CITY OF TAMPA

Bob Buckhorn, Mayor **CONTRACT ADMINISTRATION DEPARTMENT**

Michael W. Chucran, Director

ADDENDUM 5

DATE: December 27, 2017

Contract 17-C-00039; Breckenridge Pumping Station Rehabilitation

Bidders on the above referenced project are hereby notified that the following addendum is made to the Contract Documents. BIDS TO BE SUBMITTED SHALL CONFORM TO THIS NOTICE.

Item 1: Replace Specification, Section 45.01(2)m with the following:
m. Remove existing SCADA Antenna and deliver to the City for maintenance inventory. Provide and install new SCADA Antenna with hinged pole.

Item 2: Replace Drawing Sheets 2, 5, 6, 8, 9, 10, 11, ED, EG3, E1, E3, & E17A with the attached revised drawing sheets.

Item 3: Delete Drawing Sheet 14.

All other provisions of the Contract Documents and Specifications not in conflict with this Addendum shall remain in full force and effect. Questions are to be e-mailed to Contract Administration@tampagov.net.

Jim Greiner

Jim Greiner, P.E., Contract Management Supervisor

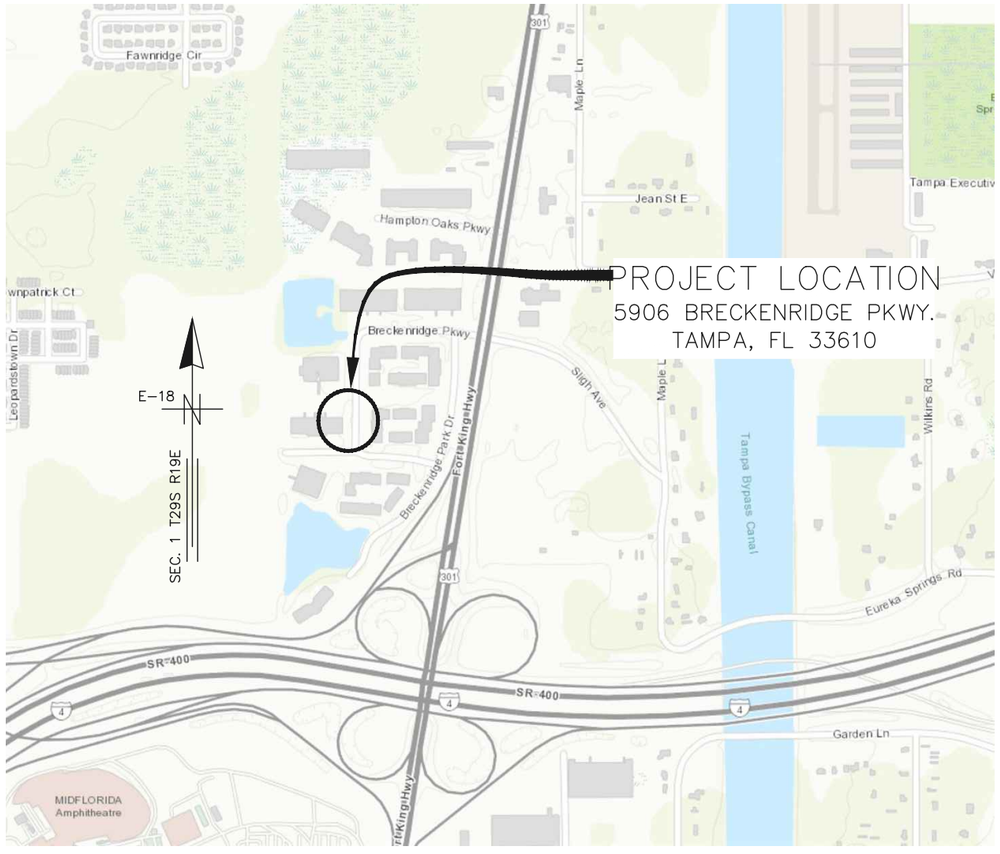
B100-030

EX SEWERS / PROP SEWERS / OTHER FEATURES

	UP to 36" & SMALLER	36" & LARGER
EX FORCE MAIN		
EX SAN SEWER & MANHOLES		
EX STORM SEWER & MANHOLES		
PROP SEWERS		
PROP FORCE MAIN		
PROP SANITARY SEWER & MANHOLES		
PROP STORM SEWER & MANHOLES		

RIGHT of WAY LINE	R/W
EDGE of PAVEMENT	
WATER LINE	
GAS LINE	
ELECTRICAL CABLE or DUCT	
TELEPHONE CABLE or DUCT	
TV CABLE	
VALVE, AIR RELEASE VALVE	
HYDRANT	
CATCH BASIN, GRATE	
POWER POLE	
TELEPHONE POLE	
GUY POLE	
GUY WIRE	
VALVE VAULT	V
WATER METER	M
ELECTRICAL MANHOLE or VAULT	E
TELEPHONE MANHOLE or VAULT	T
TRAFFIC BOX or VAULT	TR
BUILDING LIMIT	1236
PROPERTY OWNERSHIP	
FENCE	
CONIFER	6"
PALM	8"
OAK	10"
OTHER	12"
SHRUB	
HEDGE	
RAILROAD TRACKS	
IRON PIPE	
CONTROL POINT	
CONCRETE MONUMENT	
OPEN DITCHES	
EXISTING WYE	
PROPOSED WYE	
CLEAN OUT	

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



LOCATION MAP

INDEX

	SHEET #	TITLE
	1	COVER SHEET
	2	LEGEND, INDEX & LOCATION MAP
	3	GENERAL NOTES
	4	EXISTING SITE PLAN
1	5	DEMOLITION PLAN
1	6	DEMOLITION SECTION A-A
	7	DEMOLITION SECTION B-B
1	8	PROPOSED PLAN
1	9	PROPOSED SECTION C-C
1	10	PROPOSED SECTION D-D
1	11	CONCRETE SITE PLAN
	12	DETAILS (1)
	13	DETAILS (2)
1	14	~~DETAILS (3)~~
	15	DETAILS (4)
	EG1	ELECTRICAL SYMBOL LEGEND (SHT. 1 OF 2)
	EG2	ELECTRICAL SYMBOL LEGEND (SHT. 2 OF 2)
	EG3	GENERAL NOTES & SCOPE OF WORK
	ED	ELECTRICAL DEMOLOITION EQUIPMENT IDENTIFICATION
	ES	EXISTING ELECTRICAL DEMOLITION SITE PLAN
	E1	PROPOSED ELECTRICAL PLAN VIEW
	E2	ELECTRICAL EQUIPMENT LINE UP FRONT-VIEW
	E3	KEYED NOTES
	E4	PUMP CONTROL PANEL DETAILS
	E5	MOTOR CONTROL PANEL DETAILS
	E6	ONE LINE DIAGRAM
	E7	ELECTRICAL SCHEMATIC (1 OF 3) MOTOR CONTROL PANEL
	E8	ELECTRICAL SCHEMATIC (2 OF 3) PUMP CONTROL PANEL
	E9	ELECTRICAL SCHEMATIC (3 OF 3) PUMP CONTROL PANEL
	E10	MCP TO PCP INTERCONNECTION WIRING DIAGRAM
	E11	ELECTRICAL SCHEMATIC LEGEND (SHT. 1 OF 2)
	E12	ELECTRICAL SCHEMATIC LEGEND (SHT. 2 OF 2)
	E13	PARTS SCHEDULE (SHT. 1 OF 2)
	E14	PARTS SCHEDULE (SHT. 2 OF 2)
	E15	ELECTRICAL DETAILS (SHT. 1 OF 3)
	E16	ELECTRICAL DETAILS (SHT. 2 OF 3)
	E17	ELECTRICAL DETAILS (SHT. 3 OF 3)
1	E17A	ANTENNA DETAIL

ROMAN D. KORCHAK, P.E. #42626
ELECTRICAL SECTION HEAD
DEPARTMENT OF SANITARY SEWERS

No.	DATE	REVISIONS
3		
2		
1	12/11/2017	REVISED SHEETS

DES: VT
DRN: MRL
CKD:
DATE:

CITY of TAMPA
WASTEWATER DEPARTMENT

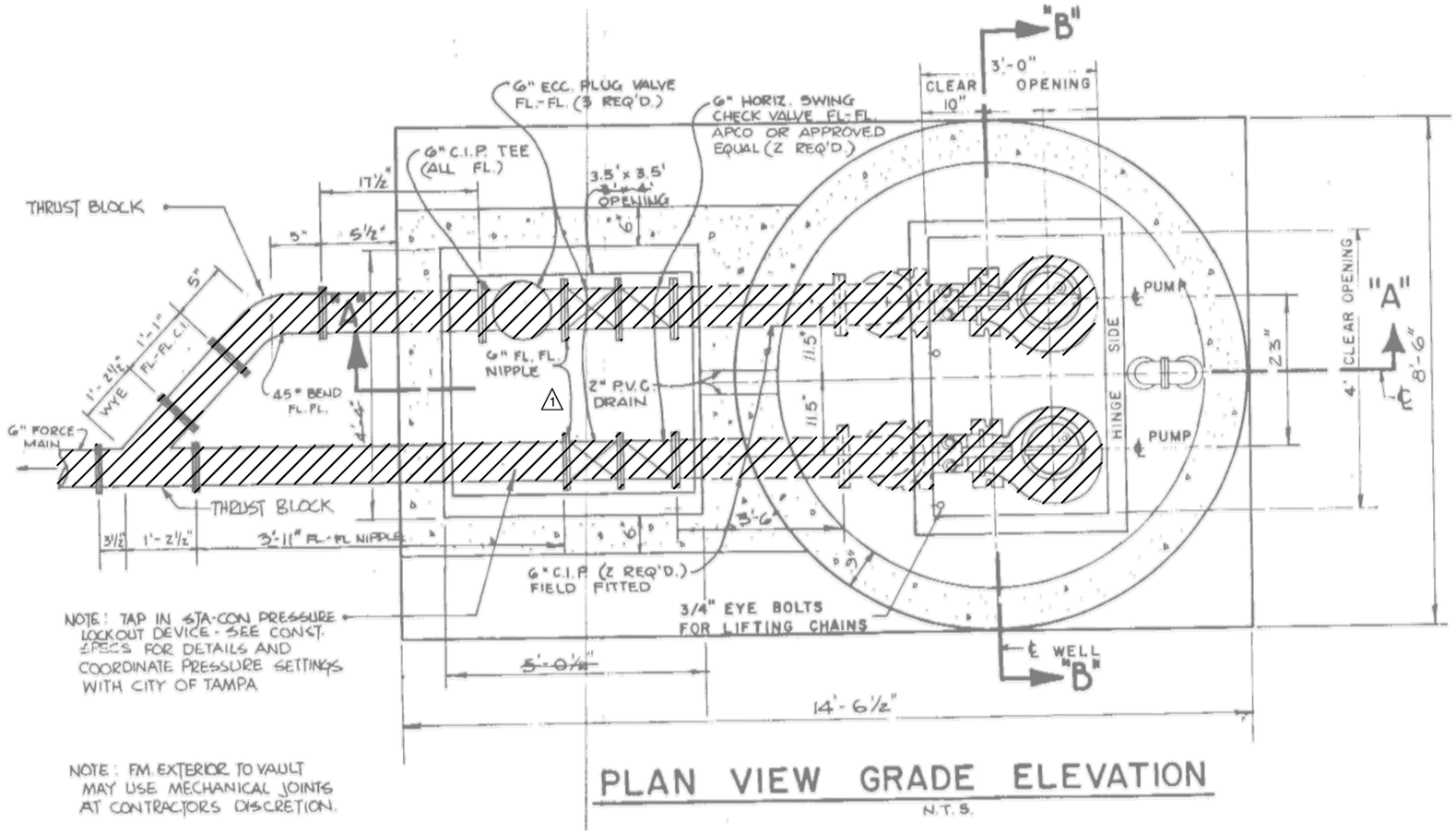
BRECKENRIDGE PUMPING STATION REHABILITATION

LEGEND, INDEX & LOCATION MAP

SHEET 2

B100–033

SEC. 1 T29S R19E — E-18



NOTE: TAP IN SJA-CON PRESSURE LOCKOUT DEVICE - SEE CONST. SPECS FOR DETAILS AND COORDINATE PRESSURE SETTINGS WITH CITY OF TAMPA

NOTE: FM EXTERIOR TO VAULT MAY USE MECHANICAL JOINTS AT CONTRACTORS DISCRETION.

PLAN VIEW GRADE ELEVATION

N.T.S.

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

No.	DATE	REVISIONS
3		
2		
1	11/7/2017	REMOVED HATCHING

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

DES: VT
DRN: MRL
CKD:
DATE:

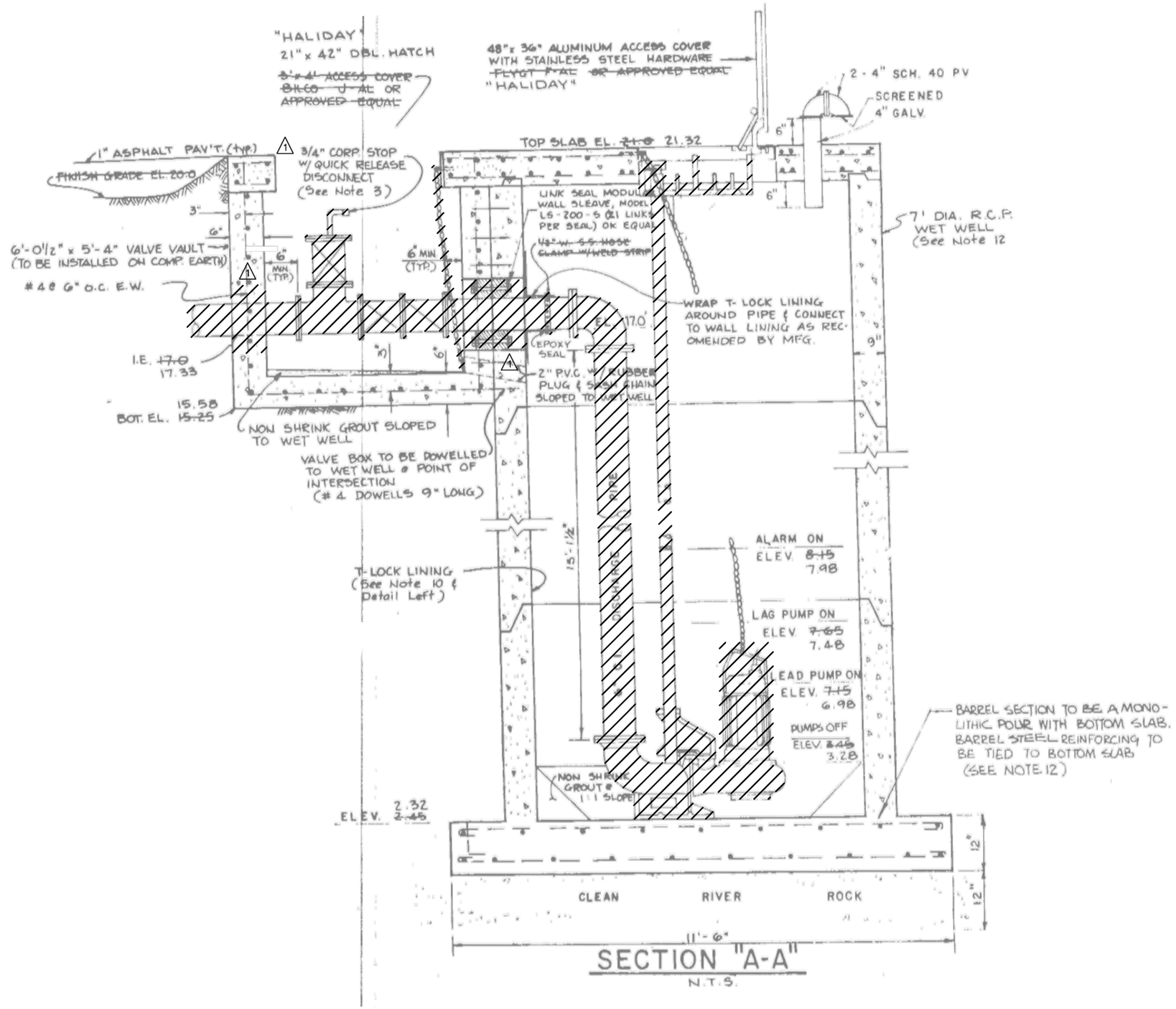
CITY of TAMPA
WASTEWATER DEPARTMENT

BRECKENRIDGE PUMPING STATION REHABILITATION

DEMOLITION PLAN

SHEET 5

Layout– Dec 11, 2017 – 2:19pm CIB – WW-TOSHIBA.CIB TOSHIBA_UNI_COLOR (NORTH WING)



SECTION "A-A"
N.T.S.

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

No.	DATE	REVISIONS
3		
2		
1	11/13/2017	REMOVED HATCHING FROM ACCESS COVER AND ADDED TO WALL

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

DES: VT
DRN: MRL
CKD:
DATE:

CITY of TAMPA
WASTEWATER DEPARTMENT

BRECKENRIDGE PUMPING STATION REHABILITATION

DEMOLITION SECTION A–A

SHEET 6

Layout– Dec 11, 2017 – 2:19pm CIB – WW-TOSHIBA.CIB TOSHIBA_UNI_COLOR (NORTH WING)

B100-036

SEC. 1 T29S R19E

E-18

35'

PROP. 6" THICK CONCRETE SLAB (SEE SHT.11 FOR EXTENT OF SLAB REPLACEMENT)

BYP-SS PUMP

BYP-SS PUMP B-CKUP

Ex. TECO Pad Mounted Transclosure #464 03 36602

PROP. 6" PLUG VALVE (FL/FL) (TYP OF 3) 1

PROP. 6" CHECK VALVE (FL/FL) (TYP OF 2) 1

1 PROP. 6"X6"X6" DIP TEE (FL/FL/FL) AND BLIND FLANGE

1 PROP. 6" DIP SPOOL (PE/FL)

1 PROP. 6" 90° DIP BEND (RMJ/RMJ)

1 PROP. 6" DIP SPOOL

1 PROP. 6" DIP SPOOL

PROP. 6" 90° DIP BEND (RMJ/RMJ)

PROP. 6" DIP SPOOL

PROP. 6" PLUG VALVE (RMJ/RMJ) W/ VALVE BOX

PROP. 6" DIP SPOOL

25'

22'

PROP. 6" DIP TEE (RMJ/RMJ/RMJ)

Ex. 6" CIP FM

1 PROP. 6"X6"X6" DIP TEE (RMJ/RMJ/RMJ)

PROP. LINE STOP (CONTRACTOR SHALL C-ST 3'X3'X2' CONCRETE ENC-SEMENT -T LINE STOP TO RESTR-IN EXISTING F.M.)

LS

PROP. ELECTRICAL EQUIPMENT

PROP. 8" FLOW THROUGH PLUG

RPZ

M

PROP. HOSE BIB (LOCATION TO BE DETERMINED IN THE FIELD)

PROP. RPZ

℄

Asphalt Drive Way

Ex. 6" CIP FM

Ex. Fire Hydrant

Ex. 8" DIP Water Main

PROP. 6" THICK CONCRETE SLAB

PROP. 6" DIP BLIND FL-NGE

PROP. 6" DIP SPOOL (FL/PE) 1

PROP. 90° BEND (RMJ)

PROP. 6" SPOOL

PROP. 6" PLUG V-LVE W/ V-LVE BOX (RMJ)

PROP. 6" SPOOL

El. 21.32'±

℄ ELEV. 18.22±

SECTION X-X
N.T.S.

PLAN VIEW
¼" = 1'-0"

NOTE: CONTRACTOR SHALL RESTRAIN ALL JOINTS FROM VALVE VAULT TO PROPOSED LINE-STOP

	No.	DATE	REVISIONS
	3		
	2		
	1	11/7/2017	VARIOUS CHANGES FROM MOVING VALVES INTO VALVE VAULT

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

DES: VT
DRN: MRL
CKD:
DATE:

CITY of TAMPA
WASTEWATER DEPARTMENT

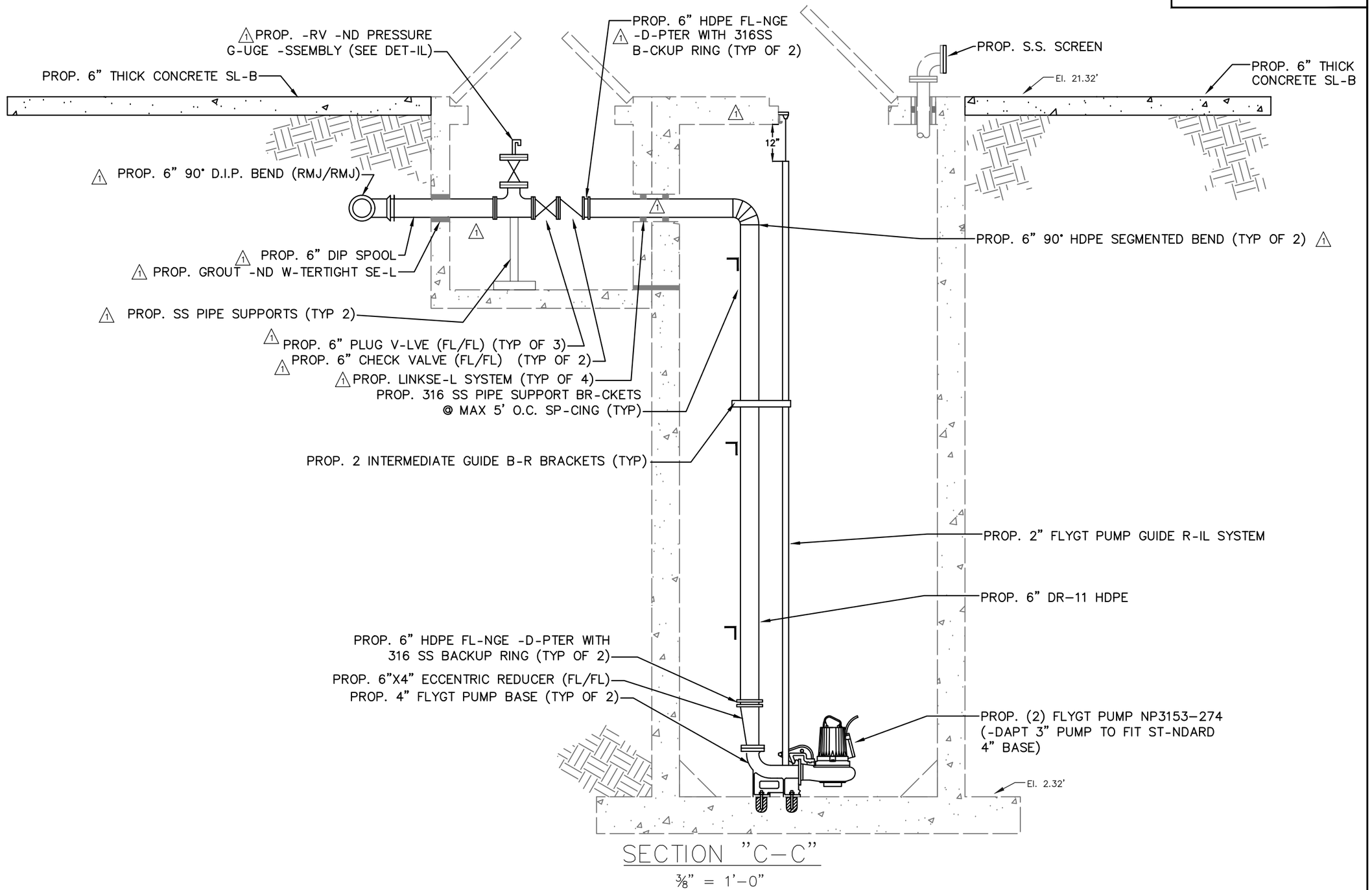
BRECKENRIDGE PUMPING STATION REHABILITATION

PROPOSED PLAN

SHEET 8

Layout- Dec 21, 2011 - 2:10pm CIB - WW-TOSHIBA.CIB TOSHIBA_UNI_COLOR (NORTH WING)

B100–037



SECTION "C–C"

3/8" = 1'–0"

SCALE: 3/8"=1'–0"
1'–0" 0 1'–0"
ME-SURES 3/8" ON ORIG. DWG

Layout– Dec 11, 2017 – 2:19pm CIB – WW–TOSHIBA.CIB TOSHIBA_UNI_COLOR (NORTH WING)

No.	DATE	REVISIONS
3		
2		
1	11/7/2017	VARIOUS CHANGES FROM MOVING VALVES INTO VALVE VAULT

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

DES: VT
DRN: MRL
CKD:
DATE:

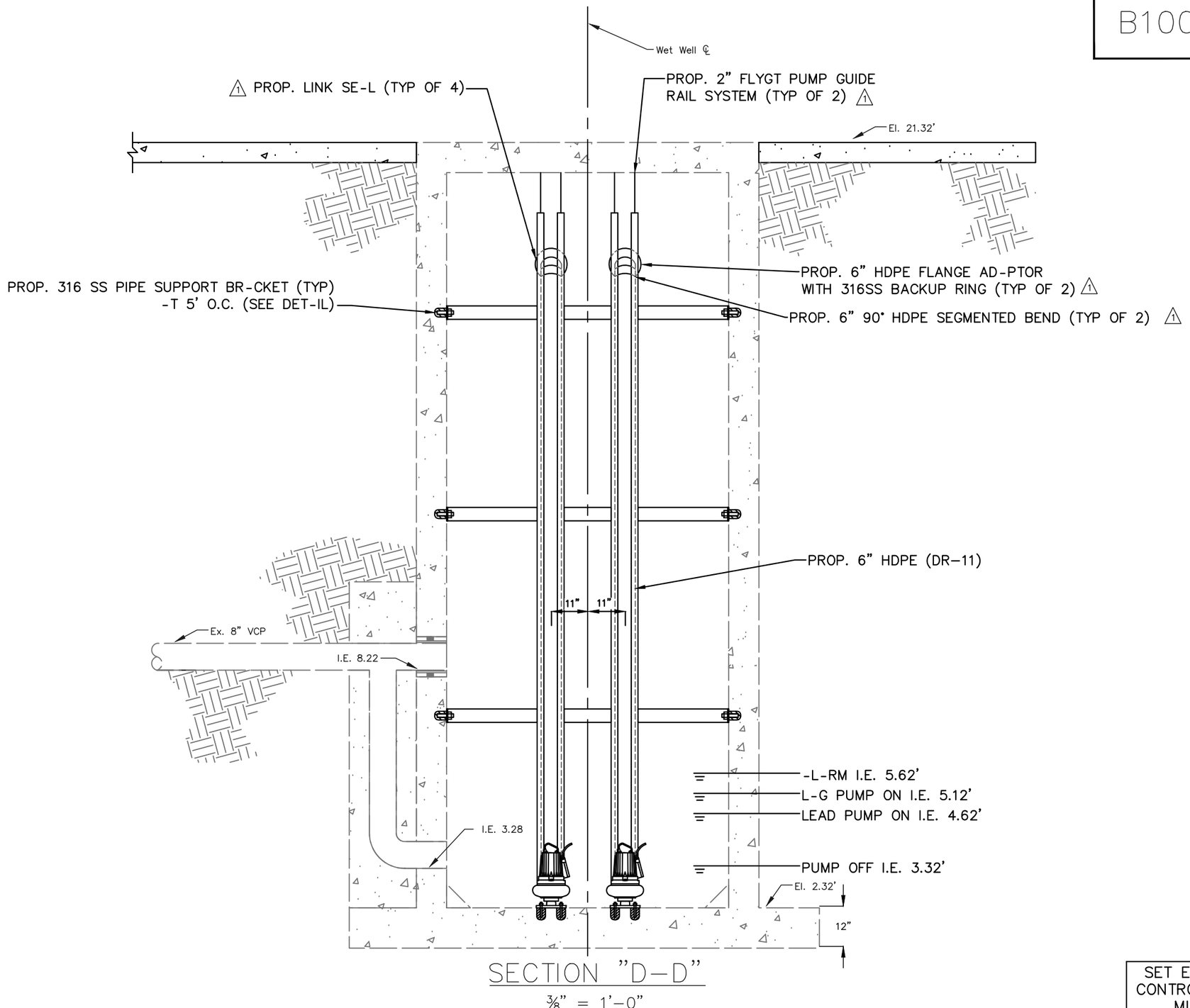
CITY of TAMPA
WASTEWATER DEPARTMENT

BRECKENRIDGE PUMPING STATION REHABILITATION

PROPOSED SECTION C–C

SHEET 9

B100–038



SECTION "D–D"

3/8" = 1'–0"

SCALE: 3/8"=1'–0"
1'–0" 0 1'–0"
ME-SURES 3/8" ON ORIG. DWG

SET EMERGENCY CONTROLLER TO 5 MINUTES.

No.	DATE	REVISIONS
3		
2		
1	11/7/2017	VARIOUS CHANGES FROM MOVING VALVES INTO VALVE VAULT

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

DES: VT
DRN: MRL
CKD:
DATE:

CITY of TAMPA
WASTEWATER DEPARTMENT

BRECKENRIDGE PUMPING STATION REHABILITATION

PROPOSED SECTION D–D

SHEET 10

User: ss8k Drawing Name: K:\WasteWater Projects\Breckenridge PS Rehabilitation\Drafting\DWG\Breckenridge PS ARCH.dwg Layout– Dec 11, 2017 – 2:19pm CTB – WW–TOSHIBA.CTB

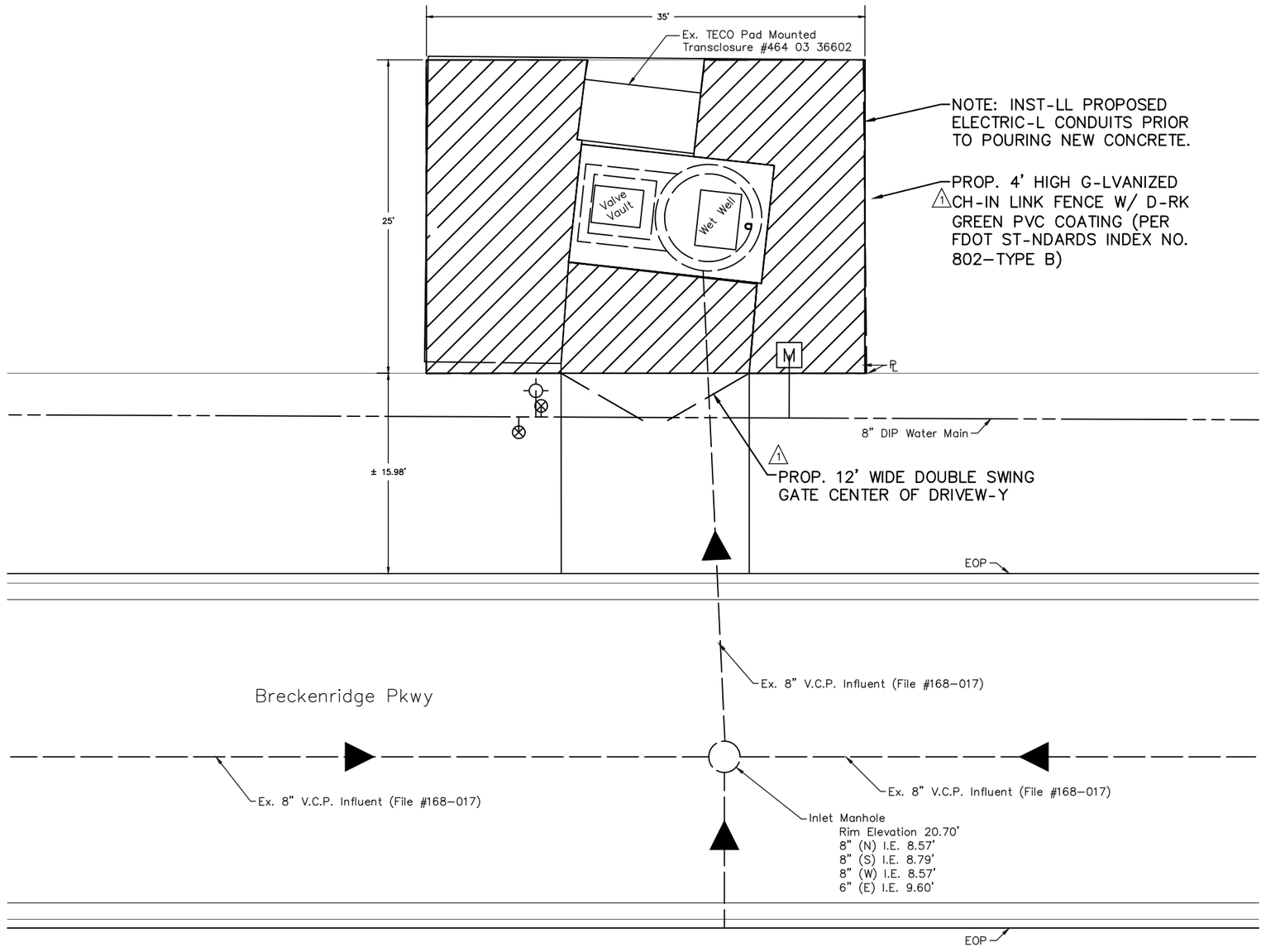
B100-039

SEC. 1 T29S R19E

E-18

0 10

1" = 10'-0"



PLAN VIEW
SCALE 1"=10'

HATCHED AREAS ON THIS SHEET INDICATE CONCRETE OR ASPHALT TO BE REMOVED AND REPLACED WITH A 6" CONCRETE SLAB

No.	DATE	REVISIONS
3		
2		
1	11/13/2017	ADDED FENCE AND GATE

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

DES: VT
DRN: MRL
CKD:
DATE:

CITY of TAMPA
WASTEWATER DEPARTMENT

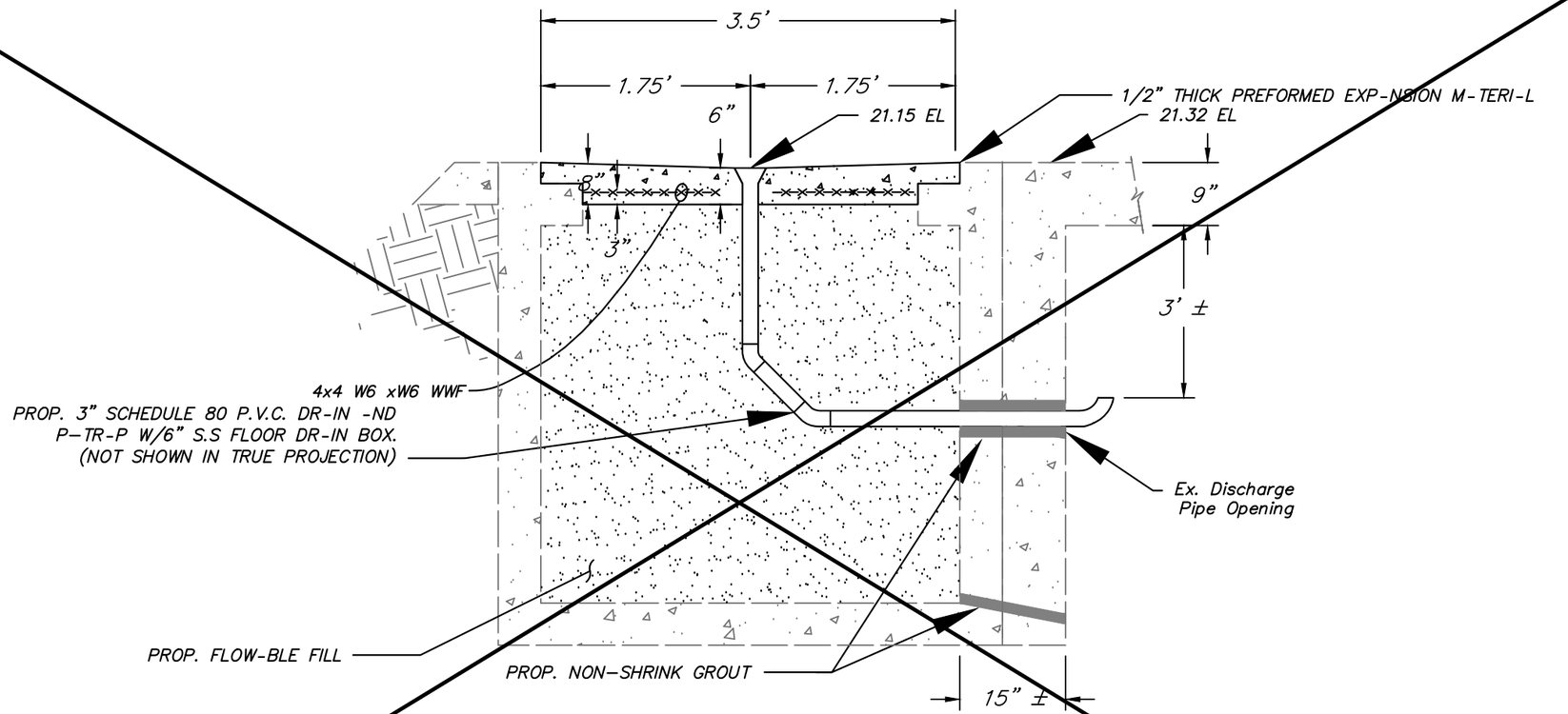
BRECKENRIDGE PUMPING STATION REHABILITATION

CONCRETE SITE PLAN

SHEET 11

Layout- Dec 11, 2017 - 3:15pm CIB - WW-TOSHIBA.CIB TOSHIBA_UNI_COLOR (NORTH WING)

B100-042



VALVE MANIFOLD SLAB SECTION

N.T.S.

Layout- Dec 11, 2017 - 2:19pm CIB - WW-TOSHIBA.CIB TOSHIBA_UNI_COLOR (NORTH WING)

No.	DATE	REVISIONS
3		
2		
1	12/11/2017	SHEET REMOVED

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

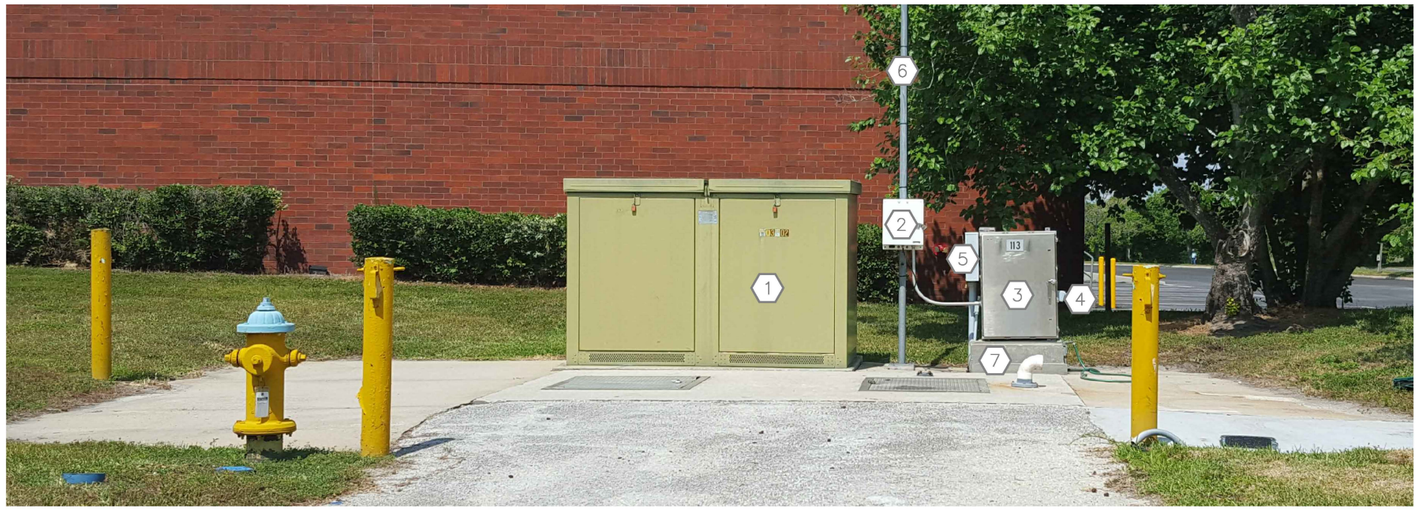
DES: VT
DRN: MRL
CKD:
DATE:

CITY of TAMPA
WASTEWATER DEPARTMENT

BRECKENRIDGE PUMPING STATION REHABILITATION

DETAILS (3)

SHEET 14



EXISTING CONTROL PANEL
STREET VIEW

EXISTING CONTROL PANEL
BACK VIEW

KEYED NOTES:

1. *EXISTING TECO PAD MOUNTED TRANSCLOSURE 464 03 36602 (NO WORK REQUIRED).*
2. *EXISTING DCR SCADA RTU CABINET. (SEE SCOPE OF WORK, NOTE 3, SH. EG3).*
3. *EXISTING CONTROL PANEL (TO BE REMOVED).*
4. *EXISTING EMERGENCY CONNECTOR (TO BE REMOVED).*
5. *EXISTING TECO METER (TO BE REMOVED).*
6. *EXISTING SCADA ANTENNA (TO BE REPLACED).* (1)
7. *EXISTING CONCRETE PEDESTAL AND STEP (TO BE REMOVED).*

	No.	DATE	REVISIONS				
ROMAN D. KORCHAK, P.E. #42626 ELECTRICAL SECTION HEAD DEPARTMENT OF SANITARY SEWERS	3			DES: LRG DRN: MRL CKD: DATE:	CITY of TAMPA WASTEWATER DEPARTMENT	BRECKENRIDGE PUMPING STATION REHABILITATION ELECTRICAL DEMOLOITION EQUIPMENT IDENTIFICATION	SHEET ED
	2						
	1	11/7/2017	NOTE 6 REVISION				

B100-048

GENERAL NOTES:

1. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR APPROVAL PRIOR TO PURCHASING EQUIPMENT OR COMMENCING CONSTRUCTION.
2. ALL POWER CONDUCTORS SHALL BE STRANDED COPPER, #12 AWG MIN. W/XHHW-2 INSULATION, UNLESS OTHERWISE NOTED.
3. ALL WIRING SHALL BE IDENTIFIED W/NUMBERS AT ALL TERMINALS AND ON WIRING DIAGRAMS.
4. VERIFY ALL MECHANICAL EQUIPMENT SIZES AND RATING PRIOR TO CONNECTING.
5. FIELD VERIFY ALL EQUIPMENT LOCATIONS AND CONNECTIONS PRIOR TO COMMENCING CONSTRUCTION.
6. PLANS ARE DESIGNED IN ACCORDANCE WITH THE 5TH EDITION 2014 OF THE FLORIDA BUILDING CODE AND THE 2011 EDITION OF THE NATIONAL ELECTRICAL CODE. CONTRACTOR SHALL ENSURE THAT ALL ELECTRICAL WORK PERFORMED SHALL ADHERE TO THE SAME ACCORDANCE AND ALL APPLICABLE LOCAL ORDINANCES.
7. ALL THREADED CONNECTIONS SHALL BE COATED W/ ALUMA-SHIELD ANTI-SIEZE COMPOUND MANUFACTURED BY THOMAS & BETTS (T & B) OR EQUAL.
8. ALL PANELS, DISCONNECTS, SWITCHES, AND EQUIPMENT COVERPLATES SHALL BE LABELED W/ NAMEPLATES. NAMEPLATES SHALL BE THREE-PLY PHENOLIC BLACK-WHITE-BLACK ENGRAVED THROUGH THE FIRST BLACK LAYER. LETTERING SHALL BE 0.5 CM (3/16") MIN. EDGE OF NAMEPLATE SHALL BE BEVELED 45 DEG.
9. ALL CONDUIT SHALL BE SUPPORTED AT MAXIMUM 5'-0" INTERVALS.
10. ALL CIRCUITS SHALL HAVE A PROPERLY SIZED GROUNDING CONDUCTOR ROUTED INSIDE EACH CONDUIT W/ POWER CONDUCTORS.
11. ALL CONDUCTOR LENGTHS SHALL BE CONTINUOUS, NO SPLICES OR CONDUCTOR TERMINATIONS SHALL BE PERMITTED UNLESS SPECIFICALLY DESIGNED IN THE DRAWINGS.
12. NEATLY COIL ALL SPARE CONDUCTORS & TAPE W/ VINYL ELECTRICAL TAPE (SCOTCH 33+).
13. PROVIDE A MINIMUM OF 3'-6" CLEARANCE IN FRONT OF ALL ELECTRICAL EQUIPMENT IN ACCORDANCE W/ ARTICLE 110 OF THE NEC.
14. ALL FASTENING HARDWARE (SCREW, BOLTS, NUTS, ETC.) SHALL BE 316-STAINLESS STEEL. FASTENING HARDWARE CONSTRUCTED OF FERROUS MATERIAL ARE NOT ACCEPTABLE.
15. EXPOSED CONDUITS SHALL BE NON-COATED RIGID ALUMINUM CONDUIT, UNLESS OTHERWISE NOTED (UON). INSTALL PVC COATED RIGID ALUMINUM CONDUIT TO THE WET WELL, UNLESS OTHERWISE NOTED (UON).
16. DIRECT BURIED AND CONCRETE ENCASED CONDUIT SHALL BE SCHEDULE 80 PVC, UNLESS OTHERWISE NOTED. TRANSITIONS FROM ABOVE-GRADE RIGID ALUMINUM CONDUIT TO NONMETALLIC CONDUIT SHALL BE ACCOMPLISHED WITH A THREADED ADAPTER. RIGID ALUMINUM CONDUIT INSTALLED ABOVE GRADE AND EXTENDING BELOW GRADE SHALL INCLUDE THE FIRST 90° ELBOW. ALL RIGID ALUMINUM CONDUITS EXTENDING BELOW GRADE SHALL BE COATED WITH TWO COATS OF ASPHALTUM-TYPE PAINT ALONG ITS ENTIRE LENGTH BELOW GRADE AND EXTENDING 6" ABOVE GRADE OR ABOVE THE TOP OF THE FINISHED SLAB.
17. ABOVE GRADE INDOOR, AND NON-WASHDOWN AREAS, RIGID ALUMINUM CONDUIT CONNECTIONS TO CONTROL BOXES, ETC. SHALL BE MADE WITH ALUMINUM DOUBLE LOCKNUTS AND BUSHINGS. TURN DOWN ON THREADS TO SOLIDLY CONNECT RACEWAY TO BOX OR ENCLOSURE.
18. ALUMINUM WATERTIGHT HUBS (MYERS HUBS) SHALL BE USED FOR CONNECTIONS TO CONTROL BOXES, ETC. MOUNTED OUTDOORS, BELOW GRADE, OR WASHDOWN AREAS.
19. A 316-STAINLESS STEEL CHANNEL ERECTOR SYSTEM SHALL BE USED TO SUPPORT ALL CONDUITS, BOXES ETC. USE 316 STAINLESS STEEL MOUNTING HARDWARE.
20. THE CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND MAKE ADJUSTMENTS AS NECESSARY TO EXECUTE THE PROPOSED INSTALLATIONS.
21. ALL EXISTING INSTALLATIONS DENOTED ON THE DRAWINGS ARE FOR THE CONTRACTORS REFERENCE ONLY. ALL EXISTING INSTALLATIONS SHALL BE FIELD VERIFIED PRIOR TO SUBMITTING A BID AND PRIOR TO COMMENCING CONSTRUCTION.
22. PULL BOXES SHALL BE INSTALLED AS NECESSARY TO FACILITATE WIRE PULLS AND AVOID EXCESSIVE PULLING TENSION ON WIRING. IN NO CASE SHALL CONDUIT LENGTHS EXCEED 150' OR THE EQUIVALENT OF FOUR QUARTER BENDS (360 DEGREES TOTAL) WITHOUT A PULL BOX. PULL BOXES SHALL BE SIZED IN ACCORDANCE WITH ARTICLE 314 OF THE NEC.
23. THE WET WELL CLASSIFICATION IS CLASS 1, DIVISION 1, GROUP D, (HAZARDOUS AREA) NEC CHAPTER 5 IS APPLICABLE FOR INTERFACING WET WELL AND THE ENCLOSURES.
24. ALL ELECTRICAL WORK SHALL BE PERFORMED WITHIN 2011 NEC AND CITY OF TAMPA/HILLSBOROUGH COUNTY CODES AND SHALL BE INSPECTED BY CITY OF TAMPA/HILLSBOROUGH COUNTY ELECTRICAL INSPECTORS AS APPLICABLE.
25. ALL ELECTRICAL COMPONENTS SHALL BE UL LISTED AND AS SPECIFIED, OR AS APPROVED BY THE ENGINEER. THE PANEL BUILDER SHALL BE UL-508A CERTIFIED AND A UL LABEL SHALL BE ATTACHED TO THE INSIDE OF THE ENCLOSURE. THE DOUBLE THROW DISCONNECT MUST BE LABELED "SUITABLE FOR USE AS SERVICE EQUIPMENT."
26. THE ENCLOSURES SHALL BE NEMA 4X, THEY SHALL BE CONSTRUCTED OF MINIMUM 14 GAUGE 304SS, THEY SHALL HAVE RAL 9003 WHITE POWDER COAT AND THE CLOSING SURFACES SHALL HAVE ROLLED LIPS, PROVIDE HINGED DOORS WITH 3-POINT LATCHED AND LOCKABLE HANDLES.
27. ALL COMPONENTS TO BE MOUNTED ON PANEL USING TAPPED HOLES.
28. ALL CONTROL WIRING SHALL BE COPPER, ALL CONTROL WIRING SHALL BE STRANDED XHHW-2 COPPER, MINIMUM AWG #14 AND SHALL HAVE SPADE LUG TERMINATIONS.
29. ALARM FLOAT SWITCH WILL BE SUPPLIED BY THE CITY, BUT INSTALLED BY CONTRACTOR.
30. DIMENSIONS, ITEMS, OR ELEVATIONS MARKED "*" TO BE DETERMINED AFTER EQUIPMENT SELECTION.
31. ALL MECHANICAL CONNECTORS SHALL BE TORQUED PER NEC, UL OR MANUFACTURES SPECIFICATIONS.
32. INSTALL LAMINATED SCHEMATIC, LAMINATED DATA SHEET AND LAMINATED SOFT STARTER SETUP PARAMETERS ON BACK FACE OF THE DOOR INSIDE THE ENCLOSURE.
33. ENSURE THAT LINE CONNECTIONS TO METER SOCKET PROVIDE CORRECT MOTOR ROTATION.
34. CONDUCTORS WITHIN THE ENCLOSURE AND NOT ROUTED IN WIREWAYS, SHALL BE SECURED TO THE BACK PANEL WITH MECHANICAL FASTENERS, FASTENERS SECURED WITH ADHESIVE ARE NOT ACCEPTABLE.
35. ALL HINGED SURFACES SHALL BE GROUNDED WITH A BONDING JUMPER SECURED TO THE ENCLOSURE OR BACKPANEL.
36. THE PCSR SHALL BE MOTOROLA ACE 3600 PACKAGE AS DISTRIBUTED BY DCR ENGINEERING SERVICES INC. SCADAONE, LLC., STAR CONTROLS OR REVERE CONTROL SYSTEMS. THE PUMPING STATION CONTRACTOR SHALL COORDINATE HIS EFFORTS WITH DCR, SCADAONE, STAR CONTROLS OR REVERE CONTROL SYSTEMS TO ENSURE SYSTEM COMPATIBILITY. THE CONTRACTOR SHALL PROVIDE AND INSTALL A COMPLETE DUPLEX CONTROL SYSTEM/SCADA PACKAGE, AS PROGRAMMED BY DCR, SCADAONE, STAR CONTROLS OR REVERE CONTROLS – THE EXISTING PUMPING STATION DCR CONTROLS SHALL REVERT TO THE CITY AS A SPARE.
37. THE CONTRACTOR SHALL SCHEDULE A PUMP STATION SCADA TESTING DATE, PUMP STATION PRE-STARTUP DATE, AND PUMP STATION STARTUP DATE. THE CITY SHALL BE GIVEN 14 DAYS' NOTICE OF THE SCHEDULED SCADA TESTING DATE. PRIOR TO THE SCHEDULED SCADA TESTING DATE, THE CITY SHALL REMOVE THE EXISTING PLC AND INSTALL A TEMPORARY AUTO DIALER FOR ALARMING NEEDS. ON THE SCADA TESTING DATE, THE SCADA PROGRAMMER SHALL PROVIDE TEMPORARY POWER TO THE CONTROL PANEL PLC, PLACE THE NEW PLC ONLINE WITH THE CITY'S VT SCADA SYSTEM, AND PREFORM ANY NEEDED TROUBLESHOOTING OR DEBUGGING. AFTER THE SCADA PROGRAMMER DETERMINES THAT THE NEW PLC AND THE VT SCADA ARE PROPERLY COMMUNICATING WITHOUT ISSUE, THE CONTRACTOR SHALL SCHEDULE AN ONSITE PLC WITNESS TEST BETWEEN THE CITY OR CITY REPRESENTATIVE, SCADA PROGRAMMER, AND ANY OTHER REQUIRED PARTIES. DURING THE PLC WITNESS TEST, THE SCADA PROGRAMMER MUST DEMONSTRATE THAT THE NEW PLC IS ONLINE, COMMUNICATING WITH VT SCADA, AND ALL LEVEL AND STATUS INDICATIONS ARE FREE FROM ERROR. ONCE THE CITY HAS WITNESSED AND APPROVED THE SCADA TESTING, THE CONTRACTOR SHALL SCHEDULE A PRE-STARTUP DATE AND STARTUP DATE. THE CITY RESERVES THE RIGHT TO CANCEL THE PRE-STARTUP DATE, IF IT DEEMS THE PRE-STARTUP IS NOT NECESSARY.
38. (1) THE CONTROL PANELS SHALL BE FACTORY TESTED. THE CONTRACTOR SHALL PROVIDE A CERTIFIED TESTING REPORT DETAILING ALL I/O POINTS, CONNECTION, AND EQUIPMENT ARE IN WORKING ORDER. A COPY OF THE REPORT SHALL BE PROVIDED TO THE CITY PRIOR TO DELIVERY AND A COPY SHALL BE INCLUDED WITH THE CONTROL PANELS AT THE TIME OF DELIVERY.
39. A WET WELL LEVEL DETECTION SYSTEM SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR. THE OUTPUT SHALL BE A LINEAR 4-20mA SIGNAL WITH RANGE AND CALIBRATION SUITABLE FOR THIS APPLICATION. THE SYSTEM SHALL BE OF THE ULTRASONIC TYPE-PULSAR, INC. MODEL dB10 W/ BLACKBOX 130 TRANSMITTER. CITY INSTRUMENTATION PERSONNEL WILL ASSIST THE CONTRACTOR WITH SPECIFYING THE TRANSDUCER MOUNTING LOCATION AND CALIBRATION. THE dB10 TRANSDUCER SHALL BE MOUNTED USING A 2 1/2" x 1/4" S.S. BRACKET, SEE dB10 MOUNTING BRACKET DETAIL, SHEET E17.
40. PROVIDE 1/4" MINIMUM THICKNESS LEXAN SHIELDS OVER POWER DISTRIBUTION BLOCK AND OTHER EXPOSED CABLE TERMINATIONS.
41. XHHW-2 CONDUCTORS (3-#6 AWG + 1-#8 AWG GND. CU FOR EACH MOTOR) SHALL EXTEND FROM THE CONTROL PANEL TO ASSOCIATED HIGH VOLTAGE JUNCTION BOX. PROVIDE SEAL-OFF BETWEEN CONTROL PANEL AND JUNCTION BOX AS INDICATED. THE SHOWN SEAL-OFFS SHALL BE ALUMINUM BODY, CROUSE-HINDS, OR EQUIVALENT.
42. ALUMINUM CONDUIT SURFACE THAT IS A CONTACT WITH SOIL OR CONCRETE SHALL BE COATED WITH TWO COATS ASPALT VARNISH (FED. SPEC. TT-V-51) EXTENDING 4" BEYOND FINAL CONTACT POINT.
43. STAINLESS STEEL HANGERS TO SUPPORT THE EXCESS LENGTH OF MOTOR CABLES SHALL BE INSTALLED IN THE WET WELL. THESE HANGERS SHALL BE LOCATED IN A SEPARATE AREA FROM THE HANGERS SUPPORTING THE PUMP CHAINS.
44. HIGH LEG OF DELTA SERVICE MUST BE COLOR CODED ORANGE AS PER NEC 230-56. ENSURE THAT THE LINE CONNECTIONS TO METER SOCKET PROVIDE CORRECT METER ROTATION.

SCOPE OF WORK:

1. THE SERVICE VOLTAGE TO THIS FACILITY SHALL REMAIN 120/240 VAC. 3-PHASE, 4-WIRE, DELTA.
2. REMOVE THE EXISTING METER SOCKET, LIGHTNING ARRESTER, CONTROL PANEL CONCRETE PEDESTAL AND ALL ASSOCIATED CONDUIT AND CONDUCTORS, AS SHOWN ON PLANS.
3. CAREFULLY REMOVE THE EXISTING DCR SCADA RTU CABINET MOUNTED ON THE EXISTING SCADA ANTENNA. DELIVER THIS RTU PACKAGE TO THE CITY FOR MAINTENANCE INVENTORY.
4. ANY SALVAGEABLE MATERIALS, AS DETERMINED BY THE ENGINEER, SHALL BE DELIVERED, BY THE CONTRACTOR, TO THE HOWARD F. CURREN AWTP. THE CONTRACTOR SHALL PROPERLY DISPOSE OF ALL OTHER REMOVED EQUIPMENT.
5. PROVIDE AND INSTALL A NEW ELECTRICAL METER SOCKET, LIGHTNING ARRESTER AND GROUNDING, AS SHOWN ON PLANS.
6. PREPARE THE SITE FOR THE INSTALLATION OF THE PROPOSED CONTROL EQUIPMENT.
7. PROVIDE AND INSTALL A NEW DUPLEX PUMP CONTROL PANEL. THE PUMP CONTROL PANEL SHALL CONTAIN CONTROL COMPONENTS, INDICATOR LIGHTS, AND SCADA RTU AS SHOWN ON THE PLANS AND DETAILED IN THE SPECIFICATIONS.
8. PROVIDE AND INSTALL NEMA 4X WET WELL ISOLATION JUNCTION BOX FOR PUMP MOTOR CONNECTIONS.
9. PROVIDE AND INSTALL A NEW DUPLEX MOTOR CONTROL PANEL. THE MOTOR CONTROL PANEL SHALL CONTAIN CIRCUIT BREAKERS AND REDUCED VOLTAGE SOFT STARTERS AS SHOWN ON THE PLANS AND DETAILED IN THE SPECIFICATIONS.
10. PROVIDE AND INSTALL NEMA 4X WET WELL ISOLATION BOX FOR INSTRUMENTATION AND CONTROL CONNECTIONS.
11. PROVIDE AND INSTALL A NEMA 4X, SERVICE ENTRANCE RATED, FUSED DOUBLE THROW SWITCH, AS SHOWN ON PLANS.
12. PROVIDE AND INSTALL EMERGENCY POWER CONNECTOR, AS SHOWN ON THE PLANS.
13. (1) REMOVE EXISTING SCADA ANTENNA AND DELIVER TO THE CITY FOR MAINTENANCE INVENTORY. PROVIDE AND INSTALL A NEW SCADA ANTENNA WITH HINGED POLE.
14. PROVIDE AND INSTALL AREA LIGHT AS SHOWN ON THE PLANS.
15. CALIBRATE AND ADJUST SETPOINTS FOR ALL SENSING DEVICES, ALARM DEVICES, AND TIMERS. CALIBRATION AND SETPOINTS SHALL BE PROVIDED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
16. PROVIDE FOR PROPER GROUNDING AS SHOWN, SPECIFIED AND REQUIRED.
17. PROVIDE AND INSTALL ALL NECESSARY CONDUITS AND CONDUCTORS AS SHOWN, SPECIFIED AND REQUIRED.
18. THE EXISTING PUMP MOTOR AND BUBBLER CONDUITS SHALL BE ABANDONED IN PLACE, CAPPED OFF AT BOTH ENDS, AND FILLED WITH GROUT. PATCH/SEAL ANY OPENINGS AND DAMAGED CONCRETE WITH APPROVED PRODUCTS AND FINISH TO MATCH SURROUNDING SURFACE.
19. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE 2011 EDITION OF THE NATIONAL ELECTRIC CODE AND CHAPTER 5 OF THE CITY OF TAMPA CODE.
20. REFER TO CIVIL/MECHANICAL SHEETS FOR BYPASS PUMPING REQUIREMENTS. IF ELECTRICALLY DRIVEN BYPASS PUMPS ARE UTILIZED, THE CONTRACTOR SHALL COORDINATE ALL TEMPORARY ELECTRICAL SERVICE REQUIREMENTS WITH TAMPA ELECTRIC COMPANY (TECO). ANY COSTS ASSOCIATED WITH TEMPORARY ELECTRIC POWER ARE TO BE INCLUDED IN THE LUMP SUM PRICE AND NO SEPARATE PAYMENT WILL BE MADE.

ROMAN D. KORCHAK, P.E. #42626
ELECTRICAL SECTION HEAD
DEPARTMENT OF SANITARY SEWERS

No.	DATE	REVISIONS
3		
2		
(1)	11/13/2017	NOTE REVISION

DES: LRG
DRN: MRL
CKD:
DATE:

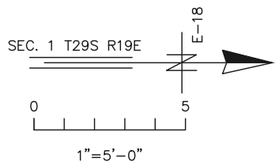
CITY of TAMPA
WASTEWATER DEPARTMENT

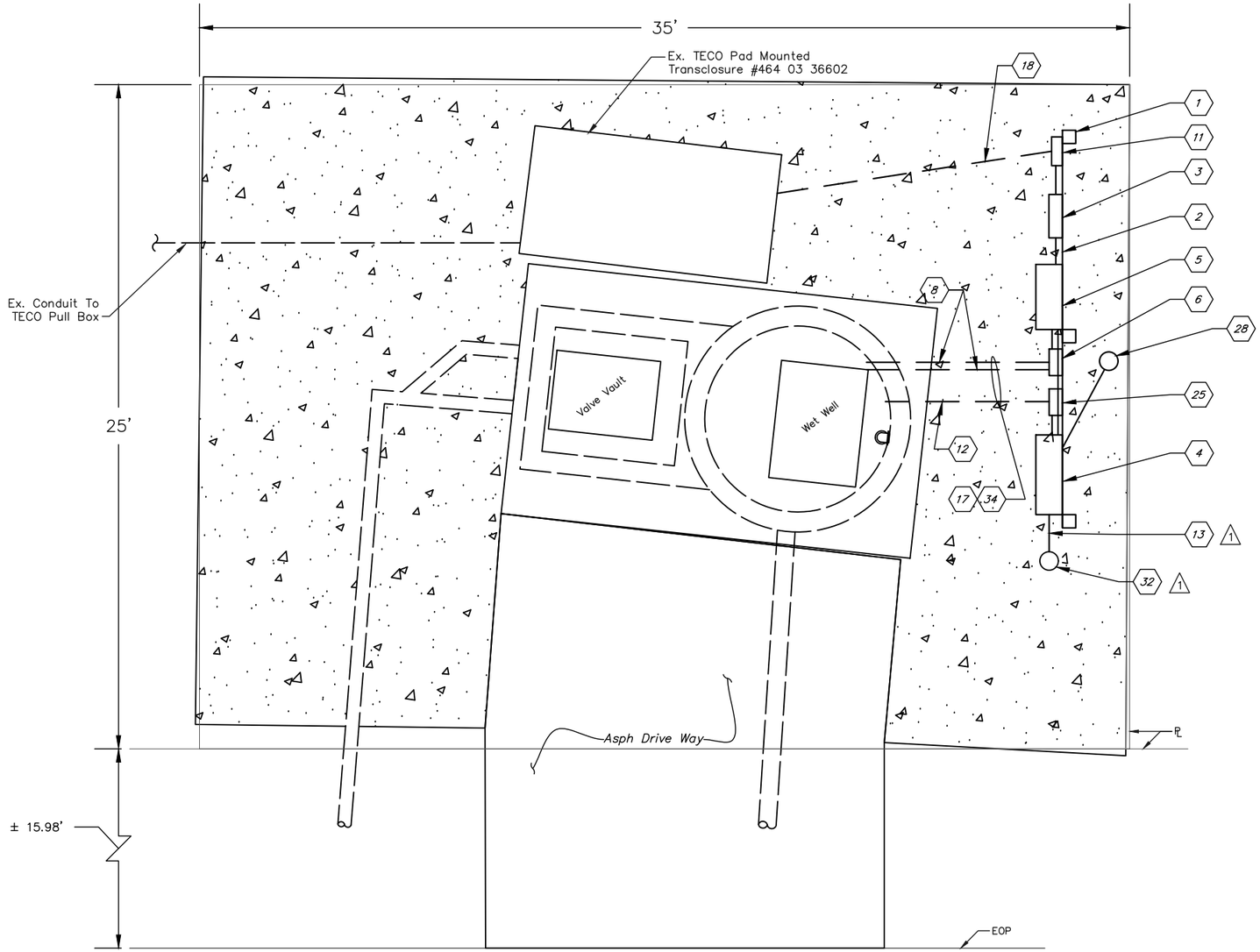
BRECKENRIDGE PUMPING STATION REHABILITATION

GENERAL NOTES & SCOPE OF WORK

SHEET
EG3

B100-049





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

SEE KEYED NOTES ON SHEET E3.

No.	DATE	REVISIONS
3		
2		
1	11/13/2017	RELOCATED SCADA ANTENNA

ROMAN D. KORCHAK, P.E. #42626
ELECTRICAL SECTION HEAD
DEPARTMENT OF SANITARY SEWERS

DES: LRG
DRN: MRL
CKD:
DATE:

CITY of TAMPA
WASTEWATER DEPARTMENT

BRECKENRIDGE PUMPING STATION REHABILITATION

PROPOSED ELECTRICAL PLAN VIEW

SHEET
E1

Layout- Dec 11, 2017 - 3:15pm CIB - WW-TOSHIBA.CIB TOSHIBA_UNI_COLOR (NORTH WING)

KEYED NOTES:

1. PROVIDE AND INSTALL THREE (3) 6" X 6" X 9' REINFORCED SQUARE CONCRETE POSTS.
2. PROVIDE AND INSTALL 1–5/8" x 1–5/8" 316 STAINLESS STEEL UNISTRUT WITH 316 STAINLESS STEEL HARDWARE. NOTE: INSTALL ALL BOLTS FOR UNISTRUT COMPLETELY THROUGH CONCRETE POSTS.
3. PROVIDE AND INSTALL SERVICE ENTRANCE RATED HEAVY DUTY, DOUBLE THROW, FUSIBLE SWITCH, 3–POLE, 240 VAC, 200 AMP IN NEMA 4X TYPE ENCLOSURE, 240 VAC, DUAL–ELEMENT, TIME–DELAY CLASS RK5 FUSES; SWITCH––EATON DT324FWK, DT200NK–NEUTRAL KIT, DS200GK–GROUND LUG KIT, DS46FK–"R" FUSE ADAPTER KIT.
4. PROVIDE AND INSTALL PUMP CONTROL CABINET. REFER TO DETAIL ON SHEET E4.
5. PROVIDE AND INSTALL MOTOR CONTROL CABINET. REFER TO DETAIL ON SHEET E5.
6. PUMP MOTOR CONNECTIONS J.B.–USED AS A DEMARCATION BOX TO PROVIDE ISOLATION BETWEEN THE WET WELL AND PUMP CONTROLS. PROVIDE AND INSTALL A 12"x12"x6" NEMA 4X, STAINLESS STEEL JUNCTION BOX WITH HINGED DOOR, WIEGMANN #BN4121206CHSS. INSTALL A STAINLESS STEEL LOUVER PLATE KIT (4.75"x 4.5") ON SIDE OF BOX TO PROVIDE NATURAL ASPIRATION, WIEGMANN #WAVK0304SSA. TERMINATIONS SHALL BE MADE USING SPLIT BOLTS. CAREFULLY TAPE CONNECTIONS TO PROVIDE A 600V INSULATION LEVEL (TYPICAL FOR EACH CONDUCTOR) SEE SHEET E15 FOR JB DETAILS.
7. PROVIDE AND INSTALL CROUSE–HINDS EYS TYPE SEALS W/CHICO COMPOUNDS.
8. PROPOSED 2" PVC COATED ALUMINUM CONDUITS FOR MOTOR CONDUCTORS. INSTALL CONDUIT AS DESCRIBED IN KEYED NOTE 34, THIS SHEET.
9. PROVIDE AND INSTALL (3)–#6 XHHW–2 CU + (1)–#8 XHHW–2 CU GND + (2)–#12 XHHW–2 CU (LEAK/TEMP) IN 1" CONDUIT FOR SUBMERSIBLE PUMP POWER.
10. PROVIDE AND INSTALL (3)–#14 XHHW–2 CU + (1)–#14 XHHW–2 CU GND + (1)–3/C–#18 TWISTED SHIELDED CABLE IN 1" CONDUIT FOR FLOAT AND WET WELL LEVEL TRANSMITTER.
11. PROVIDE AND INSTALL METER SOCKET IN ALUMINUM ENCLOSURE.
12. PROPOSED 2" PVC COATED ALUMINUM CONDUIT FOR I & C CONDUCTORS. INSTALL CONDUIT AS DESCRIBED IN KEYED NOTE 34, THIS SHEET.
13. PROVIDE AND INSTALL 1" CONDUIT FOR ANTENNA COAXIAL CABLE.
14. PROVIDE AND INSTALL (3)–#2/0 THWN CU, (1)–#4 THWN NEU, AND (1)–#4 THWN CU GND. IN 2" CONDUIT.
15. PROVIDE AND INSTALL ALUMINUM CONDUIT STRAPS (TYPICAL).
16. EXISTING CONCRETE PAD IS BEING REPLACED, SEE CIVIL PLAN SHEET 11. TRADES SHALL COORDINATE THEIR EFFORTS TO ENSURE THAT THE ELECTRICAL EQUIPMENT IS NOT INSTALLED UNTIL THE REMOVAL OF THE EXISTING PAD HAS BEEN COMPLETED. THE PROPOSED CONCRETE PAD SHALL NOT BE POURED UNTIL ELECTRICAL WORK HAS BEEN COMPLETED.
17. FOR UNDERGROUND RACEWAYS TO WETWELL THE CONTRACTOR SHALL UTILIZE PVC COATED ALUMINUM.
18. PROVIDE AND INSTALL (3)–#2/0 AWG + (1)–#4 NEU. IN 2" CONDUIT TO EXISTING TECO TRANSCLOSURE WITH THREE 1Ø TRANSFORMERS IN BANK.
19. PROVIDE AND INSTALL AN EMERGENCY CONNECTOR.
20. PROVIDE AND INSTALL (3)–#12 XHHW–2 CU + (1)# 12 XHHW–2 CU GND. IN 3/4" C.
21. PROVIDE AND INSTALL (26)–#14 XHHW–2 CU + (1)# 12 XHHW–2 CU GND. IN 1–1/4" C. FOR 120VAC CONTROL SIGNALS. REFER TO MCP TO PCP INTERCONNECTIONS WIRING DIAGRAM ON SHEET E10.
22. PROVIDE AND INSTALL (15)–#14 XHHW–2 CU + (1)–#14 XHHW–2 CU GND. IN 1" C. FOR 24V DC CONTROL SIGNALS, REFER TO MCP TO PCP INTERCONNECTION WIRING DIAGRAM ON SHEET E10.
23. PROVIDE AND INSTALL (1)–#12 XHHW–2 CU NUE. + (1)#12 XHHW–2 CU GND. IN 3/4" CONDUIT FROM MOTOR CONTROLS PANEL TO PUMP CONTROL PANEL FOR 120V POWER CIRCUIT.
24. PROVIDE AND INSTALL (3)–#2/0 THWN CU + (1)–#4 THWN NEU. IN 2" CONDUIT.
25. INSTRUMENTATION AND CONTROLS J.B.–USED AS DEMARCATION BOX TO PROVIDE ISOLATION BETWEEN THE WET WELL AND PUMP CONTROLS. PROVIDE AND INSTALL A 12"x12"x6" NEMA 4X, STAINLESS STEEL JUNCTION BOX WITH HINGED DOOR, WIEGMANN #BN4121206CHSS. INSTALL A STAINLESS STEEL LOUVER PLATE KIT (4.75"x4.5") ON SIDE OF BOX TO PROVIDE NATURAL ASPIRATION, WIEGMANN #WAVK0304SSA. TERMINATIONS SHALL BE MADE WITH UNDERGROUND WIRE CONNECTORS – IDEAL MODEL #60 – (TYPICAL FOR EACH CONDUCTOR). SEE SHEET E15 FOR JB DETAILS.
26. PROVIDE DUCT SEALING COMPOUND IN ALL CONDUITS EXTENDING TO THE WET WELL.
27. PROVIDE AND INSTALL (3)–#3 XHHW–2 CU + (1)–#4 XHHW–2 CU NEU + (1)–#6 XHHW–2 CU GND IN 1–1/4" CONDUIT FOR EMERGENCY CONNECTOR.
28. PROVIDE AND INSTALL A 3/4" CONDUIT TO PROPOSED AREA LIGHT, (AL), SEE SHT. E17 FOR DETAILS.
29. PROVIDE AND INSTALL A 3/4" SCHEDULE 80 PVC CONDUIT FOR #4 AWG GROUNDING CONDUCTOR.
30. PROPOSED GROUND TEST WELL. MINIMUM SPACING BETWEEN WELLS 6'–0", SEE SHEET E16 FOR DETAILS.
31. PROVIDE AND INSTALL WATER–TIGHT / DUST–TIGHT MYERS HUB AND UNION (TYP.).
32. (1) PROPOSED SCADA ANTENNA WITH HINGED POLE. CONTRACTOR SHALL INSTALL HINGED POLE WITH POLE ASSEMBLY LOWERING TOWARDS THE ASPHALT DRIVEWAY.
33. CLAMP GROUND WIRE TO METAL WATER PIPE.
34. CORE DRILL WET WELL WALL AS REQUIRED TO INSTALL CONDUIT USING LINK–SEALS. LINK–SEALS SHALL BE PROVIDED WITH 316 STAINLESS STEEL BOLTS AND NUTS.

FOR USE WITH SHEETS E1 AND E2

ROMAN D. KORCHAK, P.E. #42626
ELECTRICAL SECTION HEAD
DEPARTMENT OF SANITARY SEWERS

No.	DATE	REVISIONS
3		
2		
1	11/13/2017	REVISED KEYED NOTE 32

DES: LRG
DRN: MRL
CKD:
DATE:

CITY of TAMPA
WASTEWATER DEPARTMENT

BRECKENRIDGE PUMPING STATION REHABILITATION

KEYED NOTES

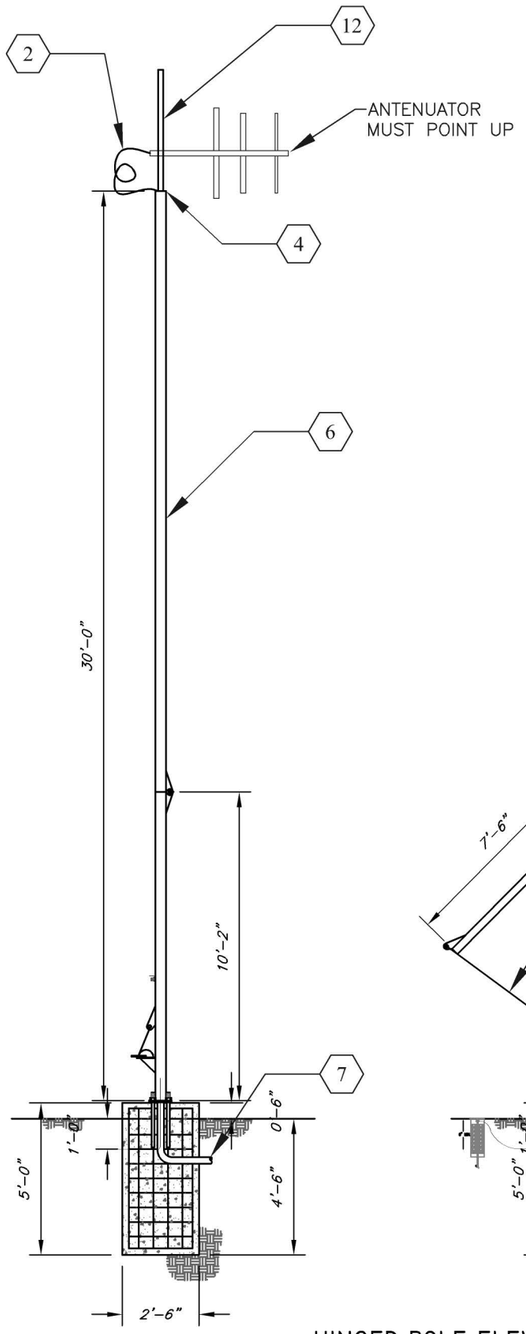
SHEET E3

B100-065A

GENERAL NOTES:

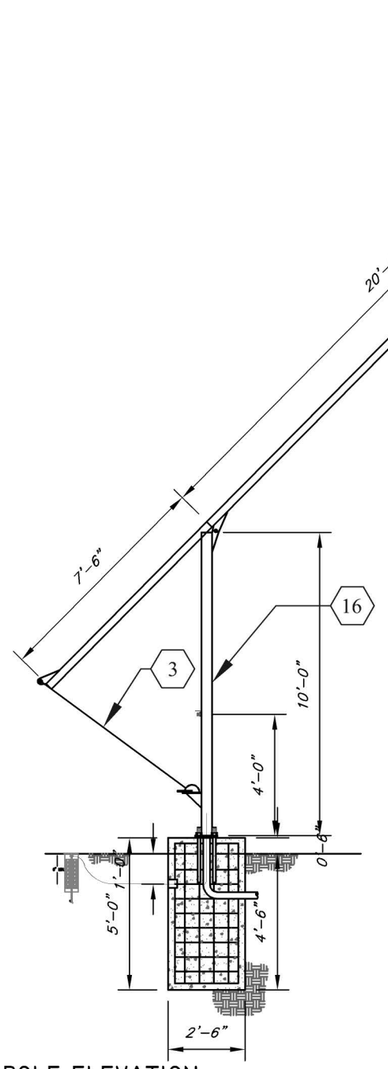
1. EXISTING ANTENNA/MAST SHALL BE CAREFULLY REMOVED AND DELIVERED TO THE HOWARD F CURREN WASTEWATER TREATMENT PLANT AS INVENTORY.
2. PROVIDE AND INSTALL A NEW GREATER PLAINS TOWER MID HINGED POLE PACKAGE. THE HINGED POLE PACKAGE SHALL INCLUDE:

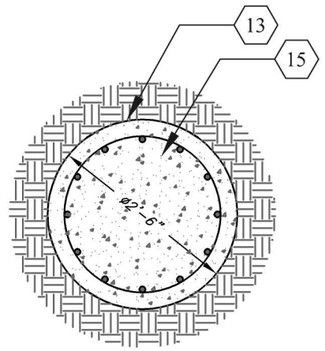
   5 – 3/8" STAINLESS STEEL BOLTS WITH LOCKNUTS
   1 – 7/8" HINGE BOLT
   1 – GROUND ROD CLAMP
   1 – GROUND WIRE CLAMP
   1 – WINCH WITH CABLE AND SHACKLE
   1 – WELDED ANCHOR BOLT CLUSTER (STAINLESS STEEL)
   1 – GROUNDING ROD (STAINLESS STEEL)
   1 – WINCH COVER
   1 – CAN OF SPRAY GALVANIZING PAINT



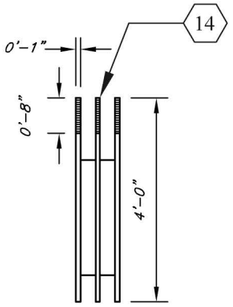
HINGED POLE ELEVATION

SCALE: N.T.S.





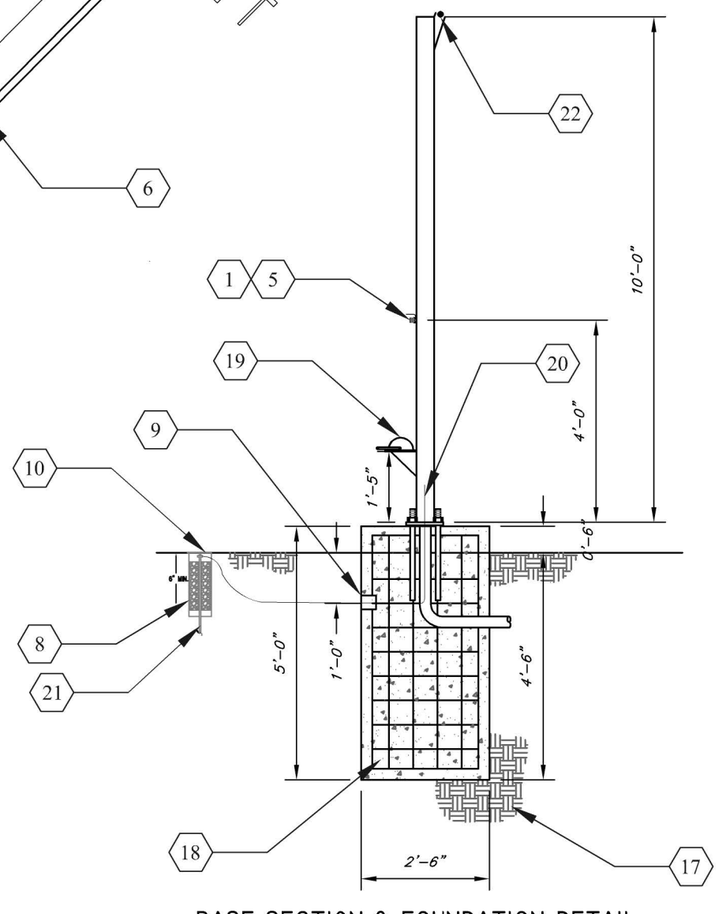
PLAN VIEW
REBAR CAGE FOR FOUNDATTION



WELDED ANCHOR BOLT
CLUSTER
(4 ANCHOR BOLTS)

FOUNDATION AND ANCHOR BOLT VIEW

SCALE: N.T.S.



BASE SECTION & FOUNDATION DETAIL

SCALE: N.T.S.

KEYED NOTES:

1. 1¼" BOLT AND NUT WITH ⅜" HOLE FOR PADLOCK
2. PROVIDE AND INSTALL NEW ANTENNA COAX CABLE, AS REQUIRED.
3. ¼" GALVANIZED CABLE
4. TOP FLANGE WITH BOLT ON 2 ⅜" O.D. X 4' PIPE
5. PADLOCK NUT ANTI-HINGE SYSTEM
6. GALVANIZED STEEL ANTENNA/MAST
7. NEW 1" CONDUIT TO PUMP CONTROL PANEL
8. SEE GROUNDING TEST WELL DETAIL, SHEET E16
9. GROUNDING CONDUCTOR EXIT
10. NEW #4 AWG-BARE-STRANDED
11. RESERVED
12. 2⅜" X 4' SCHED. 40 PIPE
13. #6 VERT. BARS EQUALLY SPACED. #4 STIRRUPS AT 4" O.C. OF THE TOP 12" AND AT 12" O.C. THEREAFTER. ALL REBAR INTERSECTIONS SHALL BE WIRE TIED. 3½" OF CONCRETE COVER ON ALL REBAR.
14. 1" X 48" LONG 50 KSI STAINLESS STEEL ANCHOR BOLTS CENTERED IN THE FOUNDATION WITH A 6" SQUARE HOLE PATTERN WITH 5" OF EXPOSED THREADS, 3 NUTS PER BOLT.
15. FOUNDATION CAN BE ROUND OR A 2'-6" X 2'-6" X 5' DEEP SQUARE FOUNDATION. ROUND FOUNDATION IS ILLUSTRATED. ALL ILLUSTRATIONS FOR FOUNDATION ASSUMES A MINIMUM OF 4,000 PSI SOILS.
16. ⅜" X 10' WELDED U-SHAPED STEEL SKIRT
17. SOIL — THE CONCRETE FOUNDATION DESIGN IS BASED ON "NORMAL", DRY, NON-FROZEN, EXCAVATABLE 4000 PSF SOIL. THE FOUNDATION DEPTH MUST BE DEEPER THAN THE LOCAL FROST DEPTH CONDITIONS. UNDISTURBED SOIL, NO BACKFILL OF COMPACTED SOIL ALLOWED.
18. CONCRETE — AIR-ENTRAINED CONCRETE (REDI-MIX) WITH A MINIMUM OF 4000 PSI BREAK STRENGTH IN 28 DAYS. APPROX. 1.0 CU. YDS REQUIRED FOR ROUND FOUNDATION. 3½" OF CONCRETE COVERS ALL REBAR.
19. WINCH — 1200 LB. RATED, HAND CRANK WINCH WITH 2-WAY AUTO BREAK. MOUNTED ON STEEL SHELF WITH 4⅜" SS BOLTS WITH NYLON LOCKING CASTLE NUTS.
20. GROUNDING CONDUCTOR — THE GROUND ELECTRODE CONDUCTOR SHALL BE ONE CONTINUOUS LENGTH OF #4 BARE STRANDED COPPER. THE GROUND ELECTRODE CONDUCTOR SHALL RUN THROUGH THE CENTER OF THE CONCRETE PILLAR AND SHALL EXIT THE CONCRETE PILLAR AT TWO LOCATIONS. ONE EXIT SHALL BE IN THE CENTER AT THE TOP OF THE CONCRETE PILLAR AND SHALL BE ATTACHED TO POLE GROUNDING HOLE PROVIDED. THE SECOND EXIT SHALL BE HORIZONTAL AND EXIT THE CONCRETE PILLAR 1' BELOW THE FINISHED GRADE. THE GROUND ELECTRODE CONDUCTOR SHALL AVOID SHARP BENDS.
21. GROUNDING ROD — THE GROUND ELECTRODE SHALL BE INSTALLED VERTICALLY. 6" BELOW FINISHED GRADE. THE ELECTRODE SHALL BE VERTICALLY, DRIVEN IN THE SOIL. THE ELECTRODE ROD SHALL BE ⅝" X 10' AND MADE OF STAINLESS STEEL.
22. HINGE BOLT — ⅞" HINGE BOLT

ROMAN D. KORCHAK, P.E. #42626
ELECTRICAL SECTION HEAD
DEPARTMENT OF SANITARY SEWERS

No.	DATE	REVISIONS
3		
2		
1	11/13/2017	ADDED SHEET

DES: LRG
DRN: GAP
CKD:
DATE:

CITY of TAMPA
WASTEWATER DEPARTMENT

BRECKENRIDGE PUMPING STATION REHABILITATION

ANTENNA DETAIL

SHEET E17A