

Memorandum



Date:

To: Gary Hartfield, Division Director
Small Business Development

From: Juan Kuryla, Port Director
PortMiami

Subject: Recommendation for 7360 Miscellaneous Construction Contract Services for
North Cruise Berths 1 - 6 Seafloor Stabilization Program, Contract / Project No. 2010-038.02

PortMiami respectfully requests that the Division of Small Business Development (SBD) evaluate Project No. 2010-038.02 – North Cruise Berths 1 - 6 Seafloor Stabilization Program, to assign Small Business Enterprise – Construction (SBE-CON) and Community Workforce Program (CWP) measures.

North Cruise Berth 1 – 6 Seafloor Stabilization Program: The project consists of general construction necessary for the seafloor stabilization pilot program along approximately 500 linear feet of bulkhead. The area to be stabilized extends from the bulkhead wall to 10 feet in front of the wall with a stabilized depth of 5 feet from EL (-) 40 to (-) 45 NGVD along North Cruise Berths 1 through 6.

Scope of work includes, but is not limited to:

- Drilling 6-inch diameter holes (approximately 500) into the rock in a pre-determined regular pattern adjacent to the wall toe on the water side and injecting grout through drill pipes; and
- Providing pre and post construction video recording.

The construction cost estimate for the project is \$1,030,975.00, which includes 10% contingency.

The SBE-CON goal recommendation is 0.00%, and the CWP goal recommendation is 10.00%.

We appreciate your assistance, in order to proceed with the advertisement and subsequent bidding of the project. Should you have any questions, please feel free to contact Mrs. Gyselle Pino, Chief of Contracts, Procurement & Materials Management at (305) 347-4833.

Attachments

DEPARTMENT INPUT
CONSTRUCTION CONTRACT/PROJECT MEASURE ANALYSIS AND RECOMMENDATION

Check applicable Ordinance(s): ☒ 90-143 Responsible Wage and Benefits ☒ 03-237 (formerly 03-1) Community Workforce Program

PROJECT INFORMATION See attachment ☒

Contract/Project/*Work Order No.: 2010-038.02

*Reference corresponding project number when submitting a work order

Contract/Project Title: North Cruise Berths 1 - 6 Seafloor Stabilization Program

Description/Scope of Work: See attached

Estimated Cost: \$1,030,975.00

Funding Source: Seaport Bonds

Location of Project (street address or beginning and ending points) i.e. 12345 NE 23rd Ct or Starts at 135 St. ends at 145 St.
1015 N. America Way, Miami, FL 33132

PROJECT ANALYSIS FOR GOAL RECOMMENDATION (CWP) See attachment ☒

Engineer/Department or Agency's estimated required workforce for Project ☐ Work Order ☐:

Trade/Skills Required	Est. # of workforce required per trade	Est. # of total days to complete job

Comments:

PROJECT ANALYSIS FOR GOAL RECOMMENDATION (CSBE) See attachment ☐

Sub-Trade	Est. Cost	% of Item to Base Bid	Availability
N/A			

RECOMMENDATION

Set-Aside: Level 1 ☐ Level 2 ☐ Level 3 ☐ Trade Set-Aside ☐ Sub-Contractor Goal ☐ Workforce Goal ☒ No Measure ☒

Basis for Recommendation: No SBE-Construction measure is recommended because the scope of work consists of
underwater grout injection into the existing seafloor along with pre and post
construction underwater video taping.

Date submitted to DBD:

Contact Person: Gyselle Pino

Telephone No.: (305) 347-4833



PROJECT TITLE: NORTH CRUISE BERTHS 1 - 6 SEAFLOOR STABILIZATION PROGRAM
PROJECT NO.: 2010-038.02
CONSTRUCTION COST ESTIMATE

April 6, 2017

ITEM NO.	DESCRIPTION	QTY.	UNIT	UNIT COST	TOTAL COST
1	General Requirements (includes Mobilization, Demobilization, and P&P Bond)	1	LS	\$ 122,250.00	\$ 122,250.00
2	Grout Injections	500	EA	\$ 1,630.00	\$ 815,000.00
			Subtotal Direct Cost		\$937,250
			Permitting (Allowance)	3%	\$28,118
			Estimate Contingency	10%	\$93,725.00
	TOTAL ESTIMATE FOR CONSTRUCTION COSTS			ESTIMATE	\$1,030,975.00

\$1,030,975.00
Base + Contingency



NORTH CRUISE BERTHS 1-6 SEAFLOOR STABILIZATION PROGRAM

PROJECT No. 2010-038.02

BID SET



Honorable Carlos A. Gimenez MAYOR

BOARD OF COUNTY COMMISSIONERS

Honorable Esteban Bovo, Jr., Chairman

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Honorable Audrey Edmonson, Vice Chairwoman

District 3

Honorable Barbara J. Jordan

District 1

Honorable Jean Monestime

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District 5

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District 6

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Juan Kuryla, PPM

PORT DIRECTOR

Honorable Daniella Levine Cava

District 8

Honorable Dennis C. Moss

District 9

Honorable Javier D. Souto

District 10

Honorable Joe A. Martinez

District 11

Honorable Jose "Pepe" Diaz

District 12

Honorable Esteban Bovo, Jr.

District 13

TECHNICAL SPECIFICATIONS

FOR

**NORTH CRUISE BERTHS 1-6 SEAFLOOR
STABILIZATION PROGRAM**

**MIAMI-DADE COUNTY SEAPORT DEPARTMENT
CAPITAL DEVELOPMENT
PortMiami, Florida**

Bid Set

JUNE 2017

**PORT MIAMI NO. 2010-038.02
ATKINS PROJECT NO. 100050768**

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VOLUME II – TECHNICAL SPECIFICATIONS

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Appendix A - Cruise Schedule

Appendix B - Environmental Permit

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END OF TABLE OF CONTENTS

SECTION 01 11 00 - SUMMARY OF WORK

PART 1 GENERAL

1.1 DESCRIPTION

- A. The Work of this Contract comprises the general construction necessary for the seafloor stabilization pilot program along approximately 500 linear feet of bulkhead. The area to be stabilized extends from the bulkhead wall to 10 feet in front of the wall with a stabilized depth of 5 feet from EL (-) 40 to (-) 45 NGVD.
- B. Stabilization is planned to be performed by drilling 6-inch diameter holes into the rock in a pre-determined regular pattern adjacent to the wall toe on the water side and injecting grout through the drill pipes. Injection points would be located on a 3-foot grid with three points spread north-south across the 10-foot treatment width. This arrangement results in about 500 injection points. Casing will be required to drill the holes. At the desired hole depth, the casing would be retracted and grouting would be performed through the drill string.
- C. Contractor's divers will be required to assist with the quality control during the grouting program, particularly with respect to proper location of grout injection pipes.

1.2 WORK SEQUENCE

- A. Construct the Work as indicated to provide for Miami Dade County (MDC) convenience and avoid disruption to use of adjacent areas of site and adjacent properties. Refer to cruise schedule.
 - 1. The phasing for seafloor stabilization will be based on the schedule developed by reviewing the cruise schedule.
- B. Cruise Schedule Coordination: **Contractor to request latest cruise schedule at time of construction.** The contractor shall anticipate the arrival and departure of cruise ships, fuel bunker barges and tug boats during the course and proximity of the work. The contractor shall fully coordinate his work with PortMiami Cruise Operations and Berthing Office as well as the PortMiami Safety Office. The contractor will be unable to work during cruise ship days.
- C. Contractor must secure all applicable permits prior to commencement of work. Contractor to review the methods for Construction Methodology, Underwater Concrete Methodology and Frac-out Contingency Plan associated with the following permits:
 - 1. Florida Department of Environmental Protection Notice of minimis exemption (See Appendix B)
 - 2. U.S. Army Corps of Engineers Nationwide Permit (See Appendix B for reference)

- D. Refer to Contract Conditions for commencement, execution, and completion of Work, including milestone dates.
- E. Contractor to provide video recording of project area prior to and after completion of repairs.
- F. The loads during construction shall not exceed the original design uniform live load of 600 psf. Contractor to submit equipment to port for approval prior to commencement of work.
 - 1. Cranes currently in use at the project site:
 - a. Grove GMK6350
 - b. Tadano AFT130G-5
 - c. Terex AC200-1
 - d. Linkbelt HTC8660-II
 - e. Linkbelt 8670
 - 2. Other equipment in use at project site:
 - a. Florida Legal Trucks: AASHTON H20, AASHTO HS20-44, pickups and vans.
 - b. Forklifts: Caterpillar Model DP40k (10,000 lb lift capacity)
 - c. Man-Lifts: JLG Industries Models 800A, 800S, and 860SJ (1,000 lb lift capacity)

1.3 CONTRACTOR'S USE OF PREMISES

- A. Contractor shall limit use of the premises for Work and for storage, to allow for:
 - 1. Work by other Contractors.
 - 2. MDC occupancy.
 - 3. Tenant occupancy.
 - 4. Public use.
- B. Coordinate use of premises under direction of MDC Representative.
- C. Assume full responsibility for the protection and safe-keeping of Products under this Contract, stored on-site.
- D. Move any stored Products, under Contractor's control, which interfere with operations of the MDC, Tenant, or separate Contractor.
- E. Obtain and pay for the use, of additional storage or work areas, if needed for operations.

F. The MDC shall have the right of unlimited access to the premises.

1.4 PROTECTION OF PROJECT SITE

A. Provide protection to existing facilities project site.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION (Not Used)

PART 4 MEASUREMENT AND PAYMENT

4.1 MEASUREMENT: Work under this Section will not be separately measured for payment. .

END OF SECTION

SECTION 01 26 13 - REQUEST FOR INFORMATION

PART 1 - GENERAL

1.1 DESCRIPTION

- A. This section covers Request for Information (RFI) from the Contractor. RFI in this section is defined as: the solicitation by the Contractor for clarifications, interpretations, verifications and/or corrections of the Contract Documents.
- B. The Contractor shall comply with this section for all such requests for information. All costs incurred by the Contractor in preparing these requests shall be borne by the Contractor and are part of this contract.
- C. Any delays or impacts caused by the Contractor's failure to conform to the requirements of this section shall be solely the Contractor's responsibility and shall not be cause for any time extension and/or additional compensation.

PART 2: PRODUCTS

2.01 MATERIALS: NONE REQUIRED.

PART 3: EXECUTION

3.1 REQUEST FOR INFORMATION REQUIREMENTS:

- A. The Contractor is responsible for reviewing all Contract Documents related to a particular work product well in advance of the performance of such work. This review shall be planned to allow sufficient time to obtain resolution of any required RFI, as defined in this section.
- B. RFI Requirements.
 - 1. All RFI's shall be submitted to the Engineer of Record in the format with this section or in a pre-approved format equivalent to this section inclusive of the information identified on the specified form.
 - 2. All RFI's shall be signed by the Contractor's Project Manager or by a designated alternate (i.e., the Quality Assurance Representative).
 - a. Date submitted.
 - b. Contract number and title.
 - c. Contractor's name.

- d. Description of the request, including any supportive drawings, sketches or additional information.
- e. List of schedule activities which may be impacted by the request and a brief explanation as to why there would be a schedule impact and specific date constraints.
- f. Clear description of what response the Contractor is expecting.

3. All RFIs shall be signed by the Contractor's project manager.

C. RFI Processing Procedure.

1. Upon receipt of the RFI, the Engineer of Record shall promptly date stamp the request. The Engineer of Record is required to keep a log of all RFIs including receipt date and date returned to the Contractor.
2. The Engineer of Record shall review the request to determine if further information is required from the Contractor, once the RFI is resubmitted by the Contractor, the RFI shall be restamped. The Engineer of Record will coordinate a response and transmit the answer to the RFI to the Contractor.

D. Time allowed for processing RFIs.

Although every attempt will be made to expeditiously resolve all RFIs, MDC shall have (10) working days to respond to an RFI, from the date the RFI is received by the Engineer of Record, including all necessary information needed to formulate a response. Failure by the Contractor to allow sufficient time for MDC to formulate a response to an RFI, as specified in this section, shall not constitute grounds for a delay claim from the Contractor.

3.2 SUPPLEMENTS

- A. The supplement listed below, following "End of Section", is a part of this Specification and the Contract Documents.
 1. Request for Information.

PART 4 MEASUREMENT AND PAYMENT

- 4.1 MEASUREMENT: Work under this Section will not be separately measured for payment.

END OF SECTION

SUPPLEMENTAL NO. 1
REQUEST FOR INFORMATION
Number _____

Miami-Dade County Seaport Department
1015 North America Way, 2nd Floor
Miami, Florida 33132-2081
305-347-4890

Contract No.: _____ **Date:** _____
Work Order No.: _____
Project Title: _____
Plan Sheet No.: _____ **Log No.:** _____
Specification Section: _____

QUESTION

Requested By: _____
Print Name Company Name

Signature: _____ **Date:** ____/____/____ **Attachments** ☐

REPLY

Answered By: _____
Print Name Company Name

Signature: _____ **Date:** ____/____/____

Attachments ☐

HARD COPY TO PRINT, SIGNED, LOGGED AND MAILED

SECTION 01 33 00 – SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES

PART 1 GENERAL

1.1 DEFINITIONS

- A. Action Submittal: Written and graphic information submitted by Contractor that requires Engineer of Record's approval.
- B. Informational Submittal: Information submitted by Contractor that does not require Engineer of Record's approval.

1.2 PROCEDURES

- A. Contractor's Schedule: Dates for submission, and dates on which approved shop drawings, product data, and samples for each product will be needed, shall be submitted and approved by Port Representative.

Transmittal of Submittal:

- 1. Contractor shall:
 - a. Review each submittal and check for compliance with Contract Documents.
 - b. Stamp each submittal with uniform approval stamp before submitting to Engineer of Record.
 - 1) Stamp to include Project name, submittal number, Specification number, Contractor's reviewer name, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with Contract Documents.
 - 2) Engineer of Record will not review submittals that do not bear Contractor's approval stamp and will return them without action.
- 2. Complete, sign, and transmit with each submittal package, one Transmittal of Contractor's Submittal form, **attached at end of this Section**.
- 3. Identify each submittal with the following:
 - a. Numbering and Tracking System:
 - 1) Sequentially number each submittal.
 - 2) Resubmission of submittal shall have original number with sequential alphabetic suffix.
 - b. Specification section and paragraph to which submittal applies.
 - c. Project title and Engineer of Record's project number.
 - d. Date of transmittal.

- e. Names of Contractor, subcontractor or supplier, and manufacturer as appropriate.
- 4. Identify and describe each deviation or variation from Contract Documents.
- B. Format:
 - 1. Do not base Shop Drawings on reproductions of Contract Documents.
 - 2. Package submittal information by individual Specification section. Do not combine different Specification sections together in submittal package, unless otherwise directed in Specification.
 - 3. Present in a clear and thorough manner and in sufficient detail to show kind, size, arrangement, and function of components, materials, and devices, and compliance with Contract Documents.
 - 4. Index with labeled tab dividers in orderly manner.
 - 5. Prepare shop drawings using the same units of measure as those used in the Contract Drawings, on permanent material made for that purpose. Shop drawings sheet size shall be 22 by 34 inches.
 - 6. Changes in products, for which shop drawings have been accepted, will not be permitted unless those changes have been accepted, in writing by the Engineer of Record, as provided in Section 01 62 00, Substitutions and Product Options.
- C. Timeliness: Submit 15 days after Notice to Proceed.
- D. Processing Time:
 - 1. Time for review shall commence on Engineer of Record's receipt of submittal.
 - 2. Engineer of Record will act upon Contractor's submittal and transmit response to Contractor not later than **15** days after receipt, unless otherwise specified.
 - 3. Resubmittals will be subject to same review time.
 - 4. No adjustment of Contract Times or Price will be allowed due to delays in progress of Work caused by rejection and subsequent resubmittals.
- E. Resubmittals: Clearly identify each correction or change made.
- F. Incomplete Submittals:
 - 1. Engineer of Record will return entire submittal for Contractor's revision if preliminary review deems it incomplete.
 - 2. When any of the following are missing, submittal will be deemed incomplete:
 - a. Contractor's review stamp, with signature.
 - b. Transmittal of Contractor's Submittal, with signature.
 - c. Sufficient number of copies.

G. Submittals not required by Contract Documents:

1. Will not be reviewed and will be returned stamped "Not Subject to Review."
2. Engineer of Record will keep one copy and return all remaining copies to Contractor.

1.3 ACTION SUBMITTALS

A. Prepare and submit Action Submittals required by individual Specification sections.

B. Shop Drawings:

1. Copies: **Three paper and one electronic PDF file, except copyrighted documents. Submit six copyrighted materials.**
2. Identify and Indicate:
 - a. Applicable Contract Drawing and Detail number, products, units and assemblies, and system or equipment identification or tag numbers.
 - b. Equipment and Component Title: Identical to title shown on Drawings.
 - c. Critical field dimensions and relationships to other critical features of Work. Note dimensions established by field measurement.
 - d. Project-specific information drawn accurately to scale.
3. Manufacturer's standard schematic drawings and diagrams as follows:
 - a. Modify to delete information that is not applicable to the Work.
 - b. Supplement standard information to provide information specifically applicable to the Work.
4. Product Data:
 - a. Provide as specified in individual Specifications.
 - b. Dade County Product Control Approval: Submit all required Dade County Product Approvals, as applicable, in accordance with this Section and the Florida Building Code.
5. Foreign Manufacturers: When proposed, include following additional information:
 - a. Names and addresses of at least two companies that maintain technical service representatives close to Project.
 - b. Complete list of spare parts and accessories for each piece of equipment.

C. Samples:

1. Copies: **Three**, unless otherwise specified in individual Specifications Sections.

2. Preparation: Mount, display, or package Samples in manner specified to facilitate review of quality. Attach label on unexposed side that includes the following:
 - a. Manufacturer name.
 - b. Model number.
 - c. Material.
 - d. Sample source.
 3. Manufacturer's Color Chart: Units or sections of units showing full range of colors, textures, and patterns available.
 4. Full-size Samples:
 - a. Size as indicated in individual Specification section.
 - b. Prepared from same materials to be used for the Work.
 - c. Cured and finished in manner specified.
 - d. Physically identical with product proposed for use.
- D. Action Submittal Dispositions: Engineer of Record will review, mark, and stamp as appropriate, and distribute marked-up copies as noted:
1. Conforms with Concept:
 - a. Contractor may incorporate product(s) or implement Work covered by submittal and is responsible for ensuring specifications are met throughout.
 - b. Distribution:
 - 1) **One copy furnished MDC.**
 - 2) One copy furnished MDC Representative.
 - 3) One copy retained in Engineer of Record's file.
 - 4) Reproducible returned to Contractor appropriately annotated.
 2. Conforms with Concept as Noted:
 - a. Contractor may incorporate product(s) or implement Work covered by submittal, in accordance with Engineer of Record's notations and is responsible for ensuring specifications are met throughout.
 - b. Distribution:
 - 1) **One copy furnished MDC.**
 - 2) One copy furnished MDC Representative.
 - 3) One copy retained in Engineer of Record's file.
 - 4) Reproducible returned to Contractor appropriately annotated.
 3. Partial Approval, Resubmit as Noted:
 - a. Make corrections or obtain missing portions, and resubmit.
 - b. Except for portions indicated, Contractor may begin to incorporate product(s) or implement Work covered by submittal, in accordance with Engineer of Record's notations and is responsible for ensuring specifications are met throughout.
 - c. Distribution:
 - 1) **One copy furnished MDC.**

- 2) One copy furnished MDC Representative.
 - 3) One copy retained in Engineer of Record's file.
 - 4) Reproducible returned to Contractor appropriately annotated.
4. Revise and Resubmit:
 - a. Contractor may not incorporate product(s) or implement Work covered by submittal. Revise and resubmit submittal to incorporate and meet specifications.
 - b. Distribution:
 - 1) One copy furnished MDC Representative.
 - 2) One copy retained in Engineer of Record's file.
 - 3) Reproducible returned to Contractor appropriately annotated.

1.4 INFORMATIONAL SUBMITTALS

A. General:

1. Copies: Submit **three** copies, unless otherwise indicated in individual Specification section.
2. Refer to individual Specification sections for specific submittal requirements.
3. Engineer of Record will review each submittal. If submittal meets conditions of the Contract, Engineer of Record will forward copies to appropriate parties. If Engineer of Record determines submittal does not meet conditions of the Contract and is therefore considered unacceptable, Engineer of Record will retain one copy and return remaining copies with review comments to Contractor, and require that submittal be corrected and resubmitted.

B. Certificates:

1. General:
 - a. Provide notarized statement that includes signature of entity responsible for preparing certification.
 - b. Signed by officer or other individual authorized to sign documents on behalf of that entity.
4. Welding: In accordance with individual Specification sections.
5. Installer: Prepare written statements on manufacturer's letterhead certifying that installer complies with requirements as specified in individual Specification sections.
6. Material Test: Prepared by qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements.
7. Certificates of Successful Testing or Inspection: Submit when testing or inspection is required by Laws and Regulations or governing agency or specified in individual Specification sections.

8. Dade County Product Control Approval: Submit all required Dade County Product Approvals, as applicable, in accordance with this Section and the Florida Building Code.
- C. Construction Photographs: In accordance with Section 01 38 00, Construction Photographs, and as may otherwise be required in Contract Documents.
- D. Contract Closeout Submittals: In accordance with Section 01 77 00, Contract Closeout.
- E. Contractor-Design Data:
 1. Written and graphic information.
 2. List of assumptions.
 3. List of performance and design criteria.
 4. Summary of loads or load diagram, if applicable.
 5. Calculations – Signed, Sealed with embossed State of Florida Professional Engineer of Record's Seal, and Dated.
 6. List of applicable codes and regulations.
 9. Name and version of software.
 10. Information requested in individual Specification section.
- F. Manufacturer's Instructions: Written or published information that documents manufacturer's recommendations, guidelines, and procedures in accordance with individual Specification sections.
- G. Schedules:
 1. Schedule of Submittals: Prepare separately or in combination with Progress Schedule as specified in Section 01 32 16, Construction Schedule.
 - a. Show for each, at a minimum, the following:
 - 1) Specification section number.
 - 2) Identification by numbering and tracking system as specified under Paragraph Transmittal of Submittal.
 - 3) Estimated date of submission to Engineer of Record, including reviewing and processing time.
 - b. On a monthly basis, submit updated schedule to Engineer of Record if changes have occurred or resubmittals are required.
 2. Progress Schedules: In accordance with Section 01 32 16, Construction Schedule.
- H. Special Guarantee: Supplier's written guarantee as required in individual Specification Sections.

- I. Statement of Qualification: Evidence of qualification, certification, or registration as required in Contract Documents to verify qualifications of professional land surveyor, engineer, materials testing laboratory, specialty subcontractor, trade, Specialist, consultant, installer, and other professionals.
- J. Submittals Required by Laws, Regulations, and Governing Agencies:
 - 1. Submit promptly notifications, reports, certifications, payrolls, and otherwise as may be required, directly to the applicable federal, state, or local governing agency or their representative.
 - 2. Transmit to Engineer of Record for MDC's records one copy of correspondence and transmittals (to include enclosures and attachments) between Contractor and governing agency.
- K. Test and Inspection Reports:
 - 1. General: Shall contain signature of person responsible for test or report.
 - 2. Factory:
 - a. Identification of product and Specification section, type of inspection or test with referenced standard or code.
 - b. Date of test, Project title and number, and name and signature of authorized person.
 - c. Test results.
 - d. If test or inspection deems material or equipment not in compliance with Contract Documents, identify corrective action necessary to bring into compliance.
 - e. Provide interpretation of test results, when requested by Engineer of Record.
 - f. Other items as identified in individual Specification sections.
 - 3. Field: As a minimum, include the following:
 - a. Project title and number.
 - b. Date and time.
 - c. Record of temperature and weather conditions.
 - d. Identification of product and Specification section.
 - e. Type and location of test, sample, or inspection, including referenced standard or code.
 - f. Date issued, testing laboratory name, address, and telephone number, and name and signature of laboratory inspector.
 - i. If test or inspection deems material or equipment not in compliance with Contract Documents, identify corrective action necessary to bring into compliance.
 - j. Provide interpretation of test results, when requested by Engineer of Record.
 - k. Other items as identified in individual Specification sections.

1.5 SUPPLEMENTS

- A. The supplements listed below, following “End of Section”, are part of this Specification.

1. Forms: Transmittal of Contractor’s Submittal.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.1 SUPPLEMENTS

- A. The supplement listed below, following “End of Section”, is part of this Specification.

1. Supplement No 1 – Transmittal of Contractor’s Submittal.

PART 4 MEASUREMENT AND PAYMENT

- 4.1 MEASUREMENT: Work under this Section will not be separately measured for payment.

END OF SECTION

SUPPLEMENT NO. 1
TRANSMITTAL OF CONTRACTOR'S SUBMITTAL
(ATTACH TO EACH SUBMITTAL)

TO: _____

DATE: _____

FROM: _____

SUBMITTAL TYPE: ☐ Shop Drawing ☐ Sample ☐ Informational

The following items are hereby submitted:

Number of Copies	Description of Item Submitted (Type, Size, Model Number, Etc.)	Spec. and Para. No.	Drawing or Brochure Number	Contains Variation to Contract	
				No	Yes

Contractor hereby certifies that (i) Contractor has complied with the requirements of Contract Documents in preparation, review, and submission of designated Submittal and (ii) the Submittal is complete and in accordance with the Contract Documents and requirements of laws and regulations and governing agencies.

By: _____

Contractor (Authorized Signature)

SECTION 01 36 00 - WORKING DRAWINGS

PART 1 GENERAL

1.1 DESCRIPTION:

This Section specifies the preparation and submission of working drawings and associated calculations required by the specifications sections or to erect temporary structures to facilitate construction.

1.2 WORKING DRAWINGS:

Working drawings shall be identified by reference to drawing page numbers and specification section numbers. Working drawings shall be prepared, seal-stamped, dated and signed by the Contractor's Engineer of Record, of the involved discipline, licensed as a professional engineer in the State of Florida.

1.3 QUALITY ASSURANCE:

All working drawings shall be prepared to a high standard of quality, and to the satisfaction of the MDC. Drawing level control shall be established and implemented to ensure documentation is controlled for specified applications on contract.

1.4 ASSOCIATED CALCULATIONS:

Calculations shall be prepared, seal-stamped, dated and signed by the Contractor's Engineer, of the involved discipline, registered as a professional engineer in the State of Florida. Calculations shall be identified by reference to Contract Drawing page numbers and specification section numbers.

1.5 CONTRACTOR RESPONSIBILITIES:

Working drawings and associated calculations prepared by any subcontractor shall be reviewed, signed and dated as approved by the Contractor, prior to submission. Each submittal shall be coordinated with the requirements of the work.

- A. Field measurements and field construction criteria shall be verified by the Contractor.
- B. Work, for which working drawings and associated calculations are required, shall not begin until those drawings and calculations bearing the stamp and signature, indicating Contractor Engineer's review, have been received.

- C. Submittals shall not relieve the Contractor of the responsibility for safe and effective design of structures for which the working drawings and associated calculations are submitted. MDC and the Engineer of Record shall in no way be liable to the Contractor and others for any consequences arising from work described in this section and shall not review and or approve the working drawings.

1.6 SUBMISSION REQUIREMENTS:

- A. Working drawings and associated calculations shall be submitted in sufficient time and not less than 30 days before work represented by those drawings and calculations is scheduled to be performed.
- B. Submittals shall be accompanied by two Transmittal Forms containing the following information:
1. Submittal date.
 2. Project title and number.
 3. Contractor's name and address.
 4. Number of each working drawing and associated calculation submitted.
 5. Notification of known deviations from Construction Documents.
 6. Other pertinent data.

PART 2 - PRODUCTS

2.01 PRODUCTS: No products are required except as indicated in PART 1: General.

PART 3 - EXECUTION

3.01 EXECUTION: No execution is required except as indicated in PART 1: General.

PART 4 - MEASUREMENT AND PAYMENT

4.1 MEASUREMENT: Work under this Section will not be separately measured for payment.

END OF SECTION

SECTION 01 45 23 - TESTING LABORATORY SERVICES

PART 1 GENERAL

1.1 REQUIREMENTS INCLUDED: MDC will select and pay for an Independent Engineering, Testing and Inspection Laboratory to perform the required testing. The Contractor shall ensure all material test reports supplied by the Testing Laboratory are complete, accurate, and document acceptable test results for all material samples selected and tested.

- A. The Contractor shall cooperate with the laboratory to facilitate the execution of the Laboratory required services.
- B. Employment of a laboratory by MDC shall in no way relieve the Contractor of its obligations to perform the Work.

1.2 SCOPE OF WORK

The Independent Engineering, Testing and Inspection Laboratory (Testing Laboratory) shall perform all tests required by the Contract Documents, applicable codes, Manufacturer's recommendations, governing laws, rules and regulations and those tests required for approvals by public agencies and authorities.

1.3 LIMITATIONS OF AUTHORITY OF TESTING LABORATORY

- A. The Testing Laboratory is not authorized to:
 - 1. Release, revoke, alter or enlarge on the requirements of the Contract Documents.
 - 2. Approve or accept any portion of the Work.
 - 3. Perform any duties of the Contractor.

1.4 CONTRACTOR'S RESPONSIBILITIES

- A. Notify Testing Laboratory sufficiently in advance of operations to allow for Testing Laboratory assignment of personnel and scheduling of tests. Minimum 48 hours written advance notification shall be provided.
 - 1. When tests or inspections cannot be performed after such notice, reimburse MDC for Testing Laboratory personnel and travel expenses incurred due to Contractor's negligence.
- B. Cooperate with Testing Laboratory personnel; provide access to Work, and to Manufacturer's operations.

- C. Secure and deliver to Testing Laboratory adequate quantities of representational samples of materials proposed to be used and which require testing.
- D. Provide to the Engineer of Record a preliminary design mix proposed to be used for grout, and other materials mixes which require control by the Testing Laboratory, as specified in the Contract.
- E. Furnish incidental labor and facilities:
 - 1. To provide access to Work to be tested.
 - 2. To obtain and handle samples at Project site or at source of product to be tested.
 - 3. To facilitate inspections and tests.
 - 4. For storage and curing of test samples.
- F. The Contractor shall review all material test reports received from the Testing Laboratory for completion of testing data with acceptable test results for material samples selected and tested. Ensure that any failures recorded in the test reports are resolved by appropriate methods to assure testing compliance with contract Documents.
- G. The Contractor shall maintain at the job site and throughout the construction project, records for all material samples selected with results by the Testing Laboratory for quality control verification of final test results received from the laboratory. A record control system shall be established for the review, maintenance and filing of all Testing Laboratory Reports received during the construction phase.
- H. Employ and pay for services of a separate, equally qualified independent testing laboratory (approved by MDC) to perform additional inspections, sampling and testing required:
 - 1. For Contractor's convenience.
 - 2. When initial tests by MDC's Testing Laboratory indicate Work does not comply with Contract Documents and the Contractor wants a second opinion.
- I. Make arrangements with Testing Laboratory and pay for additional samples and tests required for Contractor's convenience.
- J. Pay for removal costs of rejected materials, reinstallation of new materials and the costs of other corrective action.

PART 2 – PRODUCTS - No Product required.

PART 3 – EXECUTION - See PART 1.

PART 4 - MEASUREMENT AND PAYMENT

- 4.1 MEASUREMENT: Work under this Section will not be separately measured for payment.

END OF SECTION

SECTION 01 62 00 - SUBSTITUTIONS AND PRODUCT OPTIONS

PART 1 - GENERAL

1.1 DESCRIPTION

This Section specifies the procedures to be followed for preparing, submitting, amending and updating of lists of products proposed to be incorporated in the work.

1.2 SELECTED PRODUCTS

Within 7 days after the effective date of Notice to Proceed, submit five copies of the list of selected products. Arrange the list in the order of each Section's appearance in the specification.

- A. For products specified only by reference standards, any product satisfying those standards may be selected. Show name and address of manufacturer; trade name, model number or catalog designation of the product; manufacturer's reference standards and pertinent performance and test data.
- B. For products specified by naming one product or by naming several products, this establishes a product standard. Any other product, which is equal in the opinion of the Engineer of Record, may be furnished. A request must be submitted to the Engineer of Record as required for substitutions, for acceptance of products not specifically named.
- C. Amend and update list as changes concerning the information become known.

1.3 LIST OF SUBSTITUTE PRODUCTS AND METHODS

Formal requests from the Contractor will be considered by the Engineer of Record for substitution of products and methods in place of those specified, but only if these requests are submitted within 30 days after effective date of Notice to Proceed. No substitutions request will be considered after 30 days. Acceptance of substitute products and methods shall be only for the characteristics and use named in the acceptance, and shall be interpreted neither as a modification to the Specification and Drawing requirements nor to establish acceptance of products and methods for other portions of the project. The Engineer of Record shall judge the quality and suitability of the substitute product and method and his decision shall be final. Where use of a substitute product and method involves redesign of other parts of the Work, the cost and time required to affect that redesign will be considered in evaluating the suitability of the substitute product and method.

- A. Submit 5 copies of list of substitute products and methods, including the following information:
1. Complete data substantiating compliance of the proposed substitution with the requirements of the Specifications and Drawings.
 2. For products:
 - a. Product identification, including manufacturer's name and address.
 - b. Manufacturer's literature, including product description, performance and test data and pertinent reference standards.
 3. For construction methods:
 - a. Detailed description of proposed method.
 - b. Working drawings illustrating methods.
 4. Itemized comparison of proposed substitution with product specified. Comparison shall include cost, differences in estimated life, estimated maintenance, availability of spare parts and repair services, energy consumption, performance capacity, salvage ability, manufacturer's warranties and other material differences.
 5. Data relating to changes in construction schedule.
 6. Accurate cost data on proposed substitution in comparison with product and method specified except that cost data will not be required on substitutes proposed as equal, equivalent or superior to specified brand names and for which no request is made for price adjustment to the Subcontract.
 7. Equitable adjustment and credit that the Contractor proposes to offer MDC if the substitutions are not equal, equivalent or superior to specified brand names.
- B. In making request for substitution, Contractor shall verify and certify:
1. That he has personally investigated the proposed product and method and that to the best of his knowledge, information and belief, the product and method is either equivalent or superior to that product and method specified and that he will update information as new or different data become known to him.
 2. That he will furnish the same guarantee for substitution as he would for the product and method specified.
 3. That he will coordinate installation of the accepted substitution into the Work and will make those changes required for the Work to be complete and operable.
 4. That cost data is complete and includes related costs and excludes cost of engineering redesign.
 5. That he waives claims for additional time and costs related to the substitution, which becomes apparent.

- C. Amend and update list as changes concerning information on the list become known to him.
- D. Substitutions will not be considered, if indicated or implied on Shop Drawings or Product Data submittal for which no formal request for substitution has been submitted. Requests for substitutions will not be considered if acceptance will require substantial revisions of drawings and specifications or both.

PART 2 PRODUCTS

2.01 PRODUCTS: No products are required except as indicated in PART 1: GENERAL.

PART 3 EXECUTION

3.01 EXECUTION: No execution is required except as indicated in PART 1: GENERAL.

PART 4 MEASUREMENT AND PAYMENT

4.1 MEASUREMENT: Work under this Section will not be separately measured for payment.

END OF SECTION

SECTION 01 77 00 - CONTRACT CLOSEOUT

PART 1 - GENERAL

1.1 SUBSTANTIAL COMPLETION

- A. Substantial Completion shall be determined in accordance with Article 29 of the General Conditions and this Section. Should a conflict arise between the General Conditions and this Section, the General Conditions shall take precedence.

1.2 FINAL CONSTRUCTION REVIEW

- A. When Contractor considers work is complete, he shall submit a written certification that work is acceptable and that:
 - 1. Contract Documents have been reviewed.
 - 2. Work has been reviewed for compliance with Contract Documents.
 - 3. Work has been completed in accordance with Contract Documents.
 - 4. Equipment and systems have been tested in the presence of the Project Representative and are operational.
 - 5. Work is completed and ready for final Construction Review.
- B. The Project Representative will make a Construction Review to verify status of completion with reasonable promptness after receipt of such certification.
- C. Failure of PORTMIAMI to Reject Work During Construction: If, during construction operations or during inspections for substantial or final completion, the Project Representative should fail to reject defective Work or materials, whether from lack of discovery of such defect or for any other reason, such initial failure to reject shall in no way prevent his later rejection when such defect is discovered, or obligate PORTMIAMI to final acceptance, and the Contractor shall make no claim for losses suffered due to any necessary removals or repairs of such defects.

1.3 CONTRACTOR'S CLOSE-OUT SUBMITTALS

- A. Upon receipt of notice of acceptability from PORTMIAMI, the Contractor shall furnish evidence of compliance with requirements of governing authorities and Contract Documents to PORTMIAMI, as follows:

1. Close-out documents:
 - a. Submit 3 sets of close-out documents.
 - b. Bind close-out documents in heavy-duty, commercial quality 3-ring vinyl covered loose-leaf binders.
 - c. Include a table of contents and heavy paper dividers, tabbed and coordinated with table of contents, identifying each submitted item.
2. Closed permit.
3. Fully executed substantial completion form.
4. Certificate of completion.
5. As-built drawings and other project record Documents: As specified.
6. Operating and Maintenance Data, Instructions to Owners Personnel: As specified and in accordance with the requirements of the individual Sections of the Specifications.
7. Warranties and Bonds: As specified and in accordance with the requirements of the individual Sections of the Specifications.
8. Spare parts and Maintenance Materials: To requirements of various Sections.
9. Evidence of Payment to subcontractors, material men and equipment suppliers and releases of liens.
10. Certificate of final acceptance.

1.4 FINAL ADJUSTMENTS OF ACCOUNTS

- A. Final Payment shall be determined in accordance with the General Conditions.

1.5 FINAL CHANGE ORDER

- A. The Port Representative will prepare a final Change Order, reflecting approved adjustments to the Contract Sum which were not previously made by Change Orders.

PART 2 PRODUCTS

2.01 PRODUCTS:

No products are required except as indicated in PART 1: GENERAL.

PART 3 EXECUTION

3.01 EXECUTION:

Prior to final payment, the Contractor shall complete and submit the Close-Out Documents referred here-in.

PART 4 MEASUREMENT AND PAYMENT

4.1 MEASUREMENT:

Work under this Section will not be separately measured for payment.

END OF SECTION

SECTION 01 78 33 - WARRANTIES AND BONDS

PART 1 GENERAL

1.1 DESCRIPTION OF WORK

- A. The warranties provided by the Contractor shall be for the longest period, starting on the date of final acceptance, of those specified on paragraphs 1.1 A., 1 through 3 below:
 - 1. One year from final acceptance on all the work as specified in the General Conditions, or;
 - 2. Warranty period(s) as specified by the approved material or equipment manufacturers, or;
 - 3. Longer warranty period(s) as specified in the Technical Specifications.
- B. The Contractor shall provide certifications and other commitments, extended warranties and agreements for continuing services as specified elsewhere in the Contract Documents.
- C. Reinstated warranty as applicable, see 1.4, B.

1.2 DISCLAIMERS AND LIMITATIONS

Manufacturer's disclaimers and limitations on product warranties do not relieve the Contractor of the warranty on the work that incorporates the products, nor does it relieve suppliers, manufacturers, and subcontractors required to countersign special warranties with the Contractor.

1.3 DEFINITIONS

Standard products warranties are reprinted written warranties published by the individual manufacturers for particular products and are specially endorsed by the manufacturer to the MDC.

1.4 WARRANTY REQUIREMENTS

- A. Related Damages and Losses: When correcting warranted Work that has failed, remove and replace other Work that has been damaged as a result of such failure or that must be removed and replaced to provide access for correction of warranted Work.
- B. Reinstatement of Warranty: When Work covered by a warranty has failed and been corrected by replacement or rebuilding, reinstate the warranty by written endorsement. The reinstated warranty shall be equal to the original warranty with an equitable adjustment for depreciation.

- C. Replacement Cost: Upon determination that Work covered by a warranty has failed, replace or rebuild the Work to an acceptable condition complying with requirements of Contract Documents. The Contractor shall be responsible for the cost of replacing or rebuilding defective work regardless of whether MDC has benefited from use of the Work through a portion of its anticipated useful service life.
- D. MDC Recourse: Written warranties made to MDC are in addition to implied warranties, and shall not limit the duties, obligations, rights and remedies otherwise available under the law, nor shall warranty periods be interpreted as limitations on time in which MDC can enforce such other duties, obligations, rights or remedies.
- E. Rejection of Warranties: MDC reserves the right to reject warranties and to limit selections to products with acceptable warranties and to limit selections to products with warranties not in conflict with requirements of the contract Documents.
- F. MDC reserves the right to refuse to accept Work for the Project where a special warranty, certification, or similar commitment is required on such Work or part of the work, until evidence is presented that entities required to countersign such commitments are willing to do so.
- G. All warranties including standard one year warranty shall start at date of substantial completion of the Contract, or when work of an area is substantially completed, accepted and taken over for use by MDC. Ensure that all warranties comply with this stipulation prior to submission of same.
- H. MDC will give prompt notice in writing to the Contractor of any defects noted during the warranty periods requesting him to promptly remedy such defects.
- I. Prior to final acceptance, the Contractor shall formally assign to MDC all extended warranties given by subcontractors for their work on the project, and such subcontractor shall be formally advised of the assignment.

1.5 SUBMITTALS

- A. Submit written warranties to the MDC Representative prior to the date of the final acceptance inspection
- B. When a special warranty is required to be executed by the Contractor, or the Contractor and a subcontractor, supplier or manufacturer, prepare a written document that contains appropriate terms and identification, ready for execution by the required parties. Submit a draft to the MDC Representative for approval prior to final execution.
- C. Submit a list of all warranty items within 90 days after notice to proceed Refer to individual Sections of Division 2 through 49 for specific content requirements, and particular requirements for submittal of specific warranties.
- D. Prior to final acceptance compile two copies of each required warranty, and bond properly executed by the Contractor, or by the Contractor, subcontractor, supplier or

manufacturer. Organize the warranty documents into an orderly sequence based on the table of contents of the Project Manual, and submit under Section 01 78 39, Project Record Documents.

- E. Bind warranties and bonds in heavy-duty, commercial quality, durable 3-ring vinyl covered loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2 inch by 11 inch paper.
- F. Provide heavy paper dividers with celluloid covered tabs for each separate warranty. Mark the tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product, and the name, address and telephone number of the installer.
- G. Identify each binder on the front and the spine with the typed or printed title, "WARRANTIES AND BONDS", the project title or name, and the name of the Contractor.
- H. When operating and maintenance manuals are required for warranted construction, provide additional copies of each required warranty, as necessary, for inclusion in each required manual.

PART 2 PRODUCTS

2.01 PRODUCTS: No products are required except as indicated in PART 1: GENERAL.

PART 3 EXECUTION

3.01 EXECUTION: No execution is required except as indicated in PART 1: GENERAL.

PART 4 MEASUREMENT AND PAYMENT

4.1 MEASUREMENT: Work under this Section will not be separately measured for payment.

END OF SECTION

SECTION 01 78 39 - PROJECT RECORD DOCUMENTS

PART 1 GENERAL

1.1 DESCRIPTION

This Section specifies the maintaining, marking, recording and submitting of project record documents.

A. DEFINITIONS:

Conformed Contract Documents: The Conformed Contract Documents provided to the Contractor at the time the construction contract was executed, prior to the start of construction.

Contractor Document Transmittal (CDT): Drawings, catalog cuts, samples or other documents submitted by the Contractor for MDC and Engineer of Record review and approval showing in detail how the Contractor proposes to carry out the Work.

As-Builts: During construction, a set of black line conformed drawings and specifications, kept current by marking in red all "as-built" construction conditions and changes arising out of RFIs, clarifications, directed field changes and sketches. At the conclusion of construction activities, the information contained in these black lines and specifications shall be incorporated into the Compact Disk (CD) containing the latest conformed drawings including revisions made by the Engineer of Record during construction. Prior to Contract completion, MDC will provide the Contractor with a CD containing the latest conformed drawings. (Changes to specifications are typically only effected through change orders. However, in some occasions clarifications may require a modification to the specifications). The revised CADD drawings which include the information incorporated from the black lines and specifications become "As-Builts".

Shop Drawings: See Contractor Document Transmittals.

1.2 SUBMITTALS

Upon completion of the Work, the Contractor shall submit the "As-Builts" to the Engineer of Record in time to be used for the final inspection and acceptance and for verification by the Engineer of Record. Availability of "As-Builts" shall be prerequisite to scheduling a final inspection of this Contract. Non-availability of "As-Builts" or inaccuracies therein may be grounds for cancellation and postponement of any scheduled final inspection by the Engineer of Record until such time as the discrepancy has been corrected. Upon completion of the Work, the "As-Builts" shall become the property of MDC. The Contractor shall transmit the "As-Builts" to the Resident Engineer of Record with an attached Project

Records “As-Built” Drawings Index Form uniquely identifying and describing each document.

Specifically, the following documents shall be submitted by the Contractor after construction is completed, but prior to submitting the request for final inspection:

- A. The Contractor shall submit two CDs labeled “As-Built,” one in PDF format and the other in CADD format. The Contractor shall date and mark each drawing as “As-Built” using the revision block, and each drawing should be electronically signed by the Contractor certifying the accuracy and validity of the information contained therein. The Contractor shall also submit two printouts from the CD containing the “As-Built,” and one set of black lines and specifications to reflect Change Notices, Change Orders, Requests for Information and Field Changes in RED. The information regarding field conditions/changes is to be maintained in the set of black line record drawings and a set of specifications during construction. Prior to Contract completion, MDC will provide the Contractor with a CD containing the latest conformed drawings, including revisions made by the Engineer of Record. At the end of construction the “as-built” conditions are incorporated into the latest conformed drawings provided by MDC. These final CADD drawings become As-Built.
- B. The Contractor’s Engineer shall sign each black line drawing certifying the accuracy and validity of the as-built information contained therein.

1.3 QUALITY ASSURANCE

Project record documents shall conform to a high standard of quality, similar to that set forth in the National CADD Standard ANSI and ISO, or other relevant lower tier specification defining drafting quality and electronic file formatting.

PART 2 PRODUCTS

No products are required except as indicated in PART 1: GENERAL.

PART 3 EXECUTION

3.1 MAINTENANCE OF DOCUMENTS

The Contractor shall maintain at field office, one copy of each of the following:

- A. Contract Documents
 - 1. Conformed Contract Drawings and Conformed Specifications.
 - 2. Change Orders, Change Notices and other modifications to the Contract.
 - 3. Engineer Field Order or written instruction.
 - 4. Approved shop drawings, product data and samples.

5. Field test reports/records.
6. Updated set of Record Drawings (black lines) marked in RED to show field changes.
7. Request for Information (RFI).
8. All directed Field Changes and Sketches.

B. Equal Employment and Affirmative Action Records.

3.2 RECORDING “AS-BUILT” DRAWINGS

A flowchart explaining this process is included with this section as Supplement No. 1.

- A. Record information concurrently with construction progress on a conformed set of black lines and specifications. During construction, this set of black lines and specifications are known as “As-Built” drawings.
- B. Do not conceal any work until the required information is recorded.
- C. Drawings: Legibly mark in RED to record actual construction depicting the as-constructed configurations resulting from field and/or design changes:
 1. Horizontal and vertical location of underground utilities and appurtenances, referenced by dimensions to permanent, visible and accessible features of the structure.
 2. Location of internal utilities, electrical conduits and appurtenances, referenced by dimensions to permanent, visible and accessible features of the structure.
 3. Field Changes of dimension and detail.
 4. Details not on original Conformed Contract Drawings.
 5. Changes made by Change Notice or by Change Order.
- D. Legibly mark up each section of specifications to record:
 1. Manufacturer, trade name, catalogue number, and supplier of each product and item of equipment actually installed.
 2. Changes made by Change Notice or by Change Order.
- E. Any changes due to RFIs, clarifications and Field Sketches shall be incorporated into the Record Drawings by affixing sketches and other 8-1/2 x 11 inch sheets to the black lines. This information will be incorporated into the CD containing the latest Conformed Drawings once construction is complete.
- F. Do not use the Record Drawing set for construction progress purposes.

3.3 DOCUMENT MAINTENANCE

- A. Provide files and racks for storage of documents to maintain in clean, dry and legible condition.
- B. Do not use Record Documents for construction purposes.
- C. Make documents available for inspection by the Engineer of Record, MDC, Federal Government and State Government.

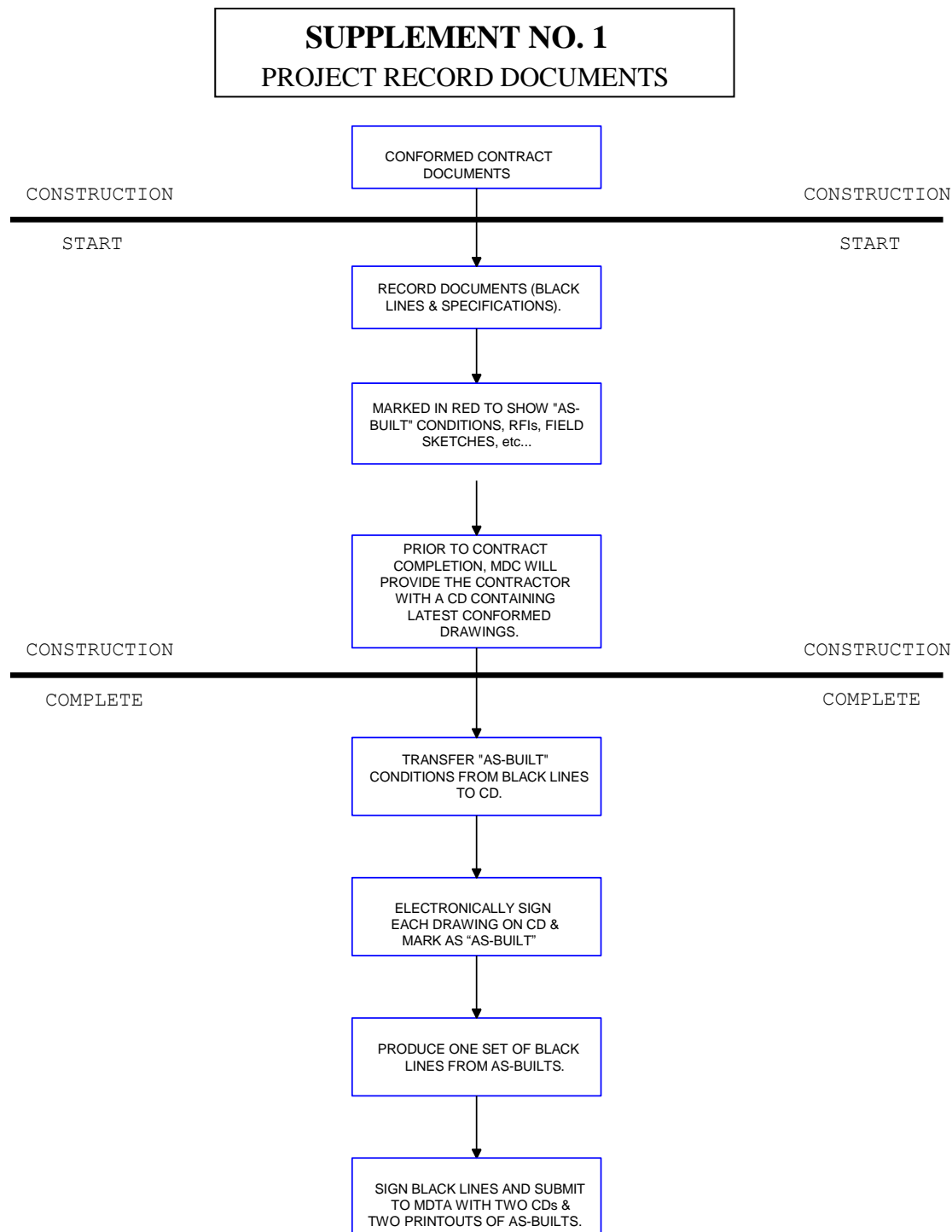
3.4 SUPPLEMENTS

- A. The supplements listed below, following “End of Section”, is part of this Specification.
 - 1. Project Record Documents
 - 2. Project Record – As-Built Drawing Index

PART 4 MEASUREMENT AND PAYMENT

- 4.1 MEASUREMENT: Work under this Section will not be separately measured for payment.

END OF SECTION



BID SET

CONTRACT NO. _____
PROJECT RECORD
AS-BUILT DRAWING INDEX

[illegible]

PROJECT RECORD DOCUMENTS
01 78 39 - 6

SECTION 02 21 00 - SUBSURFACE INVESTIGATION

PART 1 GENERAL

1.1 SOIL INVESTIGATION DATA

- A. Investigation: An investigation of subsurface soil conditions at the site was performed for the bulkhead evaluation of North Cruise Berths 1 through 5. This subsurface investigation was conducted by NV5, Inc., 14486 Commerce Way, Miami Lakes, FL 33016. The NV5 subsurface investigation report is provided “for reference only” and shall not be construed as part of the Contract Documents and are not a warranty or the accuracy of subsurface conditions.
1. “Report of Subsurface Exploration & Geotechnical Engineering – North Cruise Berths 1-5 Bulkhead Evaluation, Port of Miami, Dodge Island, Florida”, NV5 Project No. 14710, dated November 4, 2015.
- B. Interpretation:
1. The Contractor is expected to examine the site and the NV5 subsurface investigation report and then decide for himself the character of the materials to be encountered.
2. MDC and Engineer of Record disclaim any responsibility for the accuracy, true location and extent of the soils investigation that has been prepared by others. They further disclaim responsibility for interpretation of the data by the Contractor, as in its projection of soil profiles, void ratios, and soil stability.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.1 SUPPLEMENTS

- A. The supplements listed below, following “End of Section”, is part of this Specification.
1. See reports listed in Article 1.1.A, above.

PART 4 MEASUREMENT AND PAYMENT (Not Applicable)

END OF SECTION

SECTION 03 64 00 – INJECTION GROUTING

PART 1 GENERAL

1.1 WORK INCLUDED

- A. Provide injection grouting to stabilize seafloor in front of existing bulkhead wall as shown on the Drawings and as specified herein.
- B. Injection grouting involves the injection under high pressure of a low-slump grout to improve characteristics of low quality rock at the seafloor.

1.2 SUBMITTALS

- A. The following shall be submitted to the MDC Representative by the Contractor with the bid documents:
 - 1. A list of previously completed projects of similar scope and purpose for approval by MDC. The list shall include a description of the project, relative size, and contact person with phone number.
- B. The following shall be submitted to the MDC Representative by the Contractor two weeks prior to the start of the work:
 - 1. Resumes of the management, supervisory, and key personnel, for approval by the MDC Representative.
 - 2. A mix design for the project indicating sources and types of grout materials, with volumetric proportions, and field test data from previous projects indicating minimum compressive strength of 50 psi.
 - 3. Work procedures, control criteria (including volumes and pressure for each stage), and methods to monitor control criteria.
 - 4. A general Work Procedures Plan outlining the spacing, location, depth and estimated quantity of grout. Grout hole locations shall be dimensionally referenced to the contract drawings.
- C. The following shall be submitted to the MDC Representative by the Contractor during the work:
 - 1. Accurate daily records of all grout pipe installation, injection grouting quantities, including stage data, volume, pressure and depth for each grout pipe location.

2. Any change in the predetermined grouting program necessitated by a change in the subsurface conditions.

1.3 QUALITY ASSURANCE

- A. The injection grouting program, including installation of grout pipes, shall be performed by a contractor with at least five continuous years of documented experience in injection grouting.
- B. The Contractor shall provide experienced management, supervisory and key personnel as required to implement the injection grouting program, as follows:
 1. The project manager shall have at least five years of continuous experience in injection grouting.
 2. The superintendent shall have at least five years of experience in injection grouting.
- C. Testing: Provide for inspections and testing of grout as follows and keep the testing laboratory informed of testing schedule. Testing laboratory shall be engaged by MDC as an independent quality control and quality assurance testing company. The independent testing shall not relieve the Contractor of his responsibility to perform his own quality control and quality assurance program, including materials testing, to insure all work conforms to the requirements of the Contract Documents.
 1. The testing laboratory will make slump tests of grout as it is discharged from the mixer at the point of placing. Grout tests will be made of every batch of grout placed, and failure to meet specified slump requirements will be sufficient cause for rejection of that batch.
 2. The testing laboratory shall obtain minimum size 3 inch by 6 inch grout test cylinders or 2 inch by 2 inch cube molds for strength testing. One set of six cylinders or molds will be cast during each slump test. The cylinders or molds will be cured under laboratory conditions and will be tested in two groups at 7 and 28 days of age.
- D. Contractor's divers will be required to assist with the grouting program, particularly with respect to proper location of grout injection pipes.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Portland Cement (ASTM C150) Type II
- B. Fine aggregate shall be sand with minimum 95 percent passing the No. 20 sieve and fines content (percent passing No. 200 sieve) of not less than 10 percent and not more than 30 percent. Natural fines may be supplemented with fly ash, bentonite, or aggregate washings.
- C. Proportions of the mixture shall be as required to achieve a pumpable mix.
- D. Upon discharge into the pump hopper or holding tank, the grout must be continuously agitated. Mixed grout may not be held in the agitator for more than 1.5 hours unless a set retarder, approved by the Engineer of Record, is used.
- E. Water: Potable quality, clean and free from injurious amounts of deleterious materials.

2.2 MIX PROPORTIONS

- A. Underwater grout mix materials per cubic yard
 - 1. Sand: 1,500 lbs
 - 2. Silty Sand: 950 lbs
 - 3. Cement: 230 lbs
 - 4. Bentonite: 250 lbs
 - 5. Water: 1,000 lbs (Enough to produce pumpable mixture)

PART 3 EXECUTION

3.1 EQUIPMENT

- A. The Contractor shall supply equipment capable of advancing the grout pipe through soils, rock, and other natural obstructions to the specified depth or as required to meet the project objectives.
- B. The Contractor shall supply all equipment required to operate an injection grouting system capable of supplying the specified grout at variable flow rates and pressures, measured at the pump, up to 275 psi and at rates of 0.5 to 12 cubic feet per minute, as required to suit the application.

- C. The mixer shall be a continuous auger type to ensure complete uniform mixing of the materials used and shall be of sufficient capacity to continuously provide the pumping unit with mixed grout at its normal pumping range. The mixer must be capable of volumetrically proportioning the grout materials. Ready mixed grout is also acceptable with an approved mix design.
- D. The Contractor shall provide gauges or other instrumentation (measuring devices) to measure:
 - 1. Continuous grout pressure close to the top of the injection casing.
 - 2. Flow rate of grout.
 - 3. Volume of grout injected.
- E. Grout pipes and connections shall be steel casing of adequate strength to maintain the hole and to withstand the required jacking and pumping pressures. The pipes shall be at least 2-inch inside diameter, or larger as required to adequately handle the specified low slump material without plugging. All casing shall be flush joint threaded or a single piece tubing to provide a smooth inner wall and unobstructed inside diameter. It shall be the Contractor's responsibility to install casing that does not detrimentally impact the grouting procedure.

3.2 INJECTION GROUTING

- A. Injection grouting shall be performed in accordance with the approved grout injection point layout scheme.
 - 1. Grout injection points at 3-foot grid spacing
 - 2. Minimum grout EL (-) 45 NGVD
- B. The grouting procedure shall be as follows:
 - 1. Drill to the required depth
 - 2. Remove inner drill rod
 - 3. Introduce 2-inch diameter grout tube
 - 4. Follow grout tube with a 1-foot long inflatable packer
 - 5. Inflate packer per manufacturer's instructions
 - 6. Once packer is inflated, begin pumping the grout under pressure. Do not subject packer to pressures exceeding manufacturer's recommendations.

7. Grout until shall be injected at a stage depth until one of the following occurs:
 - Grout flow ceases at a header pressure reading of 120 psi.
 - An injected grout volume of 0.5 cubic yards is reached.
 8. Upon completion of grouting under pressure, remove packer and grout upper 12 inches without pressure
- C. Contractor's divers shall be used throughout the grouting procedure to assist in locating the grout pipes underwater and monitor the grouting operation.

3.3 TESTING AND INSPECTION

- A. MDC will retain a soil testing firm to perform the testing including drilling, sampling, and laboratory testing of the grouted rock at 24 locations along the pilot program alignment.

PART 4 MEASUREMENT AND PAYMENT

- 4.1 MEASUREMENT: Work under this Section will not be separately measured for payment.

END OF SECTION

Appendix A
Cruise Berthing Schedule

	F	S	SU	M	T	W	TH	F	S	SU	M	T	W	TH	F	S	SU	M	T	W	TH	F	S	SU	M	T	W	TH	F	S
VESSEL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
	TERMINAL FOXTROT UNDER CONSTRUCTION																													
Enchantment of the Seas	G			G				G			G				G			G				G			B				G	
Celebrity Equinox				G											G									G						
MSC Divina		G							G							G							G							G
Carnival Vista			D						D								D						D							
Carnival Victory	D			D				D			D				D			D				D			D			D		
Carnival Glory		D							E							D							E						D	
Carnival Sensation		E					D				E					E					D			E					E	
Norwegian Sky	C			C				C			C				C			C				C			C			C		
Norwegian Escape		B							B							B							B							B
Aida Luna																	E													
Mein Schiff 6																					B									
Last Revised: 3/28/2017																														

	SU	M	T	W	TH	F	S	SU	M	T	W	TH	F	S	SU	M	T	W	TH	F	S	SU	M	T	W	TH	F	S	SU	M	T
VESSEL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
	TERMINAL FOXTROT UNDER CONSTRUCTION																														
Enchantment of the Seas		G				E			G				G			E				G			G				E			G	
Celebrity Equinox						G										G											G				
MSC Divina							G							G							G							G			
Carnival Vista	D						D								D						D								D		
Carnival Victory		D				D			D				D			D				D			D				D			D	
Carnival Glory							E							D							E							D			
Carnival Sensation					D				E					E					D				E				E				
Carnival Splendor																								E					D		
Seabourne Odyssey																						D								E	
Norwegian Sky		C				C			C				C			C				C			C				C			C	
Norwegian Escape							B							B							B							B			
Norwegian Getaway																													B		
Norwegian Sun																				B											
Aida Luna	E														E															J	
Regatta								J									J														
Sirena							E																								
Mein Schiff 6												B																			
Adonia																											J	J			
Last Revised:3/28/2017																															

	W	TH	F	S	SU	M	T	W	TH	F	S	SU	M	T	W	TH	F	S	SU	M	T	W	TH	F	S	SU	M	T	W	TH	
VESSEL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Enchantment of the Seas			G			F				G			G				G			F				F			G				
Grandeur of the Seas															G																
Navigator of the Seas																			G					G							
Empress of the Seas												F				F				G					F				G		
Azamara Quest																				J							J				
Celebrity Equinox						G										G									G						
Celebrity Eclipse												G														G					
MSC Divina				F							F							F							F						
Carnival Vista				D								D						D								D					
Carnival Victory			D			D				D			D				D			D				D			D				
Carnival Glory				E							D							E							D						
Carnival Sensation		D				E					E					D				E					E					D	
Carnival Splendor					D							E							D							E					
Seabourne Quest					E																										
Seabourne Odyssey											J												E								
Norwegian Sky			C			C				C			C				B			C				B			C				
Norwegian Sun																	C											C			
Norwegian Getaway					B							B							B							B					
Norwegian Escape				B							B							B							B						
Norwegian Star																				B											
Norwegian Jade						B										B											B				
Europa 2				J	J																		J								
Aida Mar									J															J							
Aida Diva					G																										
Mariner										J							J														
Navigator													J												J						
Insignia														J																	
Victory 1										E																					
Viking Sky												J														J					
Viking Sun																E	E							E							
Mein Schiff 6		B																													
Last Revised:3/28/2017																															

	F	S	SU	M	T	W	TH	F	S	SU	M	T	W	TH	F	S	SU	M	T	W	TH	F	S	SU	M	T	W	TH	F	S	SU
VESSEL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Enchantment of the Seas			DRY DOCK					DRY DOCK						F			G	F				E				G			G		
Navigator of the Seas			G					G						F			G					G				G					G
Empress of the Seas				G					J					G			G							G				B/D			
Azamara Quest	J											J									B										
Celebrity Equinox		G							G							G							G						G		
Celebrity Eclipse										G										G											
Disney Magic						F				F					F					F				F					F		
MSC Divina		F							F							F							shed								
MSC Seaside																				F	F	F								F	
Carnival Vista		D								D							D							D					D		
Carnival Victory	D			D				D			D				D			D				D		E				D			D
Carnival Glory		E							D							E							D						E		
Carnival Sensation				E					E					D				E					E				E				
Carnival Splendor			D							E							D								D						E
Seabourne Sojourn			E								E									E											
Seabourne Odyssey					E												E														
Norwegian Sky	F			C				F			C				B		C					C				C			C		
Norwegian Sun								B																							
Norwegian Getaway			B							B							B							B							B
Norwegian Escape		B							B							B							B						B		
Norwegian Jade							B											B									B				
Norwegian Star	B																														
The World																											X	J	J		
Riviera		J										J										J									
Marina																	J											E			
Mariner												E										TENT						J			
Explorer								J											J												
Insignia	C							C							C						J										
Viking Sky										J							F							J							
Viking Sun	E							E							J																
Last Revised:3/28/2017																															

	M	T	W	TH	F	S	SU	M	T	W	TH	F	S	SU	M	T	W	TH	F	S	SU	M	T	W	TH	F	S	SU	M	T	W
VESSEL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Enchantment of the Seas		F			F			G				G			G				F			G				G			G		
Navigator of the Seas					G									G					F								G				
Anthem of the Seas																							G								
Empress of the Seas		J		LAST CALL																											
Celebrity Equinox						G				G	G						G			G							G				
Celebrity Eclipse		G					G														G										
Azamara Quest				J																											
Disney Magic			G				F					F					F				F					F					F
MSC Divina			F											F											F						
MSC Seaside						F							F		F					F							F				
Carnival Vista							D						D								D						D				
Carnival Victory				D				D				D			D						E					D			D		
Carnival Glory						D							E							D							E				
Carnival Sensation		D				E					D				E					E					D				E		
Carnival Splendor							E							D		LAST CALL															
Seabourne Sojourn				E																											
Seabourne Odyssey																		E													
Costa Delicioza		E																													
Norwegian Sky		C			C			C				C			C				C			C				C			C		
Norwegian Getaway							B							B							B						B				
Norwegian Escape						B							B							B							B				
Norwegian Jade					B						B						B					B				B					
Norwegian Star																			B												
The World	J																														
Mariner					J																										
Insignia			J																												
Riviera			E										J										J								
Explorer			C											J						J									J		
Viking Sky							J														J						J				
Last Revised:5/10/2017																															

	TH	F	S	SU	M	T	W	TH	F	S	SU	M	T	W	TH	F	S	SU	M	T	W	TH	F	S	SU	M	T	W
VESSEL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Enchantment of the Seas		F			F				G			F				F			G				G			G		
Navigator of the Seas		G									G					G				G					G			
Grandeur of the Seas					G																							
Adventure of the Seas												G																
Celebrity Equinox			G							G							G							G				
Celebrity Eclipse				G														G										
Disney Magic				F					F					F				F					F					
MSC Divina				E											F										F			
MSC Seaside			F							F							F							F				
Carnival Vista				D						D								D						D				
Carnival Victory		D			D				D			D				D			D				D			D		
Carnival Glory			D							E							D							E				
Carnival Sensation			E					D				E					E					D				E		
Norwegian Sky		C			C				C			C				C			C				C			C		
Norwegian Breakaway																				B								
Norwegian Getaway				B							B							B							B			
Norwegian Escape			B							B							B							B				
Norwegian Star																E												
Norwegian Jade					B											B										B		
Sirena										J																		
Regatta																												
Riviera						J										J										J		
Explorer									J										J									
Oriana									E																			
Viking Sky				J							J								J									



Last Revised: 5/10/2017

**PORT OF MIAMI
CRUISE DIRECTORY
FEBRUARY 2018**



	TH	F	S	SU	M	T	W	TH	F	S	SU	M	T	W	TH	F	S	SU	M	T	W	TH	F	S	SU	M	T	W	TH	F	S
VESSEL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Enchantment of the Seas		F			G				G			G				F			F				G			G				F	
Navigator of the Seas		G									G					G									G					G	
Grandeur Of the Seas																			G												
Celebrity Equinox			G							G							G							G							G
Celebrity Eclipse				G														G													
Azamara Quest									J										J									C			
Disney Magic									F					F				F					F					F			
MSC Divina								F				LAST CALL																			
MSC Seaside			F							F							F							F							F
Carnival Vista				D						D								D						D							
Carnival Victory		D			D				D			D				D			D				D			D			D		
Carnival Glory			D							E							D							E							D
Carnival Sensation			E					D				E					E					D				E					E
Adonia															E	E															
Norwegian Sky		C			C				C			C				C			C				C			C				C	
Norwegian Sun					B				B							B				C						C					
Norwegian Getaway				B							B							B							B						
Norwegian Escape			B							B							B							B							B
Norwegian Jade		B					B					B											B								
Riviera								J										J										J			
Explorer	J										J										J										
Last Revised:5/10/2017																															

	SU	M	T	W	TH	F	S	SU	M	T	W	TH	F	S	SU	M	T	W	TH	F	S	SU	M	T	W	TH	F	S	SU	M
VESSEL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Enchantment of the Seas		G				G			G				F			G				G			F				F			F
Navigator of the Seas								G					G									G					G			
Grandeur of the Seas																														G
Celebrity Equinox							G								E								G							
Celebrity Eclipse	G														G															
Azamara Quest							J																							
Disney Magic	F					F					F				F					F					F				F	
MSC Seaside							F							F							F							F		
Carnival Vista	D						D								D						D								D	
Carnival Victory		D				D			D				D			D				D			D				D			D
Carnival Glory							E							D							E							D		
Carnival Sensation					D				E					E					D				E					E		
Norwegian Sky		C				C			C				C			C				E			C				C			C
Norwegian Getaway	B							B							B							B							B	
Norwegian Escape							B							B						B										
Norwegian Jade		B											B																	
Norwegian Star																						F								
Artania	J																													
Sirena	J																													
Regatta																			J			J								
Mariner																		J												
Marina																						E								
REVISED: 5/10/2017																														



PORT OF MIAMI
CRUISE DIRECTORY
MAY 2018



	T	W	TH	F	S	SU	M	T	W	TH	F	S	SU	M	T	W	TH	F	S	SU	M	T	W	TH	F	S	SU	M	T	W	TH	
VESSEL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Enchantment of the Seas				G			G				G			G				G			G				G			G				
Navigator of the Seas						G		LAST CALL																	G				G			
Adventure of the Seas															G																	
Celebrity Equinox				E										F											F							
Disney Magic				F					F				F		LAST CALL																	
MSC Seaside					F							F							F							F						
Carnival Vista					D								D						D									D				
Carnival Victory				D			D				D			D				D			D				D			D				
Carnival Glory					E							E							E							E						
Carnival Sensation			D				E					D					D				E					D						D
Norwegian Sky				C			C				C			C				C			C				C			C				
Norwegian Getaway						B							B							B								B				
Norwegian Bliss								B		B																						
Sirena				J										J										J								
Regatta						J																										
Victory 1						E																										
Last Revised:5/10/2017																																



PORT OF MIAMI
CRUISE DIRECTORY
JUNE 2018



	F	S	SU	M	T	W	TH	F	S	SU	M	T	W	TH	F	S	SU	M	T	W	TH	F	S	SU	M	T	W	TH	F	S
VESSEL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Enchantment of the Seas	G			G				G			G				G			G				G			G				G	
Celebrity Equinox		G							G							G							G							G
MSC Seaside		F							F							F							F							F
Carnival Vista		D								D						D								D						D
Carnival Victory	E			E				E			E				E			E				E			E				E	
Carnival Glory		E							E							E							E						E	
Carnival Sensation				D					D					D				D					D				D			
Norwegian Sky	C			C				C			C				C			C				C			C				C	
Norwegian Getaway			B							B						B							B							
Sirena			J										J										J							
Last Revised: 5/10/2017																														



5/22/2017



5/22/2017



PORT OF MIAMI
CRUISE DIRECTORY
SEPTEMBER 2018



	S	SU	M	T	W	TH	F	S	SU	M	T	W	TH	F	S	SU	M	T	W	TH	F	S	SU	M	T	W	TH	F	S	SU
VESSEL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Enchantment of the Seas			F				G			G				F			G				G			F				G		
Celebrity Equinox			G											G									G							
MSC Seaside	F							F							F							F							F	
Carnival Vista		D						D								D				D	LAST CALL									
Carnival Victory			E				E			E				E			E				E			E				E		
Carnival Glory	E							E							E							E						E		
Carnival Sensation	D					D				D					D					E				D					D	
Carnival Horizon																				F										D
Carnival Magic																						D								F
Aida Luna																							E							
Norwegian Sky			C				C			C				C			C				C			C				C		
Norwegian Getaway		B							B							B							B							B
Sirena																J									J					
Last Revised: 5/10/2017																														

	M	T	W	TH	F	S	SU	M	T	W	TH	F	S	SU	M	T	W	TH	F	S	SU	M	T	W	TH	F	S	SU	M	T	W
VESSEL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Enchantment of the Seas	G				F			G				G			F				G			G				F			G		
Vision of the Seas																															G
Celebrity Equinox					G										G											G					
MSC Divina																												G			
MSC Seaside						F							F							F							F				
Carnival Horizon						D								D						D								D			
Carnival Magic							D							F							D							F			
Carnival Glory						E							E							E							E				
Carnival Victory	E				E			E				E			E				E			E				E			E		
Carnival Sensation				D				D					D					D				D					D				
Aida Luna							E														E										
Adonia																											J	J			
Norwegian Sky	C				C			C				C			C				C			C				C			C		
Norwegian Sun																			B												
Norwegian Getaway							B							B							B							B			
Norwegian Jade															B																
Sirena						J										J										J					
Mariner										J																					
Regatta																										B					
Mein Schiff 6															E													E			
Last Revised: 5/10/2017																															

	TH	F	S	SU	M	T	W	TH	F	S	SU	M	T	W	TH	F	S	SU	M	T	W	TH	F	S	SU	M	T	W	TH	F
VESSEL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Mariner off the Seas		G			F				G			G				G		G	G				G			G				G
Navigator of the Seas																		G					A							
Grandeur of the Seas				G																					A					
Allure of the Seas				A	A						A		A		A		A	A							A					
Symphony of the Seas									A				A		A		A				A			A						
Celebrity Equinox					G											A								G						
Celebrity Eclipse																														
Azamara Journey																								J						
MSC Divina								F										F										F		
MSC Seaside			F							F							F							F						
Carnival Horizon			D								D						D								D					
Carnival Magic				D								F						D							F					
Carnival Glory			E							E							E							E						
Carnival Victory		E			E				E			E				E			E				E		E				E	
Carnival Sensation	D				D					D					D				D					D				D		
Seabourne Quest				E																										
Aida Luna					?						E																			
Norwegian Sky		C			C				C			C				C			C				C			C				C
Norwegian Sun																F											C			
Norwegian Getaway				B							B							B							B					
Norwegian Bliss																	B							B						
Norwegian Star																			B										B	
Norwegian Jade					B											B										B				
Voyager																										J				
Sirena					J																								J	
Navigator											J														J					
Riviera																											J			
Insignia																		J												
Viking Star	C							C							C							C								
Mein Schiff 6										G																				
Victory 1				J																										
Last Revised: 5/10/2017																														



PORT OF MIAMI
CRUISE DIRECTORY
NOVEMBER 2018



	S	SU	M	T	W	TH	F	S	SU	M	T	W	TH	F	S	SU	M	T	W	TH	F	S	SU	M	T	W	TH	F	S	SU	M
VESSEL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Mariner of the Seas			G				G			G				G			G				G			G				G			G
Navigator of the Seas		G					A									G					A			G						G	
Grandeurof the Seas																	A														
Allure of the Seas		A							A							A							A							A	
Symphony of the Seas	A							A							A							A							A		
Celebrity Equinox	G							G							G							G							G		
Azamara Journey				J										J							J										
Disney Magic					F				E					F					F				G/E					F			
MSC Divina									G										F											F	
MSC Seaside	F							F							F							F							F		
Carnival Horizon	D								D						D								D						D		
Carnival Magic		D							F							D							F							D	
Carnival Glory	E							E							E							E			E				E		
Carnival Victory			E				E			E				E			E				E			E				E			E
Carnival Sensation			D					D					D				D					D					D				D
Aida Vita	J	J									J	J										J	J								
Norwegian Sky			C				C			C				C			C				C			C				C			C
Norwegian Sun							F																								
Norwegian Getaway		B							B							B							B							B	
Norwegian Bliss	B							B							B							B							B		
Norwegian Jade							B									B								B							
Navigator																			J												
Riviera									J										B												
Insignia							J										F										C				
Sirena										J							J										J				
Voyager						J										J												J			
Last Revised: 5/10/2017																															

Appendix B
Environmental Permit



Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Rick Scott
Governor

Carlos Lopez-Cantera
Lt. Governor

Ryan E. Matthews
Interim Secretary

March 30, 2017

PortMiami
1015 N. American Way
Miami, FL 33132

c/o

Donald R. Deis
Atkins
7406 Fullerton Street, Suite 350
Jacksonville, FL 32256

NOTICE OF DE MINIMIS EXEMPTION

Port Miami North Bulkhead Repairs, Berths 1-6

File No. 0181285-011-BE, Miami Dade County

Mr. Deis and Ms. Hope:

The Department of Environmental Protection (Department) received your application for a de minimis exemption on September 30, 2016. As stated in your application, the project is to conduct repairs and reinforcements to the existing north bulkheads at Berths 1 through 6. The work will consist of installation of anodes for cathodic protection, scour protection at the base of the bulkheads, and grout stabilization at the base of the bulkheads.

The project site is located at the Port of Miami, in Miami Dade County, Sections 4 and 5, Township 54 South, Range 42 East, within Biscayne Bay Aquatic Preserve, Outstanding Florida Waters, Class III Waters.

Under normal conditions, the bulkhead repair activities are not expected result in any significant adverse environmental impacts to natural resources or generate a noticeable amount of turbidity. No turbidity mixing zone is authorized for this activity. However, if the activity generates an obvious turbidity plume, it could cause a violation of state water quality standards and result in adverse resource impacts. Therefore, if the authorized activities generate a turbidity plume that exceeds the water quality standard for turbidity, the de minimis exemption is no longer valid, and a permit would be required before the project activities outlined herein would be allowed to continue. The application for that permit would

Notice of De Minimis Exemption
Port Miami North Bulkhead Repairs, Berths 1-6
File No. 0181285-011-BE, Miami Dade County
Page 2 of 5

have to address the potential impacts associated with the turbidity and the need to establish a mixing zone for turbidity.

Activities in, on or over waters of the State require a regulatory authorization for construction and operation of the project, unless otherwise exempt by statute or rule. Activities that have a material physical effect on existing coastal conditions or natural shore and inlet processes, and that extend seaward of the mean high water line into sovereign submerged lands, are regulated as “coastal construction”, unless otherwise exempt by rule. Activities on sovereign submerged lands require a proprietary authorization. Works in waters of the United States also require federal authorization and **may** qualify for review by the state under the State Programmatic General Permit process. Your proposed application has been reviewed for these authorizations.

REGULATORY REVIEW – EXEMPTION VERIFIED

A project that affects surface waters is regulated under Part IV of Chapter 373, Florida Statutes (F.S.), and unless otherwise exempt by statute or rule, requires an Environmental Resource Permit, pursuant to Rule 62-330.020(2), Florida Administrative Code (F.A.C.). However, Chapter 373.406(6), F.S., provides a de minimis exemption for activities that *will have only minimal or insignificant individual or cumulative adverse impacts on the water resources*. The Department has determined that the proposed bulkhead repair activities meet this criterion, and would be exempt from the need for an Environmental Resource Permit.

Therefore, the Department hereby grants a de minimis exemption for the proposed activity under Chapter 373.406(6), F.S.

Working under an exemption does not relieve you (the Grantee) from the need to comply with all applicable water quality standards during construction and operation. **Activities conducted under the above exemption must be constructed and operated using appropriate best management practices and in a manner that does not cause water quality violations, pursuant to Rule 62-302, F.A.C.** This de minimis exemption determination shall not be valid if the project results in water quality violations or if the basis for the exemption is found to be materially incorrect.

The determination that your project qualifies for a de minimis exemption is based upon forms, drawings and documents provided to the Department as of September 30, 2016, and the statutes and rules that were in effect at that time. This determination is effective only for the specific activity proposed and may be invalid if site conditions materially change or if the governing statutes or rules are amended. In addition, any substantial alterations to the construction plans or location of the project should be submitted to the Department for review prior to commencement of work, as changes may result in the need for a permit. **In any event, this determination shall expire after one year.**

This project shall be subject to the specific conditions listed below:

SPECIFIC CONDITIONS:

1. No water quality mixing zone has been authorized for the bulkhead repair work. If an obvious turbidity plume is observed, the Grantee shall notify the JCP Compliance Officer immediately by phone at (850) 245-7591 or by email at JCPCompliance@dep.state.fl.us. Unless it is determined by the JCP Compliance Officer that the project can proceed without violating water quality standards, this exemption determination shall be revoked and a Joint Coastal Permit would be required to continue the Bulkhead repair work.

PROPRIETARY REVIEW – NOT REQUIRED

The project is not exempt from the need to obtain the applicable proprietary authorization for activities that are on or over sovereign (state-owned) submerged lands, as described in Chapter 253, F.S., and Chapter 18-21, F.A.C. The Department acts as staff to the Board of Trustees of the Internal Improvement Trust Fund (Board of Trustees), pursuant to Section 253.77, F.S. Under this authority, the Department has reviewed the proposed project, at the proposed locations, and has made the following proprietary determinations:

The activity does not appear to be located on sovereign submerged lands, and does not require further authorization under chapter 253 of the Florida Statutes, or chapters 18-20 or 18-21 of the Florida Administrative Code.

STATE PROGRAMMATIC GENERAL PERMIT

The State Programmatic General Permit IV-R1 (SGPG) program allows the State to process Federal authorizations for certain activities. The proposed activity, as outlined on your application and attached drawings, **does not qualify** for Federal authorization by the State under the SPGP, so a **separate** permit or authorization may be required from the U.S. Army Corps of Engineers (Corps). A copy of your application was sent to the Corps for review. The Corps will issue their authorization directly to you, or contact you if additional information is needed. If you have not heard from the Corps within 30 days from the date that your application was received by the Department, you should contact the nearest Corps regulatory office for application review status and further information. **Failure to obtain Corps authorization** prior to construction could subject you to federal enforcement action by that agency. This letter does not relieve you from the responsibility of obtaining other permits (Federal, State, or local), which may be required for the project.

NOTICE OF RIGHTS OF SUBSTANTIALLY AFFECTED PERSONS

This letter acknowledges that the proposed activity is exempt from permitting requirements in Part IV of Chapter 373. This determination is final and effective on the date filed with the Clerk of the Department unless a sufficient petition for an administrative hearing is timely filed under Sections 120.569 and 120.57, F.S., as provided below. Be advised that neighboring property owners and other parties who may be substantially affected by the proposed activity that is allowed under this determination of

Notice of De Minimis Exemption
Port Miami North Bulkhead Repairs, Berths 1-6
File No. 0181285-011-BE, Miami Dade County
Page 4 of 5

exemption have a right to request an administrative hearing on the Department's decision that the proposed activity qualifies for this exemption. If a sufficient petition for an administrative hearing is timely filed, this determination automatically becomes only proposed agency action, subject to the result of the administrative review process. Therefore, on the filing of a timely and sufficient petition, this action will not be final and effective until further order of the Department. The procedures for petitioning for a hearing are set forth in the attached notice.

The Department will not publish notice of this determination. **Publication of this notice by you is optional, and is not required for you to proceed.** However, in the event that an administrative hearing is held and the Department's determination is reversed, proceeding with the proposed activity before the time period for requesting an administrative hearing has expired would mean that the activity was conducted without the required permit.

If you wish to limit the time within which *all* substantially affected persons may request an administrative hearing, you may elect to publish, at your own expense, the enclosed publication notice in the legal advertisement section of a newspaper of general circulation in the county where the activity is to take place. A single publication will suffice.

If you wish to limit the time within which any *specific* person(s) may request an administrative hearing, you may provide such person(s), by certified mail, a copy of this determination, including the publication notice.

For the purposes of publication, a newspaper of general circulation means a newspaper meeting the requirements of Sections 50.011 and 50.031, F.S. In the event you do publish this notice, within seven days of publication, you must provide, to the mailing address or email listed below, proof of publication issued by the newspaper as provided in Section 50.051, F.S. If you provide direct written notice to any person as noted above, you must provide, to the mailing address or email listed below, a copy of the direct written notice.

Mailing Address:
Beaches Inlets and Ports Program
Florida Department of Environmental Protection
2600 Blair Stone Road, M.S. 3544
Tallahassee, Florida 32399

Email:
gregory.garis@dep.state.fl.us

Please see the attached copy of the exemption language. Note that all criteria of the rule must be met in order to qualify for this exemption. If you have any questions, please contact me at (850) 245-8280. When referring to this project, please use both the project name and the file number listed above.

EXECUTION AND CLERKING:

Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

Gregory W. Garis, Environmental Manager
Beaches Inlets and Ports Program
Division of Water Resource Management
Florida Department of Environmental Protection

Enclosures: Cathodic Protection Drawings (10 pages)
Grout Stabilization Drawings (7 pages)
Scour Protection Drawings (7 pages)
De Minimis Exemption Citation (1 page)
Standard Manatee and Marine Turtle Construction Conditions for In-Water Work (2 pages)

cc: Lainie Edwards, Beaches, Inlets and Ports Program
Marty Seeling, Beaches, Inlets and Ports Program
Monica Sovacool, DEP Southeast District

CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that this permit and all copies were sent on the filing date below:

FILING AND ACKNOWLEDGMENT

FILED, on this date, pursuant to Section 120.52, F. S., with the designated Department Clerk, receipt of which is hereby acknowledged.

Kaslyn Massey 3/30/2017
Clerk Date



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
9900 SOUTHWEST 107th AVE, SUITE 203
MIAMI, FLORIDA 33176

FOR REFERENCE ONLY

Regulatory Division
South Permits Branch
Miami Section
SAJ-2016-02240 (NW-AG)

August 8, 2015

Miami-Dade County, Port of Miami
c/o Becky Hope
1015 North America Way 3rd Floor
Miami, FL 33132

Dear Mrs. Hope,

Your application for a Department of the Army (DA) permit received on 28 July 2016, has been assigned number SAJ-2016-02240 (NW-AG). A review of the information and drawings provided shows the project work is for bulkhead repairs at the Port of Miami North Bulkhead. The Port has a need to seal cracks at nineteen specific locations along the north bulkhead by installing welded steel plates along each crack and backfilling the voids (landward of the existing sheet pilings) with an underwater grout mix. To prevent further damage of the steel piling, grout bags (sand cement) will be placed along the base of the sheet piling, at the mud line, under location repairs where required because of undermining of the sea ledge. The repair areas will total 36 liner feet along the 7,127 linear feet of bulkhead. Sand cement bags will total 32 linear feet (160 square feet) and 190 cubic yards total.

The project would affect waters of the United States associated with Biscayne Bay. The project is located adjacent to the Port of Miami's North Cruise Berth's 1 through 5 located adjacent to the North Port Channel; in Section 39, Township 54 south, Range 42 east, Miami -Dade County, Florida (Folio # 01-4205-000-0010).

Your project, as depicted on the enclosed drawings, date-stamped by the U.S. Army Corps of Engineers (Corps) on 8 June 2015 is authorized by the NWP Number 3. **In addition, project specific conditions are enclosed. This verification is valid until the NWP is modified, reissued, or revoked prior to March 18, 2017.** It is incumbent upon you to remain informed of changes to the NWPs. We will issue a public notice when the NWPs are issued. Furthermore, if you commence or are under contract to commence this activity before the date that the relevant nationwide permit is modified or revoked, you will have twelve (12) months from the date of the modification or revocation of the NWP to complete the activity under the present terms and conditions of this nationwide permit. Please access the U.S. Army

Corps of Engineers' (Corps) Jacksonville District's Regulatory webpage to access web links to view the Final Nationwide Permits, Federal Register Vol. 77, dated February 21, 2012, specifically pages 10270 – 10290, the Corrections to the Final Nationwide Permits, Federal Register 77, March 19, 2012, and the List of Regional Conditions. The website address is as follows:

<http://www.saj.usace.army.mil/Divisions/Regulatory/sourcebook.htm>.

Please be aware this web address is case sensitive and should be entered as it appears above. Once there you will need to click on "Nationwide Permits." These files contain the description of the NWP authorization, the NWP general conditions, and the regional conditions, which apply specifically to this verification for NWP 3. Additionally, enclosed is a list of the six General Conditions, which apply to all DA authorizations. You must comply with all of the special and general conditions and any project specific condition of this authorization or you may be subject to enforcement action. In the event you have not completed construction of your project within the specified time limit, a separate application or re-verification may be required.

The following special conditions are included with this verification:

1. Reporting Address: The Permittee shall submit all reports, notifications, documentation and correspondence required by the general and special conditions of this permit to the following address:

a. For standard mail: U.S. Army Corps of Engineers, Regulatory Division, Special Projects and Enforcement Branch, 9900 SW 107th Ave., Suite 203, Miami, FL 33176-2785.

b. For electronic mail CESAJ-ComplyDocs@usace.army.mil (not to exceed 10 MB). The Permittee shall reference this permit number, SAJ-2016-02240(NW - AG), on all submittals.

2. Commencement Notification: Within ten (10) days from the date of initiating the authorized work, the Permittee shall provide to the Corps a written notification of the date of commencement of work authorized by this permit.

3. Self-Certification: Within sixty (60) days of completion of the authorized work or at the expiration of the construction authorization of this permit, whichever occurs first, the Permittee shall complete the attached "Self-Certification Statement of Compliance" form (attached) and submit to the Corps. In the event that the completed work deviates, in any manner, from the authorized work, the Permittee shall describe, on the Self-Certification Form, the deviations between the work authorized by the permit

and the work as constructed. Please note that the description of any deviations on the Self-Certification Form does not constitute approval of any deviations by the Corps.

4. Posting of Permit: The Permittee shall ensure that all contractors, sub-contractors, and entities associated with the implementation of the project review, understand, and comply with the approved plans and special conditions made part of this permit. Complete copies of the permit and approved plans shall be available at the construction site at all times. Failure to comply with the approved plans and permit special conditions may subject the Permittee to enforcement action.

5. Regulatory Agency Changes: Should any other regulatory agency require changes to the work authorized or obligated by this permit, the Permittee is advised that a modification of this permit is required prior to initiation of those changes. It is the Permittee's responsibility to request a modification from the Miami Regulatory Office.

6. Cultural Resources/Historic Properties:

a. No structure or work shall adversely affect, impact, or disturb properties listed in the National Register of Historic Places (NRHP) or those eligible for inclusion in the NRHP.

b. If during the ground disturbing activities and construction work within the permit area, there are archaeological/cultural materials encountered which were not the subject of a previous cultural resources assessment survey (and which shall include, but not be limited to: pottery, modified shell, flora, fauna, human remains, ceramics, stone tools or metal implements, dugout canoes, evidence of structures or any other physical remains that could be associated with Native American cultures or early colonial or American settlement), the Permittee shall immediately stop all work in the vicinity and notify the Corps. The Corps shall then notify the Florida State Historic Preservation Officer (SHPO) and the appropriate Tribal Historic Preservation Officer(s) (THPO(s)) to assess the significance of the discovery and devise appropriate actions.

c. A cultural resources assessment may be required of the permit area, if deemed necessary by the SHPO, THPO(s), or Corps, in accordance with 36 CFR 800 or 33 CFR 325, Appendix C (5). Based, on the circumstances of the discovery, equity to all parties, and considerations of the public interest, the Corps may modify, suspend or revoke the permit in accordance with 33 CFR Part 325.7. Such activity shall not resume on non-federal lands without written authorization from the SHPO and the Corps.

d. In the unlikely event that unmarked human remains are identified on non-federal lands, they will be treated in accordance with Section 872.05 Florida Statutes. All work in the vicinity shall immediately cease and the Permittee shall immediately notify the medical examiner, Corps, and State Archeologist. The Corps shall then notify the appropriate SHPO and THPO(s). Based, on the circumstances of the discovery, equity to all parties, and considerations of the public interest, the Corps may modify, suspend

or revoke the permit in accordance with 33 CFR Part 325.7. Such activity shall not resume without written authorization from the State Archeologist, SHPO and the Corps. e. In the unlikely event that human remains are encountered on federal or tribal lands, or in situations where Archaeological Resources Protection Act of 1979, or Native American Graves Protection Repatriation Act of 1990 applies, all work in the vicinity shall immediately cease and the Permittee immediately notify the Corps. The Corps shall then notify the appropriate THPO(s) and SHPO. Based, on the circumstances of the discovery, equity to all parties, and considerations of the public interest, the Corps may modify, suspend or revoke the permit in accordance with 33 CFR Part 325.7. After such notification, project activities on federal lands shall not resume without written authorization from the Corps, and/or appropriate THPO(s), SHPO, and federal manager. After such notification, project activities on tribal lands shall not resume without written authorization from the appropriate THPO(s) and the Corps.

7. Best Management Practices: Environmental controls and best management practices must be implemented to properly contain construction materials and prevent fugitive particulates from entering surrounding waters during the construction of the project.

8. Manatee conditions: The Permittee shall comply with the "Standard Manatee Conditions for In-Water Work – 2011," attached to this permit.

9. Water Quality Certification and FWC Licensing: This letter of authorization does not obviate the necessity to obtain any other Federal, State, or local permits, which may be required. Prior to the initiation of any construction, projects qualifying for this Nationwide permit must qualify for an exemption under section 403.813(1), F.S. or 373.406, F.S., or otherwise be authorized by the applicable permit required under Part IV of Chapter 373, F.S., by the Department of Environmental Protection, a water management district under section 373.069, F.S., or a local government with delegated authority under section 373.441, F.S., and receive Water Quality Certification (WQC) and applicable Coastal Zone Consistency Concurrence (CZCC) or waiver thereto, as well as any authorizations required for the use of state-owned submerged lands under Chapter 253, F.S., and, as applicable, Chapter 258, F.S. You should check State-permitting requirements with the Florida Department of Environmental Protection or the appropriate water management district.

This letter of authorization does not include conditions that would prevent the 'take' of a state-listed fish or wildlife species. These species are protected under sec. 379.411, Florida Statutes, and listed under Rule 68A-27, Florida Administrative Code. With regard to fish and wildlife species designated as species of special concern or threatened by the State of Florida, you are responsible for coordinating directly with the Florida Fish and Wildlife Conservation Commission (FWC). You can visit the FWC

license and permitting webpage (<http://www.myfwc.com/license/wildlife/>) for more information, including a list of those fish and wildlife species designated as species of special concern or threatened. The Florida Natural Areas Inventory (<http://www.fnai.org/>) also maintains updated lists, by county, of documented occurrences of those species.

This letter does not give absolute Federal authority to perform the work as specified on your application. The proposed work may be subject to local building restrictions mandated by the National Flood Insurance Program. You should contact your local office that issues building permits to determine if your site is located in a flood-prone area, and if you must comply with the local building requirements mandated by the National Flood Insurance Program.

If you are unable to access the internet or require a hardcopy of any of the conditions, limitations, or expiration date for the above referenced NWP, please contact Albert Gonzalez at the letterhead address, by electronic mail at Albert.Gonzalez@usace.army.mil, by telephone at 305-779-6055, or by fax at 305-526-7184.

Thank you for your cooperation with our regulatory program. 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 <http://per2.nwp.usace.army.mil/survey.html> and complete our automated Customer Service Survey. Your input is appreciated – favorable or otherwise.

Sincerely,

Albert Gonzalez
Project Manager

Enclosures:

General Conditions

Manatee Construction Conditions

Self-Certification Statement of Compliance

Permit transfer form

Site plans date-stamped by the Corps on August 8, 2016

Copies Furnished:

CESAJ-RD-PE

GENERAL CONDITIONS

33 CFR PART 320-330

PUBLISHED FEDERAL REGISTER DATED 13 NOVEMBER 1986

1. The time limit for completing the work authorized ends on **date identified in the letter**. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.
2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.
3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.
4. If you sell the property associated with this permit you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.
5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.
6. You must allow a representative from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

SELF-CERTIFICATION STATEMENT OF COMPLIANCE

Permit Number: SAJ-2016-02240 (NW-AG)

Permittee's Name & Address (please print or type):_____

Telephone Number:_____

Location of the Work:_____

Date Work Started:_____Date Work Completed:_____

Description of the Work (e.g. bank stabilization, residential or commercial filling, docks, dredging, etc.):_____

Acreage or Square Feet of Impacts to Waters of the United States:

Describe Mitigation completed (if applicable):_____

Describe any Deviations from Permit (attach drawing(s) depicting the deviations):

I certify that all work, and mitigation (if applicable) was done in accordance with the limitations and conditions as described in the permit. Any deviations as described above are depicted on the attached drawing(s).

Signature of Permittee

Date

DEPARTMENT OF THE ARMY PERMIT TRANSFER REQUEST

PERMIT NUMBER: SAJ-2016-02240 (NW-AG)

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. Although the construction period for works authorized by Department of the Army permits is finite, the permit itself, with its limitations, does not expire.

To validate the transfer of this permit and the associated responsibilities associated with compliance with its terms and conditions, have the transferee sign and date below and mail to the U.S. Army Corps of Engineers, Enforcement Section, 9900 Southwest 107th Ave, Suite 203, Miami, Florida 33176.

(TRANSFEREE-SIGNATURE)

(SUBDIVISION)

(DATE)

(LOT)

(BLOCK)

(NAME-PRINTED)

(STREET ADDRESS)

(MAILING ADDRESS)

(CITY, STATE, ZIP CODE)



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
9900 SOUTHWEST 107th AVE, SUITE 203
MIAMI, FLORIDA 33176

FOR REFERENCE ONLY

Regulatory Division
South Permits Branch
Miami Section
SAJ-2016-02240 (NW-AG)

August 8, 2015

Miami-Dade County, Port of Miami
c/o Becky Hope
1015 North America Way 3rd Floor
Miami, FL 33132

Dear Mrs. Hope,

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Your project, as depicted on the enclosed drawings, date-stamped by the U.S. Army Corps of Engineers (Corps) on 8 June 2015 is authorized by the NWP Number 3. **In addition, project specific conditions are enclosed. This verification is valid until the NWP is modified, reissued, or revoked prior to March 18, 2017.** It is incumbent upon you to remain informed of changes to the NWPs. We will issue a public notice when the NWPs are issued. Furthermore, if you commence or are under contract to commence this activity before the date that the relevant nationwide permit is modified or revoked, you will have twelve (12) months from the date of the modification or revocation of the NWP to complete the activity under the present terms and conditions of this nationwide permit. Please access the U.S. Army

Corps of Engineers' (Corps) Jacksonville District's Regulatory webpage to access web links to view the Final Nationwide Permits, Federal Register Vol. 77, dated February 21, 2012, specifically pages 10270 – 10290, the Corrections to the Final Nationwide Permits, Federal Register 77, March 19, 2012, and the List of Regional Conditions. The website address is as follows:

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2. Commencement Notification: Within ten (10) days from the date of initiating the authorized work, the Permittee shall provide to the Corps a written notification of the date of commencement of work authorized by this permit.

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and the work as constructed. Please note that the description of any deviations on the Self-Certification Form does not constitute approval of any deviations by the Corps.

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5. Regulatory Agency Changes: Should any other regulatory agency require changes to the work authorized or obligated by this permit, the Permittee is advised that a modification of this permit is required prior to initiation of those changes. It is the Permittee's responsibility to request a modification from the Miami Regulatory Office.

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b. If during the ground disturbing activities and construction work within the permit area, there are archaeological/cultural materials encountered which were not the subject of a previous cultural resources assessment survey (and which shall include, but not be limited to: pottery, modified shell, flora, fauna, human remains, ceramics, stone tools or metal implements, dugout canoes, evidence of structures or any other physical remains that could be associated with Native American cultures or early colonial or American settlement), the Permittee shall immediately stop all work in the vicinity and notify the Corps. The Corps shall then notify the Florida State Historic Preservation Officer (SHPO) and the appropriate Tribal Historic Preservation Officer(s) (THPO(s)) to assess the significance of the discovery and devise appropriate actions.

c. A cultural resources assessment may be required of the permit area, if deemed necessary by the SHPO, THPO(s), or Corps, in accordance with 36 CFR 800 or 33 CFR 325, Appendix C (5). Based, on the circumstances of the discovery, equity to all parties, and considerations of the public interest, the Corps may modify, suspend or revoke the permit in accordance with 33 CFR Part 325.7. Such activity shall not resume on non-federal lands without written authorization from the SHPO and the Corps.

d. In the unlikely event that unmarked human remains are identified on non-federal lands, they will be treated in accordance with Section 872.05 Florida Statutes. All work in the vicinity shall immediately cease and the Permittee shall immediately notify the medical examiner, Corps, and State Archeologist. The Corps shall then notify the appropriate SHPO and THPO(s). Based, on the circumstances of the discovery, equity to all parties, and considerations of the public interest, the Corps may modify, suspend

or revoke the permit in accordance with 33 CFR Part 325.7. Such activity shall not resume without written authorization from the State Archeologist, SHPO and the Corps. e. In the unlikely event that human remains are encountered on federal or tribal lands, or in situations where Archaeological Resources Protection Act of 1979, or Native American Graves Protection Repatriation Act of 1990 applies, all work in the vicinity shall immediately cease and the Permittee immediately notify the Corps. The Corps shall then notify the appropriate THPO(s) and SHPO. Based, on the circumstances of the discovery, equity to all parties, and considerations of the public interest, the Corps may modify, suspend or revoke the permit in accordance with 33 CFR Part 325.7. After such notification, project activities on federal lands shall not resume without written authorization from the Corps, and/or appropriate THPO(s), SHPO, and federal manager. After such notification, project activities on tribal lands shall not resume without written authorization from the appropriate THPO(s) and the Corps.

7. Best Management Practices: Environmental controls and best management practices must be implemented to properly contain construction materials and prevent fugitive particulates from entering surrounding waters during the construction of the project.

8. Manatee conditions: The Permittee shall comply with the "Standard Manatee Conditions for In-Water Work – 2011," attached to this permit.

9. Water Quality Certification and FWC Licensing: This letter of authorization does not obviate the necessity to obtain any other Federal, State, or local permits, which may be required. Prior to the initiation of any construction, projects qualifying for this Nationwide permit must qualify for an exemption under section 403.813(1), F.S. or 373.406, F.S., or otherwise be authorized by the applicable permit required under Part IV of Chapter 373, F.S., by the Department of Environmental Protection, a water management district under section 373.069, F.S., or a local government with delegated authority under section 373.441, F.S., and receive Water Quality Certification (WQC) and applicable Coastal Zone Consistency Concurrence (CZCC) or waiver thereto, as well as any authorizations required for the use of state-owned submerged lands under Chapter 253, F.S., and, as applicable, Chapter 258, F.S. You should check State-permitting requirements with the Florida Department of Environmental Protection or the appropriate water management district.

This letter of authorization does not include conditions that would prevent the 'take' of a state-listed fish or wildlife species. These species are protected under sec. 379.411, Florida Statutes, and listed under Rule 68A-27, Florida Administrative Code. With regard to fish and wildlife species designated as species of special concern or threatened by the State of Florida, you are responsible for coordinating directly with the Florida Fish and Wildlife Conservation Commission (FWC). You can visit the FWC

license and permitting webpage (<http://www.myfwc.com/license/wildlife/>) for more information, including a list of those fish and wildlife species designated as species of special concern or threatened. The Florida Natural Areas Inventory (<http://www.fnai.org/>) also maintains updated lists, by county, of documented occurrences of those species.

This letter does not give absolute Federal authority to perform the work as specified on your application. The proposed work may be subject to local building restrictions mandated by the National Flood Insurance Program. You should contact your local office that issues building permits to determine if your site is located in a flood-prone area, and if you must comply with the local building requirements mandated by the National Flood Insurance Program.

If you are unable to access the internet or require a hardcopy of any of the conditions, limitations, or expiration date for the above referenced NWP, please contact Albert Gonzalez at the letterhead address, by electronic mail at Albert.Gonzalez@usace.army.mil, by telephone at 305-779-6055, or by fax at 305-526-7184.

Thank you for your cooperation with our regulatory program. 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 <http://per2.nwp.usace.army.mil/survey.html> and complete our automated Customer Service Survey. Your input is appreciated – favorable or otherwise.

Sincerely,

Albert Gonzalez
Project Manager

Enclosures:

General Conditions

Manatee Construction Conditions

Self-Certification Statement of Compliance

Permit transfer form

Site plans date-stamped by the Corps on August 8, 2016

Copies Furnished:

CESAJ-RD-PE

GENERAL CONDITIONS

33 CFR PART 320-330

PUBLISHED FEDERAL REGISTER DATED 13 NOVEMBER 1986

1. The time limit for completing the work authorized ends on **date identified in the letter**. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.
2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.
3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.
4. If you sell the property associated with this permit you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.
5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.
6. You must allow a representative from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

SELF-CERTIFICATION STATEMENT OF COMPLIANCE

Permit Number: SAJ-2016-02240 (NW-AG)

Permittee's Name & Address (please print or type):_____

Telephone Number:_____

Location of the Work:_____

Date Work Started:_____Date Work Completed:_____

Description of the Work (e.g. bank stabilization, residential or commercial filling, docks, dredging, etc.):_____

Acreage or Square Feet of Impacts to Waters of the United States:

Describe Mitigation completed (if applicable):_____

Describe any Deviations from Permit (attach drawing(s) depicting the deviations):

I certify that all work, and mitigation (if applicable) was done in accordance with the limitations and conditions as described in the permit. Any deviations as described above are depicted on the attached drawing(s).

Signature of Permittee

Date

DEPARTMENT OF THE ARMY PERMIT TRANSFER REQUEST

PERMIT NUMBER: SAJ-2016-02240 (NW-AG)

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. Although the construction period for works authorized by Department of the Army permits is finite, the permit itself, with its limitations, does not expire.

To validate the transfer of this permit and the associated responsibilities associated with compliance with its terms and conditions, have the transferee sign and date below and mail to the U.S. Army Corps of Engineers, Enforcement Section, 9900 Southwest 107th Ave, Suite 203, Miami, Florida 33176.

(TRANSFEREE-SIGNATURE)

(SUBDIVISION)

(DATE)

(LOT)

(BLOCK)

(NAME-PRINTED)

(STREET ADDRESS)

(MAILING ADDRESS)

(CITY, STATE, ZIP CODE)

Appendix C

Report of Geotechnical Investigation



Miami Office

GEOTECHNICAL ENGINEERING | FOUNDATION ENGINEERING | GEOTECHNICAL TESTING | SOIL BORINGS/MONITORING WELLS | CONSTRUCTION MATERIALS TESTING

November 04, 2015

Mr. William Pitcher, P.E.
Ports and Coastal Engineering Practice
ATKINS
3230 West Commercial Boulevard, Suite 100
Fort Lauderdale, Florida 33309-3400

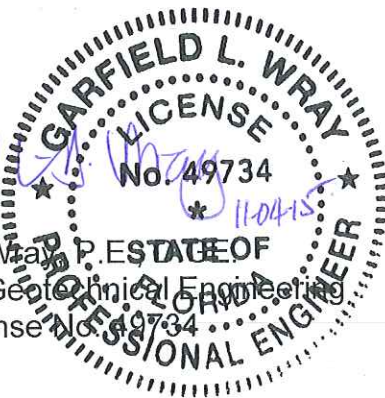
Re: Report of Subsurface Exploration & Geotechnical Engineering
Marine Infrastructure Engineering
North Cruise Berths 1 - 5 Bulkhead Evaluation
North Cruise Boulevard
Port of Miami, Dodge Island, Florida
NV5 Project No.: 14710

Dear Mr. Pitcher:

NV5 Inc. submits this report in fulfillment of the scope of services described in our Master Service Agreement Task Order No. 1 dated April 20, 2015. This report describes our understanding of the project, presents our field and laboratory data, as well as our recommendations for foundation design and construction for the project.

Sincerely,
NV5 Inc.,

Garfield L. Wray



Garfield L. Wray, P.E.
Director of Geotechnical Engineering
Florida License No. 49734

Enclosures/

Distribution: 2 Copies to Addressee via U.S. Mail
1 Copy to Addressee via Email
1 Copy to NV5 File

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OFFICES NATIONWIDE

14486 COMMERCE WAY | MIAMI LAKES, FL 33016 | WWW.NV5.COM | OFFICE: 305.666.3563 | FBPE CA #29065

CONSTRUCTION QUALITY ASSURANCE • INFRASTRUCTURE ENGINEERING • ENERGY SERVICES • PROGRAM MANAGEMENT • ENVIRONMENTAL SERVICES

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FIGURES

- Drawing 1 Site Vicinity Map & Test Location Plan
Drawing 2 Generalized Subsurface Profile

APPENDICES

- Appendix A Boring Log Data (Sheets A-1 through A-8)

1.0 SITE AND PROJECT INFORMATION

The project site is located at Berths 1 through 5 of the port of Miami Terminal on the north side of Dodge Island on the Biscayne Bay in Miami, Florida. The berths occupy the northwestern two-thirds or so of the north face of the terminal extending for about 6,400 lineal feet from South American Way to East Port Boulevard. A site vicinity map is presented on Drawing 1. The north face is retained by an existing anchored sheet pile bulkhead. According to information provided to us by Atkins, the top of the bulkhead is at about elevation + 8 feet relative to the 1929 National Geodetic Vertical Datum (NGVD) and the mudline at the face of the bulkhead wall to be around Elevation -35 feet NGVD. The main channel dredge elevation is shown as -40 feet NGVD. We are not aware of the wall tip elevation.

The project comprises an evaluation of the stability of the existing bulkhead wall. We understand that a future bulkhead wall could be located about 30 feet north of the existing wall.

2.0 PURPOSE AND SCOPE OF WORK

The purpose of our services on this project is to explore the subsurface conditions along the bulkhead wall, perform laboratory testing on collected core samples, and provide geotechnical data for others to perform the wall stability evaluation. Specifically this report provides:

- ◆ Drawings showing boring locations, a graphic summary of the generalized subsurface conditions, and boring logs with detailed descriptions of the materials encountered.
- ◆ Laboratory test results
- ◆ Discussion of generalized subsurface conditions at the site.
- ◆ Discussion of local geology
- ◆ Estimates of soil and rock engineering parameters

3.0 FIELD EXPLORATION AND LABOATORY TESTING

3.1 CORE BORINGS

The subsurface conditions along the bulkhead wall were explored with five core borings at the approximate locations shown on Drawing 1. The test locations were marked and identified in the field by NV5 personnel. The borings were drilled to the termination at elevations -60 and -63 feet NGVD. Borings were drilled over the edge of the bulkhead wall with a truck-mounted drill rig utilizing the rotary wash method.

We performed continuous coring in the borings from just below the mudline at elevations -36 to -40 feet NGVD down to the boring termination elevations of -60 and -63 feet NGVD using an NX-size (2.8-inch-inner diameter) core barrel. The coring was generally performed in runs five feet long.

The rock and soil samples recovered from the borings were classified by a geotechnical engineer. The collected samples were later re-examined to confirm field classifications and to select specimens for laboratory testing. Visual soil classifications were made in accordance with ASTM D2487 and ASTM D2488. The results of the classification and consequent generalized stratification are shown in Drawing 2, the generalized subsurface profile (Sheet 2), and in the boring log data in Appendix A (sheets A-1 through A-8). Strata contacts shown on these drawings are approximate. The boring data reflect conditions at the specific test locations only, and at the time the borings were drilled.

In addition to the general stratification shown on the drawings, also presented are additional data related to the rock coring. The percent recovery (REC) shown is the total length of material recovered expressed as a percentage of the core run length. The Rock Quality Designation (RQD) is the total length of pieces of rock four inches or greater in length, expressed as a percentage of the total length of the core run. Finally, the boring logs present also the time required in seconds to advance each foot of rock core.

3.2 FIELD PERMEABILITY TESTS

We performed also eight (8) field permeability tests at various elevations inside boreholes B-1, B-3, B-4 and B-5. Packers five feet long were used to seal and isolate zones of the borehole so that the permeability testing could be performed. Once the packers were installed to isolate a test section, water was pumped through the drill rods under pressure into the borehole. The test sections were typically five feet long except for one of the tests at B-3 which was 2.5 feet long. The stabilized flow rate and associated pumping pressure were recorded. The test was generally performed for 10 minutes. Test results are presented in Section 5.

3.3 LABORATORY TESTING

Selected samples collected in the borings were submitted to the laboratory for determination of total unit weight, unconfined compression strength, and splitting tensile strength. The test results are presented in section 5 of the report.

4.0 LOCAL GEOLOGY

Miami-Dade County is located on the southern flank of a stable carbonate platform on which thick deposits of limestones, dolomites and evaporites have accumulated. The upper two hundred feet of the subsurface profile is composed

predominantly of limestone and quartz sand. These sediments were deposited during several glacial and interglacial stages when the ocean was at elevations higher than present.

In many portions of Miami-Dade County, surface sand deposits of the Pamlico Formation are encountered. The Pamlico sands overlie the Miami Limestone. In western Miami-Dade County, portions of the Everglades Region interfinger with the Pamlico sand. The Everglades soil consists of peat and calcareous silt (marl).

The Miami Limestone is a soft to moderately hard, white, porous to very porous, sometimes sandy, oolitic calcareous cemented grainstone. The formation outcrops in portions of Miami-Dade County. The Miami Limestone has a maximum thickness of about 35 feet along the Atlantic Coastal Ridge and thins sharply near the coastline and more gradually in a westerly direction. The Miami Limestone was formed about 130,000 years ago at a time when the sea level was twenty-five feet higher than it is today. This environment facilitated formation of concentrically layered sand sized carbonate grains called oolites. These grains formed by repeated precipitation of calcium carbonate around the nucleus of a sand or shell grain.

The Miami Limestone can be separated into two facies: the barrier bar oolitic facies and the tidal shoal limestone facies. The barrier bar facies is characterized by lenses of oolitic limestone separated by intermittent, 1-inch thick or less, uncemented sand layers (cross-bedded limestone). Zones of higher porosity are characteristic and parallel the bedding planes of the cross-bedded limestone. The tidal shoal limestone facies is characterized by a distinct lack of bedding planes. In addition, burrowing organisms have churned previously deposited sediments, which have resulted in high porosity channels in the rock. These ancient channels give the rock an appearance of a hardened sponge in some areas.

The Fort Thompson Formation underlies the Miami Limestone, and includes sand, sandstone, and limestone. The upper zones of the Fort Thompson Formation consist of sand having a thickness ranging from 5 to 35 feet. The remainder of the formation consists of coralline limestone, quartz sandstone, sandy limestone and freshwater limestone. The type of soils within the formation and the degree of cementation vary with lateral extent and depth.

The Fort Thompson Formation is underlain by the Tamiami Formation. The Tamiami Formation consists of sands, silts, clays, and sometime fossiliferous limestone. The upper portions of the Tamiami Formation are permeable and make up the lower reaches of the Biscayne Aquifer. This formation ranges in thickness from zero to 300 feet in South Florida.

5.0 SUBSURFACE CONDITIONS

5.1 BORINGS AND LABORATORY TESTING

In general, the subsurface conditions encountered in the borings are consistent with the geology described above. The borings encountered limestone with interbedded sand layers from the mudline down to the termination depths. The upper portions of the rock are of the Miami Oolitic formation and tend to be generally more porous and fractured. The sand layers were generally interpreted as core runs with zero recovery and are on the order of 5 feet thick.

The recoveries for the rock cores ranged from 22 to 100 percent with an average of 61 percent. Corresponding RQDs were between zero and 100 percent with an average value of around 38 percent. Based on the average RQD the limestone classifies as “poor quality” rock. The unconfined compression strengths of the specimens tested from range from 490 to 2,680 pounds per square inch (psi) or 71 to 386 kips per square foot (ksf), and the values average 1,330 psi (192 ksf). The corresponding splitting tensile strengths for the cores tested range between 100 and 860 psi (14.5 and 124 ksf), with an average value of 479 psi (69 ksf). The average value of bulk rock unit weight determined from the cores is 125 pounds per cubic foot (pcf), and the values range between 115 and about 140 pcf. The natural moisture contents of the test specimens ranged between 3.9 and 6.2 percent. The laboratory test results are summarized in the table below.

TABLE 1 - SUMMARY OF LABORATORY TEST RESULTS

Boring Number	Sample Elevation (ft., NGVD)	Natural Moisture Content (%)	Total Unit Weight (pcf)	Unconfined Compressive Strength (psi)	Splitting Tensile Strength (psi)
B-1	-40	4.6	128.3	1,510	860
B-2	-52	4.3	128.1	2,680	-
B-2	-58	4.1	121.7	490	546
B-3	-50	5.4	117.5	1,090	-
B-3	-54	-	-	-	385
B-4	-40	6.2	115.0	520	100
B-5	-59	3.9	139.5	1,690	504

The detailed subsurface conditions are presented graphically in the attached generalized subsurface profile (Drawing 2) and in more detail in the boring log data in Appendix A.

5.2 FIELD PERMEABILITY TESTS

The results of the in-situ permeability tests performed in the boreholes are presented in Table 2 below. The In-situ permeability values were computed using relationships for Packer tests presented in the *US Bureau of Reclamation's Earth Manual (1960)*. The computed values range between 1.8E-04 and 3.3E-04 feet per second (fps).

TABLE 2 – INSITU PERMEABILITY TEST RESULTS

Boring No.	Elevation (ft., NGVD)	Flow Rate (cfs)	Pump Pressure (psi)	Estimated Permeability (fps)
B-1	-43 to -48	0.147	0	2.4E-04
B-1	-53 to -58	0.136	8	1.8E-04
B-3	-42 to -47	0.138	5	2.3E-04
B-3	-43 to -45.5	0.138	7.5	3.3E-04
B-4	-43 to -48	0.138	7.5	2.2E-04
B-4	-48 to -53	0.138	7.5	2.0E-04
B-5	-43 to -48	0.136	12.5	2.2E-04

6.0 RECOMMENDED ENGINEERING PARAMETERS

Table 3 below provides our recommended engineering parameter for use in the evaluation of the bulkhead stability. The parameters are based on our field and laboratory testing as well as on our experience with similar materials.

TABLE 3 – ESTIMATED ENGINEERING PARAMETERS

Elevation (ft., NGVD)	-36 to -45	-45 to -60
Description	Limestone with Interbedded Sand Layers	Limestone with Interbedded Sand Layers
Unit Weight (pcf)	120	125
Angle of Internal Friction (deg)	36	36
Unconfined Compressive Strength (ksf)	150	220
Cohesion (ksf)	75	110
Modulus of Elasticity (ksf)	300	400

7.0 SEAFLOOR STABILIZATION

We understand that ultimately the bulkhead could be replaced. However as an interim measure it is desired to stabilize the seafloor around the wall toe to improve wall stability. We consider that grouting around the wall toe will be the most technically feasible method for performing such stabilization. The stabilization would be achieved by

drilling small diameter holes into the rock in a pre-determined regular pattern around the wall toe on the water side and injecting grout through the drill pipes. Such a grouting program would require a specialty contractor.

The primary challenges for such a grouting operation will be to 1) estimate required grout volumes and 2) to control grout flow. The volume of grout required will be related to the porosity of the rock. The porosity of any material is defined as the volume of pore (or open) spaces in the material expressed as a percentage of the total volume of the material. We estimate that the porosity of the limestone around the toe of the wall could be on the order of 30 to 50 percent.

With respect to controlling the flow of the grout, this could likely be achieved using low-mobility grout to control the distance from the injection point to which the grout migrates during injection. Verification of a successful grouting program could be performed by taking post-grouting cores of the rock.

Divers would likely be required to assist with the quality control during the grouting program, particularly with respect to proper location of grout injection pipes.

8.0 REPORT LIMITATIONS

This report has been prepared for the exclusive use of the Owner and other members of the design/construction team for the specific projects discussed in this report. This report has been prepared in accordance with generally accepted local geotechnical engineering practices; no other warranty is expressed or implied.

The evaluation and recommendations submitted in this report are based in part upon the data collected from the field exploration. The nature or extent of variations throughout the subsurface profile may not become evident until the time of construction. If variations then appear evident, it may be necessary to evaluate our recommendations as provided in this report. In the event changes are made in the nature, design or locations of the proposed project construction, the conclusions and recommendations contained in this report shall not be considered valid unless the changes are reviewed and conclusions modified or verified in writing by NV5.

The scope of services did not include any environmental assessment or investigation for the presence or absence of wetlands, sinkholes, chemically hazardous or toxic materials in the soil, surface water, groundwater or air, on or below or around the site.

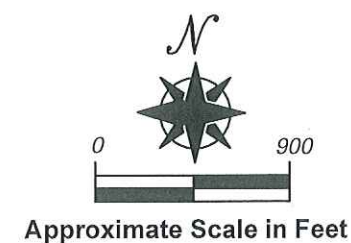
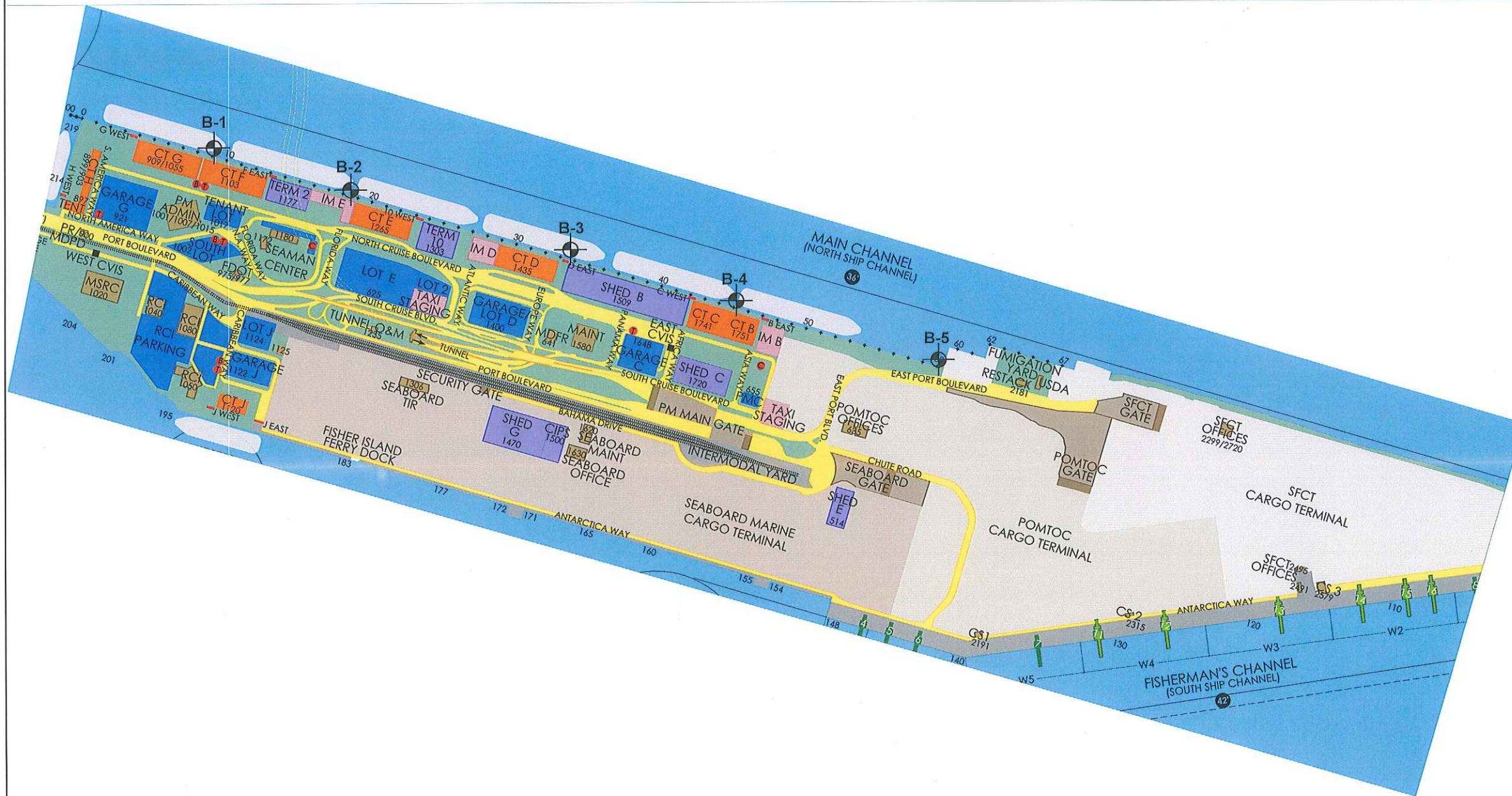
We should be provided the opportunity to review final foundation specifications and review foundation design drawings, in order to ascertain whether our recommendations have been properly interpreted and implemented. If NV5 is not afforded the opportunity to participate in construction related aspects of foundation installation as recommended in this report, we can accept no responsibility for the

interpretation of our recommendations made in this report or for foundation performance.

9.0 CLOSURE

We appreciate the opportunity to provide specialized engineering services on this project and look forward to an opportunity to participate in construction related aspects of the development. If you have questions about information contained in this report contact the writer at 305.901.1891.

DRAWINGS



LEGEND:

 - Soil Boring Test Location
B-1

NOTES:

1. Test locations shown are approximate.
2. Test location symbols are not to scale.
3. Base for this drawing taken from a drawing provided by Atkins and dated 9/2014

N|V|5

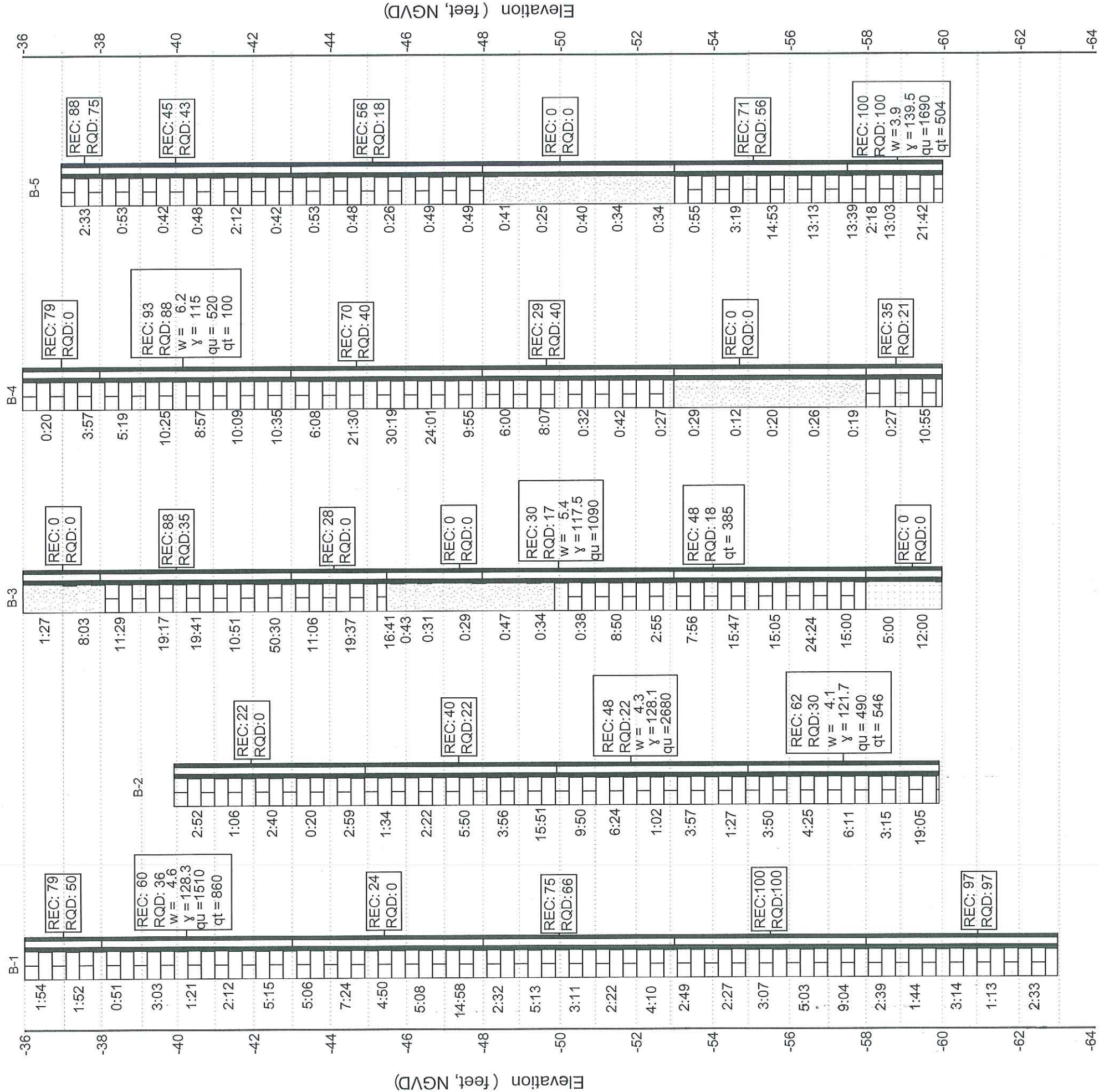
DRAWING TITLE: Site Vicinity Map & Test Location Plan
PROJECT NAME: Port of Miami - Marine Infrastructure
PROJECT LOCATION: Port of Miami, Miami, Florida

PROJECT NO: 14710

DATE: 08/20/15

DWG NO: 1

DWN BY: AS
CKD BY: GLW
APD BY: —



Note: Coring started at mudline between elevations -36 and -37 feet NGVD

GENERALIZED SUBSURFACE PROFILE

<div>NV5</div>	PROJECT NAME: Port of Miami - Marine Infrastructure		LEGEND		1:54 = Coring Rate Per Foot (min:sec)		
	PROJECT LOCATION: Port of Miami, Miami, Florida		<div><div></div><div></div></div> Limestone		REC = Percent Recovery (%)		
	PROJECT NUMBER: 14710		<div><div></div><div></div></div> Sand		RQD = Rock Quality Designation (%)		
	DRAWN BY: A. Sarsour		<div><div></div><div></div></div> Sandstone		w = Moisture Content (%)		
	CHECKED BY: GLW		<div><div></div><div></div></div> Rock Core		γ = Total Unit Weight (pcf)		
	DRAWING NO.: 2				qu = Unconfined Compressive Strength (psi)		
						qt = Splitting Tensile Strength (psi)	
						Water Level	

APPENDIX A
BORING LOG DATA

PROJECT NAME Port of Miami - Marine Infrastructure
 PROJECT NUMBER 14710 PROJECT LOCATION Port of Miami, Miami, Florida
 DATE STARTED 8/4/2015 COMPLETED 8/5/2015 GROUND ELEVATION -36 ft HOLE SIZE 3 inches
 DRILLING CONTRACTOR NV5 GROUND WATER LEVELS: NA - Water Boring
 DRILLING METHOD Rotary drill with mud, wash & casing AFTER DRILLING ---
 LOGGED BY J. Johnson CHECKED BY M. Delgado
 NOTES _____

Elevation (ft. NGVD)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	Coring Time (Min:Sec)	MOISTURE CONTENT (%)	DRY UNIT WT. (pcf)	FINES CONTENT (%)	ATTERBERG LIMITS		UCS (psi)	SPLIT-TENS STRENGTH (psi)
									LIQUID LIMIT (%)	PLASTICITY INDEX (%)		
-36												
		LIMESTONE, gray to light brown	RC	79 (50)	1:54							
					1:52							
					0:51							
					3:03							
-41		LIMESTONE, tan	RC	60 (36)	1:21	4.6	128.3				1510	860
					2:12							
					5:15							
					5:06							
					7:24							
-46		LIMESTONE, tan	RC	24 (0)	4:50							
					5:08							
					14:58							
					2:32							
					5:13							
-51		LIMESTONE, light brown	RC	75 (66)	3:11							
					2:22							
					4:10							
					2:49							
		LIMESTONE, tan to light brown			2:27							
					3:07							
-56			RC	100 (100)								

PROJECT NAME Port of Miami - Marine Infrastructure
 PROJECT NUMBER 14710 PROJECT LOCATION Port of Miami, Miami, Florida

ELEVATION (ft, NGVD)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	Coring Time (Min:Sec)	MOISTURE CONTENT (%)	DRY UNIT WT. (pcf)	FINES CONTENT (%)	ATTERBERG LIMITS		UCS (psi)	SPLIT-TENS STRENGTH (psi)
									LIQUID LIMIT (%)	PLASTICITY INDEX (%)		
-61					5:03							
					9:04							
					2:39							
					1:44							
-66			RC	97 (97)	3:14							
					1:13							
					2:33							

Boring terminated at -68 feet, NGVD.

PROJECT NAME Port of Miami - Marine Infrastructure
 PROJECT NUMBER 14710 PROJECT LOCATION Port of Miami, Miami, Florida
 DATE STARTED 8/3/2015 COMPLETED 8/3/2015 GROUND ELEVATION -40 ft HOLE SIZE 3 inches
 DRILLING CONTRACTOR NV5 GROUND WATER LEVELS: NA - Water Boring
 DRILLING METHOD Rotary drill with mud, wash & casing AFTER DRILLING ---
 LOGGED BY J. Johnson CHECKED BY M. Delgado
 NOTES _____

ELEVATION (ft, NGVD)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	Coring Time (Min:Sec)	MOISTURE CONTENT (%)	DRY UNIT WT. (pcf)	FINES CONTENT (%)	ATTERBERG LIMITS		UCS (psi)	SPLIT-TENS STRENGTH (psi)
									LIQUID LIMIT (%)	PLASTICITY INDEX (%)		
-40												
		LIMESTONE, light brown	RC	22 (0)	2:52 1:06 2:40 0:20 2:59							
-45		LIMESTONE, tan	RC	40 (22)	1:34 2:22 5:50 3:56 15:51							
-50		LIMESTONE, tan	RC	48 (22)	9:50 6:24 1:02 3:57 1:27	4	128.1				2680	
-55		LIMESTONE, tan	RC	62 (30)	3:50 4:25 6:11 3:15 19:05	4	121.7				490	546
-60												

PROJECT NAME Port of Miami - Marine Infrastructure
 PROJECT NUMBER 14710 PROJECT LOCATION Port of Miami, Miami, Florida
 DATE STARTED 8/18/2015 COMPLETED 8/19/2015 GROUND ELEVATION -36 ft HOLE SIZE 3 inches
 DRILLING CONTRACTOR NV5 GROUND WATER LEVELS: NA - Water Boring
 DRILLING METHOD Rotary drill with mud, wash & casing AFTER DRILLING ---
 LOGGED BY J. Johnson CHECKED BY M. Delgado
 NOTES _____

ELEVATION (ft, NGVD)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (ROD)	Coring Time (Min:Sec)	MOISTURE CONTENT (%)	DRY UNIT WT. (pcf)	FINES CONTENT (%)	ATTERBERG LIMITS		UCS (psf)	SPLIT-TENS STRENGTH (psi)
									LIQUID LIMIT (%)	PLASTICITY INDEX (%)		
-36		SAND, tan	RC	0 (0)	1:27 8:03							
-41		LIMESTONE, tan	RC	88 (35)	11:29 19:17 19:41							
		LIMESTONE, tan	RC	28 (0)	10:51 50:30 11:06 19:37							
-46		SAND	RC	0 (0)	16:41 0:43 0:31							
-51		LIMESTONE, tan	RC	30 (17)	0:29 0:47 0:34 0:38	5.4	117.5				1090	
-56		LIMESTONE, tan	RC	48 (18)	8:50 2:55 7:56 15:47 15:05 24:24							385
		SAND	RC	0 (0)	15:00 5:00 12:00							

Boring terminated at -60 feet, NGVD.

PROJECT NAME Port of Miami - Marine Infrastructure
 PROJECT NUMBER 14710 PROJECT LOCATION Port of Miami, Miami, Florida
 DATE STARTED 8/12/2015 COMPLETED 8/13/2015 GROUND ELEVATION -36 ft HOLE SIZE 3 inches
 DRILLING CONTRACTOR NV5 GROUND WATER LEVELS: NA - Water Boring
 DRILLING METHOD Rotary drill with mud, wash & casing AFTER DRILLING ----
 LOGGED BY J. Johnson CHECKED BY M. Delgado
 NOTES _____

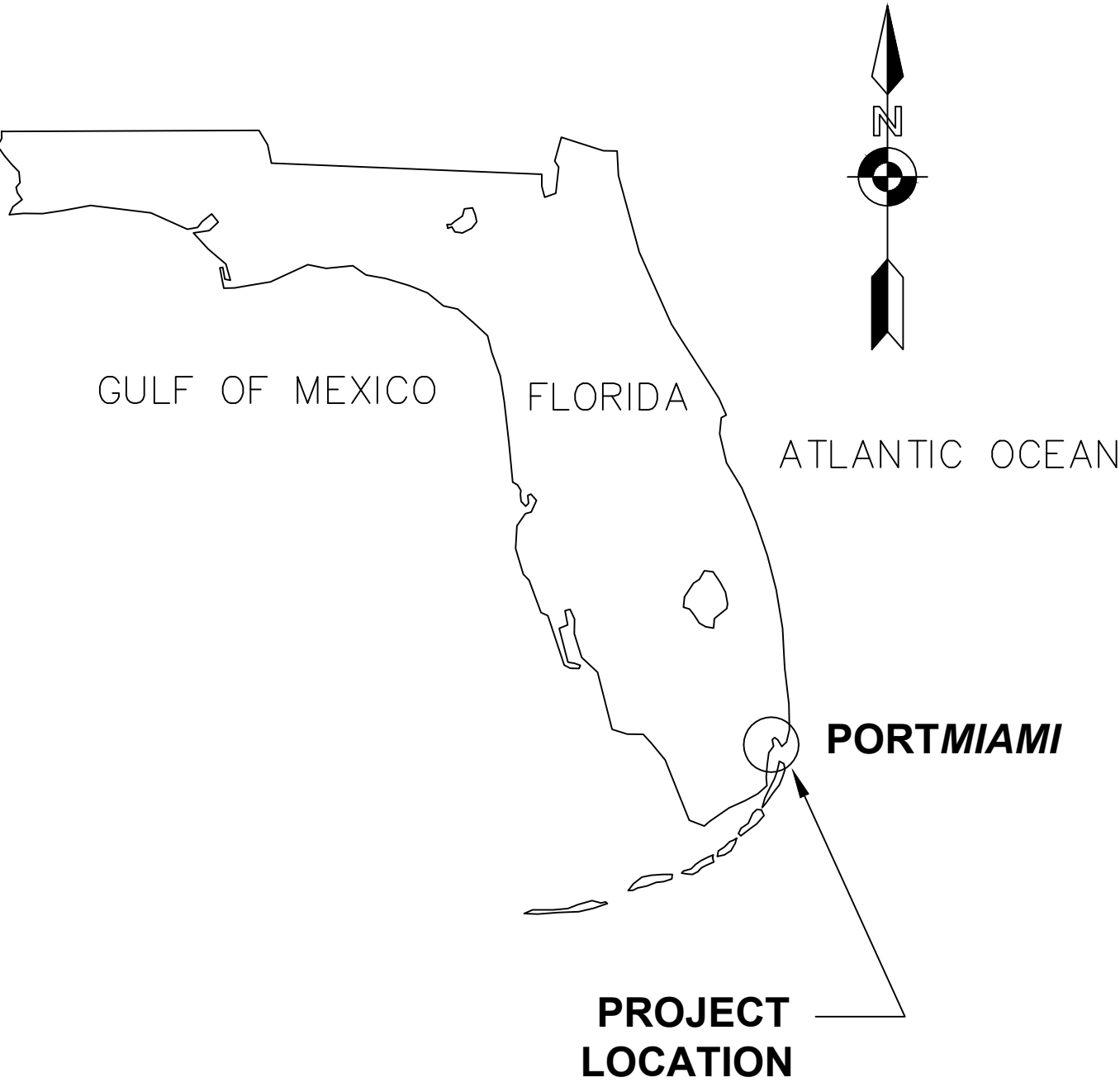
ELEVATION (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	Coring Time (Min:Sec)	MOISTURE CONTENT (%)	DRY UNIT WT. (pcf)	FINES CONTENT (%)	ATTERBERG LIMITS		UCS (psi)	SPLIT-TENS STRENGTH (psi)
									LIQUID LIMIT (%)	PLASTICITY INDEX (%)		
-36												
		LIMESTONE, tan	RC	79 (0)	0:20							
					3:57							
					5:19							
					10:25							
-41		LIMESTONE, tan	RC	93 (88)	8:57	6.2	115				520	100
					10:09							
					10:35							
					21:30							
					6:08							
-46		LIMESTONE, tan	RC	70 (40)	30:19							
					24:01							
					9:55							
					6:00							
					8:07							
-51		LIMESTONE, tan	RC	29 (40)	0:32							
					0:42							
					0:27							
					0:29							
		SAND			0:12							
-56			RC	0 (0)	0:20							
					0:26							
					0:19							
					0:27							
		LIMESTONE, tan	RC	35 (21)	10:55							
Boring terminated at -60 feet, NGVD.												

PROJECT NAME Port of Miami - Marine Infrastructure
 PROJECT NUMBER 14710 PROJECT LOCATION Port of Miami, Miami, Florida
 DATE STARTED 8/10/2015 COMPLETED 8/11/2015 GROUND ELEVATION -37 ft HOLE SIZE 3 inches
 DRILLING CONTRACTOR NV5 GROUND WATER LEVELS: NA - Water Boring
 DRILLING METHOD Rotary drill with mud, wash & casing AFTER DRILLING ---
 LOGGED BY J. Johnson CHECKED BY M. Delgado
 NOTES _____

ELEVATION (ft, NGVD)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	Coring Time (Min:Sec)	MOISTURE CONTENT (%)	DRY UNIT WT. (pcf)	FINES CONTENT (%)	ATTERBERG LIMITS		UCS (psi)	SPLIT-TENS STRENGTH (psi)
									LIQUID LIMIT (%)	PLASTICITY INDEX (%)		
-37		LIMESTONE, gray	RC	88 (75)	2:33							
					0:53							
					0:42							
		LIMESTONE, gray	RC	45 (43)	0:48							
-42					2:12							
					0:42							
					0:53							
					0:48							
		LIMESTONE, gray	RC	56 (18)	0:26							
-47					0:49							
					0:49							
					0:41							
		SAND	RC	0 (0)	0:25							
-52					0:40							
					0:34							
					0:34							
					0:55							
		LIMESTONE, light brown to gray	RC	71 (56)	3:19							
					14:53							
					13:13							
-57					13:39							
					2:18							
		LIMESTONE, light brown to gray	RC	100 (100)	13:03	3.9	139.5				1690	504
					21:42							

Boring terminated at -60 feet, NGVD.

PORTMIAMI
North Cruise Berths 1-6 Seafloor Stabilization Program
1435 N. Cruise Blvd., MIAMI, FL. 33132
POM PROJECT NO. 2010-038.02
MAY 2017



PROJECT VICINITY MAP



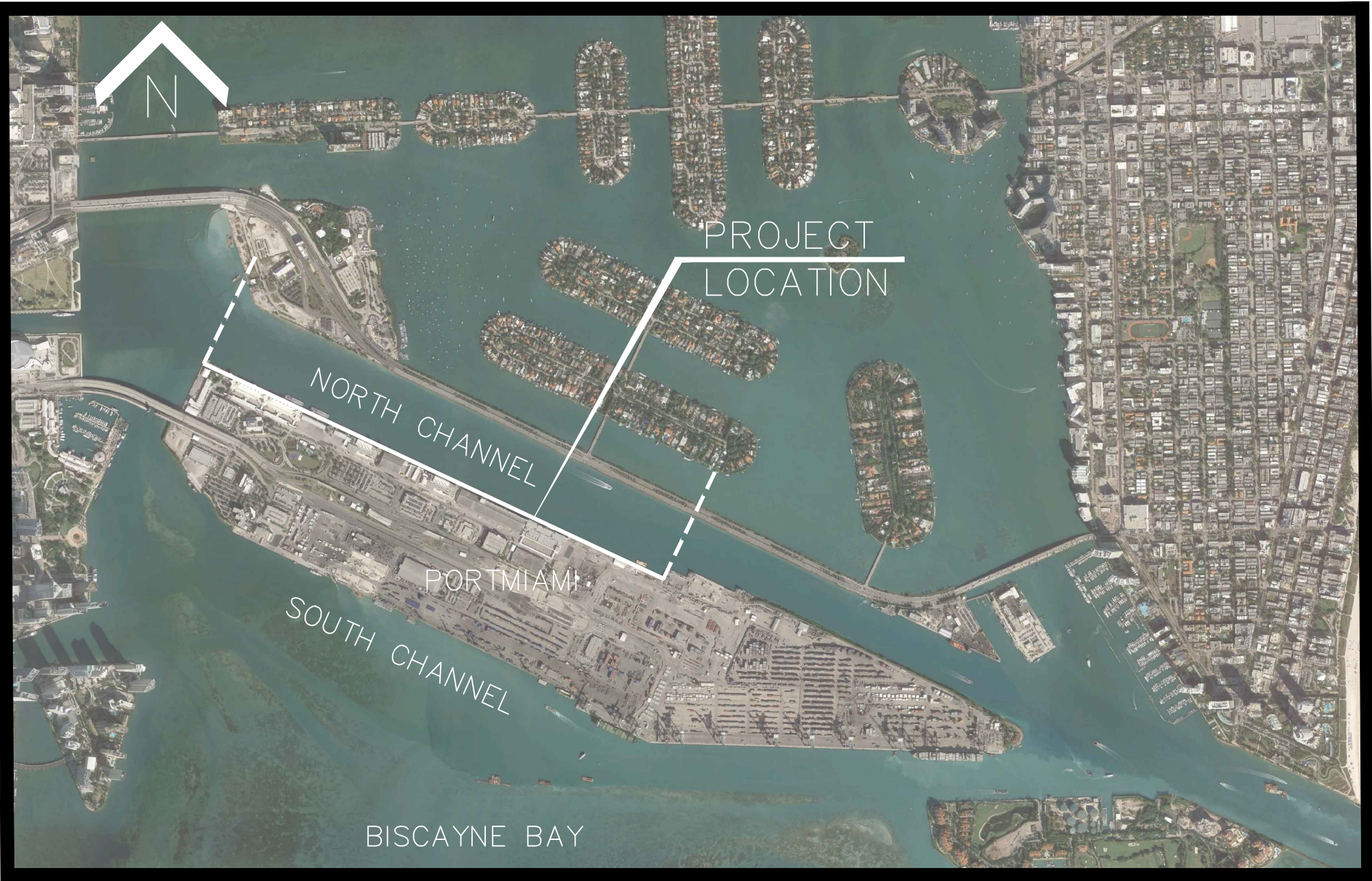
BOARD OF COUNTY COMMISSIONERS

Honorable Esteban Bovo, Jr., Chairman
District 13
Honorable Audrey M. Edmonson, Vice Chairwoman
District 3

Honorable Barbara J. Jordan
District 1
Honorable Jean Monestime
District 2
Honorable Audrey M. Edmonson
District 3
Honorable Sally A. Heyman
District 4
Honorable Bruno A. Barreiro
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District 6
Honorable Xavier L. Suarez
District 7

Honorable Daniella Levine Cava
District 8
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Honorable Javier D. Souto
District 10
Honorable Joe A. Martinez
District 11
Honorable Jose "Pepe" Diaz
District 12
Honorable Esteban Bovo, Jr.
District 13

Juan Kuryla, PPM
Port Director



PROJECT LOCATION



14486 COMMERCE WAY,
MIAMI LAKES, FLORIDA 33016
(305) 666-3563
FBPE CA #29065

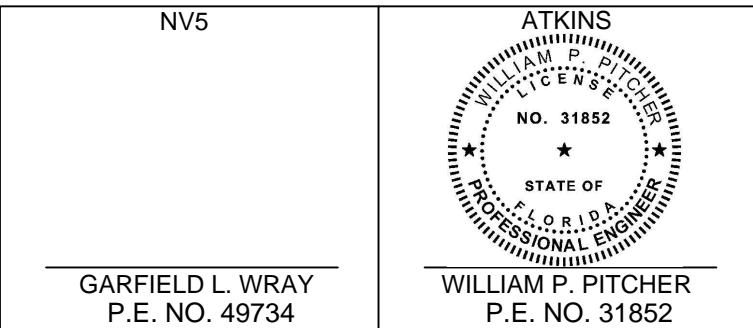


2001 NORTHWEST 107TH AVENUE
MIAMI, FLORIDA 33172
(305) 592-7275
LB NO. 0000024

ATKINS PROJECT NO.100050795
100% SUBMITTAL DRAWINGS
MAY 2017

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G:\Coastal Engineering\Projects\PORTS\Port of Miami - E13-SEA-03\Projects\W013 Cruise Berth Seafloor Stabilization\06 Drawings\CD 100% Submittal Drawings Issued for Permit\G-001 General Notes.dwg 05/18/2017 11:31:56 AM

THESE NOTES HAVE BEEN DEVELOPED CONSISTENT WITH THE REQUIREMENTS OF A 100 PERCENT LEVEL DESIGN SUBMITTAL AND AS SUCH THEY ARE SUBJECT TO CHANGE BY REVISIONS AND/OR ADDITIONS, AS THE DESIGN PROCESS ADVANCES.

GENERAL:

1. NOTES BELOW ARE NOT INTENDED TO REPLACE SPECIFICATIONS. REFER TO THE PROJECT SPECIFICATIONS FOR REQUIREMENTS IN ADDITION TO THESE GENERAL NOTES. ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE DRAWINGS AND THE PROJECT SPECIFICATIONS.
2. THE CONTRACTOR SHALL CHECK THE DRAWINGS AGAINST THE SITE CONDITIONS AND THE WORK TO BE PERFORMED AND NOTIFY THE PROJECT REPRESENTATIVE IN WRITING OF ANY SIGNIFICANT DISCREPANCIES IN EITHER DIMENSIONS AND/OR SITE CONDITIONS. THE CONTRACTOR SHALL NOT BEGIN CONSTRUCTION IN ANY SUCH AREAS UNTIL THE DISCREPANCY HAS BEEN RESOLVED BY THE CONTRACTOR AND SUBSEQUENTLY APPROVED BY THE PROJECT REPRESENTATIVE.
3. THE CONTRACTOR SHALL ANTICIPATE TIDAL FLUCTUATIONS AND CURRENTS, WAVES, VESSEL WAKES, WIND, RAIN AND ALL OTHER CONDITIONS COMMON TO THE AREA AND TO AN ACTIVE MAJOR SEAPORT DURING THE COURSE OF THE WORK.
4. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY WARNING SIGNS, BARRIERS, LIGHTS, AND SIGNALS AS REQUIRED BY PORTMIAMI SAFETY OFFICE AND AS REQUIRED BY THE PROJECT SPECIFICATIONS AND THE PROJECT REPRESENTATIVE TO ADEQUATELY WARN THE PUBLIC AGAINST THE DANGERS OF AN ACTIVE CONSTRUCTION SITE. PROJECT IDENTIFICATION SIGNS SHALL BE FURNISHED AND ERECTED BY THE CONTRACTOR AS DIRECTED.
5. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING STRUCTURES INCLUDING BUT NOT LIMITED TO; STEEL SHEET PILE BULKHEADS, DOCK FENDERS, BOLLARDS AND MOORING HARDWARE, ABOVE AND BELOW GROUND UTILITIES, AND ALL OTHER ELEMENTS THAT ARE TO REMAIN DURING AND AFTER CONSTRUCTION IS COMPLETED.

PERMIT CONDITIONS:

1. THE CONTRACTOR SHALL COMPLY WITH THE AIR AND WATER QUALITY REQUIREMENTS DESCRIBED IN THE TERMS AND CONDITIONS OF THE REGULATORY PERMITS ISSUED BY COUNTY, STATE AND FEDERAL AGENCIES AS WELL AS, LOCAL BUILDING AUTHORITIES FOR THIS PROJECT.
2. THE CONTRACTOR SHALL DEPLOY AND MAINTAIN TURBIDITY CONTROL DEVICES INCLUDING FLOATATION CURTAINS AS MAY BE REQUIRED BY THE REGULATORY PERMITS ISSUED FOR THIS PROJECT.
3. REFER TO PROJECT SPECIFICATIONS.

CHANNEL AND WATERWAY CLEARANCES:

1. CONTRACTOR SHALL NOT OBSTRUCT SHIP TRAFFIC IN AND OUT OF PORTMIAMI OR BOAT TRAFFIC IN AND OUT OF BISCAYNE BAY OR THE INTRACOASTAL WATERWAY AND THE OCEAN BY WAY OF THE NORTH SHIP CHANNEL.

COORDINATION:

1. THE CONTRACTOR SHALL ANTICIPATE THE ARRIVAL AND DEPARTURE OF CRUISE SHIPS, FUEL BUNKER BARGES AND TUG BOATS DURING THE COURSE AND WITHIN PROXIMITY OF THE WORK. THE CONTRACTOR SHALL FULLY COORDINATE HIS WORK WITH PORTMIAMI CRUISE OPERATIONS AND BERTHING OFFICE AS WELL AS THE PORTMIAMI SAFETY OFFICE.
2. THE CONTRACTOR WILL BE UNABLE TO WORK DURING CRUISE SHIP DAYS. THE CONSTRUCTION SCHEDULE WILL BE COORDINATED UPON THE DELIVERY OF THE CRUISE SCHEDULE PROVIDED BY PORTMIAMI.
3. CONTRACTOR TO PROVIDE AND OBTAIN APPROVAL FROM POM FOR MAINTENANCE OF TRAFFIC DURING CONSTRUCTION BASED ON FDOT GUIDELINES.
3. LOADS DURING CONSTRUCTION NOT TO EXCEED ORIGINAL DESIGN UNIFORM LIVE LOAD OF 600 PSF. CONTRACTOR TO SUBMIT EQUIPMENT TO PORT FOR APPROVAL PRIOR TO COMMENCEMENT OF WORK. REFER TO PROJECT SPECIFICATIONS.

LOCAL BUILDING CODE:

1. FLORIDA BUILDING CODE, 2014 EDITION.

DESIGN STANDARDS:

1. ACI AMERICAN CONCRETE INSTITUTE

ELEVATIONS:

1. ALL ELEVATIONS ARE REFERENCED TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD29).

PROJECT TIDAL ELEVATIONS:

1. MHHW EL. = + 1.78
2. MHW EL. = + 1.72
3. MTL EL. = + 0.71
4. MSL EL. = + 0.69
5. MLW EL. = - 0.30
6. MLLW EL. = - 0.41

SOURCE: NOAA TIDE STATION NO.8723214 LOCATED ON THE NORTH SHORE OF VIRGINIA KEY, MIAMI--DADE COUNTY. ELEVATIONS ARE IN FEET AND REFERENCED TO NGVD29.

COORDINATES:

1. HORIZONTAL POSITIONING COORDINATES SHOWN ON THE DRAWINGS ARE BASED ON THE FLORIDA STATE PLANE COORDINATE SYSTEM.

DIMENSIONS:

1. ALL DIMENSIONS, BULKHEAD BASELINE STATIONS AND BAY NUMBERS, ELEVATIONS AND WATER DEPTHS SHOWN ON THE DRAWINGS REQUIRE ACCURATE FIELD MEASUREMENT AND CONFIRMATION BY THE CONTRACTOR.
2. FIELD ADJUSTMENTS AND MINOR CHANGES TO THE NEW WORK IS TO BE ANTICIPATED. THE CONTRACTOR SHALL ACCURATELY MEASURE AND FIT THE NEW WORK TO EXISTING SITE CONDITIONS.

PROJECT PHASING:

1. THE CONTRACTOR SHALL DEVELOP A COMPREHENSIVE PROJECT PHASING PLAN THAT INCLUDES A PROJECT SCHEDULE AND A FULL DESCRIPTION OF HIS MEANS AND METHODS OF CONSTRUCTION, FOR EACH STAGE OF THE PROJECT.
2. CONTRACTOR TO PROVIDE AND OBTAIN APPROVAL FROM POM FOR THE MAINTENANCE OF TRAFFIC DURING CONSTRUCTION.

CONTRACTOR SUBMITTALS:

1. THE REQUIRED SUBMITTALS SHALL BE PREPARED BY THE CONTRACTOR AND SUBMITTED TO THE PROJECT REPRESENTATIVE FOR REVIEW AND APPROVAL, PRIOR TO THE CONSTRUCTION ACTIVITY.

GEOTECHNICAL INVESTIGATION:

1. GEOTECHNICAL EXPLORATION DATA WAS OBTAINED FROM "REPORT OF SUBSURFACE EXPLORATION AND GEOTECHNICAL ENGINEERING: PORT OF MIAMI - NORTH CRUISE BERTHS 1 - 5" PREPARED BY NV5 INC., DATED NOVEMBER 4TH 2015, NV5 PROJECT NO: 14710.
2. REFER TO PROJECT SPECIFICATION SECTION 02 21 00

UNDERWATER GROUT:

1. UNDERWATER GROUT MIX MATERIALS PER CUBIC YARD

1.1. SAND: 1500 LBS

1.2. SILTY SAND: 950 LBS

1.3. CEMENT: 230 LBS

1.4. BENTONITE: 250 LBS

1.5. WATER: 1000 LBS (ENOUGH TO PRODUCE PUMPABLE MIXTURE)
2. UNDERWATER GROUT SPECIFICATIONS

2.1. AVE. 28-DAY f'c: 50 psi

2.2. AVE. MIN. SG: 1.8
3. EQUIPMENT

3.1. DRILL WITH 6" CASING AND INNER DRILLER ROD

3.2. GROUT PUMP CAPABLE OF PUMPING AT 200-275 PSI

- 3.3. MIX PLANT ON SITE
- 3.4. REFER TO PROJECT SPECIFICATION SECTION 03 64 00

INDEX OF DRAWINGS

DRAWING	DESCRIPTION
COVER	COVERSHEET
G-001	NOTES AND INDEX
S-100	OVERALL SITE PLAN
S-101	ENLARGED SITE PLAN - 1
S-102	ENLARGED SITE PLAN - 2
S-103	ENLARGED SITE PLAN - 3
S-200	SECTION AND DETAILS

ESTIMATED QUANTITY FOR PERMITTING

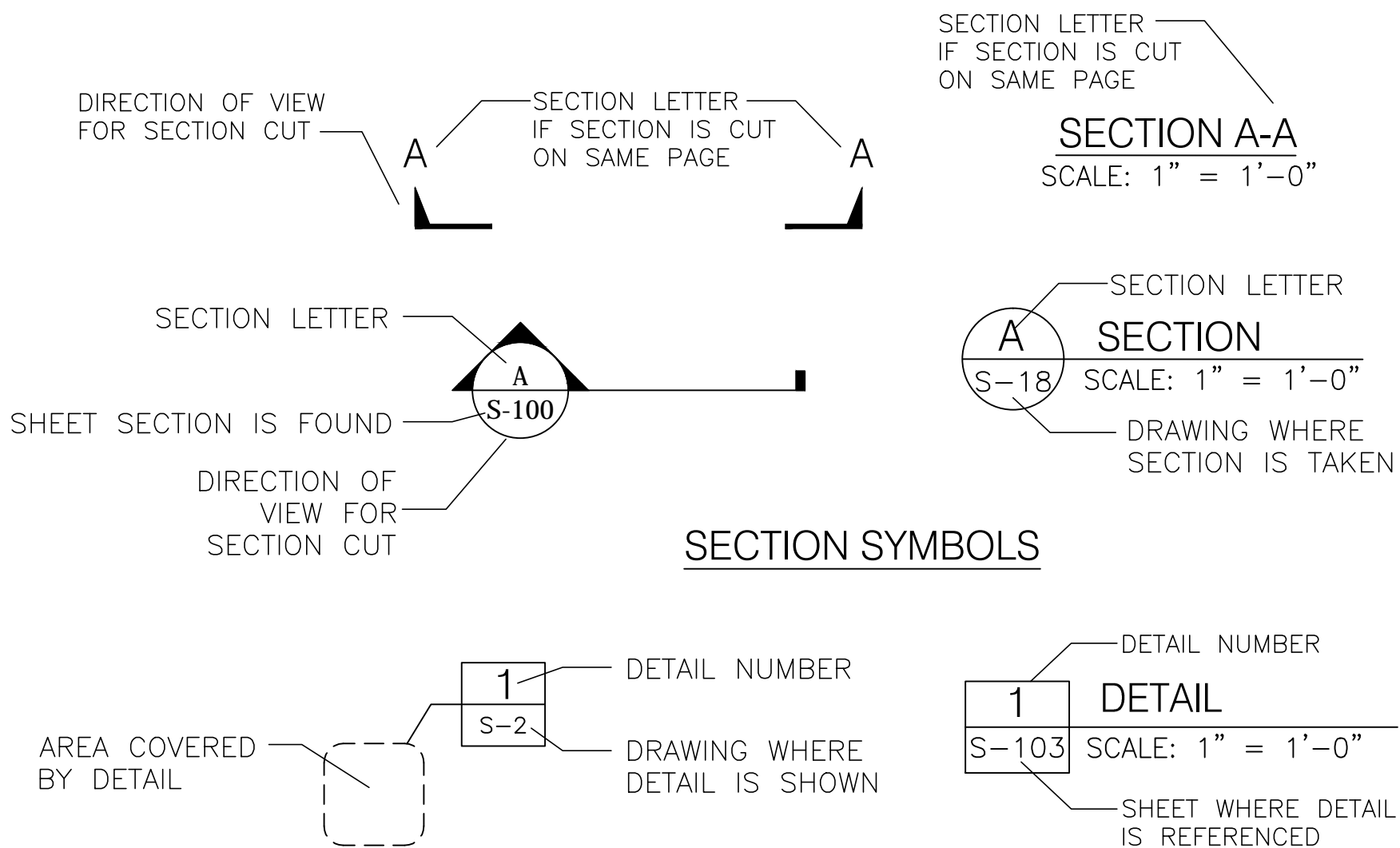
UNDERWATER GROUT FILL	300-500 CY
-----------------------	------------

NOTE: QUANTITIES ARE APPROXIMATE AND FOR PERMITTING PURPOSES ONLY.

STRUCTURAL ABBREVIATIONS:

Ø - DIAMETER	GALV. - GALVANIZED
ALT. - ALTERNATE	HP - HIGH POINT
B/- BOTTOM	LP - LOW POINT
BOT - BOTTOM	MAX. - MAXIMUM
BLDG. - BUILDING	MIN. - MINIMUM
COV. - COVER	NTS - NOT TO SCALE
C/- CENTER LINE	O.C. - ON CENTER
CONC. - CONCRETE	P.L. - PLATE
C.I.P. - CAST IN PLACE	P.S.F. - POUND PER SQUARE FOOT
C.J. - CONSTRUCTION JOINT	P.S.I. - POUND PER SQUARE INCH
CLR. - CLEAR COVER	REF. - REFERENCE
DET.(S) - DETAIL(S)	REQ'D. - REQUIRED
DIA. - DIAMETER	SHT. - SHEET
DIR. - DIRECTION	SECT. - SECTION
DWGS. - DRAWINGS	SHT. - SHEET
EA. - EACH	SPECS. - SPECIFICATIONS
E.F. - EACH FACE	S.S. - STAINLESS STEEL
E.W. - EACH WAY	SSP - STEEL SHEET PILING
EL. - ELEVATION	T&B - TOP AND BOTTOM
E.O.R. - ENGINEER OF RECORD	T/- TOP OF
EQ. SP. - EQUAL SPACED	TYP. - TYPICAL
E.J. - EXPANSION JOINT	U.O.N. - UNLESS OTHERWISE NOTED
EXIST. - EXISTING	W/- WITH
FIN. GR. - FINISH GRADE	

DRAWING SYMBOLS



DETAIL SYMBOLS

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MIAMI LAKES, FLORIDA 33016
(305) 666-3563
FBPE CA #29065

PORTMIAMI
NORTH CRUISE BERTHS 1-6
SEAFLOOR STABILIZATION PROGRAM
ATKINS PROJECT NO.: 100050795

NOTES AND INDEX

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DRAWING HISTORY

RELEASED FOR	DATE	BY
REVIEW 60 %	11/30/16	
REVIEW 90 %	01/20/17	
REVIEW 100 %	02/22/17	
REVIEW 100 %		
PERMIT		

REVISIONS		
No.	DESCRIPTION	DATE

GARFIELD L. WRAY
P.E. NO. 49734

ATKINS
WILLIAM P. PITCHER
P.L.O.R.D.
PROFESSIONAL ENGINEER
NO. 31852
STATE OF FLORIDA

WILLIAM P. PITCHER
P.E. NO. 31852

PROJ. No. : 100050795

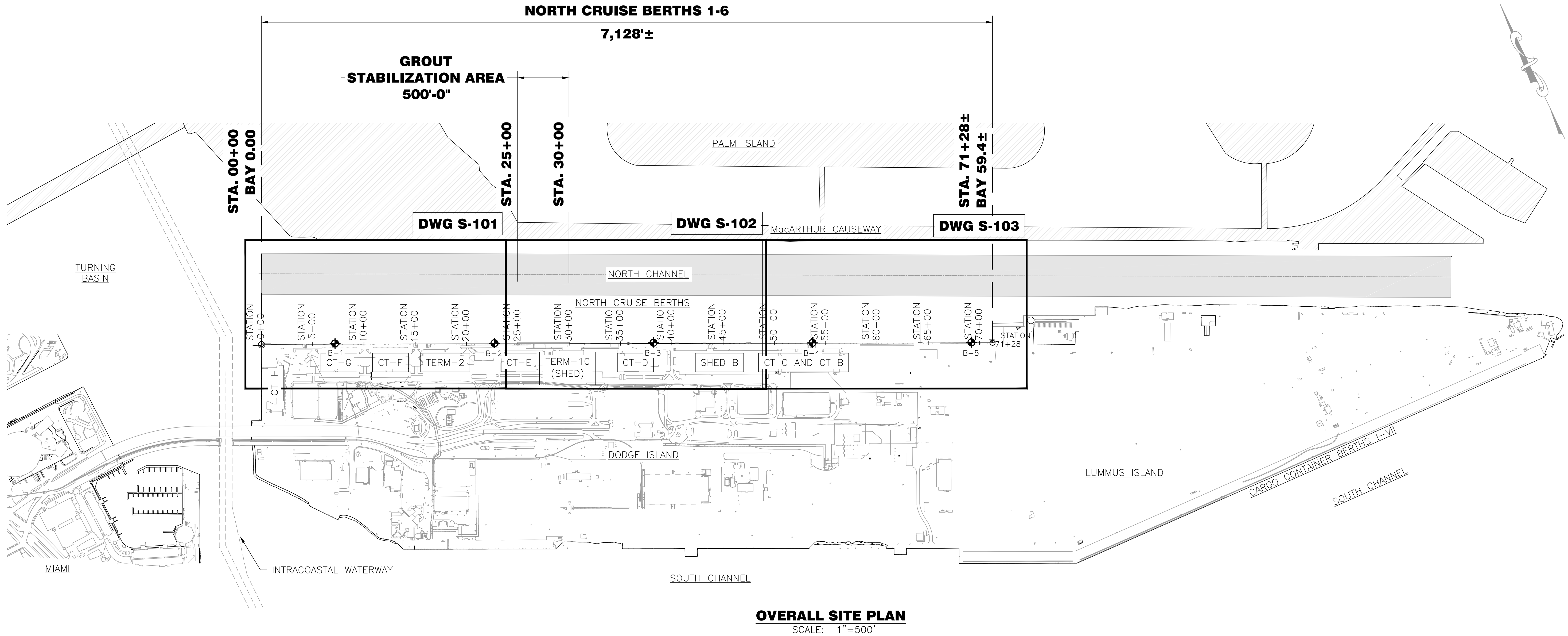
FILE NAME: NOTES AND INDEX

DATE: FEB. 2017 SCALE: AS NOTED

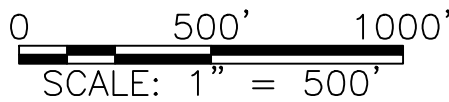
SHEET 2

DWG. No. G-001

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LEGEND:

- ◆ GEOTECHNICAL SOIL BORING LOCATION OBTAINED FROM "REPORT OF SUBSURFACE EXPLORATION & GEOTECHNICAL ENGINEERING: PORT OF MIAMI - NORTH CRUISE BERTHS 1-5" PREPARED BY NV5 INC. DATED NOVEMBER 4, 2015, NV5 PROJECT NO:14710

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2001 NORTHWEST 107TH AVENUE
MIAMI, FLORIDA 33172
(305) 592-7275
LB NO. 0000024

NV5
14486 COMMERCE WAY,
MIAMI LAKES, FLORIDA 33016
(305) 666-3563
FBPE CA #29065

PORTMIAMI
NORTH CRUISE BERTHS 1-6
SEAFLOOR STABILIZATION PROGRAM
ATKINS PROJECT NO.: 100050795

OVERALL SITE PLAN

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DRAWING HISTORY		
RELEASED FOR	DATE	BY
REVIEW 60 %	11/30/16	
REVIEW 90 %	01/20/17	
REVIEW 100 %	02/22/17	
REVIEW 100 %		
PERMIT		

REVISIONS		
No.	DESCRIPTION	DATE

NV5

GARFIELD L. WRAY
P.E. NO. 49734

ATKINS
WILLIAM P. PITCHER
LICENSE
NO. 31852
★
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

WILLIAM P. PITCHER
P.E. NO. 31852

PROJ. No. : 100050795

FILE NAME: OVERALL SITE PLAN

DATE: FEB. 2017 SCALE: AS NOTED

SHEET 3

DWG. No. S-100

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STA. 00+00
BAY 0.00

SCOUR BOWL NO. 1

MATCHLINE
DWG S-102

NORTHERLY LIMIT OF NORTH CHANNEL

NORTH CHANNEL

INBOUND TO
TURNING BASIN

OUTBOUND TO
OCEAN

SOUTHERLY LIMIT OF NORTH CHANNEL

NORTH CRUISE BERTHS 1-6

7,128'±

SCOUR BOWL RESTORATION
70'± (SEE NOTE 1)

BAY 1

BAY 2

BAY 3

BAY 4

BAY 5

BAY 6

BAY 7

BAY 8

BAY 9

BAY 10

BAY 11

BAY 12

BAY 13

BAY 14

BAY 15

BAY 16

BAY 17

BAY 18

BAY 19

BAY 20

STATION
0+00

STATION
5+00

STATION
10+00

STATION
15+00

STATION
20+00

B-1

B-2

CT-G

CT-F

TERM-2

CT-H

BURNED COPPER/PILES

DODGE ISLAND

BURNED C-

ENLARGED SITE PLAN - 1

LEGEND:



GEOTECHNICAL SOIL BORING LOCATION
FROM NV5

100% SUBMITTAL DRAWINGS
ISSUED FOR PERMIT

NOTES:

- SCOUR BOWLS SHOWN FOR INFORMATION PURPOSES ONLY AND ARE NOT PART OF THIS CONTRACT.

0 80' 160'
SCALE: 1" = 80'

ATKINS

2001 NORTHWEST 107TH AVENUE
MIAMI, FLORIDA 33172
(305) 592-7275
LB NO. 0000024

NV5

14486 COMMERCE WAY,
MIAMI LAKES, FLORIDA 33016
(305) 666-3563
FBPE CA #29065

PORTMIAMI
NORTH CRUISE BERTHS 1-6
SEAFLOOR STABILIZATION PROGRAM
ATKINS PROJECT NO.: 100050795

ENLARGED SITE PLAN - 1

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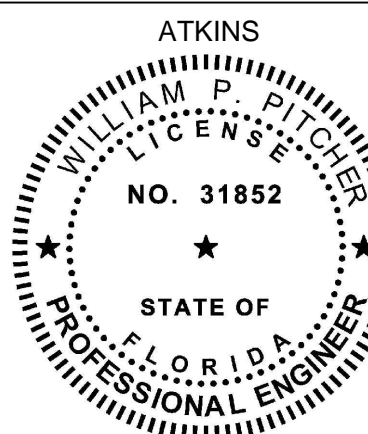
RELEASED FOR	DATE	BY
REVIEW 60 %	11/30/16	
REVIEW 90 %	01/20/17	
REVIEW 100 %	02/22/17	
REVIEW 100 %		
PERMIT		

REVISIONS

No.	DESCRIPTION	DATE

NV5

GARFIELD L. WRAY
P.E. NO. 49734



WILLIAM P. PITCHER
P.E. NO. 31852

PROJ. No. : 100050795

FILE NAME: ENLARGED SITE PLAN-1

DATE: FEB. 2017 SCALE: AS NOTED

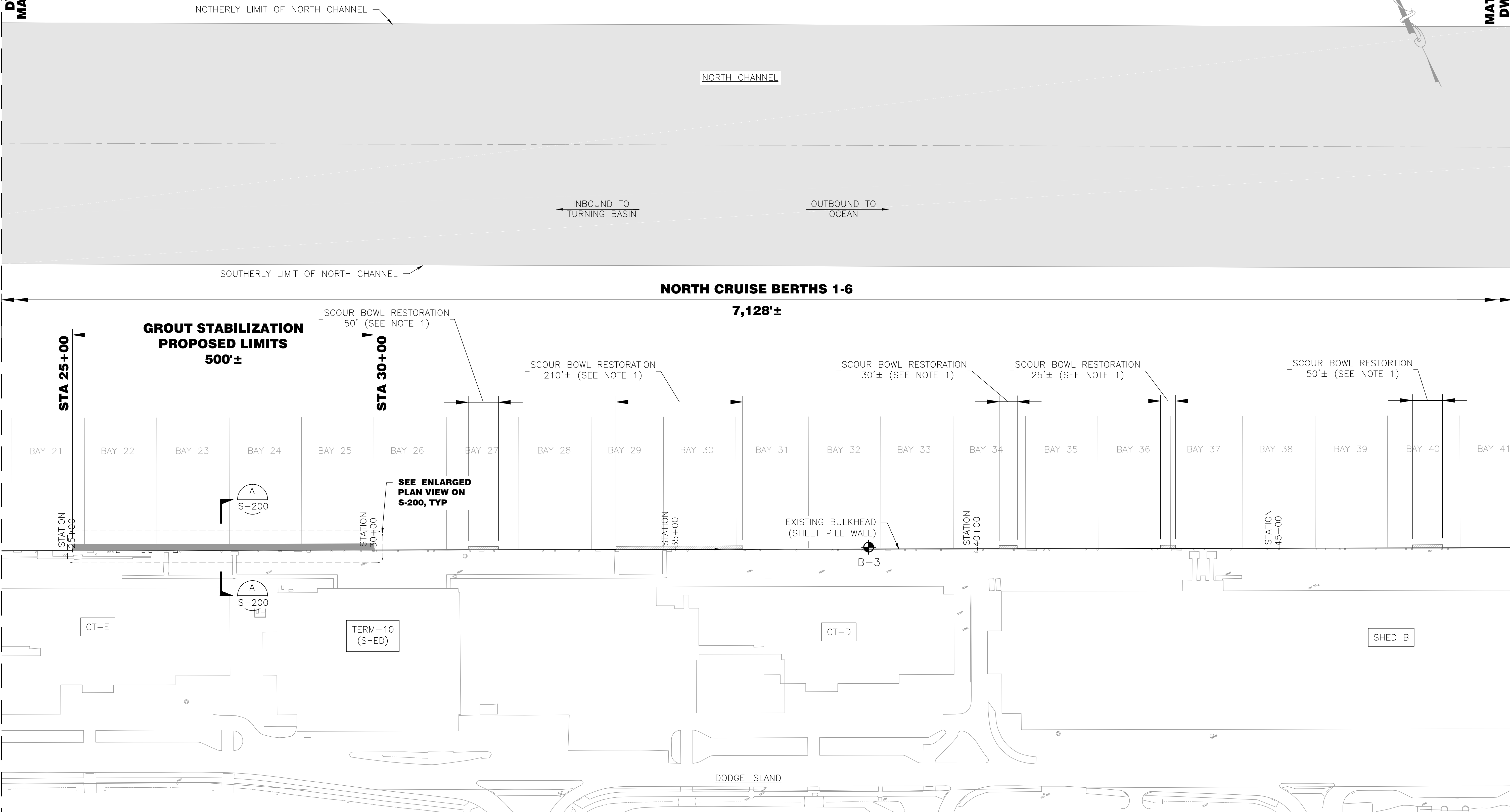
SHEET 4

DWG. No. S-101

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DWG S-101
MATCHLINE

MATCHLINE
DWG S-103



ENLARGED SITE PLAN - 2

LEGEND:
● GEOTECHNICAL SOIL BORING LOCATION FROM NV5

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0 80' 160'
SCALE: 1" = 80'

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MIAMI LAKES, FLORIDA 33016
(305) 666-3563
FBPE CA #29085

PORTMIAMI
NORTH CRUISE BERTHS 1-6
SEAFLOOR STABILIZATION PROGRAM
ATKINS PROJECT NO.: 100050795

ENLARGED SITE PLAN - 2

WARNING!
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DRAWING HISTORY		
RELEASED FOR	DATE	BY
REVIEW 60 %	11/30/16	
REVIEW 90 %	01/20/17	
REVIEW 100 %	02/22/17	
REVIEW 100 %		
PERMIT		

REVISIONS		
No.	DESCRIPTION	DATE

NV5

GARFIELD L. WRAY
P.E. NO. 49734

ATKINS
WILLIAM P. PITCHER
LICENSE
NO. 31852
★
STATE OF
FLORIDA
PROFESSIONAL ENGINEER
WILLIAM P. PITCHER
P.E. NO. 31852

PROJ. No. : 100050795

FILE NAME: ENLARGED SITE PLAN-2

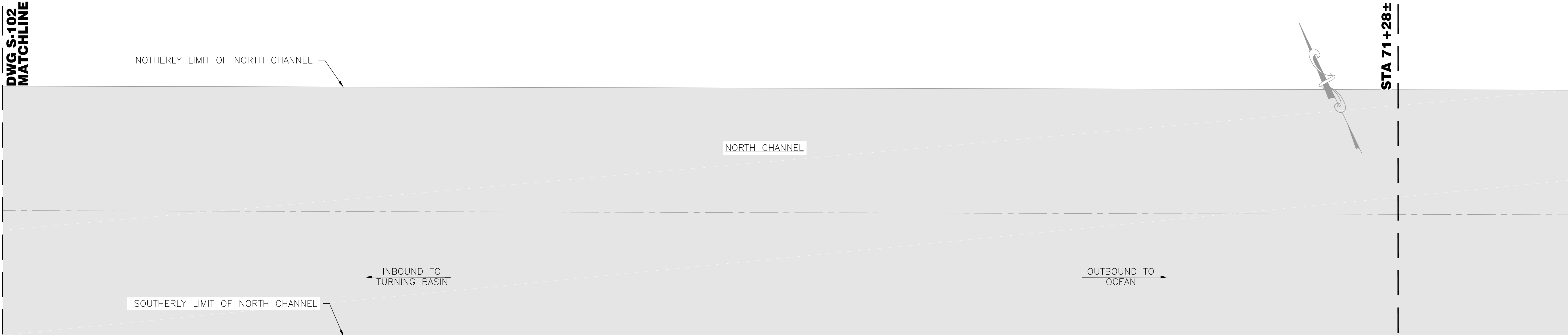
DATE: FEB. 2017 SCALE: AS NOTED

SHEET 5

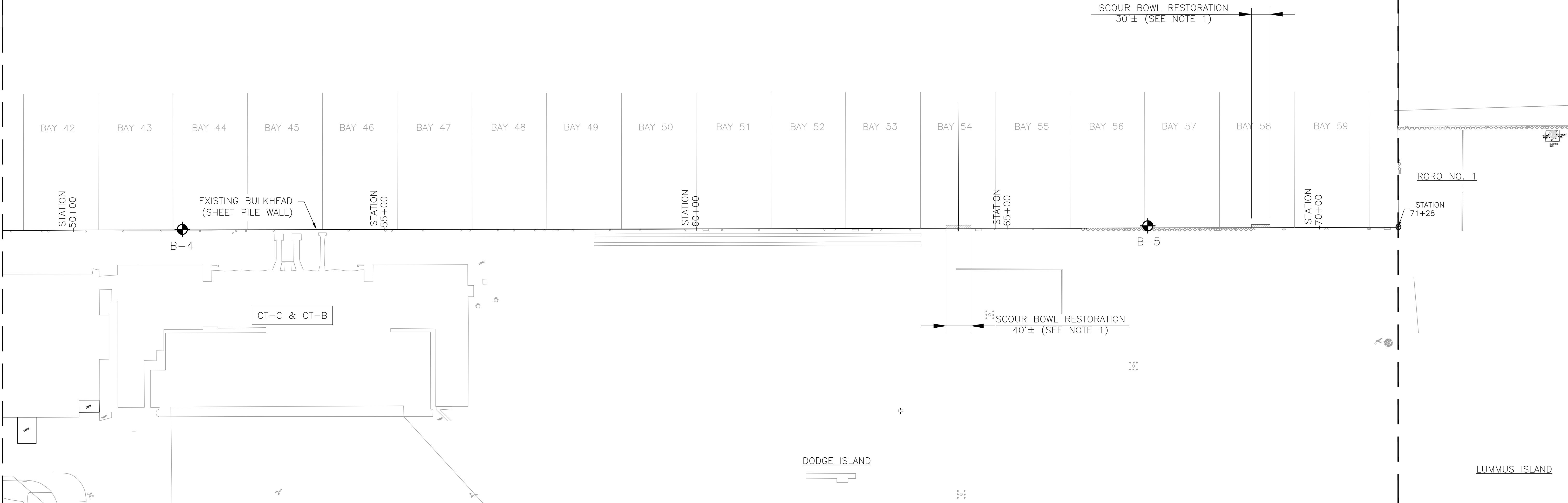
DWG. No. S-102

C:\Users\arel7103\Desktop\SO Files_Update\dropbox everyday\ATKINS\Brandon\WO 13\CD 100% Submittal Drawings Issued for Permit\S-100 SITE PLAN VIEWS.dwg 02/23/2017 09:44:03 AM

DWG S-102
MATCHLINE



NORTH CRUISE BERTHS 1-6
7,128'±



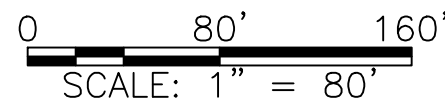
ENLARGED SITE PLAN - 3

LEGEND:

⊕ GEOTECHNICAL SOIL BORING LOCATION
FROM NV5

**100% SUBMITTAL DRAWINGS
ISSUED FOR PERMIT**

NOTES:
**1. SCOUR BOWLS SHOWN FOR INFORMATION PURPOSES
ONLY AND ARE NOT PART OF THIS CONTRACT.**



ATKINS
2001 NORTHWEST 107TH AVENUE
MIAMI, FLORIDA 33172
(305) 592-7275
LB NO. 0000024

NV5
14486 COMMERCE WAY,
MIAMI LAKES, FLORIDA 33016
(305) 666-3563
FBPE CA #29065

PORTMIAMI
NORTH CRUISE BERTHS 1-6
SEAFLOOR STABILIZATION PROGRAM
ATKINS PROJECT NO.: 100050795

ENLARGED SITE PLAN - 3

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REVIEW 100 %	02/22/17	
REVIEW 100 %		
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No.	DESCRIPTION	DATE

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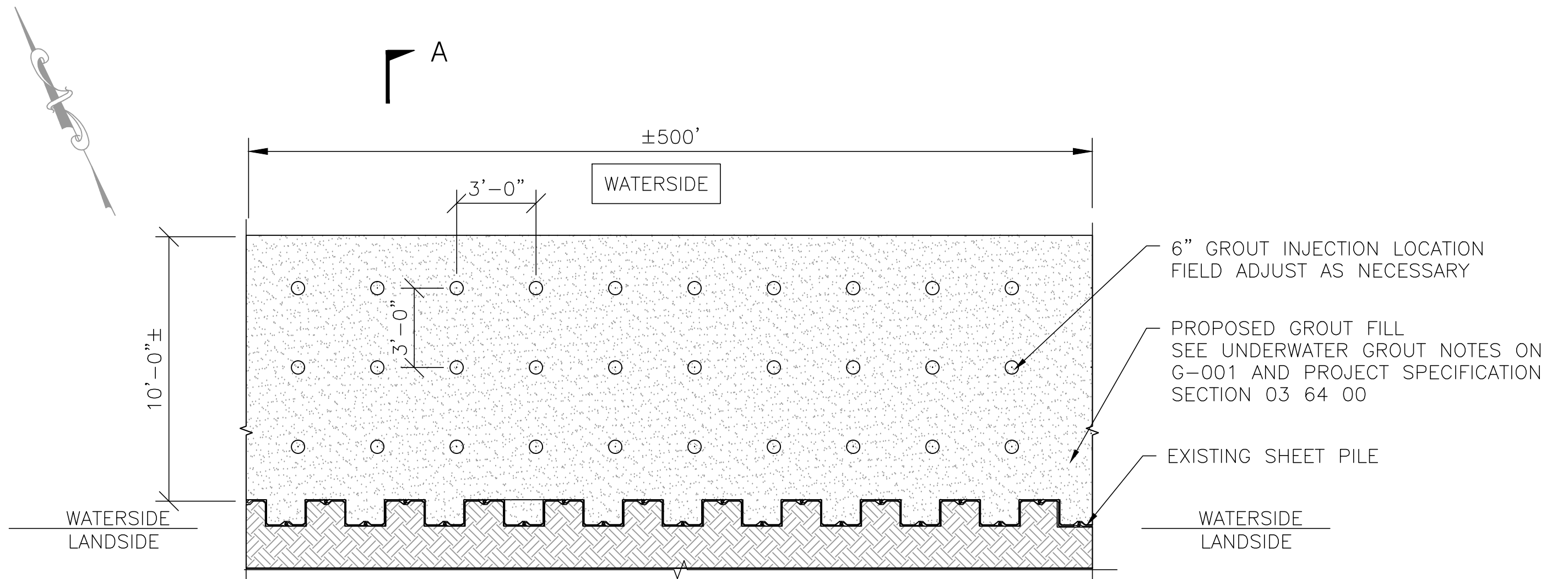
FILE NAME: ENLARGED SITE PLAN-3

DATE: FEB. 2017 SCALE: AS NOTED

SHEET 6

DWG. No. S-103

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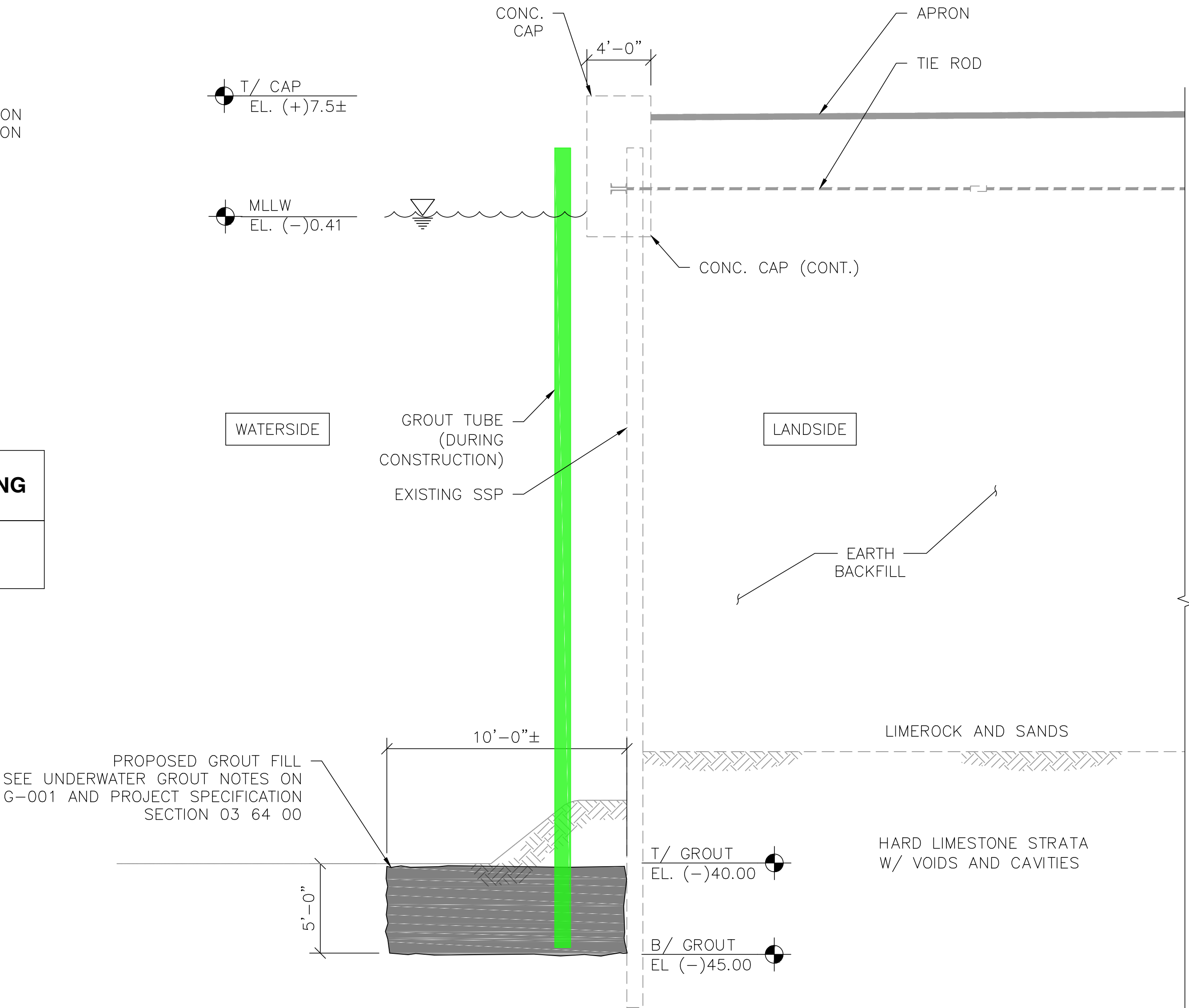
PLAN VIEW AT SEAFLOOR STABILIZATION
SCALE: N.T.S.

ESTIMATED QUANTITIES FOR PERMITTING	
UNDERWATER GROUT FILL	300-500 CY

NOTE: QUANTITIES ARE APPROXIMATE AND FOR PERMITTING PURPOSES ONLY.

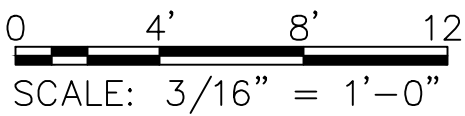
LEGEND:

--- DENOTES EXISTING



A
S-102
TYPICAL SECTION
SCALE: 3/16" = 1'-0"

**100% SUBMITTAL DRAWINGS
ISSUED FOR PERMIT**



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SECTION AND DETAILS

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★

STATE OF

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PROFESSIONAL ENGINEER

WILLIAM P. PITCHER

P.E. NO. 31852

PROJ. No. : 100050795

FILE NAME: TYPICAL SECTION

DATE: FEB. 2017SCALE:AS NOTED

SHEET 7

DWG. No. S-200