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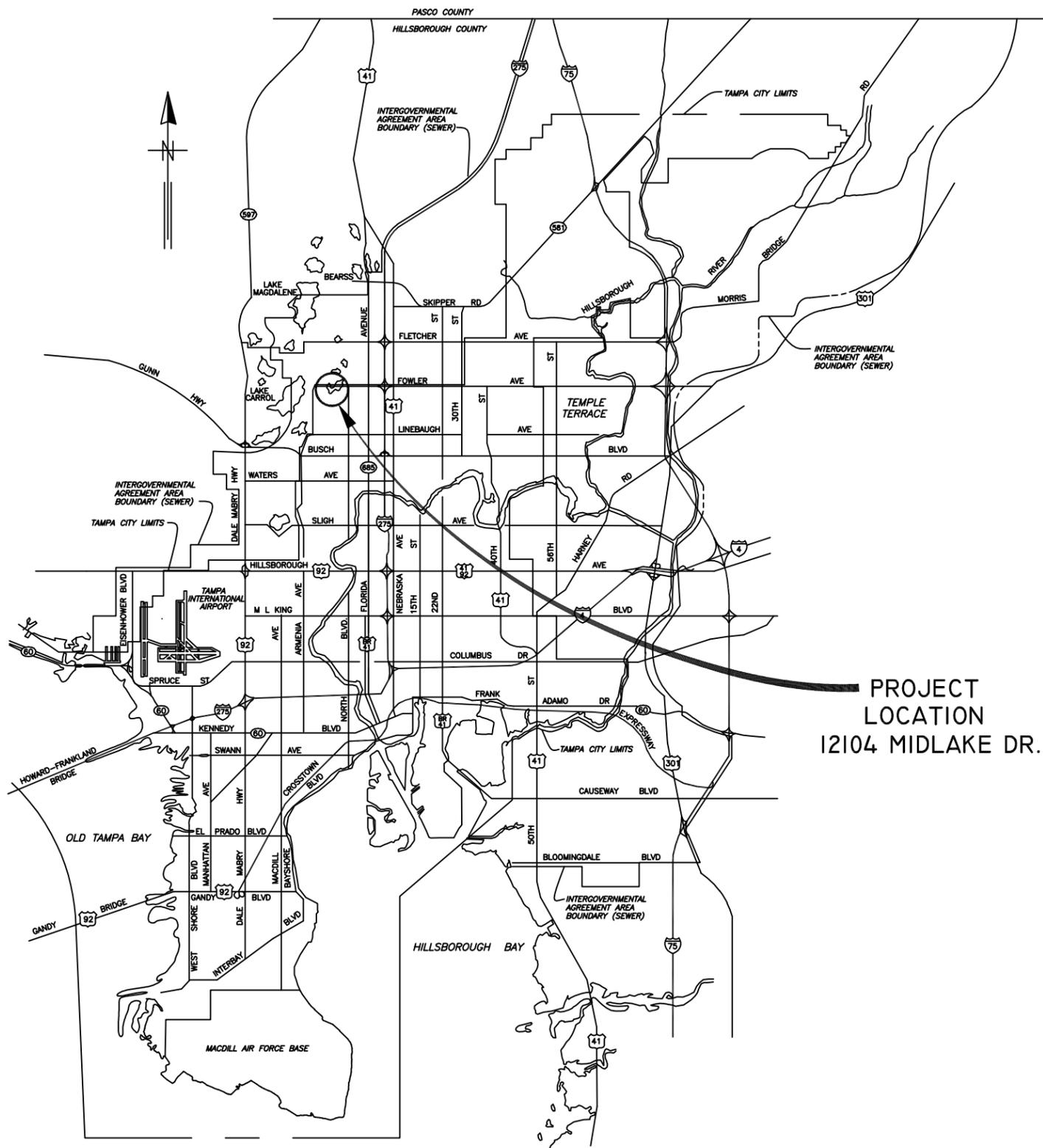
**Please Email ALL Questions:**

**[MailTo:ContractAdministration@TampaGov.net](mailto:ContractAdministration@TampaGov.net)**

**Please Let Us Know If You Plan To Bid**

City of Tampa  
Contract Administration Department  
306 E. Jackson St. #280A4N  
Tampa, FL 33602  
(813)274-8456

LOCATION MAP



PROJECT  
LOCATION  
12104 MIDLAKE DR.

CITY of TAMPA



WASTEWATER DEPARTMENT

PLANS FOR  
MIDLAKE PUMP STATION  
REHABILITATION

CONTRACT No.  
18-C-00011

User: ss13 Drawing Name: K:\WasteWater Projects\Midlake Pump Station Rehabilitation\Design\Plans\Drafting\DWG\Midlake FS Rehabilitation.dwg Layout: Jun 07, 2018 - 3:58pm CTB - MONOCHROME.CTB

JACINTO CARLOS FERRAS, P.E. #49454  
DESIGN DIVISION HEAD  
WASTEWATER DEPARTMENT

ROMAN D. KORCHAK, P.E. #42626  
ELECTRICAL SECTION HEAD  
WASTEWATER DEPARTMENT

No.	DATE	REVISIONS
3		
2		
1		

DES: MS / LG  
DRN: JHJ  
CKD: JF  
DATE: 7/13/18

CITY of TAMPA  
WASTEWATER DEPARTMENT

MIDLAKE PUMP STATION REHAB.  
COVER SHEET

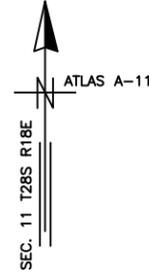
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SHEET  
1

**LEGEND**

<b>EX SEWERS</b>	UP to 36" & SMALLER	36" & LARGER
EX FORCE MAIN		
EX SAN SEWER & MANHOLES		
EX STORM SEWER & MANHOLES		
<b>PROP SEWERS</b>		
PROP FORCE MAIN		
PROP SANITARY SEWER & MANHOLES		
PROP STORM SEWER & MANHOLES		
<b>OTHER FEATURES</b>		
RIGHT of WAY LINE		
EDGE of PAVEMENT		
WATER LINE		
GAS LINE		
ELECTRICAL CABLE or DUCT		
TELEPHONE CABLE or DUCT		
TV CABLE		
VALVE, AIR RELEASE VALVE		
HYDRANT		
CATCH BASIN, GRATE		
POWER POLE		
TELEPHONE POLE		
GUY POLE		
GUY WIRE		
VALVE VAULT		
WATER METER		
ELECTRICAL MANHOLE or VAULT		
TELEPHONE MANHOLE or VAULT		
TRAFFIC BOX or VAULT		
BUILDING LIMIT		
PROPERTY OWNERSHIP		
FENCE		
CONIFER		
PALM		
OAK		
OTHER		
SHRUB		
HEDGE		
RAILROAD TRACKS		
IRON PIPE		
CONTROL POINT		
CONCRETE MONUMENT		
OPEN DITCHES		
EXISTING WYE		
PROPOSED WYE		
CLEAN OUT		

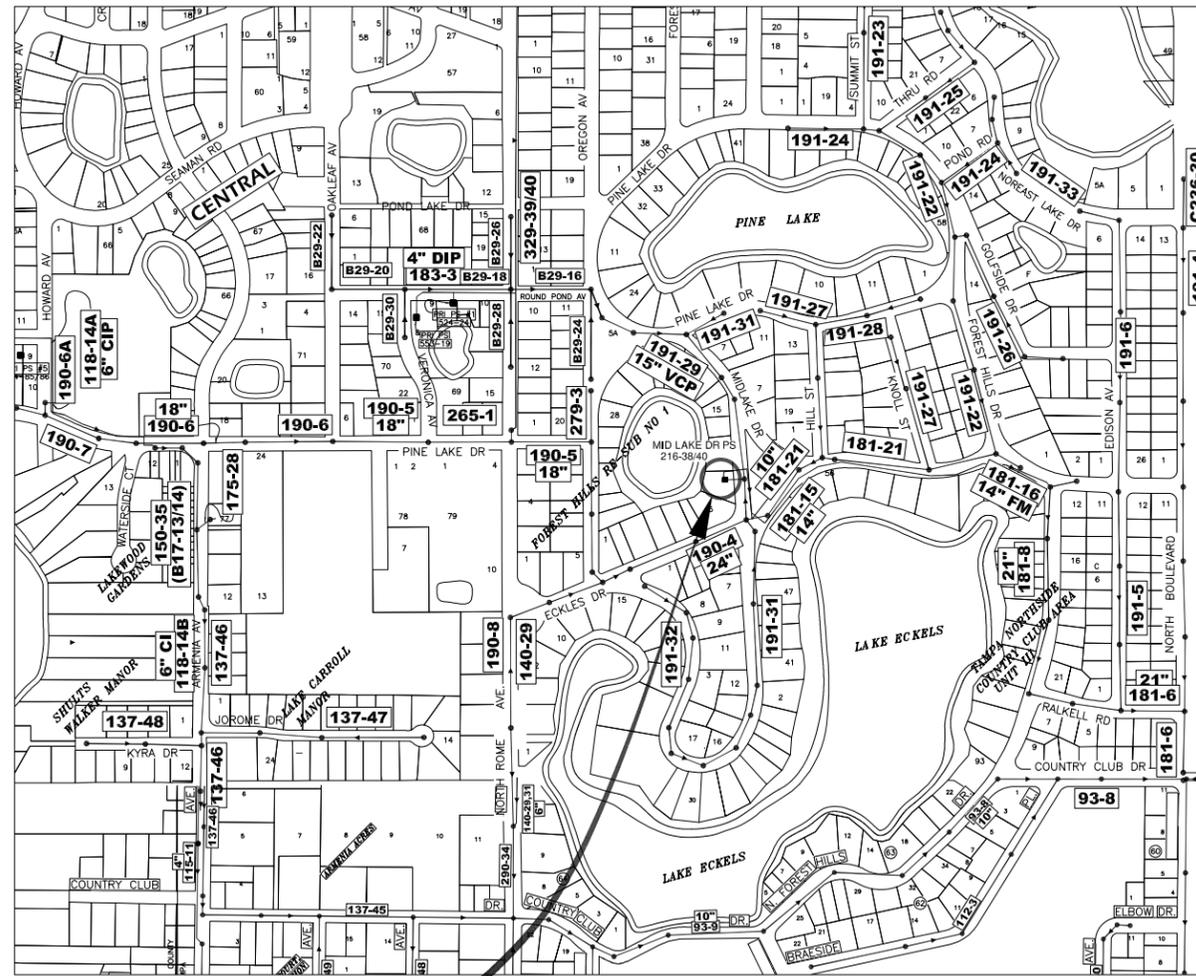
**ABBREVIATIONS**

AIR RELEASE VALVE	ARV	MAINTENANCE OF TRAFFIC	MOT
APPROXIMATE LOCATION	AL	MANHOLE	MH or M
BENCH MARK	BM	PLUG VALVE	PI
BURIED TELEPHONE	BT	POINT of INTERSECTION	PVC
CONCRETE PIPE	CP	POLYVINYL CHLORIDE PIPE	RCP
DIAMETER RATIO	DR	RESTRAINED MECHANICAL JOINT	RMJ
DUCTILE IRON PIPE	DIP	RIGHT of WAY	R/W
EDGE of PAVEMENT	EOP	TOP of PIPE	TOP
FIBER OPTIC CABLE	FOC	VERIFIED VERT. AND HORZ. LOCATION	Vvh
FLORIDA DEPT. OF TRANSPORTATION	FDOT	VITRIFIED CLAY PIPE	VCP
FORCE MAIN	FM	WASTEWATER	WW
HIGH DENSITY POLYETHYLENE PIPE	HDPE		
EL INVERT ELEVATION	IE or INV		



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12104 MIDLAKE DR.  
PUMP STATION

**LOCATION MAP**  
N.T.S.

User: ss13 Drawing Name: K:\Wastewater\Projects\Midlake Pump Station Rehabilitation\Design\Plans\Drafting\DMC\Midlake PS Site Plan.dwg Layout - Jul 18, 2018 - 4:38pm

JACINTO CARLOS FERRAS, P.E., #49454  
DESIGN DIVISION HEAD  
WASTEWATER DEPARTMENT

No.	DATE	REVISIONS
3		
2		
1		

DES: MS  
DRN: JHJ  
CKD:  
DATE: 7/18/18

**CITY of TAMPA**  
WASTEWATER DEPARTMENT

MIDLAKE PUMP STATION REHABILITATION  
LEGEND, INDEX, & LOCATION MAP

W.O. 0000  
SHEET  
**2**

User: ss13 Drawing Name: K:\Wastewater Projects\Midlake Pump Station Rehabilitation\Design\Plans\Drafting\DMC\Midlake PS Rehabilitation.dwg Layout - Jun 06, 2018 - 2:07pm

DEMOLITION NOTES

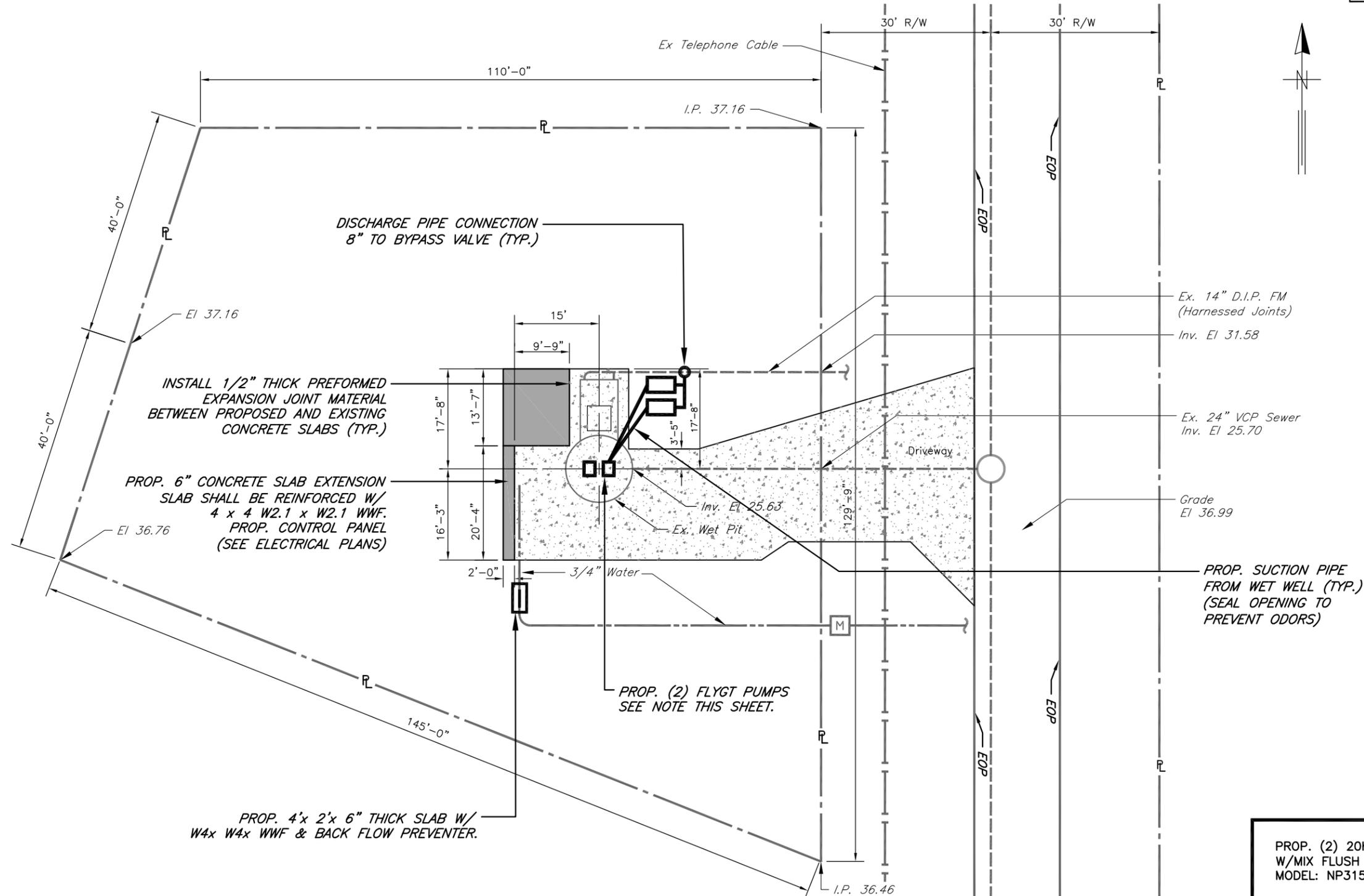
1. SALVAGEABLE MATERIAL, AS DETERMINED BY DEPARTMENT PERSONNEL, SHALL BE DELIVERED TO THE PARTS WAREHOUSE LOCATED ON THE TREATMENT PLANT SITE. NON-SALVAGEABLE MATERIALS ARE TO BE REMOVED FROM THE SITE AND PROPERLY DISPOSED OF AT THE CONTRACTOR'S EXPENSE.
2. THE CONSTRUCTION SITE SHALL BE MAINTAINED IN AS NEAT AND ORDERLY CONDITION AS POSSIBLE DURING CONSTRUCTION OPERATIONS. SITE SHALL BE SECURED WITH TEMPORARY FENCING AND STRUCTURES DURING HOURS WHEN CONTRACTOR IS NOT PRESENT TO ENSURE SAFETY OF CITY EMPLOYEES AND THE PUBLIC.
3. CONTRACTOR SHALL RESTORE ALL LANDSCAPING, SODDING, SPRINKLER SYSTEM PIPING AND PAVEMENT THAT MAY HAVE BEEN DAMAGED DURING CONSTRUCTION TO ITS ORIGINAL CONDITION OR BETTER. CONTRACTOR SHALL SOD ALL UNPAVED AREAS.

GENERAL NOTES

1. CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION ACTIVITIES WITH THE WASTEWATER INSPECTOR, WASTEWATER PERSONNEL AND PUMPING STATION OPERATIONS. AFTER ISSUANCE OF THE NOTICE TO PROCEED (NTP).
2. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY RIGHT-OF-WAY PERMITS FOR THE PUMPING STATION WORK.
3. CONTRACTOR SHALL CALL SUNSHINE (1-800-432-4770) AT LEAST 48 HOURS PRIOR TO ANY CONSTRUCTION ACTIVITY.
4. NORMAL WORKING HOURS SHALL BE WEEKDAYS FROM 7:30 AM TO 4:00 PM UNLESS OTHERWISE APPROVED BY THE ENGINEER.
5. AFTER WET WELL IS DEWATERED, THE CONTRACTOR SHALL CLEAN WET WELL OF ALL DEBRIS. DEBRIS MAY BE DELIVERED AND DISPOSED OF AT THE CITY OF TAMPA HOWARD F. CURREN AWTP, 2700 MARITIME BOULEVARD.
6. IT IS THE ENGINEER'S INTENT THAT CONTINUOUS SERVICE WILL BE MAINTAINED THROUGHOUT THE PROJECT. BYPASS PUMPS SHALL BE SIZED TO MATCH FLOWRATE AND TDH OF PROPOSED PUMPING EQUIPMENT. PRESSURE LOSSES FROM THE TEMPORARY PIPING AND VALVES SHOULD BE INCLUDED.
7. DIMENSIONS SHOWN ARE NOT NECESSARILY ACCURATE TO THE DEGREE REQUIRED FOR FABRICATION. EXISTING DIMENSIONS AND VIEWS ARE SHOWN BASED ON THE BEST INFORMATION AVAILABLE. CONTRACTOR SHALL FIELD VERIFY ALL PERTINENT DIMENSIONS AND REFLECT THEM ON DETAILED SHOP DRAWINGS FOR APPROVAL BEFORE ANY FABRICATION.
8. TWO NEW PUMPS SHALL BE SUPPLIED FOR THIS PROJECT. PROPOSED PUMPS ARE FLYGT PUMPS, 8-INCH MODEL NP-3153.660, 20HP PUMPS SHALL BE RATED FOR 1810 GPM AT 29.3 FT TDH. PUMP BASES AND GUIDE RAILS FOR THESE NEW PUMPS WERE INSTALLED IN A PREVIOUS PROJECT. THIS EQUIPMENT IS A STANDARDIZED ITEM AT THIS FACILITY AND NO "OR EQUAL" SUBMITTALS WILL BE CONSIDERED.

JACINTO CARLOS FERRAS, P.E., #49454 DESIGN DIVISION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: MS	CITY of TAMPA WASTEWATER DEPARTMENT	MIDLAKE PUMP STATION REHABILITATION GENERAL NOTES	W.O. 0000
	3			DRN: JHJ			SHEET
	2			CKD:			3
	1			DATE: 6/5/18			

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 Layout: Jun 06, 2018 - 1:44pm



PROP. (2) 20hp FLYGT PUMPS  
 W/MIX FLUSH VALVES  
 MODEL: NP3153.660

PROPOSED SITE PLAN / PROPOSED BYPASS PLAN

SCALE: 1" = 20'

JACINTO CARLOS FERRAS, P.E., #49454  
 DESIGN DIVISION HEAD  
 WASTEWATER DEPARTMENT

No.	DATE	REVISIONS
3		
2		
1		

DES: LRG  
 DRN: JHJ  
 CKD:  
 DATE: 6/5/18

CITY of TAMPA  
 WASTEWATER DEPARTMENT

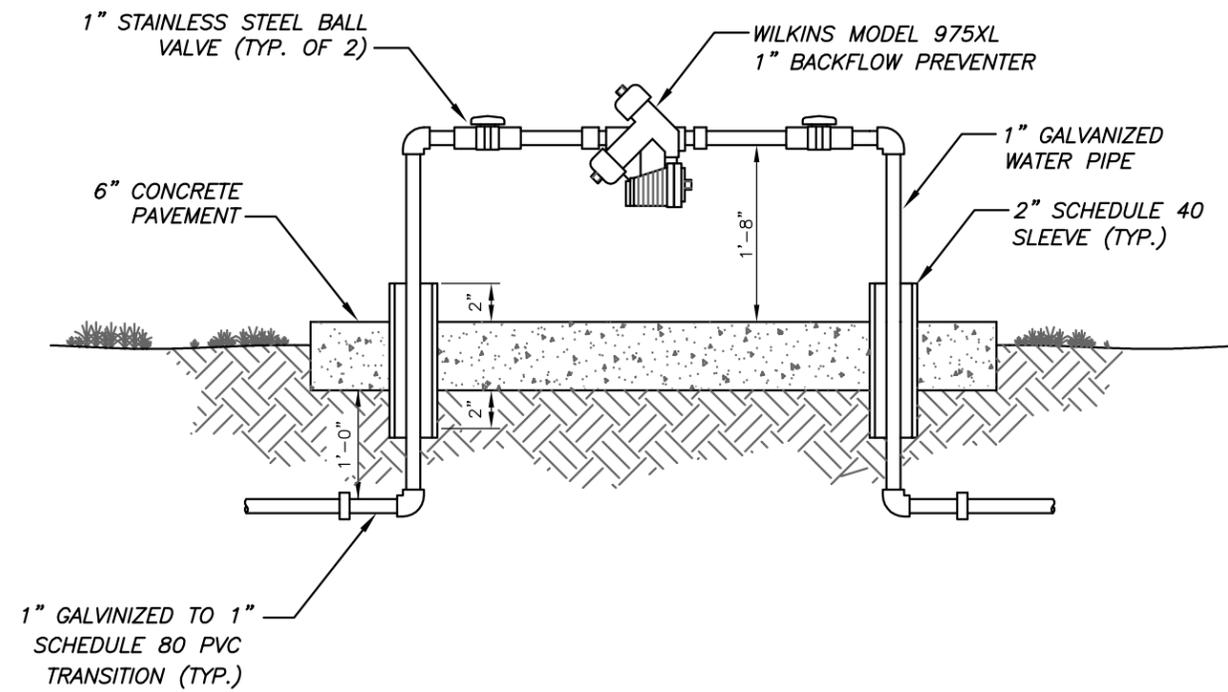
MIDLAKE PUMPING REHABILITATION  
 PROPOSED SITE PLAN / PROPOSED BYPASS PLAN

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SHEET

4

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**BACKFLOW PREVENTER DETAIL**

N.T.S.

JACINTO CARLOS FERRAS, P.E., #49454  
 DESIGN DIVISION HEAD  
 WASTEWATER DEPARTMENT

No.	DATE	REVISIONS
3		
2		
1		

DES: MS  
 DRN: JHJ  
 CKD: JF  
 DATE: 6/5/18

**CITY of TAMPA**  
 WASTEWATER DEPARTMENT

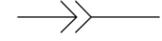
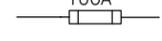
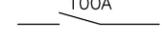
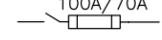
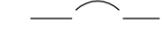
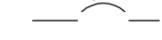
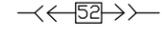
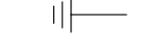
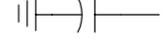
MIDLAKE PUMP STATION REHABILITATION  
 DETAIL

W.O. 0000

SHEET

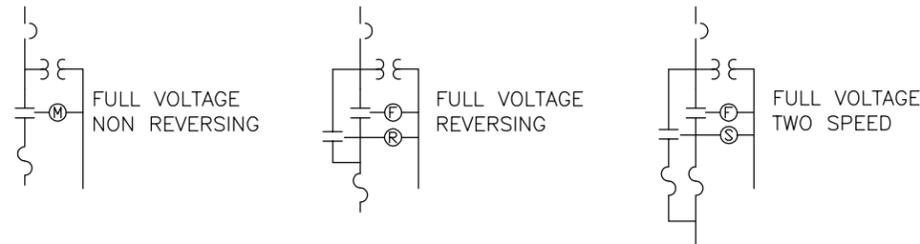
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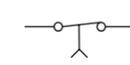
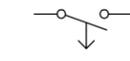
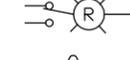
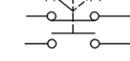
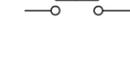
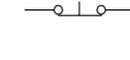
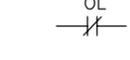
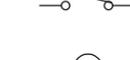
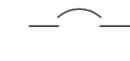
## ONE LINE DIAGRAM SYMBOLS

-  600 A BUS-RATING AS SHOWN
-  INCOMING LINE
-  OUTCOMING LINE
-  DISCONNECTING DEVICE
-  CONDUCTORS CONNECTED
-  CONDUCTORS NOT CONNECTED
-  100A FUSE-RATING AS SHOWN
-  100A SINGLE THROW DISCONNECT SWITCH-RATING AS SHOWN
-  100A/70A FUSED DISCONNECT SWITCH-100A SWITCH, 70A FUSE
-  100A LOW VOLTAGE AIR CIRCUIT BREAKER WITHOUT TRIP DEVICE 100A FRAME
-  225A/125A LOW VOLTAGE AIR CIRCUIT BREAKER WITH 225A FRAME AND 125A TRIP
-  <<52>> MEDIUM VOLTAGE DRAWOUT TYPE AIR CIRCUIT BREAKER
-  GROUND CONNECTION
-  LIGHTNING OR SURGE ARRESTOR
-  SURGE CAPACITOR
-  POWER TRANSFORMER WITH WINDING CONNECTIONS INDICATED
-  CPT CONTROL POWER TRANSFORMER
-  PT POTENTIAL TRANSFORMER
-  CT CURRENT TRANSFORMER

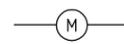
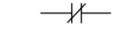
-  THERMAL OVERLOAD ELEMENT (OL)
-  (S) SQUIRREL CAGE MOTOR (INDICATE HORSEPOWER)
-  (G) GENERATOR
-  (R) INDICATING LIGHT (R-RED, G-GREEN, A-AMBER, B-BLUE, W-WHITE)

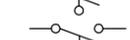
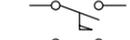
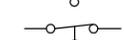
### COMBINATION STARTER WITH CONTROL TRANSFORMERS AND OVERLOAD RELAYS AND MOTOR CIRCUIT PROTECTOR



-  NORMALLY CLOSED CONTACT WITH TIME DELAY OPENING (ON-DELAY)
-  INSTANT CLOSE- TIME DELAY OPEN CONTACT (OFF DELAY)
-  INDICATING LIGHT- PUSH TO TEST (R-RED, G-GREEN, A-AMBER, B-BLUE, W-WHITE)
-  3-POSITION SELECTOR SWITCH (SHOWN IN "H" POS.)
-  NORMALLY OPEN PUSHBUTTON-MOMENTARY CONTACT
-  NORMALLY CLOSED PUSHBUTTON-MOMENTARY CONTACT
-  DOUBLE CIRCUIT PUSHBUTTON WITH SPRING RETURN TO NORMAL
-  TRANSFORMER
-  OL OVERLOAD RELAY CONTACT
-  THERMAL OVERLOAD ELEMENT (OL)
-  ON-OFF SWITCH
-  (G) GROUND BUS
-  (N) NEUTRAL BUS (INSULATED)
-  SINGLE-POLE CIRCUIT BREAKER

## SCHEMATIC AND WIRING DIAGRAM SYMBOLS

-  (M) OPERATING COIL     M- MOTOR STARTER     AR- AUXILIARY RELAY
-  C- CONTACTOR     CR- CONTROL RELAY
-  F- FORWARD     TR- TIME DELAY RELAY
-  R- REVERSE
- 

- |   |   |   |
|---|---|---|
| NORMALLY OPEN N.O.<br><br><br> | NORMALLY CLOSED N.C.<br><br><br> | LIMIT SWITCH<br>FLOAT SWITCH<br>PRESSURE SWITCH<br>FLOW SWITCH<br>TEMPERATURE |
|---|---|---|

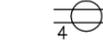
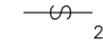
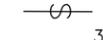
**NOTE:**  
THE SYMBOLS SHOWN COMPRISE A GENERAL LEGEND TO FACILITATE THE USE OF PLANS. REFER TO THE PLANS AND SPECIFICATIONS FOR ITEMS REQUIRED.

User: ss13 Drawing Name: K:\Wastewater Projects\Midlake Pump Station Rehabilitation\Design\Plans\Drafting\DWG\MIDLAKE ELECTRICAL DRAFTING 1.dwg Layout: Apr 13, 2018 - 2:41pm

ROMAN D. KORCHAK, P.E. #42626 ELECTRICAL SECTION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: LRG	<b>CITY of TAMPA</b> WASTEWATER DEPARTMENT	MIDLAKE PS REHABILITATION ELECTRICAL SYMBOLS LEGEND (SHT. 1 OF 2)	W.O. 0000	
	3			DRN: JHJ				
	2			CKD:				
	1			DATE: 4/13/18				
							SHEET	<b>EGI</b>

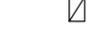
## POWER AND LIGHTING SYMBOLS

-  EXPOSED CONDUIT RUN
-  CONDUIT RUN CONCEALED IN FLOOR OR UNDERGROUND
-  CONDUIT RUN CONCEALED IN WALLS, ABOVE SUSPENDED CEILING, OR IN ROOF SLAB
-  CONDUIT WITH HOT, NEUTRAL AND GROUND WIRES (LONG LINE IS NEUTRAL; LONG LINE WITH DOTS DENOTE GROUND)
-  HOMERUN TO LIGHTING PANELBOARD (PNL-1 INDICATES PANELBOARD AND 1, 3, 5 INDICATES 20A-1P CKTS. 1, 3 AND 5)
-  FLEXIBLE LIQUIDTIGHT CONDUIT
-  CONDUIT-UP (OR TOWARDS VIEWER)
-  CONDUIT-DOWN (OR AWAY FROM VIEWER)
-  GROUNDING CONDUCTOR
-  GROUND ROD
-  LIGHTNING ROD
-  CEILING MOUNTED INCANDESCENT OR MERCURY VAPOR FIXTURE. "A" INDICATES FIXTURE TYPE LISTED IN SCHEDULE
-  WALL MOUNTED LIGHTING FIXTURE
-  EXIT SIGN
-  EMERGENCY INCANDESCENT OR MERCURY VAPOR LIGHTING FIXTURE
-  FLUORESCENT FIXTURE
-  EMERGENCY FLUORESCENT FIXTURE

-  POLE MOUNTED LIGHTING FIXTURE
-  DUPLEX RECEPTACLE- 20 A, 120 V, 3 WIRE (TO PNL- CIRCUIT No.4)
-  SINGLE RECEPTACLE - 2 POLE, 3 WIRE, 240V, RATING NOTED
-  3 POLE, 4 WIRE, 240V WELDING OUTLET (60 A)
-  SINGLE POLE SWITCH
-  TWO POLE SWITCH
-  THREE WAY SWITCH

-  OUTLET BOX WITH BLANK COVER
-  JUNCTION BOX
-  PULL BOX
-  TERMINAL BOX

### GENERAL SYMBOLS

-  START-STOP PUSHBUTTON
-  ON-OFF MAINTAINED CONTACT PUSHBUTTON WITH LOCK ATTACHMENT
-  INDICATING LIGHT AND START-STOP PUSHBUTTON WITH LOCK ATTACHMENT ON STOP
-  PUSH/PULL BUTTON WITH STOP LOCK. (PULL TO RESUME- PUSH TO STOP)
-  SELECTOR SWITCH ("HOA" INDICATES HAND, OFF, AND AUTO; "MOR" INDICATES MANUAL, OFF, AND REMOTE; ETC)
-  ON-OFF SWITCH WITH LOCK ATTACHMENT ON OFF POSITION

-  FLOW SWITCH
-  LIMIT SWITCH
-  PRESSURE SWITCH
-  SOLENOID OPERATED VALVE
-  TEMPERATURE SWITCH
-  FLOAT SWITCH
-  LEVEL TRANSMITTER (PRESSURE ANALOG TYPE)
-  LEVEL TRANSMITTER (FLOAT TYPE)
-  TEMPERATURE TRANSMITTER
-  FLOW TRANSMITTER
- MH DESIGNATES MOUNTING HEIGHT
- WP DESIGNATES WATERPROOF EQUIPMENT
- XP DESIGNATES EXPLOSIONPROOF EQUIPMENT
- MOV DESIGNATES MOTOR OPERATED VALVE
- EX. DESIGNATES EXISTING EQUIPMENT
- PROP. DESIGNATES PROPOSED EQUIPMENT

**NOTE:**

THE SYMBOLS SHOWN COMPRISE A GENERAL LEGEND TO FACILITATE THE USE OF PLANS. REFER TO THE PLANS AND SPECIFICATIONS FOR ITEMS REQUIRED.

User: ss13 Drawing Name: K:\Wastewater Projects\Midlake Pump Station Rehabilitation\Design\Plans\Drafting\DWG\MIDLAKE ELECTRICAL DRAFTING 1.dwg Layout: Apr 13, 2018 - 2:41pm

ROMAN D. KORCHAK, P.E. #42626 ELECTRICAL SECTION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: LRG DRN: JHJ CKD: DATE: 4/13/18	<b>CITY of TAMPA</b> WASTEWATER DEPARTMENT	MIDLAKE. PS REHABILITATION ELECTRICAL SYMBOL LEGEND (SHT. 2 OF 2)	W.O. 0000 SHEET <b>EG2</b>
	3						
	2						
	1						

**GENERAL NOTES**

1. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR APPROVAL PRIOR TO PURCHASING EQUIPMENT OR COMMENCING CONSTRUCTION.
2. ALL POWER CONDUCTORS SHALL BE STRANDED COPPER, #12 AWG MIN. W/XHHW-2 INSULATION, UNLESS OTHERWISE NOTED.
3. ALL WIRING SHALL BE IDENTIFIED W/NUMBERS AT ALL TERMINALS AND ON WIRING DIAGRAMS.
4. VERIFY ALL MECHANICAL EQUIPMENT SIZES AND RATING PRIOR TO CONNECTING.
5. FIELD VERIFY ALL EQUIPMENT LOCATIONS AND CONNECTIONS PRIOR TO COMMENCING CONSTRUCTION.
6. PLANS ARE DESIGNED IN ACCORDANCE WITH THE 6TH EDITION 2017 OF THE FLORIDA BUILDING CODE AND THE 2014 EDITION OF THE NATIONAL ELECTRICAL CODE. CONTRACTOR SHALL ENSURE THAT ALL ELECTRICAL WORK PERFORMED SHALL ADHERE TO THE SAME ACCORDANCE AND ALL APPLICABLE LOCAL ORDINANCES.
7. ALL THREADED CONNECTIONS SHALL BE COATED W/ ALUMA-SHIELD ANTI-SIEZE COMPOUND MANUFACTURED BY THOMAS & BETTS (T & B) OR EQUAL.
8. ALL PANELS, DISCONNECTS, SWITCHES, AND EQUIPMENT COVERPLATES SHALL BE LABELED W/ NAMEPLATES. NAMEPLATES SHALL BE THREE-PLY PHENOLIC BLACK-WHITE-BLACK ENGRAVED THROUGH THE FIRST BLACK LAYER. LETTERING SHALL BE 0.5 CM (3/16") MIN. EDGE OF NAMEPLATE SHALL BE BEVELED 45 DEG.
9. ALL CONDUIT SHALL BE SUPPORTED AT MAXIMUM 5'-0" INTERVALS.
10. ALL CIRCUITS SHALL HAVE A PROPERLY SIZED GROUNDING CONDUCTOR ROUTED INSIDE EACH CONDUIT W/ POWER CONDUCTORS.
11. ALL CONDUCTOR LENGTHS SHALL BE CONTINUOUS, NO SPLICES OR CONDUCTOR TERMINATIONS SHALL BE PERMITTED UNLESS SPECIFICALLY DESIGNED IN THE DRAWINGS.
12. NEATLY COIL ALL SPARE CONDUCTORS & TAPE W/ VINYL ELECTRICAL TAPE (SCOTCH 33+).
13. PROVIDE A MINIMUM OF 3'-6" CLEARANCE IN FRONT OF ALL ELECTRICAL EQUIPMENT IN ACCORDANCE W/ ARTICLE 110 OF THE NEC.
14. ALL FASTENING HARDWARE (SCREW, BOLTS NUTS ETC.) SHALL BE 316-STAINLESS STEEL, FASTENING HARDWARE CONSTRUCTED OF FERROUS MATERIAL ARE NOT ACCEPTABLE.
15. EXPOSED CONDUITS SHALL BE NON-COATED RIGID ALUMINUM CONDUIT, UNLESS OTHERWISE NOTED (UON). INSTALL PVC COATED RIGID ALUMINUM CONDUIT TO THE WET WELL, UNLESS OTHERWISE NOTED (UON).
16. DIRECT BURIED AND CONCRETE ENCASED CONDUIT SHALL BE SCHEDULE 80 PVC, UNLESS OTHERWISE NOTED. TRANSITIONS FROM ABOVE-GRADE RIGID ALUMINUM CONDUIT TO NONMETALLIC CONDUIT SHALL BE ACCOMPLISHED WITH A THREADED ADAPTER. RIGID ALUMINUM CONDUIT INSTALLED ABOVE GRADE AND EXTENDING BELOW GRADE SHALL INCLUDE THE FIRST 90° ELBOW. ALL RIGID ALUMINUM CONDUITS EXTENDING BELOW GRADE SHALL BE COATED WITH TWO COATS OF ASPHALTUM-TYPE PAINT ALONG ITS ENTIRE LENGTH BELOW GRADE AND EXTENDING 6" ABOVE GRADE OR ABOVE THE TOP OF THE FINISHED SLAB.
17. ABOVE GRADE INDOOR, AND NON-WASHDOWN AREAS, RIGID ALUMINUM CONDUIT CONNECTIONS TO CONTROL BOXES, ETC. SHALL BE MADE WITH ALUMINUM DOUBLE LOCKNUTS AND BUSHINGS. TURN DOWN ON THREADS TO SOLIDLY CONNECT RACEWAY TO BOX OR ENCLOSURE.
18. ALUMINUM WATERTIGHT HUBS (MYERS HUBS) SHALL BE USED FOR CONNECTIONS TO CONTROL BOXES, ETC. MOUNTED OUTDOORS, BELOW GRADE, OR WASHDOWN AREAS.
19. A 316-STAINLESS STEEL CHANNEL ERECTOR SYSTEM SHALL BE USED TO SUPPORT ALL CONDUITS, BOXES ETC. USE 316 STAINLESS STEEL MOUNTING HARDWARE.
20. THE CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND MAKE ADJUSTMENTS AS NECESSARY TO EXECUTE THE PROPOSED INSTALLATIONS.
21. ALL EXISTING INSTALLATIONS DENOTED ON THE DRAWINGS ARE FOR THE CONTRACTORS REFERENCE ONLY. ALL EXISTING INSTALLATIONS SHALL BE FIELD VERIFIED PRIOR TO SUBMITTING A BID AND PRIOR TO COMMENCING CONSTRUCTION.
22. PULL BOXES SHALL BE INSTALLED AS NECESSARY TO FACILITATE WIRE PULLS AND AVOID EXCESSIVE PULLING TENSION ON WIRING. IN NO CASE SHALL CONDUIT LENGTHS EXCEED 150' OR THE EQUIVALENT OF FOUR QUARTER BENDS (360 DEGREES TOTAL) WITHOUT A PULL BOX. PULL BOXES SHALL BE SIZED IN ACCORDANCE WITH ARTICLE 314 OF THE NEC.
23. THE WET WELL CLASSIFICATION IS CLASS 1, DIVISION 1, GROUP D, (HAZARDOUS AREA) NEC CHAPTER 5 IS APPLICABLE FOR INTERFACING WET WELL AND THE CONTROL ENCLOSURE.
24. ALL ELECTRICAL WORK SHALL BE PERFORMED WITHIN 2014 NEC AND CITY OF TAMPA/HILLSBOROUGH COUNTY CODES AND SHALL BE INSPECTED BY CITY OF TAMPA/HILLSBOROUGH COUNTY ELECTRICAL INSPECTORS AS APPLICABLE.
25. ALL ELECTRICAL COMPONENTS SHALL BE UL LISTED AND AS SPECIFIED, OR AS APPROVED BY THE ENGINEER. THE PANEL BUILDER SHALL BE UL-508A CERTIFIED AND A UL LABEL SHALL BE ATTACHED TO THE INSIDE OF THE ENCLOSURE. THE DOUBLE THROW DISCONNECT MUST BE LABELED "SUITABLE FOR USE AS SERVICE EQUIPMENT."
26. THE ENCLOSURES SHALL BE NEMA 4X, THEY SHALL BE CONSTRUCTED OF MINIMUM 14 GAUGE 304SS, THEY SHALL HAVE RAL 9003 WHITE POWDER COAT AND THE CLOSING SURFACES SHALL HAVE ROLLED LIPS, PROVIDE HINGED DOORS WITH 3-POINT LATCHED AND LOCKABLE HANDLES.
27. ALL COMPONENTS TO BE MOUNTED ON PANEL USING TAPPED HOLES.
28. ALL CONTROL WIRING SHALL BE STRANDED XHHW-2 COPPER, MINIMUM AWG #14 AND SHALL HAVE SPADE LUG TERMINATIONS.
29. ALARM FLOAT SWITCH WILL BE SUPPLIED BY THE CITY, BUT INSTALLED BY CONTRACTOR.
30. DIMENSIONS, ITEMS, OR ELEVATIONS MARKED "\*" TO BE DETERMINED AFTER EQUIPMENT SELECTION.
31. ALL MECHANICAL CONNECTORS SHALL BE TORQUED PER NEC, UL OR MANUFACTURES SPECIFICATIONS.
32. INSTALL LAMINATED SCHEMATIC, LAMINATED DATA SHEET AND LAMINATED SOFT STARTER SETUP PARAMETERS ON BACK FACE OF THE DOOR INSIDE THE ENCLOSURE.
33. ENSURE THAT LINE CONNECTIONS TO METER SOCKET PROVIDE CORRECT MOTOR ROTATION.
34. CONDUCTORS WITHIN THE ENCLOSURE AND NOT ROUTED IN WIREWAYS, SHALL BE SECURED TO THE BACK PANEL WITH MECHANICAL FASTENERS, FASTENERS SECURED WITH ADHESIVE ARE NOT ACCEPTABLE.
35. ALL HINGED SURFACES SHALL BE GROUNDED WITH A BONDING JUMPER SECURED TO THE ENCLOSURE OR BACKPANEL.
36. THE PCSR SHALL BE MOTOROLA ACE 3600 PACKAGE AS DISTRIBUTED BY DCR ENGINEERING SERVICES INC., STAR CONTROLS OR REVERE CONTROL SYSTEMS. THE PUMPING STATION CONTRACTOR SHALL COORDINATE HIS EFFORTS WITH DCR, STAR CONTROLS, OR REVERE CONTROL SYSTEMS TO ENSURE SYSTEM COMPATIBILITY. THE CONTRACTOR SHALL PROVIDE AND INSTALL A COMPLETE DUPLEX CONTROL SYSTEM/SCADA PACKAGE, AS PROGRAMMED BY DCR, STAR CONTROLS OR REVERE CONTROLS - THE EXISTING PUMPING STATION DCR CONTROLS SHALL REVERT TO THE CITY AS A SPARE.
37. THE CONTRACTOR SHALL SCHEDULE A PUMP STATION SCADA TESTING DATE, PUMP STATION PRE-STARTUP DATE, AND PUMP STATION STARTUP DATE. THE CITY SHALL BE GIVEN 14 DAYS' NOTICE OF THE SCHEDULED SCADA TESTING DATE. ON THE SCADA TESTING DATE, THE SCADA PROGRAMMER SHALL PROVIDE TEMPORARY POWER TO THE CONTROL PANEL PLC, PLACE THE NEW PLC ON LINE WITH THE CITY'S VT SCADA SYSTEM, AND PERFORM ANY NEEDED TROUBLESHOOTING OR DEBUGGING. THE CITY SHALL PROVIDE REQUIRED ADDRESSING FOR TESTING. AFTER THE SCADA PROGRAMMER DETERMINES THAT THE NEW PLC AND THE VT SCADA ARE PROPERLY COMMUNICATING WITHOUT ISSUE, THE CONTRACTOR SHALL SCHEDULE AN ONSITE PLC WITNESS TEST BETWEEN THE CITY OR CITY REPRESENTATIVE, SCADA PROGRAMMER, AND ANY OTHER REQUIRED PARTIES. DURING THE PLC WITNESS TEST, THE SCADA PROGRAMMER MUST DEMONSTRATE THAT THE NEW PLC IS ONLINE, COMMUNICATING WITH VT SCADA, AND ALL LEVEL AND STATUS INDICATIONS ARE FREE FROM ERROR. ONCE THE CITY HAS WITNESSED AND APPROVED SCADA TESTING, THE CONTRACTOR SHALL SCHEDULE A PRE-STARTUP AND START UP DATE. THE CITY RESERVES THE RIGHT TO CANCEL THE PRE-STARTUP DATE, IF IT DEEMS THE PRE-STARTUP DATE IS NOT NECESSARY.
38. THE CONTROL PANELS SHALL BE FACTORY TESTED. THE CONTRACTOR SHALL PROVIDE A CERTIFIED TESTING REPORT DETAILING ALL I/O POINTS, CONNECTION AND EQUIPMENT ARE IN WORKING ORDER. A COPY OF THE REPORT SHALL BE PROVIDED TO THE CITY PRIOR TO DELIVERY AND A COPY SHALL BE INCLUDED WITH THE CONTROL PANELS AT THE TIME OF THE DELIVERY.
39. A WET WELL LEVEL DETECTION SYSTEM SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR. THE OUTPUT SHALL BE A LINEAR 4-20mA SIGNAL WITH RANGE AND CALIBRATION SUITABLE FOR THIS APPLICATION. THE SYSTEM SHALL BE OF THE ULTRASONIC TYPE-PULSAR, INC. MODEL dB10 W/ BLACKBOX 130 TRANSMITTER. CITY INSTRUMENTATION PERSONNEL WILL ASSIST THE CONTRACTOR WITH SPECIFYING THE TRANSDUCER MOUNTING LOCATION AND CALIBRATION. THE dB10 TRANSDUCER SHALL BE MOUNTED USING A 2 1/2" x 1/4" S.S. BRACKET, SEE dB10 MOUNTING BRACKET DETAIL, SHEET E18.
40. PROVIDE LEXAN SHIELDS OVER POWER DISTRIBUTION BLOCK EXPOSED CABLE TERMINATIONS.
41. XHHW-2 CONDUCTORS (3-#1/0 AWG + #4 NEU AWG GND. CU FOR EACH MOTOR) SHALL EXTEND FROM THE JUNCTION BOX. PROVIDE SEAL-OFF BETWEEN MOTOR CONTROL CABINET TO PUMP MOTOR CONNECTION AND JUNCTION BOX AS INDICATED. THE SHOWN SEAL-OFFS SHALL BE ALUMINUM BODY, CROUSE-HINDS, OR EQUIVALENT.
42. ALUMINUM CONDUIT SURFACES THAT ARE IN CONTACT WITH SOIL OR CONCRETE SHALL BE COATED WITH TWO COATS ASPHALT VARNISH (FED. SPEC. TT-V-51) EXTENDING 4" BEYOND FINAL CONTACT POINT.
43. STAINLESS STEEL HANGERS TO SUPPORT THE EXCESS LENGTH OF MOTOR CABLES SHALL BE INSTALLED IN THE WET WELL. THESE HANGERS SHALL BE LOCATED IN A SEPARATE AREA FROM THE HANGERS SUPPORTING THE PUMP CHAINS.

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ROMAN D. KORCHAK, P.E. #42626 ELECTRICAL SECTION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: LRG	<b>CITY of TAMPA</b> WASTEWATER DEPARTMENT	MIDLAKE PS REHABILITATION GENERAL NOTES	W.O. 0000
	3			DRN: JHJ			SHEET
	2			CKD:			EG3
	1			DATE: 7/13/18			

**ELECTRICAL SERVICE LOAD SUMMARY**

480 VAC, 3Ø, 4W

LOAD	CONNECTED	DEMAND	APPROX. PHASE CURRENTS		
			L1	L2	L3
PROP. PUMP #1	21.6 KVA	21.6 KVA	26.0 A	26.0 A	26.0 A
PROP. PUMP #2	21.6 KVA	21.6 KVA	26.0 A	26.0 A	26.0 A
SINGLE PHASE LOADS	2.0 KVA	2.0 KVA	4.2 A	0 A	4.2 A
CARBON FILTER	0.7 KVA	0.7 KVA	.85 A	.85 A	.85 A
TOTAL	45.9 KVA	45.9 KVA	57.05 A	52.85 A	57.05 A

**PUMP MOTOR DATA**

MAKE: FLYGT

MODEL: NP3 153.660 WITH  
MIX FLUSH VALVE

H.P.: 20

480V, 3-PHASE, 26 FLA

TOTAL PUMP LOAD: 52 AMPS, 43.2 KVA

**SHORT CIRCUIT CALCULATIONS**

AVAILABLE SHORT-CIRCUIT CURRENT AT 480V UTILITY SERVICE IS 13,532 AMPERES. AS PER (TECO REPRESENTATIVE);

TECO CONTACT: BROCK BLACKMORE (813) 228-1008

UTILITY SERVICE: 480/277, 3 PH, TRANSFORMER AVAILABLE  
FAULT CURRENT AT SECONDARY SIDE OF  
TECO'S TRANSFORMER: 13,532 AMP RMS SYM.  
SERVICE CONDUCTOR LENGTH: 85 FEET  
SERVICE CONDUCTOR SIZE: #1/0 THWN CU.  
FUSE RATING: 150 AMPS  
ISCA AT LINE SIDE OF FTDS:

$$ISCA = \left[ 1 + \frac{1}{\frac{(1.73)(85)(13,532)}{(9317)(480)}} \right] * 13,532 = 9362$$

SHORT CIRCUIT CURRENT AVAILABLE AT MAIN LUGS OF MCP=4227 AMPS RMS, SYMMETRICAL

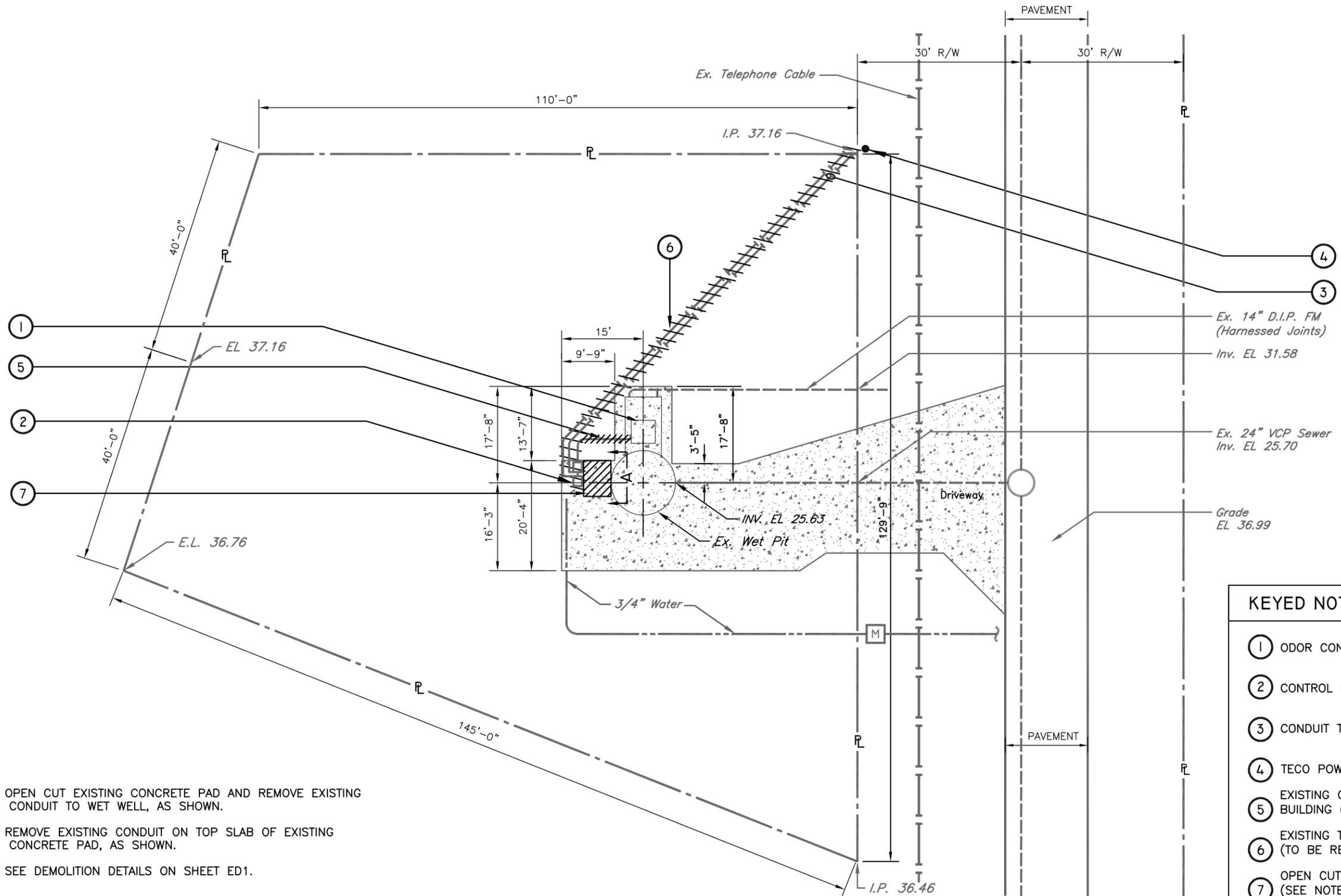
SCOPE OF WORK:

1. THE SERVICE VOLTAGE TO THIS FACILITY SHALL REMAIN 277/480 VAC., 3-PHASE, 4-WIRE, WYE.
2. REMOVE THE EXISTING METER SOCKET, LIGHTNING ARRESTOR, CONTROL PANEL, CONCRETE PEDESTAL, AND ALL ASSOCIATED CONDUIT AND CONDUCTORS, AS SHOWN ON PLANS.
3. CAREFULLY REMOVE THE EXISTING DCR SCADA RTU CABINET MOUNTED ON THE EXISTING SCADA ANTENNA. DELIVER THIS RTU PACKAGE TO THE CITY FOR MAINTENANCE INVENTORY.
4. CAREFULLY REMOVE THE EXISTING MIXER MOTOR CABINET MOUNTED ON THE CONTROL PANEL. DELIVER THIS MIXER PACKAGE TO THE CITY FOR MAINTENANCE INVENTORY.
5. ANY SALVAGEABLE MATERIALS, AS DETERMINED BY THE ENGINEER, SHALL BE DELIVERED, BY THE CONTRACTOR, TO THE HOWARD F. CURREN AWTP. THE CONTRACTOR SHALL PROPERLY DISPOSE OF ALL OTHER REMOVED EQUIPMENT.
6. PROVIDE AND INSTALL A NEW ELECTRICAL METER SOCKET, LIGHTNING ARRESTOR AND GROUNDING, AS SHOWN ON PLANS.
7. PREPARE THE SITE FOR THE INSTALLATION OF THE PROPOSED CONTROL EQUIPMENT.
8. PROVIDE AND INSTALL A NEW DUPLEX PUMP CONTROL PANEL. THE PUMP CONTROL PANEL SHALL CONTAIN CONTROL COMPONENTS, INDICATOR LIGHTS, AND SCADA RTU, AS SHOWN ON PLANS AND DETAILED IN SPECIFICATIONS.
9. PROVIDE AND INSTALL NEMA 4X WET WELL ISOLATION JUNCTION BOX FOR PUMP MOTOR CONNECTIONS.
10. PROVIDE AND INSTALL A NEW DUPLEX MOTOR CONTROL PANEL. THE MOTOR CONTROL PANEL SHALL CONTAIN CIRCUIT BREAKERS AND MOTOR STARTERS, AS SHOWN ON PLANS AND DETAILED IN SPECIFICATIONS.
11. PROVIDE AND INSTALL NEMA 4X WET WELL ISOLATION BOX FOR INSTRUMENTATION AND CONTROL CONNECTIONS.
12. PROVIDE AND INSTALL A NEMA 4X, SERVICE ENTRANCE RATED, FUSED DOUBLE THROW SWITCH, AS SHOWN ON PLANS.
13. PROVIDE AND INSTALL A NEMA 4X, EMERGENCY POWER CONNECTOR, AS SHOWN ON PLANS. REUSE EXISTING SCADA ANTENNA/MAST AS INDICATED.
14. PROVIDE AND INSTALL AREA LIGHT, AS SHOWN ON PLANS.
15. CALIBRATE AND ADJUST SETPOINTS FOR ALL SENSING DEVICES, ALARM DEVICES, AND TIMERS. CALIBRATION AND SETPOINTS SHALL BE PROVIDED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
16. PROVIDE FOR PROPER GROUNDING AS SHOWN, SPECIFIED, AND REQUIRED.
17. PROVIDE AND INSTALL ALL NECESSARY CONDUITS AND CONDUCTORS, AS SHOWN, SPECIFIED AND REQUIRED.
18. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE 2014 EDITION OF THE NATIONAL ELECTRIC CODE AND CHAPTER 5 OF THE CITY OF TAMPA CODE.
19. REFER TO CIVIL/MECHANICAL SHEETS FOR BYPASS PUMPING REQUIREMENTS. IF ELECTRICALLY DRIVEN BYPASS PUMPS ARE UTILIZED, THE CONTRACTOR SHALL COORDINATE ALL TEMPORARY ELECTRICAL SERVICE REQUIREMENTS WITH TAMPA ELECTRIC COMPANY (TECO). ANY COSTS ASSOCIATED WITH TEMPORARY ELECTRIC POWER ARE TO BE INCLUDED IN THE LUMP SUM PRICE AND NO SEPERATE PAYMENT WILL BE MADE.

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ROMAN D. KORCHAK, P.E. #42626 ELECTRICAL SECTION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: LRG DRN: JHJ CKD: DATE: 6/5/18	<b>CITY of TAMPA</b> WASTEWATER DEPARTMENT	MIDLAKE PS REHABILITATION SCOPE OF WORK	W.O. 0000
	3						SHEET
	2						EG4
	1						

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**NOTE:**

1. OPEN CUT EXISTING CONCRETE PAD AND REMOVE EXISTING CONDUIT TO WET WELL, AS SHOWN.
2. REMOVE EXISTING CONDUIT ON TOP SLAB OF EXISTING CONCRETE PAD, AS SHOWN.
3. SEE DEMOLITION DETAILS ON SHEET ED1.

HATCHED AREAS ON THIS SHEET INDICATE EQUIPMENT TO BE REMOVED

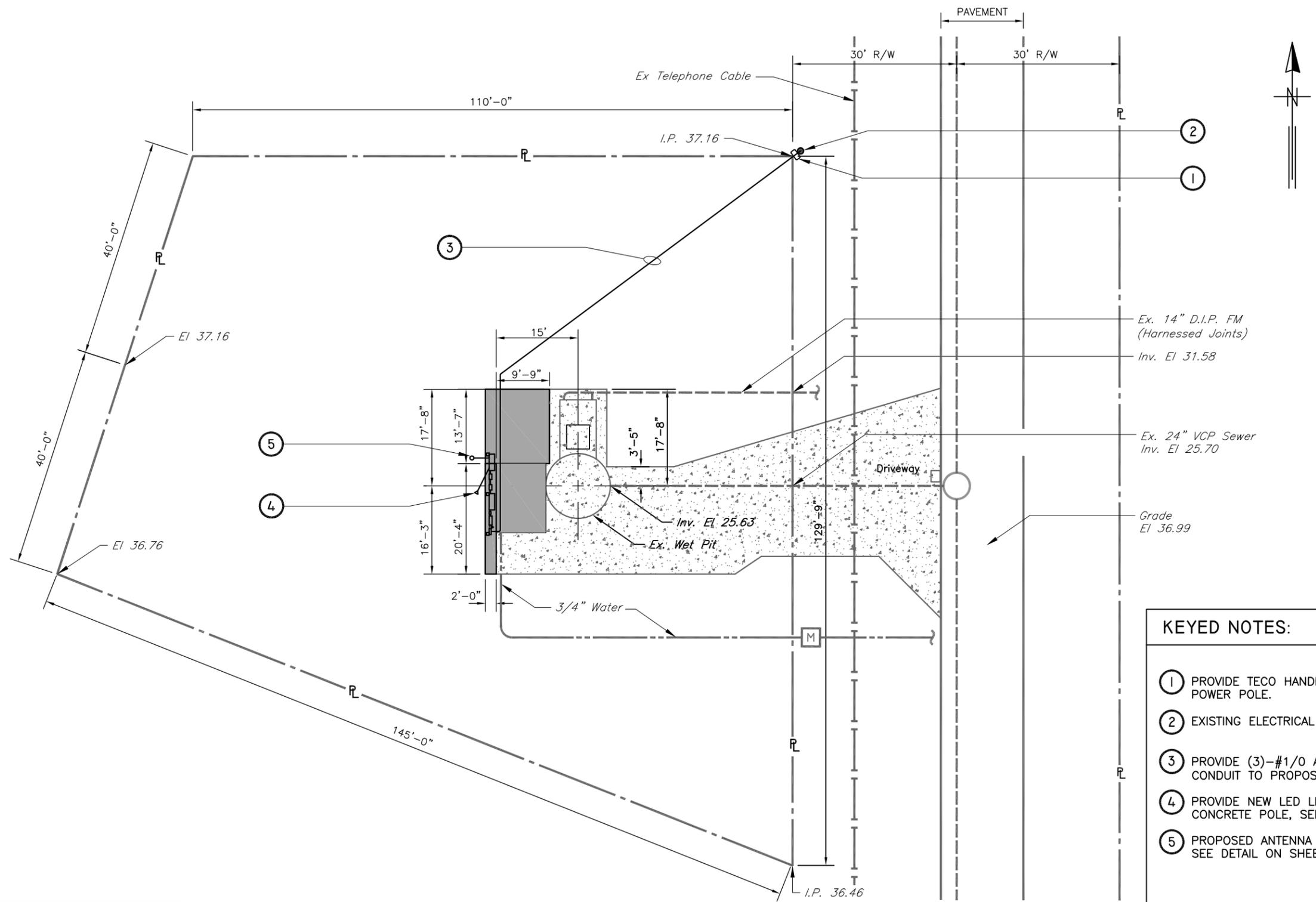
**KEYED NOTES:**

- ① ODOR CONTROL BUILDING, (TO REMAIN).
- ② CONTROL PANEL, (TO BE REMOVED).
- ③ CONDUIT TO TECO METER, (TO BE REMOVED).
- ④ TECO POWER POLE #108692.
- ⑤ EXISTING CONDUIT TO ODOR CONTROL BUILDING (SEE NOTE 2).
- ⑥ EXISTING TELEPHONE CABLE (TO BE REMOVED).
- ⑦ OPEN CUT EXISTING CONCRETE (SEE NOTE 1).

**EXISTING ELECTRICAL DEMOLITION SITE PLAN**  
SCALE: 1" = 20'

ROMAN D. KORCHAK, P.E., #42626 ELECTRICAL SECTION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: LRG	<b>CITY of TAMPA</b> WASTEWATER DEPARTMENT	MIDLAKE PUMPING REHABILITATION EXISTING ELECTRICAL DEMOLITION SITE PLAN	W.O. 0000
	3			DRN: JHJ			SHEET
	2			CKD:			ESI
	1			DATE: 7/13/18			

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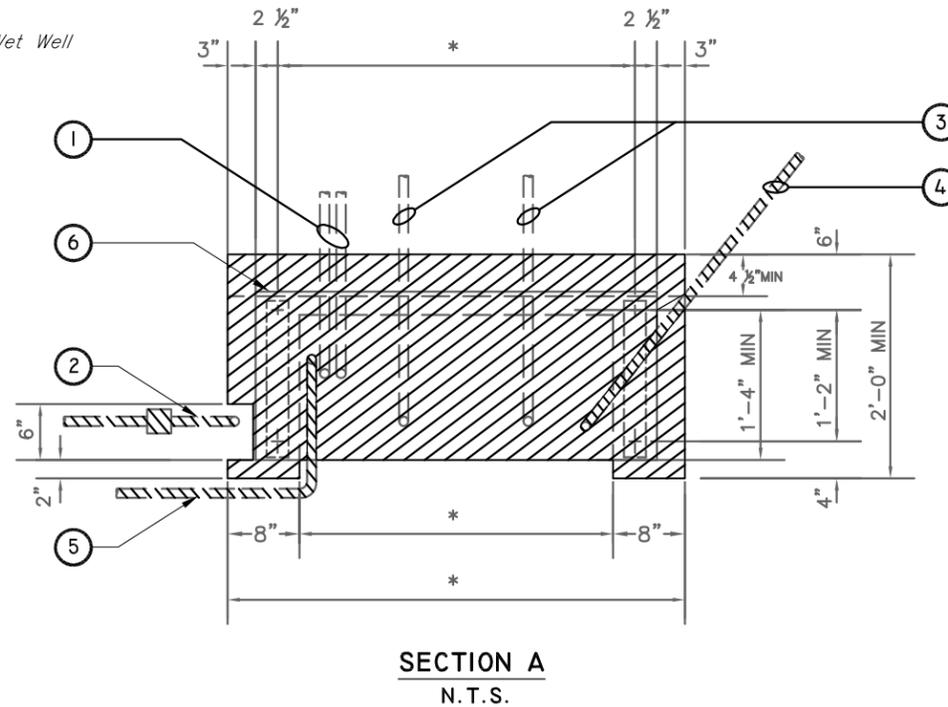
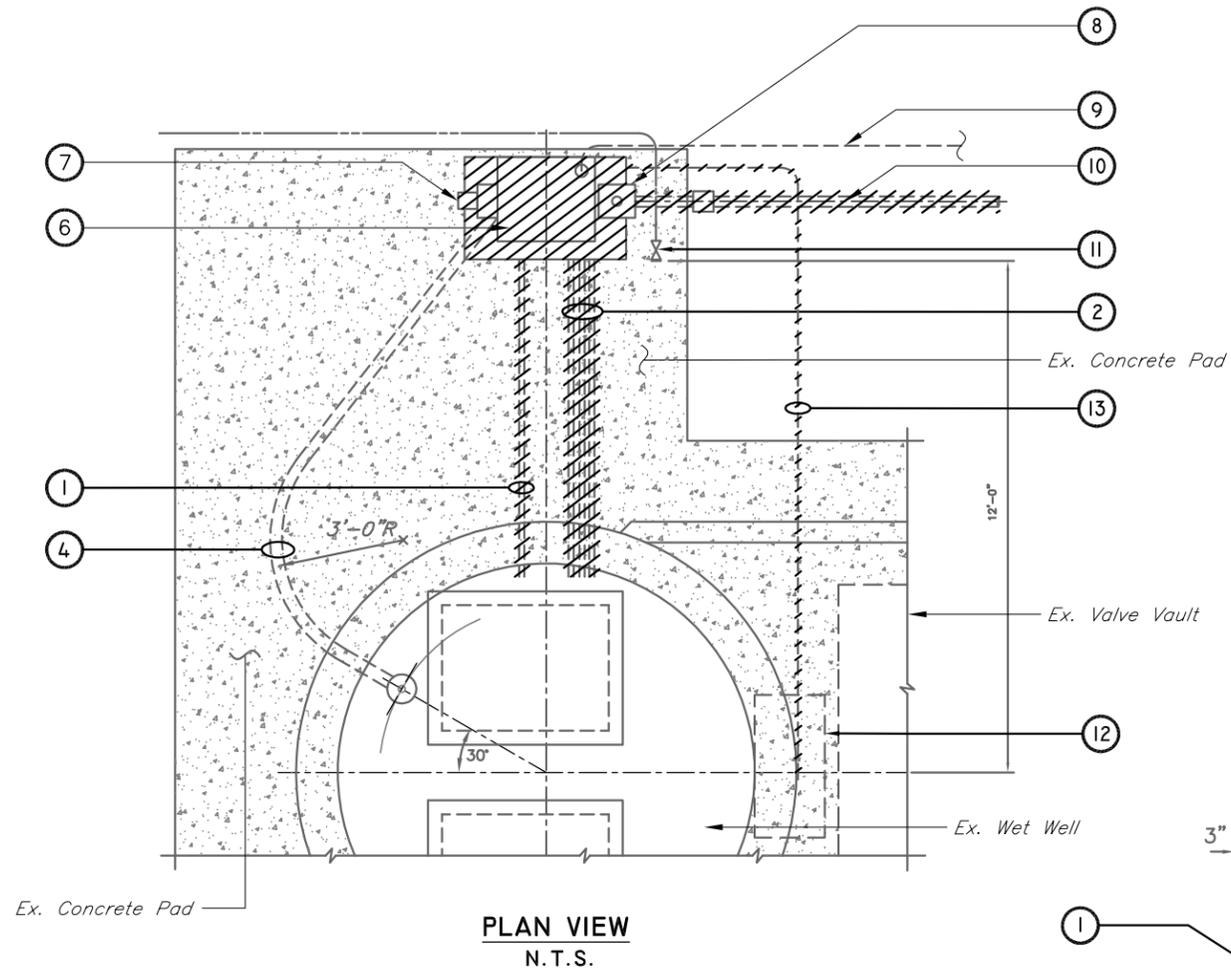
SHADED AREAS ON THIS SHEET INDICATE PROPOSED CONCRETE

- KEYED NOTES:**
- ① PROVIDE TECO HANDHOLE AT BASE OF POWER POLE.
  - ② EXISTING ELECTRICAL TECO POWER POLE #108692.
  - ③ PROVIDE (3)-#1/0 AWG+(1)-#4 NEU. IN 2" CONDUIT TO PROPOSED TECO HANDHOLE.
  - ④ PROVIDE NEW LED LIGHT FIXTURE WITH CONCRETE POLE, SEE SHEET E-18.
  - ⑤ PROPOSED ANTENNA LOCATION, SEE DETAIL ON SHEET E-18.

**PROPOSED ELECTRICAL SITE PLAN**  
 SCALE: 1" = 20'

ROMAN D. KORCHAK, P.E. #42626 ELECTRICAL SECTION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: LRG	<b>CITY of TAMPA</b> <b>WASTEWATER DEPARTMENT</b>	MIDLAKE PUMPING REHABILITATION PROPOSED ELECTRICAL SITE PLAN	W.O. 0000
	3			DRN: JHJ			SHEET
	2			CKD:			ES2
	1			DATE: 7/31/18			

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**EXISTING ELECTRICAL DEMOLITION DETAILS**  
N.T.S.

**NOTE:**

1. REMOVE 3/8" BUBBLER AIR SUPPLY AND CAP OFF 1" PVC CONDUIT FOR FUTURE USE.
2. CONTRACTOR SHALL REMOVE EXISTING CONDUIT AND EQUIPMENT.
3. ITEMS TO BE RELOCATED. SEE CIVIL PLANS FOR NEW LOCATION.
4. ITEM TO REMAIN.

HATCHED AREAS ON THIS SHEET INDICATE EQUIPMENT TO BE REMOVED

**KEYED NOTES:**

- ① 2-1" SPARE PVC CONDUITS TO WET WELL, (SEE NOTE 2).
- ② 1 1/2" PVC CONDUIT, (SEE NOTE 2).
- ③ 1 1/2" CONDUIT TO WET PIT FOR EACH PUMP (SEE NOTE 2).
- ④ 1" PVC CONDUIT WITH 3/8" BUBBLER AIR SUPPLY (SEE NOTE 1).
- ⑤ 3/4" GALVANIZED CONDUIT FOR TELEPHONE CABLE (SEE NOTE 2).
- ⑥ CONTROL PANEL (SEE NOTE 2).
- ⑦ GENERATOR RECEPTACLE (SEE NOTE 2).
- ⑧ TECO METER SOCKET AND BOX (SEE NOTE 2).
- ⑨ TELEPHONE CABLE (SEE NOTE 2).
- ⑩ 1 1/2" PVC INCOMING ELECTRICAL SERVICE, (SEE NOTE 2).
- ⑪ 3/4" WATER WITH HOSE HYDRANT AND BACK FLOW PREVENTER, (SEE NOTE 3).
- ⑫ ODOR CONTROL BUILDING, (SEE NOTE 4).
- ⑬ 3/4" CONDUIT TO ODOR CONTROL BUILDING (TO BE REMOVED).

ROMAN D. KORCHAK, P.E., #42626  
ELECTRICAL SECTION HEAD  
WASTEWATER DEPARTMENT

No.	DATE	REVISIONS
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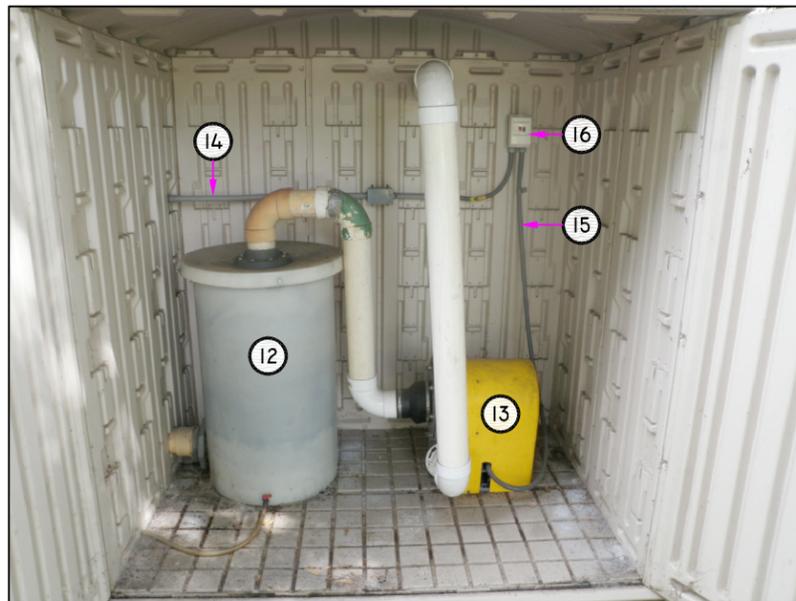
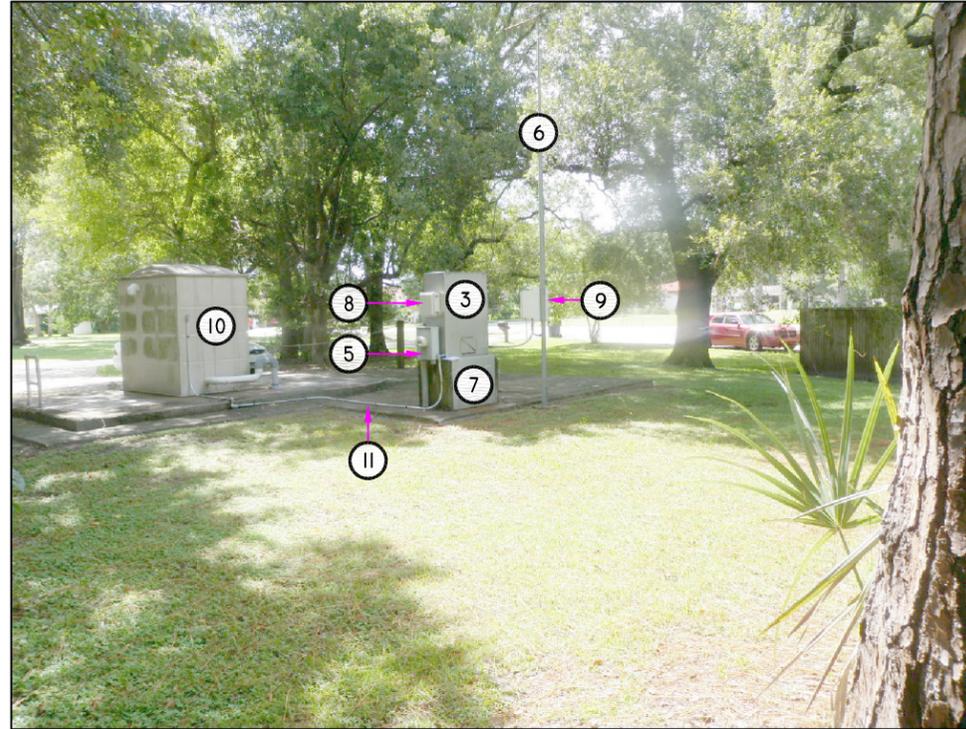
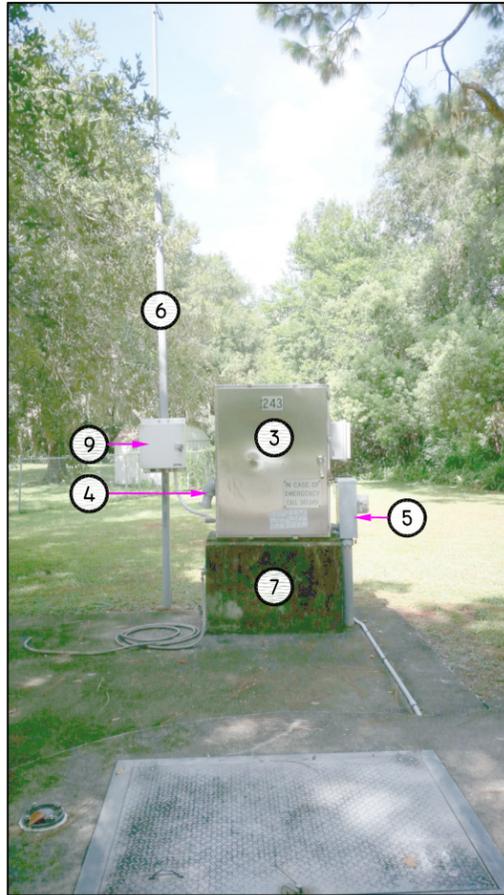
DES: LRG  
DRN: JHJ  
CKD:  
DATE: 5/8/18

**CITY of TAMPA**  
WASTEWATER DEPARTMENT

**MIDLAKE PUMPING REHABILITATION**  
EXISTING ELECTRICAL DEMOLITION DETAILS

W.O. 0000  
SHEET  
**EDI**

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**EXISTING ELECTRICAL DEMOLITION**  
N.T.S.

**KEYED NOTES:**

- ① EXISTING TECO POWER POLE #108692 (TO REMAIN).
- ② EXISTING TECO STUB POLLE #8782 (NO WORK REQUIRED).
- ③ EXISTING CONTROL PANEL (TO BE REMOVED)
- ④ EXISTING EMERGENCY CONNECTOR (TO BE REMOVED).
- ⑤ EXISTING TECO METER (TO BE REMOVED).
- ⑥ EXISTING SCADA ANTENNA (TO BE REUSED AND RELOCATED).
- ⑦ EXISTING CONCRETE PEDESTAL (TO BE REMOVED).
- ⑧ EXISTING JUNCTION BOX (CAREFULLY REMOVE AND DELIVER TO TREATMENT PLANT FOR INVENTORY).
- ⑨ EXISTING DCR SCADA RTU CABINET, (SEE SCOPE OF WORK NOTE 3, SHEET EG4).
- ⑩ EXISTING ODOR CONTROL BUILDING (TO REMAIN).
- ⑪ EXISTING 3/4" CONDUIT AND CONDUCTORS FROM EXISTING CONTROL PANEL (TO BE REMOVED) TO CARBON ODOR CONTROL DISCONNECT. THESE EXISTING CONDUIT/CONDUCTORS SHALL BE REMOVED. CONTRACTOR SHALL PROVIDE AND INSTALL NEW 3/4" CONDUIT WITH 3-#12 THWN CU + 1-#12 THWN CU GROUND. FROM NEW CONTROL PANEL TO CARBON ODOR CONTROL CABINET. REFER TO SHEET E1 FOR NEW CONDUIT TRENCH AND CONDUIT ROUTING.
- ⑫ EXISTING CARBON CONTAINER (TO REMAIN).
- ⑬ EXISTING 1.2 HP CARBON ODOR CONTROL BLOWER (TO REMAIN).
- ⑭ EXISTING 3/4" CONDUIT TO MOTOR CONTROL PANEL (TO REMAIN).
- ⑮ EXISTING 3/4" CONDUIT FROM CARBON ODOR CONTROL DISCONNECT TO CARBON ODOR CONTROL PUMP MOTOR, (TO REMAIN).
- ⑯ EXISTING MANUAL MOTOR STARTER (TO REMAIN).

ROMAN D. KORCHAK, P.E., #42626  
ELECTRICAL SECTION HEAD  
WASTEWATER DEPARTMENT

No.	DATE	REVISIONS
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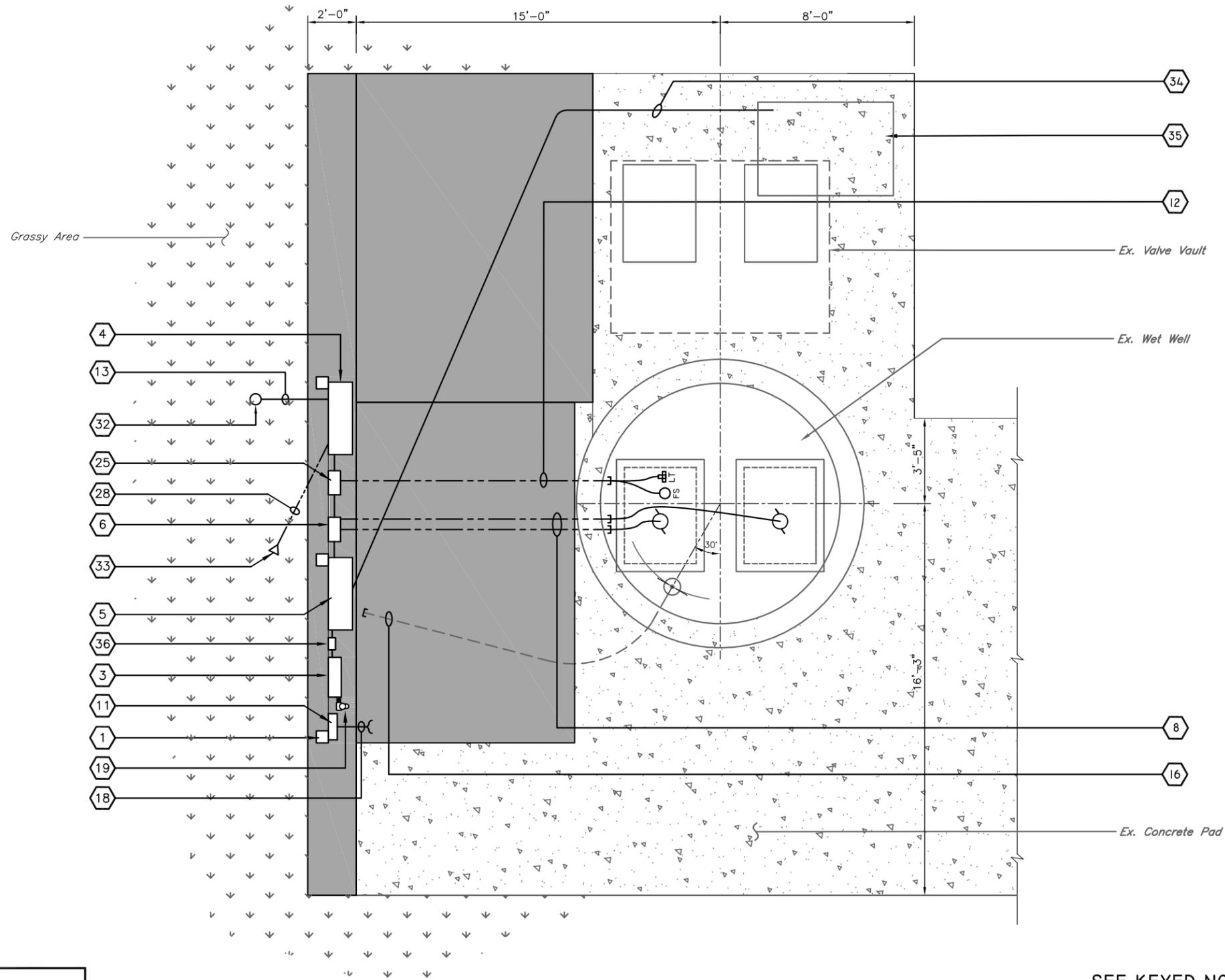
DES: LRG  
DRN: JHJ  
CKD:  
DATE: 7/31/18

**CITY of TAMPA**  
WASTEWATER DEPARTMENT

MIDLAKE PUMPING REHABILITATION  
EXISTING ELECTRICAL DEMOLITION

W.O. 0000  
SHEET  
**ED2**

User: ss13 Drawing Name: K:\WasteWater Projects\Midlake Pump Station Rehabilitation\Design\Plans\Drafting\DWG\Midlake PS Site Plan.dwg  
 Layout: Jul 19, 2018 - 4:19pm



SHADED AREAS ON THIS SHEET  
 INDICATE PROPOSED CONCRETE

17

PROPOSED ELECTRICAL PLAN VIEW  
 SCALE: 1" = 5'-0"

SEE KEYED NOTES ON SHEET E3

ROMAN D. KORCHAK, P.E., #42626  
 ELECTRICAL SECTION HEAD  
 WASTEWATER DEPARTMENT

No.	DATE	REVISIONS
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DES: LRG  
 DRN: JHJ  
 CKD:  
 DATE: 7/13/18

**CITY of TAMPA**  
**WASTEWATER DEPARTMENT**

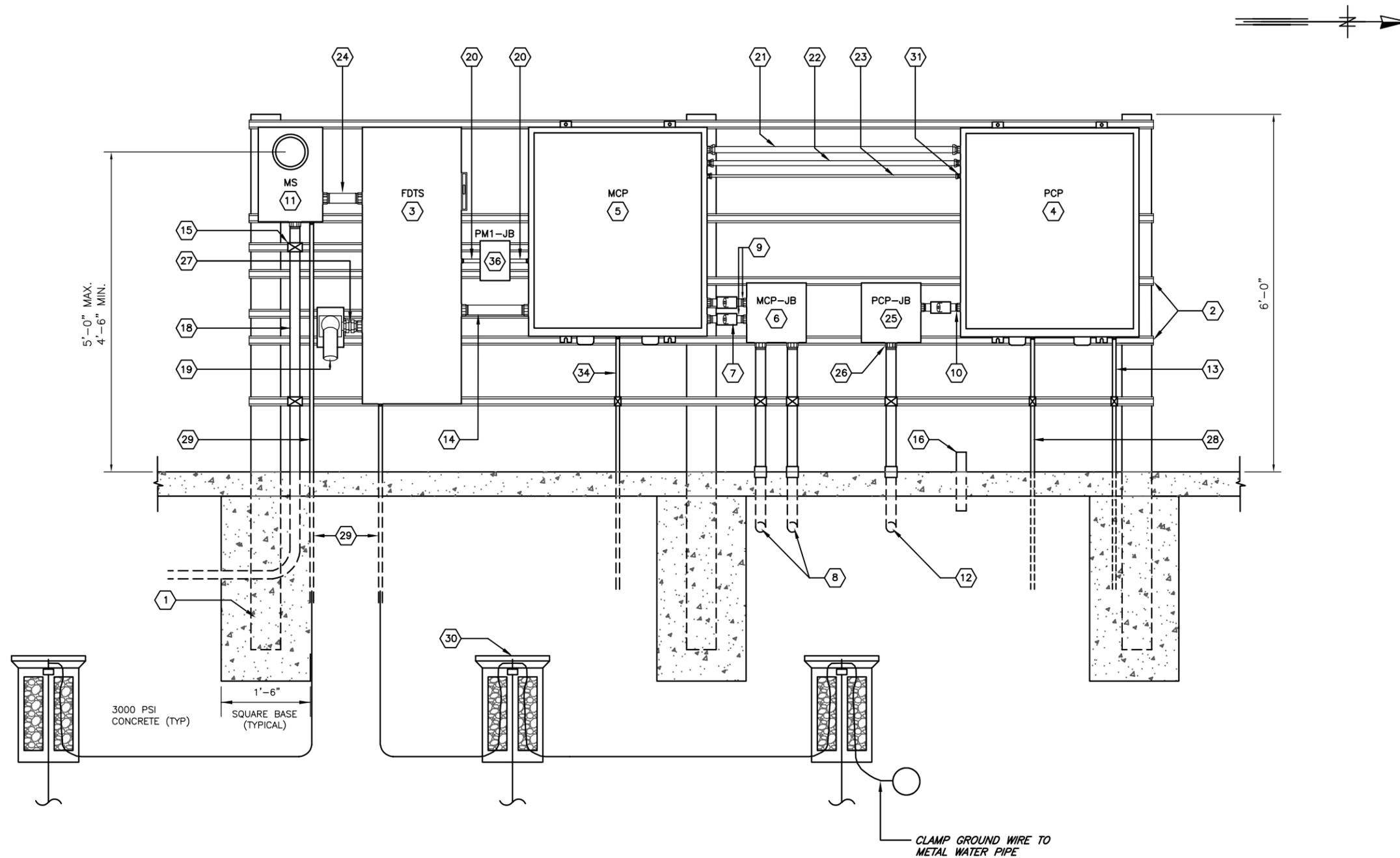
MIDLAKE PUMPING REHABILITATION  
 PROPOSED ELECTRICAL PLAN VIEW

W.O. 0000

SHEET

**EI**

User: ss13 Drawing Name: K:\WasteWater Projects\Midlake Pump Station Rehabilitation\Design\Plans\Drafting\DMC\Midlake PS Rehabilitation.dwg  
 Layout: Jul 25, 2018 - 2:21pm



**ELECTRICAL EQUIPMENT LINE UP**  
 SCALE: 1/2" = 1'-0"

**NOTES:** SEE KEYED NOTES ON SHEET E3

ROMAN D. KORCHAK, P.E. #42626  
 ELECTRICAL SECTION HEAD  
 WASTEWATER DEPARTMENT

No.	DATE	REVISIONS
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1		

DES: LRG  
 DRN: JHJ  
 CKD:  
 DATE: 7/25/18

**CITY of TAMPA**  
 WASTEWATER DEPARTMENT

MIDLAKE PUMP STATION REHABILITATION  
 ELECTRICAL EQUIPMENT LINE UP FRONT VIEW

W.O. 0000  
 SHEET  
**E2**

**KEYED NOTES:**

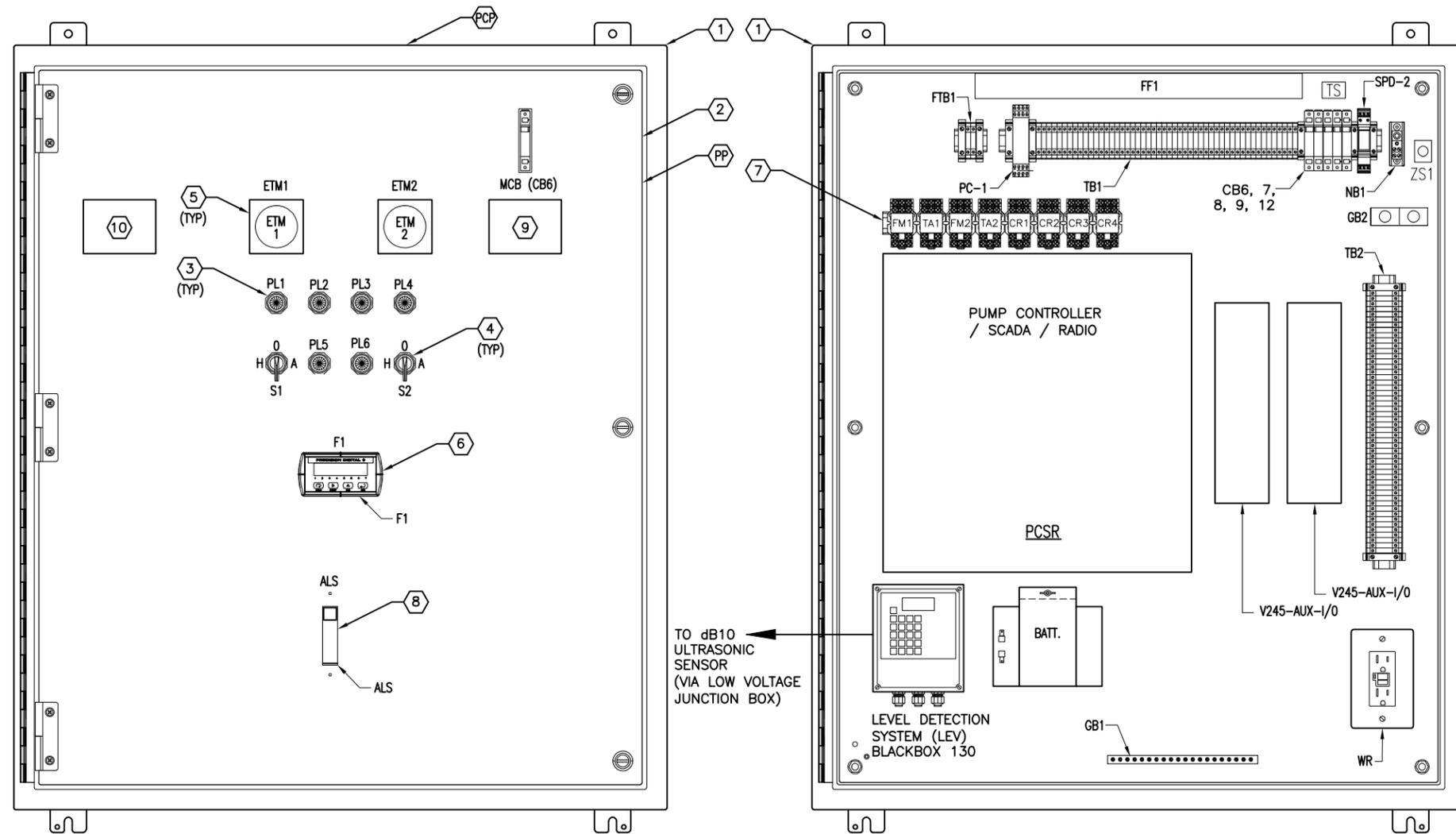
- ① PROVIDE AND INSTALL THREE (3) 6" X 6" X 9' REINFORCED SQUARE CONCRETE POSTS.
- ② PROVIDE AND INSTALL 1-5/8" X 1-5/8" 316 STAINLESS STEEL UNISTRUT WITH 316 STAINLESS STEEL HARDWARE. NOTE: INSTALL ALL BOLTS FOR UNISTRUT COMPLETELY THROUGH CONCRETE POSTS.
- ③ PROVIDE AND INSTALL HEAVY DUTY, DOUBLE THROW, FUSIBLE SWITCH, 3-POLE, 600 VAC, 200 AMP IN NEMA 4X TYPE ENCLOSURE, 600 VOLT, DUAL-ELEMENT, TIME-DELAY CLASS RK5 FUSES; SWITCH--EATON DT364FWK, DT200NK-NEUTRAL KIT, DS200GK-GROUND LUG KIT, DS46FK-"R" FUSE ADAPTER KIT.
- ④ PROVIDE AND INSTALL PUMP CONTROL CABINET. REFER TO DETAIL ON SHEET E4.
- ⑤ PROVIDE AND INSTALL MOTOR CONTROL CABINET. REFER TO DETAIL ON SHEET E5.
- ⑥ PUMP MOTOR CONNECTIONS J.B.-USED AS A DEMARCATION BOX TO PROVIDE ISOLATION BETWEEN THE WET WELL AND PUMP CONTROLS. PROVIDE AND INSTALL A 12"x12"x6" NEMA 4X, STAINLESS STEEL JUNCTION BOX WITH HINGED DOOR, WIEGMANN #BN4121206CHSS. INSTALL A STAINLESS STEEL LOUVER PLATE KIT (4.75"x 4.5") ON SIDE OF BOX TO PROVIDE NATURAL ASPIRATION, WIEGMANN #WAVK0304SSA. TERMINATIONS SHALL BE MADE USING SPLIT BOLTS. CAREFULLY TAPE CONNECTIONS TO PROVIDE A 600V INSULATION LEVEL (TYPICAL FOR EACH CONDUCTOR) SEE SHEET E16 FOR JB DETAILS.
- ⑦ PROVIDE AND INSTALL CROUSE-HINDS EYS TYPE SEALS W/CHICO COMPOUNDS.
- ⑧ PROPOSED 2" PVC COATED ALUMINUM CONDUITS FOR MOTOR CONDUCTORS. CORE DRILL WET WELL WALLS AS REQUIRED TO INSTALL CONDUIT USING LINK-SEALS. LINK-SEALS SHALL BE PROVIDED WITH 316 STAINLESS STEEL BOLTS AND NUTS.
- ⑨ PROVIDE AND INSTALL (3)-#8 XHHW-2 CU + (1)-#10 XHHW-2 CU GND + (2)-#12 XHHW-2 CU (LEAK/TEMP) IN 1" CONDUIT FOR SUBMERSIBLE PUMP POWER.
- ⑩ PROVIDE AND INSTALL (3)-#14 XHHW-2 CU + (1)-#14 XHHW-2 CU GND + (1)-3/C-#18 TWISTED SHIELDED CABLE IN 1" CONDUIT FOR FLOAT AND WET WELL LEVEL TRANSMITTER.
- ⑪ PROVIDE AND INSTALL METER SOCKET IN ALUMINUM ENCLOSURE.
- ⑫ MANUFACTURER SUPPLIED CABLES FOR FLOAT SWITCH AND WET WELL LEVEL TRANSMITTER INSTALL IN 2" PVC COATED CONDUIT TO WET WELL FROM JUNCTION BOX. CORE DRILL WET WELL AS NEEDED TO INSTALL, PATCH SEAL WITH APPROVED PRODUCT.
- ⑬ PROVIDE AND INSTALL 1" CONDUIT FOR ANTENNA COAXIAL CABLE.
- ⑭ PROVIDE AND INSTALL (3)-#1/0 CONDUIT XHHW-2 CU, (1)-#4 XHHW-2 NEU, AND (1)-#4 XHHW-2 CU GND. IN 2" CONDUIT.
- ⑮ PROVIDE AND INSTALL ALUMINUM CONDUIT STRAPS (TYPICAL).
- ⑯ INTERCEPT EXISTING 1" CONDUIT TO BUBBLER AND EXTEND TO LOCATION SHOWN, USING PVC COATED ALUMINUM CONDUIT. STUB UP AND CAP FOR FUTURE USE.
- ⑰ EXTEND EXISTING CONCRETE PAD IN GRASSY AREA AS SHOWN. OPEN CUT EXISTING CONCRETE PAD AS NECESSARY TO INSTALL NEW CONDUIT. REPAIR CONCRETE WITH APPROVED PRODUCTS.
- ⑱ PROVIDE AND INSTALL (3)-#1/0 + (1)-#(4). NEU. W 2" CONDUIT TO PROPOSED TECO HAND HOLE, REFER TO SHEET ES2 FOR CONTINUATION.
- ⑲ PROVIDE AND INSTALL AN EMERGENCY CONNECTOR.
- ⑳ PROVIDE AND INSTALL (3)-#12 XHHW-2 CU + (1)# 12 XHHW-2 CU GND. IN 3/4" C.
- ㉑ PROVIDE AND INSTALL (26)-#12 XHHW-2 CU + (1)# 12 XHHW-2 CU GND. IN 1-1/4" C. FOR 120VAC CONTROL SIGNALS. REFER TO MCP TO PCP INTERCONNECTIONS WIRING DIAGRAM ON SHEET E11.
- ㉒ PROVIDE AND INSTALL (15)-#14 XHHW-2 CU + (1)-#14 XHHW-2 CU GND. IN 1" C. FOR 24V DC CONTROL SIGNALS, REFER TO MCP TO PCP INTERCONNECTION WIRING DIAGRAM ON SHEET E11.
- ㉓ PROVIDE AND INSTALL (3)-#12 XHHW-2 CU H. + (1)-#12 XHHW-2 CU NEU. + (1)#12 XHHW-2 CU GND. IN 3/4" CONDUIT FROM MOTOR CONTROLS PANEL TO PUMP CONTROL PANEL FOR 120V POWER CIRCUIT.
- ㉔ PROVIDE AND INSTALL (3)-#1/0 XHHW-2 CU + (1)-#4 XHHW-2 NEU. IN 2" CONDUIT.
- ㉕ INSTRUMENTATION AND CONTROLS J.B.-USED AS DEMARCATION BOX TO PROVIDE ISOLATION BETWEEN THE WET WELL AND PUMP CONTROLS. PROVIDE AND INSTALL A 12"x12"x6" NEMA 4X, STAINLESS STEEL JUNCTION BOX WITH HINGED DOOR, WIEGMANN #BN4121206CHSS. INSTALL A STAINLESS STEEL LOUVER PLATE KIT (4.75"x4.5") ON SIDE OF BOX TO PROVIDE NATURAL ASPIRATION, WIEGMANN #WAVK0304SSA. TERMINATIONS SHALL BE MADE WITH UNDERGROUND WIRE CONNECTORS - IDEAL MODEL #60 - (TYPICAL FOR EACH CONDUCTOR). SEE SHEET E16 FOR JB DETAILS.
- ㉖ PROVIDE DUCT SEALING COMPOUND IN ALL CONDUITS EXTENDING TO THE WET WELL.
- ㉗ PROVIDE AND INSTALL (3)-#3 XHHW-2 CU + (1)-#4 XHHW-2 CU NEU + (1)-#6 XHHW-2 CU GND IN 1-1/4" CONDUIT FOR EMERGENCY CONNECTOR.
- ㉘ PROVIDE AND INSTALL A 3/4" CONDUIT TO PROPOSED AREA LIGHT, (AL), SEE SHT. E18 FOR DETAILS.
- ㉙ PROVIDE AND INSTALL A 3/4" SCHEDULE 80 PVC CONDUIT FOR #4 AWG GROUNDING CONDUCTOR.
- ㉚ PROPOSED GROUNDING CONDUCTOR. APPROVED GROUND CLAMPS SHALL BE ATTACHED TO TWO APPROVED GROUNDING RODS (MINIMUM SPACING 6'-0") GROUNDING CONDUCTOR SHALL BE AWG #4 MIN. BARE STRANDED COPPER, SEE SHEET E17 FOR DETAILS.
- ㉛ PROVIDE AND INSTALL WATER-TIGHT / DUST-TIGHT (TYP.) MYERS HUB AND UNION (TYP.).
- ㉜ RELOCATED SCADA ANTENNA.
- ㉝ PROPOSED NEW LED LIGHT FIXTURE WITH CONCRETE POLE. SEE SHT. E18 FOR DETAILS.
- ㉞ PROVIDE AND INSTALL (3)-#12 XHHW-2 CU + (1)-#12 XHHW-2 CU GND IN 3/4" CONDUIT FOR EXISTING CARBON ODOR CONTROL.
- ㉟ EXISTING ODOR CONTROL BUILDING.
- ㊱ PROVIDE AND INSTALL A 3-PHASE POWER MONITOR RELAY W/480 VAC LINE INPUT-ALARM ON PHASE LOSS, UNDERVOLTAGE, OR WRONG ROTATION. PANEL MOUNT,ATC DIVERSIFIED. MODEL SUA-440-ASA. FUSE BOX DISCONNECT(FGBD1)-ALLEN BRADLEY 1492-FB3C30-L W/ BUSSMAN KTK-R-2 FUSES IN A NEMA 4X CONTINUOUS HINGE ENCLOSURE-HAMMOND MANUFACTURING MODEL EJ863S16, 8"x6"x3.5", NEMA 4X SS.

FOR USE WITH SHEETS E1 AND E2

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ROMAN D. KORCHAK, P.E. #42626 ELECTRICAL SECTION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: LRG	<b>CITY of TAMPA</b> WASTEWATER DEPARTMENT	MIDLAKE PS REHABILITATION KEYED NOTES	W.O. 0000
	3			DRN: JHJ			SHEET
	2			CKD:			<b>E3</b>
	1			DATE: 7/25/18			

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**PUMP CONTROL PANEL DETAILS**

SCALE: 1 1/2" = 1'-0"

NOTE: FRONT ENCLOSURE DOOR NOT SHOWN FOR CLARITY

**PANEL INTERIOR**

**LEGEND PLATE SCHEDULE**

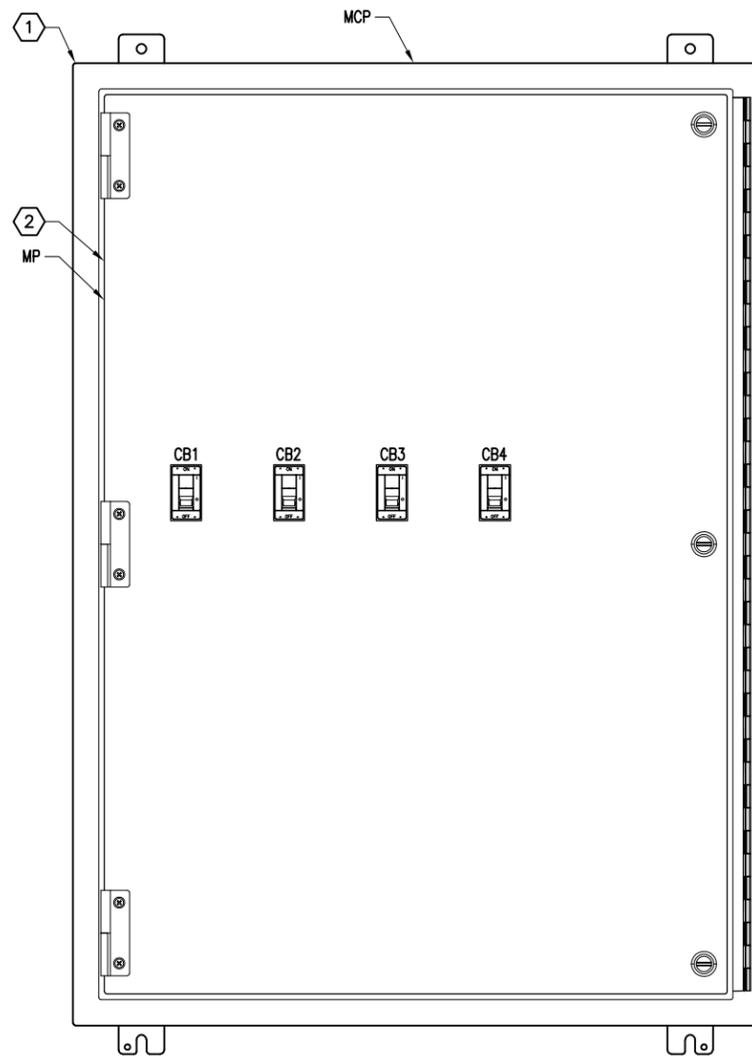
SYMBOL	DEVICE	LEGEND
ETM1	ELAPSED TIME METER	PUMP NO. 1 HOURS
ETM2	ELAPSED TIME METER	PUMP NO. 2 HOURS
PL1	YELLOW PILOT LIGHT	PUMP NO. 1 ON
PL2	RED ILLUMINATED PUSH BUTTON	PUMP NO. 1 TEMP. ALARM
PL3	RED ILLUMINATED PUSH BUTTON	PUMP NO. 2 TEMP. ALARM
PL4	YELLOW PILOT LIGHT	PUMP NO. 2 ON
PL5	RED PILOT LIGHT	PUMP NO. 1 SEAL LEAK ALARM
PL6	RED PILOT LIGHT	PUMP NO. 2 SEAL LEAK ALARM
S1	3 POSITION SWITCH	PUMP NO. 1 HAND-OFF-AUTO
S2	3 POSITION SWITCH	PUMP NO. 2 HAND-OFF-AUTO
MCB	PUMP CONTROL PANEL MAIN CIRCUIT BREAKER	MAIN CIRCUIT BREAKER
F1	DIGITAL PROCESS METER	WET WELL LEVEL
ALS	TOGGLE SWITCH	AREA LIGHT SWITCH

**KEYED NOTES:**

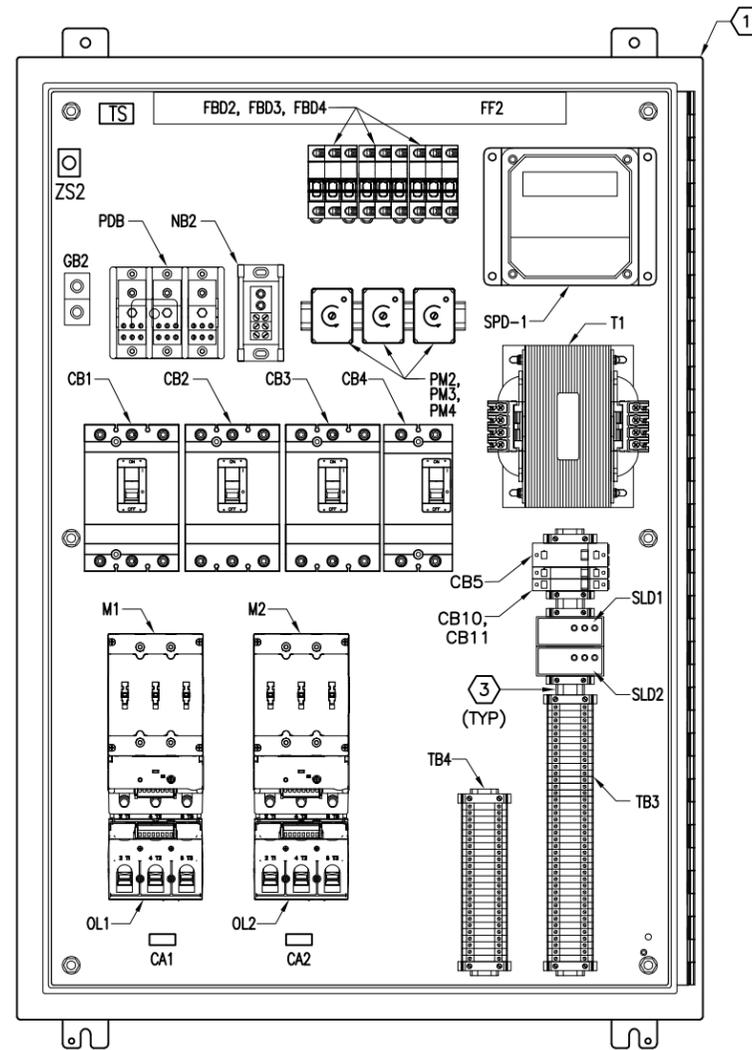
- 1 PUMP CONTROL CABINET. 42" X 36" X 12" NEMA 4X SS, PAINTED WHITE.
- 2 PROVIDE AND INSTALL ALUMINUM DEADFRONT DOOR WITH STOP KIT.
- 3 PROVIDE AND INSTALL NEW PILOT LIGHT. REFER ALSO TO PARTS SCHEDULE ON SHEET E14.
- 4 PROVIDE AND INSTALL NEW SELECTOR SWITCH. REFER ALSO TO PARTS SCHEDULE ON SHEET E14.
- 5 PROVIDE AND INSTALL NEW ELAPSED TIME METER. REFER ALSO TO PARTS SCHEDULE ON SHEET E14.
- 6 PROVIDE AND INSTALL PRECISION DIGITAL PROCESS METER, MODEL PD765-6R0-10 WITH 4-20mA OUTPUT. REFER ALSO TO PARTS SCHEDULE ON SHEET E14.
- 7 PROVIDE AND INSTALL ALUMINUM DIN RAIL WHERE REQUIRED.
- 8 PROVIDE AND INSTALL NEW SINGLE-POLE 120/277V, 20A LIGHT SWITCH TO CONTROL AREA LIGHT. REFER ALSO TO PARTS SCHEDULE ON SHEET E14.
- 9 PROVIDE WARNING LABEL ABOVE OR BELOW CB6.  
LABEL TO READ:  
"WARNING: THE 120VAC SUPPLY FOR THIS PUMP CONTROL PANEL (PCP) IS FED FROM MOTOR CONTROL PANEL MCP AND WILL BE PRESENT AT THE LINE SIDE OF MCB (CB-6) LOCATED IN THIS PANEL. LOCK AND TAG OUT THE MOTOR CONTROL PANEL DISCONNECT PRIOR TO OPENING DEAD FRONT DOOR."
- 10 PROVIDE WARNING LABEL ON FRONT ENCLOSURE DOOR  
LABEL TO READ:  
"WARNING: PUMPS ARE INTERLOCKED, ONLY ONE PUMP WILL RUN AT A TIME."

ROMAN D. KORCHAK, P.E. #42626 ELECTRICAL SECTION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: LRG DRN: JHJ CKD: DATE: 7/31/18	<b>CITY of TAMPA</b> WASTEWATER DEPARTMENT	MIDLAKE PS REHABILITATION PUMP CONTROL PANEL DETAILS	W.O. 0000
	3						SHEET
	2						<b>E4</b>
	1						

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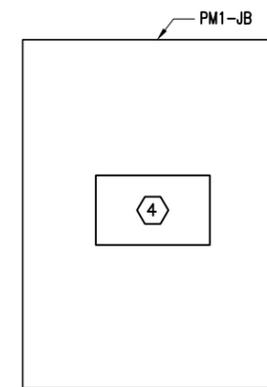
**MOTOR CONTROL PANEL  
DETAILS**



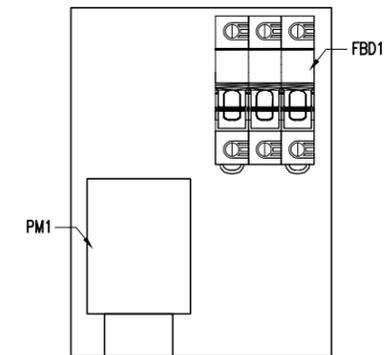
**PANEL INTERIOR  
DETAILS**

LEGEND PLATE SCHEDULE		
SYMBOL	DEVICE	LEGEND
CB1	CIRCUIT BREAKER	PUMP NO. 1 CIRCUIT BREAKER
CB2	CIRCUIT BREAKER	PUMP NO. 2 CIRCUIT BREAKER
CB3	CIRCUIT BREAKER	CARBON FILTER BREAKER
CB4	CIRCUIT BREAKER	TRANSFORMER 'T1' 480V FEEDER

KEYED NOTES:	
①	MOTOR CONTROL CABINET. 42" X 30" X 12" NEMA 4X SS, POWDER COAT WHITE.
②	PROVIDE AND INSTALL ALUMINUM DEADFRONT DOOR WITH STOP KIT.
③	PROVIDE AND INSTALL ALUMINUM DIN RAIL WHERE REQUIRED.
④	PROVIDE WARNING LABEL ON ENCLOSURE DOOR. LABEL TO READ: "WARNING - OPENING FUSED DOUBLE THROW SWITCH DOES NOT DE-ENERGIZE VOLTAGE TO THIS ENCLOSURE"
⑤	SEE SHEET E19 FOR FURTHER PM1 JUNCTION BOX DETAIL.



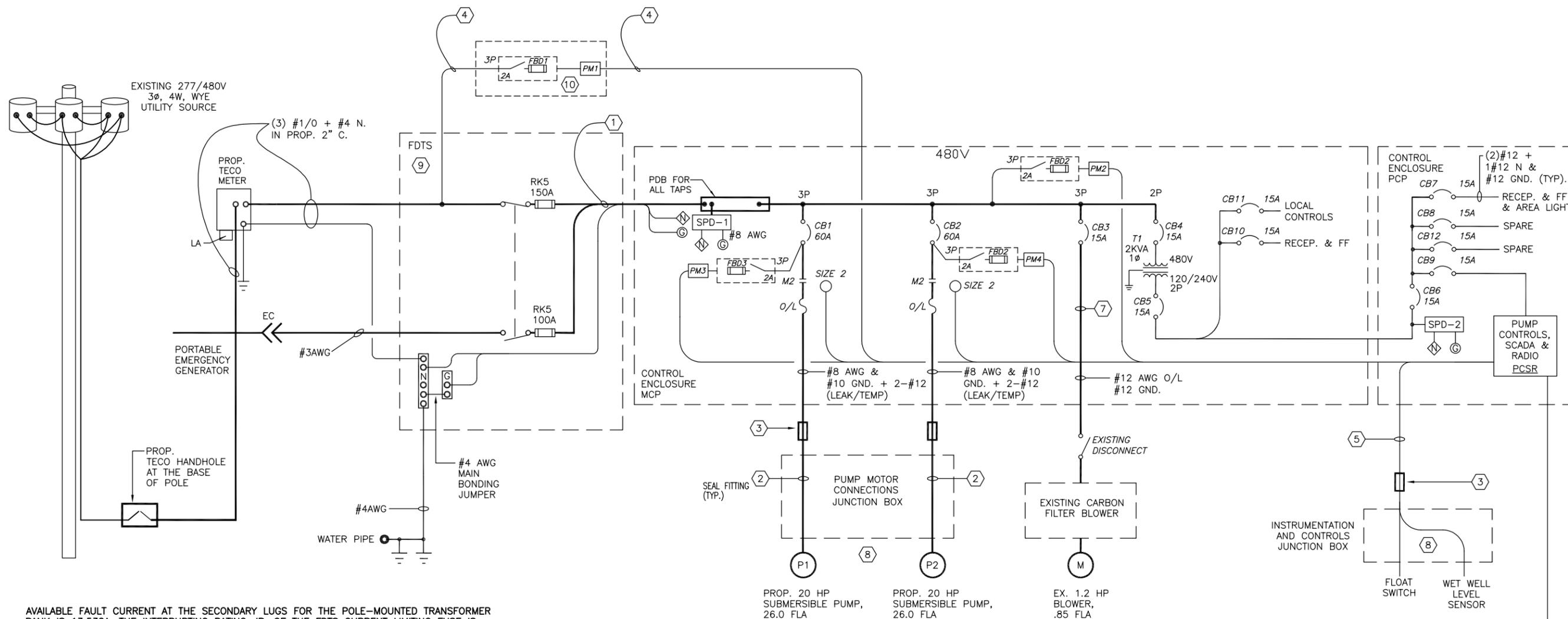
**PM1 JUNCTION BOX  
DETAILS ⑤**



**JUNCTION BOX INTERIOR  
DETAILS ⑤**

ROMAN D. KORCHAK, P.E. #42626 ELECTRICAL SECTION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: LRG	<b>CITY of TAMPA</b> <b>WASTEWATER DEPARTMENT</b>	MIDLAKE PS REHABILITATION MOTOR CONTROL PANEL DETAILS & PMI DISCONNECTION ENCLOSURE	W.O. 0000
	3			DRN: JHJ			SHEET
	2			CKD:			<b>E5</b>
	1			DATE: 7/25/18			

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AVAILABLE FAULT CURRENT AT THE SECONDARY LUGS FOR THE POLE-MOUNTED TRANSFORMER BANK IS 13,532A. THE INTERRUPTING RATING, IR, OF THE FDTS CURRENT LIMITING FUSE IS 200KA RMS, SYMMETRICAL. THE LET-THROUGH CURRENT OF THE FUSE AT 15KA SHORT CIRCUIT CURRENT IS 5025A RMS, SYMMETRICAL.

ONE LINE DIAGRAM NOTES:

- ① PROVIDE AND INSTALL 3-#1/0 + 1-#4 NEUTRAL + 1-#4 GND IN 2" CONDUIT, REFER TO DETAILS ON SHEET E2.
- ② PROPOSED SUBMERSIBLE PUMP POWER CABLE IN PROPOSED 2" CONDUIT.
- ③ PROVIDE SEAL FITTING, REFER TO DETAIL ON SHEET E2.
- ④ PROVIDE AND INSTALL 3-#12 + 1-#12 GND. IN 3/4" CONDUIT, REFER TO DETAILS ON SHEET E2.
- ⑤ PROVIDE 2" CONDUITS FROM NEW PUMP CONTROL CABINET TO WET WELL FOR FLOAT SWITCH AND LEVEL SENSOR CABLES. REFER TO DETAILS ON SHEET E2.
- ⑥ PROVIDE 1" CONDUIT FROM NEW PUMP CONTROL CABINET TO EXISTING ANTENNA MAST FOR NEW COAX CABLE, REFER TO DETAIL ON SHEET E18.
- ⑦ PROVIDE 3/4" CONDUIT FROM NEW MOTOR CONTROL PANEL TO EXISTING ODOR COPNTROL DISCONNECT.
- ⑧ SEE CONNECTION DETAILS ON SHEET E16.
- ⑨ SERVICE ENTRANCE RATED, FUSED DOUBLE THROW SWITCH.
- ⑩ PM1 JUNCTION BOX, SEE SHEETS E5 AND E19 FOR DETAILS.

ROMAN D. KORCHAK, P.E. #42626  
ELECTRICAL SECTION HEAD  
WASTEWATER DEPARTMENT

No.	DATE	REVISIONS
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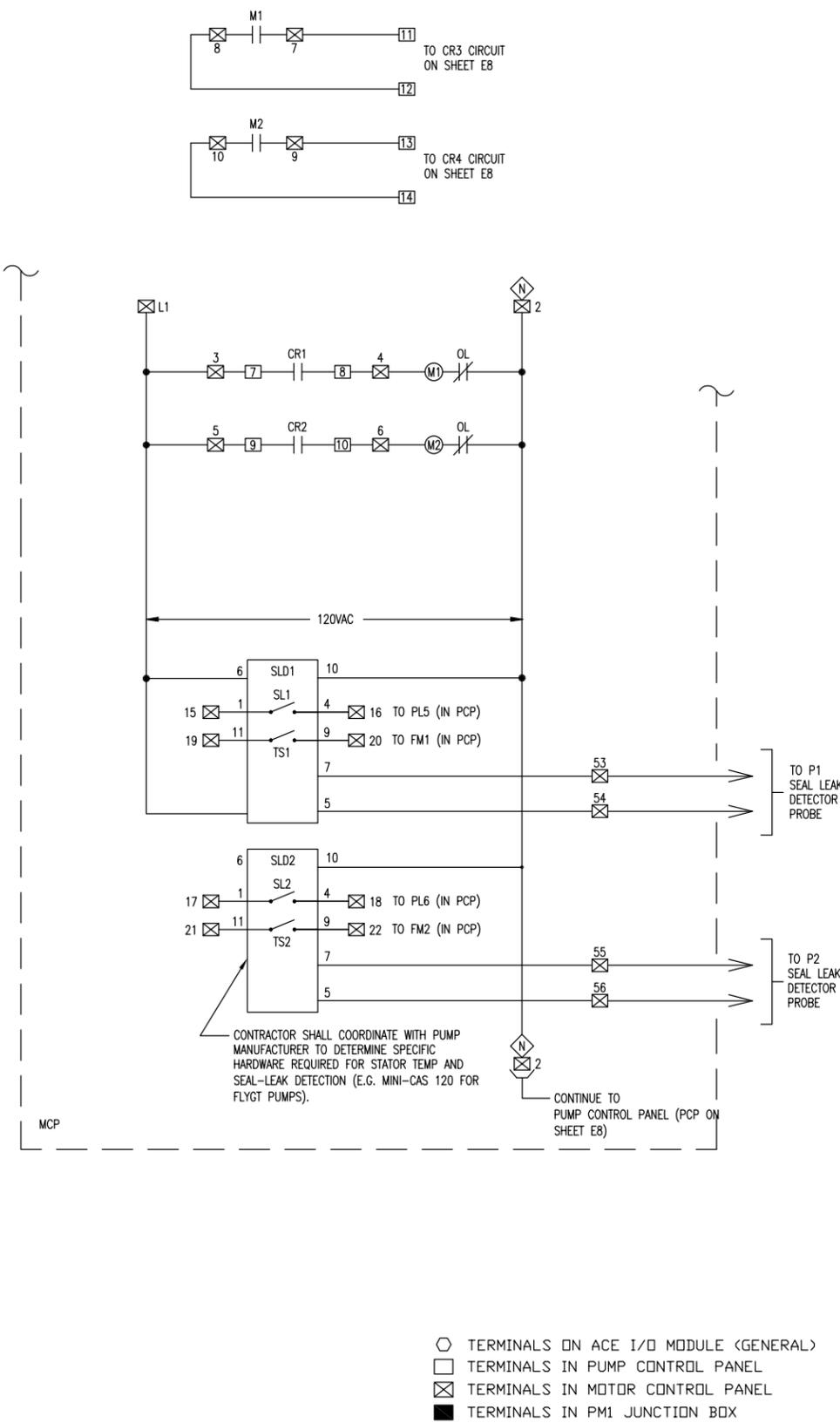
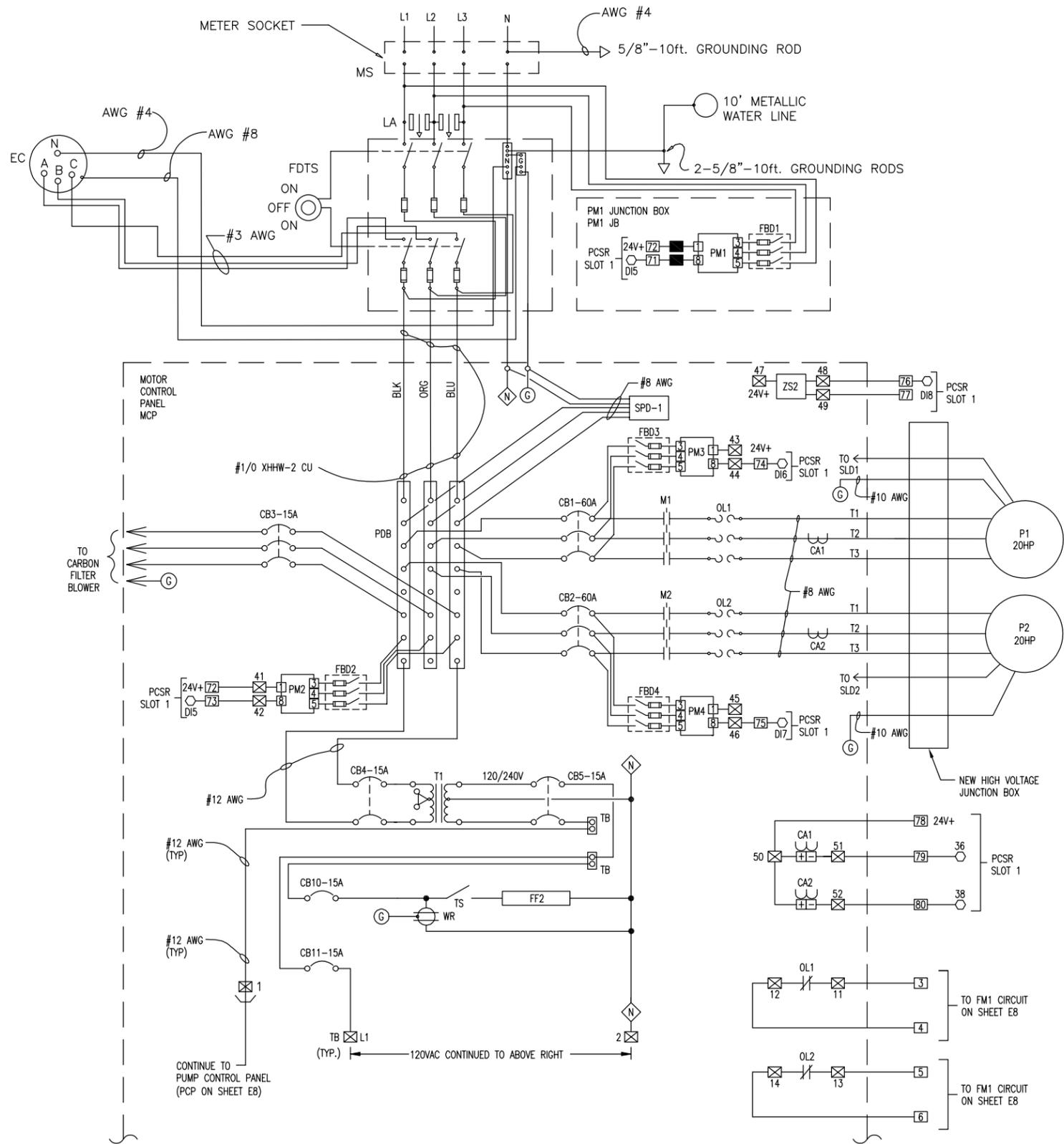
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DRN: JHJ  
CKD:  
DATE: 7/25/18

CITY of TAMPA  
WASTEWATER DEPARTMENT

MIDLAKE PS REHABILITATION  
ONE LINE DIAGRAM

W.O. 0000  
SHEET  
E6

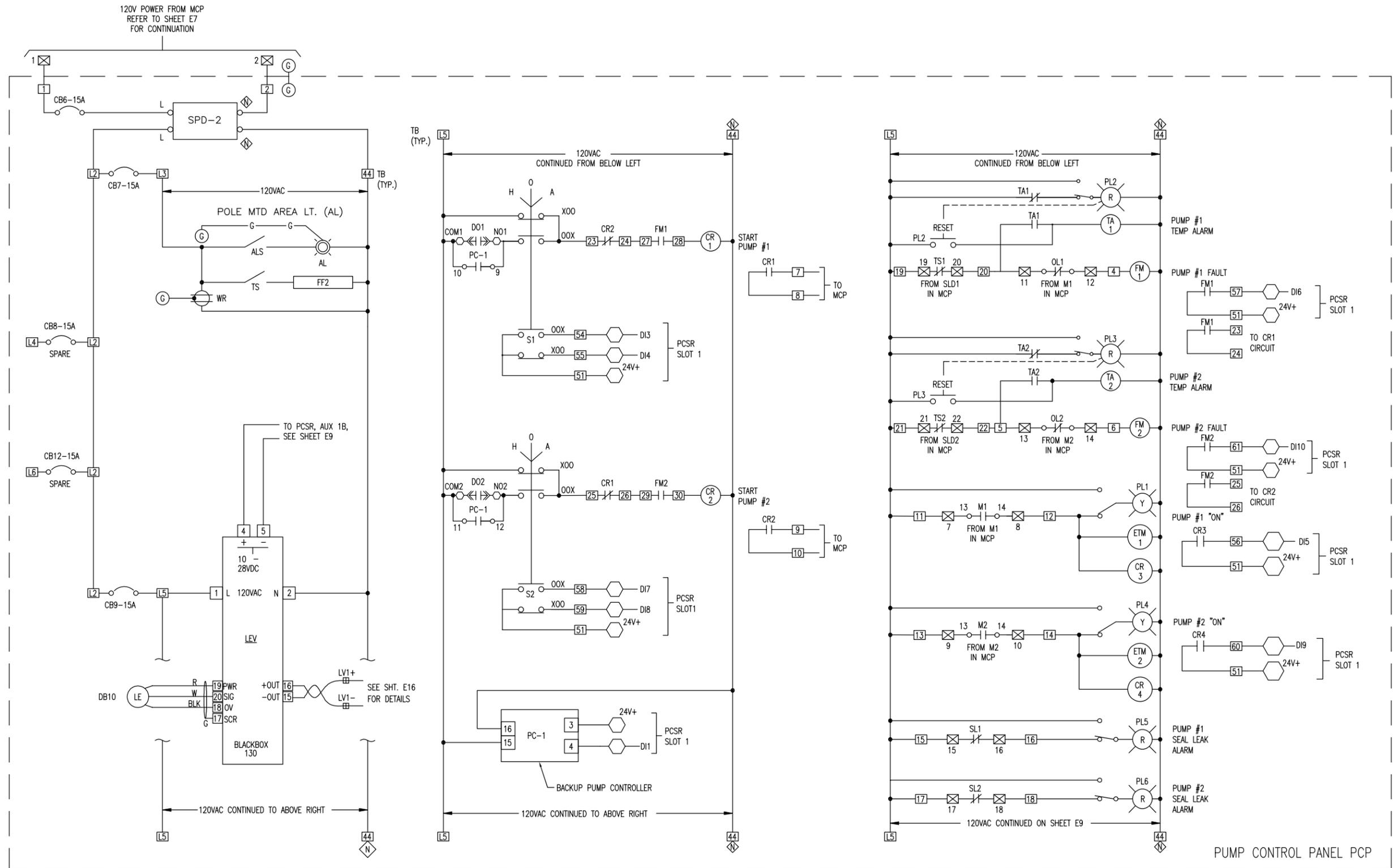
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- TERMINALS ON ACE I/O MODULE (GENERAL)
- TERMINALS IN PUMP CONTROL PANEL
- ⊗ TERMINALS IN MOTOR CONTROL PANEL
- TERMINALS IN PM1 JUNCTION BOX

ROMAN D. KORCHAK, P.E. #42626 ELECTRICAL SECTION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: LRG	<b>CITY of TAMPA</b> WASTEWATER DEPARTMENT	MIDLAKE PS REHABILITATION ELECTRICAL SCHEMATIC (1 OF 4) MOTOR CONTROL PANEL	W.O. 0000
	3			DRN: JHJ			SHEET
	2			CKD:			E7
	1			DATE: 7/25/18			

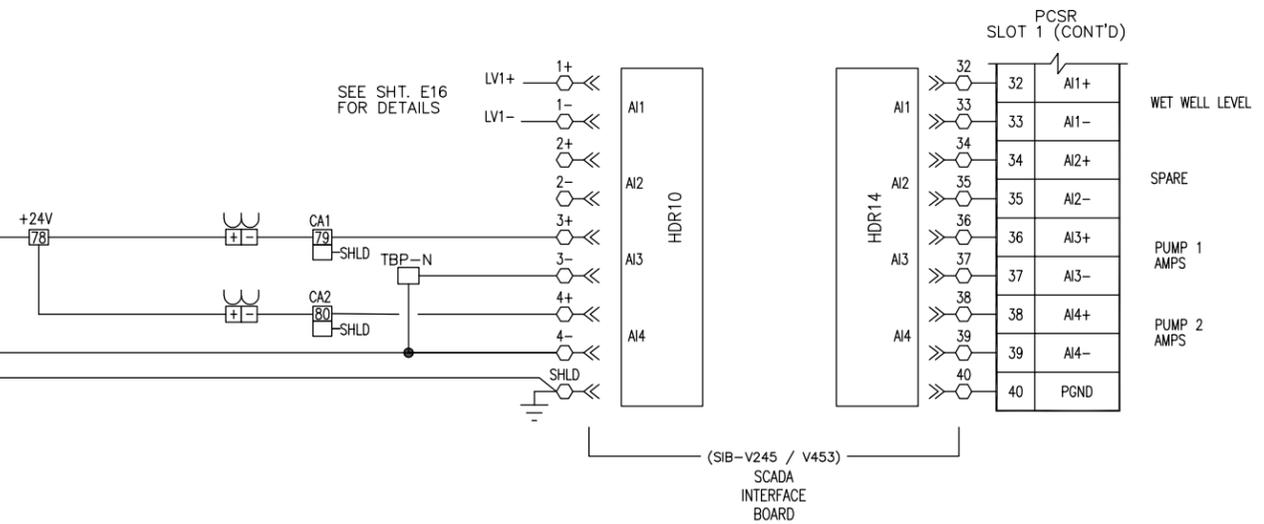
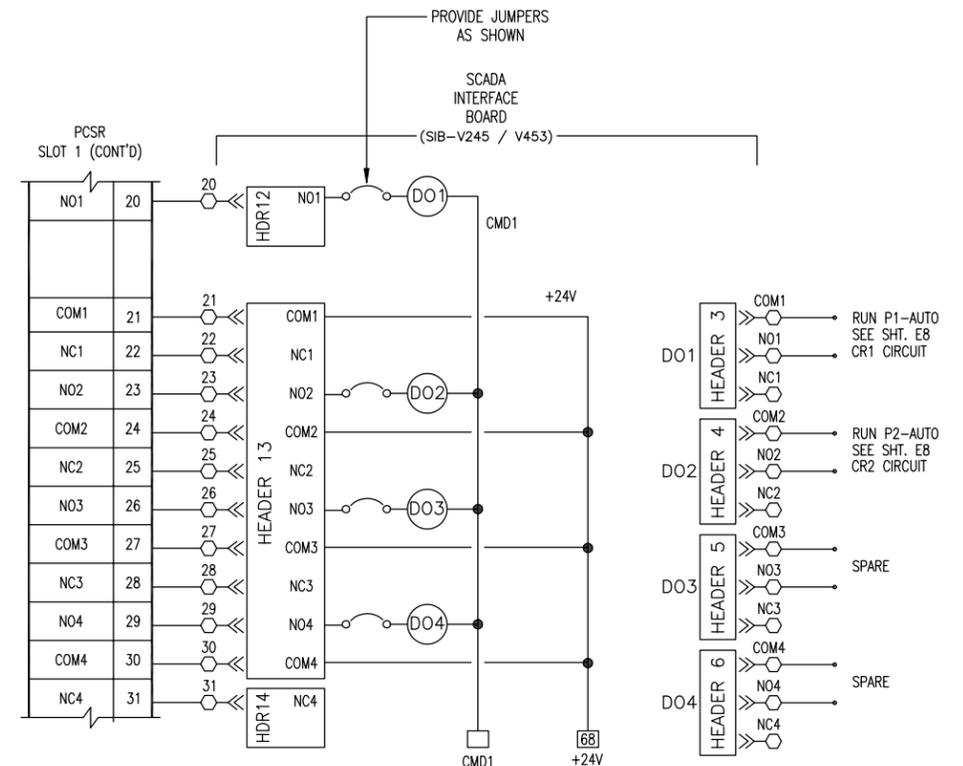
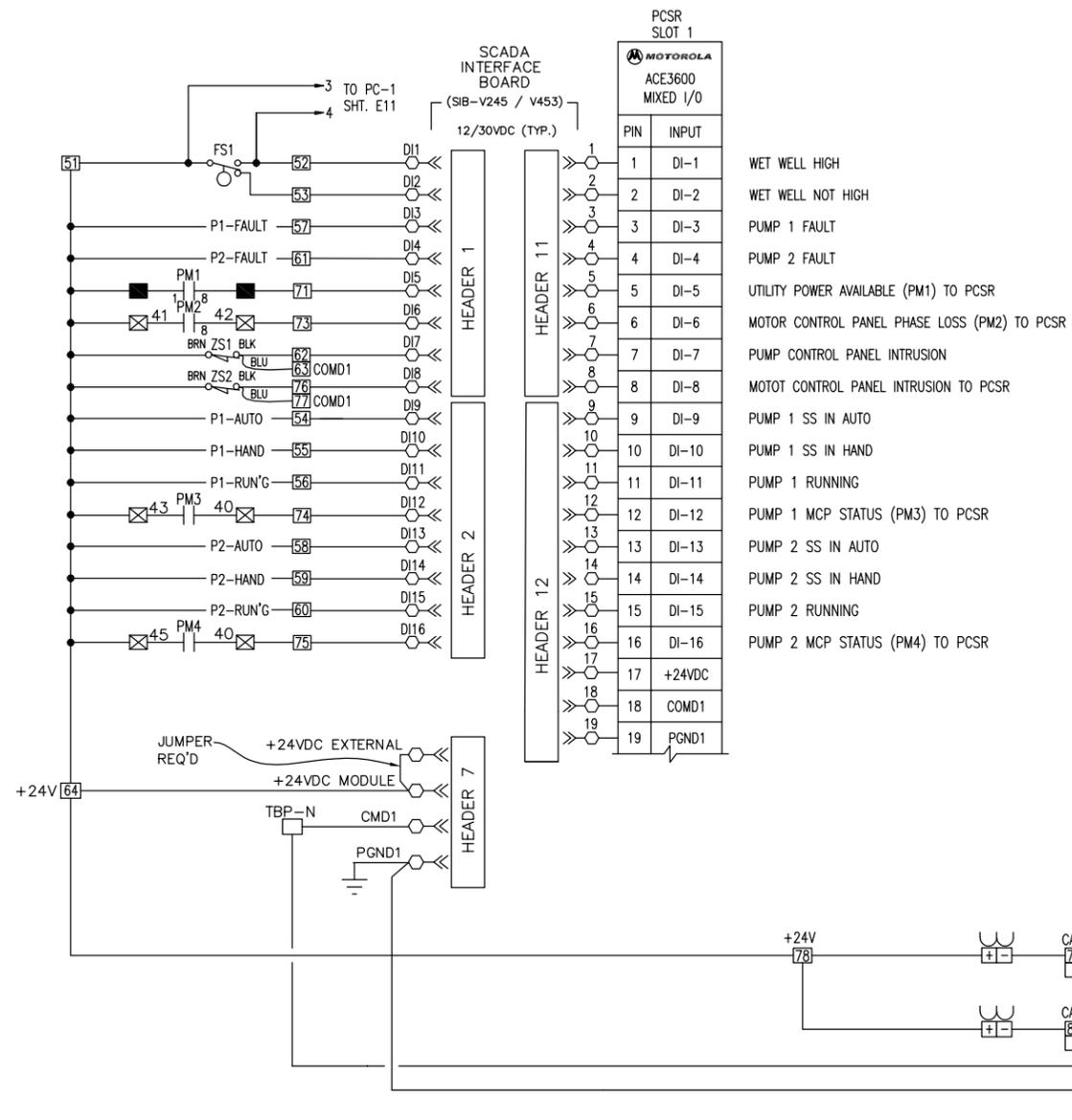
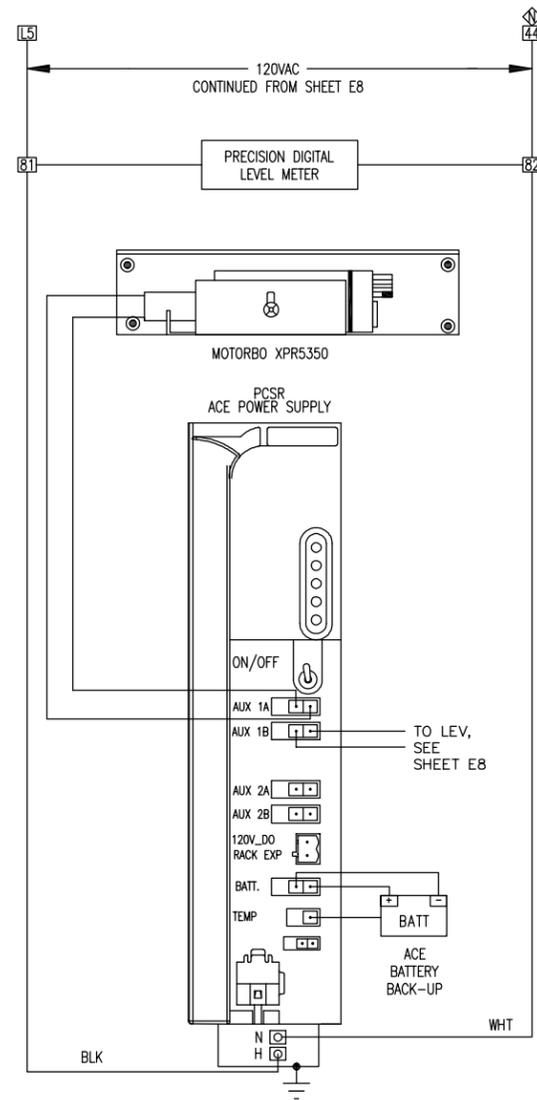
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- TERMINALS ON ACE I/O MODULE (GENERAL)
- TERMINALS IN PUMP CONTROL PANEL (PCP)
- ⊗ TERMINALS IN MOTOR CONTROL PANEL (MCP)

ROMAN D. KORCHAK, P.E. #42626 ELECTRICAL SECTION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: LRG	<b>CITY of TAMPA</b> <b>WASTEWATER DEPARTMENT</b>	<b>MIDLAKE PS REHABILITATION</b> <b>ELECTRICAL SCHEMATIC (2 OF 4)</b> <b>PUMP CONTROL PANEL</b>	W.O. 0000
	3			DRN: JHJ			SHEET
	2			CKD:			<b>E8</b>
	1			DATE: 7/13/18			

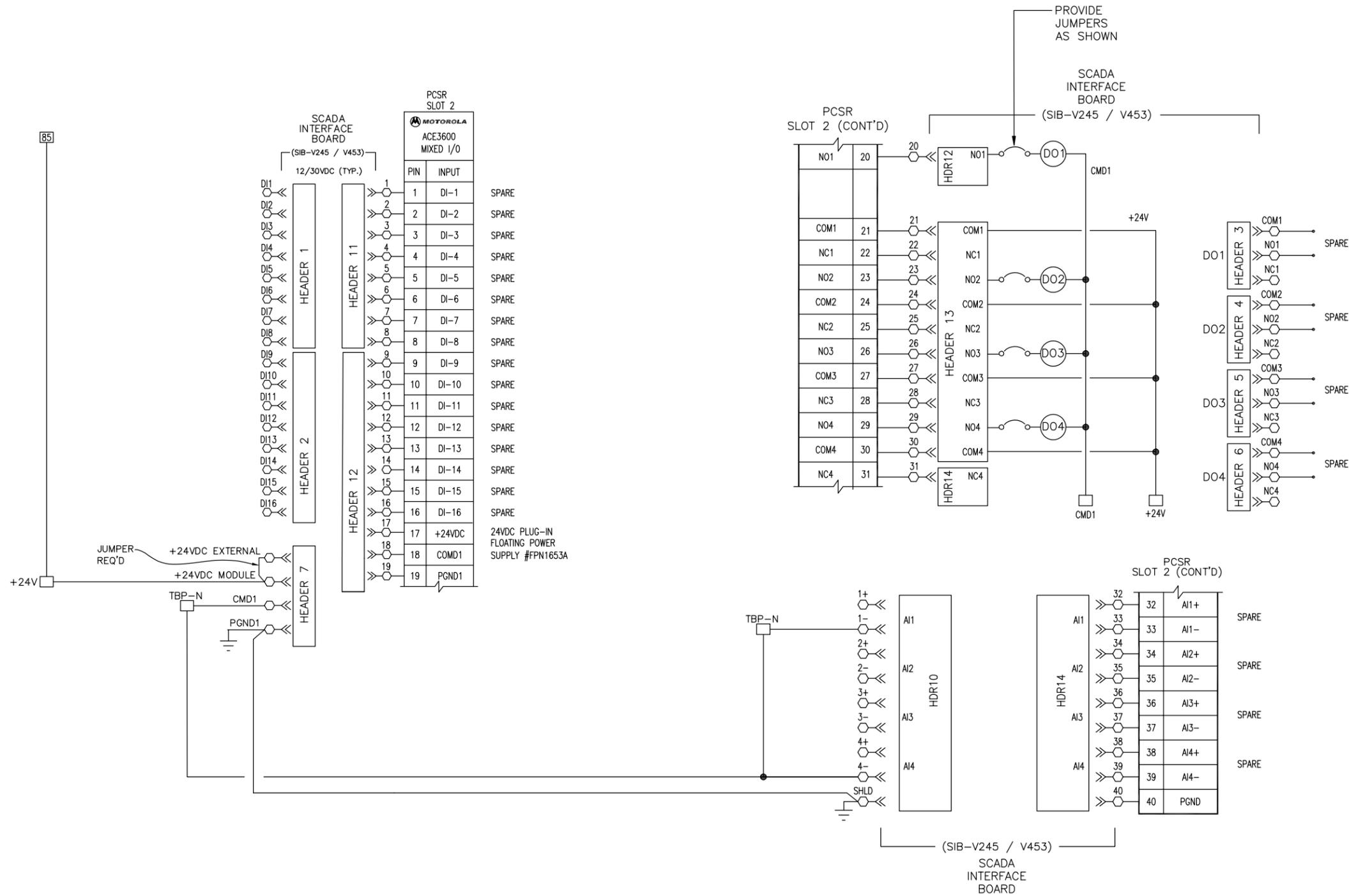
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- TERMINALS ON ACE I/O MODULE (GENERAL)
- TERMINALS IN PUMP CONTROL PANEL
- ⊗ TERMINALS IN MOTOR CONTROL PANEL
- TERMINALS IN PM1 DISCONNECT ENCLOSURE

ROMAN D. KORCHAK, P.E. #42626 ELECTRICAL SECTION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: LRG DRN: JHJ CKD: DATE: 7/17/18	<b>CITY of TAMPA</b> <b>WASTEWATER DEPARTMENT</b>	<b>MIDLAKE PS REHABILITATION</b> <b>ELECTRICAL SCHEMATIC (3 OF 4)</b> <b>PUMP CONTROL PANEL</b>	W.O. 0000
	3						SHEET
	2						<b>E9</b>
	1						

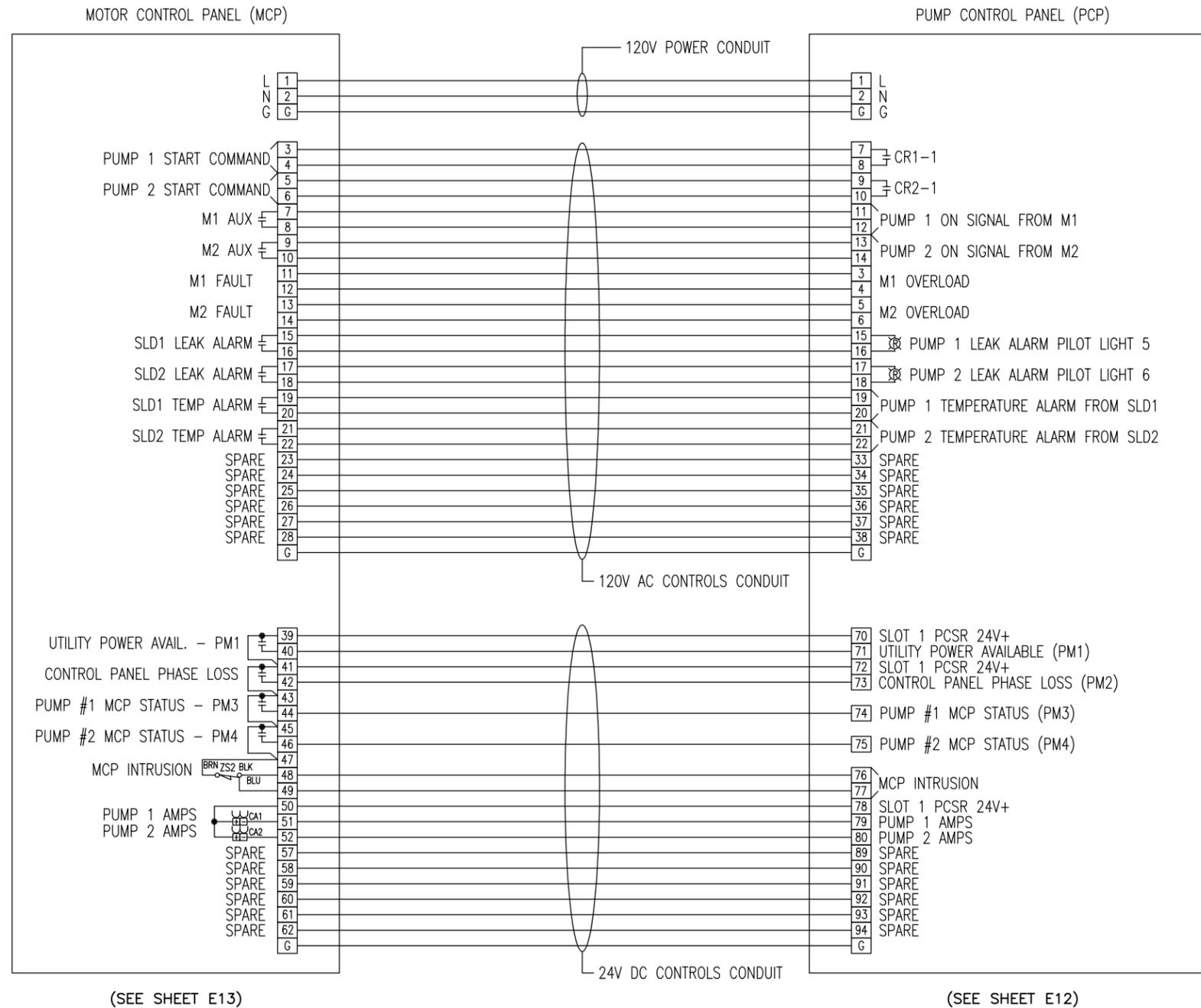
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 Layout: Jul 25, 2018 - 3:38pm



○ TERMINALS ON ACE I/O MODULE (GENERAL)  
 □ TERMINALS IN PUMP CONTROL PANEL  
 ⊗ TERMINALS IN MOTOR CONTROL PANEL

ROMAN D. KORCHAK, P.E. #42626 ELECTRICAL SECTION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: LRG DRN: JHJ CKD: DATE: 7/25/18	<b>CITY of TAMPA</b> <b>WASTEWATER DEPARTMENT</b>	<b>MIDLAKE PS REHABILITATION</b> <b>ELECTRICAL SCHEMATIC (3 OF 4)</b> <b>PUMP CONTROL PANEL</b>	W.O. 0000
	3						SHEET
	2						<b>E10</b>
	1						

User: ss13 Drawing Name: K:\Wastewater\Projects\Midlake Pump Station Rehabilitation\Design\Plans\Drafting\DWG\MIDLAKE ELECTRICAL DRAFTING 1.dwg Layout: Jul 12, 2018 - 9:45am



ROMAN D. KORCHAK, P.E. #42626  
ELECTRICAL SECTION HEAD  
WASTEWATER DEPARTMENT

No.	DATE	REVISIONS
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DES: LRG  
DRN: JHJ  
CKD:  
DATE: 7/13/18

**CITY of TAMPA**  
WASTEWATER DEPARTMENT

MIDLAKE PS REHABILITATION  
MCP TO PCP INTERCONNECTION WIRING DIAGRAM

W.O. 0000  
SHEET  
**EII**

User: ss13 Drawing Name: K:\Wastewater\Projects\Midlake Pump Station Rehabilitation\Design\Plans\Drafting\DWG\MIDLAKE ELECTRICAL DRAFTING 1.dwg Layout: Jul 12, 2018 - 4:55pm

TB1 (□) (120V AC) MOUNTED ON PUMP CONTROL PANEL (PCP)	
TERM.	DESCRIPTION
1	120V FROM MOTOR CONTROL PANEL
2	NEUTRAL FROM MOTOR CONTROL PANEL
3	M1 OVERLOAD
4	M1 OVERLOAD
5	M2 OVERLOAD
6	M2 OVERLOAD
7	PUMP 1 START COMMAND TO M1 (IN MCP)
8	PUMP 1 START COMMAND TO M1 (IN MCP)
9	PUMP 2 START COMMAND TO M2 (IN MCP)
10	PUMP 2 START COMMAND TO M2 (IN MCP)
11	P1 "ON" SIGNAL FROM M1 (IN MCP)
12	P1 "ON" SIGNAL FROM M1 (IN MCP)
13	P2 "ON" SIGNAL FROM M2 (IN MCP)
14	P2 "ON" SIGNAL FROM M2 (IN MCP)
15	PUMP 1 LEAK ALARM FROM MCP
16	PUMP 1 LEAK ALARM FROM MCP
17	PUMP 2 LEAK ALARM FROM MCP
18	PUMP 2 LEAK ALARM FROM MCP
19	PUMP 1 TEMPERATURE ALARM FROM MCP
20	PUMP 1 TEMPERATURE ALARM FROM MCP
21	PUMP 2 TEMPERATURE ALARM FROM MCP
22	PUMP 2 TEMPERATURE ALARM FROM MCP
23	PUMP 1 INTERLOCK
24	PUMP 1 INTERLOCK
25	PUMP 2 INTERLOCK
26	PUMP 2 INTERLOCK
27	PUMP 1 FAULT RELAY CONTACT
28	PUMP 1 FAULT RELAY CONTACT
29	PUMP 2 FAULT RELAY CONTACT
30	PUMP 2 FAULT RELAY CONTACT
31-43	SPARE

TB1 CONTINUED

44	SPD-2 NEUTRAL OUT
L1	SPD-2 NEUTRAL OUT
L2	MAIN BREAKER CB6
L3	CB7 OUT
L4	SPARE CB8 BREAKER
L5	CB9 OUT
L6	SPARE CB12 BREAKER

TB2 (□) (24V DC) MOUNTED ON PUMP CONTROL PANEL (PCP)	
TERM.	DESCRIPTION
51	SLOT 1 PCSR 24V+
52	WET WELL HIGH
53	WET WELL NOT HIGH
54	PUMP 1 "AUTO" TO PCSR
55	PUMP 1 "HAND" TO PCSR
56	PUMP 1 "ON" TO PCSR
57	PUMP 1 "FAULT" TO PCSR
58	PUMP 2 "AUTO" TO PCSR
59	PUMP 2 "HAND" TO PCSR
60	PUMP 2 "ON" TO PCSR
61	PUMP 2 "FAULT" TO PCSR
62	} PUMP CONTROL PANEL INTRUSION
63	
64	SLOT 1 PCSR 24V+
65	SPARE
66	SLOT 1 PCSR 24V+
67	SPARE
68	SLOT 1 PCSR 24V+
69	SPARE
70	SLOT 1 PCSR 24V+
71	UTIL POWER AVAILABLE (PM1) TO PCSR
72	SLOT 1 PCSR 24V+
73	MOTOR CONTROL PANEL PHASE LOSS (PM2)
74	PUMP #1 MCP STATUS (PM3) TO PCSR
75	PUMP #2 MCP STATUS (PM4) TO PCSR
76	} MOTOR CONTROL PANEL INTRUSION
77	
78	SLOT 1 PCSR 24V+
79	PUMP 1 AMPS
80	PUMP 2 AMPS
81	PROCESS METER FOR LEVEL 120V-POWER
82	PROCESS METER FOR LEVEL 120V-NEUTRAL
83	SPARE SLOT 1 TERMINALS
84	SPARE SLOT 1 TERMINALS

TB1 CONTINUED

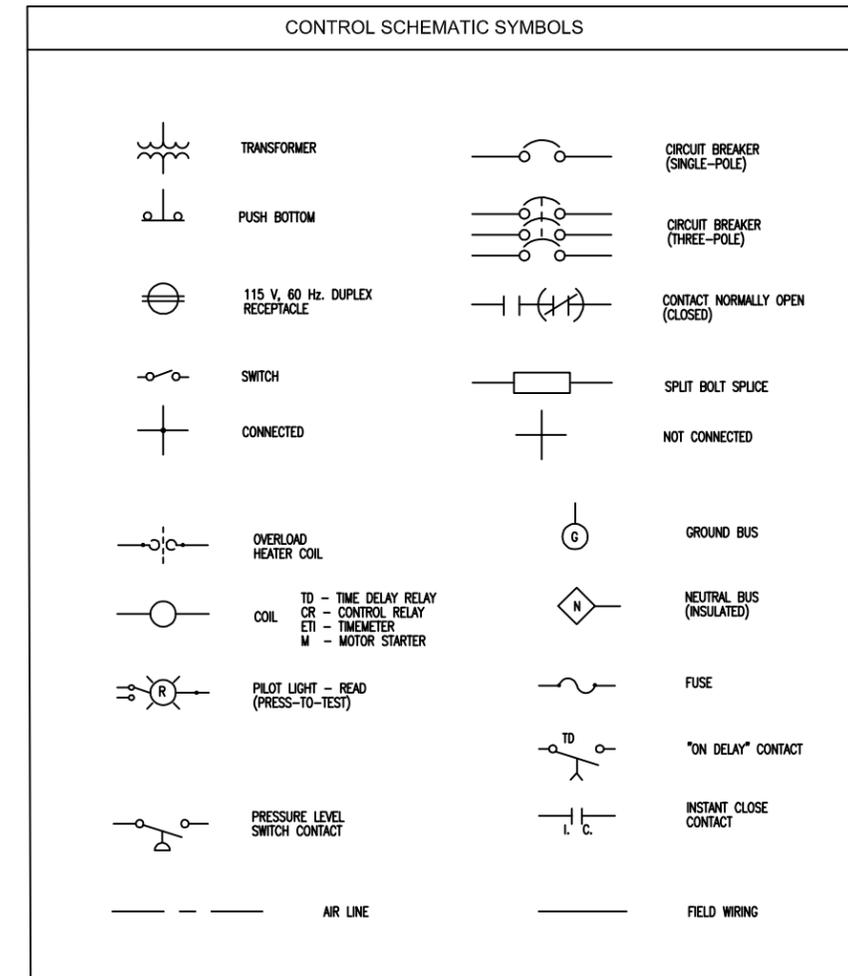
85	SLOT 2 PCSR 24V+
86	SLOT 2 PCSR 24V+
87	SLOT 2 PCSR 24V+
88-100	SPARE SLOT 2 TERMINALS

X-Y  
-BB- TERMINAL POINT MOUNTED ON PCP (INTERFACE TO PCSR)

○ TERMINAL POINT ON PCSR

□ TERMINAL POINT IN PUMP CONTROL PANEL (PCP)

⊗ TERMINAL POINT IN MOTOR CONTROL PANEL (MCP)



ROMAN D. KORCHAK, P.E. #42626 ELECTRICAL SECTION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS
	3		
	2		
	1		

DES: LRG  
 DRN: JHJ  
 CKD:  
 DATE: 7/13/18

**CITY of TAMPA**  
 WASTEWATER DEPARTMENT

MIDLAKE PS REHABILITATION  
 ELECTRICAL SCHEMATIC LEGEND (SHT. 1 OF 2)

W.O. 0000

SHEET

**E12**

User: ss13 Drawing Name: K:\Wastewater Projects\Midlake Pump Station Rehabilitation\Design\Plans\Drafting\DWG\MIDLAKE ELECTRICAL DRAFTING 1.dwg Layout: Jul 12, 2018 - 2:48pm

TB3 (☒) (120V AC) MOUNTED ON MOTOR CONTROL PANEL (MCP)	
TERM.	DESCRIPTION
1	120V TO PUMP CONTROL PANEL
2	NEUTRAL (CONTINUED TO PUMP CONTROL PANEL)
3	PUMP 1 START COMMAND FROM CR1-1 (IN PCP)
4	PUMP 1 START COMMAND FROM CR1-1 (IN PCP)
5	PUMP 2 START COMMAND FROM CR2-1 (IN PCP)
6	PUMP 2 START COMMAND FROM CR2-1 (IN PCP)
7	PUMP 1 'ON' SIGNAL TO CR3 (IN PCP)
8	PUMP 1 'ON' SIGNAL TO CR3 (IN PCP)
9	PUMP 2 'ON' SIGNAL TO CR4 (IN PCP)
10	PUMP 2 'ON' SIGNAL TO CR4 (IN PCP)
11	M1 FAULT SIGNAL TO PCP
12	M1 FAULT SIGNAL TO PCP
13	M2 FAULT SIGNAL TO PCP
14	M2 FAULT SIGNAL TO PCP
15	PUMP 1 LEAK DETECTED TO PILOT LIGHT 5 (IN PCP)
16	PUMP 1 LEAK DETECTED TO PILOT LIGHT 5 (IN PCP)
17	PUMP 2 LEAK DETECTED TO PILOT LIGHT 6 (IN PCP)
18	PUMP 2 LEAK DETECTED TO PILOT LIGHT 6 (IN PCP)
19	PUMP 1 TEMPERATURE ALARM TO FM1 (IN PCP)
20	PUMP 1 TEMPERATURE ALARM TO FM1 (IN PCP)
21	PUMP 2 TEMPERATURE ALARM TO FM2 (IN PCP)
22	PUMP 2 TEMPERATURE ALARM TO FM2 (IN PCP)
23-37	SPARE
L1	CB11 OUT MOTOR CONTROL PANEL POWER

TB4 (☒) (24V DC) MOUNTED ON MOTOR CONTROL PANEL (MCP)	
TERM.	DESCRIPTION
39	SPARE
40	SPARE
41	SLOT 1 PCSR 24V+
42	MOTOR CONTROL PANEL PHASE LOSS (PM2) TO PCSR
43	SLOT 1 PCSR 24V+
44	PUMP #1 MCP STATUS PHASE LOSS (PM3) TO PCSR
45	SLOT 1 PCSR 24V+
46	PUMP #2 MCP STATUS PHASE LOSS (PM4) TO PCSR
47	SLOT 1 PCSR 24V+
48	} MOTOR CONTROL PANEL INTRUSION
49	
50	SLOT 1 PCSR 24V+
51	PUMP 1 AMPS
52	PUMP 2 AMPS
53	PUMP 1 SEAL LEAK DETECTOR PROBE
54	PUMP 1 SEAL LEAK DETECTOR PROBE
55	PUMP 1 SEAL LEAK DETECTOR PROBE
56	PUMP 1 SEAL LEAK DETECTOR PROBE
57-66	SPARE
X-Y	TERMINAL POINT MOUNTED ON PCP (INTERFACE TO PCSR)
—□—	TERMINAL POINT ON PCSR
○	TERMINAL POINT IN PUMP CONTROL PANEL (PCP)
☒	TERMINAL POINT IN MOTOR CONTROL PANEL (MCP)

ROMAN D. KORCHAK, P.E. #42626 ELECTRICAL SECTION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: LRG	<b>CITY of TAMPA</b> <b>WASTEWATER DEPARTMENT</b>	MIDLAKE PS REHABILITATION ELECTRICAL SCHEMATIC LEGEND (SHT. 2 OF 2)	W.O. 0000
	3			DRN: JHJ			SHEET
	2			CKD:			<b>E13</b>
	1			DATE: 7/13/18			

User: ss13 Drawing Name: K:\Wastewater Projects\Midlake Pump Station Rehabilitation\Design\Plans\Drafting\DWG\MIDLAKE ELECTRICAL DRAFTING 1.dwg Layout: Jul 17, 2018 - 12:53pm

PARTS SCHEDULE (PUMP CONTROL PANEL)							
SYMBOL	NAME	PART			RATING	REMARKS	
		MAKE	TYPE	MODEL OR CAT. #			
PCSR		PLC BASED PUMP CONTROLLER, SCADA, AND RADIO SYSTEM	MOTOROLA CORP.	DUPLEX PUMP CONTROLLER BASED ON ACE 3600 PROGRAM CONTROLLER	ACE 3600 BASIC MODEL NO. RADIO PART #7509	1-AC POWER SUPPLY 85-264V W/ BAT CHARGER PAR #: V261	COORDINATE EFFORT W/ SCADA INTEGRATOR 1- 10.0 Ah BATTERY PART #: V32B
	SLOTS 1 & 2		MOTOROLA CORP.	2-MIXED I/O AUXILIARY INTERFACE WILKERSON BOARD PART #: SIB V245/ V453	MOTORBO XPR5350 RADIO UNF RI: 403-470MHZ, PART #UE1078A MOTORBO ANALOG RADIO INSTALLATION KIT PART #FLN1059	1- ACE CPU3640 PART #: V446	
		1-3 I/O SLOT FRAM PART #: V103	1-20 PIN TB HOLDER KIT PART #: V158	1- 14x 14 METAL CHASSIS PART #: V214	1-ACE MIXED I/O MODULE-16DI, 4DO(E), (4)±20mA ANALOG IN PART #: V245 W/ 24VDC PLUG-IN, FLOATING POWER SUPPLY # FPN1653A	1-40 PIN TB HOLDER KIT PART #: V153	
	10.0 Ah BATT.						
PC-1	BACKUP PUMP CONTROLLER	WILKERSON	DUPLEX LIFT STATION	DR1920	10 AMP CONTACTS	DIN RAIL MOUNTING	
FTB1	FUSED TERMINAL BLOCKS	PHOENIX CONTACT		UK 5-HESI	PROVIDE 1, 2, & 5A FUSES	PROVIDE COOPER BUSSMAN GDB SERIES FUSES	
F1	PROCESS METER	PRECISION DIGITAL	4 DIGIT, 1.2" DISPLAY	PD765-6R0-10		PROVIDE 4-20mA OUTPUT	
CB 6, 7, 8, 9, 12,	CIRCUIT BREAKER	SQUARE D	SINGLE POLE	QOU-115	120 V, 15A		
PL1, PL4	INDICATOR LIGHT	SQUARE D	CLASS 9001	SKT - 38LYA9	120 V, LED TYPE	YELLOW LENS & PRESS TEST	
PL2, PL3	INDICATOR LIGHT	SQUARE D	CLASS 9001	SKT - 38LRR9	120 V, LED TYPE	RED LENS & PRESS TEST	
PL5, PL6	INDICATOR LIGHT	SQUARE D	CLASS 9001	SKT - 38LRR9	120 V, LED TYPE	RED LENS & PRESS TEST	
S1, S2	HOA SWITCH ASSEMBLY	SQUARE D	OIL-TIGHT CLASS 9001	SKS - 43B H2	10A @ 120V		
ETM1, ETM2	ELAPSED TIME METER	CRAMER	ROUND BEZEL, NON RESET	635E&S	120 V	W.W. GRANGER CAT. NO. 6X144	
ZS1	CONTROL PNL INTRUSION SENSOR	OMRON	CYLINDRICAL, SHORT BARREL	E2F-X5F1 (GRAINGER-1EA77)	12-24VDC, 3-WIRE PNP	W/ TELEMECANIQUE MTG. BRACKET (GRAINGER - 5B233)	
FF1 & TS	LED LIGHTING FIXTURE	HOFFMAN	LED	LEDA1S35	120 V, 5W	W/TOGGLE SWITCH-TS	
WR	WALL RECEPTACLE	HUBBELL	DUPLEX W/GFI	GF5262	120V AC, 15A GFI	W/ALUMINUM OUTLET BOX AND COVER	
TB1, TB2,	TERMINALS	PHOENIX CONTACT		UK5N TERMINALS	30 A W/ ALUM. DIN RAIL	50 CONTACTS (MIN)	
ITS	INSULATED TERMINAL STRIP	ALLEN-BRADLEY	STYLE AA	1492-15-T	600 V AC NEUTRAL BLOCK	4 CONTACTS (MIN) W/ SHORTING BARS	
GB1	GROUND BAR SYSTEM	PANDUIT	12 PORT WITH MAIN LUG	UGB2/0-414-12		COPPER CONSTRUCTION	
GB2	GROUNDING BLOCK	ILSCO	AS REQUIRED	AS REQUIRED			
TA1, TA2	CONTROL RELAY	POTTER & BRUMFIELD	8 PIN PLUG-IN	KRPA-11AG-120	120V AC COIL, 10A CONTACTS	DPDT W/ SOCKET AND HOLD DOWN SPRING	
FM1, FM2	CONTROL RELAY	POTTER & BRUMFIELD	11 PIN PLUG-IN	KRPA-14AG-120	120V AC COIL, 10A CONTACTS	3PDT W/ SOCKET AND HOLD DOWN SPRING	
LEV	WET WELL LEVEL SENSOR	PULSAR, INC.	ULTRASONIC	dB10 TRANSDUCER W/ BLACKBOX 130 TRANSMITTER PART #: 130-110-300-00P-KP-TROP	1 TD 32.8 FT RANGE 115VAC/24VDC POWERED W/ 4-20MA AND (2) RELAY OUT W/ KEY PAD, DISPLAY, AND TROPICALIZATION	CITY FORCES WILL PROVIDE ASSISTANCE WITH MOUNTING AND CALIBRATION	
CR1, CR2	CONTROL RELAY	POTTER & BRUMFIELD	14-BLADE SQUARE PLUG-IN	KUP-L7A19-120	120V AC COIL, 10A CONTACTS	4PDT W/ SOCKET AND HOLD DOWN SPRING	
PCP	PUMP CONTROL PANEL ENCLOSURE	HOFFMAN	NEMA 4X, 3P LATCH, 42"x36"x12"	42"x36"x12" SS	304 SS, POWDER COATED WHITE	3P LATCH W/STOP KIT. EXTERNAL FINISH DURABLE RAL 9003 WHITE POWER COAT.	
PP	ENCLOSURE PANEL	HOFFMAN	39" X 33", STEEL	A42P36	STEEL, 12 GAUGE		
NB1, 2	NEUTRAL DISTRIBUTION BLOCK	BUSSMAN	SINGLE POLE	16220-1	600V, 175A		
ALS	AREA LIGHT SWITCH	HUBBELL	SINGLE-POLE	HBL1221	277V, 20A		
SPD-2	SURGE PROTECTION DEVICE TYPE 3	PHOENIX CONTACT	3 CONDUCTOR SYSTEM (L, N, G)	2856812	120V, 25A		

**NOTES:**

- ALARM FLOAT SWITCH WILL BE SUPPLIED BY WWD AND INSTALLED BY CONTRACTOR.
- DIMENSIONS, ITEMS, OR ELEVATIONS MARKED "\*" SHALL BE DETERMINED AFTER EQUIPMENT SELECTION.

ROMAN D. KORCHAK, P.E. #42626 ELECTRICAL SECTION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: LRG	<b>CITY of TAMPA</b> WASTEWATER DEPARTMENT	MIDLAKE PS REHABILITATION PARTS SCHEDULE (SHT. 1 OF 2)	W.O. 0000
	3			DRN: JHJ			SHEET
	2			CKD:			<b>E14</b>
	1			DATE: 7/17/18			

User: ss13 Drawing Name: K:\Wastewater Projects\Midlake Pump Station Rehabilitation\Design\Plans\Drafting\DWG\MIDLAKE ELECTRICAL DRAFTING 1.dwg Layout: Jul 25, 2018 - 3:19pm

### PARTS SCHEDULE (MOTOR CONTROL PANEL)

SYMBOL	NAME	PART			RATING	REMARKS
		MAKE	TYPE	MODEL OR CAT. #		
CB 1	CIRCUIT BREAKER	SQUARE D	THREE POLE	HDL 36060	480 V, 60A	18 KAIC @ 480VAC
CB 2	CIRCUIT BREAKER	SQUARE D	THREE POLE	HDL 36060	480 V, 60A	
CB 3	CIRCUIT BREAKER	SQUARE D	THREE POLE	HDL 36015	480 V, 15A	
CB 4	CIRCUIT BREAKER	SQUARE D	TWO POLE	HDL26015	480 V, 15A	
CB 5	CIRCUIT BREAKER	SQUARE D	TWO POLE	QOU-215	240 V, 15A	
CB 10, 11	CIRCUIT BREAKER	SQUARE D	SINGLE POLE	QOU-115	120 V, 15A	
M1, 2	MOTOR STARTER	CUTLER-HAMMER	NEMA SIZE 2	AN16GN0AB	120V (COIL)	25HP (MAX)
OL1, 2	OVERLOAD RELAY	CUTLER-HAMMER	BIMETALLIC, AMBIENT COMPENSATED	H2013B-3	18.7-30.7A	
T1	TRANSFORMER	SQUARE D	OPEN TYPE	9070T2000D31	480V PRI, 120/240 V SEC.	2KVA
CA1, CA2	CIRCUIT SENSOR	ENERCORP INSTRUMENTS	4-20mA OUTPUT	SC200-1	0 - 50A	ADJUSTABLE RANGE
ZS2	CONTROL PNL INTRUSION SENSOR	OMRON	CYLINDRICAL, SHORT BARREL	E2F-X5F1 (GRAINGER-1EA77)	12-24VDC, 3-WIRE PNP	W/ TELEMECANIQUE MTG. BRACKET (GRAINGER - 5B233)
FF2 & TS	LED LIGHTING FIXTURE	HOFFMAN	LED	LEDA1S35	120 V, 5W	W/TOGGLE SWITCH-TS
SPD-1	SURGE PROTECTIVE DEVICE TYPE 1	ADVANCED PROTECTION TECHNOLOGIES	MOTOR CONTROL PANEL SPD	TE04XDS104X	277/480 V, 3Ø, 4W	
TB3, TB4	TERMINALS	PHOENIX CONTACT		UK5N TERMINALS	30 A W/ ALUM. DIN RAIL	50 CONTACTS (MIN)
ITS	INSULATED TERMINAL STRIP	ALLEN-BRADLEY	STYLE AA	1492-15-T	600 V AC NEUTRAL BLOCK	4 CONTACTS (MIN) W/ SHORTING BARS
MCP	MOTOR CONTROL PANEL ENCLOSURE	HOFFMAN	NEMA 4X, 3P LATCH, 42"x30"x12"	42"x30"x12" SS	304 SS, POWDER COATED WHITE	3P LATCH W/STOP KIT. EXTERNAL FINISH DURABLE RAL 9003 WHITE POWER COAT.
MP	ENCLOSURE PANEL	HOFFMAN	3Ø" X 27", STEEL	A42P30	STEEL, 12 GAUGE	
PM2, PM3, PM4	3-PHASE POWER MONITOR	ATC DIVERSIFIED ELECTRONICS	8 PIN PLUG-IN	SUA-440-ASA	440 VAC	W/ OPTIONAL 5-SEC RELEASE AND DIN RAIL SOCKET-RB08PC
FBD2, 3, 4	FUSE BLOCK / DISCONNECT	ALLEN BRADLEY	THREE PHASE- HIGH INTER. CAP.	1492-FB3C30-L	600 VAC, 200KAIC	W/ BUSSMANN KTK-R-2 FAST ACTING, REJECTION FUSES
FL	FLOAT SWITCH	ANCHOR SCIENTIFIC	SPDT	S2ONONC	10 A @ 120 V	PROVIDED BY THE CITY INSTALLED BY CONTRACTOR
FTB2	FUSED TERMINAL BLOCKS	PHOENIX CONTACT		UK 5-HESI	PROVIDE 1, 2, & 5A FUSES	PROVIDE COOPER BUSSMAN GDB SERIES FUSES
SLD1, SLD2	PUMP MONITORING UNIT	XYLEM		MINI-CAS 120	10A AT 240V AC	
PDB	PWR DIST. BLOCK	BUSSMANN/EATON	THREE POLE	PDBFS220	600 V, 175 AMP	BARRIER TERMINAL BLOCKS
GB2	GROUNDING BLOCK	ILSCO	AS REQUIRED	AS REQUIRED		

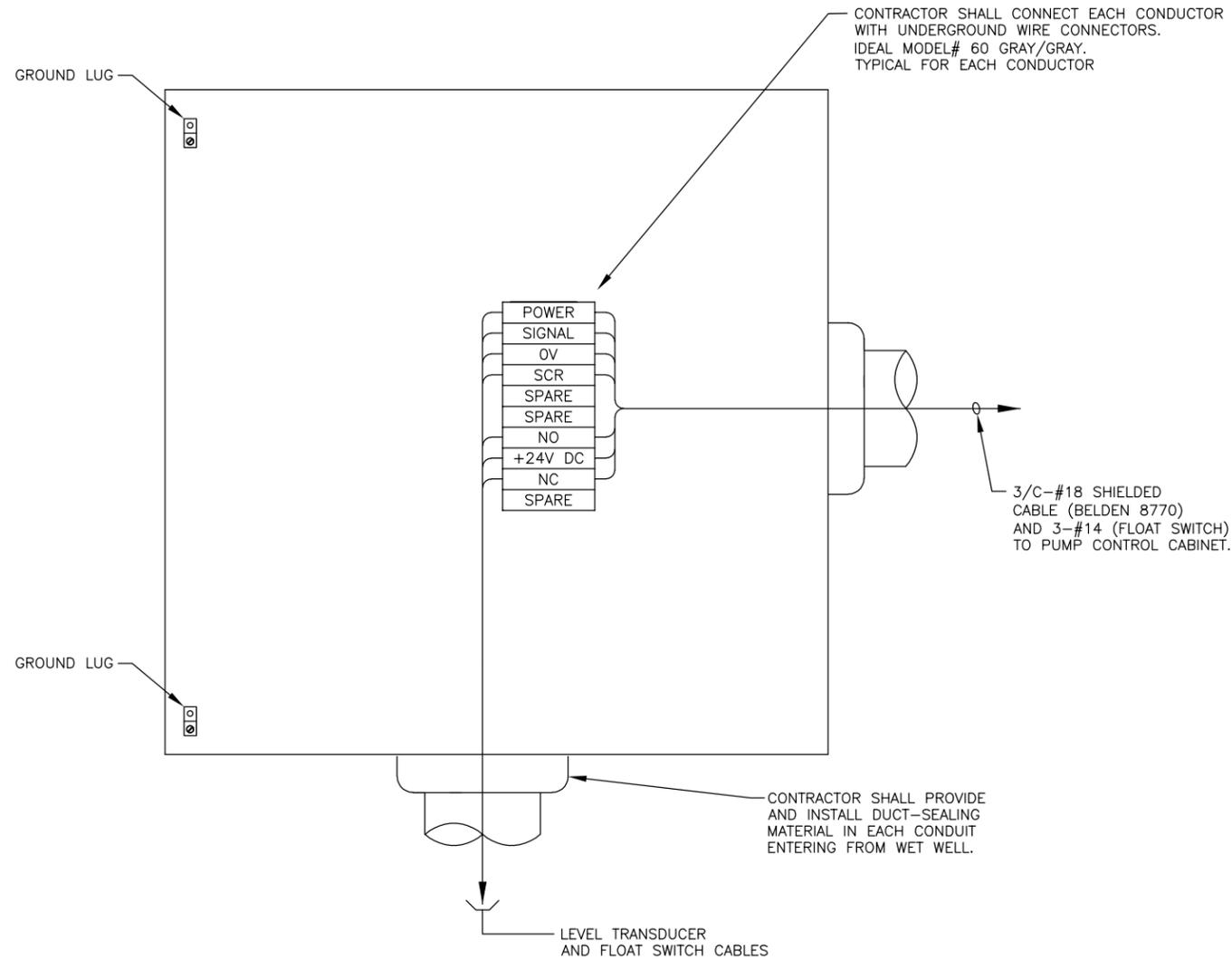
### PARTS SCHEDULE (MISCELLANEOUS)

PM1- JUNCTION BOX						
SYMBOL	NAME	PART			RATING	REMARKS
		MAKE	TYPE	MODEL OR CAT. #		
PM1	3-PHASE POWER MONITOR	ATC DIVERSIFIED ELECTRONICS	8 PIN PLUG-IN	SUA-440-ASA	440 VAC	W/ OPTIONAL 5-SEC RELEASE AND DIN RAIL SOCKET-RB08PC
FBD1	FUSE BLOCK / DISCONNECT	ALLEN BRADLEY	THREE PHASE- HIGH INTER. CAP.	1492-FB3C30-L	600 VAC, 200KAIC	W/ BUSSMANN KTK-R-2 FAST ACTING, REJECTION FUSES
PM1-JB	PHASE MONITOR JUNCTION BOX	HAMMOND MANUFACTURING	NEMA 4X, 8"x6"x3.5"	EJ863S16	316 S.S.	INSTALL DIN RAILS TO MOUNT PM1 AND FBD1
EXTERNAL ELECTRICAL						
SYMBOL	NAME	PART			RATING	REMARKS
		MAKE	TYPE	MODEL OR CAT. #		
FDT5	FUSED DOUBLE THROW DISCONNECT SWITCH	EATON	SERVICE ENTRANCE RATED, HEAVY DUTY	DT364FWK	DT200 NK NEUTRAL KIT DS200 GK GROUND KIT	TIME DELAY CLASS RK5 FUSES (3) EDISON ECSR150 (3) EDISON ECSR100 (PROVIDE (3) SPARES FOR EA.)
MS	METER SOCKET	MILBANK	7 TERMINAL	UAP9701-X-QG-HSP	600 VAC, 200 AMP	ALUMINUM CONSTRUCTION
EC	EMERGENCY CONNECTOR	CROUSE & HINDS	ARKTITE	AREA10415-S22 W/ BACK BOX, ANGLE ADAPTER, 1-1/2 HUB AND SPRING COVER	600V 100 AMP	
LA	LIGHTNING ARRESTER	GENERAL ELECTRIC	TRANQUELL	9L15ECC001	650V	
MCP-JB	MOTOR CONTROL PANEL JUNCTION BOX	WIEGMANN	NEMA 4X, 12"x12"x6"	BN4121206CHSS	304 S.S.	INSTALL S.S. LOUVER PLATE KIT WIEGMANN #WAVK0304SSA
PCP-JB	PUMP CONTROL PANEL JUNCTION BOX	WIEGMANN	NEMA 4X, 12"x12"x6"	BN4121206CHSS	304 S.S.	INSTALL S.S. LOUVER PLATE KIT WIEGMANN #WAVK0304SSA
PDB	PWR DIST. BLOCK	BUSSMANN/EATON	THREE POLE	PDBFS220	600 V, 175 AMP	BARRIER TERMINAL BLOCKS

1. ALARM FLOAT SWITCH WILL BE SUPPLIED BY WWD AND INSTALLED BY CONTRACTOR.
2. DIMENSIONS, ITEMS, OR ELEVATIONS MARKED "\*" SHALL BE DETERMINED AFTER EQUIPMENT SELECTION.

ROMAN D. KORCHAK, P.E. #42626 ELECTRICAL SECTION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: LRG	<b>CITY of TAMPA</b> WASTEWATER DEPARTMENT	MIDLAKE PS REHABILITATION PARTS SCHEDULE (SHT. 2 OF 2)	W.O. 0000
	3			DRN: JHJ			SHEET
	2			CKD:			<b>E15</b>
	1			DATE: 7/25/18			

User: ss13 Drawing Name: K:\Wastewater Projects\Midlake Pump Station Rehabilitation\Design\Plans\DWG\MIDLAKE ELECTRICAL DRAFTING 1.dwg Layout: Jul 12, 2018 - 2:56pm

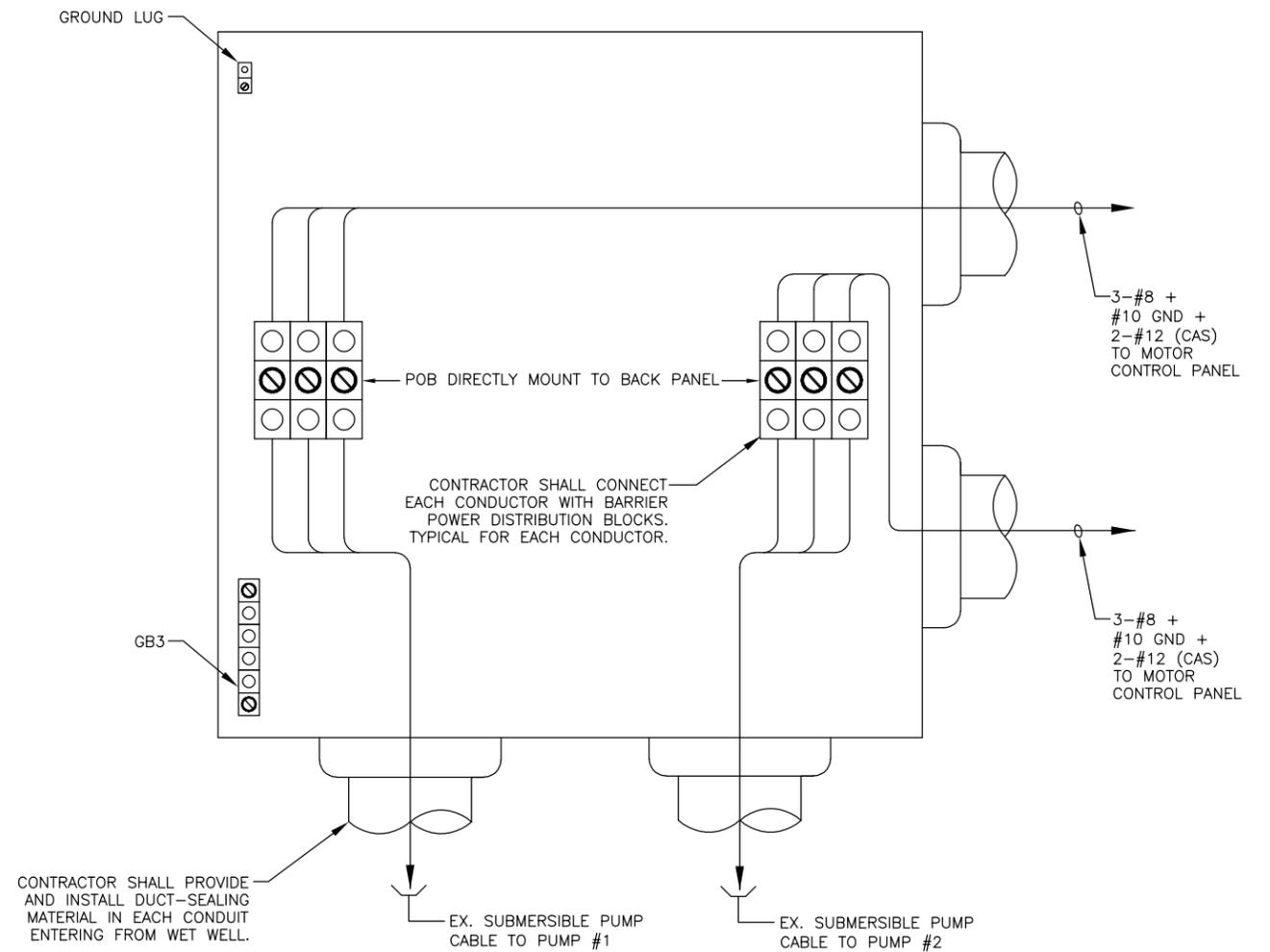


**NOTES:**

1. COVER NOT SHOWN FOR CLARITY
2. BOND GROUNDING CONDUCTORS TO ENCLOSURE BACK PANEL.

**INSTRUMENTATION AND CONTROLS JUNCTION BOX DETAIL**  
N.T.S.

**NOTE:**  
ALL HINGED SURFACES SHALL BE GROUNDED WITH A BONDING JUMPER SECURED TO THE ENCLOSURE OR BACKPANEL.



**NOTES:**

1. COVER NOT SHOWN FOR CLARITY
2. BOND GROUNDING CONDUCTORS TO ENCLOSURE BACK PANEL.

**PUMP MOTOR CONNECTIONS JUNCTION BOX DETAIL**  
N.T.S.

ROMAN D. KORCHAK, P.E. #42626 ELECTRICAL SECTION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS
	3		
	2		
	1		

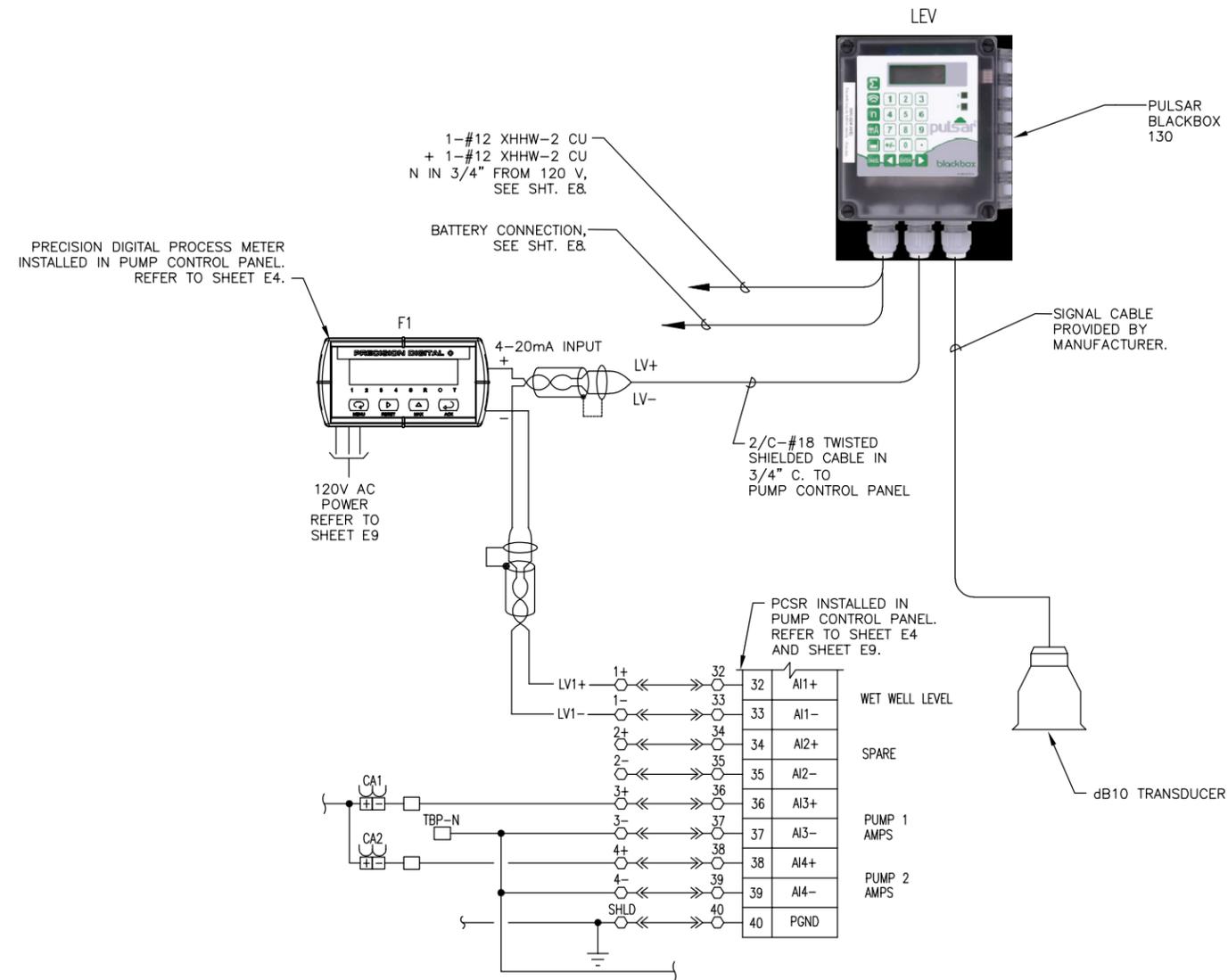
DES: LRG  
DRN: JHJ  
CKD:  
DATE: 7/13/18

**CITY of TAMPA**  
WASTEWATER DEPARTMENT

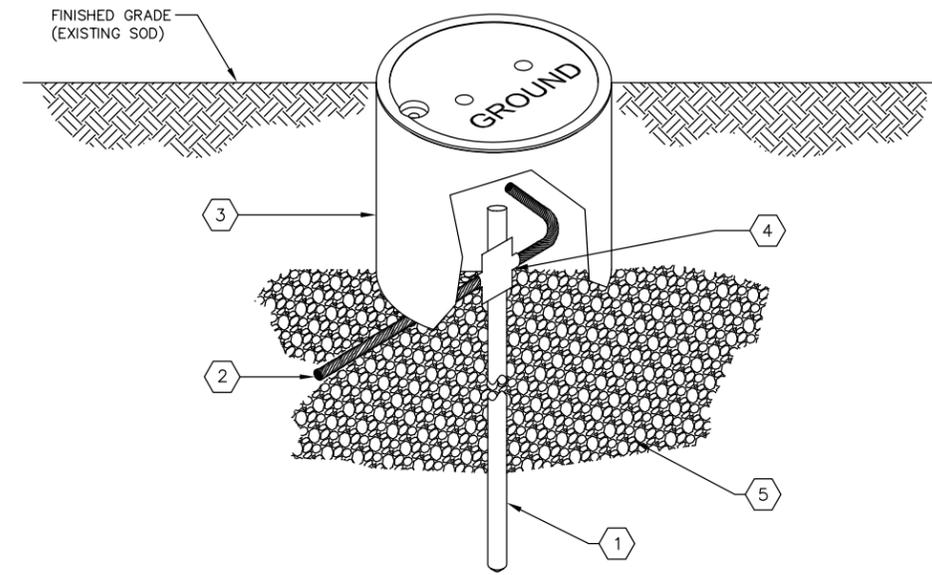
MIDLAKE PS REHABILITATION  
ELECTRICAL DETAILS (SHT. 1 OF 4)

W.O. 0000  
SHEET  
**E16**

User: ss13 Drawing Name: K:\Wastewater\Projects\Midlake Pump Station Rehabilitation\Design\Plans\Midlake Electrical Drafting 1.dwg Layout - Jul 12, 2018 - 2:56pm



**LEVEL TRANSDUCER WIRING SCHEMATIC**  
ALL WIRING TO BE VERIFIED/CONFIRMED WITH  
MANUFACTURER PRIOR TO INSTALLATION

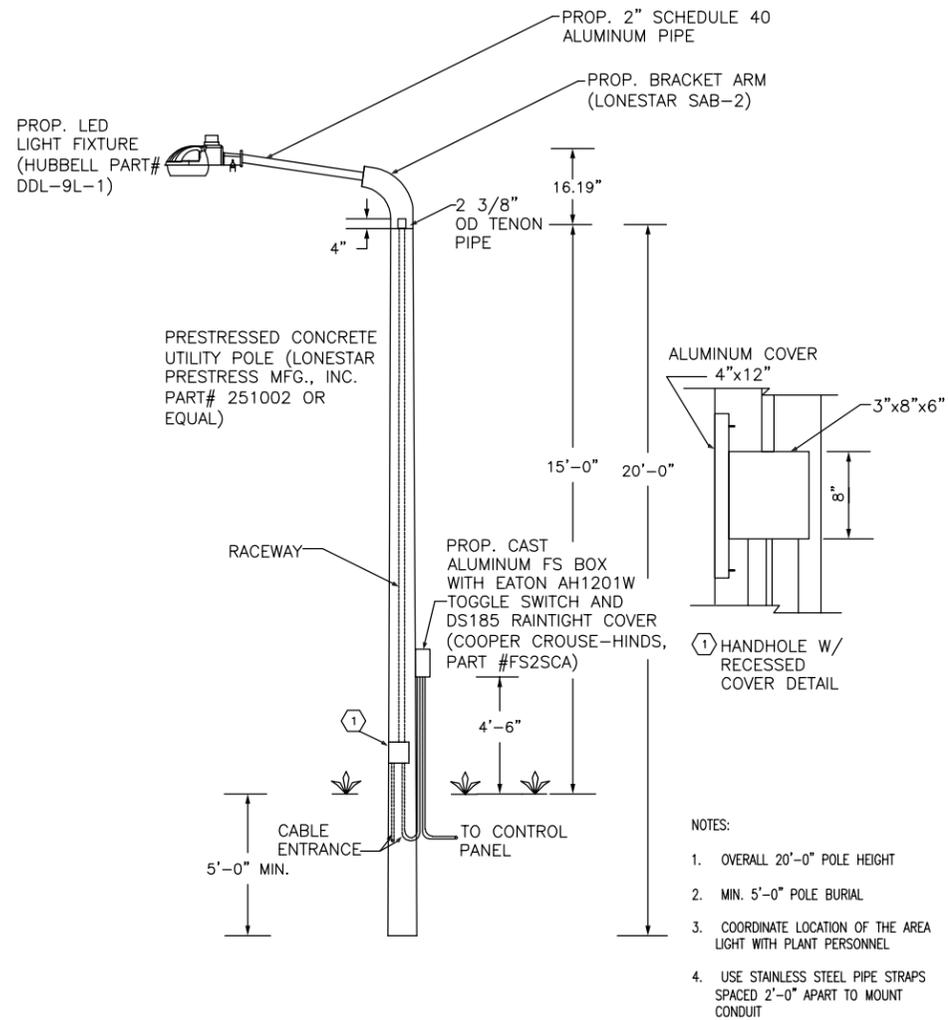


- GROUND TEST WELL DETAIL KEYED NOTES:**
- ① NEW GROUND ROD, STAINLESS STEEL, 5/8" X 10'-0" (TYP).
  - ② #4 BARE STRANDED COPPER GROUNDING ELECTRODE CONDUCTOR (TYP).
  - ③ PROVIDE AND INSTALL OLDCASTLE PRECAST ENCLOSURE SOLUTIONS #F08 BOX WITH #F08C CAST IRON LID MARKED "GROUND".
  - ④ EXOTHERMIC WELD.
  - ⑤ PROVIDE 6" MINIMUM OF CRUSHED STONE.

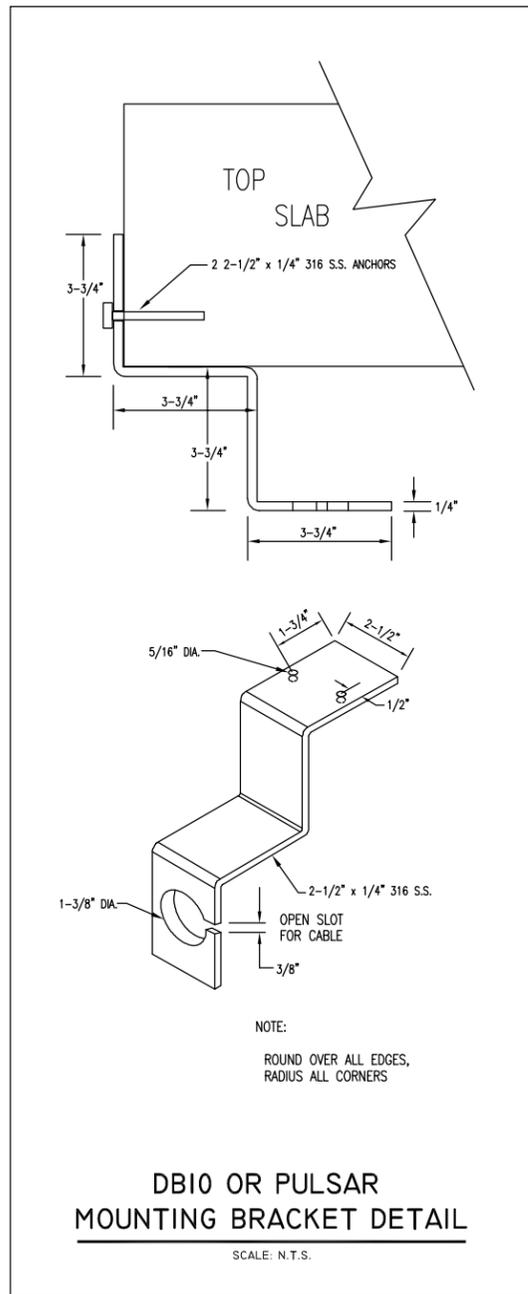
**GROUNDING TEST WELL DETAIL**  
SCALE: N.T.S.

ROMAN D. KORCHAK, P.E. #42626 ELECTRICAL SECTION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: LRG DRN: JHJ CKD: DATE: 7/13/18	<b>CITY of TAMPA</b> <b>WASTEWATER DEPARTMENT</b>	MIDLAKE PS REHABILITATION ELECTRICAL DETAILS (SHT. 2 OF 4)	W.O. 0000
	3						SHEET
	2						<b>E17</b>
	1						

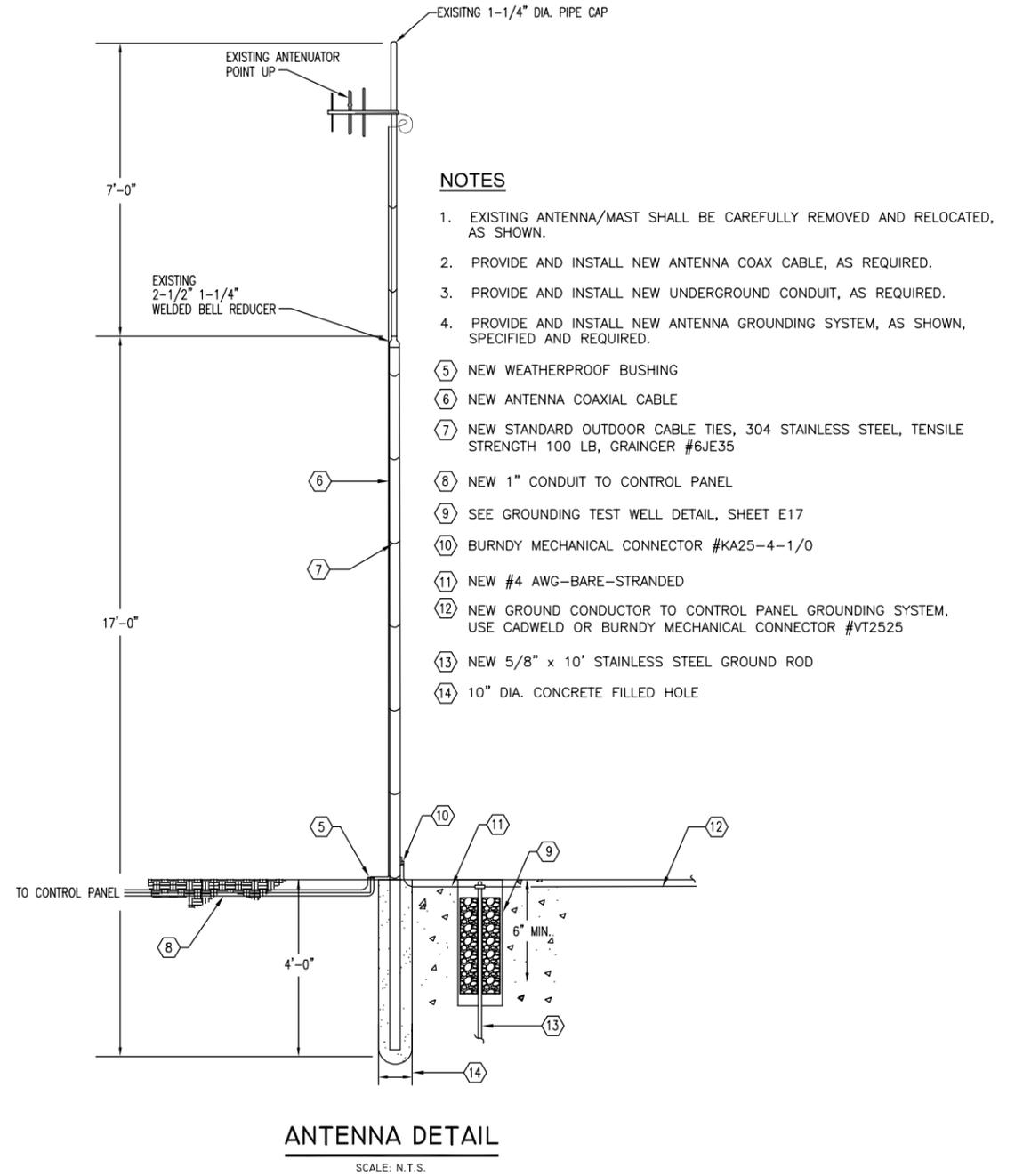
User: ss13 Drawing Name: K:\Wastewater\Projects\Midlake Pump Station Rehabilitation\Design\Plans\MIDLAKE ELECTRICAL DRAFTING 1.dwg Layout: Jul 12, 2018 - 2:56pm



**AREA LIGHT (AL) DETAIL**  
SCALE: N.T.S.



**DBI0 OR PULSAR MOUNTING BRACKET DETAIL**  
SCALE: N.T.S.



**ANTENNA DETAIL**  
SCALE: N.T.S.

ROMAN D. KORCHAK, P.E. #42626  
ELECTRICAL SECTION HEAD  
WASTEWATER DEPARTMENT

No.	DATE	REVISIONS
3		
2		
1		

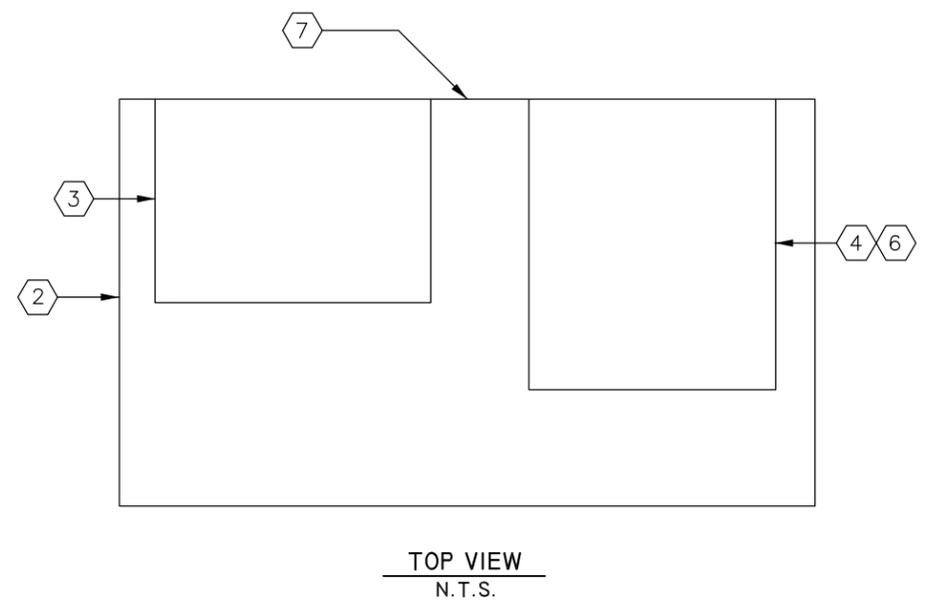
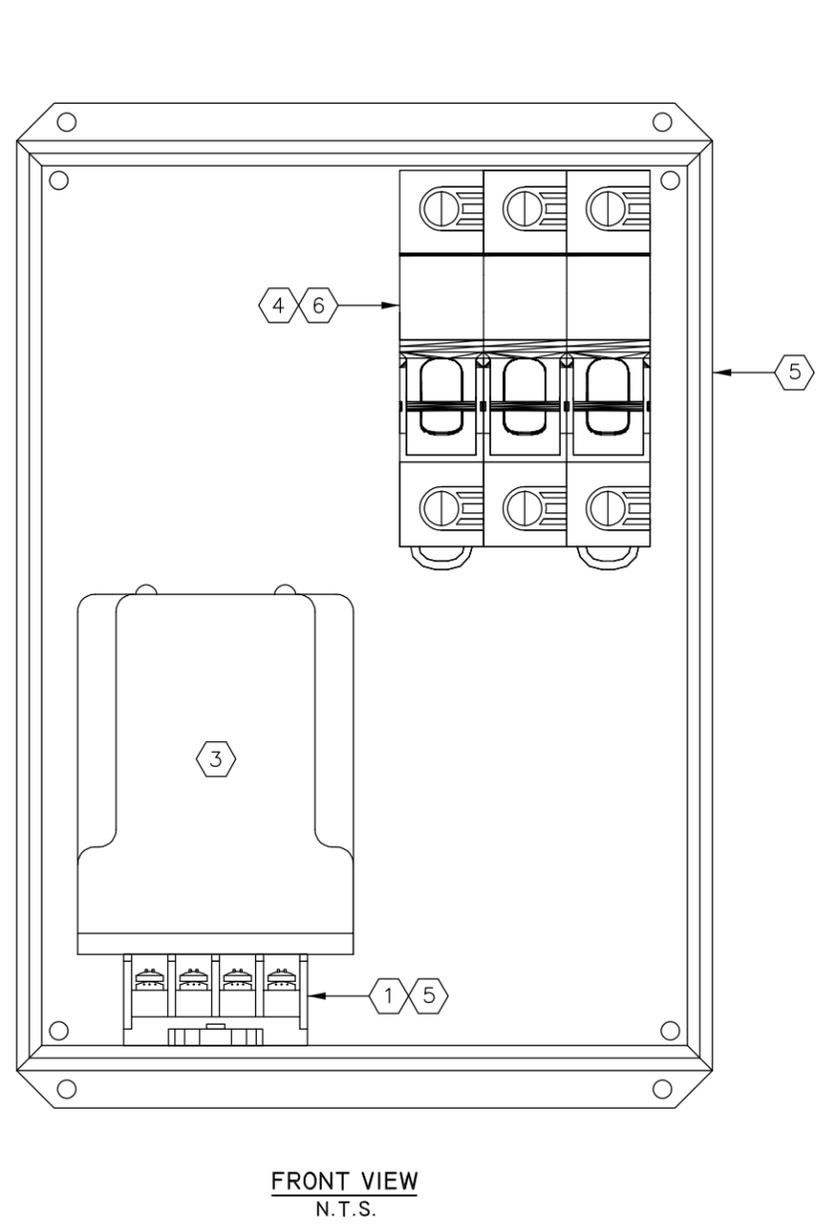
DES: LRG  
DRN: JHJ  
CKD:  
DATE: 7/13/18

**CITY of TAMPA**  
WASTEWATER DEPARTMENT

MIDLAKE PS REHABILITATION  
ELECTRICAL DETAILS (SHT. 3 OF 4)

W.O. 0000  
SHEET  
**E18**

User: ss13 Drawing Name: K:\Wastewater Projects\Midlake Pump Station Rehabilitation\Design\Plans\Drafting\DWG\MIDLAKE ELECTRICAL DRAFTING 1.dwg  
 Layout— Jul 27, 2018 — 11:29am



- KEYED NOTES:**
- ① 8 PIN OCTAL SOCKET, DIN RAIL MOUNTED OT08
  - ② NEMA 4X STAINLESS STEEL, 8"x 6"x 3.5" ENCLOSURE PART NUMBER EJ863516
  - ③ 3-PHASE POWER MONITOR, PM1
  - ④ FUSE DISTRIBUTION BLOCK, FDB1
  - ⑤ MOUNTED TO BOTTOM OF ENCLOSURE
  - ⑥ DIRECTLY MOUNTED TO BACK OF ENCLOSURE
  - ⑦ BACK OF ENCLOSURE

PMI JUNCTION BOX DETAIL

ROMAN D. KORCHAK, P.E. #42626 ELECTRICAL SECTION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: LRG	<b>CITY of TAMPA</b> <b>WASTEWATER DEPARTMENT</b>	MIDLAKE PS REHABILITATION ELECTRICAL DETAILS (SHT. 4 OF 4)	W.O. 0000
	3			DRN: JHJ			SHEET
	2			CKD:			E19
	1			DATE: 7/31/18			