

301 NW Flagler Ave  
Stuart, Florida 34994  
Phone: (772) 892-4344  
Fax: (772) 892-4341

**CAPTEC**  
Engineering, Inc.

Civil Engineering Professionals  
No. ES-0007657

DATE:	01/12/24
DRAWN BY:	TMM
DESIGNED BY:	TMM
CHECKED BY:	DAW
PROJECT NO.:	1813.34
HORIZ. SCALE:	1" = 50'
VERT. SCALE:	N/A
CADD FILE:	240118-03.BIT

NO.	DATE	BY	REVISIONS
01	11/20/2024	TMM	PERMIT PLANS

**SCALE VERIFICATION**

0 0.5 1

SOLID BAR IS EQUAL TO HALF AN INCH ON ORIGINAL DRAWING. ADJUST ALL SCALED DIMENSIONS ACCORDINGLY

**CPSL A-16 A-17 & A-18  
WCS REPLACEMENTS  
CITY OF PORT ST. LUCIE**

**A-16 IMPROVEMENTS PLAN**

**WA**

**WOJCIESZAK & ASSOCIATES, INC.**  
CONSULTING ENGINEERS  
833 East 5th St.  
Stuart, Florida 34994  
(772) 288-8696  
Certificate of Authorization No. 30436

DAVID A. WOJCIESZAK, P.E.

11/20/2024  
DATE SIGNED

LICENSE NO. 32091

CALL 2 BUSINESS DAYS BEFORE YOU DIG IN FLORIDA  
**1-800-432-4770**

IT'S THE LAW!  
SUNSHINE STATE ONE CALL  
OF FLORIDA, INC.

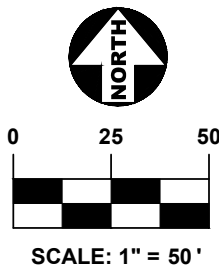
Joseph W. Capra  
301 NW Flagler Ave  
Stuart, Florida 34994  
P.E. No. 37638

Printed Date:

JOB No.: **1813.34**  
SHEET  
**E1** OF **7**

**LEGEND:**

PROPOSED STORM PIPE		PROPOSED RIP-RAP	
PROPOSED SHEET PILE WEIR		EXISTING TOE OF SLOPE	
PROPOSED ACTUATORS		EXISTING TOP OF BANK	



**INSTALL 30"Ø OPERABLE GATE & EIM  
ELECTRIC MOTOR ACTUATOR M2CP MODEL#  
2FRG-6 (W/ HANDWHEEL AND 3/4" DRIVE NUT)**

## INSTALL NEW CONTROL STRUCTURE A-17

**EXISTING CONTROL  
STRUCTURE A-17  
REMOVE AND REPLACE**

**- POINT OF ELECTRICAL SERVICE  
NEW TRANSFORMER ON EXISTING  
CONCRETE POWER POLE WITH NEW  
SECONDARY INTO HANDHOLE**

2" PVC CONDUIT, SEE ELECTRICAL RISER SHEET

PROP. POLE/ CAMERA  
& GROUND WIRES

## **ELECTRICAL PLAN VIEW**

**1"=50'**

**LEGEND:**

PROPOSED STORM PIPE  
PROPOSED SHEET PILE WEIR  
PROPOSED ACTUATORS

PROPOSED RIP-RAP  
EXISTING TOE OF SLOPE  
EXISTING TOP OF BANK



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WCS REPLACEMENTS**  
CITY OF PORT ST. LUCIE

## A-17 IMPROVEMENTS PLAN

**Joseph W. Capra**  
301 NW Flagler Ave  
Stuart, Florida 34994  
P.E. No. 37638

DB No.: **1813.34**  
SHEET  
**E2** OF **7**

DRAWN BY:	JFK
DESIGNED BY:	SPM
CHECKED BY:	JWC
PROJECT No:	1813.34
HORIZ. SCALE:	1" = 50'
VERT. SCALE:	N/A
CADD FILE:	2024.01.15-4.40 REV

[illegible]

**SCALE  
VERIFICATION**

0  0.5

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**CAPTEC**  
Engineering, Inc.

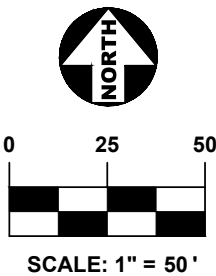
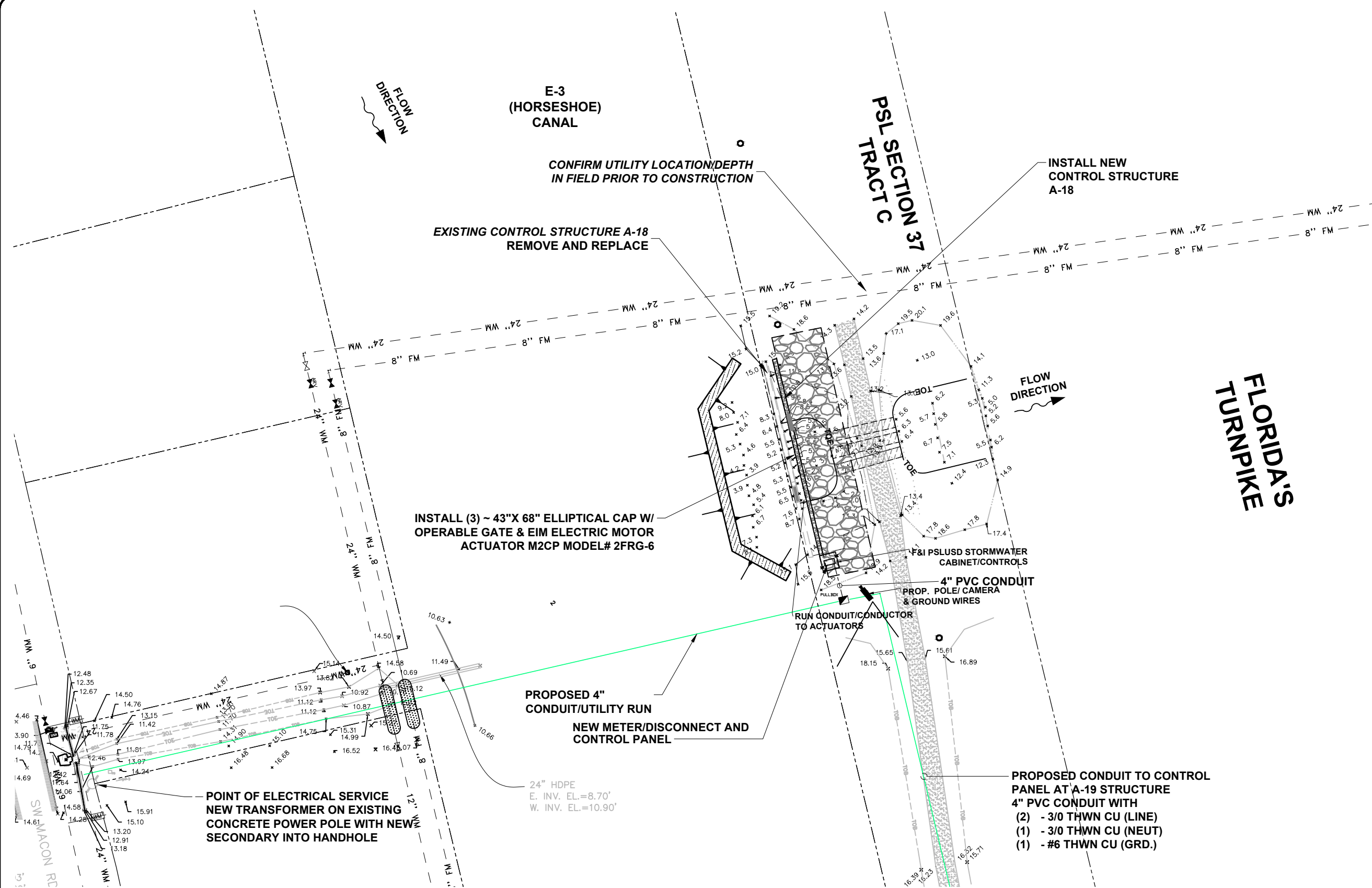
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Phone: (772) 692-4344  
Fax: (772) 692-4341

Engineering Business  
No. EB-0007657

**Civil Engineering Professionals**

THIS DOCUMENT TOGETHER WITH THE CONCEPTS AND DESIGNS PRESENTED HEREIN, AS AN INSTRUMENT OF SERVICE, IS INTENDED ONLY FOR THE SPECIFIC PURPOSE AND CLIENT FOR WHICH IT WAS PREPARED. REUSE OF AND IMPROPER RELIANCE ON THIS DOCUMENT WITHOUT WRITTEN AUTHORIZATION AND ADOPTION BY CAPTEC ENGINEERING, INC. SHALL BE WITHOUT LIABILITY TO CAPTEC ENGINEERING, INC.

CRCR1 A-16-A-17 8-A-10 SCALE DATE: 01/12/24



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**CAPTEC**  
Engineering, Inc.

Civil Engineering Professionals  
No. E5-007657

DATE:	01/12/24
DRAWN BY:	JFK
DESIGNED BY:	SPM
CHECKED BY:	JWC
PROJECT NO.:	1813.34
HORIZ. SCALE:	1" = 50'
VERT. SCALE:	N/A
CADD FILE:	20240112-0387

NO.	DATE	BY	REVISIONS
01	11/20/2024	TMM	PERMIT PLANS

**SCALE VERIFICATION**

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**CPSL A-16 A-17 & A-18  
WCS REPLACEMENTS**  
CITY OF PORT ST. LUCIE

**A-18 IMPROVEMENTS PLAN**

**WA**

**WOJCIESZAK & ASSOCIATES, INC.**  
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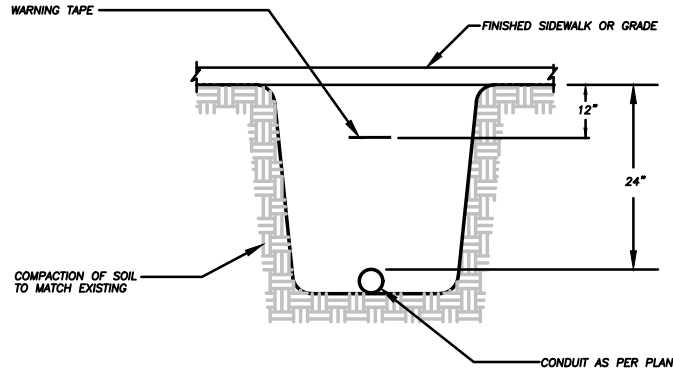
Joseph W. Capra  
301 NW Flagler Ave  
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P.E. No. 37638

Printed Date:

JOB No.: **1813.34**  
SHEET  
**E3** OF **7**

**LEGEND:**

PROPOSED STORM PIPE		PROPOSED RIP-RAP	
PROPOSED SHEET PILE WEIR		EXISTING TOE OF SLOPE	
PROPOSED ACTUATORS		EXISTING TOP OF BANK	



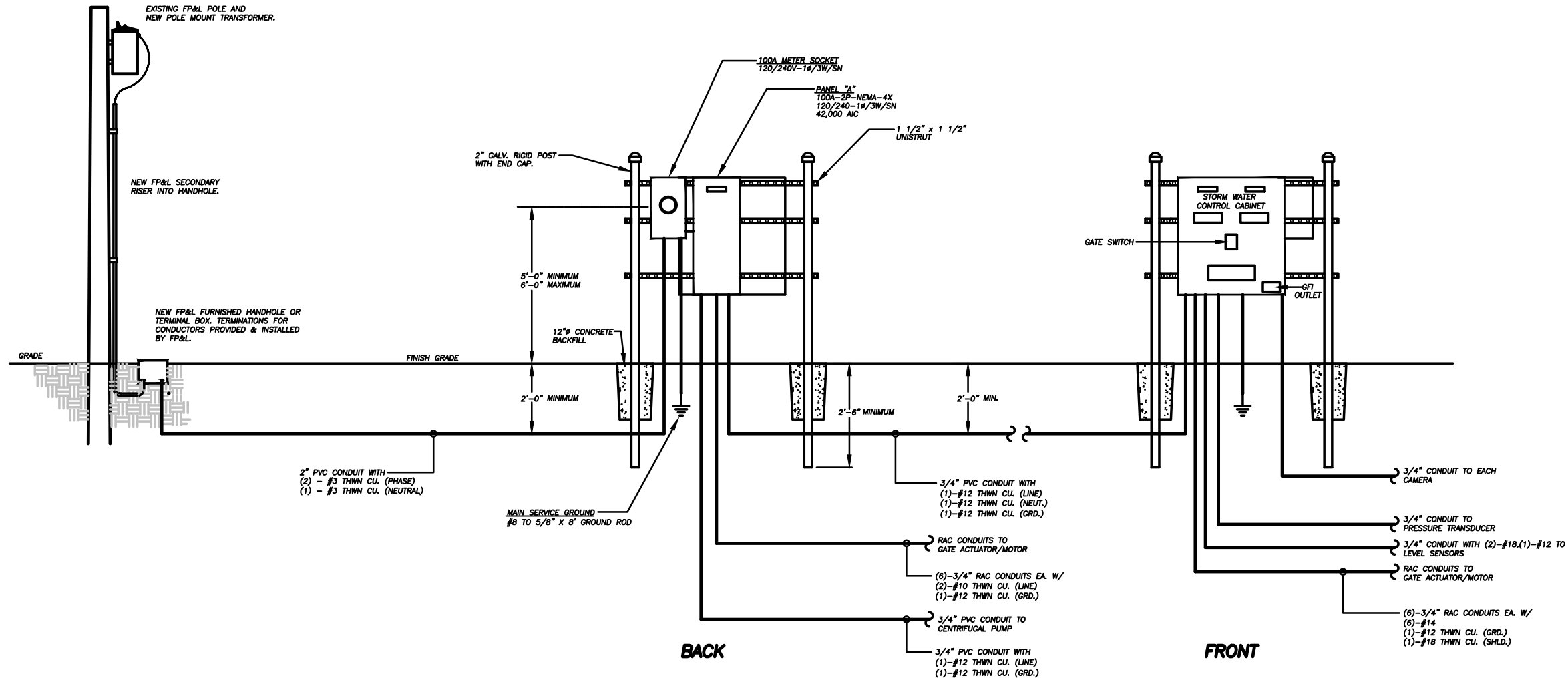
**TRENCHING DETAIL**  
N.T.S.

PANELBOARD				"A"			
RATED VOLTAGE		120/240V-1Ø/3W/SN		LOCATION		SITE	
RATED AMPS		100		CONDUCTORS			
MAIN		BREAKER		PHASE		(2)-#3 THWN CU	
BRANCH DEVICES		PLUG-ON		NEUTRAL		(1)-#3 THWN CU	
MOUNTING		POST/UNISTRUT		GROUND		(1)-#8 THWN CU	
INTERUPTING RATING		42,000		CONDUIT		2"	

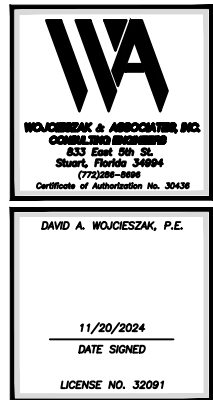
BUS AMPS		DESCRIPTION		BREAKER		CIR		BREAKER		DESCRIPTION		BUS AMPS	
A	B			TRIP	POLE	NUM.	POLE	TRIP				A	B
8			Control Cabinet	20	2	1	2	1	20	Control Panel		3	
	8					3	4	1	20	Receptacles - GFI			3
8			Gate Motor	20	2	5	6	1	20	Camera Power		3	
	8					7	8	1	20	Scada Control Power			4
						9	10	1	20	LED Lighting		3	
						11	12						
						13	14						
						15	16						
						17	18						
						19	20						
-			BUS MOUNT			21	22						
-			80KA SURGE	30	2	23	24						

DEMAND LOADS		GFI BREAKER: CKT 4	
RECEPTACLES		COPPER BUS	
FIRST 10KW @ 100%		GROUND BAR	
REMAINDER @ 50%		KEYED DOOR LATCH	
EQUIPMENT			
MOTOR			
DIVERSITY 25% LRGST. MOTOR			

TOTAL DEMAND		6,240 W		26 A	
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**CONTROL STRUCTURE A-16 UNDERGROUND ELECTRICAL SERVICE**  
120/208V-3Ø/4W/SN



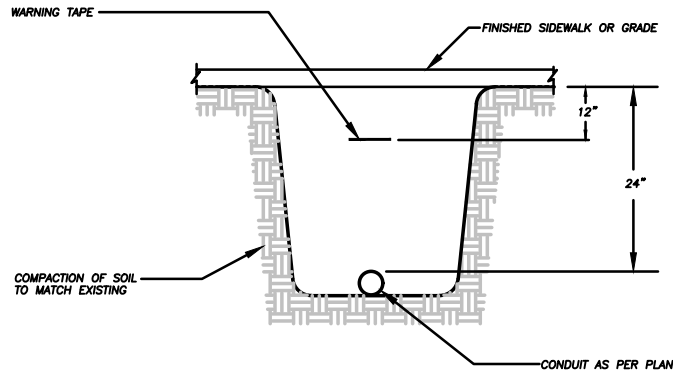
DATE	2/12/2024
DRAWN BY	TMM
DESIGNED BY	TMM
CHECKED BY	DAW
PROJECT NO.	2023.031
HORIZ. SCALE	1"=40'
VERT. SCALE	1"=5'
CADD FILE	2023.031_E-4

REVISIONS	
NO.	DATE
01	11/20/2024



**CPSL A-16 A-17 & A-18 WCS REPLACEMENTS**  
CITY OF PORT ST. LUCIE  
**A-16 ELECTRICAL RISER**

Printed Date:	
JOB No.: 1813.34	
SHEET	
E4 OF 7	



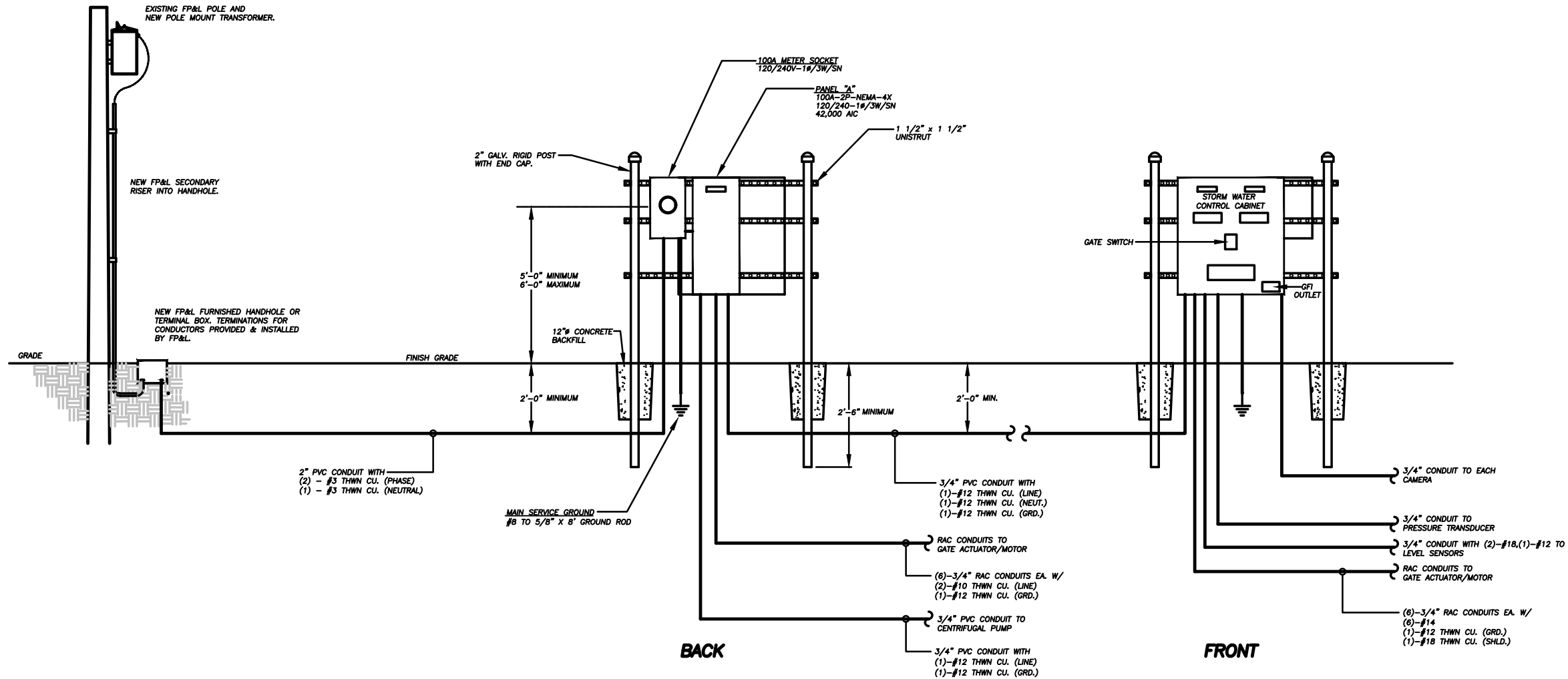
### TRENCHING DETAIL

N.T.S

PANELBOARD "A"									
RATED VOLTAGE		120/240V-1Ø/3W/SN		LOCATION		SITE			
RATED AMPS		100		CONDUCTORS		(2)-#3 THWN CU			
MAIN BREAKER		PLUG-ON		PHASE		(1)-#3 THWN CU			
BRANCH DEVICES		POST/UNISTRUT		NEUTRAL		(1)-#8 THWN CU			
MOUNTING		42,000		GROUND		2"			
INTERPUTING RATING				CONDUIT					

BUS AMPS		DESCRIPTION	BREAKER		CIR	BREAKER		DESCRIPTION	BUS AMPS	
A	B		TRIP	POLE		NUM.	POLE		A	B
8	8	Control Cabinet	20	2	1	2	1	20	3	3
8	8	Gate Motor	20	2	3	4	1	20	3	3
8	8				5	6	1	20	3	3
8	8				7	8	1	20	4	4
8	8				9	10	1	20	3	3
8	8				11	12				
8	8				13	14				
8	8				15	16				
8	8				17	18				
8	8				19	20				
8	8				21	22				
8	8				23	24				
8	8	BUS MOUNT	30	2						
8	8	80KA SURGE								

RECEPTACLES		360 W		360 W		GFI BREAKER: CKT 4	
FIRST 10KW @ 100%							
REMAINDER @ 50%							
EQUIPMENT		1,560 W		1,560 W			
MOTOR		3,840 W		3,840 W			
DIVERSITY 25% LRGST. MOTOR		480 W		480 W			
TOTAL DEMAND		6,240 W		26 A			



### CONTROL STRUCTURE A-17 UNDERGROUND ELECTRICAL SERVICE

120/240V-1Ø/3W/SN



DAVID A. WOJCIESZAK, P.E.

11/20/2024

DATE SIGNED

LICENSE NO. 32091

SCALE  
VERIFICATION  
0 0.5  
SOLID BAR IS EQUAL  
TO HALF AN INCH ON  
ORIGINAL DRAWING.  
ALL DIMENSIONS  
ACCORDINGLY

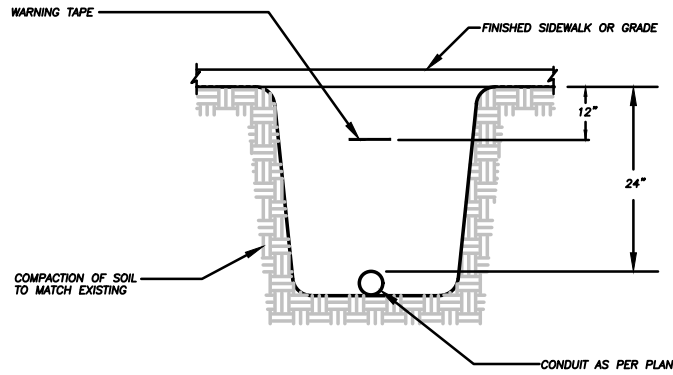
CPSL A-16 A-17 & A-18  
WCS REPLACEMENTS  
CITY OF PORT ST. LUCIE  
A-17 ELECTRICAL RISER

JOB No.: 1813.34

SHEET

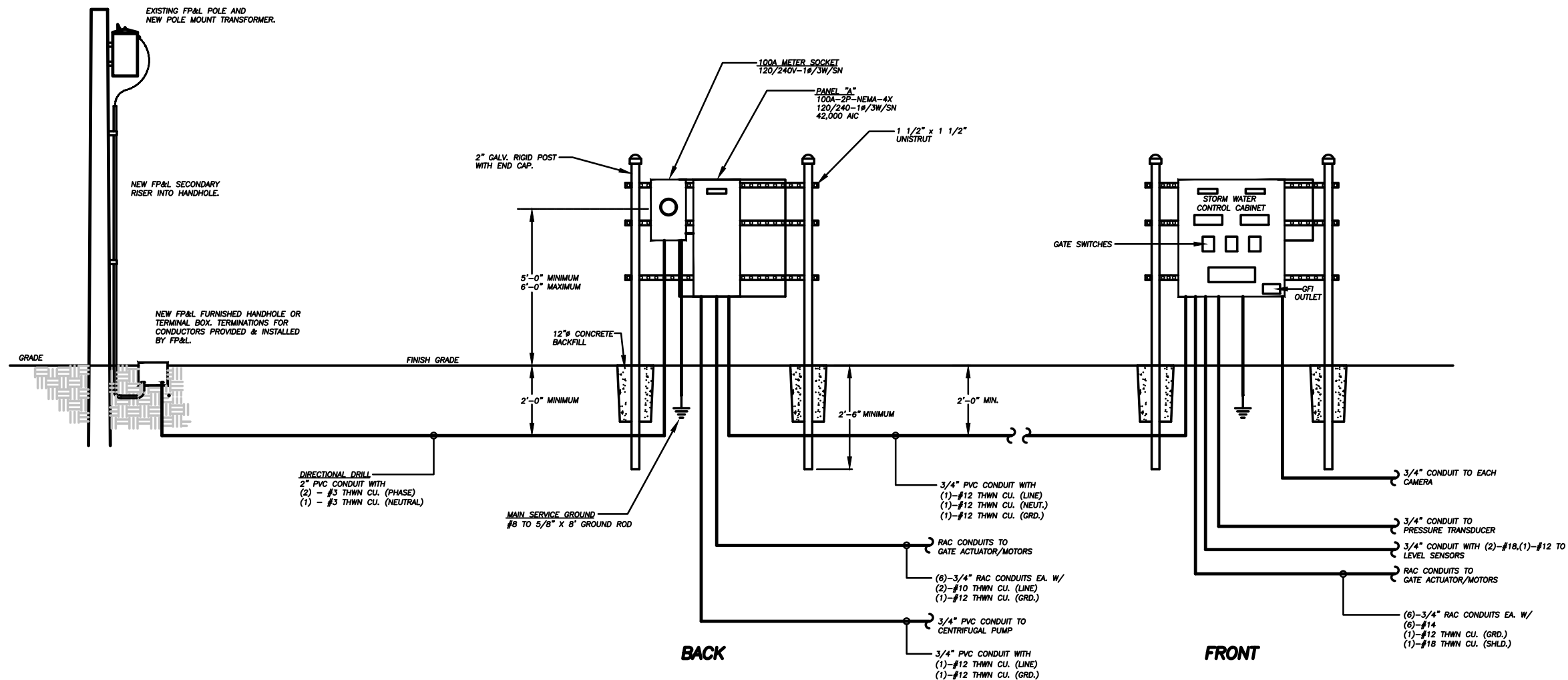
E5 OF 7

Printed Date:

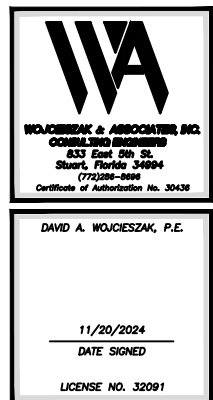


**TRENCHING DETAIL**  
N.T.S.

PANELBOARD						"A"							
RATED VOLTAGE		120/240V-1Ø/3W/SN				LOCATION		SITE					
RATED AMPS		100				CONDUCTORS							
MAIN		BREAKER				PHASE		(2)-#3 THWN CU					
BRANCH DEVICES		PLUG-ON				NEUTRAL		(1)-#3 THWN CU					
MOUNTING		POST/UNISTRUT				GROUND		(1)-#8 THWN CU					
INTER interrupting RATING		42,000				CONDUIT		2"					
BUS AMPS		DESCRIPTION		BREAKER		CIR		BREAKER		DESCRIPTION		BUS AMPS	
A	B			TRIP	POLE	NUM.		POLE	TRIP			A	B
8		Control Cabinet		20	2	1	2	1	20	Control Panel		3	
	8					3	4	1	20				Receptacles - GFI
8		Gate Motor		20	2	5	6	1	20	Camera Power		3	
	8					7	8	1	20				Scada Control Power
8		Gate Motor		20	2	9	10	1	20	LED Lighting		3	
	8					11	12						
8		Gate Motor		20	2	13	14						
	8					15	16						
						17	18						
						19	20						
-		BUS MOUNT		30	2	21	22	2	20	A-19 POWER		26	
-		80KA SURGE				23	24						
DEMAND LOADS													
RECEPTACLES													
FIRST 10KW @ 100%													
REMAINDER @ 50%													
EQUIPMENT													
MOTOR													
DIVERSITY 25% LRGST. MOTOR													
A-19													
TOTAL DEMAND													
OPTIONS													
COPPER BUS													
GROUND BAR													
KEYED DOOR LATCH													
GFI BREAKER: CKT 4													
68 A													



**CONTROL STRUCTURE A-18 UNDERGROUND ELECTRICAL SERVICE**  
120/240V-1Ø/3W/SN



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Phone: (772) 692-4344  
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**CAPTEC**  
Engineering, Inc.  
Civil Engineering Professionals

DATE: 2/22/2024  
DRAWN BY: TMM  
DESIGNED BY: TMM  
CHECKED BY: DAW  
PROJECT No.: 2023.031  
HORIZ. SCALE: 1"=40'  
VERT. SCALE: 1"=5'  
CADD FILE: 2023.031\_E-6

REVISIONS

NO.	DATE	BY	PERMIT	PLANS
01	11/20/2024	TMM		

SCALE VERIFICATION  
0 0.5  
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**CPSL A-16 A-17 & A-18 WCS REPLACEMENTS**  
CITY OF PORT ST. LUCIE

**A-18 ELECTRICAL RISER**

Printed Date:

JOB No.: 1813.34  
SHEET  
E6 OF 7



DIVISION 16 – GENERAL ELECTRICAL SPECIFICATIONS

PART ONE – GENERAL

16.01 DESCRIPTION

- A. ALL ELECTRICAL WORK AND SPECIFIED ASSOCIATED WORK IS GENERALLY COVERED BY THIS SECTION. THE WORK COVERED IN THIS SECTION CONSISTS OF FURNISHING AND INSTALLING ALL MATERIALS REQUIRED FOR A COMPLETE AND OPERATING ELECTRICAL SYSTEM AS CONTAINED IN THE CONTRACT DOCUMENTS. THE CONTRACT DOCUMENTS SHALL INCLUDE, BUT ARE NOT LIMITED TO, DRAWINGS, WRITTEN SPECIFICATIONS AND ADDENDUM. WHERE DISCREPANCIES OCCUR, THE MOST STRINGENT SHALL BE ENFORCED.
- B. THE PROJECT GENERAL CONDITIONS, SUPPLEMENTAL CONDITIONS AND DIVISION ONE SPECIFICATIONS APPLY TO THIS SECTION OF WORK AND ARE BINDING.
- C. EXCEPT WHERE PORTIONS OF THESE SPECIFICATIONS ARE MORE EXACTING, WORK OF THIS DIVISION SHALL COMPLY WITH ALL APPLICABLE PROVISIONS OF THE GENERAL SCOPE OF WORK.
- D. THIS SECTION DOES NOT APPLY TO OWNER FURNISHED COMMUNICATIONS EQUIPMENT, APPLIANCES, CONTROLS, OR SECURITY SYSTEMS EXCEPT WHERE SPECIFICALLY SHOWN ON THE ELECTRICAL DRAWINGS.

16.02 CODES, ORDINANCES AND REGULATIONS

- A. THE WORK SHALL COMPLY WITH THE LATEST CODES AND STANDARDS, BUT ARE NOT LIMITED TO:

1. FLORIDA CODES – 2020 EDITIONS:  
FLORIDA BUILDING CODE, FBC.  
FLORIDA RESIDENTIAL CODE, FBC-R.  
FLORIDA BUILDING CODE, MECHANICAL, FBC-M.  
FLORIDA BUILDING CODE, PLUMBING, FBC-P.  
FLORIDA BUILDING CODE, ACCESSIBILITY, FBC-A.  
FLORIDA BUILDING CODE, EXISTING CONSTRUCTION, FBC-EC.  
FLORIDA FIRE PREVENTION CODE, 68A-3.012.  
FLORIDA BUILDING CODE, ENERGY CONSERVATION, FBC-EC.  
FLORIDA BUILDING CODE, FUEL GAS, FBC-FG.
2. NATIONAL FIRE PREVENTION CODES, NFPA:  
NFPA-70, NATIONAL ELECTRICAL CODE, 2017.  
NFPA-72, NATIONAL FIRE ALARM CODE, 2019.  
NFPA-101, LIFE SAFETY CODE, 2021.  
NFPA-241, STANDARDS FOR SAFEGUARDING CONSTRUCTION ALTERATIONS AND DEMOLITION OPERATIONS, 2019.  
NFPA-110, EMERGENCY AND STANDBY POWER SYSTEMS, 2019.  
NFPA-13, FIRE SPRINKLER CODE, 2019.
3. MISCELLANEOUS:  
NATIONAL ELECTRICAL SAFETY CODE, 2017.  
ASHRAE 62.1 AND 62-90.1.  
SMACNA-2020 AND SMACNA/ANSI-2020.  
OSHA – OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION.

- B. WHERE ANY OF THE ABOVE ARE AT VARIANCE WITH THE DRAWINGS AND SPECIFICATIONS, THE CODE REQUIREMENTS SHALL TAKE PRECEDENCE AND ANY COST NECESSARY TO MEET THESE SHALL BE INCLUDED IN THE CONTRACT. DRAWINGS ARE SCHEMATIC AND DO NOT NECESSARILY INDICATE INDIVIDUAL CODE COMPLIANCE. CONTRACTOR SHALL PROVIDE ALL NECESSARY ITEMS TO COMPLY WITH THE ABOVE CODES WITHIN THE SCOPE OF THE CONTRACT.

- C. THIS CONTRACTOR IS ASSUMED TO BE SKILLED IN THE TRADE AND IS SOLELY RESPONSIBLE FOR COMPLIANCE WITH OSHA REGULATIONS. PERMITS REQUIRED FOR THIS WORK. ALL SUPERVISION ASSIGNED TO THIS PROJECT SHALL BE EXPERIENCED IN THIS TYPE OF WORK. THIS CONTRACTOR'S SUPERINTENDENT SHALL BE DESIGNATED AS SAFETY INSPECTOR. UNLESS THE CONTRACTOR DESIGNATES ANOTHER PERSON AND NOTIFIES THE ENGINEER OF THIS CHANGE.

16.03 FEES AND PERMITTING

- A. THE CONTRACTOR IS TO OBTAIN AND PAY FOR ALL PERMITS, LICENSES, INSPECTIONS AND CONNECTION FEES REQUIRED BY GOVERNING BODIES IN CONNECTION WITH THEIR WORK. THIS INCLUDES, BUT IS NOT LIMITED TO, ALL POWER COMPANY AND TELEPHONE COMPANY FEES AS REQUIRED TO COMPLETE SERVICES TO THE PROJECT. DELIVER TO THE OWNER COPIES OF ALL PERMITS AND INSPECTION CERTIFICATES.

16.04 INSPECTION

- A. BEFORE SUBMITTING HIS PROPOSAL, EACH BIDDER SHALL VISIT THE SITE AND EXAMINE THE PREMISES SO AS TO FULLY UNDERSTAND ALL OF THE EXISTING CONDITIONS RELATING TO HIS WORK. NO ALLOWANCES OR CONSIDERATIONS WILL BE MADE FOR THE LACK OF KNOWLEDGE OF MATERIALS TO BE FURNISHED, WORK TO BE DONE, EXISTING CONDITIONS, CODE REQUIREMENTS, OR CONDITIONS WITH WHICH TO BE COMPLIED.
- B. EXAMINE SURFACES TO WHICH WORK UNDER THIS DIVISION WILL BE CONTIGUOUS. NOTIFY ENGINEER, IN WRITING, OF VISIBLE OR LATENT DEFECTS WHICH WOULD PREVENT PROPER INSTALLATION OF WORK UNDER THIS DIVISION. COMMENCEMENT OF WORK SHALL BE CONSTRUED AS ACCEPTANCE OF SUCH SURFACES.

16.05 QUALITY CRITERIA

- A. ALL MATERIALS USED IN THIS WORK SHALL BE NEW AND LISTED AND LABELED BY UNDERWRITERS LABORATORIES, AS CONFORMING TO ITS STANDARDS. WHERE SUCH A STANDARD HAS BEEN ESTABLISHED FOR THE PARTICULAR TYPE OF MATERIAL IN QUESTION, MATERIALS THAT ARE NOT LISTED BY UL, AS A CATEGORY, SHALL BE PROVIDED WITH TEST DATA AS REQUIRED.
- B. ALL WORK SHALL BE EXECUTED IN A WORKMANLIKE MANNER AND SHALL PRESENT A NEAT APPEARANCE WHEN COMPLETED.
- C. ELECTRICAL SUPERVISION SHALL BE BY A CERTIFIED TECHNICIAN, LICENSED IN THE PERMITTED FIELD, WITH SUITABLE EXPERIENCE IN THE TYPE OF WORK INVOLVED. SUPERVISOR SHALL NOTIFY THE ARCHITECT/ENGINEER IMMEDIATELY IN WRITING OF CONDITIONS WHICH WILL PREVENT SATISFACTORY RESULTS IN THE INSTALLATION OF THE ELECTRICAL SYSTEM(S).

16.06 DRAWINGS

- A. SUBCONTRACTOR SHOULD EXAMINE ALL PROJECT DOCUMENTS, INCLUDING BUT NOT LIMITED TO, ARCHITECTURAL, STRUCTURAL, CIVIL, ELECTRICAL, PLUMBING AND MECHANICAL DRAWINGS PRIOR TO SUBMITTING BID. SUBCONTRACTOR WILL BE REQUIRED TO FURNISH, INSTALL AND CONNECT, WITH APPROPRIATE SERVICES, INDICATED ITEMS ON OTHER DRAWINGS WITHOUT ADDITIONAL EXPENSE TO THE OWNER. ENGINEER SHALL BE NOTIFIED OF DISCREPANCIES, OMISSIONS, CONFLICTS OR INTERFERENCES WHICH OCCUR BETWEEN DRAWINGS AND SPECIFICATIONS. IF SUCH NOTIFICATION IS RECEIVED IN ADEQUATE TIME, ADDITIONAL DATA OR CHANGES WILL BE ISSUED BY ADDENDUM TO ALL BIDDERS. IF NOTIFICATION IS NOT RECEIVED, IT IS IMPLIED THAT ADDITIONAL COSTS WILL NOT BE INCURRED.
- B. STRUCTURAL DRAWINGS SHALL TAKE PRECEDENCE OVER ELECTRICAL DRAWINGS WITH REFERENCE TO CONSTRUCTION. ELECTRICAL DRAWINGS ARE DIAGRAMMATIC BUT SHALL BE FOLLOWED AS CLOSELY AS ACTUAL CONSTRUCTION AND WORK BY OTHER TRADES WILL PERMIT. NECESSARY CHANGES IN SPACINGS AND LOCATION OF LIGHTING FIXTURES, PANELBOARDS, CABINETS, WIRING DEVICES, RACEWAYS AND OTHER PIECES OF EQUIPMENT MAY BE MADE, PROVIDED, THE OVERALL PATTERNS AND LAYOUTS ARE NOT ALTERED AND REMAIN UNIFORM. LOCATION OF DEVICES, FIXTURES, ETC. WILL BE COORDINATED WITH ARCHITECTURAL ELEVATIONS AND REFLECTED CEILING PLANS. NECESSARY COORDINATION CHANGES SHALL BE MADE AT NO ADDITIONAL COST TO THE OWNER.
- C. UNDOCUMENTED CHANGES NOT IN COMPLIANCE WITH CONTRACT DOCUMENTS WILL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
- D. THE CONTRACTOR IS TO MAINTAIN (1) SET OF DRAWINGS AT THE SITE. THESE DRAWINGS SHALL INDICATE ANY DEVIATIONS TO THE CONSTRUCTION DOCUMENTS AND PROVIDE DIMENSIONS OF CRITICAL EQUIPMENT LOCATION. CHANGES SHALL BE MADE WITH NON-ERASABLE MEDIA. RECORD DRAWINGS SHALL BE DELIVERED TO THE OWNER PRIOR TO FINAL INSPECTION. FINAL RECORD DRAWINGS WILL BE PROVIDED ON ELECTRONIC MEDIA, AUTOCAD VERSION 2005.
- E. CATALOG NUMBERS INDICATED WITH EQUIPMENT AND DEVICES ARE FOR CONVENIENCE ONLY. ERRORS OR OBSOLETENESS SHALL NOT RELIEVE THE FURNISHING OF ITEMS WHICH MEET THE TECHNICAL DESCRIPTION GIVEN IN THE SPECIFICATIONS, NOTED OR REQUIRED BY FUNCTION DESIGNATED.

16.07 CLAIMS FOR EXTRA WORK

- A. CLAIMS FOR "EXTRA" OR ADDITIONS TO CONTRACT SHALL BE MADE IN WRITING BY EACH SUBCONTRACTOR AND SUBMITTED TO ENGINEER FOR APPROVAL. NO CLAIMS FOR "EXTRA WORK" WILL BE ALLOWED UNLESS AUTHORIZATION HAS BEEN OBTAINED IN WRITING FROM ENGINEER.
- B. SHOULD CONTRACTOR OR HIS SUBCONTRACTORS START WORK WITHOUT RECEIVING APPROVAL IN WRITING FROM ARCHITECT, IT WILL BE CONSTRUED AS ACCEPTANCE BY THEM THAT SUCH WORK IS REQUIRED UNDER THEIR CONTRACT, AND NO FURTHER CLAIM FOR SUCH "EXTRA" WILL BE CONSIDERED OR ALLOWED BY ENGINEER. COMPENSATION FOR "EXTRA" WORK WILL BE INDICATED IN THE GENERAL CONDITIONS. CLAIM SUBMITTAL MUST INCLUDE MATERIAL INVOICE COPIES AND MANHOURS/RATES FOR SPECIFIC EXTRA CLAIMED. NO PAYMENT WILL BE MADE WITHOUT SUBSTANTIATION.

16.08 MAINTENANCE DATA AND OPERATIONAL MANUALS

- A. PROVIDE THREE COMPLETE BOUND SETS OF ALL MAINTENANCE DATA AND OPERATIONAL MANUALS. IN ADDITION TO THE BINDERS, ALL THE INFORMATION SHALL BE PROVIDED IN DIGITAL "PDF" FORMAT. THESE ARE TO BE TRANSMITTED TO THE OWNER UPON COMPLETION OF THE PROJECT. SERVICE MANUALS SHOULD CONTAIN BUT NOT BE LIMITED TO THE FOLLOWING:
1. TITLE SHEET WITH JOB NAME, AND THE NAMES, ADDRESSES AND PHONE NUMBERS OF THE CONTRACTOR, SUBCONTRACTOR, CONTROL SUBCONTRACTOR, RELATED CONTRACTOR AND MATERIAL AND EQUIPMENT SUPPLIER.
2. INDEX OF CONTENTS.
3. A COPY OF ACKNOWLEDGMENT OF INSTRUCTION TO THE OWNER'S OPERATING PERSONNEL, IN THE OPERATION OF ALL ELECTRICAL EQUIPMENT AND SYSTEMS, SIGNED BY THE OWNER OR HIS AUTHORIZED REPRESENTATIVE.
4. TYPEWRITTEN OPERATING INSTRUCTIONS FOR THE OWNER'S OPERATING PERSONNEL DESCRIBING HOW TO STOP AND START EACH PIECE OF EQUIPMENT; HOW TO SET THE CONTROL SYSTEM FOR NORMAL OPERATION AND NORMAL RESTARTING PROCEDURES, AND CAUTION AND WARNING NOTICES.
5. APPROVED SHOP DRAWINGS, PRODUCT DATA AND PARTS AND MAINTENANCE BOOKLET FOR EACH ITEM OF MATERIAL AND EQUIPMENT FURNISHED UNDER SECTIONS 16010 THROUGH 16999.
6. RECORD ELECTRICAL AND CONTROL DRAWINGS.
7. GUARANTEES, INCLUDING EXTENDED GUARANTEES.

16.09 GUARANTEE AND SERVICE

- A. IN ADDITION TO GUARANTEE OF EQUIPMENT BY THE MANUFACTURER OF EACH PIECE OF ELECTRICAL EQUIPMENT, EACH SUBCONTRACTOR SHALL GUARANTEE THE WORKMANSHIP OF HIS MAKE GOOD ANY DEFECT OF MATERIAL OR WORKMANSHIP OCCURRING DURING A PERIOD OF (1) YEAR FROM FINAL ACCEPTANCE TEST, WITHOUT EXPENSE TO OWNER.

16.10 SHOP DRAWINGS AND MATERIAL CUTS

- A. MATERIALS AND EQUIPMENT ARE SPECIFIED HEREIN BY A SINGLE OR BY MULTIPLE MANUFACTURERS, TO INDICATE QUALITY, MATERIAL, AND TYPE OF CONSTRUCTION DESIRED. ONE MANUFACTURER'S PRODUCT IS INDICATED AND HAS BEEN USED AS BASIS FOR DESIGN; IT SHALL BE EACH SUBCONTRACTOR'S RESPONSIBILITY TO ASCERTAIN THAT LISTED ALTERNATE MANUFACTURER'S PRODUCTS CONFORM TO DETAILED SPECIFICATION, AND THAT SIZE AND ARRANGEMENT OF EQUIPMENT IS SUITABLE FOR INSTALLATION. PRODUCTS OF OTHER LISTED MANUFACTURERS WILL BE CONSIDERED FOR USE IF IN THE ENGINEER'S OPINION, ITEM REQUESTED FOR SUBSTITUTION IS EQUAL TO THAT SPECIFIED. SHOULD A SUBCONTRACTOR DESIRE TO MAKE A SUBSTITUTION, HE SHOULD APPLY IN WRITING (10) WORKING DAYS PRIOR TO THE BID DATE. THE REQUEST SHOULD NOT INCLUDE THE AMOUNT OF CREDIT OR EXTRA INVOLVED, AND COMPLETE ENGINEERING DATA. ONE SET OF SUBMITTALS WILL BE REVIEWED WITHIN THE ENGINEER'S SCOPE OF WORK. IF ADDITIONAL SUBMITTALS ARE REVIEWED, THE CONTRACTOR WILL BE BILLED AT A RATE OF \$125.00 PER HOUR.
- B. IT SHALL BE THE RESPONSIBILITY OF EACH SUBCONTRACTOR MAKING A SUBSTITUTION TO INCLUDE CHANGES REQUIRED BY OTHER TRADES FOR PROPER OPERATION OF EQUIPMENT PROPOSED TO BE SUBSTITUTED. SUBSTITUTIONS SHALL BE MADE AT NO ADDITIONAL COST TO THE OWNER.
- C. BEFORE PURCHASE OF EQUIPMENT, SUBMIT ONE COMPLETE DIGITAL COPY IN "PDF" FORMAT OF ALL ELECTRICAL EQUIPMENT FOR REVIEW. SUBMIT AS COMPLETE AS POSSIBLE. IDENTIFY EACH ITEM SUBMITTED. INFORMATION ON SHOP DRAWINGS SHALL CONTAIN ALL THAT IS NECESSARY TO SHOW THAT EQUIPMENT COMPLIES WITH SPECIFICATIONS AND DRAWINGS. SHOW REQUIRED MODIFICATIONS. ONE COMPLETE SET OF APPROVED SHOP DRAWINGS SHALL BE KEPT AT THE JOB SITE.
- D. ALL SUBMITTALS OF ELECTRICAL MATERIALS OR EQUIPMENT SHALL BE MADE AT THE SAME TIME CONTAINED WITHIN ONE DIGITAL COPY IN "PDF" FORMAT AND ONE LETTER OF TRANSMITTAL.
- E. CORRECTIONS OR COMMENTS MADE ON SHOP DRAWINGS DURING REVIEW DO NOT RELIEVE CONTRACTOR AND SPECIFICATIONS OF REQUIREMENTS OF DRAWINGS. THIS CHECK IS ONLY FOR REVIEW OF GENERAL CONFORMANCE WITH DESIGN CONCEPT OF PROJECT, AND GENERAL COMPLIANCE WITH INFORMATION GIVEN IN CONTRACT DOCUMENTS.

PART TWO – PRODUCTS

16.11 ELECTRICAL RACEWAYS

- A. THE WORK COVERED IN THIS SECTION CONSISTS OF PROVIDING RACEWAYS AND CONDUITS COMPLETE WITH ALL REQUIRED ACCESSORIES, HANGERS, SUPPORTS, CONNECTIONS, AND FITTINGS NECESSARY TO MAKE THE RACEWAY SYSTEM COMPLETE. ALL RACEWAYS ARE LISTED FOR INFORMATION PURPOSES ONLY. THE ALLOWABLE USE OF THE RACEWAYS SHALL CONFORM TO PART 3 – EXECUTION & NFPA-70.

1. RIGID METAL CONDUIT (RMC): HOT DIPPED GALVANIZED COATING WITH SMOOTH INTERIOR AND REAMED ENDS. THREADS SHALL BE HOT-DIPPED GALVANIZED AFTER CUTTING. INSULATED THROAT, STEEL BUSHINGS, WITH SEPARATE LOCKNUTS, SHALL BE USED ON ALL CONDUITS TERMINATING IN A PANEL, CONTROL CABINETS, JUNCTION BOX, ETC.
2. INTERMEDIATE METALLIC CONDUIT (IMC): HOT DIPPED GALVANIZED COATING OR SHERADIZED WITH SMOOTH INTERIOR AND REAMED ENDS. USE STEEL INSULATED TYPE BUSHINGS WITH SEPARATE LOCKNUTS ON ALL CONDUITS ENTERING PANEL CABINETS, OUTLET BOXES, ETC.
3. ELECTRICAL METALLIC TUBING (EMT): HOT GALVANIZED STEEL OUTSIDE WITH A CORROSION RESISTANT INTERIOR. ALL CONNECTORS AND COUPLINGS SHALL BE STEEL, SET SCREW TYPE.
4. LIQUIDTIGHT FLEXIBLE METAL CONDUIT (LFMC): PROVIDE LIQUID-TIGHT FLEXIBLE METAL CONDUIT CONSISTING OF NONMETALLIC, SUNLIGHT RESISTANT JACKET OVER A METAL CORE. PROVIDE BONDING JUMPER.
5. FLEXIBLE METAL CONDUIT (FMC): PROVIDE FLEXIBLE STEEL METAL CONDUIT, WITH APPROPRIATE FITTINGS. PROVIDE BONDING JUMPER.
6. RIGID POLYVINYL CHLORIDE CONDUIT (PVC): RIGID NONMETALLIC CONDUIT AND FITTINGS SHALL BE POLYVINYL CHLORIDE (PVC) SCHEDULE 40 OR 80 AS REQUIRED, AND SHALL BE APPROVED FOR THE PURPOSE USED. FITTINGS SHALL BE OF THE SAME MATERIAL AS THE CONDUIT, AND IN NO CASE SHALL HAVE THINNER WALLS THAN THAT OF THE CONDUIT FURNISHED. PROVIDE GROUND CONDUCTOR SIZED IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE. EXPANSION FITTINGS SHALL BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATION.
7. ELECTRICAL NONMETALLIC TUBING (ENT): ENT SHALL MEET THE REQUIREMENTS OF NEMA TC-13 AND SHALL BE LISTED BY UNDERWRITERS LABORATORIES, INC. AS SUITABLE FOR ITS INTENDED PURPOSE. FITTINGS AND OUTLET BOXES SHALL BE APPROVED FOR USE WITH ENT AND LISTED BY UNDERWRITERS LABORATORIES, INC. NONMETALLIC BOXES ARE NOT TO BE USED. METAL BOXES AND ACCESSORIES ARE FOR COMMUNICATIONS, AND RED FOR FIRE ALARM AND EMERGENCY SYSTEMS.
8. LIQUID-TIGHT FLEXIBLE NONMETALLIC CONDUIT (LFNC): LFNC SHALL HAVE A SMOOTH INNER SURFACE WITH INTEGRAL REINFORCEMENT WITHIN THE CONDUIT WALL AND BE DESIGNED AS TYPE LFNC-B. ONLY FITTING LISTED FOR LFNC SHALL BE USED.
9. ALL HANGERS AND FASTENERS EXPOSED TO THE WEATHER SHALL BE FACTORY MANUFACTURED STAINLESS STEEL.

D. APPLICATION

OUTDOORS

1. RMC OR IMC SHALL BE USED FOR ALL EXPOSED WORK WHERE SUBJECT TO DAMAGE, GENERALLY SEVEN FEET ABOVE FINISHED GRADE.
2. SCHEDULE 80 PVC CAN BE USED FOR EXPOSED WORK WHERE NOT SUBJECT TO PHYSICAL DAMAGE.
3. RMC, IMC OR PVC CAN BE USED FOR UNDERGROUND WORK. PROVIDE PROPERLY SIZED BOND WIRE AS REQUIRED BY THE NATIONAL ELECTRICAL CODE.
4. LFMC OR LFNC SHALL BE USED TO CONNECT MOTORS, SENSORS OR VIBRATING EQUIPMENT.
5. WIREWAYS AND ENCLOSURES SHALL BE LISTED FOR WET LOCATIONS.

INDOORS

1. EMT OR PVC SHALL BE USED FOR EXPOSED LOCATIONS.
2. EMT, PVC OR ENT SHALL BE USED FOR CONCEALED LOCATIONS.
3. RMC OR IMC SHALL BE USED FOR DAMP OR WET LOCATIONS WHERE SUBJECT TO PHYSICAL DAMAGE.
4. PVC SHALL BE USED FOR DAMP OR WET LOCATIONS WHERE NOT SUBJECT TO PHYSICAL DAMAGE.
5. LFMC OR LFNC SHALL BE USED TO CONNECT MOTORS, SENSORS OR VIBRATING EQUIPMENT IN WET LOCATIONS. FMC SHALL BE USED FOR DRY LOCATIONS.
6. WIREWAYS AND ENCLOSURES SHALL BE LISTED AS NEMA-3R FOR WET LOCATIONS AND NEMA-1 FOR DRY LOCATIONS.
7. SURFACE RACEWAYS SHALL BE USED ONLY IN DRY LOCATIONS.
8. ENT SHALL NOT BE USED IN ATTICS DUE TO TEMPERATURE CONSTRAINTS.

16.12 WIRE AND CABLE

- A. ALL CONDUCTORS SHALL BE ENCASED IN A RACEWAY AS LISTED IN PART 3, EXECUTION, 16.19(O).

1. CONDUCTORS MATERIAL SHALL BE COPPER WITH A 98.5% CONDUCTIVITY.
2. CONDUCTOR INSULATION SHALL BE DUAL RATED THHN/THWN.
3. CONDUCTORS NO. 12 AND SMALLER MAY BE SOLID OR STRANDED. CONDUCTORS LARGER THAN NO. 12 SHALL BE STRANDED.
4. GROUNDING ELECTRODE CONDUCTORS NO. 8 & NO. 6 SHALL BE SOLID.
- B. CABLES, WHEN ALLOWED IN PART 3, EXECUTION SHALL BE INSTALLED IN ACCORDANCE WITH NFPA-70.
1. TYPE "MC" CABLE SHALL BE PROVIDED WITH A FULL SIZE GROUND WIRE. FITTINGS SHALL BE LISTED FOR THE USE.
2. POWER LIMITED, FUSE PROTECTIVE SIGNALING CABLES SHALL BE JACKETED WITH SOLID CONDUCTORS.
3. TYPE "NM", "ROMEX" SHALL BE LIMITED TO NO.12 & NO.10. PROVIDE WITH GROUND CONDUCTOR FITTINGS SHALL BE LISTED FOR THE USE.
4. TYPE SO CORD SHALL BE LIMITED TO NO.14, NO.12 & NO.10 COPPER. FITTINGS SHALL BE LISTED FOR THE USE.
5. TYPE UF, "UNDERGROUND" CABLE SHALL NOT BE USED.

- C. COLOR CODES SHALL BE: BLACK, RED, WHITE, GREEN FOR 120/240-1Ø/3Ø SYSTEMS; BLACK, RED, BLUE, WHITE, GREEN FOR 120/208ØV-3Ø/4Ø SYSTEMS; YELLOW, VIOLET, BROWN, GRAY, GREEN FOR 277/480ØV-3Ø/4Ø; BLACK, ORANGE, BLUE WHITE, GREEN, FOR 120/240ØV-3Ø/4Ø, DELTA.

D. SPLICES & CONNECTIONS:

1. #10 AND BELOW: SCOTCHLOK OR EQUAL.
2. #8 AND LARGER: HI PRESS OR MECHANICAL CONNECTOR.

16.13 BOXES

- A. GENERAL PURPOSE OUTLET BOXES SHALL BE 4" SQUARE X 1-1/2" DEEP STEEL BOXES WITH APPROPRIATE TRIM RINGS.
- B. EXTERIOR BOXES SHALL BE PLASTIC, SIMILAR TO "CARLOW" WEATHERPROOF BOXES. PROVIDE WITH APPROPRIATE WEATHERPROOF COVERS.
- C. FLOOR BOXES SHALL BE MANUFACTURED BY "FSR INC.", MODEL FL-710 FLOOR BOXES WITH BRASS COVERS.

16.14 WIRING DEVICES

- A. WALL SWITCHES: SHALL BE SPECIFICATION GRADE, QUIET-TYPE HIGH PERFORMANCE SWITCHES RATED AT 20A/277V WITH SCREW TERMINALS.
- B. RECEPTACLES: WALL RECEPTACLES SHALL BE INTERMEDIATE GRADE, DUPLEX 3-WIRE GROUNDING TYPE. DEVICES SHALL BE RATED AT 15A/125V, RECEPTACLES AND SWITCHES SHALL HAVE SCREW TERMINALS. GFCI TYPE TO BE SELF TESTING.
- C. EXTERIOR GFI RECEPTACLES: SHALL BE INTERMEDIATE GRADE, DUPLEX 3-WIRE GROUNDING TYPE. DEVICES SHALL BE RATED AT 15A/125V AND HAVE SCREW TERMINALS. RECEPTACLE TO BE RECESSED WITH COVER BY ARLINGTON INDUSTRIES, INC. DBVM1.
- D. SPECIAL OUTLETS SHALL BE LISTED ON THE PLANS.
- E. ALL WIRING DEVICES TO HAVE SCREWLESS PLATE COVERS.

16.15 PANELBOARDS/LOADCENTERS

- A. PANELBOARDS/LOADCENTERS SHALL BE AS NOTED ON THE PLANS. PANELBOARDS/LOADCENTERS SHALL BE THE PRODUCT OF SQUARE D, SIEMENS OR CUTLER-HAMMER.
- B. PANELBOARDS/LOADCENTERS SHALL HAVE COPPER BUSS, COPPER NEUTRAL BAR, AND COPPER GROUND BAR.
- C. PANELBOARDS/LOADCENTERS SHALL BE PROVIDED WITH SURGE PROTECTION AS INDICATED ON THE PLANS.

16.16 DISCONNECT SWITCHES

- A. FUSIBLE DISCONNECT SWITCHES: SHALL BE FURNISHED WITH ENCLOSURE AS REQUIRED BY EXPOSURES EITHER NEMA 1 OR 3R AND SHALL BE HORSEPOWER RATED, HEAVY DUTY WITH FUSES AS NOTED.
- B. NON-FUSIBLE DISCONNECT SWITCHES: SWITCHES SHALL BE PROVIDED FOR ALL MOTORS LOCATED OUT OF SIGHT OF MOTOR CONTROLLER AND WHERE INDICATED ON THE DRAWING. DISCONNECT SWITCHES SHALL DISCONNECT ALL UNDERGROUND CONDUCTORS.
- C. FUSES: SHALL BE FURNISHED FOR FUSIBLE EQUIPMENT. MOTOR FUSES SHALL BE BUS FUSETRONS RATED BETWEEN 125 AND 150Ø OR MOTOR PLATE NAME RATING. FURNISH EXTRA SET OF SPARE FUSES FOR EACH FUSED DISCONNECT INSTALLED. SPARE FUSES TO BE PLACED WITHIN A FUSE CABINET LOCATED IN THE ELECTRICAL ROOM.
- D. ALL DISCONNECT SWITCHES LOCATED OUTDOORS SHALL BE STAINLESS STEEL.

16.17 LIGHTING FIXTURES

- A. PROVIDE LIGHTING FIXTURES AS INDICATED ON THE SCHEDULE OR AS PER THE LIGHTING DESIGNER, AND IN COMPLIANCE WITH THE FLORIDA BUILDING CODE – ENERGY CONSERVATION.

16.18 CONTROLS

- A. SINGLE POLE 120V TIME CLOCKS SHALL BE INTERMATIC T101 FOR INDOORS, T101R FOR OUTDOOR.
- B. TWO POLE, 208/240V TIME CLOCKS SHALL INTERMATIC T104 FOR INDOOR, T104R FOR OUTDOOR.
- C. LIGHTING CONTACTORS SHALL BE ELECTRICALLY HEAVY 20AMP WITH NUMBER OF POLES AS INDICATED. PROVIDE ENCLOSURE TO MATCH MOUNTING ENVIRONMENT.
- D. MAGNETIC STARTERS SHALL BE NEMA RATED FOR THE VOLTAGE AND HORSEPOWER LISTED. PROVIDE WITH H-O-A SWITCH ON THE COVER WITH A "RUN" PILOT LIGHT. ENCLOSURE SHALL MATCH THE ENVIRONMENT WHERE THE STARTER IS INSTALLED. PROVIDE OVERLOADS TO MATCH THE MOTOR CHARACTERISTICS.
- E. CONTACTORS AND RELAYS SHALL BE RATED FOR 20AMPS WITH COIL VOLTAGE AS REQUIRED. PROVIDE ENCLOSURES TO MATCH MOUNTING CONDITIONS.

16.19 IDENTIFICATION

- A. TAG ALL CONDUCTORS AND IDENTIFY MAJOR CONDUITS IN OR AT WIREWAYS, PANELS, PULLBOXES, SWITCHBOARDS, MOTOR CONTROLLERS, CABINETS AND SIMILAR ITEMS TO ASSIST IN FUTURE CIRCUIT TRACING. CONDUCTOR TAGS SHALL BE NONCONDUCTIVE.
- B. IDENTIFY ALL CIRCUITS AND EQUIPMENT TO CORRESPOND WITH THE PLANS AND SPECIFICATIONS.
- C. ALL SWITCHGEAR WILL BE LABELED WITH ENGRAVED PHENOLIC NAMEPLATES.
- D. ALL JUNCTION BOXES SHALL HAVE TYPE OF SYSTEM AND VOLTAGE OF CONTAINED CONDUCTORS STENCILED ON INSIDE OF BOX COVER.

PART THREE – EXECUTION

16.20 GENERAL

- A. THE ELECTRICAL CONTRACTOR SHALL VERIFY, IN THE FIELD, ALL ELECTRICAL EQUIPMENT AND SPACE LIMITATIONS PRIOR TO FABRICATION AND NOTIFY THE ARCHITECT/ENGINEER IMMEDIATELY IF CONFLICTS OCCUR. THE CONTRACTOR SHALL COORDINATE WITH ALL TRADES PRIOR TO INSTALLATION.
- B. FIXTURE, EQUIPMENT AND DEVICE LOCATIONS ARE DIAGRAMMATIC. FINAL LOCATIONS WILL BE DETERMINED BY FIELD LOCATIONS, IN ACCORDANCE WITH THE CODE, AND/OR AS DIRECTED BY THE ENGINEER.
- C. THE ELECTRICAL CONTRACTOR SHALL COORDINATE HIS WORK WITH ALL OTHER TRADES. PAY SPECIAL ATTENTION TO EQUIPMENT, WHICH SHALL TAKE PRECEDENCE OVER ALL OTHER TRADES.
- D. ALL MATERIALS SHALL BE INSTALLED AND COMPLETED IN A FIRST CLASS AND WORKMANLIKE MANNER. ANY MATERIALS INSTALLED, WHICH SHALL NOT PRESENT AND ORDERLY AND REASONABLY NEAT OR WORKMANLIKE APPEARANCE, SHALL BE REMOVED AND REPLACED WHEN DIRECTED BY THE ARCHITECT/ENGINEER.
- E. ALL EQUIPMENT AND DEVICES REQUIRING POWER SHALL BE CONNECTED BY THIS CONTRACTOR WHETHER OR NOT THEY ARE INDICATED ON THE ELECTRICAL DRAWINGS, BUT INCLUDED IN OTHER CONTRACT DRAWINGS.
- F. PROVIDE ACCESS TO ALL JUNCTION BOXES. MINIMUM SIZE OF JUNCTION BOXES IS TO BE 4" SQUARE BY 2-1/8" DEEP.
- G. NO STRUCTURAL MEMBERS SHALL BE CUT OR NOTCHED WITHOUT WRITTEN APPROVAL OF THE ARCHITECT/ENGINEER.
- H. ALL MATERIAL SHALL BE PROPERLY AND EFFECTIVELY PROTECTED BY THE CONTRACTOR DURING THE EXECUTION OF THE WORK.
- I. WALL, CEILING AND FLOOR OPENINGS INDICATED ON THESE DRAWINGS ARE ROUGH AND NORMAL SIZES ONLY. CONTRACTORS SHALL SEE SHOP DRAWING FOR ACTUAL SIZES.
- J. ANY ITEM INSTALLED WHICH CREATE OBJECTIONABLE NOISE AS INDICATED BY THE OWNER SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
- K. INCREASE OUTLET & JUNCTION BOX SIZES TO ACCOMMODATE THE NUMBER OF CONDUCTORS AS REQUIRED BY THE NEC, TABLE 314.16(4).
- L. SEE ELECTRICAL LEGEND AND REFER TO ARCHITECTURAL INTERIOR ELEVATIONS FOR MOUNTING HEIGHTS OF OUTLETS BOXES.
- M. ALL PANELBOARDS/LOAD CENTERS SHALL HAVE ACCURATE, TYPEWRITTEN DIRECTORIES.
- N. ALL SWITCH GEAR SHALL BE PROVIDED WITH ENGRAVED, PHENOLIC LABELS.
- O. ALL BRANCH CIRCUIT AND FEEDER CONDUCTORS SHALL BE ENCASED IN A RACEWAY AS LISTED IN 16.11(D) APPLICATION.
- P. SHARED NEUTRALS IN BRANCH CIRCUITS ARE NOT ALLOWED. PROVIDE A SEPARATE NEUTRAL FOR EACH INDIVIDUAL BRANCH CIRCUIT.

PART FOUR – EXISTING CONSTRUCTION

16.21 GENERAL

- A. IN THE PROCESS OF INSTALLING ANY PART OF THE NEW WORK, THE BUILDING SHALL BE LEFT IN A SAFE STRUCTURAL CONDITION AT ALL TIMES.
- B. WHENEVER THE ELECTRICAL CONTRACTOR IS TO SHUT DOWN ANY EXISTING SYSTEMS, HE SHALL NOTIFY THE OWNER'S REPRESENTATIVE HAVING JURISDICTION OVER THE PROJECT, IN WRITING, A MINIMUM OF TWO (2) DAYS PRIOR TO THE SHUTDOWN.
- C. ALL EXISTING CONDUIT, EQUIPMENT, MATERIALS, ETC., NOT REQUIRED FOR RE-USE OR RE-INSTALLATION SHALL BE REMOVED. EXISTING MATERIALS AND EQUIPMENT WHICH ARE INDICATED TO REMAIN WITH THE PROPERTY, OR ARE DESIRED BY THE OWNER, SHALL BE DELIVERED AS DIRECTED BY THE OWNER AND/OR THE OWNER'S REPRESENTATIVE. ALL OTHER MATERIALS AND EQUIPMENT REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED BY HIM FROM THE PREMISES.
- D. THE LOCATION OF ALL EXISTING CONDUIT, AND ELECTRICAL EQUIPMENT ON THESE PLANS IS FOR THE CONVENIENCE OF THE CONTRACTOR, GENERAL INFORMATION AND ESTIMATING PURPOSES. THIS INFORMATION IS NOT WARRANTED OR GUARANTEED TO BE COMPLETE OR CORRECT. THE CONTRACTOR MUST FIELD VERIFY ALL SUCH INFORMATION TO HIS OWN SATISFACTION BEFORE SUBMITTING BIDS, ORDERING MATERIALS OR PROCEEDING WITH ANY WORK ON THE PROJECT.
- E. THE AMOUNT OF DUST RESULTING FROM DEMOLITION SHALL BE CONTROLLED TO PREVENT THE SPREAD TO OTHER PORTIONS OF THE BUILDING AND TO AVOID CREATING A NUISANCE IN THE SURROUNDING AREAS.
- F. ALL EXISTING ELECTRICAL SYSTEMS SHALL BE KEPT IN OPERATION DURING THE PROGRESS OF THE WORK. TEMPORARY CONNECTIONS SHALL BE PROVIDED WHERE NECESSARY TO MAINTAIN CONTINUOUS OPERATION UNTIL THE NEW SYSTEMS ARE READY FOR OPERATION.
- G. WHEN THE WORK SPECIFIED HEREIN CONNECTS TO EXISTING EQUIPMENT OR SYSTEMS, THE CONTRACTOR SHALL PERFORM ALL NECESSARY ALTERATIONS, OF THE EXISTING EQUIPMENT OR SYSTEMS AS NECESSARY OR REQUIRED TO MAKE SATISFACTORY CONNECTIONS BETWEEN NEW AND EXISTING WORK. ANY DAMAGE DONE TO THE EXISTING WORK ALREADY IN PLACE BY THE CONTRACTOR SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
- H. THE CONTRACTOR IS RESPONSIBLE FOR CLEANING ALL THE AREAS IN WHICH HE PERFORMED DEMOLITION OR NEW CONSTRUCTION, SO THESE AREAS ARE READY, USABLE AND SERVICEABLE FOR EACH NORMAL WORK DAY DURING THIS CONTRACT.
- I. THE DEMOLITION PLANS REPRESENT THE EXISTING ELECTRICAL LAYOUTS BASED ON THE AVAILABLE EXISTING DRAWINGS AND INFORMATION. THE CONTRACTOR MUST FIELD VERIFY EXISTING CONDITIONS BEFORE BIDDING TO OBTAIN ANY ADDITIONAL INFORMATION. NO ADDITIONAL COST IS ALLOWED AFTER BIDDING FOR THE DEMOLITION WORK.
- J. WHENEVER THE CONTRACTOR HAS TO PERFORM WORK IN AN AREA WHICH IS BEING UTILIZED BY THE OWNER, HE SHALL FIRST CHECK WITH THE OWNER'S CONSTRUCTION COORDINATOR TO ENSURE SUCH WORK IS PERMITTED DURING NORMAL WORKING HOURS. IF DEEMED NECESSARY, CONTRACTOR MUST BE PREPARED TO PERFORM SUCH WORK DURING THE HOURS PRESCRIBED BY THE OWNER'S CONSTRUCTION COORDINATOR AT THE CONTRACTOR'S EXPENSE.



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Certificate of Authorization No. 30438

DAVID A. WOJCIWIECZAK, P.E.

11/20/2024  
DATE SIGNED  
LICENSE NO. 32091

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Engineering Business  
No. EB-007657



DATE: 11/20/2024  
DRAWN BY: TMM  
DESIGNED BY: TMM  
CHECKED BY: DAW  
PROJECT NO.: 2023.031  
HORIZ. SCALE: 1"=40'  
VERT. SCALE: 1"=5'  
CADD FILE: 2023.031\_E-7

REVISIONS		DATE	BY	NO.

SCALE  
VERIFICATION  
0 0.5  
SOLID BAR IS EQUAL  
TO HALF AN INCH ON  
ORIGINAL DRAWING.  
ALL DIMENSIONS  
ACCORDINGLY

CPSL A-16 A-17 & A-18  
WCS REPLACEMENTS  
CITY OF PORT ST. LUCIE  
ELECTRICAL SPECIFICATIONS

Printed Date:  
JOB NO.: 1813.34  
SHEET  
E7 OF 7

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