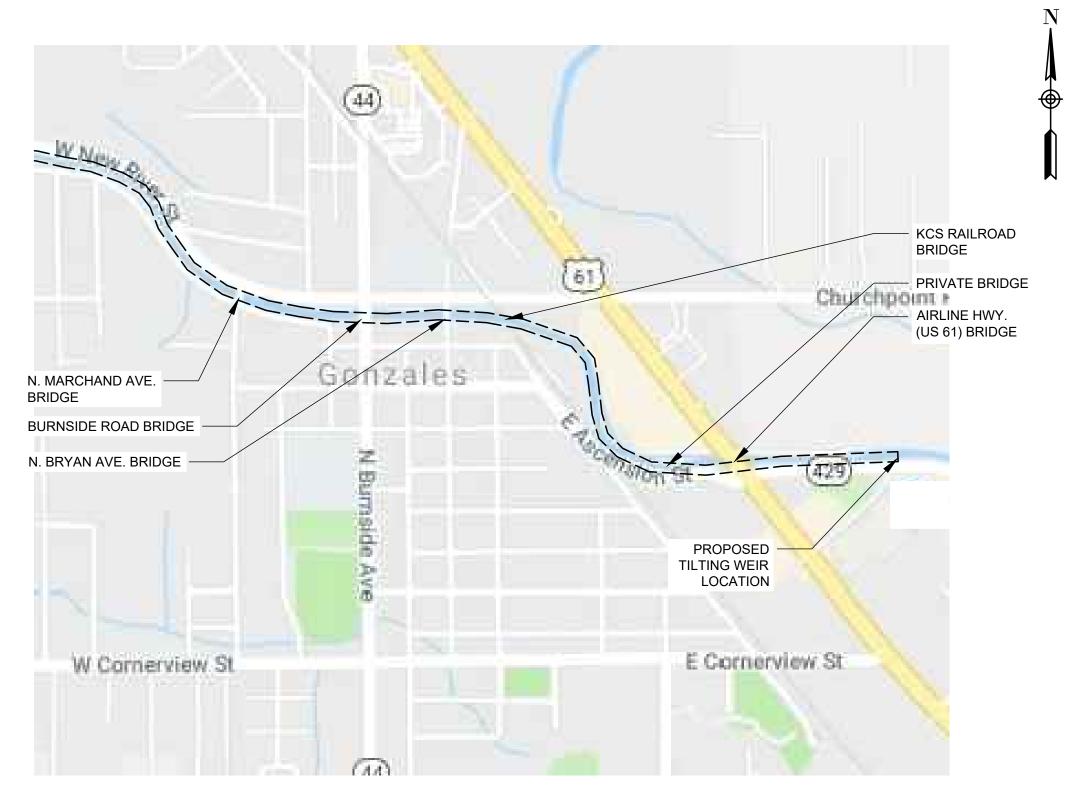
CONTRACT DRAWINGS FOR NEW RIVER CHANNEL TILTING WEIR STRUCTURE EAST ASCENSION CONSOLIDATED GRAVITY DRAINAGE DISTRICT NO.1 ASCENSION PARISH, LOUISIANA

PARISH PROJECT No. EAD 15-004 HDCA PROJECT NO. 2021-14



PROJECT AREA SCALE: N.T.S.

EAST ASCENSION CONSOLIDATED GRAVITY DRAINAGE DISTRICT NO.1 **42077 CHURCHPOINT ROAD GONZALES, LA 70737**

> **APPROXIMATE PROJECT SITE GPS COORDINATES** 30° 14' 12.91" N 90° 54' 31.40" W

ISSUED FOR CONSTRUCTION

PREPARED FOR



EAST ASCENSION CONSOLIDATED **GRAVITY DRAINAGE DISTRICT NO.1** 42077 CHURCHPOINT ROAD GONZALES, LA 70737



DIRECTOR-ASCENSION PARISH DPW RON SAVOY, P.E.

PARISH COUNCIL

ALVIN THOMAS DISTRICT 1 JOEL ROBERT **DISTRICT 2 DISTRICT 3** TRAVIS TURNER **COREY ORGERON** DISTRICT 4 **DEMPSEY LAMBERT** DISTRICT 5 **DISTRICT 6** CHASE MELANCON AARON LAWLER DISTRICT 7 **DISTRICT 8** TERI CASSO DAL WAGUESPACK DISTRICT 9 JOHN CAGNOLATTI DISTRICT 10, CHAIRMAN MICHAEL MASON DISTRICT 11

PREPARED BY AND RECOMMENDED FOR APPROVAL BY:

H. DAVIS COLE & ASSOCIATES, LLC

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APPROVED BY:

ASCENSION PARISH GOVERNMENT

RON SAVOY DIRECTOR, PUBLIC WORKS DATE

LIST OF DRAWINGS

COVER SHEET

01-CO COVER SHEET

SUPPLEMENTAL

SURVEY PREPARED BY BRYANT HAMMETT & ASSOCIATES, LLC

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STRUCTURAL

S1 STRUCTURAL DETAILS
S2 STRUCTURAL DETAILS
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S4 STRUCTURAL DETAILS

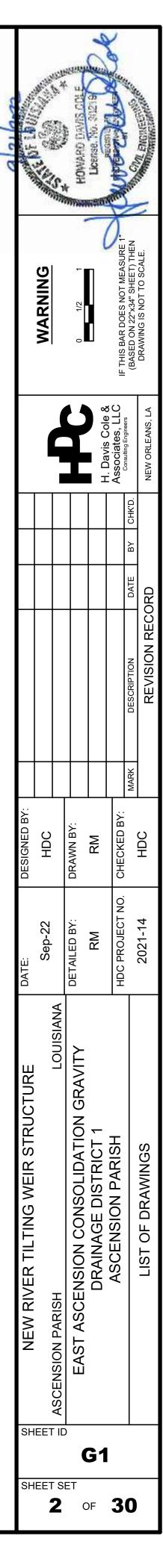
01-S1 TILTING WEIR STRUCTURAL DETAILS
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01-E4 ELECTRICAL CONTROLS DIAGRAM



- THESE NOTES AND SPECIFICATIONS ARE GENERAL AND APPLY TO THE ENTIRE PROJECT UNLESS THERE ARE SPECIFIC INDICATIONS OTHERWISE. NOTES AND SPECIFICATIONS ARE CONTINUED THROUGHOUT THE PLANS.
- NOTIFY THE OWNER, ENGINEER, AND RESIDENT PROJECT REPRESENTATIVE, OWNER'S PROGRAM MANAGER, AND OPERATOR OF CONSTRUCTION A MINIMUM OF ONE WEEK PRIOR TO THE BEGINNING OF CONSTRUCTION. NOTIFY THE ENGINEER AT THE CONCLUSION OF CONSTRUCTION TO ALLOW FOR INSPECTION OF THE PROJECT
- 3) IN THE EVENT OF DISCREPANCIES, CONFLICTS, OR OMISSIONS, IMMEDIATELY NOTIFY THE OWNER, ENGINEER, AND RESIDENT PROJECT REPRESENTATIVE AND OBTAIN WRITTEN INSTRUCTIONS FROM THE ENGINEER PRIOR TO PROCEEDING WITH AFFECTED WORK.
- 4) ASSUME COMPLETE AND SOLE RESPONSIBILITY FOR THE JOB SITE INCLUDING THE SAFETY OF PERSONS, PROPERTY, AND ADJACENT IMPROVEMENTS. ANY INSPECTION BY THE ENGINEER WILL BE SOLELY TO DETERMINE COMPLIANCE WITH THE PLANS AND SPECIFICATIONS AND WILL NOT INCLUDE ANY REVIEW OF THE ADEQUACY OF THE 21) ASSUME FULL AND SOLE RESPONSIBILITY FOR THE PROTECTION OF THE SITE, AND CONTRACTOR'S SAFETY MEASURES.
- 5) THESE DRAWINGS ARE SCALED FOR PRODUCTION ON 22" X 34" MEDIA (ANSI D SHEET SIZE). SCALE PRINTS ON OTHER SIZED MEDIA ACCORDINGLY.
- 6) ASSUME RESPONSIBILITY FOR THE PROVISION OF ALL TEMPORARY UTILITIES NECESSARY FOR THE PROPER EXECUTION OF THE WORK IN THE MOST EFFICIENT MANNER PRACTICAL. INCLUDE THE COST OF PROVISION OF THESE TEMPORARY UTILITIES IN THE PRICE OF THE WORK.
- USE NEW OR USED MATERIALS AND EQUIPMENT FOR TEMPORARY UTILITIES, WHICH ARE IN SUBSTANTIALLY UNDAMAGED CONDITION AND WITHOUT SIGNIFICANT DETERIORATION AND WHICH ARE RECOGNIZED IN THE CONSTRUCTION INDUSTRY, BY COMPLIANCE WITH APPROPRIATE STANDARDS, AS BEING SUITABLE FOR INTENDED USE IN EACH CASE. WHERE A PORTION OF A TEMPORARY UTILITY IS PROVIDED BY UTILITY COMPANY, PROVIDE THE REMAINING PORTION WITH MATCHING AND COMPATIBLE MATERIALS AND EQUIPMENT AND COMPLY WITH RECOMMENDATIONS OF UTILITY COMPANY.
- 8) PROVIDE POWER REQUIRED FOR OPERATIONS UNDER THE CONTRACT, AND PROVIDE AND MAINTAIN ALL TEMPORARY POWER LINES REQUIRED TO PERFORM THE WORK IN A SAFE AND SATISFACTORY MANNER.
- PROVIDE A WEATHERPROOF, GROUNDED, TEMPORARY POWER DISTRIBUTION SYSTEM SUFFICIENT FOR PERFORMANCE OF ENTIRE WORK OF PROJECT. PROVIDE CIRCUITS OF ADEQUATE SIZE AND PROPER POWER CHARACTERISTICS FOR EACH USE; RUN CIRCUIT WIRING WHERE IT WILL BE LEAST EXPOSED TO POSSIBLE DAMAGE FROM CONSTRUCTION OPERATIONS AND WILL RESULT IN MINIMAL INTERFERENCE WITH PERFORMANCE OF THE WORK; PROVIDE RIGID STEEL CONDUIT OR EQUIVALENT RACEWAYS FOR WIRING WHICH MUST BE EXPOSED ON GRADE, FLOORS, DECKS, OR OTHER EXPOSURES TO DAMAGE OR ABUSE. INSTALL AND MAINTAIN WIRING FOR TEMPORARY ELECTRIC LIGHT AND POWER AND SECURELY FASTEN IN PLACE. PROVIDE TEMPORARY ELECTRICAL FACILITIES WHICH CONFORM TO THE REQUIREMENTS OF SUBPART K OF THE OSHA SAFETY AND HEALTH STANDARDS FOR CONSTRUCTION.
- 10) USE SUITABLE LIGHT TO INSURE PROPER WORK AND TO AFFORD ADEQUATE FACILITIES FOR INSPECTION AND SAFE WORKING CONDITIONS DURING WORK CONDUCTED AT NIGHT OR UNDER CONDITIONS OF DEFICIENT DAYLIGHT.
- 11) PROVIDE A GENERAL, WEATHERPROOF, GROUNDED TEMPORARY LIGHTING SYSTEM IN EVERY AREA OF CONSTRUCTION WORK, AS SOON AS PRACTICAL TO PROVIDE SUFFICIENT ILLUMINATION FOR SAFE WORK AND TRAFFIC CONDITIONS. RUN CIRCUIT WIRING IN LOCATIONS WHERE IT WILL BE LEAST EXPOSED TO POSSIBLE DAMAGE FROM CONSTRUCTION OPERATIONS.
- 12) PROVIDE AN ADEQUATE SUPPLY OF WATER OF A QUALITY SUITABLE FOR ALL DOMESTIC AND CONSTRUCTION PURPOSES. DO NOT MAKE ANY CONNECTION TO OR DRAW WATER FROM ANY FIRE HYDRANT OR PIPELINE WITHOUT FIRST OBTAINING PERMISSION OF THE AUTHORITY HAVING JURISDICTION OVER THE USE OF SAID FIRE HYDRANT OR PIPELINE AND FROM THE AGENCY OWNING THE AFFECTED WATER SYSTEM. FOR EACH SUCH CONNECTION MADE, FIRST ATTACH TO THE FIRE HYDRANT OR PIPELINE A VALVE AND A METER, IF REQUIRED BY THE SAID AUTHORITY, OF A SIZE AND TYPE ACCEPTABLE TO SAID AUTHORITY AND AGENCY. PAY ALL PERMIT AND WATER CHARGES AND INCLUDE ALL COSTS IN THE PRICE OF THE WORK.
- 13) INVESTIGATE THE CONDITION OF AVAILABLE PUBLIC AND PRIVATE ROADS AND OF CLEARANCES. RESTRICTIONS. BRIDGE LOAD LIMITS. AND OTHER LIMITATIONS AFFECTING TRANSPORTATION AND INGRESS AND EGRESS TO THE SITE OF THE WORK. CONSTRUCT AND MAINTAIN ANY HAUL ROADS REQUIRED FOR ITS CONSTRUCTION OPERATIONS.
- 14) WHEREVER NECESSARY, TO MAINTAIN VEHICULAR CROSSINGS, PROVIDE SUITABLE TEMPORARY BRIDGES OR STEEL PLATES OVER UNFILLED EXCAVATIONS, EXCEPT IN SUCH CASES AS THE WRITTEN CONSENT OF THE RESPONSIBLE INDIVIDUALS OR AUTHORITIES TO OMIT SUCH TEMPORARY BRIDGES OR STEEL PLATES. DELIVER EVIDENCE OF SUCH CONSENT TO THE ENGINEER PRIOR TO EXCAVATION. MAINTAIN ALL SUCH BRIDGES OR STEEL PLATES IN SERVICE UNTIL ACCESS IS PROVIDED ACROSS THE BACKFILLED EXCAVATION. CONFORM TO THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION IN EACH CASE, AND ADOPT DESIGNS FURNISHED BY SAID AUTHORITY FOR SUCH BRIDGES OR STEEL PLATES, OR SUBMIT DESIGNS TO SAID AUTHORITY FOR APPROVAL, AS MAY BE REQUIRED.
- 15) ASSUME FULL RESPONSIBILITY FOR MAKING ARRANGEMENTS FOR ANY NECESSARY OFF-SITE STORAGE OR SHOP AREAS NECESSARY FOR THE PROPER EXECUTION OF THE WORK.
- 16) PROTECT ALL EXISTING UTILITIES AND IMPROVEMENTS NOT DESIGNATED FOR REMOVAL AND RESTORE DAMAGED OR TEMPORARILY RELOCATED UTILITIES AND IMPROVEMENTS TO A CONDITION EQUAL TO OR BETTER THAN PRIOR TO SUCH DAMAGE OR TEMPORARY RELOCATION.
- 17) DO NOT COMMENCE OPERATIONS ADJACENT TO PROPERTIES OF RAILWAY AND UTILITY COMPANIES OR ADJACENT TO OTHER PROPERTY, DAMAGE TO WHICH MIGHT RESULT IN CONSIDERABLE EXPENSE, LOSS OR INCONVENIENCE UNTIL AFTER ALL ARRANGEMENTS NECESSARY FOR THE PROTECTION THEREOF HAVE BEEN MADE.
- 18) COOPERATE WITH OWNERS OF UTILITY LINES IN THEIR REMOVAL AND REARRANGEMENT, IN ORDER THAT THESE OPERATIONS MAY PROGRESS IN A REASONABLE MANNER, THAT DUPLICATION OF REARRANGEMENT WORK MAY BE

- MINIMIZED AND THAT SERVICES RENDERED BY THOSE PARTIES WILL NOT BE UNNECESSARILY INTERRUPTED.
- 19) IN THE EVENT OF INTERRUPTION OF UTILITY SERVICES DUE TO ACCIDENTAL BREAKAGE OR BEING EXPOSED OR UNSUPPORTED, PROMPTLY NOTIFY THE PROPER AUTHORITY AND COOPERATE WITH SUCH AUTHORITY IN RESTORATION OF SERVICE. IF UTILITY SERVICE IS INTERRUPTED, COOPERATE COMPLETELY WITH THE PROPER AUTHORITY UNTIL SERVICE IS RESTORED. UNDERTAKE NO WORK AROUND FIRE HYDRANTS UNTIL PROVISIONS FOR CONTINUED SERVICE HAVE BEEN APPROVED BY THE LOCAL FIRE AUTHORITY.
- 20) ESTABLISH AND MAINTAIN AN EFFECTIVE QUALITY CONTROL PROCESS. THE QUALITY CONTROL PROCESS CONSISTS OF PLANS, PROCEDURES, AND ORGANIZATION NECESSARY TO PROVIDE MATERIALS. EQUIPMENT. WORKMANSHIP. FABRICATION. CONSTRUCTION AND OPERATIONS WHICH COMPLY WITH THE CONTRACT REQUIREMENTS. THE PROCESS COVERS CONSTRUCTION OPERATIONS BOTH ONSITE AND OFFSITE, AND IS KEYED TO THE PROPOSED CONSTRUCTION SEQUENCE.
- ALL WORK, MATERIALS, EQUIPMENT AND EXISTING FACILITIES THEREON, AGAINST THEFT, VANDALS, AND OTHER UNAUTHORIZED PERSONS.
- 22) MAKE NO CLAIM AGAINST OWNER BY REASON OF ANY ACT OF AN EMPLOYEE OR TRESPASSER, AND MAKE GOOD ALL DAMAGE TO OWNER'S PROPERTY RESULTING FROM HIS FAILURE TO PROVIDE SECURITY MEASURES AS SPECIFIED.
- 23) USE SECURITY MEASURES THAT ARE AT LEAST EQUAL TO THOSE USUALLY PROVIDED TO PROTECT THE EXISTING FACILITIES DURING NORMAL OPERATION, BUT ALSO INCLUDE SUCH ADDITIONAL SECURITY FENCING, BARRICADES, LIGHTING, WATCHMAN SERVICES AND OTHER MEASURES AS REQUIRED TO PROTECT THE SITE.
- 24) PROMPTLY REMOVE FROM THE VICINITY OF THE COMPLETED WORK, ALL RUBBISH, UNUSED MATERIALS, CONCRETE FORMS, CONSTRUCTION EQUIPMENT, AND TEMPORARY STRUCTURES AND FACILITIES USED DURING CONSTRUCTION. FINAL ACCEPTANCE OF THE WORK BY THE OWNER WILL BE WITHHELD UNTIL THE CONTRACTOR HAS SATISFACTORILY PERFORMED THE FINAL CLEANUP OF THE SITE.

PROJECT LAYOUT

- ASSUME RESPONSIBILITY FOR LAYING OUT THE WORK AND VERIFYING ALL MEASUREMENTS PRIOR TO AND DURING THE ENTIRE PERIOD OF CONSTRUCTION. CONTINUOUSLY VERIFY ALL MEASUREMENTS.
- 2) THE MEASUREMENTS, EQUIPMENT ARRANGEMENTS, LINES, AND GRADES SHOWN ON THE PLANS MAY BE VARIED SLIGHTLY BY THE ENGINEER IN THE FIELD IF CONDITIONS JUSTIFY SUCH A VARIATION.

- 1) VERIFY ALL DIMENSIONS AND MAKE ANY FIELD MEASUREMENTS NECESSARY ASSUME FULL RESPONSIBILITY FOR ACCURACY AND LAYOUT OF WORK. REVIEW THE DRAWINGS, AND REPORT ANY DISCREPANCIES WITH ACTUAL DIMENSIONS TO THE ENGINEER FOR CLARIFICATION PRIOR TO STARTING FABRICATION.
- 2) UNLESS OTHERWISE INDICATED, COAT FABRICATED STEEL METALWORK WHICH WILL BE USED IN A CORROSIVE ENVIRONMENT AND/OR WILL BE SUBMERGED IN WATER/WASTEWATER AS SPECIFIED OR AS INDICATED AND DO NOT GALVANIZE PRIOR TO COATING. HOT-DIP GALVANIZE OTHER MISCELLANEOUS STEEL METALWORK AFTER FABRICATION.
- 3) UNLESS OTHERWISE INDICATED, USE TYPE 316 STAINLESS STEEL METALWORK AND BOLTS. WHERE ANAEROBIC CONDITIONS ARE NOTED, USE TYPE 304 STAINLESS STEEL.
- 4) UNLESS OTHERWISE INDICATED, USE ALLOY 6061-T6 ALUMINUM METALWORK ALUMINUM IN CONTACT WITH CONCRETE, MASONRY, WOOD, POROUS MATERIALS, OR DISSIMILAR METALS COAT CONTACT SURFACES IN ACCORDANCE WITH SECTION 09800.
- UNLESS OTHERWISE INDICATED, PROVIDE AND INSTALL IRON CASTINGS COMPLYING WITH THE REQUIREMENTS OF ASTM A 48, CLASS 50B OR BETTER.
- 6) PROVIDE AND INSTALL STRUCTURAL STEEL COMPLYING WITH THE TABLE BELOW:

WIDE FLANGE SHAPES	ASTM A 992				
OTHER SHAPES, PLATES, BARS	ASTM A 36				
PIPE, PIPE COLUMNS BOLLARDS	ATM A 53, TYPE E OR S, GRADE B STANDARD WEIGHT UNLESS NOTED OTHERWISE				
HSS	ATM 500 GRADE B				

- 7) UNLESS OTHERWISE INDICATED, USE STEEL BOLTS, ANCHOR BOLTS, WASHERS, AND NUTS AS INDICATED. USE BOLTS AND NUTS WITH THREADS FORMED BY SUITABLE TAPS AND DIES SUCH THAT THEY RETAIN NORMAL CLEARANCES AFTER HOT-DIP GALVANIZING. USE STEEL FOR BOLT MATERIAL, ANCHOR BOLTS AND CAP SCREWS IN ACCORDANCE WITH THE FOLLOWING:
- STRUCTURAL CONNECTIONS: ASTM A 307, GRADE A OR B, HOT-DIP GALVANIZED.
- ANCHOR BOLTS: ASTM A 307, GRADE A OR B, OR ASTM A 36, HOT-DIP GALVANIZED.
- HIGH STRENGTH BOLTS WHERE INDICATED: ASTM A 325.
- PIPE AND EQUIPMENT FLANGE BOLTS: ASTM A 193, GRADE B-7.
- 8) USE STAINLESS STEEL BOLTS, NUTS, AND WASHERS IN THE LOCATIONS LISTED BELOW AS INDICATED.
- BURIED LOCATIONS.
- SUBMERGED LOCATIONS.
- LOCATIONS SUBJECT TO SEASONAL OR OCCASIONAL FLOODING.
- INSIDE HYDRAULIC STRUCTURES BELOW THE TOP OF THE STRUCTURE
- INSIDE BURIED VAULTS, MANHOLES, WET WELLS, AND STRUCTURES. CHEMICAL HANDLING AREAS.
- INSIDE TRENCHES, CONTAINMENT WALLS, AND CURBED AREAS.
- LOCATIONS INDICATED BY THE CONTRACT DOCUMENTS OR DESIGNATED BY THE ENGINEER TO BE PROVIDED WITH STAINLESS STEEL BOLTS.
- 9) UNLESS OTHERWISE INDICATED, USE TYPE 316 STAINLESS STEEL, CLASS 2, BOLTS,

ANCHOR BOLTS, NUTS, AND WASHERS, CONFORMING TO ASTM A 193 FOR BOLTS AND TO ASTM A 194 FOR NUTS. PROTECT THREADS ON STAINLESS STEEL BOLTS WITH AN ANTISEIZE LUBRICANT SUITABLE FOR SUBMERGED STAINLESS STEEL BOLTS, TO MEET GOVERNMENT SPECIFICATION MIL-A-907E. COAT BURIED BOLTS IN POORLY DRAINED SOIL THE SAME AS THE BURIED PIPE. USE ANTI - SEIZE LUBRICANT CLASSIFIED AS ACCEPTABLE FOR POTABLE WATER USE BY THE NSF

- 10) USE BOLT AND NUT MATERIAL OF FREE CUTTING STEEL.
- 11) USE NUTS CAPABLE OF DEVELOPING THE FULL STRENGTH OF THE BOLTS. USE COARSE THREAD SERIES CONFORMING TO THE REQUIREMENTS OF THE AMERICAN STANDARD FOR SCREW THREADS. USE BOLTS AND CAP SCREWS WITH HEXAGON HEADS AND HEAVY HEXAGON SERIES NUTS.
- 12) INSTALL BOLTS AND NUTS WITH WASHERS FABRICATED OF MATERIAL MATCHING THE BASE MATERIAL OF BOLTS. CONFORM TO THE REQUIREMENTS OF THE AISC SPECIFICATION FOR HARDENED WASHERS FOR HIGH STRENGTH BOLTS. INSTALL LOCK WASHERS FABRICATED OF MATERIAL MATCHING THE BOLTS WHERE INDICATED.
- 13) MAKE THE LENGTH OF EACH BOLT SUCH THAT THE BOLT EXTENDS AT LEAST 1/8-INCH BEYOND THE OUTSIDE FACE OF THE NUT BEFORE TIGHTENING, EXCEPT FOR ANCHOR BOLTS, MAKE FLUSH WITH THE FACE OF THE NUT BEFORE TIGHTENING.
- 14) ADHESIVE ANCHORS AND RODS: UNLESS OTHERWISE INDICATED, USE DRILLED CONCRETE OR MASONRY ANCHORS FOR ADHESIVE ANCHOR AND ROD SYSTEMS AS SPECIFIED BELOW.
- A. USE ANCHORS AND RODS THAT EMPLOY AN INJECTABLE ADHESIVE. FURNISH ADHESIVE IN SIDE-BY-SIDE REFILL PACKETS THAT KEEP COMPONENTS SEPARATE PRIOR TO INSTALLATION. USE SIDE - BY - SIDE REFILL PACKETS THAT ACCEPT STATIC MIXING NOZZLES WHICH THOROUGHLY COMBINES COMPONENTS AND ALLOWS INJECTION DIRECTLY INTO DRILLED HOLE. USE ONLY INJECTION TOOLS AND STATIC MIXING NOZZLES AS RECOMMENDED BY MANUFACTURER. FOLLOW MANUFACTURER'S RECOMMENDED INSTRUCTIONS. USE HILTI - HY 500 MAX - SD OR EQUAL FOR INJECTION ADHESIVE.
- FURNISH ANCHOR RODS WITH CHAMFERED ENDS SO THAT EITHER END WILL ACCEPT A NUT AND WASHER. ALTERNATIVELY, FURNISH ANCHOR RODS WITH AT 45 DEGREE CHISEL END ON ONE END TO ALLOW FOR EASY INSERTION INTO AN ADHESIVE - FILLED HOLE. USE ANCHOR RODS MANUFACTURED FROM AISI STAINLESS STEEL WITH A MINIMUM TENSILE STRENGTH OF 100 KSI AND A MINIMUM YIELD STRENGTH OF 65 KSI. USE TYPE 316 STAINLESS STEEL NUTS COMPLYING WITH ASTM F594. USE TYPE 316 STAINLESS WASHERS COMPLYING WITH ASTM A240, TYPE "A" (PLAIN).
- 15) DO NOT USE EXPANDING TYPE OR "WEDGE" ANCHORS.
- 16) USE HEAT-TREATED STEEL ALLOY FOR POWDER-DRIVEN PINS FOR INSTALLATION IN CONCRETE OR STEEL. IF THE PINS ARE NOT INHERENTLY SUFFICIENTLY CORROSION-RESISTANT FOR THE CONDITIONS TO WHICH THEY WILL BE EXPOSED, PROTECT IN AN ACCEPTABLE MANNER. USE PINS THAT HAVE CAPPED OR THREADED HEADS CAPABLE OF TRANSMITTING THE LOADS THE SHANKS ARE REQUIRED TO SUPPORT. USE LONGITUDINAL SERRATIONS AROUND THE CIRCUMFERENCE OF THE SHANK FOR PINS THAT ARE CONNECTED TO STEEL. POWDER-DRIVEN PINS TO BE INSTALLED BY A CRAFTSPERSON CERTIFIED BY THE MANUFACTURER AS BEING QUALIFIED TO INSTALL THE MANUFACTURER'S PINS. DRIVE PINS SHALL IN ONE INITIAL MOVEMENT BY AN INSTANTANEOUS FORCE THAT HAS BEEN CAREFULLY SELECTED TO ATTAIN THE REQUIRED PENETRATION. CONFORM DRIVEN PINS TO THE FOLLOWING REQUIREMENTS WHERE "D" = PIN'S SHANK DIAMETER

MATERIAL PENETRATED BY PIN	MATERIAL MINIMUM THICKNESS	PIN SHANK PENETRATION IN SUPPORTING MATERIAL	MINIMUM SPACE FROM PIN'S CL TO EDGE OF PENETRATED MATERIAL	MINIMUM PIN SPACING	
CONCRETE	16D	6D MINIMUM	14D	20D	
STEEL	1/4"	STEEL THICKNESS	4D	7D	

- 17) USE EXPANSION TYPE ANCHOR FOR IMPACT ANCHORS IN WHICH A NAIL TYPE PIN IS DRIVEN TO PRODUCE THE EXPANSIVE FORCE. USE PIN WITH A ZINC SLEEVE WITH A MUSHROOM STYLE HEAD AND STAINLESS STEEL NAIL PIN. USE METAL HIT ANCHORS. MANUFACTURED BY HILTI, INC., RAWL ZAMAC NAILIN, MANUFACTURED BY THE RAWLPLUG COMPANY; OR EQUAL.
- 18) FABRICATE STRUCTURAL STEEL IN ACCORDANCE WITH THE DRAWINGS, AISC SPECIFICATIONS, AND AS SHOWN ON THE SHOP DRAWINGS. PROPERLY MATCH-MARK FABRICATED MEMBERS FOR FIELD ASSEMBLY. WHERE FINISHING IS REQUIRED, COMPLETE ASSEMBLY INCLUDING BOLTING AND WELDING OF UNITS, BEFORE START OF FINISHING OPERATIONS. BOLT OR WELD SHOP AND FIELD CONNECTIONS AS INDICATED. DEVELOP ALL CONNECTIONS FULL STRENGTH OF MEMBERS JOINED AND CONFORM TO AISC STANDARD CONNECTIONS. UNLESS OTHERWISE INDICATED, PROVIDE WELDS CONFORMING TO AISC LRFD SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS.

PROJECT AND UTILITY CONTACTS

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UTILITY/OTHER FACILITY OWNERS IN PROJECT AREA

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LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT (LDOTD)

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WATER

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(225) 200-8495

MR. BARRY GAUTHIER **GULF SOUTH PIPELINE**

EATEL. TBD

REGIONAL NOTIFICATION

CENTER LOUISIANA ONE CALL

louisiana811.com

CONTACT EACH AGENCY AND/OR COMPANY LISTED PRIOR TO CONSTRUCTION TO ENSURE THAT THE FOLLOWING REQUIREMENTS I ARE MET:

- A) CONTACT EACH AGENCY AND COMPANY RELATIVE TO THE EXACT LOCATION OF ANY UNDERGROUND INSTALLATIONS PRIOR TO THE RELIANCE UPON THE ACCURACY OF SUCH LOCATIONS SHOWN ON THE DRAWINGS:
- B) CONTACT EACH AGENCY AND COMPANY TO NOTIFY EACH AGENCY AND COMPANY OF THE START OF CONSTRUCTION;
- C) CONTACT EACH AGENCY AND COMPANY TO VERIFY ANY PROPOSED CONSTRUCTION OR MODIFICATION BY ANY AGENCY AND COMPANY IN THE PROJECT AREA;
- D) CONTACT EACH AGENCY AND COMPANY TO VERIFY ANY SPECIAL CONSTRUCTION REQUIREMENTS RELATED TO EACH COMPANY OR AGENCY'S FACULTY(IES)

CONTACT THE REGIONAL NOTIFICATION CENTER PRIOR TO CONSTRUCTION IN ACCORDANCE WITH THE REQUIREMENTS OF STATE LAW.

WARNING

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3 OF 30

METALS CON'T.

- 19) WELD USING THE METAL-ARC METHOD OR GAS-SHIELDED ARC METHOD AS DESCRIBED IN THE AMERICAN WELDING SOCIETY'S "WELDING HANDBOOK" AS SUPPLEMENTED BY OTHER PERTINENT STANDARDS OF THE AWS. ENSURE QUALIFICATION OF WELDERS ARE IN ACCORDANCE WITH THE AWS STANDARDS GOVERNING SAME. IN ASSEMBLY AND DURING WELDING, ADEQUATELY CLAMP, SUPPORT, AND RESTRAIN COMPONENT PARTS TO MINIMIZE DISTORTION AND FOR CONTROL OF DIMENSIONS. INSURE WELD REINFORCEMENT AS INDICATED BY THE AWS CODE. UPON COMPLETION OF WELDING, REMOVE WELD SPLATTER, FLUX, SLAG, AND BURRS LEFT BY ATTACHMENTS. REPAIR WELDS TO PRODUCE A WORKMANLIKE APPEARANCE, WITH UNIFORM WELD CONTOURS AND DIMENSIONS. GROUND SHARP CORNERS OF MATERIAL THAT IS TO BE PAINTED OR COATED TO A MINIMUM OF 1/32-INCH ON THE FLAT.
- 20) STRUCTURAL STEEL PLATES SHAPES, BARS, AND FABRICATED ASSEMBLIES REQUIRED TO BE GALVANIZED SHALL. AFTER THE STEEL HAS BEEN THOROUGHLY CLEANED OF RUST AND SCALE, BE GALVANIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A 123. ANY GALVANIZED PART THAT BECOMES WARPED DURING THE GALVANIZING OPERATION SHALL BE STRAIGHTENED. BOLTS, ANCHOR BOLTS, NUTS, AND SIMILAR THREADED FASTENERS, AFTER BEING PROPERLY CLEANED, SHALL BE GALVANIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A 153. FIELD REPAIRS TO DAMAGED GALVANIZING SHALL BE MADE BY PREPARING THE SURFACE AND APPLYING A COATING. SURFACE PREPARATION SHALL CONSIST OF REMOVING OIL. GREASE, SOIL, AND SOLUBLE MATERIAL BY CLEANING WITH WATER AND DETERGENT (SSPC SP1) FOLLOWED BY BRUSH OFF BLAST CLEANING (SSPC SP7), OVER AN ARÉA EXTENDING AT LEAST 4-INCHES INTO THE UNDAMAGED AREA. COATING SHALL BE APPLIED TO AT LEAST 3-MILS DRY FILM THICKNESS. USE ZINC-CLAD XI BY SHERWIN-WILLIAMS, GALVAX BY ALVIN PRODUCTS, OR GALVITE BY ZRC WORLDWIDE.
- 21) DRILLED ANCHORS AND REINFORCING BARS SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. HOLES SHALL BE ROUGHENED WITH A BRUSH ON A POWER DRILL, CLEANED AND DRY. DRILLED ANCHORS SHALL NOT BE INSTALLED UNTIL THE CONCRETE HAS REACHED THE REQUIRED 28-DAY COMPRESSIVE STRENGTH. ADHESIVE ANCHORS SHALL NOT BE LOADED UNTIL THE ADHESIVE HAS REACHED ITS INDICATED STRENGTH IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

STRUCTURAL CONCRETE AND REINFORCEMENT

- 1) UNLESS NOTED OTHERWISE OR SPECIFIED OTHERWISE, CAST ALL STRUCTURAL CONCRETE IN PLACE. UNLESS NOTED OTHERWISE PROVIDE CONCRETE WHICH WHEN MOLDED AND CURED IN ACCORDANCE WITH DOTD TR 226 AND TESTED IN ACCORDANCE WITH DOTD TR 230, EXHIBITS A MINIMUM COMPRESSIVE STRENGTH NOT LESS THAN 4,000 PSI AT 28 DAYS.
- PROVIDE GRADE 60 REINFORCING STEEL UNLESS NOTED OTHERWISE. BARS SMALLER THAN NO. 3 NEED NOT BE DEFORMED. SIZE W 5 WIRE MAY BE USED IN LIEU OF BARS SMALLER THAN NO 3. USE BILLET-STEEL DEFORMED AND PLAIN BARS COMPLYING WITH THE REQURIEMENTS OF ASTM 615 AND THAT ARE PRODUCED AT A MILL LISTED ON THE LDOTD AML (FORMERLY QPL 71). USE RAIL-STEEL AND AXLE-STEEL DEFORMED AND PLAIN BARS COMPLYING WITH ASTM A 996. USE COLD DRAWN STEEL COMPLYING WITH ASTM A 1064 WITH THE FOLLOWING AMENDMENT: FOR MATERIAL TESTING OVER 110,000 PSI TENSILE STRENGTH IN HIGH STRENGTH APPLICATIONS SUCH AS SPIRALS AND TIES, REDUCE THE 25 PERCENT MINIMUM REDUCTION IN AREA 5 PERCENT FOR EACH 10,000 PSI INCREMENT OF TENSILE STRENGTH EXCEEDING 110,000 PSI. USE WELDED STEEL WIRE FABRIC THAT CONFORMS TO ASTM A 1064. WHERE INDICATED, USE EPOXY COATED REINFORCING STEEL AND PATCHING MATERIALS COMPLYING WITH AASHTO M 284 AND LISTED ON THE LDOTD AML (FORMERLY QPL 51).
- 3) ADHERE TO THE FOLLOWING TOLERANCES IN PLACING REINFORCING:
 - $\pm \frac{3}{8}$ " FOR MEMBERS WITH THICKNESS </= 8"
 - $\pm \frac{1}{2}$ " FOR MEMBERS WITH THICKNESS > 8"
- 4) ADHERE TO THE FOLLOWING MINIMUM CONCRETE COVER IN PLACING REINFORCEING:

FOR CONCRETE PLACED AGAINST EARTH - - - - 3"

FOR SURFACES IN CONTACT WITH WATER----- $2^{\frac{1}{2}}$ FOR FORMED SURFACES IN CONTACT WITH EARTH---- 2"

FOR UNDERSIDE OF SLABS OVER WATER, BEAMS,

AND COLUMNS NOT IN CONTACT WITH WATER OR EARTH - - - 2"

FOR ALL OTHER SURFACES-----2"

- 5) WHERE WALLS AND SLABS ARE SHOWN WITH A SINGLE LAYER OF REINFORCEMENT, CENTER REINFORCEMENT IN THE WALL OR SLAB, UNLESS NOTED OTHERWISE.
- 8) ROUGHEN AND THOROUGHLY CLEAN ALL JOINT SURFACES.
- 7) HOLD DOWELS, PIPES, WATERSTOPS, AND OTHER EMBEDDED MATERIALS SECURELY IN POSITION WHILE CONCRETE IS BEING PLACED.
- 8) DO NOT PLACE REINFORCING BARS AND ACCESSORIES IN CONTACT WITH ANY PIPE, PIPE FLANGE, METAL CONDUIT, OR OTHER METAL PARTS EMBEDDED IN CONCRETE. PROVIDE A MINIMUM OF 2 INCHES CLEARANCE IN ALL CASES.
- 9) PLACE ALL ITEMS EMBEDDED IN CONCRETE ON CENTER AT LEAST 4 TIMES THEIR OUTSIDE DIMENSION. DO NOT ALLOW THE OUTSIDE DIMENSION TO EXCEED ONE THIRD OF THE MEMBER THICKNESS.
- 10) CONSTRUCT SLABS WITH SLOPING SURFACES WITH THE INDICATED SLAB THICKNESS MAINTAINED AS THE MINIMUM. SLAB BOTTOMS CAN EITHER SLOPE WITH THE TOP SURFACE OR BE LEVEL. PLACE REINFORCEMENT IN SLAB WITH SLOPING SURFACES AT THE REQUIRED CLEARANCE FROM THE SLAB SURFACE.
- 11) ASIDE FROM NORMAL ACCESSORIES USED TO HOLD REINFORCING BARS FIRMLY IN POSITION. ADD AT A MINIMUM THE FOLLOWING WHERE TWO CURTAINS OF REINFORCEMENT ARE REQUIRED:
- A. IN SLABS, #4 RISER OR Z SHAPE SPACER BARS AT 36 INCHES O.C MAXIMUM EACH WAY TO SUPPORT TOP BARS.
- B. IN WALLS, #3 U OR Z SHAPE SPACERS AT 72 INCHES O.C. MAXIMUM EACH

WAY

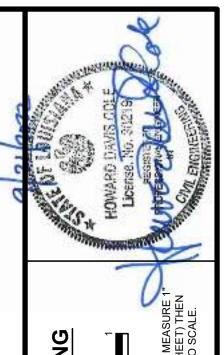
- 12) SPLICE VERTICAL REINFORCEMENT FOR CONCRETE OR MASONRY WITH DOWEL BARS OF THE SAME SIZE AND SPACING FROM THE FOUNDATION USING A STANDARD SPLICE LENGTH. PROVIDE HORIZONTAL CORNER BARS, WITH FULL TENSION LAPS, MATCHING CONTINUOUS BAR SIZE AND SPACING.
- 13) PLACE SEALANT AT THE TOP OF ALL JOINTS RECEIVING EXPANSION JOINT FILLER. DO NOT ALLOW SEALANT DEPTH TO EXCEED JOINT FILLER THICKNESS.
- 14) PROVIDE ALL EXPOSED CONCRETE CORNERS WITH A 3/4" CHAMFER
- 15) CONFORM THE FABRICATIONS AND PLACING OF REINFORCING BARS TO THE MANUAL OF STANDARDS PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES, ACI 315, LATEST EDITION UNLESS OTHERWISE NOTED.
- 16) ENSURE THAT ALL LAP SPLICES ARE A MINIMUM OF 40 BARS DIAMETER UNLESS OTHERWISE NOTED. STAGGER SPLICES SUCH THAT NOT MORE THAN 50% ARE SPLICED WITHIN THE LAP LENGTH.
- 17) GIVE ALL SLABS A LIGHTLY BROOMED FINISH UNLESS OTHERWISE SPECIFIED
- 18) PLACE CONCRETE PER THE REQUIREMENTS OF ACI 305 (HOT WEATHER CONCRETE PLACEMENT) AND ACI 306 (COLD WEATHER CONCRETE PLACEMENT.)
- 19) CURE AND TEST PER REQUIREMENTS OF ACI 318, LATEST EDITION UNLESS OTHERWISE SPECIFIED.
- 20) DO NOT USE CALCIUM CHLORIDE AND/OR CHLORIDE CONTAINING ADMIXTURES.
- 21) SUBMIT MIX DESIGN INCLUDING PROPORTIONS OF ALL COMPONENTS AND SOURCES OF ALL COMPONENTS FOR REVIEW PRIOR TO PLACEMENT OF CONCRETE.

GEOTECHNICAL

1) A GEOTECHNICAL EXPLORATION REPORT WAS PREPARED FOR THE PROJECT BY GULF SOUTH ENGINEERING AND TESTING, INC. AND IS DATED JULY 18, 2022. A COPY OF THE REPORT IS ATTACHED TO THE PROJECT SPECIFICATIONS AND IS HEREBY INCORPORATED INTO THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL FOLLOW ANY AND ALL REQUIREMENTS AND RECOMMENDATIONS SET FORTH IN SAID REPORT UNLESS SPECIFICALLY INSTRUCTED OTHERWISE BY THE ENGINEER.

SURVEY

1) A SURVEY OF THE PROJECT SITE WAS CONDUCTED BY BRYANT HAMMETT & ASSOCIATES, LLC. DATED FEBRUARY, 2022. A COPY OF SAID SURVEY IS ATTACHED AND HEREBY INCORPORATED INTO THESE CONTRACT DRAWINGS



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(BASED ON 22"x34" SHEET)

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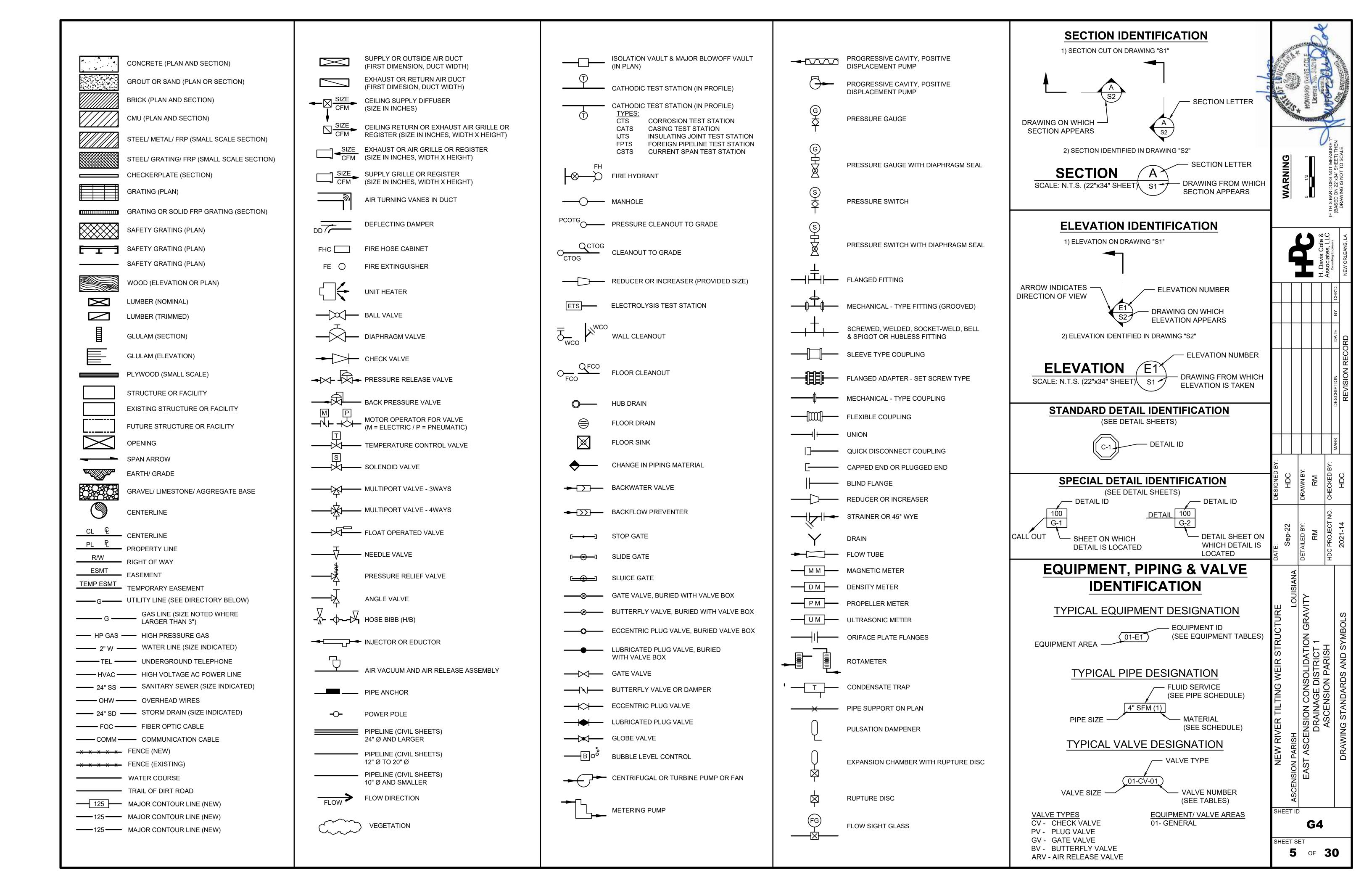
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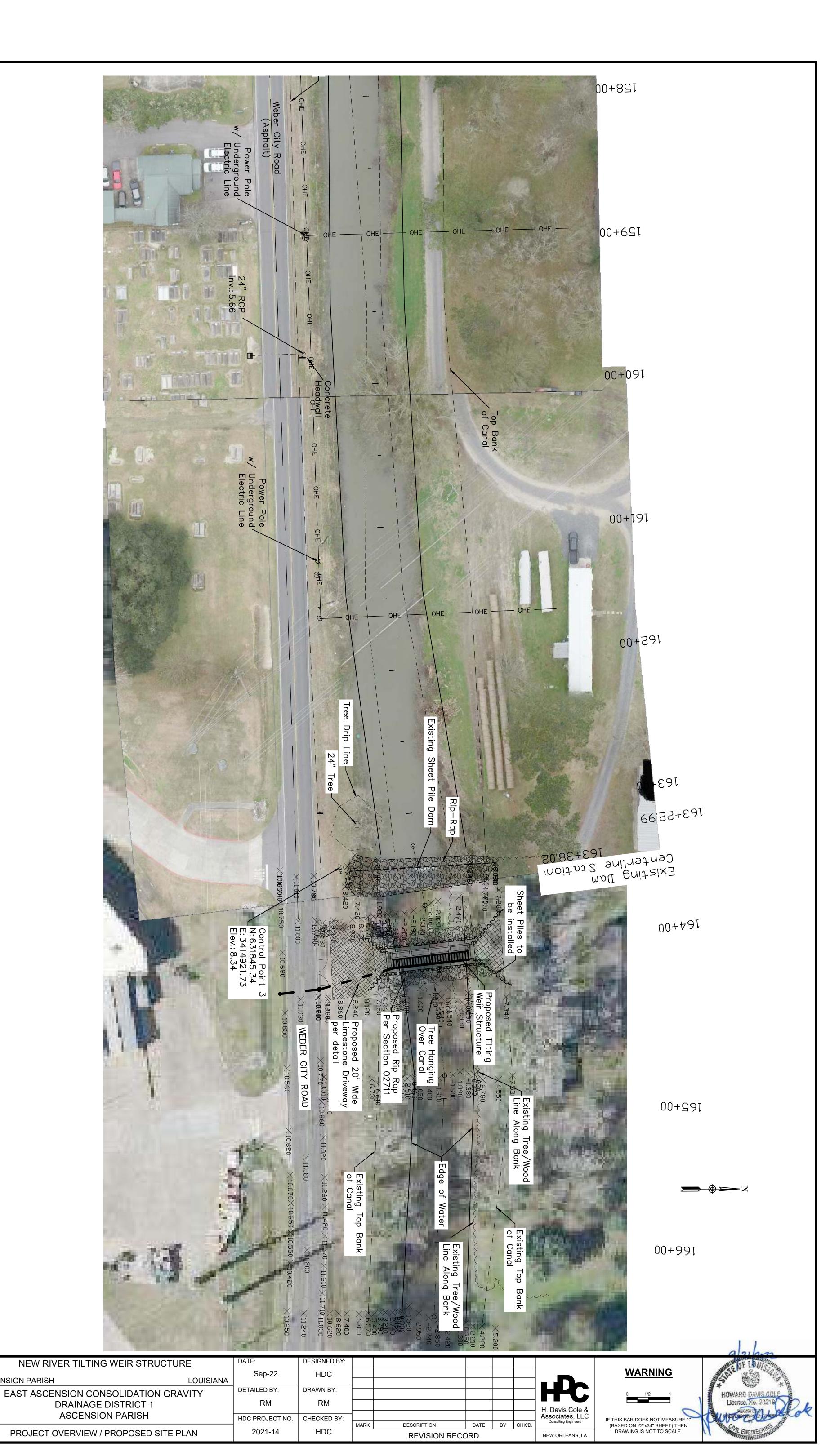
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A A/C	AIR CONDITIONING	CPLG CPVG	COUPLING CHLORINATED POLYVINYL CHLORIDE	FOM FOS	FACE OF MASONRY FACE OF STUD	LP LSSRB	LOW POINT/ LOW PRESSURE/ LAMP POST LOUISIANA STANDARD SPECIFICATION FOR ROAD		PANEL POINT OF BEGINNING	SY SYM	SQUARE YARD SYMMETRICAL/ SYMBOL	as the	Sandanies 9
AASHO	AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS ANCHOR BOLTS	CSP CSTS	CAUSTIC SODA/ CAST STEEL CORRUGATED STEEL PIPE CURRENT SPAN TEST STATION	FOW FPC FPM	FACE OF WALL FLEXIBLE PIPE COUPLING FEET PER MINUTE	LT LTS	AND BRIDGES LEFT/ LIGHT LIME TREATED SOIL	POC POT PP	POINT OF CONNECTION POINT OF TANGENT POWER POLE/ POLYPROPYLENE	SYS	SYSTEM THERMOSTAT/ TREAD OF STAIR/ TANGENT/ TO	d setting &	u 00
ABAN ABAND	ABANDON ABANDONED	CT CTR	CERAMIC TILE CENTER	FPS FPTS	FEET PER SECOND FOREIGN PIPE TEST STATION	LW LWL	LOW WATER LOW WATER LEVEL	PPD PPH	POUNDS PER DAY POUNDS PER HOUR	T&B T&G	TOP AND BOTTOM TONGUE AND GROOVE		SAS C
ABBR ABS	ABBREVIATION ABSOLUTE TEMPERATURE	CTS CTSK	CORROSION TEST STATION COUNTERSUNK	FR FRP	FRAME FIBERGLASS REINFORCED PLASTIC	LWR	LOWER	PPM PR	POUNDS PER MINUTE PAIR	TAN TB	TANGENT TACK BOARD		RE IN
AC	ACTIVATED CARBON/ ASPHALTIC CONCRETE/ ALTERNATE CURRENT	CU CULV	COPPER/ CUBIC CULVERT	FS	FIBERGLASS SURFACE/ FARSIDE/ FLOOR SINK/ FORGED STEEL/ FROTH SPRAY	M MACH	METER/ MALE (PIPE THREAD) MACHINE	PRC PRCT	POINTS OF REVERSE CURVE PRECAST/ PERCENT	TBE TBM	THREAD BOTH ENDS TEMPORARY BENCH MARK	C The	Licer
ACI ACOUS	AMERICAN CONCRETE INSTITUTION ACOUSTIC/ ACOUSTICAL	CV CY	CHECK VALVE CUBIC YARD	FT FTG	FEET/ FOOT FOOTING	MAG MAINT	MAGNETIC MAINTENANCE	PREFAB PRESS	PREFABRICATED PRESSURE	TC TCV	TOP OF CURB TEMPERATURE CONTROL VALVE	ALL CARLES	Transmitt N
ACP	ASBESTOS CEMENT PIPE/ ASPHALTIC CONCRETE PAVEMENT ADDITION	CYL	CYLINDER PENNY	FUR FUT FV	FURRING FUTURE FIELD VERIFY	MAN MAS MATL	MANUAL MASONRY MATERIAL	PROF PRV	PROFILE PRESSURE REGULATING, RELIEF, OR REDUCING VALVE	TEL TEMP TF	TELEPHONE TEMPERATURE/ TEMPORARY		-
ADH ADJ	ADDITION ADHESIVE ADJUSTABLE	DAD DAFT	DOUBLE ACTING DOOR DISSOLVED AIR FLOATATION THICKENER	FWD	FORWARD	MAX MB	MAXIMUM MAIL BOX/ MACHINE BOLT	PRVC PS	POINT OF REVERSE VERTICAL CURVE PRESSURE SWITCH	TH THK	TOP OF FOOTING TEST HOLE THICK/ THICKNESS		L
AER AFF	AERATION ABOVE FINISHED FLOOR	DB DBL	DIRECT BURY DOUBLE	G GA	GAS GAGE/ GAUGE	MCC MCR	MOTOR CONTROL CENTER MIDDLE OF CURB RETURN	PSF PSI	POUNDS PER SQUARE FOOT POUNDS PER SQUARE INCH	THR THR'D	THRESHOLD THREADED	الح	
AFTS AISC	AIR FLOW TEST STATION AMERICAN INSTITUTION OF STEEL CONSTRUCTION	DC	DIRECT CURRENT DEGREE	GAL GALV	GALLON GALVANIZED	MEAS MECH	MEASURE MECHANICAL	PSIA PSIG	POUNDS PER SQUARE INCH ABSOLUTE POUNDS PER SQUARE INCH GAUGE	TK TL	TANK/TACK TRAVERSE LINE		1/2
ALT ALUM	ALTERNATIVE ALUMINUM	DET DF	DUCTILE IRON DRINKING FOUNTAIN/ DOUGLAS FIR	GANC GB	GUY ANCHOR GRADE BREAK	MED MEMB	MEDIUM MEMBER	PT PTFE	POINT OF TANGENCY/ PAINT/ PRESSURE TREATED POLYTETRAFLUOROETHYLENE (TEFLON)	TOC TOE	TOP OF CONCRETE THREAD ONE END	¥	
AMB	AMBIENT AMERICAN NATIONAL STANDARDS INSTITUTE	DH DI	DOUBLE HUNG DUCTILE IRON	GEN GFA GI	GENERAL/ GENERATOR GROOVED FLANGE ADAPTER GALVANIZED IRON	MFRD MGD MH	MANUFACTURED MILLION GALLONS PER DAY MANHOLE	PV PVC PVDF	PLUG VALVE POLYVINYL CHLORIDE/ POLYVINYL CONDUIT (PIPE)		TOILET TOP OF MASONRY		0 =
API APPD APPROX	AMERICAN PETROLEUM INSTITUTE APPROVED APPROXIMATE	DIA DIAG DIAPH	DIAMETER DIAGONAL DIAPHRAGM	GIP GL	GALVANIZED IRON GALVANIZED IRON PIPE GLASS/ GROUND LINE/ GRADE LINE	MHT MHW	MEAN HIGH TIDE MEAN HIGH WATER	QT	POLYVINYLIDENE FLUORIDE (KYNAR) QUARRY TILE	TOP TOPO TOS	TOP OF PIPE TOPOGRAPHIC TOP OF STEEL		
APPURTS ARCH		DIFF	DIFFUSER/ DIFFERENTIAL DUCTILE IRON PIPE	GLB GLV	GLUE LAMINATED BEAM GLOBE VALVE	MI MICRON	MALLEABLE IRON/ MILE 1/ 1,000,000 TH METER	QTY QUAD	QUANTITY QUADRANGLE/ QUADRANT	TOW	TOP OF WALL TELEPHONE POLE		→ ∞
AREA ASME	AMERICAN RAILWAY ENGINEERING ASSOCIATION AMERICAN SOCIETY OF MECHANICAL ENGINEERS	DIR DISCH	DIRECTION DISCHARGE	GM GP	GAS METER GUY POLE	MIL MIN	MILÍTARY/ 1/1,000 TH INCH MINIMUM/ MINUTE	R	RADIUS/ RISER/ RATE OF SLOPE	TR TRANS	TRACT TRANSMITTER/ TRANSITION/ TRANSMISSION	1	
ASPH ASTM	ASPHALT AMERICAN SOCIETY FOR TESTING AND MATERIALS	DISP DL	DISPENSER DEAD LOAD	GPD GPH	GALLONS PER DAY GALLONS PER HOUR	MIR MISC	MIRROR MISCELLANEOUS	R&O R/W	ROCK AND OIL RIGHT OF WAY	TS TSB	TRAFFIC SIGNAL TOP SET BASE	5	Davis
AT ATM	ACOUSTICAL TILE ATMOSPHERE	DMH DN	DROP MANHOLE DOWN	GPM GR	GALLONS HER MINUTE GRADE	MK MLW	MARK MEAN LOW WATER	RAC RAG	RECYCLED ASPHALT CONCRETE RETURN AIR GRILLE	TSC TV	TRAFFIC SIGNAL CONDUIT THERMOSTATIC VALVE/ TELEVISION		i i
AV/RV AVE	AIR VACUUM AND AIR RELEASE VACUUM AVENUE	DO DPW	DISSOLVED OXYGEN/ DITTO DEPT. OF PUBLIC WORKS	GRD GRTG	GRADE/ GROUND GRATING CALVANIZED STEEL DIDE	mm MO MOD	MILLIMETER MOTOR OPERATED/ MASONRY OPENING MODEL/ MODIFICATION	RAP RAS	RECLAIMED ASPHALT PAVEMENT RETURN ACTIVATED SLUDGE	TW TYP	THERMOMETER WELL/ TRAVELED WAY TYPICAL		
AWPA AWS AWWA	AMERICAN WOOD PRESERVERS ASSOCIATION AMERICAN WELDING SOCIETY AMERICAN WATER WORKS ASSOCIATION	DR DS DT	DOOR/ DRAIN DRENCH SHOWER AND EYE WASH DRAIN TILE	GSP GV GYP	GALVANIZED STEEL PIPE GATE VALVE GYPSUM	MOD MON MOR	MODEL/ MODIFICATION MONUMENT/ MONITOR MORTAR	RC RCP	REINFORCED CONCRETE REINFORCED CONCRETE PIPE ROAD/ ROOF DRAIN/ ROUND	UB	UNION BONNET UNIFORM BUILDING CODE		+++
B&S	BELL AND SPIGOT	DWG DWLS	DRAIN TILE DRAWING DOWELS	H	HIGH/ HEIGHT	MS MSI	MOP SINK MEAN SEA LEVEL	RED REF	ROAD/ ROOF DRAIN/ ROUND REDUCER/ REDUCING REFERENCE/ REFER/ REFRIGERATOR	UC UG	UNIFORM BUILDING CODE UNDER-CROSSING UNDERGROUND		
B/W BC	BACK OF WALL/ BACK OF WALK BEGIN CURVE/ BOLT CIRCLE/ BETWEEN CENTERS	DWY	DRIVEWAY	H&V H/B	HEATING AND VENTILATING HOSE BIBB	MTC MTD	MECHANICAL-TYPE COUPLING MOUNTED	REG REINF	REGULATING REINFORCE/ REINFORCED	UGC UH	UNDERGROUND CONDUIT UNIT HEATER		
BCR BD	BEGIN CURB RETURN BOARD	E E/O	EAST EAST OF	HC HDR	HOUSE CONNECTION HEADER	MTG MTL	MOUNTING METAL	REQD RESIL	REQUIRED RESILIENT	UL UNO	UNDERWRITER'S LABORATORIES UNLESS NOTED OTHERWISE		
BDRY BF	BOUNDARY BLIND FLANGE/ BOTTOM OF FOOTING	EA EB	EACH EXPANSION BOLT OR ANCHOR	HDW HDWL	HARDWARE HEADWALL	MTR	MOTOR	RET REV	RETAINING/ RETURN REVISION	UOI UR	UNLESS OTHERWISE INDICATED URINAL		
BFP BHP	BACK FLOW PREVENTER BRAKE HORSEPOWER	EC ECC	END CURVE ECCENTRIC	HEX Hg	HEXAGONAL MERCURY	N NaOCI	NORTH SODIUM HYPOCHLORITE	RF RFG	ROOF/ RAISED FOUNDATION/ ROUGH FACE ROOFING	USA UDGS	UNDERGROUND SERVICE ALERT UNITED STATES GEOLOGICAL SURVEY		
BLDG BLK	BUILDING BLACK/ BLOCK	ECR EF	END CURB RETURN EACH FACE/ EXHAUST FAN	HGL HGR	HYDRAULIC GRADE LINE HANGER	NaOH NBS	SODIUM HYDROXIDE (CAUSTIC SODA) NATION BUREAU OF STANDARDS	FGE RH	REGISTERED GEOTECHNICAL ENGINEER REDHEAD/ RIGHT HAND	V	VALVE/ VERTICAL/ VENT/ VOLT/ VOLUME		
BLKG BLVD	BLOCKING BOULEVARD BEAM/ BENCHMARK	EFF EG	EFFLUENT EXHAUST GRADE/ EDGE OF GUTTER/ EXHAUST GRILLE	HM HORZ	HOLLOW METAL HORIZONTAL HIGH POINT/ HORSE POWER/ HIGH PRESSURE	NC NEC NEMA	NORMALLY CLOSED NATIONAL ELECTRIC CODE NATIONAL ELECTRICAL MANUFACTURERS	RM RO RPM	ROOM ROUGH OPENING REVOLUTIONS PER MINUTE	VAC VAR	VACUUM VARIES/ VARIABLE		
BM BO BOD	BLOW-OFF ASSEMBLY BIOCHEMICAL OXYGEN DEMAND	EGL	ENERGY GRADE LINE ELEVATION	HP HPG HR	HIGH POINT/ HORSE POWER/ HIGH PRESSURE HIGH PRESSURE GAS HEAT RETURN/ HOUR	NF	ASSOCIATION NEAR FACE	RPIMI RR	REVOLUTIONS PER MINUTE RAILROAD RAISING STEAM	VC VC	VALVE BOX VERTICAL CURVE VITRIFIED CLAY PIPE		
BOP BOT	BOTTOM OF PIPE BOTTOM	ELEC FN	ELECTRICAL/ ELECTRONIC EDGE NAILING	HTG HTR	HEATING HEATER	NFPA NG	NATION FIRE PROTECTION ASSOCIATION NATION GRADE/ NATURAL GAS	RSL RT	RAW SLUDGE RIGHT	VERT VOL	VITRIFIED CLAT FIFE VERTICAL VOLUME		++
BPV BRK	BACK PRESSURE VALVE BRICK/ BREAK	ENCL ENG	ENCLOSURE ENGINE	HV HVAC	HORIZONTAL AND VERTICAL CONTROL POINT HEATING, VENTILATION AND AIR CONDITION/ HIGH	NIC NO	NOT IN CONTRACT NORMALLY OPEN	RTP RW	REINFORCED THERMOSETTING PLASTIC REDWOOD	VPI VTC	VERTICAL POINT OF INSERTION VENT TO CEILING		
BSMT BT	BASEMENT BOLT	ENGR ENT	ENGINEER ENTRANCE	HW	VOLTAGÉ AC POWER LINE HOT WATER/ HEADWORK	NOM NPS	NOMINAL NOMINAL PIPE SIZE	RWL	RAINWATER LEADER	VTR VWC	VENT THROUGH ROOF VINYL WALL COVERING	BX:	
BTU BV	BRITISH THERMAL UNIT BUTTERFLY VALVE	EP EPT	EDGE OF PAVEMENT ETHYLENE PROPYLENE	HWD HWL	HARDWOOD HIGH WATER LEVEL	NPT NRCP	NATIONAL PIPE THREAD NON-REINFORCED CONCRETE PIPE	S S/O	SOUTH/ SCUM/ SINK/ SECOND/ SLOPE/ SAND SOUTH OF	VWM	VERIFY WITH MANUFACTURER	SNED	N BY
BVC BWV	BEGIN VERTICAL CURVE BACK WATER VALVE	EQ EQUIP	EQUAL EQUIPMENT	HWO HYD	HAND WHEEL OPERATED HYDRAULIC/ HYDRANT	NRS NS	NON-RAISING STEM NEAR SIDE	SA SAN	SAMPLE SANITARY	W W/	WEST/ WASTE/ WIDTH/ WIDE FLANGE WITH	DESIG F	JRAW F
C	CENTIGRADE/ CHANNEL/ CEMENT	ESMT ETB	EASEMENT EMULSION TREATED BASE	I&O	INSIDE AND OUTSIDE	NTS	NOT TO SCALE	SBR SC	STYRENE BUTADIENE (RUBBER) SPACE CHEMICAL/ SECONDARY CLARIFIER	W/0 WC	WEST OF/ WITHOUT WATER COLUMN/ WATER CLOSET		
C&G CAB CAP	CURB AND GUTTER CABINET/ CRUSHED AGGREGATE BASE CAPACITY	ETC EVAP EVC	ET CETERA EVAPORATOR END VERTICAL CURVE	IF IJTS	INSIDE DIAMETER INSIDE FACE INSULATING JOINT TEST STATION	OBJ OC OD	OBJECT ON CENTER/ OVER-CROSSING OUTSIDE DIAMETER/ OVERALL DIMENSION	SCCP SCD SCFM	STEEL CYLINDER CONCRETE PIPE SCREWED STANDARD CUBIC FEET PER MINUTE	WCO WD WDW	WALL CLEANOUT WOOD WINDOW	8	∵
CAP CATS CB	CAPACITY CASING TEST STATION CATCH BASIN/ CHALK BOARD/ CURB	EW EX	END VERTICAL CORVE EACH WAY/ EYE WASH EXISTING	IN INCL	INCH INCLUDE/ INCLUDING	OE OF	OUTER EDGE OVERFLOW/ OUTSIDE FACE	SCH SCH SD	STANDARD CODIC FEET PER MINOTE SCHEDULE STORM DRAIN	WH WI	WATER HEATER/ WALL HEATER WROUGHT IRON	ep-2	ED B
CC CD	CLOSED CIRCUIT TV/ CENTER TO CENTER CEILING DIFFUSER	EXC EXH	EXCAVATION EXHAUST	INFL INSL	INFLUENT INSULATION	OFD OFF	OVERFLOW DRAIN OFFICE	SDR	STANDARD THERMOPLASTIC PIPE DIMENSION RATIO	WM WOG	WATER METER WATER, OIL OR GAS	ATE: S	ETAIL
CEM CF	CEMENT CURB FACE OR CUBIC FEET	EX-HY EXIST	EXTRA HEAVY EXISTING	INSP INST	INSPECTION INSTRUMENT	OH OPER	OVERHEAD OPERATOR/ OPERATING	SEC SER	SECONDARY/ SECTION SERIES	WP	WATERPROOFING/ WORKING PRESSURE/ WEAK POINT		
CFH CFM	CUBIC FEET PER HOUR CUBIC FEET PER MINUTE	EXP EXT	EXPANSION EXTERIOR/ EXTENSION	INT IP	INT IRON PIE	OPNG OPP	OPENING OPPOSITE	SETT SF	SETTING SQUARE FOOT	WPJ WS	WEAKEN PLANE JOINT WATER SURFACE	ANA	1
CFS CHEM	CUBIC FEET PER SECOND CHEMICAL	EXTR	EXTRUDE	IPS IRRG	IRON PIPE SIZE IRRIGATION	ORIG OS&Y	ORIGINAL OUTSIDE SCREW & YORK	SH SHELV	SHOWER SHELVING	WSTP WT	WATER STOP WEIGHT	ISIN	>
CHG CHKD	CHANGE CHECKED	F F TO F	FAHRENHEIT/ FINISH FACE TO FACE	JAN	JANITOR	OSA OSHA	OUTSIDE AIR OCCUPATIONAL SAFETY & HEALTH	SHT SHTG	SHEET SHEATHING/ SHEETING	WWF WWP	WELDED WIRE FABRIC WATER WORKING PRESSURE		∐∑
CI CIP	CAST IRON CAST IRON PIPE/ CAST IN PLACE	F&C F&I	FRAME AND COVER FURNISH AND INSTALL	J I	JOINT KELVIN/ KILO/ KARAT	OWG	ADMINISTRATION OIL, WATER, GAS	SIM SL	SIMILAR SLUDGE	WWTP	WASTE WATER TREATMENT PLANT	ĮŪT:	3RA
CIPP CJ	CAST IN PLACE PIPE CONSTRUCTION JOINT CHLORINE GAS/ CHLORINATOR/ CENTERLINE	FAB FAI	FOUL AIR FABRICATE/ FABRICATION FRESH AIR INTAKE	KG KM	KILOGRAM KILOMETER	OZ P	OUNCE POLE/ PAGE/ PIPE	SLDG SLG SOG	SLIDING SLUICE GATE SLAB ON GRADE	XCONN XS XSEC	CROSS CONNECTION EXTRA STRONG CROSS SECTION	SUC	NO T
CL CLF	CHLORINE GAS/ CHLORINATOR/ CENTERLINE CHAIN LINK FENCE CEILING	FB FCO	FLAT BAR/ FLOOR BEAM/ FIELD BOOK FLOOR CLEANOUT	KV KW	KILOVOLT KILOWATT	P/S PA	POLE AND SHELF PLANTING AREA	SOLN	SOLUTION STATIC PRESSURE	XSS	DOUBLE EXTRA STRONG	STF	ATIC CT ,
CLOS CLR	CLOSET CLEAR/ CLEARANCE	FD FDR	FLOOR DRAIN FEEDER	KWH	KILOWATT HOUR	PART PAVMT	PARTITION PAVEMENT	SPEC SPK	SPECIFICATION SPIKE	YD YR	YARD YEAR	띪	LIDAT TRIC
CM CMB	CENTIMETER CRUSHED MISCELLANEOUS BASE	FE FEM	FIRE EXTINGUISHER/ FINAL EFFLUENT FEMALE (PIPE THREAD)	L LAB	LITER/ LENGTH/ ANGLE LABORATORY	PB PC	POLYBUTYLENE/ PULL BOX POINT OF CURVATURE/ PRIMARY CLARIFIER/	SQ SST	SQUARE STAINLESS STEEL	Z	ZERO/ ZONE	×	SIO
CMC CML	CEMENT MORTAR-COATED CEMENT MORTAR-LINED	FF FG	FLAT FACE/ FAR FACE/ FINISHED FLOOR FINISHED GRADE	LAM LAT	LAMINATED LATERAL	PCC	PORTLAND CEMENT PORTLAND CEMENT CONCRETE/ POINT OF	SSB SSPWC	SELECT SUB-BASE STANDARD SPECIFICATION FOR PUBLIC WORKS	ZN	ZINC		CON
CML&C CMP	CEMENT LINED AND COATED CORRUGATED METAL PIPE	FH FIG	FIRE HYDRANT/ FLAT HEAD FIGURE	LAV LB	LAVATORY POUND	PCCP	COMPOUND CURVE PRE-STRESSED CONCRETE CYLINDER PIPE	SSU	CONSTRUCTION SECONDS SAYBOLT UNIVERSAL	# &_	POUND AND	 	
CMU CO	CONCRETE MASONRY UNIT CLEANOUT	FIN FIX	FINISHED FIXTURE	LCP LD LDG	LOCAL CONTROL PANEL LOCAL DEPRESSION LANDING	PCOTG PCVC	PRESSURE CLEANOUT TO GRADE POINT OF COMPOUND VERTICAL CURVE	ST STA	STREET/ STATE STATION	@	AI	2	NSION
COL COMP	COLUMN COMPRESSOR	FL FLEX FLG	FLOWLINE/ FLOOR FLEXIBLE FLANGED/ FLOORING	LDG	LANDING LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT	PE PG	POLYETHYLENE/ PLANT EFFLUENT/ POLYELECTROLYTE POLYMER PRESSURE GAUGE	STC STD	SLEEVE-TYPE COUPLING STANDARD			RIV	
CONC COND	CONCRETE/ CONCENTRIC CONDENSER/ CONDENSATE	FLGD FLOCC	FLANGED FLOCCULATOR/ FLOCCULATION	LF LG	LINEAR FEET LENGTH/ LONG	pH	HYDROGEN ION CONCENTRATION PLANT INFLUENT/ POINT OF INTERSECTION	STK STL STM	STAKE STEEL STEAM			EW PARI	AS
CONN CONST	CONNECTION CONSTRUCT/ CONSTRUCTION CONTINUED/ CONTINUOUS	FLOCC FLR FLSG	FLOCE FLOCE OF FLOCE	LH	LAMP HOLE/ LEFT HAND LIVE LOAD	PK PI	PLANT INFLOENT/ FOINT OF INTERSECTION PARKING PLATE/ PROPERTY LINE/ PLACE	STR SUCT	STEAM STRAIGHT/ STRUCTURAL SUCTION			A NO	\ST
CONT CONTR	CONTINUED/ CONTINUOUS COORDINATE	FM FMH	FACTORY MUTUAL (LAB APPROVED)/ FORCE MAIN FLEXIBLE METAL HOSE	LLH LLV	LONG LEG HORIZONTAL LONG LEG VERTICAL	PLAS PLT	PLATE/ PROPERTY LINE/ PLACE PLASTER/ PLASTIC PLANT	SV SW	SOLENOID VALVE SIDEWALK			ISN:	É
COORD COR COTG	COORDINATE CORNER CLEANOUT TO GRADE	FN FND	FIELD NAILING FOUNDATION	LOC LOL	LOCATION LAYOUT LINE	PLWD PM	PLYWOOD PRESSED METAL	SWD SWGR	SIDEWALK DRAIN SWITCHGEAR			\SCE	1
	SELMOUT TO GIVADE	FOC	FACE TO CONCRETE/ FIBER OPTIC CABLE	LONG	LONGITUDINAL	PNEU	PNEUMATIC	SWR	SIDEWALL REGISTER			SHEET ID	,
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ASCENSION PARISH