

PROJECT MAP
SCALE: 1" = 400'

GENERAL NOTES

1. It is the requirement of the contractor to make his own interpretation of all surface and subsurface data that is presented as to the nature and extent of the materials to be excavated, graded and compacted. The information shown on these plans and within the specifications does not in any way guarantee the amount or the nature of the material which may be encountered.
 2. The contractor shall notify the engineer of any conflict with existing utilities not shown on these plans prior to the installation of any pipe.
 3. All property/right-of-way lines are approximate, unless monument or pin locations are shown.
 4. All property monuments and R/W monuments that are disturbed or damaged shall be replaced by a licensed surveyor. Concrete monument markers shall be a minimum 4" x 4" x 2'6".
 5. All fences, posts, sheds, stored items, etc., moved to perform the work shall be replaced or moved back to the original location and any damage caused by removal and replacement shall be repaired so as to place the item in a condition equal to or better than existing at the start of the work.
 6. The contractor shall provide a legible set of as-built marked prints to the engineer showing in detail all changes from the design drawings. The locations of all service lines shall be shown with dimensions to permanent structures or manholes.
 7. All work shall be performed in a manner as to permit traffic to operate with the least amount of inconvenience possible. At least one travel lane must remain open at all times. All traffic control devices, signs, striping, and flagging shall be furnished by the contractor.
 8. All existing drive and crossroads will be provided ingress/egress routes at all times during the construction activities.
 9. The contractor shall not leave drainage ditches blocked, except for a brief time during actual installation of pipe. Provide temporary bypass drainage as required to have properly functioning drainage at all other times. Regrade all ditches disturbed by installation of pipe.
 10. All ditch banks, existing grass shoulders, and other areas that are disturbed shall be reseeded.
 11. All items which are to be removed and are not shown to be reused shall become the property of the contractor and shall be removed from the site. The contractor shall be responsible for the proper final disposal of such material.
 12. The contractor is required to contact all utility companies and have utilities located before work begins.
- It is the contractor's responsibility to protect all utilities. Any damage to utilities shall be repaired at the expense of the contractor. If trench of pipe is within 5ft. of power poles, contractor must notify power company and take all precautions as required by power company. Backfilling and compaction required the same day as excavation occurs.

NOTE:
HORIZONTAL DATUM IS ON GEORGIA STATE PLANE COORDINATES,
EAST ZONE, DERIVED FROM EGPS NETWORK OBSERVATIONS.

VERTICAL DATUM IS NAVD88, DERIVED FROM EGPS NETWORK OBSERVATIONS.

13. It is the contractor's responsibility to coordinate with utility company for any guy wire relocation, or temporary utility line disconnections. All fees by the utility company for conducting these services shall be paid by the contractor.
14. The contractor shall pay special attention to underground telephone fiber optic cables, and the underground gas mains and overhead power cables. The contractor must stay a minimum of 7.5 ft. away from power lines for safety of construction activities. The contractor shall comply with the High Voltage Act of Georgia. The contractor shall take every precaution necessary for safety purposes. In areas where construction activities require such, the contractor shall have utility company wrap lines, support poles, etc. The contractor shall pay all fees to the utility company for their work.
15. Required shutdown of utility lines shall be coordinated with the Brunswick-Glynn County Joint Water & Sewer Commission.
16. All requests for disruption shall be made at least by 9:00AM the working day prior to the scheduled interruption.
17. The engineer shall approve any dewatering plan prior to its implementation.
18. All water main piping shall have a minimum of 36" of cover.
19. All valves and fittings shall be restrained.
20. Clearing shall be performed to the extent necessary to construct the work within designated clearing easements.
21. The contractor shall schedule and accomplish the work so as to avoid damage to private property and to minimize any inconvenience to property owners and their customers.

LEGEND	
EXISTING	PROPOSED
	SIGN
	SPIGOT
	DITCH
	STORM DRAIN LINE
	DRAINAGE INLET
	SANITARY SEWER LINE
	SANITARY SEWER MANHOLE
	FORCE MAIN
	AIR RELEASE VALVE IN MANHOLE
	PLUG VALVE IN MANHOLE
	FIRE HYDRANT ASSEMBLY
	VALVE
	WATER METER
	WATER LINE
	WATER VALVE
	LIGHT POLE
	GUY WIRE
	GUY POLE
	TEEPHONE POLE
	TELEPHONE BOX
	POWER POLE
	GAS METER
	TRANSFORMER
	POWER LINE
	TELEPHONE LINE
	ELECTRIC LINE
	OXYGEN LINE
	FIBER OPTIC CABLE
	UNDERGROUND CABLE
	MAILBOX
	IRON PIN
	CONCRETE MONUMENT
	RAILROAD
	ASPHALT PAVEMENT
	CASING
	FENCE
	RIGHT-OF-WAY
	ROAD CENTERLINE
	WOODS LINE
	TREE OR BUSH
	LIMITS OF DISTURBANCE
	TEMPORARY SEDIMENT BARRIER
	TEMPORARY SEDIMENT TRAP
	TEMPORARY SEDIMENT BASIN
	BRUSH BARRIER
	INLET SEDIMENT TRAP
	DUST CONTROL
	MULCHING
	TEMPORARY GRASSING
	PERMANENT GRASSING
	TEMPORARY CONSTRUCTION EXIT
	STORM DRAIN OUTLET PROTECTION
	CONTOURS
	WETLANDS
	UTILITY/CONSTRUCTION EASEMENT

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ACADEMY CREEK WWTP OXYGEN PIPING REPLACEMENT
FOR THE
BRUNSWICK-GYLYNN COUNTY
JOINT WATER & SEWER COMMISSION
PROJECT MAP - LEGEND - GENERAL NOTES

DRAWING NUMBER
02
OF xx

REVISIONS:

DESIGNED	DRAWN	CHECKED
JCB	SKK	JCB
DATE: JUNE 2018		
JOB NO. 118291604		
SCALE: AS SHOWN		

HUSSEY GAY BELL
Established 1958
329 COMMERCIAL DRIVE, SAVANNAH, GA 31406 / T:912.354.4626

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ISSUED FOR BID

GEORGIA
REGISTERED
No. 25429
PROFESSIONAL
ENGINEER
JOHN C. BURT

WASTEWATER
PROTECTION
CENTRE
SINCE 1958
CALL BEFORE YOU DIG

HUSSEY GAY BELL

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329 COMMERCIAL DRIVE, SAVANNAH, GA 31406 / T:912.354.4626

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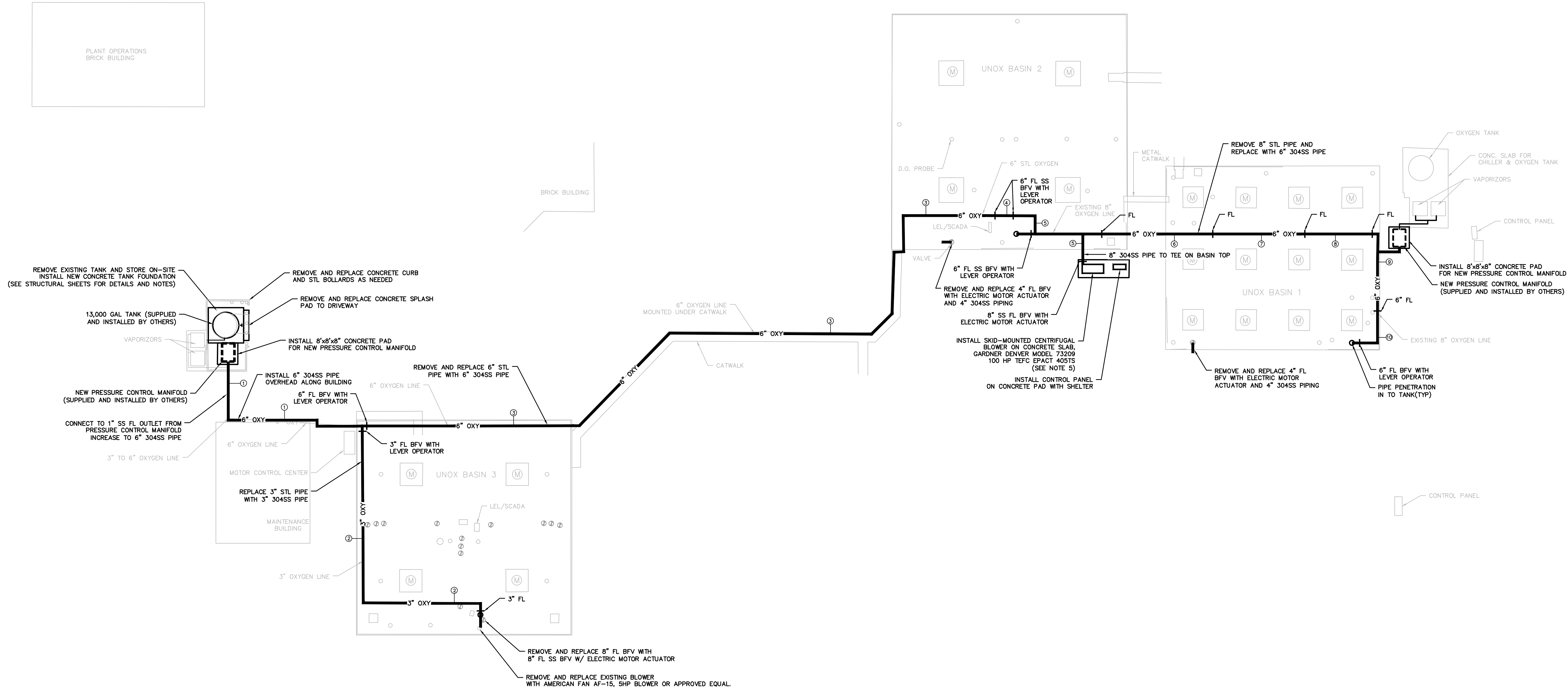
ACADEMY CREEK WWP OXYGEN PIPING REPLACEMENT
FOR THE
BRUNSWICK-GYLYNN COUNTY
JOINT WATER & SEWER COMMISSION

EXISTING SITE PLAN

DRAWING NUMBER

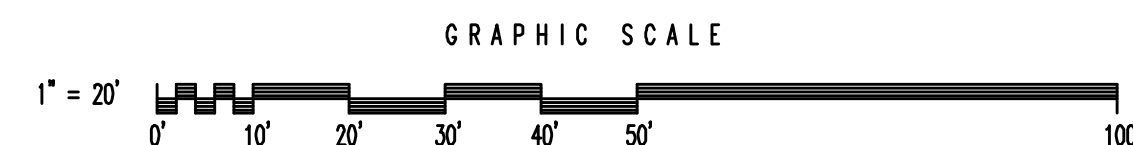
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OF XX



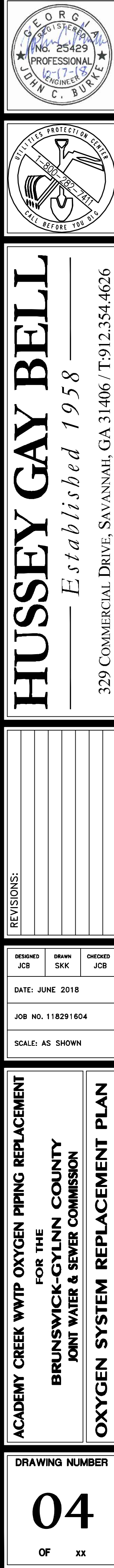
NOTES:

1. ALL PIPE SUPPORTS SHALL BE REPLACED. SEE STRUCTURAL SHEETS AND DETAIL SHEETS FOR ADDITIONAL INFORMATION ON PIPE SUPPORTS.
2. ALL WORK AT THE PLANT SHALL BE COORDINATED WITH JWSC WWTP OPERATIONS STAFF.
3. INSTALLATION OF NEW COMPONENTS SHALL BE PHASED SUCH THAT THE OXYGEN SYSTEM REMAINS IN SERVICE DURING CONSTRUCTION. ONLY ONE UNOX BASIN, OXYGEN TANK AND FEED CONTROL SYSTEM CAN BE REMOVED FROM SERVICE AT A TIME.
4. ALL REPLACED VALVES SHALL BE STAINLESS STEEL SUITABLE FOR USE IN OXYGEN SERVICE.
5. BLOWER ACCESSORIES SHALL, AT MINIMUM, INCLUDE:
 - 1-SET OF NEOPRENE BASE PADS
 - 1-COUPLING AND COUPLING GUARD
 - 1-6" EXPANSION JOINT
 - 1-6" WAFER-STYLE CHECK VALVE
 - 1-6" INLET BUTTERFLY VALVE-LEVER-OPERATED, METAL SEAT (ON INLET)
 - 1-6" OUTLET BUTTERFLY VALVE-LEVER-OPERATED, RESILIENT SEAT (ON-OUTLET)
 - 1-SMARTMETER CONTROL PANEL WITH SURGE/OVERLOAD PROTECTION
 - 1-FS-1 TWO-STAGE INLET FILTER/SILENCERS
6. THE CONTRACTOR SHALL INSTALL NEW DISSOLVED OXYGEN PROBE, SUPPLIED BY SCADA INTEGRATOR, AT UNOX BASIN 1 AT A LOCATION TO BE DETERMINED BY JWSC STAFF.

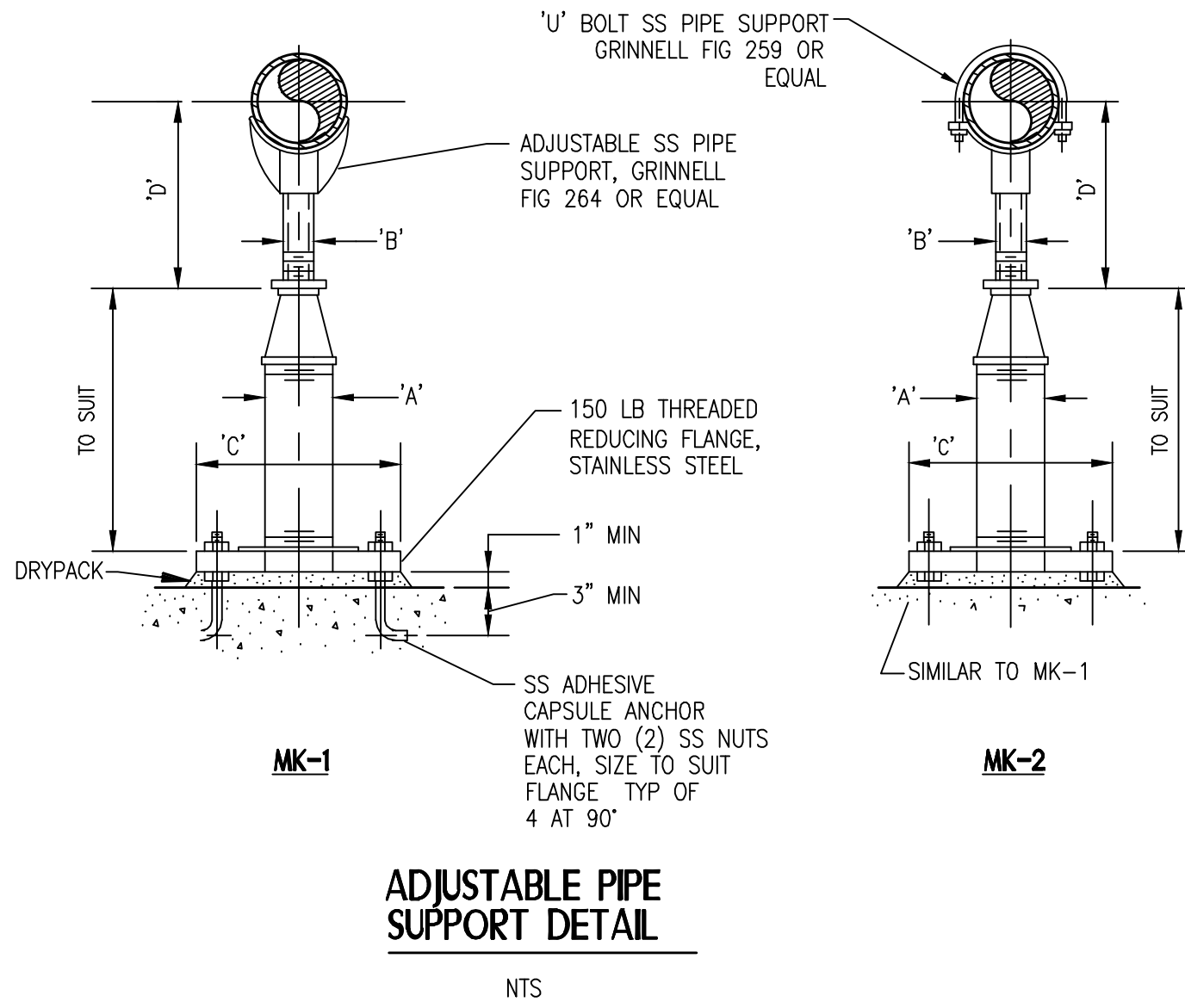


NOTE: ALL ELEVATIONS ARE NAVD 1988.

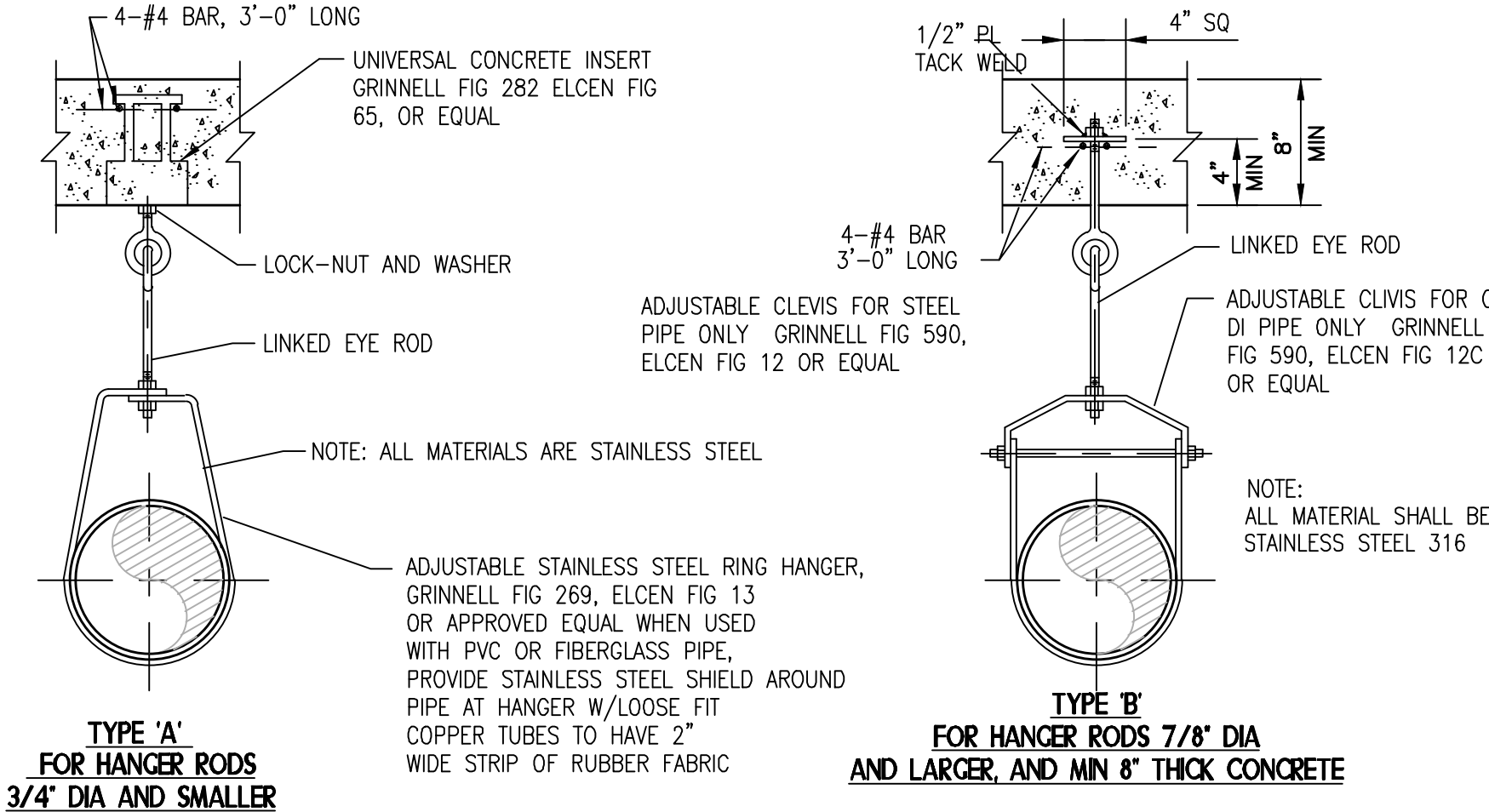
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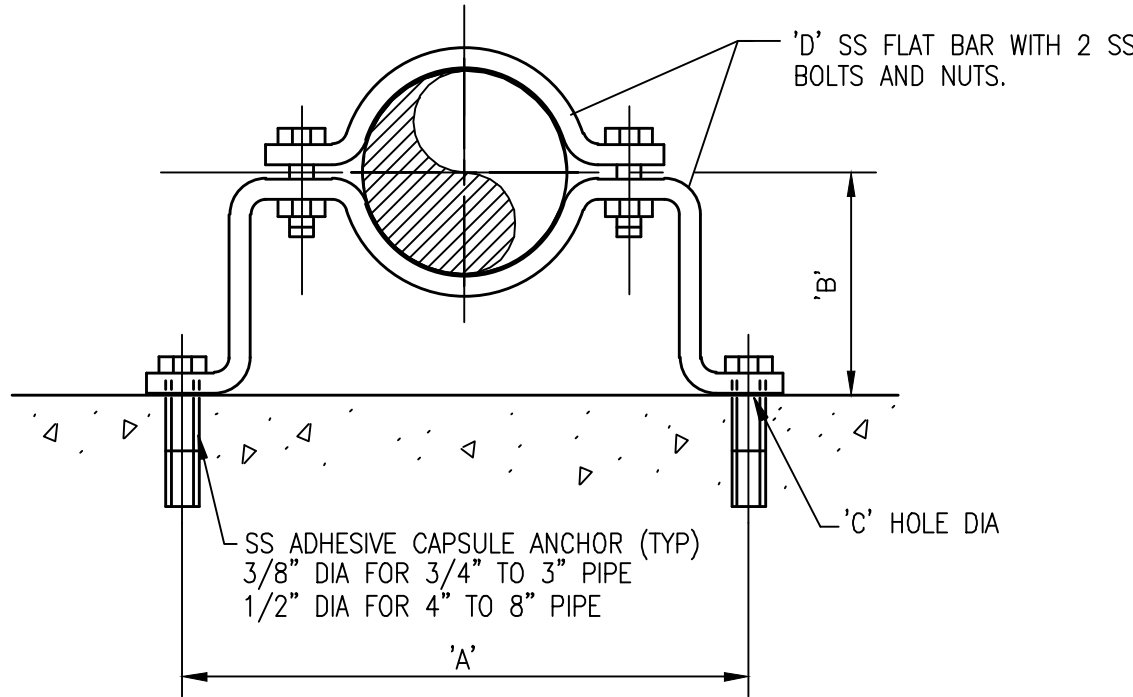


ADJUSTABLE PIPE SUPPORT APPROX DIMENSIONS IN INCHES					
PIPE SIZE	A	B	C	D MIN	D MAX
2 1/2	2 1/2	1 1/2	9	8	11 1/2
3	2 1/2	1 1/2	9	8 1/4	11 3/4
3 1/2	2 1/2	1 1/2	9	8 1/2	12
4	3	2 1/2	9	10 1/4	14
6	3	2 1/2	9	11 5/8	15 1/4
8	3	2 1/2	9	13 5/8	16 1/2
10	3	2 1/2	9	14 5/8	18 1/4
12	3	2 1/2	9	15 5/8	19 3/4
14	4	3	11	18 5/8	20 3/4
16	4	3	11	19 7/8	22 1/4
18	6	3 1/2	13 1/2	21 1/4	24
20	6	3 1/2	13 1/2	23 1/4	25 1/2
24	6	4	13 1/2	26 1/2	28 1/4
30	6	4	13 1/2	29 5/8	31 1/2
32	6	4	13 1/2	30 5/8	32 3/4
36	6	4	13 1/2	32 5/8	34 3/4



PIPE HANGER RODS & SUPPORT SPACING					
PIPE DIA (INCHES)	ROD DIA (INCHES)	MAX SUPPORT SPACING (FEET)		WEIGHT LIMIT (LBS)	
		STL PIPE	CI/DI PIPE	TYPE 'A'	TYPE 'B'
1 & SMALLER	3/8	5	MIN 1 HANGER PER PIPE AND FIT MAX SPACING 5 FEET - LOCATE HANGER CLOSE TO EACH CONNECTION	610	----
1 1/2 TO 2	3/8	5		610	----
2 1/2 TO 3 1/2	1/2	10		1130	----
4 TO 5	5/8	10		1430	----
6	3/4	10		1430	3800
8,10,12	7/8	10		----	3800
14,16	1	10		----	3800

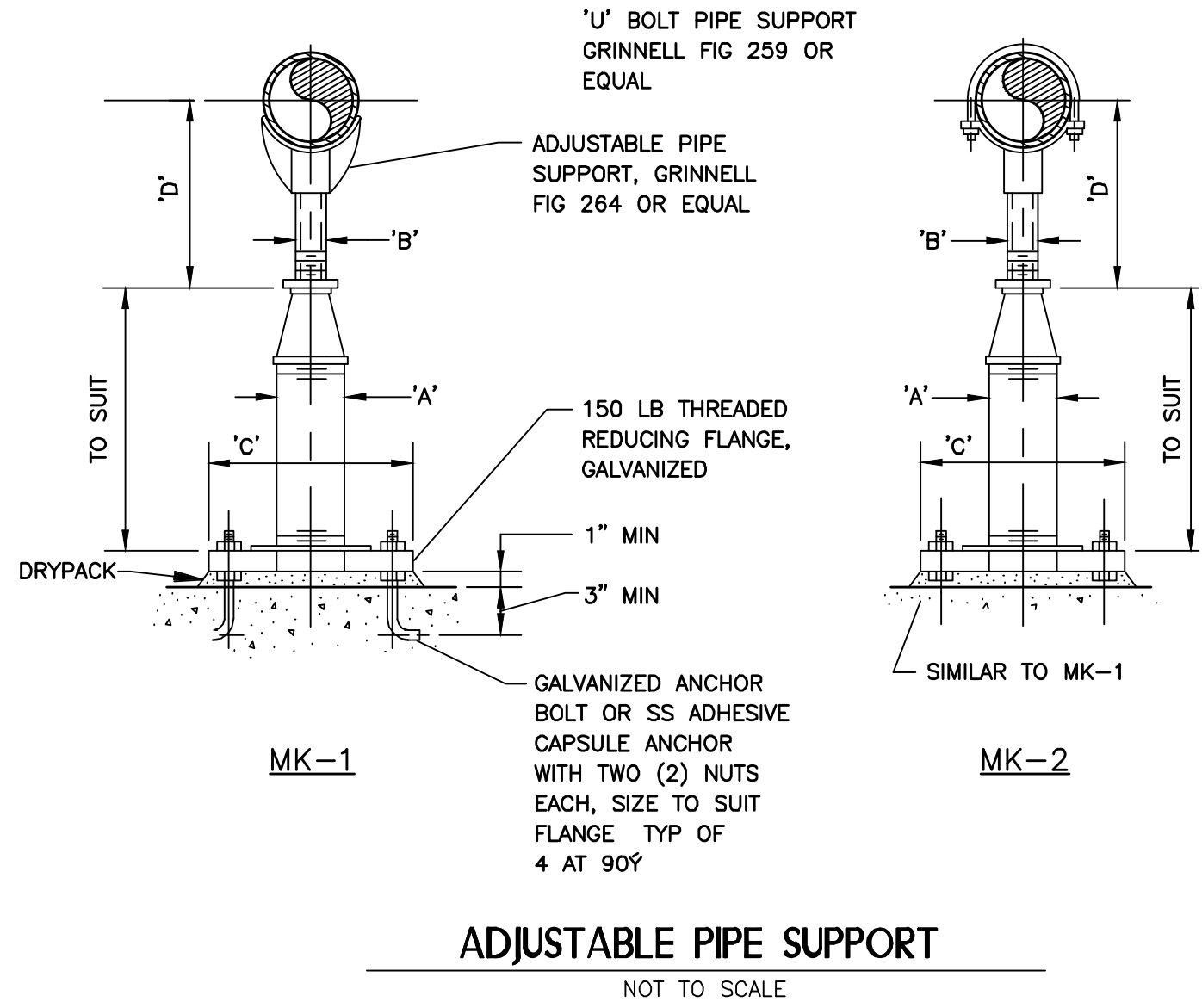
NOTE: PIPE ABOVE AND BELOW GRADE TO HAVE STAINLESS STEEL HARDWARE.



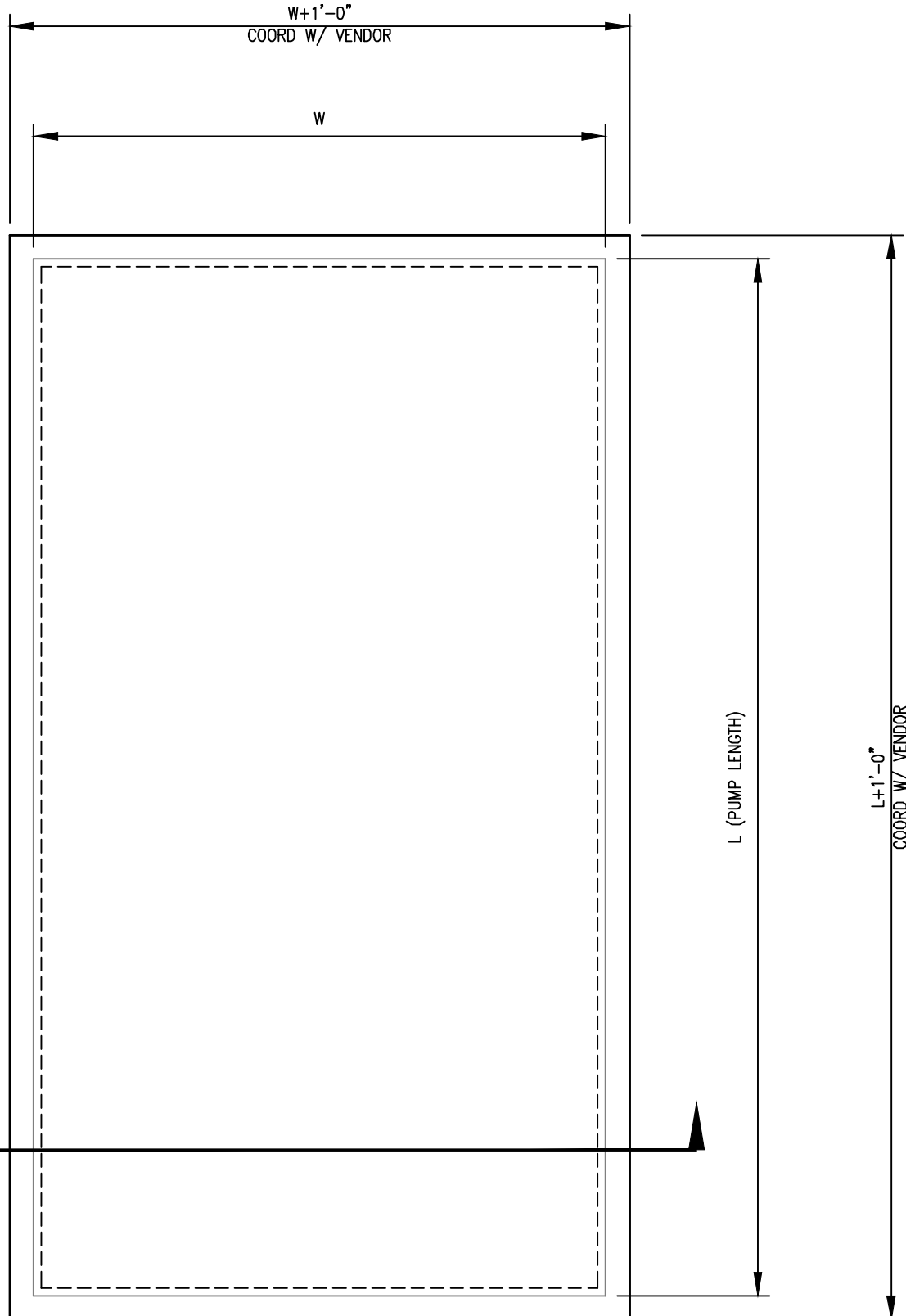
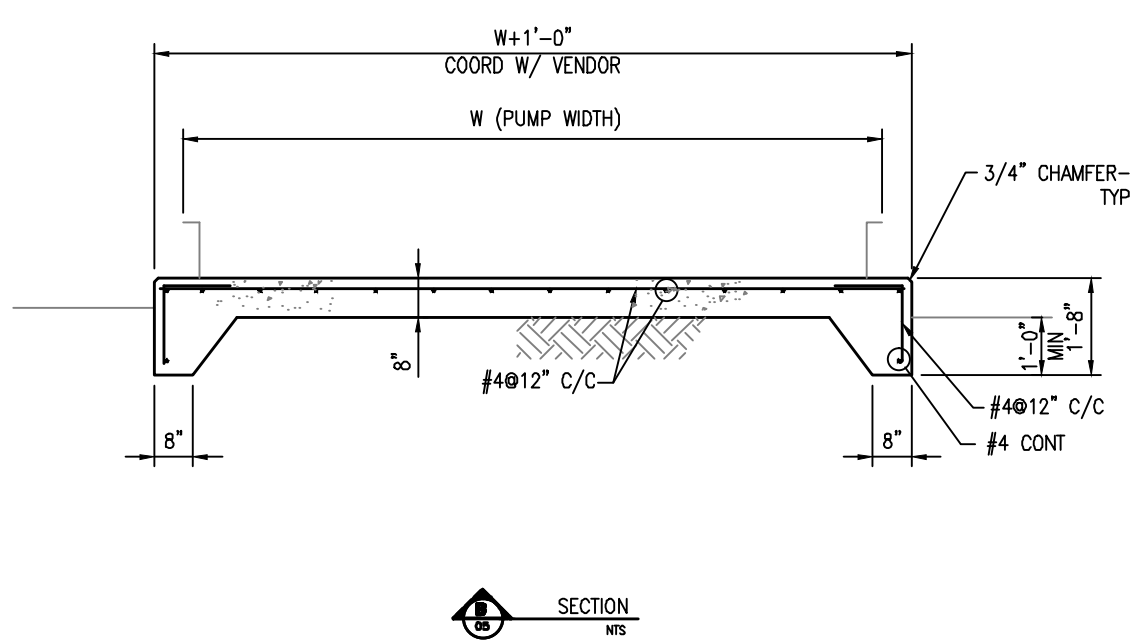
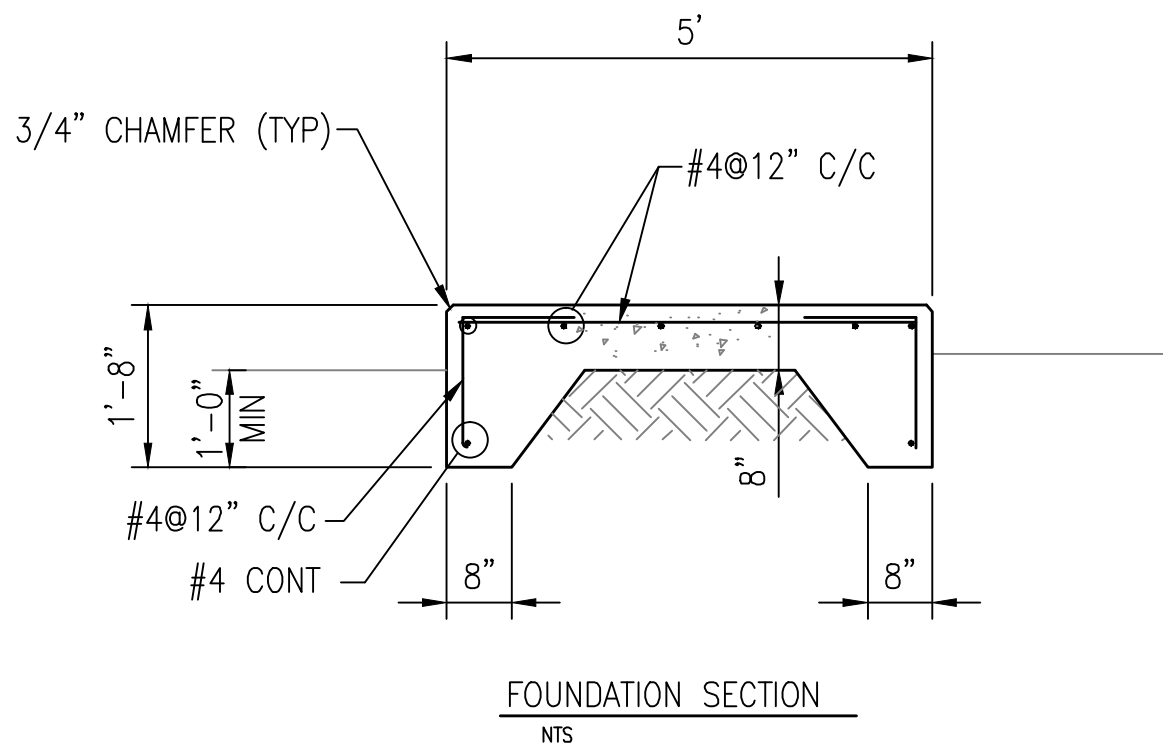
DIMENSIONS IN INCHES					
PIPE DIA.	'A'	'B' SEE NOTE 3 BELOW	'C' HOLE DIA.	'D' FLAT BAR SIZE	LOAD RATING LBS.*
3/4	5-15/16	2-1/2	7/16	3/16 X 1-1/4	300
1	6-1/4	2-5/8	7/16	3/16 X 1-1/4	300
1-1/4	6-11/16	2-3/4	7/16	3/16 X 1-1/4	300
1-1/2	6-15/16	3	7/16	3/16 X 1-1/4	300
2	8-5/16	3-3/16	7/16	1/4 X 1-1/4	500
2-1/2	8-7/8	3-7/16	7/16	1/4 X 1-1/4	500
3	9-1/8	3-3/4	7/16	1/4 X 1-1/4	500

* SAFETY FACTOR OF 5

- NOTES:
- PIPE CLAMP, WASHER AND SHIELD SHALL BE TYPE 316 STAINLESS STEEL
 - WHEN USED WITH PVC OR FIBERGLASS PIPE, PROVIDE SS SHIELD AROUND PIPE AT CLAMP WITH LOOSE FIT. WRAP COPPER TUBES WITH 2" STRIP OF RUBBER FABRIC
 - FOR FLANGED PIPING INCREASE 'B' DIMENSION AS REQUIRED
 - ALL ANCHOR BOLTS SHALL BE TYPE 316 SS.



ADJUSTABLE PIPE SUPPORT APPROX DIMENSIONS IN INCHES					
PIPE SIZE	A	B	C	D MIN	D MAX
2 ?	2 ?	1 ?	9	8	11 ?
3	2 ?	1 ?	9	8 ?	11 ?
3 ?	2 ?	1 ?	9	8 ?	12
4	3	2 ?	9	10 ?	14
6	3	2 ?	9	11 ?	15 ?
8	3	2 ?	9	13 ?	16 ?
10	3	2 ?	9	14 ?	18 ?
12	3	2 ?	9	15 ?	19 ?
14	4	3	11	18 ?	20 ?
16	4	3	11	19 ?	22 ?
18	6	3 ?	13 ?	21 ?	24
20	6	3 ?	13 ?	23 ?	25 ?
24	6	4	13 ?	26 ?	28 ?
30	6	4	13 ?	29 ?	31 ?
32	6	4	13 ?	30 ?	32 ?
36	6	4	13 ?	32 ?	34 ?



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GEORGIA
REGISTERED
No. 25429
PROFESSIONAL
ENGINEER
JOHN C. BURKE

QUALITY PROTECTION
FOR THE
CONSUMER
DO NOT
COPY
BEFORE YOU
BUY

HUSSEY GAY BELL

Established 1958

329 COMMERCIAL DRIVE, SAVANNAH, GA 31406 / T:912.354.4626

REVISIONS:

DESIGNED JCB	DRAWN SKK	CHECKED JCB
DATE: JUNE 2018		
JOB NO. 118291604		
SCALE: AS SHOWN		

ACADEMY CREEK WWP OXYGEN PIPING REPLACEMENT
FOR THE
BRUNSWICK-GYLYNN COUNTY
JOINT WATER & SEWER COMMISSION

MISCELLANEOUS DETAILS

DRAWING NUMBER

05

OF xx

GENERAL NOTES:

- 1) CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AT THE PROJECT SITE PRIOR TO STARTING WORK AND SHALL NOTIFY THE ARCHITECT AND/OR STRUCTURAL ENGINEER IMMEDIATELY OF ANY DISCREPANCIES. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT OF ANY EXISTING SITE CONDITIONS THAT ARE NOT CONSISTENT WITH THE CONSTRUCTION DOCUMENTS.
- 2) ALL REFERENCED STANDARDS REFER TO THE LATEST EDITION.
- 3) DESIGN CRITERIA:

A) BUILDING CODE: IBC 2012 WITH GEORGIA AMENDMENTS

C) ROOF LIVE LOAD: 20 PSF

D) GROUND SNOW LOAD: 0 PSF

E) RISK CATEGORY: III

F) WIND LOAD DATA:

a) V: 142 MPH

b) WIND PRESSURE ON TANK: 26.10 PSF

c) WIND EXPOSURE FRONT: C

d) WIND EXPOSURE BACK: C

e) Fp = 5.4 KIPS

G) EARTHQUAKE DESIGN DATA:

a) SEISMIC IMPORTANCE FACTOR: 1.25

b) Ss: 0.163

c) S1: 0.078

d) Sds: 0.174

e) Sd1: 0.125

f) SITE CLASS: D

g) SEISMIC DESIGN CATEGORY: B

h) RESPONSE MODIFICATION FACTOR R: 2

i) SEISMIC RESPONSE COEFFICIENT Cs: 0.03

j) BASIC SEISMIC FORCE RESISTING SYSTEM: ELEVATED TANK WITH UNSYMMETRICAL / UNBRACED LEGS

k) DESIGN BASE SHEAR: 5.0 KIPS

l) ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE

H) FLOOD LOADS: NOT APPLICABLE

I) DESIGN SOIL BEARING PRESSURE: 2000 PSF
- 4) THE DESIGN LOADING INFORMATION PROVIDED IS FOR INFORMATIONAL PURPOSES ONLY. ALL COMPONENTS, CLADDING, FINISHES, VENEERS, MECHANICAL UNITS, ARCHITECTURAL FEATURES, ETC. SHALL BE DESIGNED FOR ADEQUATE CONNECTIVE CAPABILITY UNDER CODE SPECIFIED LOADING. THESE MANUFACTURER'S SHALL BE RESPONSIBLE TO DETERMINE THE REQUIRED LOADING CONDITIONS FOR THEIR PRODUCT, INCLUDING ANY SUPERIMPOSED LOADS, DEAD LOADS, CONCENTRATED LOADS AND ANY LOADS SHOWN ON THE PLANS.
- 5) CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF ALL DISCIPLINES, INCLUDING BUT NOT LIMITED TO GROUNDING WIRES, CONDUITS, PIPE AND DUCT PENETRATIONS, ELECTRICAL, MECHANICAL AND PLUMBING OPENINGS, EQUIPMENT LOADS, ETC. SEE ARCHITECTURAL, CIVIL, ELECTRICAL AND MECHANICAL DRAWINGS FOR ITEMS NOW SHOWN ON THE STRUCTURAL DRAWINGS.
- 6) THE CONTRACTOR SHALL PROTECT ANY EXISTING FACILITIES, UTILITIES OR STRUCTURES FROM ALL DAMAGE.
- 7) THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND ERECTION OF ALL TEMPORARY BRACING AND SHORING AS REQUIRED FOR STABILITY OF THE STRUCTURE DURING ALL PHASES OF CONSTRUCTION.
- 8) CONTRACT DRAWINGS, DOCUMENTS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. CONTRACTOR IS RESPONSIBLE FOR ALL MEANS AND METHODS OF CONSTRUCTION INCLUDING, BUT NOT LIMITED TO, SHORING AND TEMPORARY BRACING.
- 9) DO NOT SCALE THE DRAWINGS.
- 10) THE CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO ENSURE THE SAFETY OF ALL PERSONS AND STRUCTURES AT THE SITE AND ADJACENT TO THE SITE. VISITS TO THE SITE BY THE STRUCTURAL ENGINEER OR THE STRUCTURAL ENGINEER'S REPRESENTATIVE SHALL NOT RELIEVE THE CONTRACTOR OF THIS RESPONSIBILITY.
- 11) CONTRACTOR SHALL NOTIFY STRUCTURAL ENGINEER AND ARCHITECT OF ANY UNUSUAL AND OR EXCESSIVE LOADS DUE TO EQUIPMENT OR CONSTRUCTION REQUIREMENTS. THE CONTRACTOR SHALL NOTIFY THE STRUCTURAL ENGINEER OR ARCHITECT OF ANY LOADS FROM EQUIPMENT THAT ARE DIFFERENT FROM THE DESIGN LOADS SHOWN ON THESE PLANS.
- 12) THE CONTRACTOR AND ALL SUBCONTRACTORS SHALL CONSTRUCT THIS PROJECT IN ACCORDANCE WITH ALL APPLICABLE BUILDING CODES AND ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES, LAWS AND REGULATIONS.
- 13) WORK NOT INDICATED AS PART OF THE DRAWINGS BUT REASONABLY IMPLIED TO BE SIMILAR TO THAT AT CORRESPONDING PLACES SHALL BE REPEATED.
- 14) IN CASE OF CONFLICT BETWEEN THE DRAWINGS AND/OR SPECIFICATIONS, THE MORE RIGID REQUIREMENT SHALL BE ASSUMED TO GOVERN UNTIL A RULING IS MADE BY THE ARCHITECT/ENGINEER.
- 15) THE CONTRACTOR SHALL REFER TO ELECTRICAL, MECHANICAL, ARCHITECTURAL AND OTHER DISCIPLINES' DRAWINGS FOR LOCATIONS OF ALL OPENINGS. CONTRACTOR IS RESPONSIBLE TO COORDINATE THESE DRAWINGS WITH THE DRAWINGS OF OTHER DISCIPLINES. THE STRUCTURAL ENGINEER AND ARCHITECT SHALL BE IMMEDIATELY NOTIFIED OF ANY OPENINGS FOUND BY THIS COORDINATION THAT ARE REQUIRED IN THE STRUCTURAL MEMBERS. NO CUTS OR MODIFICATIONS OF ANY MEMBERS SHALL BE MADE THAT ARE NOT APPROVED BY THE STRUCTURAL ENGINEER.
- 16) THE ENGINEER'S APPROVAL OF SHOP DRAWINGS SHALL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY FOR DEVIATIONS FROM REQUIREMENTS IN THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL NOT BE RELIEVED OF RESPONSIBILITY FOR ERRORS OR OMISSIONS IN SHOP DRAWINGS. DEVIATION FROM THE CONTRACT DOCUMENTS SHALL BE SUBMITTED SEPARATELY FOR APPROVAL.

GENERAL NOTES (CONT):

- 17) THE CONTRACTOR SHALL SUBMIT ALL SHOP DRAWINGS IN A TIMELY MANNER, ALLOWING THE ENGINEER AT LEAST TWO WEEKS TO REVIEW THE SHOP DRAWINGS. THE CONTRACTOR SHALL SUBMIT ALL SHOP DRAWINGS IN A DIGITAL PDF FORMAT. ANY ITEMS NOT SPECIFICALLY DESIGNED OR DETAILED ON THESE DESIGN DRAWINGS SHALL BE SUBMITTED WITH CALCULATIONS TO THE STRUCTURAL ENGINEER FOR REVIEW.
- 18) PRIOR TO SUBMITTING ANY ITEMS FOR APPROVAL, INCLUDING SHOP DRAWINGS, THE CONTRACTOR SHALL REVIEW THE MATERIALS AND COORDINATE ALL TRADES. ALL COORDINATION REQUIREMENTS SHALL BE NOTED ON THE SUBMITTALS. NO SUBMITTALS OR OTHER ITEMS FOR REVIEW SHALL BE FORWARDED TO THE STRUCTURAL ENGINEER OR ARCHITECT UNTIL THEY HAVE BEEN REVIEWED AND APPROVED BY THE CONTRACTOR.
- 19) SUBMITTALS SHALL NOT BE THE REPRODUCTION OF THE CONTRACT DOCUMENTS.
- 20) THE CONTRACTOR SHALL NOT PROCEED WITH FABRICATION WITHOUT APPROVED SHOP DRAWINGS.
- 21) THE CONTRACTOR SHALL VERIFY SIZES AND LOCATIONS OF ALL SLOTS, PIPE SLEEVES, ANCHOR BOLTS, ETC. AS REQUIRED FOR ALL TRADES PRIOR TO CONSTRUCTION.
- 22) SEE MECHANICAL, PLUMBING, FIRE PROTECTION, HVAC, ELECTRICAL AND OTHER TRADES DRAWINGS FOR ADDITIONAL INFORMATION AFFECTING THE STRUCTURAL WORK, INCLUDING:

A) HANGERS, SUSPENDED PIPING, SUSPENDED EQUIPMENT, SUSPENDED DUCT WORK.

B) ELECTRICAL CONDUIT, ELECTRICAL BOXES

C) INSERTS, EMBEDMENTS AND OTHER SUPPORTED EQUIPMENT

D) SLAB ON GRADE OR FLOOR EQUIPMENT AND ANCHORS

E) UNDERGROUND DUCT, ELECTRICAL TRENCHES, PITS, MANHOLES, PIPING

F) SEISMIC TIES FOR EQUIPMENT REQUIRING ADDITIONAL SEISMIC STABILITY
- 23) ONCE THE PROJECT IS COMPLETED, IT IS THE OWNER'S RESPONSIBILITY TO PROVIDE THE APPROPRIATE MAINTENANCE TO PROTECT THE STRUCTURAL INTEGRITY OF THE STRUCTURE. AS PART OF THE CONTRACT, THE CONTRACTOR IS REQUIRED TO INFORM THE OWNER(S) OF THIS IN WRITING.
- 24) THE STRUCTURAL DESIGN OF THIS BUILDING TAKES INTO CONSIDERATION THE ANTICIPATED GRAVITY, LATERAL AND UPLIFT LOADS BASED ON SOUND ENGINEERING JUDGEMENT. THE ENGINEER OF RECORD RESERVES THE RIGHT TO VERIFY AND MODIFY THE STRUCTURE AS NEEDED AS A RESULT OF THESE LOADS IN THE SHOP DRAWING PROCESS.
- 25) THESE STRUCTURAL PLANS ARE BASED ON THE LATEST INFORMATION PROVIDED TO THE STRUCTURAL ENGINEER PRIOR TO THE DATE ON THESE DRAWINGS. IF THERE IS A CONFLICT BETWEEN THESE DRAWINGS AND ANY OTHER DISCIPLINE'S DRAWINGS OR A CHANGE HAS BEEN MADE TO THIS JOB AFTER THE DATE OF THESE DRAWINGS, THE CONTRACTOR SHALL CONTACT THE ARCHITECT AND THE STRUCTURAL ENGINEER TO INSURE THESE CHANGES ARE INCORPORATED INTO THE STRUCTURAL PLANS.
- 26) FOUNDATION DESIGN IS BASED ON A SOIL BEARING CAPACITY OF 2000 PSF. CONTRACTOR IS RESPONSIBLE TO INSURE THIS CONDITION EXISTS.
- 27) PLACE CONCRETE IN FOOTINGS ON SAME DAYS AS FOOTINGS ARE EXCAVATED. IF THIS IS NOT POSSIBLE, CONTRACTOR SHALL PROTECT THE EXCAVATION FROM ANY DISTURBANCE UNTIL THE CONCRETE IS PLACED IN THE FOOTINGS. ANY TESTING OF THE SUBGRADE UNDER THE FOOTINGS SHALL BE MADE ON THE SAME DAY AS THE FOOTINGS ARE POURED.
- 28) THE CONTRACTOR SHALL OBTAIN A COPY OF THE SOILS REPORT BY TERRACON CONSULTANTS INC. THE CONTRACTOR SHALL BE RESPONSIBLE TO FOLLOW ALL RECOMMENDATIONS IN THIS REPORT.
- 29) UNLESS SPECIFIED OTHERWISE IN THE SOILS REPORT, ALL SUBSOILS UNDER FOOTINGS SHALL BE COMPACTED TO A MINIMUM OF 98% OF THE MAXIMUM DENSITY AS MEASURED BY THE STANDARD PROCTOR METHOD (ASTM D-698) AT OPTIMUM MOISTURE CONTENT.
- 30) ALL COLUMNS AND WALLS SHALL BE CENTERED ON THEIR SUPPORTING FOOTING, UNLESS SPECIFICALLY SHOWN OTHERWISE ON THE STRUCTURAL PLANS.
- 31) ALL REINFORCING IN FOOTINGS SHALL BE EQUALLY SPACED UNLESS SPECIFICALLY SHOWN OTHERWISE ON THE STRUCTURAL PLANS.
- 32) ALL REINFORCING STEEL SHALL BE SUPPORTED BY WIRE CHAIRS AND ADDITIONAL STEEL RODS AS NEEDED. DO NOT SUPPORT REINFORCING STEEL ON BRICKS, BLOCKS OR OTHER SOLID ITEMS.
- 33) SIMPSON SET-XP EPOXY SHALL BE USED TO INSTALL ALL POST-INSTALLED THREADED RODS IN CONCRETE.
- 34) HOLE DIAMETER, DEPTH, CLEANING AND INSTALLATION OF EPOXY SHALL BE IN ACCORDANCE WITH SIMPSON SPECIFICATIONS FOR THE SPECIFIC EPOXY USED.
- 35) THE ANCHOR ROD MAY BE ADJUSTED DURING THE SPECIFIED GEL TIME, ACCORDING TO SIMPSON. DO NOT ADJUST OR DISRUPT THE THREADED ROD AFTER THIS GEL TIME HAS PASSED.
- 36) DO NOT INSTALL THE EPOXY IN THE CONCRETE WHEN ENVIRONMENTAL CONDITIONS SPECIFIED BY SIMPSON FOR THE EPOXY CANNOT BE MET.
- 37) PROVIDE ADEQUATE EXPOSED THREADING OF THE ANCHOR ROD TO PROVIDE FULL NUT ENGAGEMENT, FLUSH WITH THE OUTSIDE FACE. CARE SHOULD BE TAKEN TO INSURE THAT LENGTHS FOR ADDITIONAL PLATE WASHERS FOR OVERSIZED HOLES, SLOTTED HOLES FOR LATERAL LOADING PLATE WASHERS ARE TAKEN INTO ACCOUNT.

CONCRETE NOTES:

- 1) ALL CONCRETE SHALL CONFORM TO ACI 301.
- 2) ALL CONCRETE WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE APPLICABLE ACI CODE.
- 3) ALL CONCRETE SHALL HAVE THE FOLLOWING STRENGTHS:

A) SLABS AND FOOTINGS: 4000 PSI
- 4) SUBMIT MIX DESIGN TO ENGINEER FOR APPROVAL.
- 5) THE CONCRETE SLUMP SHALL FALL WITHIN THE FOLLOWING RANGES:

A) FOOTINGS AND SLABS: 4 TO 6 INCHES
- 6) THE CONCRETE AIR ENTRAINMENT SHALL FALL WITHIN THE FOLLOWING RANGES:

A) FOOTINGS AND SLABS: 5 TO 7%
- 7) FLYASH MAY BE USED IN THE CONCRETE MIX. FLYASH SHALL ONLY BE USED AS A 2 TO 1 REPLACEMENT OF CEMENT (2 FLYASH PER 1 POUND CEMENT) UP TO 120 POUNDS OF FLYASH MAXIMUM.
- 8) ALL CONCRETE REINFORCING STEEL TO BE ASTM A615 GRADE 60.
- 9) REBAR SHOP DRAWINGS SHALL BE PREPARED IN ACCORDANCE WITH ACI DETAILING MANUAL LATEST EDITION.
- 10) MINIMUM LAP ON ALL REBAR SHALL BE 50 BAR DIAMETERS, UNLESS NOTED OTHERWISE.
- 11) ALL REINFORCING BARS SHOWN TO BE HOOKED SHALL HAVE A STANDARD HOOK PER CRSI AND ACI STANDARDS, UNLESS SPECIFICALLY NOTED OTHERWISE ON THE STRUCTURAL PLANS.
- 12) CORNER BARS ARE REQUIRED AT ALL CORNERS UNLESS SPECIFICALLY NOTED OTHERWISE ON THE STRUCTURAL PLANS.
- 13) REINFORCEMENT SHALL BE HELD IN PLACE DURING CONCRETE PLACEMENT. IF REQUIRED, ADDITIONAL BARS SHALL BE PROVIDED BY THE CONTRACTOR TO FURNISH SUPPORT FOR ALL BARS.
- 14) SUBMIT REBAR SHOP DRAWINGS TO ENGINEER FOR APPROVAL PRIOR TO FABRICATION.
- 15) NO CALCIUM CHLORIDE SHALL BE USED IN THE CONCRETE MIX.
- 16) THE CONTRACTOR SHALL TAKE THE PRECAUTIONS SPECIFIED BY ACI WHEN PLACING CONCRETE IN HOT OR COLD WEATHER CONDITIONS.
- 17) NO WATER SHALL BE ADDED TO THE CONCRETE AT THE SITE OR IN ROUTE TO THE SITE.
- 18) PROVIDE REBAR SUPPORTS AND TIES IN THE CONCRETE PER ACI AND CRSI SPECIFICATIONS.
- 19) REINFORCING SHALL BE INSTALLED IN THE CONCRETE IN ACCORDANCE WITH THE FOLLOWING COVER REQUIREMENTS

A) CONCRETE POURED AGAINST THE GROUND: 3"

B) CONCRETE EXPOSED TO THE GROUND OR WEATHER: 2"

C) CONCRETE NOT EXPOSED TO THE WEATHER OR IN CONTACT WITH THE GROUND:

1) #3 - #11 BARS: 3/4"

2) LARGER THAN #11 BARS: 1 1/2"

D) CONCRETE IN BEAMS OR COLUMNS: 1 1/2"
- 20) A QUALIFIED TESTING LABORATORY SHALL BE RETAINED BY THE GENERAL CONTRACTOR TO COLLECT CYLINDER AND PERFORM THE NECESSARY CONCRETE TESTS. A MINIMUM OF FOUR CYLINDERS SHALL BE TAKEN FOR EVERY 50 CUBIC YARDS OR PORTION THEREOF OF EACH DAY'S POUR. ONE CYLINDER SHALL BE TESTED AT 7 DAYS, 2 CYLINDERS SHALL BE TESTED AT 28 DAYS AND THE REMAINING CYLINDER SHALL BE HELD IN RESERVE IF NEEDED. ONE COPY OF THE TEST REPORTS SHALL BE SENT TO THE ARCHITECT AND STRUCTURAL ENGINEER. NO ADDITIONAL ELEMENTS SHALL BE ADDED TO THE CONCRETE AFTER THE CONCRETE FOR THE CYLINDERS IS TAKEN.
- 21) IN ADDITION TO THE CONCRETE CYLINDERS THE TESTING LABORATORY SHALL PERFORM THE FOLLOWING TEST EACH TIME CONCRETE CYLINDERS ARE TAKEN:

A) STANDARD SLUMP TEST

B) AIR ENTRAINMENT TEST

C) TEMPERATURE
- 22) THE CONTRACTOR SHALL REPAIR AND PATCH DEFECTIVE AREAS IMMEDIATELY AFTER REMOVAL OF FORMS.
- 23) ALL PLUMBING SLOTS SHALL BE FILLED WITH CONCRETE TO THE SAME DEPTH AS THE FLOOR SLAB AFTER PIPING IS INSTALLED.
- 24) REBAR DOWELS SHALL MATCH VERTICAL REINFORCING, ALL SLAB DOWELS SHALL BE STRAIGHT, SMOOTH AND FREE OF BURRS AT THE ENDS. DOWELS SHALL BE PROPERLY SUPPORTED DURING CONSTRUCTION AND PROPERLY ALIGNED TO KEEP DOWELS PARALLEL TO THE DIRECTION OF EXPECTED MOTION.
- 25) THE GENERAL CONTRACTOR IS RESPONSIBLE FOR THE PROPER DESIGN OF ALL TEMPORARY FRAMEWORK, FORMWORK AND SHORING.

SHOP DRAWING SUBMITTALS:

- 1) REVIEW BY HUSSEY GAY BELL, INC (HGB) OF SUBMITTALS IS FOR THE GENERAL CONFORMANCE WITH THE DESIGN CONCEPT AS PRESENTED BY THE CONTRACT DOCUMENTS. NO DETAILED CHECK OF QUANTITIES OR DIMENSIONS WILL BE MADE.
- 2) THE GENERAL CONTRACTOR IS RESPONSIBLE FOR ASSURING THAT ALL SUBMITTALS COMPLY WITH THE LATEST PROJECT PLANS, SPECIFICATIONS, GOVERNING CODES AND REGULATIONS AND IS SOLELY RESPONSIBLE FOR CONFIRMING ALL QUANTITIES, DIMENSIONS, FABRICATION TECHNIQUES AND COORDINATING WITH ALL TRADES.
- 3) A SHOP DRAWING SUBMITTAL SCHEDULE SHALL BE SUBMITTED A MINIMUM OF 4 WEEKS PRIOR TO THE FIRST SHOP DRAWING SUBMITTAL.
- 4) SHOP DRAWINGS ARE TO BE SUBMITTED IN A TIMELY MANNER ALLOWING ADEQUATE TIME FOR PROCESSING. THE ARCHITECT AND ENGINEER WILL REVIEW AND RETURN THE SHOP DRAWINGS WITHIN 14 CALENDAR DAYS OF RECEIVING THE SUBMITTAL.
- 5) SHOP DRAWINGS MUST BE REVIEWED AND APPROVED BY THE CONTRACTOR PRIOR TO SUBMITTING TO HGB. SHOP DRAWINGS THAT HAVE NOT BEEN REVIEWED BY THE CONTRACTOR OR SHOW CLEAR EVIDENCE OF NOT HAVING BEEN REVIEWED, WILL BE RETURNED TO THE CONTRACTOR WITHOUT REVIEW OR APPROVAL.
- 6) SHOP DRAWINGS FOR SPECIFIC COMPONENTS, SUCH AS COLUMNS, FOOTINGS ETC., SHALL BE SUBMITTED IN THEIR ENTIRETY. SHOP DRAWINGS FOR SIMILAR LAYOUTS, SUCH A FLOOR FRAMING, SHALL BE SUBMITTED TOGETHER.
- 7) ALL SHOP DRAWINGS SHALL BE SUBMITTED WITH A LETTER OF TRANSMITTAL. DO NOT COMBINE DIFFERENT SUBMITTALS ON THE SAME LETTER OF TRANSMITTAL.
- 8) ALL SHOP DRAWINGS SHALL BE SUBMITTED IN A DIGITAL PDF FORMAT.
- 9) ALL CHANGES AND ADDITIONS ON SHOP DRAWING RE-SUBMITTALS SHALL BE CLEARLY CLOUDED AND NOTED. SHOP DRAWING RE-SUBMITTALS THAT ARE NOT CLEARLY CLOUDED AND NOTED AS REQUIRED WILL BE RETURNED UNREVIEWED AND UNAPPROVED.
- 10) SHOP DRAWINGS THAT REQUIRE ENGINEERING DESIGN AND SUBMITTAL OF CALCULATIONS AND DRAWINGS SIGNED AND SEALED BY AN ENGINEER SHALL MEET THE REQUIREMENTS OF THE SPECIFICATIONS FOR THE INDIVIDUAL COMPONENT THAT IS APPLICABLE AND THE ADDITIONAL REQUIREMENTS OF THE "SHOP DRAWINGS REQUIRING SPECIALTY ENGINEERING" SECTION OF THESE SPECIFICATIONS.
- 11) SHOP DRAWINGS THAT DO NOT MEET ALL OF THE ABOVE REQUIREMENTS WILL NOT BE REVIEWED BUT WILL BE REJECTED AND RETURNED TO THE CONTRACTOR.
- 12) ALL SUBMITTAL SHALL HAVE HGB-STRUCTURAL DEPARTMENT DOCUMENT REVIEW STAMP AS SHOWN BELOW.
- 13) REVIEW OF SHOP DRAWINGS AND OTHER SUBMITTALS BY THE ENGINEER DOES NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY TO REVIEW AND CHECK SHOP DRAWINGS BEFORE SUBMITTAL TO THE ENGINEER. THE CONTRACTOR REMAINS SOLELY RESPONSIBLE FOR ERRORS AND OMISSIONS ASSOCIATED WITH THE PREPARATION OF SHOP DRAWINGS AS THEY PERTAIN TO MEMBER SIZES, DETAILS, AND DIMENSIONS SPECIFIED IN THE CONTRACT DOCUMENTS. CONTRACTOR IS ALSO RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES OF CONSTRUCTION.

HUSSEY GAY BELL

Established 1958

DOCUMENT REVIEW

These documents have been reviewed only for general conformance with the design concept of the project and general compliance with the Contract Documents. Modification or comments made on these documents do not relieve the Contractor from compliance with the requirements of the Contract Documents. Approval of a specific item does not include approval of the assembly of which the item is a component. The Contractor is responsible for information that pertains solely to fabrication processes; confirming and correlating dimensions at the jobsite; the means, methods, techniques, sequences, and procedures of construction; coordination of the work of all trades; and performing all work in a safe and satisfactory manner.

☐ NO EXCEPTIONS TAKEN

☐ AMEND & RESUBMIT

☐ DOCUMENT NOT REVIEWED

☐ MAKE CORRECTIONS NOTED

☐ REJECTED/RESUBMIT

☐

DATE: | BY:

STAMP WILL BE DATED, INITIALED AND MARKED ONE OF THE FOLLOWING:

a. "NO EXCEPTIONS TAKEN" – MEANS NO EXCEPTIONS WERE FOUND ON THE SHOP DRAWINGS AND MAY BE USED FOR FABRICATION AND ERECTION.

b. "MAKE CORRECTIONS NOTED" – MEANS THE EXCEPTIONS WERE FEW OR SMALL, FABRICATION AND ERECTION MAY START AS SOON AS THE DRAWINGS ARE REVISED. ALSO, A RECORD COPY OF THE REVISIONS SHALL BE SENT TO THE "ENGINEER OF RECORD".

c. "AMEND & RESUBMIT" – MEANS THAT THE CORRECTIONS WERE MANY OR LARGE. REVISE THE SHOP DRAWINGS AND RESUBMIT THEM. FABRICATION AND/OR ERECTION MAY NOT START TILL THE DRAWINGS HAVE BEEN REVIEWED AND STAMPED "NO EXCEPTION TAKEN" OR "MAKE CORRECTIONS NOTED & SUBMIT RECORD COPY".

d. "REJECTED/RESUBMIT" – MEANS THAT THE SHOP DRAWING HAS TOO MANY CORRECTIONS OR DOES NOT COMPLY WITH GENERAL DESIGN CONCEPTS. ALSO, IF SHOP DRAWINGS HAVE NOT BEEN CHECKED BY THE DETAILER/ FABRICATOR AND REVIEWED BY CONTRACTOR, DRAWINGS WILL BE REJECTED. DRAWINGS REQUIRING A PROFESSIONAL ENGINEERING SEAL, THAT ARE NOT SEALED, WILL BE REJECTED.

e. "DOCUMENT NOT REVIEWED" – MEANS THAT THE SUBMITTAL DOCUMENT WAS NOT REVIEWED BY HGB STRUCTURAL DEPARTMENT

ISSUED FOR BID

GEORGIA REGISTERED PROFESSIONAL ENGINEER JAMES V. WILLIAMS

SEAL

REGISTERED PROFESSIONAL ENGINEER JAMES V. WILLIAMS

SEAL

HUSSEY GAY BELL

Established 1958

329 COMMERCIAL DRIVE, SAVANNAH, GA 31406 / T:912.354.4626

REVISIONS:

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DESIGNED JVW	DRAWN DEM	CHECKED JVW
DATE: OCTOBER 2018		
JOB NO. 118291604		
SCALE: AS SHOWN		

ACADEMY CREEK WWTP OXYGEN PIPING REPLACEMENT

FOR THE
BRUNSWICK-GYLYNN COUNTY
JOINT WATER & SEWER COMMISSION

GENERAL NOTES

DRAWING NUMBER

S1.0

OF



NOTE:
VERIFY ALL ANCHOR BOLT AND SUPPORT LEG
DIMENSIONS WITH TANK MANUFACTURER.

TANK: VXT-13,000
CAPACITY: APPROXIMATELY 13,000 GALLON
HEIGHT: 38"-3" FROM BASE TO TOP OF TANK
DIAMETER: 9'-10" OUTSIDE DIAMETER
MATERIAL: LIQUID OXYGEN
C.G. FULL TANK: 20'-0" ABOVE BASE
TANK WEIGHT: 40,992 LBS
OPERATING WEIGHT WITH LIQUID OXYGEN: 161,500 LBS

ACADEMY CREEK WWTP OXYGEN PIPING REPLACEMENT
FOR THE
BRUNSWICK-GYLNN COUNTY
JOINT WATER & SEWER COMMISSION
STORAGE VESSEL FOUNDATION PLAN

DRAWING NUMBER

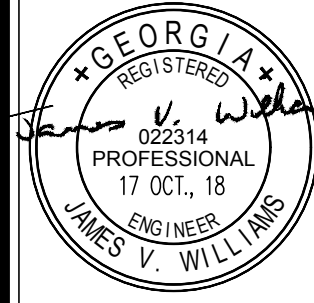
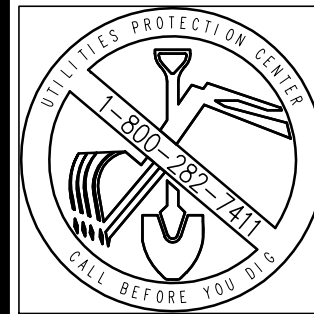
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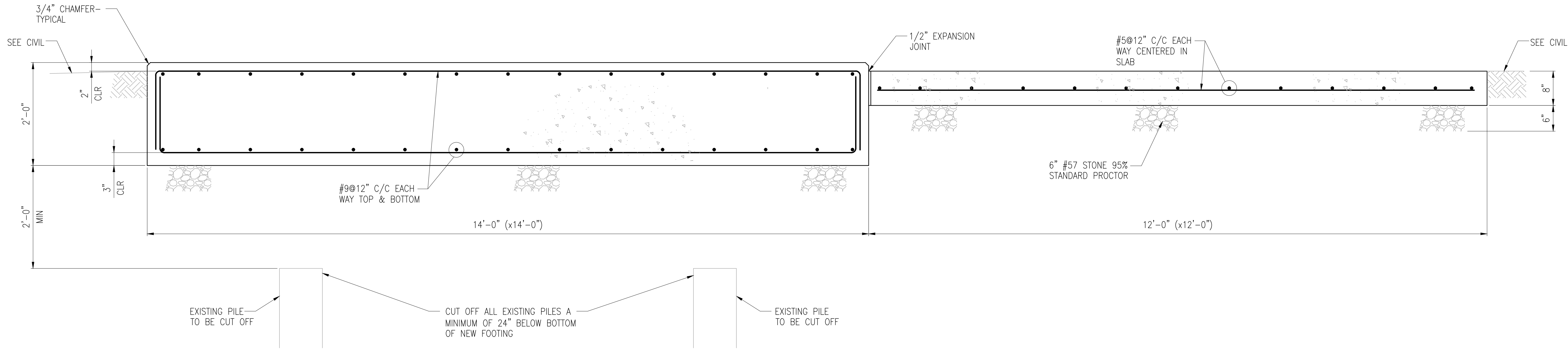
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DESIGNED JVW	DRAWN DEM	CHECKED JVW
DATE: OCTOBER 2018		
JOB NO. 118291604		
SCALE: AS SHOWN		

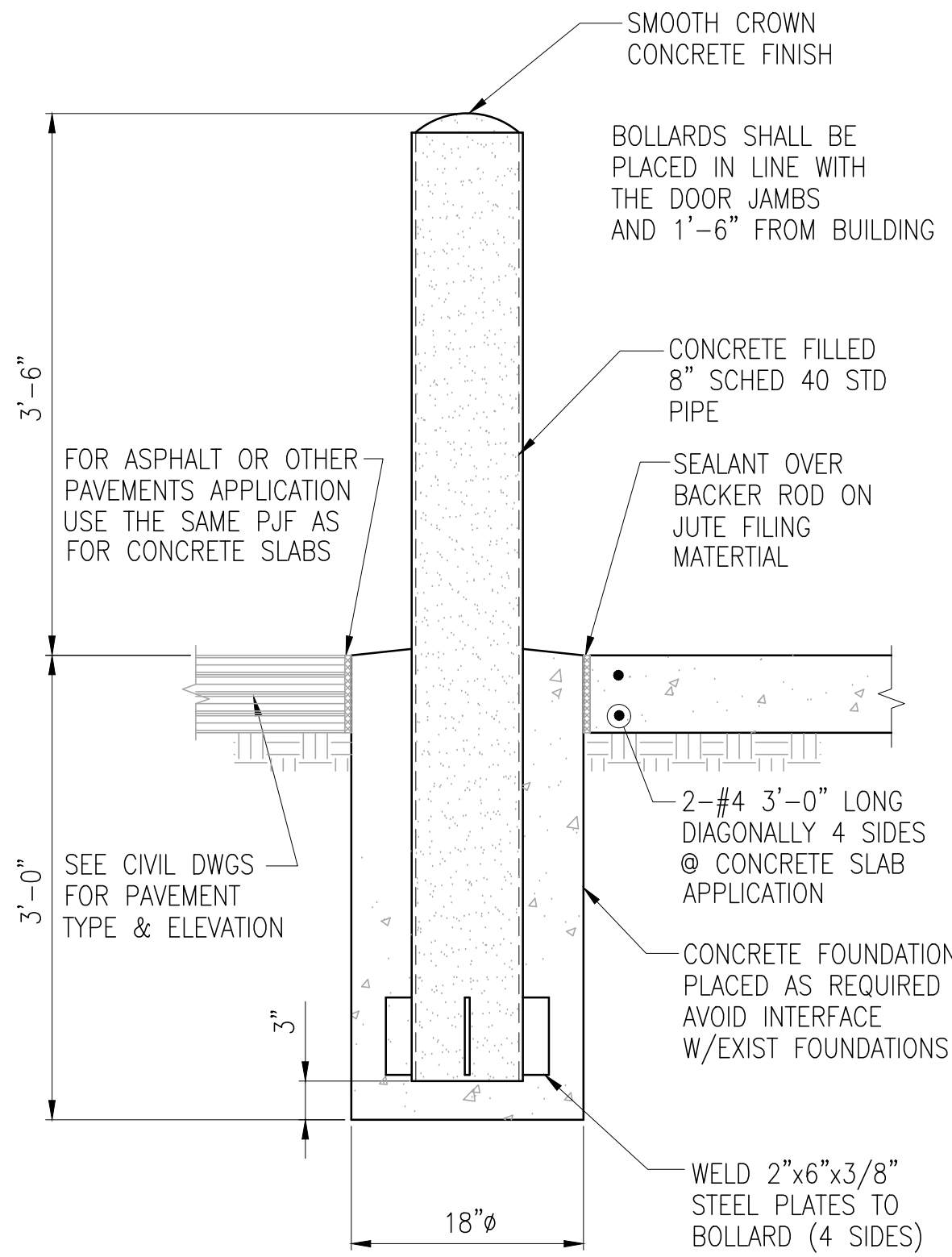
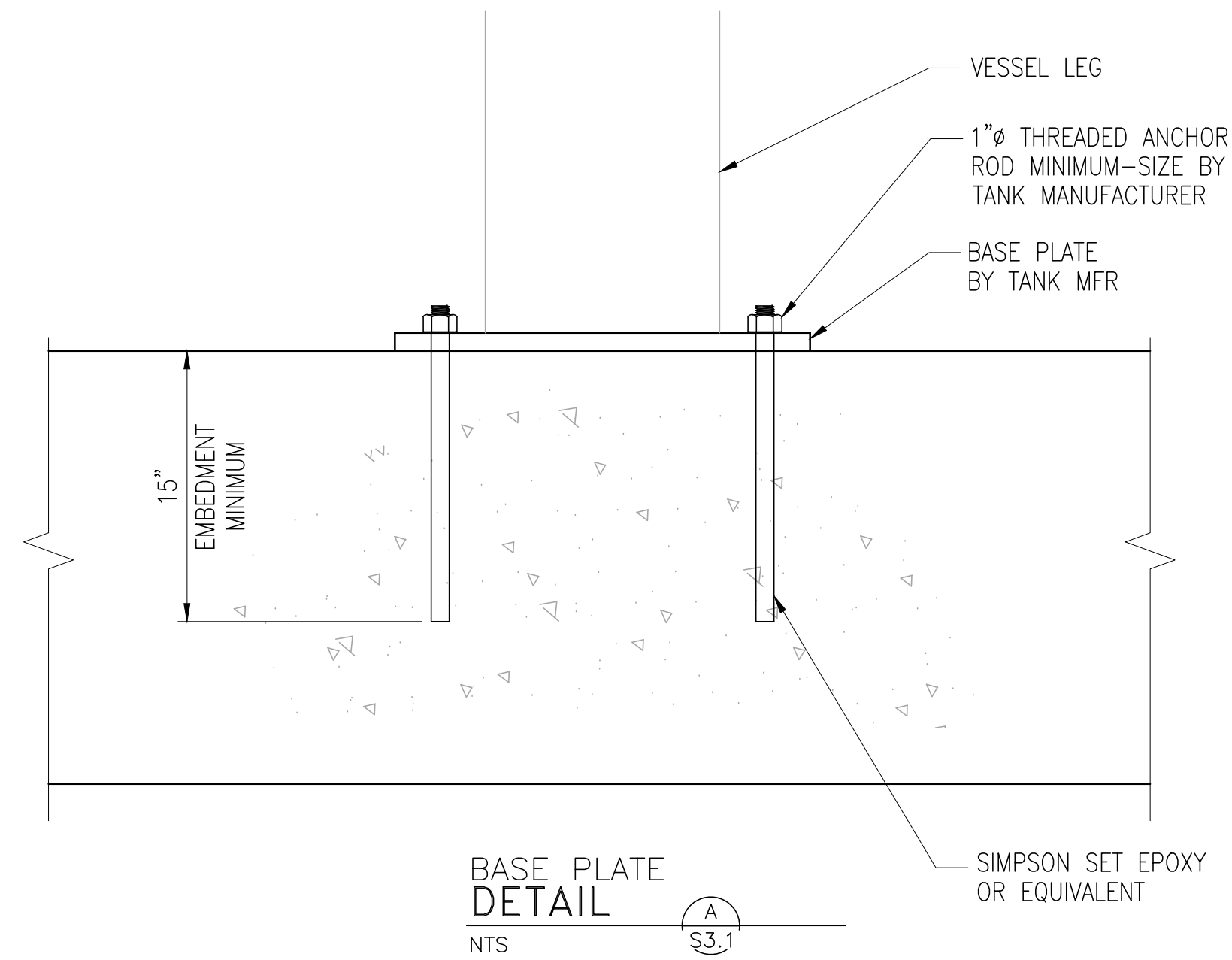
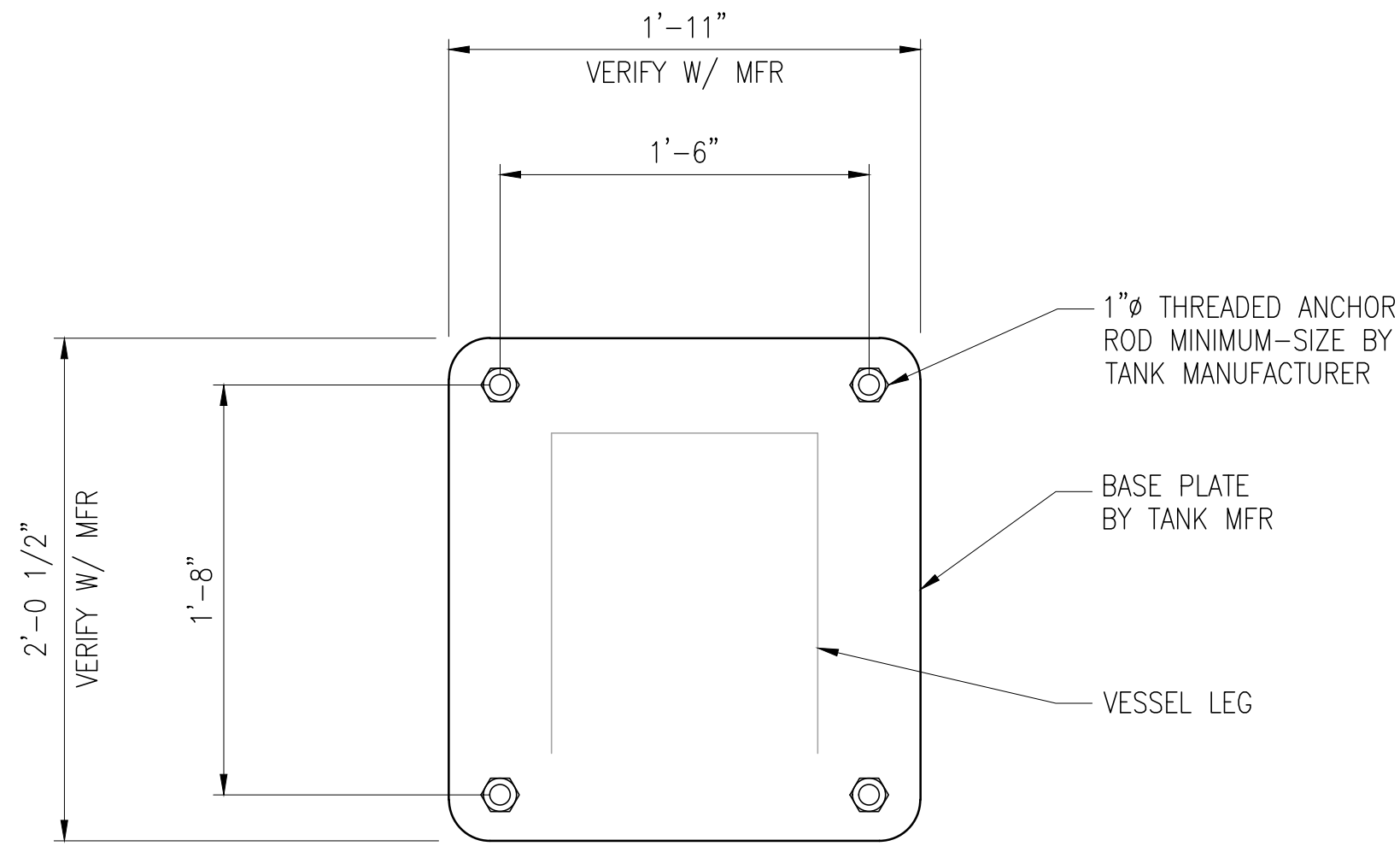
REVISIONS:

HUSSEY GAY BELL
— *Established 1958* —
329 COMMERCIAL DRIVE, SAVANNAH, GA 31406/ T:912.354.4626





SECTION 1
1"=1'-0" S3.1



BOLLARD DETAIL B
NTS S3.1 B

ISSUED FOR BID

REGISTERED PROFESSIONAL ENGINEER
JAMES V. WILLIAMS
17 OCT, 18
002314

REGISTERED PROFESSIONAL ENGINEER
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17 OCT, 18
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17 OCT, 18
002314

HUSSEY GAY BELL
Established 1958

329 COMMERCIAL DRIVE, SAVANNAH, GA 31406 / T:912.354.4626

REVISIONS:

DESIGNED	DRAWN	CHECKED
JVW	DEM	JVW

DATE: OCTOBER 2018

JOB NO. 118291604

SCALE: AS SHOWN

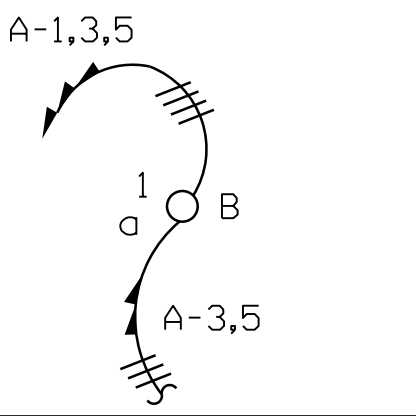
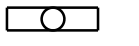
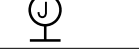








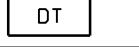








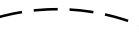
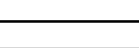





ACADEMY CREEK WTP OXYGEN PIPING REPLACEMENT
FOR THE
BRUNSWICK-GYLYNN COUNTY
JOINT WATER & SEWER COMMISSION

SECTIONS AND DETAILS

DRAWING NUMBER

S3.1



OF

LEGEND	
SYMBOL	DESCRIPTION
	A-1,3,5 ADJACENT TO ARROW INDICATES HOME-RUN OF CIRCUITS 1,3,5 TO PANEL A. 3,5 OR A-3,5 ADJACENT TO ARROW INDICATES CIRCUIT CONTINUATION. MARKS ACROSS RACEWAY RUNS INDICATE THE NUMBER OF NO.12 CONDUCTORS. UNLESS NOTED, NO MARKS INDICATES TWO NO.12 CONDUCTORS. EQUIPMENT GROUNDING CONDUCTORS ARE NOT SHOWN, SEE GENERAL NOTES. IF INDICATED ADJACENT TO OUTLET, NUMERAL AND LOWER CASE LETTER INDICATES CIRCUIT CONNECTION AND SWITCHLEG DESIGNATION RESPECTIVELY. TYPE B OR CAPITAL LETTER B INDICATES LIGHT FIXTURE TYPE. UNLESS NOTED, DIMENSIONS INDICATED IN LEGEND AND ON PLANS ARE TO BOTTOM OF OUTLET OR DEVICE. ALL SYMBOLS INDICATED HEREIN MAY NOT NECESSARILY BE USED ON THE PLANS.
	CEILING OUTLET AND LED FIXTURE
	WALL MOUNTED JUNCTION BOX
	DUPLEX RECEPTACLE- MT. 16" AFF
	WEATHERPROOF DUPLEX RECEPTACLE, MT. 16" ABOVE FLOOR AND 36" ABOVE EARTH
	SPECIAL PURPOSE RECEPTACLE, CAPITAL LETTER INDICATES TYPE- REFER TO SPECS OR SCHEDULE
	GROUND FAULT INTERRUPTER DUPLEX RECEPTACLE- MT. 48" AFF AND/OR ABOVE COUNTER TOP OR AS INDICATED
	DUPLEX RECEPTACLE, NEMA 5-20R- MT. 16" AFF
	SINGLE POLE TOGGLE SWITCH - MT. 48" UP W/ WEATHERPROOF ENCLOSURE
	EMERGENCY POWER-OFF PUSHBUTTON STATION
	PANELBOARD, SURFACE MOUNTED
	DRY-TYPE TRANSFORMER - VOLTAGE, PHASE, AND KVA AS INDICATED
	EQUIPMENT AS NOTED
	MOTOR, HORSEPOWER AS INDICATED
	NON-FUSIBLE DISCONNECT SWITCH, RATING/POLES/ENCLOSURE AS INDICATED
	FUSIBLE DISCONNECT SWITCH, RATING/POLES/ENCLOSURE, FUSES AS INDICATED
	MAGNETIC STARTER
	COMBINATION MAGNETIC STARTER/NON-FUSIBLE DISCONNECT SWITCH
	COMBINATION MAGNETIC STARTER/FUSED DISCONNECT SWITCH
	RACEWAY INSTALLED CONCEALED IN WALLS AND/OR ABOVE CEILING
	RACEWAY INSTALLED CONCEALED IN/OR BELOW FLOOR SLAB OR BELOW GRADE
	RACEWAY INSTALLED EXPOSED
	FLEXIBLE METALLIC RACEWAY
	CONDUIT STUB-UP AND HOMERUN
	CONDUIT UP/CONDUIT DOWN
	CONDUIT TERMINATION, STUB-OUT
	GROUND

- GENERAL NOTES:** (APPLICABLE TO ALL DRAWINGS)
- G1. REFER TO CIVIL PLANS FOR EXACT LOCATION OF EQUIPMENT.
- G2. WHEN CONDUCTOR SIZE IS INDICATED FOR BRANCH CIRCUIT HOME RUN, THE CONDUCTOR SIZE INDICATED SHALL BE USED FOR THE COMPLETE CIRCUIT.
- G3. ARROWHEAD OF PANELBOARD DESIGNATION ON DRAWINGS INDICATES FACE OF PANELBOARD.
- G4. EQUIPMENT GROUNDING CONDUCTORS SHALL BE PROVIDED FOR ALL BRANCH AND FEEDER CIRCUITS.
- G5. PROVIDE A NYLON PULL CORD IN ALL EMPTY CONDUIT 3/4" IN DIAMETER. PROVIDE A GALVANIZED PULL WIRE IN ALL EMPTY CONDUITS 1" AND LARGER. DEADEND RUNS SHALL BE TERMINATED WITH INSULATED BUSHINGS AND SHALL BE CAPPED. ADDITIONALLY, DEADENDS SHALL BE LABELLED TO INDICATE SYSTEM AND LOCATION OF OPPOSITE END. LABEL CONDUITS WITH THOMAS & BETTS NYLON TYPE 1.D. TIES AND BLACK MARKER PEN SPECIFICALLY INTENDED FOR SUCH USE.
- G6. HOLD CONCEALED CONDUITS AS TIGHT TO THE STRUCTURE AS POSSIBLE AND ABOVE PIPING. ALL CONDUITS SHALL BE RUN PARALLEL OR PERPENDICULAR TO THE BUILDING STRUCTURE. WHERE LB OR SIMILAR FITTINGS ARE USED FOR PULL POINTS, SUCH FITTINGS SHALL BE READILY ACCESSIBLE AND SHALL NOT CONTAIN SPLICES AND SHALL BE SIZED PER NEC. COORDINATE THE LOCATIONS OF THESE FITTINGS WITH OTHER TRADES SO THEY ARE NOT COVERED BY PIPING.
- G7. CONCUITS ENTERING SURFACE MOUNTED PANELS SHALL BE GROUPED AND SECURED TO LIGHTWEIGHT CHANNEL WITH INDIVIDUAL CLAMPS.
- G8. CIRCUITS WITH GFCI RECEPTACLES SHALL HAVE A DEDICATED NEUTRAL CONDUCTOR.
- G9. SERIES A.I.C. RATING CIRCUIT BREAKER COMBINATIONS ARE NOT ACCEPTABLE.
- G10. REFER TO THE APPROPRIATE DRAWINGS FOR THE EXACT LOCATION OF EQUIPMENT INSTALLED UNDER OTHER DIVISIONS REQUIRING ELECTRICAL SERVICE. PROVIDE FINAL CONNECTIONS TO EQUIPMENT.
- G11. ALL WEATHERPROOF RECEPTACLES SHALL BE RATED "WEATHER RESISTANT" (WR) TYPE AND SHALL HAVE A EXTRA DUTY COVER THAT MAINTAINS THE WEATHERPROOF INTEGRITY OF THE OUTLET WITH THE ATTACHMENT PLUG CAP INSERTED OR REMOVED. COVERS SHALL BE SELF CLOSING AND SHALL HAVE A LOCKING TAB.
- G12. SEAL ALL CONDUITS ENTERING EXTERIOR MOUNTED ELECTRICAL EQUIPMENT WITH DUCT SEAL.
- G13. INSTALL ALL RECEPTACLES WITH GROUND ON TOP.
- G14. INSTALLATION OF EQUIPMENT SHALL BE COORDINATED WITH OTHER TRADES FOR SPACE REQUIREMENTS AND CONNECTION ARRANGEMENTS. EQUIPMENT SHALL BE INSTALLED TO MAINTAIN CLEARANCES AS RECOMMENDED BY MANUFACTURER OF EQUIPMENT OR CODES AND SHALL BE INSTALLED TO MAINTAINED ACCESS TO ALL SERVICEABLE PARTS.

- DEMOLITION NOTES:** (GENERAL)
- D1. VISIT SITE AND VERIFY ALL EXISTING CONDITIONS PRIOR TO SUBMITTING BID. BID SHALL INCLUDE ALL REQUIRED DEMOLITION AND/OR RELOCATION OF EQUIPMENT IN RENOVATED AREAS. WHETHER SUCH WORK IS OR IS NOT INDICATED ON THE DRAWINGS.
- D2. RELOCATED EQUIPMENT AND EXISTING EQUIPMENT TO REMAIN AFTER DEMOLITION SHALL MEET THE REQUIREMENTS OF NEW CONSTRUCTION WORK.
- D3. DEMOLITION REQUIRES FIELD IDENTIFICATION OF PANELBOARDS, SWITCHES, ALL DEVICES, ETC., BRANCH CIRCUITS AND THEN THE REMOVAL OF ALL SUCH CIRCUITS AND ASSOCIATED EQUIPMENT NOT REUSED. CONTRACTOR SHALL FIELD TRACE EACH BRANCH CIRCUIT TO REMAIN AND TO BE DEMOLITIONED WITH CIRCUIT TRACER. REMOVE ALL BRANCH CIRCUITS NOT REUSED BACK TO POINT OF ORIGATION.
- D4. MAINTAIN AND RESTORE, IF INTERRUPTED, ALL CONDUITS, FEEDERS, BRANCH CIRCUITS, ETC. PASSING THROUGH RENOVATED AREAS SERVING UNDISTURBED AREAS.
- D5. EXISTING ELECTRICAL WORK REMAINING IN RENOVATED AREAS, AND INTERRUPTED BY NEW WORK, SHALL BE RESTORED TO ORIGINAL CONDITION. RESTORE ALL CIRCUITS INTERRUPTED BY NEW WORK.
- D6. EXISTING COMMUNICATION SIGNALING SYSTEMS OUTSIDE RENOVATED AREA SHALL NOT BE AFFECTED BY WORK PERFORMED UNDER THIS CONTRACT.
- D7. MAINTAIN BRANCH CIRCUITS OUTSIDE RENOVATED AREA.

ISSUED FOR BID



HUSSEY GAY BELL

Established 1958

329 COMMERCIAL DRIVE, SAVANNAH, GA 31406 / T:912.354.4626

REVISIONS:

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DESIGNED	DRAWN	CHECKED
CC	LC	CC

DATE: OCTOBER 2018

JOB NO. 118291604

SCALE: AS SHOWN

ACADEMY CREEK WWTP OXYGEN PIPING REPLACEMENT

FOR THE

BRUNSWICK-GYLNN COUNTY

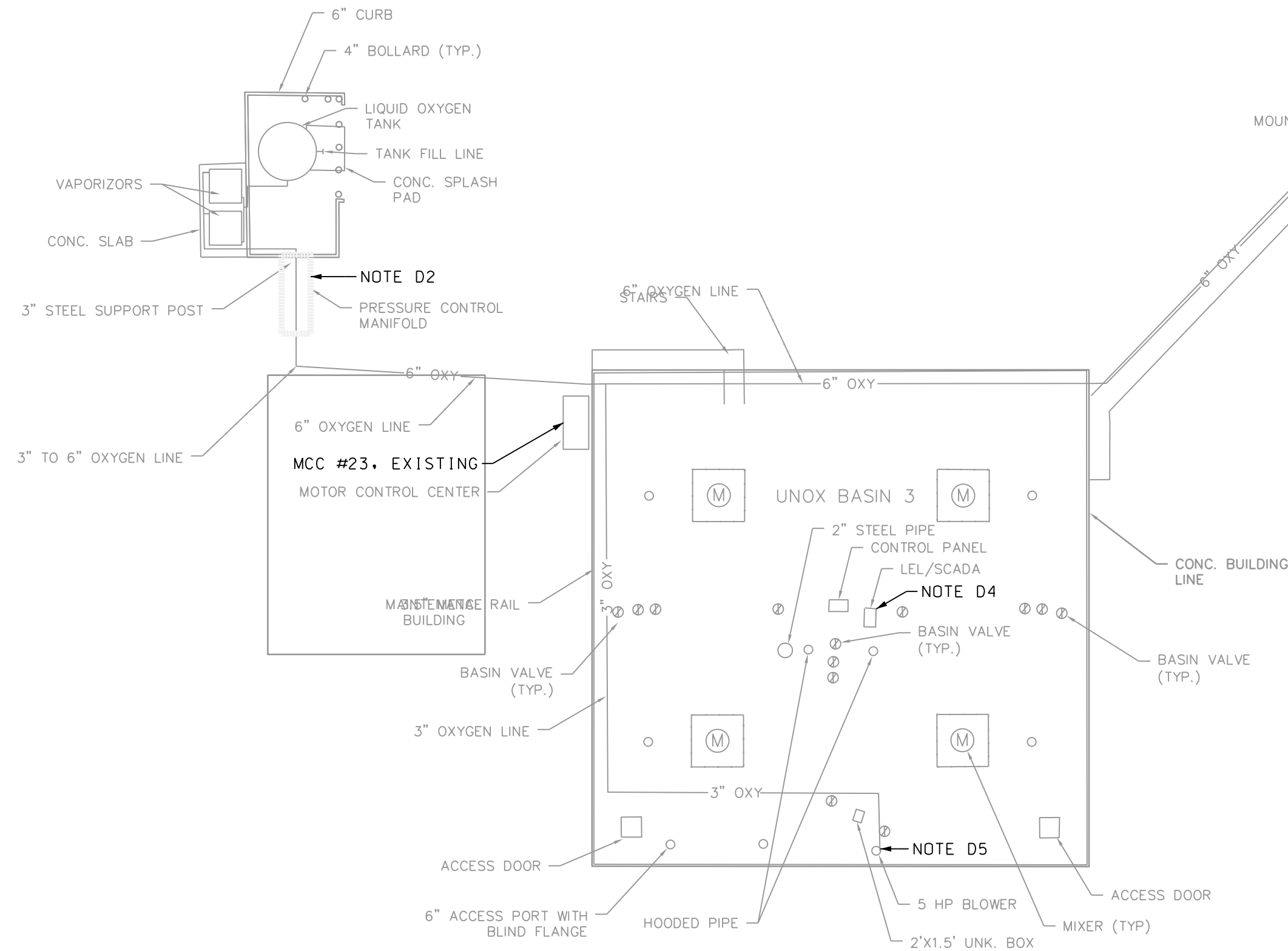
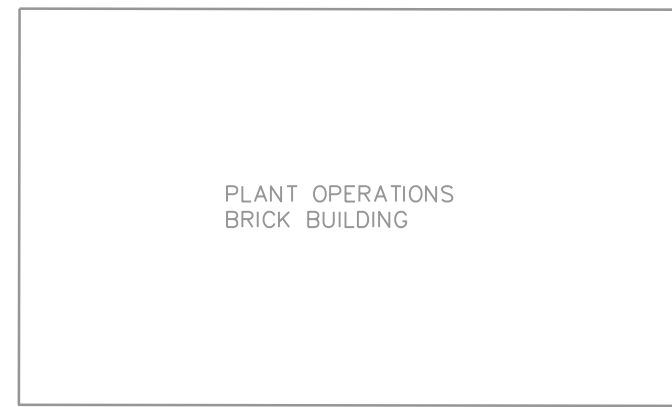
JOINT WATER & SEWER COMMISSION

LEGEND & GENERAL NOTES

DRAWING NUMBER

E1

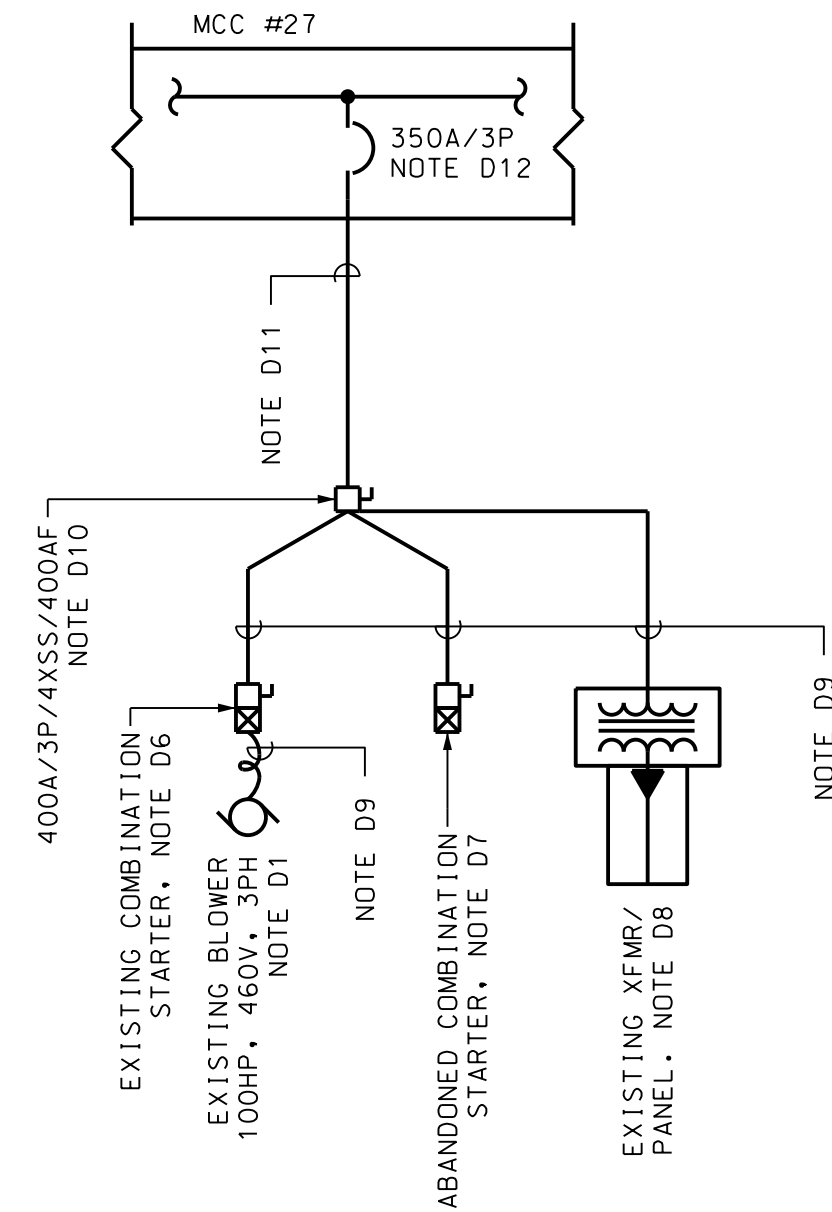
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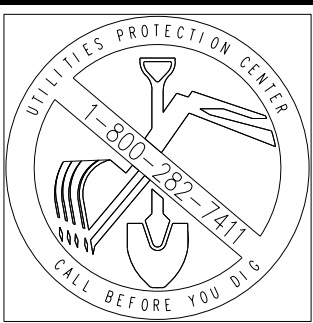
1 DEMOLITION PLAN - ELECTRICAL
E2 SCALE: 1" = 20' - 0"

NOTES:

- D1. DISCONNECT THE EXISTING 100HP BLOWER. DISCONNECT AND REMOVE EXISTING FVNR STARTER AND ENCLOSURE. RETAIN THE FEEDER CIRCUIT BACK TO THE SOURCE BREAKER IN MCC #22.
- D2. DISCONNECT EXISTING POWER AND COMMUNICATIONS CONDUITS AND CONDUCTORS FROM THE EXISTING PRESSURE CONTROL MANIFOLD. DEMOLISH ALL FOR REUSE.
- D3. DISCONNECT THE EXISTING MOTOR OPERATED VALVE. RETAIN THE EXISTING POWER AND CONTROL CONDUITS AND CONDUCTORS FOR REUSE.
- D4. DISCONNECT AND REMOVE THE EXISTING OXYGEN LEVEL CONTROL PANEL. RETAIN THE EXISTING BRANCH POWER CIRCUIT FOR REUSE.
- D5. DISCONNECT THE EXISTING 5HP BLOWER. RETAIN BRANCH FEEDER CONDUIT AND WIRE FOR REUSE.
- D6. DISCONNECT AND REMOVE THE EXISTING COMBINATION STARTER FOR THE 100HP BLOWER.
- D7. DISCONNECT AND REMOVE THE EXISTING/ABANDONED COMBINATION STARTER.
- D8. DISCONNECT AND REMOVE THE EXISTING TRANSFORMER/PANEL.
- D9. DEMOLISH THE EXISTING CONDUIT AND WIRE.
- D10. DISCONNECT AND REMOVE THE EXISTING 400A/3P/4X/400AF DISCONNECT SWITCH.
- D11. DISCONNECT AND REMOVE THE EXISTING FEEDER CONDUCTORS BACK TO THE 350A/3P BREAKER IN MCC #27. THE CONDUIT SHALL BE RETAINED FOR REUSE.
- D12. DISCONNECT THE FEEDER FROM THE BREAKER. THE BREAKER SHALL BE RETAINED FOR REUSE.



2 DEMOLITION PLAN - ELECTRICAL
E2 N.T.S.



HUSSEY GAY BELL
Established 1958
329 COMMERCIAL DRIVE, SAVANNAH, GA 31406 / T:912.354.4626

REVISIONS:

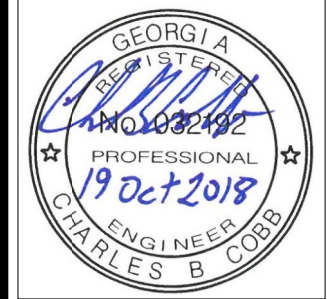
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DATE:	OCTOBER 2018				
JOB NO.	118291604				
SCALE:	AS SHOWN				

ACADEMY CREEK WWTP OXYGEN PIPING REPLACEMENT
FOR THE
BRUNSWICK-GYLYNN COUNTY
JOINT WATER & SEWER COMMISSION
DEMOLITION PLAN

DRAWING NUMBER
E2
OF xx

ISSUED FOR BID

Printed By: 10/1/2018 10:10:10 AM



HUSSEY GAY BELL
Established 1958
329 COMMERCIAL DRIVE, SAVANNAH, GA 31406 / T:912.354.4626

REVISIONS:		

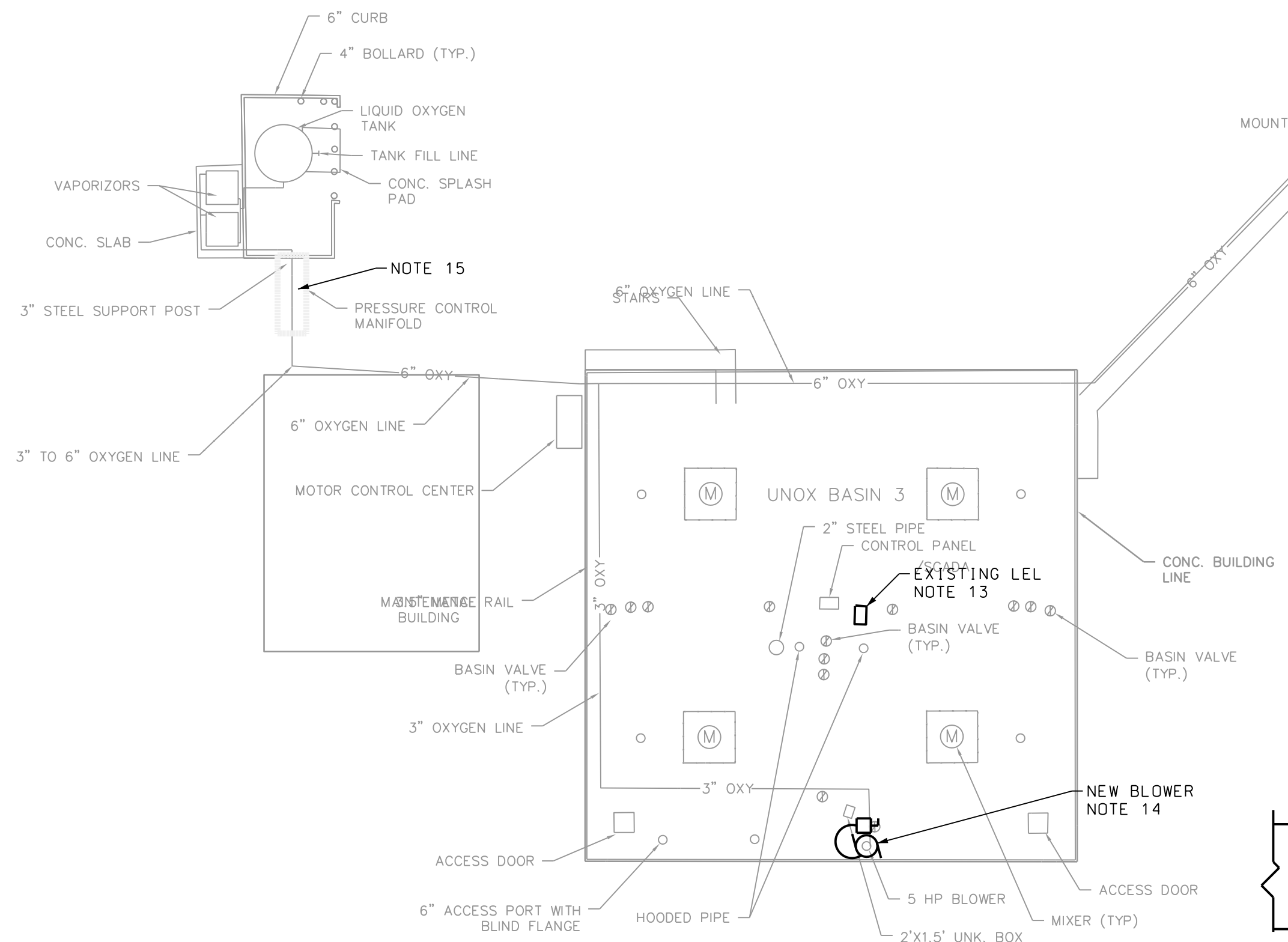
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DATE: OCTOBER 2018		
JOB NO. 118291604		
SCALE: AS SHOWN		

ACADEMY CREEK WWTP OXYGEN PIPING REPLACEMENT
FOR THE
BRUNSWICK-GYLYNN COUNTY
JOINT WATER & SEWER COMMISSION
RENOVATION PLAN

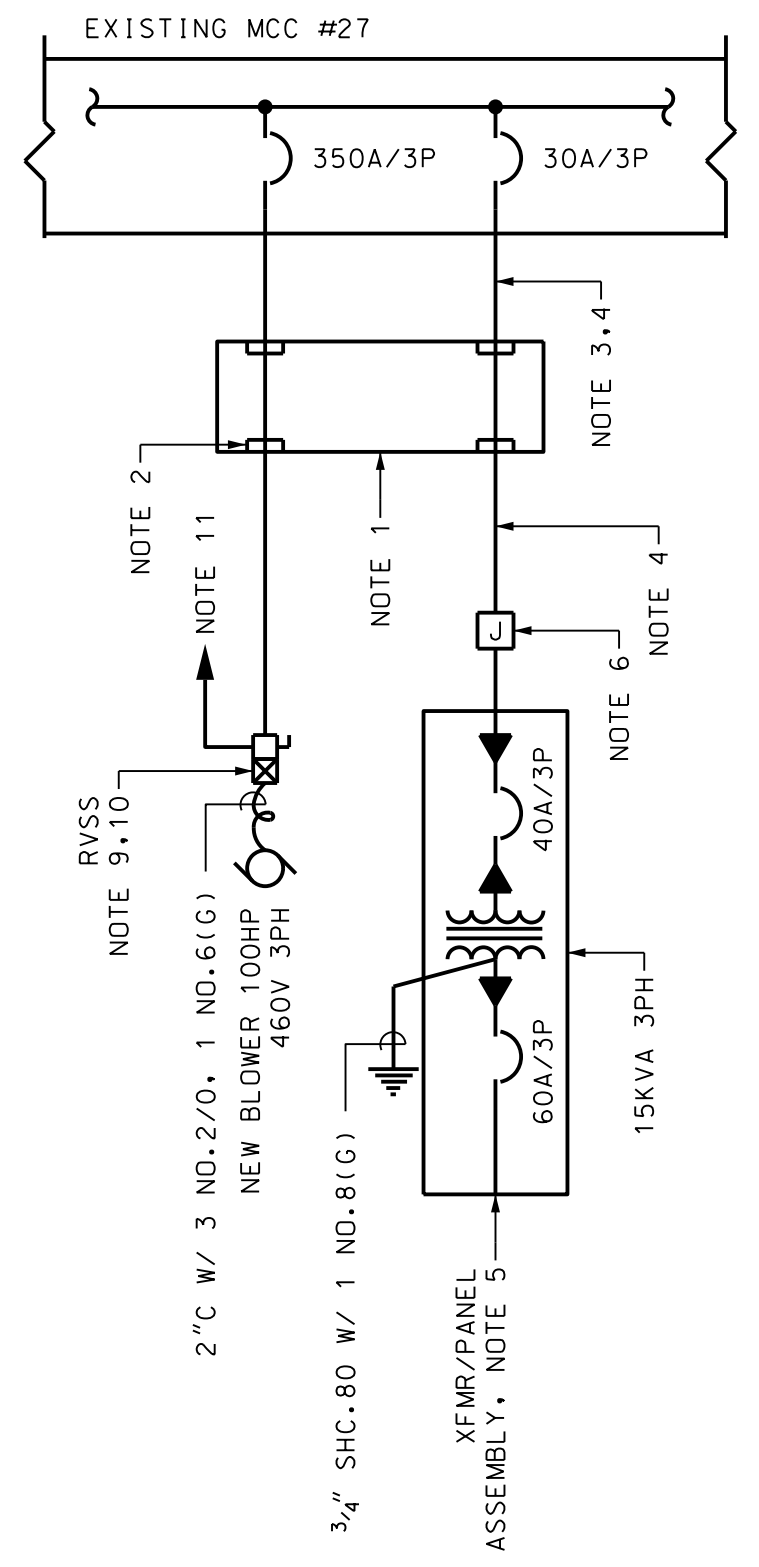
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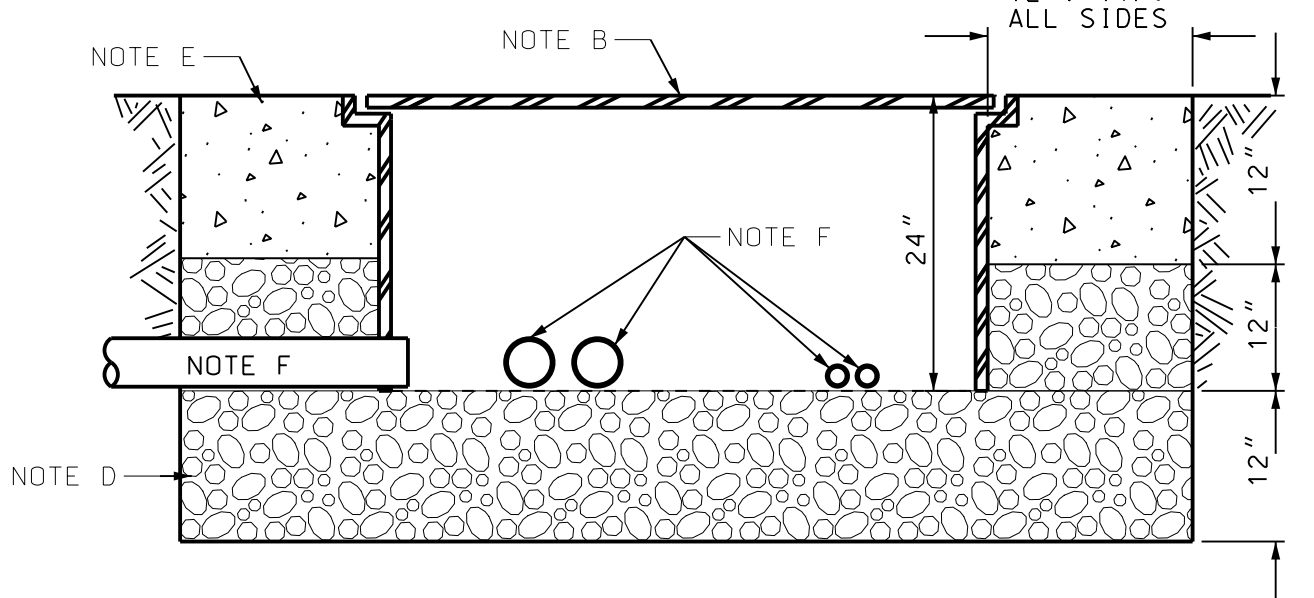
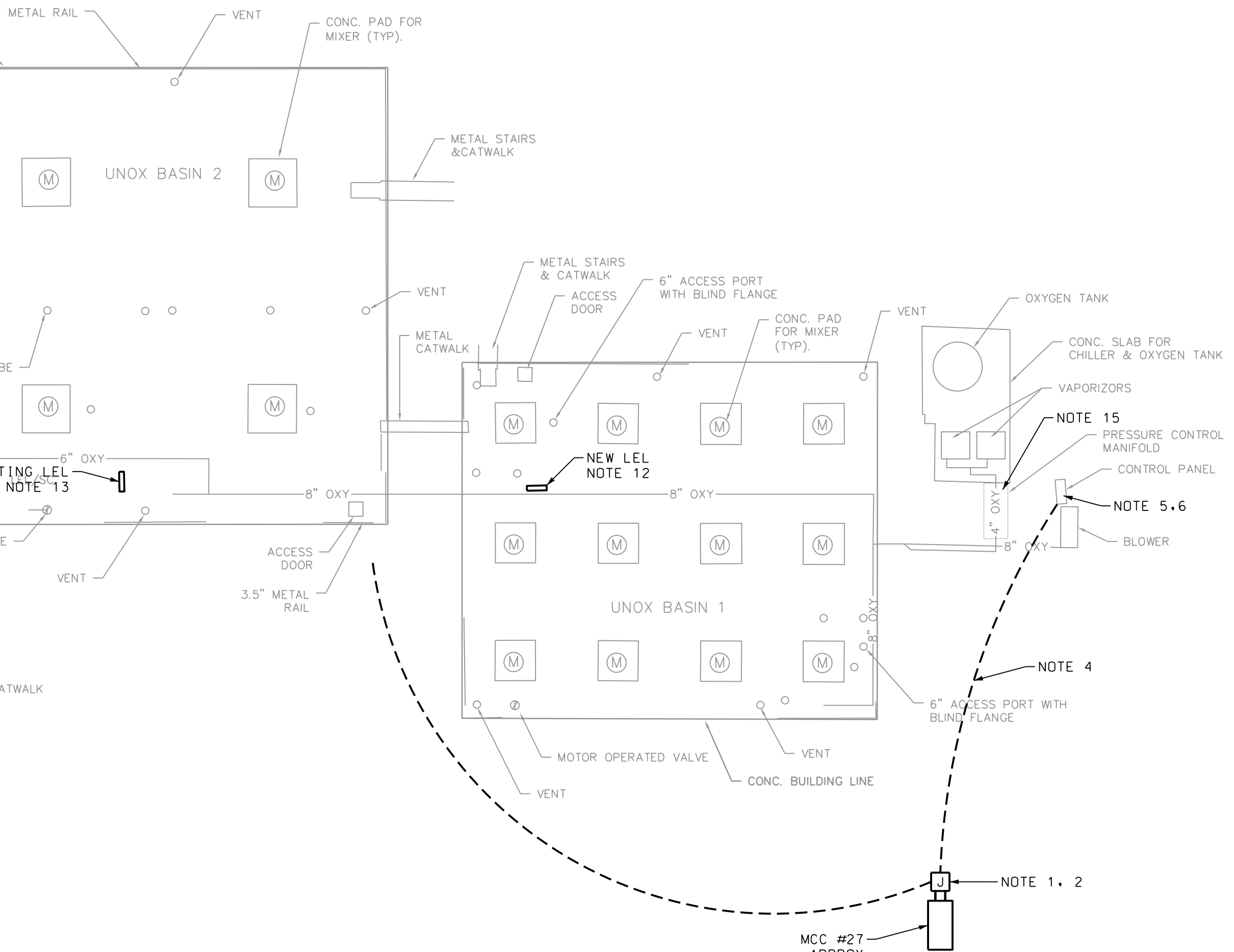
PLANT OPERATIONS
BRICK BUILDING



1 SITE PLAN ELECTRICAL - RENOVATION
E3 SCALE: 1" = 20' - 0"

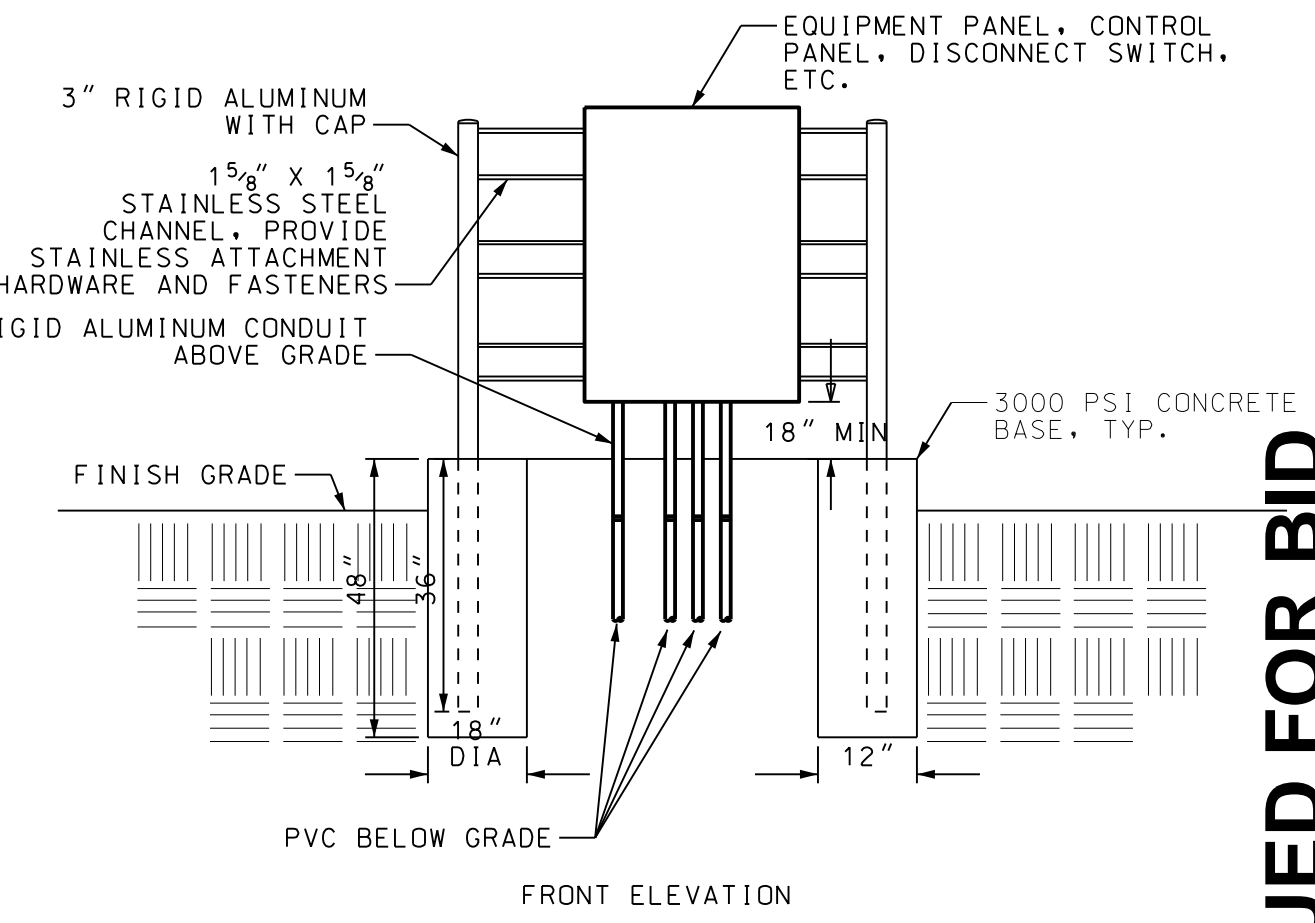
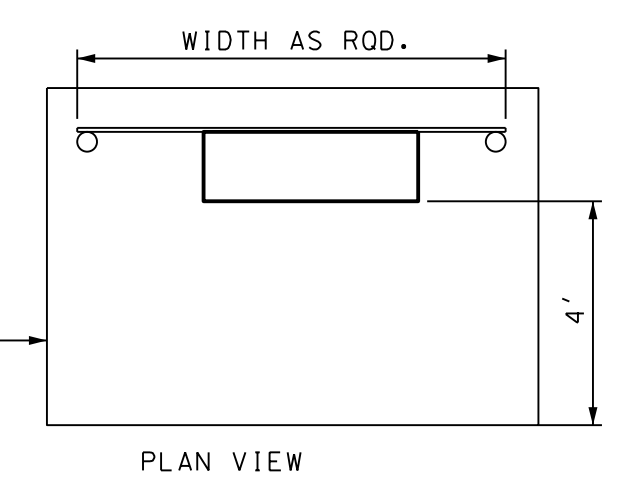


2 ONE-LINE DIAGRAM - RENOVATION
E3 N.T.S.



3 JUNCTION BOX - FLUSH WITH FINISHED GRADE
E3 N.T.S.

- NOTES:**
- JUNCTION BOXES SHALL BE QUARTZITE POLYMER CONCRETE TYPE "PG" OPEN BOTTOM, OR EQUIVALENT BY OLD CASTLE OR PENCEL.
 - THE COVER SHALL BE TIER 22 RATED, LOGO - "ELECTRIC".
 - BOX DIMENSIONS SHALL BE AS NOTED ON THE DRAWINGS.
 - PROVIDE A BASE OF CRUSHED STONE, 12" DEEP AND EXTENDING 12" BEYOND THE BOX ON ALL SIDES.
 - PROVIDE A CONCRETE SUPPORT AROUND THE BOX, 12" WIDE AND 12" DEEP, ALL SIDES.
 - CONDUIT ENTRY SHALL BE THROUGH THE SIDE WALL AT THE BOTTOM BELOW THE CONCRETE OR UP THROUGH THE BOTTOM.
 - FOR ALL CONDUCTORS: PROVIDE PERMANENT TAGS IDENTIFYING ALL CABLES.



4 EQUIPMENT RACK
E3 N.T.S.

NOTES:

- FURNISH AND INSTALL ONE POLYMER-CONCRETE PULL BOX, MOUNT FLUSH IN GRADE. PROVIDE 24"W X 36"L X 24"D BOX WITH BOLT DOWN COVER (TIER 22 RATED). PROVIDE OLDCASTLE SYNERTCH S2436B24FA. THE BOX SHALL BE INSTALLED OVER AND INTERCEPT THE EXISTING 3 1/2" PVC CONDUIT TO THE OLD BLOWER DISCONNECT AND STARTER. REFER TO 3/E3 FOR INSTALLATION REQUIREMENTS.
- INTERCEPT EXISTING FEEDER CONDUIT FOR OLD BLOWER. CUT PIPE IN PULL BOX AND INSTALL BOX CONNECTORS WITH BUSHINGS.
- EXTEND 1" C FROM MCC #27 TO PULL BOX FOR 30A BRANCH FEEDER. SEE NOTE 4.
- FROM THE EXISTING 30A/3P SPARE BREAKER IN MCC #27, EXTEND 3 NO.10, 1 NO.10(G) THROUGH THE NEW 1" C AND THE EXISTING 3 1/2" CONDUIT TO THE NEW TRANSFORMER/PANEL.
- FURNISH AND INSTALL 15KVA SEALED MINI POWER ZONE (MPZ) UNIT SUBSTATION TRANSFORMER/PANEL ASSEMBLY. FURNISH WITH STAINLESS STEEL PAINTED 3R ENCLOSURE. MOUNT ON THE EXISTING EQUIPMENT FRAME. FURNISH WITH 27 20A/1P BOLT-ON BREAKERS; PROVIDE 25KAIC RATED PRIMARY BREAKER.
- THE CONTRACTOR SHALL PROVIDE NEMA 4X SS SCREW COVER PULL BOX ON THE FEEDER CIRCUIT AT THE SHELTER TO TRANSITION FROM THE 3 1/2" TO 1". THE JUNCTION BOX SHALL HAVE MINIMUM DIMENSIONS OF 8" X 8" X 6".
- EXTEND 3 1/2" C W/ 3 NO.500MCM, 1 NO.3(G) FROM THE 350A/3P BREAKER, THROUGH THE PULL BOX AND TO THE NEW BLOWER STARTER. MINIMUM CONDUIT BURIAL DEPTH: 24". PROVIDE DETECTABLE WARNING TAPE AT 12" DIRECTLY ABOVE THE CONDUIT.
- PROVIDE AN EQUIPMENT FRAME FOR MOUNTING THE NEW BLOWER STARTER. REFER TO DETAIL 4/E3.
- PROVIDE A 100HP 460V 3-PHASE REDUCED VOLTAGE SOLID STATE (RVSS) STARTER FOR THE NEW BLOWER. FURNISH WITH 200A PRIMARY FUSES AND INTERNAL DISCONNECT; NEMA SHORTING CONTACTOR; NEMA 4X STAINLESS STEEL ENCLOSURE; H-O-A SWITCH (AUTOMATIC SHALL BE CONNECTED TO THE IN-PLANT SCADA SYSTEM. HAND SHALL INTERLOCK WITH THE MOTORIZED BYPASS VALVE.
- OPERATION SEQUENCE: WHEN CALLED TO RUN BY THE IN-PLANT SCADA SYSTEM, THE BLOWER CONTROLS SHALL SIGNAL THE BYPASS VALVE TO OPEN AND ALLOW THE MOTOR TO START. ONCE STARTED THE CONTROLS SHALL PROGRESSIVELY OPEN THE MOTORIZED VALVE TO THE UNOX BASINS AND CLOSE THE BYPASS VALVE. THE CALL TO STOP SHALL REVERSE THIS SEQUENCE.
- EXTEND 1" C W/ CONDUCTORS AS REQUIRED TO THE IN-PLANT SCADA/LEL PANEL ON UNOX BASIN 2. THESE SHALL PROVIDE CALL TO RUN/STOP, RUN/STOP AND ALARM ANNUNCIATION TO SCADA.
- INSTALL NEW LEL AND IN-PLANT SCADA PANELS IN THIS AREA. EXTEND TWO NEW 20A/1P BRANCH CIRCUITS FROM NEW MPZ. CKT 1&3, REFER TO NOTE 5. PROVIDE 3/4" ALUMINUM RIGID CONDUIT WITH 3 NO.12, 1 NO.12(G). EXTEND CONDUIT AND CABLE, AS REQUIRED FOR PROBES. COORDINATE WITH LEL AND IN-PLANT SCADA INTERGRATORS. FIELD COORDINATE PROBE LOCATIONS. EXTEND 3/4" C W/CAT6 CABLE BETWEEN THE PANELS. PROVIDE TERMINATION AS REQUIRED.
- REPLACE EXISTING LEL AND IN-PLANT SCADA PANELS. RECONNECT THE EXISTING BRANCH POWER CIRCUIT. COORDINATE WITH LEL/IN-PLANT SCADA INTERGRATOR FOR REPLACEMENT OF EXISTING PROBES AND CABLES. EXTEND 3/4" C W/CAT6 CABLE BETWEEN THE PANELS. PROVIDE TERMINATION AS REQUIRED.
- DISCONNECT EXISTING 5HP BLOWER AND CONNECT NEW. PROVIDE NEW 30A/3P/4X SS/NF DISCONNECT SWITCH. CONNECT TO EXISTING BRANCH FEEDER FROM MCC #23.
- NEW OXYGEN INSTRUMENT SKID, CONNECT POWER AND CONTROLS AS REQUIRED. REFER TO MANUFACTURER'S INSTALLATION MANUAL. EXTEND