

MEMORANDUM

Agenda Item No. 8(E)(3)

TO: Honorable Chairman Jose "Pepe" Diaz
and Members, Board of County Commissioners

DATE: April 5, 2022

FROM: Geri Bonzon-Keenan
County Attorney

SUBJECT: Resolution approving the terms of and authorizing the County Mayor to execute a Communications Site Use Agreement between Miami-Dade County, through the Miami-Dade Fire Rescue Department and the State of Florida, Department of Transportation, for a five-year term with two five-year options to renew; and authorizing the County Mayor to execute amendments to the Agreement and exercise the renewal and termination provisions contained therein, provided that such amendments do not alter the purpose of the Agreement

Resolution No. R-305-22

The accompanying resolution was prepared by the Fire Rescue Department and placed on the agenda at the request of Prime Sponsor Commissioner Sally A. Heyman.



Geri Bonzon-Keenan
County Attorney

GBK/uw

Memorandum



Date: April 5, 2022

To: Honorable Chairman Jose "Pepe" Diaz
and Members, Board of County Commissioners

From: Daniella Levine Cava
Mayor 

Subject: Resolution approving the Communications Site Use Agreement between Miami-Dade County, through the Miami-Dade Fire Rescue Department, and the State of Florida Department of Transportation

Recommendation

It is recommended that the Miami-Dade Board of County Commissioners (Board) approve the attached resolution authorizing the County Mayor or County Mayor's designee to execute the Communications Site Use Agreement (Agreement) between Miami-Dade County, through the Miami-Dade Fire Rescue Department (MDFR), and the State of Florida Department of Transportation (State). It is further recommended that this Board authorize the County Mayor or County Mayor's designee to execute amendments to the Agreement, and to exercise the renewal and termination provisions contained therein, provided that such amendments do not alter the purpose of the Agreement. The no-cost Agreement shall be for a 5-year term with two 5-year options to renew.

Scope

This item has a Countywide impact.

Delegation of Authority

The County Mayor or County Mayor's designee is authorized to execute the Agreement between the State and MDFR. The County Mayor or County Mayor's designee is also authorized to execute amendments to said Agreement, and to exercise the renewal and termination provisions contained therein, provided that such amendments do not alter the purpose of the Agreement.

Fiscal Impact/Funding Source

There is no fiscal impact to the County. The State agrees, to be solely responsible for all costs related to this Agreement including, but not limited to, equipment installation, equipment removal, and telephone circuit usage. Further, maintenance costs and the operation of improvements related to this Agreement shall be at the sole expense of the State.

Track Record/Monitor

These Agreements will be monitored by Assistant Chief Greg Rubin, or other supervisory personnel.

Background

The State of Florida Department of Transportation and Miami-Dade County have established a partnership to identify tower locations that would improve radio communication. The current item is the Florida Department of Transportation request to establish a radio transmitter and receiver site at Fire Station 75 located at 2215 NW 129 Avenue, Miami, FL 33182, (Latitude: 25-47-42.18 N, Longitude: 80-24-16.43 - Tower ASR: 1315590). This Agreement will provide the State with, revocable and terminable authority to enter the Communications Site premises for the sole purpose of using it for the improvements to its communications system equipment and operations. Said Improvements shall be located so as to not interfere with any of the MDFR's operations. This Communication Site would augment the state's current radio communication system.

On November 2, 2021, the Board approved Resolution No. R-1024-21, which authorized a similar agreement between the State and MDFR using the State's Okeechobee tower located at the East Quadrant of Turnpike and West Okeechobee Road, (MP35.5), (Latitude: 25-54-0.22 N Longitude: 80-22-57.4 W – Tower ASR: 1049425). Such agreement helped with the ongoing growth and expansion to the west and allowed MDFR to establish a radio transmitter and receiver site in the Okeechobee area. The parties anticipate this current Agreement to continue a great partnership and improve the State's infrastructure for radio communications.



JD Patterson
Chief Public Safety Officer



MEMORANDUM

(Revised)

TO: Honorable Chairman Jose "Pepe" Diaz
and Members, Board of County Commissioners

DATE: April 5, 2022

FROM: 
Gen Bonzon-Keenan
County Attorney

SUBJECT: Agenda Item No. 8(E)(3)

Please note any items checked.

- _____ "3-Day Rule" for committees applicable if raised
- _____ 6 weeks required between first reading and public hearing
- _____ 4 weeks notification to municipal officials required prior to public hearing
- _____ Decreases revenues or increases expenditures without balancing budget
- _____ Budget required
- _____ Statement of fiscal impact required
- _____ Statement of social equity required
- _____ Ordinance creating a new board requires detailed County Mayor's report for public hearing
- _____ No committee review
- _____ Applicable legislation requires more than a majority vote (i.e., 2/3's present ____, 2/3 membership ____, 3/5's ____, unanimous ____, CDMP 7 vote requirement per 2-116.1(3)(h) or (4)(c) ____, CDMP 2/3 vote requirement per 2-116.1(3)(h) or (4)(c) ____, or CDMP 9 vote requirement per 2-116.1(4)(c)(2) ____ to approve
- _____ Current information regarding funding source, index code and available balance, and available capacity (if debt is contemplated) required

Approved _____ Mayor
Veto _____
Override _____

Agenda Item No. 8(E)(3)
4-5-22

RESOLUTION NO. _____ R-305-22

RESOLUTION APPROVING THE TERMS OF AND AUTHORIZING THE COUNTY MAYOR OR COUNTY MAYOR'S DESIGNEE TO EXECUTE A COMMUNICATIONS SITE USE AGREEMENT BETWEEN MIAMI-DADE COUNTY, THROUGH THE MIAMI-DADE FIRE RESCUE DEPARTMENT AND THE STATE OF FLORIDA, DEPARTMENT OF TRANSPORTATION, FOR A FIVE-YEAR TERM WITH TWO FIVE-YEAR OPTIONS TO RENEW; AND AUTHORIZING THE COUNTY MAYOR OR COUNTY MAYOR'S DESIGNEE TO EXECUTE AMENDMENTS TO THE AGREEMENT AND EXERCISE THE RENEWAL AND TERMINATION PROVISIONS CONTAINED THEREIN, PROVIDED THAT SUCH AMENDMENTS DO NOT ALTER THE PURPOSE OF THE AGREEMENT

WHEREAS, this Board desires to accomplish the purposes outlined in the accompanying memorandum, a copy of which is incorporated herein by reference,

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF COUNTY COMMISSIONERS OF MIAMI-DADE COUNTY, FLORIDA, that this Board:

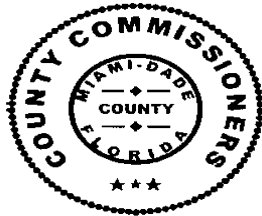
Section 1. Approves the terms of and authorizes the County Mayor or County Mayor's designee to execute a Communications Site Use Agreement ("Agreement"), in substantially the form attached hereto as Attachment A and made a part hereof, for the Station 75 Communications Site, with Miami-Dade County, through the Miami-Dade Fire Rescue Department ("MDFR").and the State of Florida, Department of Transportation ("State"). The purpose of the Agreement is to establish the terms and conditions under which the State shall be authorized to use a portion of said Communications Site located at Fire Station 75, 2215 NW 129 Avenue, Miami, FL 33182, (Latitude: 25-47-42.18 N, Longitude: 80-24-16.43 - Tower ASR: 1315590) to optimize its communications system and increase radio capacity. The no-cost Agreement shall be in effect for a 5-year term with two options to renew, each for an additional 5-year term.

Section 2. Authorizes the County Mayor or County Mayor’s designee to execute amendments to the Agreement and exercise the renewal and termination provisions contained therein, provided that such amendments do not alter the purpose of the Agreement.

The foregoing resolution was offered by Commissioner **Rebeca Sosa** , who moved its adoption. The motion was seconded by Commissioner **Oliver G. Gilbert, III** and upon being put to a vote, the vote was as follows:

Jose “Pepe” Diaz, Chairman	aye		
Oliver G. Gilbert, III, Vice-Chairman	aye		
Sen. René García	aye	Keon Hardemon	aye
Sally A. Heyman	aye	Danielle Cohen Higgins	aye
Eileen Higgins	aye	Joe A. Martinez	aye
Kionne L. McGhee	aye	Jean Monestime	aye
Raquel A. Regalado	aye	Rebeca Sosa	aye
Sen. Javier D. Souto	aye		

The Chairperson thereupon declared this resolution duly passed and adopted this 5th day of April, 2022. This resolution shall become effective upon the earlier of (1) 10 days after the date of its adoption unless vetoed by the County Mayor, and if vetoed, shall become effective only upon an override by this Board, or (2) approval by the County Mayor of this resolution and the filing of this approval with the Clerk of the Board.



MIAMI-DADE COUNTY, FLORIDA
BY ITS BOARD OF
COUNTY COMMISSIONERS

HARVEY RUVIN, CLERK

By: **Basia Pruna**
Deputy Clerk

Approved by County Attorney as
to form and legal sufficiency.

Shanika A. Graves

COMMUNICATIONS SITE USE AGREEMENT

Page 1 of 7

OWNER	Miami-Dade County through its Miami Dade Fire Rescue Department 111 NW 1st Street Miami, FL 33128
USER AGENCY	State of Florida Department of Transportation 605 Suwannee Street Tallahassee, Florida 32399-0450
SITE DESCRIPTION	Site Name: Station 75 Address: 2215 NW 129 Avenue Miami, FL 33182 Latitude: 25-47-42.18 N Longitude: 80-24-16.43 W Tower ASR: 1315590
SITE USE	Check all that apply: ☒ Owner Tower ☒ Owner Shelter ☐ New User Agency Shelter ☐ Other: _____

WHEREAS, User Agency desires to use a portion of said Communications Site for its communications system for the purpose of enhancing User Agency activities through radio and/or communications; and

WHEREAS, Owner desires to allow User Agency to use a portion of said Communications Site within the limitations and subject to the conditions set forth in this Agreement.

NOW, THEREFORE, in consideration of the execution of this **Communications Site Use Agreement**, hereinafter referred to as "Agreement", it is mutually agreed between the parties hereto as follows:

1. Use of Premises

Owner hereby gives permission, revocable and terminable as hereinafter provided, to the User Agency to enter the Communications Site premises for the sole purpose of using it for the improvements to its communications system equipment and operations (hereinafter referred to as the "Improvements"). Said Improvements shall be located so as to not interfere with any of the Owner's operations.

2. Fees

Unless otherwise specified herein, there will be no fee for use of this Communications Site unless an additional fee or cost directly attributable to the User Agency is imposed on the Owner as a result of this Agreement. In the event that such a fee or cost is levied, the User Agency agrees to and will be required to be solely responsible for all such fees and costs.

3. Terms

The initial term of this Agreement shall be for five (5) years. The User Agency may request to renew this Agreement every five (5) years. Renewal shall be in the form of a letter from the User Agency to the Owner requesting the renewal of this Agreement and a response from the Owner to the User Agency

approving the renewal request. Renewal of this Agreement is the responsibility of the User Agency and not the responsibility of the Owner. In the event that the User Agency fails to obtain a renewal concurrence from the Owner, the User Agency will be allowed sixty (60) days to remove all antenna(s), mounting hardware, transmission line(s), and equipment from Communications Site premises. Communications Site shall be made clean and undamaged from the removal process.

4. Access

The Owner shall provide the User Agency access to the Communications Site at all times for the uses authorized herein. The User Agency shall submit a list of authorized personnel to the Owner that requires access to the Communications Site. The User Agency authorized personnel shall complete a Criminal Justice Information Services (CJIS) Background Check and complete CJIS Security Training.

5. Maintenance and Improvements

The costs of any maintenance and operation of Improvements shall be at the sole expense of the User Agency.

The User Agency shall get prior written approval from the Owner and amend the Agreement if any Improvements are to be made to the User Agency equipment. This includes but is not limited to antenna changes, equipment changes, and any new equipment. The User Agency shall submit a new Structural Analysis and Intermodulation analysis to the Owner in accordance with Paragraphs 12 and 13 if a new antenna is added or replaced on the Owner's tower.

6. Indemnification

To the extent permitted by law and as limited by Section 768.28, Florida Statutes, whereby neither party to this agreement shall be held liable to pay a personal injury or property damage claim or judgment by any one person, which exceeds the sum of \$200,000, or any claim or judgment arising out of the same incident or occurrence, which exceeds the sum of \$300,000 from any and all personal injury or property damage claims, liabilities, losses or causes of action, which may arise as a result of this Agreement. Subject to and only within the limitation permitted by law, both parties shall be fully and solely responsible and liable for its own acts, and omissions, including those of its officers, employees, instructors, and all other parties to this agreement. To the extent permitted by law, both parties shall release, hold harmless, indemnify, defend, and agree not to sue each other, including their officers, employees and agents from and for any and all claims, liabilities, damages of any kind, and expenses, including legal fees and causes of actions of any nature whatsoever, foreseen or unforeseen, including but not limited to personal injury, illness, death and property damage, which arise directly or indirectly from the use of, or presence of the Communication Site and associated equipment, whether used in whole or in part by either party, including their officers, employees, and other parties that are allowed on the premises by either party. This indemnification shall survive the expiration or other termination of this Agreement.

When the Owner receives a notice of claim for damages that may have been caused by the User Agency in the performance of services required under this Agreement, the Owner will immediately forward the claim to the User Agency. The User Agency and the Owner will evaluate the claim and report their findings to each other within 14 working days and will jointly discuss options in defending the claim. After reviewing the claim, the Owner will determine whether to require the participation of the User Agency in the defense of the claim or to require that the User Agency defend the Owner in such claim as described in this section. The Owner's failure to promptly notify the User Agency of a claim shall not act as a waiver of any right herein to require the participation in or defense of the claim by the User Agency. The Owner and the User Agency will each pay its own expenses for the evaluation, settlement negotiations and trial, if any. However, if only one party participates in the defense of the claim at trial, that party is responsible for all expenses at trial.

7. Insurance

User Agency is solely responsible for self-insurance and shall be considered so by the Owner.

8. Interference

In the event the Owner determines that the operation of the Improvements by the User Agency caused interference to transmission or reception, or both of any other communications systems in use in the vicinity of the Communications Site, the User Agency shall take all appropriate steps necessary to mitigate said interference within thirty (30) days of receiving written notice.

9. Permits

User Agency is responsible for obtaining and paying the costs of all permits, licenses, and/or other approvals by any regulatory body having jurisdiction over the uses authorized herein.

10. Compliance

Should the User Agency fail or neglect to comply with any terms or conditions of this Agreement or to comply with any reasonable requirement of the Owner after thirty (30) days written notice and demand, this Agreement shall be subject to termination. In the event of such termination, User Agency shall immediately remove any and all of its Improvements from the Communications Site described herein and surrender all rights and privileges under this Agreement.

11. Limitations

The section headings of this Agreement are for convenience and reference only and in no way define, extend, limit, or describe the scope or intent of this Agreement or any provision hereof.

This Agreement embodies the whole agreement of the parties. There are no promises, terms, conditions, or obligations other than those contained herein, and this Agreement shall supersede all previous communications, representations, or agreements, either verbal or written, between the parties hereto. This Agreement shall be governed by and construed in accordance with the laws of the State of Florida.

12. Structural Analysis

User Agency agrees to provide Owner with a structural analysis (if use of the Owner's tower is included in this Agreement) that indicates that the additional proposed User Agency antenna(s), mounting hardware and transmission line(s) will not exceed the tower loading standards as defined by the most current revision of the American National Standards Institute (ANSI)/Telecommunications Industries Association (TIA) 222 wind loading standard and/or the American Society of Civil Engineers (ASCE) 7 wind loading standard and/or the South Florida Building Code as required by State and/or local requirements using the most stringent and latest revision(s). The structural analysis must be provided as required, reviewed, and approved by the Owner to technical approval of this Agreement.

13. Intermodulation Analysis

User Agency agrees to provide the Owner with an Intermodulation (Intermod) analysis of all the existing and proposed receiver and transmitter operating frequencies. This analysis must provide 9th Order calculations using all transmit frequencies and include all receive frequencies and their adjacent channel frequencies. The Owner will require interference analyses for any Intermod frequency deemed to produce interference. The interference analysis must produce a signal strength component based on path loss, antenna performance characteristics and spatial separation, frequency separation, and receiver and ancillary filter isolation curves. The Intermod analysis and subsequent interference analyses must be

provided as required, reviewed, and approved by the Owner prior to the technical approval of this Agreement.

14. Chapter 471, Florida Statutes

User Agency agrees that Structural Analysis and Intermodulation Analysis submittals required herein will be signed and sealed by a qualified Florida registered Professional Engineer (P.E.) in accordance with Chapter 471, Florida Statutes.

15. Standards Requirements

User Agency agrees to install all equipment in accordance with but not limited to Electronics Industries Association (EIA), the Institute of Electrical and Electronic Engineers (IEEE) and National Electrical Code (NEC) standards.

16. Surge and Transient Protection Requirements

User Agency agrees to provide, at User Agency's expense, any and all surge and transient protection devices, including but not limited to transmission line through-line protectors, power line primary and secondary protectors, and telephone line protectors.

17. Required Submittals

User Agency agrees to submit a complete plan of the proposed additional equipment. The required submittals will be based on site specific needs and transmitted to the Owner in response to a technically complete initial request to use a specific site. Submittals may include but not be limited to structural analysis (paragraph 12), Intermodulation analysis (paragraph 13), equipment building floor space use plan, power requirements, lightning protection, microwave use plan and equipment maintenance requirements.

18. Unforeseen Problems

User Agency agrees that, if any unforeseen problems such as but not limited to structural overloading or overstress to the Communications Site tower, or interference to any Owner or preexisting User Agency equipment, or any environmental problems were to occur, the User Agency will either correct, at the expense of the User Agency, any and all problems to the Owner's satisfaction within 60 days or within an alternate time limit determined by the Owner.

19. Cost Responsibility

User Agency agrees, unless stipulated otherwise herein, to be solely responsible and that Owner shall have no responsibility for any costs including, but not limited to, equipment installation, equipment removal, and telephone circuit usage.

The Owner is responsible for all utility costs located at the Station 75 communications facility.

20. Suspension of Operations

User Agency agrees to suspend all operations and remove all antenna(s), mounting hardware, transmission line(s), and other equipment from said Communications Site within sixty (60) days of receipt of written notice to vacate said Communications Site. If the request to vacate is determined an emergency by the Owner, the User Agency agrees to immediately cease and desist as specified in the emergency request.

21. Regulatory Requirements

User Agency agrees to comply with all federal, state, and local regulations, laws, and ordinances applicable to this Agreement. User Agency further agrees to operate, maintain, and control all User Agency equipment in accordance with and not in violation of any Federal Communications Commission (FCC), Federal Aviation Administration (FAA), or any other empowered regulating body rules or laws.

22. Governing Law

This Agreement shall be governed by and construed in accordance with the laws of the State of Florida.

23. Compliance with Laws

The User Agency agrees to comply with Section 20.055(5), Florida Statutes, and to incorporate in all subcontracts the obligation to comply with Section 20.055(5), Florida Statutes.

In accordance with Section 287.135, Florida Statutes, by signing this Agreement the User Agency certifies that it is not: (1) listed on the Scrutinized Companies that Boycott Israel List, created pursuant to Section 215.4725, Florida Statutes, (2) engaged in a boycott of Israel, (3) or listed on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, created pursuant to Section 215.473, Florida Statutes. If the Owner determines the User Agency submitted a false certification under Section 287.135(5) of the Florida Statutes, pertaining to a boycott of Israel, the Owner shall either terminate the Contract after it has given the User Agency notice and an opportunity to demonstrate the Owner's determination of false certification was in error pursuant to Section 287.135(5)(a) of the Florida Statutes, or maintain the Contract if the conditions of Section 287.135(4) of the Florida Statutes are met.

24. Public Records

The Vendor shall comply with Chapter 119, Florida Statutes. Specifically, the Vendor shall:

- (1) Keep and maintain public records required by the Owner to perform the service.
- (2) Upon request from the Owner's custodian of public records, provide the Owner with a copy of the requested records or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed the cost provided in Chapter 119, Florida Statutes, or as otherwise provided by law.
- (3) Ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law for the duration of the Agreement term and following completion of the Agreement if the Vendor does not transfer the records to the Owner.
- (4) Upon completion of the Agreement, transfer, at no cost, to the Owner, all public records in possession of the Vendor or keep and maintain public records required by the Owner to perform the service. If the Vendor transfers all public records to the Owner upon completion of the Agreement, the Vendor shall destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. If the Vendor keeps and maintains public records upon completion of the Agreement, the Vendor shall meet all applicable requirements for retaining public records. All records stored electronically must be provided to the Owner, upon request from the Owner's custodian of public records, in a format that is compatible with the information technology systems of the Owner.

Failure by the Vendor to comply with Chapter 119, Florida Statutes, shall be grounds for immediate unilateral cancellation of this Agreement by the Department.

If the User Agency has questions regarding the application of Chapter 119, Florida statutes, it is the User Agency's duty to provide public records relating to this contract.

25. E-Verify

The User Agency shall:

- A. Utilize the U.S. Department of Homeland Security's E-Verify system to verify the employment eligibility of all new employees hired by the Agency during the term of the contract; and
- B. Expressly require any subcontractors performing work or providing services pursuant to the state contract to likewise utilize the U.S. Department of Homeland Security's E-Verify system to verify the employment eligibility of all new employees hired by the subcontractor during the contract term.

26. Attachments

Please check appropriate box:

☐ None

☒ Yes (List attached to Agreement)

THE REMAINDER OF THIS PAGE INTENTIONALLY LEFT BLANK

COMMUNICATIONS SITE USE AGREEMENT – FDOT & MDR
Station 75 - 2215 NW 129 Avenue, Miami, FL 33182

Page 7 of 7

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be execute this _____
Day of _____, _____.

**USER AGENCY
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION**

MIAMI-DADE COUNTY

By: _____
Printed Name:

Printed Name:

Title/Date

Title/Date

**APPROVED AS TO FORM AND
LEGAL SUFFICIENCY:**

**APPROVED AS TO FORM AND
LEGAL SUFFICIENCY:**

By: _____

By: _____

Attest: _____(SEAL)

FOR OWNER USE ONLY

TECHNICAL APPROVAL:

LEGAL REVIEW:

Title:

Title:

Attachments

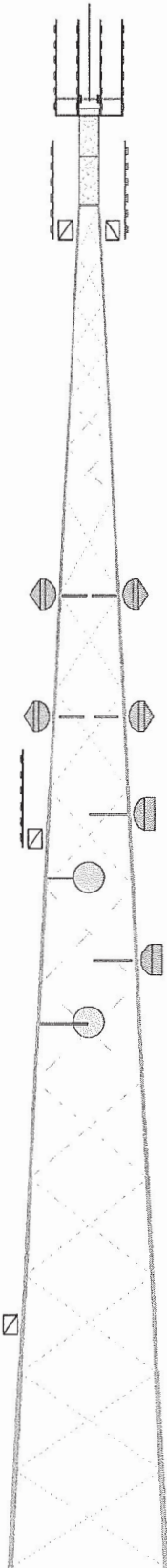
1. Station 75 Tower Design
2. Station 75 FDOT Installation Plans
3. Tower Analysis Report - Pate Engineering Inc.
4. Intermodulation Study - OCG Omnicom Consulting Group

Note:

1. The requirement for a structural analysis was waived by Miami-Dade Fire Rescue because the tower was structurally designed to accommodate for the FDOT proposed antennas.
2. The requirement for an intermodulation study was waived by Miami-Dade Fire Rescue because the FDOT will have the first licensed 6 GHz microwave paths on the tower.

Section	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13	T14	T15
Legs	SR 2 1/4	A	B	C	D	E	F	G	H	I	J	K	L		
Leg Grade															
Diagonals	SR 7/8	M	N												
Diagonal Grade															
Top Girts															
Mid Girts	SR 1	L3x3x3/16													
Bottom Girts	SR 1														
Horizontal	SR 3/4														
Face Width (ft)	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32
# Panels @ (ft)	8 @ 2.42708	6 @ 10	3.3	4.5	5.1	5.2	6.7	7.1	7.8	8.0	10.1	11.1	13.2	14.5	103.5
Weight (K)	1.5	2.9	2.4												

300.0 ft
280.0 ft
260.0 ft
240.0 ft
220.0 ft
200.0 ft
180.0 ft
160.0 ft
140.0 ft
120.0 ft
100.0 ft
80.0 ft
60.0 ft
40.0 ft
20.0 ft
0.0 ft



DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
Beacon	300	Alive Telecommunications ATC-GD4V80	275
Beacon	300	2-1/2" x 12' Sch. 40	200
21' LRE with 7-6" lightning rod (arm=11.5)	300	2-1/2" x 12' Sch. 40	200
Alive Telecommunications ATC-GD4V80	300	PAR6-59 w/ Radome	200
(3) 2" x 54" Sch. 40	300	PAR6-59 w/ Radome	200
(3) 2" x 54" Sch. 40	300	2-1/2" x 15' Sch. 40	175
(3) 2" x 54" Sch. 40	300	2-1/2" x 15' Sch. 40	175
(3) 2" x 54" Sch. 40	300	PAR6-59 w/ Radome	175
Alive Telecommunications ATC-GD4V80	300	PAR6-59 w/ Radome	175
Alive Telecommunications ATC-GD4V80	300	2-1/2" x 17' Sch. 40	155
Alive Telecommunications ATC-GD4V80	300	USX6-6W	155
Alive Telecommunications ATC-GD4V80	300	6' Bogner Mount Heavy Duty Side Arm	150
Alive Telecommunications ATC-GD4V80	300	Alive Telecommunications ATC-GD4V80	150
Alive Telecommunications ATC-GD4V80	300	USX6-6W	142
Alive Telecommunications ATC-GD4V80	300	2-1/2" x 18' Sch. 40	142
13' Pirod LP Platform w/HR	300	2-1/2" x 20' Sch. 40	125
6' Bogner Mount Heavy Duty Side Arm	275	USX6-6W	125
Alive Telecommunications ATC-GD4V80	275	USX6-6W	112
6' Bogner Mount Heavy Duty Side Arm	275	2-1/2" x 21' Sch. 40	112
		Yagi (3 sq.ft. CaAa assumed)	50
		6' Bogner Mount Heavy Duty Side Arm	50

SYMBOL LIST

MARK	SIZE	MARK	SIZE
A	#122G-58 - 1.50" - 1.00" conn. (Pirod 195210)	H	#122G-58 -3.00"-0.875 -DB-0.625"-HP- (Pirod 196957)
B	#122G-58 - 1.50" - 1.00" conn. (Pirod 194651)	I	#122G-58 -3.25"-0.875 -DB-0.625"-HP-TR5 (Pirod 196959)
C	#122G-58 - 1.75" - 1.00" conn.-TR1-(Pirod 195213)	J	#12/18-58 -3.50"-0.875 -DB-0.625"-HP - (Pirod 217975)
D	#122G-58 -2.00" - 0.875" conn.-TR3-(Pirod 195637)	K	#18/12- (58KSI) Transition - 3.50" - 0.875" Brace - 1.00' DB (Pirod 259976)
E	#122G-58 -2.25" - 0.875" conn. (Pirod 195960)	L	#18 (58KSI) BASE - 3.50" - 0.875" Brace - 1.00" DB (Pirod 261723)
F	#122G-58 - 2.75" - 0.875" conn.-TR4-(Pirod 196297)	M	L3 1/2x3 1/2x5/16
G	#122G-58 - 2.75" - 0.875" conn. (Pirod 196299)	N	L2 1/2x2 1/2x1/4

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-58	58 ksi	75 ksi	A572-50	50 ksi	65 ksi

TOWER DESIGN NOTES

1. Tower is located in Miami-Dade County, Florida.
2. Tower designed for Exposure C to the TIA-222-G Standard.
3. Tower designed for a 186 mph basic wind in accordance with the TIA-222-G Standard.
4. Deflections are based upon a 60 mph wind.
5. Tower Risk Category III and IV.
6. Topographic Category 1 with Crest Height of 0.00 ft
7. TOWER RATING: 79.9%

ALL REACTIONS
ARE FACTORED

MAX. CORNER REACTIONS AT BASE:

DOWN: 1109 K
SHEAR: 127 K

UPLIFT: -960 K
SHEAR: 112 K

AXIAL
136 K
SHEAR
200 K
MOMENT
29492 kip-ft
TORQUE 249 kip-ft
REACTIONS - 186 mph WIND

valmont
STRUCTURES

1545 Pidco Dr.
Plymouth, IN

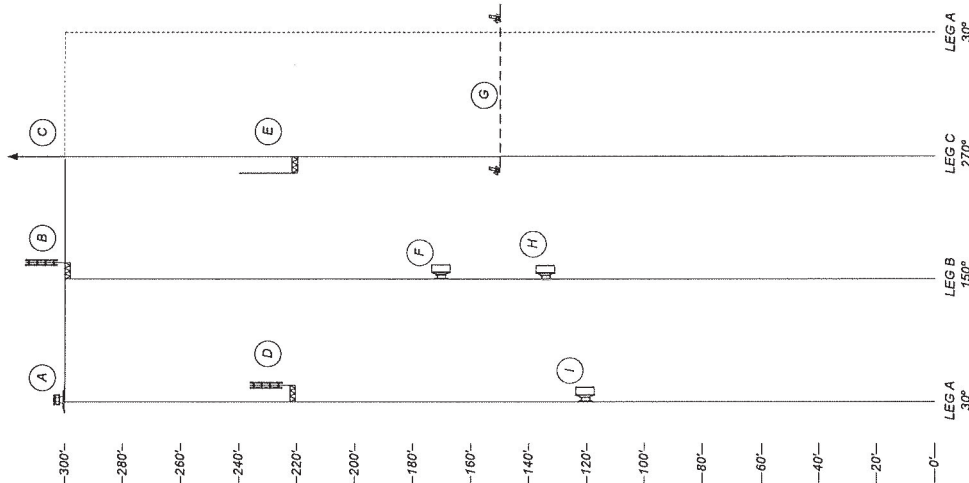
Valmont Industries, Inc. - Specialty Structures Group
Phone: (574) 936-4221
FAX: (574) 936-6458

Job:	413499-15
Project:	U-32 x 300' - MDR FS75, FL
Client:	Motorola Solutions
Code:	TIA-222-G
Path:	C:\Towers\413499\413499-15.en
Drawn by:	LRYM
Date:	09/22/20
Scale:	NTS
Dwg No.	E-1

ID	MODEL	LEG/ FACE	MNT. HGT. (BASE)	TX. LINE	AZIM.	POLAR	FREQ. (MHz)	NOTES
A	DUAL LED FLASH HEAD	A	300' (BASE)	-	-	-	-	-
B	DIPOLE	B	300' (BASE)	-	-	-	-	-
C	AIR TERMINAL	C	300' (BASE)	-	-	-	-	-
D	DIPOLE	A	230' (BASE)	-	-	-	-	-
E	OMNI	C	230' (BASE)	-	-	-	-	-
F	US-16-4W	B	171' (C.L.)	EU63	173.8°	HORIZ. HORIZ.	6345.4900 6404.7900	1
G	US-16-4W	A,C	135' (C.L.)	EU63	173.8°	HORIZ. HORIZ.	6345.4900 6404.7900	1
H	US-16-4W	B	135' (C.L.)	EU63	173.8°	HORIZ. HORIZ.	6345.4900 6404.7900	1
I	US-16-4W	A	130' (C.L.)	EU63	10.7°	HORIZ.	6271.3650	1

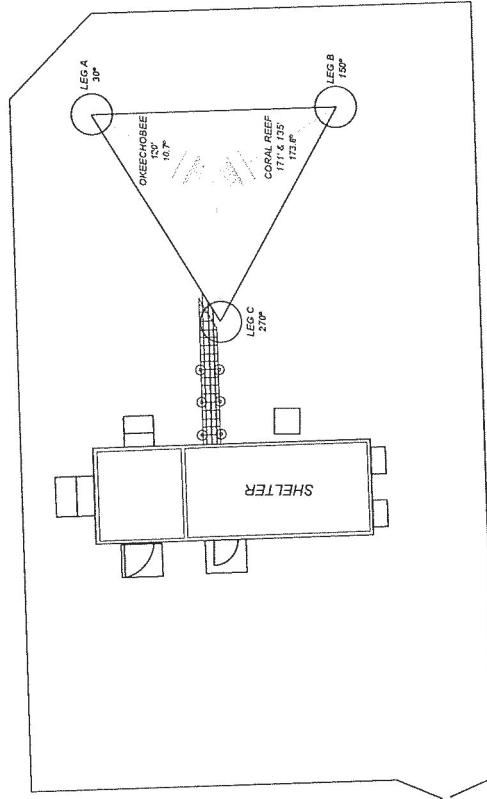
NOTES:

1. INSTALL SPECIFIED ANTENNAS, TRANSMISSION LINES, AND ASSOCIATED MOUNTING AND GROUNDING HARDWARE PER THESE PLANS.



NEW TOWER LOADING DIAGRAM

SITE LAYOUT



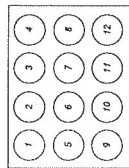
LEGEND:

- EQUIPMENT TO BE INSTALLED
- EXISTING

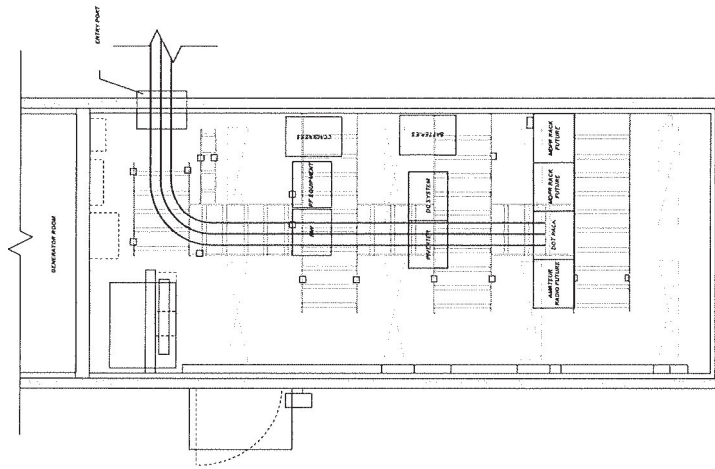
DATE		REV	DESCRIPTION	CONTRACT PLANS RECORD	DATE	REV	DESCRIPTION	 FLORIDA DEPARTMENT OF TRANSPORTATION 605 SUWANNEE ST., 14TH FL. TALLAHASSEE, FL 32399-0450 PH: (850) 410-5600 FAX: (850) 410-5501		STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION SITE NAME STATION 75 COUNTY MANATEE FINANCIAL PROJECT ID 424612-29-05	STATION 75 TOWER LOADING DIAGRAM & SITE LAYOUT	SHEET NO. 1 of 3
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PROPOSED EXTERIOR VIEW BULKHEAD DETAIL

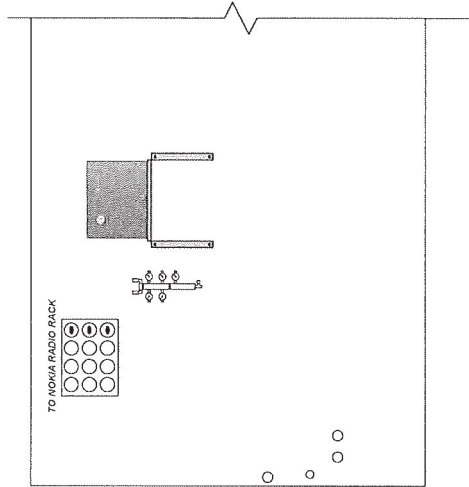
- 1. NEW ELLIPTICAL WAVEGUIDE EU/63 (MAIN - OKEECHOBEE - H. POL.)
- 2 - 4. RESERVED
- 5. NEW ELLIPTICAL WAVEGUIDE EU/63 (MAIN - CORAL REEF - H. POL.)
- 6 - 8. RESERVED
- 9. NEW ELLIPTICAL WAVEGUIDE EU/63 (DIVERSITY - CORAL REEF - H. POL.)
- 10 - 12. RESERVED



PROPOSED SHELTER FLOOR PLAN



INTERIOR EAST ENTRY PORT WALL - TYPICAL



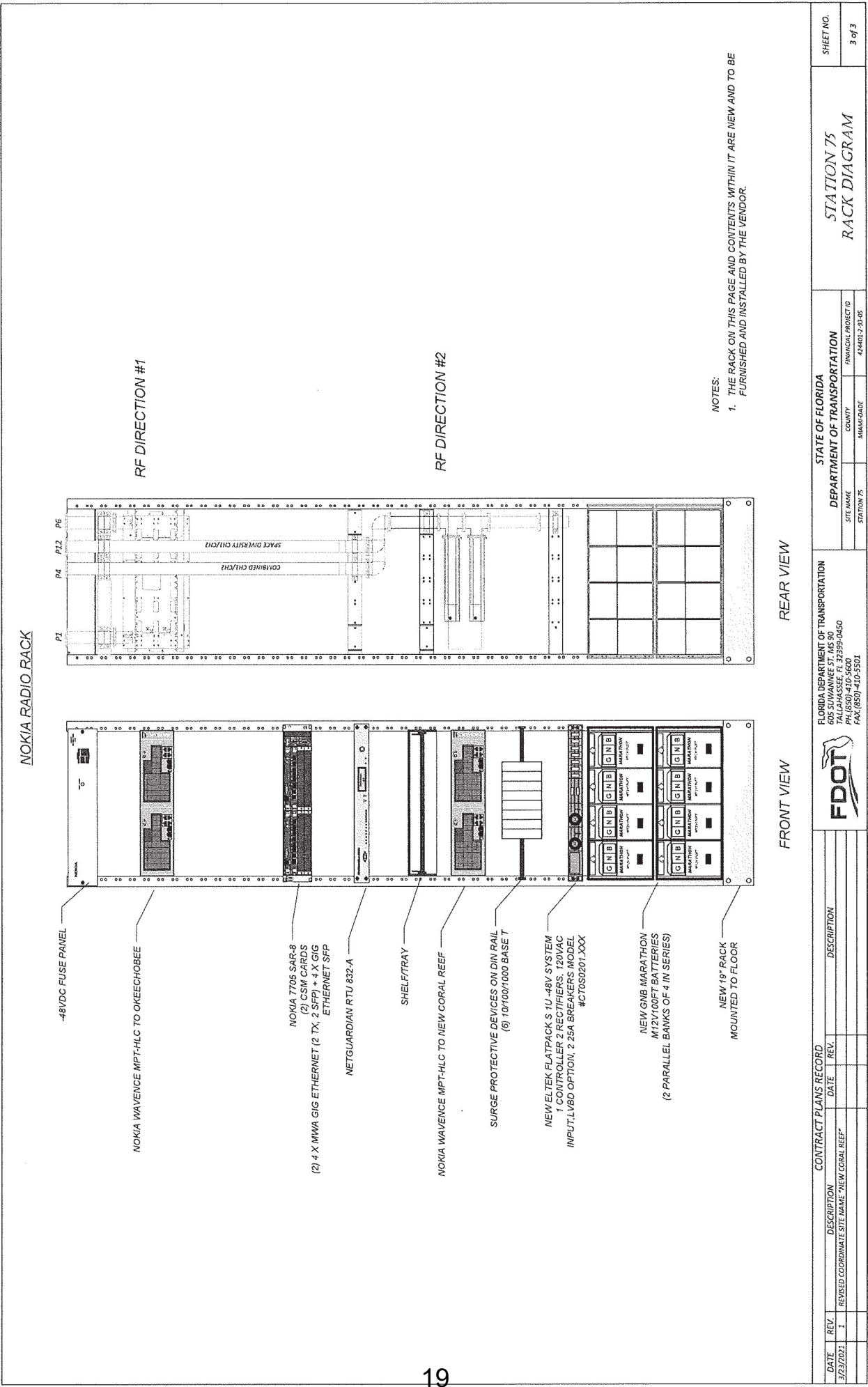
NOTES:

1. THE VENDOR SHALL INSTALL A NEW RFS DEHYDRATOR MODEL APD20.D 3.5 D HS R01 S1, AND WALL MOUNT MODEL SHELF-APD-D. THE VENDOR SHALL ALSO INSTALL A NEW GAS DISTRIBUTION MANIFOLD, GAUGES, VALVES, AND TUBING. THE VENDOR SHALL PROPERLY LABEL ALL NEW WAVEGUIDES AND GAUGES ON THE GAS DISTRIBUTION MANIFOLD.
2. THE VENDOR SHALL INSTALL A NEW EQUIPMENT RACK FOR THE NOKIA RADIOS. THE NOKIA RADIO RACK SHALL BE EIA 19-INCH X 7-FOOT OPEN ALUMINUM RELAY EQUIPMENT RACKS BUD INDUSTRIES, MODEL ARR-1272-NATURAL, OR APPROVED EQUIVALENT. THE RACK SHALL BE MOUNTED TO THE FLOOR USING RELAY RACK ANCHOR KITS B-LINE SYSTEMS MODEL SB-586-A, OR APPROVED EQUIVALENT. THE RACK SHALL BE MECHANICALLY GROUNDED TO THE SITE'S GROUNDING SYSTEM USING #6 AWG GREEN JACKETED CONDUCTOR.
3. THE VENDOR SHALL ROUTE THE NEW WAVEGUIDES ALONG THE OVERHEAD CABLE TRAYS TO THE NEW NOKIA MICROWAVE RADIO RACK. THE VENDOR SHALL SECURE THE WAVEGUIDES TO THE OVERHEAD CABLE TRAYS WITH ZIP-TIES.
4. THE VENDOR SHALL INSTALL (2) NEW BREAKERS IN THE LOAD DISTRIBUTION PANEL FOR COMMERCIAL POWER TO A NEW VENDOR FURNISHED AND INSTALLED -48VDC RECTIFIER AND POWER DISTRIBUTION UNIT. THE VENDOR SHALL INSTALL EMT CONDUIT FROM THE LOAD DISTRIBUTION PANEL TO THE NEWLY INSTALLED RACK FOR THE POWER CONDUCTORS FOR THE RECTIFIERS.
5. THE VENDOR SHALL INSTALL AND POWER THE A AND B POWER FEEDS OF THE -48VDC FUSE PANEL AT THE TOP OF THE NOKIA RADIO RACK VIA AN APPROPRIATELY SIZED BREAKERS ON THE -48VDC RECTIFIER DISTRIBUTION UNIT. THE VENDOR SHALL POWER ALL EQUIPMENT IN THE NEW RACK THROUGH THE -48VDC FUSE PANEL.

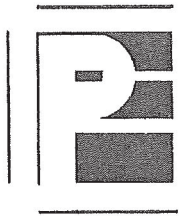
LEGEND:



CONTRACT PLANS RECORD					 FLORIDA DEPARTMENT OF TRANSPORTATION 605 SUWANNEE ST. MS 30 TALLAHASSEE, FL 32399-0450 PH (850) 410-5600 FAX (850) 410-5501				STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION				STATION 75 SHELTER FLOOR PLAN & INTERIOR ENTRY PORT WALL		SHEET NO.
DATE	REV.	DESCRIPTION	DATE	REV.	DESCRIPTION	SITE NAME	COUNTY	FINANCIAL PROJECT ID	MAINT-DATE					2 of 3	
						STATION 75		42480-2-93-05							



CONTRACT PLANS RECORD				STATE OF FLORIDA				STATION 75		SHEET NO.	
DATE	REV.	DESCRIPTION	DATE	REV.	DESCRIPTION	DEPARTMENT OF TRANSPORTATION	FINANCIAL PROJECT ID	RACK DIAGRAM		3 of 3	
3/23/2021	1	REVISED COORDINATE SITE NAME "NEW CORAL REEF"				STATION 75	42462-23105				
						COUNTY	MANIFORD				
						SITE NAME	STATION 75				



**PATE
ENGINEERING
INC.**

13540 N. FLORIDA AVE., SUITE 203
TAMPA, FLORIDA 33613
(813) 960-0002

TOWER ANALYSIS REPORT

January 26, 2022

FDOT Traffic Eng. and Ops. Office
601 Suwannee Street, MS90
Tallahassee, Florida 32399-0450
Attn: Mr. Terry A. Posey, PE, PMP

300-Ft Self-Supporting Tower
FS75 DOT Site
Our Job # 21-149

AUTHORIZATION

In accordance with your instructions, Pate Engineering has analyzed the 300-ft. self-supporting tower located at 2215 NW 129TH Ave., Beacon Lakes, Dade County, Florida.

INTRODUCTION

The information concerning this tower was obtained from Valmont Drawing No. 282362T, Eng. File No. 413499, dated 10/2/2020, Pages 1 to 17, and from Drawing No. 282362F, dated 4/29/2020, Page 1. The provided Valmont information also included the design calculations and the foundation design reactions. A tower sketch is attached for reference.

The site was not visited during this project. We were informed that antennas have not been installed, the tower does not have any of the antennas included in the design. The Valmont calculations were used for some of the analysis assumptions and conditions. The original design included four DOT 6-ft. HP dish antennas at the 155-ft., 142-ft., 125-ft. and 112-ft. levels.

The tower has been analyzed for the replacement of the four original DOT 6-ft. dish antennas previously described, with three 6-ft. HP dish antennas at the 171-ft., 135-ft. and 120-ft levels. The antennas are described on Page 2 of this report.

ANALYSIS CRITERIA

This tower has been analyzed per **ANSI/TIA-222-H** for **186 MPH** basic wind speed. This meets the requirements of the **Florida Building Code 2020** (7th Edition) for a 3-second gust ultimate wind speed of **186 MPH**. It is the responsibility of the Client to verify that this analysis criteria meets the requirements of the Owner and the local building department.

The wind was considered in the following directions:

1. Wind "A" wind blowing on the faces of the tower.
2. Wind "B" wind blowing on the corners of the tower.
3. Wind "C" wind blowing parallel to the tower faces.

These cases considered all the applicable loads due to the deadweight of the structure and appurtenances. The effects of wind on the tower structure, antennas, and ancillary items such as ladders, cables, platforms, antenna mounts, etc. have been considered.

TOWER LOADING

The following is a list of the antennas, their approximate elevations, and the transmission lines used in this analysis: (Note: The approximate elevations are centerline for panel antennas and dishes. They are mounting heights for omni and whip antennas.)

<u>Elevation</u>	<u>Notes</u>	<u>Description (or Sim.)</u>	<u>Transmission Line</u>
300'		(2) Beacons, Lightning Rod	(2) 1/2"
300'	1.	(6) ATC-GD4V8O Antennas	(6) 1-5/8"
300'	3.	13-ft. Pirod LP Platform w/HR	-----
275'		(2) ATC-GD4V8O Antennas	(2) 1-5/8"
275'		(2) 6' Bogner Heavy Duty SA	-----
200'		(2) 6-ft. Dish Antenna with Rad.	(4) EW63
200'		(2) Dish Ant. Mounts	-----
175'		(2) 6-ft. Dish Antenna with Rad.	(4) EW63
175'		(2) Dish Ant. Mounts	-----
171'	2.,4.	6-ft. HP Dish Antenna	(2) EU63
171'	2.,4.	Dish Ant. Mount	-----
150'		ATC-GD4V8O Antenna	1-5/8"
150'		6' Bogner Heavy Duty SA	-----
135'	2.,4.	6-ft. HP Dish Antenna	(2) EU63
135'	2.,4.	Dish Ant. Mount	-----
120'	2.,4.	6-ft. HP Dish Antenna	(2) EU63
120'	2.,4.	Dish Ant. Mount	-----
50'		Yagi Antenna	1/2"
50'		6' Bogner Heavy Duty SA	-----

Sim: Similar To
SA: Side Arm
Rad: Radome

Notes: 1. These antennas to be installed on the 13-ft. platform.
2. These are the DOT antennas included in the analysis.
3. This is low profile platform with handrail and mounting pipes.
4. These are USX6-6W antenna model.

METHOD OF ANALYSIS

This tower was analyzed in accordance with the requirements of the **Florida Building Code 2020** and **ANSI/TIA-222-H**. Computations were performed to account for all the vertical loads, and horizontal wind forces on the tower, antennas, and ancillary items. The structure was then analyzed using a computer program developed by Guymast, Inc.

The design strength forces were calculated for the various tower components such as the legs, diagonals and horizontals. These forces were then compared with the actual forces determined by the computer program.

ASSUMPTIONS MADE

- 1.1 For the purposes of this analysis, it was assumed that all bolts, welds, members, etc. are in good condition and not degraded by rust, corrosion, or cracks.
- 1.2 The tower has been properly erected and maintained on a routine basis.
- 1.3 The previously described tower information is correct.
- 1.4 The existing antennas and transmission lines will be properly supported.
- 1.5 It has been assumed that the foundations have been properly designed and constructed for the original tower reactions and site conditions.
- 1.6 The connections have been properly designed and installed in accordance with the tower member capacities.
- 1.7 The proposed design equipment and antennas will not interfere with the proposed DOT equipment and antennas, and they will be relocated, if necessary.

ANALYSIS CONDITIONS

- 2.1 The proposed transmission lines will be installed on two tower faces, the DOT t. lines on one face and all the other t. lines on another face. Two support ladders were included in the analysis for this purpose.
- 2.2 The proposed antennas will be installed on mounts constructed of round members, and the mounts will be properly installed on the tower legs.
- 2.3 The tower was analyzed per TIA-222-H and the FBC 2020 as follows:

Basic Wind Speed: 186 MPH (3-second gust wind speed)
Exposure Category: C
FBC Risk Category: Category III
FBC Wind Speed: 186 MPH (3-second gust ultimate wind speed)
Topographic Category: 1

RESULTS OF ANALYSIS

This analysis, as outlined herein, indicates that the tower condition is as follows:

3.1 Tower members

The tower members are adequate for the proposed loading condition. These analysis member forces do not exceed the member design strengths.

3.2 Foundations

The soil conditions at the site are unknown. However, the original design reactions are shown on the Valmont drawings. The foundations have been evaluated by reaction comparison. These analysis reactions are lower than the design reactions shown on the original drawings. The tower was designed in accordance with TIA-222-G.

Therefore, the foundations are considered adequate for these analysis reactions.

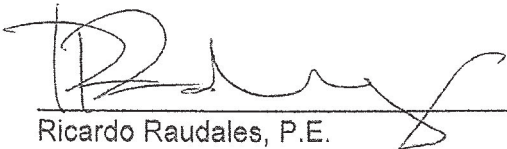
RECOMMENDATIONS

- 4.1 The proposed antennas and transmission lines can be installed on the tower as described in this report.
- 4.2 The tower is only at 82% capacity. Any required adjustment in antenna elevation and location will not affect significantly the results of this analysis.
- 4.3 The tower in general should be inspected for maintenance purposes on a routine basis and after severe weather conditions.

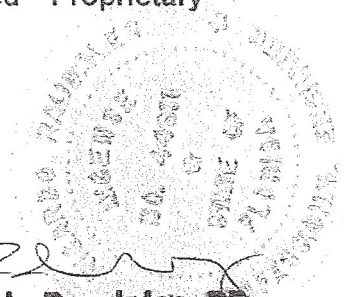
This report is not a construction document. The information contained herein is for the use of the addressee, the tower owner, and Pate Engineering, Inc. Any use by others is prohibited except by express permission from Pate Engineering, Inc., and the addressee. All calculations, reports, sketches, and drawings, as well as any information on the tower, foundation, and soil gathered to complete this analysis are considered "Proprietary Information" and remain the sole property of Pate Engineering, Inc.

If you have any questions regarding this report, please call.

Pate Engineering, Inc.

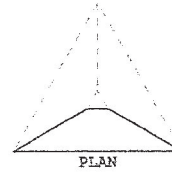
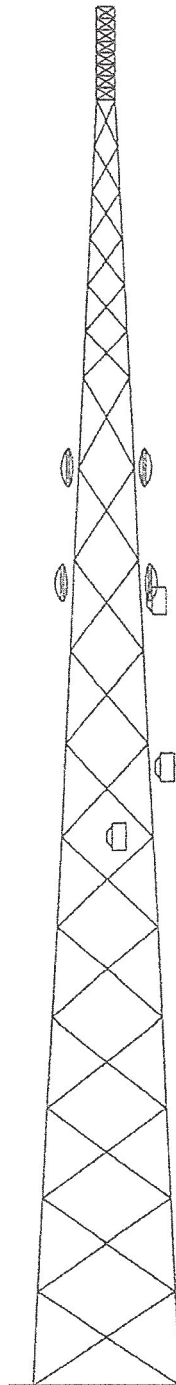
By 
Ricardo Raudales, P.E.

Encl.


Ricardo Raudales, PE
FL # 44811
Date 1/26/22
FI COA #4524

Face Width	32.0'	11 @ 20.0'	6 @ 10.0'	4.0'	4.0'	8 @ 2.5'
Panel Height & Panels						

300.0'
280.0'
270.0'
260.0'
240.0'
220.0'
200.0'
160.0'
140.0'
120.0'
80.0'
60.0'
40.0'
20.0'
0.0'



NOTES:
1. THIS IS A COMPUTER MODEL SKETCH.
2. THIS IS NOT A TOWER DRAWING.
3. THE TOWER IS MANUFACTURED BY VALMONT.
4. SEE REPORT FOR ANTENNA LIST.
5. TOWER LOCATED IN DADE COUNTY, FL.

TOTAL FOUNDATION LOADS

H=192.17 k
V=143.49 k
M=29307.48 k-ft
T=197.06 k-ft

INDIVIDUAL FOOTING LOADS

H=115.91 k
V=1105.24 k
U=-953.29 k

Pate Engineering, Inc.

13540 N. Florida Ave., Suite 203 Tampa, Florida 33613

Phone: (813) 960-0002

Fax: (813) 264-2605

Client: FLORIDA D.O.T.

Job No: 21-149

Date: 24 jan 2022

Location: MIAMI-DADE FIRE RESCUE FS75

Total Height: 300.00'

Tower Height: 300.00'

Standard: TIA-222-H

Design Wind & Ice: 196 MPH (NO ICE)



January 4, 2022

Mr. Terry Posey
Atkins – SNC-Lavalin
Deputy Program Manager
FDOT ITS Communications GC
605 Suwannee St., MS 90
Tallahassee, FL 32399

RE: Miami-Dade Fire Rescue Station 75 Intermodulation Study

Dear Mr. Posey,

As requested, Omnicom Consulting Group, Inc., (OCG) performed an intermodulation analysis of the Miami-Dade Fire Rescue (MDFR) and Florida Department of Transportation (FDOT) frequencies proposed for installation at the tower located at MDFR Station 75. The purpose of the analysis was to determine if there was potential for the generation of harmful interference due to intermodulation products that may result from the use of FDOT frequencies at the site.

Frequencies Analyzed

The following frequencies were provided by MDFR and FDOT and considered in the analysis:

	Transmit (MHz)	Receive (MHz)
MDFR UHF	453.1	458.1
	453.35	458.35
	453.525	458.525
	460.45	465.45
	460.5	465.5
	453.325	458.325
	460.4	465.4
	453.15	458.15
	453.425	458.425
	453.8	458.8
	460.0625	465.0625
	460.3125	465.3125
	453.5	458.5
	453.4375	458.4375
	463.175	468.175
MDFR VHF	154.265	154.265
	154.28	154.28
	154.295	154.295
FDOT Microwave	6271.365	6019.325
	6345.49	6093.45
	6404.79	6152.75

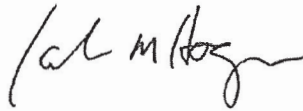
Results of Analysis

The analysis indicates that the potential intermodulation products that may be generated by the installation of the FDOT frequencies would affect the FDOT receive frequencies and not MDFR frequencies. It is unlikely that such intermodulation products would form due to the significant frequency separation between the land mobile frequencies used by MDFR and the microwave frequencies used by the FDOT. As such, it is OCG's opinion that the proposed FDOT frequencies are compatible with the proposed MDFR frequencies.

However, it was noted during the analysis that there is significant potential for intermodulation products to be generated among MDFR frequencies themselves. There are 3rd order, 2 at-a-time, and 3rd order 3-at-a-time mixes between MDFR transmit frequencies that impact MDFR receive frequencies. OCG recommends that MDFR require its radio system vendor to perform a detailed signal level analysis of the proposed installation and develop a plan to mitigate the potential intermodulation interference. OCG has included a separate analysis result file that contains only MDFR frequencies for their use.

Please call my office at (850) 792-4720, or my cell phone at (850) 212-4916 if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "John M. Hogan". The signature is fluid and cursive, with the first name "John" being more prominent.

John M. Hogan, P.E., PMP

Attachments: IM Results MDFR with FDOT
IM Results MDFR without FDOT