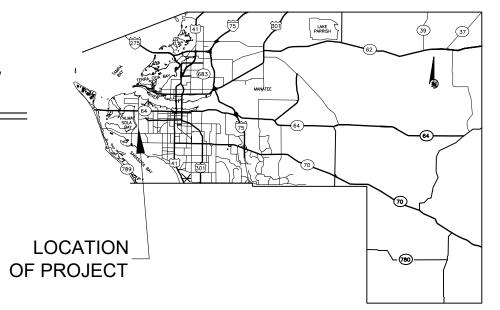
COUNTY OF MANATEE

SIGNALIZATION PLANS 75TH ST W REBASE FROM CORTEZ RD TO BRIDGE #134094 BRADENTON, FLORIDA



MANATEE COUNTY PROJECT No: 6108460

August 2022 Caballo Way 22rd Avenue West 24th Avenue West **END PROJECT** STA. 71+37.68 5th Lane West 4th Lane West N.T.5

> 10 Lane 2 9 Lane 8 Lane 2 7 Lane 6 Lane 4 Lane

3rd Lane 2 Lane & 1st Lane

100% PLANS

ATTENTION IS DIRECTED TO THE FACT THAT THESE PLANS MAY HAVE BEEN ENLARGED IN SIZE BY REPRODUCTION. THIS MUST BE CONSIDERED WHEN OBTAINING SCALED

ROADWAY PLANS PROFESSIONAL OF RECORD: NEIL BYRNE, P.E.

FLORIDA P.E. # 86905

MANATEE COUNTY PUBLIC WORKS 1022 26th AVENUE EAST BRADENTON, FL 34208

CONSTRUCTION	FISCAL	SHEET		
CONTRACT NO.	YEAR	NO.		
T0000	22	T-1		

GOVERNING DESIGN STANDARDS: FLORIDA DEPARTMENT OF TRANSPORTATION, FY 2022-23 DESIGN STANDARDS eBOOK (DSeB) AND APPLICABLE DESIGN STANDARDS REVISIONS (DSRs) AT THE FOLLOWING WEBSITE:

https://www.fdot.gov/design/standardplans/current/default.shtm

GOVERNING STANDARD SPECIFICATIONS:

FLORIDA DEPARTMENT OF TRANSPORTATION, JANUARY 2022 STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AT THE FOLLOWING WEBSITE:

http://www.fdot.gov/programmanagement/Implemented/SpecBooks



BEGIN PROJECT

STA. 0+58.03

PROJECT LENGTH IS BASED ON B/L OF CONSTRUCTION

FL 684 Cortez R

LENGTH OF PROJECT					
LINEAR FEET MILES					
ROADWAY	7079.65	1.34			
EXCEPTIONS	0.00	0.00			
GROSS LENGTH OF PROJECT	7079.65	1.34			

	TABULATION OF QUANITITES						
Item Number	Item Description	Unit Measure	Sheet T-5	Sheet T-6	TOTAL		
0630 2 11	CONDUIT, FURNISH & INSTALL, OPEN TRENCH (2" HDPE)	LF		40	40		
0630 2 12	CONDUIT, FURNISH & INSTALL, DIRECTIONAL BORE (2" HDPE)	LF		370	370		
0633 8 1	MULTI-CONDUCTOR COMMUNICATION CABLE, FURNISH & INSTALL	LF		1,720	1,720		
0635 2 11	PULL & SPLICE BOX, F&I, 17" x 30" x 12" COVER SIZE	EA		4	4		
0660 3 11	VEHICLE DETECTION SYSTEM- MICROWAVE, FURNISH & INSTALL CABINET EQUIPMENT	EA		1	1		
0660 3 12	VEHICLE DETECTION SYSTEM- MICROWAVE, FURNISH & INSTALL, ABOVE GROUND EQUIPMENT	EA	1	6	7		
0660 3 60 VEHICLE DETECTION SYSTEM - MICROWAVE, REMOVE, COMPLETE SYSTEM		EA	1		1		
0670 5111	TRAFFIC CONTROLLER ASSEMBLY, F&I, NEMA, 1 PREEMPTION	AS		1	1		
0670 5400	TRAFFIC CONTROLLER ASSEMBLY, MODIFY	AS		1	1		
0682 1113	ITS CCTV CAMERA, F&I, DOME PTZ ENCLOSURE - PRESSURIZED, IP, HIGH DEFINITION	EA		1	1		
0684 1 1	MANAGED FIELD ETHERNET SWITCH, FURNISH & INSTALL	EA		1	1		
0685 112	UNINTERRUPTIBLE POWER SUPPLY, FURNISH AND INSTALL, ONLINE/DOUBLE CONVERSION	EA		1	1		
0685 2 1	REMOTE POWER MANAGEMENT UNIT- RPMU, FURNISH AND INSTALL	EA		1	1		

NUMBER	DESCRIPTION	DATE	PROJECT #	858-6108060	SURVEYED		//
			SURVEY #		DESIGNED		//
			SEC./TWN./RGE		DRAWN	DM	8/3/22
			SCALE	AS SHOWN	CHECKED	NB	8/3/22



NEIL BYRNE, P.E. FLORIDA P.E. # 86905

Signature & Date

- 1. The Contractor shall contact the Manatee County Traffic Engineering Division before starting work. See note #3 for contact.
- The Contractor shall coordinate with the Engineer, in conjunction with Manatee County's Traffic Engineering Division, at least two weeks before any cabinet modifications are to be performed. The Engineer, in conjunction with Manatee County's Traffic Engineering Division personnel will review, assist and provide technical support relevant to any field modifications that are necessary.
- 3. At least five (5) business days prior to beginning the traffic signal installation, the Contractor shall notify the following departments to inform them of construction operations:

MANATEE COUNTY TRAFFIC OPERATIONS DIVISION
Mr. Aaron Burkett
2904 12th Street Court East
Bradenton, Florida 34208
Phone #: (941) 708-7450, Ext. 7509

MANATEE COUNTY TRAFFIC ENGINEERING DIVISION

Mr. Vishal Kakkad, P.E. PTOE 2101 47th Terrace East Bradenton, Florida 34208 Phone #: (941) 749-3500 Ext. 7812

4. Forty-eight (48) hours prior to contract start date, the Contractor shall notify the following agencies in writing giving the location, start date and emergency numbers for afterhours repairs:

FLORIDA HIGHWAY PATROL
Post Office BOX 20009
Bradenton, Florida 34203
Phone #: (941) 751-7646

MANATEE SHERRIFF'S OFFICE

MANATEE SHERRIFF'S OFFIC 515 11TH Street West Bradenton, Florida 34205 Phone #: (941) 747-3011

5. The Contractor shall have an IMSA Certified Level II (electronics or electrical technician) on the job site at all times while work is being performed. All signal installation technicians shall have a minimum of IMSA Level I certification.

Deliver three (3) sets of As-built plans to, Sr. Project Engineer in Traffic Engineering Division.

Mr. Mukunda Gopalakrishna. P.E. PTOE

2101 47th Terrace East Bradenton, Florida 34208 Phone #: (941) 749-3500 Ext. 7813

Deliver three (3) sets of Record Drawings, two (2) sets of IMSA Inspection Forms and one (1) Compact Disc of Record Drawings to Mr. Aaron Burkett, the Manatee County Traffic Operations Division manager at 2904 12th St Ct E, Bradenton, Florida 34208. Record Drawings must be delivered five (5) business days prior to scheduling the final inspection.

- 7. Prior to ordering materials, the Contractor shall contact the Traffic Operations Division and verify the current color codes to be used for signal and interconnect cable.
- 8. Upon passing the final inspection, the Contractor shall send a written request to the Manatee County Traffic Operations Division to transfer maintenance from the Contractor to Manatee County. Manatee County will respond within five (5) working days to establish a time table for the transfer of maintenance responsibility.
- 9. Manatee County will not furnish the installation of an emergency generator. The contractor shall furnish and install the housing foundation / pad. All costs for the housing foundation / pad are included in the cost for emergency installation pay item 639-4-6. The contractor shall coordinate with Manatee County to obtain the desired housing dimensions.
- 10.The Contractor shall be responsible for contacting the local power company providing electrical power to determine if a service processing fee is required. Any fee shall be included as part of payment for the electrical power service assembly. The Contractor shall be responsible for obtaining all permits and inspections of the electrical service. The Contractor shall coordinate the construction, inspection and energizing of the new power service in a timely manner in order to promote project completion within contract time.
- 11. The location of utilities shown on the plans are approximate only. The exact locations shall be determined by the Contractor, via Sunshine State One Call of Florida, Inc. at 1-800-432-4770, in coordination with underground and overhead Utility owners. The Contractor shall notify Utility owners/agencies listed within or impacted by theses plans, not less than two (2) full business days in advance of beginning construction.

12. The Contractor shall notify the appropriate utility companies at least 72 hours in advance of pole setting operations where conflict with overhead electrical conductors is expected and, in all cases, where joint use poles are called for.

The Contractor shall contact the local power company for their assistance in performing all necessary work under power lines at signal poles, such as the installation of signal cable, fiberglass insulators, and signal poles.

All locations where the required vertical clearance to the power line cannot be maintained, a qualified representative from the power company shall be present during all work under power lines. Any cost associated with this shall be included in the related pay items.

- 13.The Contractor shall hand dig the first 48 inches of the hole for the pole foundation or conduit run where utilities are in close proximity.
- 14.The Contractor is to de-water the pole foundation excavation if the elevation of water is higher than the elevation of the foundation base.
- 15.All materials, equipment, and other Contractor supplied items shall be installed and maintained according to the manufacturers' recommendations, unless specifically directed otherwise by the Engineer.
- 16.#14 XHHW pull wire shall be installed in all conduits. At least 2 feet of pull wire shall be accessible at each conduit termination and secured in the pull box or place of termination.
- 17.All electrical wiring shall comply with all applicable provisions of the latest edition of the National Electrical Code published by the National Fire Protection Association.
- 18.Grounding: All costs for grounding shall be included in the cost of the item being grounded. All ground rod assemblies for poles, services, cabinets, and other related equipment shall be bonded together to form an integrated grounding system using #6 AWG THHN copper wire. The upper end of all ground rods shall be 18 inches below ground elevation. Mark ground rod location with permanent marker such as an epoxied sticker located on the nearest curb and provide As-Built drawings with the location of ground rods marked. Grounding conductor must be #6 or larger insulated copper.

Connecting devices shall be non-corrosive split bolt, clamps, pressure connectors, or other approved means to ensure a positive connection.

Ground resistance tester, or other approved means shall be used to acquire the ground rod resistance. The Engineer, or a representative of the Engineer from the Traffic Operations Division staff be present during the test.

19.It should be noted that no test borings were made where conduit runs are to be installed by Jacking or Boring.

- 20. Contractor shall supply all material submittals to the Engineer, prior to construction, for approval.
- 21. The type of equipment used in the installation of mast arms/foundations shall meet the following requirement:
 - a) Overhead lines shall stay in place both vertically and horizontally; and
 - b) Contractor shall meet all applicable OSHA requirements. Any cost associated with the type of equipment required for this installation shall be included in the related pay items.
- 22. Contractor shall utilize the FDOT Standard Plans Index 102 series for Traffic Control through Work Zones, as applicable, during maintenance of traffic operations.
- 23. Existing speed limits are as follow:

40 mph on Lockwood Ridge Road Varies mph on Side Street

- 24. Under County's supervision, the Contractor shall perform an initial operation test to ensure the CCTV assembly has been installed correctly as a complete and functionally acceptable installation.
- 25. The Signal Contractor shall be available to respond to trouble calls twenty-four (24) a day, seven days a week for the duration of the project. The Prime Contractor shall provide contact numbers for the Signal Contractor to the Traffic Operations Division at commencement of the project. Furthermore, within two (2) hours of notification or documented attempted notifications, the Signal Contractor shall be on site making needed repairs or modifications. Failure to meet the time requirements shall give the County, at its discretion, the right to request assistance from the Manatee County Sherriff's department to control traffic for the period of time until the Contractor responds and makes the needed repairs. The cost for Manatee County Sheriff's office shall be the responsibility of the Prime Contractor.

- 26. Shop drawings shall be submitted for review for all equipment and materials furnished and installed. The Contractor shall furnish copies of all drawings, schedules and complete descriptive and technical data on all items to the Mr. Aaron Burkett, the Manatee County Traffic Operations Division manager at 2904 12th St Ct E, Bradenton, Florida 34208.
- 27. The acceptance of any submitted data for materials, equipment, apparatus, devices, arrangements and/or layouts shall not relieve the Contractor from the responsibility of placing same and proper dimensions, capacities, sizes, quantity and installations details to efficiently perform the requirements and intent of the Contract. Such acceptance shall not relieve the Contractor from responsibility for errors of any sort on the submittal data.
- 28. Contactor to contact Traffic Engineering Division: Mr. Mukunda Gopalakrishna (941-749-3500 Ext. 7813) to obtain IP addresses for field devices and Ethernet Switch configuration information.
- 29. When a Contractor is working on a signal in an intersection (installing conduit in the street, removing existing signal equipment, loops, home runs or turning on of a new signal) where a lane is closed, the Engineer may require an off-duty law enforcement officer to direct traffic. The hourly rate for an off-duty law enforcement officer to direct, can be obtained from the local law enforcement office. The cost of the officer shall be the responsibility of the Contractor and included in Pay Item 102-1 (Maintenance of Traffic).
- 30. Contractor shall coordinate pavement markings and signage work with scheduling of signal activation. The signal shall not be fully activated until all proposed stop bars, crosswalks, ramps and pavement removal work is complete. The existing Stop Signs shall be removed upon full signal activation.

Conduit Notes

- 1. All HDPE conduit connections shall be joined with a fusion coupler or fusion splice.
- 2. The contractor shall adjust the conduit runs, device poles, bores and service pole placements to avoid any utility conflicts identified by the locates. Any significant change shall be approved by the engineer.
- 3. The conduits to be placed so as to totally avoid any conflicts with existing utilities along the route. It is the contractor's responsibility to obtain the necessary information required to plan the work ahead for the installation of the required conduits within design or specified parameters, and his timeframe. The contractor shall adjust conduit vertically or horizontally to avoid conflict with underground utilities. The contractor shall use hand excavation methods when excavating near existing utilities, no separate payment shall be made for this work. Extreme caution shall be used by the contractor while excavating, installing, back filling and compacting around existing utilities. The contractor shall be responsible for any damage to any utility.
- 4. It shall be contractor's responsibility to field locate all aboveground and underground conflicts in advance of the placement of any conduit or other facilities, the contractor shall field mark the proposed alignment for review and concurrence by the engineer prior to trenching and/or placement. No pull boxes shall be located in drainage swales, or paved shoulders.
- 5. When trenching for installation, the contractor may run communications and power service in the same trench. the power service shall have separate pull boxes for access. The contractor shall not install communications and power service in the same conduit, pull box or manhole.
- 6. The conduit details given are meant to be schematic in nature. Due to actual field conditions and/or needs, deviations may be necessary. Dimensional distances for conduit locations locations are provided to assist the contractor with conduit placement. the contractor shall take this into account when placing conduit. the contractor is responsible for field locating conduit around existing utilities and obstructions.
- 7. All conduit trenches shall be backfilled completely to provide safe crossing by the end of the working day or whenever the work zone becomes inactive. Do not open any area that cannot be backfilled in the same day/night operation.
- 8. All new conduit shall be placed at a minimum depth of 30" unless placed in an area of new fill, in which case the conduit shall be 48". Directionally bored conduit shall be at minimum depth of 48".

NEIL BYRNE, P.E. FLORIDA P.E. # 86905



iture & Date

1. 630-2-11 & 630-2-12:

All conduit runs shown on the plans are schematic and field electrical power service ducts, jack and bore sleeves, and directional bore conduits, all underground and under pavement conduits shall be schedule 40 PVC with a minimum size of 2" unless otherwise specified in the plans. Cost of pull wire shall be included under this pay item.

2. 635-2-11, 635-2-12, 635-2-13:

Pull boxes shall be traffic bearing, all polymer construction (not concrete), pull boxes and lids. (quazite or another equivalent fdot approved manufacturer). Pull boxes are to be placed behind pull boxes shall be placed a minimum of 7' from the edge of payement

Standard pull box dimensions shall be 17" x 30" x 12" and the lid shall be stamped "Manatee County Traffic Signal" on the cover. The Contractor shall contact the Manatee County Traffic Engineering Division before starting work.

3. 660-1-11 and 660-3-12:

Shall include all necessary Wavetronix Clicks Units for a complete and operational setup. Shall include Wavetronix SmartSensor HD Matrix, HD Advance and Smartsensor HD (Sidefire). This pay item will include all necessary mounting brackets and clamping equipment.

4. 682-1-113:

The CCTV Camera unit shall be Bosch ITS 7000 Starlite Series 1080P 30x40.

5 684-1-1

The ethernet switch shall be a Ruggedcom Switch Model Number RSG920P, Part Number 6GK6092-OPS23-0BA0-ZA05+B05+C02+D02.

6. 685-1-12:

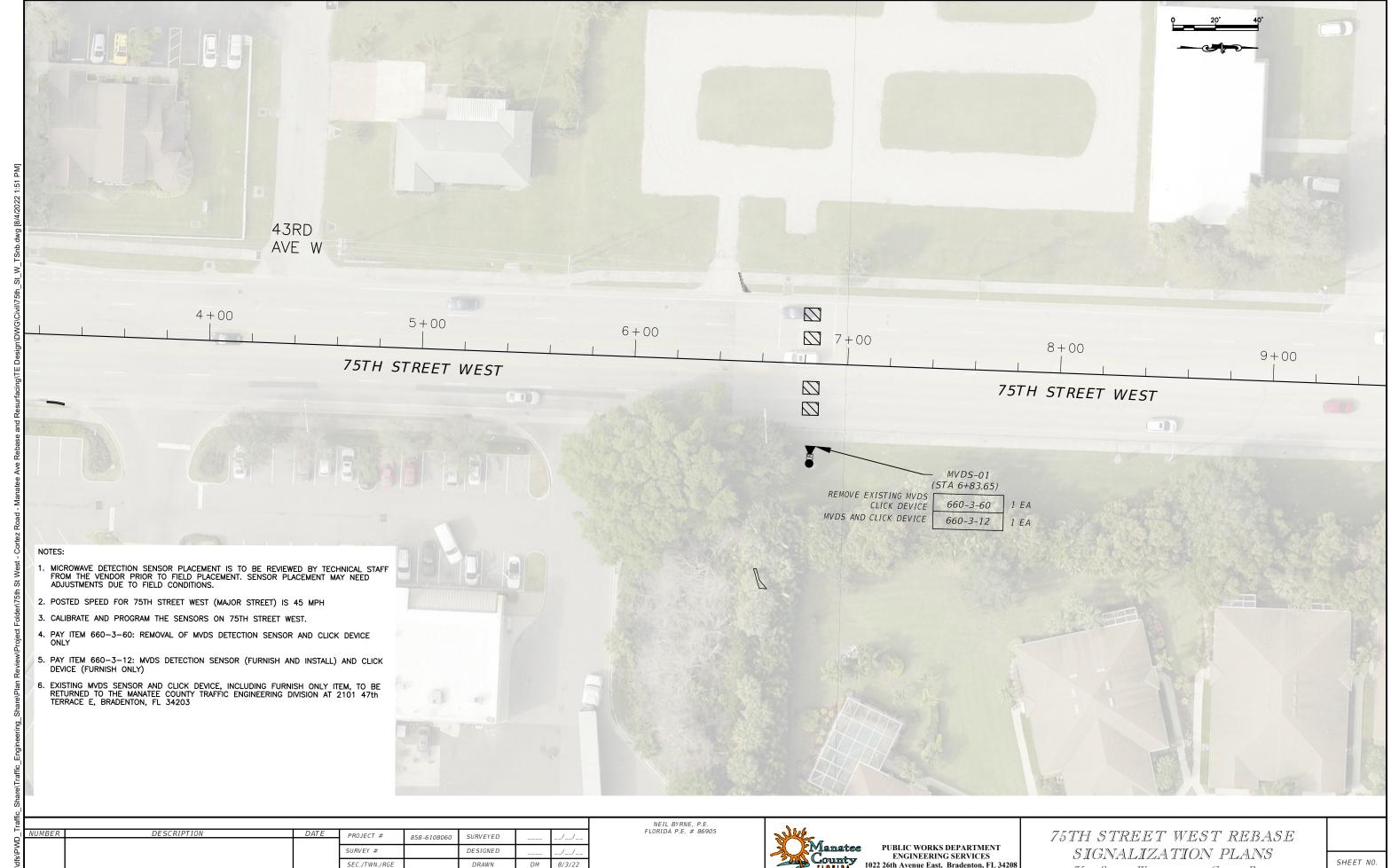
Shall include an uninterrupted power supply unit (UPS) Model No. Alpha FXM 1100 equipped with an ethernet port. All uninterruptible power supplies shall support SNMP (Protocol) for remote monitoring and management. The UPS shall be sized to accommodate the maximum connected load. The battery bank shall be sized to provide a minimum 8 hours run time under full load.

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ŀ	NUMBER	DESCRIPTION	DATE	PROJECT #	858-6108060	SURVEYED		//
				SURVEY #		DESIGNED		//
				SEC./TWN./RGE		DRAWN	DM	8/3/22
				SCALE	AS SHOWN	CHECKED	NB	8/3/22

NEIL BYRNE, P.E. FLORIDA P.E. # 86905

Signature & Date





Signature & Date

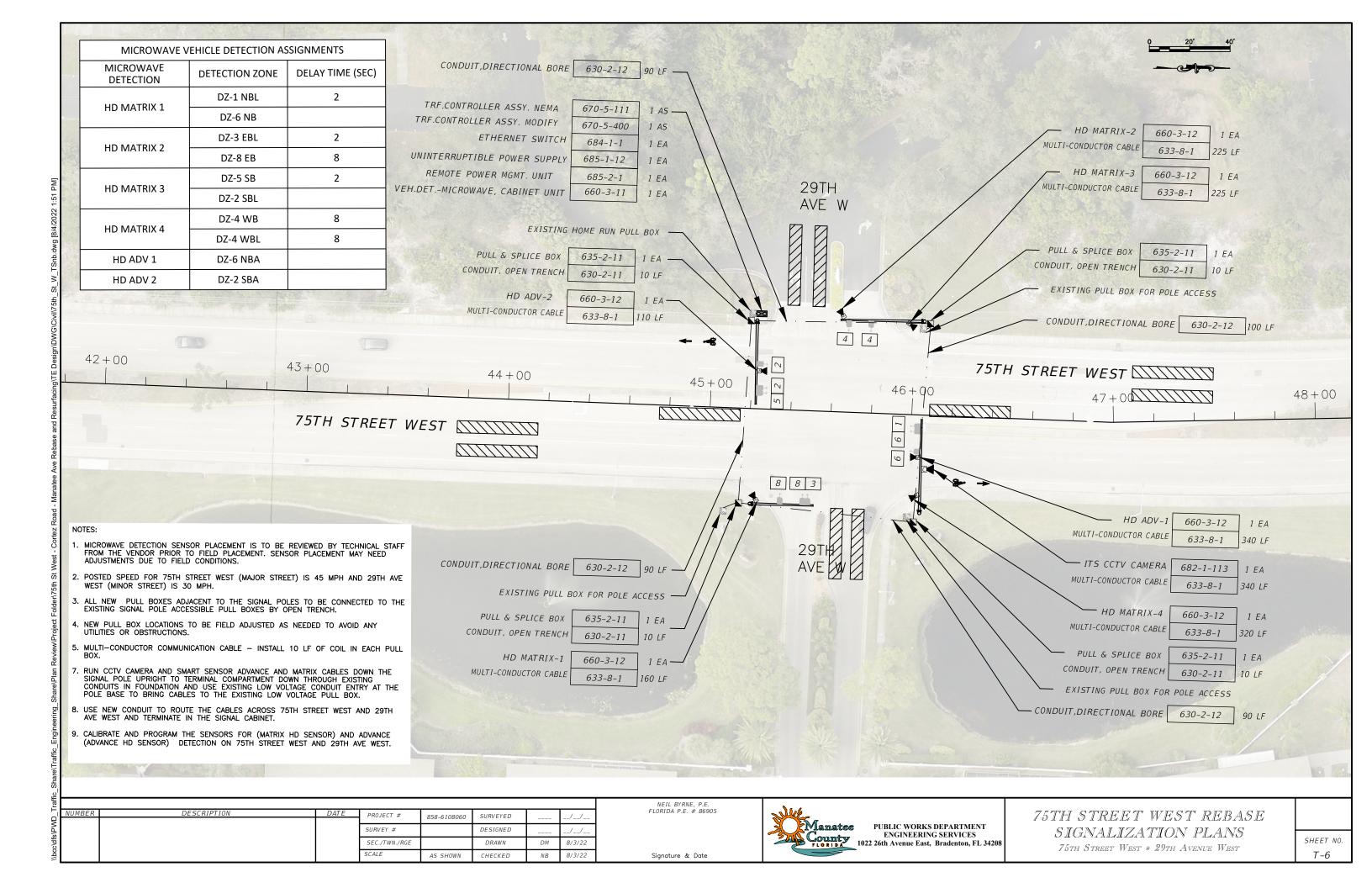
DRAWN 8/3/22 CHECKED

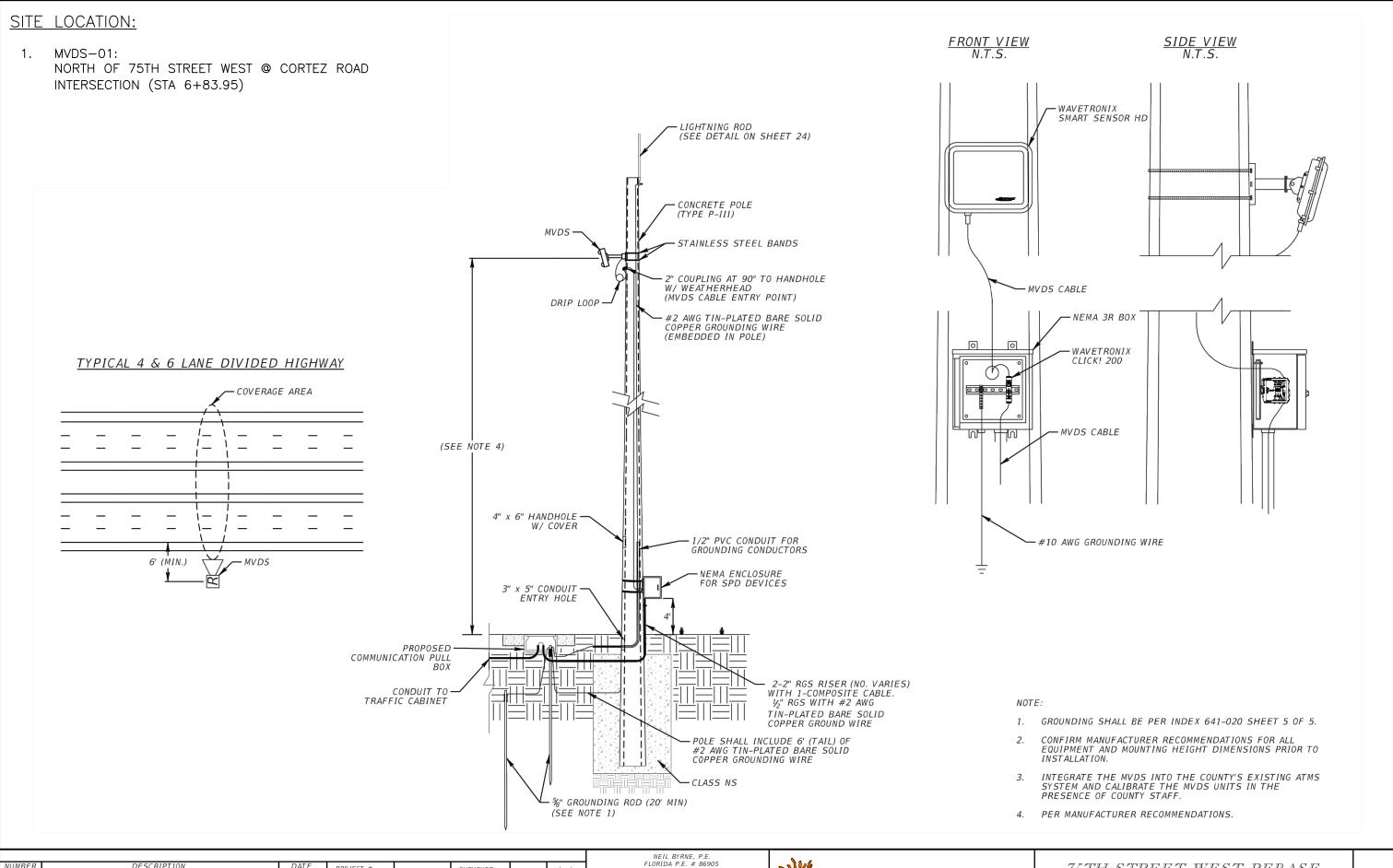
SCALE

Manatee PUBLIC WORKS DEPARTMENT ENGINEERING SERVICES
1022 26th Avenue East, Bradenton, FL 34208

SIGNALIZATION PLANS 75th Street West North of Cortez Road

SHEET NO. T-5



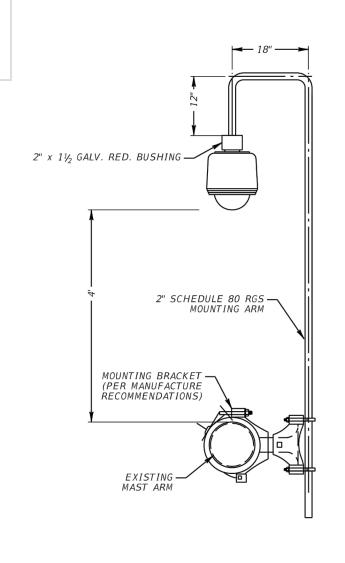


PROJECT # SURVEYED 858-6108060 DESIGNED SURVEY # SEC./TWN./RGE DRAWN DM 8/3/22 SCALE CHECKED NB 8/3/22

Signature & Date



75TH STREET WEST REBASE SIGNALIZATION PLANS MVDS MOUNTING DETAIL



CCTV MOUNTING ARM DETAIL
MAST ARM MOUNTED

NOTE:

1. WIRE ACCESS HOLES SHALL NOT EXCEED 1" DIAMETER AND SHALL INCLUDE A RUBBER GROMMET. ROUTE COMMUNICATION CABLE(S) THROUGH MAST ARM. DRILL HOLE AS TO NOT DAMAGE EXISTING SIGNAL WIRE. UTILIZE EXISTING SIGNAL ACCESS HOLE IF POSSIBLE.

ı	NUMBER	DESCRIPTION	DATE	PROJECT #	858-6108060	SURVEYED		//
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NEIL BYRNE, P.E. FLORIDA P.E. # 86905

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