

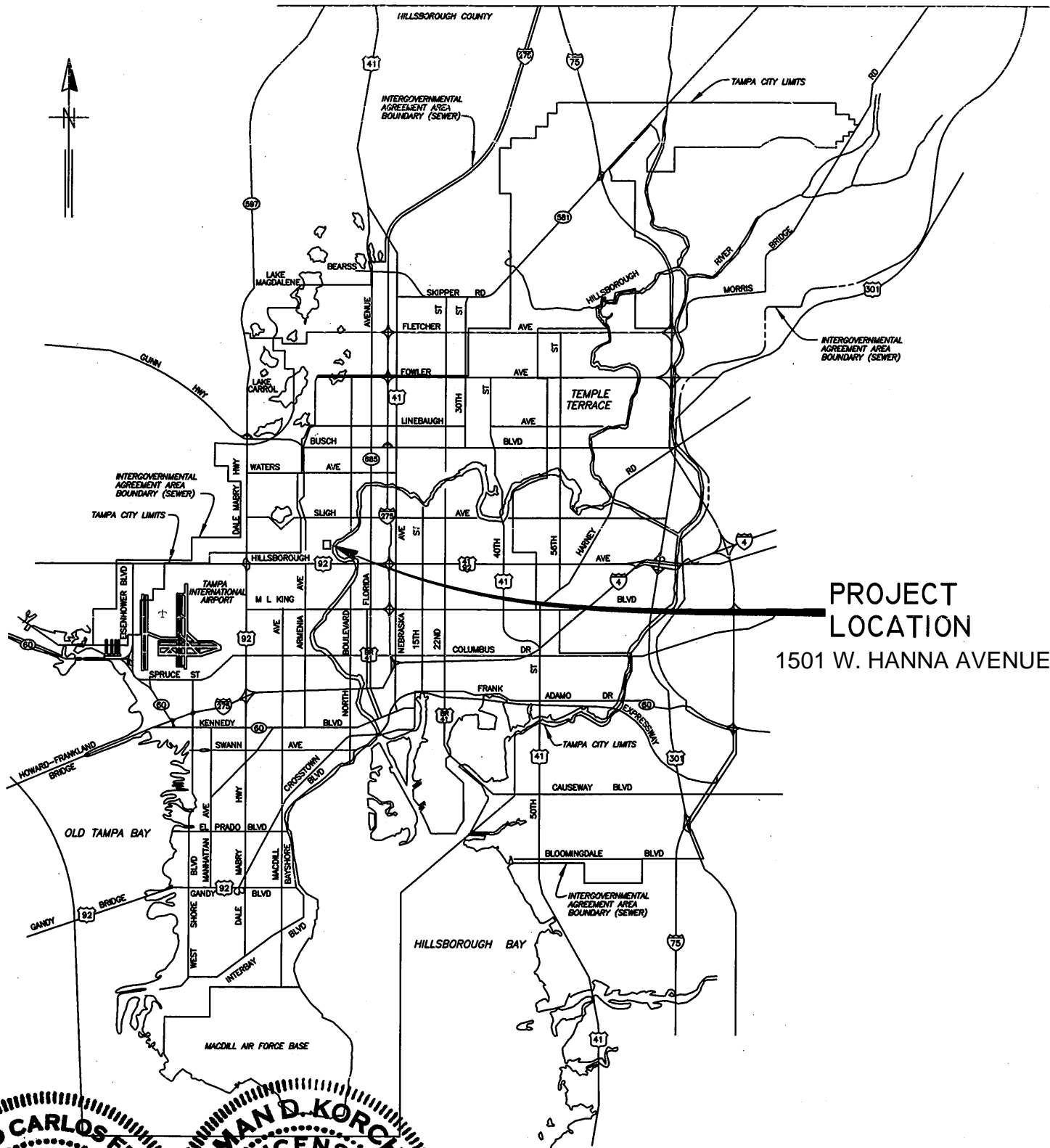
The Enclosed Document Is Provided For Your Convenience.

Please Email ALL Questions:
[MailTo:ContractAdministration@TampaGov.net](mailto:ContractAdministration@TampaGov.net)

Please Let Us Know If You Plan To Bid

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

LOCATION MAP



PROJECT
LOCATION
1501 W. HANNA AVENUE

CITY of TAMPA

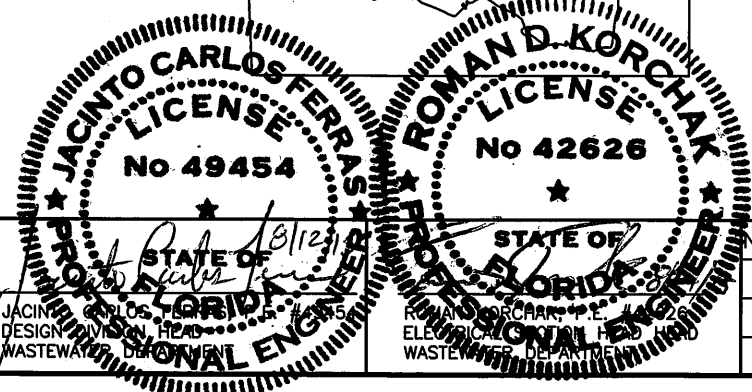


WASTEWATER DEPARTMENT

PLANS FOR

HANNA PUMPING STATION
VALVE REPLACEMENT

CONTRACT No. 15-C-00022



No.	DATE	REVISIONS
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1		

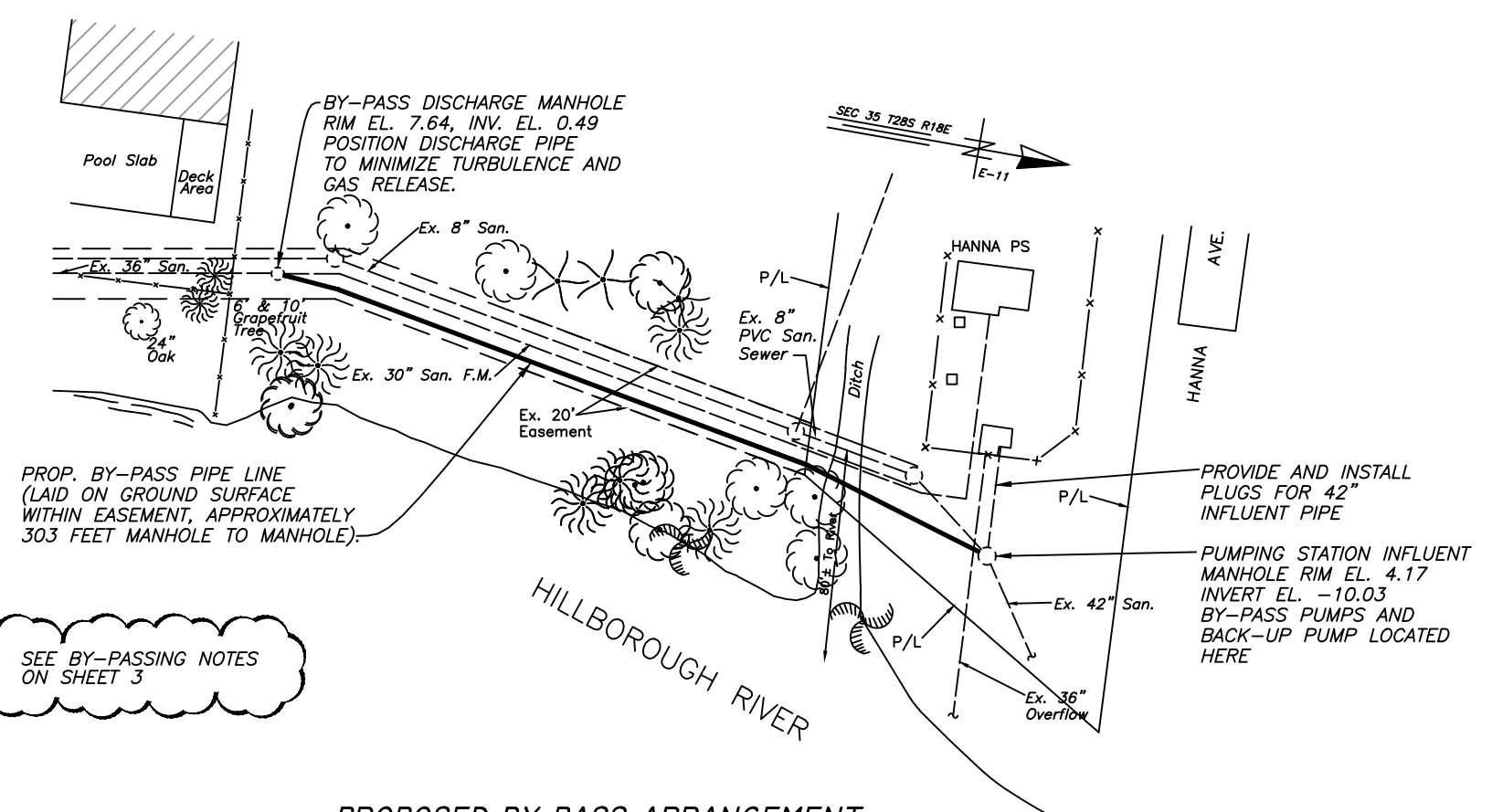
DES: JH.
DRN: W.A.
CKD:
DATE: 8/11/15

CITY of TAMPA
WASTEWATER DEPARTMENT

COVER SHEET

W.O. 1000426
SHEET
1
OF 18

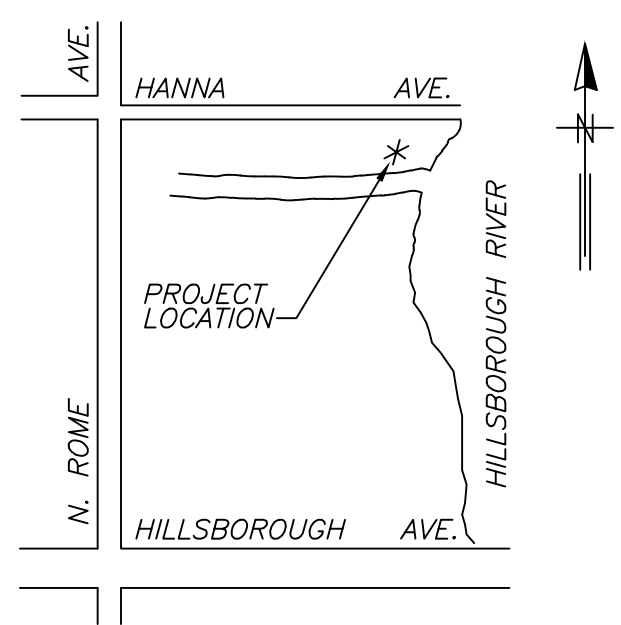
PLOTTED BY: Wendell Atkins
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 PLOT DATE: Tuesday, August 11, 2015 12:11:25 PM
 LAST SAVED BY: ss2d CTB - MONO.CTB
 PLOT 1=1



PROP. BY-PASS PIPE LINE
(LAID ON GROUND SURFACE
WITHIN EASEMENT, APPROXIMATELY
303 FEET MANHOLE TO MANHOLE).

SEE BY-PASSING NOTES
ON SHEET 3

PROPOSED BY-PASS ARRANGEMENT
N.T.S.



LOCATION MAP
N.T.S.

INDEX	
SHT NO.	DESCRIPTION
1	COVER SHEET
2	INDEX, LOCATION MAP AND BY-PASSING DETAIL
3	GENERAL NOTES & BY-PASSING NOTES
4	PUMP ROOM DEMOLITION PLAN (EL. -8.00')
5	DEMOLITION SECTION (COMBINED SECTIONS A-A, B-B)
6	PROPOSED PUMP ROOM PLAN (EL.-8.00')
7	PROPOSED SECTION A-A
8	PROPOSED SECTION B-B
E-1	SYMBOL LEGEND (1 OF 2)
E-2	SYMBOL LEGEND 2 OF 2)
E-3	ELECTRICAL NOTES & SCOPE OF WORK
E-4	ONE LINE DIAGRAM (SHT. 1 OF 2)
E-5	ONE LINE DIAGRAM (SHT. 2 OF 2)
E-6	PUMP ROOM FLOOR PLAN
E-7	SECTION A-A
E-8	MOTOR ROOM FLOOR PLAN
E-9	ELECTRICAL DETAILS
E-10	ACTUATOR CONTROLS

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Layout - LOCATION -INDEX, Aug 11, 2015 - 4:18pm

JACINTO CARLOS FERRAS, P.E. #49454 DESIGN DIVISION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: J.H. DRN: W.A. CKD: DATE:	CITY of TAMPA WASTEWATER DEPARTMENT	HANNA P.S. VALVE REPLACEMENT BY-PASS, LOCATION MAP AND INDEX	W.O. 1000426
	3						SHEET
	2						2
	1						OF 18

A. GENERAL NOTES

- A-1. THE CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION ACTIVITIES WITH THE ENGINEER AND PUMPING STATION OPERATIONS.
- A-2. THE INTENT IS TO REMOVE EXISTING KNIFE GATE VALVES, AND ASSOCIATED PIPING, ON EACH SIDE OF FOUR PUMPS (8 VALVES TOTAL) AND REPLACE THEM WITH FOUR 20-INCH KNIFE GATE VALVES, FOUR 16-INCH PLUG VALVES, AND ASSOCIATED PIPING. ALL EIGHT VALVES ARE TO BE EQUIPPED WITH ELECTRIC ACTUATORS.
- A-3. EXISTING DIMENSIONS AND ELEVATIONS ARE BASED ON THE ORIGINAL AS-BUILT DRAWINGS FROM 1962. THE DIMENSIONS SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR PRIOR TO LAYOUT AND SHOP DRAWING SUBMITTALS.
- A-4. 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 SUBMITTALS REVIEW.
- A-5. SALVAGEABLE MATERIAL AS DETERMINED BY DEPARTMENT PERSONNEL SHALL BE DELIVERED TO AND UNLOADED BY THE CONTRACTOR AT THE CITY OF TAMPA'S HOWARD F. CURREN AWTP LOCATED AT 2700 MARITIME BLVD. NON-SALVAGEABLE MATERIALS ARE TO BE REMOVED FROM THE SITE AND PROPERLY DISPOSED OF BY THE CONTRACTOR.
- A-6. THE CONTRACTOR SHALL TREAT ANY EXPOSED REBAR, OR OTHER METAL IN THE CONCRETE EXPOSED BY HIS ACTIONS, BY GRINDING THEM BACK A MINIMUM OF 1/2-INCH AND FILLING THE DEPRESSIONS(S) WITH EPOXY.
- A-7. 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.
- A-8. CHECK VALVES SHALL BE APCO SERIES 100 RUBBER FLAPPER SWING CHECK VALVES WITH A BACK-FLOW DEVICE.
- A-9. PLUG VALVES SHALL BE DEZURIK, 100% FULL PORT ECCENTRIC PLUG VALVES (PEF). ACTUATORS FOR PLUG VALVES SHALL BE ROTORK, MODEL # IQ18_IWD5R 460/3/60.
- A-10. KNIFE GATE VALVES SHALL BE DEZURIK, MODEL #KGC,20,HD,F1,S2,SMP,S2-CR. ACTUATORS FOR KNIFE GATE VALVES SHALL BE ROTORK, MODEL IQ20 460/3/60.
- A-11. ALL HARDWARE, UNLESS OTHERWISE NOTED, SHALL BE TYPE 316 STAINLESS STEEL.
- A-12. ALL PUMP STATION PIPING SHALL BE CLASS 53 FLANGED DUCTILE IRON PIPE. ALL DUCTILE IRON PIPES AND FITTINGS SHALL BE LINED WITH PROTECTO 401 CERAMIC EPOXY OR EQUAL.
- A-13. ALL INTERIOR DUCTILE IRON PIPE AND FITTINGS, VALVES, ETC. SHALL RECEIVE:
 - a) SHOP COAT-ONE COAT, 5 MILS (DFT), TNEMEC N140 POTA-POX PLUS EPOXY PRIMER, 1211-RED OXIDE IN COLOR.
 - b) 1ST FIELD COAT-ONE COAT, 3.5 MILS (DFT), TNEMEC N69 HI-BUILT EPOXOLINE II, 01-GRAY IN COLOR.
 - c) 2ND FIELD COAT-ONE COAT, 5 MIS (DFT), TNEMEC SERIES 446 PERMA-SHEILD MUC, 1222-GRAY IN COLOR.
- A-14. CONTRACTOR SHALL CUT THE FOUR EXISTING 16" DIAMETER STEEL VERTICAL DISCHARGE PIPES AT APPROX. ELEVATION -8.59 FEET AND JOIN THE PROP. FLANGED PLUG VALVES TO THE STEEL PIPE WITH "SERIES 2100 MEGAFLANGE" RESTRAINED FLANGE ADAPTERS.
- A-15. THE CONTRACTOR SHALL RESTORE ANY LANDSCAPING, FENCING, SODDING, SPRINKLER SYSTEM PIPING, PAVEMENT, DITCH BANK AND/OR FLOW LINE, ETC THAT IS ON RIGHT-OF-WAY, CITY PROPERTY OR PRIVATE PROPERTY THAT MAY HAVE BEEN DAMAGED OR ALTERED DURING CONSTRUCTION TO ITS ORIGINAL CONDITION OR BETTER.
- A-16. THE CONTRACTORS SHALL BE RESTRICTED TO WORKING ON ONLY ONE PUMP AT ANYTIME. THREE OF THE FOUR WASTEWATER PUMPS MUST BE KEPT OPERABLE AT ALL TIMES. SEE BYPASSING NOTES FOR FURTHER INFORMATION.
- A-17. NO WORK SHALL BEGIN UNTIL ALL MATERIALS AND EQUIPMENT ARE ON SITE.
- A-18. SUPPORTS FOR 20" INFLUENT PIPE SHALL BE STAINLESS STEEL STANCHION SADDLE SUPPORT FIGURE 59A, MODIFIED AS REQUIRED, AS MADE BY FM STAINLESS, LLC (@FMSTAINLESS.COM).

B. BY-PASSING NOTES

- B-1. CONTRACTOR SHALL SUBMIT DETAILED PROPOSAL FOR PUMPING STATION BY-PASS OPERATION INCLUDING DESCRIPTION OF PUMPS, PLUGS, PIPELINE, HIGH-WATER ALARM, ON-SITE MONITORING PERSONNEL, ETC. IN ACCORDANCE WITH THE SPECIFICATIONS OF THIS CONTRACT.
- B-2. BY-PASS OPERATION SHALL BE DESIGNED TO HANDLE FLOWS UP TO 6000 GPM. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS, INCLUDING NOISE LEVEL CONSTRAINTS.
- B-3. CONTRACTOR SHALL PROVIDE AND INSTALL A MINIMUM OF 2 PLUGS IN THE 42" INFLUENT SEWER TO MAINTAIN AN ADEQUATE FACTOR OF SAFETY.
- B-4. BY-PASS OPERATION SHALL BE MAINTAINED FOR THE DURATION OF ALL WORK INSIDE THE PUMPING STATION OR UNTIL THE ENGINEER DETERMINES BY-PASS OF THE STATION IS NO LONGER NECESSARY FOR COMPLETION OF THE WORK.
- B-5. CONTRACTOR'S BY-PASS PROPOSAL SHALL PROVIDE FOR THE FOLLOWING SPECIAL REQUIREMENTS DUE TO HIGH VOLUMES AND PROXIMTY TO THE HILLSBOROUGH RIVER.
 - a) MAINTAINING 24-HOUR HIGH WATER ALARM WITH ON-SITE AND REMOTE (HOWARD F. CURREN AWTP) ANNUNCIATION. REMOTE ALARM SHALL BE CONNECTED TO EXISTING ALARM SYSTEM, COORDINATE W/CITY PERSONNEL.
 - b) ON-SITE MONITORING OF BY-PASS SYSTEM BY PERSONNEL QUALIFIED TO MANUALLY CONTROL, ALTERNATE OR OPERATE PUMPS, AS REQUIRED IN AN EMERGENCY SITUATION, IS REQUIRED FOR A MINIMUM OF 24-HOURS OF CONTINUOUS AND TROUBLE FREE BYPASSING OPERATIONS PRIOR TO THE CONTRACTOR RUNNING THE BYPASS PUMPS UNATTENDED.
 - c) HANNA PUMPING STATION RECEIVES OVERFLOW FROM ANOTHER HIGH-VOLUME PUMPING STATION (SULPHUR SPRINGS P.S.) ON OCCASIONS. CONTRACTOR SHALL BE PREPARED TO REMOVE BYPASS PLUGS AT ALL TIMES, WITH SHORT NOTICE, IN ORDRE TO UTILIZE THREE OF THE PUMPS IN THE PUMPING STATION TO ASSIST THE BYPASS PUMPS IN HANDLING THE ADDITIONAL INCOMING WASTEWATER FLOWS.
- B-6. CONTRACTOR SHALL PROVIDE HIS OWN POWER SUPPLY FOR BYPASS PUMPING; PUMPING STATION POWER SHALL NOT BE USED FOR BYPASS PUMPING. CONTRACTOR MUST PROVIDE BACK-UP POWER SUPPLY, SUCH AS A DIESEL GENERATOR, IF ELECTRIC PUMPS ARE USED.

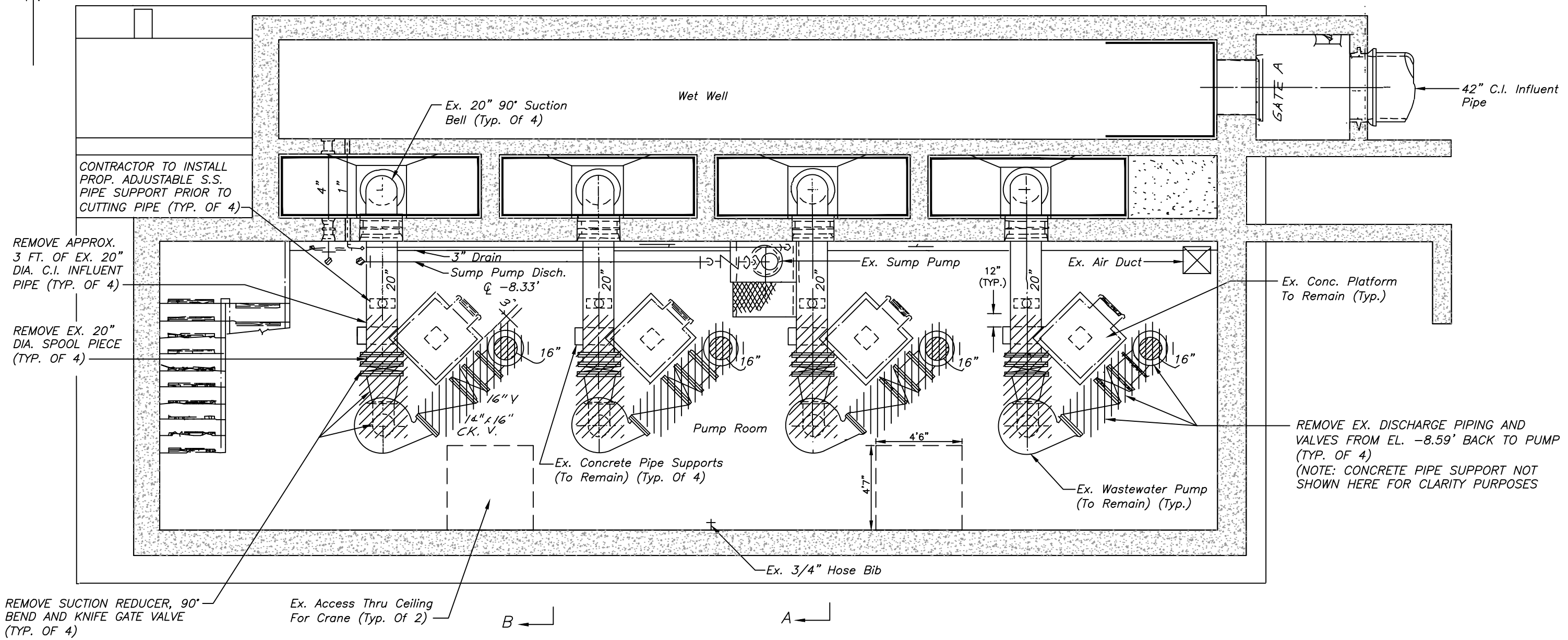
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JACINTO CARLOS FERRAS, P.E. #49454 DESIGN DIVISION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: J.H.	CITY of TAMPA WASTEWATER DEPARTMENT	GENERAL NOTES	W.O. 1000426
	3			DRN: W.A.			SHEET
	2			CKD:			3
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B ←

A ←



PUMP ROOM DEMOLITION PLAN (EL. -8.00')
SCALE: 3/16" = 1'-0"

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

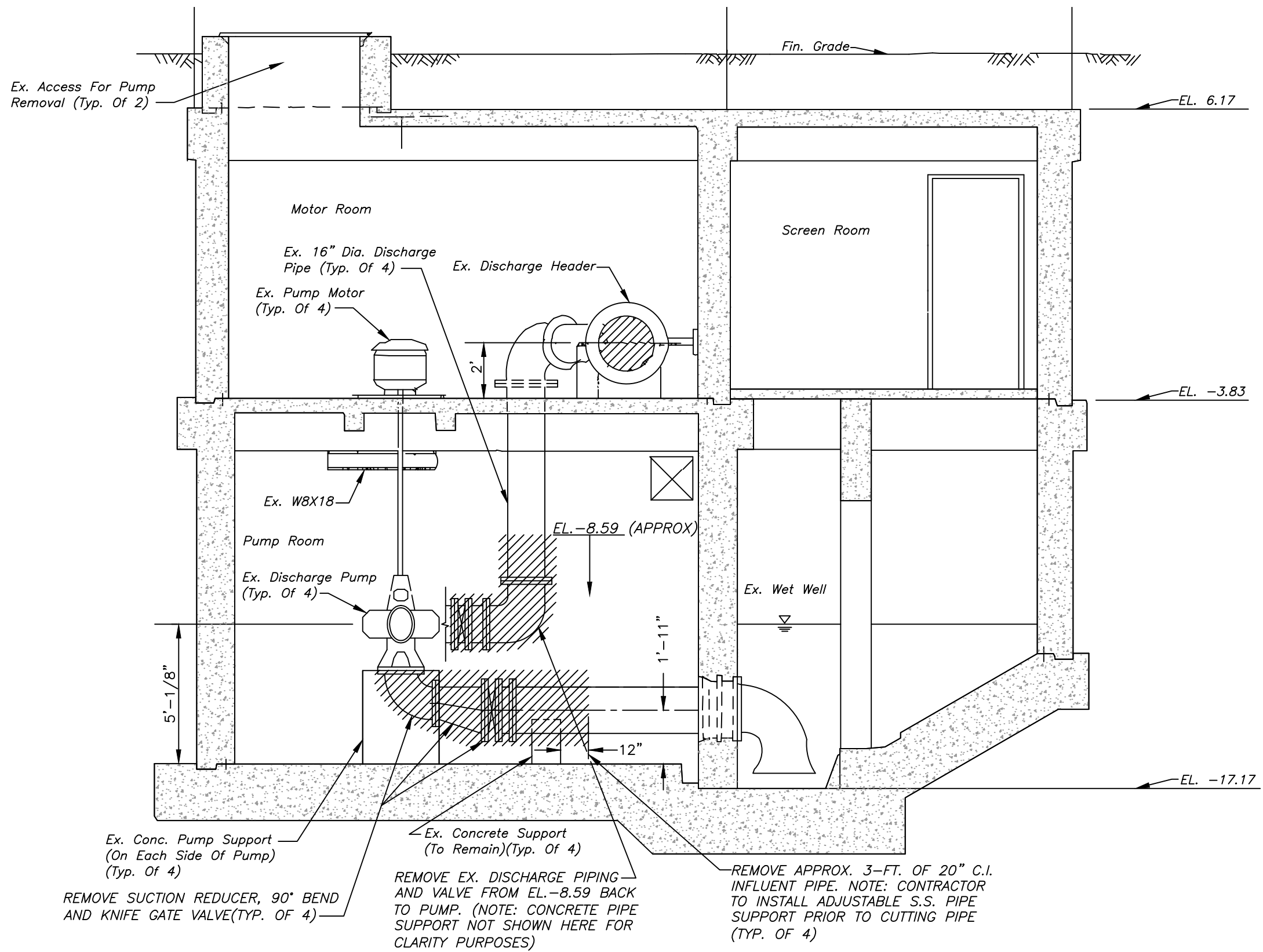
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CITY of TAMPA
WASTEWATER DEPARTMENT

HANNA P.S. VALVE REPLACEMENT
PUMP ROOM DEMOLITION PLAN

W.O. 1000426
SHEET
4
OF 18



Ex. Conc. Pump Support (On Each Side Of Pump) (Typ. Of 4)
 REMOVE SUCTION REDUCER, 90° BEND AND KNIFE GATE VALVE (TYP. OF 4)
 REMOVE EX. DISCHARGE PIPING AND VALVE FROM EL. -8.59 BACK TO PUMP. (NOTE: CONCRETE PIPE SUPPORT NOT SHOWN HERE FOR CLARITY PURPOSES)
 REMOVE APPROX. 3-FT. OF 20" C.I. INFLUENT PIPE. NOTE: CONTRACTOR TO INSTALL ADJUSTABLE S.S. PIPE SUPPORT PRIOR TO CUTTING PIPE (TYP. OF 4)

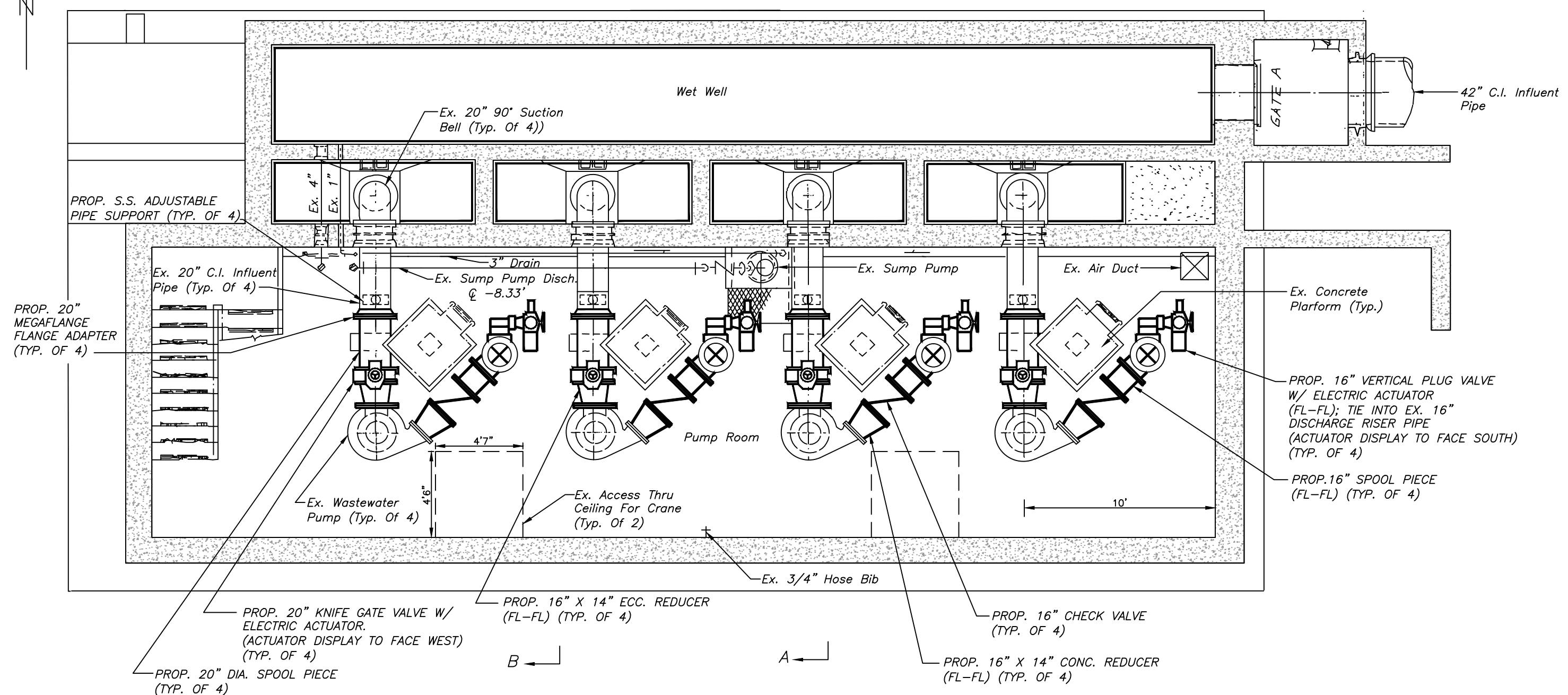
DEMOLITION SECTION (COMBINED SECTIONS A-A, B-B)
 SCALE: 1/4" = 1'-0"

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	3			DRN: W.A.			SHEET
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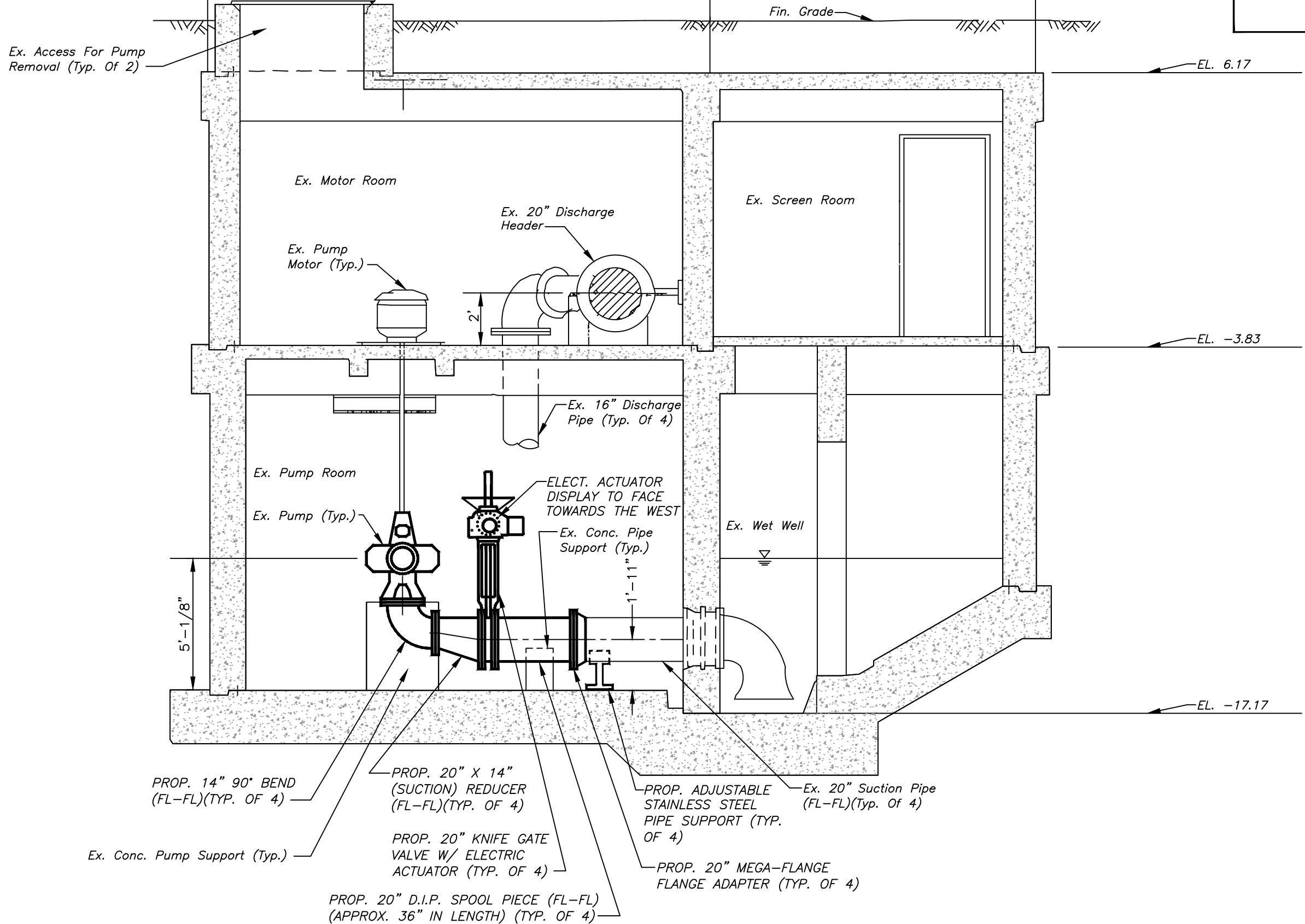
B ← A ←



PROPOSED PUMP ROOM (EL. -8.00)
SCALE: 3/16" = 1'-0"

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	3			DRN: W.A.			SHEET
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	1			DATE:			OF 18



PROPOSED SECTION A-A

SCALE: 1/4" = 1'-0"

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

DES: J.H.
 DRN: W.A.
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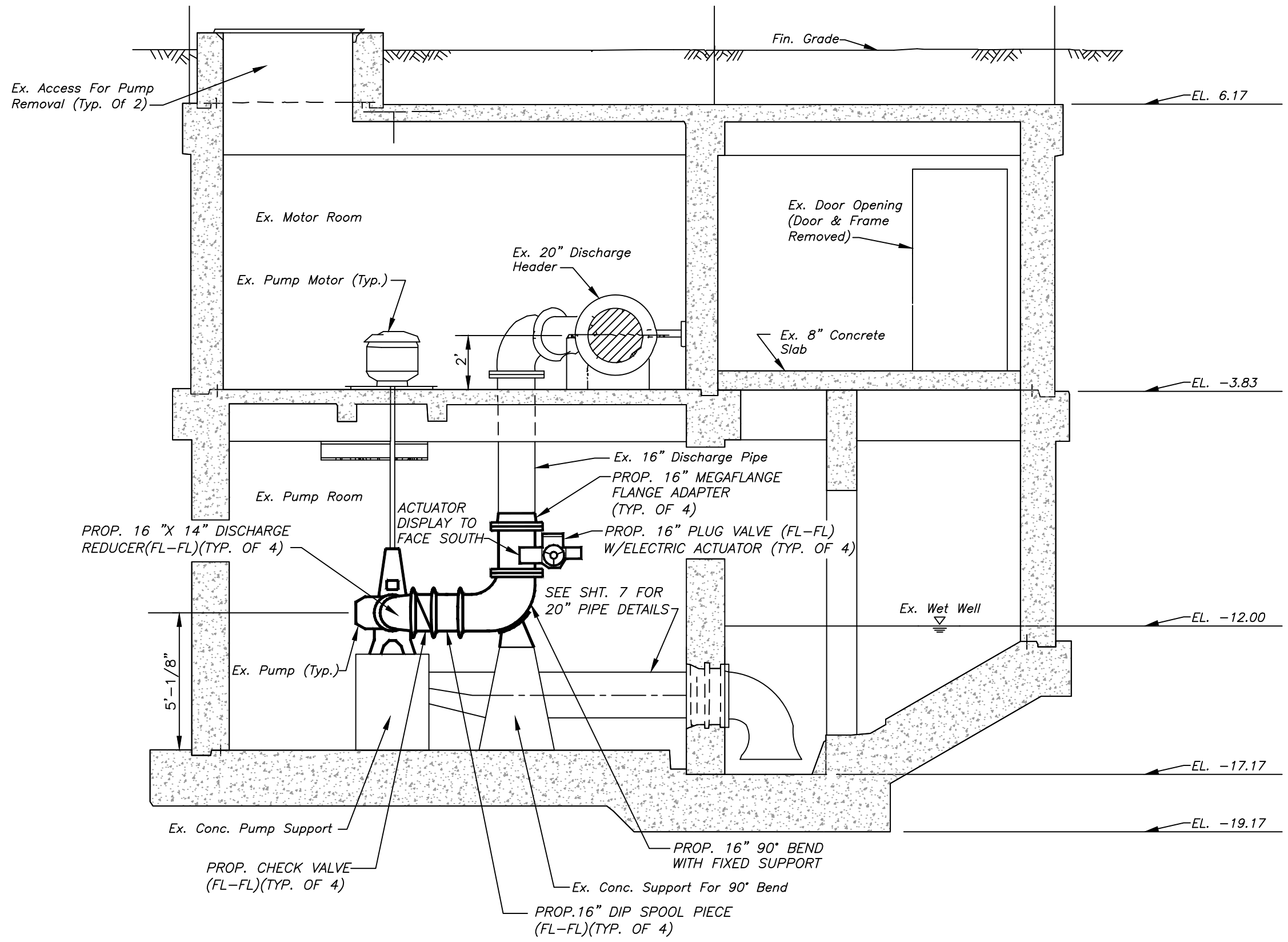
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 WASTEWATER DEPARTMENT

HANNA P.S. VALVE REPLACEMENT
 PROP. SECTION VIEW A-A

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7
 OF 18

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Layout - PROP SECT BB SHT 8, Aug 11, 2015 - 4:18pm



PROPOSED SECTION B-B
SCALE: 1/4" = 1'-0"

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DESIGN DIVISION HEAD
WASTEWATER DEPARTMENT

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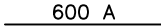
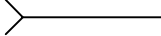
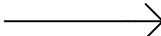
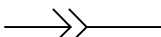


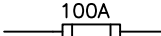
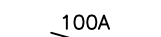

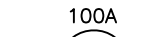
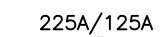





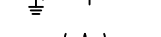


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CITY of TAMPA
WASTEWATER DEPARTMENT

HANNA P.S. VALVE REPLACEMENT
PROP. SECTION VIEW B-B

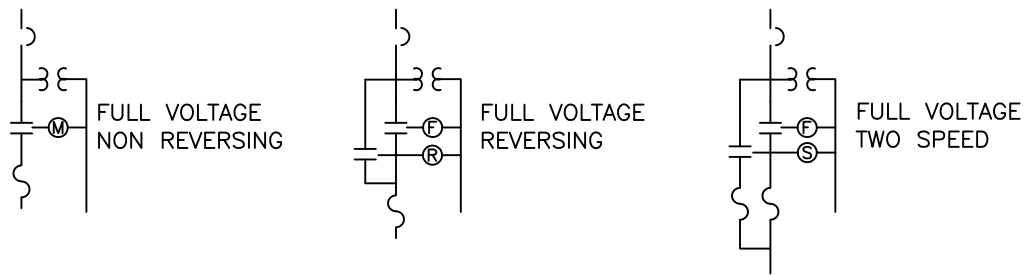
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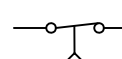
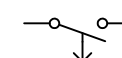
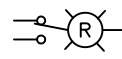
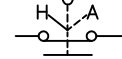
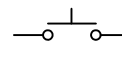
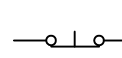
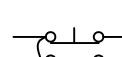

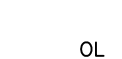
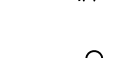
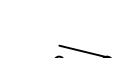
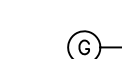

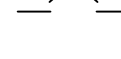
ONE LINE DIAGRAM SYMBOLS

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


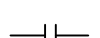

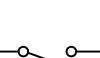
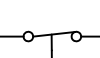
-  THERMAL OVERLOAD ELEMENT (OL)
-  SQUIRREL CAGE MOTOR (INDICATE HORSEPOWER)
-  GENERATOR
-  INDICATING LIGHT (R-RED, G-GREEN, A-AMBER, B-BLUE, W-WHITE)


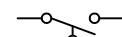
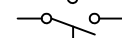
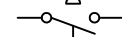
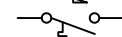

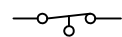
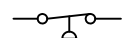

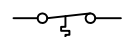
COMBINATION STARTER WITH CONTROL TRANSFORMERS AND OVERLOAD RELAYS AND MOTOR CIRCUIT PROTECTOR



-  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
-  OVERLOAD RELAY CONTACT
-  THERMAL OVERLOAD ELEMENT (OL)
-  ON-OFF SWITCH
-  GROUND BUS
-  NEUTRAL BUS (INSULATED)
-  SINGLE-POLE CIRCUIT BREAKER

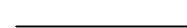

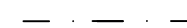
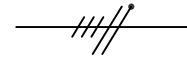
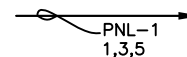






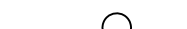
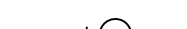


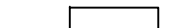

SCHEMATIC AND WIRING DIAGRAM SYMBOLS


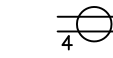
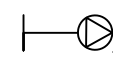
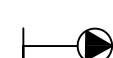
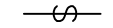
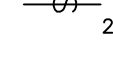
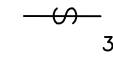




-  OPERATING COIL
 -  NORMALLY OPEN CONTACT (N.O.)
 -  NORMALLY CLOSED CONTACT (N.C.)
 -  NORMALLY OPEN CONTACT WITH TIME DELAY CLOSING (ON-DELAY)
 -  INSTANT OPEN- TIME DELAY CLOSED CONTACT (OFF DELAY)
- M-MOTOR STARTER
 C- CONTACTOR
 F- FORWARD
 R- REVERSE
 AR- AUXILIARY RELAY
 CR- CONTROL RELAY
 TR-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

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







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











POWER AND LIGHTING SYMBOLS

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

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

GENERAL SYMBOLS

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

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

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

ROMAN D. KORCHAK, P.E. #42626 ELECTRICAL SECTION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: LRG DRN: LRG CKD: DATE: 11/14/14	CITY of TAMPA WASTEWATER DEPARTMENT	HANNA PUMPING STATION VALVE REPLACEMENT SYMBOL LEGEND (SHT. 2 OF 2)	W.O. 0426 SHEET E2
	3						
	2						
	1						

GENERAL NOTES

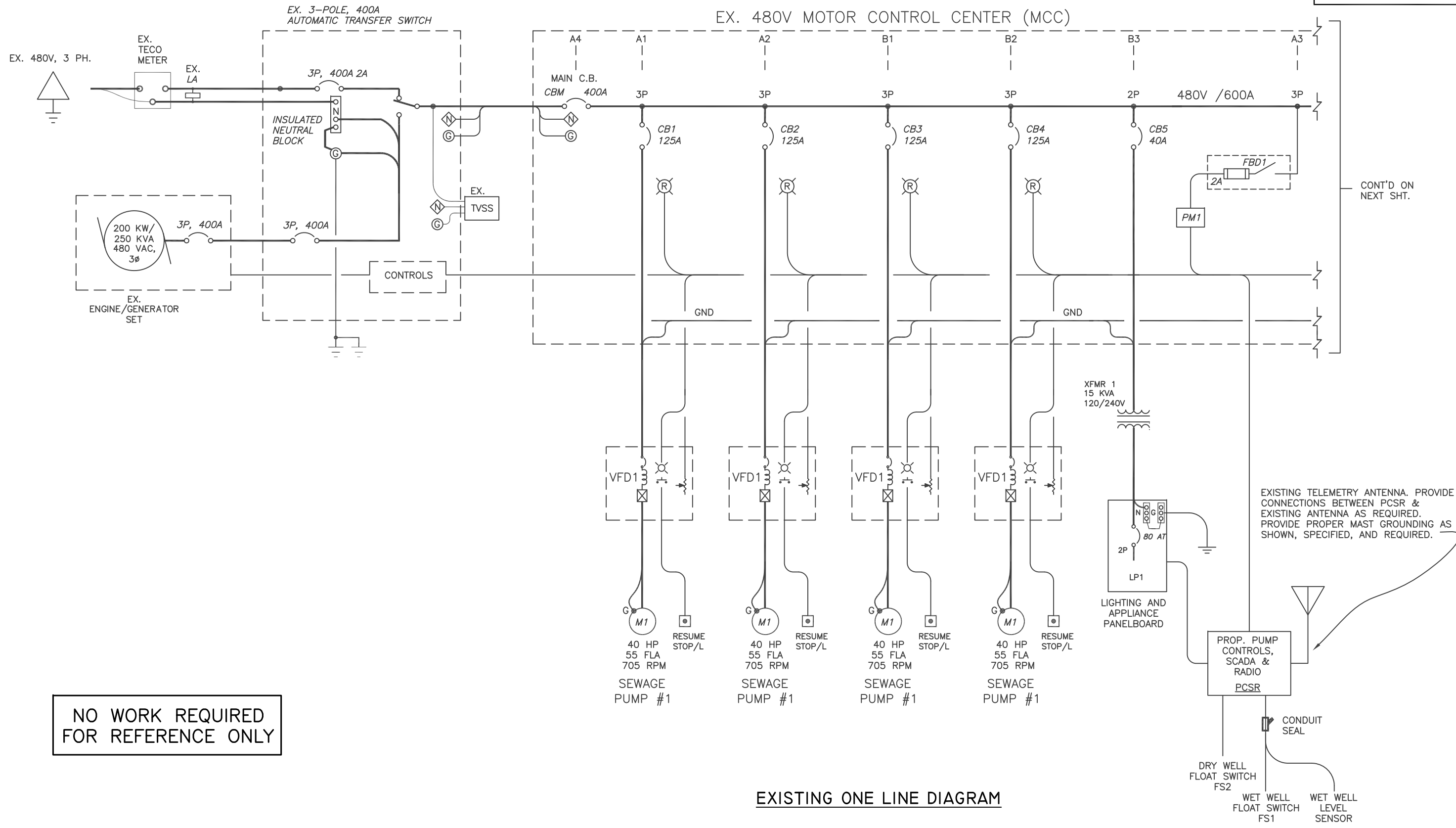
1. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR APPROVAL PRIOR TO PURCHASING EQUIPMENT OR COMMENCING IN CONSTRUCTION.
2. ALL CONDUCTORS SHALL BE STRANDED COPPER, #12 AWG MIN. W/THWN INSULATION, UNLESS OTHERWISE NOTED.
3. ALL WIRING SHALL BE IDENTIFIED W/NUMBERS AT ALL TERMINALS AND ON WIRING DIAGRAMS.
4. VERIFY ALL MECHANICAL EQUIPMENT SIZES AND RATING PRIOR TO CONNECTING.
5. FIELD VERIFY ALL EQUIPMENT LOCATIONS AND CONNECTIONS PRIOR TO COMMENCING CONSTRUCTION.
6. PLANS ARE DESIGNED IN ACCORDANCE WITH THE 5TH EDITION OF THE FLORIDA BUILDING CODE AND THE 2011 EDITION OF THE NATIONAL ELECTRIC CODE. CONTRACTOR SHALL ENSURE THAT ALL ELECTRICAL WORK PERFORMED SHALL ADHERE TO THE SAME ACCORDANCE AND ALL APPLICABLE LOCAL ORDINANCES.
7. ALL THREADED CONNECTIONS SHALL BE COATED W/ 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 3'-6" CLEARANCE IN FRONT OF ALL ELECTRICAL EQUIPMENT IN ACCORDANCE W/ ARTICLE 110 OF THE NEC.
14. ALL FASTENING HARDWARE (SCREW, BOLTS, NUTS, ETC.) SHALL BE 316-STAINLESS STEEL. FASTENING HARDWARE CONSTRUCTED OF FERROUS MATERIAL ARE NOT ACCEPTABLE.

15. EXPOSED CONDUITS SHALL BE NON-COATED RIGID ALUMINUM CONDUIT, UNLESS OTHERWISE NOTED (UON). INSTALL PVC COATED RIGID ALUMINUM CONDUIT IN THE WET WELL.
14. DIRECT BURIED AND CONCRETE ENCASED CONDUIT SHALL BE SCHEDULE 80 PVC, UNLESS OTHERWISE NOTED. TRANSITIONS FROM ABOVE-GRADE RIGID ALUMINUM CONDUIT TO NONMETALLIC CONDUIT SHALL BE ACCOMPLISHED WITH A THREADED ADAPTER. RIGID ALUMINUM CONDUIT INSTALLED ABOVE GRADE AND EXTENDING BELOW GRADE SHALL INCLUDE THE FIRST 90 DEGREE ELBOW. ALL RIGID ALUMINUM CONDUITS EXTENDING BELOW GRADE SHALL BE COATED WITH TWO COATS OF AN ASPHALTUM-TYPE PAINT ALONG ITS ENTIRE LENGTH BELOW GRADE AND EXTENDING 6" ABOVE GRADE OR ABOVE THE TOP OF THE FINISHED SLAB.
15. CONDUIT CONNECTIONS SHALL BE MADE WITH RIGID CONDUIT IF THE EQUIPMENT IS FIXED AND NOT SUBJECT TO ADJUSTMENT, MECHANICAL MOVEMENT, OR VIBRATION. MYERS WATER-TIGHT /DUST-TIGHT HUBS SHALL BE USED FOR OUTDOOR, BELOW GRADE, OR WASH DOWN AREAS. RIGID CONDUIT CONNECTIONS SHALL HAVE UNION FITTINGS TO PERMIT REMOVAL OF EQUIPMENT WITHOUT CUTTING OR BREAKING THE CONDUIT.
16. CONDUIT CONNECTIONS SHALL BE MADE WITH APPROVED FLEXIBLE NONMETALLIC CONDUIT IF EQUIPMENT IS SUBJECT TO ADJUSTMENT, MECHANICAL MOVEMENT, OR VIBRATION. FLEXIBLE CONDUIT CONNECTIONS SHALL BE WATERTIGHT.
17. A 316-STAINLESS STEEL CHANNEL ERECTOR SYSTEM SHALL BE USED TO SUPPORT ALL CONDUITS, BOXES, ETC. USE 316-STAINLESS STEEL MOUNTING HARDWARE.
18. THE CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND MAKE ADJUSTMENTS AS NECESSARY TO EXECUTE THE PROPOSED INSTALLATIONS.
19. 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.
20. PULL BOXES SHALL BE INSTALLED AS NECESSARY TO FACILITATE WIRE PULLS AND AVOID EXCESSIVE PULLING TENSION ON WIRING. IN NO CASE SHALL CONDUIT LENGTHS EXCEED 150' OR THE EQUIVALENT OF FOUR QUARTER BENDS (360 DEGREES TOTAL) WITHOUT A PULL BOX. PULL BOXES SHALL BE SIZED IN ACCORDANCE WITH ARTICLE 314 OF THE NEC AND BE AS SPECIFIED,

SCOPE OF WORK

1. REMOVE THE EXISTING SPARE, SECTION B5 MCC CUBICLE AND INSTALL TWO (2) NEW MCC CUBICLE BUCKETS, AS SHOWN, SPECIFIED AND REQUIRED. PROVIDE PROPER LEGEND PLATES AS SHOWN ON PLANS. PROPOSED LEGEND PLATE ENGRAVING, LETTERING SIZE, AND MATERIAL SHALL MATCH EXISTING LEGEND PLATES.
2. THERE ARE NO EXISTING ELECTRICAL ACTUATORS FOR EXISTING KNIFE GATE VALVES KG1 THRU KG4 AND PLUG VALVES PV1 THRU PV4. THE CONTRACTOR SHALL PROVIDE AND INSTALL PROPOSED ELECTRIC OPERATORS FOR KNIFE GATE VALVES, KG1, KG2, KG3, AND KG4 AND PLUG VALVES PV1, PV2, PV3, AND PV4 AND ALL ASSOCIATED CONDUITS AND CONDUCTORS, AS SHOWN, SPECIFIED AND REQUIRED.
3. PROVIDE AND INSTALL TERMINAL BOXES, DISCONNECTS, AND JUNCTION BOXES AS SHOWN ON PLANS.
4. IF POSSIBLE, UTILIZE EXISTING CONCRETE OPENINGS TO INSTALL CONDUIT; OTHERWISE, CORE DRILL CONCRETE AS NEEDED. FILL ANNULAR SPACES USING APPROVED PRODUCTS AND FINISH TO MATCH EXISTING SURFACE.
5. ALL ELECTRIC WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE 2011 EDITION OF THE NEC AND CHAPTER 5 OF THE CITY OF TAMPA CODE.

ROMAN D. KORCHAK, P.E. #42626 ELECTRICAL SECTION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: LRG	CITY of TAMPA WASTEWATER DEPARTMENT	HANNA PUMPING STATION VALVE REPLACEMENT ELECTRICAL NOTES & SCOPE OF WORK	W.O. 0426
	3			DRN: LRG			SHEET
	2			CKD:			E3
	1			DATE: 8/10/15			



EXISTING ONE LINE DIAGRAM

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

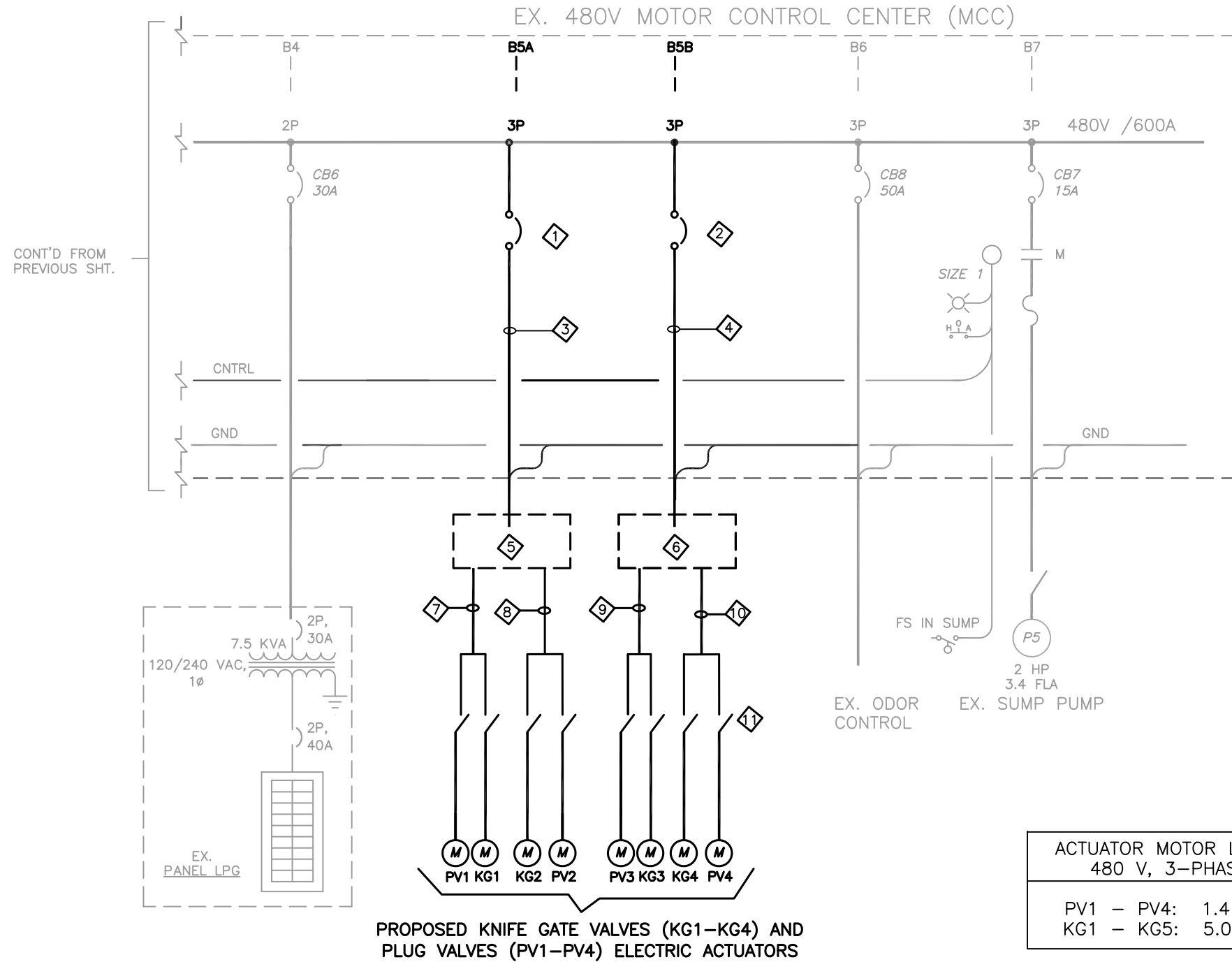
No.	DATE	REVISIONS
3		
2		
1		

DES: LRG
DRN: LRG
CKD:
DATE: 5/1/15

CITY of TAMPA
WASTEWATER DEPARTMENT

HANNA PUMPING STATION
VALVE REPLACEMENT
ONE LINE DIAGRAM (SHT. 1 OF 2)

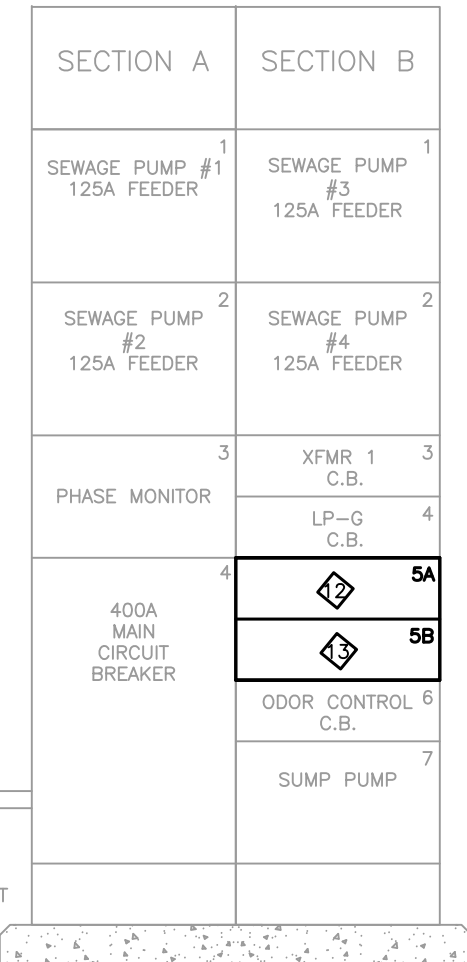
W.O. 0426
SHEET
E4



PROP. ONE LINE DIAGRAM

NOTES:

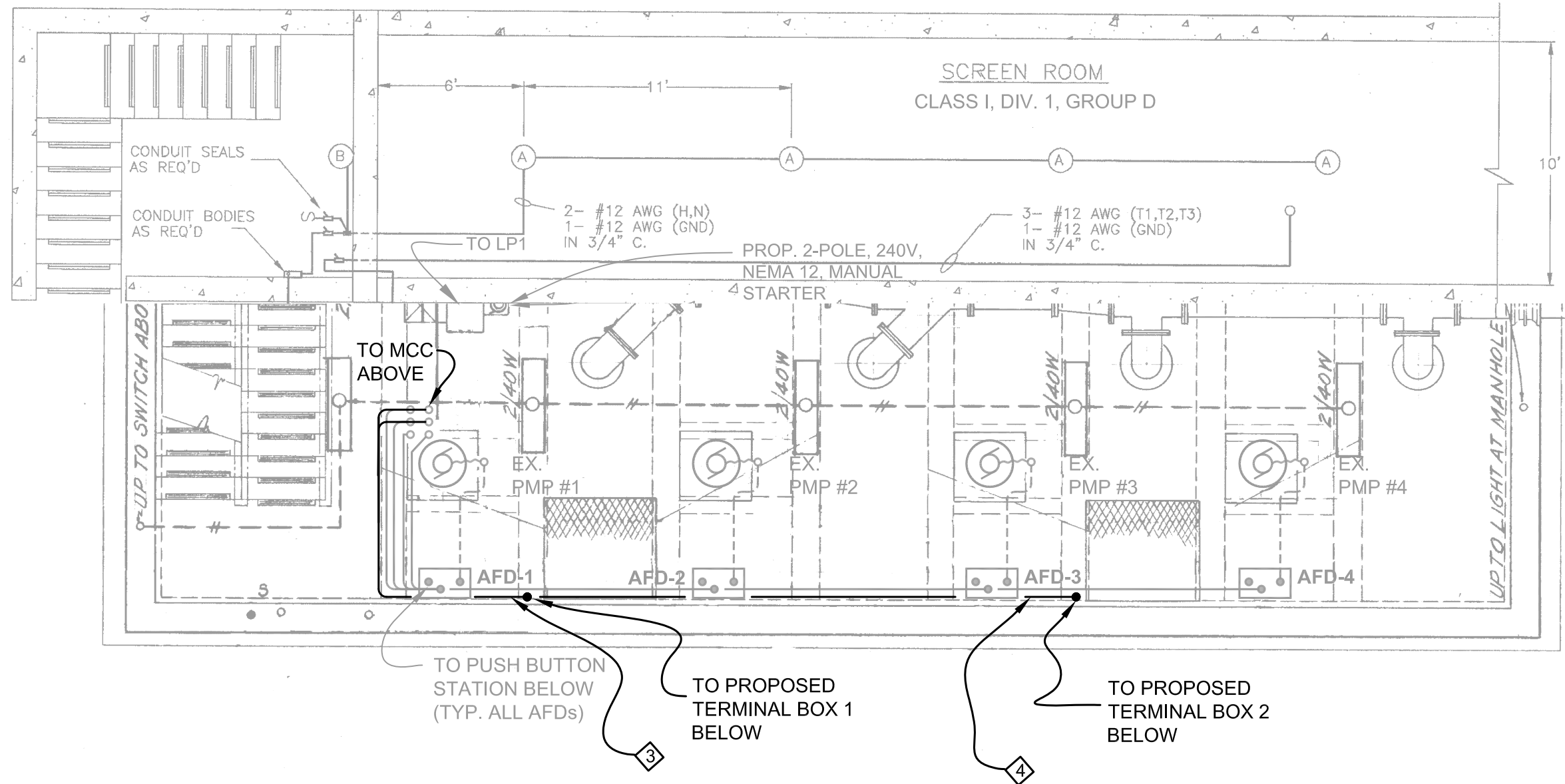
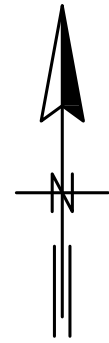
1. LIGHTER LINE WEIGHT ITEMS ARE EXISTING.
2. MAKE MODIFICATIONS TO MCC AS SHOWN.
3. SEE SHEET E9, FOR KEYED NOTES.



**EX. SIEMENS TIASTAR
MOTOR CONTROL CENTER (MCC)**

(MODIFY B5A AND B5B AS SHOWN)

ROMAN D. KORCHAK, P.E. #42626 ELECTRICAL SECTION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: LRG DRN: LRG CKD: DATE: 5/19/15	CITY of TAMPA WASTEWATER DEPARTMENT	HANNA PUMPING STATION VALVE REPLACEMENT ONE LINE DIAGRAM (SHT. 2 OF 2)	W.O. 0426
	3						SHEET
	2						E5
	1						

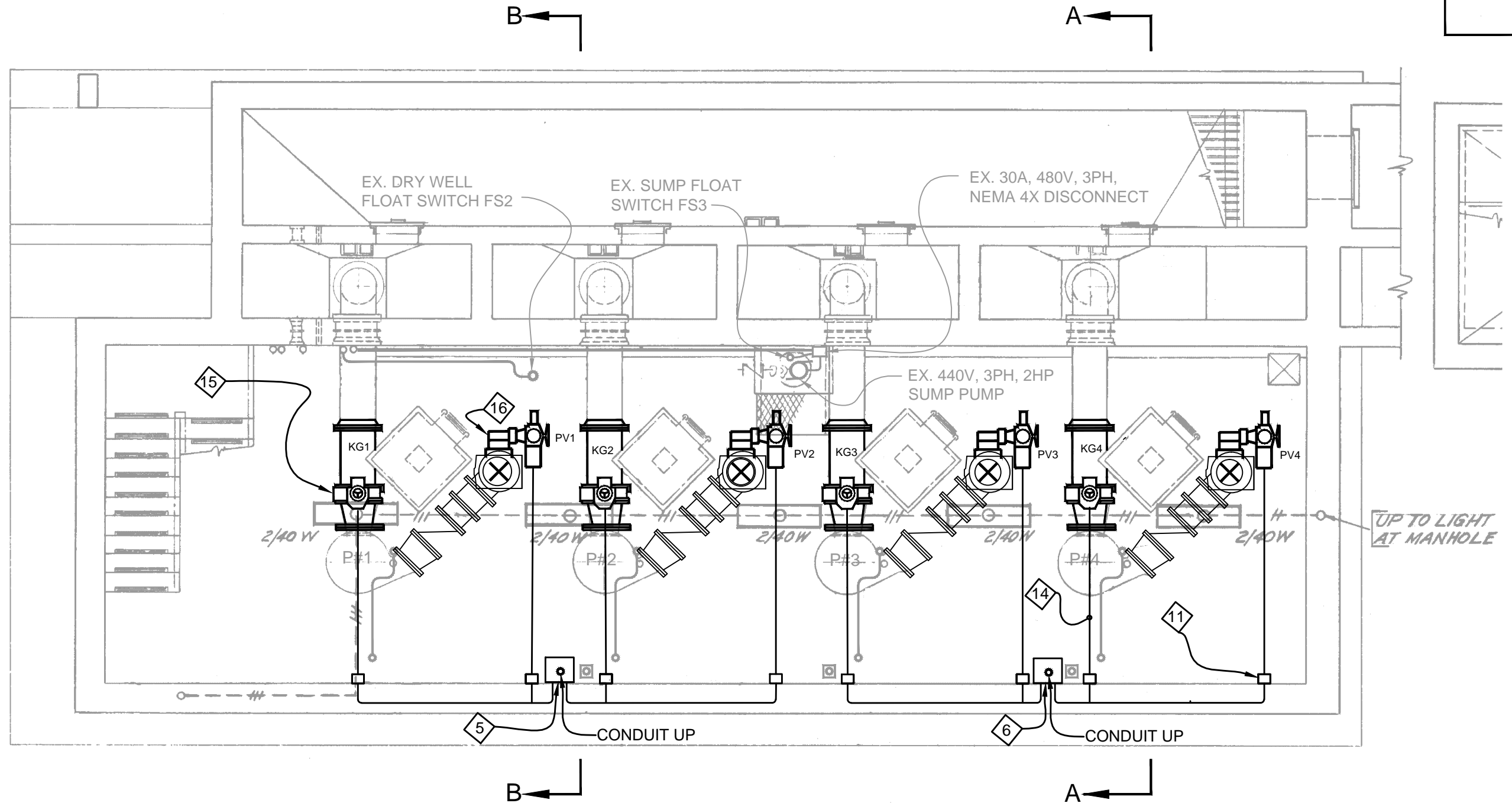
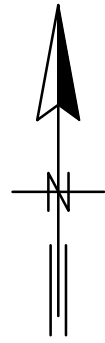


MOTOR ROOM FLOOR PLAN, FL. EL -3.83

SCALE: 3/16" = 1'-0"

- NOTES:
 1. MODIFICATIONS ARE SHOWN DARKENED, UNLESS OTHERWISE NOTED.
 2. SEE SHEET E10, FOR KEYED NOTES.

ROMAN D. KORCHAK, P.E. #42626 ELECTRICAL SECTION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: LRG	CITY of TAMPA WASTEWATER DEPARTMENT	HANNA PUMPING STATION VALVE REPLACEMENT MOTOR ROOM FLOOR PLAN	W.O. 0426
	3			DRN: LRG			SHEET
	2			CKD:			E6
	1			DATE: 7/23/15			



PUMP ROOM FLOOR PLAN, FL. EL -16.33

SCALE: 3/16"=1'-0"

NOTES:

1. MODIFICATIONS ARE SHOWN DARKENED, UNLESS OTHERWISE NOTED.
2. SEE SHEET E9, FOR KEYED NOTES.

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

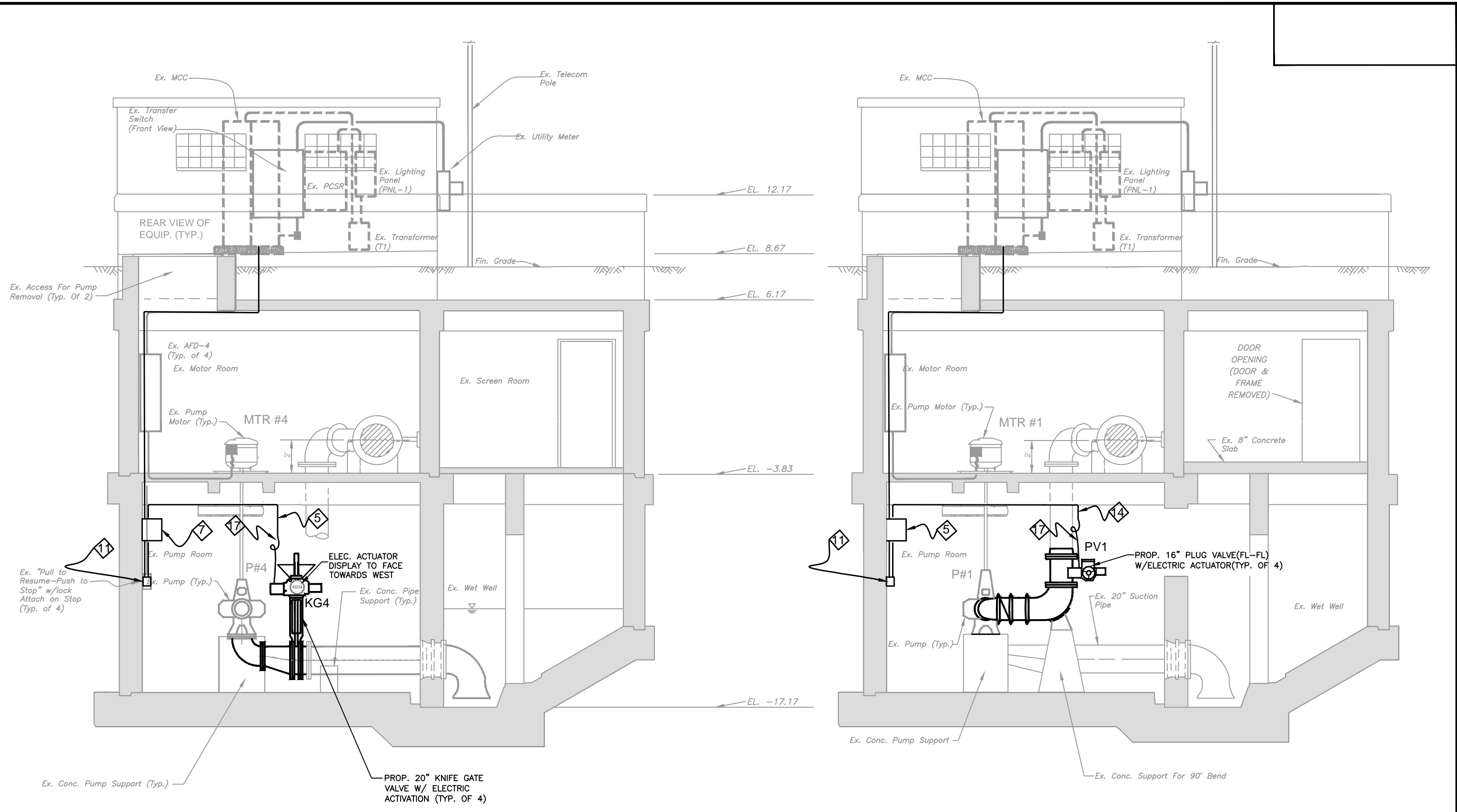
No.	DATE	REVISIONS
3		
2		
1		

DES: LRG
DRN: LRG/WA
CKD:
DATE: 8/10/15

CITY of TAMPA
WASTEWATER DEPARTMENT

HANNA PUMPING STATION
VALVE REPLACEMENT
PUMP ROOM FLOOR PLAN

W.O. 0426
SHEET
E7



NOTES:
 1. ELECTRICAL MODIFICATIONS ARE SHOWN DARKENED, UNLESS OTHERWISE NOTED.
 2. SEE KEYED NOTES ON SHEET E9.

PROPOSED SECTION A-A
 SCALE: 3/16" = 1'-0"

PROPOSED SECTION B-B
 SCALE: 3/16" = 1'-0"

ROMAN D. KORCHAK, P.E. #42626 ELECTRICAL SECTION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: LRG	CITY of TAMPA WASTEWATER DEPARTMENT	HANNA PUMPING STATION VALVE REPLACEMENTS SECTIONS A-A & B-B	W.O. 0426
	3			DRN: LRG/WA			SHEET
	2			CKD:			E8
	1			DATE: 8/10/15			

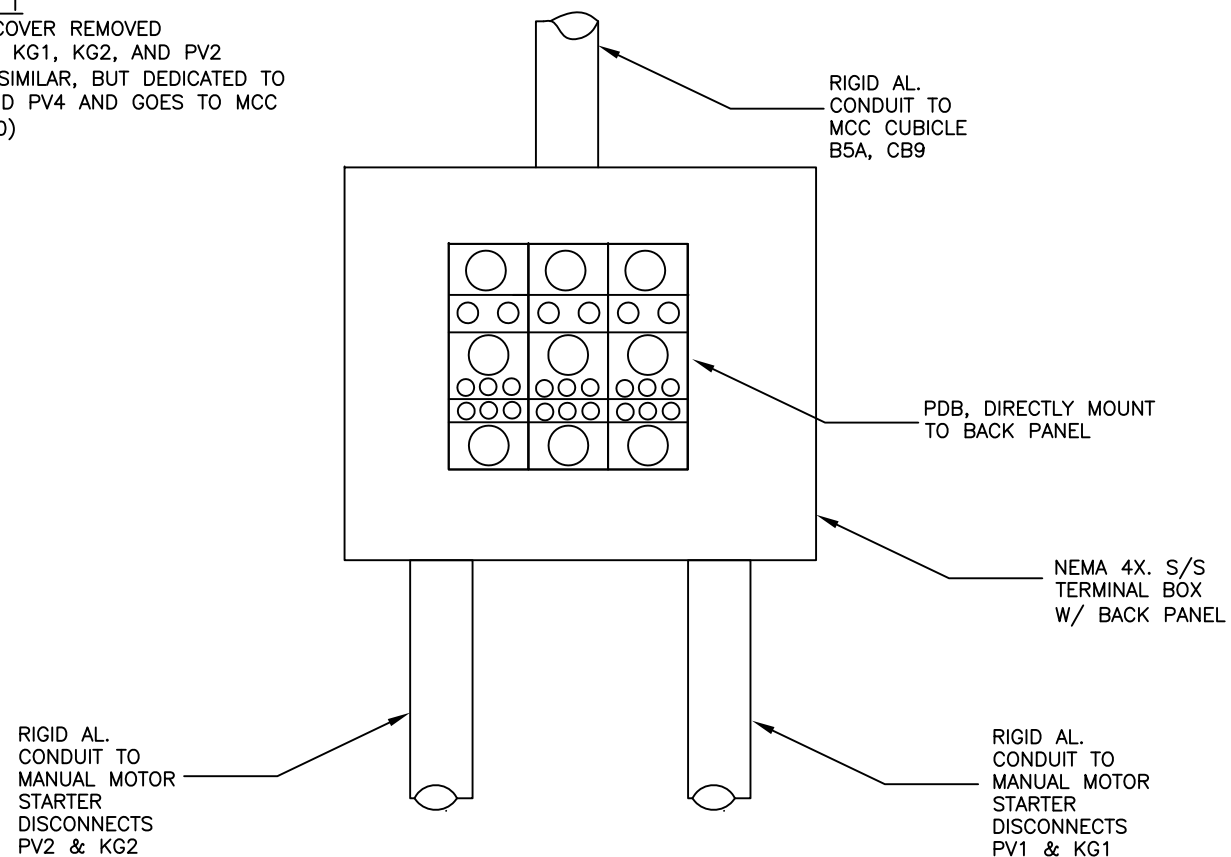
PARTS SCHEDULE			
SYMBOL	NAME	MAKE/TYPE/RATING	MODEL OR CAT#
CB 9, 10	CIRCUIT BREAKER	SIEMENS/3-POLE/45 AMP TRIP	HEG 125A FRAME, 65 KAIC
PDB	POWER DISTRIBUTION BLOCK	ILSCO/3-POLE/600 VAC	PDB-26-2/0-3
	NEMA 4 MANUAL MOTOR STARTER DISCONNECT	SQUARE D/3-POLE/460-575 VAC	2510 KW2CH
	NEMA 4X ALUMIMUM TERMINAL BOX	HOFFMAN/16" X 14 X 12" W/ALUMINUM BACK PANEL	A 16 14 NFAL A-16P14AL

PARTS SCHEDULE

FOR USE WITH SHT. E5 &
NEMA 4X TERMINAL BOX DETAIL,
THIS SHEET.

TERMINAL BOX 1

FRONT VIEW WITH COVER REMOVED
DEDICATED TO PV1, KG1, KG2, AND PV2
(TERMINAL BOX 2-SIMILAR, BUT DEDICATED TO
PV3, KG3, KG4, AND PV4 AND GOES TO MCC
CUBICLE B5B, CB10)



KEYED NOTES:

- ① PROPOSED CB-9. 3-POLE, 45 AMP CIRCUIT BREAKER
- ② PROPOSED CB-10, 3-POLE, 45 AMP CIRCUIT BREAKER
- ③ PROPOSED 3/4" CONDUIT FROM PROPOSED TERMINAL BOX 1 TO MCC CUBICLE B5A, CIRCUIT BREAKER CB-9
- ④ PROPOSED 3/4" CONDUIT FROM PROPOSED TERMINAL BOX 2 TO MCC CUBICLE B5B, CIRCUIT BREAKER CB-10
- ⑤ PROPOSED NEMA 4X TERMINAL BOX 1, FOR USE WITH PV1, PV2, KG1, AND KG2
- ⑥ PROPOSED NEMA 4X TERMINAL BOX 2, FOR USE WITH PV3, PV4, KG3, AND KG4.
- ⑦ PROPOSED 3/4" CONDUIT FROM PROPOSED MOTOR STARTER DISCONNECTS PV1 AND KG1 TO PROPOSED TERMINAL BOX 1
- ⑧ PROPOSED 3/4" CONDUIT FROM PROPOSED MOTOR STARTER DISCONNECTS PV2 AND KG2 TO PROPOSED TERMINAL BOX 1
- ⑨ PROPOSED 3/4" CONDUIT FROM PROPOSED MOTOR STARTER DISCONNECTS PV3 AND KG3 TO PROPOSED TERMINAL BOX 2
- ⑩ PROPOSED 3/4" CONDUIT FROM PROPOSED MOTOR STARTER DISCONNECTS PV4 AND KG4 TO PROPOSED TERMINAL BOX 2
- ⑪ PROPOSED NEMA 4 MANUAL MOTOR STARTER DISCONNECTS, TYPICAL OF 8
- ⑫ REMOVE EXISTING 12" SPACE COMBINATION STARTER AND PROVIDE AND INSTALL A 6" HIGH DENSITY CIRCUIT BREAKER, UNIT CUBICLE 5A LABEL SHALL READ:
PLUG VALVE 1
KNIFE GATE VALVE 1
PLUG VALVE 2
KNIFE GATE VALVE 2
- ⑬ SEE KEYED NOTE 12 AND PROVIDE AND INSTALL A 6" HIGH DENSITY CIRCUIT BREAKER, UNIT CUBICLE 5B LABEL SHALL READ:
PLUG VALVE 3
KNIFE GATE VALVE 3
PLUG VALVE 4
KNIFE GATE VALVE 4
- ⑭ PROPOSED 3/4" CONDUIT FROM PROPOSED ACTUATOR TO PROPOSED MANUAL MOTOR STARTER DISCONNECT (TYP. OF 8)
- ⑮ PROPOSED KNIFE GATE VALVE ACTUATOR (TYP. OF 4)
- ⑯ PROPOSED PLUG GATE VALVE ACTUATOR (TYP. OF 4)
- ⑰ PROPOSED 3/4" NON-METALLIC FLEXIBLE CONDUIT, TRANSITION TO 3/4" RIGID ALUMINUM

KEYED NOTES

FOR USE WITH SHEETS E5 THRU E8

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

No.	DATE	REVISIONS
3		
2		
1		

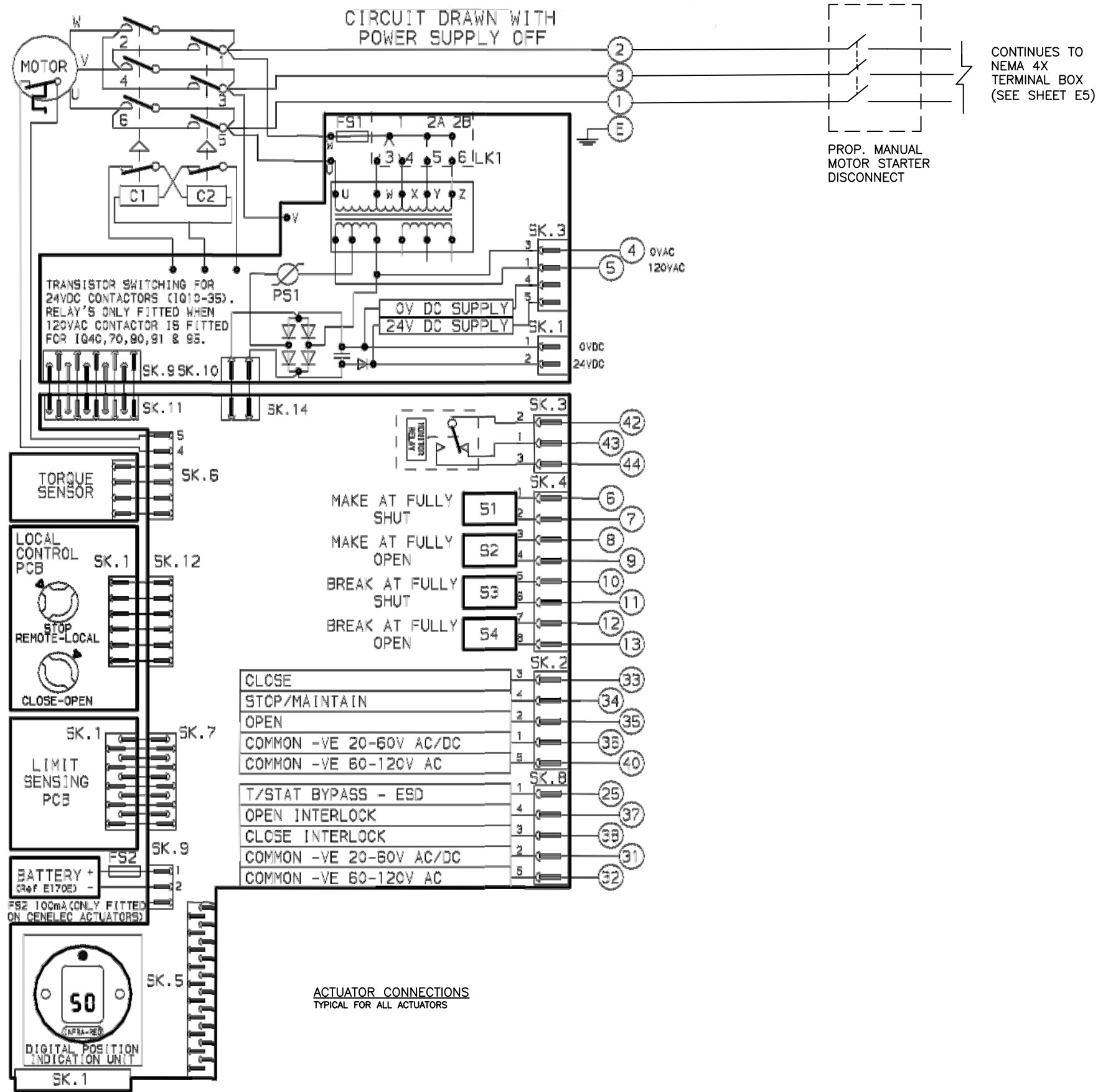
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DRN: LRG
CKD:
DATE: 5/19/15

CITY of TAMPA
WASTEWATER DEPARTMENT

HANNA PUMPING STATION
VALVE REPLACEMENT
ELECTRICAL DETAILS

W.O. 0426

SHEET
E9



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

No.	DATE	REVISIONS
3		
2		
1		

DES: LRG
DRN: LRG
CKD:
DATE: 5/19/15

CITY of TAMPA
WASTEWATER DEPARTMENT

HANNA PUMPING STATION
VALVE REPLACEMENT
ACTUATOR CONTROLS

W.O. 0426
SHEET
E10