### ADDENDUM NO.3

## LOWER POPLAR WATER RECLAMATION FACILITY INFLUENT PUMP STATION IMPROVEMENTS

## MACON WATER AUTHORITY MACON, GEORGIA

### DRAWINGS

Delete 09-S001 and replace with Drawing 09-S001 attached.

Delete Drawing 09-S102 and replace with Drawing 09-S102 attached

Delete Drawing 09-S103 and replace with Drawing 09-S103 attached

Delete Drawing 09-SD101 and replace with Drawing 09-SD101 attached.

Delete Drawing 09-SD102 and replace with Drawing 09-SD102 attached.

Delete Drawing 09-SD103 and replace with Drawing 09-SD103 attached.

Delete Drawing 09-S301 and replace with Drawing 09-S301 attached.

Delete Drawing 09-S302 and replace with Drawing 09-S302 attached.

Delete Drawing 09-S501 and replace with Drawing 09-S501 attached.

Bidder Must Acknowledge Receipt of this Addendum on Bid Form

August 14, 2024 Barge Design Solutions, Inc. 6525 The Corners Parkway, Suite 450 Peachtree Corners, Georgia 30092 (678) 515-9411

# **CODES AND STANDARDS**

THE FOLLOWING CODES AND STANDARDS HAVE BEEN USED AS THE BASIS FOR DESIGN AND/OR SHALL BE UTILIZED BY THE CONTRACTOR TO ESTABLISH MINIMUM LEVELS OF QUALITY AND CONSTRUCTION TECHNIQUES.

## 1. GENERAL

- A. INTERNATIONAL BUILDING CODE (IBC 2018) WITH GEORGIA STATE AMENDMENTS. B. AMERICAN SOCIETY OF CIVIL ENGINEERS, "MINIMUM DESIGN LOADS AND ASSOCIATED CRITERIA FOR BUILDINGS AND OTHER STRUCTURES," (ASCE 7-16).
- 2. CONCRETE A. AMERICAN CONCRETE INSTITUTE, "BUILDING CODE REQUIREMENTS FOR
  - STRUCTURAL CONCRETE" (ACI 318-14).
- B. AMERICAN CONCRETE INSTITUTE, "SPECIFICATIONS FOR STRUCTURAL CONCRETE," (ACI 301-16),
- C. AMERICAN CONCRETE INSTITUTE, "GUIDE TO CONCRETE FLOOR AND SLAB
- CONSTRUCTION" (ACI 302.1R-15). D. AMERICAN CONCRETE INSTITUTE. "CODE REQUIREMENTS FOR ENVIRONMENTAL
- ENGINEERING CONCRETE STRUCTURES" (ACI 350-06).
- STRUCTURAL STEEL A. AMERICAN INSTITUTE OF STEEL CONSTRUCTION, "STEEL CONSTRUCTION
- MANUAL," FIFTEENTH EDITION
- B. AMERICAN INSTITUTE OF STEEL CONSTRUCTION, "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS," (ANSI/AISC 360-16).
- C. AMERICAN WELDING SOCIETY, "STRUCTURAL WELDING CODE-STEEL" (AWS D1.1-2018).

## **DESIGN CRITERIA**

THE STRUCTURE HAS BEEN DESIGNED FOR THE FOLLOWING LOADS.

1.	DEAD LOADS: ACTUAL WEIGHTS OF BUILDING MATERIALS, STRUCTURAL COMPONENTS,
	AND EQUIPMENT.

	A. ROOF DEAD LOADS (PEMB CANOPY)			
	1. PEMB SUPERSTRUCTURE	ACTUAL		
	2. MPE UTILITIES / COLLATERAL	8 PSF		
	B. PUMP STATION SLAB LOAD			
	1. EXISTING	CONCRETE SELF-WEIGHT		
	2 NEW 4" I W TOPPING	32 PSF		
2		02101		
۷.				
		zor or (REDOOIDEE)		
	1. PUMP STATION SLAD LOAD (ALL LEVELS)	00 F3F		
	C. MISCELLANEOUS LIVE LOADS			
	1. GUARDRAILS/HANDRAILS			
	a. 50 PLF FOR AREAS W/OCCUPANT LOAD GREATE	ER THAN OR EQUAL TO 50.		
	b. OR 20 PLF FOR AREAS W/OCCUPANT LOAD LES	S THAN 50.		
	c. OR 200 LB CONCENTRATED LOAD APPLIED IN AI	NY DIRECTION AT ANY POINT.		
	<ol><li>LADDERS (FIXED): 300 LB CONCENTRATED LOAD FC</li></ol>	R EVERY 10 FT OF HEIGHT.		
3.	SNOW LOADS			
	A. GROUND SNOW LOAD ( $P_q$ )	10 PSF		
	B. THERMAL FACTOR (Ct)	1.2		
	C. EXPOSURE FACTOR (Će)	0.9		
	D. IMPORTANCE FACTOR (Ís)	1.1		
	E. SLOPE FACTOR (Cs)	1.0		
	E. BALANCED SNOW LOAD	8.3 PSF		
	G RAIN-ON-SNOW SURCHARGE	0.0 PSF		
	H DESIGN UNIFORM SNOW LOAD (Pd)	11 0 PSF		
4	WIND LOADS			
ч.				
	1 UI TIMATE DESIGN WIND SPEED (V)	120 MPH		
F	5. INTERNAL PRESSURE CUEFF. (GUpi)	+/- 0.18		
э.				
	A. BUILDING			
	2. SEISMIC IMPORTANCE FACTOR (I <sub>e</sub> )	1.25		
	3. 0.2 SEC MAPPED SPECTRAL ACCELERATION (S <sub>S</sub> )	0.185		
	4. 1.0 SEC MAPPED SPECTRAL ACCELERATION (S $_1$ )	0.077		
	5. SITE CLASS	E		
	6. 0.2 SEC DESIGN SPECTRAL ACCELERATION ( $S_{DS}$ )	0.297		
	<ol><li>1.0 SEC DESIGN SPECTRAL ACCELERATION (S<sub>D1</sub>)</li></ol>	0.216		
	8. SEISMIC DESIGN CATEGORY	D		
	9. BASIC SEISMIC FORCE RESISTING SYSTEM	INTERMEDIATE STEEL MOMENT		
		FRAMES (CANOPY)		
	10. DESIGN BASE SHEAR	0.01xW		
	11. SEISMIC RESPONSE COEFFICIENT (Cs)	0.01		
	12. RESPONSE MODIFICATION COEFFICIENT (R)	4.5		
	13 ANALYSIS PROCEDURE USED	FOUIVALENT LATERAL		
		FORCE PROCEDURE		
6	RAIN LOADS			
5.	A RAINFALL INTENSITY RATE (100-YEAR)	3 9 IN/HR		
F	OUNDATIONS			

## FUUNDATIONS

- 1. DEEP FOUNDATION AND SPECIALTY FOUNDATION DESIGN IS BASED ON THE RECOMMENDATIONS REPORTED IN THE SITE SPECIFIC GEOTECHNICAL EXPLORATION REPORT PREPARED BY TERRACON, DATED OCTOVER 4, 2023. THE CONTRACTOR SHALL OBTAIN A COPY OF THE REPORT FOR REVIEW AND REFERENCE.  $\sim$ PER THE GEOTECHNICAL REPORT. ESTIMATED HELICAL ANCHOR DEPTH ASSUMED TO BE 25 FEET BELOW GRADE, EXCEPT FOR THE PIPE VALVE SUPPORT FOUNDATIONS DIRECTLY ADJACENT TO THE EXISTING PUMP STATION (15 FEET MAX). SEE DETAIL 5/09-S501. FINAL ANCHOR LENGTHS TO BE DETERMINED BY THE HELICAL ANCHOR INSTALLER'S ENGINEER OF RECORD. A MINIMUM OF SIX (6) COMPRESSION LOAD TESTS SHALL BE CONDUCTED PER ASTM D1143 SPECIFICATIONS. CONTRACTOR TO PROVIDE A LOAD TEST PLAN PRIOR TO CONSTRUCTION FOR REVIEW AND APPROVAL BY THE ENGINEER OF RECORD. TEST
- RESULTS SHALL BE PROVIDED TO THE ENGINEER OF RECORD. punuuuuuuuuuuuuu CONTRACTOR SHALL KEEP ALL FREE STANDING WATER OUT OF EXCAVATION.
- CONTRACTOR SHALL PROVIDE DEWATERING MEASURES AS NECESSARY PRIOR TO PLACING CONCRETE.
- **X** EXISTING SOIL WHICH IS DEEMED NON-USABLE BY THE GEOTECHNICAL ENGINEER DUE TO FAILURE OF THE CONTRACTOR TO PROMPTLY DE-WATER THE SITE SHALL BE REMOVED AND REPLACED WITH SUITABLE FILL AT THE CONTRACTOR 'S EXPENSE. DESIGN OF TEMPORARY AND PERMANENT SHORING FOR EXCAVATIONS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- , 7. ) FOR WALLS OR GRADE WALLS HAVING FILL ON EACH SIDE, PROCEED WITH BACKFILLING OPERATIONS SIMULTANEOUSLY IN UNIFORM LIFTS. DIFFERENTIAL ELEVATION OF TOP OF LIFTS BETWEEN EACH SIDE SHALL NOT EXCEED 18 INCHES.

# **CONCRETE**

- 1. MINIMUM 28 DAY CONCRETE COMPRESSIVE STRENGTH SHALL BE AS FOLLOWS: A. MAT FOUNDATIONS
- B. PIPE SUPPORTS 4,500 PSI ELECTRICAL ROOM FLOOR SLABS 4.500 PSI D. PUMPHOUSE TOPPING SLAB & WALLS 4,500 PSI 2. CONCRETE SHALL BE PROPORTIONED, BATCHED, MIXED, PLACED, CONSOLIDATED,
- AND CURED IN ACCORDANCE WITH ACI 301, 304, 308, 309 AND 318. 3. ALL CONCRETE EXPOSED TO WEATHER SHALL BE AIR ENTRAINED
- 4. PUMPHOUSE TOPPING SLAB SHALL MEET THE FOLLOWING SPECIFICATIONS: TYPE K CEMENT FORTA MACRO SYNTHETHIC FIBERS AT A DOSAGE RATE OF 7.5 POUNDS PER CUBIC YARD, COORDINATE WITH FIBER MANUFACTUER PRIOR TO PLACEMENT OF
- CONCRETE WHERE STRIP/GRADE FOOTINGS OR WALLS INTERSECT COLUMN FOUNDATIONS, LONGITUDINAL REINFORCEMENT SHALL BE CONTINUOUS THROUGH THE COLUMN
- FOUNDATION. 6. UNLESS OTHERWISE SHOWN, THE CONCRETE CLEAR COVER AT ALL REINFORCING
- STEEL SHALL BE: A. CONCRETE CAST AGAINST EARTH
- CONCRETE EXPOSED TO EARTH OR WEATHER CONCRETE NOT EXPOSED TO EARTH OR WEATHER 7. ALL CONCRETE SHALL BE MECHANICALLY VIBRATED IN ACCORDANCE WITH ACI 304
- AND ACI 309 8. PROVIDE 3/4"x3/4"x 45 DEGREE CHAMFERED CORNERS AT ALL EXPOSED CONCRETE CORNERS UNO.

# **SLAB ON GRADE**

- THE GEOTECHNICAL ENGINEER SHALL REVIEW THE AGGREGATE BASE AND VERIFY A MINIMUM MODULUS OF SUBGRADE REACTION OF 100 PCI HAS BEEN ACHIEVED. 2. FLOOR SLABS TO BE SUPPORTED BY A MINIMUM OF 12 INCHES OF APPROVED ON-SITE OR IMPORTED SOILS PLACED AND COMPACTED AS SPECIFIED IN THE GEOTECHNICAL
- EXPLORATION REPORT. 3. PROVIDE A 6" COMPACTED GRANULAR SUB-BASE ON TOP OF COMPACTED FILL. 4. EXCAVATED / STRIPPED AREAS SHALL BE PROOF-ROLLED WITH APPROPRIATE EQUIPMENT AS APPROVED BY THE GEOTECHNICAL ENGINEER. SOFT AREAS SHALL BE REMOVED AND REPLACED WITH APPROVED BACKFILL AS DIRECTED BY THE
- GEOTECHNICAL ENGINEER. 5. SAWED CONTROL JOINTS SHALL BE CUT AS SOON AS SLAB CAN BE WALKED ON, BUT STARTED NO LATER THAN 8 HOURS AFTER POURING. CONTROL JOINTS SHALL BE COMPLETED NO LATER THAN 16 HOURS AFTER POURING. THESE TIME LIMITS SHALL APPLY REGARDLESS OF THE TIME OF DAY. AN EARLY ENTRY DRY CUT SAW SUCH AS
- THE SOFF-CUT SYSTEM SHALL BE USED. 6. PROVIDE ADDITIONAL REINFORCING IN TOP FACE OF SLAB AT ALL RE-ENTRANT CORNERS AND DOOR OPENINGS.
- . ADEQUATE MEASURE TO PREVENT PLASTIC SHRINKAGE OF SLAB SHALL BE TAKEN BY THE CONTRACTOR AS OUTLINED IN ACI 302.1R.

# **CONCRETE/CMU ANCHORS**

- 1. REFER TO SPEC SECTION 05 50 00 METAL FABICATIONS FOR ADDITIONAL REQUIREMENTS AND MATERIAL TYPE. 2. SUBSTITUTION OF EXPANSION OR DRILLED AND GROUTED-IN ANCHORS FOR EMBEDDED ANCHORS SHOWN ON THE DRAWINGS WILL NOT BE PERMITTED UNLESS APPROVED BY THE ENGINEER.
- 3. CARE SHALL BE TAKEN WHEN PLACING POST-INSTALLED ANCHORS TO AVOID CONFLICTS WITH REINFORCING WHERE POSSIBLE. HOLES SHALL BE DRY, HAMMER DRILLED AND CLEANED PER THE MANUFACTURER'S INSTRUCTIONS. ALTERNATIVE DRILLING METHODS AND INSTALLATION CONDITIONS MAY BE ACCEPTABLE PROVIDED INSTALLER HAS RECEIVED WRITTEN AUTHORIZATION FROM THE STRUCTURAL ENGINEER OR RECORD.
- 4. ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AT NOT LESS THAN MINIMUM EDGE DISTANCES AND/OR SPACINGS INDICATED IN THE MANUFACTURER'S LITERATURE
- 5. PRIOR TO COMMENCEMENT OF WORK. THE CONTRACTOR SHALL ARRANGE FOR A MANUFACTURER'S FIELD REPRESENTATIVE TO PROVIDE INSTALLATION TRAINING FOR ALL PRODUCTS TO BE USED. ONLY TRAINED INSTALLERS SHALL PERFORM POST INSTALLED ANCHOR INSTALLATION. A RECORD OF TRAINING SHALL BE KEPT ON SITE AND BE MADE AVAILABLE TO THE EOR AS REQUESTED.
- 6. EXCEPT WHERE INDICATED ON THE DRAWINGS, POST-INSTALLED ANCHORS SHALL CONSIST OF THE FOLLOWING ANCHOR TYPES AS PROVIDED BY HILTI, INC. A. ANCHORAGE TO CONCRETE a. ADHESIVE (EPOXY) ANCHORS FOR CRACKED AND UNCRACKED CONCRETE
  - 1. HILTI HIT-HY 200 V3 SAFE SET SYSTEM WITH HILTI HIT-Z-R 316 SS ROD
  - 2. HILTI HIT-HY 200 V3 SAFE SET SYSTEM WITH HILTI HOLLOW DRILL BIT SYSTEM WITH HAS-316 SS THREADED ROD PER ICC ESR-4868.
  - b. MECHANICAL (EXPANSION) ANCHORS FOR CRACKED AND UNCRACKED CONCRETE
- . HILTI KWIK BOLT-TZ2 SS 316 EXPANSION ANCHORS PER ICC ESR-4266 2. HILTI KWIK HUS-EZ SS 316 SCREW ANCHORS PER ICC ESR-3027 B. REBAR DOWELING INTO CONCRETE a. ADHESIVE FOR CRACKED AND UNCRACKED CONCRETE USE: 1. HILTI HIT-HY 500 V3 SAFE SET SYSTEM WITH HILTI HOLLOW DRILL BIT
- SYSTEM C. ANCHORAGE TO SOLID GROUTED MASONRY
- a. ADHESIVE (EPOXY) ANCHORS USE: 1. HILTI HIT-HY 270 MASONRY ADHESIVE ANCHORING SYSTEM WITH HAS 316 SS THREADED ROD.
- 2. MECHANICAL (EXPANSION) ANCHORS USE: HILTI KWIK BOLT-TZ2 SS 316 EXPANSION ANCHORS PER ICC ESR-4561 4. HILTI KWIK HUS-EZ SS 316 SCREW ANCHORS PER ICC ESR-3056
- D. ANCHORAGE TO HOLLOW / MULTI-WYTHE MASONRY a. ADHESIVE ANCHORS USE:
  - 1. HILTI HIT-HY 270 MASONRY ADHESIVE ANCHORING SYSTEM WITH HAS 316 SS THREADED ROD.
  - 2. THE APPROPRIATE SIZE SCREEN TUBE SHALL BE USED PER ADHESIVE MANUFACTURER'S RECOMMENDATION.
- 7. ANCHOR CAPACITY USED IN DESIGN SHALL BE BASED ON THE TECHNICAL DATA PUBLISHED BY HILTI OR OTHER SUCH METHOD AS APPROVED BY THE STRUCTURAL ENGINEER OR RECORD. SUBSTITUTION REQUESTS FOR ALTERNATE PRODUCTS MUST BE APPROVED IN WRITING BY THE STRUCTURAL ENGINEER OF RECORD PRIOR TO USE. CONTRACTOR SHALL PROVIDE CALCULATIONS THAT HAVE BEEN SEALED BY ANOTHER LICENSED ENGINEER DEMONSTRATING THAT THE SUBSTITUTED PRODUCT IS CAPABLE TO MEETING THE PERFORMANCE OF THE SPECIFIED PRODUCT. SUBSTITUTIONS WITLL BE EVALUATED BY THEIR HAVING AN ICC ESR SHOWING COMPLIANCE WITH THE RELEVANT BUILDING CODE FOR SEISMIC USES, LOAD RESISTANCE, INSTALLATION CATEGORY, AND AVAILABILITY OF COMPREHENSIVE INSTALLATION INSTRUCTIONS. ADHESIVE ANCHOR EVALUATION WILL ALSO CONSIDER CREEP, IN-SERVICE TEMPERATURE, INSTALLATION TEMPERATURE, MOISTURE CONDITION OF CONCRETE, AND DRILLING METHODS.

4.500 PSI

# **REINFORCING STEEL FOR CONCRETE**

- 1. REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60 (DEFORMED).
- 2. WELDED WIRE REINFORCEMENT (WWR) SHALL CONFORM TO ASTM A1064 AND SHALL BE PROVIDED IN FLAT SHEETS ONLY. FABRIC SHALL LAP TWO FULL MESHES AND BE SECURELY FASTENED AT EACH SIDE AND EACH END.
- 3. DETAILING, FABRICATION, AND ERECTION OF REINFORCING STEEL UNLESS OTHERWISE NOTED, SHALL CONFORM TO ACI MNL-66, THE CRSI, "MANUAL OF STANDARD PRACTICE," AND ACI 318.
- 4. REINFORCING STEEL SHALL BE CONTINUOUS ACROSS ALL CONSTRUCTION JOINTS UNO. REINFORCING STEEL SHALL NOT BE HEATED OR WELDED AND MUST
- BE DRY AND FREE OF CONTAMINANTS SUCH AS RUST. DIRT. GREASE. AND PROTECTIVE COATINGS.
- 6. ALL BAR SPLICES SHALL BE CLASS B TENSION SPLICES IN ACCORDANCE WITH ACI 318.

## **MISCELLANEOUS**

- GENERAL NOTES AND TYPICAL DETAILS DESCRIBE GENERAL CRITERIA APPLICABLE TO ALL SIMILAR CONDITIONS THROUGHOUT THE PROJECT REGARDLESS OF WHETHER OR NOT THEY ARE SPECIFICALLY REFERENCED IN THE PLANS OR DETAILS 2. DO NOT SCALE DRAWINGS. IF DIMENSIONS ARE IN QUESTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING CLARIFICATION FROM THE STRUCTURAL
- ENGINEER BEFORE CONTINUING WITH CONSTRUCTION. CONTRACTOR SHALL COORDINATE THE STRUCTURAL DOCUMENTS WITH THE ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION AND CIVIL DOCUMENTS. ARCHITECT/STRUCTURAL ENGINEER SHALL BE NOTIFIED OF ANY
- DISCREPANCY. 4. THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR COMPLIANCE WITH THE CONTRACT DOCUMENTS, FOR DIMENSIONS TO BE CONFIRMED AT THE JOBSITE, FOR FABRICATION PROCESSES, AND FOR THE MEANS, METHODS, TECHNIQUES,
- SEQUENCES AND PROCEDURES OF CONSTRUCTION 5. NO SUBSTITUTIONS OF MATERIAL WILL BE ALLOWED WITHOUT WRITTEN PERMISSION FROM THE ENGINEER.
- 6. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS, MILL CERTIFICATES, AND PRODUCT DATA FOR ALL MATERIALS AND PRODUCTS SHOWN IN THE CONSTRUCTION DOCUMENTS, INCLUDING BUT NOT LIMITED TO, CONCRETE MIX DESIGNS, STEEL REINFORCEMENT, AND CAST-IN-PLACE AND POST-INSTALLED ANCHORS. THE SHOP DRAWINGS SHALL INCLUDE BOTH FABRICATION AND ERECTION DRAWINGS AND SHALL CONTAIN PLANS, ELEVATIONS, AND DETAILS. REPRODUCTION OF THE CONSTRUCTION DRAWINGS IS NOT AN ACCEPTABLE SHOP DRAWING SUBMITTAL
- SHOP DRAWINGS SHALL NOT BE REVIEWED FOR APPROVAL UNLESS CHECKED BY THE FABRICATOR AND APPROVED BY THE CONTRACTOR. REVIEW OF THE SHOP DRAWINGS BY THE ENGINEER DOES NOT ELIMINATE THE CONTRACTOR'S RESPONSIBILITY TO COMPLY WITH ALL REQUIREMENTS SET FORTH IN THE CONSTRUCTION DOCUMENTS.
- CONTRACTOR SHALL COMPLY WITH LOCAL, STATE, FEDERAL AND OWNER'S SAFETY REGULATIONS WHILE WORKING. STRUCTURAL ENGINEER DOES NOT ASSUME ANY RESPONSIBILITY FOR CONSTRUCTION SITE SAFETY.
- CONTRACTOR SHALL REFER TO THE PROJECT SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS 10. VERIFY ALL EXISTING CONDITIONS, DIMENSIONS, AND ELEVATIONS BEFORE STARTING
- WORK. NOTIFY STRUCTURAL ENGINEER OF ANY DISCREPANCY. NOTIFY STRUCTURAL ENGINEER IN WRITING OF CONDITIONS ENCOUNTERED IN THE FIELD CONTRADICTORY TO THOSE SHOWN ON THE STRUCTURAL CONTRACT DOCUMENTS.

# PRE-ENGINEERED METAL BUILDING

- DESIGN OF STRUCTURE SHALL BE IN ACCORDANCE WITH THE "CODES AND STANDARDS" AND "DESIGN CRITERIA" AS LISTED ON THIS DRAWING.
- 2. THE METAL BUILDING MANUFACTURER SHALL BE SOLELY RESPONSIBLE FOR THE STRUCTURAL DESIGN OF THE SUPERSTRUCTURE INCLUDING PURLINS, RIGID FRAMES, COLUMNS, GIRTS, BASEPLATES, X-BRACES, AND ANCHOR BOLTS (EXCLUDING EMBEDMENT). A STRUCTURAL ENGINEER REGISTERED IN THE STATE OF GEORGIA SHALL DESIGN THE MEMBERS OR DIRECTLY SUPERVISE THE DESIGN AND
- AFFIX HIS SEAL TO ALL DRAWINGS AND DESIGN CALCULATIONS. 3. THE METAL BUILDING MANUFACTURER SHALL BE RESPONSIBLE FOR THE ANCHOR BOLT DESIGN, INCLUDING QUANTITY, DIAMETER. AND MATERIAL TYPE TO ADEQUATELY TRANSFER BUILDING COLUMN REACTIONS TO THE FOUNDATION. VINIMUM EMBEDMENT LENGTHS SHALL BE AS SHOWN ON THE FOUNDATION DRAWINGS. THE GENERAL CONTRACTOR SHALL PROVIDE THE ANCHOR BOLTS SPECIFIED
- 4. CONTRACTOR SHALL VERIFY QUANTITY AND PLACEMENT LOCATIONS OF ANCHOR BOLTS WITH METAL BUILDING MANUFACTURER. ANCHOR BOLTS MUST BE LOCATED BY MEANS OF A TEMPLATE. DO NOT HAND SET ANCHOR BOLTS. ANCHOR BOLT LAYOUT, DIAMETER, PROJECTION, AND MATERIAL SHALL BE AS SHOWN ON THE METAL BUILDING DRAWINGS. 5. ANCHOR BOLT EMBEDMENT SHALL BE AS INDICATED ON THE FOUNDATION
- DRAWINGS 6. THE METAL BUILDING COLUMNS SHALL HAVE PINNED BASES AND SHALL TRANSFER
- NO MOMENTS TO THE FOUNDATIONS. HORIZONTAL DEFLECTION OF THE RIGID FRAMES AND BRACED FRAMES SHALL NOT EXCEED H/120 UNDER ALL LOAD COMBINATIONS USING SERVICE LEVEL WIND LOADS.
- 8. REFER TO MECHANICAL DRAWINGS, ELECTRICAL DRAWINGS, AND EQUIPMENT VENDOR DRAWINGS FOR EQUIPMENT TO BE SUPPORTED BY PRE-ENGINEERED COMPONENTS AND OPENINGS WHICH REQUIRE SPECIAL FRAMING. PROVIDE ANY ADDITIONAL PURLINS, GIRTS, ETC. AS REQUIRED FOR THESE ITEMS.
- 9. ALL BOLTED CONNECTIONS SHALL HAVE AT LEAST TWO BOLTS. 10. NO FIELD MODIFICATIONS SHALL BE MADE TO ANY PRIMARY OR SECONDARY STRUCTURAL MEMBER EXCEPT AS AUTHORIZED IN WRITING BY BUILDING MANUFACTURER DESIGN ENGINEER AND APPROVED BY THE STRUCTURAL ENGINEER OF RECORD.
- 11. THE FOUNDATIONS HAVE BEEN DESIGNED FOR ESTIMATED COLUMN AND FRAME REACTIONS. PRIOR TO FABRICATION AND PRIOR TO ANY FOUNDATION WORK, THE ACTUAL COLUMN AND FRAME REACTIONS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW. IF, IN THE OPINION OF THE ENGINEER, THE ACTUAL REACTIONS DIFFER APPRECIABLY FROM THE ESTIMATED, THE ENGINEER SHALL REDESIGN THE FOUNDATION FOR THE ACTUAL REACTIONS.

- STEEL PIPE

- PLANE

- 15 KIPS, UNO.
- BOLT DIA. + 1/16").

- CONNECTION

- THE STRUCTURAL DRAWINGS.

- OR EQUAL).

**STRUCTURAL STEEL** 1. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING UNLESS OTHERWISE SHOWN: WIDE FLANGE AND WT SHAPES ASTM A992, UNO S SHAPES, CHANNELS, ANGLES, & PLATES ASTM A36, UNO SMOOTH ROD ASTM A36 THREADED ROD ASTM A36 HSS, RECTANGULAR OR SQUARE ASTM A500 GR. C, 50 KSI ASTM A53, GR. B ASTM F1554, GR AS INDICATED ANCHOR RODS HIGH STRENGTH BOLTS ASTM A325 OR ASTM 490 TWIST OFF TENSION CONTROL BOLTS ASTM F1852 FOR A325 BOLTS AND F2280 FOR A490 BOLTS HARDENED WASHERS ASTM F436 DIRECT TENSION INDICATOR WASHERS ASTM F959 HEAVY HEX NUTS ASTM A563 ROLLED STEEL FLOOR PLATE ASTM A786 STAINLESS STEEL SHAPES AND PLATE ASTM A276 ASTM F593, TYPE 316 STAINLESS STEEL BOLTS WELDING ELECTRODES AWS A5.1 OR A5.5 E-70XX ELECTRODES WITH CHARPY V-NOTCH (CVN) TEST VALUES OF A MINIMUM 20 FOOT-POUNDS AT -20 DEGREES FAHRENHEIT ARE TO BE USED AT THE FOLLOWING LOCATIONS COMPLETE JOINT PENETRATION WELDS BEAM TO COLUMN MOMENT CONNECTIONS - INCLUDING FLANGE, WEB AND CONTINUITY PLATE FILLET AND PARTIAL JOINT PENETRATION WELDS iii. BRACE CONNECTIONS – INCLUDING BRACE, GUSSET, BASE PLATES, BEAM

STIFFENER PLATES, AND CONTINUITY PLATE FILLET AND PARTIAL JOINT PENETRATION WELDS iv. WELD NOTED "CVN" ON THE DRAWINGS

2. STRUCTURAL STEEL DESIGN, DETAILING, FABRICATION AND ERECTION SHALL CONFORM TO: 1. AISC, "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS."

2. AISC, "CODE OF STANDARD PRACTICE", INCLUDING COMMENTARY 3. AISC "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 AND A490 BOLTS"

3. WELDING SHALL CONFORM TO AWS D1.1 "STRUCTURAL WELDING CODE" AND BE PERFORMED BY CERTIFIED WELDERS USING E70XX WELDING ELECTRODES.

4. REMOVE RUST, DIRT, PAINT AND GALVANIZING FROM STEEL PRIOR TO WELDING. 5. WELDS SHOWN ON STRUCTURAL DRAWINGS ARE MINIMUM DESIGN REQUIREMENTS. USE THE MINIMUM WELD SIZE PER AISC WHERE WELD SIZE IS NOT INDICATED. THE FABRICATOR 'S SHOP DRAWINGS SHALL REFLECT WELDS IN ACCORDANCE WITH AWS / AISC REQUIREMENTS. 6. ALL GROOVE WELDS SHALL BE COMPLETE PENETRATION.

7. CONNECTIONS NOT SPECIFICALLY DETAILED IN THE CONTRACT DOCUMENTS SHALL BE DESIGNED, COORDINATED AND INSPECTED BY A PROFESSIONAL STRUCTURAL ENGINEER LICENSED IN THE PROJECT STATE. SUBMIT SIGNED AND SEALED CALCULATIONS AS A FORMAL SUBMITTAL TO THE STRUCTURAL ENGINEER OF RECORD. PER THE AISC CODE OF STANDARD PRACTICE, PROVIDE CORRELATION BETWEEN CALCULATIONS AND CONNECTIONS SHOWN ON THE STRUCTURAL STEEL SHOP DRAWINGS.

8. BOLTED CONNECTIONS SHALL BE BEARING TYPE WITH THREADS INCLUDED IN THE SHEAR

9. UNLESS NOTED OTHERWISE, MINIMUM BOLT SIZE IS 3/4" DIAMETER STAINLESS STEEL GRADE F593, TYPE 316. INSTALL HIGH STRENGTH BEARING BOLTS TO A SNUG TIGHT CONDITION AS DEFINED BY AISC. LOCK WASHERS AND LOCK NUTS ARE STRICTLY PROHIBITED. 10. SEQUENCE DRIVEN SHARED CONNECTIONS WILL NOT BE PERMITTED AND MAY BE UNSAFE DURING THE CONNECTION PROCESS UNDER CERTAIN CONDITIONS. PROVIDE STAGGERED CLIP ANGLES, ERECTION SEATS ON BOTH SIDES OF COLUMN WEBS, OR SHEAR TAB TYPE CONNECTIONS IN COMPLIANCE WITH OSHA 1926 SUBPART R TO ALLOW FOR MEMBERS TO BE INSTALLED FROM EITHER DIRECTION REGARDLESS OF SEQUENCE.

11. BEAM CONNECTIONS SHALL BE STANDARD, SIMPLE SHEAR CONNECTIONS WITH DOUBLE FRAMING ANGLES UNO. IN NO CASE SHALL THE LENGTH OF THE FRAMED CONNECTION BE LESS THAN ONE-HALF OF THE "T" DIMENSION OF THE BEAM WEB.

12. CONNECTION ANGLES SHALL BE 5/16" MINIMUM THICKNESS. 13. MINIMUM BOLTED CONNECTION SHALL BE AS FOLLOWS:

1. DEPTH:6" - 10" USE 2 ROWS OF BOLTS

2. DEPTH: 12" - 18" USE 3 ROWS OF BOLTS

DEPTH: 21" - 24" USE 4 ROWS OF BOLTS

DEPTH: 27" - 30" USE 5 ROWS OF BOLTS DEPTH: 33" - 40" USE 6 ROWS OF BOLTS

14. BEAM REACTIONS ARE SHOWN ON THE DRAWINGS IN LRFD FORMAT. IN CASES WHERE NO REACTIONS ARE PROVIDED, THE CONNECTION SHALL BE DESIGNED FOR A MINIMUM FORCE OF

15. ALL BOLTED CONNECTION HOLES ARE TO BE STANDARD HOLES. SHORT SLOTTED HOLES ARE PERMITTED AS LONG AS THERE IS NO FORCE IN THE DIRECTION OF THE SLOT (I.E. HOLE DIA. =

16. BRACING CONNECTIONS SHALL BE DESIGNED AND DETAILED SO THAT ALL FORCE COMPONENTS ARE DELIVERED DIRECTLY TO THE INTERSECTION OF THE WORKLINES OF THE MEMBERS. WHERE THIS IS NOT POSSIBLE OR PRACTICAL, CONNECTIONS SHALL BE DESIGNED TO ACCOUNT FOR THE RESULTING ECCENTRICITIES.

17. SWAY FRAMES, X-BRACING, LACING AND SIMILAR TYPE MEMBERS SHALL EITHER DEVELOP THE AXIAL FORCE INDICATED ON THE DRAWINGS OR THE ALLOWABLE TENSION FORCE IN THE MEMBER WHERE NO FORCES ARE SHOWN. THERE SHALL BE A MINIMUM OF TWO BOLTS PER

18. AXIAL FORCES IN MEMBERS ARE SHOWN AS FOLLOWS:

1. (+) INDICATES TENSION IN MEMBER. INDICATES COMPRESSION IN MEMBER.

19. BUILT UP MEMBERS SHALL HAVE STITCH PLATES COMPLYING WITH AISC REQUIREMENTS. TENSION MEMBERS SHALL HAVE AT LEAST ONE STITCH PLATE LOCATED AT MID-LENGTH AND BUILT UP COMPRESSION MEMBERS SHALL HAVE AT LEAST TWO STITCH PLATES LOCATED AT THIRD POINTS OR A MAXIMUM OF 5'-0" OC SPACING, WHICHEVER IS LESS. ASSUME BUILT UP MEMBERS ARE COMPRESSION MEMBERS UNLESS NOTED OTHERWISE ON DRAWINGS. 20. STEEL SURFACES THAT ARE TO RECEIVE SPRAYED ON FIREPROOFING, SCHEDULED TO RECEIVE SHEAR STUDS OR WILL BE WELDED/BOLTED SHALL NOT BE PAINTED. 21. NO OPENINGS SHALL BE CUT IN STRUCTURAL MEMBERS UNLESS SPECIFICALLY DETAILED IN

22. THE STRUCTURE IS DESIGNED FOR A COMPLETED CONDITION ONLY AND THEREFORE MAY REQUIRE ADDITIONAL SUPPORT TO MAINTAIN STABILITY BEFORE COMPLETION. 23. ALL EXTERIOR STEEL FOR THE CANOPY STRUCTURE, INCLUDING BOLTS AND GUARDRAIL SHALL BE HOT-DIPPED GALVINIZED. ANCHOR BOLTS SHALL BE STAINLESS STEEL. REPAIR DAMAGED GALVANIZING AND FIELD WELDS WITH GALVANIZING REPAIR PAINT (ZRC GALVILITE.

24. STAIRS SHOWN ON PLAN AND ARCH SHALL BE A DELEGATED DESIGN WITH EXCEPTION OF LATERAL FORCE RESISTING SYSTEM AND POSTS. CALCULATIONS SEALED BY AN ENGINEER REGISTERED IN THE PROJECT STATE SHALL BE SUBMITTED WITH THE SHOP DRAWINGS.

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# 1 ELECTRICAL E-HOUSE - FOUNDATION PLAN





![](_page_4_Figure_0.jpeg)

ipline Sort: 8.1 wing: BostsBottOckelWB6338A21ONLow Confeder PS/3618121\_LPWRF\_STRL.rvt b/Date: 8/14/2024 2:02:03 PM

**PLAN NOTES** NS 0 REF SHEET 09-S103. BEAMS MUST BE INSTALLED AND IN PLACE PRIOR TO SLAB DEMOLITION. 3 2. EXISTING HOUSEKEEPING PADS TO BE DEMOLISHED 70 DOWN FLUSH WITH EXISTING TOP OF SLAB ELEVATION. 3. WHERE SAWCUTTING CONCRETE EXPOSES REBAR, S CLEAN CONCRETE AND REBAR SURFACE IN ACCORDANCE WITH SIKA WRITTEN REQUIREMENTS FOR INSTALLATION OF SIKAGARD-62. INSTALL TWO COATS OF SIKAGARD-62 (GRAY) OVER EXPOSED REBAR EXTENDING 3" MINIMUM S PER MANUFACTURER'S WRITTEN INSTRUCTIONS. ш mmmmmm Q . CEXISTING STRUCTURAL DRAWINGS WILL BE MADE AVAILABLE TO CONTRACTOR UPON REQUEST. SUBMIT A DETAILED DEMOLITION PLAN FOR REVIEW BEFORE BEGINNING DEMOLTION. COORDINATE ALL OPENING SIZES WITH APPROVED HATCH SHOP DRAWINGS. mmmmm DEMOLITION LOWER POPLAR WATER RECLAMATION FACILIT S PUMP STATION IMPROVEMENT - LOWER | PLAN AUTHOURI' VATER MACON W **STATION** INFLUENT PUMP DES ISSUED FOR BID ADDENDUM 3 JBA JBA DR ACM MRD 09-SD101 FILE NO.: 3618121 © Copyright 2024, Barge Design Solutions, Inc. ALL RIGHTS RESERVED

![](_page_5_Figure_0.jpeg)

**PLAN NOTES** NS 0 REF SHEET 09-S103. BEAMS MUST BE INSTALLED AND IN PLACE PRIOR TO SLAB DEMOLITION. 3 2. EXISTING HOUSEKEEPING PADS TO BE DEMOLISHED 70 DOWN FLUSH WITH EXISTING TOP OF SLAB ELEVATION. 3. WHERE SAWCUTTING CONCRETE EXPOSES REBAR, CLEAN CONCRETE AND REBAR SURFACE IN ACCORDANCE 2 WITH SIKA WRITTEN REQUIREMENTS FOR INSTALLATION U OF SIKAGARD-62. INSTALL TWO COATS OF SIKAGARD-62 (GRAY) OVER EXPOSED REBAR EXTENDING 3" MINIMUM S PER MANUFACTURER'S WRITTEN INSTRUCTIONS. ш Q **X**EXISTING STRUCTURAL DRAWINGS WILL BE MADE AVAILABLE TO CONTRACTOR UPON REQUEST SUBMIT A DETAILED DEMOLITION PLAN FOR REVIEW BEFORE BEGINNING DEMOLTION. COORDINATE ALL OPENING SIZES WITH APPROVED HATCH SHOP DRAWINGS. mmmmm  $\vdash$ LOWER POPLAR WATER RECLAMATION FACILI S STATION - INTERMEDIATE DEMOLITION PLAN INFLUENT PUMP STATION IMPROVEMENT AUTHOURI VATER MACON W PUMP LE LOR BID NDUM 3 JBA JBA DR ACM MRD 09-SD102 FILE NO.: 3618121 © Copyright 2024, Barge Design Solutions, Inc. ALL RIGHTS RESERVED

![](_page_6_Figure_0.jpeg)

![](_page_6_Figure_1.jpeg)

![](_page_7_Figure_0.jpeg)

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![](_page_8_Figure_0.jpeg)

![](_page_9_Figure_0.jpeg)

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