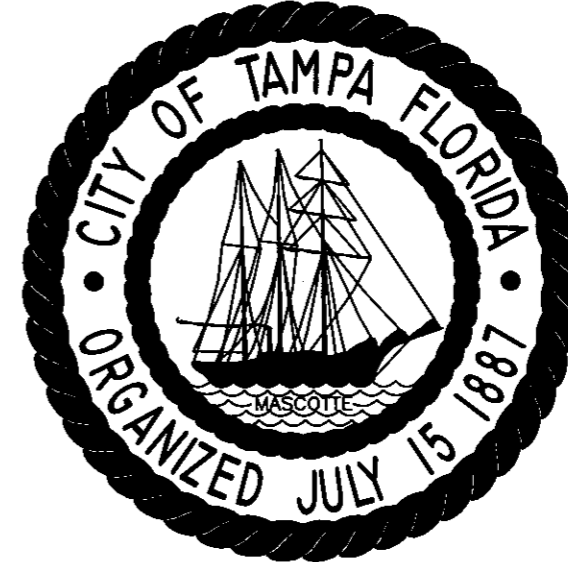


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CITY of TAMPA

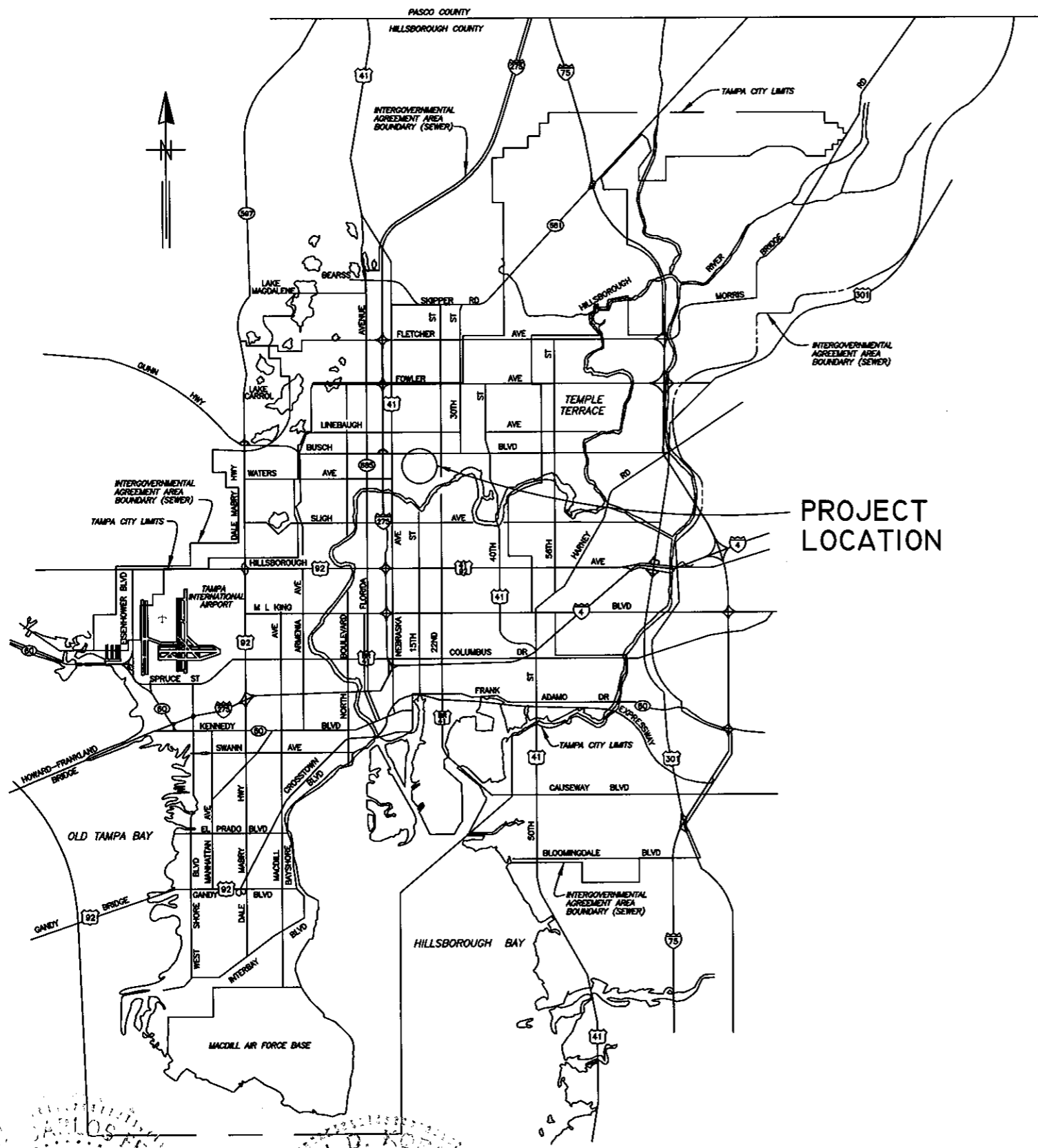


WASTEWATER DEPARTMENT

PLANS FOR HUMPHREY ST. PUMPING STATION REHABILITATION

CONTRACT No. 8-C-00017

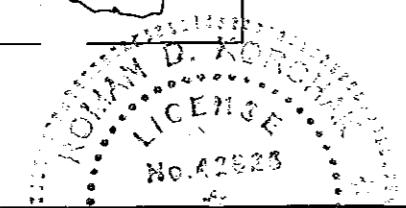
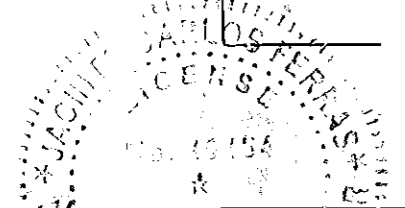
LOCATION MAP



PROJECT LOCATION

1=1

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Jacinto Carlos Ferras
JACINTO CARLOS FERRAS, P.E. #42923
DESIGN DIVISION HEAD
WASTEWATER DEPARTMENT

Roman D. Korczak
ROMAN D. KORCZAK, P.E. #42626
ELECTRICAL SECTION HEAD
WASTEWATER DEPARTMENT

No.	DATE	REVISIONS
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DES: E.H.
DRN: W.A.
CKD: JF
DATE: 5/15/08

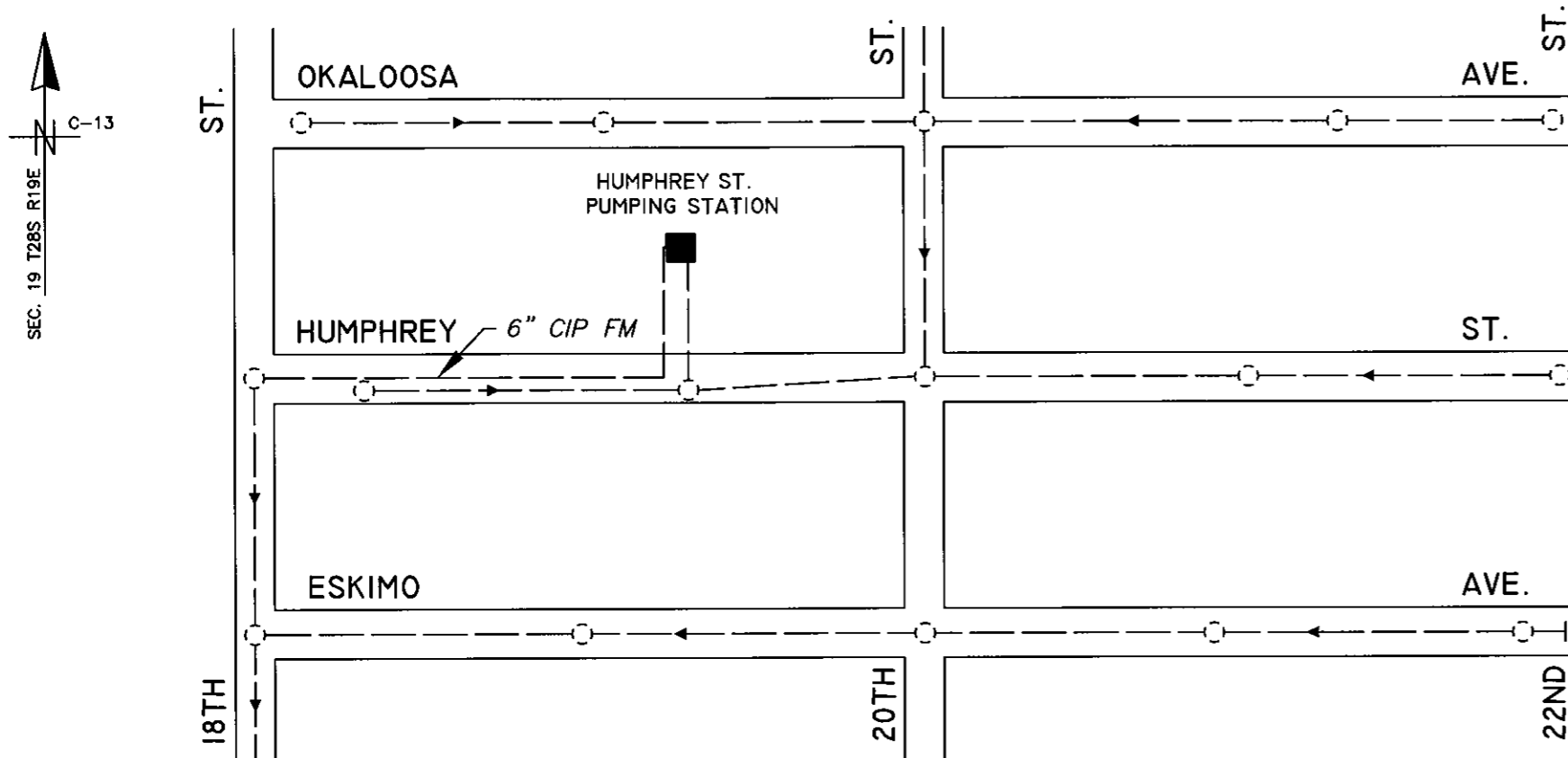
CITY of TAMPA
WASTEWATER DEPARTMENT

COVER SHEET

W.O. 5223
SHEET
1
OF 29

INDEX

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14	PUMPING STATION DETAILS		
E1-E15	ELECTRICAL SHEETS		



NOTE: ALL WASTEWATER LINES ARE 8" OR LESS UNLESS OTHERWISE NOTED.

PROJECT MAP

NOT TO SCALE

LEGEND

EX SEWERS	UP to 36" & SMALLER	36" & LARGER	CATCH BASIN, GRATE	
EX FORCE MAIN			POWER POLE	
EX SAN SEWER & MANHOLES			TELEPHONE POLE	
EX STORM SEWER & MANHOLES			GUY POLE	
PROP SEWERS			GUY WIRE	
PROP FORCE MAIN			VALVE VAULT	
PROP SANITARY SEWER & MANHOLES			WATER METER	
PROP STORM SEWER & MANHOLES			ELECTRICAL MANHOLE or VAULT	
OTHER FEATURES			TELEPHONE MANHOLE or VAULT	
RIGHT of WAY LINE			TRAFFIC BOX or VAULT	
EDGE of PAVEMENT			BUILDING LIMIT	
WATER LINE			PROPERTY OWNERSHIP	
GAS LINE			FENCE	
ELECTRICAL CABLE or DUCT			CONIFER	
TELEPHONE CABLE or DUCT			PALM	
TV CABLE			OAK	
VALVE			OTHER	
HYDRANT			SHRUB	

ABBREVIATIONS

TOP of PIPE	TP	CAST IRON PIPE	CIP
INVERT ELEVATION	IE or INV EL	DUCTILE IRON PIPE	DIP
RIGHT of WAY	R/W	REINFORCED CONCRETE PIPE	RCP
MANHOLE	MH or MH	CONCRETE PIPE	CP
POLYVINYL CHLORIDE PIPE	PVCP	APPROXIMATE LOCATION	AL
VITRIFIED CLAY PIPE	VCP	BENCH MARK	BM
ADVANCED DRAINAGE SYSTEM	ADS	POINT of INTERSECTION	PI
OVERHEAD ELECTRIC	OH ELEC		
UNDERGROUND ELECTRIC	UG ELEC		

1=1

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DATE: 5/15/08

CITY of TAMPA
WASTEWATER DEPARTMENT

HUMPHREY ST. PUMPING STATION
REHABILITATION
PROJECT MAP & INDEX

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OF 29

HUMPHREY ST. PUMPING STATION: CONSTRUCTION NOTES

1. EXISTING DIMENSIONS ARE BASED ON THE BEST INFORMATION AVAILABLE. TRUE DIMENSIONS SHALL BE DETERMINED IN THE FIELD PRIOR TO LAYOUT AND SHOP DRAWING SUBMITTALS.
2. LOCATION OF EXISTING FORCE MAIN AND OTHER UTILITIES TO BE VERIFIED BY CONTRACTOR AT TIME OF CONSTRUCTION. CONTRACTOR SHALL RELOCATE ALL UTILITIES ON SITE THAT ARE IN THE PATH OF CONSTRUCTION. CONTRACTOR SHALL COORDINATE RELOCATIONS WITH THE DEPARTMENT AND WITH EACH UTILITY AS NECESSARY.
3. ALL SUBMITTALS AND SHOP DRAWINGS SHALL BE ORIGINALS OR HIGH QUALITY COPIES (EASILY READABLE). NO FAXED SHEETS OR POOR QUALITY COPIES WILL BE ACCEPTED FOR SUBMITTAL REVIEW.
4. CONTRACTOR SHALL SYSTEMATICALLY TRACE DOWN AND REPAIR ALL SOURCES OF NOTICEABLE LEAKS OF GROUND WATER INTO THE WET WELL. CONTRACTOR SHALL USE ONLY APPROVED MATERIALS FOR REPAIRING LEAKS.
5. BYPASS PUMPS SHALL BE CAPABLE OF 250 GPM. THE PUMPS SHALL SUCTION FROM AN 8" PVC CORED INTO THE SIDE OF THE MANHOLE IN THE CENTER OF HUMPHREY ST. AND DISCHARGE INTO THE 6" CIP FORCE MAIN ON THE PUMPING STATION PARCEL. (DETAIL "J").
6. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY RIGHT-OF-WAY PERMITS FOR ROAD CLOSURES ASSOCIATED WITH BYPASS PUMPING.
7. SEWER SERVICE TO CUSTOMERS SHALL NOT BE DISRUPTED DURING CONSTRUCTION. CONTRACTOR TO SUBMIT PROPOSAL FOR BYPASS PUMPING STRATEGY. CONTRACTOR SHALL SUBMIT A SCHEDULE OF SEQUENCES FOR COMPLETION, TESTING, AND TRANSFER OF DUTY BACK TO THE PUMP STATION WITH PUMPING STRATEGY.
8. INSTALL TWO FLYGT CP3085 PUMPS WITH NO. 438 IMPELLER, 3.0 HP, 1700 RPM, 3 PHASE, 230 VOLTS, RATED AT 225 GPM @ 14.5 FEET TDH. ON BOTH PUMPS, INSTALL A FLYGT MIX- FLUSH SYSTEM, MODEL 4901 WITH 90° DISCHARGE ELBOW.
9. TWO STAINLESS STEEL TYPE 316 WELDED LINK CHAINS HAVING ONE INCH LINKS AND A WORKLOAD CAPACITY OF TWICE THE PUMP WEIGHT SHALL BE FASTENED TO PUMPS. CONTRACTOR TO SUBMIT CERTIFICATION OF WORKLOAD CAPACITIES FOR APPROVAL. THE BITTER ENDS OF CHAINS SHALL BE FASTENED TO CONCRETE TOP SLAB WITH STAINLESS ANCHORS. LENGTH OF CHAINS SHALL BE FROM THE PUMPS TO THE SLAB PLUS SIX FEET.
10. INSTALL A STAINLESS STEEL "J" HOOK ALONG THE SIDE OF EACH GUIDE BRACKET TO SUPPORT PROPOSED LIFTING CHAINS. INSTALL A STAINLESS STEEL BRACKET WITH FOUR STAINLESS STEEL "J" HOOKS ON OPPOSITE SIDE OF PUMP GUIDE BRACKETS TO SUPPORT VARIOUS CABLES. ALL "J" HOOKS SHALL BE MADE OF 3/8" DIAMETER ROD (MINIMUM). CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR APPROVAL.
11. TAP AND DRILL ONE 3/4" CORPORATION STOP IN DISCHARGE PIPE IN VALVE VAULT DOWNSTREAM OF PLUG AND CHECK VALVES. SCHEDULE 80 PVC PIPE AND FITTINGS SHALL BE PROVIDED TO DIRECT FLOW FROM CORPORATION STOP DOWNWARD.
12. ALL PIPE, WALL SLEEVES AND CONDUIT PENETRATING WET WELL WALL (OR TOP SLAB) SHALL EXTEND INTO WET WELL 4" MINIMUM AND SHALL HAVE AMERON PVC LINER (CEILING) OR RAVEN 405 COATING (WALLS) TERMINATE ON EXTENSION IN COLLAR-LIKE FASHION.
13. CONTRACTOR SHALL CAST 4" SCHEDULE 80, UV-RAY PROTECTED PVC PIPE VERTICALLY THROUGH TOP SLAB FOR VENTILATION. CONTRACTOR SHALL TURN DOWN WITH TWO 90° BENDS AND INSTALL A NON-METALLIC BIRD SCREEN AT TOP OPENING. VENT PIPE SHALL EXTEND 4" (MINIMUM) INTO WET WELL.
14. ALL PROPOSED PAVEMENT AREAS SHALL BE PAVED WITH 6" CONCRETE PAVEMENT REINFORCED WITH 6"x 6"-W4 X W4 WWF ON COMPACTED SUBGRADE. PROVIDE 1/2" THICK EXPANSION JOINT MATERIAL BETWEEN PUMP STATION TOP SLAB AND SURROUNDING CONCRETE PAVEMENT. CONTROL JOINTS SHALL BE PROVIDED IN EACH DIRECTION AT A MAX. SPACING OF 12'-0".
15. BACKFILL (NO CLAY OR CLAYEY MATERIAL) SHALL BE COMPACTED IN 12 INCH LAYERS TO 98% MAXIMUM DRY DENSITY OF MODIFIED PROCTOR IN CONFORMANCE WITH AASHTO T-180, METHOD A.
16. CONTRACTOR SHALL RESTORE ALL LANDSCAPING, SODDING AND PAVEMENT THAT MAY HAVE BEEN DAMAGED DURING CONSTRUCTION TO ITS ORIGINAL CONDITION OR BETTER. CONTRACTOR SHALL SOD ALL UNPAVED AREAS.
17. CONTRACTOR SHALL PROVIDE A REDUCED-PRESSURE BACKFLOW-PREVENTION DEVICE IN WATER SERVICE LINE, AS SHOWN IN DETAIL "I", AT A PLACE TO BE SPECIFIED DURING CONSTRUCTION. BACKFLOW PREVENTION DEVICE SHALL BE 1" WILKINS, MODEL # 975 XL, OR EQUAL.
18. ALL EXPOSED CONCRETE SURFACES IN WET WELL SHALL BE COATED WITH A MINIMUM OF 125 MILS (DRY) OF RAVEN'S 405 ULTRA HIGH BUILD EPOXY SYSTEM, OR EQUAL. THE BOTTOM OF THE WET WELL TOP SLAB SHALL BE COATED WITH AMERON'S T-LOCK PVC LINER, OR EQUAL. CONTRACTOR SHALL FOLLOW ALL MANUFACTURER RECOMMENDATIONS REGARDING LINERS AND COATINGS.
19. ALUMINUM ACCESS COVERS SHALL BE HALLIDAY, OR EQUAL. ACCESS COVERS SHALL HAVE STAINLESS STEEL HARDWARE AND SHALL HAVE DOUBLE DOORS THAT OPEN IN THE DIRECTION CORRESPONDING TO THE HINGES SHOWN ON PLANS. ACCESS COVERS SHALL HAVE ALUMINUM SKIRTING ATTACHED THAT RUN THE DEPTH OF THE TOP SLAB AND HAS A FLAT TWO-INCH FLANGE AT THE BOTTOM OF THE TOP SLAB. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS DETAILING THE INSTALLATION AND CONFIGURATION.
20. CONTRACTOR SHALL INSTALL A LADDER AND GRASP BAR AT EACH VAULT ACCESS OPENING. GRASP BARS SHALL HAVE AN INTERMEDIATE RUNG AT MID HEIGHT. ALUMINUM ALLOY LADDERS & GRASP BARS SHALL BE ANODIZED AFTER ALL CUTTING AND WELDING IS COMPLETE. SHOP DRAWINGS SHALL BE APPROVED BY THE ENGINEER PRIOR TO LADDERS AND GRASP BARS BEING CONSTRUCTED.
21. PUMP STATION PIPING SHALL BE CLASS 53 DIP.
22. FORCE MAIN FITTINGS SHALL BE RMJ. RESTRAINING DEVICES SHALL BE "MEGA-LUG" OR EQUAL. ALL RESTRAINING DEVICES AND RELATED PARTS SHALL BE COATED WITH THE MEGA-BOND RESTRAINT COATING SYSTEM OR APPROVED EQUAL.

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

DES: E.H.
 DRN: W.A.
 CKD: JF
 DATE: 5/15/08

CITY of TAMPA
 WASTEWATER DEPARTMENT

HUMPHREY ST. PUMPING STATION
 REHABILITATION
 GENERAL NOTES

W.O. 5223
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HUMPHREY ST. PUMPING STATION: CONSTRUCTION NOTES - CONT'D

- 23. ALL DUCTILE IRON PIPE AND FITTINGS SHALL BE LINED (INTERIOR) WITH PROTECTO 401 CERAMIC EPOXY OR EQUAL.
- 24. CHECK VALVES SHALL BE APCO, RUBBER FLAPPER SWING CHECK VALVES, SERIES 100.
- 25. ECCENTRIC PLUG VALVES SHALL BE DEZURIK, SERIES 100, ECCENTRIC VALVES.
- 26. BOLTS, WASHERS, NUTS, SCREWS, HOOKS, BRACKETS, HINGES, ETC. INSTALLED WITHIN STRUCTURES SHALL BE TYPE 316 STAINLESS STEEL UNLESS OTHERWISE SPECIFIED. PUMP GUIDE RAILS SHALL BE TYPE 304 STAINLESS STEEL.
- 27. SPOOL PIECE SHALL BE PROVIDED AT ONE END WITH SCREW-ON FLANGE OR "SERIES 2100 MEGA-FLANGE RESTRAINED FLANGE ADAPTER" WITH ALL STAINLESS STEEL HARDWARE.
- 28. FILL ALL OPENINGS AROUND PIPES (OR SLEEVES) AND ALL VOIDS IN STRUCTURAL WALLS WITH NON-SHRINK GROUT EXCEPT WHERE OTHERWISE SPECIFIED.
- 29. CONTRACTOR SHALL COORDINATE WITH TECO REGARDING THE REMOVAL OF EXISTING POWER SERVICE, PLACEMENT OF TEMPORARY SERVICE (IF NEEDED) AND PROPOSED ELECTRICAL SERVICE EQUIPMENT (SEE SPECIFICATIONS). CONTRACTOR SHALL PROVIDE 120 V AC POWER FOR TELEMETRY DURING ALL PHASES OF CONSTRUCTION.
- 30. NEW ELECTRICAL METER SOCKET SHALL BE PROVIDED AND INSTALLED ON THE PROPOSED ELECTRICAL CABINET. CONTRACTOR SHALL COORDINATE REQUIREMENTS WITH TECO.
- 31. ALL CEMENTITIOUS CONCRETE AND GROUT, UNLESS OTHERWISE SPECIFIED, SHALL BE CLASS "B" 4000 PSI COMPRESSIVE STRENGTH @ 28 DAYS.
- 32. ALL METAL PIPE, FITTINGS, SUPPORTS, VALVES, ETC. SHALL RECEIVE:
 - A) SHOP COAT - ONE COAT, 4 MILS, PORTER GLAZE 4300 EPOXY PRIMER, MADE BY PORTER PAINTS - GRAY IN COLOR.
 - B) FIELD COAT - TWO COATS, 10 MILS, PORTERTUF 2000 HB COAL TAR EPOXY, MADE BY PORTER PAINTS - BLACK IN COLOR.
- 33. NEW CONCRETE SHALL BE BONDED TO EXISTING CONCRETE WITH HIGH STRENGTH CONCRETE BONDING AGENT (MASTER BUILDER'S BRUTEM II, OR EQUAL).
- 34. ALL STEEL REINFORCING SHALL BE DETAILED ACCORDING TO THE LATEST "ACI MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES". ACTUAL PLACEMENT OF STEEL REINFORCING SHALL BE SHOWN ON SHOP DRAWINGS. ALL LAPS AND SPLICES SHALL BE AT LEAST 32 BAR DIAMETERS OR 24 INCHES.
- 35. ALL METAL SURFACES COMING IN CONTACT WITH CONCRETE SHALL BE PROVIDED WITH NEOPRENE PADS OR 2 COATS OF COAL TAR EPOXY WITH PROPER SURFACE PREPARATION. CONTRACTOR SHALL SUBMIT SYSTEM(S) FOR APPROVAL.

HUMPHREY ST. PUMPING STATION
DEMOLITION NOTES

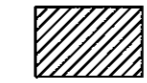
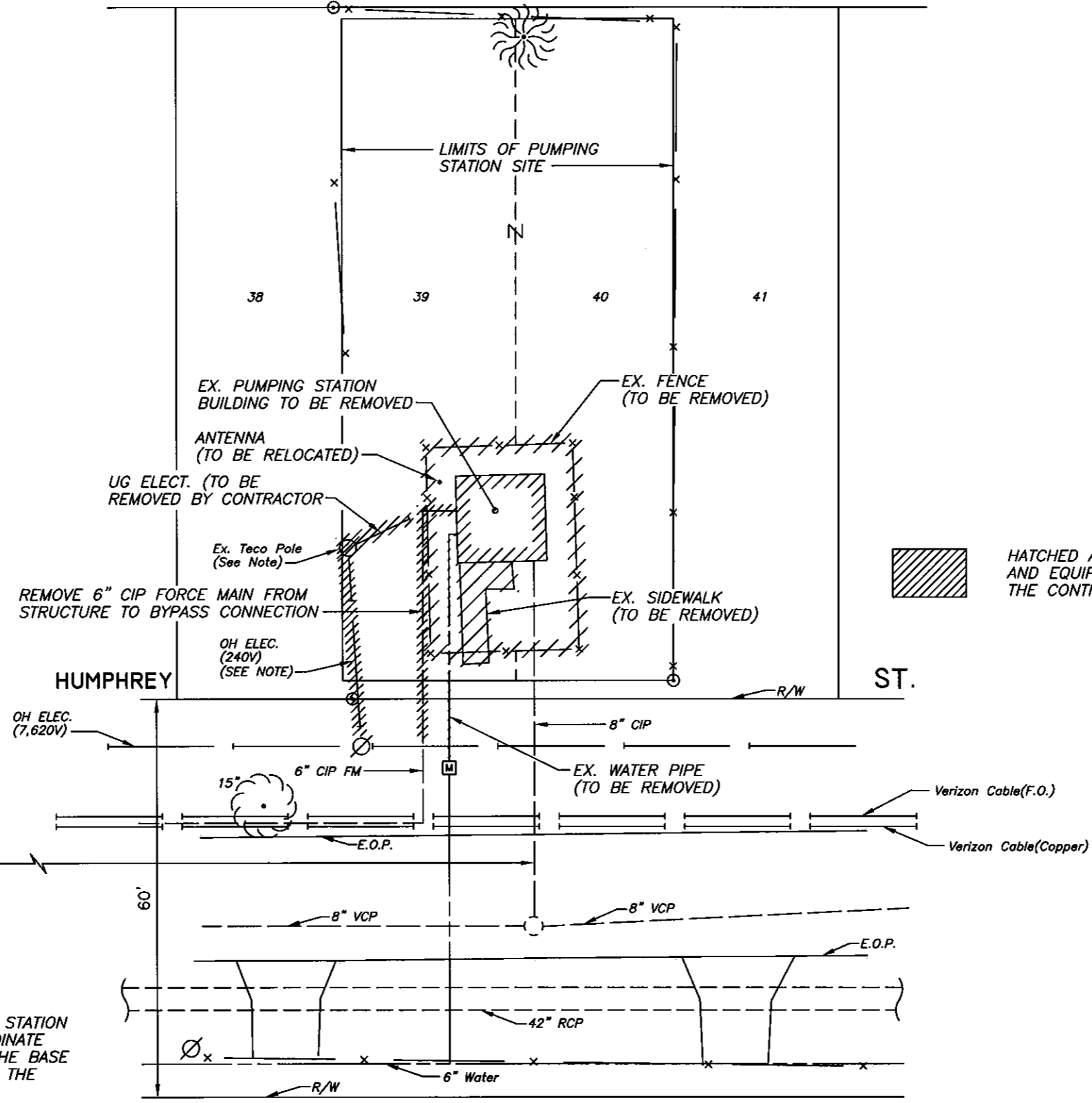
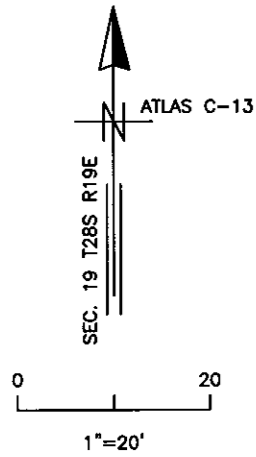
- A.) PRIOR TO BEGINNING CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL VIDEO TAPE THE ENTIRE PUMPING STATION SITE AND ALL ADJACENT STRUCTURES TO RECORD THE EXISTING CONDITIONS OF ALL PERTINENT ITEMS WITHIN THE AREA. THE CONTRACTOR SHALL DELIVER A COPY OF THE PRE-CONSTRUCTION VIDEO TO THE CONSTRUCTION INSPECTION OFFICE PRIOR TO BEGINNING ON-SITE ACTIVITIES. VIDEO SHALL BE NARRATED AND DATED AS SPECIFIED.
- B.) SALVAGEABLE MATERIAL AS DETERMINED BY TREATMENT PLANT PERSONNEL SHALL BE DELIVERED TO THE CITY OF TAMPA'S HOWARD F. CURREN AWTP AT 2700 MARITIME BOULEVARD. NON-SALVAGABLE MATERIALS ARE TO BE REMOVED FROM THE SITE AND PROPERLY DISPOSED OF AT THE CONTRACTOR'S EXPENSE. IN GENERAL, ALL ITEMS CONSTRUCTED OF METAL SHALL REMAIN THE PROPERTY OF THE CITY AND SHALL BE DELIVERED TO THE TREATMENT PLANT.
- C.) CONTRACTOR SHALL REMOVE ALL LANDSCAPING ON PUMP STATION SITE AS NECESSARY TO PERFORM REQUIRED EXCAVATIONS. CONTRACTOR SHALL REPLACE ALL REMOVED LANDSCAPING ITEMS WITH LIKE KIND IN EQUAL OR BETTER CONDITION EXCEPT AS OTHERWISE SPECIFIED.
- D.) 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.

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JACINTO CARLOS FERRAS, P.E. #49454 DESIGN DIVISION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: E.H. DRN: W.A. CKD: JF DATE: 5/15/08	CITY of TAMPA WASTEWATER DEPARTMENT	HUMPHREY ST. PUMPING STATION REHABILITATION GENERAL NOTES & DEMOLITION NOTES	W.O. 5223
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HILLSBORO HEIGHTS
BLOCK C



HATCHED AREAS REPRESENT EXISTING STRUCTURE AND EQUIPMENT WHICH ARE TO BE REMOVED BY THE CONTRACTOR.

NOTE

TECO POLE AND OVERHEAD SERVICE TO EX. PUMPING STATION IS TO BE REMOVED BY TECO. CONTRACTOR TO COORDINATE THE REMOVAL AND INSTALLATION OF HAND HOLE AT THE BASE OF THE TECO POLE IN HUMPHREY ST. AS SHOWN ON THE PROPOSED SITE PLAN ON SHEET 8.

PLAN

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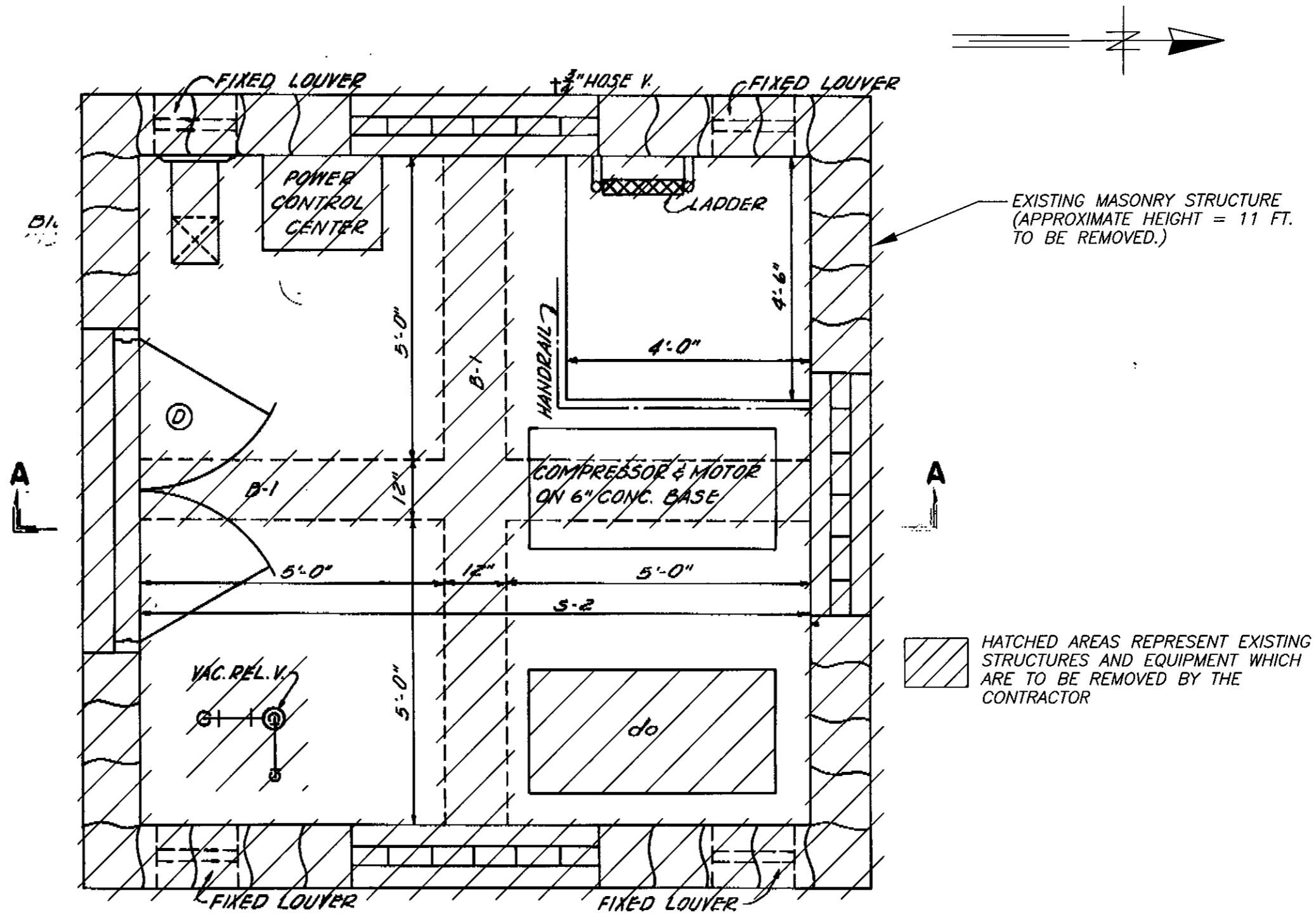
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CKD: JF
DATE: 5/15/08

CITY of TAMPA
WASTEWATER DEPARTMENT

HUMPHREY ST. PUMPING STATION
EXISTING SITE PLAN-DEMOLITION

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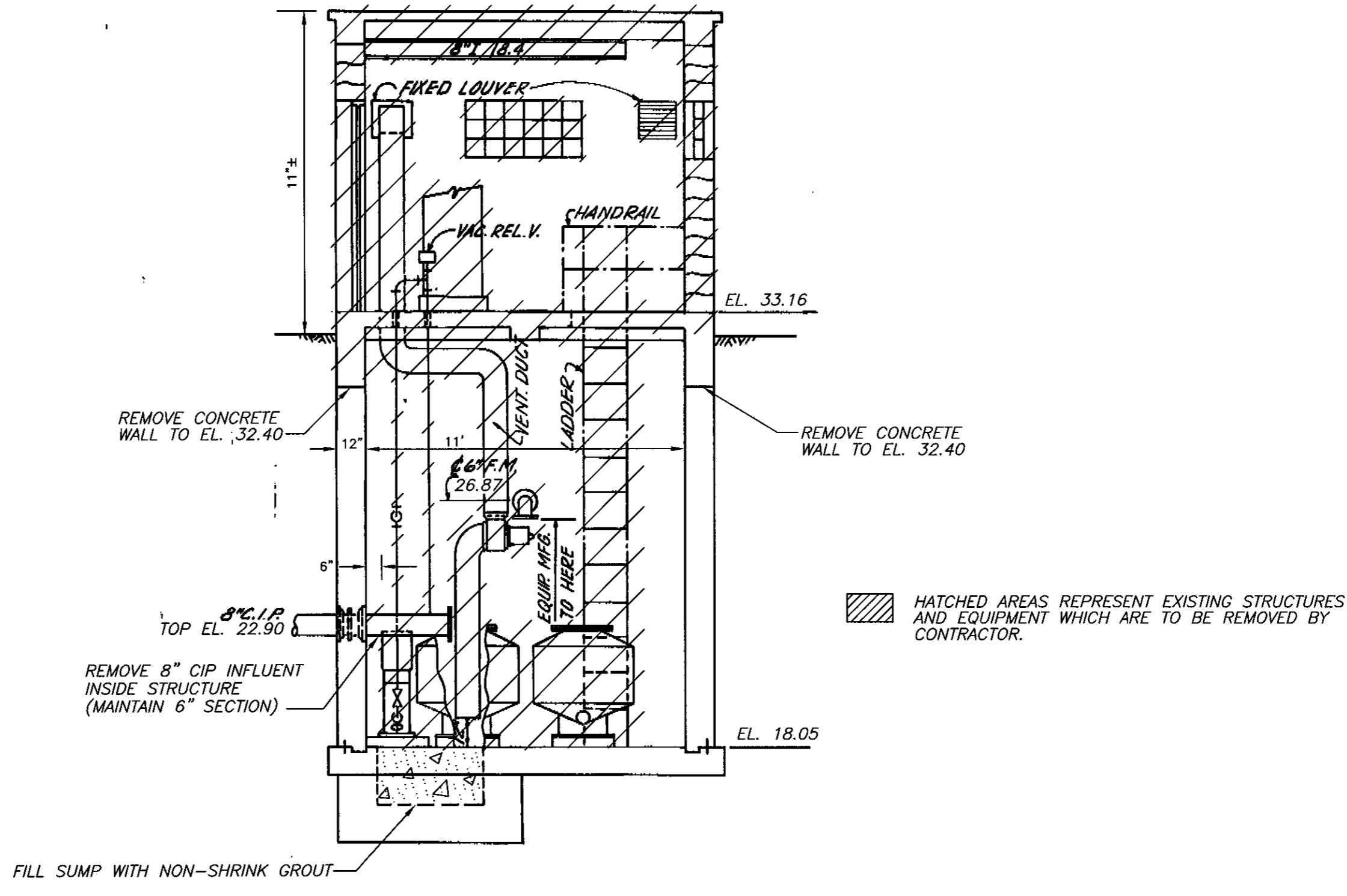
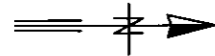
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ENTRANCE FLOOR PLAN
SCALE: 1/2" = 1'-0"

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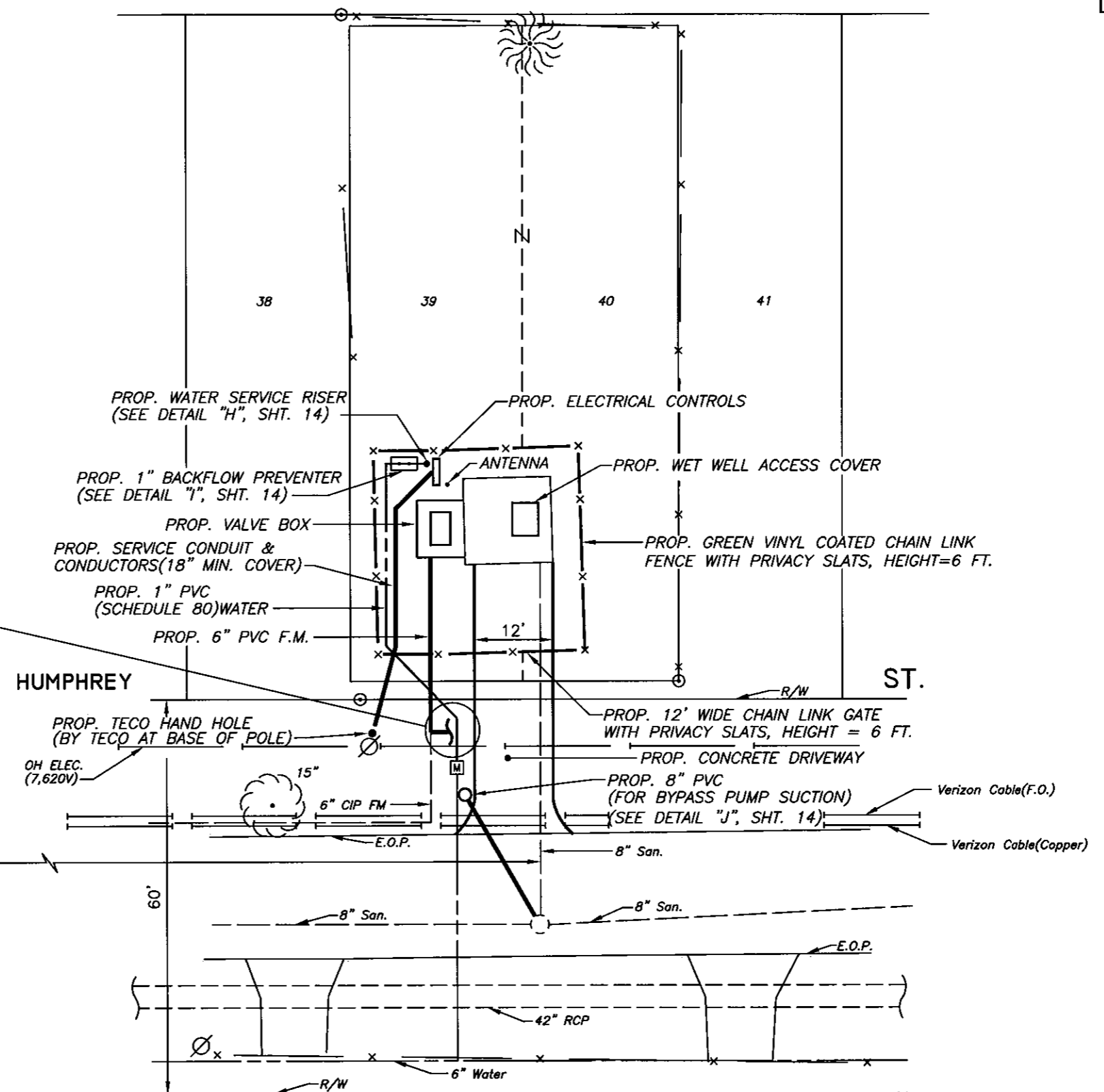
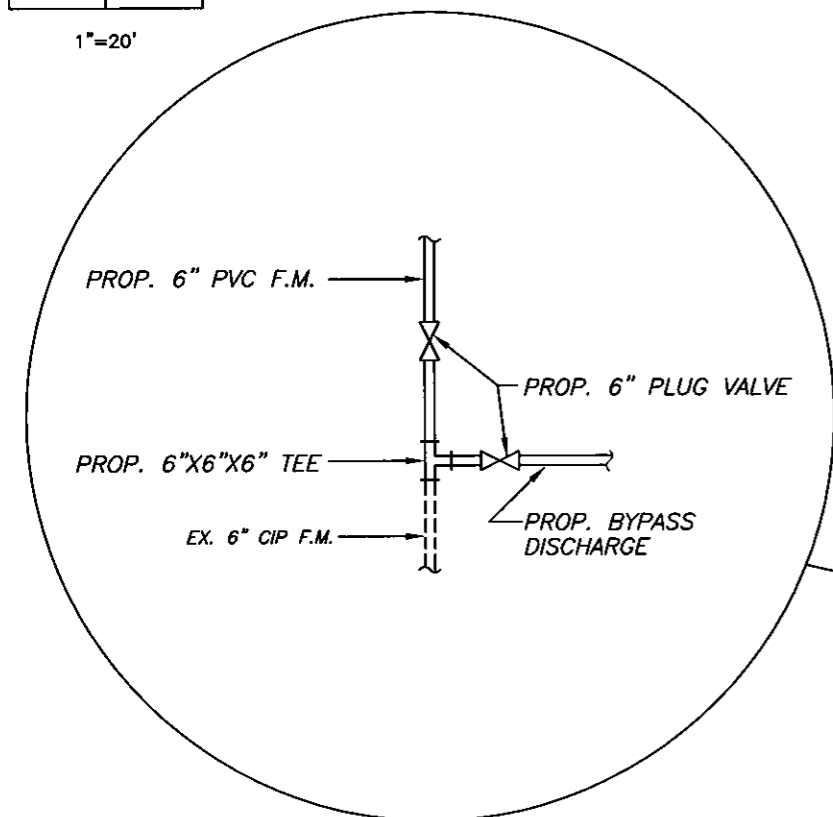
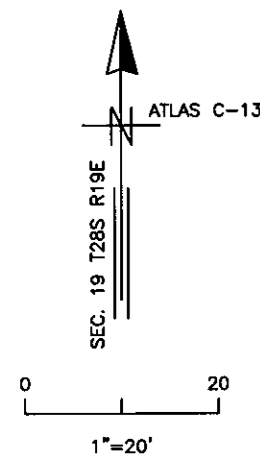
SECTION A-A

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JACINTO CARLOS FERRAS, P.E. #49454 DESIGN DIVISION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: E.H.	CITY of TAMPA WASTEWATER DEPARTMENT	HUMPHREY ST. PUMPING STATION DEMOLITION SECTION	W.O. 5223
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HILLSBORO HEIGHTS
BLOCK C



PLAN

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

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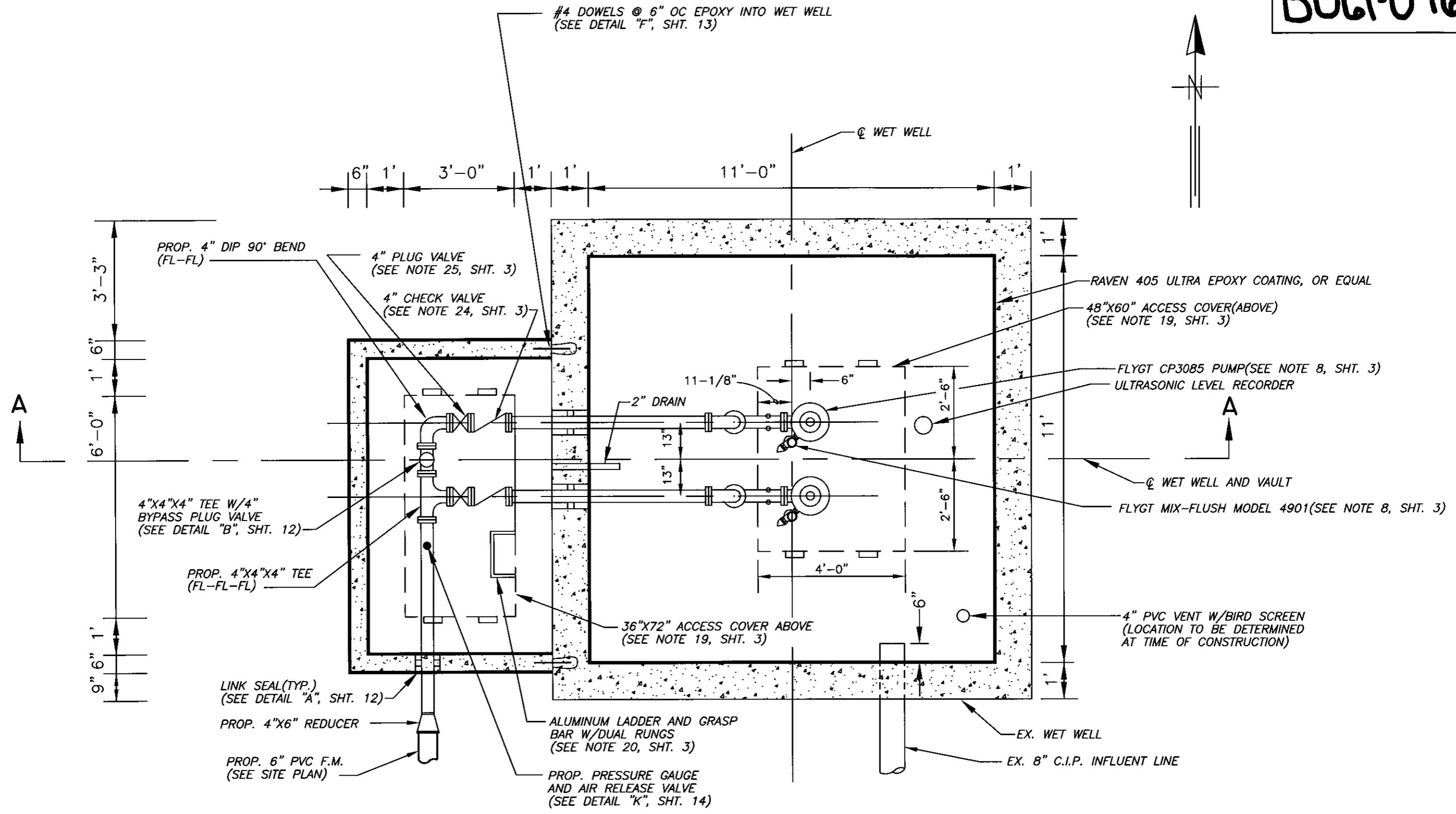
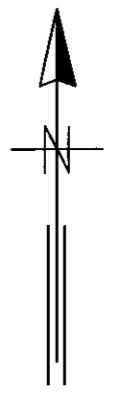
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DRN: W.A.
CKD: JF
DATE: 5/15/08

CITY of TAMPA
WASTEWATER DEPARTMENT

HUMPHREY ST. PUMPING STATION
PROPOSED SITE PLAN

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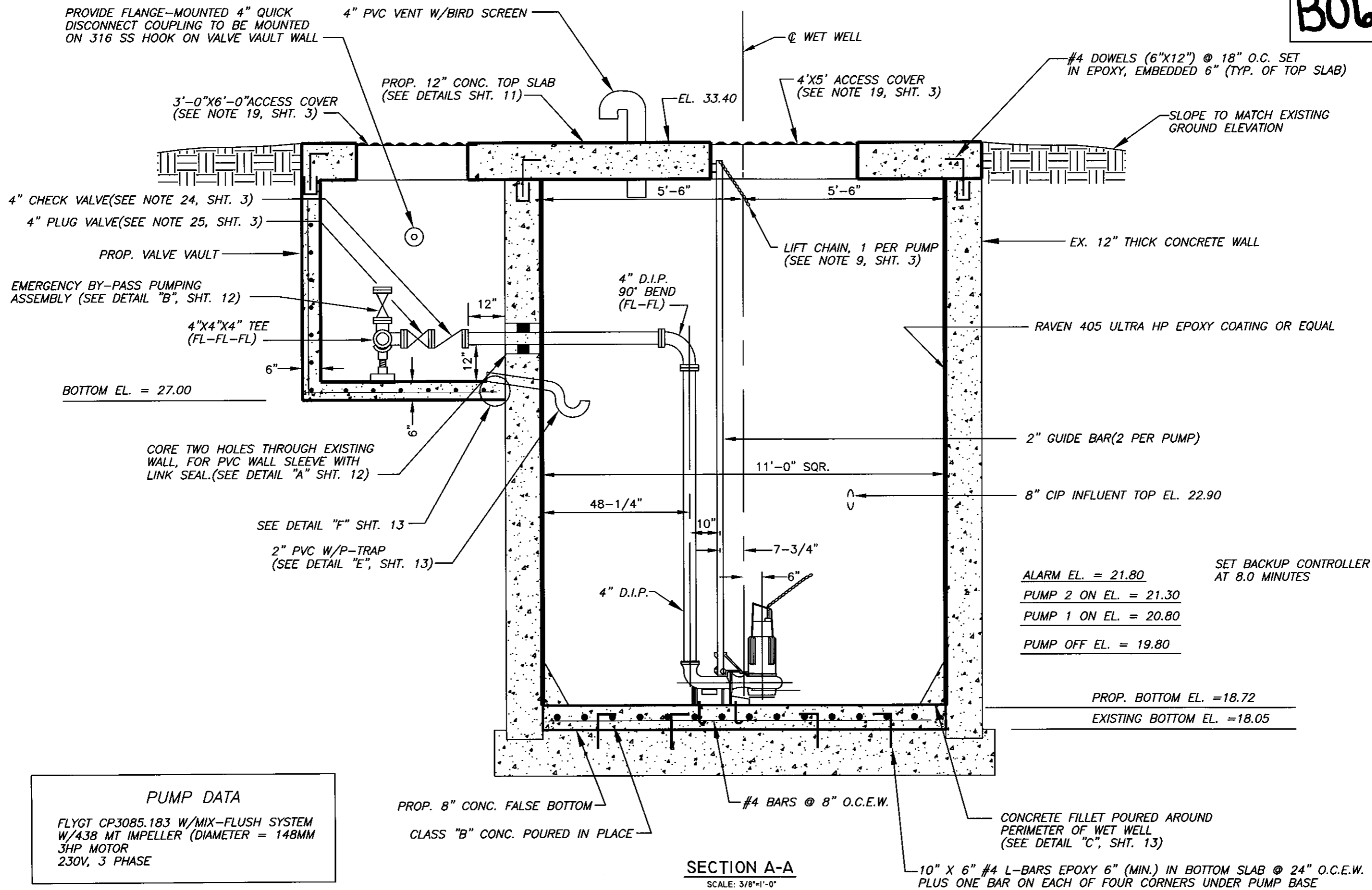


PLAN VIEW AT ELEVATION 32.40
SCALE: 3/8"=1'-0"

3/8"=1'

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JACINTO CARLOS FERRAS, P.E. #49454 DESIGN DIVISION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: E.H.	CITY of TAMPA WASTEWATER DEPARTMENT	HUMPHREY ST. PUMPING STATION REHABILITATION PROPOSED PLAN VIEW	W.O. 5223
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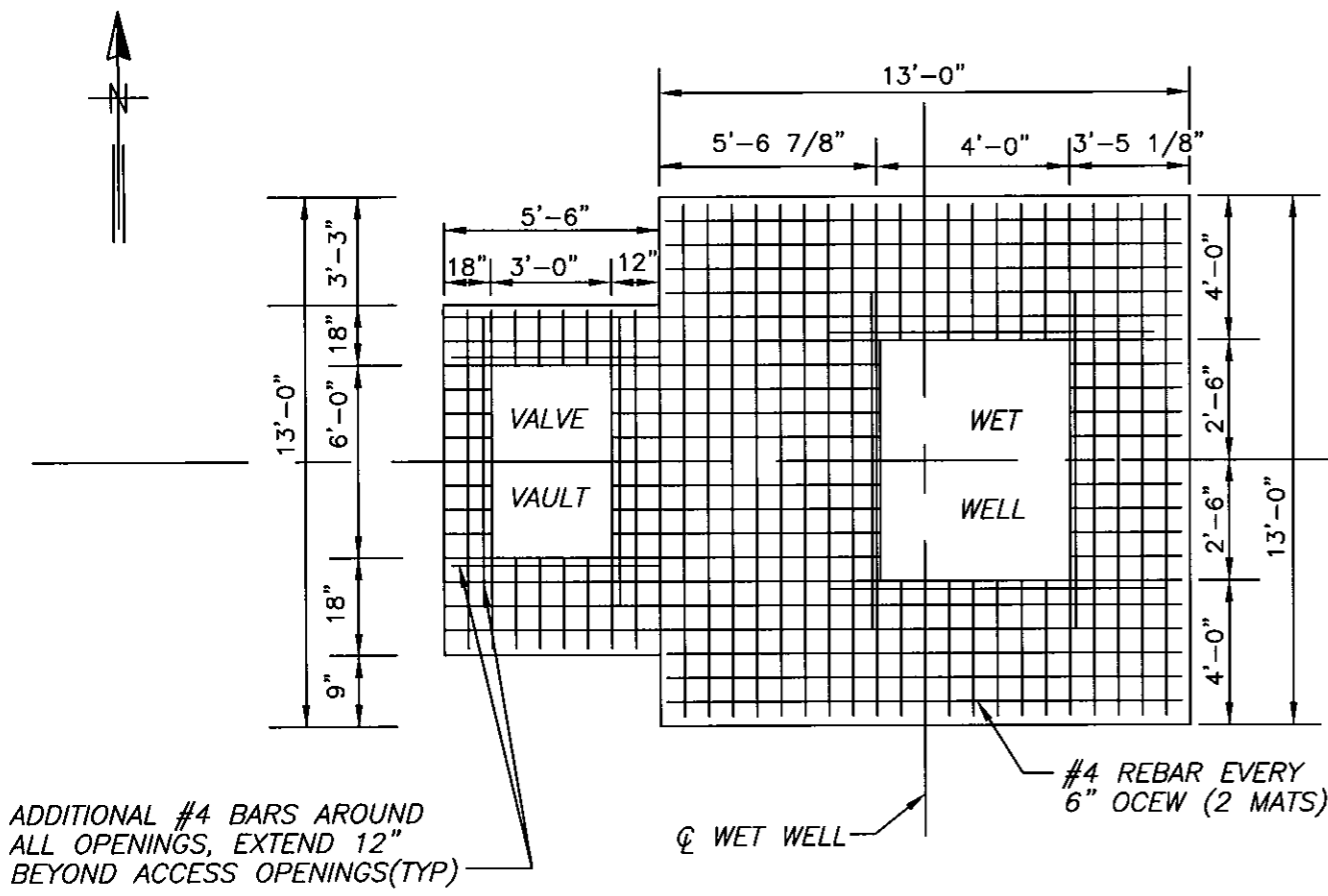


PUMP DATA
 FLYGT CP3085.183 W/MIX-FLUSH SYSTEM
 W/4.38 MT IMPELLER (DIAMETER = 148MM)
 3HP MOTOR
 230V, 3 PHASE

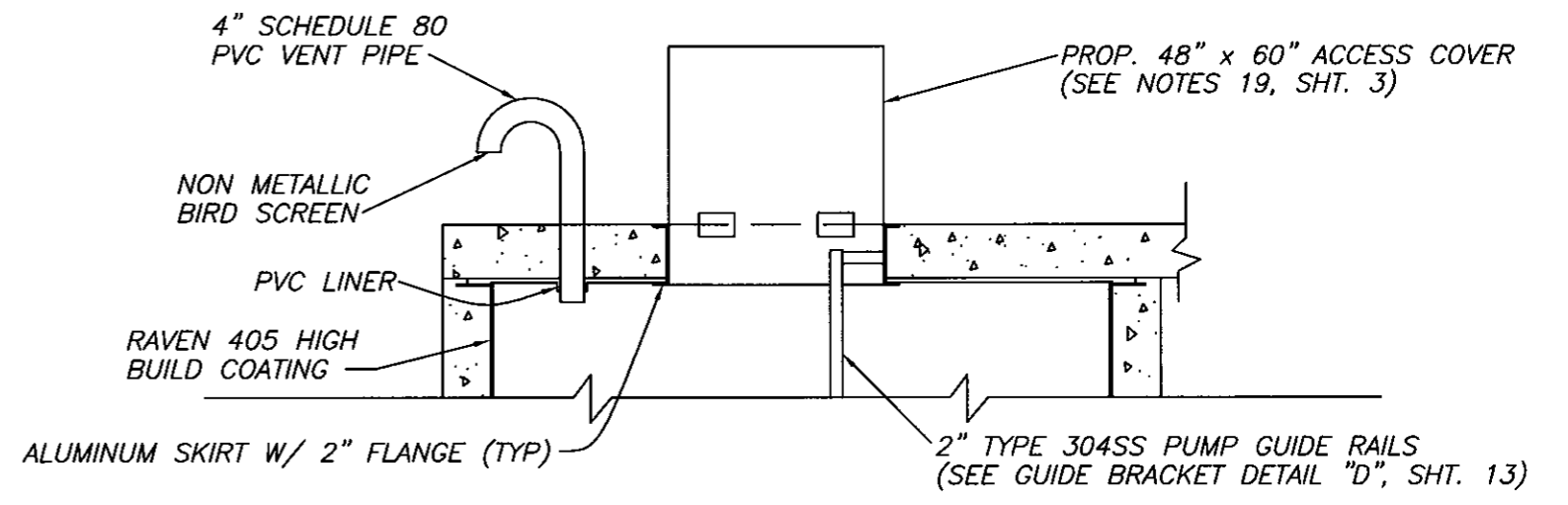
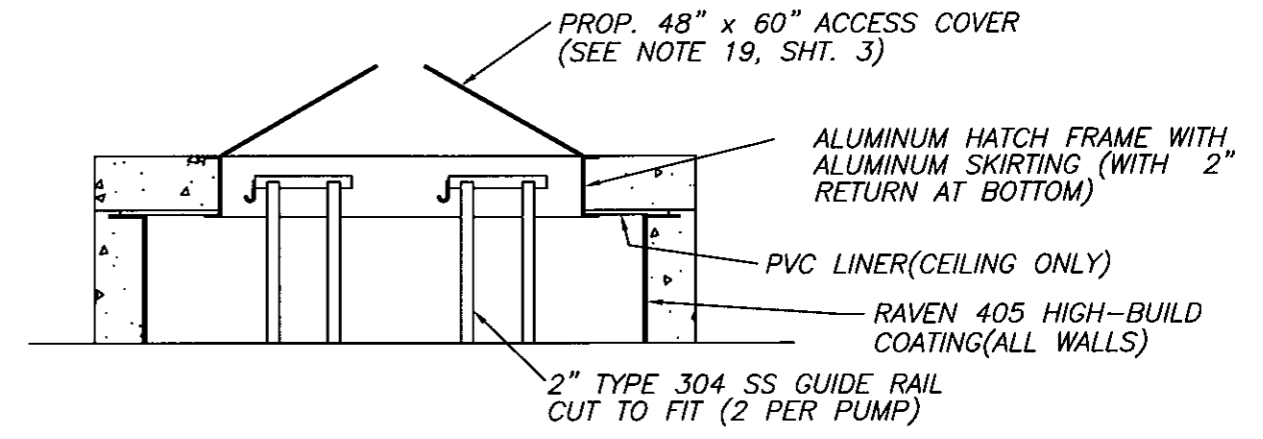
SECTION A-A
 SCALE: 3/8"=1'-0"

3/8"=1'

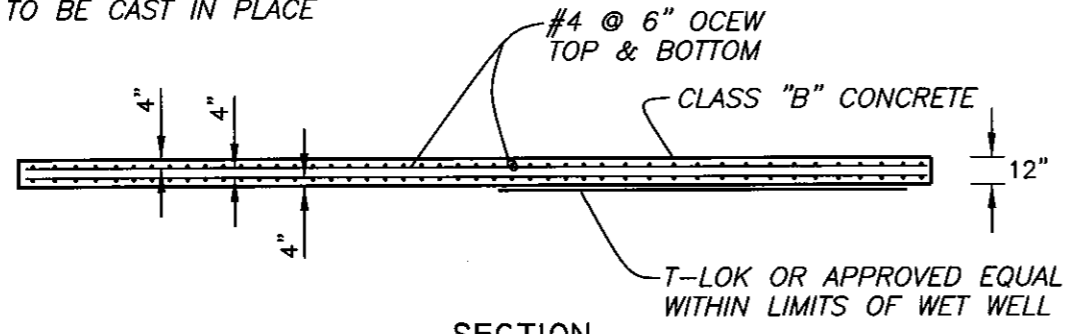
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PLAN

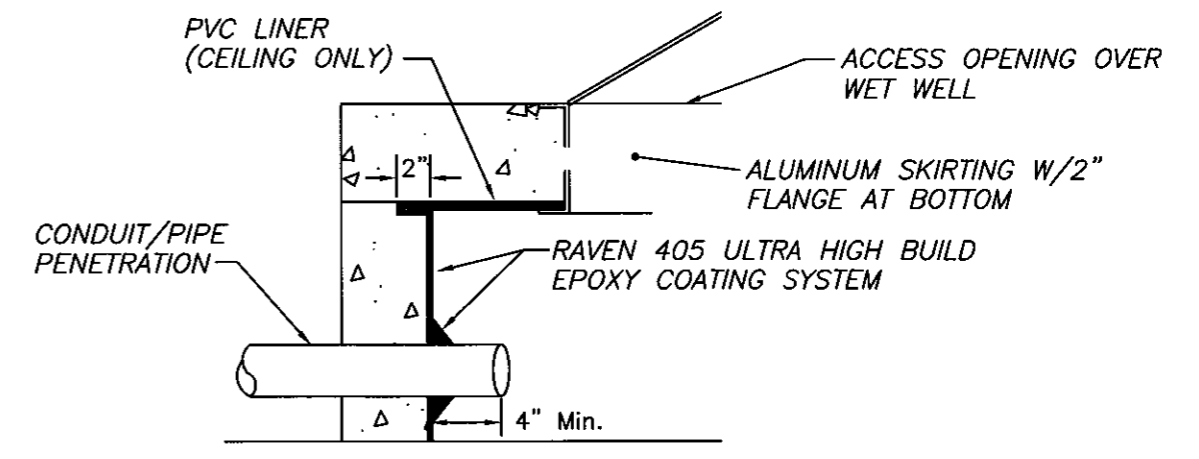


NOTE: TOP SLAB TO BE CAST IN PLACE



SECTION

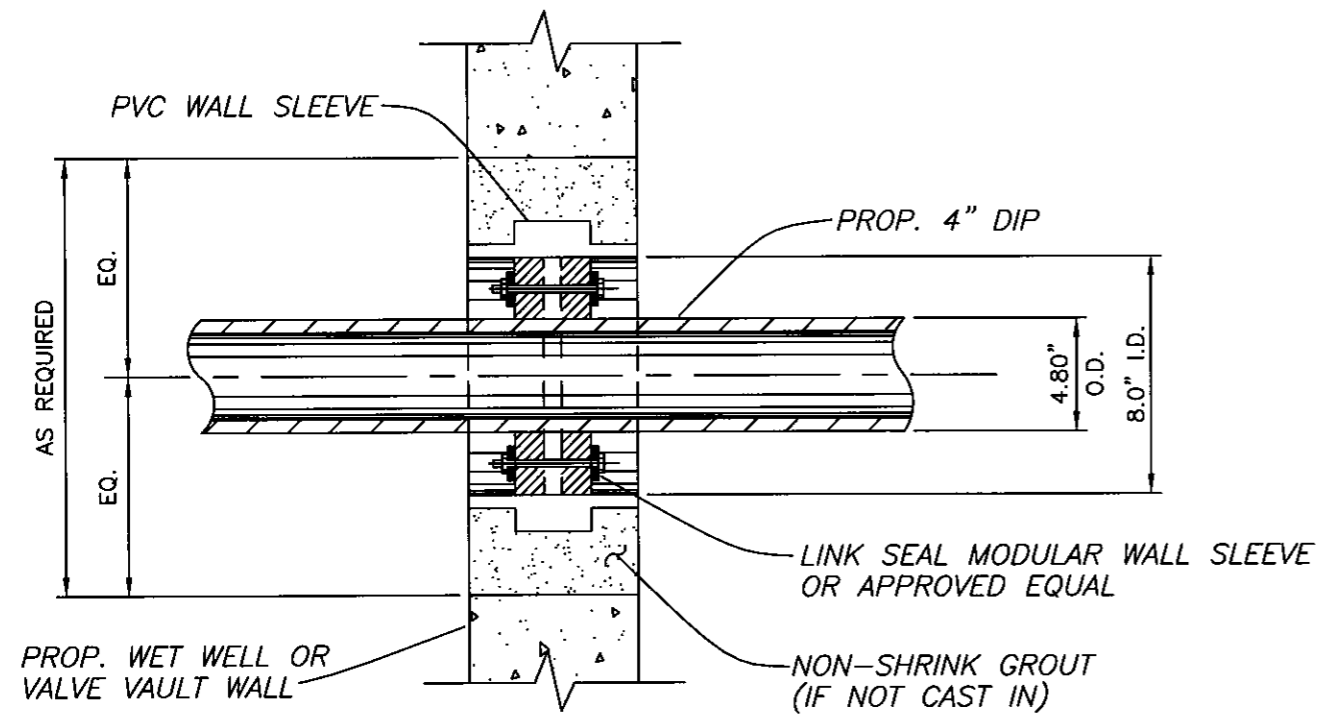
TOP SLAB REINFORCING DETAIL
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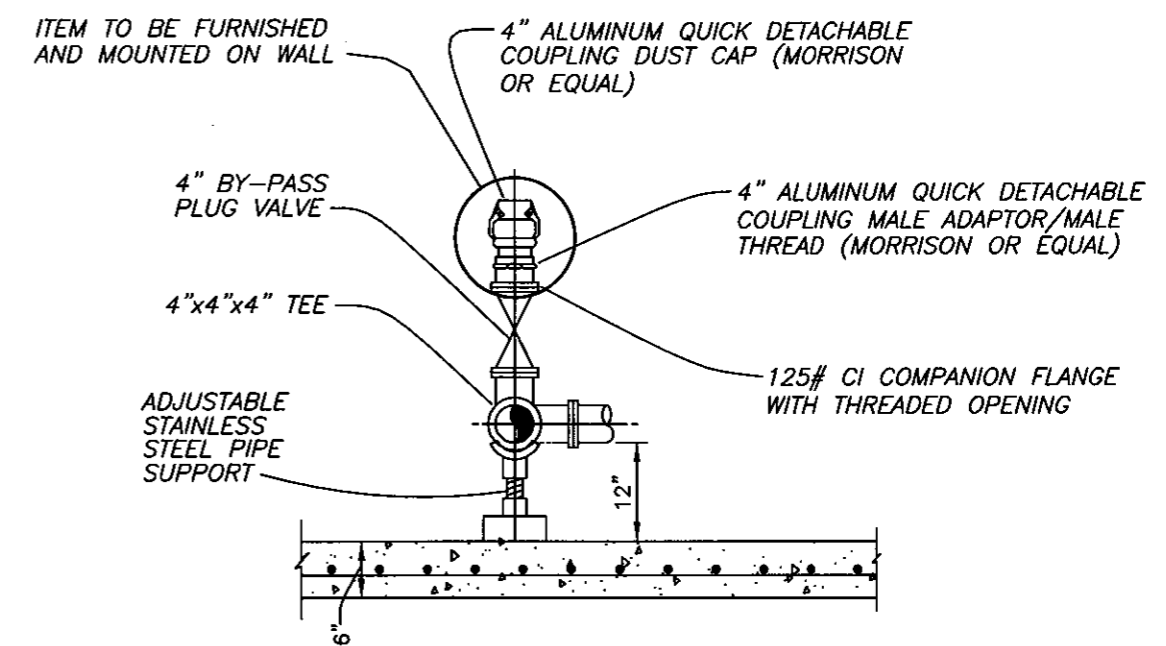
TOP SLAB ACCESS DETAILS
NOT TO SCALE

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C:2007/DWG/PS/5223

JACINTO CARLOS FERRAS, P.E. #49454 DESIGN DIVISION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: E.H. DRN: W.A. CKD: JF DATE: 5/15/08	CITY of TAMPA WASTEWATER DEPARTMENT	HUMPHREY ST. PUMPING STATION REHABILITATION PROPOSED TOP SLAB & SECTIONS	W.O. 5223
	3						SHEET
	2						11
	1						OF 29



DETAIL "A"
NOT TO SCALE



SECTION VIEW

DETAIL "B"
NOT TO SCALE

1=1

C:2007/DWG/PS/5223

No.	DATE	REVISIONS
3		
2		
1		

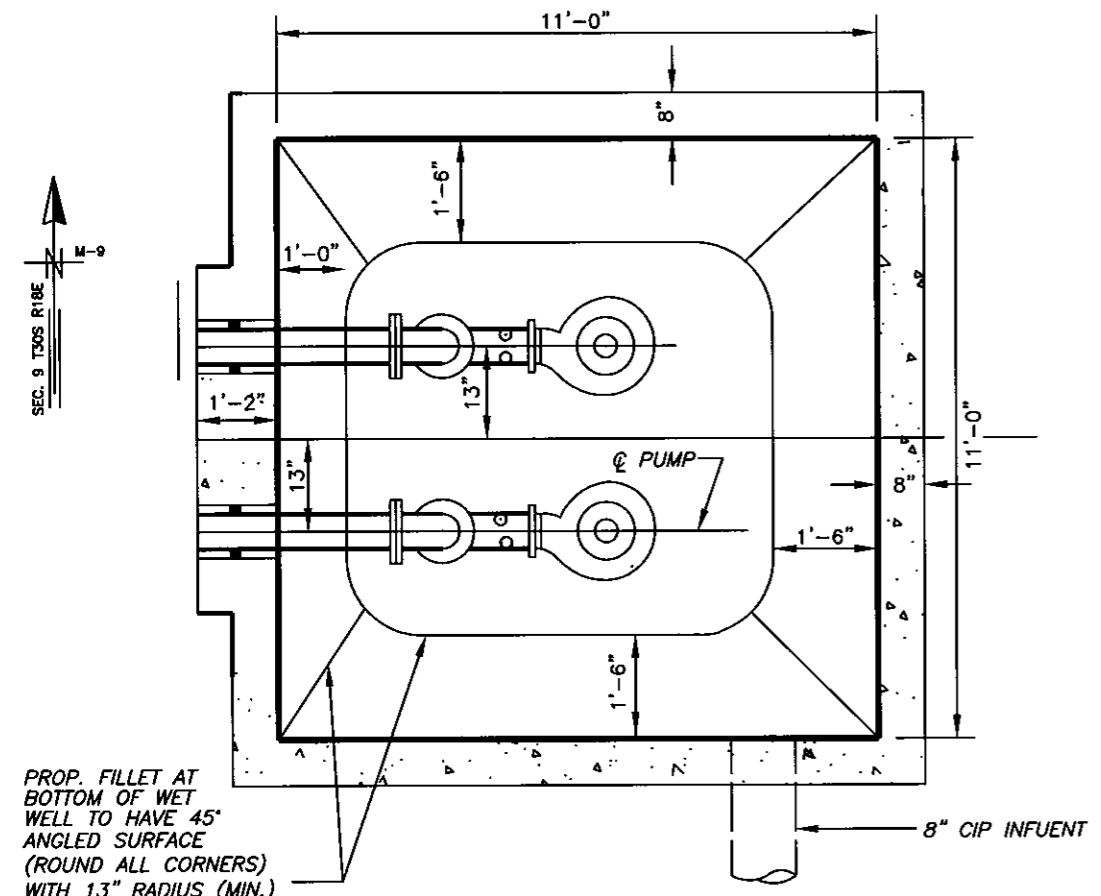
DES: E.H.
DRN: W.A.
CKD: JF
DATE: 5/15/08

CITY of TAMPA
WASTEWATER DEPARTMENT

HUMPHREY ST. PUMPING STATION
REHABILITATION
PROPOSED PUMP STATION DETAILS

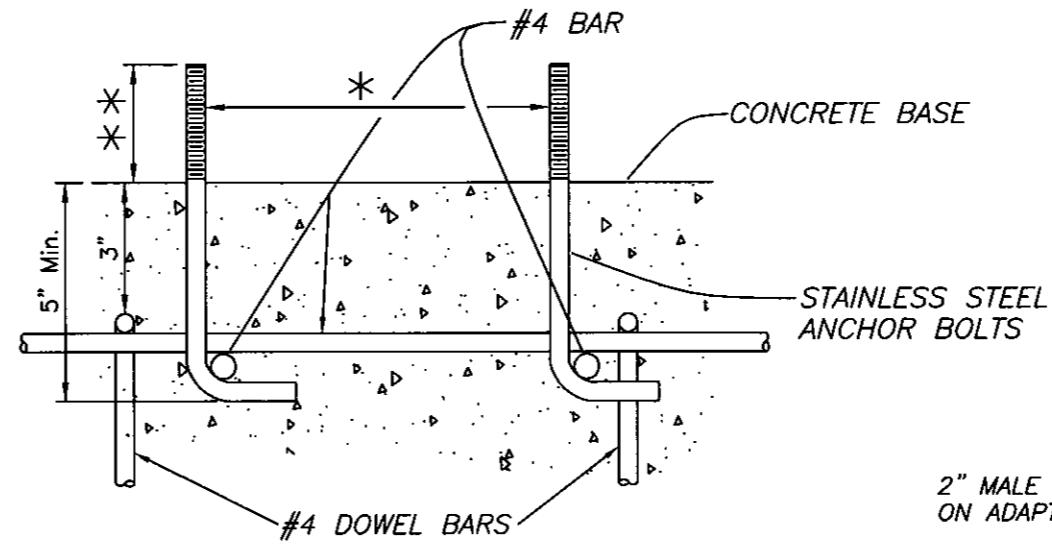
W.O. 5223
SHEET
12
OF 29

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



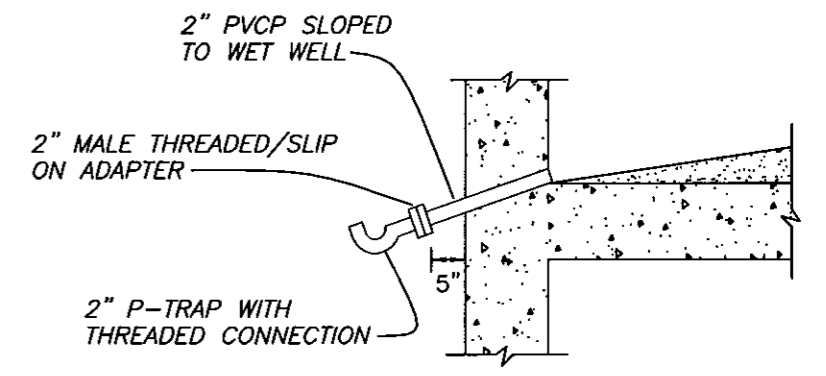
PROP. FILLET AT BOTTOM OF WET WELL TO HAVE 45° ANGLED SURFACE (ROUND ALL CORNERS) WITH 13" RADIUS (MIN.)

DETAIL "C", FILLET DETAILS
NOT TO SCALE



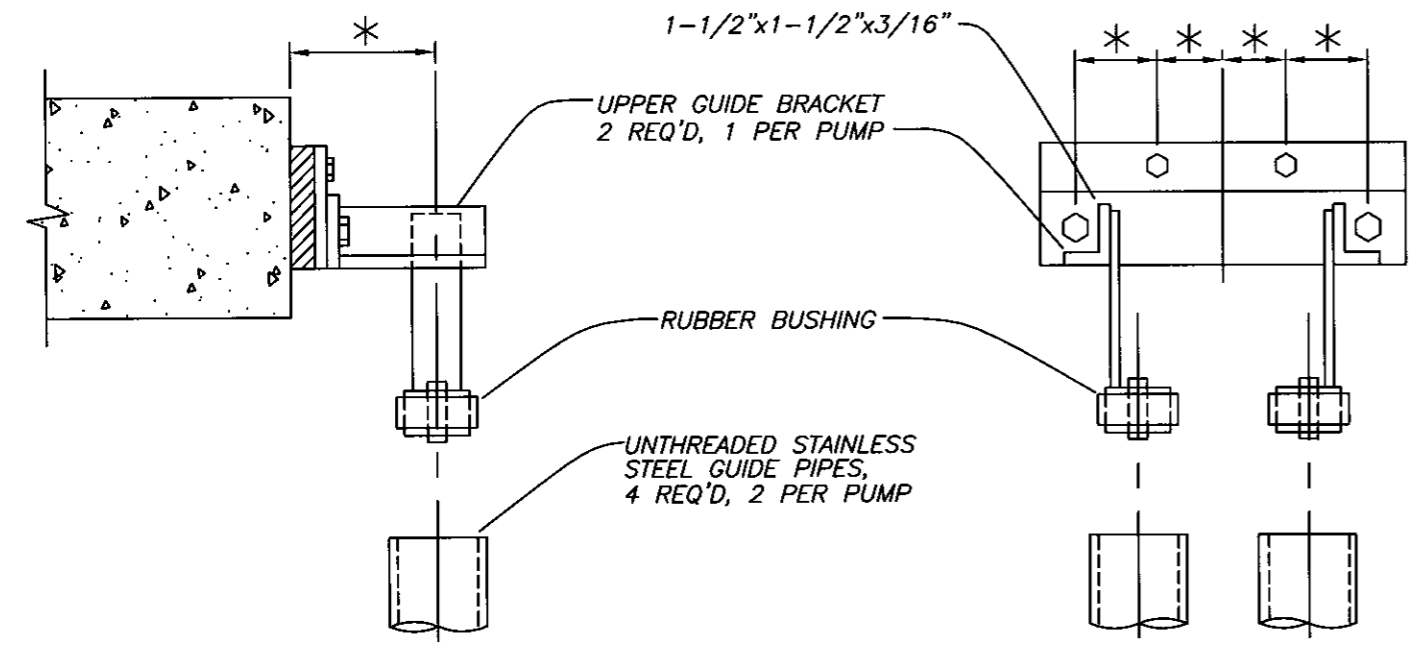
- * ALIGNMENT OF ANCHOR BOLTS SHALL BE AS RECOMMENDED BY PUMP MANUFACTURER.
- ** CONTRACTOR SHALL PROVIDE A MINIMUM 1/2 INCH BOLT PROTRUSION ABOVE THE FINAL NUT LOCATION AFTER THE NUT IS TIGHTENED TO MANUFACTURER'S RECOMMENDATION.

ANCHOR BOLT DETAIL "G"
NOT TO SCALE

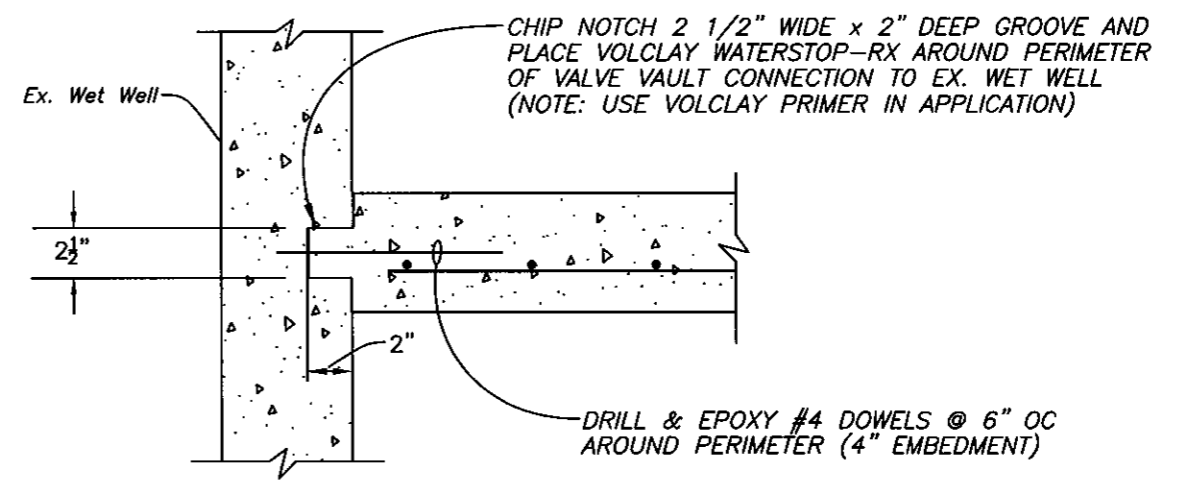


P-TRAP DETAIL "E"
NOT TO SCALE

* PER PUMP MANUFACTURER'S RECOMENDATION



GUIDE BRACKET DETAIL "D" (SUPPLIED WITH PUMPS)
NOT TO SCALE



VAULT CONNECTION DETAIL "F"
NOT TO SCALE

No.	DATE	REVISIONS
3		
2		
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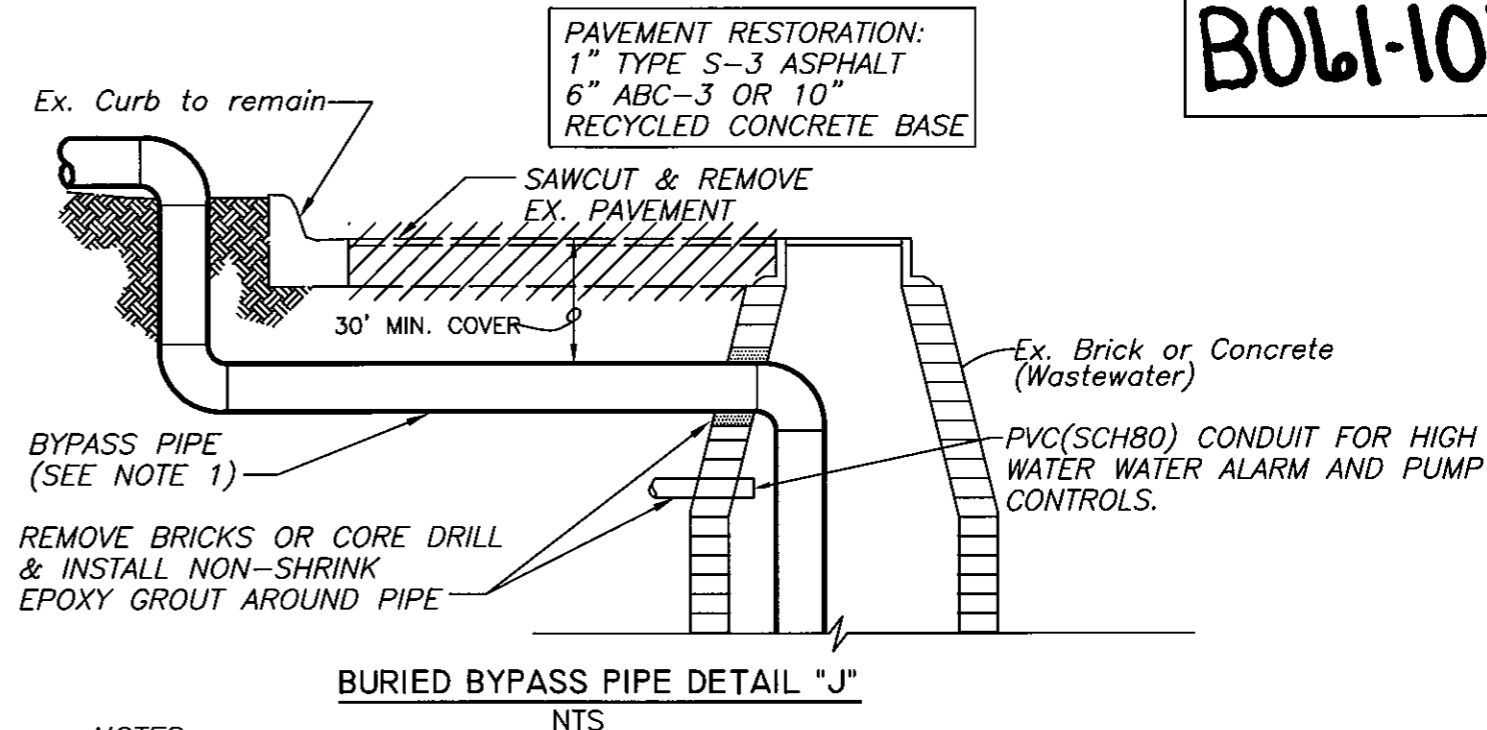
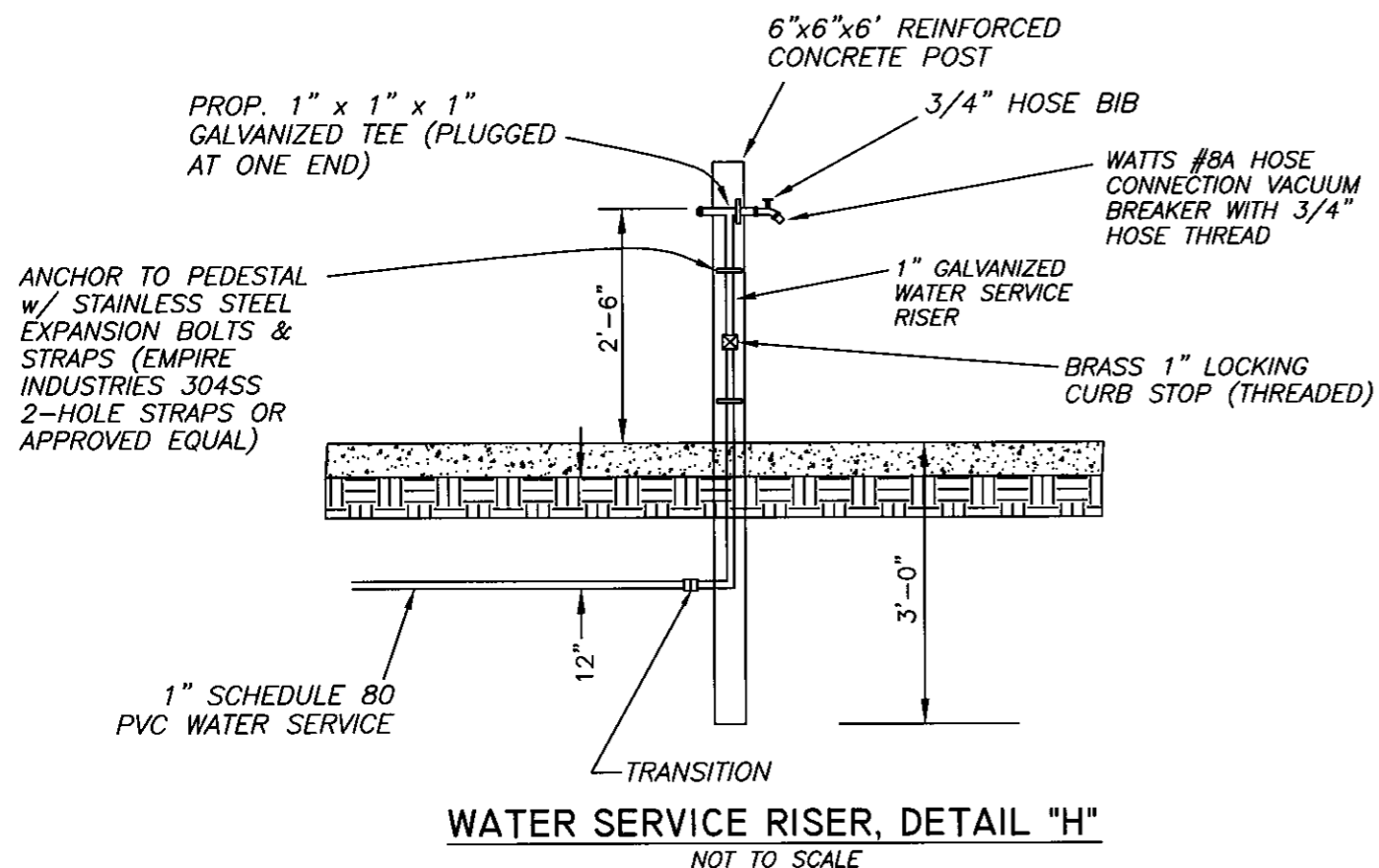
DES: E.H.
 DRN: W.A.
 CKD: JF
 DATE: 5/15/08

CITY of TAMPA
 WASTEWATER DEPARTMENT

HUMPHREY ST. PUMPING STATION
 REHABILITATION
 PUMPING STATION DETAILS

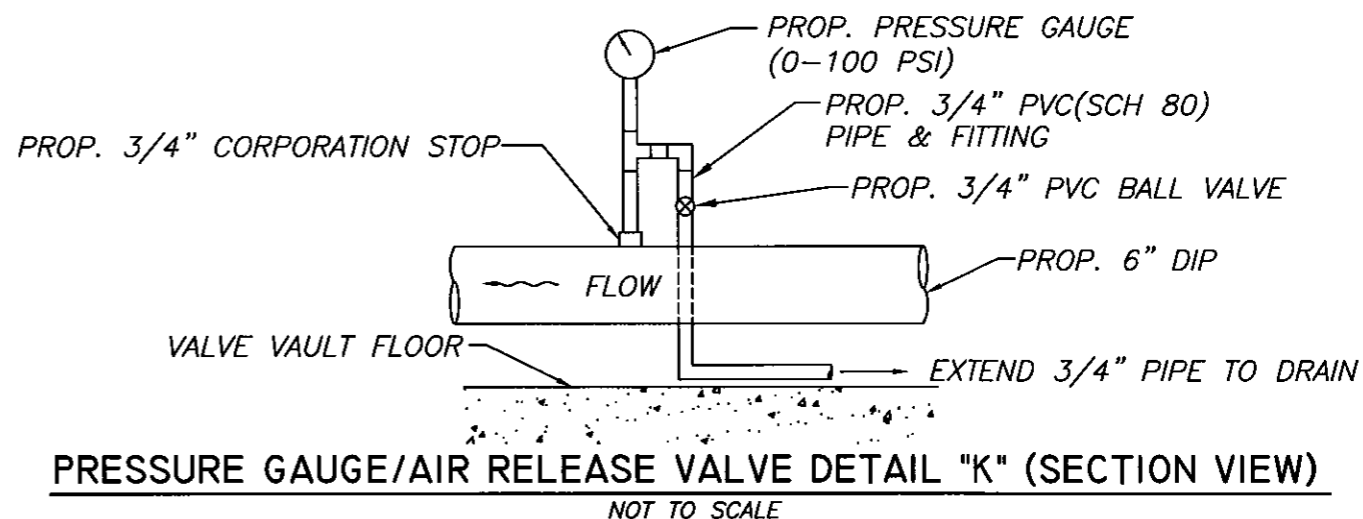
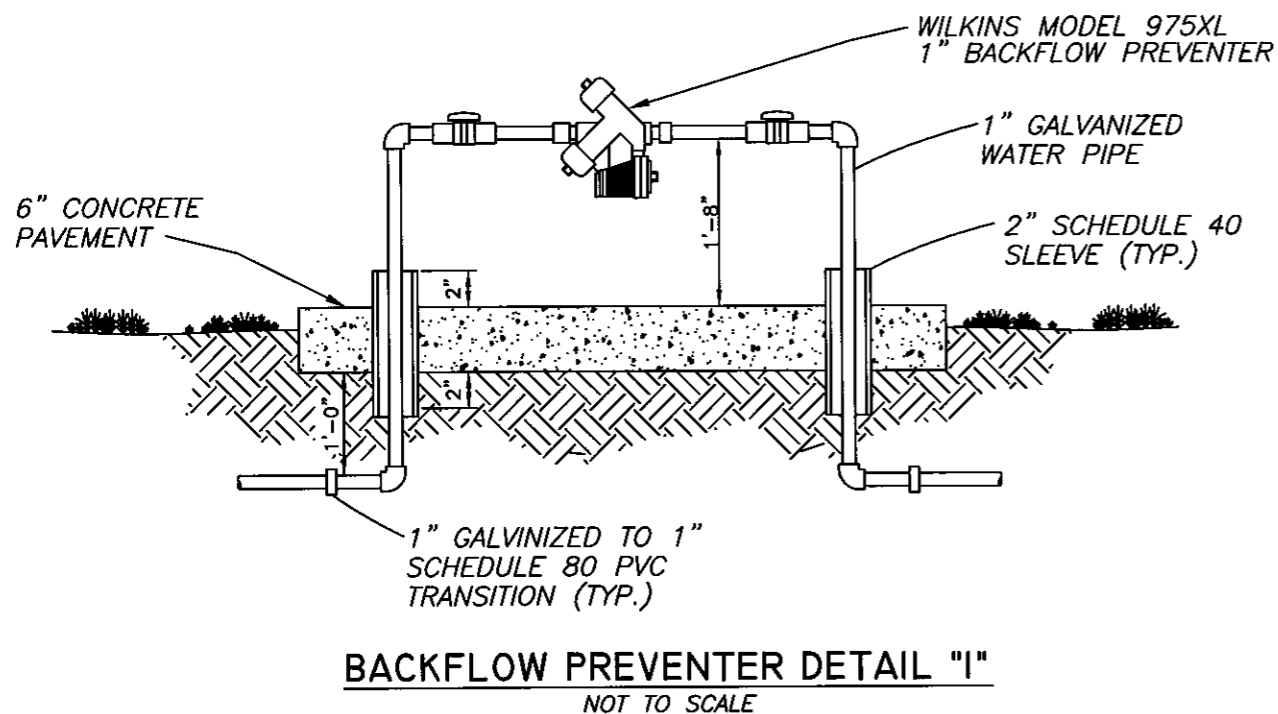
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NOTES:

1. BYPASS PIPE AND FITTINGS UNDER THE ROADWAY AND INSIDE THE MANHOLES SHALL BE HDPE C-906, DR-11. ALL JOINTS SHALL BE BUTT-FUSED. ALTERNATE PIPE MATERIALS CAPABLE OF WITHSTANDING A H-20 LIVE LOAD MAY BE SUBMITTED FOR CONSIDERATION.
2. BYPASS PIPE SHALL BE EXTENDED TO THE MANHOLE BOTTOM AND SECURED TO THE MANHOLE. CONTRACTOR SHALL SUBMIT SHOP DRAWING ON PROPOSED INSTALLATION METHOD FOR APPROVAL.
3. UPON COMPLETION OF THE BYPASS OPERATION, CONTRACTOR SHALL COMPLETELY REMOVE BYPASS PIPE AND CONDUIT FROM INSIDE MANHOLE, AND CUT PIPE AT FACE OF WALL. PIPE UNDER ROADWAY SHALL BE GROUTED AND PLUGGED AT ENDS.
4. CONTRACTOR SHALL CALL SUNSHINE TO LOCATE UTILITIES IN EXCAVATION AREA.
5. EXISTING MANHOLE IN HUMPHREY ST. IS AN OLD BRICK MANHOLE. CONTRACTOR SHALL EXERCISE EXTREME CARE DURING THE PIPE PENETRATIONS.



1=1

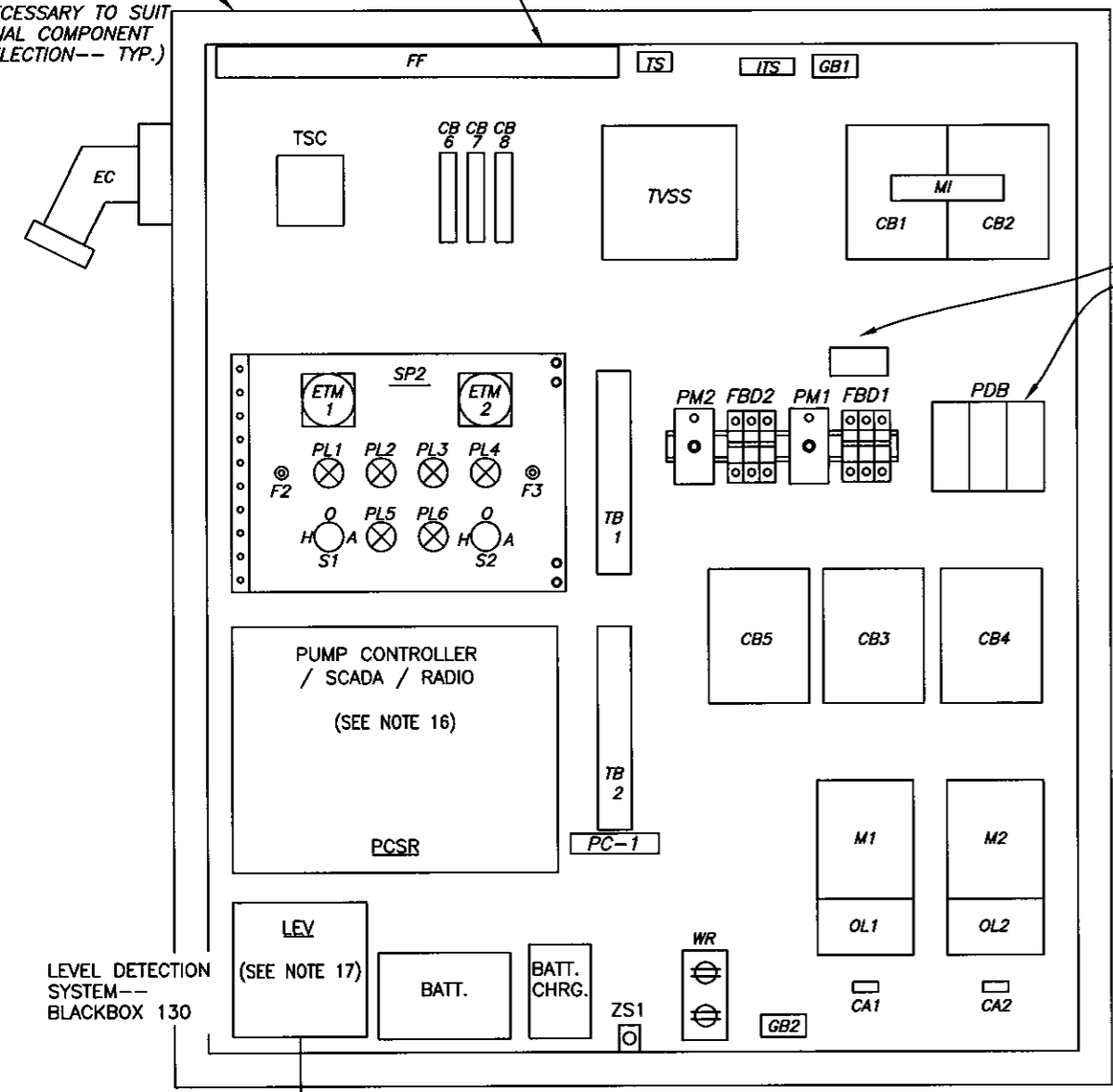
C:2007/DWG/PS/

No.	DATE	REVISIONS
3		
2		
1		

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

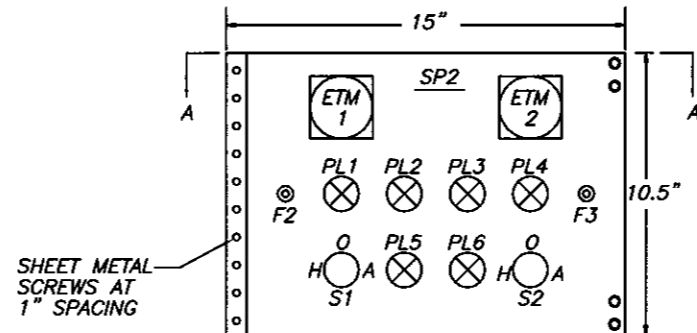
PANEL SIZE
45" X 39"

PROVIDE WARNING LABEL ABOVE FBD. LABEL TO READ:
"WARNING - OPENING MAIN CIRCUIT BREAKER DOES
NOT DE-ENERGIZE VOLTAGE TO THIS DISCONNECT".

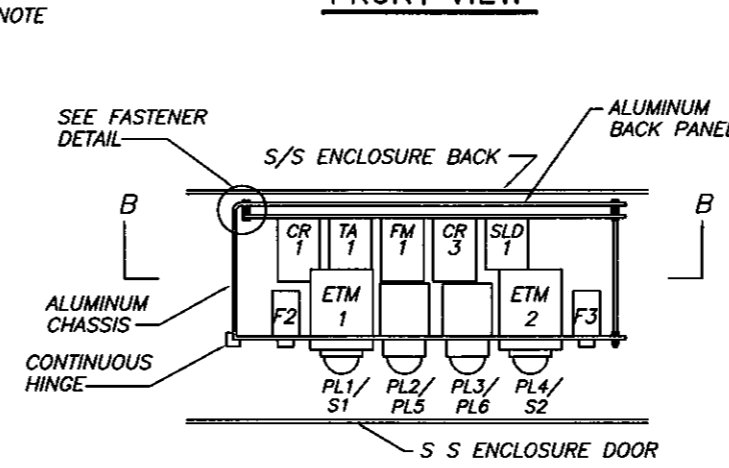


CONTROL PANEL ENCLOSURE* - FRONT VIEW

SCALE: 1/8"=1"

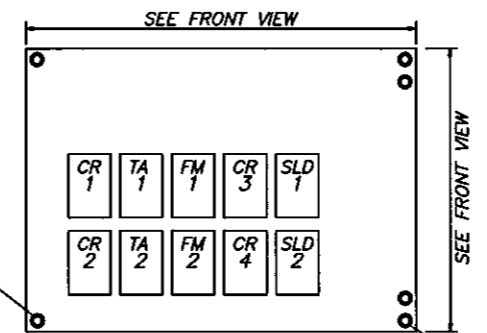


FRONT VIEW



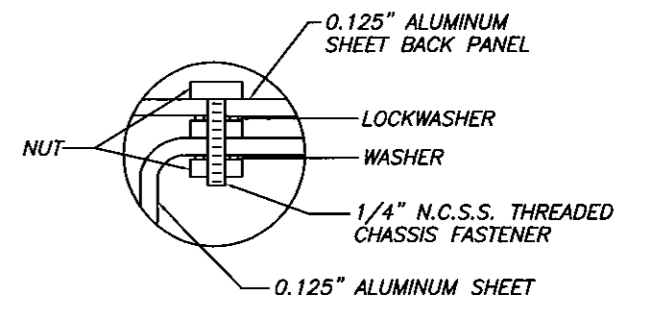
SECTION A-A

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



SECTION B-B

CONTROL CHASSIS LAYOUT

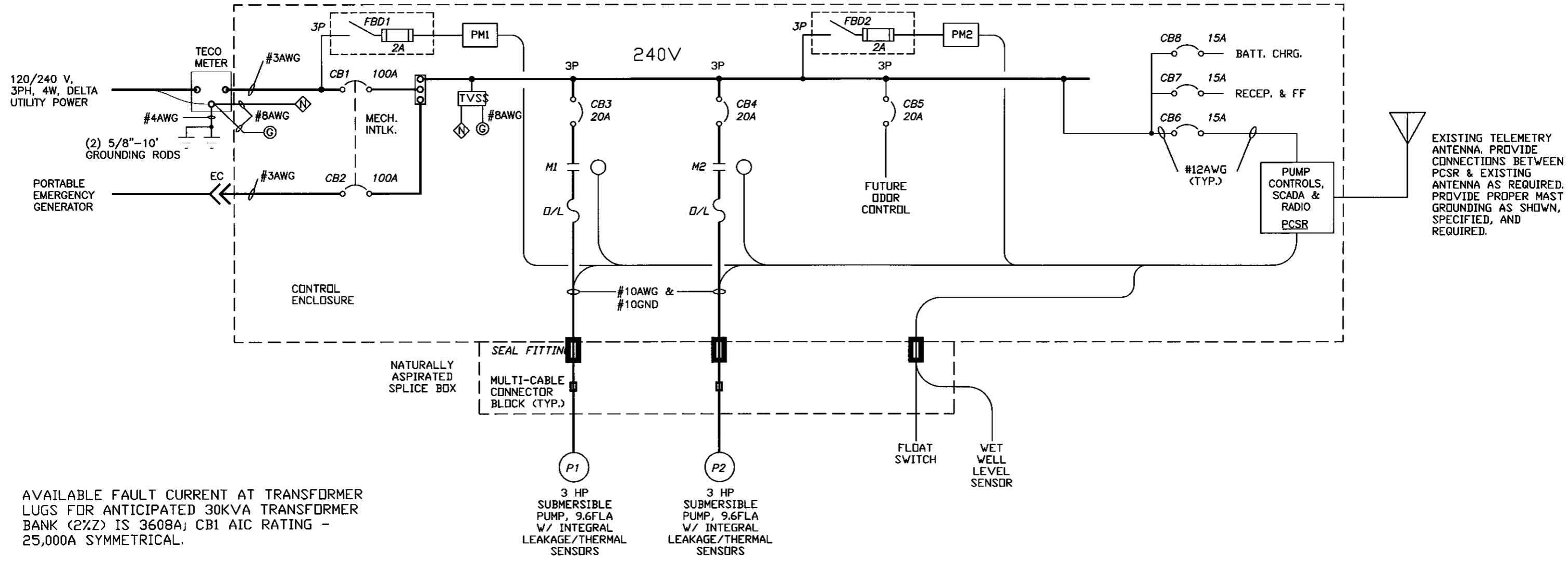


FASTENER DETAIL

SEE NOTES ON SHEET E-7

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ROMAN D. KORCHAK, P.E. #42626 ELECTRICAL SECTION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: LRG	CITY of TAMPA WASTEWATER DEPARTMENT	HUMPHREY PUMP STATION REHAB. ELECTRICAL CONTROL PANEL LAYOUT	W.D. 5223
	3			DRN: RDK			SHEET
	2			CKD:			EI
	1			DATE: 5/12/08			OF



EXISTING TELEMETRY ANTENNA, PROVIDE CONNECTIONS BETWEEN PCSR & EXISTING ANTENNA AS REQUIRED. PROVIDE PROPER MAST GROUNDING AS SHOWN, SPECIFIED, AND REQUIRED.

AVAILABLE FAULT CURRENT AT TRANSFORMER LUGS FOR ANTICIPATED 30KVA TRANSFORMER BANK (27Z) IS 3608A; CB1 AIC RATING - 25,000A SYMMETRICAL.

LOAD SUMMARY

240 VAC, 3Ø, 4W

LOAD	CONNECTED	DEMAND	APPROX. I/PH
PUMP #1	4.0 KVA	4.0 KVA	9.6 AMPS
PUMP #2	4.0 KVA	4.0 KVA	9.6 AMPS
CONTROLS	1.2 KVA	1.2 KVA	5 AMPS
FUTURE O/C	4.2 KVA	4.2 KVA	10 AMPS
TOTAL	13.4 KVA	13.4 KVA	34.2 AMPS

SEE NOTES ON SHEET E7

1-1
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ROMAN D. KORCHAK, P.E. #42626
ELECTRICAL SECTION HEAD
WASTEWATER DEPARTMENT

No.	DATE	REVISIONS
3		
2		
1		

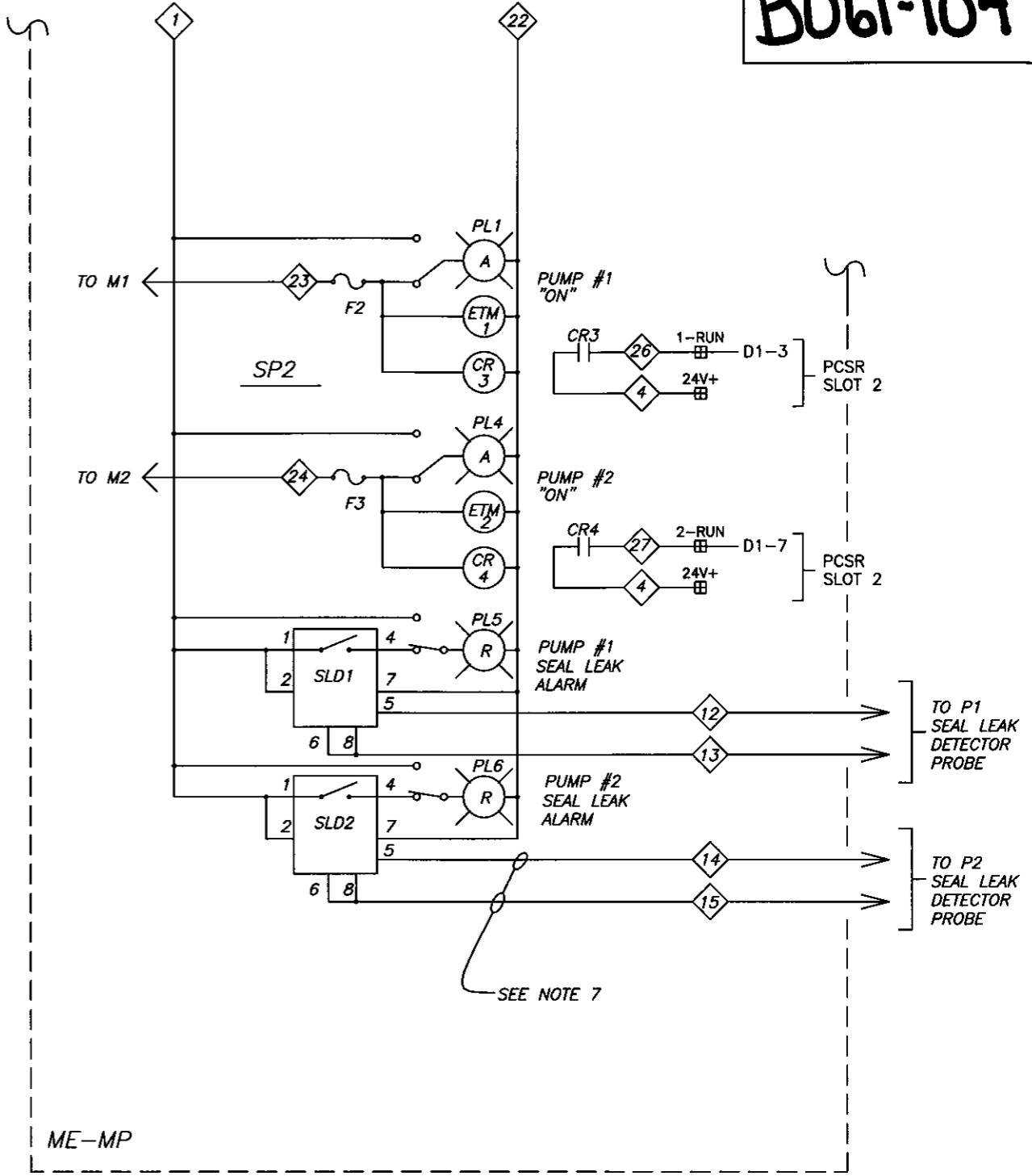
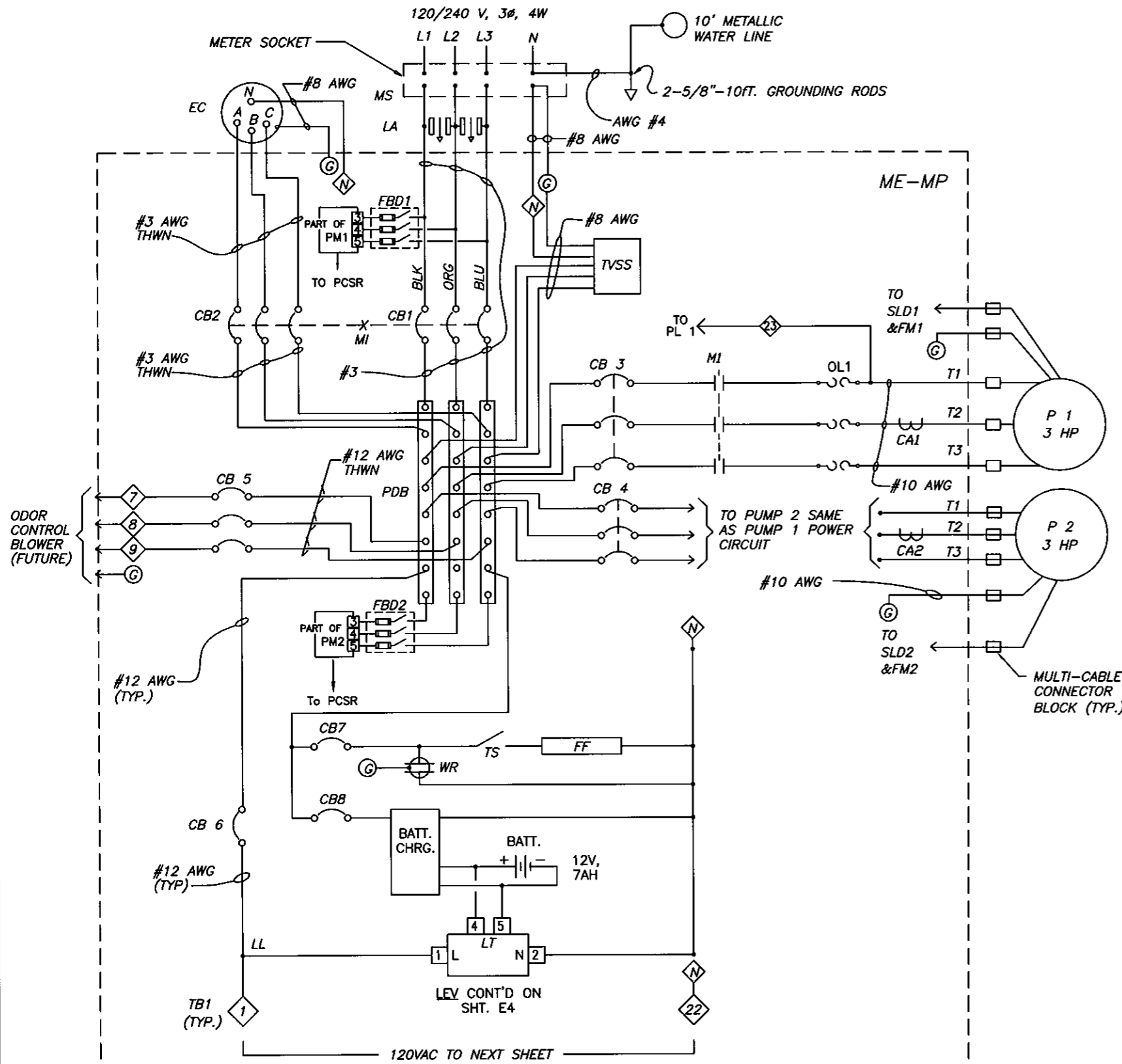
DES: LRG
DRN: RDK
CKD:
DATE: 5/12/08

CITY of TAMPA
WASTEWATER DEPARTMENT

HUMPHREY PUMP STATION REHAB.
ONE LINE DIAGRAM

W.D. 5223
SHEET
E2
OF

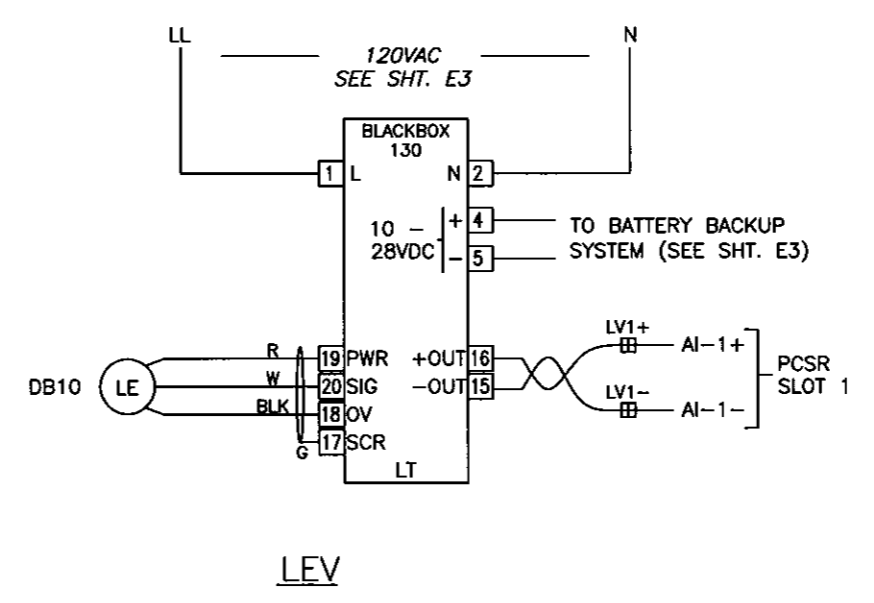
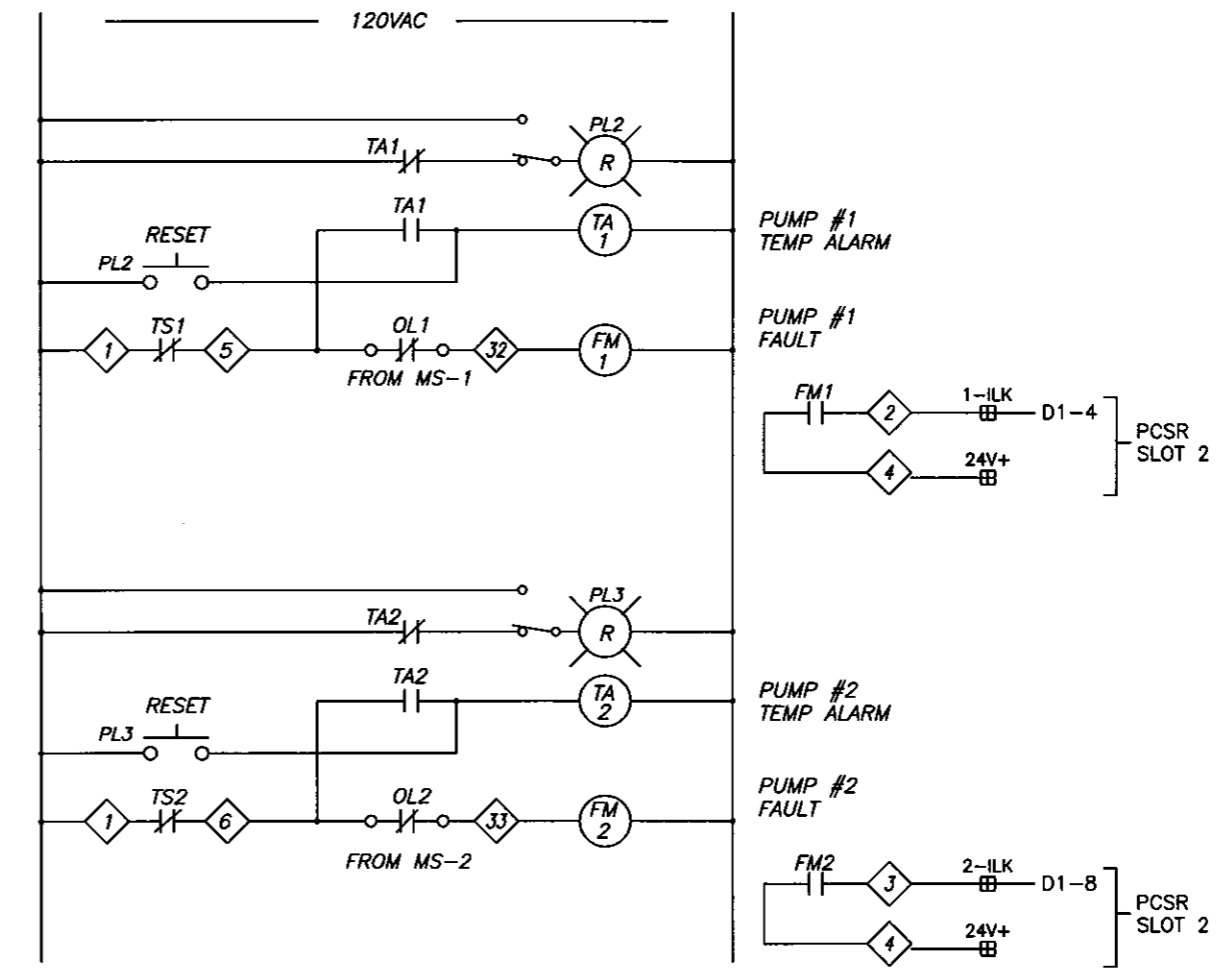
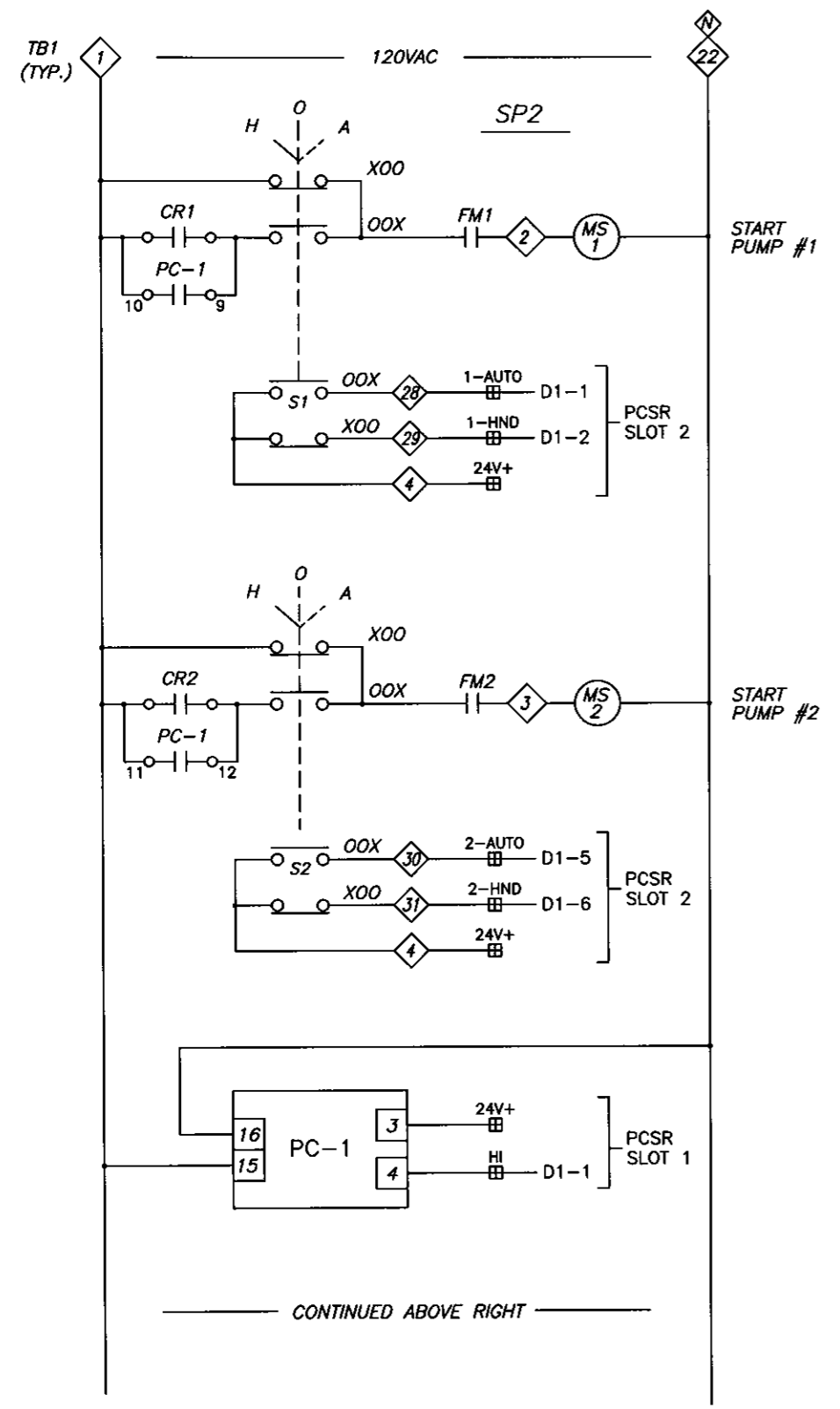
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SEE NOTES ON SHEET E-7

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ROMAN D. KORCHAK, P.E. #42626 ELECTRICAL SECTION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: LRG DRN: RDK CKD: DATE: 5/12/08	CITY of TAMPA WASTEWATER DEPARTMENT	HUMPHREY PUMP STATION REHAB. ELECTRICAL SCHEMATIC DIAGRAM (1 OF 3)	W.O. 5223
	3						SHEET
	2						E3
	1						DF

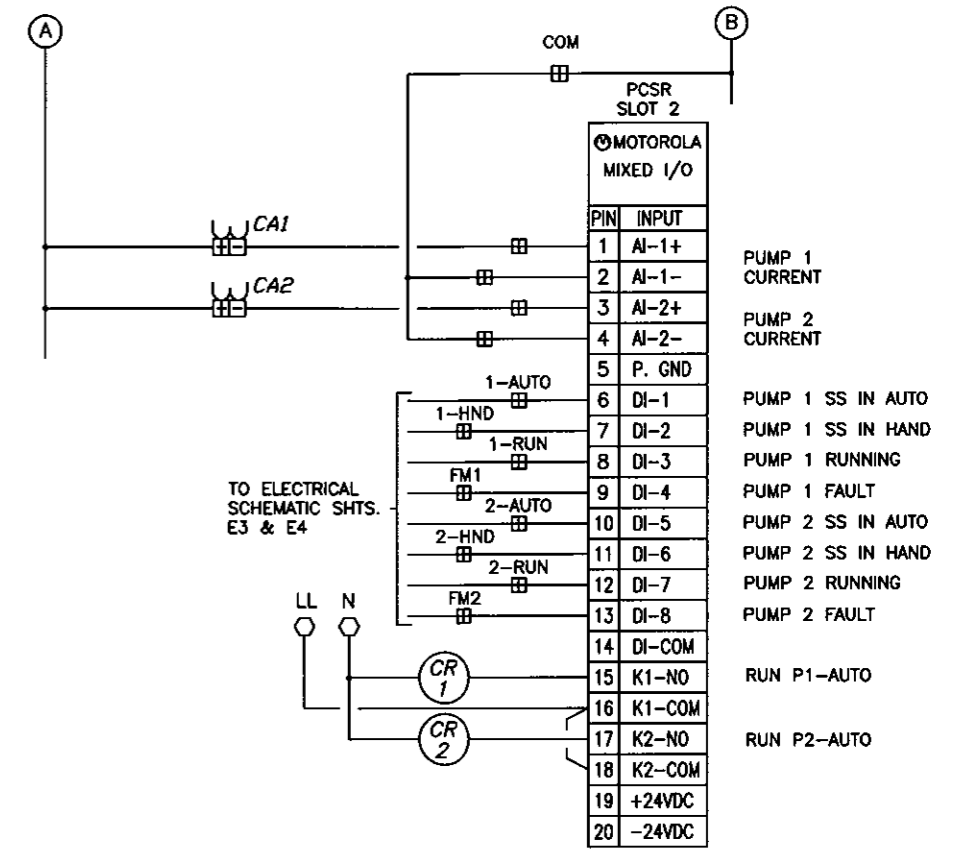
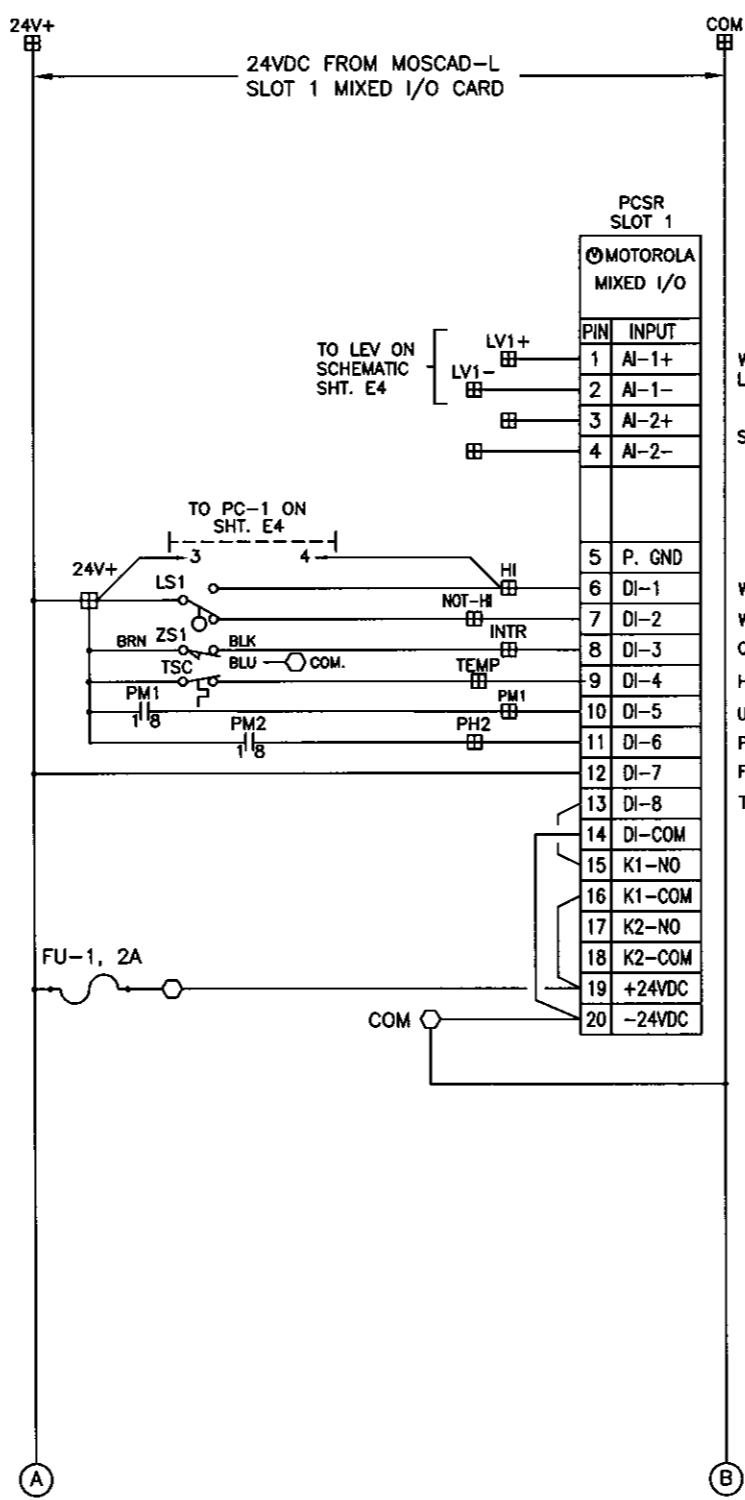
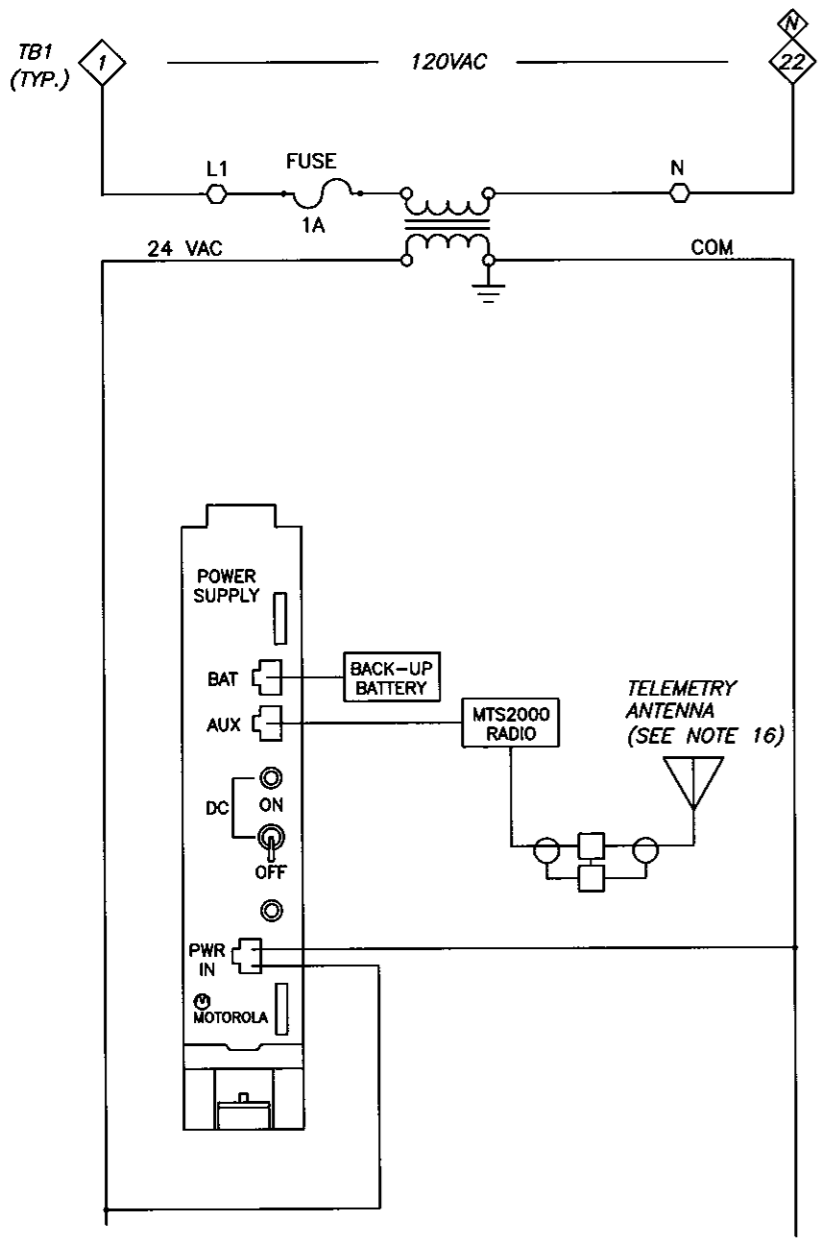


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SEE NOTES ON SHEET E-7

1-1
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ROMAN D. KORCHAK, P.E. #42626 ELECTRICAL SECTION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: LRG	CITY of TAMPA WASTEWATER DEPARTMENT	HUMPHREY PUMP STATION REHAB. ELECTRICAL SCHEMATIC DIAGRAM (2 OF 3)	W.D. 5223
	3			DRN: RDK			SHEET
	2			CKD:			E4
	1			DATE: 5/12/08			OF




SEE NOTES ON SHEET E-7

1-1


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ROMAN D. KORCHAK, P.E. #42626 ELECTRICAL SECTION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: LRG	CITY of TAMPA WASTEWATER DEPARTMENT	HUMPHREY PUMP STATION REHAB ELECTRICAL SCHEMATIC DIAGRAM (3 OF 3)	W.D. 5223
	3			DRN: RDK			SHEET
	2			CKD:			E5
	1			DATE: 5/12/08			DF

TBI-  MOUNTED ON MAIN PANEL (MP)	
TERM.	DESCRIPTION
1	CB 8 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 BLOWER (FUTURE)
8	
9	
10	SPARE
11	SPARE
12	} P1 SEAL LEAK PROBE
13	
14	} P2 SEAL LEAK PROBE
15	
16	SPARE
17	MS-1 "RUN" CMD
18	SPARE
19	SPARE
20	MS-2 "RUN" CMD
21	SPARE
22	NEUTRAL


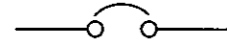

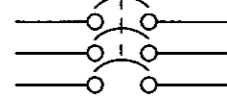

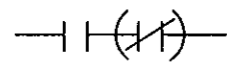

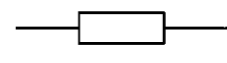


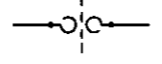

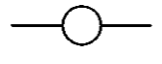



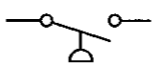

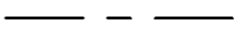

TB1 CONT'D

23	P1 "ON" DISCRETE
24	P2 "ON" DISCRETE
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

x-y  TB2 TERM STRIP MTD ON MP-- (PCSR INTERFACE)

 TERMINAL STRIP IN PCSR

CONTROL SCHEMATIC SYMBOLS

	TRANSFORMER		CIRCUIT BREAKER (SINGLE-POLE)
	PUSH BUTTON		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)
	PILOT LIGHT - RED (PRESS-TO-TEST)		FUSE
	PRESSURE LEVEL SWITCH CONTACT		"ON DELAY" CONTACT
	AIR LINE		INSTANT CLOSE CONTACT

COIL { TD - TIME DELAY RELAY
CR - CONTROL RELAY
ETI - TIMEMETER
M - MOTOR STARTER

SEE NOTES ON SHEET E-7

1-1

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ROMAN D. KORCHAK, P.E. #42626 ELECTRICAL SECTION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: LRG	CITY of TAMPA WASTEWATER DEPARTMENT	HUMPHREY PUMP STATION REHAB. ELECTRICAL SCHEMATIC LEGEND	W.D. 5223
	3			DRN: RDK			SHEET
	2			CKD:			E6
	1			DATE: 11/2/07			OF

NOTES

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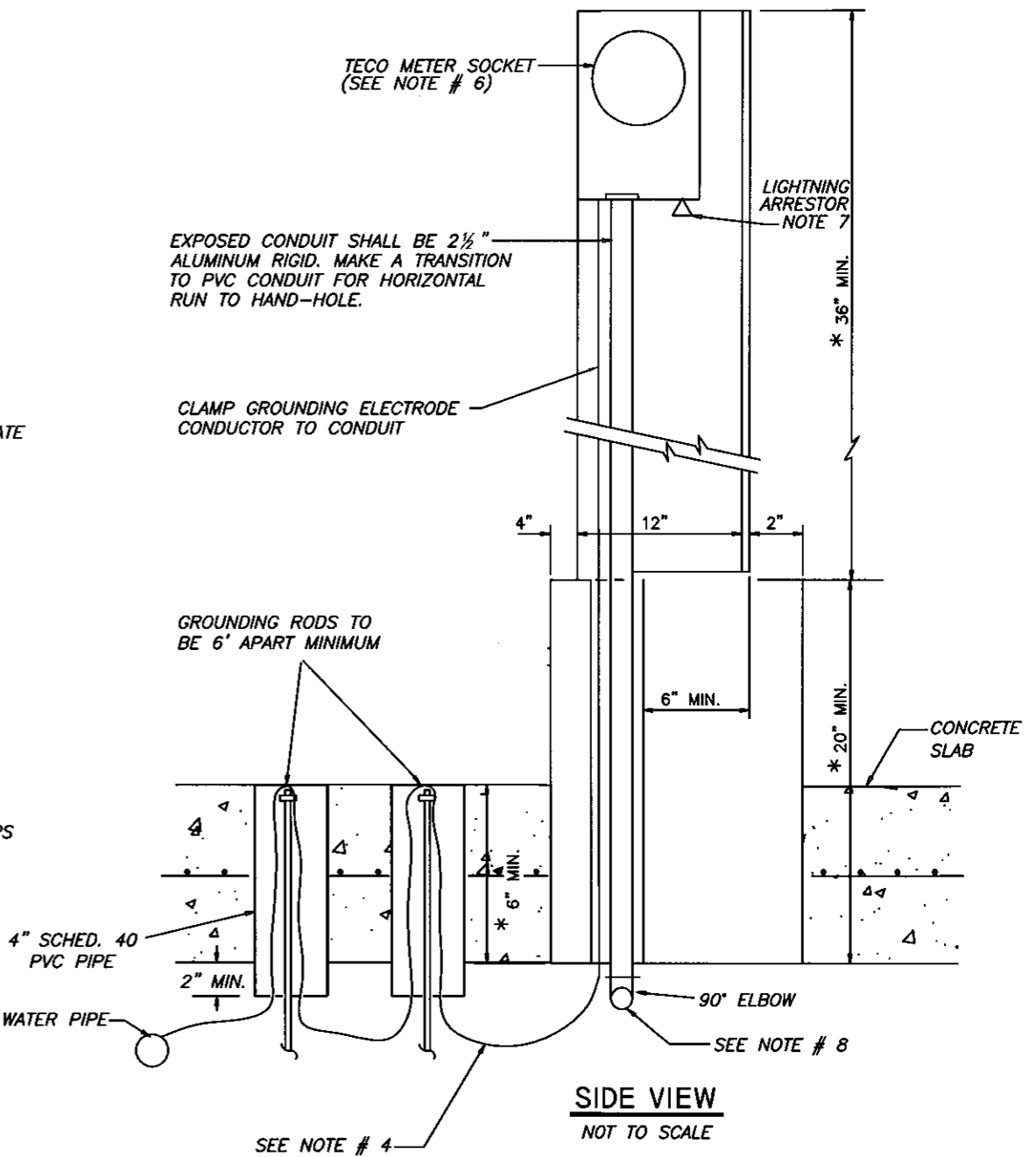
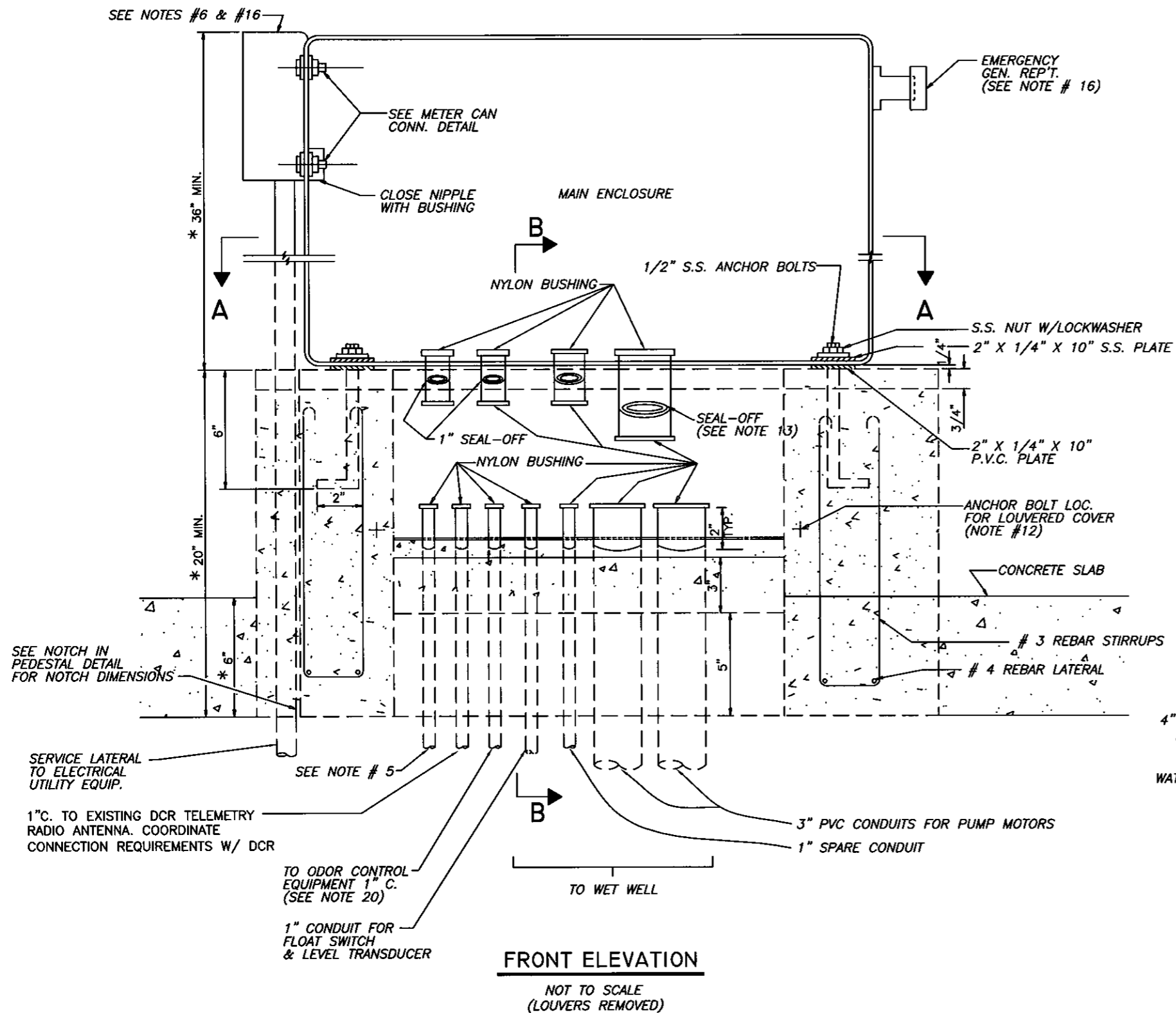
- 1.- TECO SERVICE: 120/240V, 100A, 3Ø, 4W, DELTA. CALCULATED FAULT CURRENT - 3608A; CB1 AIC RATING - 25,000A SYMMETRICAL.
- 2.- THE WET WELL CLASSIFICATION IS CLASS I, DIVISION 2, GROUP D, (HAZARDOUS AREA) NEC CHAPTER 5 IS APPLICABLE FOR INTERFACING WET WELL AND THE CONTROL ENCLOSURE.
- 3.- ALL ELECTRICAL WORK SHALL BE PERFORMED WITHIN LATEST NEC 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-508 CERTIFIED AND A UL LABEL SHALL BE ATTACHED TO THE INSIDE OF THE ENCLOSURE. ALSO LABEL THE PANEL-- "SUITABLE FOR USE AS SERVICE EQUIPMENT".
- 5.- THE ENCLOSURE SHALL BE NEMA 3R , SHALL BE CONSTRUCTED OF MINIMUM 14 GAUGE 304 SS, SHALL HAVE BRUSH FINISHED SURFACE, AND THE CLOSING SURFACE SHALL HAVE ROLLED LIPS. PROVIDE HINGED DOOR WITH 3-POINT LATCH AND LOCKABLE HANDLE. REFERENCE PARTS 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 DSS BUT INSTALLED BY CONTRACTOR.
- 9.- DIMENSIONS, ITEMS, OR ELEVATIONS MARKED '*' 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.- HIGH LEG OF DELTA SERVICE MUST BE COLOR CODED ORANGE AS PER NEC 230-56. ENSURE THAT LINE CONNECTIONS TO METER SOCKET PROVIDE CORRECT METER 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 MOSCAD-L PACKAGE AS DISTRIBUTED BY DCR ENGINEERING SERVICES INC. DCR IS CURRENTLY UNDER CONTRACT TO INSTALL RADIO TELEMETRY SYSTEMS AT ALL CITY OF TAMPA WASTEWATER PUMPING STATIONS, INCLUDING THE HUMPHREY PUMPING STATION. THE HUMPHREY P.S. CONTRACTOR SHALL COORDINATE HIS EFFORTS WITH DCR TO ENSURE SYSTEM COMPATIBILITY. THE CONTRACTOR SHALL PROVIDE AND INSTALL A COMPLETE DUPLEX CONTROL SYSTEM PACKAGE, AS ASSEMBLED AND PROGRAMMED BY DCR-- 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 4-20mA 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 TRANSDUCER MOUNTING AND CALIBRATION.
- 18.- PROVIDE 1/4" MINIMUM THICKNESS LEXAN SHIELDS OVER POWER DISTRIBUTION BLOCK AND OTHER EXPOSED CABLE TERMINATIONS.

<u>PUMP MOTOR DATA</u>	
MAKE:	FLYGT
MODEL:	CP-3085 w/438 IMPELLER
HP :	3
	230 V, 3 PHASE, 9.0 FLA
TOTAL PUMP LOAD: 18 AMPS, 7.5 KVA	

I-1

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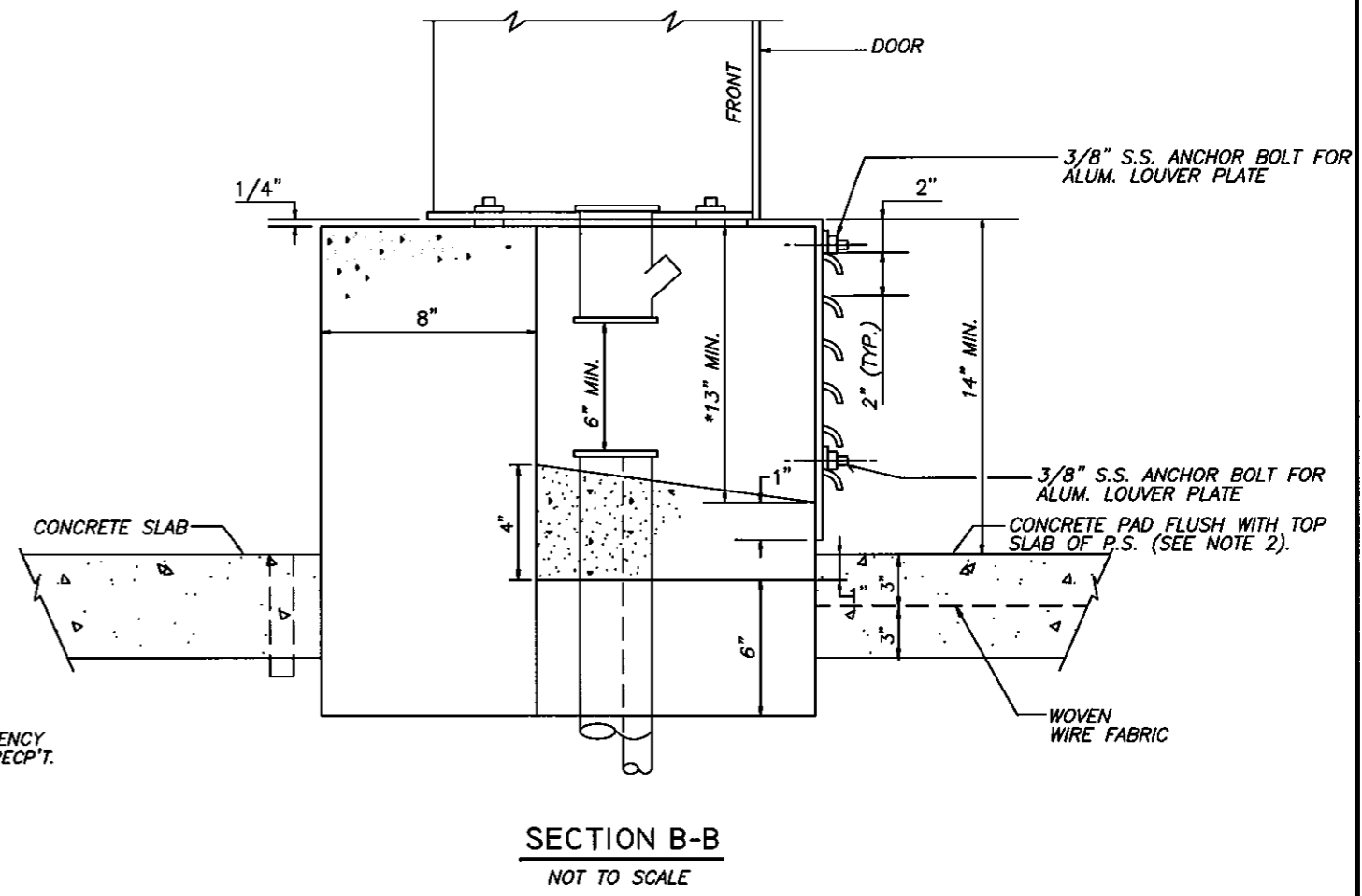
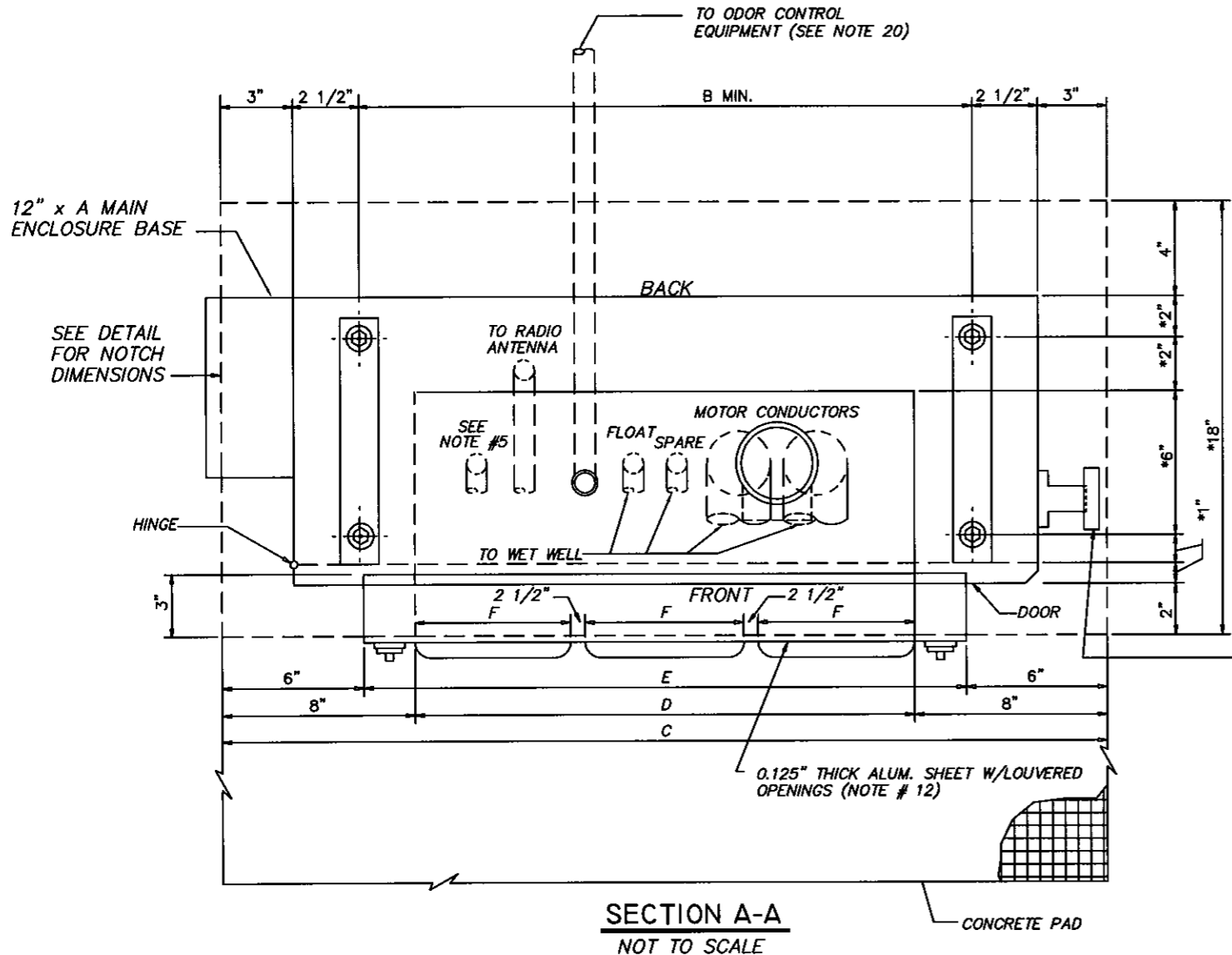
ROMAN D. KORCHAK, P.E. #42626 ELECTRICAL SECTION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: LRG	CITY of TAMPA WASTEWATER DEPARTMENT	HUMPHREY PUMP STATION REHAB ELECTRICAL NOTES FOR SHEETS EI-E6	W.D. 5223
	3			DRN: RDK			SHEET
	2			CKD:			E7
	1			DATE: 11/2/07			OF



SEE NOTES ON SHEET E-11

1-1
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ROMAN D. KORCHAK, P.E. #42626 ELECTRICAL SECTION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: LRG DRN: RDK CKD: DATE: 11/2/07	CITY of TAMPA WASTEWATER DEPARTMENT	HUMPHREY PUMP STATION REHAB ELECTRICAL PEDESTAL DESIGN	W.D. 5223
	3						SHEET
	2						E8
	1						DF



PUMP SIZE	DIMENSIONS (INCHES)						ENCLOSURE SIZE
	A	B	C	D	E	F	
3 HP @ 230V.	42	37	48	32	36	9	48"H X 42"W X 12"D

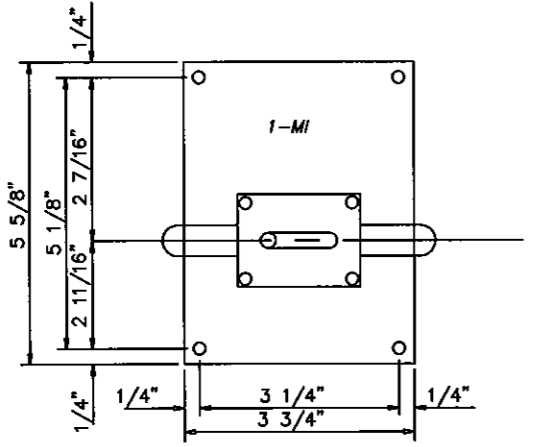
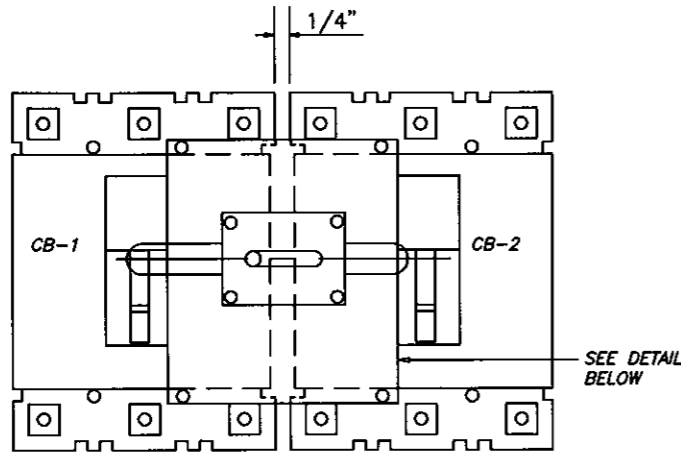
SEE NOTES ON SHEET E-11

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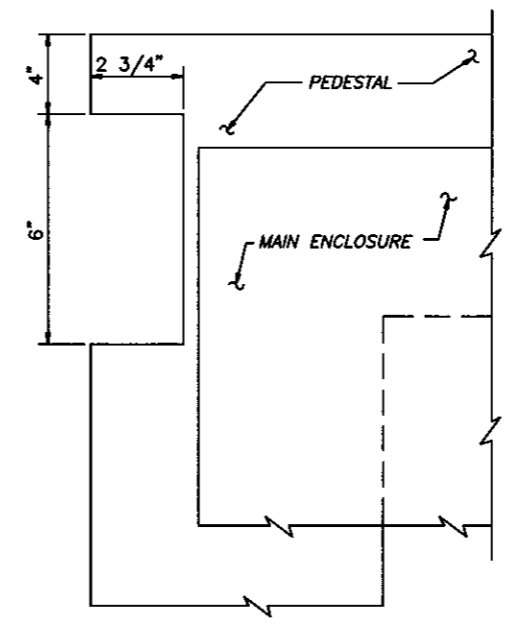
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ROMAN D. KORCHAK, P.E. #42626 ELECTRICAL SECTION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: LRG	CITY of TAMPA WASTEWATER DEPARTMENT	HUMPHREY PUMP STATION REHAB ELECTRICAL PEDESTAL DESIGN	W.I. 5223
	3			DRN: RDK			SHEET
	2			CKD:			E9
	1			DATE: 11/2/07			OF

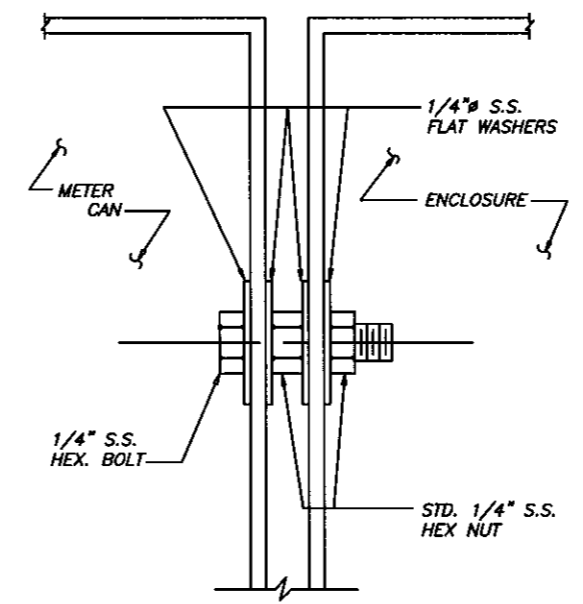
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INTERLOCK MOUNTING DETAIL
NOT TO SCALE



NOTCH IN PEDESTAL DETAIL
NOT TO SCALE



METER CAN CONNECTION
NOT TO SCALE

SEE NOTES ON SHEET E-11

1-1

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ROMAN D. KORCHAK, P.E. #42626 ELECTRICAL SECTION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: LRG	CITY of TAMPA WASTEWATER DEPARTMENT	HUMPHREY PUMP STATION REHAB ELECTRICAL DETAILS	W.D. 5223
	3			DRN: RDK			SHEET
	2			CKD:			E10
	1			DATE: 11/2/07			OF

NOTES:

1. THWN CONDUCTORS (4-EACH #10 AWG COPPER) SHALL EXTEND FROM THE CONTROL PANEL BELOW THE SEAL-OFF A MINIMUM OF 18" AND SHALL BE SEALED IN THE SEAL-OFF SHOWN. THE SHOWN SEAL-OFFS SHALL BE ALUMINUM BODY, CROUSE-HINDS, OR EQUIVALENT. WHEN INSTALLING THE PUMPS, THE MOTOR CONDUCTORS SHALL BE SPLICED USING MULTI-CABLE CONNECTOR BLOCKS-- NSI POLARIS, IPL SERIES, OR EQUAL. FOLLOW THE SAME PROCEDURE FOR THE LEAKAGE AND THERMAL SENSOR CONDUCTORS.
2. CONCRETE PAD SHALL BE CONSTRUCTED OF CLASS B CONCRETE REINFORCED WITH 4X4-W6X6 WWF AND SHALL HAVE A MINIMUM THICKNESS OF 6".
3. DIMENSIONS, ITEMS OR ELEVATIONS MARKED "*" TO BE DETERMINED AFTER EQUIPMENT SELECTION.
4. APPROVED GROUND CLAMPS SHALL BE ATTACHED TO TWO APPROVED GROUNDING RODS (MINIMUM SPACING 6'-0") AND THE METALLIC WATER LINE. GROUNDING CONDUCTOR SHALL BE AWG # 4 MIN. BARE COPPER, CLAMP TO CONDUIT.
5. CONTRACTOR SHALL SUPPLY AND INSTALL SPARE 1" PVC UNDERGROUND CONDUIT FOR COMMUNICATIONS BACKUP. EXTEND CONDUIT TO EDGE OF PAVEMENT, TURN UP, AND CAP ABOVE GRADE.
6. METER SOCKET SUPPLIED, AND INSTALLED BY CONTRACTOR, ALSO SEE NOTE # 16. THE SOCKET EDGES ARE TO BE ALIGNED WITH THE BACK AND TOP EDGE OF THE MAIN ENCLOSURE.
7. CITY APPROVED LIGHTNING ARRESTOR 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 POWER POLE. PROVIDE 24" MINIMUM COVER. COORDINATE THIS WORK WITH TECO.
9. RESERVED.
10. WATER SERVICE RISER TO BE LOCATED ON THE SIDE OF PANEL OPPOSITE TO THE TECO METER BOX.
11. ALUMINUM CONDUIT SURFACE THAT IS 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.
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.
13. SEAL-OFF TO BE SIZED FOR CONDUCTORS. ALL CONDUITS AND SEAL-OFFS TO HAVE BUSHINGS.
14. RESERVED.
15. REINFORCEMENT SHALL BE AT LEAST 3" FROM EDGE OF PEDESTAL.
16. TECO PREFERENCES STRAIGHT UNDERGROUND SERVICE CONNECTION TO THE METER BOX. TO AVOID ANY CONFIGURATION CHANGES, THE ENCLOSURE HOLES FOR THE METER BOX AND EMERGENCY CONNECTOR SHALL BE CUT AFTER THE TECO ROUTING IS VERIFIED AT THE TIME OF INSTALLATION. THE LENGTH OF CONDUCTORS FROM TECO AND EMERGENCY SERVICES WILL DEPEND ON THE SELECTED CONFIGURATION.
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. EXTEND CONCRETE PAD SUCH THAT IT IS FLUSH w/ PUMPING STATION TOP SLAB.
20. PROVIDE AND INSTALL 1" PVC CONDUIT FOR FUTURE ODDR CONTROL EQUIPMENT AS SHOWN. EXTEND CONDUIT TO EDGE OF PAVEMENT, TURN UP, AND CAP ABOVE GRADE.

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ROMAN D. KORCHAK, P.E. #42626 ELECTRICAL SECTION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: LRG	CITY of TAMPA WASTEWATER DEPARTMENT	HUMPHREY PUMP STATION REHAB ELECTRICAL NOTES FOR SHEETS E8-E10	W.D. 5223
	3			DRN: RDK			SHEET
	2			CKD:			E11
	1			DATE: 11/2/07			OF

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	FAL 34100	480 V, 100 A	25 KAIC @ 240 VAC
CB 2	CIRCUIT BREAKER	SQUARE D	THREE POLE	FAL 34100	480 V, 100 A	
CB 3, 4	CIRCUIT BREAKER	SQUARE D	THREE POLE	FAL 32020	240 V, 20A	
CB 5	CIRCUIT BREAKER	SQUARE D	THREE POLE	FAL 32020	240 V, 20A	
CB 6, 7, 8	CIRCUIT BREAKER	SQUARE D	SINGLE POLE	QOU 115	120 V, 15A	
M1, 2	MOTOR STARTER	SQUARE D	NEMA SIZE 1	CLASS 8536 TYPE SC03V02	120 V, (COIL)	7.5 HP (MAX) 1 N.O.
OL 1, 2	OVERLOAD RELAY	SQUARE D	BIMETALLIC, AMBIENT COMPENSATED	AR15.4	8.96-10.3A	
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	W.W. GRAINGER CAT.NO. 6X144
ZS1	CONTROL PNL INTRUSION SENSOR	TELEMECANIQUE	TUBULAR INDUCTIVE PROXIMITY	XS4P30PA340 (GRAINGER- 5B245)	10-38VDC, 3-WIRE PNP	W/ HUBBLE BM30N MTG H/W (GRAINGER- 1EB35)
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-1047-S22 w/AJA6 ANGLE ADAPTER	600 V, 100 A	MALE
TVSS	SURGE SUPPRESSOR	ADVANCED PROTECTION TECHNOLOGIES	MAIN PANEL TVSS	TE/3XF	120/240 V, 3Ø DELTA	
MI	MECHANICAL INTERLOCK	CUTLER-HAMMER	SLIDING BAR TYPE	SBK1		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: LRG	CITY of TAMPA WASTEWATER DEPARTMENT	HUMPHREY PUMP STATION REHAB PARTS SCHEDULE (1 OF 2)	W.D. 5223
	3			DRN: RDK			SHEET
	2			CKD:			E12
	1			DATE: 5/12/08			OF

B061-114

PARTS SCHEDULE (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 C A T. #		
FL	FLOAT SWITCH	ANCHOR SCIENTIFIC	SPDT	S20N0NC	10 A @ 120 V	
LA	LIGHTNING ARRESTOR	GENERAL ELECTRIC	TRANQUELL	9L 15 ECC 001	650 V	
TB 1	TERMINAL BOARD	ALLEN-BRADLEY	STYLE AA	1492-15 T	600 V AC	33 CONTACTS (MIN)
TB 2	TERMINAL BOARD					AS REQUIRED
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 3R THREE POINT LATCH	48"X42"X12" SS 3R	304 SS, 14 GAUGE	W/DOOR STOP KIT
MP	ENCLOSURE PANEL *	QUALITY METALS	45"X 39", STEEL	S 42 P 36, WHITE	STEEL, 12 GAUGE	# A-DSTOPK
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	DUPLEX PUMP CONTROLLER BASED ON MOSCAD-L PROG. CONTROLLER	MOSCAD-L RTU W/ CONVENTIONAL MTS RADIO 403-470, 450-512 MHZ	24VDC W/ BATTERY BACKUP	COORDINATE EFFORT W/ DRC ENGG SERVICES
	SLOTS 1 & 2	MOTOROLA CORP.	MIXED I/O	MOSCAD-L MIXED I/O	(2) 4-20MA ANALOG IN, (8) DIGITAL IN, (2) DIGITAL OUT	
PM1, PM2	3-PHASE POWER MONITOR	MOTOR CONTROLS CORP.	8 PIN PLUG-IN	PM-230-118A	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	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	DCR ENGG. OR WILKERSON	DUPLEX LIFT STATION	BR560 OR DR1920	10 AMP CONTACTS	DIN RAIL MOUNTING
TSC	THERMOSTAT	HOFFMAN	BIMETAL TEMP SENSOR	ATEMNC	10 AMP @ 24 VDC	ADJ. 30° - 140° F

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

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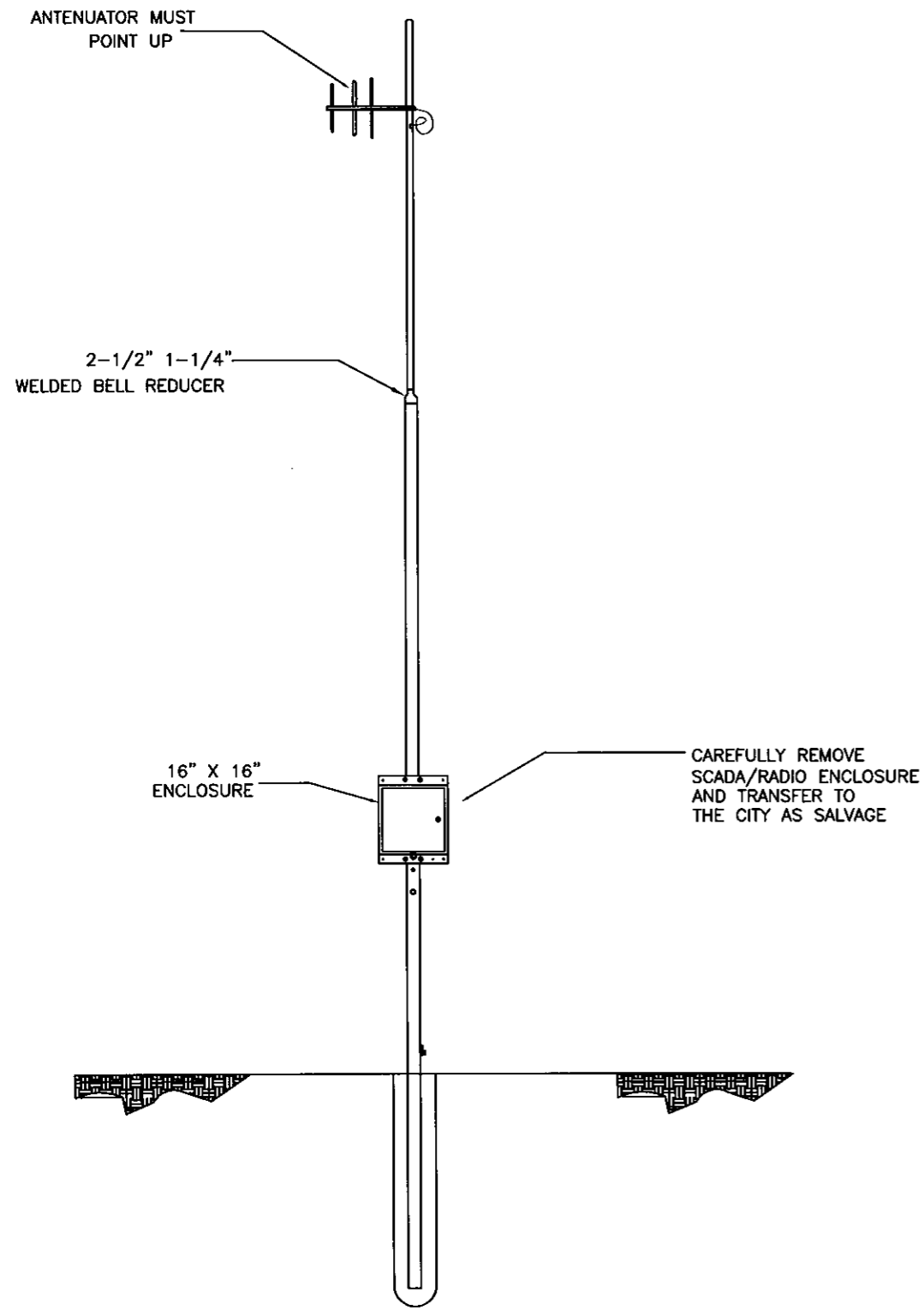
ROMAN D. KORCHAK, P.E. #42626 ELECTRICAL SECTION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: LRG	CITY of TAMPA WASTEWATER DEPARTMENT	HUMPHREY PUMP STATION REHAB PARTS SCHEDULE (2 OF 2)	W.D. 5223
	3			DRN: RDK			SHEET
	2			CKD:			E13
	1			DATE: 5/12/08			OF

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 HIGH TEMPERATURE AND RESET
PL3	RED ILLUMINATED PUSH BUTTON	PUMP NO. 2 HIGH TEMPERATURE AND RESET
PL4	YELLOW PILOT LIGHT	PUMP NO. 2 ON
S1	3 POSITION SWITCH	PUMP NO 1 HAND-OFF-AUTO
PL5	RED PILOT LIGHT	PUMP NO. 1 SEAL LEAK
PL6	RED PILOT LIGHT	PUMP NO. 2 SEAL LEAK
S2	3 POSITION SWITCH	PUMP NO. 2 HAND-OFF-AUTO

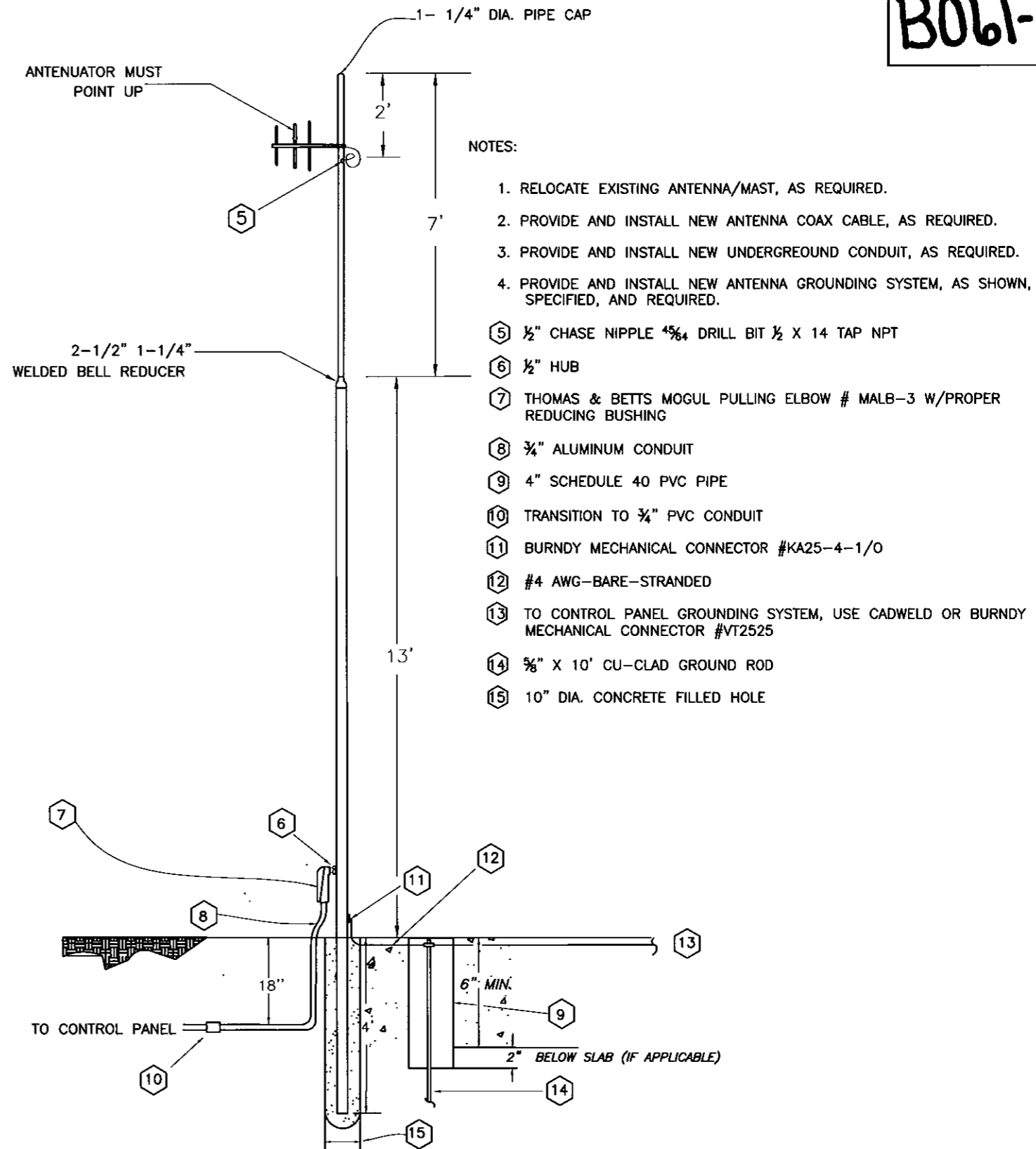
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ROMAN D. KORCHAK, P.E. #42626 ELECTRICAL SECTION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: LRG DRN: RDK CKD: DATE: 7/5/07	CITY of TAMPA WASTEWATER DEPARTMENT	HUMPHREY PUMP STATION REHAB ELECTRICAL CONTROLS LEGEND PLATES	W.D. 5223
	3						SHEET
	2						E14
	1						OF



EXISTING ANTENNA DETAIL
SCALE: N.T.S



PROPOSED ANTENNA DETAIL
SCALE: N.T.S

NOTES:

1. RELOCATE EXISTING ANTENNA/MAST, AS REQUIRED.
 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 1/2" CHASE NIPPLE 45/64 DRILL BIT 1/2 X 14 TAP NPT
 - ⑥ 1/2" HUB
 - ⑦ THOMAS & BETTS MOGUL PULLING ELBOW # MALB-3 W/PROPER REDUCING BUSHING
 - ⑧ 3/4" ALUMINUM CONDUIT
 - ⑨ 4" SCHEDULE 40 PVC PIPE
 - ⑩ TRANSITION TO 3/4" PVC CONDUIT
 - 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' CU-CLAD GROUND ROD
 - ⑮ 10" DIA. CONCRETE FILLED HOLE

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ROMAN D. KORCHAK, P.E. #42626 ELECTRICAL SECTION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: LRG DRN: CKD: DATE: 3/12/08	CITY of TAMPA WASTEWATER DEPARTMENT	HUMPHREY PUMP STATION REHAB SCADA ANTENNA DETAILS	W.D. 5223
	3						SHEET
	2						E15
	1						OF