates Association (VAA) | 1/81 |
| 2. Board of Directors | Texas Aggregate and Concrete Association (TACA) | 1/89 |
| 3. Board of Directors | Florida Concrete and Products Association (FCPA) | 6/91 |
| 4. Board of Directors | Georgia Construction Aggregates Association (GCAA) | 6/97 |
| 5. Secretary/Treasurer | Georgia Construction Aggregates Association (GCAA) | 6/97 |
| 6. Board of Directors | Florida Transportation Builders Association (FTBA) | 8/97 |
| 7. President | Miami-Dade Limestone Products Association (MDLPA) | 6/99 |
| 8. Executive Committee | Florida Concrete and Products Association (FCPA) | 6/05 |
| 9. Board of Directors | Sumter County Mining Association (SCMA) | 12/05 |
| 10. Governing Board Member | Florida Limerock and Aggregates Association (FLAI) | 1/06 |
| 11. Board of Directors | National Stone, Sand and Gravel Association (NSSGA) | 6/06 |
| 12. Board of Directors | Central FL Sand Mining Association (CFSMA) | 1/07 |

**EDUCATION:**

| Name of Institution | Dates | Subject | Qualification |
|---|---|---|---|
| 1. Eckerd College | 1993 | Leadership Development | Certificate |
| 2. University of N. Carolina | 1985 | Young Executive Institute; Executive MBA Format | Certificate |
| 3. University of Louisville | 1969-72; 1973-74 | College of Arts & Sciences | Sociology Major |

**PERSONAL:** Married since 1976 to Joanne Kirkmyer

Two (2) grown children: Sara, 28; Gray, 27

# **FOR** Speaker's Card (For Public Hearing Items Only)

Today's Date: 6/23/11 BCC Mtg. Date: 6/23/11 Agenda Item#: 08-175

**Subject:** Archimedean

**Name:** Dr. Shimon Wdowinski

**Address:** 7521 SW 176th ST., Miami FL 33157

**Lobbyist information:** (According to Section 2-11(s) of the Code of Metropolitan Dade County, Florida, a lobbyist is defined as, "all person, firms or corporations employed or retained by a principle who seeks to encourage the passage, defeat, or modifications of an ordinance, resolution, action, or decision of the County Commission.")

Are you representing any person, group, or organization? ☐ Yes ☒ No

If yes, please list name: _____
Organization Firm Client

Have you registered with the Clerk of the Board? ☐ Yes ☒ No

Do you require an interpreter? NO

*¿Necesita un intérprete?* ☐ Spanish/*Español* *Èske w bezwen yon Entèprèt?* ☐ Creole/*Kreyol*

---

# **FOR** Speaker's Card (For Public Hearing Items Only)

JW

Today's Date: 6/23/11 BCC Mtg. Date: 6/23/11 Agenda Item#: 11-6-CC-1 08-175

**Subject:** Archimedean Properties LLC

**Name:** George Kafkaris

**Address:** 5944 SW 150 court

**Lobbyist information:** (According to Section 2-11(s) of the Code of Metropolitan Dade County, Florida, a lobbyist is defined as, "all person, firms or corporations employed or retained by a principle who seeks to encourage the passage, defeat, or modifications of an ordinance, resolution, action, or decision of the County Commission.")

Are you representing any person, group, or organization? ☐ Yes ☒ No

If yes, please list name: _____
Organization Firm Client

Have you registered with the Clerk of the Board? ☐ Yes ☒ No

Do you require an interpreter?

*¿Necesita un intérprete?* ☐ Spanish/*Español* *Èske w bezwen yon Entèprèt?* ☐ Creole/*Kreyol*

**INFORMATION** In favor

## Speaker's Card

(For Appearance Before the Board of County Commission)

Today's Date 6/23/2011 BCC Mtg. Date _____ Agenda Item # _____

**Subject:** Archimedean

**Name:** Olga Perez Bardoutsos

**Address:** 14816 SW 72nd Street

**Lobbyist Information:** (According to Section 2-11(s) of the Code of Metropolitan Dade County, Florida, a lobbyist is defined as, "all persons, firms or corporations employed or retained by a principle who seeks to encourage the passage, defeat, or modifications of an ordinance, resolution, action, or decision of the County Commission.")

Are you representing any person, group, or organization? Yes:_____ No: X

If yes, please list name: _____ / _____ / _____
Organization Firm Client

Have your registered with the Clerk of the Board? Yes :_____ No:_____

---

**INFORMATION** In favor

## Speaker's Card

(For Appearance Before the Board of County Commission)

Today's Date 6/23/11 BCC Mtg. Date 6/23/11 Agenda Item # _____

**Subject:** ARCHIMEDEAN

**Name:** PLATON ALEXANDRAKIS

**Address:** 6647 TARPEGAST CORAL GABLES FL, 33146

**Lobbyist Information:** (According to Section 2-11(s) of the Code of Metropolitan Dade County, Florida, a lobbyist is defined as, "all persons, firms or corporations employed or retained by a principle who seeks to encourage the passage, defeat, or modifications of an ordinance, resolution, action, or decision of the County Commission.")

Are you representing any person, group, or organization? Yes:_____ No: X

If yes, please list name: _____ / _____ / _____
Organization Firm Client

Have your registered with the Clerk of the Board? Yes :_____ No: X

**INFORMATION** In Favor

## Speaker's Card

(For Appearance Before the Board of County Commission)

Today's Date 6/23/2011 BCC Mtg. Date _____ Agenda Item # _____

**Subject:** ArchimeDean Charter School

**Name:** Lawrence Percival, West Kendall Community Activist

**Address:** 11945 SW. 127th Court

**Lobbyist Information:** (According to Section 2-11(s) of the Code of Metropolitan Dade County, Florida, a lobbyist is defined as, "all persons, firms or corporations employed or retained by a principle who seeks to encourage the passage, defeat, or modifications of an ordinance, resolution, action, or decision of the County Commission.")

Are you representing any person, group, or organization? Yes:_____ No:✓

If yes, please list name: _____ / _____ / _____
Organization Firm Client

Have your registered with the Clerk of the Board? Yes :_____ No:_____

---

**INFORMATION** In favor

## Speaker's Card

(For Appearance Before the Board of County Commission)

Today's Date 06/23/2011 BCC Mtg. Date _____ Agenda Item # 1

**Subject:** ARCDmidm

**Name:** Alberto Ospo

**Address:** 7262 SW 120 Court (Hde County)

**Lobbyist Information:** (According to Section 2-11(s) of the Code of Metropolitan Dade County, Florida, a lobbyist is defined as, "all persons, firms or corporations employed or retained by a principle who seeks to encourage the passage, defeat, or modifications of an ordinance, resolution, action, or decision of the County Commission.")

Are you representing any person, group, or organization? Yes:_____ No:✓

If yes, please list name: _____ / _____ / _____
Organization Firm Client

Have your registered with the Clerk of the Board? Yes :_____ No:_____

**INFORMATION** In favor

## Speaker's Card

(For Appearance Before the Board of County Commission)

Today's Date June 23 '2011 BCC Mtg. Date same Agenda Item # _____

**Subject:** Archimedean Schools

**Name:** Frank Berrizbeitia

**Address:** 10760 SW 102 Av. - District 8

**Lobbyist Information:** (According to Section 2-11(s) of the Code of Metropolitan Dade County, Florida, a lobbyist is defined as, "all persons, firms or corporations employed or retained by a principle who seeks to encourage the passage, defeat, or modifications of an ordinance, resolution, action, or decision of the County Commission.")

Are you representing any person, group, or organization? Yes:_____ No: X

If yes, please list name: _____ / _____ / _____
Organization Firm Client

Have your registered with the Clerk of the Board? Yes :_____ No: X

---

**INFORMATION** In favor

## Speaker's Card

(For Appearance Before the Board of County Commission)

Today's Date 6/23/11 BCC Mtg. Date 6/23/11 Agenda Item # 1

**Subject:** Archimedean

**Name:** Andrea Vergara

**Address:** 13074 SW 132nd Ter. Miami, Fl. 33186

**Lobbyist Information:** (According to Section 2-11(s) of the Code of Metropolitan Dade County, Florida, a lobbyist is defined as, "all persons, firms or corporations employed or retained by a principle who seeks to encourage the passage, defeat, or modifications of an ordinance, resolution, action, or decision of the County Commission.")

Are you representing any person, group, or organization? Yes:_____ No: X

If yes, please list name: _____ / _____ / _____
Organization Firm Client

Have your registered with the Clerk of the Board? Yes :_____ No:_____

# FOR Speaker's Card (For Public Hearing Items Only)

Today's Date: 6/23/11 BCC Mtg. Date: 6/23/11 Agenda Item#: #1.

**Subject:** ARCHIMEDEAN

**Name:** GUILLERMO OLMEDILLO

**Address:** 1450 Madruga Av. S. 907.

**Lobbyist information:** (According to Section 2-11(s) of the Code of Metropolitan Dade County, Florida, a lobbyist is defined as, "all person, firms or corporations employed or retained by a principle who seeks to encourage the passage, defeat, or modifications of an ordinance, resolution, action, or decision of the County Commission.")

Are you representing any person, group, or organization? ☐ Yes ☒ No

If yes, please list name: _____
Organization Firm Client

Have you registered with the Clerk of the Board? ☐ Yes ☒ No

Do you require an interpreter?

*¿Necesita un intérprete?* ☐ Spanish/*Español* *Èske w bezwen yon Entèprèt?* ☐ Creole/*Kreyol*

---

# FOR Speaker's Card (For Public Hearing Items Only)

Today's Date: 6/23/11 BCC Mtg. Date: 6/23/11 Agenda Item#: 08-175

**Subject:** Archimedean

**Name:** Aleco Havalambides

**Address:** 901 N. Venetian Pl. Miami, FL

**Lobbyist information:** (According to Section 2-11(s) of the Code of Metropolitan Dade County, Florida, a lobbyist is defined as, "all person, firms or corporations employed or retained by a principle who seeks to encourage the passage, defeat, or modifications of an ordinance, resolution, action, or decision of the County Commission.")

Are you representing any person, group, or organization? ☐ Yes ☒ No

If yes, please list name: _____
Organization Firm Client

Have you registered with the Clerk of the Board? ☐ Yes ☒ No

Do you require an interpreter?

*¿Necesita un intérprete?* ☐ Spanish/*Español* *Èske w bezwen yon Entèprèt?* ☐ Creole/*Kreyol*

# **FOR** Speaker's Card (For Public Hearing Items Only)

Today's Date: 6/23/11 BCC Mtg. Date: 6/23/11 Agenda Item#: 08-175

**Subject:** Archimedean

**Name:** Giuliana Nanetti

**Address:** 9467 SW 148 PL MIAMI FL 33186

**Lobbyist information:** (According to Section 2-11(s) of the Code of Metropolitan Dade County, Florida, a lobbyist is defined as, "all person, firms or corporations employed or retained by a principle who seeks to encourage the passage, defeat, or modifications of an ordinance, resolution, action, or decision of the County Commission.")

Are you representing any person, group, or organization? ☐ Yes ☑ No

If yes, please list name: _____
Organization Firm Client

Have you registered with the Clerk of the Board? ☐ Yes ☑ No

Do you require an interpreter?

*¿Necesita un intérprete?* ☐ Spanish/*Español* *Èske w bezwen yon Entèprèt?* ☐ Creole/*Kreyol*

# **FOR** Speaker's Card (For Public Hearing Items Only)

Today's Date: 06/23/11 BCC Mtg. Date: 06/23/11 Agenda Item#: 08-175

**Subject:** ARCHIMEDEAN

**Name:** _____

**Address:** 14816 SW 72 ter. Miami, FL 33193

**Lobbyist information:** (According to Section 2-11(s) of the Code of Metropolitan Dade County, Florida, a lobbyist is defined as, "all person, firms or corporations employed or retained by a principle who seeks to encourage the passage, defeat, or modifications of an ordinance, resolution, action, or decision of the County Commission.")

Are you representing any person, group, or organization? ☑ Yes ☐ No

If yes, please list name: ARCHIMEDEAN ACADEMY
Organization Firm Client

Have you registered with the Clerk of the Board? ☐ Yes ☑ No

Do you require an interpreter?

*¿Necesita un intérprete?* ☐ Spanish/*Español* *Èske w bezwen yon Entèprèt?* ☐ Creole/*Kreyol*

# **FOR** Speaker's Card (For Public Hearing Items Only)

Today's Date: 06/23/11 BCC Mtg. Date: 06/23/11 Agenda Item#: [redacted] 1

**Subject:** ARCHIMEDEAN

**Name:** SOPHIA CHRISTODOULOU - RUBALCAVA

**Address:** 11502 SW 149 path Miami, FL 33196

**Lobbyist information:** (According to Section 2-11(s) of the Code of Metropolitan Dade County, Florida, a lobbyist is defined as, "all person, firms or corporations employed or retained by a principle who seeks to encourage the passage, defeat, or modifications of an ordinance, resolution, action, or decision of the County Commission.")

Are you representing any person, group, or organization? ☐ Yes ☑ No

If yes, please list name: _____
Organization Firm Client

Have you registered with the Clerk of the Board? ☐ Yes ☑ No

Do you require an interpreter?

*¿Necesita un intérprete?* ☐ Spanish/*Español* *Èske w bezwen yon Entèprèt?* ☐ Creole/*Kreyol*

# **FOR** Speaker's Card (For Public Hearing Items Only)

Today's Date: 06/23/11 BCC Mtg. Date: _____ Agenda Item#: 1

**Subject:** Archimedean

**Name:** Emmanuel Kalemakis

**Address:** 13065 SW 132 Terrace MIAMI FL 33186

**Lobbyist information:** (According to Section 2-11(s) of the Code of Metropolitan Dade County, Florida, a lobbyist is defined as, "all person, firms or corporations employed or retained by a principle who seeks to encourage the passage, defeat, or modifications of an ordinance, resolution, action, or decision of the County Commission.")

Are you representing any person, group, or organization? ☐ Yes ☒ No

If yes, please list name: _____
Organization Firm Client

Have you registered with the Clerk of the Board? ☐ Yes ☐ No

Do you require an interpreter?

*¿Necesita un intérprete?* ☐ Spanish/*Español* *Èske w bezwen yon Entèprèt?* ☐ Creole/*Kreyol*

# FOR Speaker's Card (For Public Hearing Items Only)

Today's Date: 6/23/11 BCC Mtg. Date: _____ Agenda Item#: 08-175 (1)

**Subject:** Archimedean Academy

**Name:** Jeffrey Taraboulos

**Address:** 12904 S.W. 112th court miami, FL 33176

**Lobbyist information:** (According to Section 2-11(s) of the Code of Metropolitan Dade County, Florida, a lobbyist is defined as, "all person, firms or corporations employed or retained by a principle who seeks to encourage the passage, defeat, or modifications of an ordinance, resolution, action, or decision of the County Commission.")

Are you representing any person, group, or organization? ☐ Yes ☒ No

If yes, please list name: _____
Organization Firm Client

Have you registered with the Clerk of the Board? ☐ Yes ☒ No

Do you require an interpreter?

*¿Necesita un intérprete?* ☐ Spanish/*Español* *Èske w bezwen yon Entèprèt?* ☐ Creole/*Kreyol*

# FOR Speaker's Card (For Public Hearing Items Only)

Today's Date: 6/23/11 BCC Mtg. Date: 6/23/11 Agenda Item#: _____

**Subject:** Archimedean

**Name:** Danielle Vinales

**Address:** 9783 hammocks BLVD

**Lobbyist information:** (According to Section 2-11(s) of the Code of Metropolitan Dade County, Florida, a lobbyist is defined as, "all person, firms or corporations employed or retained by a principle who seeks to encourage the passage, defeat, or modifications of an ordinance, resolution, action, or decision of the County Commission.")

Are you representing any person, group, or organization? ☐ Yes ☒ No

If yes, please list name: _____
Organization Firm Client

Have you registered with the Clerk of the Board? ☐ Yes ☒ No

Do you require an interpreter?

*¿Necesita un intérprete?* ☐ Spanish/*Español* *Èske w bezwen yon Entèprèt?* ☐ Creole/*Kreyol*

# **FOR** Speaker's Card (For Public Hearing Items Only)

Today's Date: 6/23/11 BCC Mtg. Date: 6/23/11 Agenda Item#: _____

**Subject:** Archimedean

**Name:** Diane Vento

**Address:** 5902 SW 166 Court

**Lobbyist information:** (According to Section 2-11(s) of the Code of Metropolitan Dade County, Florida, a lobbyist is defined as, "all person, firms or corporations employed or retained by a principle who seeks to encourage the passage, defeat, or modifications of an ordinance, resolution, action, or decision of the County Commission.")

Are you representing any person, group, or organization? ❑ Yes ☒ No

If yes, please list name: _____
Organization Firm Client

Have you registered with the Clerk of the Board? ❑ Yes ☒ No

Do you require an interpreter?

*¿Necesita un intérprete?* ❑ Spanish/*Español* *Èske w bezwen yon Entèprèt?* ❑ Creole/*Kreyol*

# **FOR** Speaker's Card (For Public Hearing Items Only)

Today's Date: 6/23/11 BCC Mtg. Date: 6/23/11 Agenda Item#: 1

**Subject:** Archimedean

**Name:** Alec Olmedillo

**Address:** 9370 SW 62 ST

**Lobbyist information:** (According to Section 2-11(s) of the Code of Metropolitan Dade County, Florida, a lobbyist is defined as, "all person, firms or corporations employed or retained by a principle who seeks to encourage the passage, defeat, or modifications of an ordinance, resolution, action, or decision of the County Commission.")

Are you representing any person, group, or organization? ❑ Yes ☑ No

If yes, please list name: _____
Organization Firm Client

Have you registered with the Clerk of the Board? ❑ Yes ❑ No

Do you require an interpreter?

*¿Necesita un intérprete?* ❑ Spanish/*Español* *Èske w bezwen yon Entèprèt?* ❑ Creole/*Kreyol*

# **FOR** Speaker's Card (For Public Hearing Items Only)

Today's Date: 6/23/11 BCC Mtg. Date: 6/23/11 Agenda Item#: 1

**Subject:** Archimedean

**Name:** Mia Olmedillo

**Address:** 9370 SW 62 ST, Miami, FL, 33173

**Lobbyist information:** (According to Section 2-11(s) of the Code of Metropolitan Dade County, Florida, a lobbyist is defined as, "all person, firms or corporations employed or retained by a principle who seeks to encourage the passage, defeat, or modifications of an ordinance, resolution, action, or decision of the County Commission.")

Are you representing any person, group, or organization? ☐ Yes ☑ No

If yes, please list name: _____
Organization Firm Client

Have you registered with the Clerk of the Board? ☐ Yes ☐ No

Do you require an interpreter?

*¿Necesita un intérprete?* ☐ Spanish/*Español* *Èske w bezwen yon Entèprèt?* ☐ Creole/*Kreyol*

---

# **FOR** Speaker's Card (For Public Hearing Items Only)

Today's Date: 6/23/11 BCC Mtg. Date: 6/23/11 Agenda Item#: 1

**Subject:** Archimedean

**Name:** Lilian Olmedillo

**Address:** 9370 SW 62 ST, Miami, FL 33173

**Lobbyist information:** (According to Section 2-11(s) of the Code of Metropolitan Dade County, Florida, a lobbyist is defined as, "all person, firms or corporations employed or retained by a principle who seeks to encourage the passage, defeat, or modifications of an ordinance, resolution, action, or decision of the County Commission.")

Are you representing any person, group, or organization? ☐ Yes ☑ No

If yes, please list name: _____
Organization Firm Client

Have you registered with the Clerk of the Board? ☐ Yes ☐ No

Do you require an interpreter?

*¿Necesita un intérprete?* ☐ Spanish/*Español* *Èske w bezwen yon Entèprèt?* ☐ Creole/*Kreyol*

# FOR Speaker's Card (For Public Hearing Items Only)

Today's Date: 06/23/11 BCC Mtg. Date: 06/23/11 Agenda Item#: 08-175 (1)

**Subject:** ARCHIMEDEAN

**Name:** OSVALDO CASTILLO

**Address:** 12720 S.W. 68TH LANE MIAMI, FL 33183

**Lobbyist information:** (According to Section 2-11(s) of the Code of Metropolitan Dade County, Florida, a lobbyist is defined as, "all person, firms or corporations employed or retained by a principle who seeks to encourage the passage, defeat, or modifications of an ordinance, resolution, action, or decision of the County Commission.")

Are you representing any person, group, or organization? ☐ Yes ☒ No

If yes, please list name: _____
Organization Firm Client

Have you registered with the Clerk of the Board? ☐ Yes ☒ No

Do you require an interpreter?

*¿Necesita un intérprete?* ☐ Spanish/*Español* *Èske w bezwen yon Entèprèt?* ☐ Creole/*Kreyol*

# FOR Speaker's Card (For Public Hearing Items Only)

Today's Date: 06/23/11 BCC Mtg. Date: 06/23/11 Agenda Item#: 1

**Subject:** Archimedean

**Name:** Amy Lee

**Address:** 5260 NW 109th Ave #5 Miami, FL 33178

**Lobbyist information:** (According to Section 2-11(s) of the Code of Metropolitan Dade County, Florida, a lobbyist is defined as, "all person, firms or corporations employed or retained by a principle who seeks to encourage the passage, defeat, or modifications of an ordinance, resolution, action, or decision of the County Commission.")

Are you representing any person, group, or organization? ☐ Yes ☑ No

If yes, please list name: _____
Organization Firm Client

Have you registered with the Clerk of the Board? ☐ Yes ☑ No

Do you require an interpreter?

*¿Necesita un intérprete?* ☐ Spanish/*Español* *Èske w bezwen yon Entèprèt?* ☐ Creole/*Kreyol*

**INFORMATION**

Against

# Speaker's Card

(For Appearance Before the Board of County Commission)

Today's Date 6/23/11 BCC Mtg. Date _____ Agenda Item # 4

**Subject:** Kendall Regional Helipad

**Name:** Carlos Migoya

**Address:** 1611 NW 12 Ave., Miami.

**Lobbyist Information:** (According to Section 2-11(s) of the Code of Metropolitan Dade County, Florida, a lobbyist is defined as, "all persons, firms or corporations employed or retained by a principle who seeks to encourage the passage, defeat, or modifications of an ordinance, resolution, action, or decision of the County Commission.")

Are you representing any person, group, or organization? Yes:_____ No:_____

If yes, please list name: _____ / _____ / _____
Organization Firm Client

Have your registered with the Clerk of the Board? Yes :_____ No:_____

# INFORMATION

Against

~~Speaker's Card~~

(For Appearance Before the Board of County Commission)

Today's Date 6/23/11 BCC Mtg. Date 6/23/11 Agenda Item # _____

**Subject:** KRMC Helipad

**Name:** Nicholas Namias

**Address:** 1800 NW 10th AVE SUITE T-215 MIAMI FL 33136

**Lobbyist Information:** (According to Section 2-11(s) of the Code of Metropolitan Dade County, Florida, a lobbyist is defined as, "all persons, firms or corporations employed or retained by a principle who seeks to encourage the passage, defeat, or modifications of an ordinance, resolution, action, or decision of the County Commission.")

Are you representing any person, group, or organization? Yes:_____ No:_____

If yes, please list name: _____ / _____ / _____
Organization Firm Client

Have your registered with the Clerk of the Board? Yes :_____ No: ✓

# INFORMATION

NEVER SHOWED UP

## Speaker's Card

(For Appearance Before the Board of County Commission)

Today's Date 6/23/11 BCC Mtg. Date _____ Agenda Item # 4

**Subject:** To provide info. on air rescue.

**Name:** Waine Sessions, Commander of Air Rescue

**Address:** _____

**Lobbyist Information:** (According to Section 2-11(s) of the Code of Metropolitan Dade County, Florida, a lobbyist is defined as, "all persons, firms or corporations employed or retained by a principle who seeks to encourage the passage, defeat, or modifications of an ordinance, resolution, action, or decision of the County Commission.")

Are you representing any person, group, or organization? Yes:_____ No:_____

If yes, please list name: _____ / _____ / _____
Organization Firm Client

Have your registered with the Clerk of the Board? Yes :_____ No:_____

# **AGAINST** Speaker's Card (For Public Hearing Items Only)

Today's Date: 6/23/11 BCC Mtg. Date: _____ Agenda Item#: 01-5538

**Subject:** SANTA FE Haciendas & Cemex Construction

**Name:** Rebeca Rafols

**Address:** 18200 SW 100 St. Miami, Fl. 33196

**Lobbyist information:** (According to Section 2-11(s) of the Code of Metropolitan Dade County, Florida, a lobbyist is defined as, "all person, firms or corporations employed or retained by a principle who seeks to encourage the passage, defeat, or modifications of an ordinance, resolution, action, or decision of the County Commission.")

Are you representing any person, group, or organization? ☒ Yes ☐ No

If yes, please list name: Kendall Ave Neighbors
Organization Firm Client

Have you registered with the Clerk of the Board? ☐ Yes ☐ No

Do you require an interpreter?

*¿Necesita un intérprete?* ☐ Spanish/*Español* *Èske w bezwen yon Entèprèt?* ☐ Creole/*Kreyol*

---

# **AGAINST** Speaker's Card (For Public Hearing Items Only)

Today's Date: 6/23/11 BCC Mtg. Date: _____ Agenda Item#: 01-55-38

**Subject:** HACIENDA SANTA FE

**Name:** JOSÉ AMAT

**Address:** 17900 SW 100 ST MIAMI FLA 33196

**Lobbyist information:** (According to Section 2-11(s) of the Code of Metropolitan Dade County, Florida, a lobbyist is defined as, "all person, firms or corporations employed or retained by a principle who seeks to encourage the passage, defeat, or modifications of an ordinance, resolution, action, or decision of the County Commission.")

Are you representing any person, group, or organization? ☐ Yes ☐ No

If yes, please list name: _____
Organization Firm Client

Have you registered with the Clerk of the Board? ☐ Yes ☐ No

Do you require an interpreter?

*¿Necesita un intérprete?* ☐ Spanish/*Español* *Èske w bezwen yon Entèprèt?* ☐ Creole/*Kreyol*

# AGAINST Speaker's Card (For Public Hearing Items Only)

Today's Date: 6-23-11 BCC Mtg. Date: _____ Agenda Item#: 01-55-38

**Subject:** CARLOS PENA (HACIENDA SANTA FE)

**Name:** CARLOS PENA

**Address:** 18200 SW 100 STR. 33196

**Lobbyist information:** (According to Section 2-11(s) of the Code of Metropolitan Dade County, Florida, a lobbyist is defined as, "all person, firms or corporations employed or retained by a principle who seeks to encourage the passage, defeat, or modifications of an ordinance, resolution, action, or decision of the County Commission.")

Are you representing any person, group, or organization? ☐ Yes ☐ No

If yes, please list name: _____
Organization Firm Client

Have you registered with the Clerk of the Board? ☐ Yes ☐ No

Do you require an interpreter?

*¿Necesita un intérprete?* ☐ Spanish/*Español* *Èske w bezwen yon Entèprèt?* ☐ Creole/*Kreyol*

---

# AGAINST Speaker's Card (For Public Hearing Items Only)

JP

Today's Date: 6/23/11 BCC Mtg. Date: _____ Agenda Item#: 01-55-38

**Subject:** Hacienda Santa Fe.

**Name:** Alice Pena

**Address:** 18390 S.W. 199 Ave. Miami FL 33196

**Lobbyist information:** (According to Section 2-11(s) of the Code of Metropolitan Dade County, Florida, a lobbyist is defined as, "all person, firms or corporations employed or retained by a principle who seeks to encourage the passage, defeat, or modifications of an ordinance, resolution, action, or decision of the County Commission.")

Are you representing any person, group, or organization? ☑ Yes ☐ No

If yes, please list name: Kromo Residents
Organization Firm Client

Have you registered with the Clerk of the Board? ☐ Yes ☑ No

Do you require an interpreter?

*¿Necesita un intérprete?* ☐ Spanish/*Español* *Èske w bezwen yon Entèprèt?* ☐ Creole/*Kreyol*

# AGAINST Speaker's Card (For Public Hearing Items Only)

Time

Today's Date: 6/23/2011 BCC Mtg. Date: _____ Agenda Item#: B-Cemex

**Subject:** Cemex

**Name:** Luis Amato

**Address:** 11721 S.W 112 Terr Miami 33186

**Lobbyist information:** (According to Section 2-11(s) of the Code of Metropolitan Dade County, Florida, a lobbyist is defined as, "all person, firms or corporations employed or retained by a principle who seeks to encourage the passage, defeat, or modifications of an ordinance, resolution, action, or decision of the County Commission.")

Are you representing any person, group, or organization? ☐ Yes ☑ No

If yes, please list name: _____
Organization Firm Client

Have you registered with the Clerk of the Board? ☐ Yes ☑ No

Do you require an interpreter?

*¿Necesita un intérprete?* ☐ Spanish/*Español* *Èske w bezwen yon Entèprèt?* ☐ Creole/*Kreyol*

---

# AGAINST Speaker's Card (For Public Hearing Items Only)

Time

Today's Date: 06/23/11 BCC Mtg. Date: _____ Agenda Item#: B-Cemex

**Subject:** Cemex

**Name:** Doris Castano

**Address:** 11721 sw 112 terr. Miami, FL 33186

**Lobbyist information:** (According to Section 2-11(s) of the Code of Metropolitan Dade County, Florida, a lobbyist is defined as, "all person, firms or corporations employed or retained by a principle who seeks to encourage the passage, defeat, or modifications of an ordinance, resolution, action, or decision of the County Commission.")

Are you representing any person, group, or organization? ☐ Yes ☑ No

2 1 8 x 3 54

If yes, please list name: _____
Organization Firm Client

Have you registered with the Clerk of the Board? ☐ Yes ☑ No

Do you require an interpreter?

*¿Necesita un intérprete?* ☐ Spanish/*Español* *Èske w bezwen yon Entèprèt?* ☐ Creole/*Kreyol*

# AGAINST Speaker's Card (For Public Hearing Items Only)

Today's Date: 06/23/11 BCC Mtg. Date: _____ Agenda Item#: 01-55-38

**Subject:** Santa Fe Hacienda

**Name:** Angel Santos.

**Address:** 17821 SW 100 ST.

**Lobbyist information:** (According to Section 2-11(s) of the Code of Metropolitan Dade County, Florida, a lobbyist is defined as, "all person, firms or corporations employed or retained by a principle who seeks to encourage the passage, defeat, or modifications of an ordinance, resolution, action, or decision of the County Commission.")

Are you representing any person, group, or organization? ☐ Yes ☒ No

If yes, please list name: _____
Organization Firm Client

Have you registered with the Clerk of the Board? ☐ Yes ☒ No

Do you require an interpreter?

*¿Necesita un intérprete?* ☐ Spanish/*Español* *Eske w bezwen yon Entèprèt?* ☐ Creole/*Kreyol*

# AGAINST Speaker's Card (For Public Hearing Items Only)

~~The~~ B-Cemex

Today's Date: 6/23/11 BCC Mtg. Date: _____ Agenda Item#: 11-3-CC-2/9-176

**Subject:** Cemex

**Name:** Adelina Amat

**Address:** 17900 sw 100 Street Miami FL 33196

**Lobbyist information:** (According to Section 2-11(s) of the Code of Metropolitan Dade County, Florida, a lobbyist is defined as, "all person, firms or corporations employed or retained by a principle who seeks to encourage the passage, defeat, or modifications of an ordinance, resolution, action, or decision of the County Commission.")

Are you representing any person, group, or organization? ☐ Yes ☑ No

If yes, please list name: _____
Organization Firm Client

Have you registered with the Clerk of the Board? ☐ Yes ☑ No

Do you require an interpreter? NO

*¿Necesita un intérprete?* ☐ Spanish/*Español* *Eske w bezwen yon Entèprèt?* ☐ Creole/*Kreyol*

# AGAINST Speaker's Card (For Public Hearing Items Only)

Today's Date: 6/23/11 BCC Mtg. Date: 23/11 Agenda Item#: 01-55-38

**Subject:** Santa Fe Haciendas

**Name:** Jorge Abreu

**Address:** 10100 SW 177 Ave Miami, FL. 33196

**Lobbyist information:** (According to Section 2-11(s) of the Code of Metropolitan Dade County, Florida, a lobbyist is defined as, "all person, firms or corporations employed or retained by a principle who seeks to encourage the passage, defeat, or modifications of an ordinance, resolution, action, or decision of the County Commission.")

Are you representing any person, group, or organization? ☐ Yes ☒ No

If yes, please list name: _____
Organization Firm Client

Have you registered with the Clerk of the Board? ☐ Yes ☒ No

Do you require an interpreter?

*¿Necesita un intérprete?* ☐ Spanish/*Español* *Èske w bezwen yon Entèprèt?* ☐ Creole/*Kreyol*

---

# AGAINST Speaker's Card (For Public Hearing Items Only)

Today's Date: 06/23/11 BCC Mtg. Date: _____ Agenda Item#: 01-55-38

**Subject:** Letter

**Name:** Jorge & Talia Sanchez

**Address:** 18305 SW 106 Street Miami Fl 33196

**Lobbyist information:** (According to Section 2-11(s) of the Code of Metropolitan Dade County, Florida, a lobbyist is defined as, "all person, firms or corporations employed or retained by a principle who seeks to encourage the passage, defeat, or modifications of an ordinance, resolution, action, or decision of the County Commission.")

Are you representing any person, group, or organization? ☒ Yes ☐ No

If yes, please list name: Home Owners Neighbors Talia Sanchez
Organization Firm Client

Have you registered with the Clerk of the Board? ☐ Yes ☒ No

Do you require an interpreter?

*¿Necesita un intérprete?* ☐ Spanish/*Español* *Èske w bezwen yon Entèprèt?* ☐ Creole/*Kreyol*

# AGAINST Speaker's Card (For Public Hearing Items Only)

JM

Today's Date: 06/23/11 BCC Mtg. Date: _____ Agenda Item#: 01-55-38

**Subject:** SANTA FE HACIENDA'S

**Name:** ANDRES FERNANDEZ

**Address:** 18575 SW 100 Street

**Lobbyist information:** (According to Section 2-11(s) of the Code of Metropolitan Dade County, Florida, a lobbyist is defined as, "all person, firms or corporations employed or retained by a principle who seeks to encourage the passage, defeat, or modifications of an ordinance, resolution, action, or decision of the County Commission.")

Are you representing any person, group, or organization? ☑ Yes ☐ No

If yes, please list name: MYSELF
Organization Firm Client

Have you registered with the Clerk of the Board? ☐ Yes ☑ No

Do you require an interpreter?

*¿Necesita un intérprete?* ☐ Spanish/*Español* *Èske w bezwen yon Entèprèt?* ☐ Creole/*Kreyol*

# AGAINST Speaker's Card (For Public Hearing Items Only)

JM

Today's Date: 23 JUN 11 BCC Mtg. Date: _____ Agenda Item#: 01-55-38

**Subject:** SANTA FE

**Name:** CHARLES V. BOYD

**Address:** 18700 SW 100th St.

**Lobbyist information:** (According to Section 2-11(s) of the Code of Metropolitan Dade County, Florida, a lobbyist is defined as, "all person, firms or corporations employed or retained by a principle who seeks to encourage the passage, defeat, or modifications of an ordinance, resolution, action, or decision of the County Commission.")

Are you representing any person, group, or organization? ☐ Yes ☒ No

If yes, please list name: _____
Organization Firm Client

Have you registered with the Clerk of the Board? ☐ Yes ☒ No

Do you require an interpreter? NO

*¿Necesita un intérprete?* ☐ Spanish/*Español* *Èske w bezwen yon Entèprèt?* ☐ Creole/*Kreyol*

# AGAINST Speaker's Card (For Public Hearing Items Only)

Today's Date: 6/23/11 BCC Mtg. Date: 6/23/11 Agenda Item#: B/CEMEX/Santa Fe Haciendas Mine

**Subject:** Santa Fe Haciendas Mine

**Name:** CARA CAPP

**Address:** 7300 N. FED HWY, BOCA RATON 33487

**Lobbyist information:** (According to Section 2-11(s) of the Code of Metropolitan Dade County, Florida, a lobbyist is defined as, "all person, firms or corporations employed or retained by a principle who seeks to encourage the passage, defeat, or modifications of an ordinance, resolution, action, or decision of the County Commission.")

Are you representing any person, group, or organization? ☒ Yes ☐ No

If yes, please list name: Clean Water Action
Organization Firm Client

Have you registered with the Clerk of the Board? ☒ Yes ☐ No

Do you require an interpreter?

*¿Necesita un intérprete?* ☐ Spanish/*Español* *Èske w bezwen yon Entèprèt?* ☐ Creole/*Kreyol*

---

# AGAINST Speaker's Card (For Public Hearing Items Only)

Today's Date: 6/23/11 BCC Mtg. Date: _____ Agenda Item#: 01-SS-38

**Subject:** Santa Fe Haciendas

**Name:** ~~Carlos Martinez~~ Maria Pedondo

**Address:** 18002 SW 106 Street Miami FL 33196

**Lobbyist information:** (According to Section 2-11(s) of the Code of Metropolitan Dade County, Florida, a lobbyist is defined as, "all person, firms or corporations employed or retained by a principle who seeks to encourage the passage, defeat, or modifications of an ordinance, resolution, action, or decision of the County Commission.")

Are you representing any person, group, or organization? ☐ Yes ☐ No

If yes, please list name: _____
Organization Firm Client

Have you registered with the Clerk of the Board? ☐ Yes ☐ No

Do you require an interpreter?

*¿Necesita un intérprete?* ☒ Spanish/*Español* *Èske w bezwen yon Entèprèt?* ☐ Creole/*Kreyol*

# AGAINST Speaker's Card (For Public Hearing Items Only)

Today's Date: 6/23/11 BCC Mtg. Date: 6/23/11 Agenda Item#: B

**Subject:** Against rock mining application

**Name:** Stephanie Cornejo

**Address:** 8685 S.W. 159th Path, Miami FL 33193

**Lobbyist information:** (According to Section 2-11(s) of the Code of Metropolitan Dade County, Florida, a lobbyist is defined as, "all person, firms or corporations employed or retained by a principle who seeks to encourage the passage, defeat, or modifications of an ordinance, resolution, action, or decision of the County Commission.")

Are you representing any person, group, or organization? ☐ Yes ☒ No

If yes, please list name: _____
Organization Firm Client

Have you registered with the Clerk of the Board? ☐ Yes ☐ No

Do you require an interpreter?

*¿Necesita un intérprete?* ☐ Spanish/*Español* *Èske w bezwen yon Entèprèt?* ☐ Creole/*Kreyol*

# INFORMATION

## Speaker's Card

(For Appearance Before the Board of County Commission)

**Today's Date** 6/23/11 **BCC Mtg. Date** 6/23/11 **Agenda Item #** B

**Subject:** Cemex

**Name:** Dan Shurtleff

**Address:** 450 N Park Rd #301 @ Hollywood FL 33021

**Lobbyist Information:** (According to Section 2-11(s) of the Code of Metropolitan Dade County, Florida, a lobbyist is defined as, "all persons, firms or corporations employed or retained by a principle who seeks to encourage the passage, defeat, or modifications of an ordinance, resolution, action, or decision of the County Commission.")

Are you representing any person, group, or organization? Yes: ✓ No: _____

If yes, please list name: NPCA / / /
Organization Firm Client

Have your registered with the Clerk of the Board? Yes: ✓ No: _____

~~INFORMATION~~ Against

## Speaker's Card

(For Appearance Before the Board of County Commission)

Today's Date 6/23/11 BCC Mtg. Date Today Agenda Item # B

**Subject:** Unusual Use for Rock Mining - Near ENP

**Name:** LAURA Reynolds

**Address:** 5530 Sunset Drive, Miami FL 33143

**Lobbyist Information:** (According to Section 2-11(s) of the Code of Metropolitan Dade County, Florida, a lobbyist is defined as, "all persons, firms or corporations employed or retained by a principle who seeks to encourage the passage, defeat, or modifications of an ordinance, resolution, action, or decision of the County Commission.")

Are you representing any person, group, or organization? Yes: ✓ No: ____

If yes, please list name: Tropical Audubon Society / / (Organization / Firm / Client)

Have your registered with the Clerk of the Board? Yes : ✓ No: ____

---

~~INFORMATION~~

AGAINST

## Speaker's Card

(For Appearance Before the Board of County Commission)

Today's Date 6/23 BCC Mtg. Date Today Agenda Item # B

**Subject:** Santa Fe Hacienda ; CEMEX rockmining near the Everglades.

**Name:** Nnamdi Jackson

**Address:** 13314 SW 112 place Miami, FL 33176

**Lobbyist Information:** (According to Section 2-11(s) of the Code of Metropolitan Dade County, Florida, a lobbyist is defined as, "all persons, firms or corporations employed or retained by a principle who seeks to encourage the passage, defeat, or modifications of an ordinance, resolution, action, or decision of the County Commission.")

Are you representing any person, group, or organization? Yes: ✓ No: ____

If yes, please list name: Tropical Audubon Society / / (Organization / Firm / Client)

Have your registered with the Clerk of the Board? Yes : ____ No: ✓

# FOR Speaker's Card (For Public Hearing Items Only)

Today's Date: 06/23/2011 BCC Mtg. Date: 06/23/2011 Agenda Item#: D1-55-38

**Subject:** SANTA FE HACIENDAS & LAKES

**Name:** JOSE "PEPE" LANCHO

**Address:** 799 BRANDON BLVD #307 & MIAMI FL 33179

**Lobbyist information:** (According to Section 2-11(s) of the Code of Metropolitan Dade County, Florida, a lobbyist is defined as, "all person, firms or corporations employed or retained by a principle who seeks to encourage the passage, defeat, or modifications of an ordinance, resolution, action, or decision of the County Commission.")

Are you representing any person, group, or organization? ☑ Yes ☐ No

If yes, please list name: FLORIDA CONCRETE & PAVING ASSOCIATION

Organization Firm Client

Have you registered with the Clerk of the Board? ☐ Yes ☒ No

Do you require an interpreter?

*¿Necesita un intérprete?* ☐ Spanish/*Español* *Èske w bezwen yon Entèprèt?* ☐ Creole/*Kreyol*

# FOR Speaker's Card (For Public Hearing Items Only)

Today's Date: 6/23/11 BCC Mtg. Date: _____ Agenda Item#: _____

**Subject:** Lake Maria SANTA FE

**Name:** JAMES Humble

**Address:** PO Box 1769 Homestead, FL

**Lobbyist information:** (According to Section 2-11(s) of the Code of Metropolitan Dade County, Florida, a lobbyist is defined as, "all person, firms or corporations employed or retained by a principle who seeks to encourage the passage, defeat, or modifications of an ordinance, resolution, action, or decision of the County Commission.")

Are you representing any person, group, or organization? ☐ Yes ☑ No

If yes, please list name: _____

Organization Firm Client

Have you registered with the Clerk of the Board? ☐ Yes ☐ No

Do you require an interpreter?

*¿Necesita un intérprete?* ☐ Spanish/*Español* *Èske w bezwen yon Entèprèt?* ☐ Creole/*Kreyol*

# **FOR** Speaker's Card (For Public Hearing Items Only)

Today's Date: 6/23/11 BCC Mtg. Date: _____ Agenda Item#: _____

**Subject:** Santa Fe (Item B)

**Name:** Alfredo Gaytan

**Address:** 29950 SW 164th AVE Homestead Fla. 33030

**Lobbyist information:** (According to Section 2-11(s) of the Code of Metropolitan Dade County, Florida, a lobbyist is defined as, "all person, firms or corporations employed or retained by a principle who seeks to encourage the passage, defeat, or modifications of an ordinance, resolution, action, or decision of the County Commission.")

Are you representing any person, group, or organization? ☑ Yes ☐ No

If yes, please list name: Cemex
Organization Firm Client

Have you registered with the Clerk of the Board? ☐ Yes ☐ No

Do you require an interpreter? NO

*¿Necesita un intérprete?* ☐ Spanish/*Español* *Èske w bezwen yon Entèprèt?* ☐ Creole/*Kreyol*

# **FOR** Speaker's Card (For Public Hearing Items Only)

Today's Date: 6-23-11 BCC Mtg. Date: _____ Agenda Item#: _____

**Subject:** Santa Fe (Item B)

**Name:** Camille Cirallo

**Address:** 15254 SW 152 AVE Miami, fl. 33187

**Lobbyist information:** (According to Section 2-11(s) of the Code of Metropolitan Dade County, Florida, a lobbyist is defined as, "all person, firms or corporations employed or retained by a principle who seeks to encourage the passage, defeat, or modifications of an ordinance, resolution, action, or decision of the County Commission.")

Are you representing any person, group, or organization? ☑ Yes ☐ No

If yes, please list name: Cemex Construction
Organization Firm Client

Have you registered with the Clerk of the Board? ☐ Yes ☑ No

Do you require an interpreter? NO

*¿Necesita un intérprete?* ☐ Spanish/*Español* *Èske w bezwen yon Entèprèt?* ☐ Creole/*Kreyol*

# **FOR** Speaker's Card (For Public Hearing Items Only)

Today's Date: 6-23-11 BCC Mtg. Date: _____ Agenda Item#: _____

**Subject:** Santa Fe (Item B)

**Name:** Levi Mosley

**Address:** 1595 N.W. 120 st. North Miami FLA. 33167

**Lobbyist information:** (According to Section 2-11(s) of the Code of Metropolitan Dade County, Florida, a lobbyist is defined as, "all person, firms or corporations employed or retained by a principle who seeks to encourage the passage, defeat, or modifications of an ordinance, resolution, action, or decision of the County Commission.")

Are you representing any person, group, or organization? ☒ Yes ☒ No

If yes, please list name: CEMEX

Organization Firm Client

Have you registered with the Clerk of the Board? ☐ Yes ☐ No

Do you require an interpreter?

*¿Necesita un intérprete?* ☐ Spanish/*Español* *Èske w bezwen yon Entèprèt?* ☐ Creole/*Kreyol*