

CONSTRUCTION PLANS FOR

KNOX LEE RD. BRIDGE REPAIRS

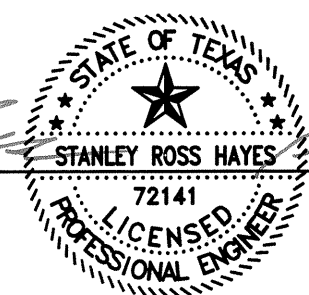
GREGG COUNTY, TEXAS

GREGG COUNTY BID NO. 2017-709

SUBMITTED BY:

HAYES ENGINEERING, INC.
 Texas Registered Engineering Firm F-1465
 2126 Alpine St. Longview, TX 75601-3401
 Tel.: (903) 758-2010 Fax: (903) 758-2099
 www.hayesengineering.net

Stanley R. Hayes 2-6-17
 STANLEY R. HAYES, P.E. DATE
 PROJECT MANAGER

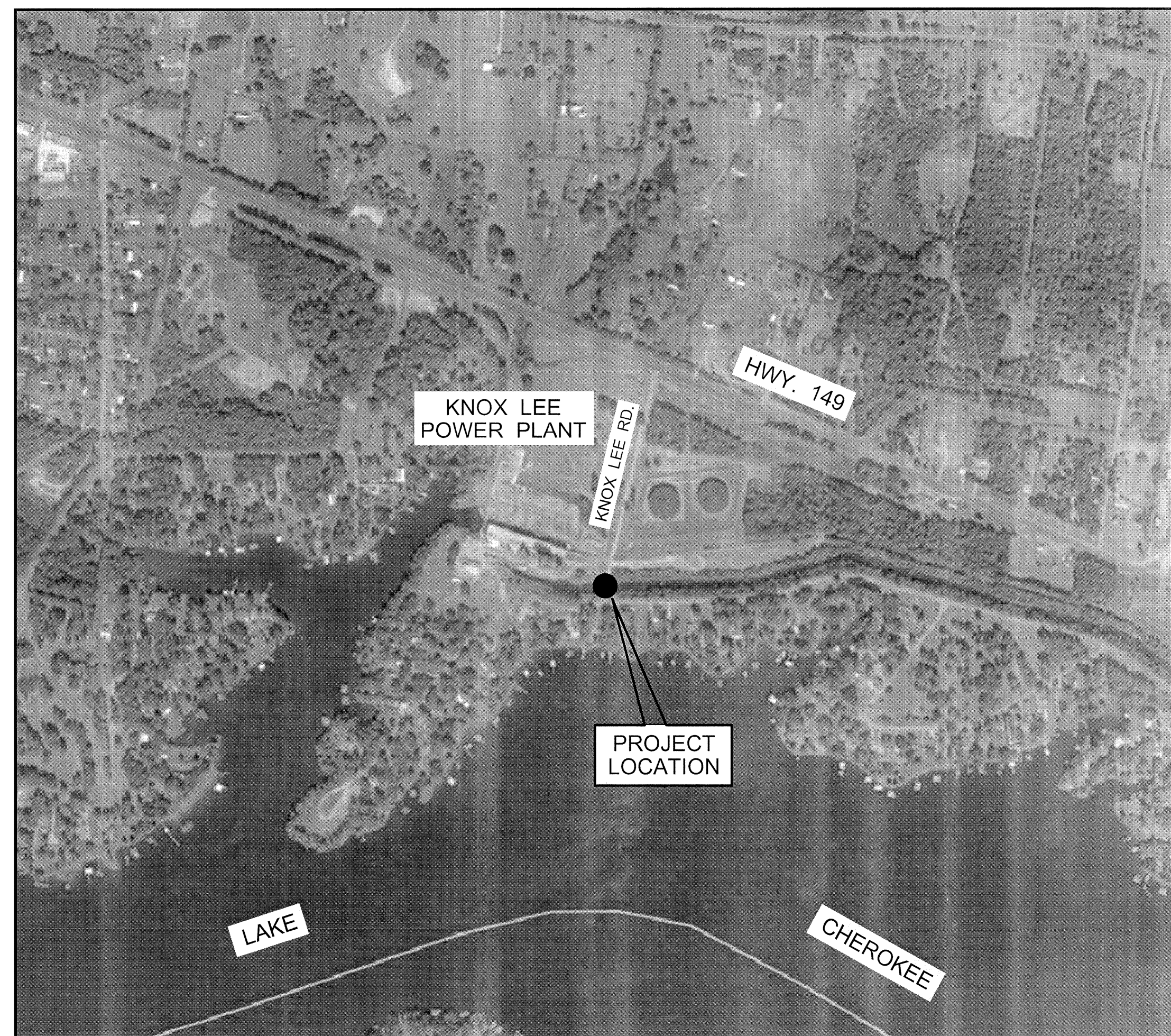


APPROVED BY:
 GREGG COUNTY, TEXAS

Bill Stoudt 2-6-17
 BILL STOUDT DATE
 COUNTY JUDGE

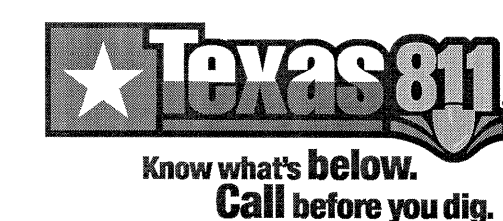
COUNTY OFFICIALS

BILL STOUDT - COUNTY JUDGE
 RONNIE MCKINNEY - PRECINCT 1 COMMISSIONER
 DARRYL PRIMO - PRECINCT 2 COMMISSIONER
 GARY BOYD - PRECINCT 3 COMMISSIONER
 JOHN MATHIS - PRECINCT 4 COMMISSIONER



VICINITY MAP

| <u>SHEET INDEX</u> | |
|--------------------|---|
| <u>SHEET NO.</u> | <u>DESCRIPTION</u> |
| 1 | TITLE SHEET/LOCATION MAP/SHEET INDEX |
| 2 | GENERAL CONSTRUCTION NOTES |
| 3 | EXISTING AND PROPOSED SITE PLAN |
| 4 | BRIDGE PLAN AND PROFILE |
| 5 | BRIDGE APPROACH & SHEET PILING BREASTWALL |
| 6 | ROCK GABION SECTIONS & DETAILS |
| 7 | BRIDGE APPROACH SLAB BAS-75 MOD. |
| 8 | MISCELLANEOUS DETAILS 1 |



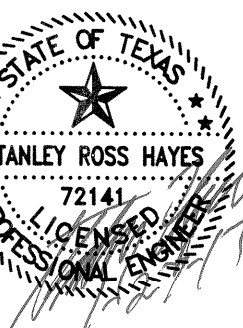
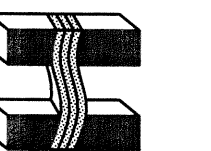
GENERAL NOTES

1. ALL UTILITIES SHOWN ON THE PLANS HAVE NOT BEEN FIELD VERIFIED, LOCATIONS SHOWN FOR EXISTING UTILITIES ARE APPROXIMATE AND OTHER UTILITIES MAY EXIST IN THE VICINITY OF THIS PROJECT WHICH ARE NOT SHOWN ON THESE PLANS. CONTRACTOR SHALL UNCOVER ALL EXISTING UTILITIES AND VERIFY EXISTING ELEVATIONS OF SAME AT ALL PROPOSED CROSSINGS AND PROPOSED CONNECTIONS BEFORE COMMENCING WORK. ALL CONFLICTS SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY. CONTRACTOR MUST TELEPHONE TEXAS811 48 HOURS PRIOR TO EXCAVATION.

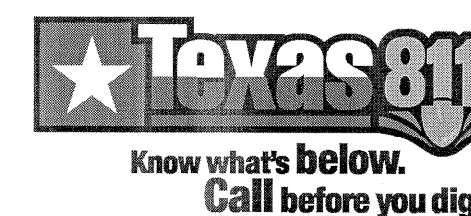
GREGG COUNTY - (903) 738-2725 (JASON BREWER-PRECINCT 4)
TEXAS811 - 811
ATMOS GAS - (903) 242-4820 (BRUCE CAUGHORN)
CENTERPOINT ENERGY GAS - (903) 759-8919 (KEVIN LUMAN)
AEP-SWEPSCO - (903) 234-7230 (REX BEAIRD, P.E.)
SPRINT TELEPHONE - (800) 521-0579
MCI TELEPHONE - (800) 344-8377
AT&T TELEPHONE - (903) 758-0516 (WAYNE PRINCE)

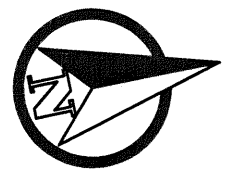
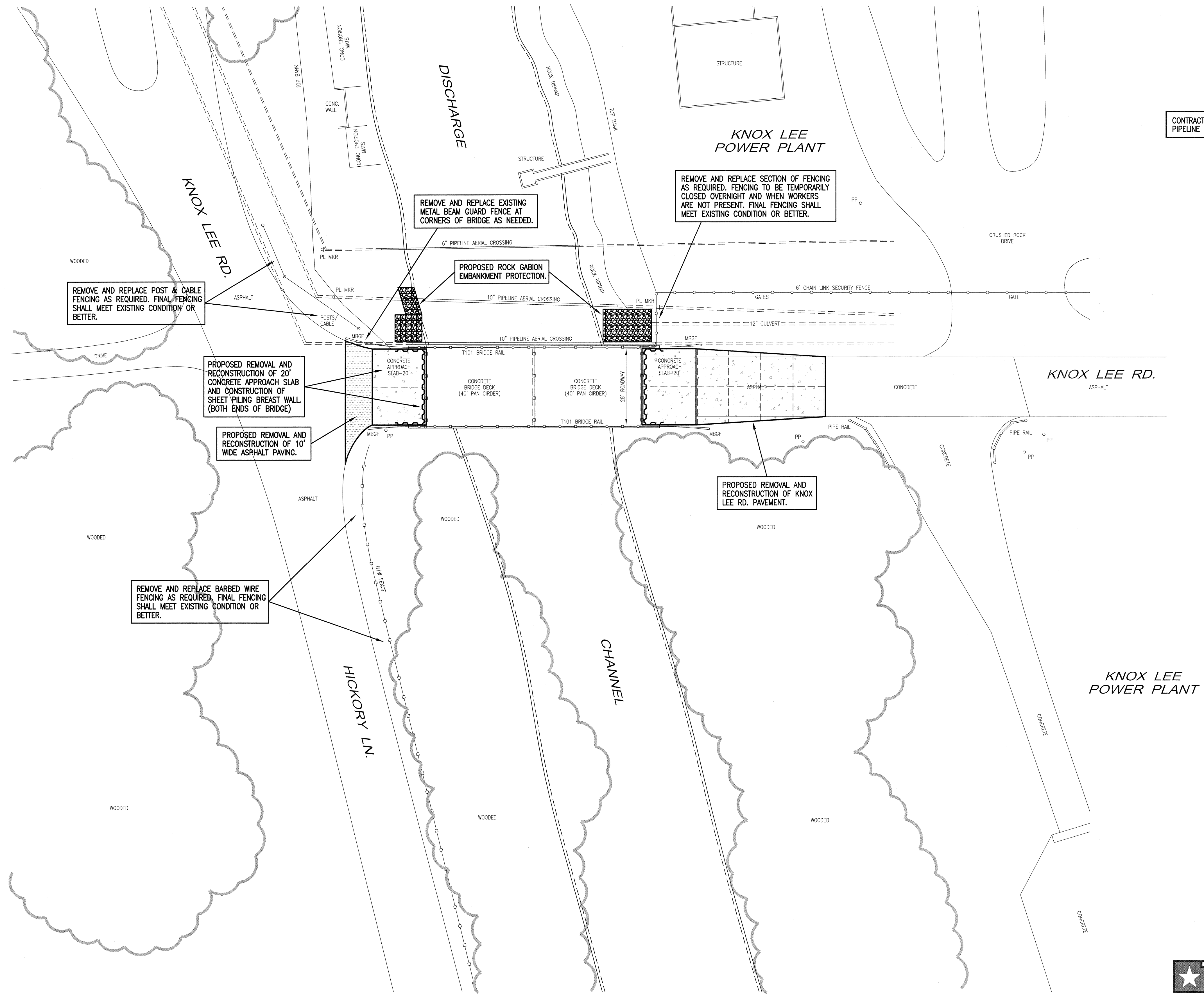
CONTRACTOR IS CAUTIONED THAT OVERHEAD AND UNDERGROUND UTILITIES EXIST AT THE PROJECT SITE AND THE APPROPRIATE UTILITIES SHOULD BE NOTIFIED PRIOR TO COMMENCING WORK. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE LAWS REGARDING PUBLIC AND WORKER SAFETY.

2. CONTRACTOR SHALL NOTIFY GREGG COUNTY 48 HOURS IN ADVANCE OF COMMENCING CONSTRUCTION AT 237-2657-PRECINCT 4. CONTRACTOR SHALL NOTIFY GREG CARTER 48 HOURS IN ADVANCE OF COMMENCING CONSTRUCTION AT 903-746-4585-A.E.P.
3. CONTRACTOR SHALL NOTIFY LANDOWNERS AFFECTED BY CONSTRUCTION 48 HOURS IN ADVANCE OF CONSTRUCTION.
4. CONTRACTOR SHALL PROVIDE TRENCH SAFETY SYSTEMS MEETING OSHA STANDARDS, CHAPTER XVII, SECTION 1926.650 SUBPART P. "EXCAVATIONS, TRENCHING AND SHORING".
5. GUIDELINES SET FORTH IN PART VI (TEMPORARY TRAFFIC CONTROL) OF THE TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MOST RECENT EDITION AS REVISED) SHALL BE OBSERVED. THE COST FOR ALL TRAFFIC CONTROL MEASURES SHALL BE PAID AS A LUMP SUM.
6. IN ALL FILL AREAS, LIFTS SHALL BE A MAXIMUM OF 8" AND COMPACTED TO 95% DENSITY AT ±3% OPTIMUM MOISTURE PER ASTM D-698 (STANDARD PROCTOR) UNLESS OTHERWISE NOTED ON THE PLANS.
7. ALL EXCESS DIRT & SPOIL MATERIAL FROM INSTALLATION OF UTILITY PIPELINES AND/OR PAVEMENT SHALL BE REMOVED FROM THE JOB SITE AT NO COST TO THE OWNER, AND DISPOSED OF BY THE CONTRACTOR AT A PERMITTED FACILITY.
8. ALL ITEMS DESIGNATED FOR REMOVAL FROM THE SITE SHALL BE DISPOSED OF AT AN APPROVED DISPOSAL SITE AT NO EXTRA PAY.
9. CONTRACTOR SHALL GRADE THE SITE SUCH THAT ALL DISTURBED AREAS DRAIN FREELY WITH UNIFORM, GENTLY SLOPING GRADES AS THE WORK PROGRESSES ALONG THE PROJECT. CONTRACTOR SHALL KEEP CONSTRUCTION SITE FREE OF SCATTERED MATERIALS AND DEBRIS. SITE GRADING AND CLEANUP SHALL BE PERFORMED AS WORK PROGRESSES ALONG THE PROJECT.
10. ALL DRIVEWAYS SHALL BE RESTORED TO EXISTING OR BETTER CONDITION. (NO DIRECT PAY, UNLESS SPECIFICALLY INCLUDED IN THE BID PROPOSAL)
11. ALL FENCING DISTURBED BY CONTRACTORS OPERATIONS SHALL BE RESTORED TO EXISTING OR BETTER CONDITION. (NO DIRECT PAY, UNLESS SPECIFICALLY INCLUDED IN THE BID PROPOSAL)
12. THE SAW-CUTS REQUIRED TO BITUMINOUS OR CONCRETE PAVEMENT, CURB, GUTTER, SIDEWALKS, OR DRIVEWAYS SHALL NOT BE MEASURED FOR PAYMENT AND SHALL BE CONSIDERED SUBSIDIARY TO THE ITEMS REQUIRING SAWING, UNLESS SPECIFICALLY INCLUDED IN THE BID PROPOSAL.
13. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING WRITTEN AUTHORIZATION OF APPROVAL FOR WASTE DISPOSAL FROM ALL PROPERTY OWNERS WHO ACCEPT PROJECT WASTE MATERIAL. A COPY OF THE WRITTEN AUTHORIZATION SHALL BE PROVIDED TO THE COUNTY.
14. ALL CONCRETE SHALL BE CLASS "A", 3000 PSI @ 28 DAYS UNLESS OTHERWISE NOTED.
15. ALL WORK & MATERIALS SHALL BE SUBJECT TO THE PROJECT ENGINEER'S APPROVAL DURING CONSTRUCTION AND UPON COMPLETION.
16. CONTRACTOR SHALL KEEP DIRT, MUD, AND DEBRIS OFF OF PUBLIC STREETS IN THE PROJECT AREA. CONTRACTOR SHALL IMMEDIATELY CLEAN DIRT, MUD, AND DEBRIS FROM PUBLIC STREETS AS SOON AS IT IS NOTICED BY THE CONTRACTOR OR NOTIFIED BY THE ENGINEER OR OWNER, NO DIRECT PAY.
17. CONSTRUCTION EASEMENTS SHALL BE AS NOTED ON PLANS. CONTRACTOR SHALL LIMIT CONSTRUCTION ACTIVITIES TO DESIGNATED EASEMENTS AND THE STREET RIGHT-OF-WAY.
18. ALL DISTURBED AREAS ARE TO RECEIVE HYDROMULCHING IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS UNLESS NOTED OTHERWISE NOTED ON THE PLANS.
19. STOCKPILING OF MATERIALS ON PRIVATE PROPERTY WILL NOT BE PERMITTED WITHOUT WRITTEN PERMISSION FROM THE PROPERTY OWNER.
20. ALL UTILITY SERVICE LINES BROKEN OR INTERRUPTED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
21. ALL STORMWATER POLLUTION AND PREVENTION SILT FENCES AND HAY BALE DIKES SHALL BE REMOVED UPON RE-ESTABLISHMENT OF GROUND COVER.
22. ALL ENCASEMENT PIPE CROSSING COUNTY OR TXDOT'S FACILITIES SHALL EXTEND A MINIMUM OF 5' BEHIND FACE OF EXISTING OR PROPOSED CURBS OR AS NOTED.
23. CONTRACTOR SHALL RELOCATE ALL EXISTING SIGNAGE, MAILBOXES, REFLECTORS, ETC., TO APPROPRIATE LOCATION DURING CONSTRUCTION AND SHALL RE-INSTALL SAME AFTER COMPLETION OF WORK. (NO DIRECT PAY, UNLESS SPECIFICALLY INCLUDED IN THE BID PROPOSAL)



DRAWN BY : R.C.
CHECKED BY : S.H.
DATE : JAN. 2017
SCALE : NONE
JOB NO. : GREGG-16-03





CONTRACTOR SHALL PROTECT EXIST. PIPELINE MARKERS AS REQUIRED.

CHEROKEE WATER CO.
(LAKE CHEROKEE)



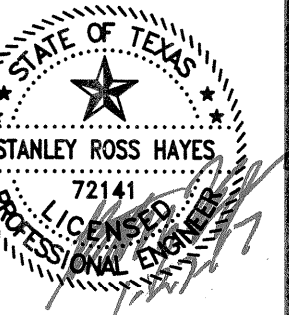
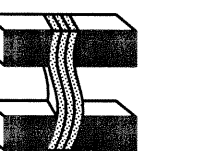
EXISTING AND
PROPOSED
SITE PLAN

GREGG COUNTY, TX.

KNOX LEE ROAD
BRIDGE REPAIRS

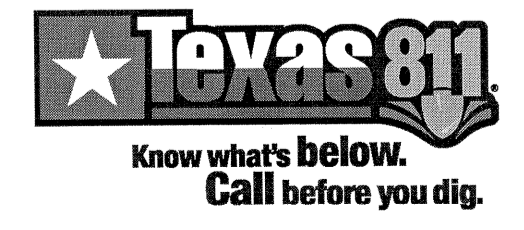
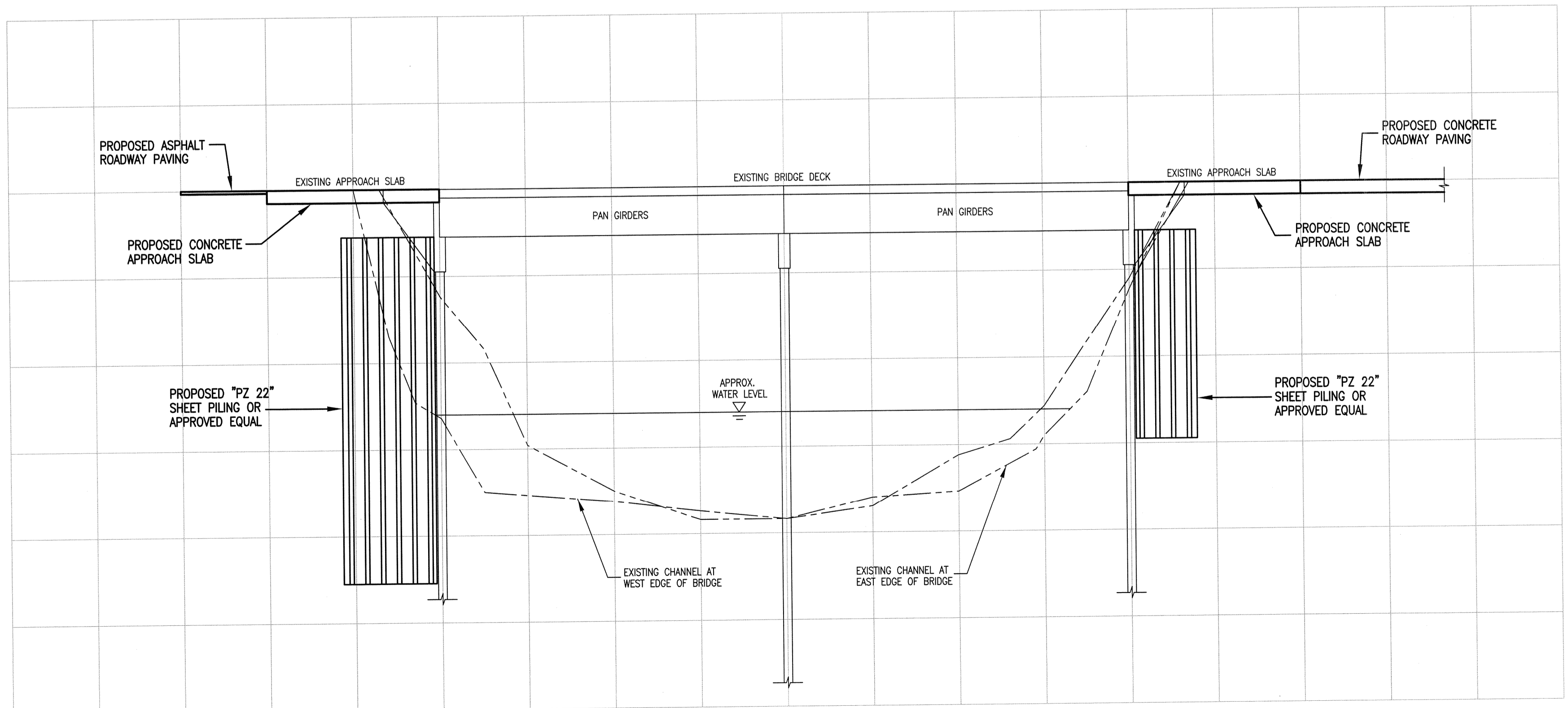
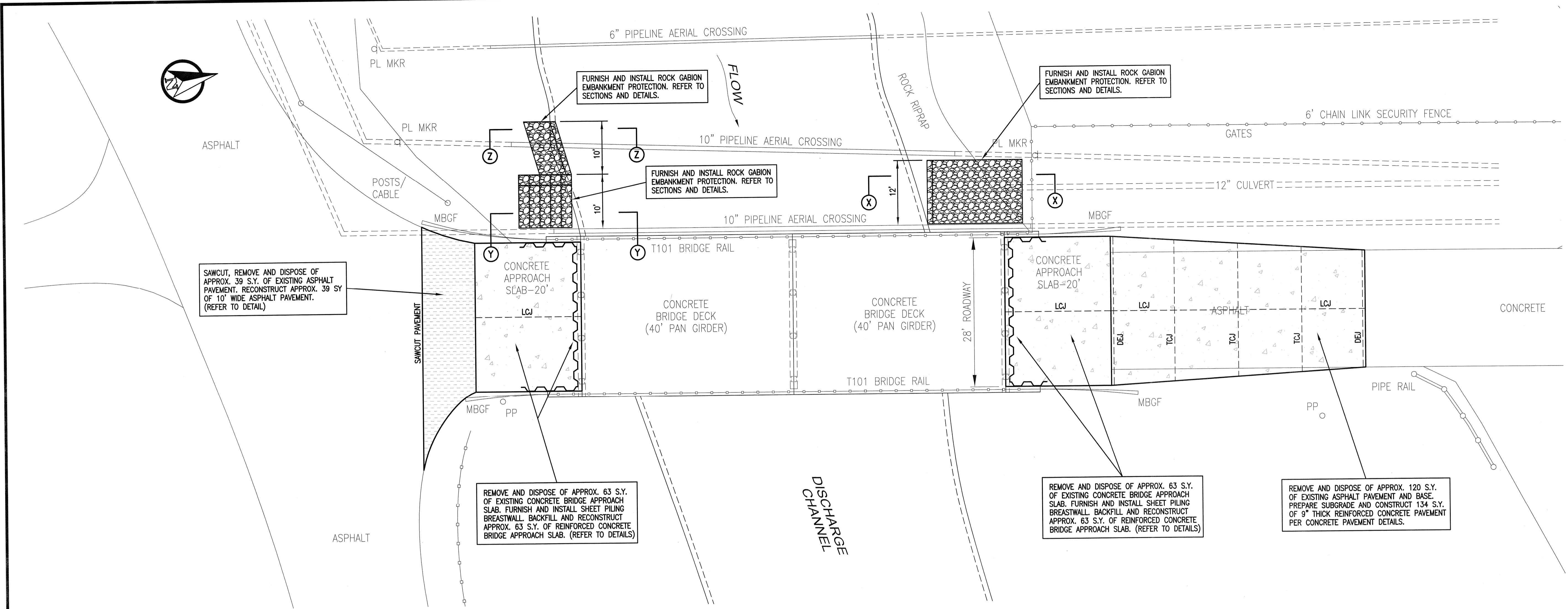
HAYES ENGINEERING, INC.

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Tel.: (903) 758-2010 • Fax: (903) 758-2089



DRAWN BY : R.C.
CHECKED BY : S.H.
DATE : JAN. 2017
SCALE : 1"=20'
JOB NO. : GREGG-16-03

SHEET
3
OF 8 SHEETS



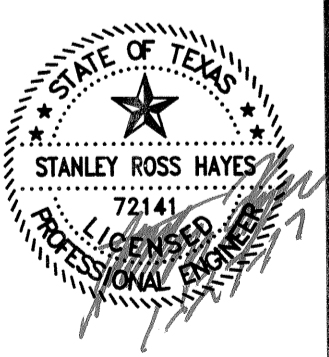
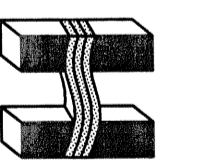
BRIDGE PLAN
AND PROFILE

GREGG COUNTY, TX.

KNOX LEE ROAD
BRIDGE REPAIRS

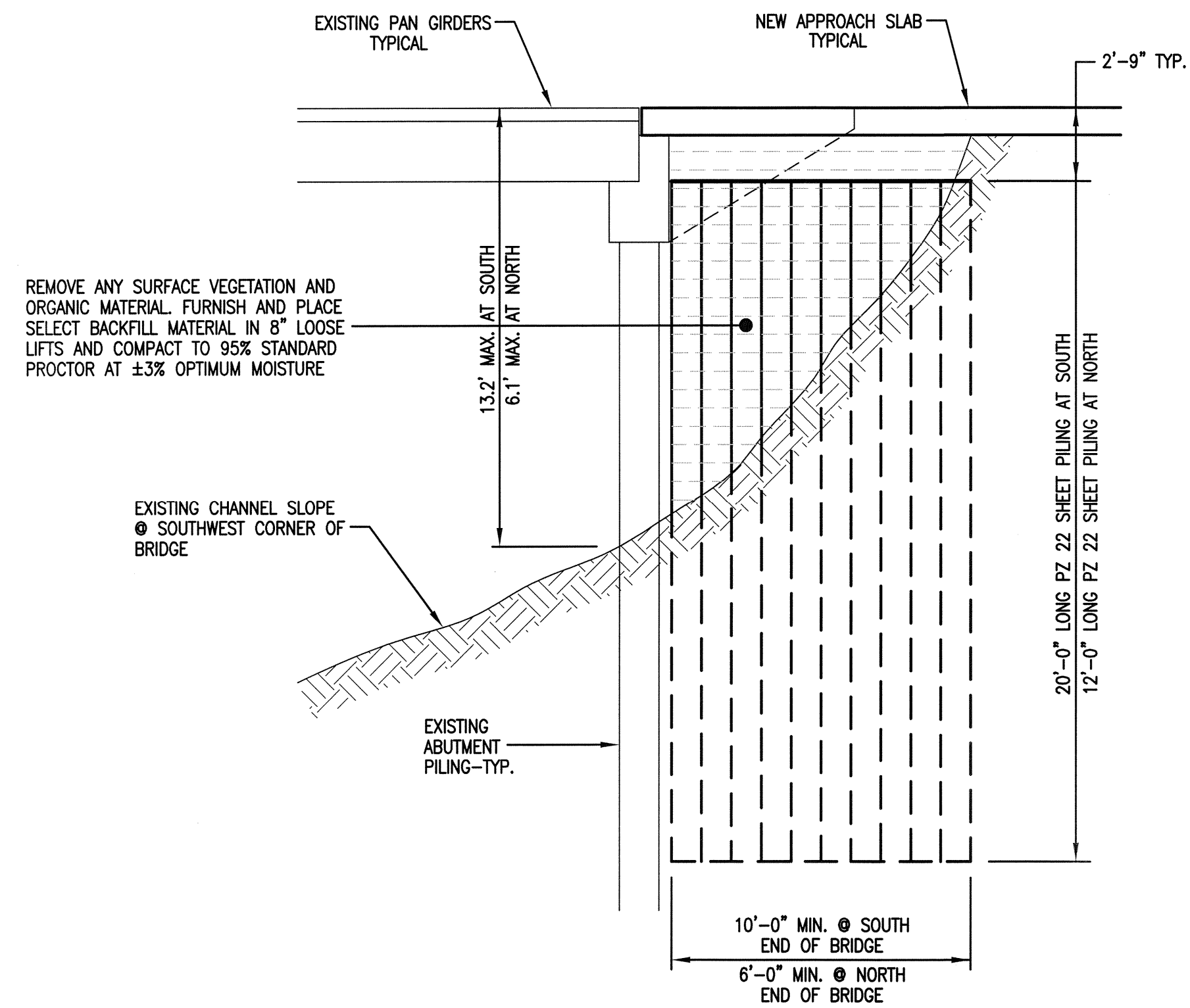
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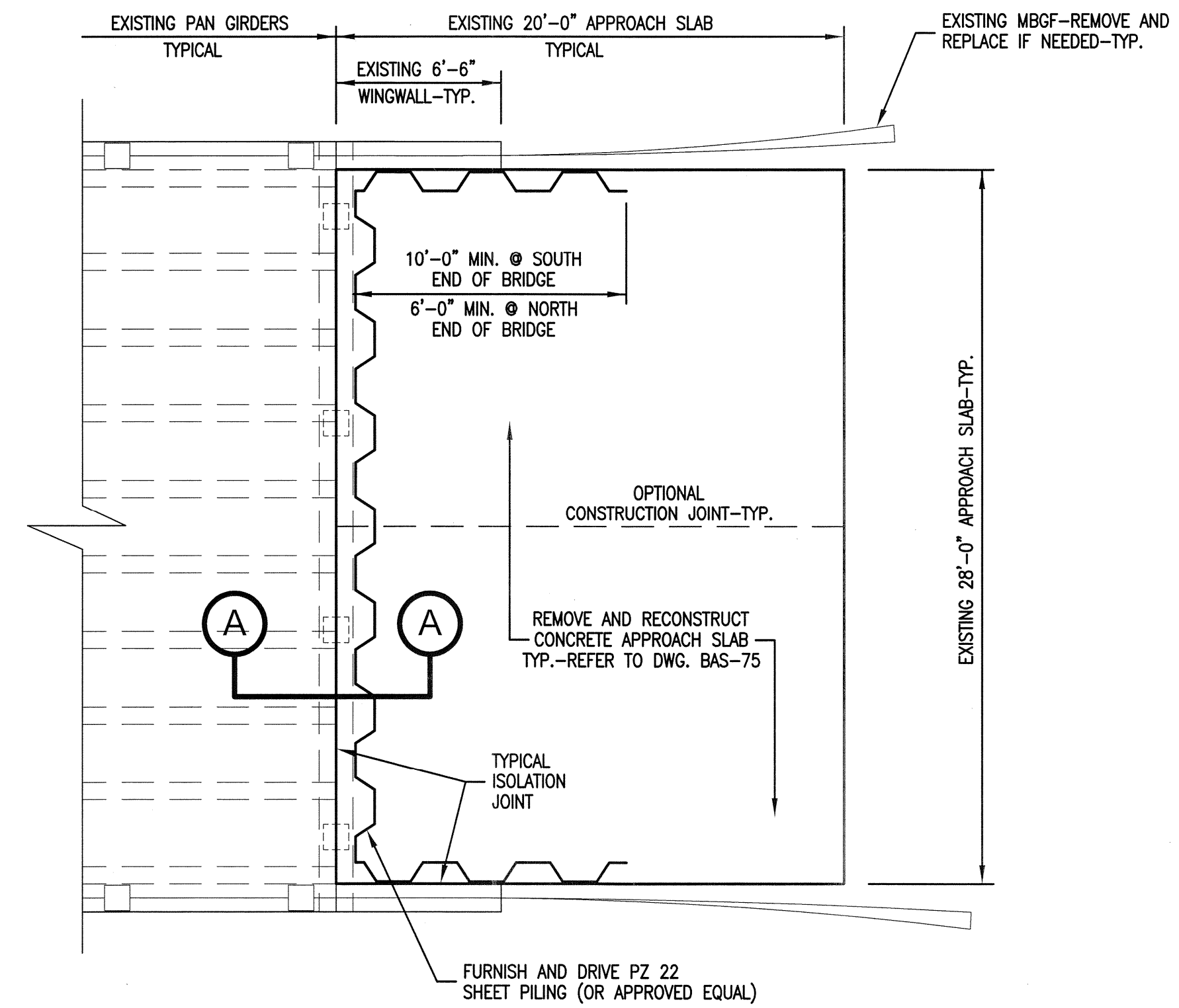


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CHECKED BY : S.H.
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SCALE : 1"=10'H, 1"=5'V
JOB NO. : GREGG-16-03

SHEET
4
OF 8 SHEETS



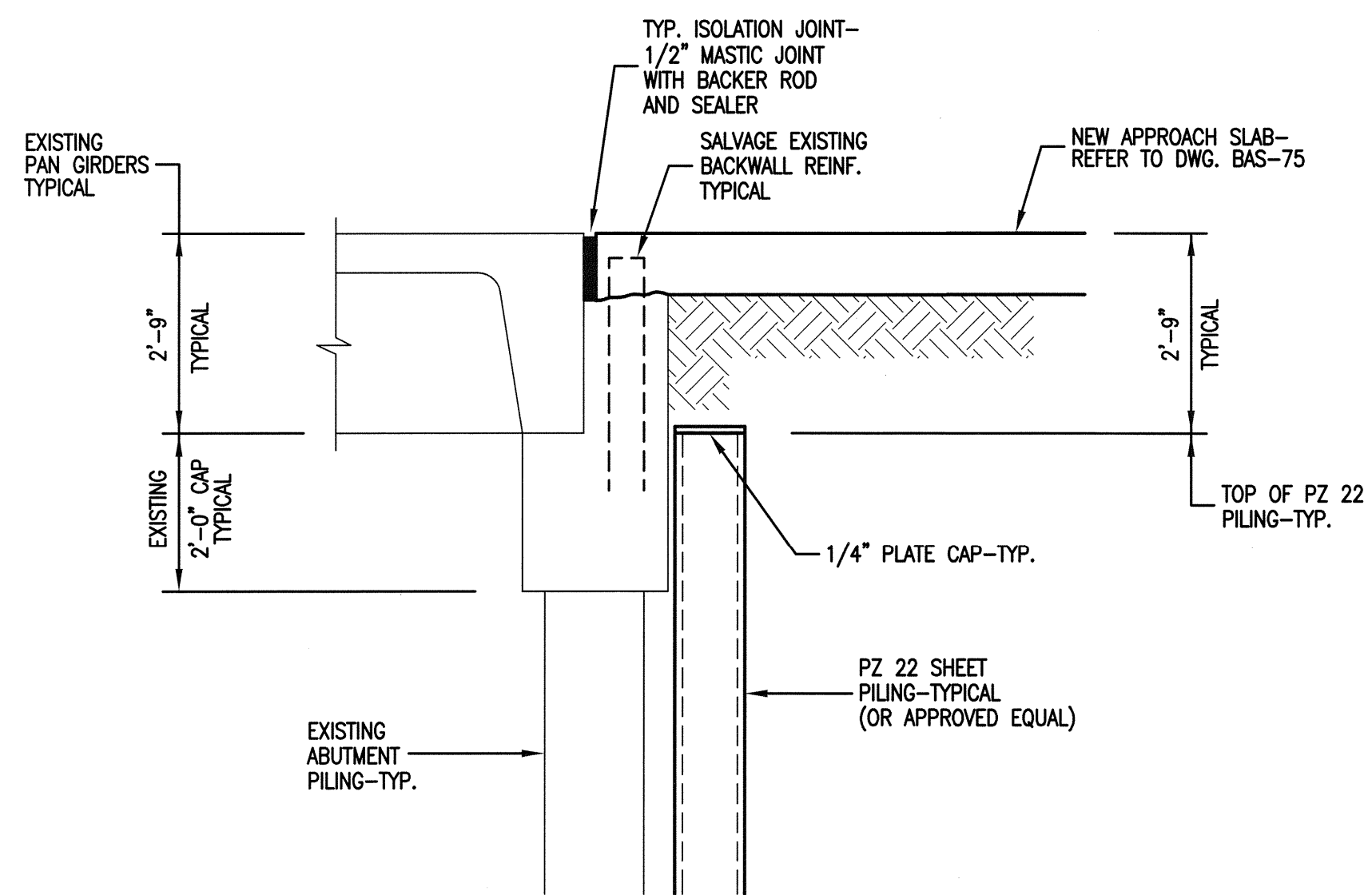
TYPICAL ELEVATION



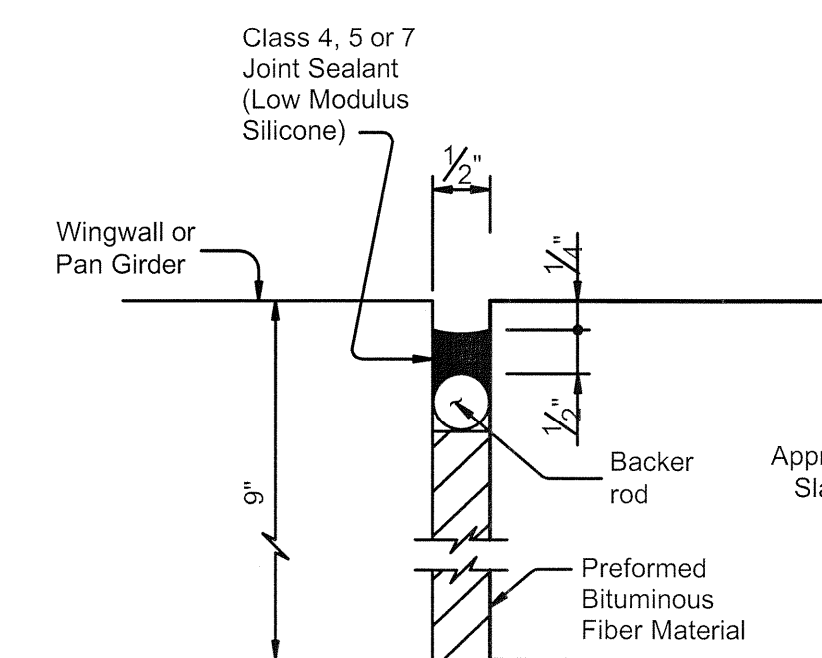
TYPICAL BRIDGE APPROACH & SHEET PILING PLAN

SHEET PILING SHALL BE "PZ 22" HOT ROLLED STEEL SHEET PILING AS MANUFACTURED/SUPPLIED BY SKYLINE STEEL AT SKYLINESTEEL.COM OR ENGINEER APPROVED EQUAL.

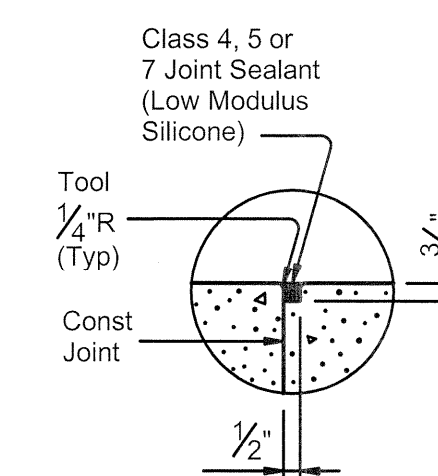
NOTE : STEEL SHEET PILING SHALL BE DOMESTIC STEEL, CONFORMING TO THE REQUIREMENTS OF ASTM A-328 OR APPROVED EQUAL AND SHALL BE GIVEN A PROTECTIVE COATING. PROTECTIVE COATING SHALL CONSIST OF ONE COAT OF PRIMER AND ONE COAT OF COAL TAR EPOXY.



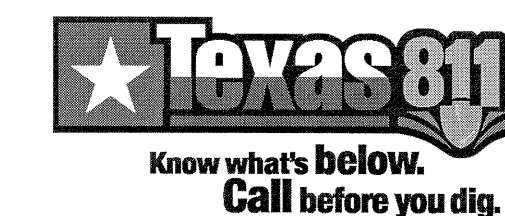
SECTION A-A



TYP. ISOLATION JOINT



SEALED CONSTRUCTION JOINT

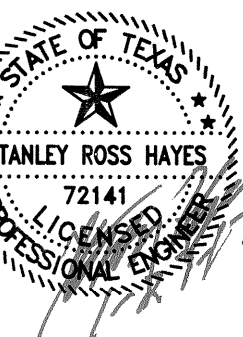
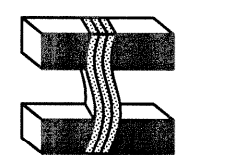


BRIDGE APPROACH
AND SHEET PILING
BREASTWALL DETAILS

GREGG COUNTY, TX.
KNOX LEE ROAD
BRIDGE REPAIRS

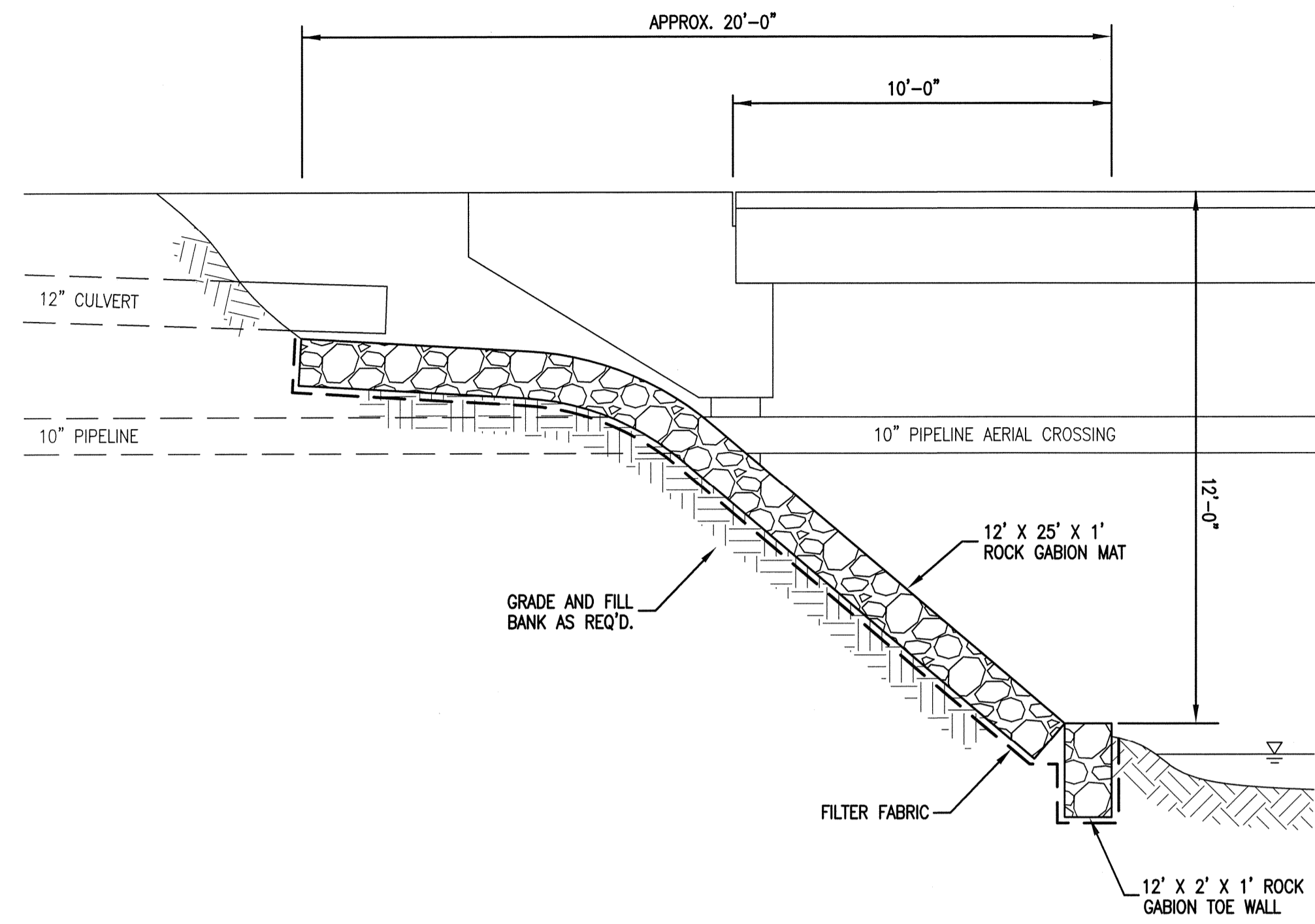
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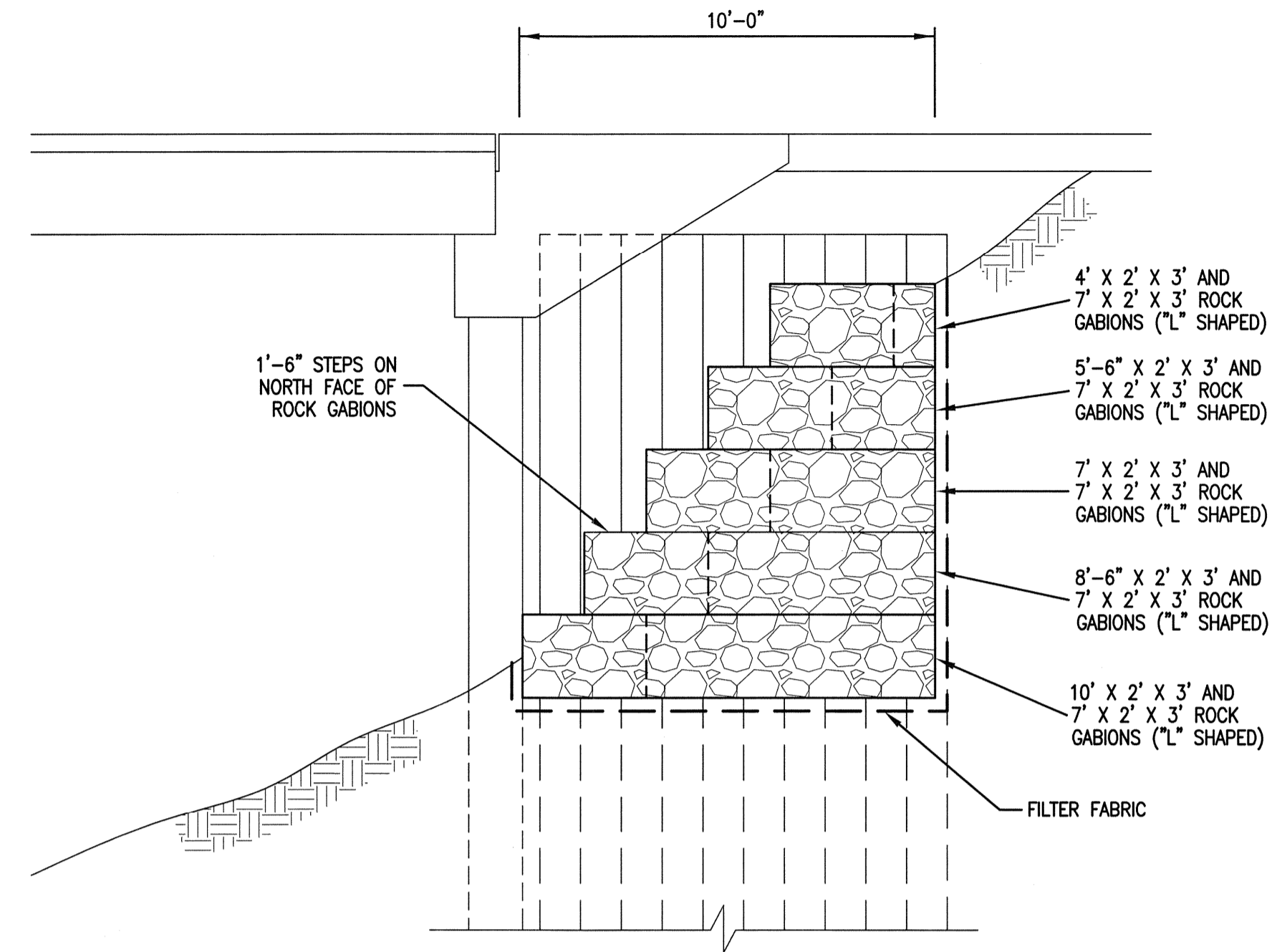


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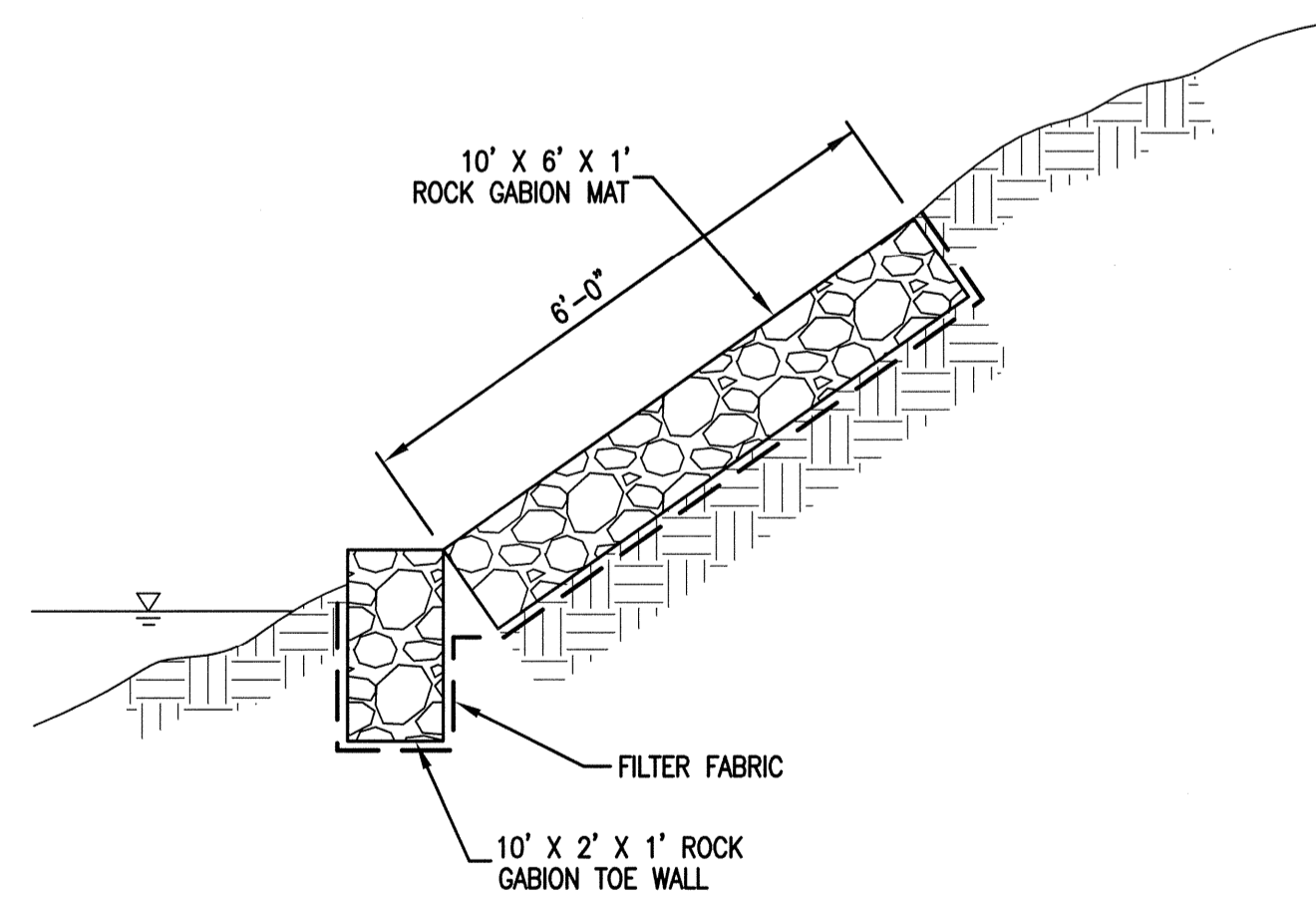
SHEET
5
OF 8 SHEETS



SECTION X-X
N.T.S.



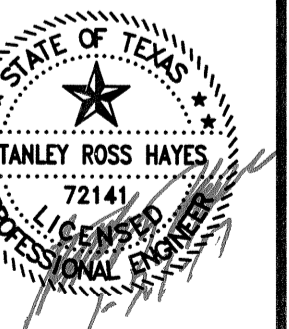
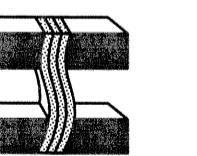
SECTION Y-Y
N.T.S.

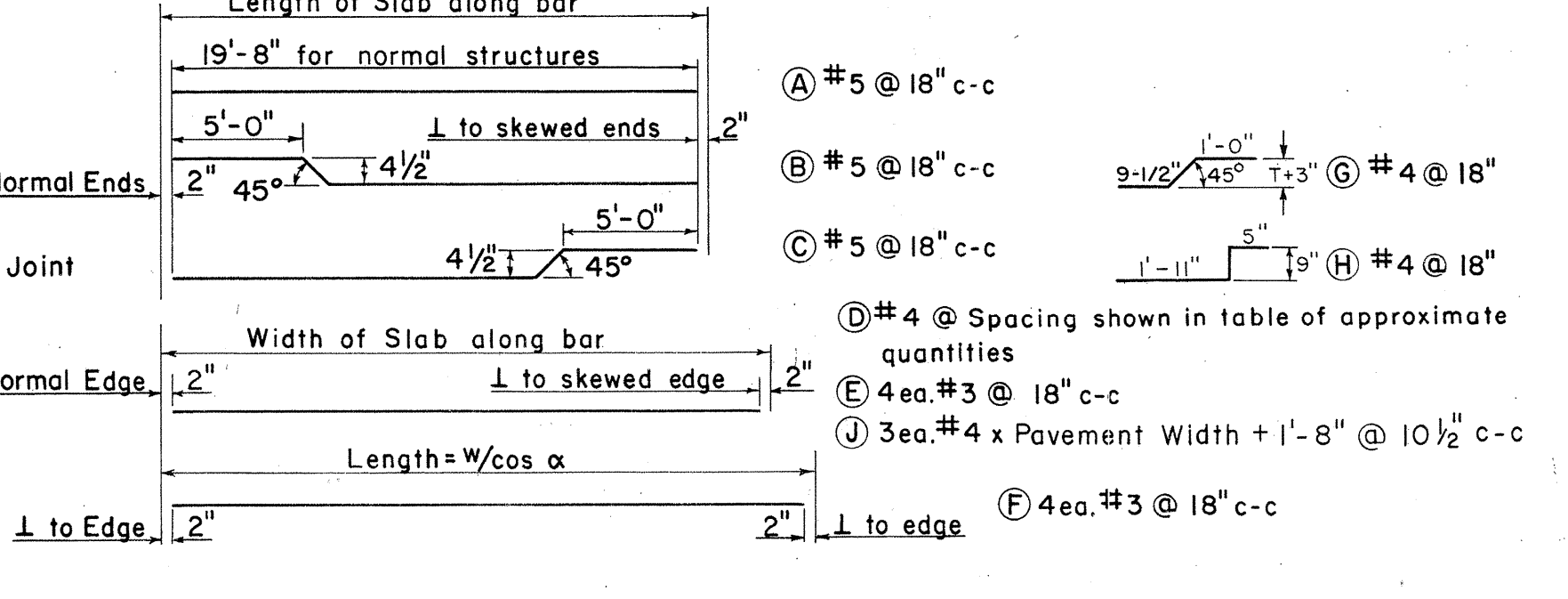
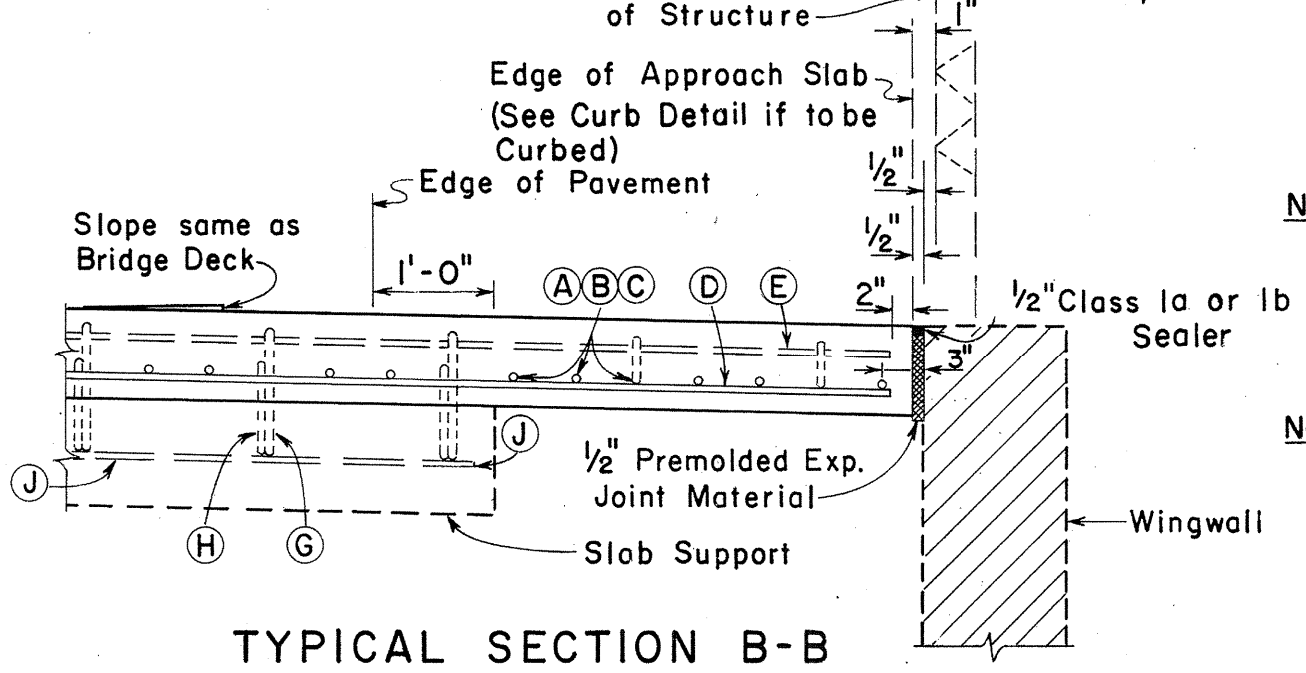
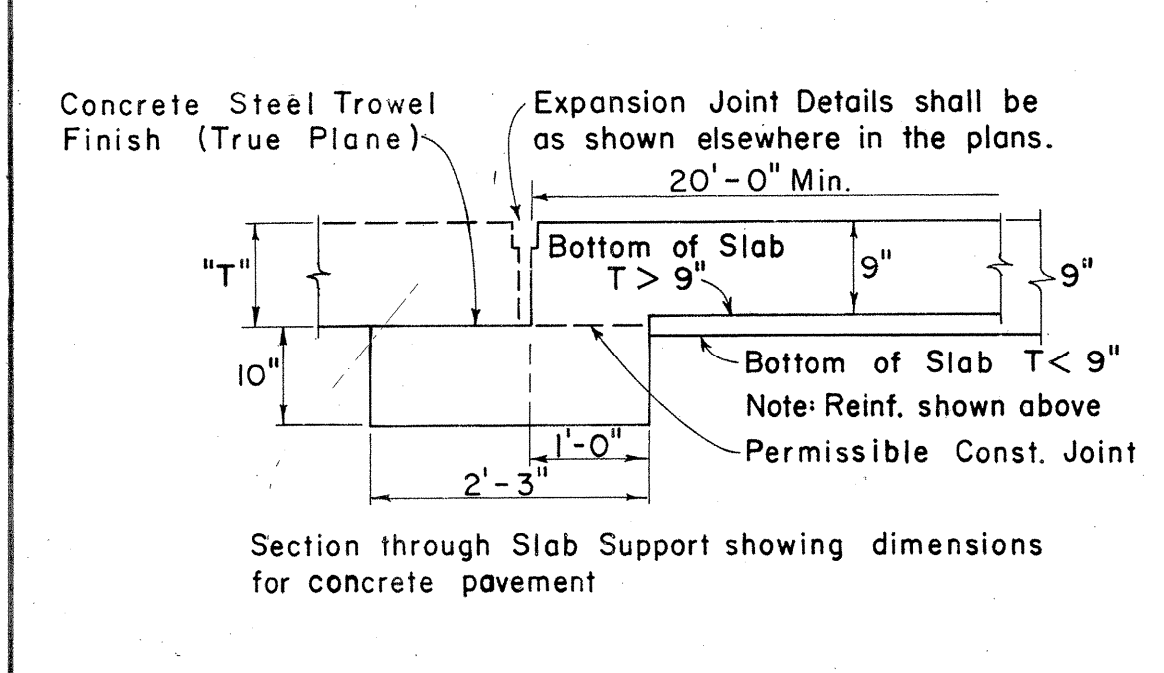
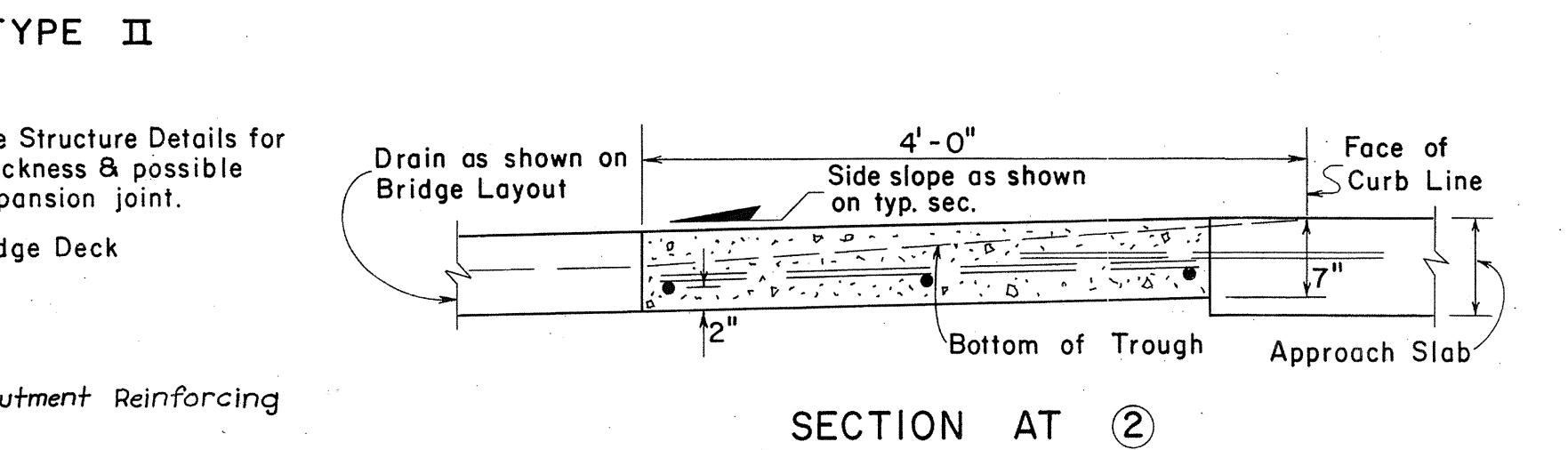
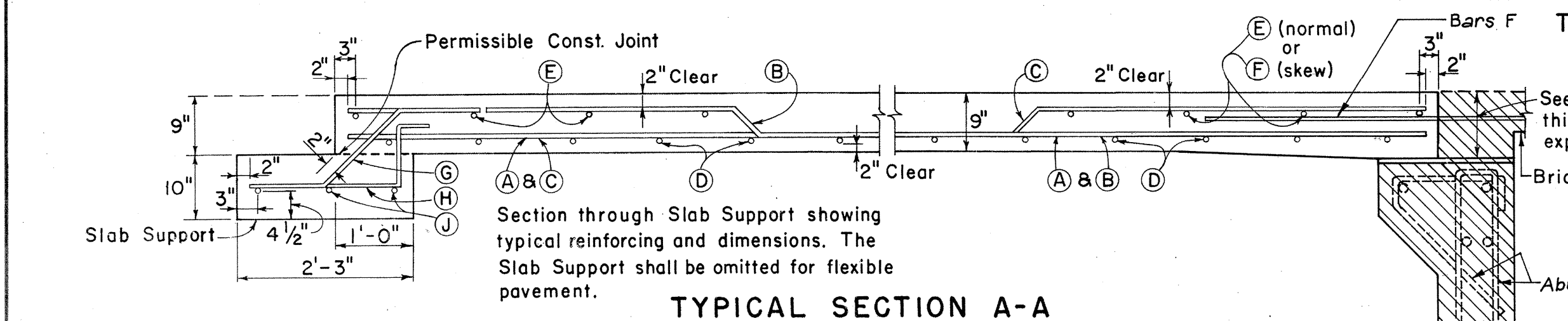
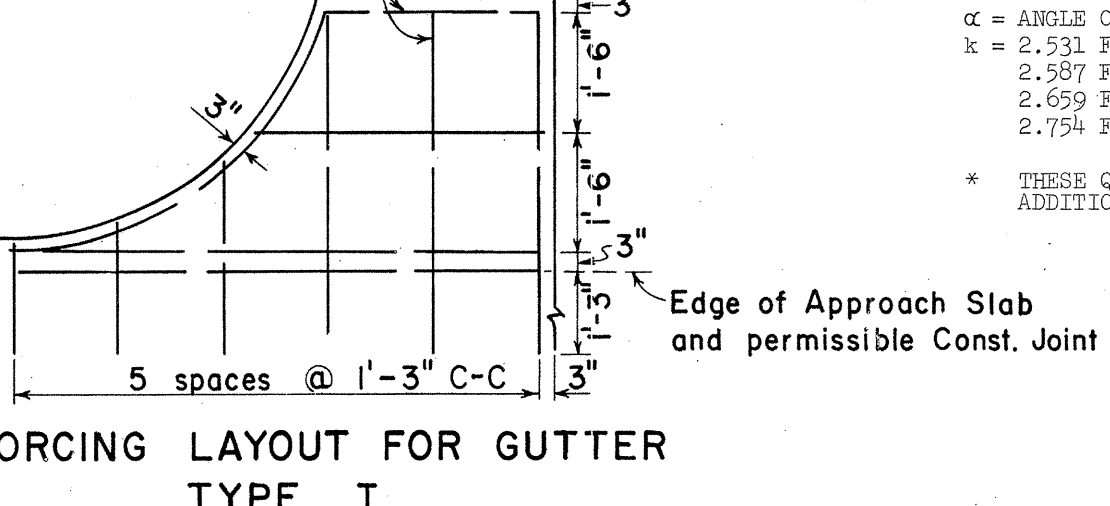
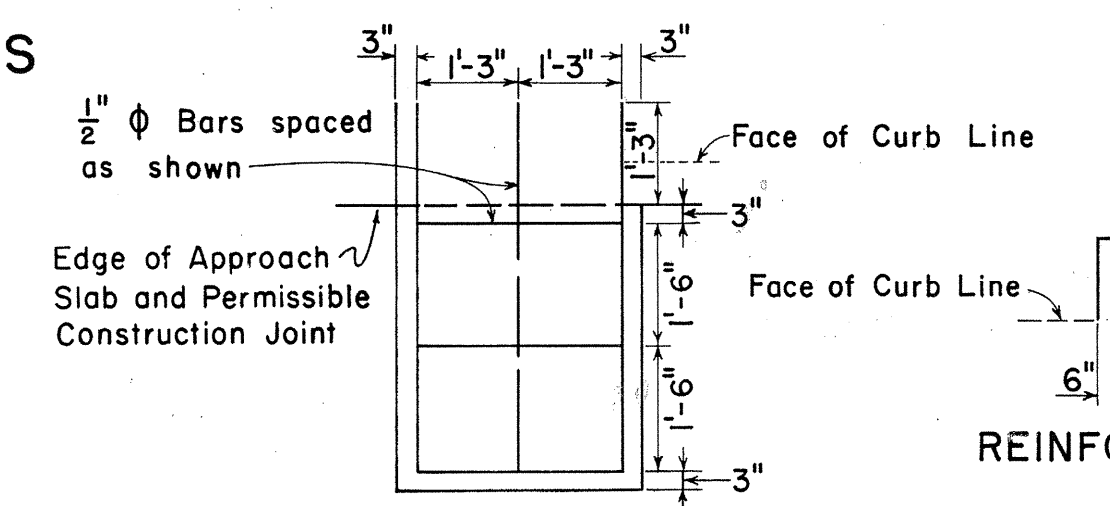
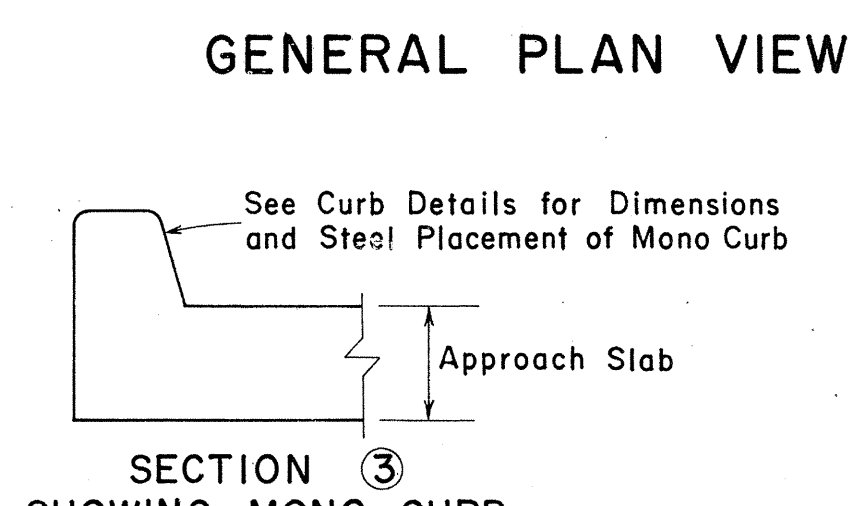
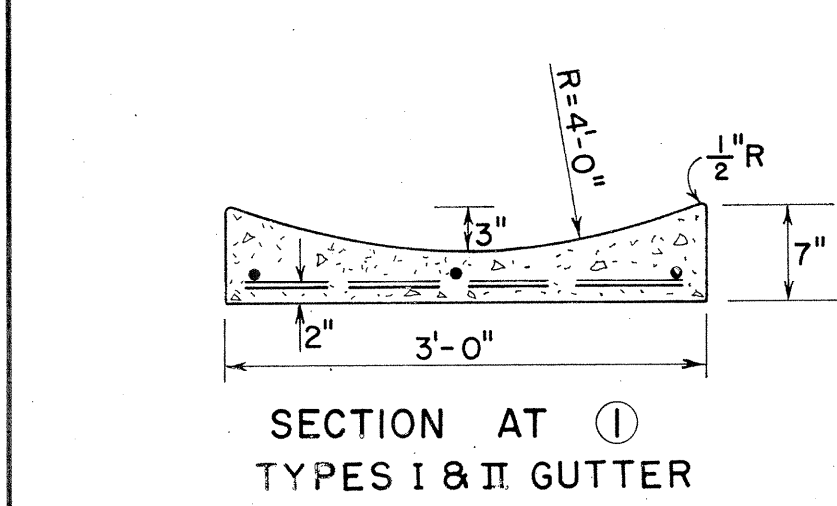
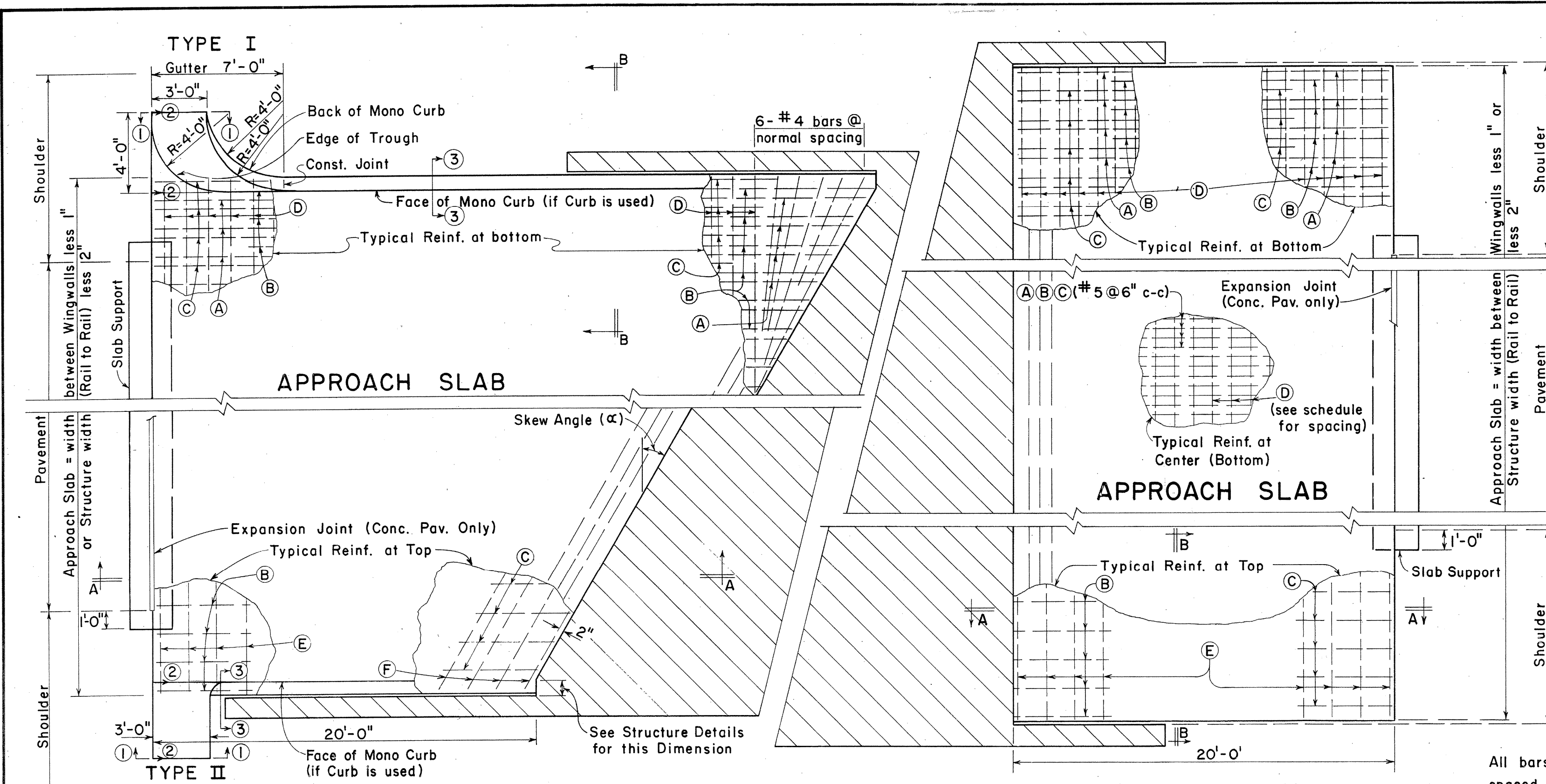
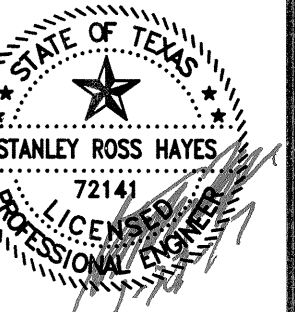
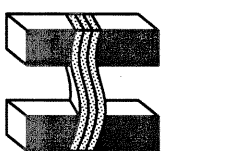


SECTION Z-Z
N.T.S.

NOTES :

- GABIONS AND GABION MATTRESSES SHALL CONFORM TO ITEM 459 OF THE TXDOT STANDARD SPECIFICATIONS. THE GABIONS SHALL BE FILLED WITH MATERIAL THAT MEETS THE ASTM D6711 SPECIFICATION.
- ONE LAYER OF GEOTEXTILE FABRIC SHALL BE LAID UNDER AND BEHIND ALL GABIONS, OVERLAPPING A MINIMUM OF 2'-0" IN ACCORDANCE WITH TXDOT MATERIAL SPECIFICATION DMS-6200, TYPE 2. FABRIC SHALL BE SECURED WITH 12" LONG NAILS OR 9" U-PINS AT 4'-0" CENTERS.





GENERAL NOTES

1. THE APPROACH SLAB SHALL HAVE THE SAME TRANSVERSE CROWN THROUGHOUT ITS LENGTH AS THE STRUCTURE WHICH IT ADJOINS.
2. THE APPROACH SLAB SHALL BE FINISHED AS REQUIRED FOR THE STRUCTURE OR AS DIRECTED BY THE ENGINEER.
3. IF A CURB IS USED ON THE STRUCTURE, A CURB WITH HEIGHT AND INSIDE FACE MATCHING THE STRUCTURE CURB SHALL BE USED ON THE APPROACH SLAB. THE CURB SHOULD TAPER TO A TWO INCH HEIGHT AND TERMINATE AT THE END OF THE SLAB OR AT THE DRAINAGE GUTTER, IF A DRAINAGE GUTTER IS USED.
4. TYPE I GUTTERS SHOULD BE USED IN LIEU OF TYPE II GUTTER WHEN SPACE PERMITS.
5. REINFORCING STEEL SHALL CONFORM TO ASTM DESIGNATION: A-615, GRADE 40. SPLICES SHALL BE A MINIMUM OF 20 TIMES THE NOMINAL DIAMETER OF THE BAR.
6. THE CHAIRS USED TO SUPPORT THE BAR MAT SHALL BE OF SUFFICIENT STRUCTURAL QUALITY AND NUMBER TO HOLD THE MAT WITHIN THE PLACEMENT HEIGHT TOLERANCES, AND SHALL BE OF A TYPE APPROVED BY THE ENGINEER.
7. DETAILS AND QUANTITIES FOR CURBS ARE TO BE AS SHOWN ELSEWHERE IN PLANS.
8. SAWED OR FORMED JOINTS 1 1/2" DEEP SHALL BE CONSTRUCTED AT LANE LINES. JOINTS SHALL BE SEALED AS SPECIFIED IN THE CURRENT JOINT SEAL STANDARD, METHOD A OR B.

| WIDTH OF APPROACH SLAB (FT) | SPACING OF BOTTOM TRANS. STEEL D (IN) | APPROXIMATE QUANTITIES FOR ONE APPROACH SLAB * | | | | | |
|-----------------------------|---------------------------------------|--|------------|------------|------------|------------|------------|
| | | NORMAL | | 15° SKEM | | 45° SKEM | |
| | | CONC. (CY) | STEEL (LB) | CONC. (CY) | STEEL (LB) | CONC. (CY) | STEEL (LB) |
| 25 | 18 | 13.9 | 1341 | 16.2 | 1765 | 18.9 | 1803 |
| 30 | 18 | 16.7 | 1609 | 20.0 | 1916 | 23.9 | 2273 |
| 32 | 18 | 17.8 | 1716 | 21.6 | 2065 | 26.0 | 2472 |
| 40 | 16 | 22.2 | 2190 | 28.2 | 2747 | 35.1 | 3394 |
| 44 | 14 | 24.5 | 2472 | 31.7 | 3164 | 40.0 | 3969 |
| 52 | 12 | 28.9 | 3021 | 39.0 | 4021 | 50.6 | 5182 |

FOR SLAB WIDTHS AND BRIDGE SKEWS OTHER THAN THOSE SHOWN, USE THE FOLLOWING FORMULAS FOR ESTIMATING:*

STEEL REINFORCEMENT QUANTITIES FOR CONTRACTOR'S INFORMATION ONLY.

VOL. OF CONC. = $0.0278 w \left(\frac{w \tan \alpha}{2} + 20 \right)$ CUBIC YARDS

WT. OF STEEL = $w \left[k \left(\frac{w \tan \alpha}{2} + 20 \right) + 1.504 (1 + \sec \alpha) \right]$ POUNDS

WHERE: w = WIDTH OF SLAB
 α = ANGLE OF SKEW
 k = 2.231 FOR 16" c to c SPACING OF D BARS (SLABS 35 FEET WIDE OR LESS)
 2.587 FOR 16" c to c SPACING OF D BARS (SLABS 36 - 40' WIDE)
 2.659 FOR 14" c to c SPACING OF D BARS (SLABS 41 - 45' WIDE)
 2.754 FOR 12" c to c SPACING OF D BARS (SLABS 46 - 52' WIDE)

* THESE QUANTITIES DO NOT INCLUDE SLAB SUPPORT, CURB, GUTTERS OR ADDITIONAL THICKNESS ADJACENT TO BRIDGE END.

| Pavement Thickness (in.) | 6 | 7 | 8 | 9 | 10 |
|--------------------------|------|------|------|------|------|
| Concrete Cu. Yd. | 1.81 | 1.81 | 1.81 | 1.81 | 1.81 |
| Steel (lbs.) | 99 | 101 | 102 | 104 | 105 |

| TYPE I | | TYPE II | |
|-------------|---------------------|-------------|---------------------|
| Concrete CY | Reinf. Steel (lbs.) | Concrete CY | Reinf. Steel (lbs.) |
| 0.44 | 24.75 | 0.20 | 12.36 |

STATE DEPARTMENT OF HIGHWAYS AND PUBLIC TRANSPORTATION

BRIDGE APPROACH SLAB FOR USE WITH ASPHALT AND CONCRETE PAVEMENTS

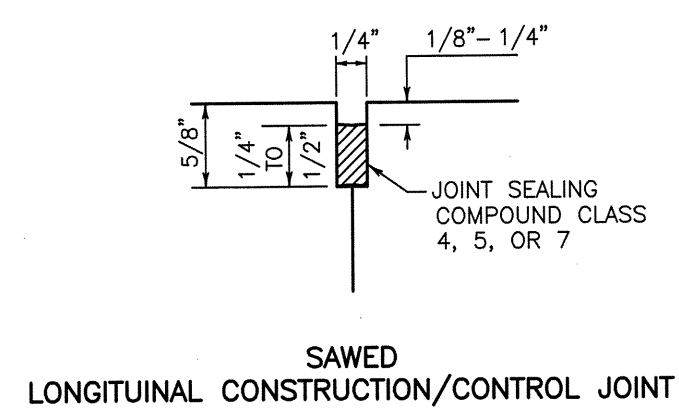
NORMAL OR SKEW

BAS - 75 MOD.

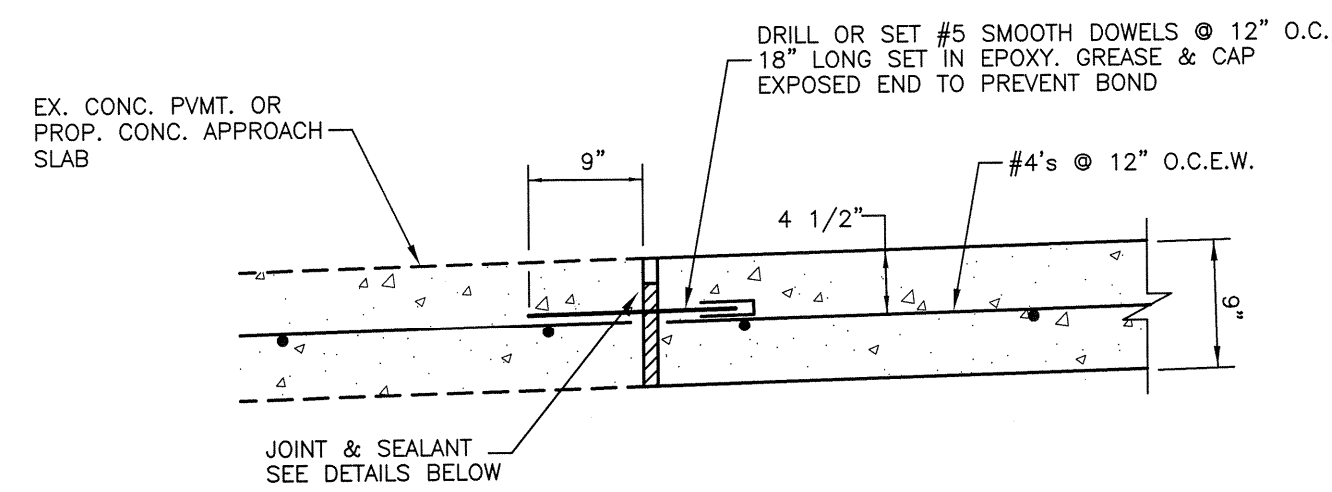
| | | | | | | |
|-------|----------|------|-------------------|--------|---------------------|-----------------|
| DN | DRAWING | DATE | FED. RD. DIV. NO. | STATE | FEDERAL PROJECT NO. | SHEET NO. |
| CK DN | ORIGINAL | | 6 | TEXAS | | |
| CK DW | REVISED | | | | | |
| CK DW | REVISED | | STATE DIST. NO. | COUNTY | CONT. SECT. | JOB HIGHWAY NO. |
| TR | | | | | | |
| CK TR | | | | | | |

GENERAL NOTES—JOINT SEALS

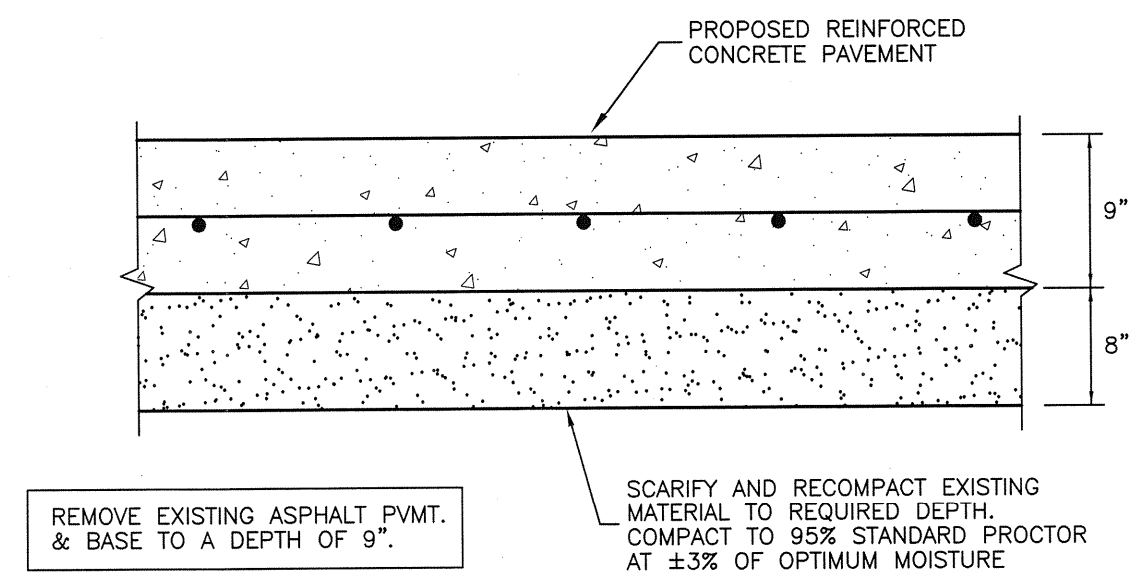
1. THE LOCATION OF JOINTS SHALL BE AS SHOWN ELSEWHERE IN THE PLANS.
2. DIMENSIONS SHALL BE IN ACCORDANCE WITH THE JOINT SEALANT MANUFACTURERS RECOMMENDATION.
3. THE JOINT RESERVOIR FOR SEALANT SHALL BE SAWS UNLESS OTHERWISE SHOWN ON THE PLANS FOR LONGITUDINAL AND TRANSVERSE CONTROL JOINTS.
4. THE JOINTS SHALL BE CLEANED PRIOR TO BEGINNING OPERATIONS. THE CONTRACTOR SHALL SUBMIT A STATEMENT FROM THE SEALANT MANUFACTURER SHOWING THE RECOMMENDED EQUIPMENT AND INSTALLATION PROCEDURES TO BE USED.



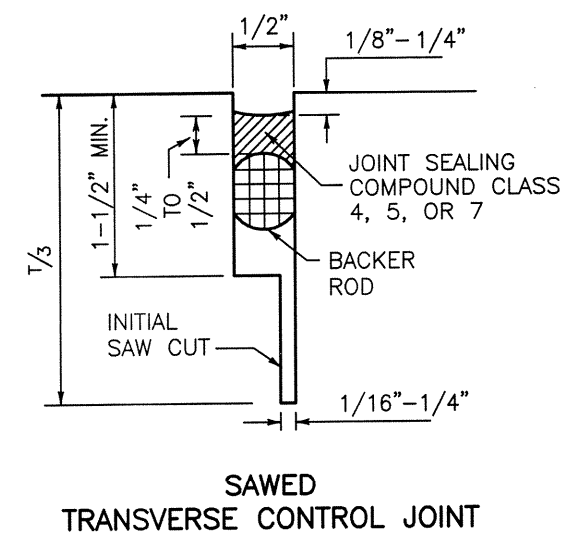
SAWED LONGITUDINAL CONSTRUCTION/CONTROL JOINT



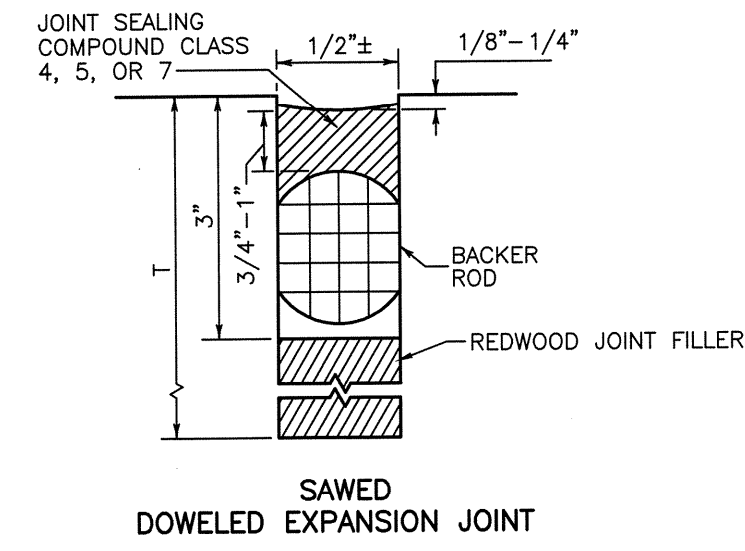
DOWELED EXPANSION JOINT (DEJ)
(AT EX. CONC. PAVING OR PROP. CONC. APPROACH SLAB)



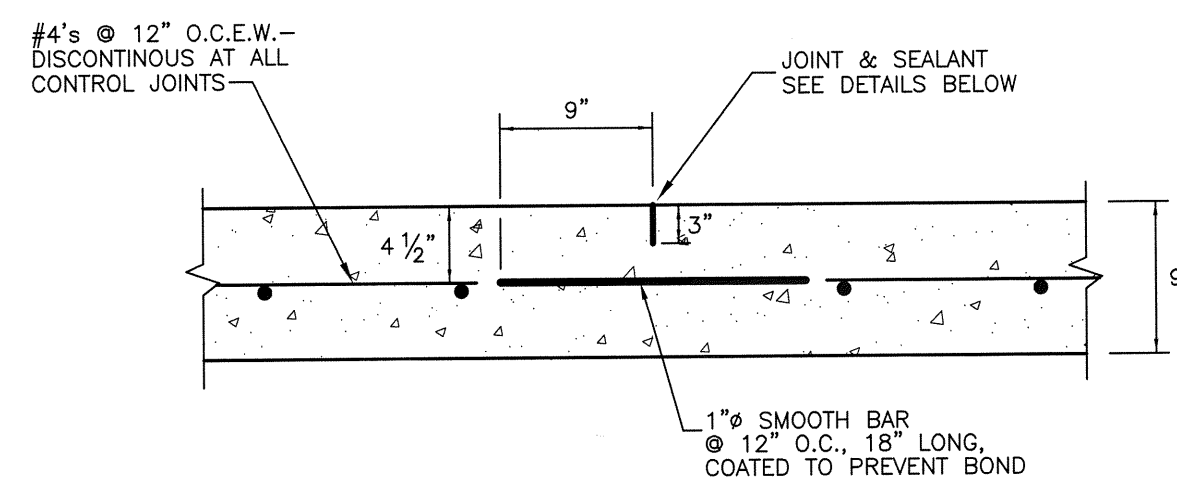
SUBGRADE PREPARATION



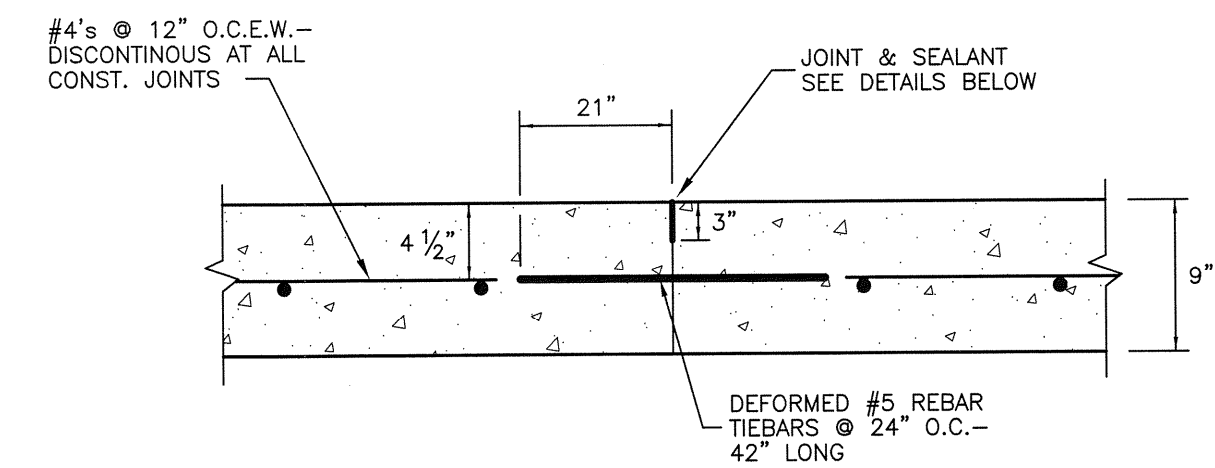
SAWED TRANSVERSE CONTROL JOINT



SAWED DOWELED EXPANSION JOINT



SAWED TRANSVERSE CONTROL JOINT (TCJ)
(12' SPACING)

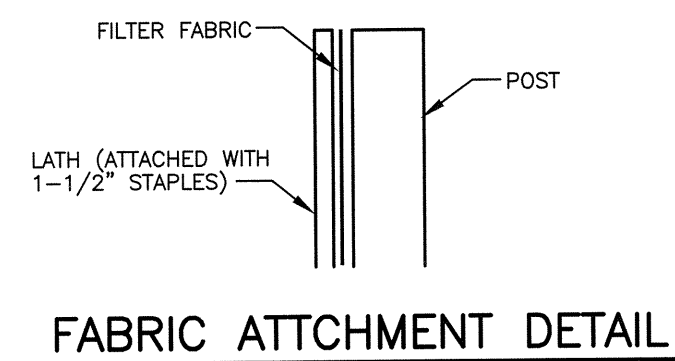


SAWED/FORMED LONGITUDINAL CONSTRUCTION/CONTROL JOINT (LCJ)
(CENTERLINE)

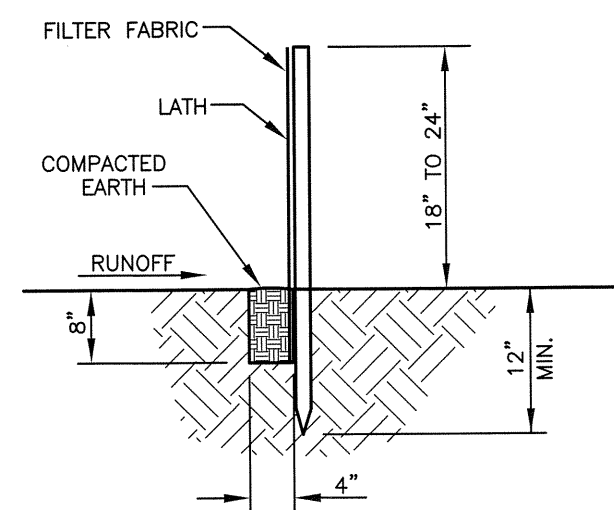
CONCRETE PAVEMENT JOINTS & SEALS

N.T.S.

PROPOSED CONCRETE PAVING SHALL BE 9" CLASS HES CONCRETE MEETING THE MINIMUM REQUIREMENTS OF TXDOT ITEM 360, CLASS P CONCRETE.



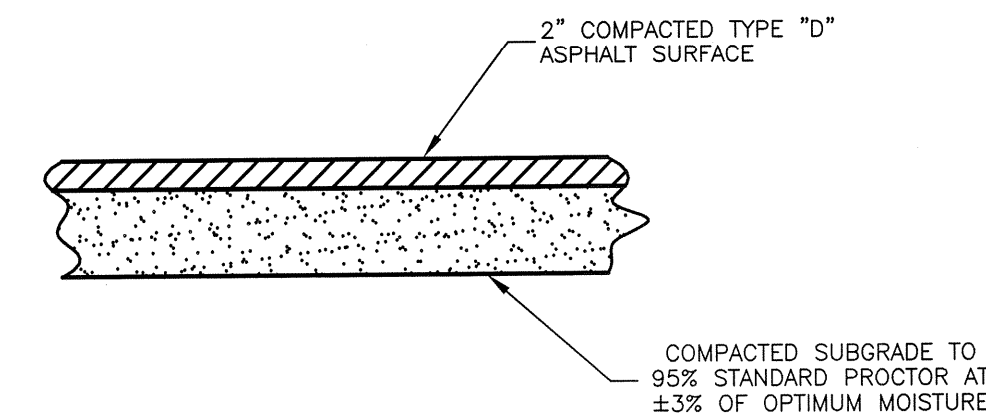
FABRIC ATTACHMENT DETAIL



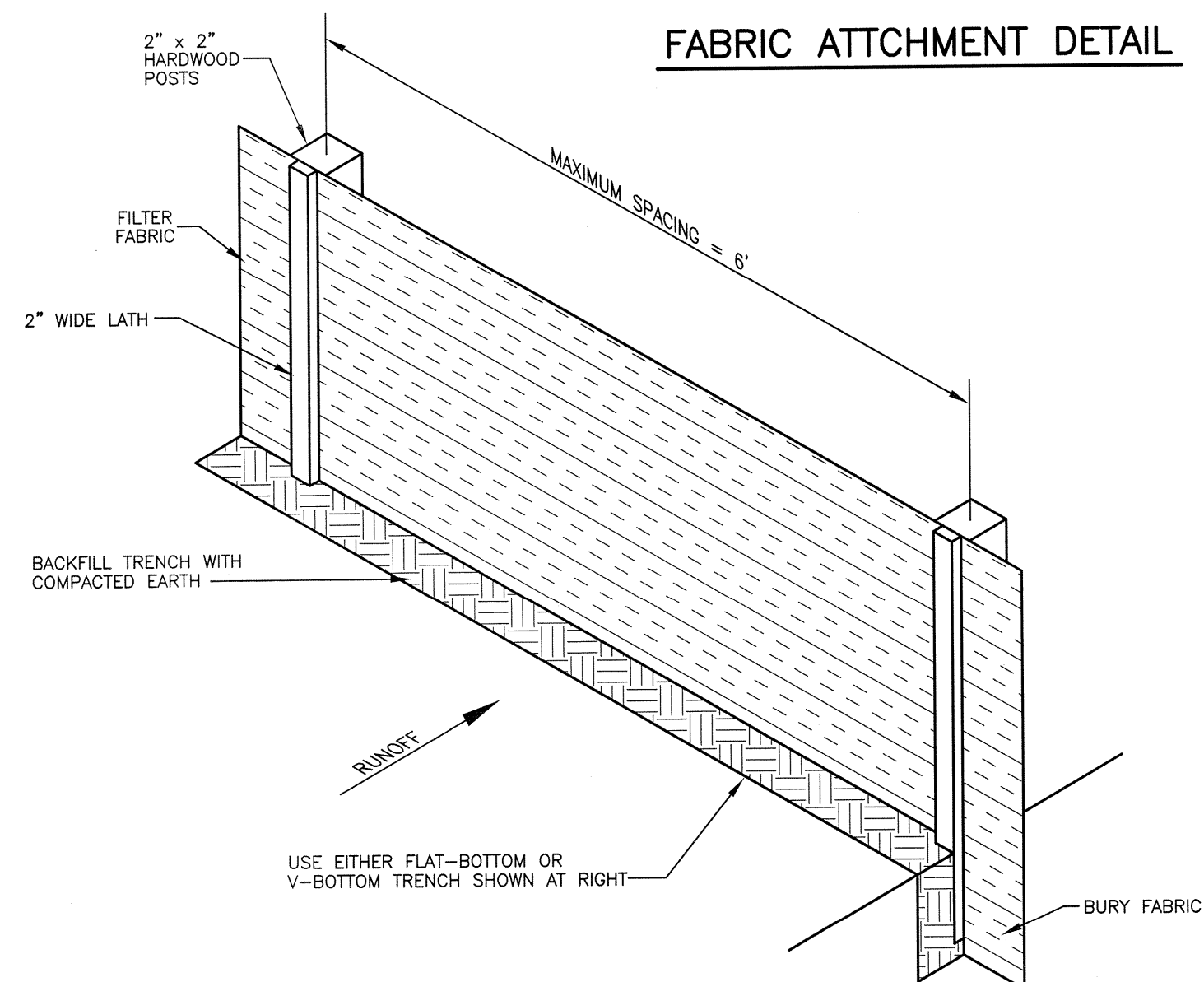
FLAT-BOTTOM TRENCH SECTION

REINFORCED CONCRETE PAVEMENT AND JOINT DETAILS

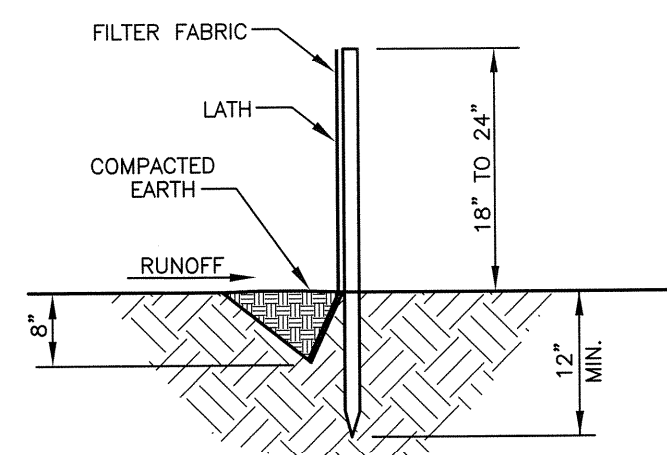
N.T.S.



ASPHALT STREET PAVING
N.T.S.



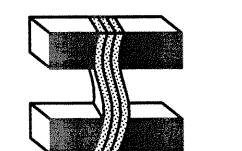
SILT FENCE INSTALLATION



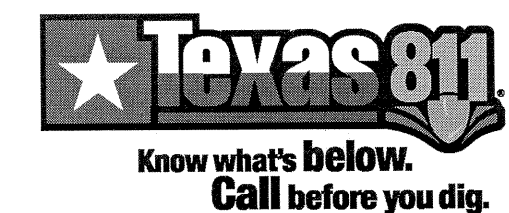
V-SHAPED TRENCH SECTION

SILT FENCE DETAILS

N.T.S.



DRAWN BY : R.C.
CHECKED BY : S.H.
DATE : JAN. 2017
SCALE : AS NOTED
JOB NO. : GREGG-16-03



SHEET

8

OF 8 SHEETS