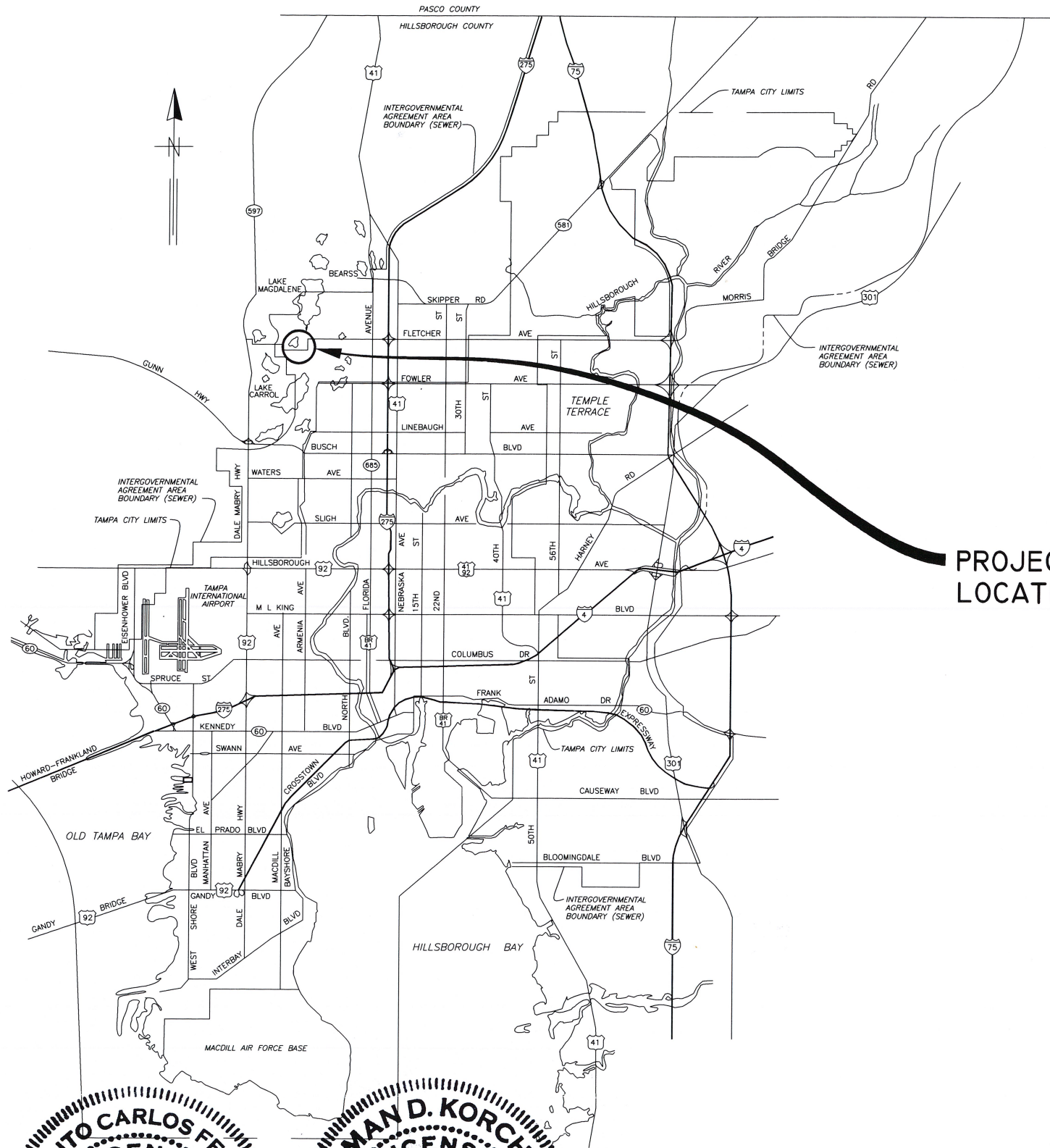


LOCATION MAP



CITY of TAMPA



PROJECT LOCATION

WASTEWATER DEPARTMENT

PLANS FOR  
LAKE MAGDALENE PUMPING STATION  
REHABILITATION

2821 W. FLETCHER AVE.

CONTRACT NO.  
14-C-00058

User: ss13 Drawing Name: K:\WML\Projects\2014\2014\_5981\_Lake Magdalene PS Rehabilitation\DWG\LAKE MAGDALENE PS REHABILITATION.dwg  
Layout: Feb 02, 2015 - 3:01pm CTB - MONOCHROME.CTB

JACINTO CARLOS FERRAS  
LICENSE  
No 49454  
STATE OF FLORIDA  
PROFESSIONAL ENGINEER

ROMAN D. KORCHAK  
LICENSE  
No 42626  
STATE OF FLORIDA  
PROFESSIONAL ENGINEER

NO.	DATE	REVISIONS
1		
2		
3		

DES: MS/LG  
DRN: JHJ  
CKD: JF  
DATE: 2/3/15

CITY of TAMPA  
WASTEWATER DEPARTMENT

LAKE MAGDALENE PUMPING STATION REHABILITATION  
COVER SHEET

W.O. 5981  
SHEET  
1

**LEGEND**

<u>EX SEWERS</u>	UP to 36" & SMALLER	36" & LARGER
EX FORCE MAIN		
EX SAN SEWER & MANHOLES		
EX STORM SEWER & MANHOLES		
<u>PROP SEWERS</u>		
PROP FORCE MAIN		
PROP SANITARY SEWER & MANHOLES		
PROP STORM SEWER & MANHOLES		
<u>OTHER FEATURES</u>		
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**

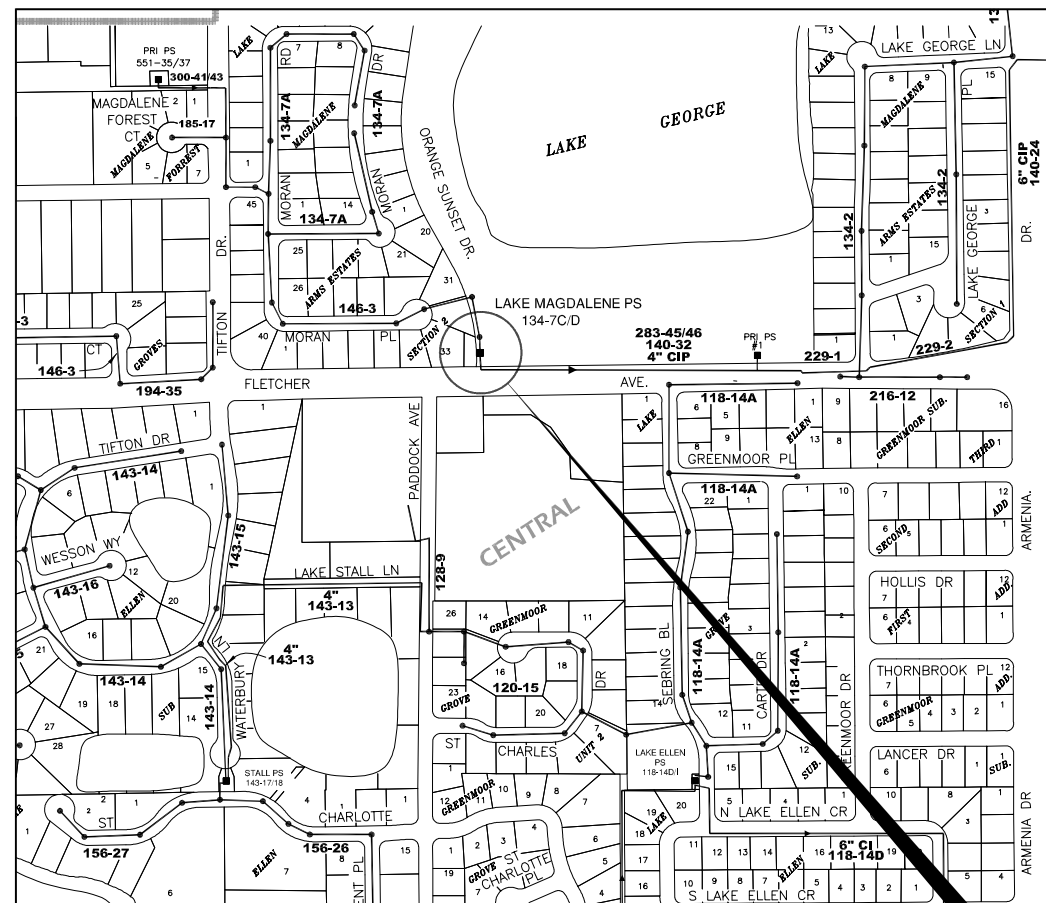
AIR RELEASE VALVE	ARV	MAINTENANCE OF TRAFFIC	MOT
APPROXIMATE LOCATION	AL	MANHOLE	MH or M
BENCH MARK	BM	PLUG VALVE	PV
BURIED TELEPHONE	BT	POINT of INTERSECTION	PI
CONCRETE PIPE	CP	POLYVINYL CHLORIDE PIPE	PVC
DIAMETER RATIO	DR	REINFORCED CONCRETE PIPE	RCP
DUCTILE IRON PIPE	DIP	RESTRAINED MECHANICAL JOINT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

**INDEX**

SHEET NO.	DESCRIPTION
SHEET I	COVER SHEET
SHEET 2	LOCATION MAP AND INDEX
SHEET 3	GENERAL NOTES
SHEET 4	EXISTING SITE PLAN
SHEET 5	PROPOSED SITE PLAN
SHEET 6	PROPOSED BYPASS PUMPING PLAN
SHEET 7	DEMOLITION PLAN VIEW
SHEET 8	DEMOLITION SECTION VIEW
SHEET 9	PROPOSED PLAN
SHEET 10	PROPOSED SECTION VIEW
SHEET II	BYPASS PUMPING PLAN DETAILS
SHEET I2	DETAILS
SHEET I3	PIPE SUPPORT AND HOOK RACK DETAILS
SHEET I4	DETAILS (2)

**INDEX**

SHEET NO.	DESCRIPTION
SHEET EDI	ELECTRICAL SITE PLAN (DEMOLITION)
SHEET ED2	ELECTRICAL DEMOLITION
SHEET ESI	ELECTRICAL SITE PLAN (PROPOSED)
SHEET EI	ELECTRICAL SYMBOLS LEGEND - (SHT 1)
SHEET E2	ELECTRICAL SYMBOLS LEGEND - (SHT 2)
SHEET E3	GENERAL NOTES AND SCOPE OF WORK
SHEET E4	ELECTRICAL CONTROL PANEL LAYOUT
SHEET E5	ONE LINE DIAGRAM
SHEET E5A	ONE LINE DIAGRAM
SHEET E6	ELECTRICAL SCHEMATIC DIAGRAM (1 of 3)
SHEET E7	ELECTRICAL SCHEMATIC DIAGRAM (2 of 3)
SHEET E8	ELECTRICAL SCHEMATIC DIAGRAM (3 of 3)
SHEET E9	ELECTRICAL SCHEMATIC LEGEND
SHEET E10	ELECTRICAL NOTES FOR SHEETS E4 - E9
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SHEET E12	ELECTRICAL PEDESTAL DESIGN
SHEET E13	PROPOSED POWER CONNECTION FRONT ELEVATION
SHEET E14	ELECTRICAL DETAILS
SHEET E15	ELECTRICAL NOTES FOR SHEETS E11 - E14
SHEET E16	PARTS SCHEDULE (1 of 2)
SHEET E17	PARTS SCHEDULE (2 of 2)
SHEET E18	ELECTRICAL CONTROLS LEGEND AND PLATES
SHEET E19	AREA LIGHT DETAIL AND ANTENNA DETAIL



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

**LAKE MADALENE P.S.**  
**PROJECT LOCATION**  
**2821 W. FLETCHER AVE.**

User: ss13 Drawing Name: K:\WW\Projects\2014\2014\_5981\_Lake Magdalene PS Rehabilitation\DWG\LAKE MAGDALENE PS REHABILITATION.dwg Layout: Feb 02, 2015 - 3:01pm

JACINTO CARLOS FERRAS, P.E., #49454 DESIGN DIVISION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: MS/LG DRN: JHJ CKD: JF DATE: 2/3/15	CITY of TAMPA WASTEWATER DEPARTMENT	LAKE MAGDALENE PUMPING STATION REPLACEMENT LOCATION MAP AND INDEX	W.O. 5981
	3						SHEET
	2						<b>2</b>
1							

DEMOLITION NOTES

- D-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 CONTRACTORS EXPENSE.
- D-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.

GENERAL NOTES

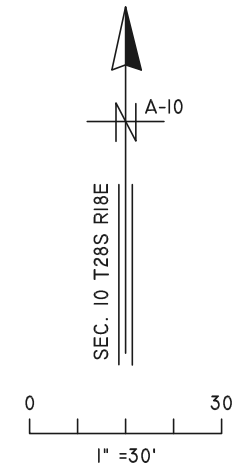
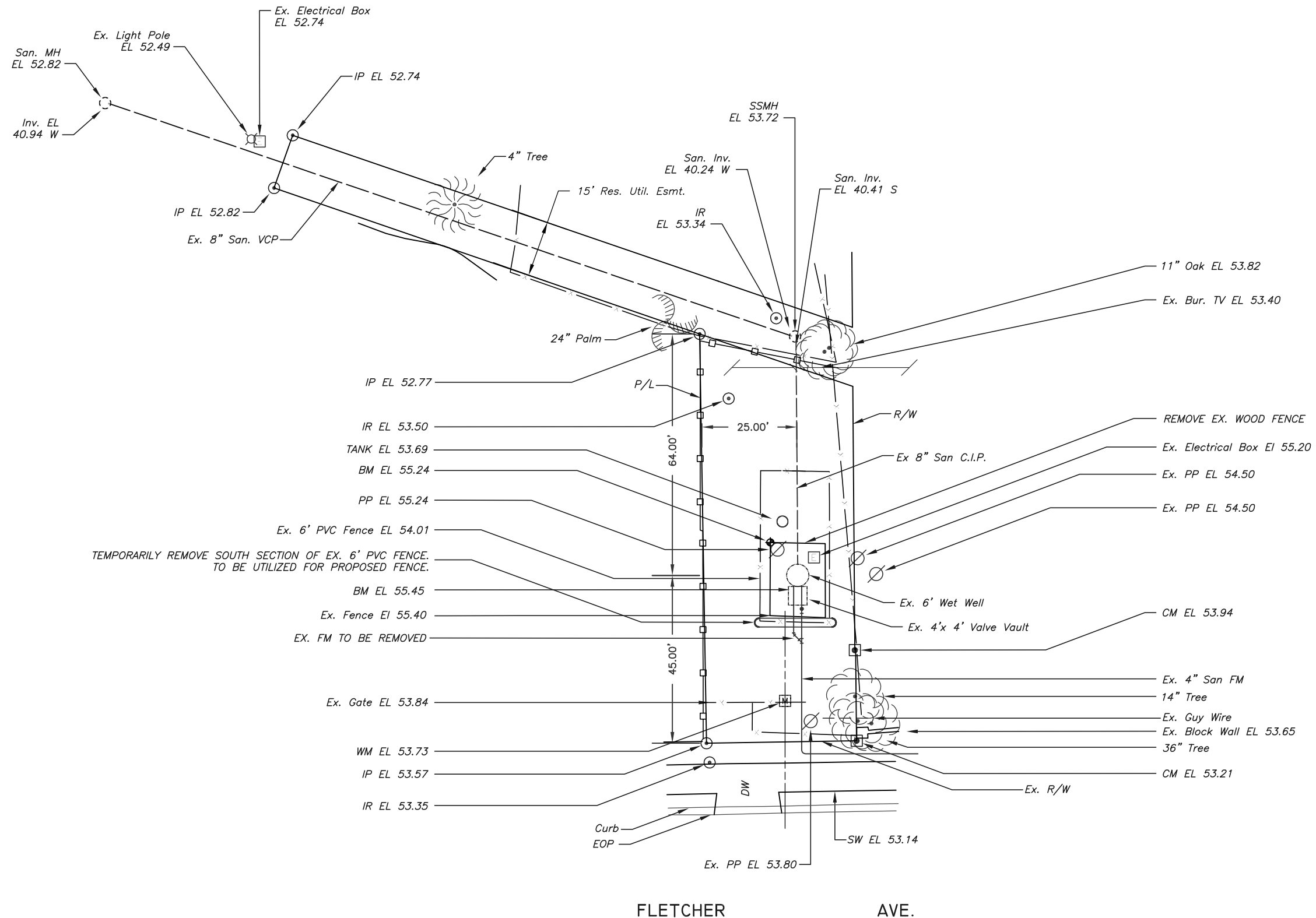
- G-1. CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION ACTIVITIES WITH THE WASTEWATER INSPECTOR, WASTEWATER PERSONNEL AND PUMPING STATION OPERATIONS.
- G-2. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY RIGHT-OF-WAY PERMITS FOR THE PUMPING STATION WORK.
- G-3. THE CITY WILL OBTAIN ALL NECESSARY BUILDING PERMITS AND FDEP WASTEWATER PERMITS.
- G-4. CONTRACTOR SHALL CALL SUNSHINE (1-800-432-4770) AT LEAST 48 HOURS PRIOR TO ANY CONSTRUCTION ACTIVITY.
- G-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
- G-6. TESTING OF THE NEW DISCHARGE PIPES WILL BE ACCOMPLISHED BY OPERATING EACH PUMP FOR A MINIMUM 2 HOUR DURATION AND OBSERVING FOR ANY LEAKS. ANY MANUAL PUMP OPERATION OR SWITCHING PUMPS MUST BE PERFORMED BY CITY PERSONNEL.
- G-7. TWO NEW PUMPS SHALL BE SUPPLIED FOR THIS PROJECT. PROPOSED PUMPS ARE FLYGT PUMPS, MODEL NP3102.185. 5HP PUMPS SHALL BE SUPPLIED WITH FLYGT MIX-FLUSH VALVES. ALL PROPOSED PUMP BASES SHALL BE 4-INCH DIAMETER DISCHARGE ELBOWS.
- G-8. IT IS THE ENGINEERS INTENT THAT CONTINUOUS SERVICE WILL BE MAINTAINED THROUGHOUT THE PROJECT.
- G-9. CONTRACTOR SHALL VERIFY QUANTITIES OF ALL NECESSARY PIPES, REDUCERS, FITTINGS, SUPPORTS, AND ANY MISCELLANEOUS BRACKETS.
- G-10. 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.
- G-11. SHOP DRAWINGS SHALL BE SUBMITTED AND APPROVED BY THE CITY FOR ALL PROPOSED ITEMS. ALL SUBMITTALS AND SHOP DRAWINGS SHALL BE ORIGINALS OR HIGH QUALITY COPIES (CLEARLY LEGIBLE). NO FAXED SHEETS OR POOR QUALITY COPIES WILL BE ACCEPTED FOR SUBMITTAL REVIEW.
- G-12. PUMP DISCHARGE PIPING IN WET WELL SHALL BE 4-INCH DIAMETER HDPE, SDR-11, GREEN STRIPE, DIPS-OD HDPE JOINTS SHALL BE FLANGED WITH 316 BACK UP RINGS.
- G-13. PLUG VALVES SHALL BE DEZURIK, PEF 100% PORT, ECCENTRIC PLUG VALVES OR APPROVED EQUAL. ALL ABOVE GROUND PLUG VALVES SHALL BE PROVIDED WITH 2" NUTS AND NO HANDWHEELS.
- G-14. CHECK VALVES SHALL BE APCO RUBBER FLAPPER SWING CHECK VALVES, SERIES 100. THIS EQUIPMENT IS A STANDARDIZED ITEM AT THIS FACILITY AND NO "OR EQUAL" SUBMITTALS WILL BE CONSIDERED.
- G-15. ALL HARDWARE, UNLESS OTHERWISE NOTED, SHALL BE TYPE 316 STAINLESS STEEL.
- G-16. PIPE SUPPORTS SHALL BE CONSTRUCTED AS SHOWN IN THE PIPE SUPPORT DETAIL.
- G-17. ALL CEMENTITIOUS CONCRETE AND GROUT, UNLESS OTHERWISE NOTED, SHALL BE CLASS "B", 4000 PSI COMPRESSIVE STRENGTH AT 28 DAYS. ALL REINFORCING STEEL SHALL BE GRADE 60.
- G-18. OSHA STANDARD SAFETY EQUIPMENT SUCH AS SAFETY HARNESSSES, GAS MONITORS, LOWER EXPLOSIVE LIMIT (LEL) DETECTORS, BREATHING APPARATUS, ETC. SHALL BE UTILIZED WHERE THE WORK DICTATES THEIR USE.

- G-19. BACKFILL (NO CLAY OR CLAYEY MATERIAL) SHALL BE COMPACTED IN 6-INCH LAYERS (MAX.) TO 98% MAXIMUM DRY DENSITY OF MODIFIED PROCTOR IN CONFORMANCE WITH AASHTO T-180, METHOD A.
- G-20. ALL STAINLESS STEEL PARTS TO BE WELDED SHALL BE THE LOW-CARBON VERSION OF THE GRADE OF STAINLESS STEEL THAT IS CALLED FOR, SUCH AS: T-316L OR T-304L.
- G-22. ALL CONCRETE PAVEMENT, UNLESS OTHERWISE NOTED, SHALL BE MIN 6" THICK CONCRETE WITH 4X4 W2.1XW2.1 WWF. CONCRETE SHALL BE CONSTRUCTED ON COMPACTED SUBBASE (MINIMUM 98% MODIFIED PROCTOR) WITH 1.5" DEEP CONTROL JOINTS SAWCUT @ 15' MAX, CUT WITHIN 12 HRS OF CONCRETE PLACEMENT.
- G-23. CONTRACTOR TO SUBMIT METHOD FOR 100% WATERTIGHT SEALING AT PIPE PENETRATIONS THROUGH STRUCTURES. PROPOSED LINK SEAL OR APPROVED EQUAL.
- G-24. CONTRACTOR SHALL PROVIDE A REDUCED PRESSURE BACKFLOW-PREVENTION DEVICE IN WATER SERVICE LINE, AS SHOWN IN DETAILS, AT A PLACE TO BE SPECIFIED DURING CONSTRUCTION. BACKFLOW PREVENTION DEVICE SHALL BE 1" WILKINS, MODEL #975 XL, OR EQUAL.
- G-25. ALL DIP PIPE AND FITTING SHALL BE CLASS 53 WITH PROTECTO 401 INTERIOR COATING.
- G-26. EXISTING WET WELL HAS REMNANTS OF COAL TAR EPOXY WHICH WILL NEED TO BE REMOVED PRIOR TO LINING.
- G-27. ALL METAL PIPE, FITTINGS, VALVES, ETC. SHALL RECIEVE:
  - 1) SHOP COAT - ONE COAT, 4-6 MILS (DRY) TNEMEC N140-1211 EPOXY PRIMER.
  - 2) FIELD COAT - ONE COAT, 5-7 MILS (DRY) TNEMEC SERIES 446 PERMA-SHIELD MCU
  - 3) FIELD COAT
    - A) ABOVE GRADE : ONE COAT, 4-6 MILS (DRY) TNEMEC 1074U ENDURASHIELD (WITH FACTORY ADDED UV BLOCKER)
    - B) BELOW GRADE : ONE COAT, 5-7 MILS (DRY) TNEMEC SERIES 446 PERMA-SHIELD MCU

User: ss13 Drawing Name: K:\WW\_Projects\2014\2014\_5081\_Lake\_Magdalene\_PS\_Rehabilitation\DWG\LAKE\_MAGDALENE\_PS\_REHABILITATION.dwg Layout: Feb 13, 2015 - 2:06pm

JACINTO CARLOS FERRAS, P.E., #49454 DESIGN DIVISION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: MS/LG	CITY of TAMPA WASTEWATER DEPARTMENT	LAKE MAGDALENE PUMPING STATION REHABILITATION GENERAL NOTES	W.O. 5981
	3			DRN: JHJ			SHEET
	2			CKD: JF			3
	1			DATE: 2/3/15			

User: ss13 Drawing Name: K:\WW\Projects\2014\2014\_5981\_Lake Magdalene PS Rehabilitation\DWG\OLD C-3D Version\LAKE MAGDALENE PS SURVEY.dwg  
 Layout: Feb 03, 2015 - 8:56am



**EXISTING SITE PLAN**  
 SCALE: 1" = 30'

JACINTO CARLOS FERRAS, P.E., #49454 DESIGN DIVISION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: MS/LG DRN: JHJ CKD: JF DATE: 2/3/15	<b>CITY of TAMPA</b> WASTEWATER DEPARTMENT	LAKE MAGDALENE PUMPING STATION REHABILITATION EXISTING SITE PLAN	W.O. 5981
	3						SHEET
	2						<b>4</b>
	1						

User: ss13 Drawing Name: K:\WW\_Projects\2014\2014\_5081\_Lake Magdalene PS Rehabilitation\DWG\OLD C3D Version\LAKE MAGDALENE PS SURVEY PROPOSED SITE PLAN.dwg Layout: Feb 03, 2015 - 9:19am

PROP 1" PVC W/ HOSE BIB AT CONTROL PANEL

PROP. EL 55.00

PROP. 6" CONCRETE DRIVEWAY  
TO CONNECT TO EXISTING APRON  
(SLOPE DRIVEWAY TO DRAIN TO STREET)

PROP. 4' x 2' SLAB & BACK FLOW PREVENTOR.  
SEE NOTE 30 ON SHT. 3 & DETAIL ON SHT. 14.

PROP. EL 54.00

PROP. EL 53.75

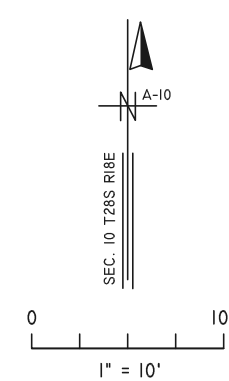
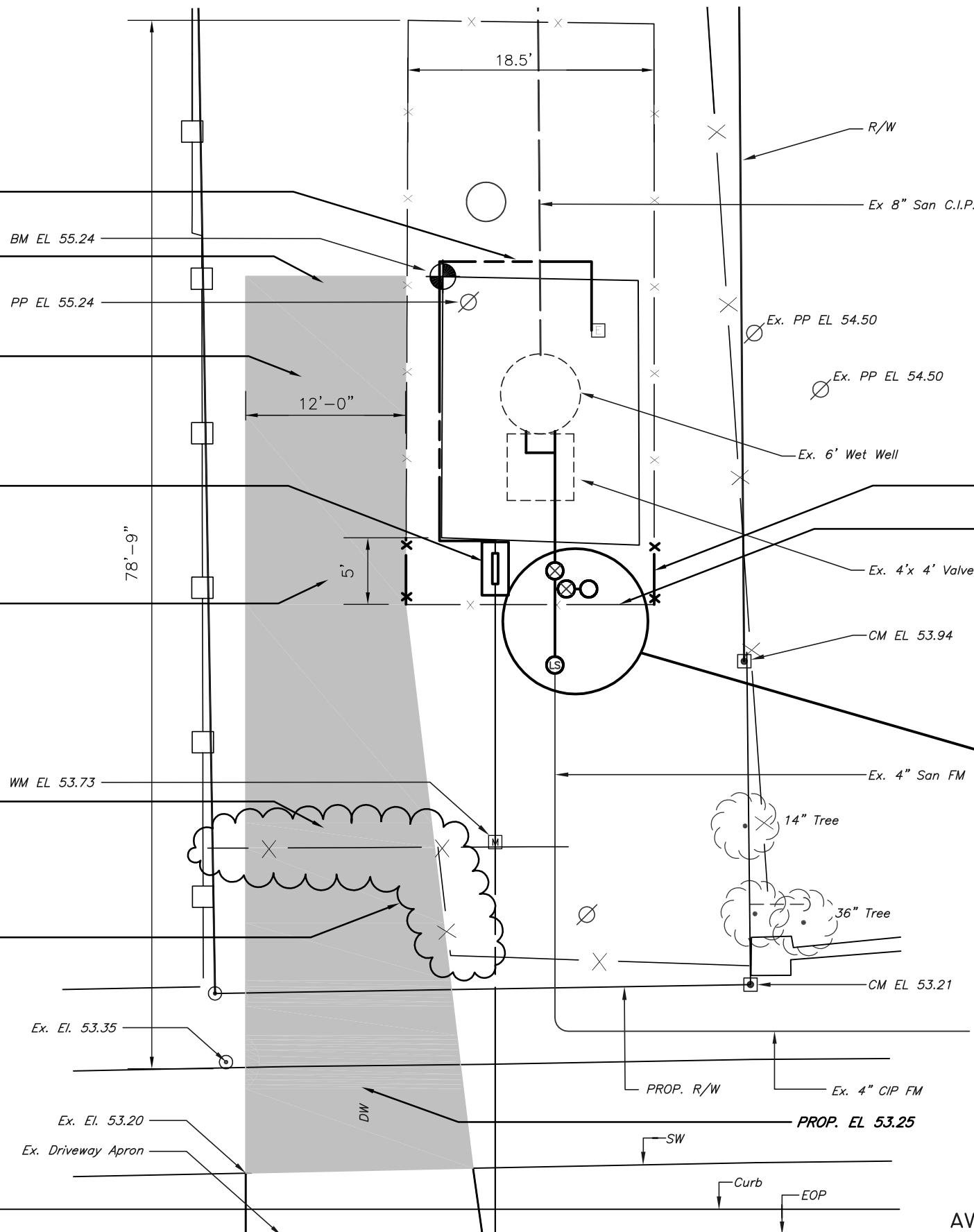
MODIFY EXISTING FENCE & GATE TO ALLOW FOR  
PROPOSED CONCRETE DRIVEWAY

NOTE:  
6" THICK CONC. SLAB SHALL BE REINFORCED  
W/4 x 4 W2.1 x W2.1 WWF.

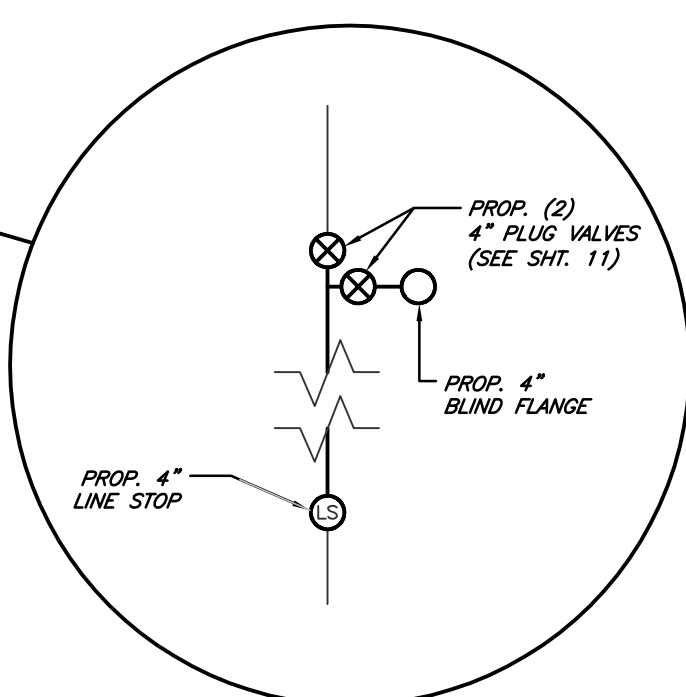
**PROPOSED SITE PLAN**

SCALE: 1" = 10'

FLETCHER



PROP. 6' PVC FENCE EXTENSIONS ON THE EAST / WEST SIDES.  
RELOCATE EXISTING SOUTH SIDE OF 6' PVC FENCE.



**BYPASS ASSEMBLY DETAIL**

N.T.S.

No.	DATE	REVISIONS
3		
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DES: MS/LG  
DRN: JHJ  
CKD: JF  
DATE: 2/3/15

**CITY of TAMPA**  
WASTEWATER DEPARTMENT

LAKE MAGDALENE PUMPING STATION REHABILITATION  
PROPOSED SITE PLAN

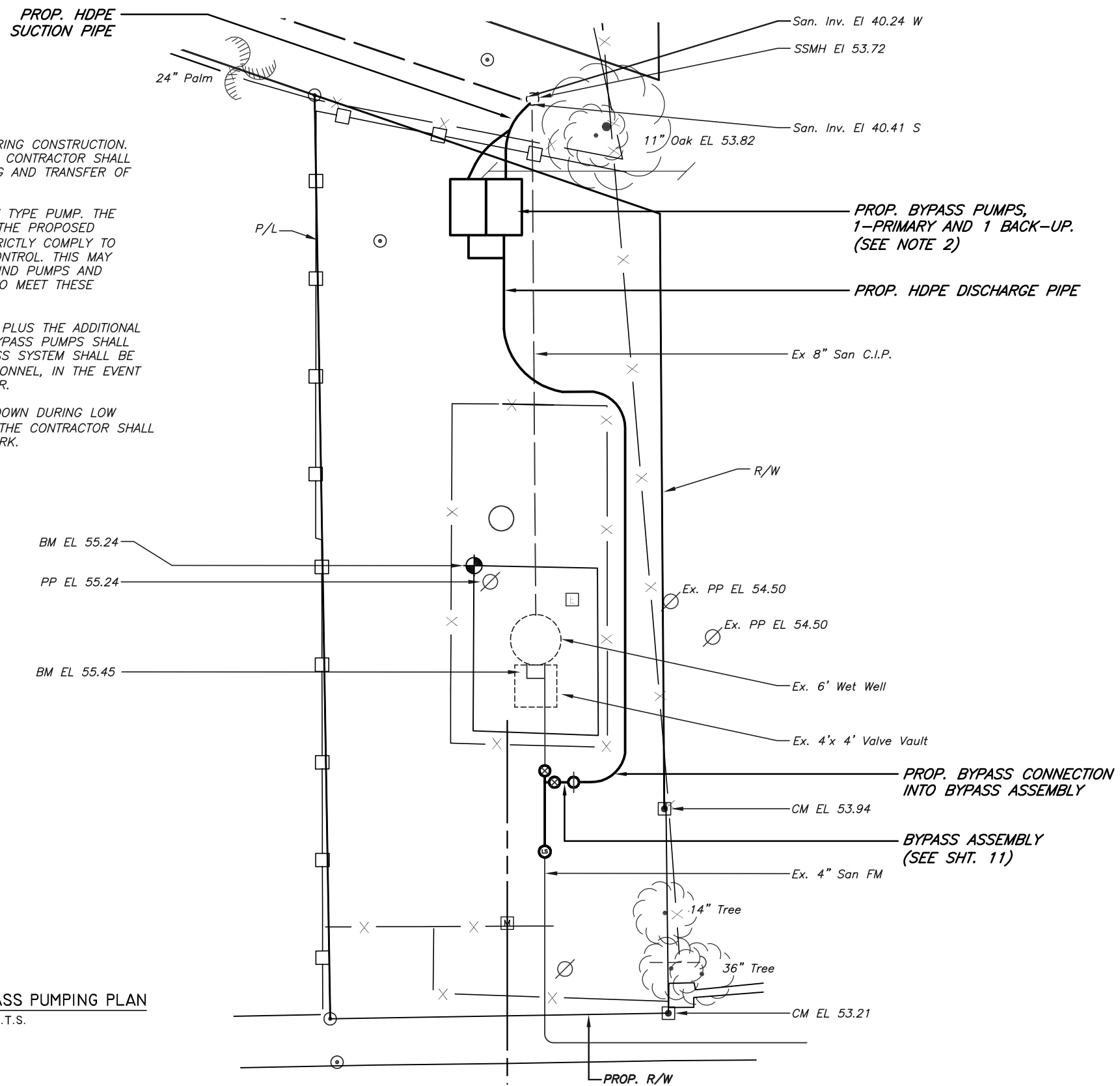
W.O. 5981  
SHEET  
**5**

User: ss13 Drawing Name: K:\WW\_Projects\2014\2014\_5081\_Lake Magdalene PS Rehabilitation\DWG\OLD C3D Version\LAKE MAGDALENE PS SURVEY BY-PASS PLAN.dwg Layout: Feb 03, 2015 - 9:47am

**BYPASS NOTES:**

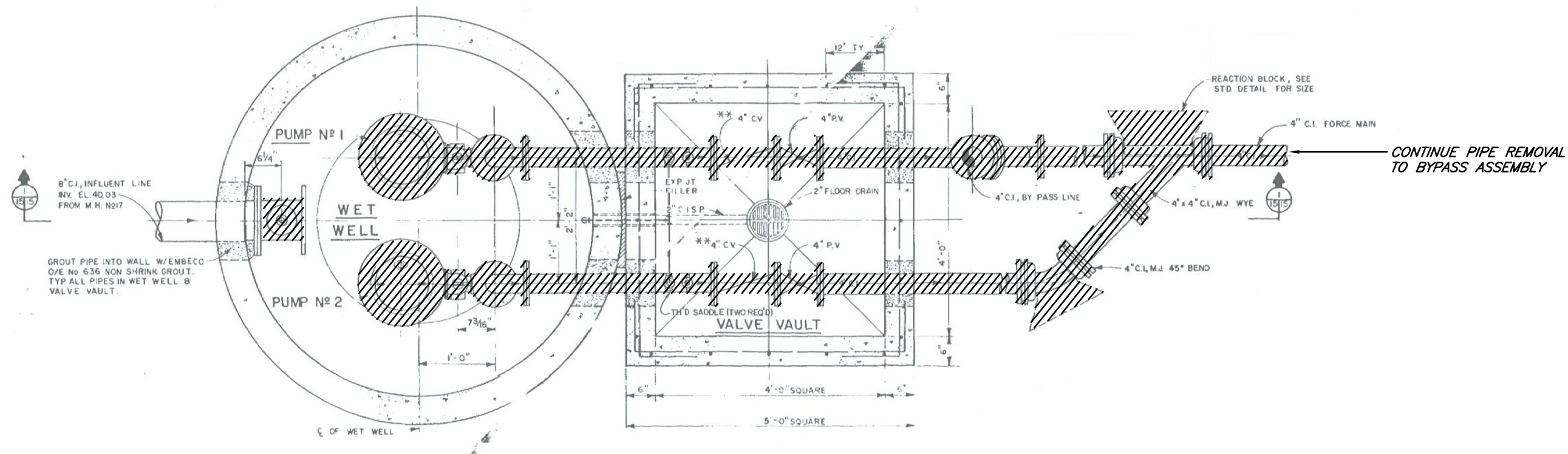
1. SEWER SERVICE TO CUSTOMERS SHALL NOT BE DISRUPTED DURING CONSTRUCTION. CONTRACTOR SHALL SUBMIT PROPOSAL FOR BYPASS STRATEGY. CONTRACTOR SHALL SUBMIT A SCHEDULE OF SEQUENCES FOR COMPLETION, TESTING AND TRANSFER OF DUTY BACK TO THE PUMP STATION WITH PUMPING STRATEGY.
2. THE BYPASS PUMPS SHALL BE THE SELF PRIMING QUIET FLOW TYPE PUMP. THE PUMPS SHALL SUCTION FROM MANHOLE AND DISCHARGE INTO THE PROPOSED 4" BYPASS VALVE ASSEMBLY. BYPASS PUMPS NOISE SHALL STRICTLY COMPLY TO ALL LOCAL REGULATIONS AND ORDINANCES COVERING NOISE CONTROL. THIS MAY REQUIRE CONSTRUCTING SOUND ATTENUATING ENCLOSURE AROUND PUMPS AND UTILIZATION OF ELECTRIC PUMP MOTORS MAY BE NECESSARY TO MEET THESE REQUIREMENTS.
3. BYPASS PUMPS SHALL BE CAPABLE OF 150 GPM @ 36' TDH. PLUS THE ADDITIONAL FRICTIONAL LOSSES FROM THE BYPASS PIPING SYSTEM. THE BYPASS PUMPS SHALL BE OF THE SELF PRIMING QUIET FLOW TYPE PUMP. THE BYPASS SYSTEM SHALL BE EQUIPPED W/ AN AUTODIALER FEATURE TO CONTACT KEY PERSONNEL, IN THE EVENT OF A HIGH WATER ALARM. MAXIMUM RESPONSE TIME IS 1 HOUR.
4. THE CONTRACTOR WILL HAVE A MAXIMUM OF 2 HOURS SHUT DOWN DURING LOW FLOW PERIOD (IE. NIGHT) TO INSTALL THE BYPASS ASSEMBLY. THE CONTRACTOR SHALL PROVIDE THE CITY A MINIMUM OF 1 WEEK NOTICE OF THIS WORK.

**PROPOSED BYPASS PUMPING PLAN**  
N.T.S.



JACINTO CARLOS FERRAS, P.E., #49454 DESIGN DIVISION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: MS/LG DRN: JHJ CKD: JF DATE: 2/3/15	<b>CITY of TAMPA</b> WASTEWATER DEPARTMENT	LAKE MAGDALENE PUMPING STATION REPLACEMENT PROPOSED BYPASS PUMPING PLAN	W.O. 5981
	3						SHEET
	2						<b>6</b>
	1						

User: ss13 Drawing Name: K:\WW\_Projects\2014\2014\_5981\_Lake Magdalene PS Rehabilitation\DWG\LAKE MAGDALENE PS REHABILITATION.dwg  
Layout: Feb 03, 2015 - 4:01pm



HATCHED AREAS ON THIS SHEET INDICATE PIPING AND EQUIPMENT TO BE REMOVED

**DEMOLITION PLAN VIEW**  
1/2" = 1'-0"

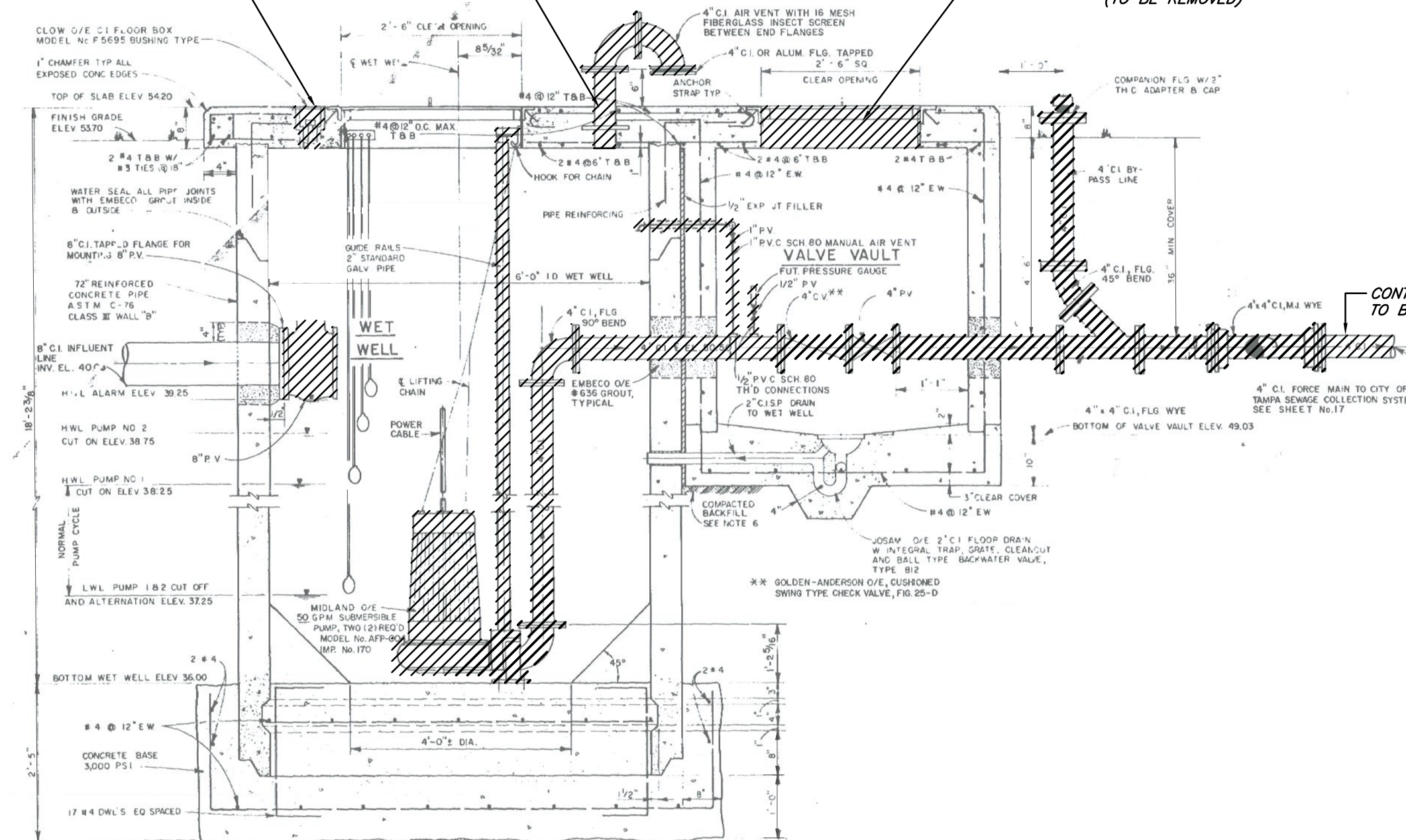
JACINTO CARLOS FERRAS, P.E., #49454 DESIGN DIVISION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: MS/LG DRN: JHJ CKD: JF DATE: 2/3/15	<b>CITY of TAMPA</b> <b>WASTEWATER DEPARTMENT</b>	LAKE MAGDELENE PUMPING STATION REPLACEMENT DEMOLITION PLAN VIEW	W.O. 5981
	3						SHEET
	2						<b>7</b>
	1						


CORE DRILL TO REMOVE FRAME  
& INSTALL 4" VENT W/ BIRD SCREEN

SEAL OPENING W/  
NON SHRINKING GROUT

EX. ALUMINUM HATCH  
(TO BE REMOVED)

CONTINUE PIPE REMOVAL  
TO BYPASS ASSEMBLY



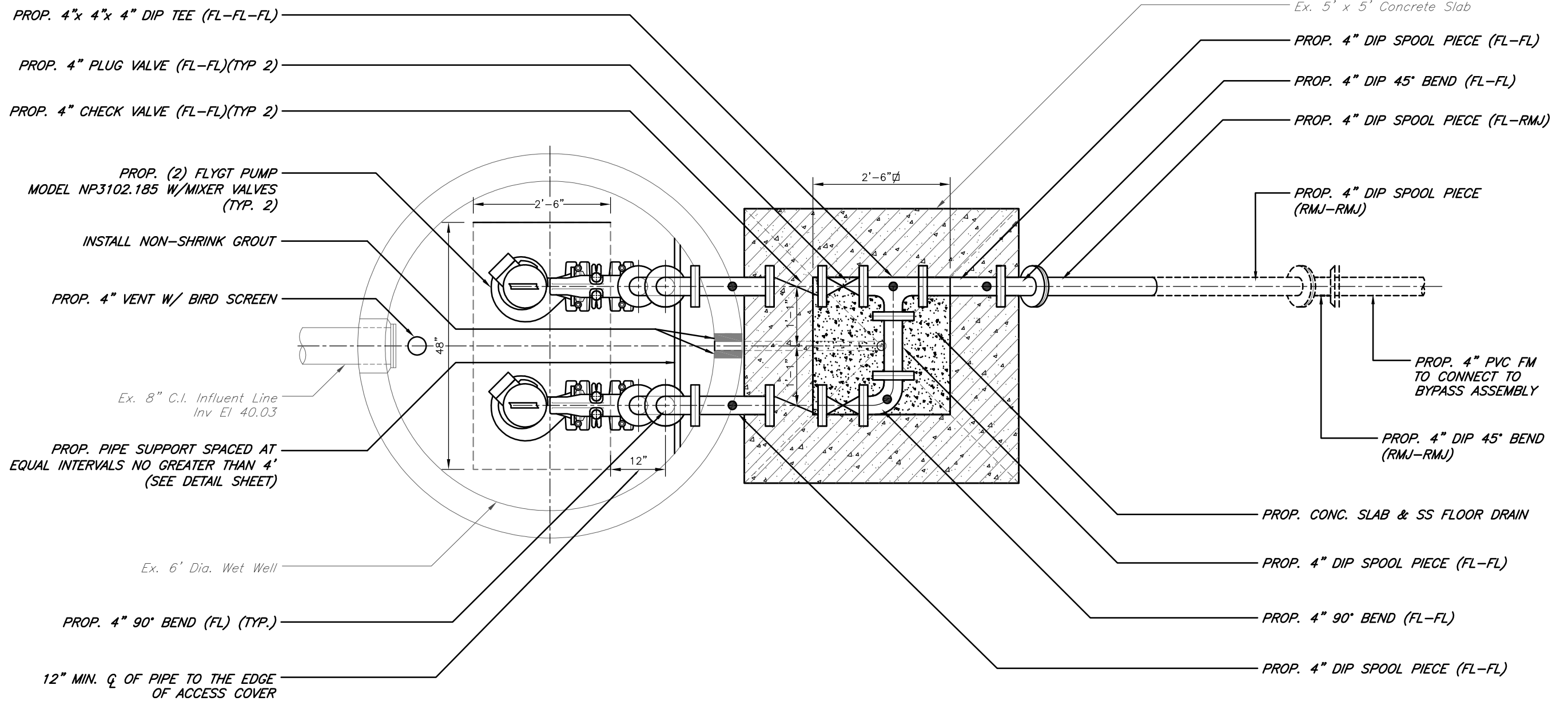
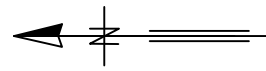
 HATCHED AREAS ON THIS SHEET INDICATE PIPING AND EQUIPMENT TO BE REMOVED

DEMOLITION SECTION VIEW  
SCALE: 1/2" = 1'-0"

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JACINTO CARLOS FERRAS, P.E., #49454 DESIGN DIVISION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: MS/LG DRN: JHJ CKD: JF DATE: 2/3/15	<b>CITY of TAMPA</b> WASTEWATER DEPARTMENT	LAKE MAGDALENE PUMPING STATION REHABILITATION DEMOLITION SECTION VIEW	W.O. 5981
	3						SHEET
	2						8
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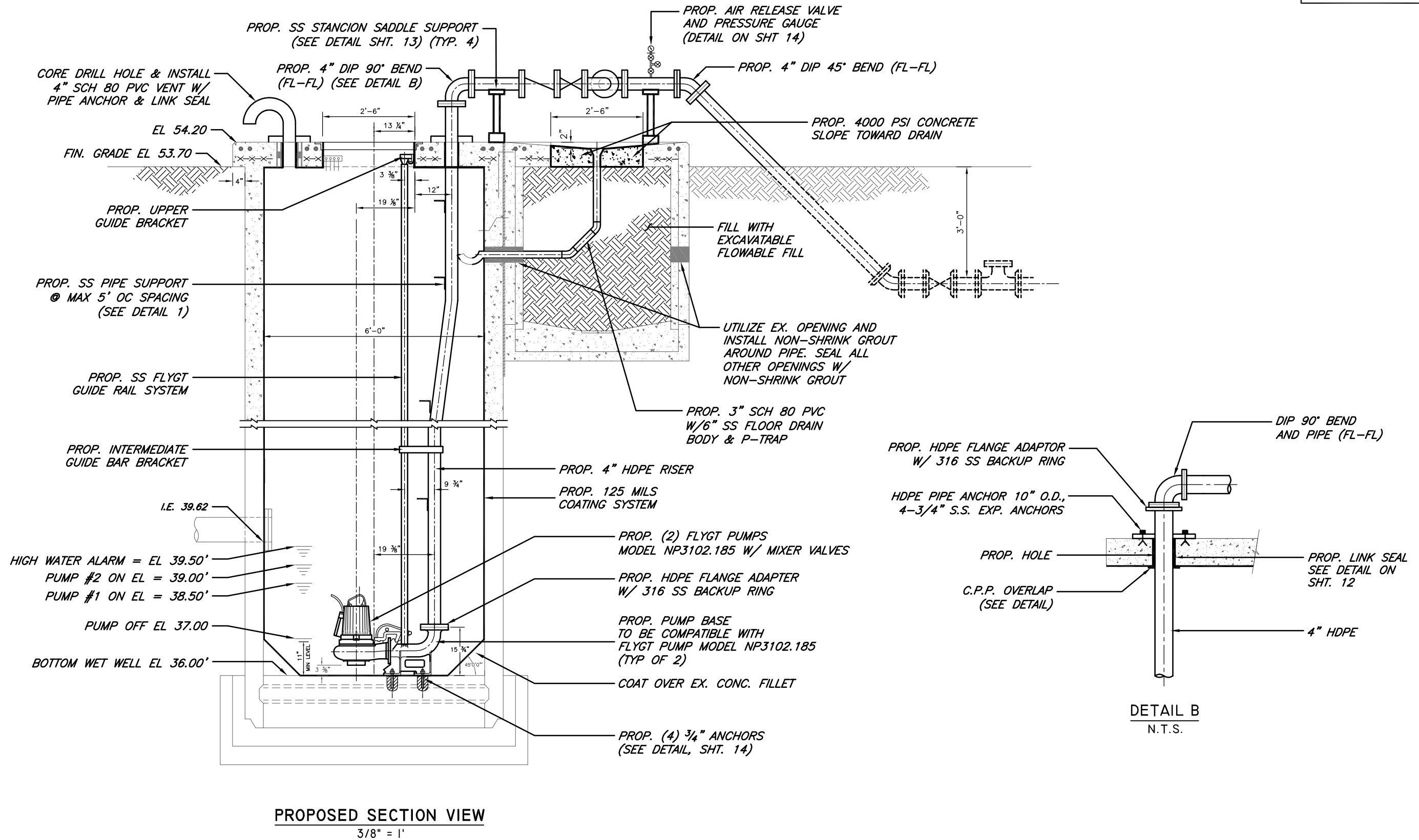
**PROPOSED PLAN**  
SCALE: 1/2" = 1'-0"

● PROP. SS PIPE SUPPORT

User: ss13 Drawing Name: K:\NWL\Projects\2014\2014\_5981\_Lake Magdalene PS Rehabilitation\DWG\Lake Magdalene PS Rehabilitation.dwg Layout: Feb 03, 2015 - 4:25pm

JACINTO CARLOS FERRAS, P.E., #49454 DESIGN DIVISION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: MS/LG DRN: JHJ CKD: JF DATE: 2/3/15	<b>CITY of TAMPA</b> <b>WASTEWATER DEPARTMENT</b>	LAKE MAGDALENE PUMPING STATION REHABILITATION PROPOSED PLAN	W.O. 5981
	3						SHEET
	2						<b>9</b>
	1						

User: ss13 Drawing Name: K:\WW\Projects\2014\2014\_5981\_Lake Magdalene PS Rehabilitation\DWG\Lake Magdalene PS Rehabilitation.dwg Layout: Feb 03, 2015 - 4:25pm



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

No.	DATE	REVISIONS
3		
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DES: MS  
DRN: JHJ  
CKD: JF  
DATE: 2/3/15

**CITY of TAMPA**  
WASTEWATER DEPARTMENT

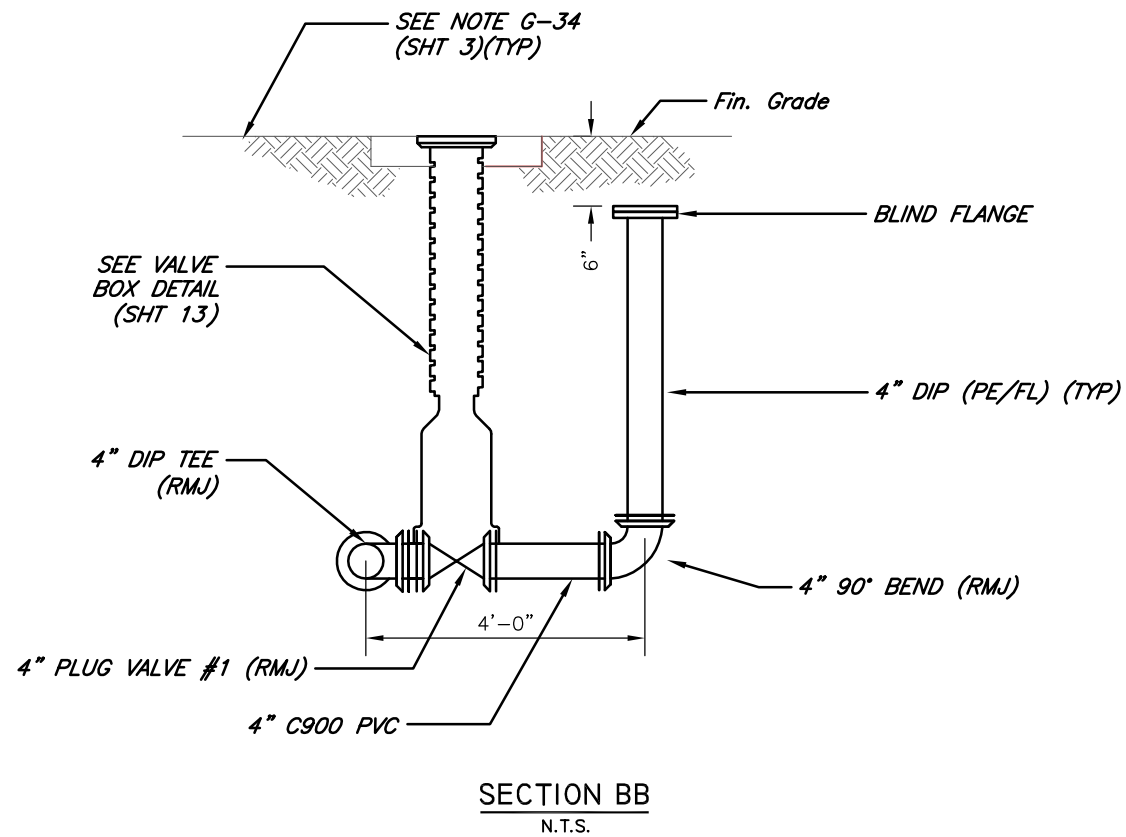
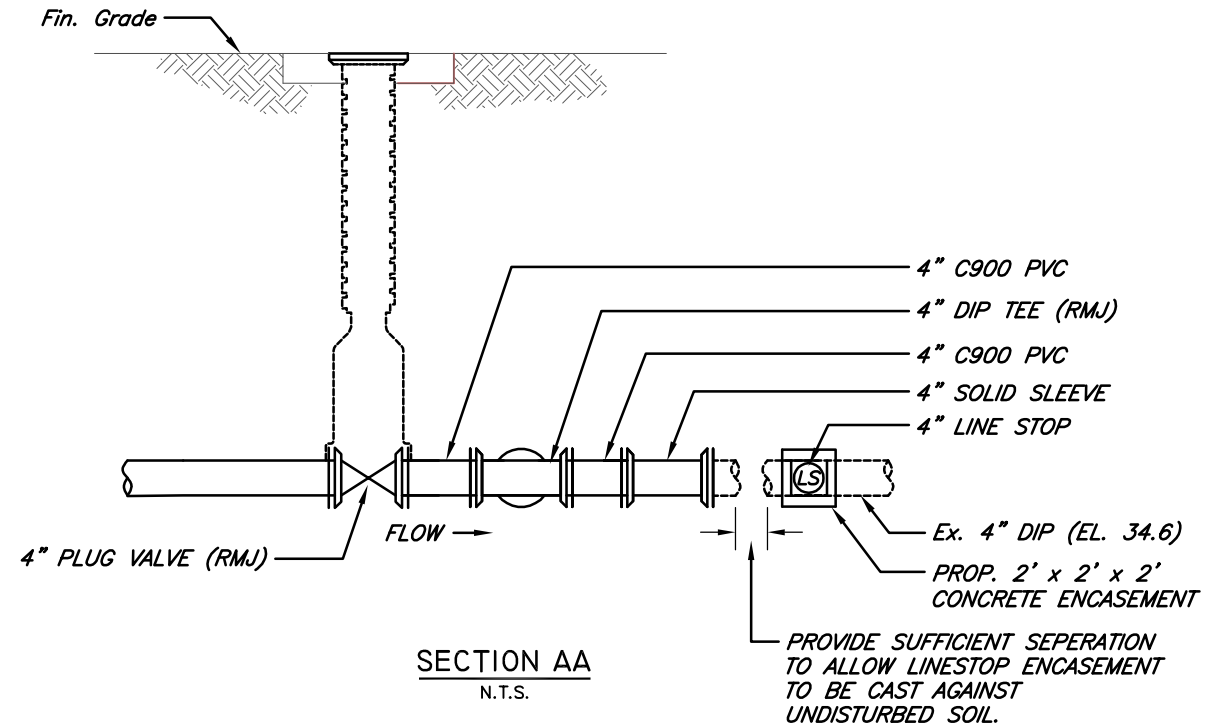
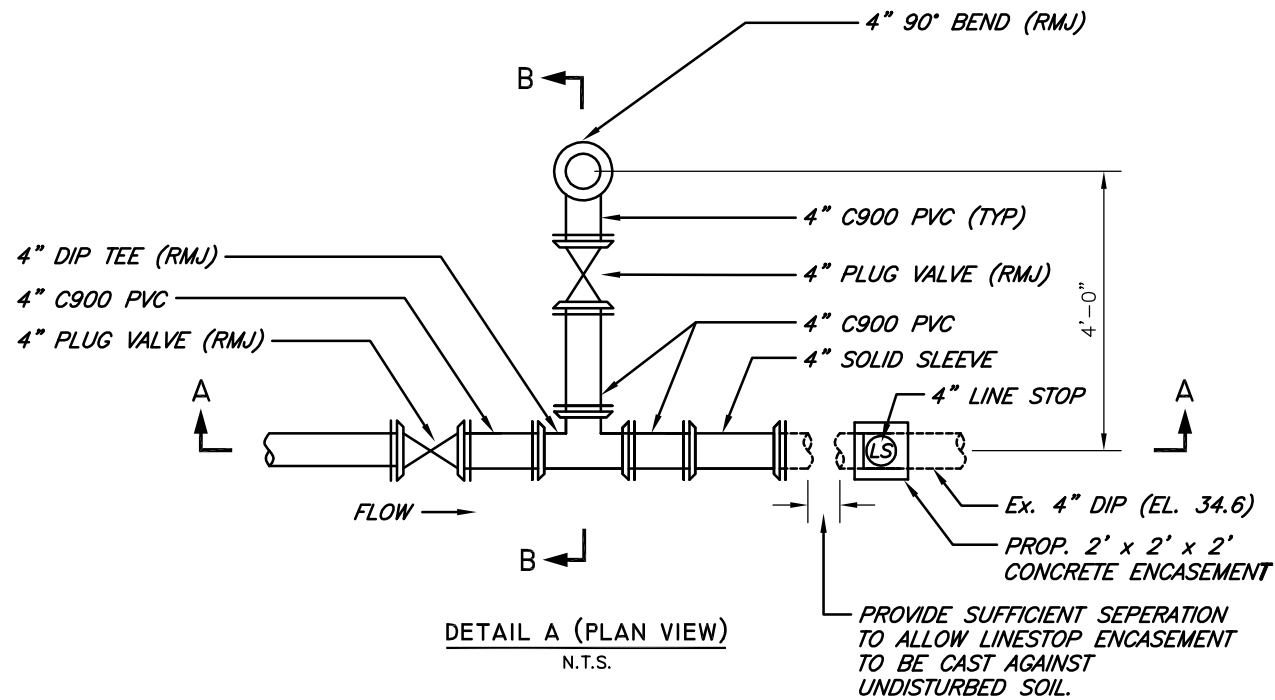
LAKE MAGDALENE PUMPING STATION REHABILITATION  
PROPOSED SECTION VIEW

W.O. 5981

SHEET

10

User: ss13 Drawing Name: K:\WW\Projects\2014\2014\_5981\_Lake Magdalene PS Rehabilitation\DWG\LAKE MAGDALENE PS REHABILITATION.dwg  
 Layout: Feb 03, 2015 - 4:25pm



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

No.	DATE	REVISIONS
3		
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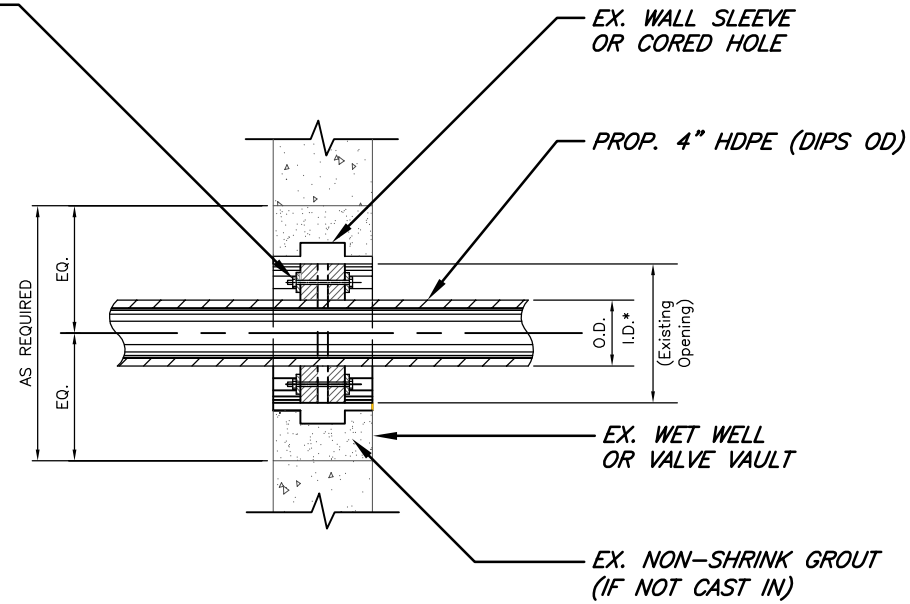
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 DRN: JHJ  
 CKD: JF  
 DATE: 2/3/15

**CITY of TAMPA**  
 WASTEWATER DEPARTMENT

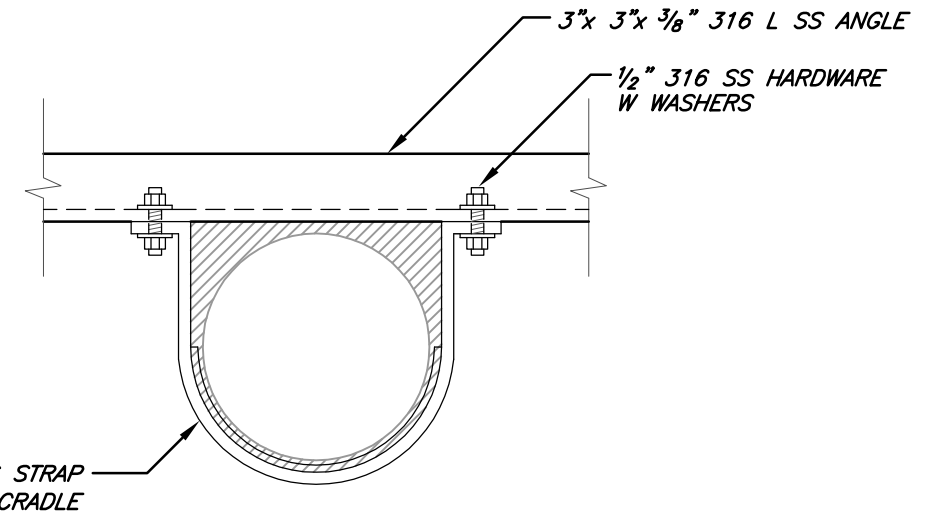
LAKE MAGDALENE PUMPING STATION REHABILITATION  
 BYPASS PUMPING PLAN DETAILS

W.O. 5981  
 SHEET  
 11

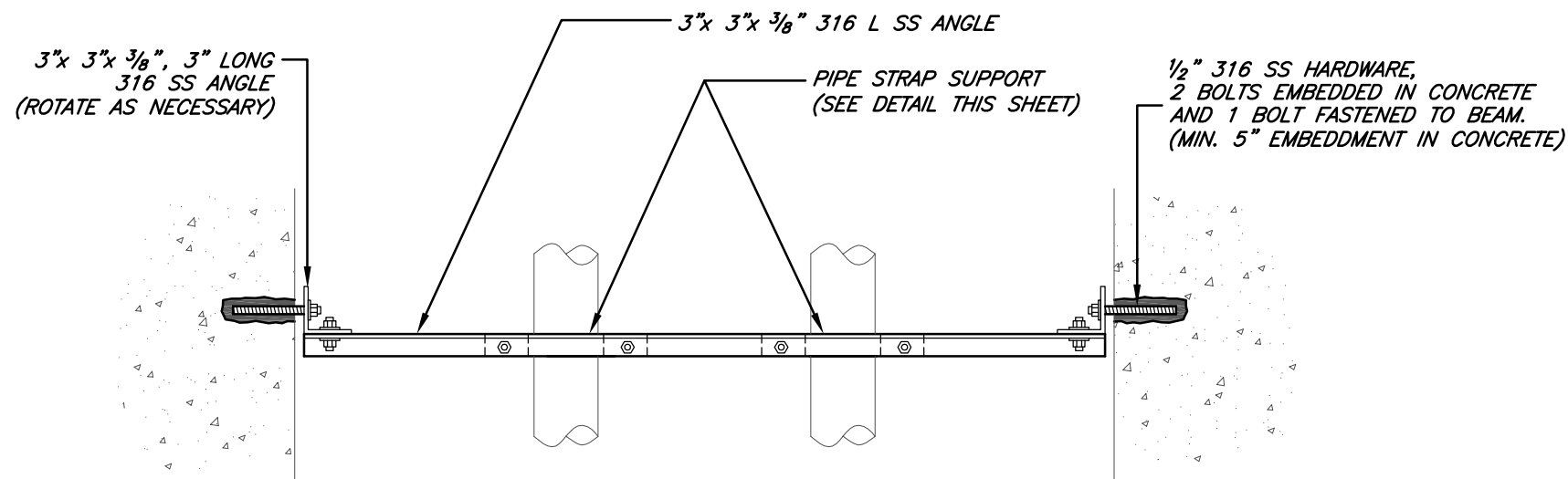
PROP. 316 SS LINK SEAL



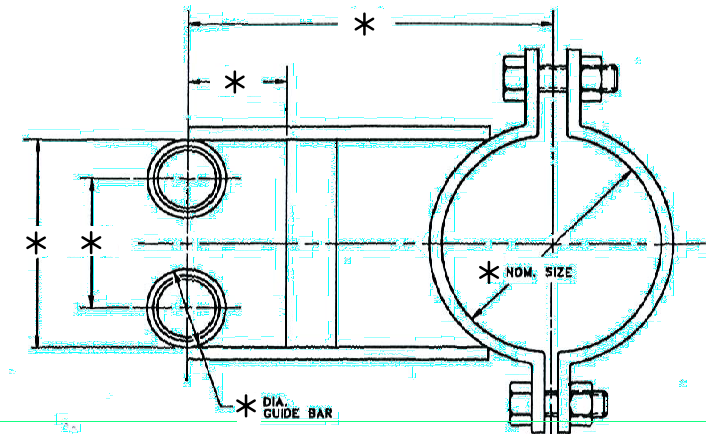
LINK SEAL DETAIL  
N.T.S.



PIPE STRAP SUPPORT  
N.T.S.



PIPE SUPPORT ASSEMBLY  
N.T.S.



INTERMEDIATE GUIDE BAR BRACKETS  
N.T.S.

User: ss13 Drawing Name: K:\WW\Projects\2014\2014\_5981\_Lake Magdalene PS Rehabilitation\DWG\LAKE MAGDALENE PS REHABILITATION.dwg Layout: Feb 03, 2015 - 4:25pm

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

No.	DATE	REVISIONS
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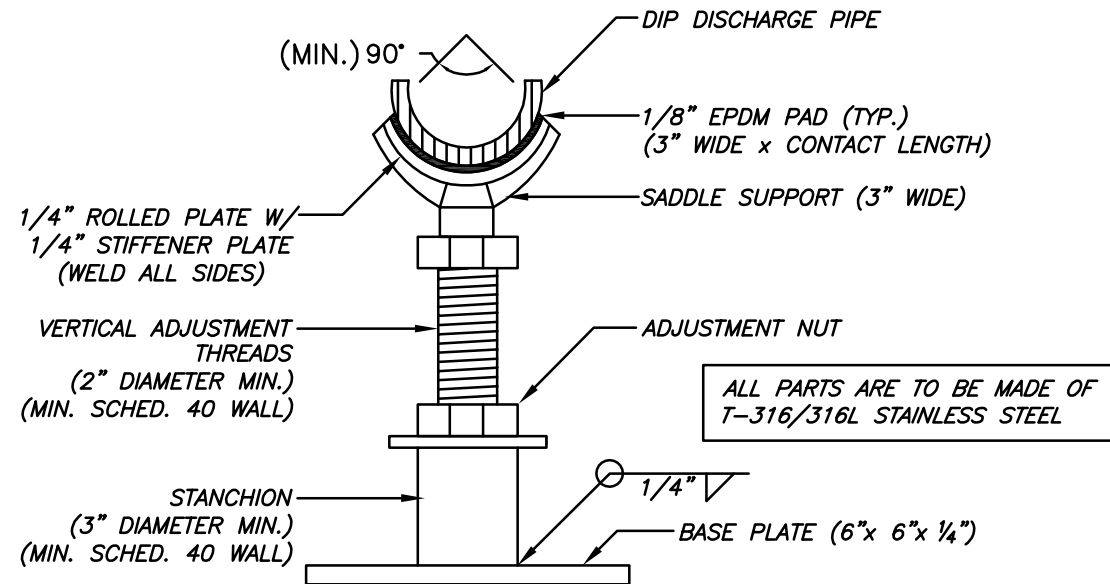
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CKD: JF  
DATE: 2/3/15

**CITY of TAMPA**  
WASTEWATER DEPARTMENT

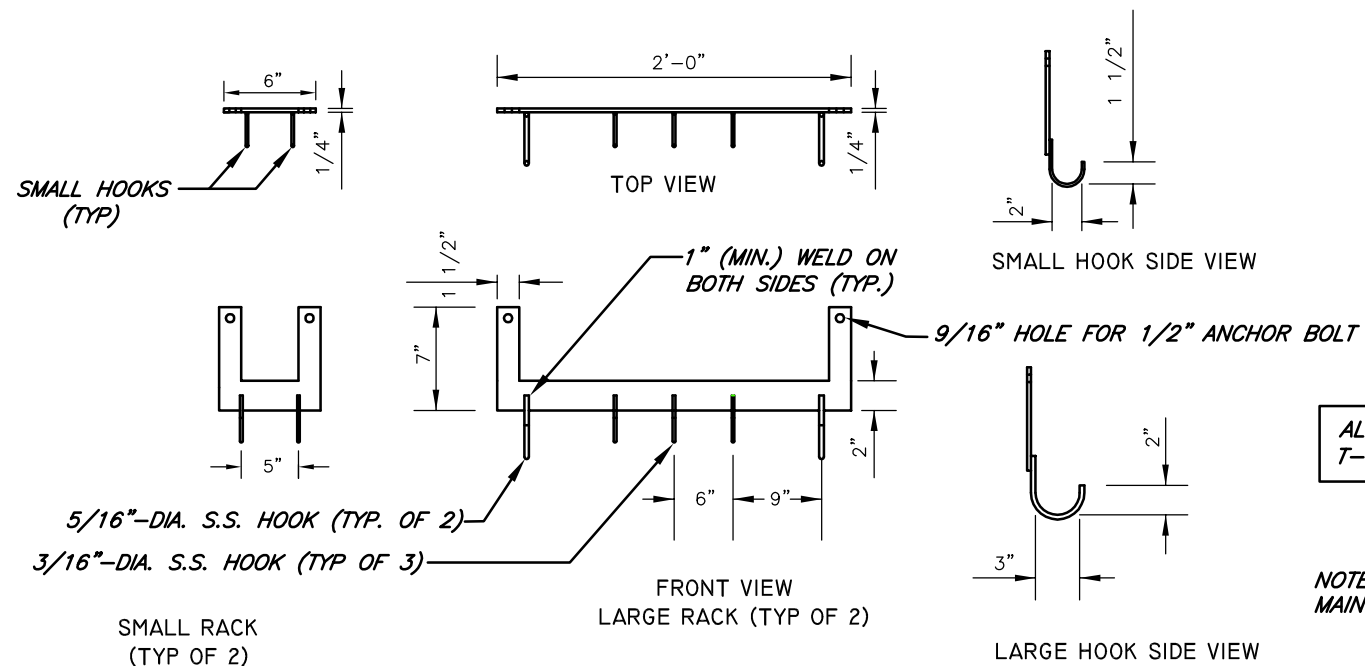
LAKE MAGDALENE PUMPING STATION REHABILITATION  
DETAILS

W.O. 5981  
SHEET  
**12**

User: ss13 Drawing Name: K:\WW\Projects\2014\2014\_5981\_Lake Magdalene PS Rehabilitation\DWG\LAKE MAGDALENE PS REHABILITATION.dwg Layout: Feb 03, 2015 - 4:34pm



SECTION VIEW - STAINLESS STEEL STANCHION SADDLE SUPPORT  
N.T.S.



DETAIL "E" PROP. STAINLESS STEEL HOOK RACKS  
N.T.S.

ALL PARTS ARE TO BE MADE OF  
T-316/316L STAINLESS STEEL

NOTE: INSTALL FLOATS IN A MANNER TO  
MAINTAIN PROPER OPERATIONAL CLEARANCE.

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

No.	DATE	REVISIONS
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DES: MS  
DRN: JHJ  
CKD: JF  
DATE: 2/3/15

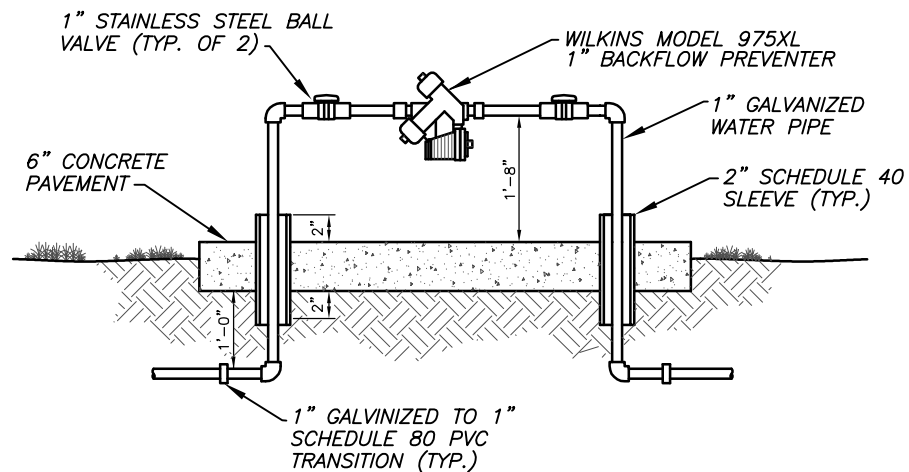
**CITY of TAMPA**  
WASTEWATER DEPARTMENT

LAKE MAGDELENE PUMPING STATION REPLACEMENT  
PIPE SUPPORT AND HOOK RACK DETAILS

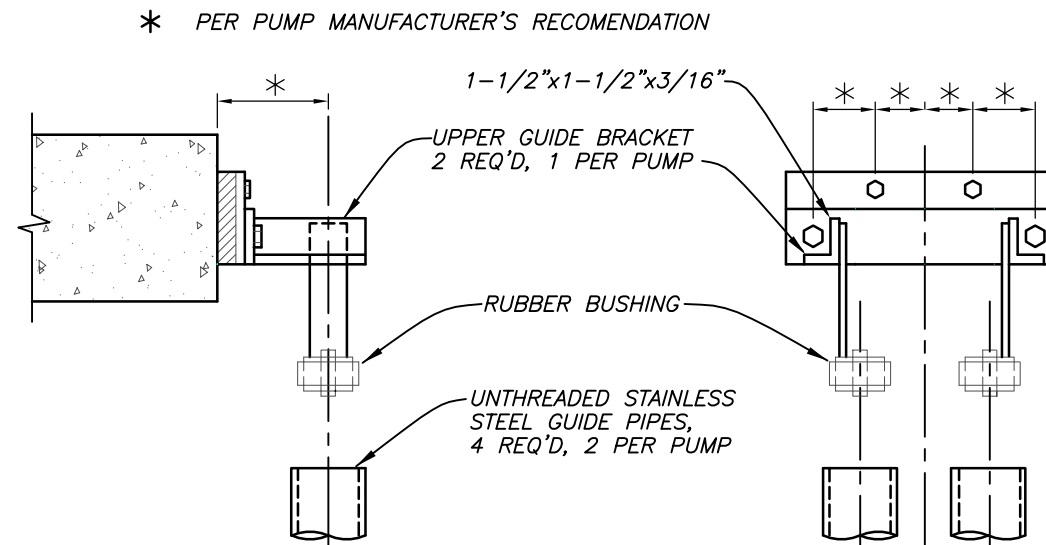
W.O. 5981

SHEET

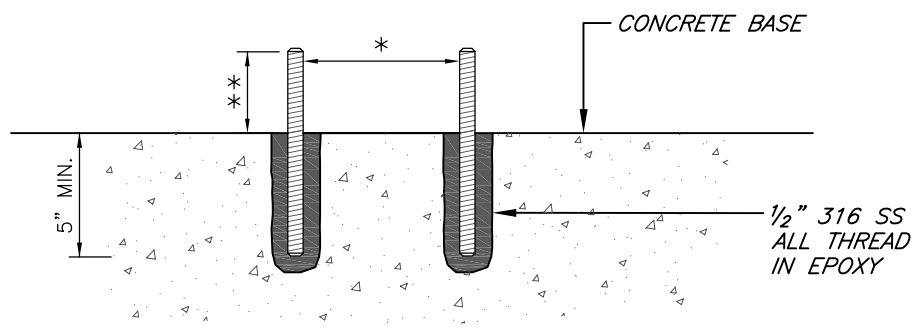
13



**BACKFLOW PREVENTER DETAIL**  
N.T.S.



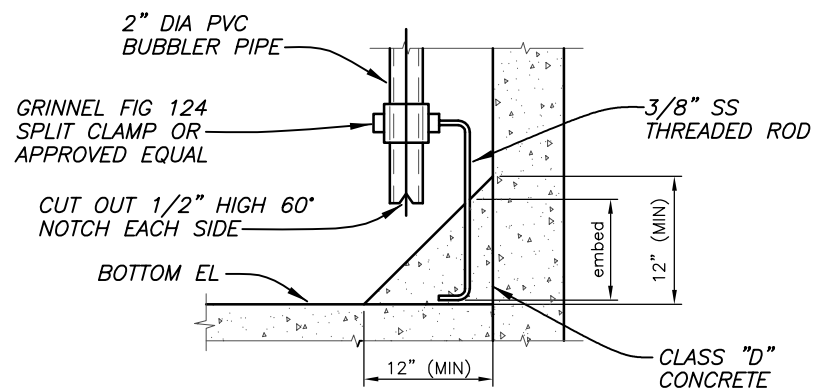
**GUIDE BRACKET DETAIL (SUPPLIED WITH PUMPS)**  
N.T.S.



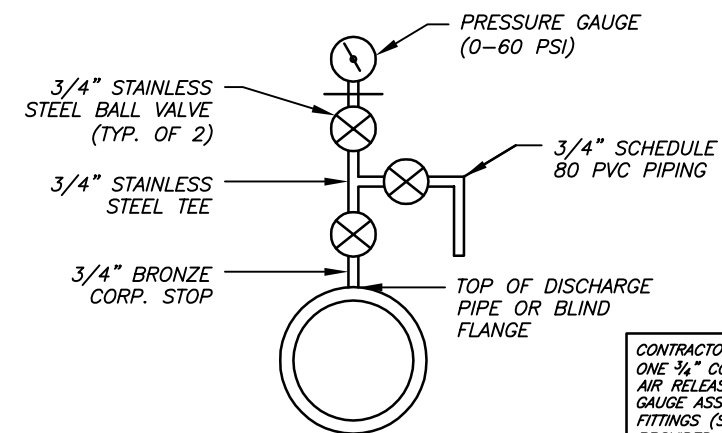
**ANCHOR BOLT DETAIL**  
N.T.S.

\* ALIGNMENT OF ANCHOR BOLTS SHALL BE AS RECOMMENDED BY PUMP MANUFACTURER.

\*\* CONTRACTOR SHALL PROVIDE A MINIMUM 1/2 INCH BOLT PROTRUSION ABOVE THE FINAL NUT LOCATION AFTER THE NUT IS TIGHTENED TO MANUFACTURE'S RECOMMENDATION.



**BUBBLER DETAIL**  
N.T.S.



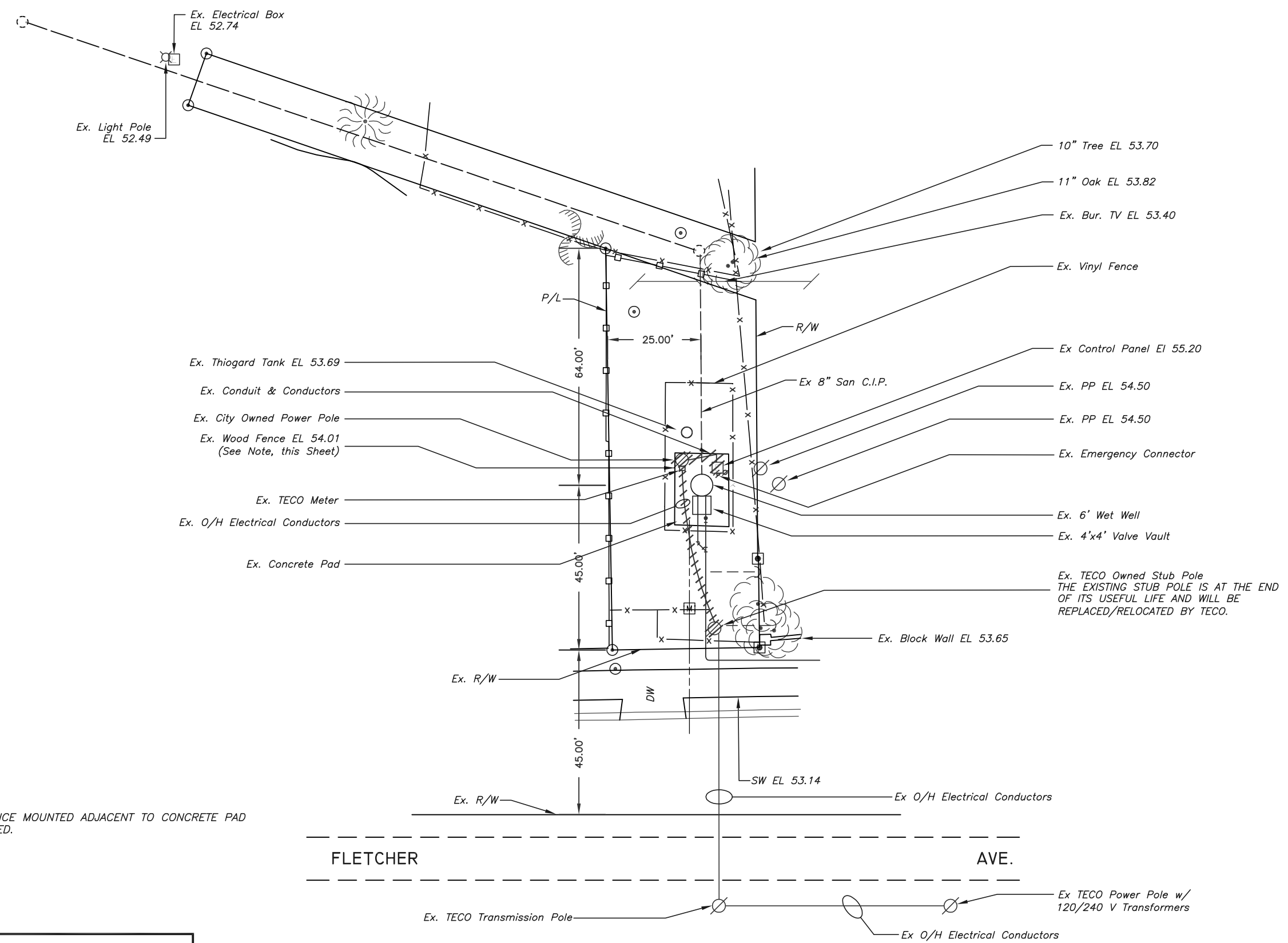
**AIR RELEASE AND PRESSURE GAUGE**  
N.T.S.

CONTRACTOR SHALL TAP AND DRILL ONE 3/4" CORPORATION STOP WITH AIR RELEASE VALVE AND PRESSURE GAUGE ASSEMBLY. PVC PIPE AND FITTINGS (SCH80) SHALL BE PROVIDED TO DIRECT FLOW FROM THE BALL VALVE DOWNWARD TO THE FLOOR.

User: ss13 Drawing Name: K:\WW\Projects\2014\2014\_5981\_Lake Magdalene PS Rehabilitation\DWG\LAKE MAGDALENE PS REHABILITATION.dwg Layout: Feb 03, 2015 - 4:34pm

JACINTO CARLOS FERRAS, P.E., #49454 DESIGN DIVISION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: MS DRN: JHJ CKD: JF DATE: 2/3/15	<b>CITY of TAMPA</b> <b>WASTEWATER DEPARTMENT</b>	LAKE MAGDELENE PUMPING STATION REPLACEMENT DETAILS (2)	W.O. 5981
	3						SHEET
	2						14
	1						

User: ss13 Drawing Name: K:\WW-Projects\2014\2014\_5981\_Lake\_Magdalene\_PS\_Rehabilitation\DWG\OLD\_CSD\_Version\EXISTING ELECTRICAL SITE PLAN DEMOLITION.dwg  
 Copied: Jan 13, 2015 - 3:53pm CIB - MW-TOSHIBA\_PPE-RS-CTB TOSHIBA\_UNL\_COLOR (NORTH WING)



ATLAS: A-10  
 SEC 10 - T29S - R18E

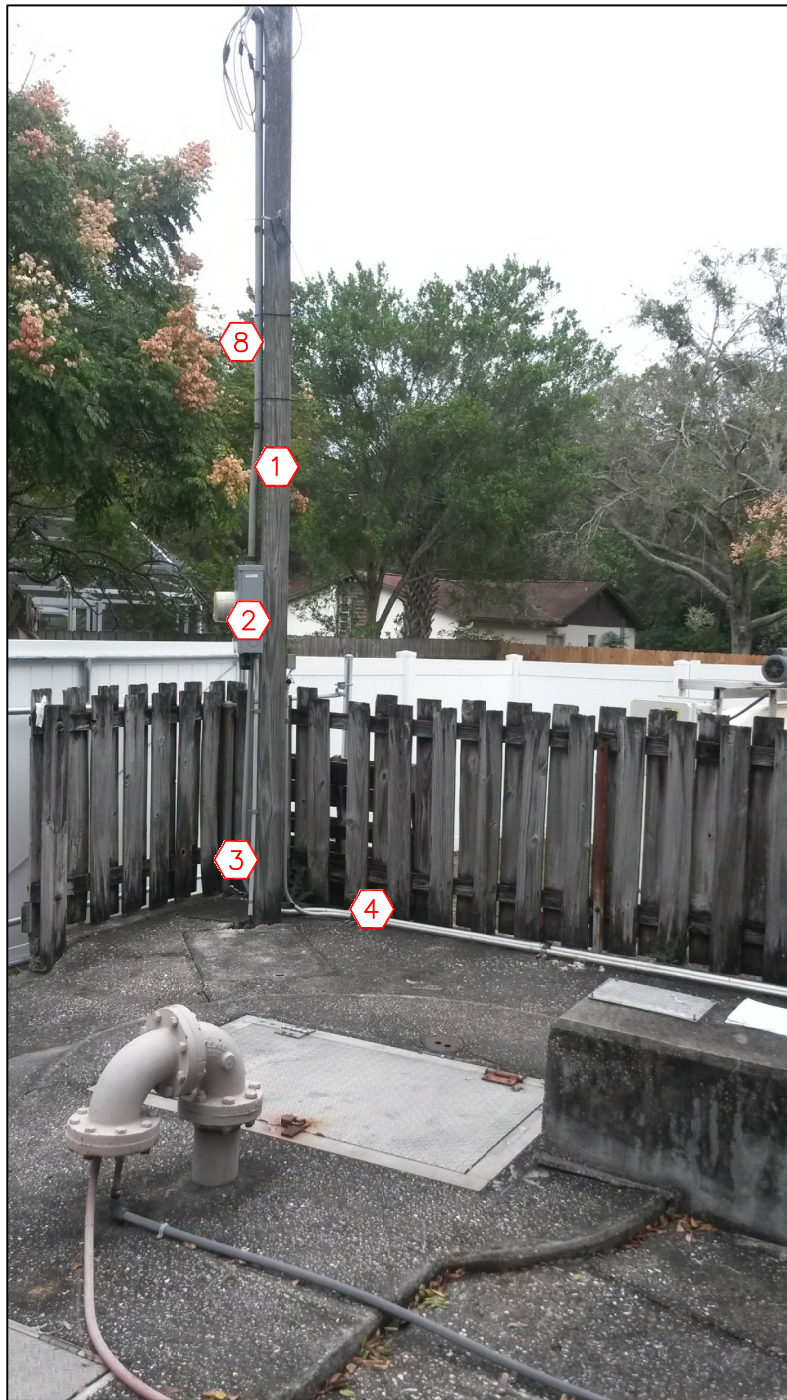
NOTE:  
 EX. WOOD FENCE MOUNTED ADJACENT TO CONCRETE PAD TO BE REMOVED.

HATCHED AREAS ON THIS SHEET INDICATE ITEMS TO BE REMOVED

**ELECTRICAL SITE PLAN (DEMOLITION)**  
 N.T.S.

ROMAN D. KORCHAK, P.E. #42626 ELECTRICAL SECTION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: LG	<b>CITY of TAMPA</b> <b>WASTEWATER DEPARTMENT</b>	LAKE MAGDALENE PUMPING STATION REHABILITATION ELECTRICAL SITE PLAN (DEMOLITION)	W.O. 5981
	3			DRN: JHJ			SHEET
	2			CKD: RDK			<b>EDI</b>
	1			DATE: 2/3/15			

User: ss13 Drawing Name: K:\WWP\Projects\2014\2014\_5981\_Lake Magdalene PS Rehabilitation\DWG\OLD\_C3D\_Version\LAKE\_MAGDALENE\_PS\_REHABILITATION.dwg Layout: Jan 13, 2015 - 4:25pm



EXISTING OVERHEAD ELECTRICAL SERVICE  
SCALE: N.T.S.



EXISTING CONTROL PANEL & SCADA ANTENNA  
SCALE: N.T.S.

**KEYED NOTES:**

- ① EXISTING CITY OWNED ELECTRICAL POLE, TO BE REMOVED.
- ② EXISTING METER SOCKET, TO BE REMOVED.
- ③ EXISTING GROUND CONDUIT AND CONDUCTORS TO BE REMOVED.
- ④ EXISTING CONDUIT AND CONDUCTORS TO CONTROL PANEL, TO BE REMOVED.
- ⑤ EXISTING CONTROL PANEL, TO BE REMOVED.
- ⑥ EXISTING DCR SCADA RTU CABINET, TO BE REMOVED.  
SEE SCOPE OF WORK NOTE 4, SHEET E3.
- ⑦ EXISTING ANTENNA MAST, TO BE REMOVED.
- ⑧ EXISTING METER CONDUIT, CONDUCTORS AND WEATHER HEAD,  
TO BE REMOVED.
- ⑨ EXISTING EMERGENCY CONNECTOR, TO BE REMOVED.

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

No.	DATE	REVISIONS
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DES: LG  
DRN: JHJ  
CKD: RDK  
DATE: 2/3/15

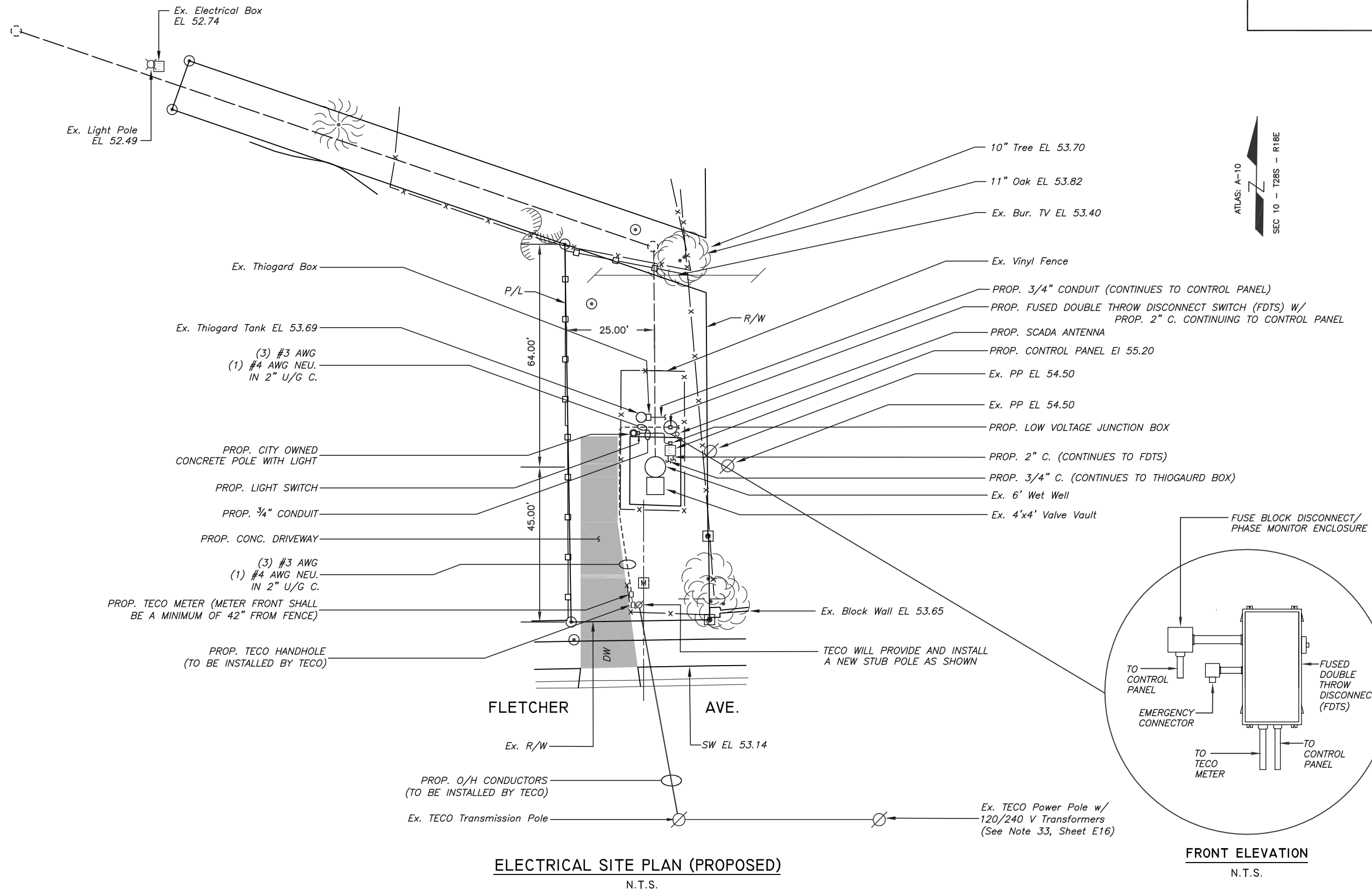
**CITY of TAMPA**  
WASTEWATER DEPARTMENT

LAKE MAGDALENE PUMPING STATION  
REHABILITATION  
ELECTRICAL DEMOLITION

W.O. 5981  
SHEET  
**ED2**



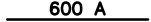
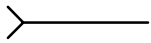
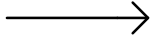
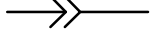
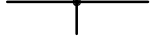
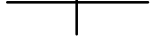
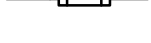

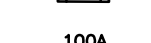
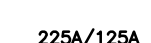



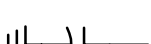



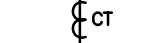

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 Layout: Feb 03, 2015 - 2:37pm CTB - MW-TOSHIBA\_PPE-RS.CTB TOSHIBA\_UNL\_COLOR (NORTH WING)







**ELECTRICAL SITE PLAN (PROPOSED)**  
N.T.S.

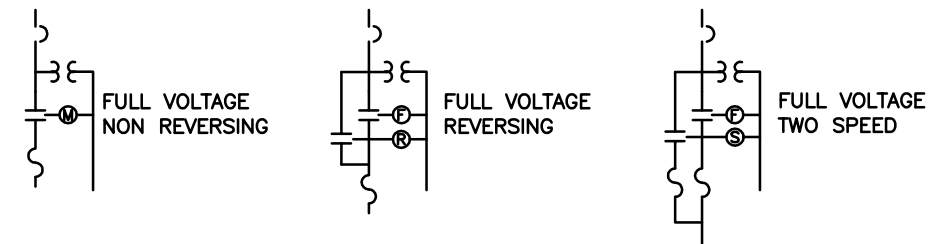
ROMAN D. KORCHAK, P.E. #42626 ELECTRICAL SECTION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: LG DRN: JHJ CKD: RDK DATE: 2/3/15	<b>CITY of TAMPA</b> <b>WASTEWATER DEPARTMENT</b>	LAKE MAGDALENE PUMPING STATION REHABILITATION ELECTRICAL SITE PLAN (PROPOSED)	W.O. 5981
	3						SHEET
	2						<b>ESI</b>
	1						

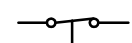
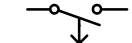
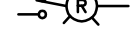










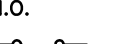
## ONE LINE DIAGRAM SYMBOLS

-  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

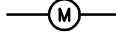

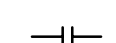

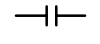
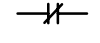


-  THERMAL OVERLOAD ELEMENT (OL)
-  SQUIRREL CAGE MOTOR (INDICATE HORSEPOWER)
-  GENERATOR
-  INDICATING LIGHT (R-RED, G-GREEN, A-AMBER, B-BLUE, W-WHITE)


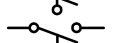



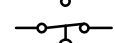
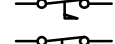

### COMBINATION STARTER WITH CONTROL TRANSFORMERS AND OVERLOAD RELAYS AND MOTOR CIRCUIT PROTECTOR



-  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
-  GROUND BUS
-  NEUTRAL BUS (INSULATED)
-  SINGLE-POLE CIRCUIT BREAKER

## SCHEMATIC AND WIRING DIAGRAM SYMBOLS

-  OPERATING COIL     M-MOTOR STARTER     AR- AUXILIARY RELAY
-  C- CONTACTOR     CR- CONTROL RELAY
-  F- FORWARD     TR- TIME DELAY RELAY
-  R- REVERSE
-  NORMALLY OPEN CONTACT (N.O.)
-  NORMALLY CLOSED CONTACT (N.C.)
-  NORMALLY OPEN CONTACT WITH TIME DELAY CLOSING (ON-DELAY)
-  INSTANT OPEN- TIME DELAY CLOSED CONTACT (OFF DELAY)





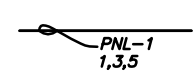




- |  |  |   |
|--|--|---|
| NORMALLY OPEN N.O.<br><br><br><br> | NORMALLY CLOSED N.C.<br><br><br><br> | LIMIT SWITCH<br>FLOAT SWITCH<br>PRESSURE SWITCH<br>FLOW SWITCH<br>TEMPERATURE |
|--|--|---|









**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:\MWL\Projects\2014\2014\_5981\_Lake Magdalene PS Rehabilitation\DWG\LAKE MAGDALENE PS REHABILITATION.dwg Layout: Feb 03, 2015 - 3:12pm







ROMAN D. KORCHAK, P.E. #42626 ELECTRICAL SECTION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: LG	<b>CITY of TAMPA</b> WASTEWATER DEPARTMENT	LAKE MAGDALENE PUMPING STATION REHABILITATION ELECTRICAL SYMBOL LEGEND - SHT I	W.O. 5981
	3			DRN: JHJ			SHEET
	2			CKD: RDK			EI
	1			DATE: 3/2/15			

















## 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
-  DESIGNATES MOUNTING HEIGHT
-  DESIGNATES WATERPROOF EQUIPMENT
-  DESIGNATES EXPLOSIONPROOF EQUIPMENT
-  DESIGNATES MOTOR OPERATED VALVE
-  DESIGNATES EXISTING EQUIPMENT
-  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:\WW\_Projects\2014\2014\_5981\_Lake Magdalene PS Rehabilitation\DWG\LAKE MAGDALENE PS REHABILITATION.dwg Layout: Feb 03, 2015 - 3:12pm

ROMAN D. KORCHAK, P.E. #42626 ELECTRICAL SECTION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: LG	<b>CITY of TAMPA</b> WASTEWATER DEPARTMENT	LAKE MAGDALENE PUMPING STATION REHABILITATION ELECTRICAL SYMBOL LEGEND - SHT 2	W.O. 5981
	3			DRN: JHJ			SHEET
	2			CKD: RDK			<b>E2</b>
	1			DATE: 2/3/15			

**GENERAL NOTES**

1. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR APPROVAL PRIOR TO PURCHASING EQUIPMENT OR COMMENCING IN CONSTRUCTION.
2. ALL CONDUCTORS SHALL BE STRANDED COPPER, #12 AWG MIN W/THWN 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. ALL ELECTRICAL WORK SHALL BE PREFORMED IN ACCORDANCE W/ THE LATEST EDITION OF THE NEC AND ALL APPLICABLE LOCAL ORDINANCES.
7. ALL THREADED CONNECTIONS SHALL BE COATED W/ COPPER SHIELD ANTI-SEIZE 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 DESIGNATED IN THE DRAWINGS.
12. NEATLY COIL ALL SPARE CONDUCTORS & TAPE W/ VINYL ELECTRICAL TAPE (SCOTCH 33+).
13. PROVIDE A MINIMUM OF 42" 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 IN THE WET WELL.
16. DIRECT BURIED AND CONCRETE ENCASED CONDUIT SHALL BE SCHEDULE 80 PVC, UNLESS OTHERWISE NOTED, WITH A TRANSITION TO RIGID ALUMINUM USING A PVC TO ALUMINUM COUPLING, ALUMINUM 90 DEG ELBOW, AND ALUMINUM STUB-OUT TO EQUIPMENT. ALL ALUMINUM SURFACES IN CONTACT WITH SOIL, CONCRETE, AND OTHER INCOMPATIBLE MATERIALS SHALL BE COATED WITH TWO COATS OF BITUMASTIC OR OTHER APPROVED INSULATING MATERIAL.

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 IN 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 CONTRACTOR'S 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 TO 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 NEC.

**SCOPE OF WORK**

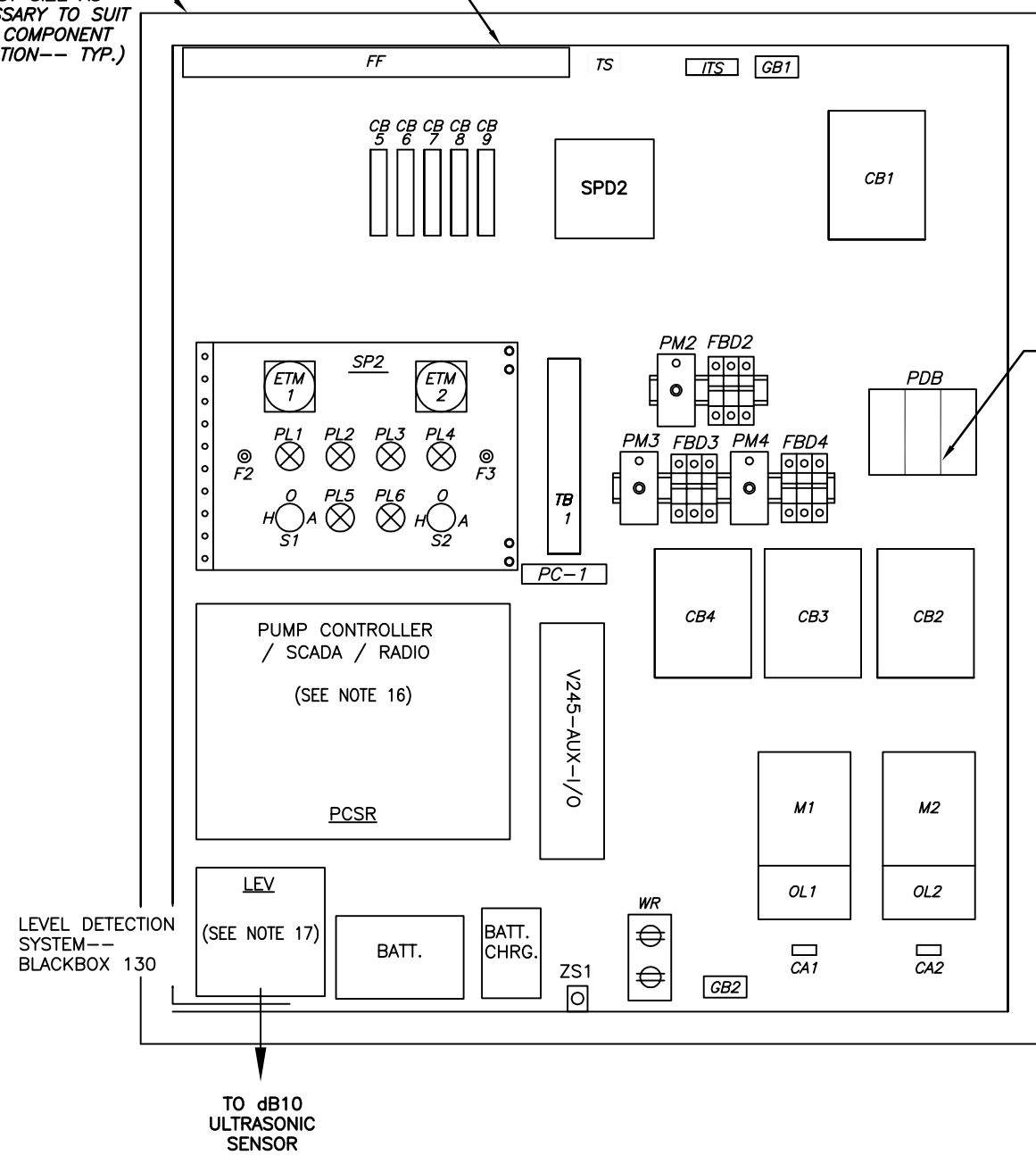
1. THE CONTRACTOR SHALL COORDINATE ELECTRICAL SERVICE REQUIREMENTS WITH TAMPA ELECTRIC COMPANY (TECO). THE CITY WILL MAKE PRELIMINARY ARRANGEMENTS WITH TECO AND COMPENSATE THE UTILITY DIRECTLY FOR ANY CONTRIBUTION IN AID OF CONSTRUCTION (CIAC) REQUIRED FOR TECO TO INSTALL A HANDHOLE AT THE BASE OF THE TECO STUB POLE. THE PROPOSED SERVICE VOLTAGE REMAINS 120/240 V, 3PH, 4W DELTA. THE EXISTING METER SOCKET, LIGHTNING ARRESTOR, AND SERVICE RISER/WEATHERHEAD SHALL BE REMOVED. THE FOLLOWING EQUIPMENT SHALL BE PROVIDED AND INSTALLED: ELECTRICAL METER SOCKET, LIGHTNING ARRESTOR, AND GROUNDING AS SHOWN ON PLANS.
2. THE CONTRACTOR SHALL PROVIDE AND INSTALL UNDERGROUND CONDUIT/CONDUCTORS EXTENDING FROM THE PROPOSED TECO HANDHOLE TO A PROPOSED PROPOSED METER.
3. REMOVE THE EXISTING CITY OWNED ELECTRICAL POLE, CONTROL PANEL, EMERGENCY CONNECTOR, AND SCADA ANTENNA.
4. CAREFULLY REMOVE THE EXISTING DCR SCADA RTU CABINET MOUNTED ON THE SCADA ANTENNA. DELIVER THIS RTU PACKAGE TO THE CITY FOR MAINTENANCE INVENTORY.
5. PROVIDE AND INSTALL A CONCRETE POLE AND OUTDOOR LIGHT SWITCH. THE PROPOSED OUTDOOR LIGHT SHALL BE MOUNTED ON CONCRETE POLE AS SHOWN ON PLANS.
6. PREPARE THE SITE FOR THE INSTALLATION OF THE PROPOSED PUMP CONTROLS/SCADA/RADIO (PCSR) ENCLOSURE.
7. PROVIDE AND INSTALL A NEW DUPLEX PUMP CONTROL PANEL. THE CONTROL PANEL SHALL CONTAIN CONTROL COMPONENTS, INDICATOR LIGHTS, CIRCUIT BREAKERS, AND MOTOR STARTERS AS SHOWN ON THE PLANS AND DETAILED IN THE SPECIFICATIONS.
8. PROVIDE AND INSTALL A NEW GALVANIZED STEEL SCADA ANTENNA/MAST AS SHOWN OR REQUIRED. THE CONTRACTOR SHALL PROVIDE DRAWINGS FOR THE MAST THAT ARE SIGNED AND SEALED BY A STRUCTURAL ENGINEER IN THE STATE OF FLORIDA.
9. CALIBRATE AND ADJUST SETPOINTS AND ALL SENSING DEVICES, ALARM DEVICES, AND TIMERS. CALIBRATIONS AND SETPOINTS SHALL BE PROVIDED IN ACCORDANCE WITH MANUFACTURE'S RECOMMENDATIONS.
10. PROVIDE AND INSTALL ALL NECESSARY CONDUITS AND CONDUCTORS AS SHOWN, SPECIFIED, AND REQUIRED.
11. FURNISH AND INSTALL A JUNCTION BOX CONSTRUCTED OF SHEET ALUMINUM WITH LOUVERED OPENINGS ON A CONCRETE PEDESTAL, AS SHOWN ON THE PLANS.
12. PROVIDE FOR PROPER GROUNDING AS SHOWN, SPECIFIED, AND REQUIRED.
13. THE CONTRACTOR SHALL FURNISH AND INSTALL A NEMA 4X S/S JUNCTION BOX ADJACENT TO PROPOSED CONTROL PANEL, AS SHOWN ON PLANS.
14. PROVIDE AND INSTALL A HEAVY DUTY, SERVICE ENTRANCE RATED, FUSED DOUBLE THROW SWITCH AS SHOWN ON PLANS.
15. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRIC CODE ADOPTED BY THE STATE OF FLORIDA AND CHAPTER 5 OF THE CITY OF TAMPA CODE.

User: ss13 Drawing Name: K:\WW\_Projects\2014\2014\_5981\_Lake\_Magdalene\_PS\_Rehabilitation\DWG\LAKE\_MAGDALENE\_PS\_REHABILITATION.dwg Layout: Feb 03, 2015 - 3:12pm

ROMAN D. KORCHAK, P.E. #42626 ELECTRICAL SECTION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: LG DRN: JHJ CKD: RDK DATE: 2/3/15	<b>CITY of TAMPA</b> WASTEWATER DEPARTMENT	LAKE MAGDALENE PUMPING STATION REHABILITATION GENERAL NOTES AND SCOPE OF WORK	W.O. 5981
	3						SHEET
	2						<b>E3</b>
	1						

ENCLOSURE SIZE  
48" X 42" X 12"  
(ADJUST SIZE AS  
NECESSARY TO SUIT  
FINAL COMPONENT  
SELECTION-- TYP.)

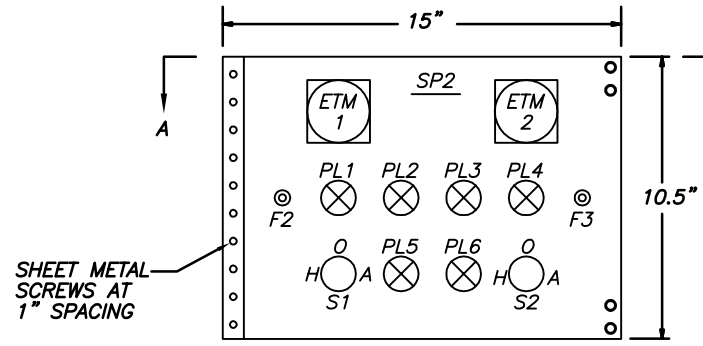
PANEL SIZE  
45" X 39"



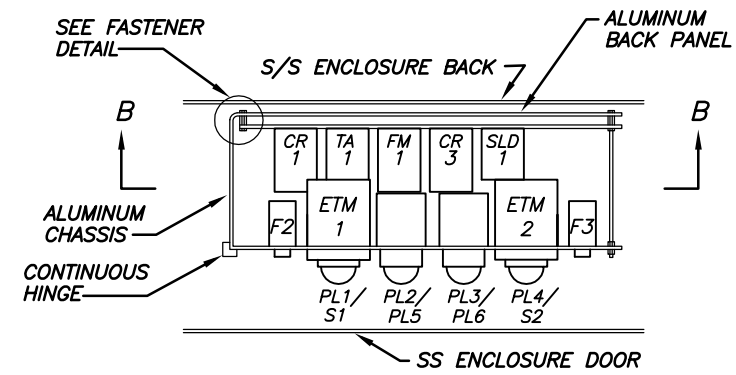
CONTROL PANEL ENCLOSURE\* - FRONT VIEW

SCALE: 1/8"=1"

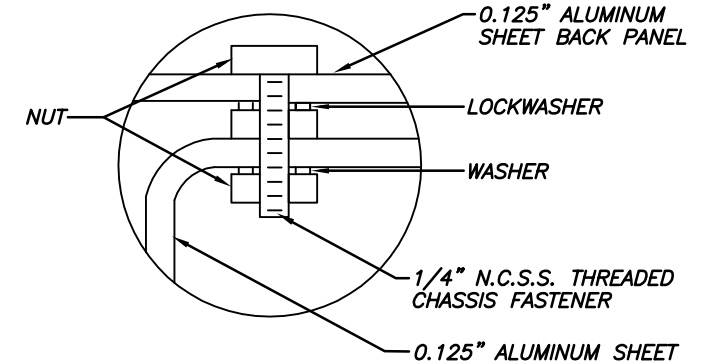
SEE NOTE 18



FRONT VIEW

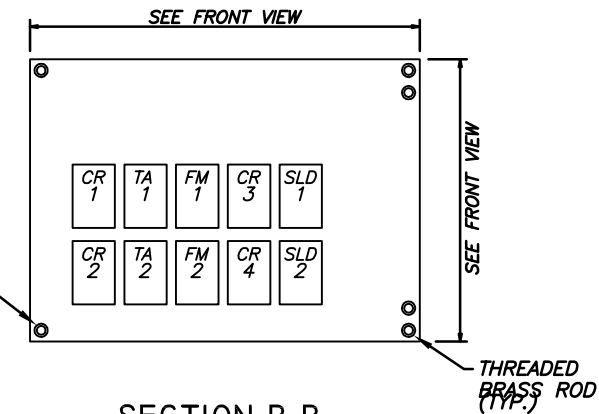


SECTION A-A



FASTENER DETAIL

1/4" N.C.S.S. THREADED CHASSIS FASTENER (TYP.)



SECTION B-B

CONTROL CHASSIS LAYOUT

SEE NOTES ON SHEET E10

User: ss13 Drawing Name: K:\WW\_Projects\2014\2014\_5981\_Lake Magdalene PS Rehabilitation\DWG\LAKE MAGDALENE PS REHABILITATION.dwg Layout: Feb 13, 2015 - 10:05am

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

No.	DATE	REVISIONS
3		
2		
1		

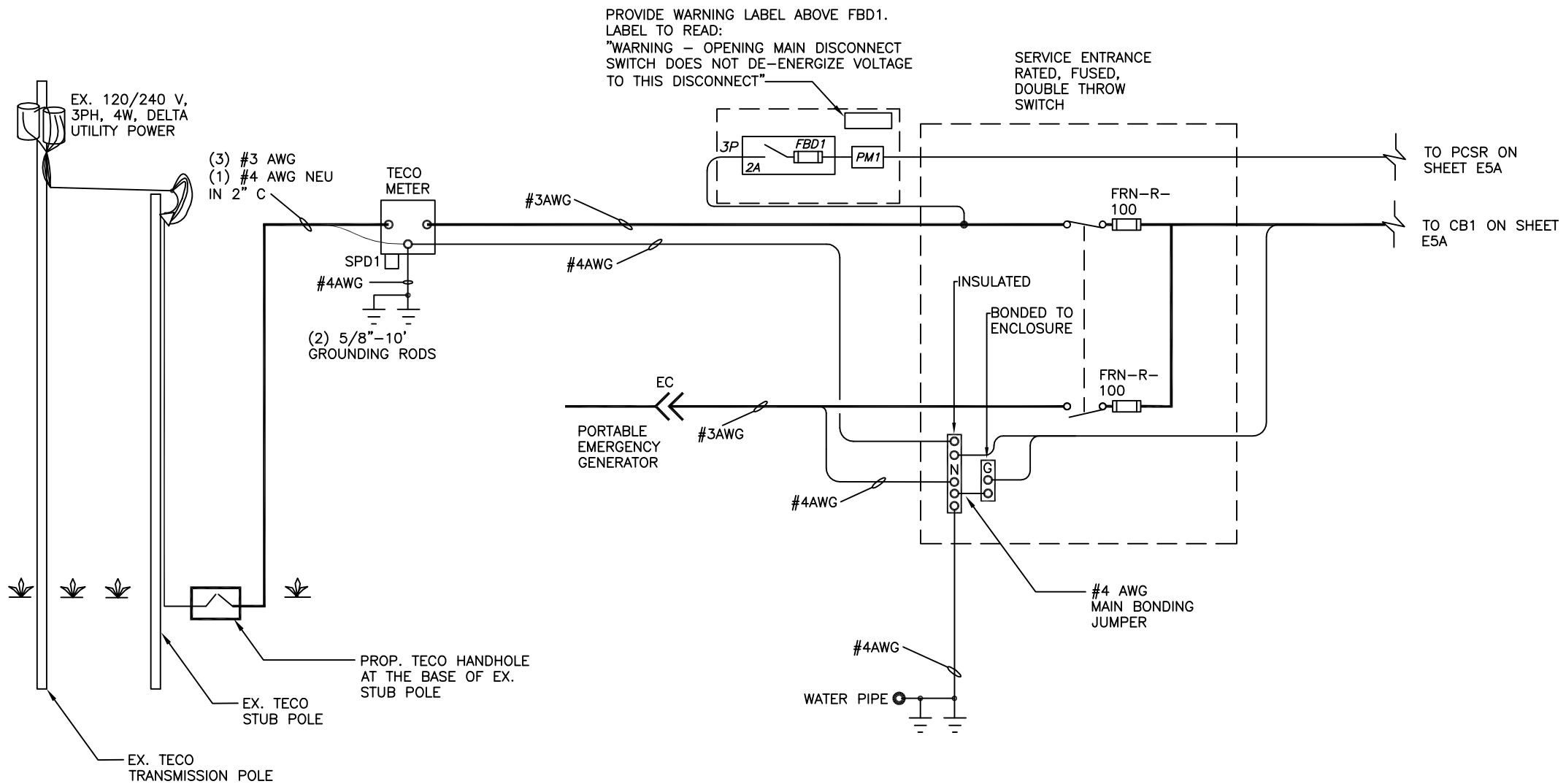
DES: LG  
DRN: JHJ  
CKD: RDK  
DATE: 2/3/15

CITY of TAMPA  
WASTEWATER DEPARTMENT

LAKE MAGDALENE PUMPING STATION  
REHABILITATION  
ELECTRICAL CONTROL PANEL LAYOUT

W.O. 5981  
SHEET  
E4

User: ss13 Drawing Name: K:\WW\_Projects\2014\2014\_5981\_Lake Magdalene PS Rehabilitation\DWG\LAKE MAGDALENE PS REHABILITATION.dwg Layout: Feb 03, 2015 - 3:12pm



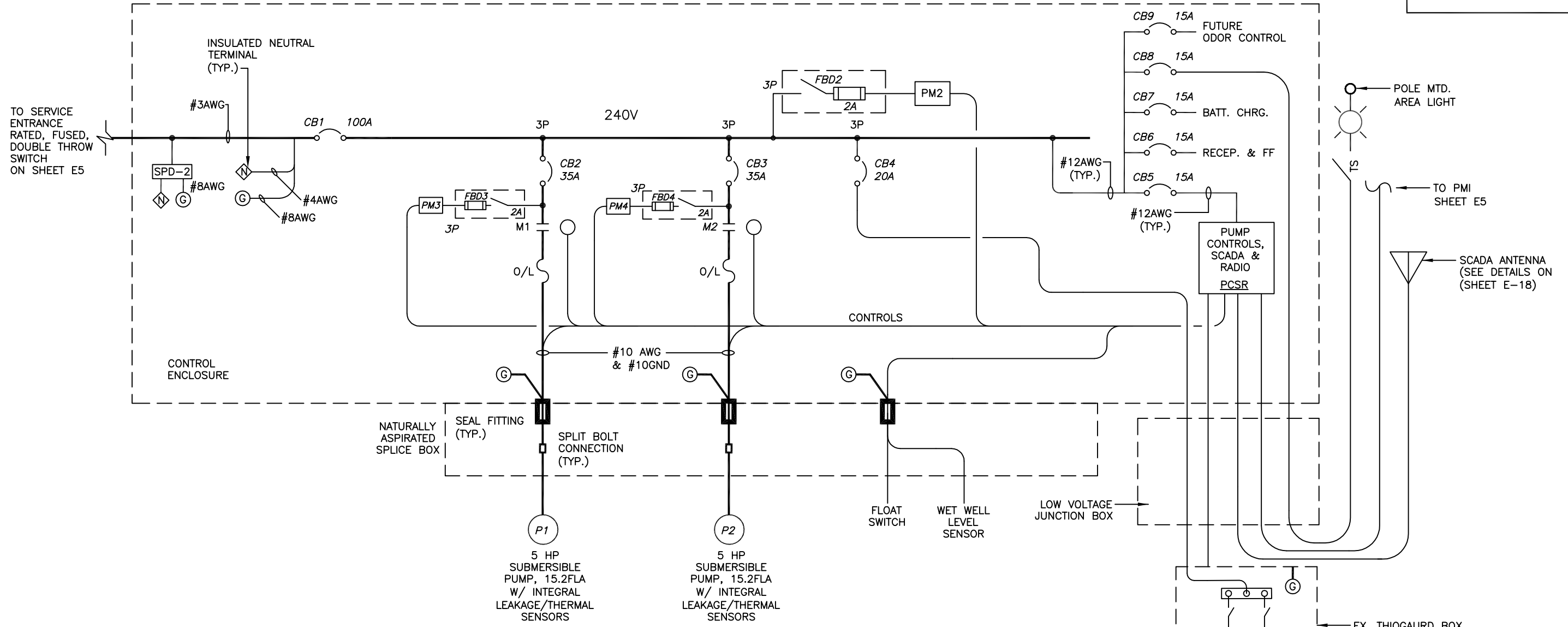
**ONE LINE DIAGRAM**  
NOT TO SCALE

AVAILABLE FAULT CURRENT AT TRANSFORMER LUGS FOR ANTICIPATED 45KVA TRANSFORMER BANK (2%Z) IS 5413A; DOUBLE THROW SWITCH W/FRN-R FUSES AIC RATING- 100,000A SYMMETRICAL @240V.

**SEE NOTES ON SHEET E10**

ROMAN D. KORCHAK, P.E. #42626 ELECTRICAL SECTION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: LG	<b>CITY of TAMPA</b> WASTEWATER DEPARTMENT	LAKE MAGDALENE PUMPING STATION REHABILITATION ONE LINE DIAGRAM	W.O. 5981
	3			DRN: JHJ			SHEET
	2			CKD: RDK			<b>E5</b>
	1			DATE: 2/3/15			

User: ss13 Drawing Name: K:\WW\_Projects\2014\2014\_5981\_Lake Magdalene PS Rehabilitation\DWG\LAKE MAGDALENE PS REHABILITATION.dwg Layout: Feb 04, 2015 - 2:52pm

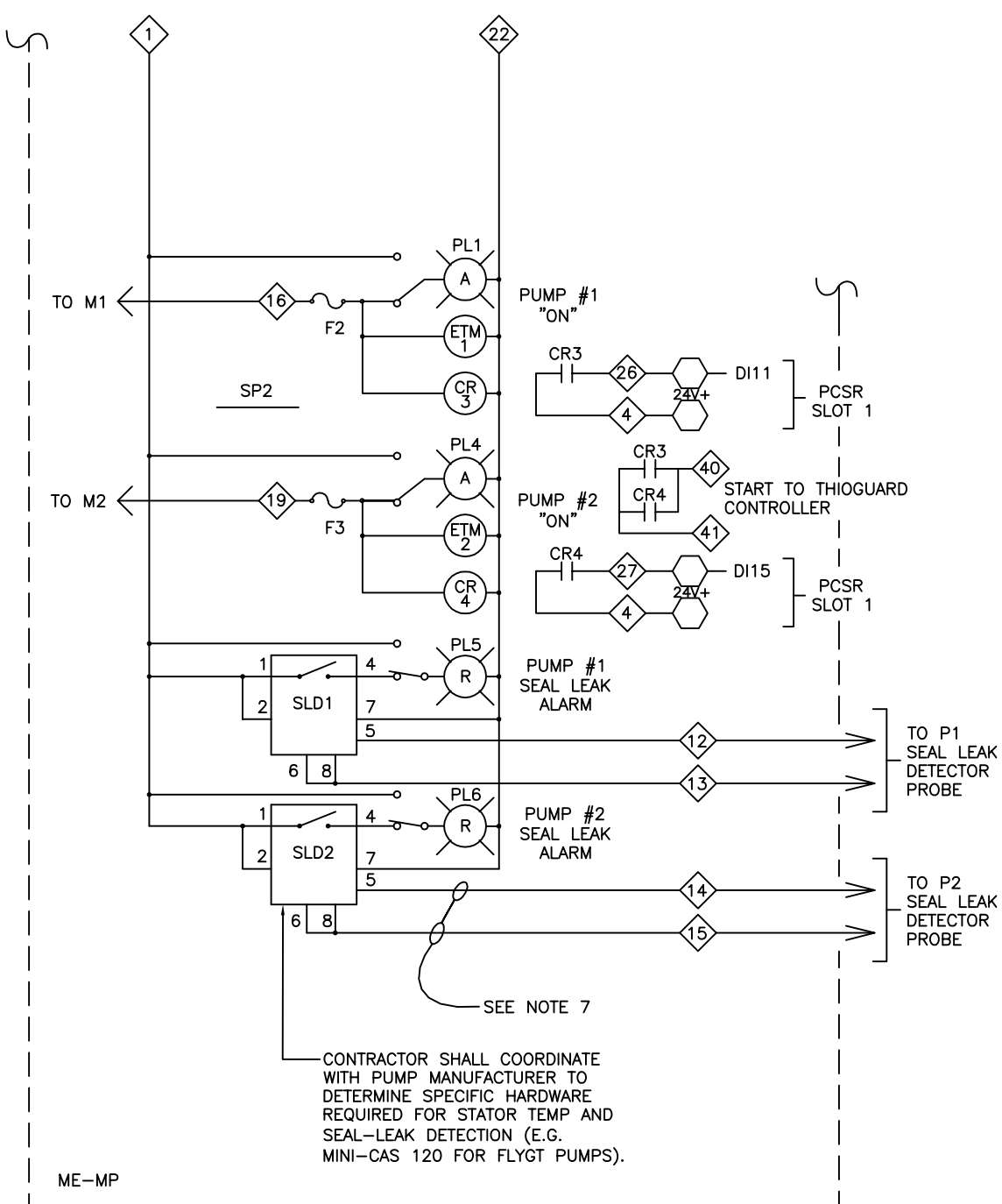
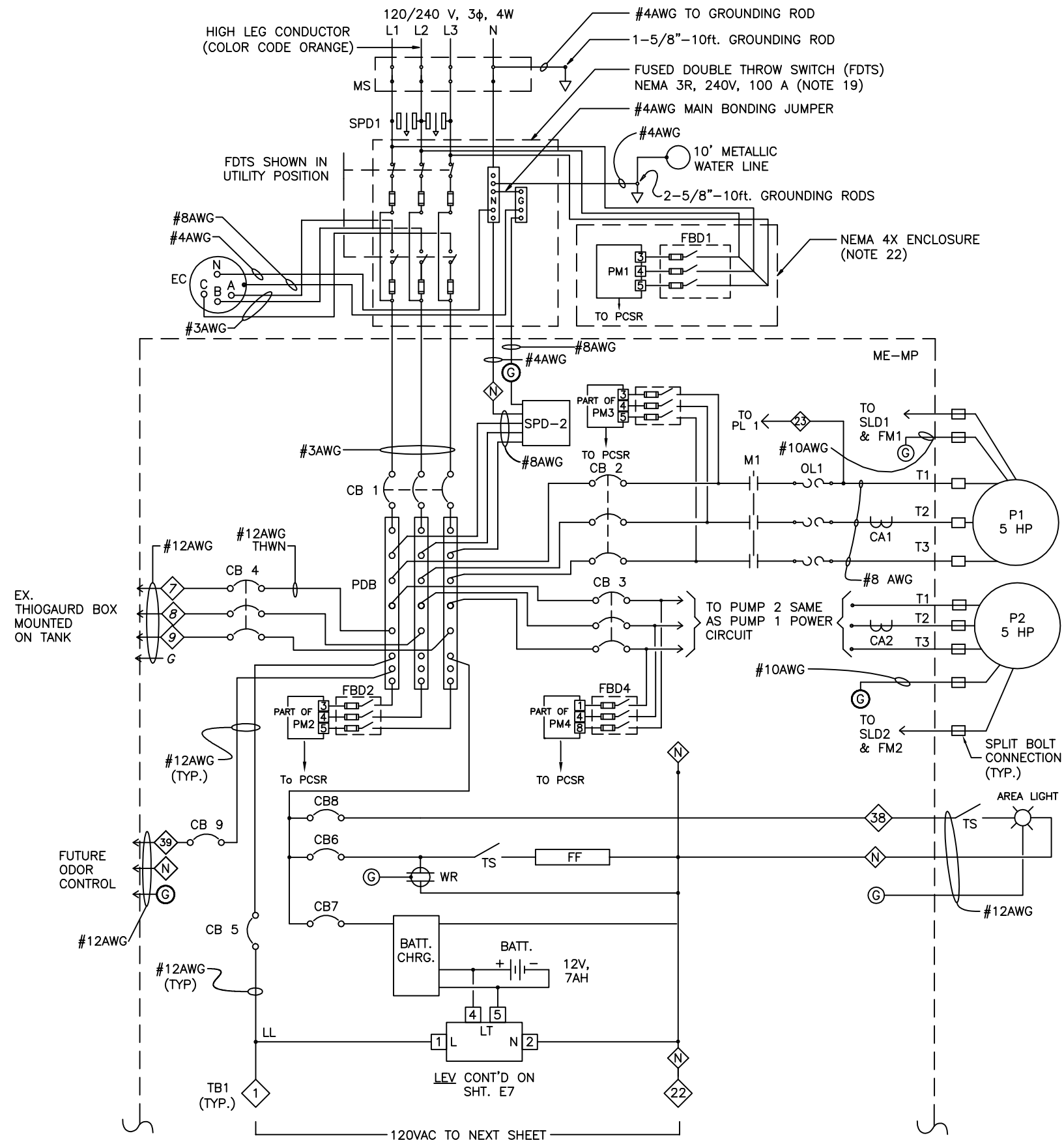


LOAD SUMMARY					
240 VAC, 3 $\phi$ , 4W					
LOAD	CONNECTED	DEMAND	APPROX. PHASE CURRENTS		
			L1	L2	L3
PUMP #1	6.3 KVA	6.3 KVA	15.2 A	15.2 A	15.2 A
PUMP #2	6.3 KVA	6.3 KVA	15.2 A	15.2 A	15.2 A
CONTROLS	2.0 KVA	2.0 KVA	8.3 A	0 A	8.3 A
ODOR CONTROL	2.7 KVA	2.7 KVA	6.4 A	6.4 A	6.4 A
TOTAL	17.3 KVA	17.3 KVA	45.1 A	36.8 A	45.1 A

ONE LINE DIAGRAM  
NOT TO SCALE

**SEE NOTES ON SHEET E10**

User: ss13 Drawing Name: K:\MWL\Projects\2014\2014\_5981\_Lake Magdalene PS Rehabilitation\DWG\LAKE MAGDALENE PS REHABILITATION.dwg Layout: Feb 13, 2015 - 10:05am

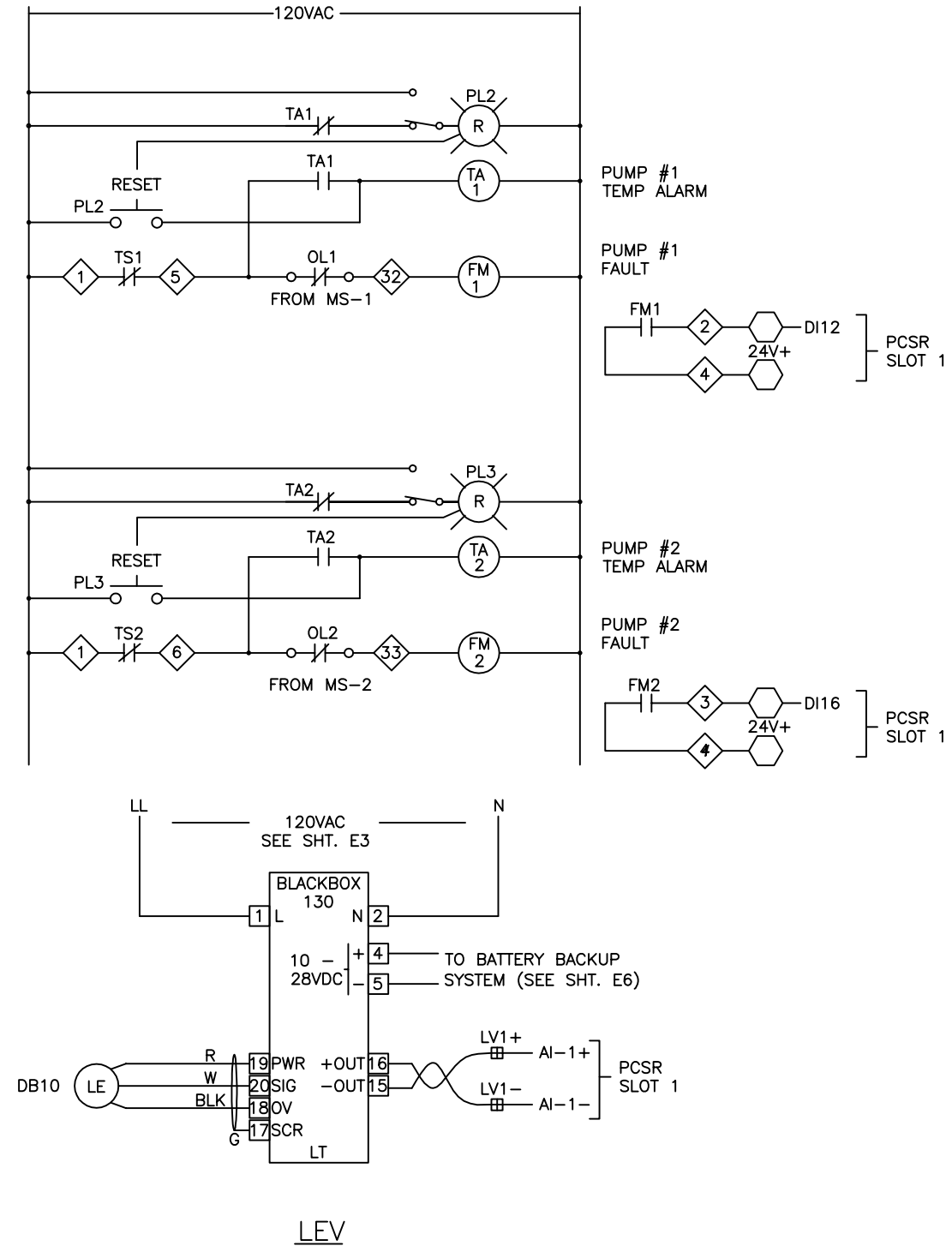
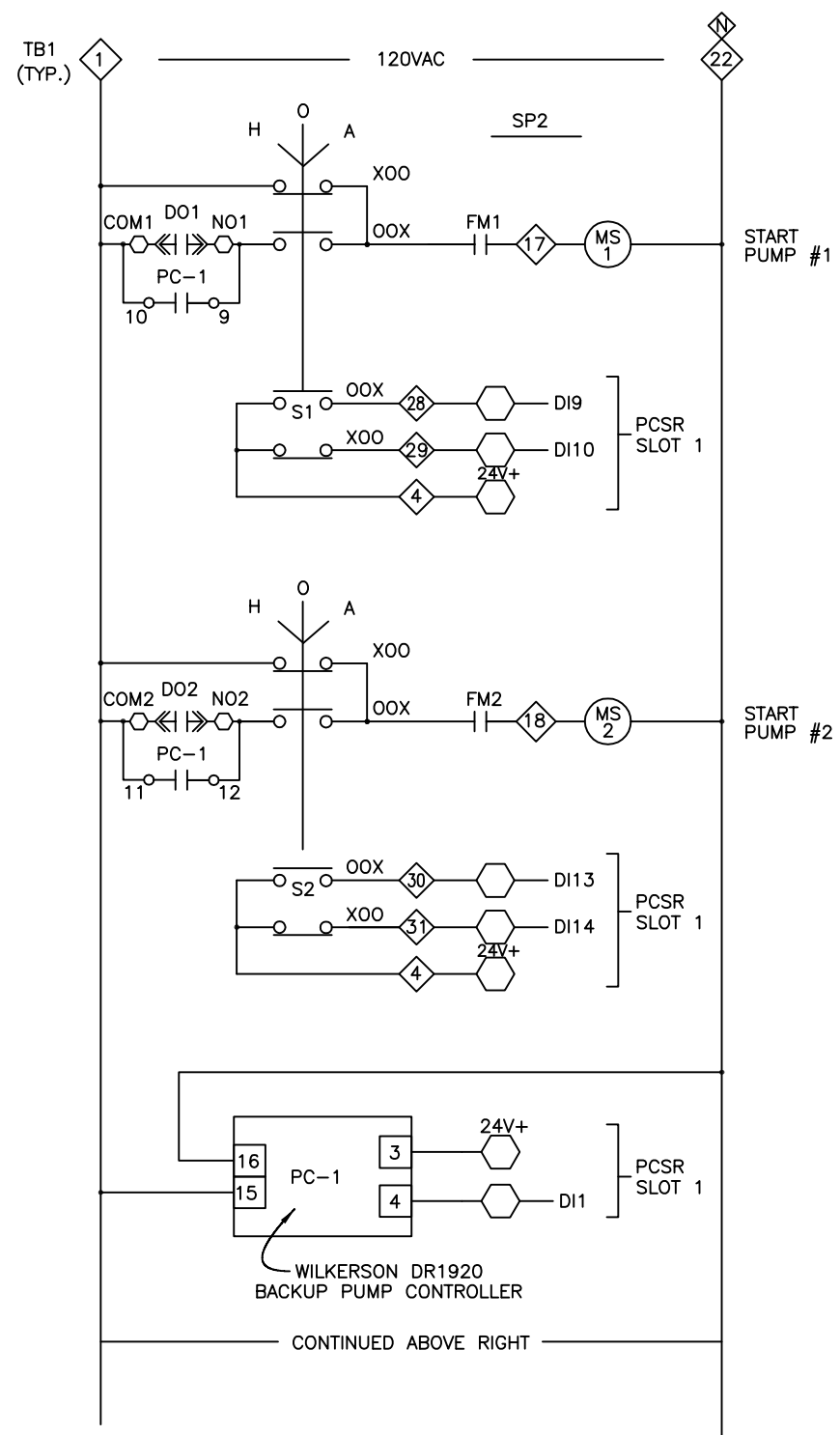


**SEE NOTES ON SHEET E10**

ROMAN D. KORCHAK, P.E. #42626 ELECTRICAL SECTION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: LG DRN: JHJ CKD: RDK DATE: 2/3/15	<b>CITY of TAMPA</b> <b>WASTEWATER DEPARTMENT</b>	LAKE MAGDALENE PUMPING STATION REHABILITATION ELECTRICAL SCHEMATIC DIAGRAM (1 OF 3)	W.O. 5981
	3						SHEET
	2						<b>E6</b>
	1						



User: ss13 Drawing Name: K:\WW\_Projects\2014\2014\_5981\_Lake Magdalene PS Rehabilitation\DWG\LAKE MAGDALENE PS REHABILITATION.dwg Layout: Feb 13, 2015 - 10:05am



**SEE NOTES ON SHEET E10**

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

No.	DATE	REVISIONS
3		
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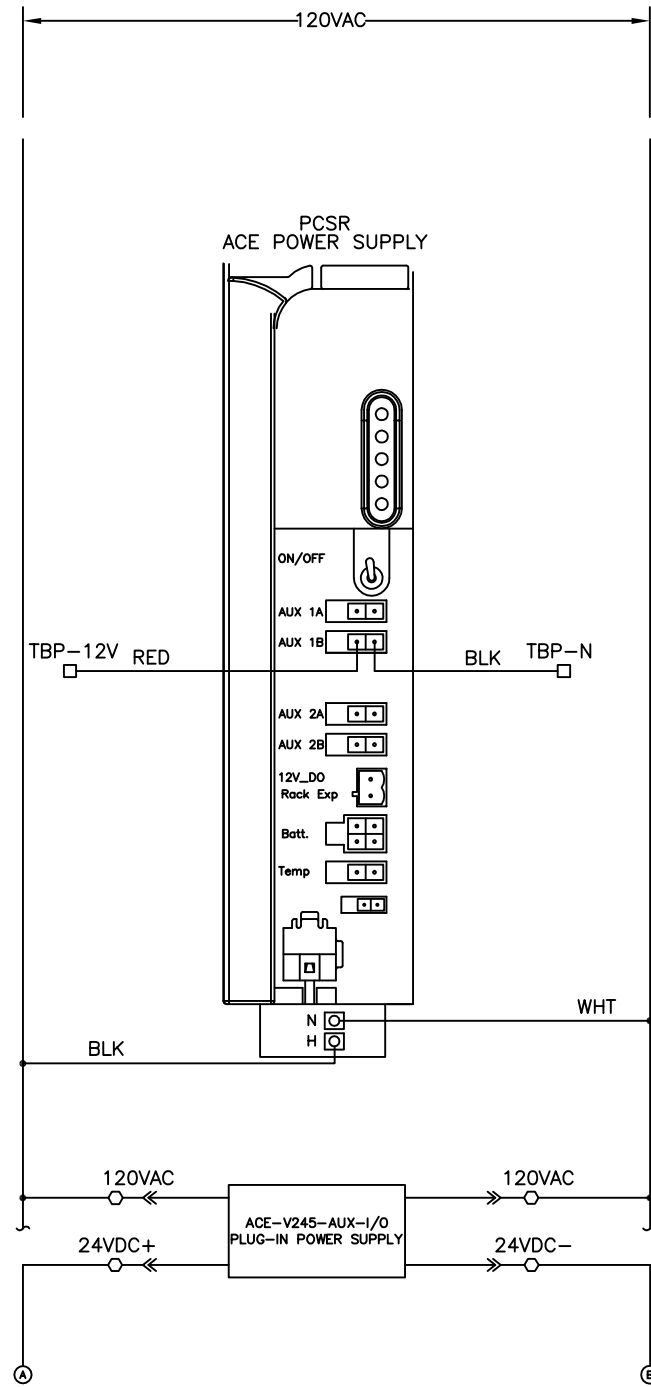
DES: LG  
DRN: JHJ  
CKD: RDK  
DATE: 2/3/15

**CITY of TAMPA**  
WASTEWATER DEPARTMENT

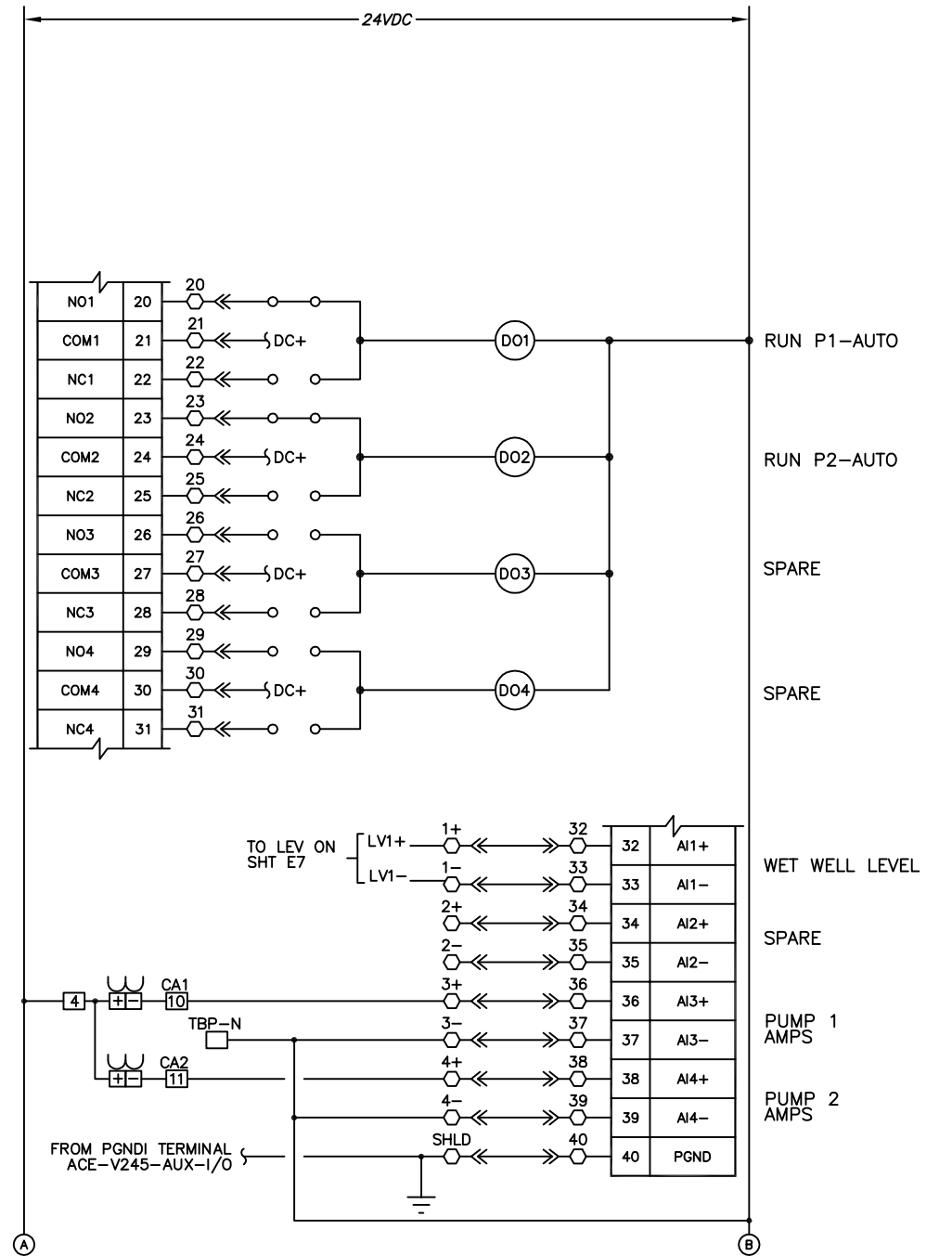
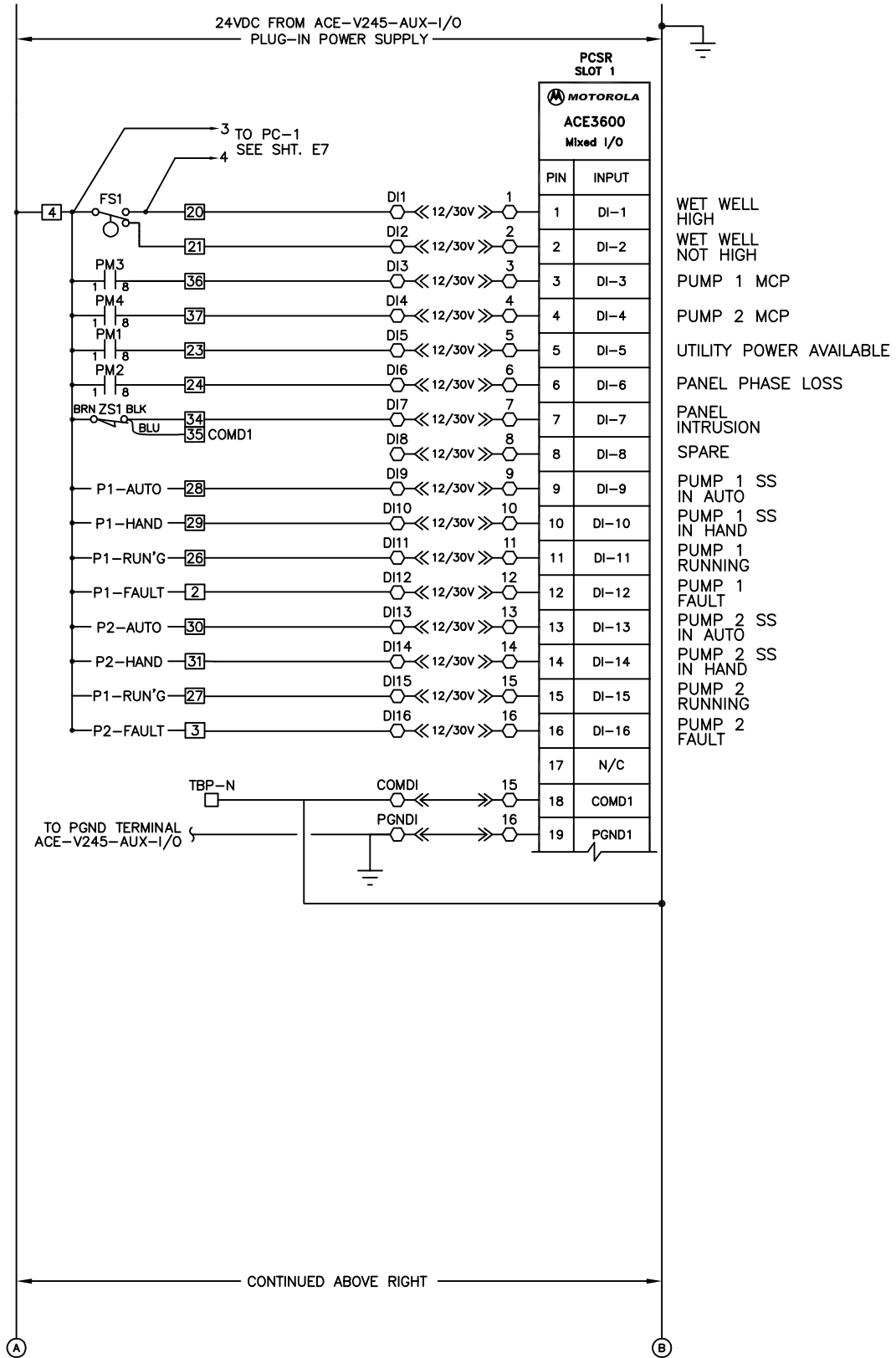
LAKE MAGDALENE PUMPING STATION  
REHABILITATION  
ELECTRICAL SCHEMATIC DIAGRAM (2 OF 3)

W.O. 5981  
SHEET  
**E7**

User: ss13 Drawing Name: K:\WW\_Projects\2014\2014\_5981\_Lake Magdalene PS Rehabilitation\DMC\LAKE MAGDALENE PS REHABILITATION.dwg  
 Layout: Feb 12, 2015 - 2:26pm



**SEE NOTES ON SHEET E10**



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

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

No.	DATE	REVISIONS
3		
2		
1		


DES: LG  
 DRN: JHJ  
 CKD: RDK  
 DATE: 2/3/15

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

**LAKE MAGDALENE PUMPING STATION**  
**REHABILITATION**  
**ELECTRICAL SCHEMATIC DIAGRAM (3 OF 3)**


W.O. 5981  
 SHEET  
**E8**


User: ss13 Drawing Name: K:\WWL\Projects\2014\2014\_5981\_Lake Magdalene PS Rehabilitation\DWG\Lake Magdalene PS Rehabilitation.dwg Layout: Feb 12, 2015 - 2:36pm

TBI-  MOUNTED ON MAIN PANEL (MP)	
TERM.	DESCRIPTION
1	CB 5 OUT PUMPS CONTROL POWER
2	PUMP 1 FAULT CONTROL INTERLOCK
3	PUMP 2 FAULT CONTROL INTERLOCK
4	PCSR 24V+
5	STATOR TEMP SWITCH FROM P1
6	STATOR TEMP SWITCH FROM P2
7	} ODOR CONTROL 240V POWER
8	
9	
10	PUMP 1 AMPS
11	PUMP 2 AMPS
12	} P1 SEAL LEAK PROBE
13	
14	} P2 SEAL LEAK PROBE
15	
16	P1 "ON" DISC.
17	MS-1 "RUN" CMD
18	MS-2 "RUN" CMD
19	P2 "ON" DISC.
20	WET WELL HIGH
21	WET WELL NOT HIGH
22	NEUTRAL


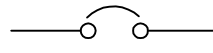

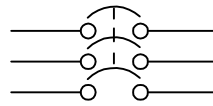

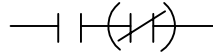

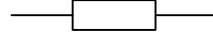








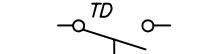

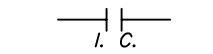

TB1 CONT'D

23	UTIL. POWER AVAILABLE
24	PANEL PHASE LOSS
25	SPARE
26	P1 "ON" TO PCSR
27	P2 "ON" TO PCSR
28	P1 "AUTO" TO PCSR
29	P1 "HAND" TO PCSR
30	P2 "AUTO" TO PCSR
31	P2 "HAND" TO PCSR
32	M1 OVERLOAD
33	M2 OVERLOAD
34	} PANEL INTRUSION
35	
36	PUMP 1 MCP STATUS
37	PUMP 2 MCP STATUS
38	AREA LIGHT
39	FUTURE ODOR CONTROL
40	ODOR CONTROL START COMMAND
41	
42	} SPARE
43	
44	

X-Y  TB2 TERM STRIP MTD ON MP-- (PCSR INTERFACE)

 TERMINAL STRIP IN PCSR

### CONTROL SCHEMATIC SYMBOLS

	TRANSFORMER		CIRCUIT BREAKER (SINGLE-POLE)
	PUSH BOTTOM		CIRCUIT BREAKER (THREE-POLE)
	115 V, 60 Hz, DUPLEX RECEPTACLE		CONTACT NORMALLY OPEN (CLOSED)
	SWITCH		SPLIT BOLT SPLICE
	CONNECTED		NOT CONNECTED
	OVERLOAD HEATER COIL		GROUND BUS
	COIL		NEUTRAL BUS (INSULATED)
	<ul style="list-style-type: none"> <li>TD - TIME DELAY RELAY</li> <li>CR - CONTROL RELAY</li> <li>ETI - TIMEMETER</li> <li>M - MOTOR STARTER</li> </ul>		FUSE
	PILOT LIGHT - RED (PRESS-TO-TEST)		"ON DELAY" CONTACT
	PRESSURE LEVEL SWITCH CONTACT		INSTANT CLOSE CONTACT
	AIR LINE		

**SEE NOTES ON SHEET E10**

ROMAN D. KORCHAK, P.E. #42626 ELECTRICAL SECTION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: LG	<b>CITY of TAMPA</b> <b>WASTEWATER DEPARTMENT</b>	LAKE MAGDALENE PUMPING STATION REHABILITATION ELECTRICAL SCHEMATIC LEGEND	W.O. 5981
	3			DRN: JHJ			SHEET
	2			CKD: RDK			<b>E9</b>
	1			DATE: 2/3/15			

# NOTES

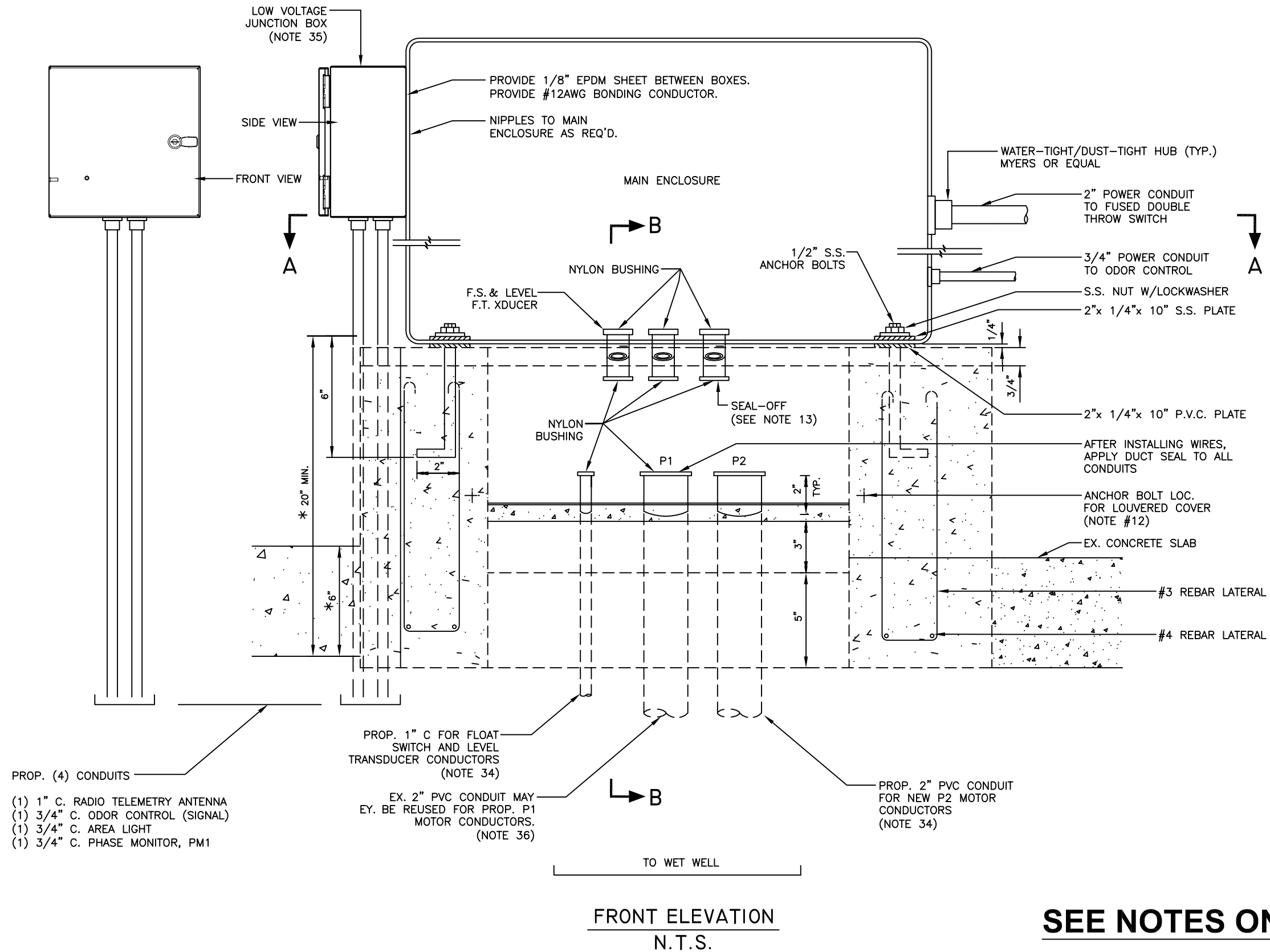
1. TECO SERVICE: 120/240V, 3 $\phi$ , 4W, DELTA CALCULATED FAULT CURRENT – 5413A, CB1 AIC RATING – 25,000A SYMMETRICAL.
2. THE WET WELL CLASSIFICATION IS CLASS I, DIVISION 2, GROUP D, (HAZARDOUS AREA) NEC, CHAPTER 5 IS APPLICABLE FOR INTERFACING WET WELL AND THE CONTROL ENCLOSURE.
3. ALL ELECTRICAL WORK SHALL BE PERFORMED WITHIN LATEST EDITION OF THE NEC ADOPTED BY THE STATE OF FLORIDA AND CITY OF TAMPA/HILLSBOROUGH COUNTY CODES AND SHALL BE INSPECTED BY CITY OF TAMPA/HILLSBOROUGH COUNTY ELECTRICAL INSPECTORS AS APPLICABLE.
4. 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".
5. THE ENCLOSURE SHALL BE NEMA 3, SHALL BE CONSTRUCTED OF MINIMUM 14 GAUGE 304 S.S. SHALL HAVE RAL 9003 WHITE POWDER COAT SURFACE, AND THE CLOSING SURFACE SHALL HAVE ROLLED LIPS. PROVIDE HINGED DOOR WITH 3-POINT LATCH AND LOCKABLE HANDLE. REFERENCE PART SCHEDULE.
6. ALL COMPONENTS TO BE MOUNTED ON PANEL USING TAPPED HOLES.
7. ALL WIRING SHALL BE COPPER. ALL CONTROL WIRING SHALL BE STRANDED THWN COPPER, MINIMUM AWG #14, AND SHALL HAVE SPADE LUG TERMINATIONS.
8. ALARM FLOAT SWITCH WILL BE SUPPLIED BY THE CITY BUT INSTALLED BY CONTRACTOR.
9. DIMENSIONS, ITEMS, OR ELEVATIONS MARKER '\* ' TO BE DETERMINED AFTER EQUIPMENT SELECTION.
10. ALL MECHANICAL CONNECTORS SHALL BE TORQUED PER NEC, UL OR MANUFACTURERS SPECIFICATIONS.
11. INSTALL LAMINATED SCHEMATIC AND LAMINATED DATA SHEET ON BACK FACE OF THE DOOR INSIDE THE ENCLOSURE.
12. ENSURE THAT THE LINE CONNECTIONS TO METER SOCKET PROVIDE CORRECT ROTATION.
13. ROUTE AND SECURE SERVICE ENTRANCE CONDUCTORS SO AS NOT TO INTERFERE WITH OR CONTACT EQUIPMENT AND COMPONENTS IN THE PANEL. ALSO, PROVIDE SPACING BETWEEN THE ENCLOSURE AND ALL CONDUCTORS.
14. CONDUCTORS WITHIN THE ENCLOSURE AND NOT ROUTED IN WIREWAYS, SHALL BE SECURED TO THE BACKPANEL WITH MECHANICAL FASTENERS. FASTENERS SECURED WITH ADHESIVE ARE NOT ACCEPTABLE.
15. ALL HINGED SURFACES SHALL BE GROUNDED WITH A BONDING JUMPER SECURED TO THE ENCLOSURE OR BACKPANEL.
16. THE PCSR SHALL BE A MOTOROLA ACE 3600 PACKAGE AS DISTRIBUTED BY DCR ENGINEERING SERVICES INC., SCADAONE, LLC., OR REVERE CONTROL SYSTEMS. THE PUMPING STATION CONTRACTOR SHALL COORDINATE HIS EFFORTS WITH DCR, SCADAONE, 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, SCADAONE, OR REVERE CONTROLS--THE EXISTING PUMPING STATION DCR CONTROLS SHALL REVERT TO THE CITY AS A SPARE.
17. A WET WELL LEVEL DETECTION SYSTEM SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR. THE OUTPUT SHALL BE A LINEAR 4-20 mA 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 STAINLESS STEEL BRACKET, SEE PULSAR MOUNTING BRACKET DETAIL, SHEET E14. THE EXISTING PUMPING STATION WET WELL LEVEL DETECTION SYSTEM SHALL REVERT TO THE CITY AS A SPARE.
18. PROVIDE 1/4" MINIMUM THICKNESS LEXAN SHIELDS OVER POWER DISTRIBUTION BLOCK AND OTHER EXPOSED CABLE TERMINATIONS.

PUMP MOTOR DATA
MAKE: FLYGT
MODEL: NP-3102.185 w/172 IMPELLER
HP: 5
230 V, 3 PHASE, 13 FLA
TOTAL PUMP LOAD: 26 AMPS, 10.8 KVA

User: ss13 Drawing Name: K:\WW\Projects\2014\2014\_5981\_Lake Magdalene PS Rehabilitation\DWG\LAKE MAGDALENE PS REHABILITATION.dwg  
Layout: Feb 03, 2015 - 3:13pm

ROMAN D. KORCHAK, P.E. #42626 ELECTRICAL SECTION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: LG DRN: JHJ CKD: RDK DATE: 2/3/15	<b>CITY of TAMPA</b> WASTEWATER DEPARTMENT	LAKE MAGDALENE PUMPING STATION REHABILITATION ELECTRICAL NOTES FOR SHEETS E4 - E9	W.O. 5981 SHEET <b>E10</b>
	3						
	2						
	1						

User: ss13 Drawing Name: K:\WW\_Projects\2014\2014\_5981\_Lake Magdalene PS Rehabilitation\DWG\LAKE MAGDALENE PS REHABILITATION.dwg Layout: Feb 03, 2015 - 3:33pm



- PROP. (4) CONDUITS
- (1) 1" C. RADIO TELEMETRY ANTENNA
  - (1) 3/4" C. ODOR CONTROL (SIGNAL)
  - (1) 3/4" C. AREA LIGHT
  - (1) 3/4" C. PHASE MONITOR, PM1

PROP. 1" C FOR FLOAT SWITCH AND LEVEL TRANSDUCER CONDUCTORS (NOTE 34)

EX. 2" PVC CONDUIT MAY BE REUSED FOR PROP. P1 MOTOR CONDUCTORS. (NOTE 36)

PROP. 2" PVC CONDUIT FOR NEW P2 MOTOR CONDUCTORS (NOTE 34)

FRONT ELEVATION  
N.T.S.

**SEE NOTES ON SHEET E15**

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

No.	DATE	REVISIONS
3		
2		
1		

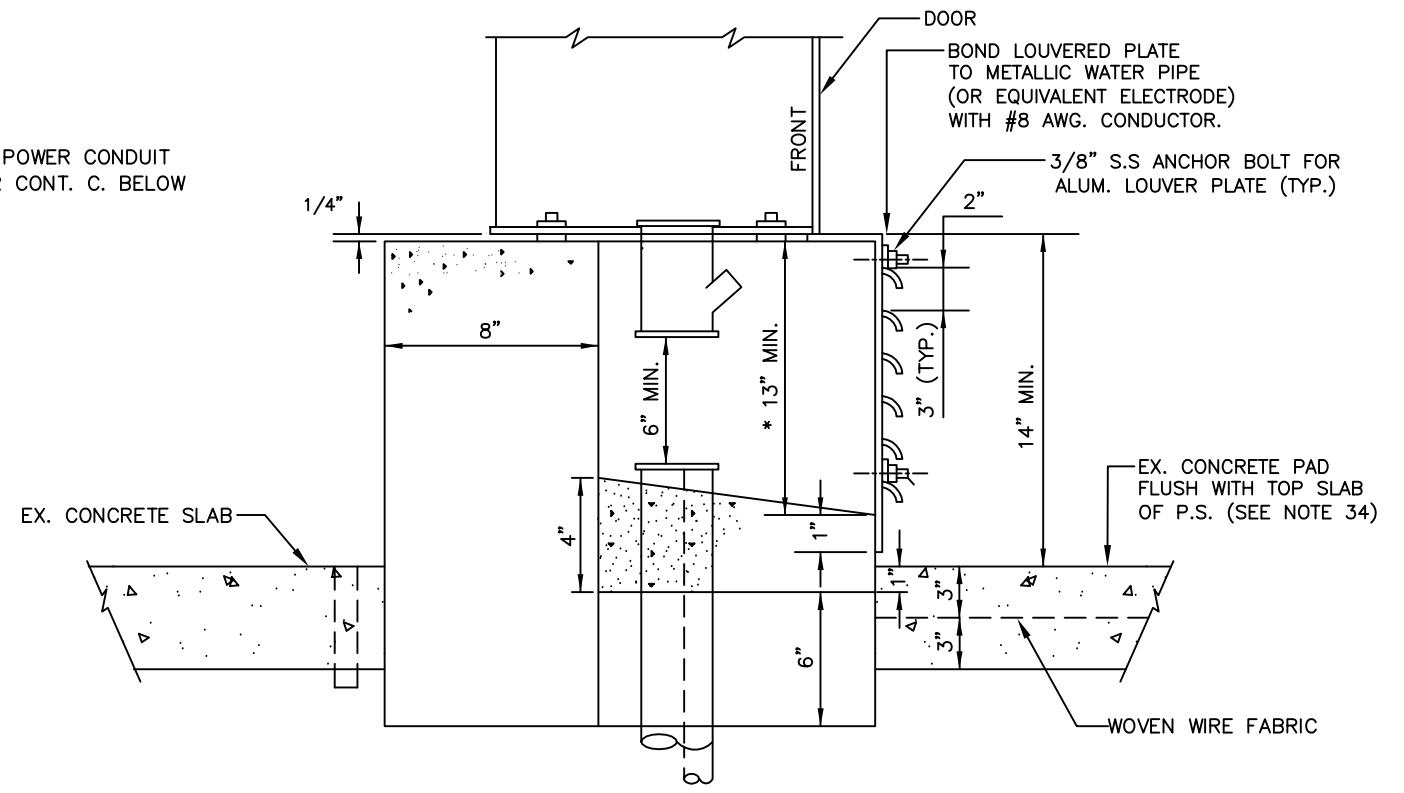
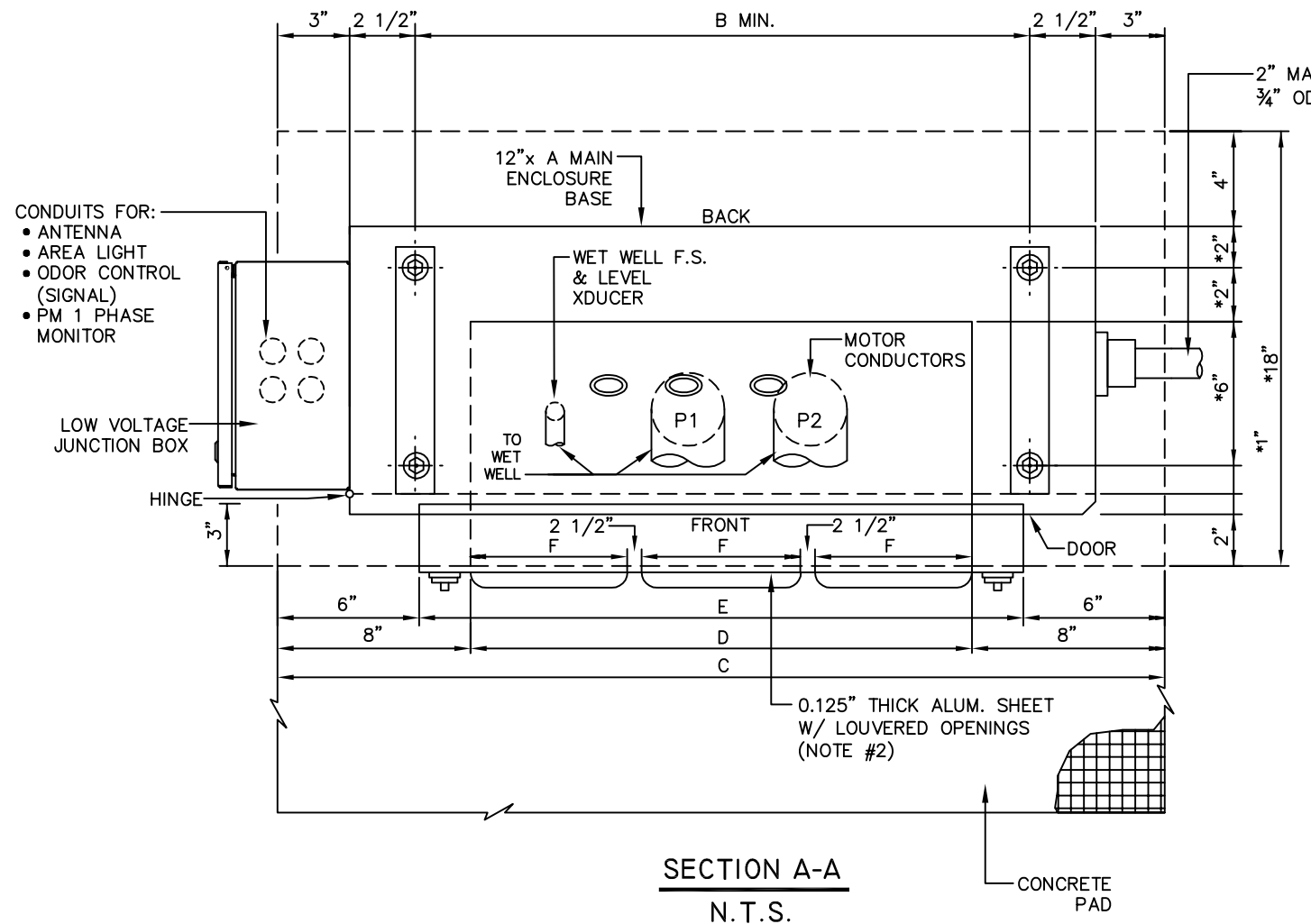
DES: LG  
DRN: JHJ  
CKD: RDK  
DATE: 2/3/15

**CITY of TAMPA**  
WASTEWATER DEPARTMENT

LAKE MAGDALENE PUMPING STATION  
REHABILITATION  
ELECTRICAL NOTES FOR SHEETS E4 - E9

W.O. 5981  
SHEET  
**E11**

User: ss13 Drawing Name: K:\MWL Projects\2014\2014\_5981\_Lake Magdalene PS Rehabilitation\DWG\LAKE MAGDALENE PS REHABILITATION.dwg Layout: Feb 10, 2015 - 5:20pm

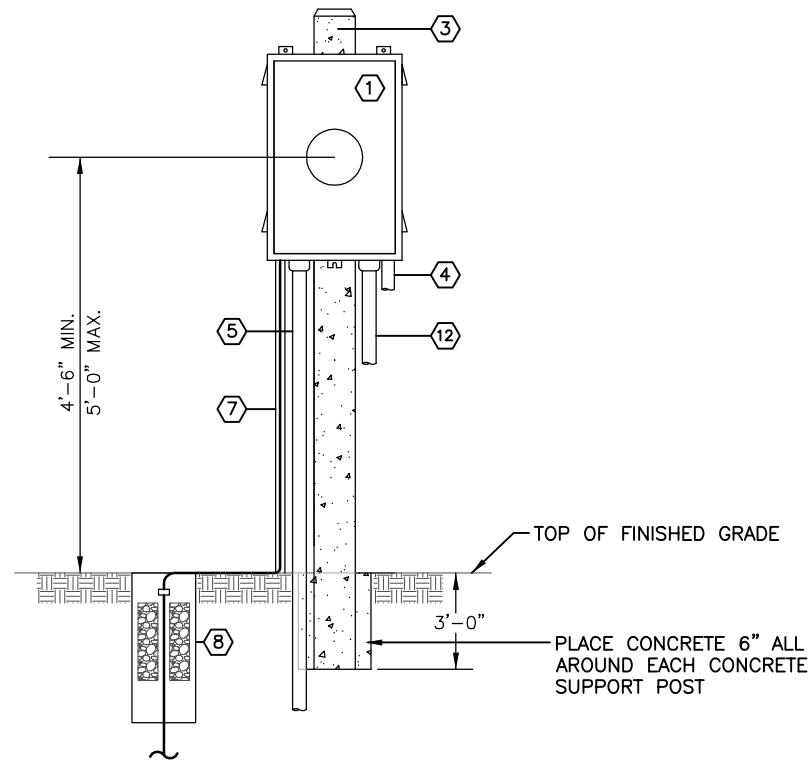


PUMP SIZE	DIMENSIONS (INCHES)						ENCLOSURE SIZE
	A	B	C	D	E	F	
5.0 HP @ 240V	42	37	48	32	36	9	48"H X 42"W X 12"D

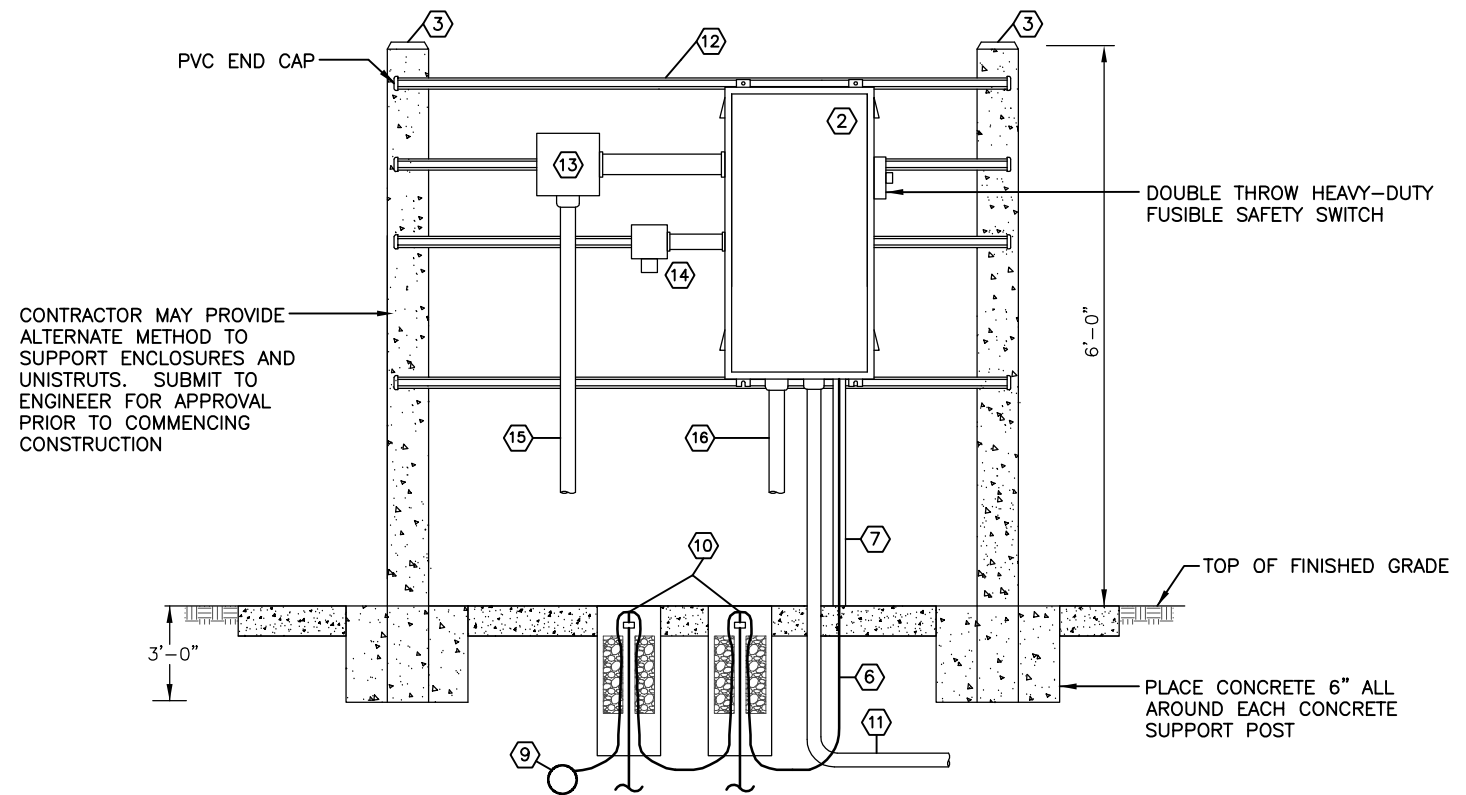
**SEE NOTES ON SHEET E15**

ROMAN D. KORCHAK, P.E. #42626 ELECTRICAL SECTION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: LG	<b>CITY of TAMPA</b> WASTEWATER DEPARTMENT	LAKE MAGDALENE PUMPING STATION REHABILITATION ELECTRICAL PEDESTAL DESIGN	W.O. 5981
	3			DRN: JHJ			SHEET
	2			CKD: RDK			E12
	1			DATE: 2/3/15			

User: ss13 Drawing Name: K:\WWL\Projects\2014\2014\_5981\_Lake Magdalene PS Rehabilitation\DWG\LAKE MAGDALENE PS REHABILITATION.dwg Layout: Feb 10, 2015 - 5:20pm



**POWER CONNECTION DETAIL "A"**  
N.T.S.



**POWER CONNECTION DETAIL "B" (SOUTH ELEVATION)**  
N.T.S.

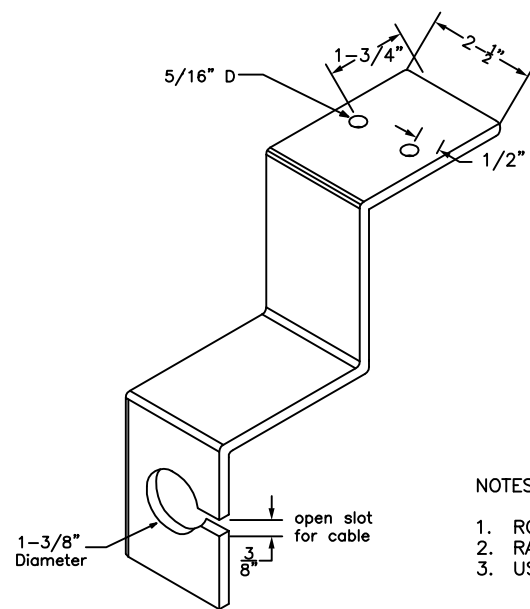
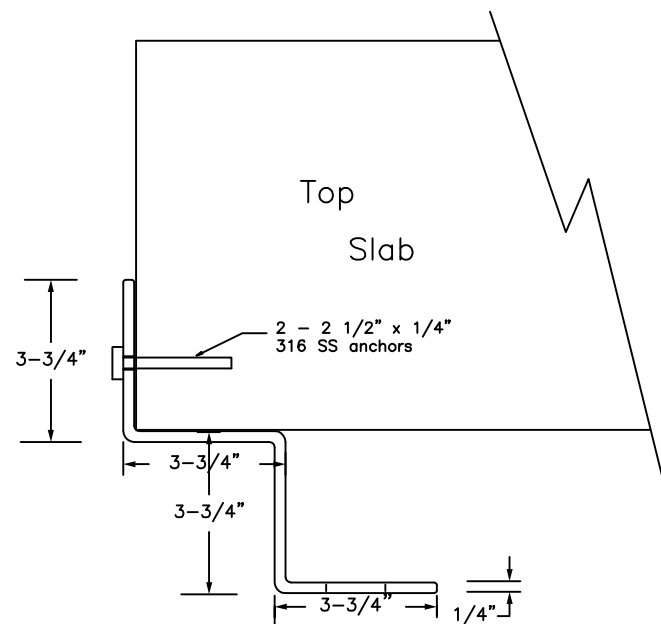
**KEYED NOTES:**

- |  |   |   |  |
|--|---|---|--|
| ① PROPOSED TECO METER. (SEE NOTE 24)                               | ⑤ PROPOSED 2" CONDUIT TO TECO HANDHOLE, SEE SHEET ES1 FOR CONTINUATION. | ⑨ WATER PIPE  | ⑬ FUSE BLOCK DISCONNECT/PHASE MONITOR ENCLOSURE. (SEE NOTE 27)                               |
| ② PROPOSED HEAVY DUTY, DOUBLE THROW, FUSIBLE SWITCH. (SEE NOTE 25) | ⑥ GROUNDING CONDUCTOR (TYP.). (SEE NOTE 4)                              | ⑩ STAINLESS STEEL GROUNDING RODS (TYP.). (SEE NOTE 4)                         | ⑭ EMERGENCY CONNECTOR  |
| ③ PROPOSED CONCRETE POST. (SEE NOTE 26)                            | ⑦ 3/4" SCHEDULE 80 PVC. (SEE NOTE 28)                                   | ⑪ PROPOSED 2" CONDUIT TO PROP. CONTROL PANEL, SEE SHEET ES1 FOR CONTINUATION. | ⑮ PROPOSED 3/4" CONDUIT FROM PROPOSED FUSED BLOCK DISCONNECT/PHASE MONITOR TO CONTROL PANEL. |
| ④ PROPOSED LIGHTNING ARRESTOR. (SEE NOTE 7)                        | ⑧ 4" SCHEDULE 80 PVC PIPE (TYP.). (SEE NOTES 22 AND 23)                 | ⑫ CHANNEL ERECTOR SYSTEM 1.625" x 1.625", S.S. UNISTRUT OR EQUAL.             | ⑯ PROPOSED 2" CONDUIT FROM PROPOSED FUSED DOUBLE THROW SWITCH TO PROPOSED TECO METER.        |

**SEE NOTES ON SHEET E15**

ROMAN D. KORCHAK, P.E. #42626 ELECTRICAL SECTION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: LG DRN: JHJ CKD: RDK DATE: 2/3/15	<b>CITY of TAMPA</b> <b>WASTEWATER DEPARTMENT</b>	LAKE MAGDALENE PUMPING STATION REHABILITATION PROPOSED POWER CONNECTIONS FRONT ELEVATIONS	W.O. 5981
	3						SHEET
	2						<b>E13</b>
	1						

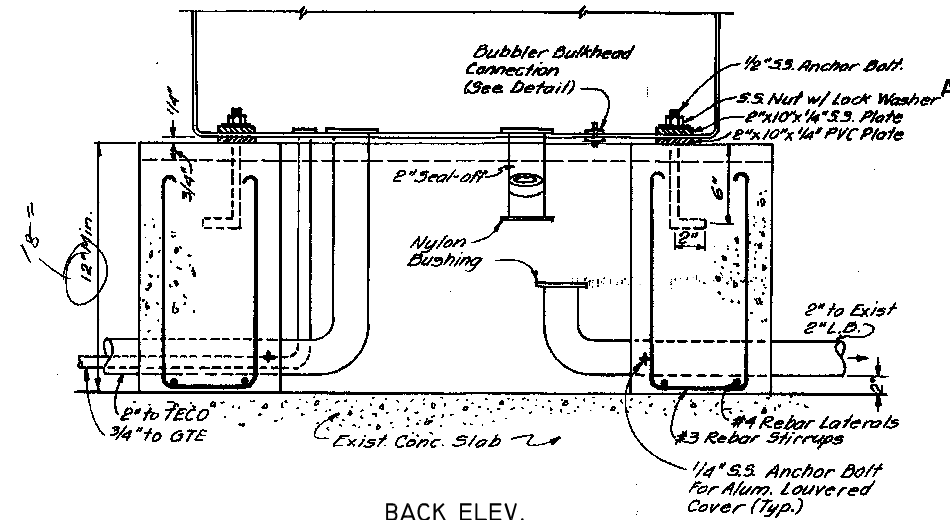
User: ss13 Drawing Name: K:\WWL\Projects\2014\2014\_5981\_Lake Magdalene PS Rehabilitation\DWG\LAKE MAGDALENE PS REHABILITATION.dwg Layout: Feb 03, 2015 - 10:13am



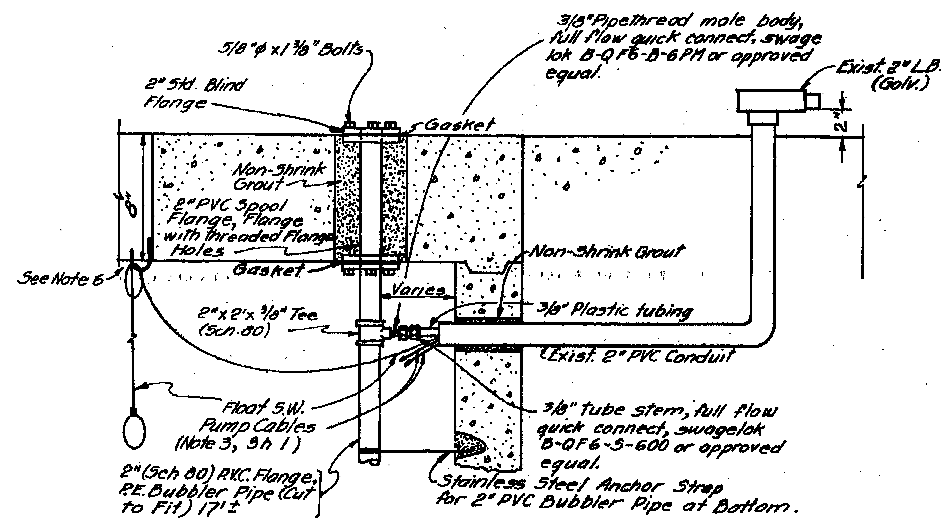
- NOTES:
1. ROUND OVER ALL EDGES
  2. RADIUS ALL CORNERS
  3. USE 316 STAINLESS STEEL MATERIAL

**PULSAR MOUNTING BRACKET DETAIL**

NOT TO SCALE



BACK ELEV.  
NOT TO SCALE



BUBBLER DETAIL  
NOT TO SCALE

**EXISTING CONTROL PANEL DETAILS**

NOT TO SCALE

(FOR REFERENCE ONLY, ACCURACY NOT GUARANTEED)

**SEE NOTES ON SHEET E15**

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

No.	DATE	REVISIONS
3		
2		
1		

DES: LG  
DRN: JHJ  
CKD: RDK  
DATE: 2/3/15

**CITY of TAMPA**  
WASTEWATER DEPARTMENT

LAKE MAGDALENE PUMPING STATION  
REHABILITATION  
ELECTRICAL DETAILS

W.O. 5981  
SHEET  
**E14**



1. TWHN CONDUCTORS (3# 10 AWG & 1 #10 AWG GND.) SHALL EXTEND FROM THE CONTROL PANEL BELOW THE SEAL-OFF A MINIMUM OF 18" AND SHALL BE SEALED IN THE SEAL-OFFS SHOWN. THE SHOWN SEAL-OFFS SHALL BE ALUMINUM BODY, CROUSE-HINDS, OR EQUIVALENT. WHEN INSTALLING THE PUMPS, THE MOTOR CONDUCTORS SHALL BE SPLICED USING SPLIT BOLTS. FOR INSULATION USE MATERIALS THAT ARE RECOMMENDED BY MANUFACTURER TO EQUAL INSULATION ON CONDUCTORS. FOLLOW THE SAME PROCEDURE FOR THE LEAKAGE AND THERMAL SENSOR CONDUCTORS.
2. RESERVED.
3. DIMENSIONS, ITEMS OR ELEVATIONS MARKED "\*" TO BE DETERMINED AFTER EQUIPMENT SELECTION.
4. APPROVED GROUND CLAMPS SHALL BE ATTACHED TO TWO APPROVED STAINLESS STEEL GROUNDING RODS (MINIMUM SPACING 6'-0") AND THE METALLIC WATER LINE. GROUNDING CONDUCTOR SHALL BE AWG #4 MIN. BARE STRANDED COPPER.
5. THE CONTRACTOR SHALL PROVIDE AND INSTALL A 316 S.S. MOUNTING BRACKET TO SUPPORT THE DB10 TRANSMITTER. THE BRACKET SHALL BE INSTALLED IN THE WET WELL. CITY INSTRUMENTATION PERSONAL WILL ASSIST THE CONTRACTOR WITH SPECIFYING THE TRANSDUCER MOUNTING LOCATION AND CALIBRATION.
6. RESERVED.
7. CITY APPROVED TYPE 1 SURGE PROTECTIVE DEVICE (LIGHTNING ARRESTER) TO BE INSTALLED BY CONTRACTOR ON LOAD SIDE OF METER SOCKET.
8. ELBOWS TO BE LONG BUSHED AND THE HORIZONTAL PVC CONDUIT SHALL EXTEND TO A TECO HAND-HOLE AT THE BASE OF THE TECO STUB POLE. PROVIDE 24" MINIMUM COVER. COORDINATE THIS WORK WITH TECO.
9. RESERVED.
10. RESERVED.
11. ALUMINUM CONDUIT SURFACE THAT IS IN CONTACT WITH SOIL OR CONCRETE SHALL BE COATED WITH TWO COATS ASPHALT VARNISH (FED. SPED. IT-V-51) EXTENDING 4" BEYOND FINAL CONTACT POINT.
12. FRONT OF OPEN SPACE TO BE COVERED BY A LOUVERED ALUM. METAL SHEET (MIN. THICKNESS 0.125) AND FASTENED WITH MIN. OF FOUR 3/8" STAINLESS STEEL BOLTS ANCHORED IN THE CONCRETE. LOUVERED PANEL TO BE REMOVABLE AND ATTACHED TO PULL BOX WITH STAINLESS STEEL BOLTS. PULL BOX COVER SHALL BE BONDED TO PULL BOX/MAIN ENCLOSURE USING #8 AWG EXTRA FLEXIBLE GROUNDING CONDUCTOR.
13. SEALING FITTING SHALL BE SIZED FOR CONDUCTORS. ENSURE THAT SEALING FITTING CONNECTION TO MAIN ENCLOSURE IS GAS TIGHT. USE HIGH QUALITY SEALING LOCKNUTS OR WATERTIGHT HUBS WITH A SUPPLEMENTAL BARRIER (IF NECESSARY) TO EXCLUDE GASES.
14. RESERVED.
15. REINFORCEMENT SHALL BE AT LEAST 3" FROM EDGE OF PEDESTAL.
16. RESERVED.
17. 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.
18. TOP OF ENCLOSURE SHALL BE A MAXIMUM OF 66" ABOVE FINAL GRADE.
19. RESERVED.

20. RESERVED.
21. PROVIDE AND INSTALL A PRESTRESSED CONCRETE POLE WITH LED OUTDOOR SECURITY FIXTURE AND LIGHT SWITCH.
22. FOUR (4) INCH SCHEDULE 80 PVC PIPE SHALL BE INSTALLED. TOP OF PVC PIPE SHALL BE FLUSH WITH TOP OF CONCRETE SLAB OR 3' ABOVE TOP OF GRADE, AS APPLICABLE (TYP. OF 2).
23. FILL PVC PIPE WITH CRUSHED STONE AFTER INSTALLING GROUND ROD AND ATTACHING GROUNDING CONDUCTOR. LEAVE GROUND CLAMPS EXPOSED ABOVE CRUSHED STONE (TYP. OF 3).
24. INSTALL METER WITH SOCKET FACING FENCE. ENSURE A 3'-6" CLEARANCE FROM METER SOCKET AND FENCE.
25. PROVIDE AND INSTALL A HEAVY DUTY, DOUBLE THROW, FUSIBLE SWITCH, 3-POLE, 240 VAC, 100 AMP IN NEMA 3R TYPE ENCLOSURE WITH 250VAC, CURRENT LIGHTING, DUAL-ELEMENT, TIME-DELAY CLASS RK5 FUSES--BUSSMANN FUSETRON #FRN-R-100; SWITCH--EATON DT323FRK, DT100NK--100A DT NEUTRAL KIT, DS100GK--100A DT GROUND LUG KIT, DS36FK-- "R" FUSE 100A DT ADAPTER KIT.
26. CONCRETE POST FOR MOUNTING THE ELECTRIC METER SOCKET AND OTHER SERVICE EQUIPMENT SHALL BE 6"x6"x10'-0" PRECAST, STEEL REINFORCED AND STABILIZED AS REQUIRED. POST MOUNTING HEIGHTS SHALL BE SHOWN ON SHEET E13 OR AS REQUIRED.
27. PROVIDE AND INSTALL A 3-PHASE POWER MONITOR RELAY W/240 VAC LINE INPUT--ALARM ON PHASE LOSS, UNDERVOLTAGE, OR WRONG ROTATION. PANEL MOUNT, ATC DIVERSIFIED. MODEL SLA-240-AFN. FUSE BLOCK DISCONNECT(FDB1)--ALLEN BRADLEY 1492-FB3C30-L W/ BUSSMANN KTK-R-2 FUSES IN A NEMA 4X CONTINUOUS HINGE ENCLOSURE--HAMMOND MANUFACTURING MODEL EJ863S16, 8"x6"x3.5", NEMA 4X SS.
28. 3/4" SCHEDULE 80 PVC CONDUIT FOR GROUNDING ELECTRODE
29. PROVIDE AND INSTALL A 20'0" CONCRETE UTILITY POLE, LONESTAR PRESTRESSED MFG. INC., PART# 251002 OR EQUAL COORDINATE LOCATION OF THE POLE WITH PLANT PERSONNEL.
30. PROVIDE AND INSTALL A WEATHER PROOF LIGHT SWITCH, COOPER CROUSE-HINDS #DS185.
31. PROVIDE AND INSTALL 3/4" CONDUIT FROM WEATHER PROOF SWITCH TO HANDHOLE W/ RECESSED COVER AND CONTROL PANEL.
32. ALUMINUM CONDUIT THAT IS IN CONTACT WITH SOIL OR CONCRETE SHALL BE COATED WITH TWO COATS ASPHALT VARNISH (FED. TT-V-51) EXTENDING 4" BEYOND FINAL CONTACT POINT.
33. INSTALL 2 OR THREE STAINLESS STEEL PIPE STRAPS MAXIMUM 2'6" APART AS REQUIRED TO MOUNT CONDUIT.
34. CONTRACTOR SHALL CORE DRILL EXISTING WET WELL TO INSTALL PROPOSED CONDUITS, AS SHOWN ON PLANS. PATCH SEAL ANY OPENINGS OR DAMAGED AREAS WITH APPROVED PRODUCTS, SEE CIVIL DRAWINGS SHEET 12.
35. CONTRACTOR SHALL PROVIDE AND INSTALL A 12" x 12" x 6" NEMA 4X STAINLESS STEEL JUNCTION BOX, WEIGMANN PART #N41212120655C.
36. CONTRACTOR SHALL REUSE EXISTING 2" CONDUIT TO INSTALL PROPOSED MOTOR CONDUCTORS, AS SHOWN ON PLANS.

User: ss13 Drawing Name: K:\WW\_P\Projects\2014\2014\_5981\_Lake Magdalene PS Rehabilitation\DWG\LAKE MAGDALENE PS REHABILITATION.dwg Layout: Feb 17, 2015 - 2:11pm

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

No.	DATE	REVISIONS
3		
2		
1		

DES: LG  
DRN: JHJ  
CKD: RDK  
DATE: 2/3/15

**CITY of TAMPA**  
WASTEWATER DEPARTMENT

LAKE MAGDALENE PUMPING STATION  
REHABILITATION  
ELECTRICAL NOTES FOR SHEETS E11 - E14

W.O. 5981  
SHEET  
**E15**

# PARTS SCHEDULE

SYMBOL	NAME	P A R T				R E M A R K S
		M A K E	T Y P E	MODEL or CAT. #	R A T I N G	
CB 1	CIRCUIT BREAKER	SQUARE D	THREE POLE	HDL 34100	480 V, 100 A	25 KAIC @ 240 VAC
CB 2, 3	CIRCUIT BREAKER	SQUARE D	THREE POLE	HDL 32035	240 V, 35A	
CB 4	CIRCUIT BREAKER	SQUARE D	THREE POLE	HDL 32020	240 V, 20A	
CB 5, 6, 7, 8, 9	CIRCUIT BREAKER	SQUARE D	SINGLE POLE	QOU 115	120 V, 15A	
M1, 2	MOTOR STARTER	SQUARE D	NEMA SIZE 2	CLASS 8536 TYPE SD01V02	120 V, (COIL)	15 HP (MAX) 1 N.O.
OL 1, 2	OVERLOAD RELAY	SQUARE D	BIMETALLIC, AMBIENT COMPENSATED	AR27	12.8 - 14.4 A	
CA1, CA2	CURRENT SENSOR	ENERCORP INSTRUMENTS	4-20 mA OUTPUT	SC200-1	0 - 50A	ADJUSTABLE RANGE
PL1, PL4	INDICATOR LIGHT	SQUARE D	CLASS 9001	SKT - 38LYA9	120 V, LED TYPE	YELLOW LENS & PRESS TEST
PL5, PL6	INDICATOR LIGHT	SQUARE D	CLASS 9001	SKT - 38LRR9	120 V, LED TYPE	RED LENS & PRESS TEST
PL2, PL3	ILLUM. PUSH BUTTON	SQUARE D	CLASS 9001	SK2L38LRRH13	120 V, LED TYPE	RED LENS & INO, INC
S1, S2	HOA SWITCH ASSEMBLY	SQUARE D	OIL-TIGHT CLASS 9001	SKS - 43B H2	10A @ 120V	
ETM1, ETM2	ELAPSE TIME METER	CRAMER	NON-RESET	635E+S	120 V	3.5" ROUND BEZEL FACE MUST FIT A 2.5" DIA. HOLE
ZS1	CONTROL PNL INTRUSION SENSOR	OMRON	CYLINDRICAL	E2f-X5E1 (GRAINGER- 6C826)	10-30VDC, 3-WIRE NPN	W/ SQUARE D MTG. BRACKET (GRAINGER- 5B233)
FF & TS	FLUORESCENT FIXTURE	DAYTON	INDUSTRIAL	2 V 811	120 V 20w	W/TOGGLE SWITCH-TS AND TUBE GUARD
WR	WALL RECEPTACLE	HUBBELL	DUPLEX W/GFI	GF5262	120V AC, 15A GFI	W/UTILITY BOX AND COVER
EC	EMERGENCY CONNECTOR	CROUSE & HINDS	ARKTROL	AR-1041-S22 w/AJA6 ANGLE ADAPTER	600 V, 100 A	MALE
SPD-2	SURGE PROTECTIVE DEVICE TYPE 1	ADVANCED PROTECTION TECHNOLOGIES	MAIN PANEL SPD-2	TE03XDS104X	120/240 V, 3Ø DELTA	
						INTERLOCK CB-1 & 2

PARTS SCHEDULE IS CONTINUED ON NEXT SHEET

**NOTES:**

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.

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ROMAN D. KORCHAK, P.E. #42626 ELECTRICAL SECTION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: LG	<b>CITY of TAMPA</b> WASTEWATER DEPARTMENT	LAKE MAGDALENE PUMPING STATION REHABILITATION PARTS SCHEDULE (1 OF 2)	W.O. 5981
	3			DRN: JHJ			SHEET
	2			CKD: RDK			<b>E16</b>
	1			DATE: 2/3/15			

# P A R T S   S C H E D U L E (CONT'D)

SYMBOL	NAME	P A R T			R A T I N G	R E M A R K S
		M A K E	T Y P E	M O D E L or CAT. #		
FL	FLOAT SWITCH	ANCHOR SCIENTIFIC	SPDT	S20N0NC	10 A @ 120 V	
SPD1	LIGHTNING ARRESTOR	GENERAL ELECTRIC	TRANQUEL	9L 15 ECC 001	650 V	
TB 1	TERMINAL BOARD	PHOENIX CONTACT		UK5N TERMINALS	30 A W/ ALUM. DIN RAIL	37 CONTACTS (MIN)
ITS	INSULATED TERMINAL STRIP	ALLEN-BRADLEY	STYLE AA	1492-15-T	600 V AC NEUTRAL BLOCK	4 CONTACTS (MIN) W/SHORTING BARS
ME	CONTROL ENCLOSURE *	QUALITY METALS	NEMA 3 THREE POINT LATCH	48"X42"X12" SS 3	304 SS, 14 GAUGE	W/DOOR STOP KIT #A-DSTOPK. EXTERNAL DURABLE RAL 9003 WHITE POWDER COAT
MP	ENCLOSURE PANEL *	QUALITY METALS	45"X 39", STEEL	S 42 P 36, WHITE	STEEL, 12 GAUGE	
GB 1, 2	GROUNDING BLOCK	ILSCO	AS REQUIRED	AS REQUIRED		
SLD1, SLD2	SEAL LEAK DETECTOR	SYRELEC	8 PIN PLUG-IN	PNRU110	110V INPUT, 10A CONTACT	SPDT W/SOCKET
TA1, TA2, FM1, FM2 CR1, CR2, CR3, CR4	CONTROL RELAY	POTTER & BRUMFIELD	8 PIN PLUG-IN	KRPA-11AG-120	120V COIL, 10A CONTACTS	DPDT 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 TO 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
PCSR	PLC BASED PUMP CONTROLLER, SCADA, AND RADIO SYSTEM	MOTOROLA CORPORATION	DUPLX PUMP CONTROLLER BASED ON ACE 3600 PROGRAM CONTROLLER	ACE 3600 W/ UHF RADIO CDM 750, 403-512 MHz PART #: F7564	1-AC POWER SUPPLY 85-264V W/ BAT CHARGER PART #:V261	COORDINATE EFFORT W/ DCR ENG SERVICES
	SLOTS 1 & 2	MOTOROLA CORPORATION	1- MIXED I/O AUXILIARY INTERFACE BOARD PART #: V245-AUX-I/O	1- 40 WIRE CABLE W/TB HOLDER 3M PART #: V358	1- ACE CPU3640 PART #:V446	1- 10.0 Ah BATTERY PART #: V328
	1-3 I/O SLOT FRAME PART #: V103	1-20 PIN TB HOLDER KIT PART #: V158	1- 14x 14 METAL CHASSIS PART #: V214	2- 16DI, 4DO(E), 20mA MODULE PART #: V245	1- 40 PIN TB HOLDER KIT PART #:V153	
PM2, PM3, PM4	3-PHASE POWER MONITOR	ATC DIVERSIFIED	8 PIN PLUG-IN	SLA-230-ALA	230 VAC	W/OPTIONAL 5-SEC. RELEASE AND DIN RAIL SOCKET
PDB	PWR DIST. BLOCK	ILSCO	THREE POLE	PDB-26-2/0-3	600 V, 350 AMP	W/ LEXAN COVER
MS	METER SOCKET & PAN	MILBANK	7 TERMINAL	UAP9701-X-QG-HSP	600 VAC, 200 A	ALUMINUM CONSTRUCTION
FBD1, FBD2, FBD3, FBD4	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
BATT.	BATTERY	POWERSONIC	ABSORBENT GLASS MAT (AGM)	PS-1270 F2	12 VOLT, 7.0 AH	W/ 0.25" X 0.032" TABS
BATT. CHR.G.	BATTERY CHARGER	DELTRAN CORP.	BATTERY TENDER	WATERPROOF 800	12 VOLT, 800 mADC	QUALIFICATION, BULK, & FLOAT CHARGING
PC-1	BACKUP PUMP CONTROLLER	WILKERSON	DUPLX LIFT STATION	DR1920	10 AMP CONTACTS	DIN RAIL MOUNTING
PM1	3-PHASE POWER MONITOR	ATC DIVERSIFIED	PANEL MOUNT	SLA-240-AFN	230 VAC	

NOTES:  
DIMENSIONS, ITEMS, OR ELEVATIONS  
MARKED '\*' SHALL BE DETERMINED  
AFTER EQUIPMENT SELECTION.

User: ss13 Drawing Name: K:\HWL\Projects\2014\2014\_5981\_Lake Magdalene PS Rehabilitation\DWG\LAKE MAGDALENE PS REHABILITATION.dwg Layout: Feb 12, 2015 - 2:36pm

ROMAN D. KORCHAK, P.E. #42626 ELECTRICAL SECTION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: LG	<b>CITY of TAMPA</b> WASTEWATER DEPARTMENT	LAKE MAGDALENE PUMPING STATION REHABILITATION PARTS SCHEDULE (2 OF 2)	W.O. 5981
	3			DRN: JHJ			SHEET
	2			CKD: RDK			E17
	1			DATE: 2/3/15			

User: ss13 Drawing Name: K:\WW\_Projects\2014\2014\_5981\_Lake Magdalene PS Rehabilitation\DWG\LAKE MAGDALENE PS REHABILITATION.dwg  
 Layout: Feb 03, 2015 - 4:01pm

## LEGEND PLATE SCHEDULE

SYMBOL	DEVICE	LEGEND
<i>ETM1</i>	<i>ELAPSED TIME METER</i>	<i>PUMP NO. 1 HOURS</i>
<i>ETM2</i>	<i>ELAPSED TIME METER</i>	<i>PUMP NO. 2 HOURS</i>
<i>PL1</i>	<i>YELLOW PILOT LIGHT</i>	<i>PUMP NO. 1 ON</i>
<i>PL2</i>	<i>RED ILLUMINATED PUSH BUTTON</i>	<i>PUMP NO. 1 HIGH TEMPERATURE AND RESET</i>
<i>PL3</i>	<i>RED ILLUMINATED PUSH BUTTON</i>	<i>PUMP NO. 2 HIGH TEMPERATURE AND RESET</i>
<i>PL4</i>	<i>YELLOW PILOT LIGHT</i>	<i>PUMP NO. 2 ON</i>
<i>S1</i>	<i>3 POSITION SWITCH</i>	<i>PUMP NO. 1 HAND-OFF-AUTO</i>
<i>PL5</i>	<i>RED PILOT LIGHT</i>	<i>PUMP NO. 1 SEAL LEAK</i>
<i>PL6</i>	<i>RED PILOT LIGHT</i>	<i>PUMP NO. 2 SEAL LEAK</i>
<i>S2</i>	<i>3 POSITION SWITCH</i>	<i>PUMP NO. 2 HAND-OFF-AUTO</i>

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

No.	DATE	REVISIONS
3		
2		
1		

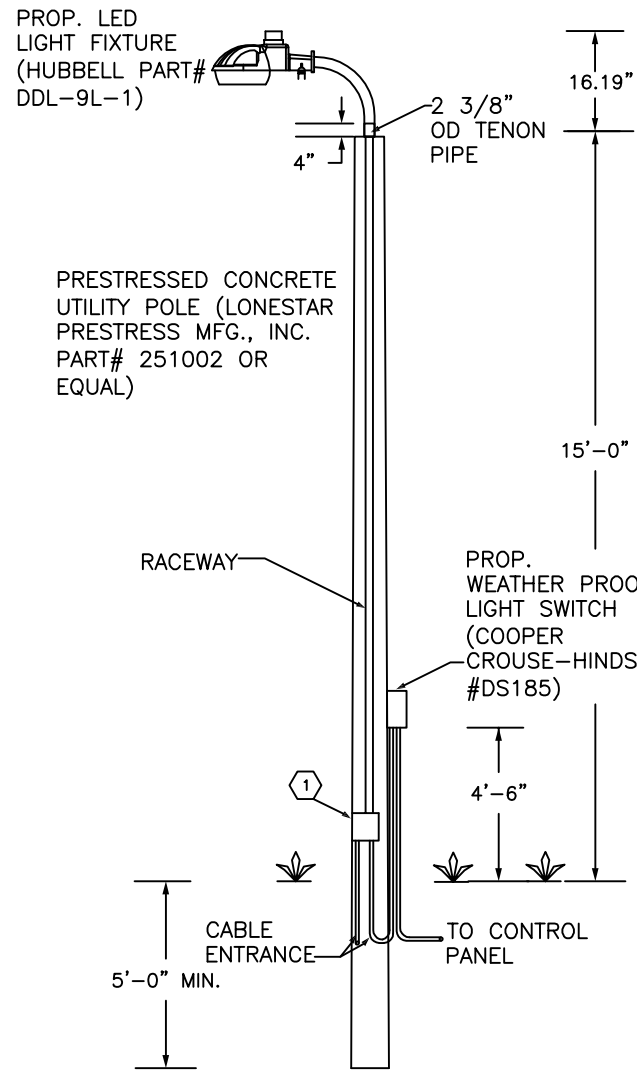
DES: LG  
 DRN: JHJ  
 CKD: RDK  
 DATE: 2/3/15

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

LAKE MAGDALENE PUMPING STATION  
 REHABILITATION  
 ELECTRICAL CONTROLS - LEGEND PLATE SCHEDULE

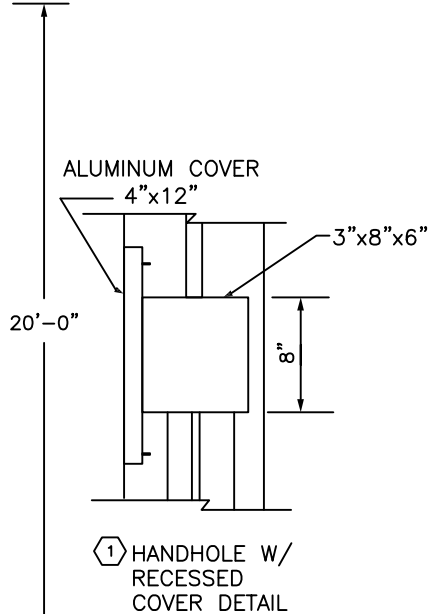
W.O. 5981  
 SHEET  
**E18**

User: ss13 Drawing Name: K:\WW\_Projects\2014\2014\_5981\_Lake Magdalene PS Rehabilitation\DWG\LAKE MAGDALENE PS REHABILITATION.dwg Layout: Feb 10, 2015 - 12:00pm

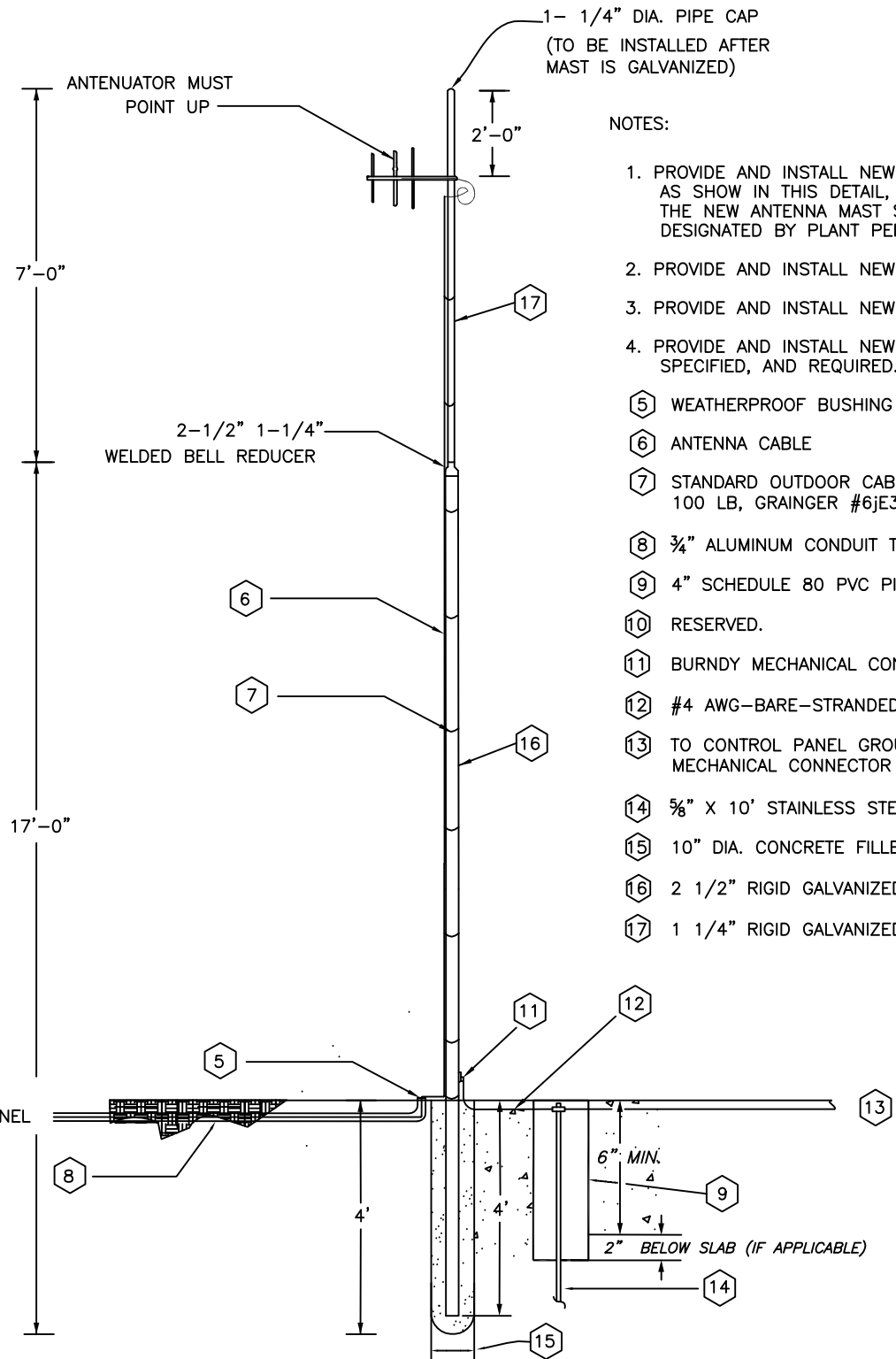


**AREA LIGHT DETAIL**

NOT TO SCALE



- NOTES:
1. OVERALL 20'-0" POLE HEIGHT
  2. MIN. 5'-0" POLE BURIAL
  3. COORDINATE LOCATION OF THE AREA LIGHT WITH PLANT PERSONNEL
  4. USE STAINLESS STEEL PIPE STRAPS SPACED 2'-0" APART TO MOUNT CONDUIT



**ANTENNA DETAIL**

NOT TO SCALE

NOTES:

1. PROVIDE AND INSTALL NEW GALVANIZED STEEL MAST AND ANTENNA SYSTEM, AS SHOW IN THIS DETAIL, AND REQUIRED BY THE PROPOSED SCADA RADIO. THE NEW ANTENNA MAST SHALL BE INSTALLED IN THE LOCATION AS DESIGNATED BY PLANT PERSONNEL.
  2. PROVIDE AND INSTALL NEW ANTENNA COAX CABLE, AS REQUIRED.
  3. PROVIDE AND INSTALL NEW UNDERGROUND CONDUIT, AS REQUIRED.
  4. PROVIDE AND INSTALL NEW ANTENNA GROUNDING SYSTEM, AS SHOWN, SPECIFIED, AND REQUIRED.
- ⑤ WEATHERPROOF BUSHING  
 ⑥ ANTENNA CABLE  
 ⑦ STANDARD OUTDOOR CABLE TIES, 304 STAINLESS STEEL, TENSILE STRENGTH 100 LB, GRAINGER #6JE35  
 ⑧ 3/4" ALUMINUM CONDUIT TO CONTROL PANEL  
 ⑨ 4" SCHEDULE 80 PVC PIPE  
 ⑩ RESERVED.  
 ⑪ BURNDY MECHANICAL CONNECTOR #KA25-4-1/0  
 ⑫ #4 AWG-BARE-STRANDED  
 ⑬ TO CONTROL PANEL GROUNDING SYSTEM, USE CADWELD OR BURNDY MECHANICAL CONNECTOR #VT2525  
 ⑭ 5/8" X 10' STAINLESS STEEL GROUND ROD  
 ⑮ 10" DIA. CONCRETE FILLED HOLE  
 ⑯ 2 1/2" RIGID GALVANIZED STEEL PIPE  
 ⑰ 1 1/4" RIGID GALVANIZED STEEL PIPE

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

No.	DATE	REVISIONS
3		
2		
1		

DES: LG  
DRN: JHJ  
CKD: RDK  
DATE: 2/3/15

**CITY of TAMPA**  
WASTEWATER DEPARTMENT

LAKE MAGDALENE PUMPING STATION  
REHABILITATION  
AREA LIGHT DETAIL AND ANTENNA DETAIL

W.O. 5981  
SHEET  
**E19**