

*OSCEOLA COUNTY
TRANSPORTATION & TRANSIT DEPARTMENT*

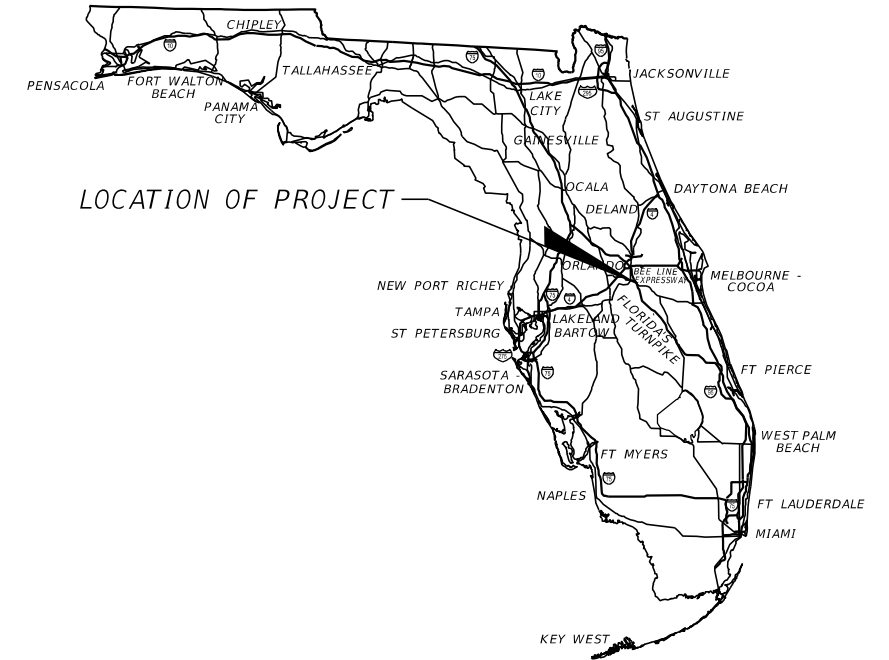
CONTRACT PLANS

OSCEOLA COUNTY CONTRACT ID: PS-20-11504-DG
PARTIN SETTLEMENT ROAD
FROM NEPTUNE ROAD (CR 525) TO LAKESHORE BLVD.
COUNTY ROAD NO.523

SIGNALIZATION PLANS

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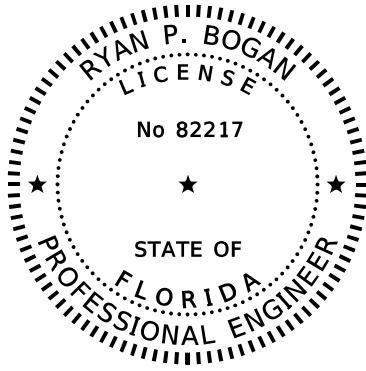
**SIGNALIZATION PLANS
ENGINEER OF RECORD:**

RYAN P. BOGAN, P.E.
P.E. LICENSE NUMBER 82217
JOHNSON, MIRMIRAN, & THOMPSON, INC
400 COLONIAL CENTER PKY, SUITE 100
LAKE MARY, FL 32746

COUNTY PROJECT MANAGER:

STEVEN KANE, P.E.

CONSTRUCTION CONTRACT NO.	FISCAL YEAR	SHEET NO.
TBD	23	T-1



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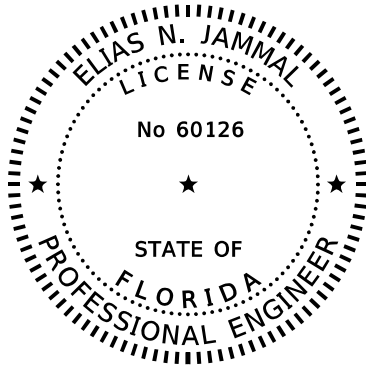
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JOHNSON, MIRMIRAN & THOMPSON
400 COLONIAL CENTER PKY, SUITE 100
LAKE MARY, FL 32746
RYAN P. BOGAN, P.E. NO. 82217

THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THE FOLLOWING SHEETS IN ACCORDANCE WITH RULE 61G15-23.004, F.A.C.

PLAN INDEX

SHEET NO.	SHEET DESCRIPTION
T-1	KEY SHEET
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T-3	TABULATION OF QUANTITIES
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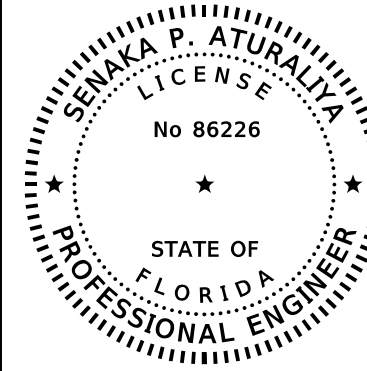
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TERRACON
1675 LEE ROAD
WINTER PARK, FL 32789
ELIAS N. JAMAL, P.E. NO. 60126

THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THE FOLLOWING SHEETS IN ACCORDANCE WITH RULE 61G15-23.004, F.A.C.

PLAN INDEX

SHEET NO.	SHEET DESCRIPTION
T-2	SIGNATURE SHEET
T-14 THRU T-17	STANDARD PENETRATION TEST (SPT) BORINGS



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JOHNSON, MIRMIRAN & THOMPSON
400 COLONIAL CENTER PKY, SUITE 100
LAKE MARY, FL 32746
SENAKA P. ATURALIYA, P.E. NO. 86226

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PLAN INDEX

SHEET NO.	SHEET DESCRIPTION
T-2	SIGNATURE SHEET
T-12	STANDARD MAST ARM ASSEMBLIES DATA TABLE
T-13	SPECIAL MAST ARM ASSEMBLIES DATA TABLE

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REVISIONS				ENGINEER OF RECORD		OSCEOLA COUNTY TRANSPORTATION & TRANSIT DEPARTMENT		SIGNATURE SHEET	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION	RYAN P. BOGAN, P.E. LICENSE NUMBER 82217 JOHNSON, MIRMIRAN & THOMPSON 400 COLONIAL CENTER PKY, SUITE 100 LAKE MARY, FL 32746		ROAD IDENTIFICATION	CONTRACT ID		T-2
						PARTIN SETTLEMENT RD.	PS-20-11504-DG		

TABULATION OF QUANTITIES

PAY ITEM NO.	DESCRIPTION	UNIT	SHEET NUMBERS										TOTAL THIS SHEET		GRAND TOTAL	
			T-6		T-7		T-8		T-9		T-10		PLAN	FINAL	PLAN	FINAL
			PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL				
630-2-11	CONDUIT, FURNISH & INSTALL, OPEN TRENCH	LF	45		131		195		159		127		657		657	
630-2-12	CONDUIT, FURNISH & INSTALL, DIRECTIONAL BORE	LF	226		385		531		349		235		1726		1726	
632-7-1	SIGNAL CABLE-RECONSTRUCTED INTERSECTION, FURNISH & INSTALL	PI	1		1		1		1		1		5		5	
635-2-11	PULL & SPLICE BOX, F&I, 13" X 24" COVER SIZE	EA	5		15		15		19		17		71		71	
639-1-122	ELECTRICAL POWER SERVICE, F&I, UNDERGROUND, METER PURCHASED BY CONTRACTOR	AS			1		1		1		1		4		4	
641-2-11	PRESTRESSED CONCRETE POLE, F&I, TYPE P-11 PEDESTAL	EA			1		1		1		1		4		4	
641-2-60	PRESTRESSED CONCRETE POLE, COMPLETE POLE REMOVAL- PEDESTAL/SERVICE POLE	EA			1		1		1		1		4		4	
641-2-70	PRESTRESSED CONCRETE POLE, SHALLOW POLE REMOVAL- POLE 30' AND GREATER	EA					4						4		4	
646-1-11	ALUMINUM SIGNALS POLE, PEDESTAL	EA	4		8		6		8		2		28		28	
646-1-12	ALUMINUM SIGNALS POLE, F&I, PEDESTRIAN DETECTOR POST	EA					1						1		1	
646-1-60	ALUMINUM SIGNALS POLE, REMOVE	EA	1		8		5		6				20		20	
646-2-115	ALUMINUM POLE-INDEX 695-001, FURNISH & INSTALL 15'	EA									2		2		2	
646-2-600	ALUMINUM POLE-INDEX 695-001, REMOVE	EA									2		2		2	
649-21-3	STEEL MAST ARM ASSEMBLY, FURNISH & INSTALL, SINGLE ARM 40'	EA							1				1		1	
649-21-10	STEEL MAST ARM ASSEMBLY, FURNISH & INSTALL, SINGLE ARM 60'	EA			1				1				2		2	
649-21-15	STEEL MAST ARM ASSEMBLY, FURNISH & INSTALL, SINGLE ARM 70'	EA			1								1		1	
649-21-17	STEEL MAST ARM ASSEMBLY, FURNISH & INSTALL, DOUBLE ARM 70'-40'	EA									1		1		1	
649-21-18	STEEL MAST ARM ASSEMBLY, FURNISH & INSTALL, DOUBLE ARM 70'-50'	EA							1				1		1	
649-21-21	STEEL MAST ARM ASSEMBLY, FURNISH & INSTALL, SINGLE ARM 78'	EA					2						2		2	
649-26-3	STEEL MAST ARM ASSEMBLY, REMOVE, SHALLOW FOUNDATION-BOLT ON ATTACHMENT	EA			2				2		1		5		5	
650-1-14	VEHICULAR TRAFFIC SIGNAL, FURNISH & INSTALL ALUMINUM, 3 SECTION, 1 WAY	AS	5		10		15		12				42		42	
650-1-15	VEHICULAR TRAFFIC SIGNAL, FURNISH & INSTALL ALUMINUM, 3 SECTION, 2-4 WAYS	AS	1										1		1	
650-1-16	VEHICULAR TRAFFIC SIGNAL, FURNISH & INSTALL ALUMINUM, 4 SECTION, 1 WAY	AS			1		2						2		2	
650-1-60	VEHICULAR TRAFFIC SIGNAL, REMOVE-POLES TO REMAIN	AS	5		3								8		8	
650-1-70	VEHICULAR TRAFFIC SIGNAL, RELOCATE- INCLUDES REMOVAL AND REINSTALLATION	AS			2								2		2	
653-1-11	PEDESTRIAN SIGNAL, FURNISH & INSTALL LED COUNTDOWN, 1 WAY	AS	4		8		6		8				26		26	
653-1-12	PEDESTRIAN SIGNAL, FURNISH & INSTALL LED COUNTDOWN, 2 WAY	AS					1						1		1	
653-1-60	PEDESTRIAN SIGNAL, REMOVE PED SIGNAL- POLE/PEDESTAL TO REMAIN	AS	2										2		2	
660-4-11	VEHICULAR DETECTION SYSTEM-VIDEO, FURNISH & INSTALL CABINET EQUIPMENT	EA	1		1				1		1		4		4	
660-4-12	VEHICULAR DETECTION SYSTEM-VIDEO, FURNISH & INSTALL ABOVE GROUND EQUIPMENT	EA	4		4				4		4		16		16	
660-4-60	VEHICULAR DETECTION SYSTEM-VIDEO, REMOVE	EA	4		2								6		6	
660-9-11	TRAFFIC DATA DETECTION SYSTEM-VIDEO, FURNISH AND INSTALL, CABINET EQUIPMENT	EA					1						1		1	
660-9-12	TRAFFIC DATA DETECTION SYSTEM-VIDEO, FURNISH AND INSTALL, ABOVE GROUND EQUIPMENT	EA					4						4		4	
663-1-121	SIGNAL PRIORITY AND PREEMPTION SYSTEM, FURNISH AND INSTALL, GPS, REPLACE CABINET ELECTRONICS	EA	1				1		1		1		4		4	
663-1-122	SIGNAL PRIORITY AND PREEMPTION SYSTEM, FURNISH AND INSTALL, GPS, DETECTOR	EA	1				1		1		1		4		4	
665-1-11	PEDESTRIAN DETECTOR, FURNISH & INSTALL, STANDARD	EA	4		8		8		8		2		30		30	
665-1-60	PEDESTRIAN DETECTOR, REMOVE-POLE/PEDESTAL TO REMAIN	EA	2										2		2	
670-5-111	TRAFFIC CONTROLLER ASSEMBLY, F&I, NEMA, 1 PREEMPTION	AS	1				1		1		1		4		4	
670-5-500	TRAFFIC CONTROLLER ASSEMBLY, RELOCATE CONTROLLER WITH CABINET	AS			1								1		1	
670-5-600	TRAFFIC CONTROLLER ASSEMBLY, REMOVE CONTROLLER WITH CABINET	AS	1				1		1		1		4		4	
671-2-40	TRAFFIC CONTROLLER, MODIFY	EA			1								1		1	
685-1-13	UNINTERRUPTABLE POWER SUPPLY, FURNISH & INSTALL, LINE INTERACTIVE WITH CABINET	EA	1				1		1		1		4		4	
685-2-1	REMOTE POWER MANAGEMENT UNIT-RPMU, FURNISH & INSTALL	EA					1						1		1	
700-3-201	SIGN PANEL, FURNISH & INSTALL OVERHEAD MOUNT, UP TO 12 SF	EA			1		4		1		1		7		7	
700-5-22	INTERNALLY ILLUMINATED SIGN, FURNISH & INSTALL, OVERHEAD MOUNT, 12-18 SF	EA			2		4		4		3		13		13	

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REVISIONS				ENGINEER OF RECORD				OSCEOLA COUNTY TRANSPORTATION & TRANSIT DEPARTMENT				TABULATION OF QUANTITIES	SHEET NO. T-3
DATE	DESCRIPTION	DATE	DESCRIPTION	RYAN P. BOGAN, P.E. LICENSE NUMBER 82217 JOHNSON, MIRMIRAN & THOMPSON 400 COLONIAL CENTER PKY, SUITE 100 LAKE MARY, FL 32746				ROAD IDENTIFICATION		CONTRACT ID			
								PARTIN SETTLEMENT RD.		PS-20-11504-DG			

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Survey

1. There may be additional easements, right-of-way, or other restrictions that are not shown on this survey that may be found in the public records of Osceola County.

Utilities

1. The location of the utilities shown in the plans is based on limited investigation techniques and should be considered approximate only. The exact location shall be determined by the contractor during construction. The contractor shall be responsible to verify if other utilities (not shown in the plans) exist within the area of construction. Should there be other utilities: the contractor shall notify the respective utility owners to resolve utility conflicts and utility adjustments, as required. Utilities shall remain unless otherwise noted. The contractor is responsible for the protection of all utilities to remain in place.

2. The contractor shall notify all utilities at least 48 hours in advance of any operation that may conflict with overhead or underground utilities, including pole setting operations where a conflict with overhead electrical conductors is expected.

3. As directed by the project engineer, the contractor shall adjust conduit vertically to avoid any possible conflicts with with underground utilities.

4. It is the intent of these plans that the proposed equipment to be installed is to be placed in such a manner so as to totally avoid any conflicts with existing utilities along the route. It is the contractor's responsibility to obtain the necessary information to plan their work within the design or specified parameters, and the specified time frame. It shall be the contractor's responsibility to locate all aboveground and underground conflicts in advance of the placement of any conduit or other facilities.

5. The contractor shall hand dig the first four feet of any pole or pedestal installation to ensure that there are no underground utility conflicts. No separate payment shall be made for this work. Extreme caution shall be used by the contractor when excavating, installing, backfilling and compacting around existing utilities.

6. The contractor shall be solely responsible for the location (both vertical and horizontal) and protection, repair and/or replacement of all utilities that may be affected by the construction of this project. This should be performed by vacuum excavation or comparable nondestructive equipment. The cost of repairs and/or replacement shall be covered by the contractor or utility owner.

7. The contractor shall be responsible for contacting the company providing electric power to determine if a service processing fee is required. If required, the fee shall be reflected in the contractor's bid unit price for electrical power service assembly.

8. The contractor is advised that the presence of overhead electric conductors in close proximity to the locations of the proposed signal mast arms may limit the type of equipment that can be used in construction of the mast arm and it's foundation. Contractor shall coordinate with power company to deactivate lines if necessary.

9. The contractor shall notify utility owners through sunshine one call of Florida Inc., (800) 432-4770, and utility owners listed below two business days in advance of beginning construction on the job site. A contractor's representative shall be present when the utility company locates their facilities. The location of existing utilities shall be determined by the contractor and the utility representative when necessary during construction.

General

1. Unless otherwise noted in the technical specifications: installation, acceptance, and payment for all items required in these plans shall be in accordance with the current editions of the following, referenced in the key sheet: Manual on Uniform Traffic Control Devices (MUTCD), FDOT Standard Specifications for Road and Bridge Construction (Standard Specifications), FDOT Standard Plans for Road Constructions and FDOT District 5 preferences.

2. These plans reflect conditions known during plan development. In the event actual physical conditions prevent the application or the progression of any work specified in these plans, the contractor shall notify the engineer immediately and prior to any further work activity.

3. Approval of shop drawings does not constitute a warranty that the signal equipment complies with the standards of the maintaining agency. The contractor is responsible for ensuring that the proposed signal equipment meets the requirements specified in the contract, specifications and contract plans.

4. The contractor shall submit for approval two sets of shop drawings, manufacturer's descriptive literature and technical data for each equipment item proposed on this project to the EOR.

5. The maintaining agency is Osceola County. A right of way utilization permit is required. The contractor shall notify the maintaining agency at least 72 hours before beginning any related traffic signal work. The contractor shall obtain all construction permits required for the project for applicable cities, county, agencies, and FDOT. Approval of plans by Osceola County does not constitute a permit.

6. Equipment warranty shall be one year, manufacturer's provided or per FDOT Standard Specifications (latest edition), whichever is longer.

7. Prior to beginning construction, the contractor shall provide written notice to commencement, via email to Ghassan.Choueiry@osceola.org. Notice shall include the date of commencement, location and type of work & information regarding any malfunctioning signal equipment. This shall be completed at least 48 hours prior to commencement of work. The engineer shall be notified as well.

8. During non-working hours, no equipment, vehicles or material shall be parked or stored within thirty feet of the roadway carrying traffic. If the above is not possible, a storage area with proper delineation and advanced warning shall be used with the approval of the engineer.

9. The contractor shall notify Aaron Torres (Senior Signal Tech) at (407) 738-9405 aaron.torres@osceola.org at least two full business days in advance of installing ground rods, underground conduit, or setting poles so that these operations can be observed.

10. Contractor shall provide to the county an updated construction schedule in the form of a two week look ahead on a biweekly basis.

11. All disturbed areas, including pavement markings, shall be restored, at the contractor's expense, to original condition or better.

12. The contractor shall be advised that other projects may be under construction concurrently with this project and that coordinating efforts may be necessary. The contractor shall be responsible for determining the construction schedule and for the amount of coordination required. The contractor shall coordinate any and all construction activities and traffic control phases with any contractor within or adjacent to project limits.

13. Final locations of all cabinets shall be approved by the engineer prior to placement of the foundation if the location has changed from the plan.

14. Nothing in the general notes or special provisions shall relieve the contractor from their responsibilities toward the safety and convenience of the general public and the residences along the proposed construction area.

15. Offsets to poles, cabinets and pull boxes are to the center of those items. The location of all proposed equipment to be installed shall be considered to be approximate. Field adjustment of all proposed equipment may become necessary to accommodate existing field conditions. Variations from the proposed location must be pre-approved by the county in writing.

16. Pull boxes shall be placed behind curb and gutter. If there is no curb and gutter, then pull boxes shall be placed at least ten feet from the edge of pavement or roadway radii. Pull boxes shall not be placed in ramps. Pull boxes shall not be located at the bottom of any ditch or retention area/pond. Pull boxes installed along a sloped surface shall match the slope of the existing surface. Pull boxes shall be traffic rated.

17. All ends of conduits in pull boxes and cabinets shall be sealed with electrical putty after wiring is complete.

18. The contractor shall make all video detectors installed as part of the project fully operational in accordance with their associated isolated intersection signal timing chart within 24 hours of their installation.

19. The video detection system shall be on the Florida department of transportation (FDOT) approved products list and meet all qualifying specifications identified herein or as described in FDOT section 660 "VEHICLE DETECTION SYSTEM - 660-2.2.2.2 Video" as it applies to video vehicle detection systems. Errors because of variations shall be fixed at the contractor's expense, no additional compensation will be provided.

20. It is the contractor's responsibility to review the placement of the video image detection devices and coordinate with the engineer of record to determine the most optimal location for the installation of the video image detection devices in order to meet the performance requirements of the technical specifications.

21. No video detection shall be installed on uprights of mast arms.

22. Six feet of additional signal cable slack shall be present in the upright such that the terminal block can be removed from the upright to allow for trouble shooting.

23. Cable grip shall be of sufficient size to not compromise the insulation on the signal cable.

24. All cable shall be pulled in the conduit with a cable grip designed to provide a firm hold on the exterior covering of the cable. A winch with a slip clutch shall be used to ensure that the allowable tension unit is not exceeded. An approved lubricant shall be used to facilitate the pulling of the cable.

25. Delay time shall be set to five seconds.

26. All signal assemblies shall have a vertical clearance of 17.5' (minimum) to 19' (maximum) from the bottom of the assembly to the highest point of the road beneath.

27. Ground rods are to be installed in pull boxes when possible.

28. Signal cable shall be spliced to a separate 7 conductor cable for each signal and 7 conductor cable for each pedestrian head. These splices shall be installed in either the hand-hole of the steel pole/concrete strain pole or within the transformer base of a pedestrian pedestal. The color code of signal cable shall be verified with Osceola County prior to wiring intersection. A permanent tag shall be placed at both of the wire terminations designating the phase used. All unused signal wires shall be bonded to the pole ground. Each detector push button shall be fed with an individual two conductor Belden cable, with the shield wire bonded to the pole ground. The outside insulation jacket of all signal cables shall remain intact from the signal heads to the field termination points. No un-jacketed individual conductors shall rest in any field drilled structures or assemblies.

29. Contractor shall verify color codes for both signal and interconnect cable with Osceola County before ordering. Wiring diagrams shall be in accordance with Osceola County specifications.

30. All field wiring shall be neatly bundled and clearly identified with permanent legible, weatherproof tags that are securely attached to each cable. The tagging system proposed shall be submitted for approval with the other equipment submittals required for this project.

31. Three spare conductors shall be installed per vehicle phase. Spares shall be bound and grounded in cabinet.

32. A manual push cord shall be furnished per FDOT specifications 676-2.2.2.

33. Two spare conduits stubbed to the nearest pull box shall be installed in all new cabinet installations.

34. All signal runs installed shall be continuous runs or if not continuous must have a terminal strip installed and fastened to the mast arm.

35. All signal indications shall be L.E.D. L.E.D. product informations shall be submitted to the EOR for review and approval.

36. Solid conductors should be used for main roadway phases and tracers used for side street phases.

37. No mixing of signal wires and fiber will be permitted.

38. No use of LB conduits shall be used in existing or new cabinet installs.

39. All wires or fiber in pull boxes or signal cabinets must be clearly marked for directions and phases on video cables, video racks and any loops.

40. All pedestrian walkways shall use "cast in place" type ADA mat. No ADA mat fastened to the concrete or paint on mats shall be used.

Structures

1. The contractor shall verify structure orientation prior to placement. Structures of incorrect orientation shall be replaced at contractor's expense. The contractor shall verify that all structures are set to elevations that will meet vertical clearance requirements specified in FDOT, MUTCD and county standards prior to installing structural material. If a discrepancy is found, contact the engineer of record.

2. The contractor shall contact the FDOT District Five Structures Maintenance Office at (386) 740-3463 two weeks prior to completion of the project to schedule an inspection of the completed traffic signal mast arm structures.

Inspections

1. All final inspections are to be scheduled in accordance with contract documents. The maintaining agency shall be notified at least 72 hours before turn-on inspection.

2. The contractor is required to inspect the installation of the traffic signals in accordance with FDOT specification 105-8.1.1. The contractor shall coordinate the final acceptance inspection in accordance with FDOT specification 611-2.2 with the engineer at least ten business days in advance, Aaron Torres (Signal Project Manager) @ (407) 738-9405, aaron.torres@osceola.org Osceola County Transportation and Transit should be contacted ten business days before inspections are to be performed so they may be present.

3. Contractor shall have the approved shop drawings available on the project site.

4. All work which will not be readily visible upon completion shall not be concealed until an approved inspection. In the event that items are concealed, it will be the contractor's responsibility to expose the questioned item(s) for the inspector's approval, at no additional cost to the county. This includes, but is not limited to:
a. buried or imbedded conduit
b. ground wire, rods, and array

5. The application of the following materials to various traffic signal components shall be performed during assembly:
a. Threaded hardware: all non-electrical threaded hardware (i.e. Astro bracket hardware, pole hardware, or any threaded surface) shall be coated with an anti-seize compound will be accepted.
b. Gasketing surfaces: all gasket surfaces shall be lightly coated with county approved silicone grease.
c. Electrical connections: all mechanical/electrical connections shall have the various components of the splice or termination coated with a county approved oxide inhibitor.
d. Galvanized surfaces: all scratches and field-drilled holes shall be treated in accordance with the "special provision for installation of paint-over-galvanized steel mast-arm assemblies".
e. Weatherproofing: irregular mating surfaces shall be rendered weatherproof by applying an appropriate bead of clear silicone caulk. These areas include serrated signal couplings, controller cabinet foundation, pedestrian push buttons, and any other areas typically prone to moisture infiltration.
f. Cable entry/exit: whenever a cable enters or exits a field drilled hole, the cable shall be protected from abrasion with an approved means.

6. In an inspections, the contractor shall provide all necessary equipment including a two man bucket truck or platform lift truck for use by the inspector and maintenance.

7. If the contractor calls for an inspection and the contractor is not prepared for the inspection (i.e. the inspection has to be rescheduled), the contractor shall be back charged for all costs associated with the inspection.

As-built plans

1. The contractor shall provide four sets of marked up (as-built) construction plans to the engineer and maintaining agency as defined in FDOT standards and bridge specifications section 611, seven days prior to signal conditional acceptance inspection by the maintaining agency. The contractor shall be required to become familiar with Osceola County's inspection procedure. The contractor shall also provide a PDF of the as-built plans to Osceola County Transportation and Transit. The Contractor shall leave one as-built plan in the drawer of the signal cabinet. In addition to as built plans, contractor shall submit bore logs.

2. The contractor shall submit a sketch to the engineer for approval, if the location of any vertical placement varies from the designated location of the plan. Upon final inspection and acceptance, the contractor shall provide as-built and as-installed drawings as stipulated in the contract.

Submittals

1. All submittal data should be submitted to Ghassan Choueiry, P.E. (407) 742-0662, Ghassan.Choueiry@osceola.org. on Osceola County projects to the office below. The contractor shall allow for 15 working day turn around on submittals. Osceola County Transportation and Transit Attn: Ghassan Choueiry, P.E. (407) 742-0662, Ghassan.Choueiry@osceola.org. 1 Courthouse Square Suite 3100 Kissimmee, FL 34741

2. Prior to any equipment order, the contractor shall submit for approval equipment specifications, or design data for all material proposed for this project.

REVISIONS		ENGINEER OF RECORD		OSCEOLA COUNTY TRANSPORTATION & TRANSIT DEPARTMENT		SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION	ROAD IDENTIFICATION	CONTRACT ID	
				PARTIN SETTLEMENT RD.	PS-20-11504-DG	T-4

GENERAL NOTES

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

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Communications

1. All new fiber installations, trench or bore, shall have a spare 2-2" conduit installed with a 10 gauge trace wire.
2. Any fiber interconnect cable that is cut or damaged during construction must be replaced as an entire run and shall be re-spliced within the splice enclosure at the end of the run. Splicing of fiber interconnect cable between splice enclosures is not permitted. The contractor shall bear all expenses associated with the installation of the new interconnect cable.
3. Pull/junction boxes, and any other signal or other systems equipment damaged by the contractor shall be repaired at the contractor's expense.
4. Any material furnished for the purposes of: new installation, replacement, or repair of the existing communications infrastructure shall meet the standards and specifications of Osceola County Transportation and Transit. Any supplied controller cabinet, controller, telemetry unit, communications cable, pull box, conduit, termination device, junction box, and communications interface panel shall comply with the latest requirements as stated by Osceola County.
5. If there is fiber optic cable within your project limits or within 1500 feet of your project limits, contact Lindsey.Giovinazzo@osceola.org, (407) 742-9166 or AARON TORRES at (407) 738-9405, aaron.torres@osceola.org.
6. When communications to an intersection must be disrupted by a contractor to perform work, the contractor shall provide two day advance notice in writing to the Osceola County Transportation and Transit. This notification shall be conveyed via electronic mail (email) to the Traffic Management Center Supervisor Lindsey Giovinazzo at Lindsey.Giovinazzo@osceola.org, and copy Traffic Operations Engineer Ghassan Choueiry, PE (407) 742-0662 ghassan.choueiry@osceola.org. Notification shall include contact person, telephone number, purpose, location and duration. The disruption shall last no more than three consecutive business days. Where possible, the disruption shall be during off peak hours beginning at 9:00am and ending at 3:00pm or from 6:00pm to 7:00am.
7. Conduit locations shown on the plans are approximate. Conduit shall be placed within the right-of-way but can be adjusted to fit around the existing and proposed utilities. Any significant deviation from the plans shall be approved by the Engineer.
8. Do not place pull boxes at the bottom of ditches.
9. Pull boxes and covers shall be FDOT approved of non-metallic construction with recessed cover. The legend "OSCEOLA COUNTY ATMS" (first line) "FIBER OPTIC" (second line) shall be stamped on all covers.
10. The fiber optic cable shall be 96 SM unless state otherwise on the plans. Fiber optic drops shall be 12 SM.
11. Slack fiber optic cable (96 SM) as shown per plan and 50 LF of fiber optic drop cable (12 SM) is to be stored at each signalized intersection.
12. Warning tape is to be installed a minimum of 12" below grade. All underground fiber optic cable is to be installed with a #12, solid single conductor copper core, 45 MIL high-density polyethylene insulated underground AWG locate wire.

Traffic Control

1. Maintenance of signals responsibility belongs to contractor from time work begins until the County issues conditional acceptance at final inspection, at which time maintenance responsibilities are properly transferred to the County. The contractor shall have a certified traffic signal technician (minimum IMSA Level II) on call with a maximum two hour response time.
2. Traffic shall be maintained in accordance with the MUTCD, 2009 edition including all revisions, and the FDOT FY 2021-22 Standard Plans for Road Construction. Attention is directed to the 102 Index series.
3. During non-working hours, no equipment, vehicles or material shall be parked or stored within the clear zone of the roadway carrying traffic, detailed in the 102 Index series.
4. Lane closures are allowed during the following times:
 - a. M, T, Th, and F: 9am - 3pm (school days)
 - b. Wednesday: 9am - 1:30pm (school days)
 - c. M-F: 9am - 3pm (non-school days)
 - d. Nighttime lane closures shall be permitted on a case-by-case basis
5. All conduit trenches shall be backfilled completely to provide safe crossing by the end of each working day or whenever the work zone becomes inactive. The contractor shall not open any area that cannot be backfilled in the same day/night operation.
6. Field review conduit routing prior to construction to determine appropriate trenching and direction bore equipment necessary for this project. The contractor is stating that they have field reviewed the project and determined the specific means and methods to their satisfaction.

7. Whenever signal work is being performed at an intersection (installing conduit in the street, removing existing signal equipment, installing new signal equipment, installing loops and runs, turning on new signals, etc.) where a lane is closed, an off-duty law enforcement officer shall direct traffic. The cost of the off-duty law enforcement officer shall be incidental to the work and will not be paid separately.
8. Early "turn-on" of any new signal installation will only be permitted if authorized in writing by Osceola County Transportation and Transit. If the need arises, Osceola County Transportation and Transit will negotiate with the contractor for maintenance of the new signal. New signal locations shall be flashed no less than seven days, and no more than fourteen days prior to the inspection. All new signals shall be turned on full cycle after flashing (Tuesdays thru Thursdays only). Signal heads must be bagged with burlap or turned back until this time.
9. All existing regulatory and informational signs and traffic signals shall be maintained and protected by the contractor for as long as deemed necessary by the County. If any signs or signals are damaged or lost during the construction period, such signs and signals shall be repaired or replaced by the contractor at contractor's expense.
10. Existing communications or command wire connections shall be maintained at all signalized locations during construction. Railroad flashing beacons, Railroad pre-emption, fire pre-emption and school zone flashers. Contractors shall provide temporary lines and connections if necessary.
11. The contractor shall maintain on-line communications of existing or temporary signalization. Cost of maintaining communication with the central site, including temporary lines and connections, shall be paid for under the maintenance of traffic pay item number. All reported malfunctions of the communications system shall be responded to by the contractor within two hours and shall be repaired within 24 hours.

Pay Item Notes:

1. 630-2-11/630-2-12 A green #12 AWG trace wire shall be installed within any unused conduit and spliced within the pull box to provide electrical continuity. All references in the plan to rigid conduit shall be installed as 1.5" galvanized steel metal conduit. There shall be one spare 2" underground conduit installed per run. This shall be reflected in the callout. There shall be a separate conduit for video or loop runs from signal power conduits. Under no circumstances shall loop and video runs be housed in the same conduit as signal power.
2. 635-2-11: pull boxes shall be "Quazite", have non-conductive covers, and meet ANSI Tier 22 rating. Covers shall be stamped "Osceola County Traffic Signal" for all signalization applications.
3. 646-1-11: all pedestrian pedestals shall be provided with aluminum breakaway transformer-type bases.
4. 650-1-14, 650-1-15, 650-1-16: all traffic signal heads shall be aluminum. An articulated astro-bracket shall be provided under this pay item if needed for proper orientation of horizontal signal head on a skewed arm or approach. Retro reflective back plate borders are required on all back plates. Any four section signal heads with the flashing yellow arrow shall have the FTP-85-13 sign installed adjacent to the head assembly to the right.
5. 653-1-11, 653-1-12: LED pedestrian signals are to be single section and provided with international style lenses and countdown feature.
6. 660-4-11, 660-4-12: contractor to furnish and install Iteris Vantage Next system. Proper grounding must be provided including a bond wire attached to the camera assembly running to the pole ground, this item includes exterior use cabling, and mounting brackets necessary to meet the performance expectations of the system. Payment includes all labor (man-hours) and equipment necessary to develop an acceptance testing plan and to complete a successful video detection accuracy test A.K.A. Field acceptance test of the video detection system.
7. 660-9-11, 660-9-12: For US 192, provide Iteris Vantage Vector system that can perform enhanced count, turning movement, presence and advance detection all in one type of device.
8. 663-1-121, 663-1-122: contractor to furnish and install Global Traffic Technologies GPS receiver and antenna. The contractor will perform all signal testing, mapping and system activation. Contractor to furnish and install global traffic technologies fire-rescue GPS pre-emption controller interface module. Contractor to furnish and install Global Traffic Technologies system-specific preemption GPS multi-pair cable to connect to GPS antennas to GPS pre-emption controller interface.
9. 665-1-11: pedestrian push buttons shall include an MUTCD pedestrian sign, R10-3E for each button. The button and sign shall be placed on the face of the pole. Contact the engineer before proceeding if all A.D.A. Requirements cannot be met regarding the placement and accessibility of the buttons. Audible push buttons shall only be installed when called for on plan sheets.

10. 670-5-111: the controller assembly shall be Econolite R77 TS2 Type 1 operation w/ 64 channel wired cabinet assembly. The controller shall be Econolite Colbalt NEMA TS2, type 1 ATC controller w/ ethernet. ATC controller shall be compatible with the maintaining agency and FDOT District 5 ATMS software, capable of high-resolution data logging and are forward compatible with CV and ICM efforts. This pay item shall also include all materials and work necessary to transfer existing signal timing and phasing information including, but not limited to, timing plans, databases, configurations files, and more. (Special note: if there is limited sidewalk A.D.A. clearance, a reduced depth Type VI cabinet can be used with prior approval from Osceola County Transportation and Transit). The cabinet air filter shall be of the reusable washable aluminum type. The top of the controller pad shall be at least six inches above the roadway elevation. This pay item shall also include complete reintegration of the existing GPS priority control preemption equipment, and relocation to/from the existing cabinet. A flush mounted automatic power transfer switch shall be included on the cabinet. A technician service pad 30" in width shall also be provided. Whenever possible, the cabinet is to be placed so that the door opens away from the intersection and opens fully within the right of way. This pay item includes the cost of the concrete for the controller pad and the service pad. NOTE- Refer to Osceola County Traffic Signal Cabinet and Controller Specifications 5/2016. For more detailed specifications contact Aaron Torres (407) 738-9405, aaron.torres@osceola.org or Ghassan Choueiry, PE (407) 742-0662 ghassan.choueiry@osceola.org.

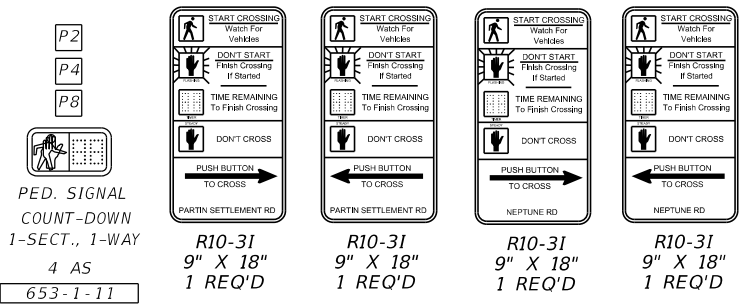
11. 685-1-13: The UPS systems shall be Alpha XM 1100 or an equivalent Alpha model that meets Osceola County's communication system requirements. UPS cabinets shall be installed separately from the controller assembly, no piggy back mounts.

12. 700-5-21, 700-5-22: illuminated street signs shall be L.E.D. double faced type, producing a minimum of 50 lumens per watt. Signs shall be double-sided and mounted to separate cantilever arms below the mast arms. All internally illuminated street name signs shall have one common photocell installed in cabinet. Internally illuminated street name signs shall have a 24" viewing height. This viewing height does not include the height of the sign assembly. Internally illuminated street name signs shall be burned in for 60 days before final acceptance. The signs shall use a breaker separately from the signal cabinet and shall be controlled by one master photocell.

REVISIONS		ENGINEER OF RECORD		OSCEOLA COUNTY TRANSPORTATION & TRANSIT DEPARTMENT		SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION	ROAD IDENTIFICATION	CONTRACT ID	
			RYAN P. BOGAN, P.E. LICENSE NUMBER 82217 JOHNSON, MIRMIRAN & THOMPSON 400 COLONIAL CENTER PKY, SUITE 100 LAKE MARY, FL 32746	PARTIN SETTLEMENT RD.	PS-20-11504-DG	T-5

GENERAL NOTES

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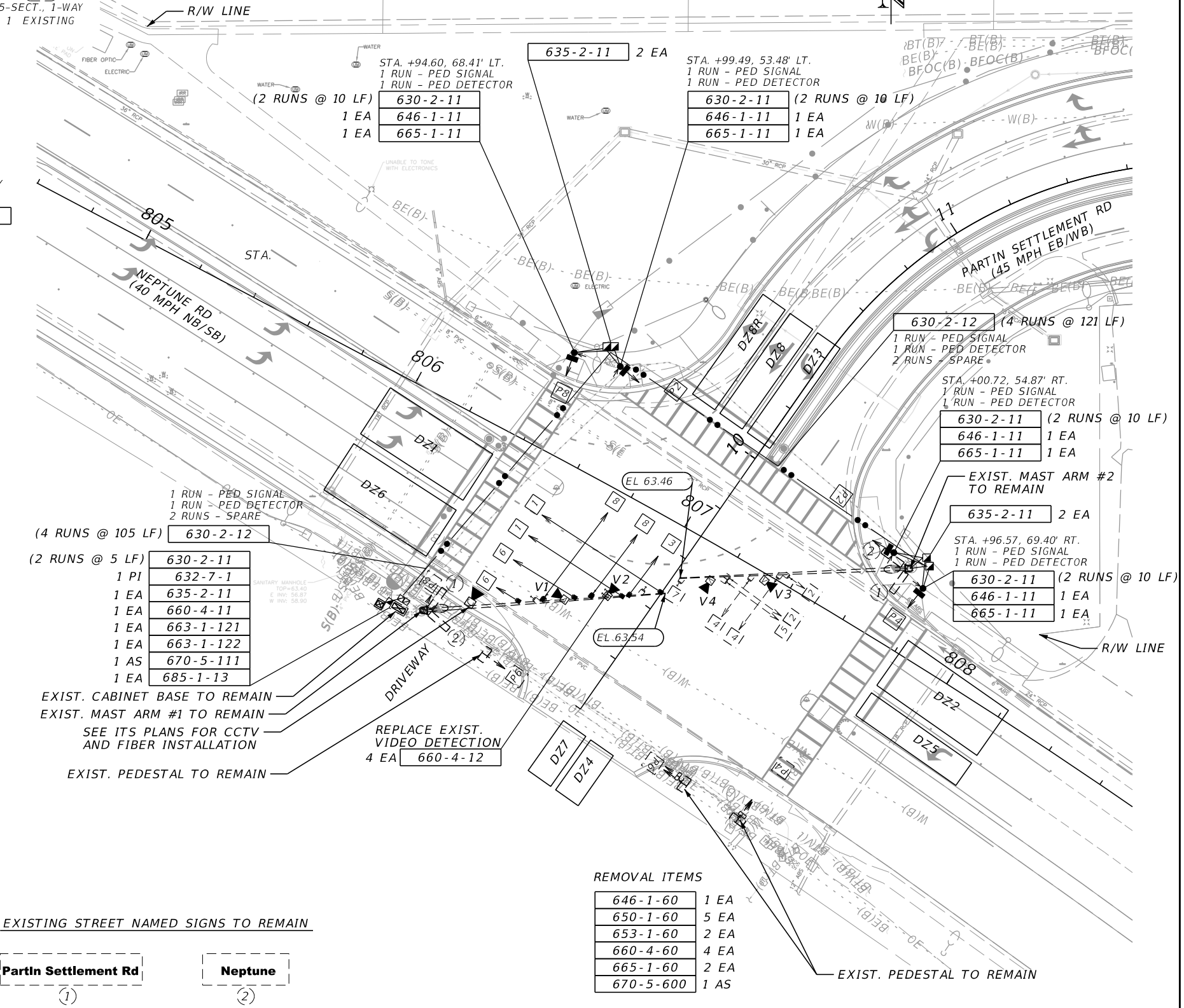
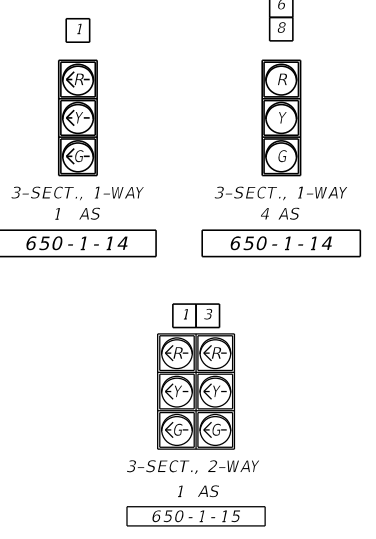
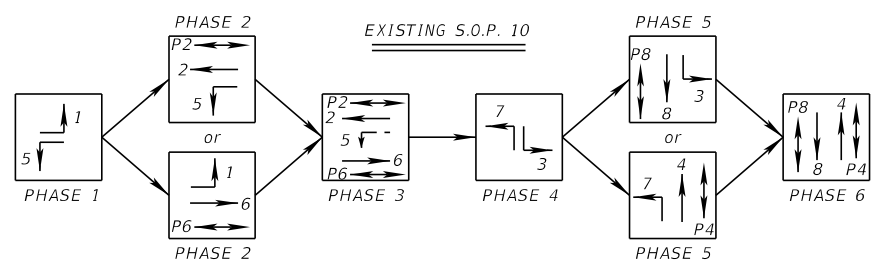


CONTROLLER TIMINGS								
TIMING FUNCTION								
MOVEMENT NUMBER	1	2	3	4	5	6	7	8
MINIMUM GREEN	8	15	6	5	6	15	5	5
EXTENSION	3	3.5	4.5	3	3	3.5	3	3
MAXIMUM GREEN 1	10	75	45	20	40	50	35	55
MAXIMUM GREEN 2								
YELLOW CLEARANCE	4.4	4.4	4.8	4.4	4.4	4.4	4.4	4.8
ALL RED	2	2	2	2	2	2	2	2
PEDESTRIAN WALK	7.0		7.0		7.0		7.0	
PED. CLEARANCE	26		21		16		22	
RECALL		MIN				MIN		

ALL TIMINGS TO REMAIN UNLESS OTHERWISE SHOWN.

VIDEO DECEPTION ASSIGNMENTS			
VIDEO DETECTOR	DETECTOR ZONE	DELAY TIME (SEC)	ZONE DIMENSION
EX V1	DZ1		18' X 40'
	DZ6		18' X 40'
EX V2	DZ3	5	9' X 40'
	DZ8R	5	9' X 40'
EX V3	DZ5		9' X 40'
	DZ2		18' X 40'
EX V4	DZ7		9' X 20'
	DZ4	5	9' X 20'

SIZE AND PLACEMENT OF VIDEO DETECTION EQUIPMENT AND ZONES ARE INITIAL AND MAY REQUIRE FIELD ADJUSTMENT



EXISTING STREET NAMED SIGNS TO REMAIN

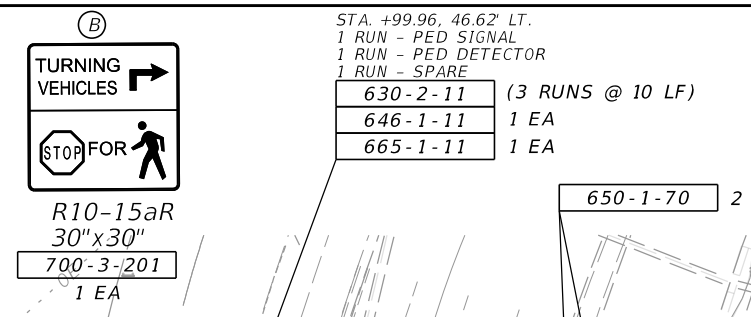
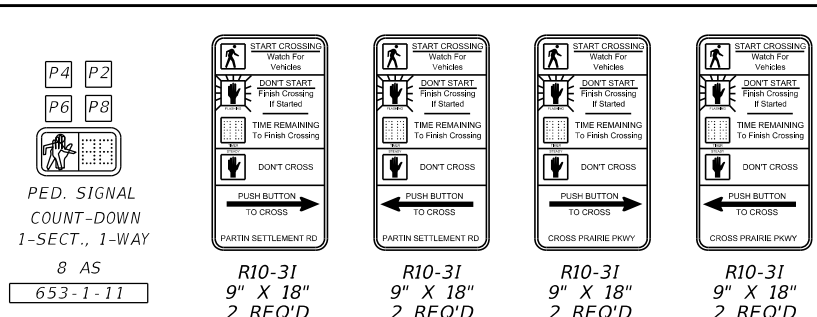
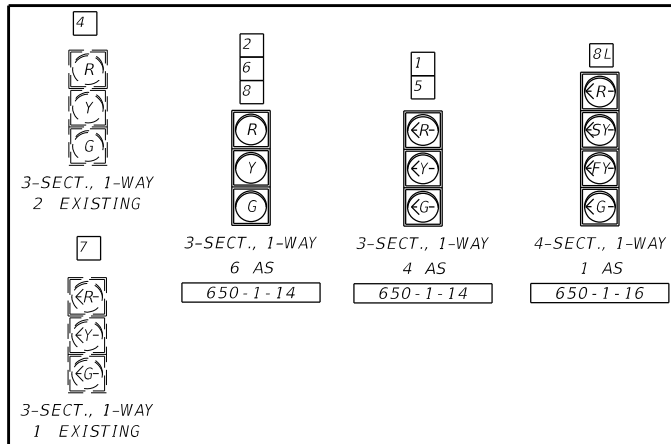
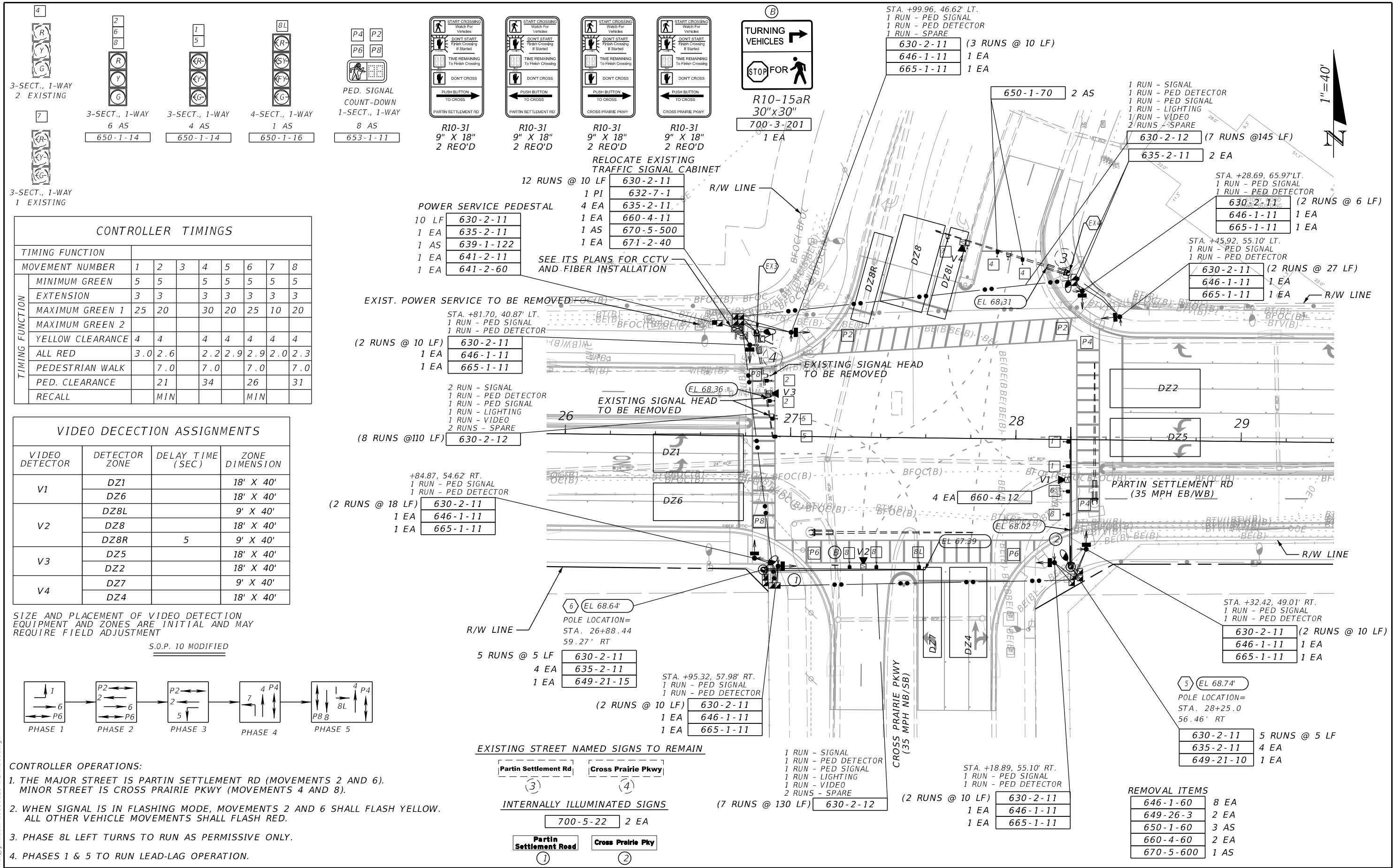


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REVISIONS		ENGINEER OF RECORD		OSCEOLA COUNTY TRANSPORTATION & TRANSIT DEPARTMENT		SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION	ROAD IDENTIFICATION	CONTRACT ID	
			RYAN P. BOGAN, P.E. LICENSE NUMBER 82217 JOHNSON, MIRMIRAN & THOMPSON 400 COLONIAL CENTER PKY, SUITE 100 LAKE MARY, FL 32746	PARTIN SETTLEMENT RD.	PS-20-11504-DG	T-6

SIGNALIZATION PLAN



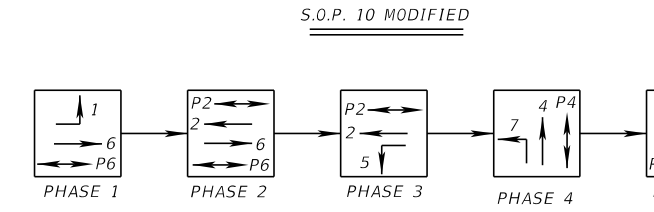
CONTROLLER TIMINGS

TIMING FUNCTION	1	2	3	4	5	6	7	8
MOVEMENT NUMBER	1	2	3	4	5	6	7	8
MINIMUM GREEN	5	5		5	5	5	5	5
EXTENSION	3	3		3	3	3	3	3
MAXIMUM GREEN 1	25	20		30	20	25	10	20
MAXIMUM GREEN 2								
YELLOW CLEARANCE	4	4		4	4	4	4	4
ALL RED	3.0	2.6		2.2	2.9	2.9	2.0	2.3
PEDESTRIAN WALK	7.0	7.0		7.0	7.0	7.0	7.0	7.0
PED. CLEARANCE	21			34		26		31
RECALL		MIN				MIN		

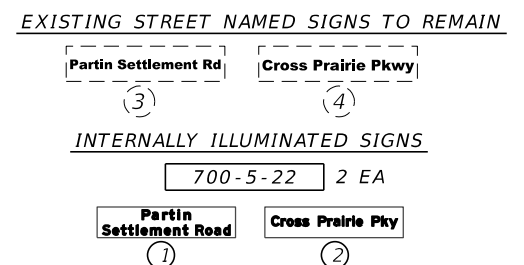
VIDEO DECEPTION ASSIGNMENTS

VIDEO DETECTOR	DETECTOR ZONE	DELAY TIME (SEC)	ZONE DIMENSION
V1	DZ1		18' X 40'
	DZ6		18' X 40'
V2	DZ8		9' X 40'
	DZ8R	5	9' X 40'
V3	DZ5		18' X 40'
	DZ2		18' X 40'
V4	DZ7		9' X 40'
	DZ4		18' X 40'

SIZE AND PLACEMENT OF VIDEO DETECTION EQUIPMENT AND ZONES ARE INITIAL AND MAY REQUIRE FIELD ADJUSTMENT



- #### CONTROLLER OPERATIONS:
- THE MAJOR STREET IS PARTIN SETTLEMENT RD (MOVEMENTS 2 AND 6). MINOR STREET IS CROSS PRAIRIE PKWY (MOVEMENTS 4 AND 8).
 - WHEN SIGNAL IS IN FLASHING MODE, MOVEMENTS 2 AND 6 SHALL FLASH YELLOW. ALL OTHER VEHICLE MOVEMENTS SHALL FLASH RED.
 - PHASE 8L LEFT TURNS TO RUN AS PERMISSIVE ONLY.
 - PHASES 1 & 5 TO RUN LEAD-LAG OPERATION.



REMOVAL ITEMS

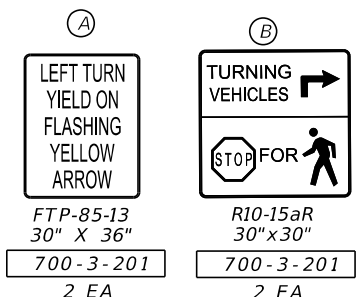
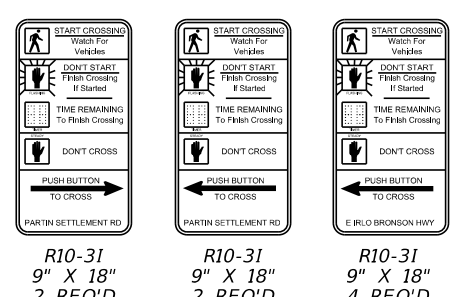
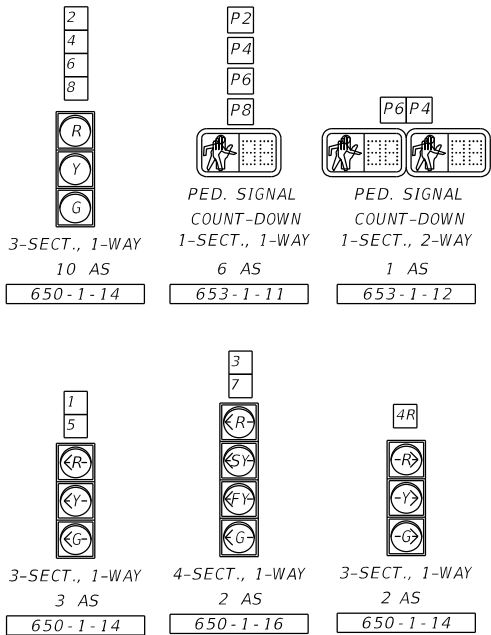
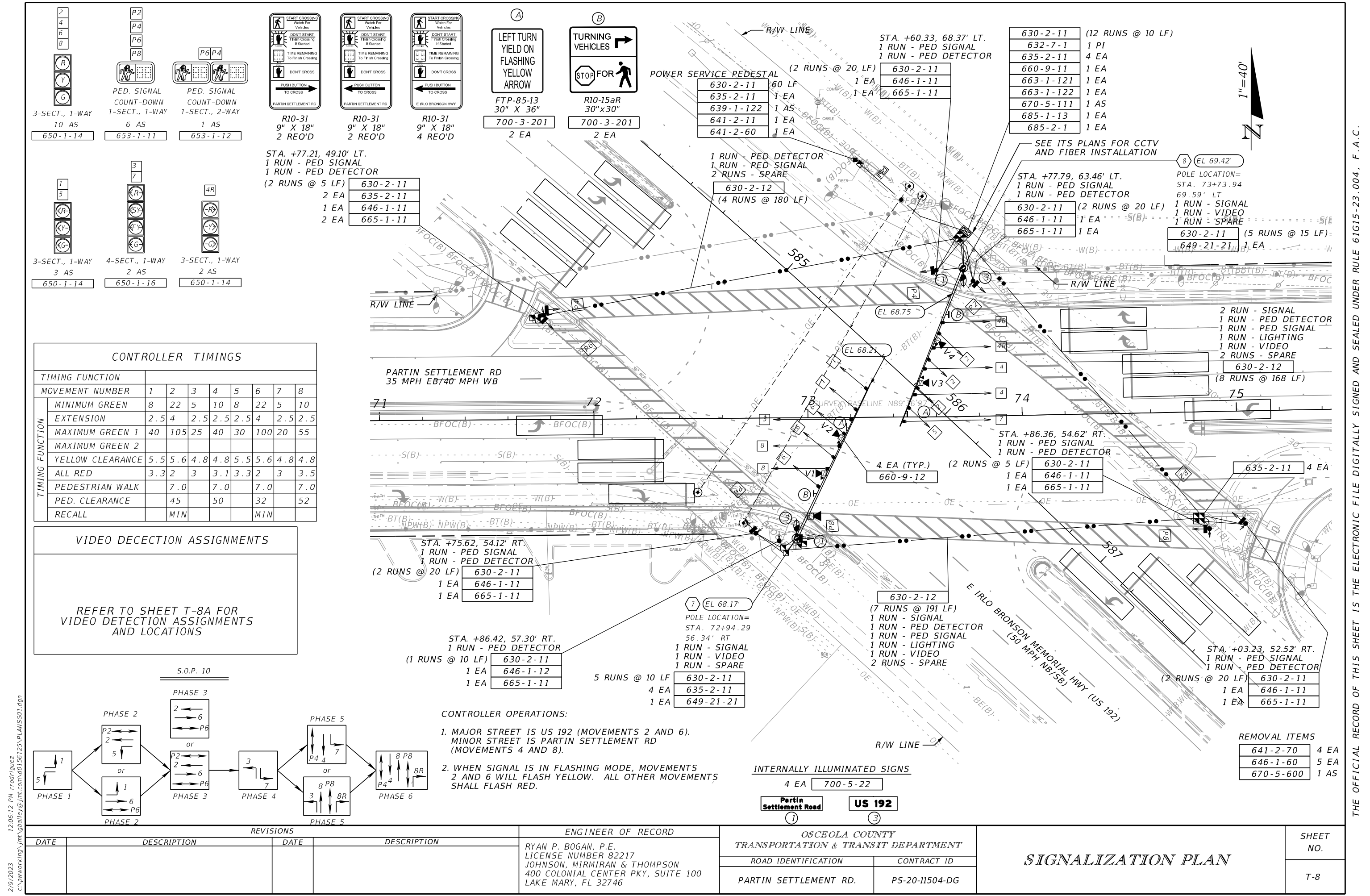
646-1-60	8 EA
649-26-3	2 EA
650-1-60	3 AS
660-4-60	2 EA
670-5-600	1 AS

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REVISIONS		ENGINEER OF RECORD		OSCEOLA COUNTY TRANSPORTATION & TRANSIT DEPARTMENT		SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION	ROAD IDENTIFICATION	CONTRACT ID	
				PARTIN SETTLEMENT RD.	PS-20-11504-DG	T-7

SIGNALIZATION PLAN

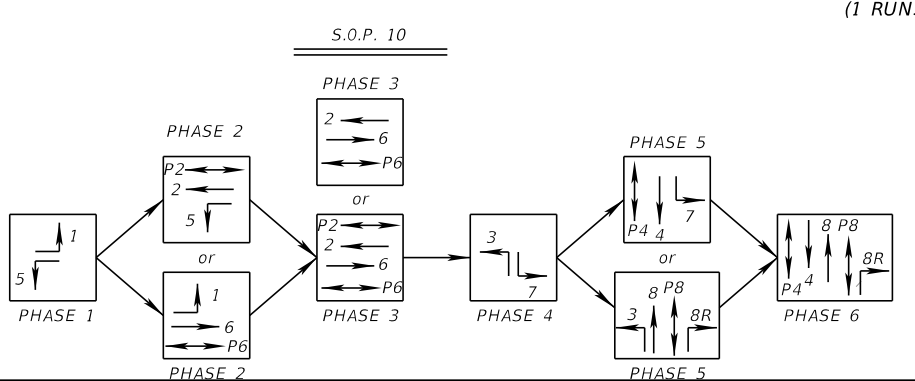


CONTROLLER TIMINGS

TIMING FUNCTION	1	2	3	4	5	6	7	8
MOVEMENT NUMBER	1	2	3	4	5	6	7	8
MINIMUM GREEN	8	22	5	10	8	22	5	10
EXTENSION	2.5	4	2.5	2.5	2.5	4	2.5	2.5
MAXIMUM GREEN 1	40	105	25	40	30	100	20	55
MAXIMUM GREEN 2								
YELLOW CLEARANCE	5.5	5.6	4.8	4.8	5.5	5.6	4.8	4.8
ALL RED	3.3	2	3	3.1	3.3	2	3	3.5
PEDESTRIAN WALK	7.0		7.0		7.0		7.0	
PED. CLEARANCE	45		50		32		52	
RECALL		MIN				MIN		

VIDEO DECEPTION ASSIGNMENTS

REFER TO SHEET T-8A FOR VIDEO DETECTION ASSIGNMENTS AND LOCATIONS



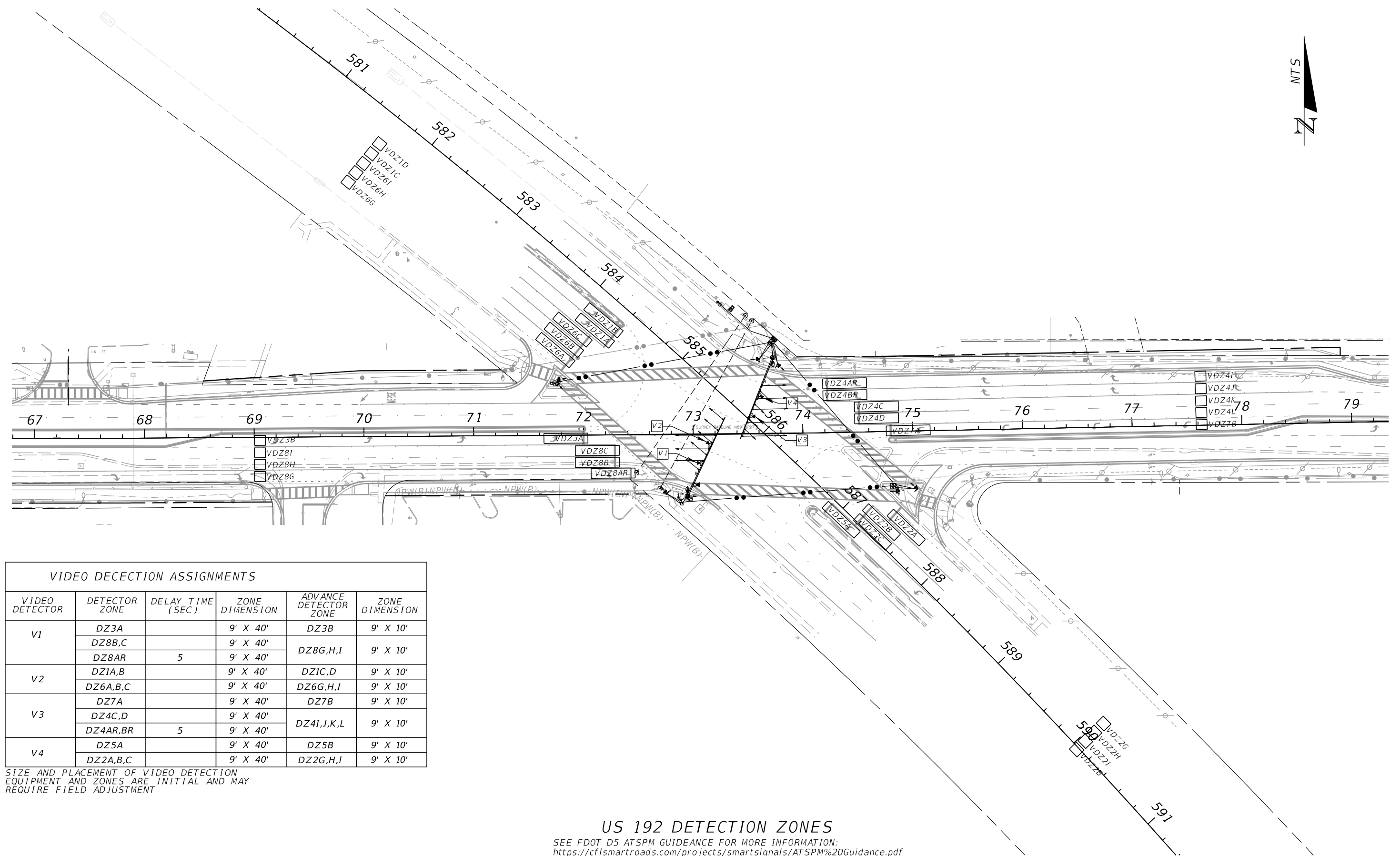
- CONTROLLER OPERATIONS:**
- MAJOR STREET IS US 192 (MOVEMENTS 2 AND 6). MINOR STREET IS PARTIN SETTLEMENT RD (MOVEMENTS 4 AND 8).
 - WHEN SIGNAL IS IN FLASHING MODE, MOVEMENTS 2 AND 6 WILL FLASH YELLOW. ALL OTHER MOVEMENTS SHALL FLASH RED.

REVISIONS		ENGINEER OF RECORD		OSCEOLA COUNTY TRANSPORTATION & TRANSIT DEPARTMENT		SHEET NO.
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			RYAN P. BOGAN, P.E. LICENSE NUMBER 82217 JOHNSON, MIRMIRAN & THOMPSON 400 COLONIAL CENTER PKY, SUITE 100 LAKE MARY, FL 32746	PARTIN SETTLEMENT RD.	PS-20-11504-DG	T-8

SIGNALIZATION PLAN

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VIDEO DECEPTION ASSIGNMENTS					
VIDEO DETECTOR	DETECTOR ZONE	DELAY TIME (SEC)	ZONE DIMENSION	ADVANCE DETECTOR ZONE	ZONE DIMENSION
V1	DZ3A		9' X 40'	DZ3B	9' X 10'
	DZ8B,C		9' X 40'	DZ8G,H,I	9' X 10'
	DZ8AR	5	9' X 40'		
V2	DZ1A,B		9' X 40'	DZ1C,D	9' X 10'
	DZ6A,B,C		9' X 40'	DZ6G,H,I	9' X 10'
V3	DZ7A		9' X 40'	DZ7B	9' X 10'
	DZ4C,D		9' X 40'	DZ4I,J,K,L	9' X 10'
	DZ4AR,BR	5	9' X 40'		
V4	DZ5A		9' X 40'	DZ5B	9' X 10'
	DZ2A,B,C		9' X 40'	DZ2G,H,I	9' X 10'

SIZE AND PLACEMENT OF VIDEO DETECTION EQUIPMENT AND ZONES ARE INITIAL AND MAY REQUIRE FIELD ADJUSTMENT

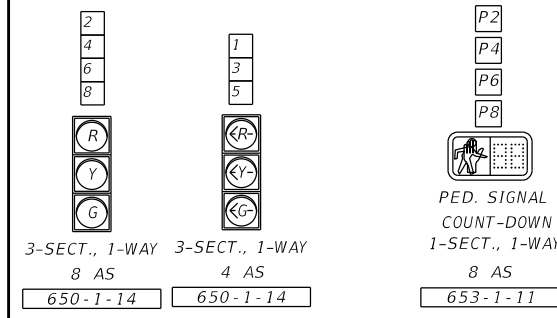
US 192 DETECTION ZONES

SEE FDOT D5 ATSPM GUIDANCE FOR MORE INFORMATION:
<https://cf1smartroads.com/projects/smartsignals/ATSPM%20Guidance.pdf>

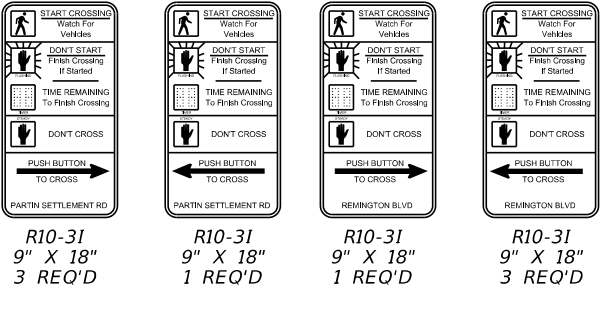
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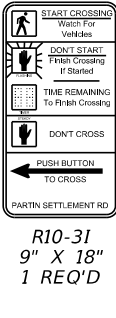
REVISIONS				ENGINEER OF RECORD		OSCEOLA COUNTY TRANSPORTATION & TRANSIT DEPARTMENT		SIGNALIZATION PLAN	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION	RYAN P. BOGAN, P.E. LICENSE NUMBER 82217 JOHNSON, MIRMIRAN & THOMPSON 400 COLONIAL CENTER PKY, SUITE 100 LAKE MARY, FL 32746		ROAD IDENTIFICATION	CONTRACT ID		
						PARTIN SETTLEMENT RD.	PS-20-11504-DG		T-8A



PED. SIGNAL
COUNT-DOWN
1-SECT., 1-WAY
8 AS
653-1-11



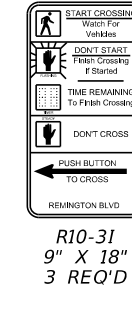
R10-31
9" X 18"
3 REQ'D



R10-31
9" X 18"
1 REQ'D



R10-31
9" X 18"
1 REQ'D



R10-31
9" X 18"
3 REQ'D

STA. +17.64, 46.78' LT.
1 RUN - PED SIGNAL
1 RUN - PED DETECTOR
1 RUN - SPARE

(3 RUNS @ 6 LF) 630-2-11
1 EA 646-1-11
1 EA 665-1-11

SEE ITS PLANS FOR CCTV
AND FIBER INSTALLATION

12 RUNS @ 5 LF
1 PI 632-7-1
4 EA 635-2-11
1 EA 660-4-11
1 EA 663-1-121
1 EA 663-1-122
1 AS 670-5-111
1 EA 685-1-13

POWER SERVICE PEDESTAL
10 LF 630-2-11
1 EA 635-2-11
1 AS 639-1-122
1 EA 641-2-11
1 EA 641-2-60

9 EL 77.54'
POLE LOCATION=
STA. 107+30.60
66.04' LT

630-2-11 5 RUNS @ 20 LF
635-2-11 2 EA
649-21-18 1 EA

STA. +25.70, 54.01' LT.
1 RUN - PED SIGNAL
1 RUN - PED DETECTOR

(2 RUNS @ 16 LF) 630-2-11
1 EA 646-1-11
1 EA 665-1-11

2 RUN - SIGNAL
1 RUN - PED DETECTOR
1 RUN - PED SIGNAL
1 RUN - LIGHTING
1 RUN - VIDEO
2 RUNS - SPARE

630-2-12 (8 RUNS @ 138 LF)

635-2-11 4 EA

STA. +53.80, 58.34' LT.
1 RUN - PED SIGNAL
1 RUN - PED DETECTOR

630-2-11 (2 RUNS @ 4 LF)
646-1-11 1 EA
665-1-11 2 EA

STA. +60.09, 54.66' LT.
1 RUN - PED SIGNAL
1 RUN - PED DETECTOR

630-2-11 (2 RUNS @ 8 LF)
646-1-11 1 EA
665-1-11 2 EA

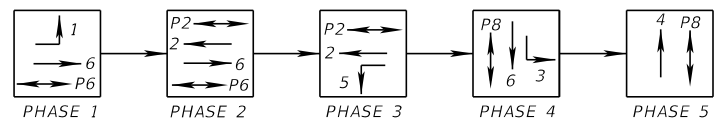
CONTROLLER TIMINGS								
TIMING FUNCTION	1	2	3	4	5	6	7	8
MOVEMENT NUMBER	1	2	3	4	5	6	7	8
MINIMUM GREEN	8	16	10	10	8	16		10
EXTENSION	2.5	3.5	2.5	2.5	2.5	3.5		2.5
MAXIMUM GREEN 1	10	35	30	35	10	35		50
MAXIMUM GREEN 2								
YELLOW CLEARANCE	4.4	4.4	4	4	4.4	4.4		4
ALL RED	2	2	2	2	2	2		2
PEDESTRIAN WALK		7.0		7.0		7.0		7.0
PED. CLEARANCE		34		22		13		22
RECALL		MIN				MIN		

ADD LPI OF 15 SECONDS TO MOVEMENT P4

VIDEO DECEPTION ASSIGNMENTS			
VIDEO DETECTOR	DETECTOR ZONE	DELAY TIME (SEC)	ZONE DIMENSION
V1	DZ1		18' X 40'
	DZ6		18' X 40'
V2	DZ3		9' X 40'
	DZ8		9' X 40'
V3	DZ5		9' X 40'
	DZ2		18' X 40'
V4			
	DZ4		9' X 30'

SIZE AND PLACEMENT OF VIDEO DETECTION EQUIPMENT AND ZONES ARE INITIAL AND MAY REQUIRE FIELD ADJUSTMENT

S.O.P. 10 MODIFIED



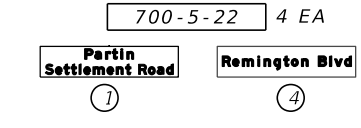
CONTROLLER OPERATIONS:

- THE MAJOR STREET IS PARTIN SETTLEMENT RD (MOVEMENTS 2 AND 6). MINOR STREET IS REMINGTON BLVD (MOVEMENTS 4 AND 8).
- WHEN SIGNAL IS IN FLASHING MODE, MOVEMENTS 2 AND 6 SHALL FLASH YELLOW. ALL OTHER VEHICLE MOVEMENTS SHALL FLASH RED.
- PHASES 1 & 5 TO RUN LEAD-LAG OPERATION.



R10-15aR
30" X 30"
700-3-201
1 EA

INTERNALLY ILLUMINATED SIGNS



5 RUNS @ 5 LF 630-2-11
4 EA 635-2-11
1 EA 649-21-3

(2 RUNS @ 35 LF) 630-2-11
1 EA 646-1-11
1 EA 665-1-11

REMOVAL ITEMS
646-1-60 6 EA
649-26-3 2 AS
670-5-600 1 AS

10 EL 77.74'
POLE LOCATION=
STA. 108+40.45
48.24' RT

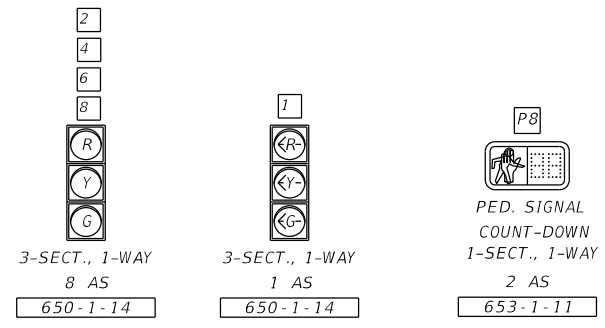
630-2-11 5 RUNS @ 5 LF
635-2-11 4 EA
649-21-10 1 EA

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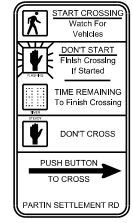
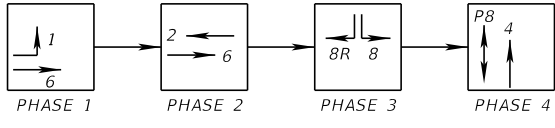
THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

REVISIONS		ENGINEER OF RECORD		OSCEOLA COUNTY TRANSPORTATION & TRANSIT DEPARTMENT		SIGNALIZATION PLAN	SHEET NO. T-9
DATE	DESCRIPTION	DATE	DESCRIPTION	ROAD IDENTIFICATION	CONTRACT ID		
				PARTIN SETTLEMENT RD.	PS-20-11504-DG		

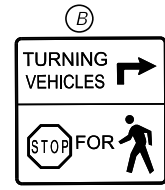
RYAN P. BOGAN, P.E.
LICENSE NUMBER 82217
JOHNSON, MIRMIRAN & THOMPSON
400 COLONIAL CENTER PKY, SUITE 100
LAKE MARY, FL 32746



S.O.P. 16



R10-31
9" X 18"
2 REQ'D



R10-15aR
30" X 30"
700-3-201
1 EA

CONTROLLER TIMINGS								
TIMING FUNCTION								
MOVEMENT NUMBER	1	2	3	4	5	6	7	8
MINIMUM GREEN	10	15		5		15		8
EXTENSION	2	3.5		2		3.5		2
MAXIMUM GREEN 1	25	40		15		80		70
MAXIMUM GREEN 2								
YELLOW CLEARANCE	4	4		4		4		4
ALL RED	2	2		2		2		2
PEDESTRIAN WALK								7
PED. CLEARANCE								14
RECALL		MIN				MIN		

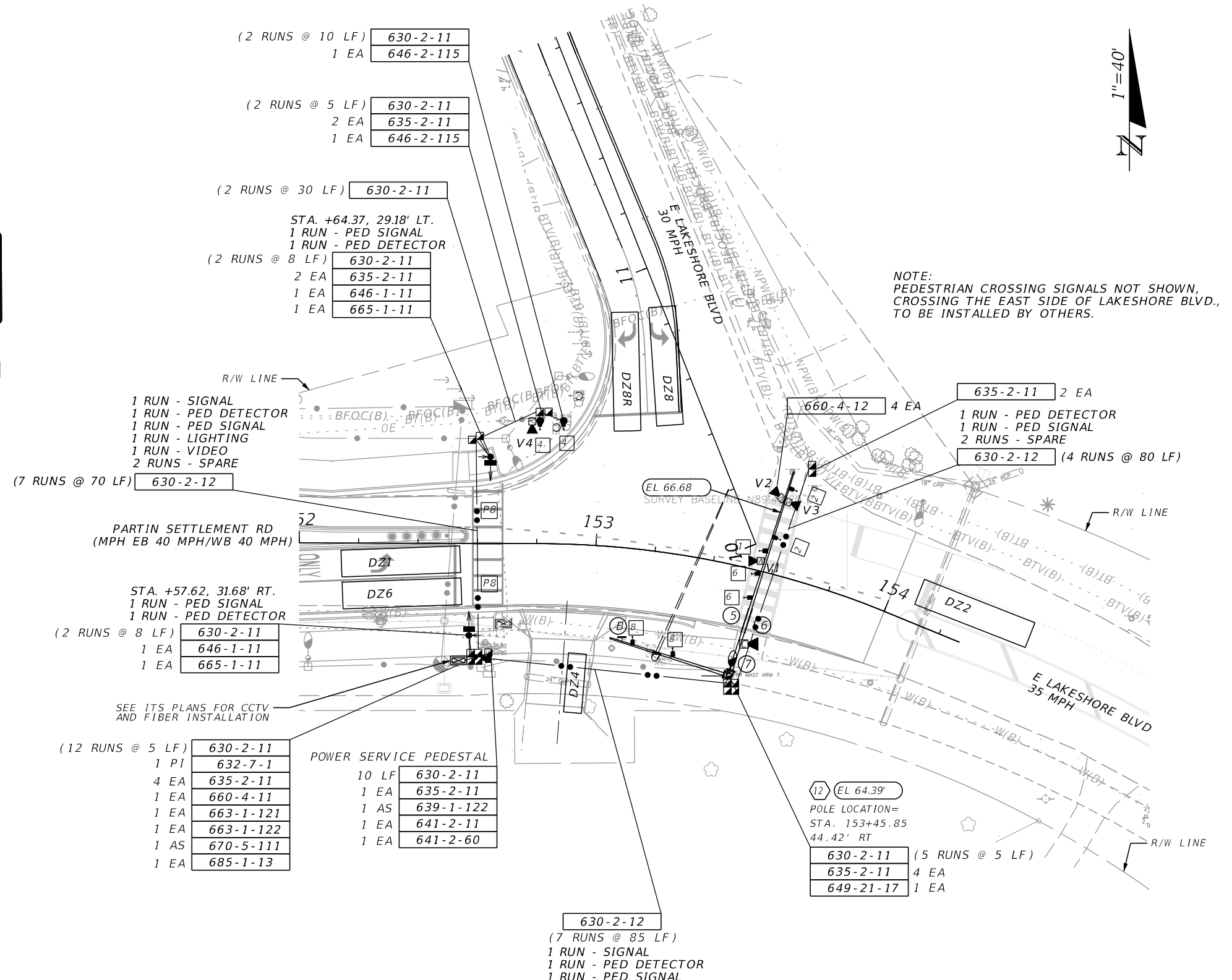
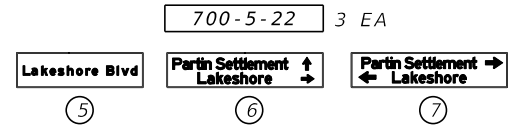
VIDEO DECEPTION ASSIGNMENTS			
VIDEO DETECTOR	DETECTOR ZONE	DELAY TIME (SEC)	ZONE DIMENSION
V1	DZ1		9' X 40'
	DZ6		9' X 40'
V2	DZ8		9' X 40'
	DZ8R	5	9' X 40'
V3	DZ2		9' X 40'
V4	DZ4		9' X 20'

SIZE AND PLACEMENT OF VIDEO DETECTION EQUIPMENT AND ZONES ARE INITIAL AND MAY REQUIRE FIELD ADJUSTMENT

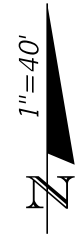
CONTROLLER OPERATIONS:

1. MAJOR STREET IS PARTIN SETTLEMENT RD (MOVEMENTS 2 AND 6). MINOR STREET E LAKESHORE BLVD (MOVEMENT 4 AND 8).
2. WHEN SIGNAL IS IN FLASHING MODE, MOVEMENTS 2 AND 6 SHALL FLASH YELLOW. ALL OTHER MOVEMENTS SHALL FLASH RED.

INTERNALLY ILLUMINATED SIGNS



NOTE: PEDESTRIAN CROSSING SIGNALS NOT SHOWN, CROSSING THE EAST SIDE OF LAKESHORE BLVD., TO BE INSTALLED BY OTHERS.



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REVISIONS				ENGINEER OF RECORD		OSCEOLA COUNTY TRANSPORTATION & TRANSIT DEPARTMENT		SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION	RYAN P. BOGAN, P.E. LICENSE NUMBER 82217 JOHNSON, MIRMIRAN & THOMPSON 400 COLONIAL CENTER PKY, SUITE 100 LAKE MARY, FL 32746		ROAD IDENTIFICATION	CONTRACT ID	
						PARTIN SETTLEMENT RD.	PS-20-11504-DG	
SIGNALIZATION PLAN								T-10

FOUNDATION NOTES [Notes Date 01-01-12]:

1. Design based on Borings taken sealed by Elias N. Jammal, PE.
2. Assumptions and Values used in design:

Mast Arm 5:
 Soil Type: Sand (Cohesionless)
 Soil Friction Angle = 30 deg.
 Soil Weight = 50 pcf
 SPT N-VALUE = 15 blows/ft.
 Design Water Table is 0 ft. below surface.

Mast Arm 6:
 Soil Type: Sand (Cohesionless)
 Soil Friction Angle = 30 deg.
 Soil Weight = 50 pcf
 SPT N-VALUE = 13 blows/ft.
 Design Water Table is 0 ft. below surface.

Mast Arm 7:
 Soil Type: Sand (Cohesionless)
 Soil Friction Angle = 30 deg.
 Soil Weight = 50 pcf
 SPT N-VALUE = 12 blows/ft.
 Design Water Table is 0 ft. below surface.

Mast Arm 8:
 Soil Type: Sand (Cohesionless)
 Soil Friction Angle = 30 deg.
 Soil Weight = 50 pcf
 SPT N-VALUE = 11 blows/ft.
 Design Water Table is 0 ft. below surface.

Mast Arm 9:
 Soil Type: Sand (Cohesionless)
 Soil Friction Angle = 30 deg.
 Soil Weight = 50 pcf
 SPT N-VALUE = 11 blows/ft.
 Design Water Table is 0 ft. below surface.

Mast Arm 10:
 Soil Type: Sand (Cohesionless)
 Soil Friction Angle = 29 deg.
 Soil Weight = 45 pcf
 SPT N-VALUE = 8 blows/ft.
 Design Water Table is 0 ft. below surface.

Mast Arm 11:
 Soil Type: Sand (Cohesionless)
 Soil Friction Angle = 29 deg.
 Soil Weight = 45 pcf
 SPT N-VALUE = 9 blows/ft.
 Design Water Table is 0 ft. below surface.

Mast Arm 12:
 Soil Type: Sand (Cohesionless)
 Soil Friction Angle = 30 deg.
 Soil Weight = 50 pcf
 SPT N-VALUE = 13 blows/ft.
 Design Water Table is 0 ft. below surface.

STANDARD MAST ARM ASSEMBLIES DATA TABLE											Table Date 11-01-16
STRUCTURE ID NUMBERS	DESIGNATION	FIRST ARM		SECOND ARM		UF (deg)	LL (deg)	POLE			DRILLED SHAFT ID
		ARM ID	FAA (ft.)	ARM ID	SAA (ft.)			POLE ID	UAA (ft.)	UB (ft.)	
5	A60/S-P4/S/L	A60/S					44	P4/S/L	---	20.0	DS/16/4.5
6	A70/S/H-P5/S/L	A70/S					30	P5/S/L	---	19.5	DS/16/5.0
7	Special Designation	See Note 6					26	See Note 6	---	21.5	See Note 7
8	Special Designation	See Note 6					22	See Note 6	---	20.5	See Note 7
9	A70/D/H-A50/D-P5/D/L	A70/D/H		A50/D		90	0	P5/D/L	---	20.5	DS/18/5.0
10	A60/S-P4/S/L	A60/S					0	P4/S/L	---	20.0	See Note 7
11	A40/S-P2/S/L	A40/S					51	P2/S/L	---	20.0	DS/14/4.5
12	Special Designation	See Note 6		A40/D		90	7	P6/D/L	---	23.0	DS/18/5.0

NOTES [Notes Date 11-01-16]:

1. If an entry appears in column FAA, a shorter arm is required. This is obtained by removing length from the arm tip and the arm length shortened from FA to FAA. SAA Similar.
2. If an entry appears in column UAA, a shorter pole is required. This is obtained by removing length from the pole tip and the pole height shortened from UA to UAA.
3. Work this sheet with the Signal Designer's "Mast Arm Tabulation". See "Mast Arm Tabulation" for special instructions that include non-standard Handhole location, paint color, terminal compartment requirement, and pedestrian features.
4. Work with FY22-23 Standard Plans Index 649-030 and 649-031.
5. Design Wind Speed = 150 mph.
6. See the "Special Mast Arm Assemblies Data Table" Sheet for Special Mast Arm Assembly Information.
7. See the "Special Mast Arm Assemblies Data Table" Sheet for Special Drilled Shaft Information.

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REVISIONS				ENGINEER OF RECORD		OSCEOLA COUNTY TRANSPORTATION & TRANSIT DEPARTMENT		STANDARD MAST ARM ASSEMBLIES DATA TABLE	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION	SENAKA P. ATURALIYA, P.E. LICENSE NUMBER 86226 JOHNSON, MIRMIRAN & THOMPSON 400 COLONIAL CENTER PKY, SUITE 100 LAKE MARY, FL 32746		ROAD IDENTIFICATION	CONTRACT ID		T-12
						PARTIN SETTLEMENT RD.	PS-20-11504-DG		

SPECIAL MAST ARM ASSEMBLIES DATA TABLE																							Table Date 01-01-12	
NUMBER OF LOCATIONS	STRUCTURE NUMBER	FIRST ARM				FIRST ARM EXTENSION				SECOND ARM				SECOND ARM EXTENSION				POLE						
		FA(ft)	FB(in)	FC(in)	FD(in)	FE(ft)	FF(in)	FG(in)	FH(in)	SA(ft)	SB(in)	SC(in)	SD(in)	SE(ft)	SF(in)	SG(in)	SH(in)	UA(ft)	UB(ft)	UC(in)	UD(in)	UE(in)	UF(deg)	UG(ft)
	7	39.0	13.54	19.0	0.25	42.5	18.05	24.0	0.5								39.0	21.5	18.6	24	0.5	0	37.5	
	8	39.0	13.54	19.0	0.25	42.5	18.05	24.0	0.5								39.0	20.5	18.6	24	0.5	0	37.5	
	12	31.0	12.66	17.0	0.25	42.5	16.05	22.0	0.375															

SPECIAL MAST ARM ASSEMBLIES DATA TABLE (CONT.)																							Table Date 01-01-12
STRUCTURE NUMBER	FIRST ARM CONNECTION (in) First Arm Camber Angle = 2 Degrees											SECOND ARM CONNECTION (in) Second Arm Camber Angle = 2 Degrees											
	#Bolts	HT	FJ	FK	FL	FN	FO	FP	FR	FS	FT	#Bolts	HT	SJ	SK	SL	SN	SO	SP	SR	SS	ST	
7	6	30.0	40.0	3.0	0.75	0.6875	18.0	1.75	2.5	11.5	0.6875												
8	6	30.0	40.0	3.0	0.75	0.6875	18.0	1.75	2.5	11.5	0.6875												
12	6	30.0	36.0	3.0	0.75	0.625	23.0	1.5	2.5	12.0	0.625												

SPECIAL MAST ARM ASSEMBLIES DATA TABLE (CONT.)																							Table Date 07-01-15	
STRUCTURE NUMBER	POLE BASE CONNECTION (in)					SHAFT AND REINF.							LUMINAIRE AND LUMINAIRE CONNECTION											
	#Bolts	BA	BB	BC	BF	DA(ft)	DB(ft)	RA	RB	RC	RD(in)	RE	RF(in)	LA(ft)	LB(ft)	LC(in)	LD(in)	LE	LF(ft)	LG(in)	LH(in)	LJ(in)	LK(in)	LL(deg)
7	8	40	2.5	2	40	25.0	5.0	11	18	10	6	10	6	40	10	3	0.125	0.5	8	0.5	0.75	0.25	0.25	0
8	8	40	2.5	2	40	25.0	5.0	11	18	10	6	10	6	40	10	3	0.125	0.5	8	0.5	0.75	0.25	0.25	0
10						22.0	4.5	11	16	10	8	0	0											

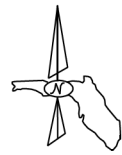
NOTES [Notes Date 07-01-13]:

1. Work with Index 649-031.
2. Design Wind Speed = 150 mph
3. For Foundation Notes, see "Standard Mast Arm Assemblies Data Table" Sheet.

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REVISIONS				ENGINEER OF RECORD				OSCEOLA COUNTY TRANSPORTATION & TRANSIT DEPARTMENT				SPECIAL MAST ARM ASSEMBLIES DATA TABLE	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION	SENAKA P. ATURALIYA, P.E. LICENSE NUMBER 86226 JOHNSON, MIRMIRAN & THOMPSON 400 COLONIAL CENTER PKY, SUITE 100 LAKE MARY, FL 32746				ROAD IDENTIFICATION		CONTRACT ID	T-13		
								PARTIN SETTLEMENT RD.		PS-20-11504-DG			

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SCALE IN FEET



LEGEND

APPROXIMATE LOCATION OF STANDARD PENETRATION TEST BORING



LEGEND

	ASPHALT AND BASE		SILTY SAND
	SAND		
(SP)	UNIFIED SOIL CLASSIFICATION GROUP SYMBOL		
	ENCOUNTERED GROUNDWATER LEVEL (DATE OF READING)		
	ESTIMATED NORMAL SEASONAL HIGH GROUNDWATER LEVEL		
	NATURAL MOISTURE CONTENT (%) FINES PASSING No. 200 SIEVE (%)		
N	STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT UNLESS OTHERWISE NOTED		

AUTOMATIC HAMMER

STANDARD PENETRATION TEST DATA

SPOON INSIDE DIA.	1 3/8 in.
SPOON OUTSIDE DIA.	2 in.
ASTM STANDARD DROP AUTOMATIC HAMMER	
AVG. HAMMER DROP	30 in.
HAMMER WEIGHT	140 lbs.

GRANULAR MATERIALS

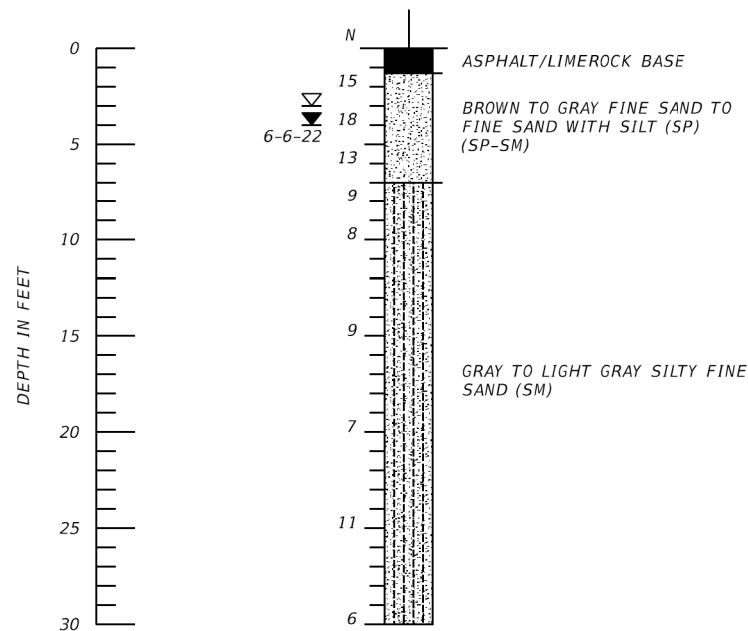
RELATIVE DENSITY	SPT (BLOWS/FOOT)
VERY LOOSE	LESS THAN 3
LOOSE	3-8
MEDIUM DENSE	8-24
DENSE	24-40
VERY DENSE	GREATER THAN 40

SILTS AND CLAYS

CONSISTENCY	SPT (BLOWS/FOOT)
VERY SOFT	LESS THAN 1
SOFT	1-3
FIRM	3-6
STIFF	6-12
VERY STIFF	12-24
HARD	GREATER THAN 24

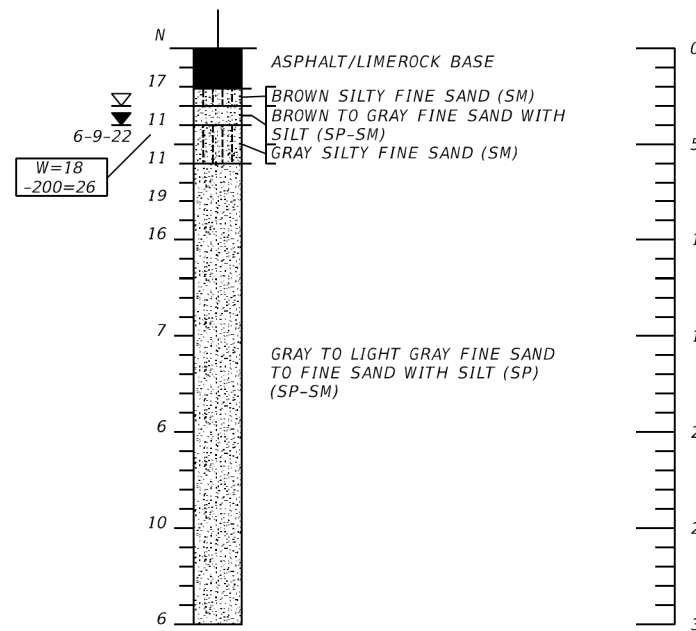
- NOTES:**
- LAYER BOUNDARIES ARE APPROXIMATE AND REPRESENT SOIL LAYERS AT EACH TEST HOLE LOCATION ONLY. SUBSURFACE VARIATIONS BETWEEN BORINGS SHOULD BE ANTICIPATED.
 - BASED ON A REVIEW OF THE ST. JOHNS RIVER WATER MANAGEMENT DISTRICT POTENTIOMETRIC MAPS OF THE UPPER FLORIDAN AQUIFER FOR THIS PROJECT AREA, THE POTENTIAL ARTESIAN HEAD ELEVATION IS ESTIMATED TO BE +45 FEET NGVD. THE CONTRACTOR SHALL BE PREPARED TO HANDLE ARTESIAN WATER LEVELS UP TO ELEVATION +45 FEET NGVD.
 - LATITUDE AND LONGITUDE AT BORING LOCATIONS IS BASED ON HANDHELD GPS DEVICE.

BORING No.: MASP-1
STATION: 27+18
OFFSET: 60' RT.
LATITUDE: 28.278490
LONGITUDE: -81.357558



BORING TERM. @ 30.0'
NO CASING
BORING DRILLED: 6-6-22
HAMMER TYPE: AUTOMATIC
RIG TYPE: BR-2500
DRILLED BY: M. CORNELE

BORING No.: MASP-2
STATION: 27+80
OFFSET: 56' RT.
LATITUDE: 28.278496
LONGITUDE: -81.357370

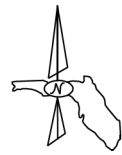


BORING TERM. @ 30.0'
NO CASING
BORING DRILLED: 6-9-22
HAMMER TYPE: AUTOMATIC
RIG TYPE: BR-2500
DRILLED BY: M. CORNELE

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REVISIONS		ENGINEER OF RECORD		OSCEOLA COUNTY TRANSPORTATION & TRANSIT DEPARTMENT		STANDARD PENETRATION TEST (SPT) BORINGS	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION	ROAD IDENTIFICATION	CONTRACT ID		
			ELIAS N. JAMMAL, P.E. LICENSE NUMBER 60126 TERRACON 1675 LEE ROAD WINTER PARK, FLORIDA 32789	PARTIN SETTLEMENT RD.	PS-20-11504-DG		

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SCALE IN FEET



LEGEND

APPROXIMATE LOCATION OF STANDARD PENETRATION TEST BORING



LEGEND

	ASPHALT AND BASE		SILTY SAND
	SAND		
(SP)	UNIFIED SOIL CLASSIFICATION GROUP SYMBOL		
	ENCOUNTERED GROUNDWATER LEVEL		(DATE OF READING)
	ESTIMATED NORMAL SEASONAL HIGH GROUNDWATER LEVEL		
	NATURAL MOISTURE CONTENT (%) FINES PASSING No. 200 SIEVE (%)		
N	STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT UNLESS OTHERWISE NOTED		

AUTOMATIC HAMMER

STANDARD PENETRATION TEST DATA

SPoon INSIDE DIA.	1 3/8 in.
SPoon OUTSIDE DIA.	2 in.
ASTM STANDARD DROP AUTOMATIC HAMMER	
AVG. HAMMER DROP	30 in.
HAMMER WEIGHT	140 lbs.

GRANULAR MATERIALS

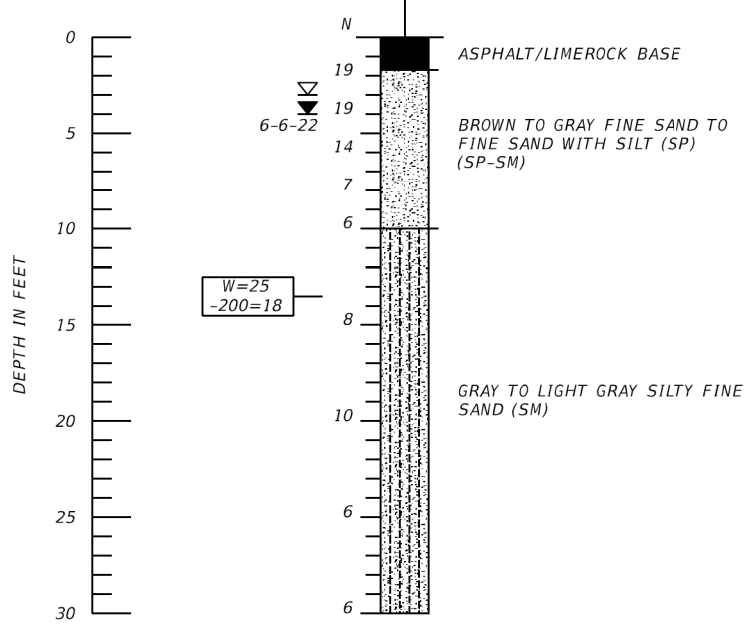
RELATIVE DENSITY	SPT (BLOWS/FOOT)
VERY LOOSE	LESS THAN 3
LOOSE	3-8
MEDIUM DENSE	8-24
DENSE	24-40
VERY DENSE	GREATER THAN 40

SILTS AND CLAYS

CONSISTENCY	SPT (BLOWS/FOOT)
VERY SOFT	LESS THAN 1
SOFT	1-3
FIRM	3-6
STIFF	6-12
VERY STIFF	12-24
HARD	GREATER THAN 24

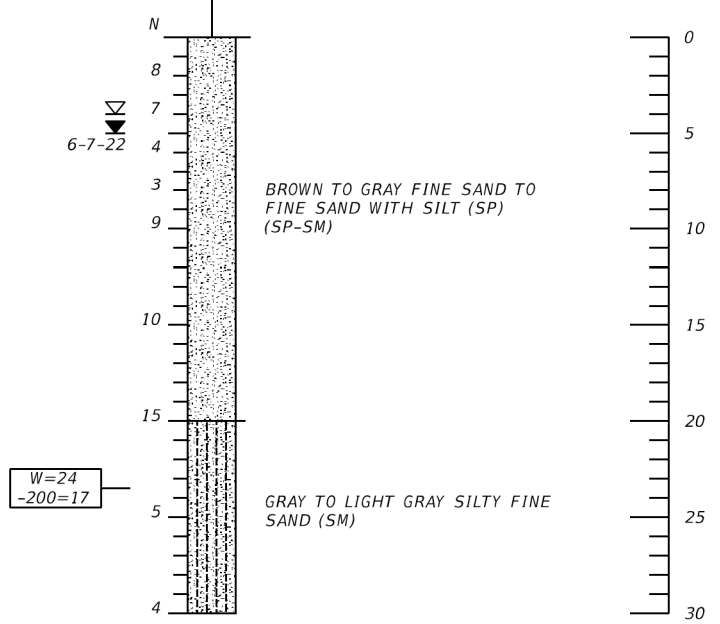
- NOTES:**
- LAYER BOUNDARIES ARE APPROXIMATE AND REPRESENT SOIL LAYERS AT EACH TEST HOLE LOCATION ONLY. SUBSURFACE VARIATIONS BETWEEN BORINGS SHOULD BE ANTICIPATED.
 - BASED ON A REVIEW OF THE ST. JOHNS RIVER WATER MANAGEMENT DISTRICT POTENTIOMETRIC MAPS OF THE UPPER FLORIDAN AQUIFER FOR THIS PROJECT AREA, THE POTENTIAL ARTESIAN HEAD ELEVATION IS ESTIMATED TO BE +45 FEET NGVD. THE CONTRACTOR SHALL BE PREPARED TO HANDLE ARTESIAN WATER LEVELS UP TO ELEVATION +45 FEET NGVD.
 - LATITUDE AND LONGITUDE AT BORING LOCATIONS IS BASED ON HANDHELD GPS DEVICE.

BORING No.: MASP-3
STATION: 73+30
OFFSET: 58' RT.
LATITUDE: 28.278602
LONGITUDE: -81.343222



BORING TERM. @ 30.0'
NO CASING
BORING DRILLED: 6-6-22
HAMMER TYPE: AUTOMATIC
RIG TYPE: BR-2500
DRILLED BY: M. CORNELE

BORING No.: MASP-4
STATION: 73+78
OFFSET: 78' LT.
LATITUDE: 28.278970
LONGITUDE: -81.343086

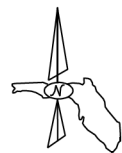


BORING TERM. @ 30.0'
NO CASING
BORING DRILLED: 6-7-22
HAMMER TYPE: AUTOMATIC
RIG TYPE: BR-2500
DRILLED BY: M. CORNELE

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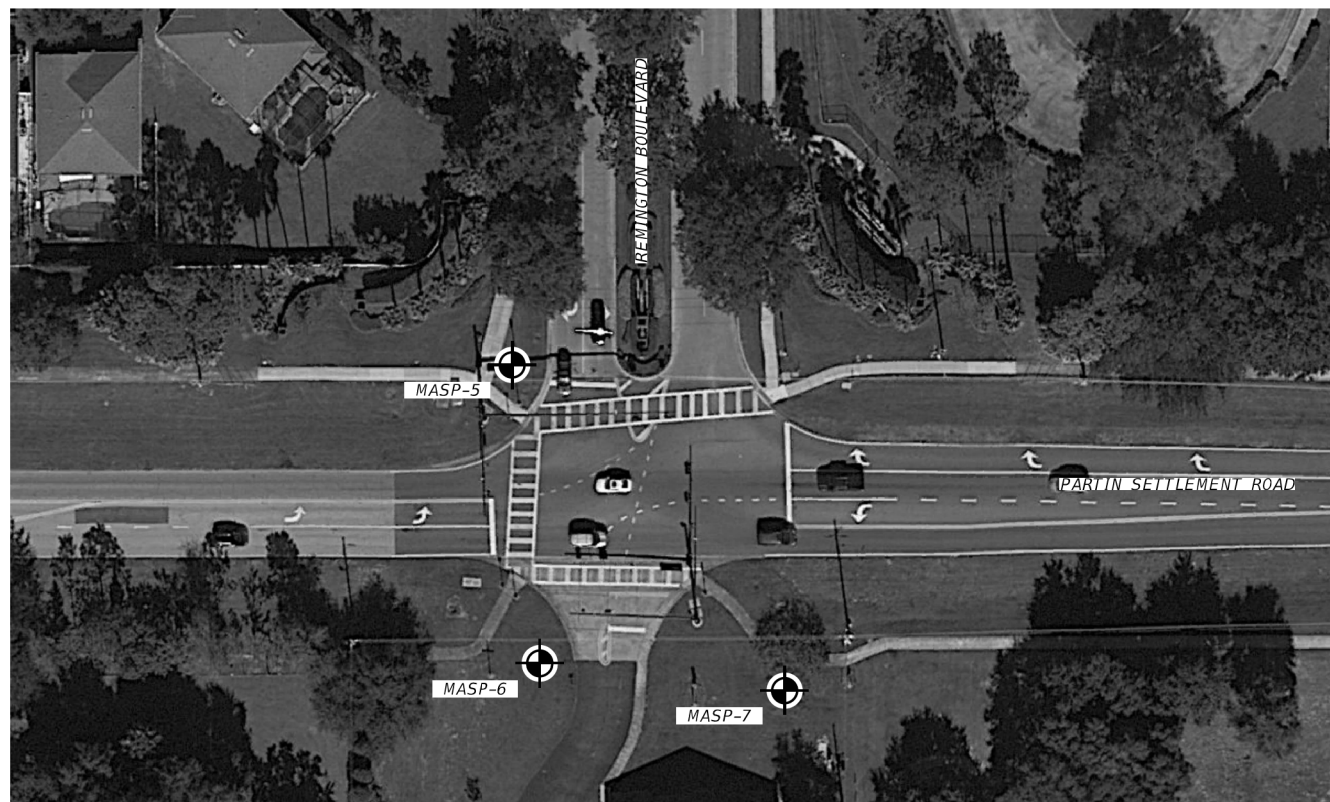
REVISIONS		ENGINEER OF RECORD		OSCEOLA COUNTY TRANSPORTATION & TRANSIT DEPARTMENT		STANDARD PENETRATION TEST (SPT) BORINGS	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION	ROAD IDENTIFICATION	CONTRACT ID		
			ELIAS N. JAMMAL, P.E. LICENSE NUMBER 60126 TERRACON 1675 LEE ROAD WINTER PARK, FLORIDA 32789	PARTIN SETTLEMENT RD.	PS-20-11504-DG		

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LEGEND

APPROXIMATE LOCATION OF STANDARD PENETRATION TEST BORING



LEGEND

	SAND		SILTY SAND
(SP)	UNIFIED SOIL CLASSIFICATION GROUP SYMBOL		
▼	ENCOUNTERED GROUNDWATER LEVEL (DATE OF READING)		
▽	ESTIMATED NORMAL SEASONAL HIGH GROUNDWATER LEVEL		
W=0 -200=0	NATURAL MOISTURE CONTENT (%) FINES PASSING No. 200 SIEVE (%)		
N	STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT UNLESS OTHERWISE NOTED		

AUTOMATIC HAMMER

STANDARD PENETRATION TEST DATA

SPOON INSIDE DIA.	1 3/8 in.
SPOON OUTSIDE DIA.	2 in.
ASTM STANDARD DROP AUTOMATIC HAMMER	
AVG. HAMMER DROP	30 in.
HAMMER WEIGHT	140 lbs.

GRANULAR MATERIALS

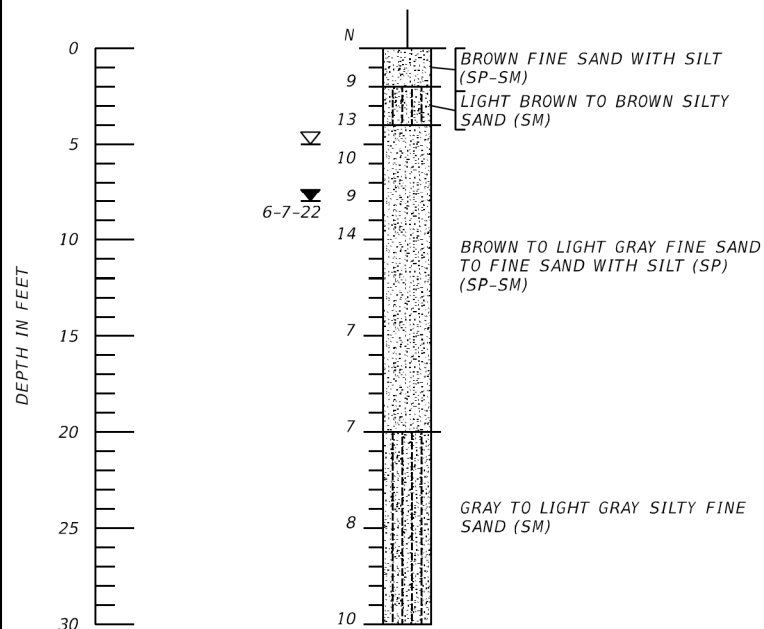
RELATIVE DENSITY	SPT (BLOWS/FOOT)
VERY LOOSE	LESS THAN 3
LOOSE	3-8
MEDIUM DENSE	8-24
DENSE	24-40
VERY DENSE	GREATER THAN 40

SILTS AND CLAYS

CONSISTENCY	SPT (BLOWS/FOOT)
VERY SOFT	LESS THAN 1
SOFT	1-3
FIRM	3-6
STIFF	6-12
VERY STIFF	12-24
HARD	GREATER THAN 24

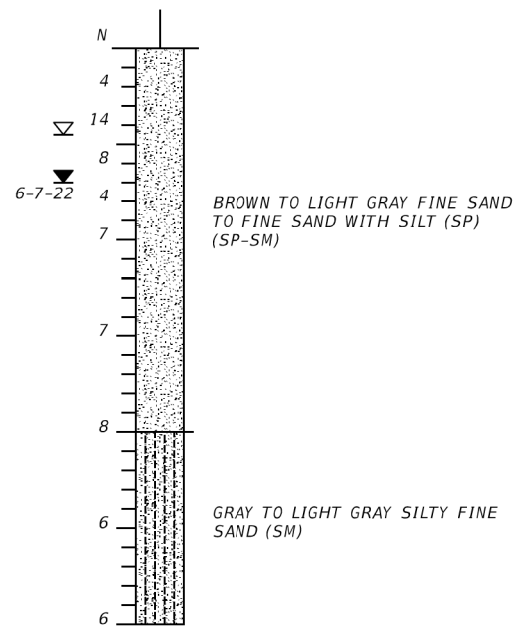
- NOTES:**
- LAYER BOUNDARIES ARE APPROXIMATE AND REPRESENT SOIL LAYERS AT EACH TEST HOLE LOCATION ONLY. SUBSURFACE VARIATIONS BETWEEN BORINGS SHOULD BE ANTICIPATED.
 - BASED ON A REVIEW OF THE ST. JOHNS RIVER WATER MANAGEMENT DISTRICT POTENTIOMETRIC MAPS OF THE UPPER FLORIDAN AQUIFER FOR THIS PROJECT AREA, THE POTENTIAL ARTESIAN HEAD ELEVATION IS ESTIMATED TO BE +45 FEET NGVD. THE CONTRACTOR SHALL BE PREPARED TO HANDLE ARTESIAN WATER LEVELS UP TO ELEVATION +45 FEET NGVD.
 - LATITUDE AND LONGITUDE AT BORING LOCATIONS IS BASED ON HANDHELD GPS DEVICE.

BORING No.: MASP-5
STATION: 107+30
OFFSET: 66' LT.
LATITUDE: 28.278991
LONGITUDE: -81.332675



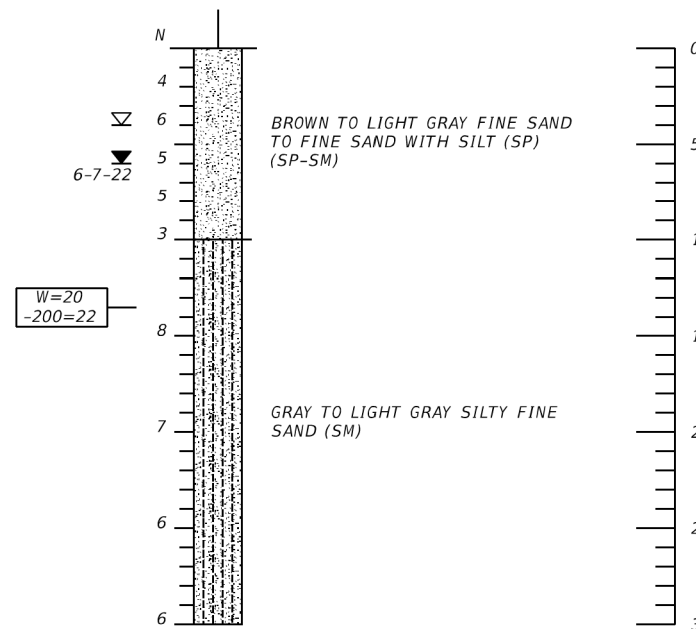
BORING TERM. @ 30.0'
NO CASING
BORING DRILLED: 6-7-22
HAMMER TYPE: AUTOMATIC
RIG TYPE: BR-2500
DRILLED BY: M. CORNELE

BORING No.: MASP-6
STATION: 107+42
OFFSET: 58' RT.
LATITUDE: 28.278650
LONGITUDE: -81.332638



BORING TERM. @ 30.0'
NO CASING
BORING DRILLED: 6-7-22
HAMMER TYPE: AUTOMATIC
RIG TYPE: BR-2500
DRILLED BY: M. CORNELE

BORING No.: MASP-7
STATION: 108+40
OFFSET: 66' RT.
LATITUDE: 28.278627
LONGITUDE: -81.332332

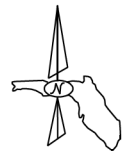


BORING TERM. @ 30.0'
NO CASING
BORING DRILLED: 6-7-22
HAMMER TYPE: AUTOMATIC
RIG TYPE: BR-2500
DRILLED BY: M. CORNELE

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REVISIONS		ENGINEER OF RECORD		OSCEOLA COUNTY TRANSPORTATION & TRANSIT DEPARTMENT		STANDARD PENETRATION TEST (SPT) BORINGS	SHEET NO. T-16
DATE	DESCRIPTION	DATE	DESCRIPTION	ROAD IDENTIFICATION	CONTRACT ID		
			ELIAS N. JAMMAL, P.E. LICENSE NUMBER 60126 TERRACON 1675 LEE ROAD WINTER PARK, FLORIDA 32789	PARTIN SETTLEMENT RD.	PS-20-11504-DG		

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SCALE IN FEET



LEGEND

APPROXIMATE LOCATION OF STANDARD PENETRATION TEST BORING



LEGEND

	ASPHALT AND BASE		SILTY SAND
	SAND		
(SP)	UNIFIED SOIL CLASSIFICATION GROUP SYMBOL		
8-11-11	ENCOUNTERED GROUNDWATER LEVEL (DATE OF READING)		
	ESTIMATED NORMAL SEASONAL HIGH GROUNDWATER LEVEL		
W=0	NATURAL MOISTURE CONTENT (%)		
-200=0	FINES PASSING No. 200 SIEVE (%)		
N	STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT UNLESS OTHERWISE NOTED		

AUTOMATIC HAMMER

STANDARD PENETRATION TEST DATA

SPOON INSIDE DIA.	1 3/8 in.
SPOON OUTSIDE DIA.	2 in.
ASTM STANDARD DROP AUTOMATIC HAMMER	
AVG. HAMMER DROP	30 in.
HAMMER WEIGHT	140 lbs.

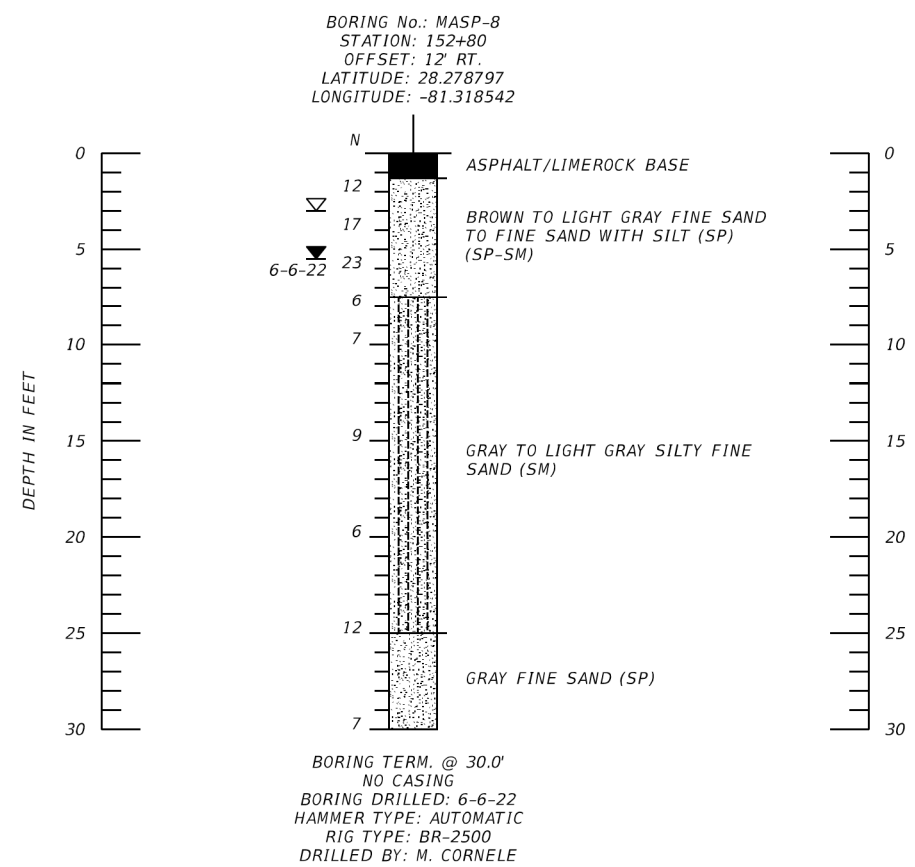
GRANULAR MATERIALS

RELATIVE DENSITY	SPT (BLOWS/FOOT)
VERY LOOSE	LESS THAN 3
LOOSE	3-8
MEDIUM DENSE	8-24
DENSE	24-40
VERY DENSE	GREATER THAN 40

SILTS AND CLAYS

CONSISTENCY	SPT (BLOWS/FOOT)
VERY SOFT	LESS THAN 1
SOFT	1-3
FIRM	3-6
STIFF	6-12
VERY STIFF	12-24
HARD	GREATER THAN 24

- NOTES:**
- LAYER BOUNDARIES ARE APPROXIMATE AND REPRESENT SOIL LAYERS AT EACH TEST HOLE LOCATION ONLY. SUBSURFACE VARIATIONS BETWEEN BORINGS SHOULD BE ANTICIPATED.
 - BASED ON A REVIEW OF THE ST. JOHNS RIVER WATER MANAGEMENT DISTRICT POTENTIOMETRIC MAPS OF THE UPPER FLORIDAN AQUIFER FOR THIS PROJECT AREA, THE POTENTIAL ARTESIAN HEAD ELEVATION IS ESTIMATED TO BE +45 FEET NGVD. THE CONTRACTOR SHALL BE PREPARED TO HANDLE ARTESIAN WATER LEVELS UP TO ELEVATION +45 FEET NGVD.
 - LATITUDE AND LONGITUDE AT BORING LOCATIONS IS BASED ON HANDHELD GPS DEVICE.

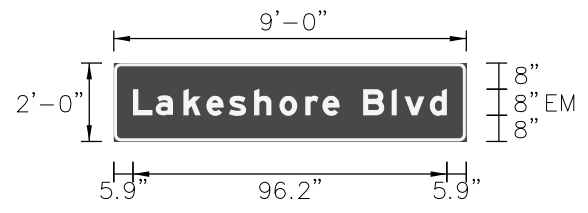


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REVISIONS				ENGINEER OF RECORD		OSCEOLA COUNTY TRANSPORTATION & TRANSIT DEPARTMENT		STANDARD PENETRATION TEST (SPT) BORINGS	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION	ELIAS N. JAMMAL, P.E. LICENSE NUMBER 60126 TERRACON 1675 LEE ROAD WINTER PARK, FLORIDA 32789		ROAD IDENTIFICATION	CONTRACT ID		T-17
						PARTIN SETTLEMENT RD.	PS-20-11504-DG		

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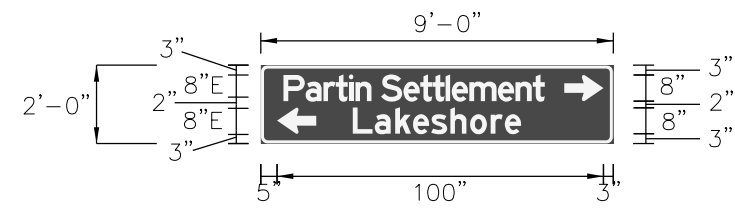
SIGN NAME	5	QTY	1	SIGN NUMBER		STATION(S)	
PANEL		BORDER				none	
WIDTH	9'-0"	WIDTH					
HEIGHT	2'-0"	RADII					
LEGEND	White	COLOR	White				
COLOR	Green						
SYMBOL(S)		ANGLE	X	Y	WID	HT	
SIGN NUMBER		NUMBER OF POSTS		CLEARANCE Edge of Lane		COLUMN SIZE	AVERAGE LENGTH



NO. OF LIGHT FIXTURES		FIXTURE SPACING		PHOTOMETRIC CURVE		WATT	VOLTAGE

COPY		L	a	k	e	s	h	o	i	e	8	l	v	d	L				
SPACE	5.9	7	6.5	7	6.9	7.8	7.8	7.9	5.2	5.3	7.2	8.7	5.9	7.8	5.3	5.9	96.2		
COPY																			
SPACE																			
COPY																			
SPACE																			
COPY																			
SPACE																			
COPY																			
SPACE																			
COPY																			
SPACE																			

SIGN NAME	7	QTY	1	SIGN NUMBER		STATION(S)	
PANEL		BORDER				none	
WIDTH	9'-0"	WIDTH					
HEIGHT	2'-0"	RADII					
LEGEND	White	COLOR	White				
COLOR	Green						
SYMBOL(S)		ANGLE	X	Y	WID	HT	
AR.Type D		270	93	13	8	12	
AR.Type D		90	5	3	8	12	
SIGN NUMBER		NUMBER OF POSTS		CLEARANCE Edge of Lane		COLUMN SIZE	AVERAGE LENGTH

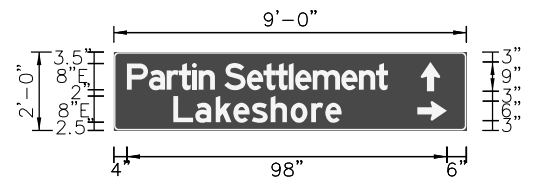


NO. OF LIGHT FIXTURES		FIXTURE SPACING		PHOTOMETRIC CURVE		WATT	VOLTAGE

COPY		P	a	r	t	i	n	s	e	t	t	e	m	e	n	t	L			
SPACE	7	6.8	5.4	3.8	4	2	5	2.9	6.9	5.1	3.7	4	1.9	5.4	6.8	5.4	5.2	3.7	21	80
COPY		L	a	k	e	s	h	o	i	e	L									
SPACE	28.2	6.7	6.2	5.4	5.8	5.8	6.1	6.3	4.3	5	28.2	9.5								
COPY																				
SPACE																				
COPY																				
SPACE																				
COPY																				
SPACE																				

REVISIONS				ENGINEER OF RECORD			
DATE	DESCRIPTION	DATE	DESCRIPTION	RYAN P. BOGAN, P.E. LICENSE NUMBER 82217 JOHNSON, MIRMIRAN & THOMPSON 400 COLONIAL CENTER PKY, SUITE 100 LAKE MARY, FL 32746			

SIGN NAME	6	QTY	1	SIGN NUMBER		STATION(S)	
PANEL		BORDER				none	
WIDTH	9'-0"	WIDTH					
HEIGHT	2'-0"	RADII					
LEGEND	White	COLOR	White				
COLOR	Green						
SYMBOL(S)		ANGLE	X	Y	WID	HT	
AR.Type D		0	94	12	6	9	
AR.Type D		270	93	3	6	9	
SIGN NUMBER		NUMBER OF POSTS		CLEARANCE Edge of Lane		COLUMN SIZE	AVERAGE LENGTH



NO. OF LIGHT FIXTURES		FIXTURE SPACING		PHOTOMETRIC CURVE		WATT	VOLTAGE

COPY		P	a	r	t	i	n	s	e	t	t	e	m	e	n	t	L			
SPACE	4	6.8	5.4	3.8	4	2	5	2.9	6.9	5.1	3.7	4	1.9	5.4	6.8	5.4	5.2	3.7	21	80
COPY		L	a	k	e	s	h	o	i	e	L									
SPACE	19.2	6.7	6.2	5.4	5.8	5.8	6.1	6.3	4.3	5	19.2	9.5								
COPY																				
SPACE																				
COPY																				
SPACE																				
COPY																				
SPACE																				

SIGN NAME		QTY		SIGN NUMBER		STATION(S)	
PANEL		BORDER					
WIDTH		WIDTH					
HEIGHT		RADII					
LEGEND		COLOR					
COLOR							
SYMBOL(S)		ANGLE	X	Y	WID	HT	
SIGN NUMBER		NUMBER OF POSTS		CLEARANCE Edge of Lane		COLUMN SIZE	AVERAGE LENGTH

NO. OF LIGHT FIXTURES		FIXTURE SPACING		PHOTOMETRIC CURVE		WATT	VOLTAGE

COPY																			
SPACE																			
COPY																			
SPACE																			
COPY																			
SPACE																			
COPY																			
SPACE																			
COPY																			
SPACE																			

OSCEOLA COUNTY TRANSPORTATION & TRANSIT DEPARTMENT		SHEET NO.
ROAD IDENTIFICATION	CONTRACT ID	T-19
PARTIN SETTLEMENT RD.	PS-20-11504-DG	

GUIDE WORK SHEET (2)

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