CITY OF TAMPA

Bob Buckhorn, Mayor **Contract Administration Department**

Michael W. Chucran, Director

ADDENDUM 6

September 28, 2018

Contract 15-C-00044; Louisiana Pump 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 specifications proposal page P-2R with the attached P-2RR.

Item 2: Replace Civil Sheets G-2, G-3, C-1, C-2, C-3, C-4, C-5, C-7 and C-16 with the attached revised Sheets G-2, G-3, C-1, C-2, C-3, C-4, C-5, C-7 and C-16.

Item 3: Add Civil Sheet C-17.

Item 4: Replace Mechanical Sheet M-13 with the attached Sheet M-13.

Item 5: Replace Electrical Sheets E-15, E-45 and E-47 with the attached Electrical Sheets E-15, E-45 and E-47.

Item 6: Specifications Section W-9900 COMPACTOR AND APPURTENANCES: Add the following Section 2.08:

2.08 ACCESSORY PRODUCTS

A. Odor Control Bagging System – a odor control bagging system shall be furnished and installed to encapsulate the screenings in a plastic bag. The bagging system's support frame shall be constructed of 316 stainless steel. The bagging system shall contain a minimum 100 feet of endless plastic bag. The bagging system shall be designed and installed to mitigate odors from the screening process.

A total of 3 replacement plastic bagging rolls, a minimum 100 feet length of endless plastic bag each, shall be furnished as part of this contract. In addition, these plastic bagging rolls shall be made available through a local distributor.

B. Dumpsters (To be furnished by others) – A total of 2 dumpsters with a 2 CY capacity each will be furnished by others. The cost for furnishing the dumpsters will not be included in this contract. Contractor will be required to temporarily store and install/position the dumpsters in their final locations.

Item 7: Electrical Specification Section 25 31 00, Part 1 General add the following after sub-section 1.9:

1.10 Systems Integrator Qualifications

The Systems Integrator(s) shall be able to demonstrate at least five (5) years' experience in the design and installation of industrial Instrumentation and Control systems.

This project incorporates a General Electric Automation RX3i Programmable Logic Controller (PLC) for sewage pump control, local status and alarm annunciation, and broadband Supervisory Control and Data Acquisition (SCADA). Also incorporated is a Motorola ACE3600 SCADA Remote Terminal Unit (RTU) to provide wireless back-up SCADA communication for Louisiana Pumping Station and act as a Store and Forward node for more than thirty (30) existing pumping stations. The ideal System integrator shall be an authorized General Electric RX3i and Motorola ACE3600 reseller and be able to demonstrate projects of the same, or greater, magnitude completed under both platforms. As an alternate, a separate System Integrator meeting the respective requirements for each PLC platform may be used.

At least one of the System Integrators must be a Microsoft Solutions Provider and a VTSCADA integrator approved by Trihedral and whose personnel proposed for the project shall have completed a minimum of three (3) installations using VTSCADA software within the last three (3) years. The Integrator must also have experience with HSQ and VTS data interfacing.

The Systems Integrator(s) must maintain an inventory of applicable spare Motorola ACE3600 RTU and G.E. Automation RX3i parts and be able to provide delivery within four (4) hours for inoperable systems, and be able to provide a maximum on-site response time of four (4) hours for inoperable systems and twenty-four (24) hours for trouble calls that do not cause system downtime during the course of the project and for the entirety of the warrantee period.

Item 8: Electrical Specification Section 25 31 02, Part 1 General, 1.3 D, replace entire paragraph with the following:

Provide integrated instrumentation systems. Assign complete responsibility for furnishing, coordination, assembly, and installation supervision of all equipment to the Systems Integrator, or Systems Integrators, as specified in Section 25 31 00, 1.10 of these specifications. Provide complete, satisfactory, and trouble-free installation.

Item 9: Add the attached specification Section 14600 Overhead Crane System.

Item 10: Specification W9800, sub section 2.02 MANUFACTURERS, add the following paragraphs:

B. Contractor shall provide references for at least ten (10) installations of automatic single rake vertical bar screens in wastewater pump station or treatment plant applications, including automatic lifting system, that have been in service for no less than five (5) years.

C. Any design or construction modifications necessary for an approved alternate bar screen installation shall be the Contractor's responsibility and at no additional cost to the City. All modification plans shall be signed and sealed by a Florida licensed professional engineer for each affected discipline and shall be submitted to the Engineer for approval.

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

	Item No.	Description	Uni	Approx. Quntity	Unite Price in Words		Unit Price		Total Computed Price	
	100	The work includes the furnishing of all labor, equipment, and material to remove existing pumps, motors and concrete pedestals from pump No.1, No. 2 and No. 3., 24" discharge valves, piping, pump controls, vacuum priming system, compressed air system, potable water system, existing electrical equipment and demolish existing wall and structures; install three (3) 250 HP pumps and motors, discharge and suction valves, piping, 750 KW standby generator, CIPP lining, floor coating, concrete pedestal supports, air compressors, vacuum priming system, new crane, crane trolley and girder, automatic bar screen with compactor, install three (3) 480V variable frequency drives, pump controls, annunciator panel, motor control center, electrical switchgear, conduits, wiring, and other electrical and new HVAC/ventilation system. The work also includes furnishing all labor, materials, and equipment to install a new 24" flow meter and meter vault outside the station and temporary bypass pumping, demolish existing walls, sidewalk, parking lot, roofs and structures, install new electrical room building addition, new flat roofs and clay tile roofs, windows, doors, aluminum fence, new landscaping, and with all associated work required for a complete project in accordance with the Contract Documents.	LS	1		$		$		
	200.1	Proposed Structural Coating System	SF	1600		$		$		
	200.2	Concrete Restoration from 0" up to 1" including removal of unsound concrete.	SF	1600		$		$		
	200.3	Concrete Restoration greater than 1" including removal of unsound concrete.	CF	40		$		$		
	500	Contingency (per SP-60)	LS	1	Two Hundred Thousand Dollars and No Cents	$	200,000	$	200,000	
							TOTAL:	$		

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G-4	LEGEND; ABBREVIATIONS AND LINETYPES
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C-2	BYPASS PUMPING AND INTERCONNECTIONS PLAN
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C-5	PROPOSED OUTSIDE PIPING PLAN
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K:\WASTEWATERPROJECTS\LOUISIANAPSREHABILITATION\DESIGN\PLANS\DRAFTING\DWG\BUBBA'SDWG'S\LOUISIANAP.S.-SHEETSG-2THRUG-4

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

No.	DATE	REVISIONS
3		
2		
⚠1	9/10/18	ADDED SHEET

DES: D.R./J.F.
DRN: BB
CKD:
DATE:

CITY of TAMPA
WASTEWATER DEPARTMENT

LOUISIANA PUMPING STATION REHABILITATION INDEX SHEET

SHEET
G-2

GENERAL NOTES

1. CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION ACTIVITIES WITH THE ENGINEER AND CITY OF TAMPA WASTEWATER DEPARTMENT PERSONNEL PRIOR TO COMMENCING ACTIVITIES.

2. ALL HORIZONTAL COORDINATES CONTAINED HEREIN ARE IN US SURVEY FEET AND REFLECT A PROJECTION OF GRID COORDINATES IN THE STATE PLANE COORDINATE SYSTEM, FLORIDA WEST ZONE, NAD 1983, BASED ON THE FLORIDA PERMANENT REFERENCE NETWORK (FPRN). ALL ELEVATIONS SHOWN ARE BASED ON NGVD 1929.

3. EXISTING DIMENSIONS AND ELEVATIONS ARE BASED ON THE BEST INFORMATION AVAILABLE. TRUE DIMENSIONS AND ELEVATIONS SHALL BE DETERMINED IN THE FIELD PRIOR TO LAYOUT AND SHOP DRAWING SUBMITTALS.

4. ALL SUBMITTALS AND SHOP DRAWINGS SHALL BE ORIGINALS OR HIGH QUALITY COPIES (EASILY READABLE). NO FACSIMILE COPIES OR POOR QUALITY COPIES WILL BE ACCEPTED FOR SUBMITTAL REVIEW.

5. THE CONTRACTOR IS RESPONSIBLE FOR FURNISHING, INSTALLING, LEVELING, ALIGNING, AND TESTING (FLOW AND VIBRATION) ALL MOTORS AND PUMPS. PROCEDURES FOR INSTALLATION, AS OUTLINED IN THE HYDRAULICS INSTITUTE STANDARDS, MOST CURRENT EDITION, SHALL BE ADHERED TO. THE SPECIFIC PROVISIONS CONTAIN ADDITIONAL INFORMATION. IF THERE IS A CONFLICT BETWEEN THE REQUIREMENTS OF THE CONTRACT SPECIFICATIONS AND THE HYDRAULIC INSTITUTE STANDARDS, THE MORE STRINGENT STANDARD SHALL BE FOLLOWED.

6. THE CONSTRUCTION SITE SHALL BE MAINTAINED IN AS NEAT AND ORDERLY CONDITION AS POSSIBLE DURING CONSTRUCTION OPERATIONS. CONTRACTOR SHALL SECURE THE PUMP STATION SITE, BYPASS PUMPING SYSTEM AND ANY TEMPORARY EQUIPMENT / MATERIAL LAYOUT AREA WITH TEMPORARY PERIMETER SECURITY FENCES, WITH PRIVACY CANVAS, OF AT LEAST 6 FT. HIGH.

7. REPLACE OR INSTALL AS SHOWN, ALL AIR SUPPLY, WATER SUPPLY, DRAINS AND VACUUM PIPING. LAYOUT NEW PIPING AS REQUIRED FOR THE NEW EQUIPMENT. ISOLATION BALL VALVES AND PIPE UNIONS FOR PRESSURE PIPES SHALL BE PROVIDED TO ALLOW FOR THE REMOVAL OF EQUIPMENT. PIPE MATERIALS SHALL BE AS FOLLOWS:

   - AIR / VACUUM / BUBBLER PIPING – 316 S.S. (SWAGELOK COMPRESSION, WELDED, OR EQUAL)
   - WATER / SEWER & FLOOR DRAIN / VENT PIPING – SCH. 80 PVC

8. PUMP ANCHOR BOLTS SHALL BE SIZED PER PUMP MANUFACTURER'S RECOMMENDATIONS. ANCHOR BOLTS SHALL BE DOUBLE–NUTTED AND SHALL HAVE SUFFICIENT LENGTH SO THAT THE BOLTS EXTEND BEYOND THE FASTENING NUTS BY A MINIMUM OF 1/2 INCH.

9. ALL HARDWARE, UNLESS OTHERWISE NOTED, SHALL BE TYPE 316 STAINLESS STEEL.

10. PROPOSED STEEL PIPE SPOOL PIECES AND FITTINGS, WHERE INDICATED (INCLUDING PUMP SUCTION REDUCERS), SHALL BE FABRICATED TO SUIT THE DIMENSIONS OF THE PROPOSED EQUIPMENT OR LAYOUT, AND SHALL BE ASTM A 36 STEEL WITH A MINIMUM WALL THICKNESS OF ½ INCH. STEEL PIPE SHALL BE LINED AND PAINTED PER SPECIFICATIONS. FABRICATED STEEL FITTINGS SHALL BE MANUFACTURED BY AN AWWA CERTIFIED FABRICATOR.

11. ALL FIELD WELDS SHALL CONFORM TO PROCEDURES OUTLINED IN AWWA M 11 AND AWWA C206.

12. CONTRACTOR SHALL PROCURE THE SERVICES OF AN INDEPENDENT CERTIFIED WELDING INSPECTOR TO TEST ALL FIELD WELDS. CERTIFIED WELD INSPECTOR SHALL PERFORM AS A MINIMUM A VISUAL INSPECTION AND EITHER A DYE PENETRATING TINT OR MAG PARTICLE TEST TO ASSERT QUALITY OF FIELD WELDS.

13. DUCTILE IRON PIPE SHALL BE MINIMUM PRESSURE CLASS 200 AND SHALL HAVE PROTECTO 401 CERAMIC EPOXY LINING. ALL BURIED DI PIPE, FITTINGS, BENDS AND VALVES FOR THIS PROJECT SHALL BE 401 EPOXY LINED, POLYETHYLENE ENCASED AND INSTALLED USING CLASS C BEDDING.

14. RESTRAIN ALL NEW DUCTILE IRON PIPE, VALVES AND FITTINGS. BURIED DUCTILE IRON PIPE SHALL BE MECHANICAL JOINT TYPE AND RESTRAINED BY EXTERNAL JOINT RESTRAINERS "MEGALUG SERIES 1100" AS MANUFACTURED BY EBAA IRON OR AN APPROVED EQUIVALENT PRODUCT AND POLYETHELENE ENCASED.

15. EXPOSED DUCTILE IRON PIPE SHALL BE FLANGED, MINIMUM CLASS 53 AND SHALL HAVE CERAMIC PROTECTO 401 EPOXY LINING.

16. PLUG VALVES SHALL BE DEZURIK, PEF 100 PERCENT PORT, EPOXY LINED ECCENTRIC PLUG VALVES. THIS ITEM IS STANDARDIZED AT THIS FACILITY AND NO "OR EQUALS" WILL BE CONSIDERED.

17. ALL METAL PIPE, FITTINGS, VALVES, ETC., SHALL RECEIVE THE FOLLOWING (DFT – DRY FILM THICKNESS):
    A. SHOP COAT – ONE COAT, 4 – 6 MILS (DFT) TNEMEC N140–1211 EPOXY PRIMER
    B. FIELD COAT 1 – ONE COAT, 5 – 7 MILS (DFT) TNEMEC SERIES 446 PERMA–SHIELD MCU
    C. FIELD COAT 2
       - ABOVE GRADE – ONE COAT, 4 – 6 MILS (DFT) TNEMEC 1074U ENDURASHIELD (WITH FACTORY ADDED UV BLOCKER)
       - BELOW GRADE – ONE COAT, 5 – 7 MILS (DFT) TNEMEC SERIES 446 PERMA–SHIELD MCU

18. BACKFILL (NO CLAY OR CLAYEY MATERIAL) SHALL BE COMPACTED IN 6–INCH LAYERS (MAX.) TO 98 PERCENT MAXIMUM DRY DENSITY OF MODIFIED PROCTOR IN CONFORMANCE WITH AASHTO T–180, METHOD A.

19. THE CONTRACTOR SHALL INSTALL THE FORCE MAIN TO THE ELEVATIONS AND SLOPES SHOWN ON THE DRAWINGS. THERE SHALL BE NO INTERMEDIATE HIGH OR LOWER POINTS BETWEEN CONNECTION POINTS, EXCEPT AS SHOWN ON THE DRAWINGS.

20. CONTRACTOR SHALL RESTORE ANY EXISTING LANDSCAPING, SIDEWALK, CURBING, FENCING, SODDING AND SPRINKLER SYSTEM PIPING THAT MAY HAVE BEEN DAMAGED DURING CONSTRUCTION TO ITS ORIGINAL CONDITION OR BETTER, EXCEPT WHERE INDICATED ON THE DRAWINGS.

21. THE CONTRACTOR SHALL REMOVE ALL DEBRIS FROM WET WELL; SHALL PRESSURE WASH ALL WET WELL CONCRETE SURFACES; SHALL PREPARE CONCRETE SURFACE FOR COATING; AND, SHALL APPLY AN APPROVED COATING SYSTEM IN ACCORDANCE WITH SPECIFICATIONS.

22. CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH ALL OSHA SAFETY REQUIREMENTS AND STANDARDS AND SHALL SUPPLY ALL REQUIRED OSHA STANDARD SAFETY EQUIPMENT INCLUDING, BUT NOT LIMITED TO, SAFETY HARNESSES, GAS MONITORS, LOWER EXPLOSIVE LIMIT (LEL) DETECTORS, BREATHING APPARATUS, ETC., WHERE THE WORK DICTATES THEIR USE.

23. THE CITY WILL OBTAIN ALL NECESSARY BUILDING PERMITS AND THE FDEP WASTEWATER PERMIT. THE CONTRACTOR IS RESPONSIBLE FOR APPLYING AND OBTAINING APPROVAL FOR ANY PERMITS ASSOCIATED WITH THE DEWATERING PROCESS.

24. CONTRACTOR SHALL CALL SUNSHINE (811) AT LEAST 48 HOURS PRIOR TO ANY CONSTRUCTION ACTIVITY.

25. NORMAL WORKING HOURS SHALL BE WEEKDAYS FROM 7:30 AM TO 4:00 PM UNLESS OTHERWISE APPROVED BY THE ENGINEER AND THE CITY.

26. CONTRACTOR SHALL RELOCATE TO THE LOCATION SHOWN ON THE PLANS, THE EXISTING BACKFLOW PRESSURE DEVICE AND RE–CONNECT THE WATER SERVICE THROUGH THE DEVICE TO THE PUMP STATION BUILDING, AS INDICATED ON THE DRAWINGS.

27. THE EXISTING CHEMICAL FEED SYSTEM FOR ODOR CONTROL SHALL REMAIN IN SERVICE DURING CONSTRUCTION. THE CONTRACTOR SHALL RELOCATE THE STORAGE TANK AS REQUIRED TO THE LOCATION INDICATED ON THE DRAWING, OR AS NEEDED TO ACCOMODATE CONSTRUCTION ACTIVITIES. THE CHEMICAL FEED PIPING SHALL BE RELOCATED AS REQUIRED TO FEED CHEMICAL INTO THE BYPASS SYSTEM. UPON COMPLETION OF CONSTRUCTION, THE CHEMICAL FEED PIPING SHALL BE MODIFIED TO FEED ODOR CONTROL CHEMICAL TO THE WET WELL AS BEFORE CONSTRUCTION. RELOCATION OF THIS EQUIPMENT SHALL BE COORDINATED WITH THE CHEMICAL SUPPLY COMPANY, EVOQUA. (Ph. 941–359–7942)

28. ALL WORK SHALL BE PERFORMED IN ACCORDANCE TO THE FLORIDA BUILDING CODE (FBC) 6th EDITION (2017), THE NATIONAL ELECTRICAL CODE (NEC) 2014 EDITION AND CHAPTER 5 OF THE CITY OF TAMPA CODE.

29. THE PROPOSED THICKNESS OF ALL STRUCTURAL COATING APPLICATIONS ON CONCRETE SURFACES, AS SHOWN, FOR THIS PROJECT IS 250 MILS (DFT) UNLESS OTHERWISE SPECIFIED.

30. THIS PROJECT INCLUDES THE CIPP LINING OF VARIOUS SIZE PIPES. REFER TO SHEET C–16 AND SPECIFICATIONS.

31. ALL CONCRETE PAVEMENT, UNLESS OTHERWISE NOTED, SHALL BE MIN 8" THICK CONCRETE WITH 4x4 W5.4xW5.4 WWF. CONCRETE SHALL BE CONSTRUCTED ON A COMPACTED SUB–BASE (MINIMUM 98% MODIFIED PROCTOR) WITH 1.5" DEEP CONTROL JOINTS SAW CUT @ 15' MAX, CUT WITHIN 12 HOURS OF CONCRETE PLACEMENT.

32. ALL CEMENTITIOUS CONCRETE AND GROUT, UNLESS OTHERWISE NOTED, SHALL BE CLASS "B", 4000 PSI COMPRESSIVE STRENGTH AT 28 DAYS. ALL REINFORCING STEEL SHALL BE GRADE 60.

DEMOLITION NOTES:

1. ALL DIMENSIONS ARE APPROXIMATE. ACTUAL DIMENSIONS SHALL BE DETERMINED IN THE FIELD.

2. SALVAGEABLE MATERIALS AS DETERMINED BY THE WASTEWATER DEPARTMENT PERSONNEL AND AS LISTED IN THE SPECIFIC PROVISIONS SHALL BE DELIVERED TO THE CITY OF TAMPA'S HOWARD F. CURREN AWTP, LOCATED AT 2700 MARITIME BLVD, TAMPA FL 33605. NON–SALVAGEABLE MATERIALS ARE TO BE REMOVED FROM SITE AND PROPERLY DISPOSED OF AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH APPROPRIATE DEPARTMENT PERSONNEL FOR ACCESS TO THE AWTP SITE.

3. CONTRACTOR SHALL CUT ALL EXPOSED REINFORCING STEEL TO A DEPTH OF 1–INCH BELOW THE EXPOSED SURFACE AND THE OPENING SHALL BE SEALED WITH NON–SHRINK GROUT.

TREE PROTECTION NOTES:

1. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT ALL TREES WITHIN THE VICINITY OF THE PROPOSED CONSTRUCTION IN ACCORDANCE WITH CHAPTER 13 OF THE CITY OF TAMPA CODE. PRUNING OF BRANCHES IS NOT AUTHORIZED WITHOUT PRIOR APPROVAL FROM THE CITY OF TAMPA PLANNING AND DEVELOPMENT DEPARTMENT, NATURAL RESOURCE SECTION, AND SHALL BE COMPLETED BY A CERTIFIED ARBORIST. EXCAVATION WITHIN THE PROTECTIVE RADIUS OF TREES WILL REQUIRE ROOT PRUNING WITH THE APPROPRIATE EQUIPMENT TO ASSURE ROOTS ARE SEVERED CLEAN AT THE APPROVED RADIUS. FOR QUESTIONS REGARDING THESE REQUIREMENTS, PLEASE CONTACT THE PLANNING AND DEVELOPMENT DEPARTMENT, NATURAL RESOURCE SECTION AT 274–3100, OPTION 4, OR 1400 N. BOULEVARD, TAMPA, FLORIDA 33607.

2. ROOT PRUNING MAY BE NECESSARY WHERE THERE ARE EXISTING TREES ACCORDING TO PLAN AND NOTES. CONTRACTOR TO VERIFY SITE CONDITIONS AND SCOPE OF WORK PRIOR TO SUBMITTING BID. THE PARKS AND RECREATION DEPARTMENT PROJECT MANAGER MAY RED LINE PLANS TO CLARIFY FOR CONTRACTOR.

3. ROOT PRUNING SHALL BE DONE BY A CERTIFIED, QUALIFIED ARBORIST USING A DOSKO ROOT PRUNER OR THE EQUIVALENT PIECE OF MACHINERY. CONTRACTOR TO OBTAIN APPROVAL FROM CITY OF TAMPA PROJECT MANAGER FOR "EQUIVALENT PIECE OF MACHINERY" PRIOR TO CONDUCTING ROOT PRUNING.

4. ROOTS SHALL BE CUT CLEAN, EVEN AND SMOOTH WITH SOIL AND ROOTBALL INTACT BEGINNING ONE INCH OFFSET FROM BACK OF CURB AND CONTINUING PARALLEL TO PLANTER TO A DEPTH NOT TO EXCEED THE PROFILE OF THE CURB OR APPROXIMATELY NINE INCHES.

5. FOLLOWING CONSTRUCTION OF CURB, THE QUALIFIED ARBORIST SHALL DRENCH THE PERIMETER OF THE ROOTBALL(S) WITH AN APPROVED SYSTEMIC FUNGICIDE AND ROOT INDUCING HORMONE E.G. IBA.

TREE CALIPER	DISTANCE FROM BASE OF TREE
2" – 6"	6'
6" – 24"	10'
24"+	15'

ELECTRICAL NOTE:

REPEATED FROM THE SPECIFIC PROVISIONS, "GENERAL PROVISIONS G–7.01 & 7.02 SHALL BE MODIFIED IN THAT WATER AND ELECTRICAL POWER IS PRESENTLY PROVIDED AT THE SITE AND MAY BE USED BY THE CONTRACTOR IN THEIR PRESENT STATE. SHOULD ANY CHANGES, MODIFICATIONS OR RELOCATIONS BE NECESSARY TO PROVIDE WATER OR POWER DURING THE CONSTRUCTION AND/OR BY–PASS PUMPING PHASE, ALL COST SHALL BE BORNE BY THE CONTRACTOR.

⚠ CONTRACTOR IS RESPONSIBLE FOR FILLING THE GENERATOR SUBBASE TANK WITH FUEL AND THEN REFILLING IT AFTER THE LOAD BANK TEST IS COMPLETE.

K:\WASTEWATERPROJECTS\LOUISIANAPSREHABILITATION\DESIGN\PLANS\DRAFTING\DWG\BUBBA'SDWG'S\LOUISIANAP.S.–SHEETSG–2THRUG–4

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

No.	DATE	REVISIONS
3		
2		
⚠	9/10/18	ADDED NOTE

DES: D.R.
DRN: BB
CKD:
DATE:

CITY of TAMPA
WASTEWATER DEPARTMENT

LOUISIANA PUMPING STATION REHABILITATION
NOTES

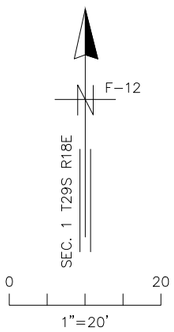
SHEET
G-3

B000-000

SURVEY NOTES:

ALL HORIZONTAL COORDINATES CONTAINED HEREIN ARE IN U.S. SURVEY FEET AND REFLECT A PROJECTION OF GRID COORDINATES IN THE STATE PLANE COORDINATE SYSTEM, FLORIDA WEST ZONE, NAD 1983, BASED ON THE FLORIDA PERMANENT REFERENCE NETWORK (FPRN).

ALL ELEVATIONS SHOWN HEREON ARE IN U.S. SURVEY FEET REFERENCED TO NGVD 29.



No.	DATE	REVISIONS
3		
2		
1	9/14/18	EX. PIPE MATERIAL

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

DES: J.F.
DRN: BB
CKD:
DATE:

CITY of TAMPA
WASTEWATER DEPARTMENT

LOUISIANA PUMPING STATION REHABILITATION EXISTING SITE PLAN

SHEET
C-1

User: ssh5 Drawing Name: K:\WasteWater Projects\Louisiana PS Rehabilitation\Design\Plans\Drafting\DWG\Bubba's dwg's\Louisiana P.S.-Sheet-C-01.dwg
Layout- Sheet C-1, Last Saved: Sep 14, 2018 - 12:45pm

NOTES

1. REFER TO SPECIFICATIONS FOR BYPASS SYSTEM/BACKUP REQUIREMENTS AND DESIGN FLOWS.
2. THE QUANTITY AND LOCATION OF BYPASS PUMPS SHOWN IS REPRESENTATIVE ONLY. THE ACTUAL QUANTITY AND LOCATION OF PUMPS REQUIRED WILL DEPEND ON THE FINAL BYPASS PUMPING SYSTEM DESIGN IN ACCORDANCE WITH THE SPECIFIED REQUIREMENTS.
3. CONTRACTOR MAY REMOVE THE SIPHON CHAMBER'S REMOVABLE TOP SLABS AND MANHOLE CONES TO FACILITATE INSTALLATION OF THE BYPASS SUCTION PIPES. ALL ITEMS REMOVED SHALL BE REPLACED/RESTORED TO PRE-CONSTRUCTION CONDITION.
4. CONTRACTOR MAY OPT TO RELOCATE SUCTION PIPING INTO JUNCTION CHAMBER AFTER CHAMBER AND DOWNSTREAM PIPING IS REHABILITATED.
5. TEMPORARY ODOR CONTROL CHEMICAL FEED SHALL BE RELOCATED AND DISCHARGE INTO SIPHON CHAMBER (SEE NOTE 27). TANK LOCATION TO BE DETERMINED DURING CONSTRUCTION.
6. ALL BYPASS PIPING IS ABOVE GROUND UNLESS NOTED OTHERWISE.
7. CONTRACTOR SHALL MODIFY BYPASS, INCLUDING THE ARRANGEMENT OF PUMPS AND PLUGS, AS REQUIRED TO REHABILITATE PIPES AND JUNCTION CHAMBER

HILLSBOROUGH RIVER
CONCRETE RIP-RAP
CONC HEADWALL
30" PCCP
PROP. TEMPORARY PLUG
20" CIP
Inverted Siphon Chamber
Rim El. 7.59
All Pipes ± Inv. -8.45
PROP. BYPASS PUMPS AND PIPING
PROP. DOUBLE-ROW OF SILT FENCE (TYP.SEE DETAIL, SH.C-14)
PROP. BURIED BYPASS PIPING (SEE DETAIL, SHEET C-13)
6' Chain Link Fence
RIM EL. 4.86
(NW) INV. -0.51
(SE) INV. -1.09
RIM EL. 6.58
(NW) INV. -0.81
(S) INV. -1.17
(SW) INV. -3.38
BOTTOM EL. -7.81
48" RCP
30" RCP
30" VCP
PROP. TEMPORARY PLUGS
Junction Chamber
36" RCP
ASPHALT
60" RCP
15" RCP
36" DIP
8" CLAY
RIM EL. 8.23
(N) INV. 1.29
(E) INV. -7.63
(S) INV. -8.65
PUMP
CONC SLAB
15" Clay Pipe
PROP. TEMP. VALVES ON BYPASS
PROP. CONCRETE
CONCRETE
48" RCP Inv. -9.02(N)
PHASE 2 BYPASS
PHASE 1 BYPASS CONNECTION
LOUISIANA PUMPING STATION
VALVES TO BE CLOSED
3" Water
Ex. Concrete
30" PCCP FM
30" RCP FM
Ex. Conc. S/W (TO BE REMOVED)
Single Story Block Storage Building
Dirt
CONCRETE
Conc. S/W
8" VCP
BURIED TECO
Ex. ASPHALT TRAIL (TO REMAIN)
Ex Overhead TECO
Ex. Chemical Storage Tank For Odor Control System (SEE NOTE 5)
INTERCONNECTION B (SEE DETAIL, SHEET C-10)
PROP. LINE-STOP "B"
PROP. 30" DIP (SEE OUTSIDE PIPING PLAN, SHEET C-5, FOR CONTINUATION)
INTERCONNECTION A (SEE DETAIL, SHEET C-9)
PROP. LINE-STOP "A"
PROP. DOUBLE-ROW OF SILT FENCE & TEMPORARY CONSTRUCTION CHAIN-LINK FENCE (TYP.) (SEE DETAIL, SH. C-14)
F-12
SEC. 1 T29S R18E
0 20
1"=20'

BYPASS PUMPING SYSTEM AND INTERCONNECTIONS PLAN

SCALE: 1" = 20'

SUGGESTED BYPASS SEQUENCE

1. SET UP BYPASS SYSTEM WITH PHASE 1 DISCHARGE
2. CONDUCT 48 HOUR BYPASS PUMPING SYSTEM TEST WHILE PS IS OFFLINE. VERIFY ALL BYPASS PUMPS ARE OPERATIONAL.
3. UPON SUCCESSFUL, TROUBLE FREE 48 HOUR OPERATION OF THE BYPASS SYSTEM, INSTALL ALL REQUIRED PIPE PLUGS. THIS MAY REQUIRE PS OPERATION TO LOWER WETWELL LEVELS.
4. CLOSE (2) KNIFE GATE VALVES INSIDE PUMPING STATION.
5. CONSTRUCT INTERCONNECTION "A" INCLUDING LINESTOP "A".
6. UPON INTERCONNECTION "A" COMPLETION AND LINESTOP "A" REMOVAL, MODIFY BYPASS TO PHASE 2 DISCHARGE. PHASE 1 DISCHARGE MUST REMAIN ACTIVE UNTIL PHASE 2 DISCHARGE IS ACTIVATED.
7. CONSTRUCT INTERCONNECTION "B" PER SEQUENCE ON SHEET C-10
8. PROCEED WITH PROPOSED OUTSIDE PIPING AND PS REHABILITATION
9. REMOVE PIPE PLUGS TO TEST NEW PS OPERATION
10. REMOVE BYPASS SYSTEM UPON SUCCESSFUL TESTING AND CITY'S ACCEPTANCE OF NEW PS.

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

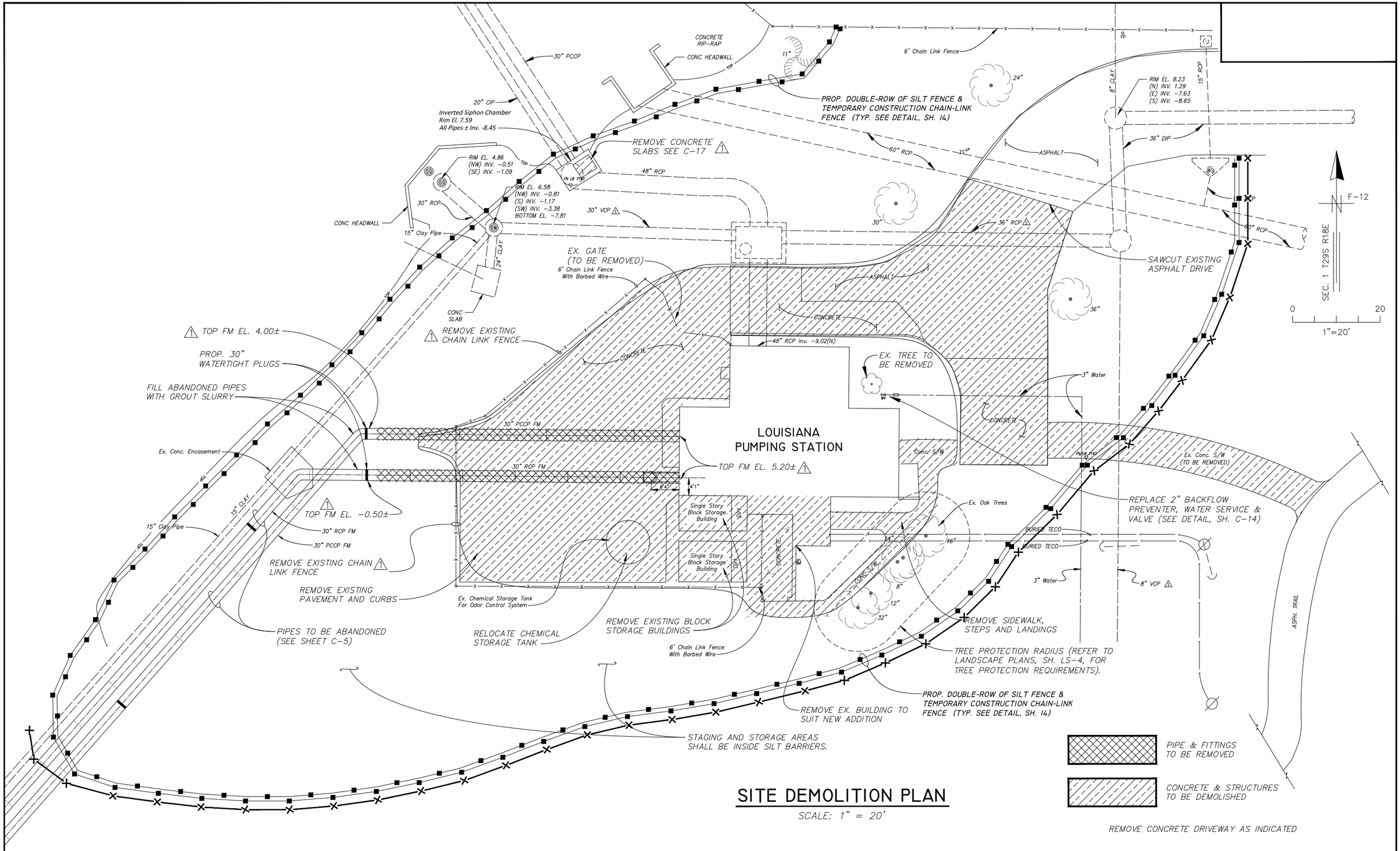
No.	DATE	REVISIONS
3		
2		
1	9/14/19	EX. PIPE MATERIAL

DES: D.R./J.F.
DRN: BB
CKD:
DATE: 01/16

CITY of TAMPA
WASTEWATER DEPARTMENT

LOUISIANA AVENUE PUMPING STATION REHABILITATION
BYPASS PUMPING AND INTERCONNECTIONS PLAN

SHEET C-2



SITE DEMOLITION PLAN

SCALE: 1" = 20'

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

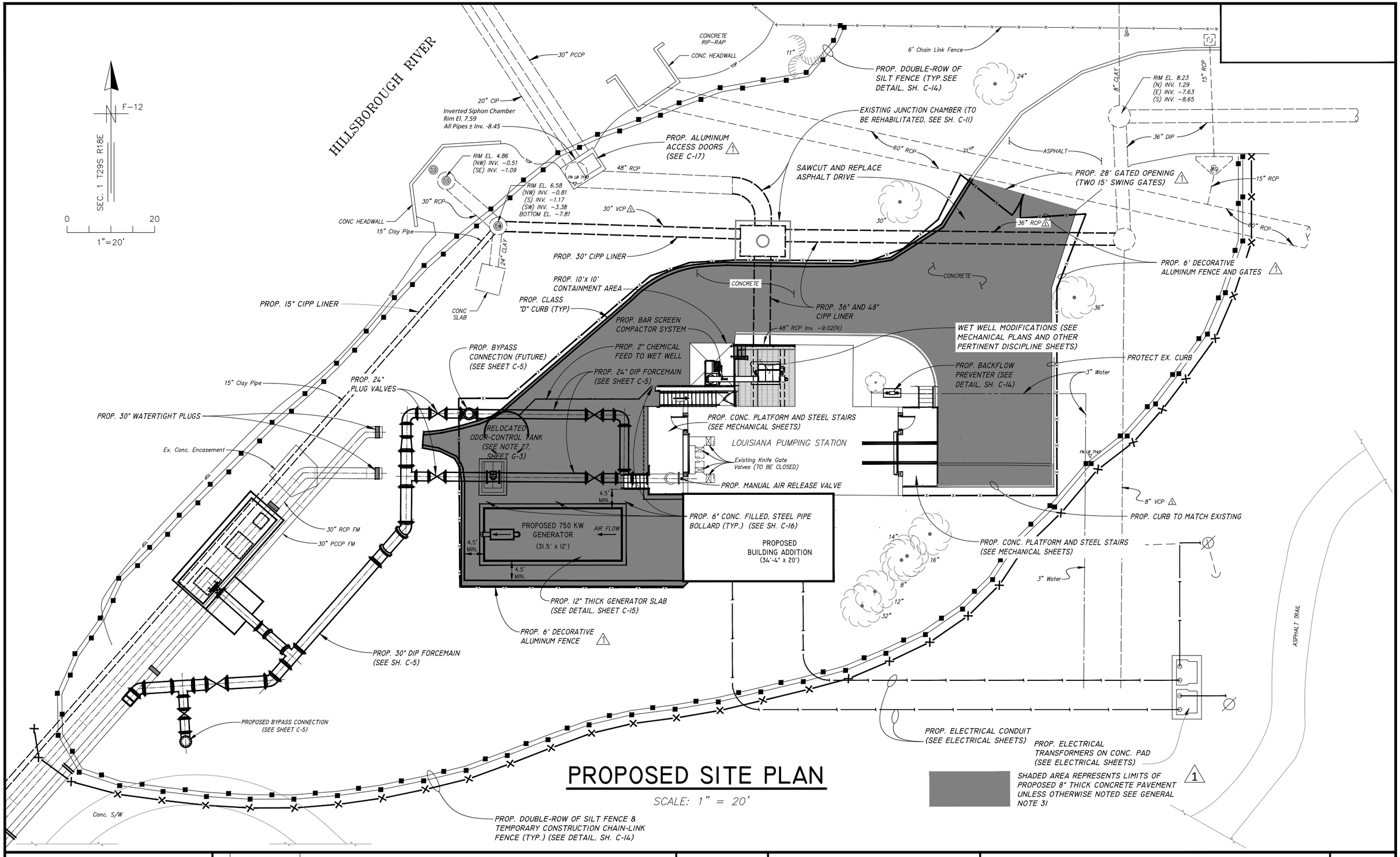
No.	DATE	REVISIONS
3		
2		
1	9/10/18	ADDENDUM – FM ELEVATIONS / FENCE NOTE / ALUMINUM COVER / EX. PIPE MAT'L

DES: D.R.
DRN: BB
CKD:
DATE:

CITY of TAMPA
WASTEWATER DEPARTMENT

LOUISIANA PUMPING STATION
REHABILITATION
SITE DEMOLITION PLAN

SHEET
C-3



PROPOSED SITE PLAN

SCALE: 1" = 20'

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

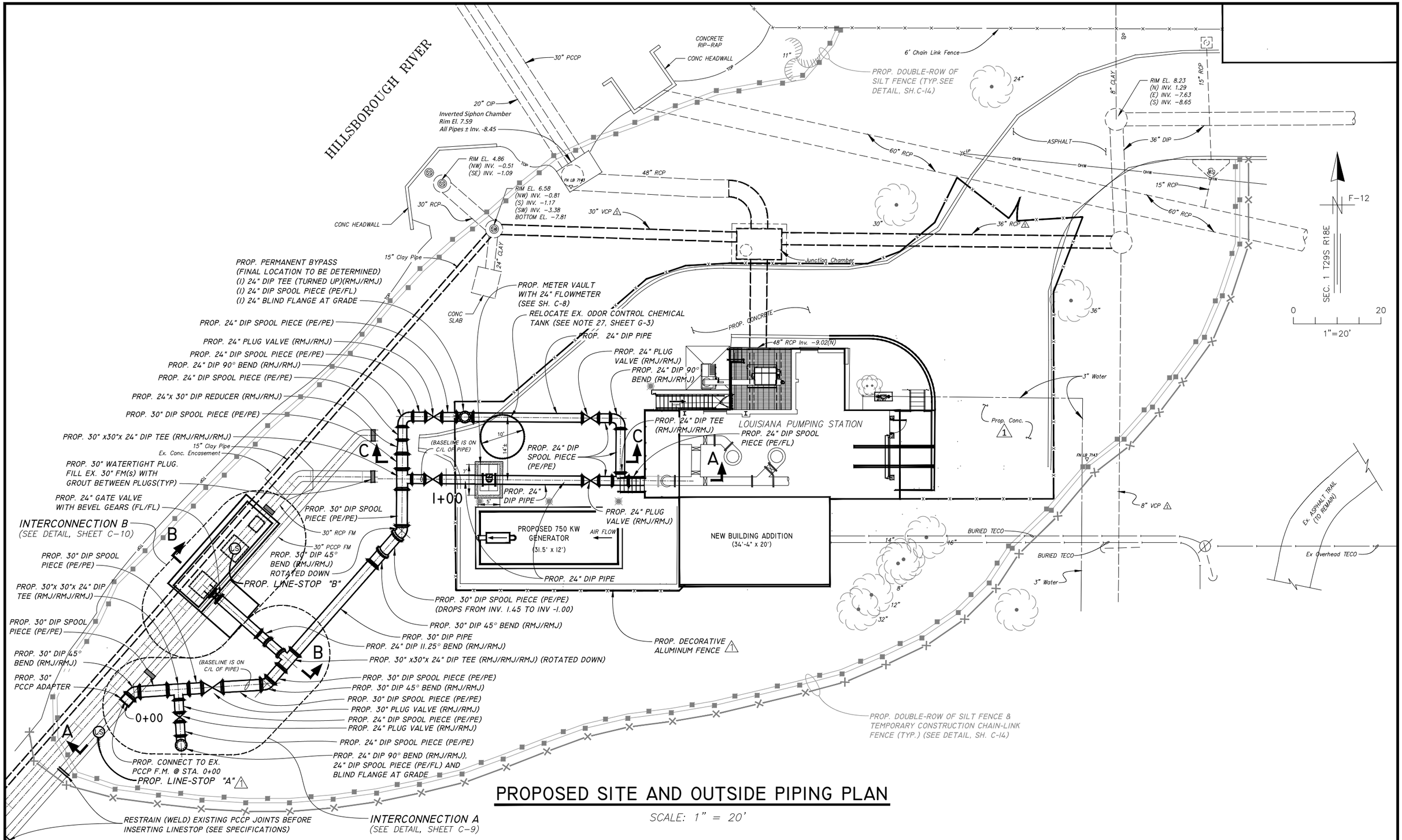
No.	DATE	REVISIONS
3		
1	9/14/18	EX. PIPE MAT'L / GATE SIZE / CONCRETE PAVEMENT NOTE
1	9/10/18	ADDENDUM – FENCE NOTE / ADDED ALUMINUM DOORS

DES: D.R.
DRN: BB
CKD:
DATE:

CITY of TAMPA
WASTEWATER DEPARTMENT

LOUISIANA AVENUE PUMPING STATION
REHABILITATION
PROPOSED SITE PLAN

SHEET
C-4



PROPOSED SITE AND OUTSIDE PIPING PLAN

SCALE: 1" = 20'

JACINTO CARLOS FERRAS, P.E. #49454 DESIGN DIVISION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS
	3		
	2		
	1	9/10/18	ADDENDUM – FENCE NOTE / LINE STOP NOTE MOVED / EX. PIPE MAT'L

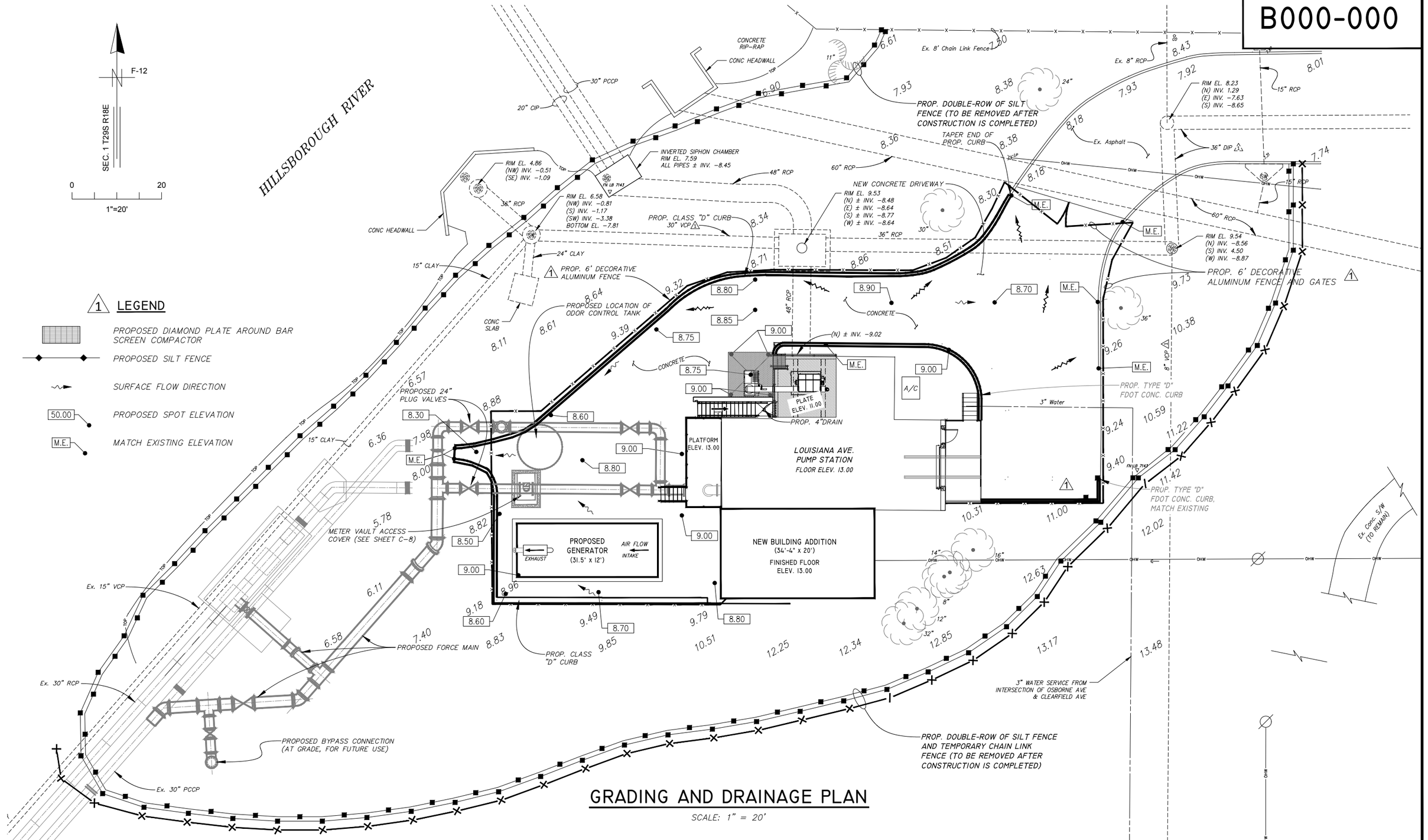
DES: D.R.
DRN: BB
CKD:
DATE:

CITY of TAMPA
WASTEWATER DEPARTMENT

LOUISIANA PUMPING STATION
REHABILITATION
PROPOSED OUTSIDE PIPING PLAN

SHEET
C-5

B000-000



GRADING AND DRAINAGE PLAN

SCALE: 1" = 20'

User: ssh5 Drawing Name: K:\WasteWater Projects\Louisiana PS Rehabilitation\Design\Plans\Drafting\DWG\Bubba's dwg's\Louisiana P.S.-Sheet-C-07.dwg
Layout- Sheet C-7; Last Saved: Sep 14, 2018 - 4:59pm

No.	DATE	REVISIONS
3		
1	9/14/18	EX. PIPE MATERIAL / LEGEND
1	9/10/18	HIGHLIGHTED PROP. CURB / FENCE NOTES / DELETED MISC. NOTES

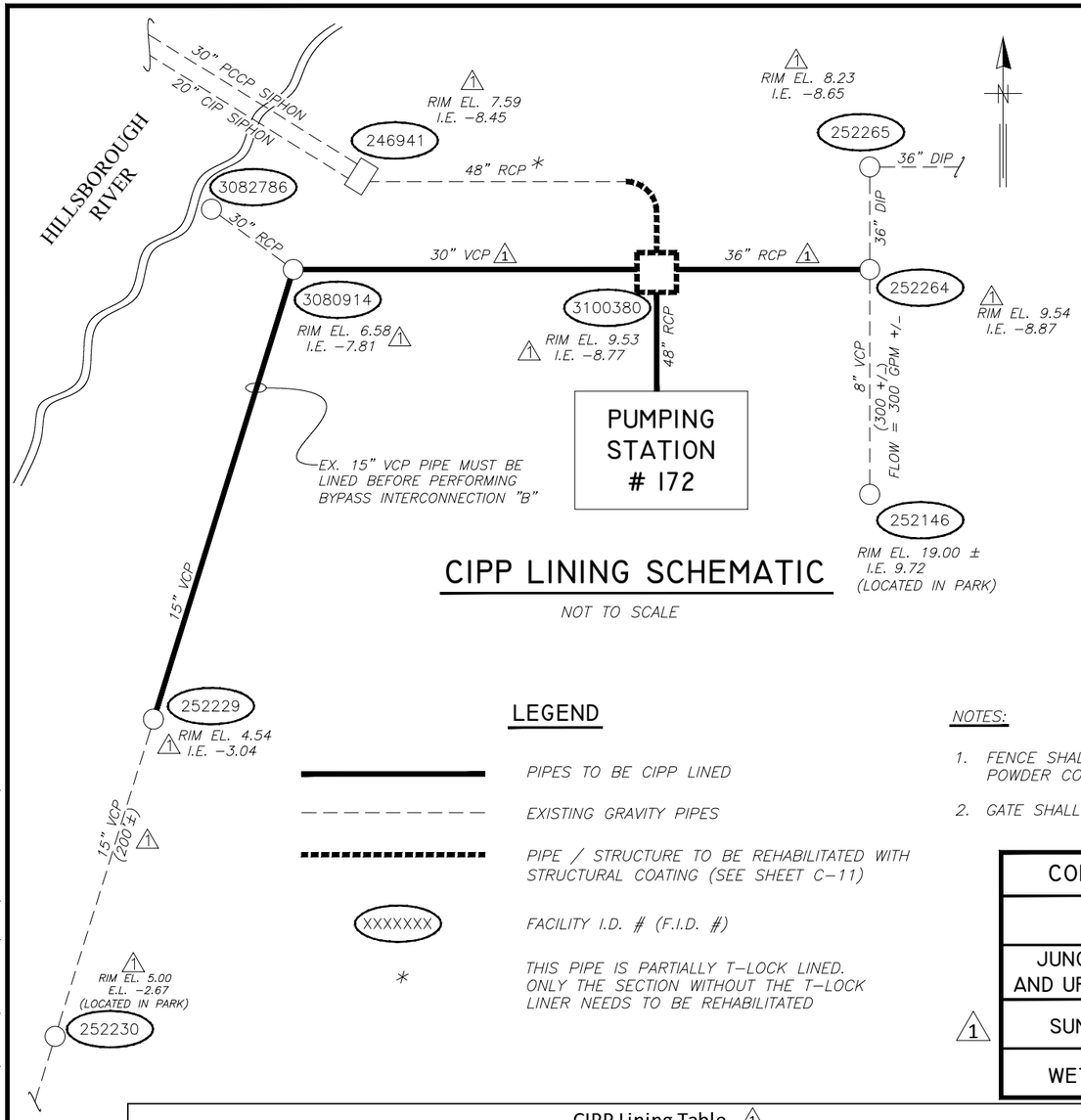
JACINTO CARLOS FERRAS, P.E. #49454
DESIGN DIVISION HEAD
WASTEWATER DEPARTMENT

DES: J.F. / D.R.
DRN: BB
CKD:
DATE:

CITY of TAMPA
WASTEWATER DEPARTMENT

LOUISIANA PUMPING STATION
REHABILITATION
GRADING AND DRAINAGE PLAN

SHEET
C-7



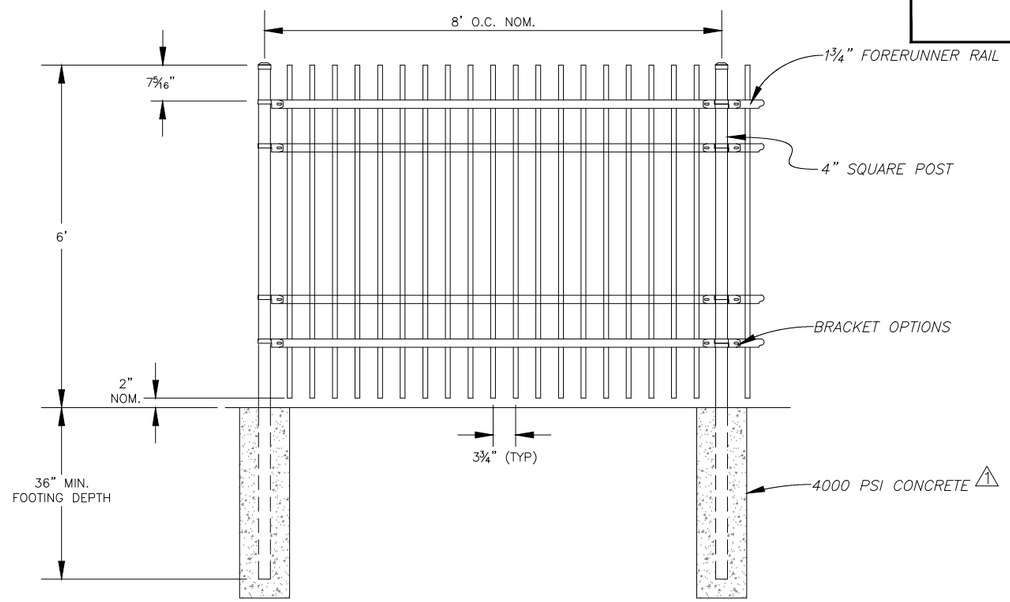
CIPP LINING SCHEMATIC

NOT TO SCALE

LEGEND

- PIPES TO BE CIPP LINED
- EXISTING GRAVITY PIPES
- PIPE / STRUCTURE TO BE REHABILITATED WITH STRUCTURAL COATING (SEE SHEET C−11)
- XXXXXXX — FACILITY I.D. # (F.I.D. #)
- * — THIS PIPE IS PARTIALLY T−LOCK LINED. ONLY THE SECTION WITHOUT THE T−LOCK LINER NEEDS TO BE REHABILITATED

CIPP Lining Table 1						
Upstream MH FID#	Downstream MH FID#	Pipe Size And Type	Length To Be Lined (LF)	CIPP Liner Thickness (mm)	Max. Flow To Be Bypassed	Distance To Upstream MH
3100380	Pumping station 248562	48" - RCP	45 LF	25.5 mm	13,800 GPM	Varies (See C-2)
252264	3100380	36" - RCP	82 LF	19 mm	8,800 GPM	28 LF
3080914	3100380	30" - VCP	60 LF	15 mm	1,400 GPM	196 LF
252229	3080914	15" - VCP	196 LF	7.5 mm	1,400 GPM	200 LF



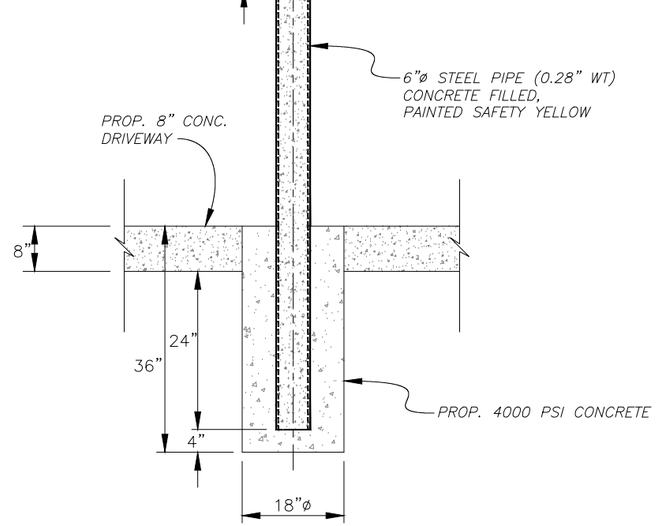
PROPOSED 6' ALUMINUM DECORATIVE FENCING

NOT TO SCALE

NOTES:

1. FENCE SHALL BE INDUSTRIAL STRENGTH ALUMINUM WITH A BLACK POWDER COAT FINISH, PER SPECIFICATIONS.
2. GATE SHALL BE DOUBLE−SWING TYPE, MATCHING ALUMINUM FENCING.

CONCRETE STRUCTURE COATING TABLE	
WET WELL	800± SQ. FT.
JUNCTION CHAMBER AND UPSTREAM SECTION	600± SQ. FT.
1 SUMP PUMP WELL	200± SQ. FT.
WET WELL FLOOR	150± SQ. FT.



TYPICAL BOLLARD POST DETAIL

N.T.S.

K:\WASTEWATERPROJECTS\LOUISIANAPSREHABILITATION\DESIGN\PLANS\DRAFTING\DWG\BUBBA'SDWG'S\LOUISIANAP.S.−SHEETC−16

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

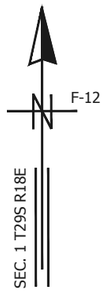
No.	DATE	REVISIONS
3		
2		
1	9/10/18	ADDED RIM / INVERTS / FENCE POST CONCRETE / EX. PIPE MAT'L / FLOW RATES

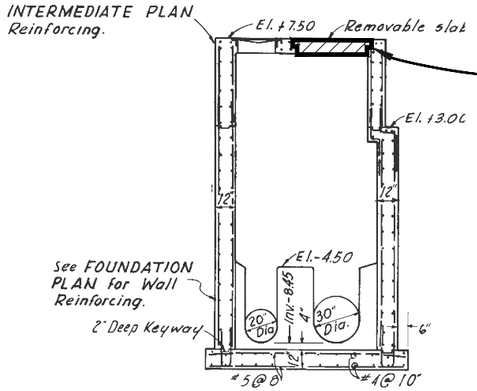
DES: D.R.
DRN: BB
CKD:
DATE:

CITY of TAMPA
WASTEWATER DEPARTMENT

LOUISIANA PUMPING STATION REHABILITATION - PROPOSED CIPP LINING AND DECORATIVE FENCE DETAILS

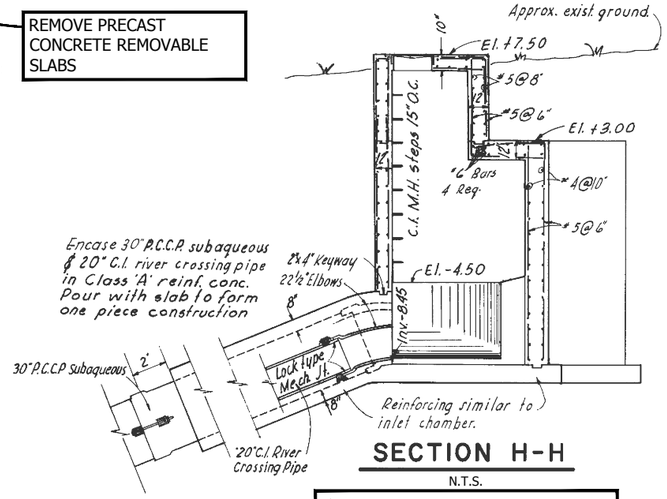
SHEET
C-16





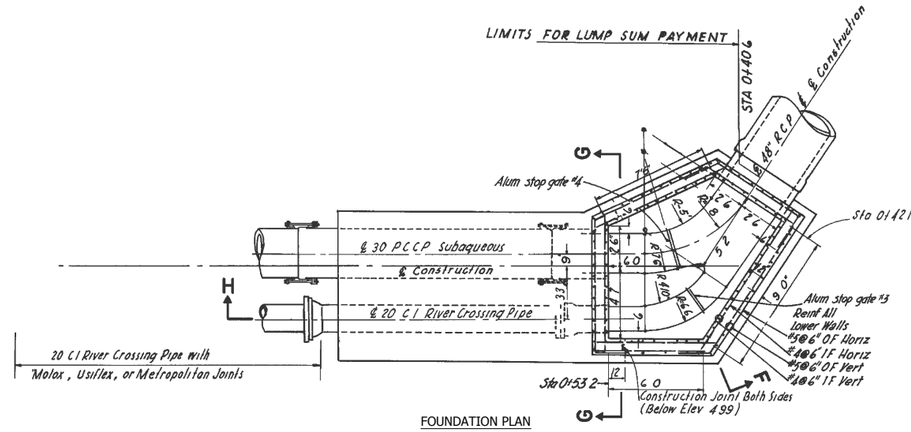
REMOVE PRECAST CONCRETE REMOVABLE SLABS

SECTION G-G (DEMOLITION)
N.T.S.



SECTION H-H
N.T.S.

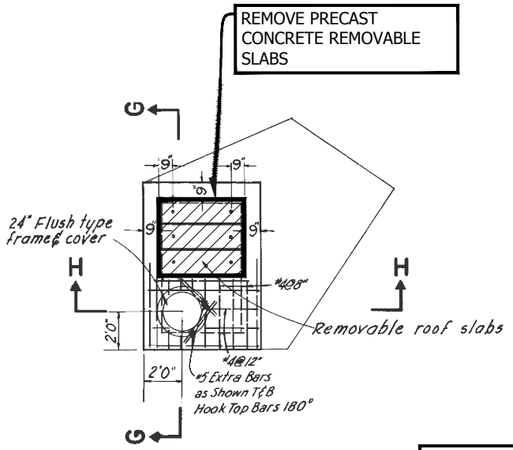
(THIS VIEW IS PROVIDED FOR REFERENCE ONLY AND NO PROPOSED WORK SHOWN)



FOUNDATION PLAN
N.T.S.

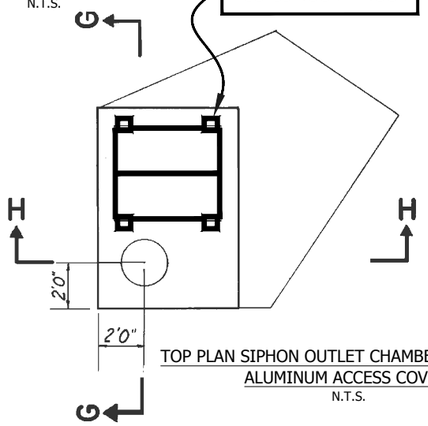
(THIS VIEW IS PROVIDED FOR REFERENCE ONLY AND NO PROPOSED WORK SHOWN)

REMOVE PRECAST CONCRETE REMOVABLE SLABS



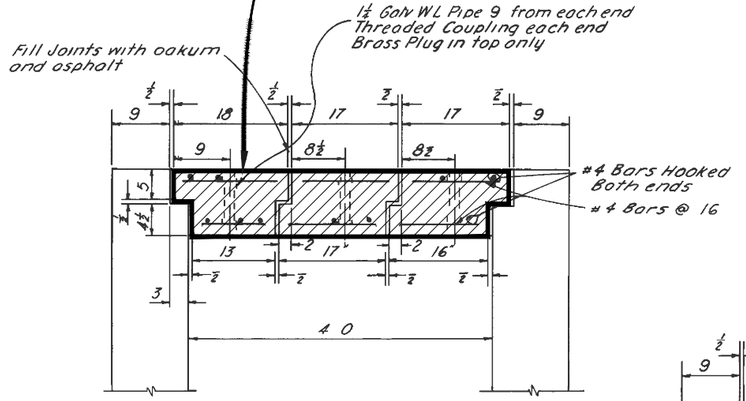
TOP PLAN SIPHON OUTLET CHAMBER (DEMOLITION)
N.T.S.

PROP. 4'6"x4'6" RETROFIT ALUMINUM ACCESS DOUBLE DOOR



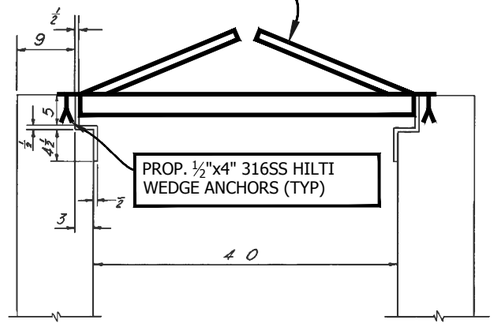
TOP PLAN SIPHON OUTLET CHAMBER (PROPOSED ALUMINUM ACCESS COVER)
N.T.S.

REMOVE PRECAST CONCRETE REMOVABLE SLABS



OUTLET CHAMBER REMOVABLE SLABS DETAIL (DEMOLITION)
N.T.S.

PROP. 4'6"x4'6" RETROFIT ALUMINUM ACCESS DOUBLE DOOR



OUTLET CHAMBER (PROPOSED ALUMINUM ACCESS COVER SECTION VIEW)
N.T.S.

NOTES:

1) PROPOSED ALUMINUM ACCESS COVER SHALL BE MODEL APD300, DOUBLE DOOR RETROFIT COVER AS MANUFACTURED BY US FOUNDRY OR APPROVED EQUAL. DOORS SHALL BE RATED FOR A 300 PSF LOADING AND INSTALLED ON A 1/8" THICK NEOPRENE GASKET AROUND PERIMETER FOR ODOR SUPPRESSION. DOORS SHALL BE ANCHORED TO STRUCTURE WITH ½" DIAMETER AND 4" LONG 316SS HILTI EXPANSION ANCHORS.
2) CONTRACTOR SHALL MEASURE EXISTING DIMENSIONS AND REFLECT THEM ON THE ALUMINUM DOOR SUBMITTAL FOR APPROVAL.
3) THE INLET STRUCTURE HAS AN INTERIOR EPOXY (RAVEN) COATING. ANY DAMAGE TO THE COATING MUST BE REPAIRED.

ALL PROPOSED WORK IS SHOWN IN BLOCKED TEXT

AREAS SHOWN HATCHED ARE TO BE DEMOLISHED.

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

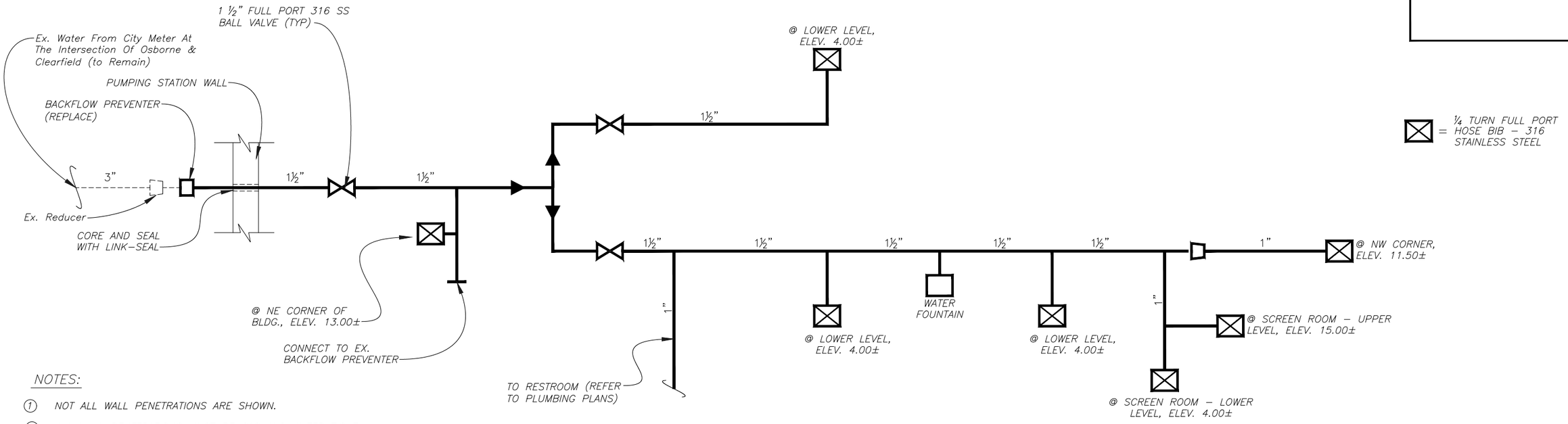
No.	DATE	REVISIONS
3		
2		
⚠1	9/11/18	SHEET ADDED PER ADDENDUM

DES: J.F.
DRN:
CKD:
DATE:

CITY of TAMPA
WASTEWATER DEPARTMENT

LOUISIANA PUMPING STATION REHABILITATION
SIPHON OUTLET CHAMBER
PLAN AND SECTIONS

SHEET
C-17

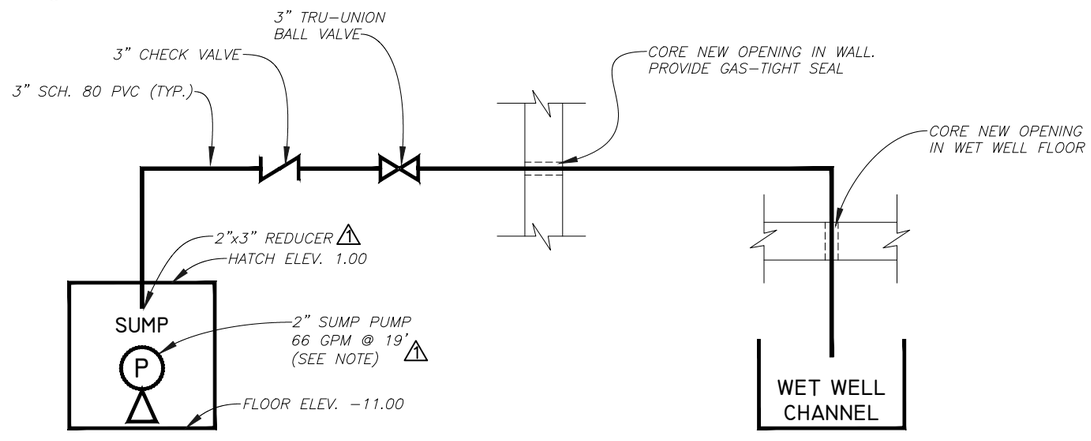


NEW WATER PIPING SCHEMATIC DIAGRAM

NOT TO SCALE

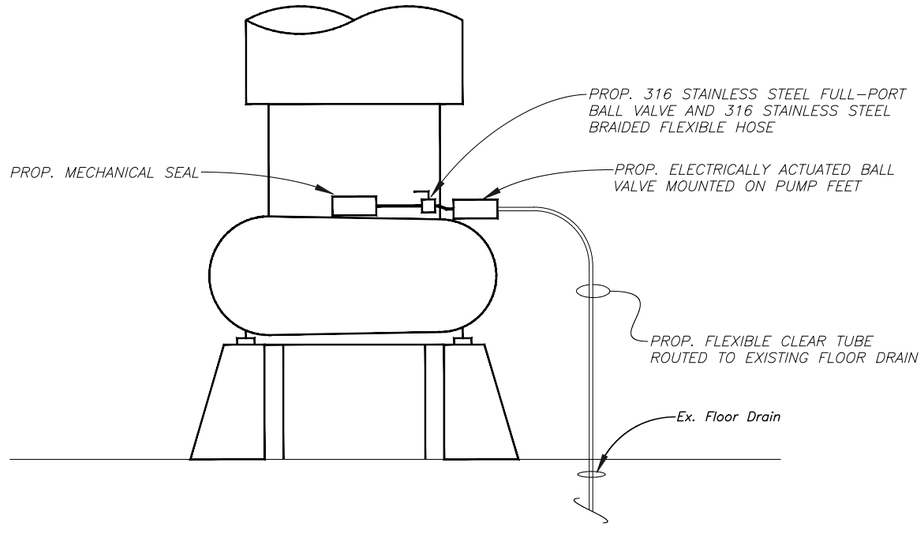
NOTES:

1. NOT ALL WALL PENETRATIONS ARE SHOWN.
2. ALL WALL PENETRATIONS MUST BE GAS AND WATER TIGHT. SUBMIT METHODS FOR APPROVAL.
3. RE-USE EXISTING WALL SLEEVES IF REUSABLE. OTHERWISE CORE NEW OPENINGS.
4. SEE PLANS FOR HOSE CONNECTION LOCATIONS.
5. SEE GENERAL NOTES FOR PIPE MATERIALS.



NEW SUMP PUMP SCHEMATIC DIAGRAM

NOT TO SCALE



NEW PUMP SEAL DISCHARGE - WATER DIAGRAM

NOT TO SCALE

⚠1 NOTE:
SUMP PUMP SHALL BE A LIBERTY LE51A MODEL ½ H.P. OR APPROVED EQUAL. INSTALL PER MANUFACTURER RECOMMENDATIONS.

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

No.	DATE	REVISIONS
3		
2		
⚠1	9/10/18	ADDENDUM – SUMP PUMP

DES: D.R.
DRN: BB
CKD:
DATE:

CITY of TAMPA
WASTEWATER DEPARTMENT

LOUISIANA PUMPING STATION REHABILITATION
WATER, SUMP PUMP AND PUMP SEAL SCHEMATIC DIAGRAMS

SHEET M-13

K:\WASTEWATER_PROJECTS\LOUISIAN_PS_REHABILITATION\DESIGN\PLANS\DRAFTING\DWG\BUBBA'S_DWG'\LOUISIANAP.S.-SHEET-M-13.DWG

TRICON
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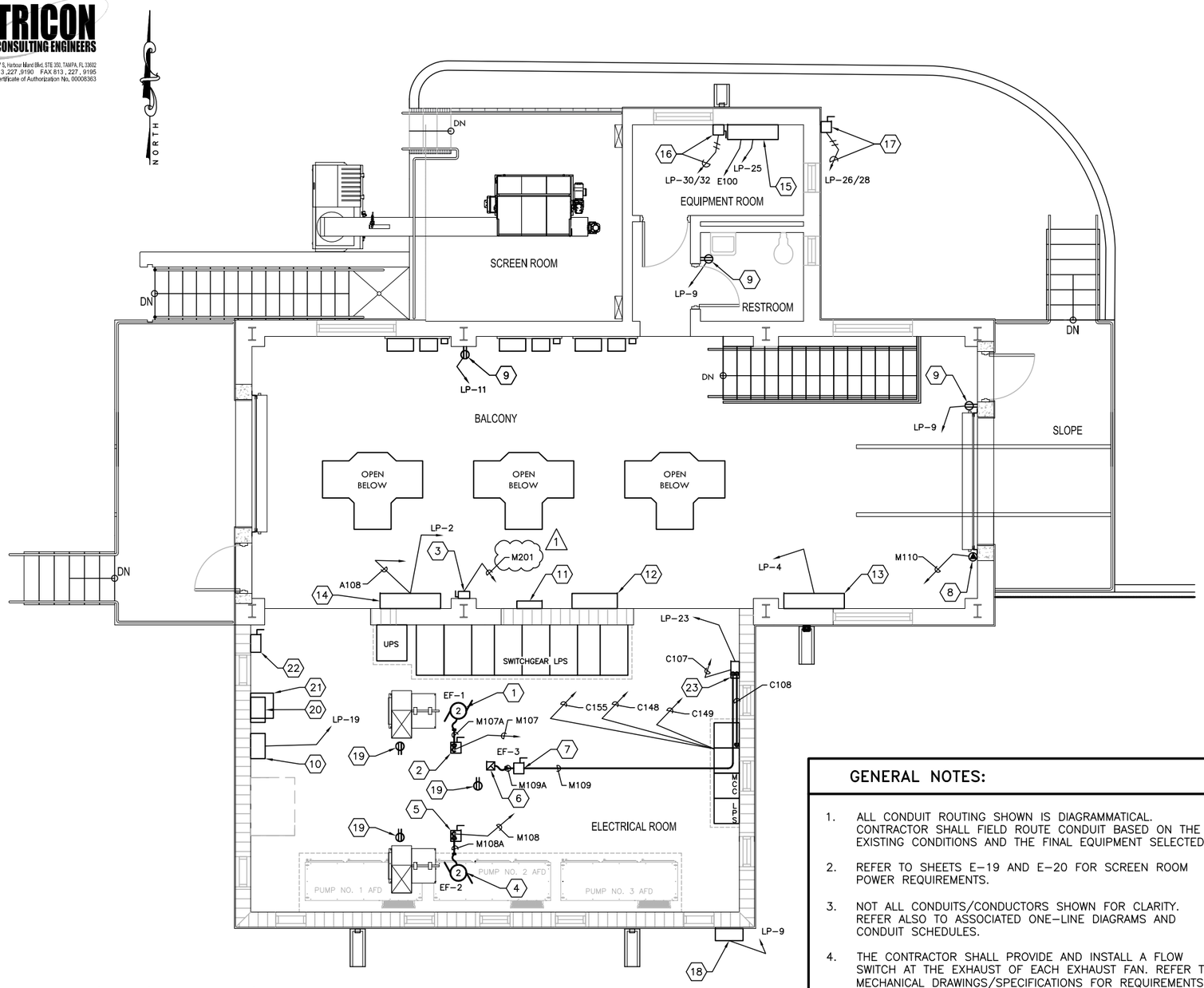

0 4' 8' 16'

SCALE: 1/8" = 1'-0"

KEYED NOTES:

1. PROPOSED 480V, 3ø, 3 HP EXHAUST FAN EF-1. REFER TO MECHANICAL PLANS FOR INSTALLATION ELEVATION.
2. CONTRACTOR TO PROVIDE AND INSTALL NEW 600V, 3-POLE, 30A NON-FUSED DISCONNECT IN NEMA 4X STAINLESS STEEL ENCLOSURE FOR EF-1. MOUNT DISCONNECT ON ROOF ADJACENT TO EF-1 WITH STAINLESS STEEL UNISTRUT. PROVIDE PROVISIONS ALLOWING THE DISCONNECT TO BE PAD-LOCKED IN THE OPEN OR CLOSED POSITION.
3. CONTRACTOR TO PROVIDE AND INSTALL NEW 600V, 3-POLE, 30A NON-FUSED DISCONNECT IN NEMA 1 ENCLOSURE FOR OVERHEAD CRANE POWER. MOUNT DISCONNECT TO WALL WITH STAINLESS STEEL UNISTRUT. COORDINATE CRANE POWER REQUIREMENTS AND CONNECTIONS TO CRANE POWER WITH OVERHEAD CRANE SUPPLIER.
4. PROPOSED 480V, 3ø, 3 HP EXHAUST FAN EF-2. REFER TO MECHANICAL PLANS FOR INSTALLATION ELEVATION.
5. CONTRACTOR TO PROVIDE AND INSTALL NEW 600V, 3-POLE, 30A NON-FUSED DISCONNECT IN NEMA 4X STAINLESS STEEL ENCLOSURE FOR EF-2. MOUNT DISCONNECT ON ROOF ADJACENT TO EF-2 WITH STAINLESS STEEL UNISTRUT. PROVIDE PROVISIONS ALLOWING THE DISCONNECT TO BE PAD-LOCKED IN THE OPEN OR CLOSED POSITION.
6. PROPOSED 480V, 3ø, 1/3 HP ROOF MOUNTED EXHAUST FAN EF-3. REFER TO MECHANICAL PLANS FOR INSTALLATION ELEVATION.
7. CONTRACTOR TO PROVIDE AND INSTALL NEW 600V, 3-POLE, 30A NON-FUSED DISCONNECT IN NEMA 4X STAINLESS STEEL ENCLOSURE FOR EF-3. MOUNT DISCONNECT ON ROOF ADJACENT TO EF-3 WITH STAINLESS STEEL UNISTRUT. PROVIDE PROVISIONS ALLOWING THE DISCONNECT TO BE PAD-LOCKED IN THE OPEN OR CLOSED POSITION.
8. PROVIDE AND INSTALL NEW TRANSFER CART RECEPTACLE. NEMA L16-20R IN WEATHER PROOF ENCLOSURE. VERIFY RECEPTACLE TYPE WITH CART MANUFACTURER.
9. NEW RECEPTACLE IN LOCATION OF EXISTING RECEPTACLE THAT HAS BEEN REMOVED DURING DEMOLITION (REFER TO SHEET E-7).
10. PROPOSED FLOW METER REMOTE TRANSMITTER CABINET. REFER TO SHEET I-20 FOR DETAILS.
11. PROPOSED PANELBOARD 'LP'. REFER ALSO TO SHEET E-10.
12. PROPOSED REMOTE BREAKER CONTROL PANEL 'RBCP'. REFER ALSO TO SHEET E-10.
13. NEW PUMP CONTROL PANEL 'CP-L01'. REFER TO SHEET I-2 FOR DETAILS.
14. NEW BUBBLER PANEL "BP-L01'. REFER TO SHEET I-2 FOR DETAILS.
15. CONTRACTOR SHALL PROVIDE AND INSTALL A NEW MOTOROLA ACE3600 REMOTE TERMINAL UNIT IN THIS LOCATION, COMPLETE WITH UPS, BATTERY AND POWER SUPPLY. REFER TO SHEET I-2.
16. CONTRACTOR TO PROVIDE AND INSTALL NEW 240V, 2-POLE, 20A NON-FUSED DISCONNECT IN NEMA 1 ENCLOSURE FOR PROPOSED DUCTLESS AIR HANDLING UNIT. PROVIDE AND INSTALL 2-#12 + 1-#12 GND IN 3/4"C. TO PANELBOARD 'LP' FOR AIR HANDLING UNIT 208V, SINGLE-PHASE POWER. COORDINATE DISCONNECT LOCATION AND CONNECTION DETAILS WITH HVAC CONTRACTOR.
17. CONTRACTOR TO PROVIDE AND INSTALL NEW 240V, 2-POLE, 30A NON-FUSED DISCONNECT IN NEMA 4X STAINLESS STEEL ENCLOSURE FOR PROPOSED DUCTLESS SYSTEM CONDENSING UNIT. PROVIDE AND INSTALL 2-#10 + 1-#10 GND IN 3/4"C. TO PANELBOARD 'LP' FOR CONDENSING UNIT 208V, SINGLE-PHASE POWER. COORDINATE DISCONNECT LOCATION AND CONNECTION DETAILS WITH HVAC CONTRACTOR.
18. PROPOSED IRRIGATION CONTROLLER. COORDINATE EXACT INSTALLATION LOCATION WITH LANDSCAPE PLANS.
19. CONTRACTOR TO PROVIDE AND INSTALL NEW DUPLEX 20A. GFI RECEPTACLE IN WEATHER PROOF ENCLOSURE FOR EXHAUST FAN MAINTENANCE. CIRCUIT LP-29.
20. PROPOSED AUTOMATIC TRANSFER SWITCH (ATS). REFER ALSO TO SHEET E-10.
21. PROPOSED TRANSFORMER 'T1' (ABOVE ATS). REFER ALSO TO SHEET E-10.
22. PROPOSED DISCONNECT FOR PANELBOARD 'LP'. REFER ALSO TO SHEET E-10.
23. PROPOSED EXHAUST FAN CONTROL PANEL. REFER TO MECHANICAL DRAWINGS/SPECIFICATIONS FOR REQUIREMENTS.

GENERAL NOTES:

1. ALL CONDUIT ROUTING SHOWN IS DIAGRAMMATICAL. CONTRACTOR SHALL FIELD ROUTE CONDUIT BASED ON THE EXISTING CONDITIONS AND THE FINAL EQUIPMENT SELECTED.
2. REFER TO SHEETS E-19 AND E-20 FOR SCREEN ROOM POWER REQUIREMENTS.
3. NOT ALL CONDUITS/CONDUCTORS SHOWN FOR CLARITY. REFER ALSO TO ASSOCIATED ONE-LINE DIAGRAMS AND CONDUIT SCHEDULES.
4. THE CONTRACTOR SHALL PROVIDE AND INSTALL A FLOW SWITCH AT THE EXHAUST OF EACH EXHAUST FAN. REFER TO MECHANICAL DRAWINGS/SPECIFICATIONS FOR REQUIREMENTS. PROPOSED AND INSTALL 2-#12 + 1-#12 GND IN 3/4"C (C152, C153, C154) TO ASSOCIATED EXHAUST FAN CONTROL CABINET.

09-19-18

TIMOTHY THOMAS, PE
FLORIDA LICENSE PE 47079

No.	DATE	REVISIONS
3		
2		
1	9-19-18	ADDENDUM

DES: T.D.T.
DRN: J.L.H.
CKD: T.D.T.
DATE: 7/25/18

CITY of TAMPA
WASTEWATER DEPARTMENT

PROPOSED UPPER LEVEL POWER PLAN

SHEET
E-15

PROPOSED PANEL SCHEDULE

PANEL 'LP' ; SQUARE D CO. NQOD ; 120/208 VOLTS, 3ø, 4W ; 200 AMP MAIN CIRCUIT BREAKER ; PROVIDE BOLT–ON BREAKERS ; SURFACE ENCLOSURE TOP AT 5'–6" AFF

EQUIPMENT SERVED	CIRCUIT BREAKER			KVA/PHASE			CIRC.	CIRC.	KVA/PHASE			CIRCUIT BREAKER			EQUIPMENT SERVED
	POLE	AMPS	FRAME	A	B	C	NO.	NO.	A	B	C	POLE	AMPS	FRAME	
UPPER LEVEL LIGHTING	1	20	QOB	1.6			1	2	0.4			1	15	QOB	BUBBLER PANEL 'BP–L01'
UPPER LEVEL LIGHTING	1	20	QOB		0.5		3	4		0.9		1	20	QOB	CONTROL PANEL 'CP–L01'
UPPER LEVEL LIGHTING	1	20	QOB			0.3	5	6			1.7	3	25	QOB	SUMP PUMP
LOWER LEVEL LIGHTING	1	20	QOB	0.4			7	8				--	--	--	SPARE
UPPER LEVEL RECEPTACLES	1	20	QOB		0.8		9	10				--	--	--	SPARE
UPPER LEVEL RECEPTACLES	1	20	QOB			0.6	11	12				--	--	--	SPARE
LOWER LEVEL RECEPTACLES	1	20	QOB	0.4			13	14	2.5			2	30	QOB	UPS – MODULE 'A'
LOWER LEVEL RECEPTACLES	1	20	QOB		0.6		15	16		2.5		–	–	–	" "
EXTERIOR LIGHTING	1	20	QOB			0.5	17	18			2.5	2	30	QOB	UPS – MODULE 'B'
FLOW METER TRANSMITTER	1	20	QOB	0.2			19	20	2.5			–	–	–	" "
SPARE	1	20	QOB				21	22		2.5		2	30	QOB	UPS – MODULE 'C'
EX FAN CONTROL PANEL	1	20	QOB			0.1	23	24			2.5	–	–	–	" "
MOTOROLA/SCADA CABINET	1	20	QOB	0.2			25	26	2.0			2	40	QOB	DUCTLESS SYSTEM COND UNIT
ODOR CONTROL CHEMICAL TANK	1	20	QOB		0.4		27	28		2.0		–	–	–	" "
FAN MAINTENANCE RECEPTACLES	1	20	QOB			0.4	29	30			0.8	2	15	QOB	DUCTLESS AIR HANDLER
SPARE	1	20	QOB				31	32	0.8			–	–	–	" "
SPARE	1	20	QOB				33	34		0.2		1	20	QOB	IRRIGATION CONTROLLER
SPARE	1	20	QOB				35	36			0.4	1	15	QOB	SCREEN ROOM LIGHTING
SPACE	--	--	--				37	38				--	--	--	SPARE
SPACE	--	--	--				39	40				--	--	--	SPARE
SPACE	--	--	--				41	42				--	--	--	SPARE
			SUB–TOTAL KVA	2.8	2.3	1.8			8.2	8.1	7.9				

TOTAL CONNECTED LOAD = 31.1 KVA 1

1

TOTAL DEMAND LOAD = 27.7 KVA 1

LIGHTING FIXTURE SCHEDULE

TYPE	MANUFACTURER	CATALOG NUMBER	LAMP(S)	VOLTS	MOUNTING	REMARKS
A	COLUMBIA	LLHP240HWEUC6TL151	(1) 281W LED BOARDS	120	PENDANT	PROVIDE 15A, 6 FOOT CORD AND TWIST LOCK PLUG AS REQUIRED. PROVIDE SAFETY CHAIN. COORDINATE MOUNTING HEIGHT WITH BRIDGE CRANE AND EXHAUST FANS.
B	COLUMBIA	LXEM4–50ML–RA–EU	(1) 47W LED BOARD	120	WALL/CEILING	4' LED STRIP LUMINAIRE
C	COLUMBIA	LXEM4–50ML–RA–EU–ELL14	(1) 47W LED BOARD	120	WALL/CEILING	SAME AS FIXTURE 'B' BUT PROVIDE LED EMERGENCY BATTERY PACK – LITHONIA OPTION ELL4.
D	LITHONIA	TWH LED 30C 1000 50K T3M 120 PE DDBXD	(1) 104W DRIVER	120	WALL	LED WALLPACK LUMINAIRE. UL WET LABEL, WITH INTEGRAL PHOTOCELL.
E	LITHONIA	TWS LED 1 50K 120	(1) 36W DRIVER	120	WALL	LED WALL LUMINAIRE. UL WET LABEL.
F	CROUSE–HINDS	EVLEDBX2C701	(1) 19W DRIVER	120	WALL	PROVIDE GLOBE AND GUARD. SUITABLE FOR USE IN CLASS 1, DIVISION 1 ENVIRONMENT. UL WET LABEL.
G	COLUMBIA	LXEM8–50ML–RA–EU–	(1) 94W LED BOARD	120	WALL/CEILING	8' LED STRIP LUMINAIRE
H	COLUMBIA	LXEM8–50ML–RA–EU–ELL14	(1) 94W LED BOARD	120	WALL/CEILING	SAME AS FIXTURE 'G' BUT PROVIDE LED EMERGENCY BATTERY PACK – LITHONIA OPTION ELL14.
J	LITHONIA	TWH LED 30C 1000 50K T3M 120 DDBXD	(1) 104W DRIVER	120	WALL	LED WALLPACK LUMINAIRE. UL WET LABEL. SIMILAR TO FIXTURE TYPE 'D', BUT WITHOUT PE CONTROL. MOUNT FIXTURES AT 10'–0".
X	LITHONIA	LQMP3R120/277ELN	(1) 1W DRIVER	120/277	UNIVERSAL	LED EXIT SIGN WITH NICKEL CADMIUM BATTERY BACKUP
EM	LARSON ELECTRONICS	EXP–EMG–EXF–12W–2L	(1) 9.5W DRIVER	120/277	WALL	SUITABLE FOR USE IN CLASS 1, DIVISION 1 ENVIRONMENT.

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Certificate of Authorization No. 00008363

09–19–18

TIMOTHY THOMAS, PE
FLORIDA LICENSE PE 47079

No.	DATE	REVISIONS
3		
2		
1	9–19–18	ADDENDUM

DES: T.D.T.
DRN: J.L.H.
CKD: T.D.T.
DATE: 7/25/18

CITY of TAMPA
WASTEWATER DEPARTMENT

ELECTRICAL SCHEDULES

SHEET
E-45

MCC-59 CONDUIT AND CABLE SCHEDULE (CONTINUED)

CONDUIT No.	SIZE	NUMER OF CONDUCTORS/SIZE	FROM	TO	REMARKS
M115	1"	3–#8 + 1–#10 GND	GEN XFMR DISCONNECT	MCC–LPS	GENERATOR ANCILLARY EQUIPMENT 25 KVA TRANSFORMER FEEDER. COORDINATE CONDUIT STUB–UP LOCATION WITH GENERATOR ENCLOSURE SUPPLIER.
M116	3/4"	3–#12 + 1–#12 GND	MCC–LPS	SF–1 DISCONNECT	
M116A	3/4"	3–#12 + 1–#12 GND	SF–1 DISCONNECT	SUPPLY FAN SF–1	PROVIDE NON–METALLIC FLEXIBLE WEATHERPROOF CONNECTION TO FAN.
M117	3/4"	3–#12 + 1–#12 GND	MCC–LPS	SF–2 DISCONNECT	
M117A	3/4"	3–#12 + 1–#12 GND	SF–2 DISCONNECT	SUPPLY FAN SF–2	PROVIDE NON–METALLIC FLEXIBLE WEATHERPROOF CONNECTION TO FAN.
M118	3/4"	3–#10 + 1–#10 GND	MCC–LPS	BAR–SCREEN C.P.	
M119	4"	3–#600 kcmil + 1–#3 GND	SWITCHGEAR 'LPS' BUS A	MCC–LPS BUS 'A'	
M120	4"	3–#600 kcmil + 1–#3 GND	SWITCHGEAR 'LPS' BUS B	MCC–LPS BUS 'B'	
M121	3/4"	3–#12 + 1–#12 GND	MCC–LPS	PUMP NO. 1 EAKGV	PROVIDE NON–METALLIC FLEXIBLE WEATHERPROOF CONNECTION TO ELECTRICALLY ACTUATED KNIFE GATE VALVE.
M122	3/4"	3–#12 + 1–#12 GND	MCC–LPS	PUMP NO. 2 EAKGV	PROVIDE NON–METALLIC FLEXIBLE WEATHERPROOF CONNECTION TO ELECTRICALLY ACTUATED KNIFE GATE VALVE.
M123	3/4"	3–#12 + 1–#12 GND	MCC–LPS	PUMP NO. 3 EAKGV	PROVIDE NON–METALLIC FLEXIBLE WEATHERPROOF CONNECTION TO ELECTRICALLY ACTUATED KNIFE GATE VALVE.
M124	1"	3–#6 + 1–#8 GND	MCC–LPS BUS 'A'	AUTOMATIC TRANFER SWITCH	NORMAL POWER TO TRANSFORMER T1.
M125	1"	3–#6 + 1–#8 GND	MCC–LPS BUS 'B'	AUTOMATIC TRANFER SWITCH	ALTERNATE POWER TO TRANSFORMER T1.
M126	1"	3–#6 + 1–#8 GND	AUTOMATIC TRANFER SWITCH	TRANSFORMER T1	POWER TO TRANSFORMER T1. PROVIDE NON–METALLIC FLEXIBLE CONDUIT CONNECTION TO TRANSFORMER T1.
M201	3/4"	3–#10 + 1–#10 GND	MCC–LPS	OVERHEAD CRANE	480V, 3ø POWER TO OVERHEAD CRANE FROM MCC–LPS.
					1
E100	1"	CAT 6 SHIELD ETHERNET CABLE	MOTOROLA ACE3600	CP–L01	ETHERNET COMMUNICATIONS
L200	2"	3–#2/0 + 1–#2/0 NEU + 1–#6 GND	TRANSFORMER T1	TRANS T1 DISCONNECT	POWER TO PANELBOARD LP.
L200A	2"	3–#2/0 + 1–#2/0 NEU + 1–#6 GND	TRANS T1 DISCONNECT	PANELBOARD LP	POWER TO PANELBOARD LP.

CONTINUED ON SHEET E–48

1

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09–19–18

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1	9–19–18	ADDENDUM

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DRN: J.L.H.
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DATE: 7/25/18

CITY of TAMPA
WASTEWATER DEPARTMENT

CONDUIT SCHEDULE
(SHEET 2 OF 4)

SHEET
E-47

SECTION 14600
OVERHEAD CRANE SYSTEM

PART 1 - GENERAL

1.01 DESCRIPTION

A. Scope
1. This section specifies bridge crane, monorail crane and hoisting equipment.
2. Furnish each unit complete with electrification and all appurtenances which are required for safe and proper operation.
3. Fabricate, assemble, erect, test and place all specified equipment in proper operating condition in full conformity with drawings, specifications and manufacturers recommendations.

B. CRANE SUMMARY

Pump Room Crane

Span:	16'-02" (To be field verified by Contractor prior to submittals)
Capacity:	7.5-Tons
Crane type:	Single girder, top running type with an under running trolley and low headroom hoist.
Crane speed:	0 to 100 fpm, infinitely variable
Crane drive:	Dual motor drive
Trolley speed:	0 to 65 fpm, infinitely variable
Hoist speeds:	3.3 and 20 fpm, two speed
Hoist type:	Electric wire rope
Hoist lift required:	26'-00"
Control:	Pendant from independent track system on bridge

Existing runway length (to remain): Approximately 48ft (Contractor to field verify)
Elevation of hook in highest position: 27’-00”
Elevation of hook in lowest position: 1’-00”

C. WORK INCLUDES, BUT IS NOT LIMITED TO, THE FOLLOWING:

1. Detailed design of completed crane system, including bridge, end trucks, trolley, hoists, cabling, controls and all appurtenances specified herein.

2. Coordination of design with building design and field conditions; verification of field dimensions before fabrication.

3. Shop drawings, including connections and clearances to building construction.

4. Fabrication of a complete crane.

5. All work associated with retrofitting new crane with existing runway beams and rails.

6. Inspection and shop testing.

7. Installation of all equipment.

8. Documentation of all schedules.

9. Special tools.

10. Shipping.

11. Bus bar type electrical power conductors for runway system

12. Coordination of crane coverage area with floor plan layout, other trades and equipment. Bring discrepancies to the attention of the Owner's representative for correction prior to installation of the crane system.

D. OPERATING REQUIREMENTS

1. Capacity: Reference 1.01B above.

2. CMAA Duty Class: "C" - All cranes

3. Type: Reference 1.01B above.

4. Approximate bridge span: Reference 1.01B above.

5. Approximate runway length and area of coverage. Reference 1.01B above.

1.02 REFERENCES

Equipment furnished under this section shall comply in all respects with the Requirements of the following standards:

OSHA Occupational Safety and Health Administration

CMAA Crane Manufacturer's Association of America

HMI Hoist Manufacturers Institute

ANSI American National Standards Institute

NEMA National Electric Manufacturers Association

NEC National Electric Code

AWS AWS D14.1 Specification for Welding Cranes

1.03 SUBMITTALS

A. SHOP DRAWINGS AND EQUIPMENT DATA

1. Manufacturers catalog data for hoist.

2. Dimensional drawings and details for bridge crane and runway system

3. Calculations for bridge crane system
   a. Crane: Provide calculations demonstrating adequacy of crane structure per current CMAA standards.

4. Wiring schematics.

B. OPERATIONS AND MAINTENANCE MANUALS

1. Equipment function, normal operating characteristics and limiting conditions.

2. Assembly, installation, alignment and maintenance instructions.

3. Operating instructions for start-up, routine and normal operation, regulation and control shutdown and emergency conditions.

4. Lubrication and maintenance instructions.

5. Guide to "trouble-shooting".

6. Parts list.

7. As-built drawing(s).

8. Test results

1.04 PROTECTION

A. Protect all equipment during shipment, handling and storage.

B. Painted surfaces:

1. Protect against impact, abrasion, discoloration and other damage.

2. After installation, repaint or touch-up paint on all painted surfaces which are scratched or damaged prior to final acceptance.

C. Protect electrical equipment, controls, insulation, etc. against moisture and water damage.

1.05 QUALITY ASSURANCE

A. Contractor shall adhere to OSHA, State and Local safety guidelines, laws, rules and regulations.

B. Contractor shall conform to all applicable ANSI, CMAA and HMI specifications and/or standards.

C. Comply with CMAA Specification 70 or 74, as applicable.

D. Shop drawings and submittals shall be approved by the Engineer prior to ordering of material and installation.

E. All electric equipment shall be CSA or ETL labeled.

1.06 WARRANTIES

A. Provide TWO YEAR equipment warranty.

PART 2 - PRODUCTS

2.01 ACCEPTABLE PRODUCTS

A. Bridge crane package shall be provided by Advanced Overhead Systems, Inc. (Ph# 863-667-3757) or approved equal.

B. Hoist shall be R&M SX series low headroom wire rope type

2.02 MATERIALS

Components	Material
Bridge beams	Steel, ASTM A36 or A992
End trucks	Steel, ASTM A36
Trolley	Steel, ASTM A36
Wheels	Cast iron or steel
Hooks	Forged steel

2.03 EQUIPMENT

A. HOIST AND TROLLEY

1. Hoist shall be electric wire rope type with motorized trolley, to fit standard "S"-beams, wide Flanged "W" beams or fabricated boxes.

2. Hoist and trolley motors shall be per 1.01B above, as applicable.

3. Hoist shall be two speed at a 6:1 ratio.

4. Trolley shall be inverter controlled for ramped acceleration and deceleration and variable speeds.

5. Four step upper and lower limit switch shall be provided. Limit switch shall provide upper and lower limit stopping, hoist slow down prior to reaching upper limit and phase reversal protection at upper limit.

6. Hoist motor shall be totally enclosed with equivalent to NEMA 4 rating and shall have minimum Class F insulation.

7. Hoist brake shall be DC type with adequate torque to stop and hold over 125% of the rated hoist load.

8. Hoist control panel shall be at least equivalent to NEMA 4 rating.

9. Safety latch shall be provided on hook.

10. Hoist shall have a duty rating suitable for the load class and load cycles of the application.

B. BRIDGE GIRDER

1. Bridge girder shall be per 1.01B above, as applicable.

2. Girder shall be welded structural "S" or "W.F." section or fabricated box girder, reinforced as required.

C. END TRUCKS

1. End trucks shall be designed in accordance with CMAA specifications.

2. End trucks shall be bolted to bridge girder.

3. Bridge drive shall be dual-motor.

4. Bridge drive shall be designed to stop the bridge within CMAA specifications.

5. End trucks shall be equipped with rail sweeps and energy-absorbing rubber bumpers.

6. Travel limit switches shall be provided, as necessary, for safe operation.

7. Bridge shall be inverter controlled for ramped acceleration and deceleration and variable speeds.

D. POWER SUPPLY

1. Power supply for the hoist shall be 460 volt, three phase, 60 HZ. All power required for the operation of the hoist, trolley and end trucks shall be developed from this source.

2. Runway electrification shall be 4-bar safety type rigid conductors as manufactured by Insul-8 Corporation, Duct-O-Wire Corporation or Howell Corporation. Wall mounted disconnect switch and power to the runway conductors shall be provided by the Electrical Contractor.

3. Cross bridge electrification shall be flat cable style festoon system with terminal box, multi-conductor cord and accessories.

E. CONTROLS

The following controls shall be used, as applicable:

1. Six-way operation, pushbutton pendant suspended from festoon track system.

2. Pendant shall include On/Off button that controls mainline contactor in bridge control panel.

3. Pushbutton shall be clearly marked with bridge, hoist and trolley travel directions.

4. Bridge, hoist and trolley controls shall be magnetic reversing type, or variable frequency, as required per Section 1.01B.

5. Electrical enclosures shall be NEMA 4. Pushbutton enclosure shall be NEMA 4X.

F. LABELING

1. Hoist and bridge beam shall be labeled with load rating per CMAA and HMI.

2. Corrosion-resistant nameplate shall be fixed to the bridge with the following information:
   a. Name of Manufacturer
   b. Contract number
   c. Mfr's. model number and serial number
   d. Capacity
   e. Weight
   f. Date of manufacture (month and year)

G. PAINTING

1. Hoist and trolley shall be factory painted per manufacturers' standards.

2. Bridge shall be shop cleaned, primed and painted per manufacturers' standards.

3. Existing runway beams shall remain as currently painted and shall be cleaned if necessary for new crane retrofitting and operation.

4. The following items shall not be painted:

   a. Rail surfaces in contact with wheels
   b. Wheel running surfaces
   c. Wire rope

d. Conductor bar and festoon cables

5. Suspended overhead crane and monorail systems shall be painted as follows:

a. All non-electrified rails and runways shall be Gray primer painted
b. All electrified rails (shields) and runways shall be Orange (green for ground)
c. Bridge and end trucks shall be Safety Yellow
d. Hoists, trolleys, blocks, hooks, etc. shall be manufacturers standard paint systems
e. Surfaces traversed by trolley or bridge wheels shall not be painted

PART 3 - EXECUTION

3.01 INSTALLATION AND INSPECTION

A. Inspect structure and crane rail erection for conformance with reviewed shop drawings and contract documents prior to installation of equipment. Correct or replace nonconforming work prior to proceeding with installation.

B. Bridge crane shall be installed in conformance with manufacturers' instructions and inspected by a manufacturers' representative. Provide all necessary accessories to make bridge crane complete, usable and capable of meeting the operating requirements specified in the Operating Requirements. Test, adjust and clean equipment for acceptance by Owner.

3.02 TESTING

A. All crane equipment shall be operated through a complete lift and lowering cycle and through a complete travel of the bridge and trolley to determine that the equipment shall perform smoothly and safely and that the pendant cable length is sufficient to permit operation from desired floor level(s). All tests shall be carried out with the bridge crane equipment loaded at 125% of capacity. The bridge crane provider shall provide the test weight loads. Any defects shall be corrected by the bridge crane provider without expense to the Owner.

3.03 USE BY CONTRACTOR

A. If crane is used by the Contractor, it shall be repaired, repainted and otherwise refurbished to like new condition prior to its acceptance. The Contractor assumes all responsibility for operation and maintenance until the crane has been accepted by the Owner.

3.04 CLEANUP

A. Upon completion of work, area shall be cleaned and restored to original condition, acceptable to the Owner.

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