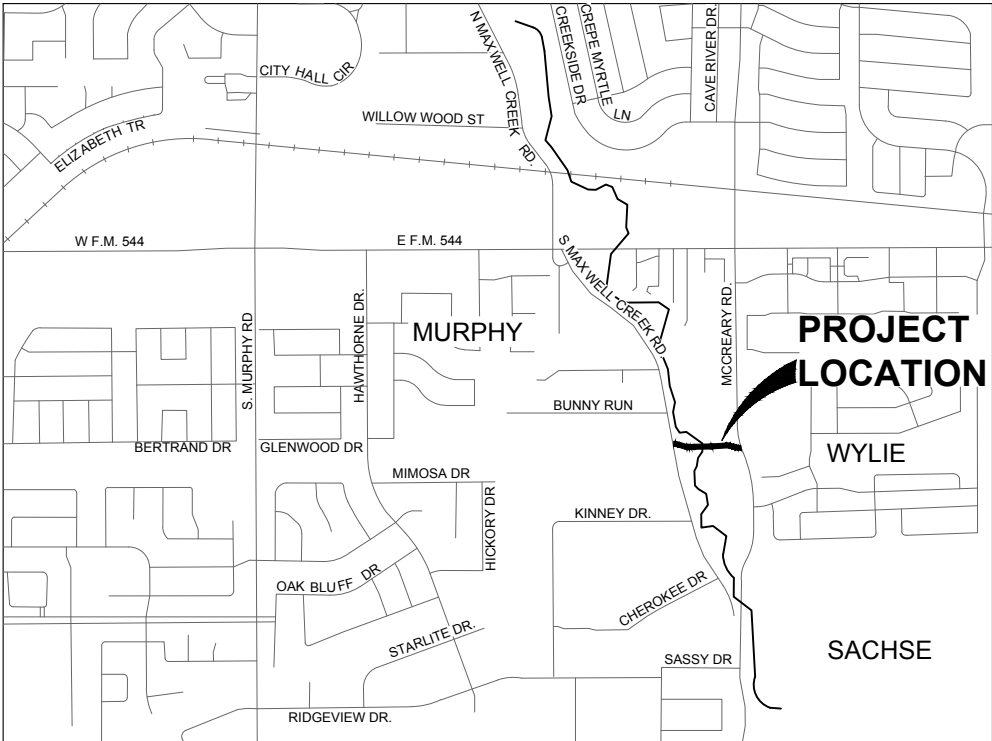


CITY OF MURPHY, TEXAS
SIDEWALK PROJECT T-1
S. MAXWELL CREEK RD TO McCREARY RD

PROJECT NO.
23-12CPW-4

OWNER
CITY OF MURPHY
206 N. MURPHY ROAD
MURPHY, TX 75094
972-468-4000
MAYOR
SCOTT BRADLEY

CITY COUNCIL
ELIZABETH ABRAHAM, MAYOR PRO TEM PLACE 1
SCOTT SMITH PLACE 2
ANDREW CHASE PLACE 3
KEN OLTMANN, DEPUTY MAYOR PRO TEM PLACE 4
LAURA DEEL PLACE 5
JENE BUTLER PLACE 6



GENERAL MAP
MAPSCO 661
PROJECT LOCATION MAP
N.T.S

INDEX OF SHEETS	
SHT NO.	TITLE
1	COVER
2 - 3	GENERAL NOTES AND LEGEND
4	QUANTITIES & ALIGNMENT DATA
5	TYPICAL SECTION & SITE PLAN
6	SIDEWALK PLAN & PROFILE BEGIN TO STA. 5+00
7	SIDEWALK PLAN & PROFILE STA. 5+00 TO END
8	MCCREARY RD MEDIAN CROSSING
9	CULVERT PLAN & PROFILE
10	NORTH & SOUTH WINGWALLS
11	DETAILS

TXDOT STANDARD DETAILS	
SCP-8	SINGLE BOX CULVERT PRECAST 8'-0' SPAN
PW-20	CONCRETE WINGWALLS FOR BOX CULVERT
HANDRAIL-PR11	PEDESTRIAN RAIL
SET P-PD	SAFETY END TREATMENT FOR 12" DIA TO 72" DIA PIPE CULVERTS TYPE II
SRR	STONE RIPRAP
PED-18	PEDESTRIAN FACILITIES CURB RAMPS

PRELIMINARY
FOR REVIEW ONLY

THESE DOCUMENTS ARE FOR DESIGN REVIEW AND NOT INTENDED FOR CONSTRUCTION, BIDDING, OR PERMIT PURPOSES. THEY WERE PREPARED BY, OR UNDER SUPERVISION OF:

WADE J. BARNES	120012	4/16/2024
	P.E. No.	Date

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FORT WORTH, TX 76102 FAX (817)870-2489
TEXAS REG. No. F-2697

CITY OF MURPHY, TEXAS
SIDEWALK PROJECT T-1

PLOTTED BY: Chris Murcz
PLOT TIME: 4/16/2024 11:41 AM
FILE NAME: Y:\Projects\0010000\0014000\14434_Murphy_Texas\14434-023 - Low Water Crossing\CADD\Sheets\COVER AND GEN NOTES.dwg



CITY OF
MURPHY

LIFE LIVED AT YOUR PACE TX

GENERAL CONSTRUCTION NOTES






























1. SPECIFICATIONS AND COMPLIANCE: CONSTRUCTION OF ALL WORK SHALL COMPLY WITH (IN ORDER OF PRIORITY) THESE PLANS AND SPECIFICATIONS, CITY OF MURPHY/PLANO CONSTRUCTION STANDARDS OR THE NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS' STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (WHEN THE OWNER DEEMS NECESSARY), CURRENT EDITIONS. COPIES OF THE NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS (N.C.T.C.O.G.) "STANDARD SPECIFICATION FOR PUBLIC WORKS CONSTRUCTION" ALONG WITH THE LATEST AMENDMENTS MAY BE OBTAINED FROM THE NORTH TEXAS CENTRAL COUNCIL OF GOVERNMENTS, PO DRAWER 5888, ARLINGTON, TEXAS 76005-5888, PHONE 817-640-3300; ALSO AVAILABLE AT www.nctcog.org/envir/SEEDevEx/pubworks/standards.asp A COPY OF THE CONTRACT DOCUMENTS, PLANS AND SPECIFICATIONS SHALL BE AVAILABLE ON-SITE AT ALL TIMES BY THE CONTRACTOR.
2. EXISTING UTILITIES: THE LOCATION AND DIMENSIONS SHOWN ON THE PLANS RELATIVE TO EXISTING UTILITIES ARE BASED ON THE BEST INFORMATION AVAILABLE AND ARE APPROXIMATE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY LOCATIONS OF ADJACENT AND/OR CONFLICTING UTILITIES SUFFICIENTLY IN ADVANCE OF CONSTRUCTION IN ORDER THAT HE MAY NEGOTIATE SUCH LOCAL ADJUSTMENTS AS NECESSARY IN THE CONSTRUCTION PROCESS TO PROVIDE ADEQUATE CLEARANCES. ALL UTILITIES ARE TO BE LOCATED INCLUDING POTHOLING BEFORE ANY CONSTRUCTION BEGINS AND WITH THE OWNER'S APPROVAL. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS IN ORDER TO PROTECT ALL SERVICES ENCOUNTERED. ANY DAMAGE TO UTILITIES RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED AT HIS EXPENSE. TEXAS STATE LAW, ARTICLE 1436C, MAKES UNLAWFUL THE OPERATION OF EQUIPMENT OR MACHINES WITHIN 10 FEET OF ANY OVERHEAD ELECTRICAL LINE, UNLESS DANGER AGAINST CONTACT WITH HIGH VOLTAGE LINES HAS BEEN EFFECTIVELY PROVIDED, PURSUANT TO THE PROVISIONS OF THE ARTICLE. WHEN CONSTRUCTION OPERATIONS REQUIRE WORKING NEAR AN OVERHEAD ELECTRICAL LINE, THE CONTRACTOR SHALL CONTACT THE OWNER/OPERATOR OF THE OVERHEAD ELECTRICAL LINE TO MAKE ADEQUATE ARRANGEMENTS AND TO TAKE NECESSARY SAFETY PRECAUTIONS TO ENSURE THAT ALL LAWS, ELECTRICAL LINE OWNER/OPERATOR REQUIREMENTS AND STANDARD INDUSTRY SAFETY PRECAUTIONS ARE MET. ALSO SEE GENERAL NOTE NO. 3D. THE CONTRACTOR SHALL CONTACT THE FOLLOWING UTILITY COMPANIES 72 HOURS PRIOR TO DOING ANY WORK IN THE AREA:
- | | |
|---|---------------------------|
| A. CITY OF MURPHY PUBLIC WORKS (MATT FOSTER) | (972) 468-4396 |
| B. FARMERS ELECTRIC COOPERATIVE INC. (FRANK SPATARO) | (903) 455-1715 EXT 4083 |
| C. ONCOR ELECTRIC DISTRIBUTION (RICHARD BREWSTER) | (214) 486-4245 |
| D. ATMOS MIDTX (CARY S WILBURN) | (972) 964-4108 |
| E. COSERV GAS LTD (LANCE TAHCHAWMCKAH) | (940) 321-7800 EXT 6936 |
| F. PHILLIPS 66 PIPELINE LLC (BEAUX BROACH) | (832) 765-1758 |
| G. TIME WARNER CABLE/SPECTRUM (PATRICK SAULS) | Patrick.Sauls@charter.com |
| H. FRONTIER COMMUNICATIONS INC. (WILLIAM KING) | (469) 978-2890 |
| I. CTLQX-CENTURY LINK (ALAN SMITH) | (918) 547-0050 |
| J. SPRINT NEXTEL (JAMES B STUART) | (972) 791-8556 |
| K. NORTH TEXAS MUNICIPAL WATER DISTRICT (ERIC DAUGHTRY) | (469) 626-4569 |
| L. EXPLORER PIPELINE | (918) 591-3141 |
3. HORIZONTAL DATUM IS REFERENCED TO NAD '83. VERTICAL DATUM IS REFERENCED TO NGVD '88.
4. PROTECTION OF EXISTING: IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PERFORM THE FOLLOWING:
- A. PROVIDE EXTENSIVE PHOTOS AND VIDEOS TO THE CITY BEFORE ANY WORK TAKES PLACE.
- B. PREVENT ANY PROPERTY DAMAGE TO THE OWNER'S POLES, FENCES, SHRUBS, MAILBOXES, ETC.
- C. PROVIDE ACCESS TO DESIGNATED DRIVES DURING CONSTRUCTION.
- D. PROTECT ALL UNDERGROUND AND OVERHEAD UTILITIES AND REPAIR DAMAGES. ALSO SEE GENERAL NOTES NO. 2.
- E. NOTIFY ALL UTILITY COMPANIES AND VERIFY LOCATION OF ALL UTILITIES PRIOR TO THE START OF CONSTRUCTION.
- F. WORK IN CLOSE PROXIMITY TO PROTECT EXISTING UTILITY MAINS, LIGHTS AND POLES.
- G. ANY ITEM NOT SPECIFICALLY CALLED OUT TO BE REMOVED SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER PRIOR TO REMOVING THAT ITEM OR IT SHALL BE REPLACED AT THE CONTRACTOR'S OWN EXPENSE.
- H. ANY TREE, SHRUB, OR GRASSED AREAS DAMAGED BY THE CONTRACTOR'S WORK OUTSIDE THE GENERAL CONSTRUCTION AREA SHALL BE REPAIRED OR REPLACED TO THE PRE-PROJECT CONDITION, OR BETTER, AT THE CONTRACTOR'S EXPENSE.
5. COORDINATION OF WORK: IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE HIS WORK WITH ANY PUBLIC OR PRIVATE UTILITY ENGAGED IN INSTALLATION OF NEW OR ADJUSTMENT OF EXISTING FACILITIES ON THE PROJECT SITE. ALL PHASES OF CONSTRUCTION MUST BE COORDINATED WITH THE OWNER. THE CONTRACTOR SHALL MAINTAIN MAINS AND SERVICES AND RESTORE SERVICE IN CASE OF ANY DAMAGE.
6. GENERAL SITE PREPARATION, AND CLEAN-UP FOR FINAL ACCEPTANCE:GENERAL SITE PREPARATION WILL CONSIST OF ALL OTHER ITEMS AND WORK NOT SPECIFICALLY CALLED OUT IN OTHER ITEMS. THE CONTRACTOR SHALL MAKE A FINAL CLEAN-UP OF ALL PARTS OF THE WORK BEFORE ACCEPTANCE. THIS CLEAN-UP SHALL INCLUDE REMOVAL OF ALL OBJECTIONABLE MATERIALS AND, IN GENERAL, PREPARING THE SITE OF THE WORK IN AN ORDERLY MANNER OF APPEARANCE. THIS WORK AND THE NECESSARY GRADING SHALL BE INCIDENTAL, EXCEPT FOR THE CHANNEL CULVERT IMPROVEMENT.
- A. THE PROJECT SITE IS EXPECTING TO LOOK LIKE IT WAS BEFORE CONSTRUCTION BEGAN WORK. GRADING AND DRAINAGE IS THE MOST IMPORTANT ITEM.
7. ALL EXCAVATIONS, TRENCHING AND SHORING OPERATIONS SHALL COMPLY WITH THE REQUIREMENTS OF THE U. S. DEPARTMENT OF LABOR, OSHA, "CONST. SAFETY AND HEALTH REGULATIONS.", VOL. 29, SUBPART P. PG. 128 - 137, AND ANY AMENDMENTS THERETO.
8. MATERIALS: THE CONTRACTOR SHALL USE MATERIALS THAT MEET ASTM SPECIFICATIONS AND THE REQUIREMENTS OF THE APPROPRIATE ITEM DETAILED IN THESE PLANS AND SPECIFICATIONS OR AS DESCRIBED IN THE "NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION", THE "TXDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MAINTENANCE OF HIGHWAYS, STREET AND BRIDGES", AND/OR THE "TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES", CURRENT EDITIONS. ALL MATERIALS AND EQUIPMENT FURNISHED UNDER THIS CONTRACT SHALL BE NEW UNLESS OTHERWISE SPECIFIED IN THE CONTRACT DOCUMENTS. IF REQUIRED BY THE OWNER, THE CONTRACTOR SHALL FURNISH SATISFACTORY EVIDENCE AS TO THE KIND AND QUALITY OF MATERIALS AND EQUIPMENT.
9. ITEMS OF WORK NECESSARY TO COMPLETE THE PROJECT FOR WHICH NO PAY ITEM EXISTS, WILL BE INCIDENTAL TO THE PAY ITEM WITH WHICH IT IS MOST CLOSELY ASSOCIATED, OR TO THE PAY ITEM "GENERAL SITE PREPARATION AND GRADING", AND WILL NOT BE PAID FOR SEPARATELY.







10. A LIST OF ITEMS AND A SCHEDULE OF PLAN QUANTITIES IS GIVEN ON SHEET 4. THE QUANTITIES GIVEN ARE FOR INFORMATION PURPOSES. FINAL QUANTITIES MAY VARY FROM PLAN QUANTITIES (EXCEPT WHERE NOTED). THE CONTRACTOR SHALL VERIFY AND CONFIRM TO HIS SATISFACTION THE TYPE OF WORK TO BE PERFORMED AND THE QUANTITY OF WORK TO BE PERFORMED AND BID ACCORDINGLY.
11. THE CONTRACTOR SHALL RESTORE ALL AREAS DISTURBED BY CONSTRUCTION TO ORIGINAL CONDITION OR BETTER. RESTORED AREAS INCLUDE, BUT ARE NOT LIMITED TO TRENCH BACKFILL, SIDE SLOPES, FENCES, CULVERT PIPES, DRAINAGE DITCHES, IRRIGATION, SODDING OR SEEDING, DRIVEWAYS, PRIVATE YARDS, AND ROADWAYS.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING FOR ALL CONSTRUCTION STAKING BY A REGISTERED RPLS OF THE STATE OF TEXAS.
13. CONTRACTOR MUST HAVE ALL LEVELS OF WORK INSPECTED BY THE CITY INSPECTOR. CONTRACTOR CAN NOT CONTINUE UNTIL INSPECTION HAS BEEN COMPLETED. ANYTHING COVERED UP WITHOUT APPROVAL OF THE INSPECTOR WILL BE UNCOVERED AT THE CONTRACTOR'S EXPENSE SO THE INSPECTOR CAN VIEW IT.
- A. THE CONTRACTOR MUST CONTACT MATT FOSTER 24 HOURS IN ADVANCE FOR ANY TYPE OF INSPECTION OR TESTING (NO EXCEPTION).
14. THE CONTRACTOR IS RESPONSIBLE FOR KEEPING STREETS AND SIDEWALKS ADJACENT TO THE PROJECT FREE OF MUD AND DEBRIS ARISING FROM CONSTRUCTION ACTIVITIES AT A MINIMUM ON A DAILY BASIS.
15. ANY AREAS THAT ARE UNABLE TO BE MOWED BY PROPERTY OWNERS DUE TO CONSTRUCTION ACTIVITIES AND/OR SIGNAGE, SHALL BY MOWED BY THE CONTRACTOR. SITE SHALL BE MAINTAINED IN ACCORDANCE TO NCTCOG SPEC. 107.25.
16. THE CONTRACTOR IS REQUIRED TO VIDEO THE ENTIRE CORRIDOR(S) FOR THE ENTIRE LENGTH OF THE PROJECT PRIOR TO CONDUCTING ANY CONSTRUCTION ACTIVITIES. A DIGITAL COPY SHALL BE PROVIDED TO THE CITY ON A COMPACT DISC OR FLASH DRIVE.
17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL TRAFFIC CONTROL FOR THIS PROJECT INCLUDING ANY DETOUR SIGNAGE FOR THE PHASING OF THE WORK PER MUTCD STANDARDS
18. CONTRACTOR'S RESPONSIBILITY FOR THE WORK: THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL INSTALLATIONS UNTIL ACCEPTED AS REQUIRED BY THE GENERAL PROVISIONS AND REQUIREMENTS.
19. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING A CLEAN AND ORGANIZED WORKSITE.
20. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS, INCLUDING CITY PERMITS. 404 PERMITTING HAS BEEN PROVIDED BY THE CITY/ENGINEER.
21. THE CONTRACTOR IS RESPONSIBLE FOR WORKING WITHIN THE CONSTRUCTION LIMITS AS DESIGNATED ON THE PLAN SHEETS.
22. ADEQUATE MEASURES SHALL BE TAKEN TO PREVENT EROSION. IN THE EVENT THAT SIGNIFICANT EROSION OCCURS AS A RESULT OF CONSTRUCTION THE CONTRACTOR SHALL RESTORE TO ORIGINAL CONDITION OR IMPROVE THE ERODED AREA AS SOON AS POSSIBLE.
23. ALL EXCESS SOIL IS TO BE BROUGHT TO THE CITY PUBLIC WORKS STORAGE FACILITIES. THE STORAGE PILE CAN BE ACCESSED ON N. MURPHY RD. JUST NORTH OF THE RR ON THE EAST SIDE OF ROAD. SOIL IS TO BE PLACED ON THE TOP OF THE PILE AND SPREAD BY THE CONTRACTOR AS NEEDED DURING THE PROJECT AND ONE LAST TIME WHEN PROJECT IS FINISHED.
- A. THE CITY WANTS ONLY CLEAN SOIL.
- B. THE CITY WILL NOT ACCEPT ANY SOIL THAT HAS ANY KIND OF DEBRIS SUCH AS ROCK, CONCRETE, GRASS, ROOTS, TREE LIMBS, BRICKS, TRASH, ETC. ANY LOADS WITH ANY OF THE ABOVE ITEMS IN THE SOIL WILL BE ASKED TO HAUL THOSE LOADS SOMEWHERE ELSE EVEN IF THE CONTRACTOR HAS ALREADY DUMPED IT. CONTRACTOR SHALL REMOVE ANY REJECTED LOADS OF SOIL AT HIS OWN EXPENSE.
24. SOD: SOD SHALL BE FURNISHED TO ESTABLISH GROUND COVER NEST TO THE TRAIL AS AN EROSION CONTROL MEASURE. THE CONTRACTOR SHALL NOT WAIT UNTIL COMPLETION OF THE ENTIRE PROJECT BEFORE DOING WORK. THE PROJECT SHALL NOT BE ACCEPTED BY THE CITY OF MURPHY PRIOR TO THE ESTABLISHMENT OF AT LEAST 80% GROUND COVER.
25. THE PAY ITEM FOR "BLOCK SODDING" SHALL INCLUDE ALL WATERING OF SOD DURING THE RESTORATION AND ESTABLISHMENT. SOD PLACED IN ACCORDANCE TO NCTCOG ITEM 201.1.
26. SEED: SEED SHALL BE PROVIDED MATCHING NATIVE GRASSES FOR THE REGION. THE DISTURBED AREA BEYOND THE REQUIRED SOD LIMITS SHALL BE SEEDED PER SECTION 202.6 OF THE NCTCOG SPECIFICATIONS. HYDROMULCH OR SODDING AND WATERING SHALL BE PAID FOR BY THE SQUARE YARD PER PLAN QUANTITY FOR HYDROMULCH. THE PROJECT SHALL NOT BE ACCEPTED BY THE CITY OF MURPHY PRIOR TO THE ESTABLISHMENT OF AT LEAST 80% GROUND COVER.
27. ANY TREES PROPOSED FOR REMOVAL BY THE CONTRACTOR MUST BE APPROVED BY THE CITY INSPECTOR PRIOR TO REMOVAL. PAYMENT FOR THIS WORK SHALL BE SUBSIDIARY TO THE SITE PREPARATION AND GRADING BID ITEM.
28. STUMPS AND ROOTS TO BE REMOVED ENTIRELY AS PART OF GENERAL SITE PREPARATION
29. AREAS ADJACENT TO THE SIDEWALK, PAVEMENT OR CURB. SHALL BE BACKFILLED WITH NATIVE MATERIAL AND FOUR (4) INCHES TOPSOIL. IF THERE IS AN INSUFFICIENT QUANTITY OF TOPSOIL IN THE NATIVE MATERIAL, THE CONTRACTOR SHALL SUPPLY TOPSOIL AT NO ADDITIONAL COST TO THE OWNER. AFTER THE LOCATIONS HAVE BEEN BACKFILLED WITH TOPSOIL, FOR PAVEMENT AND SIDEWALK AREAS, THE CONTRACTOR SHALL PLACE A THIRTY SIX (36) INCH STRIP OF SOD ALONG ALL UNPAVED EDGES OF THE NEW PAVEMENT OR WALK. THE TYPE OF SOD SHALL BE THE GRASS TYPE THAT IS MOST PREVALENT IN THE SURROUNDING AREA. THE CONTRACTOR WILL BE RESPONSIBLE FOR WATERING AND MAINTAINING "LIVE" SOD UNTIL THE PROJECT IS ACCEPTED OR UNTIL THAT AREA HAS BEEN ACCEPTED BY THE OWNER.
30. ALL EMBANKMENT SHALL BE COMPACTION TESTED AT THE RATE OF ONE TEST PER 50 L.F. PER LIFT. LIFTS SHALL BE NO GREATER THAN 12" LOOSE MATERIAL. TESTS SHALL BE STAGGERED SO THAT TESTS OF ADJACENT LIFTS ARE NOT DIRECTLY OVER THE PREVIOUS LIFTS.

31. CULVERT BEDDING SHALL BE PER THE MANUFACTURER'S RECOMMENDATIONS, CONSTRUCTION PLANS, AND TECHNICAL SPECIFICATIONS AS USED FOR THIS PROJECT.
32. ALL FILL AND SUBGRADE FOR THE CHANNEL CONCRETE APRON, CONCRETE WALLS, AND GROUTED ROCK RIPRAP SHALL BE COMPACTED TO A DENSITY OF AT LEAST NINETY-FIVE (95%) PERCENT STANDARD PROCTOR AS PER ASTM D 698 AT OR UP TO 2% ABOVE OPTIMUM MOISTURE CONTENT. LIFTS SHALL BE AS SPECIFIED PER THE SOILS LAB RECOMMENDATION AND AS APPROVED BY THE CITY. ALL FILL AND SUBGRADE SHALL BE TESTED AS INSTALLED AND CERTIFIED BY AN APPROVED SOILS LABORATORY.
33. WHENEVER "GROUTED RIPRAP" OR "GROUTED ROCK RIPRAP" IS CALLED FOR IN THE PLANS IT SHALL BE GOVERNED BY TXDOT SPECIFICATION NUMBER 432 TYPE R, STONE RIPRAP AND SHALL BE PER TXDOT DETAIL "SRR" EXCEPT WITH A 24 (TWENTY-FOUR) INCH THICKNESS. GROUT SHALL BE PER TXDOT SPECIFICATION 421.
34. FILTER FABRIC MIRAFI 140N, OR APPROVED EQUAL, REQUIRED UNDER ALL RIP-RAP. COST SHALL BE SUBSIDIARY TO RIP-RAP.
35. SAW-CUTTING: THE CONTRACTOR SHALL PERFORM FULL DEPTH SAW-CUT TO PROVIDE A SMOOTH TRANSITION AT CONNECTIONS TO EXISTING PAVEMENT. ALL SAW-CUTTING WILL BE INCIDENTAL TO THE CONTRACT. REMOVAL AND REPLACEMENT OF EXISTING CONCRETE SHALL BE TO THE NEAREST CONSTRUCTION JOINT AND AS APPROVED BY THE INSPECTOR.
36. NO ASPHALT WILL BE CUT UNLESS APPROVED BY THE OWNER.
37. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A CONCRETE MIX (OR MIXES) DESIGN FROM A STATE APPROVED CONCRETE PLANT PRIOR TO THE PRE-CONSTRUCTION MEETING.

BY EXECUTING THE CONTRACTS FOR THE WORK SHOWN IN THIS SET OF CONSTRUCTION DOCUMENTS, THE CONTRACTOR HEREBY ACKNOWLEDGES THAT HE HAS READ AND HAS ACCEPTED ALL GENERAL NOTES AND CONDITIONS EXPRESSED IN THESE DOCUMENTS.

LEGEND

CIRS	5/8" IRON ROD WITH CAP SET STAMPED "SPOONER 5922"
CIRF	IRON ROD WITH CAP FOUND
IRF	IRON ROD FOUND
XCF	"X" CUT FOUND
	CONTROL POINT
	TEMPORARY BENCHMARK
	PROPERTY CORNER MARKER FOUND - AS NOTED
	PROPERTY CORNER SET
	POWER POLE
	GUY WIRE
	TELEPHONE MARKER
	TELEPHONE RISER
	TELEPHONE PULL BOX
	GAS MARKER
	WATER MANHOLE
	WATER METER
	WATER VALVE
	FIRE HYDRANT
	SAN SEWER MANHOLE
	SAN SEWER CLEANOUT
	STORM DRAIN MANHOLE
	IRRIGATION CONTROL VALVE
	UTILITY RISER/BOX
	UTILITY PULL BOX
	UTILITY LINE MARKER
	OVERHEAD ELEC.
	U.G. TELE. LINE
	U.G. FIBER OPTIC
	U.G. GAS
	U.G. WATER
	U.G. SAN SEWER
	U.G. STORM SEWER
	ASPHALT EDGE

	GROUTED ROCK RIP RAP
	PROPOSED 6" CONCRETE SIDEWALK
	ASPHALT PAVEMENT
	CONCRETE APRON
	12"x12" RIBBON CURB
	PROP. SEEDING/TOPSOIL/SOD

NOTICE TO DRAWING HOLDER

NEEL-SCHAFER, INC., HERINAFTER REFERRED TO AS THE ENGINEER HAS PREPARED AND FURNISHED THIS DRAWING TO THE OWNER FOR USE ON THIS PROJECT ONLY. THIS DRAWING SHOULD NOT BE USED ON EXTENSIONS OF THIS PROJECT OR ON ANY OTHER PROJECT. ANY REUSE OF THIS DRAWING, WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY THE ENGINEER, SHALL BE AT THE REUSER'S SOLE RISK AND THE REUSER SHALL INDEMNIFY AND HOLD HARMLESS THE ENGINEER FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES, INCLUDING ATTORNEY'S FEES ARISING OUT OF OR RESULTING THEREFROM.

REVISIONS				DRAWING INFORMATION	
NO.	DATE	BY	DESCRIPTION	N-S PROJECT NO.: 14434.023	
				FILENAME:COVER AND GEN NOTES.dwg	
				SCALE:	
				SURVEYED BY:	
				DSGN: JA	DATE: ___/___/___
				DRWN: CM	DATE: ___/___/___
				CHKD:	DATE:
				QA/QC:	DATE:

SIDEWALK PROJECT T-1

CITY OF MURPHY

PRELIMINARY
FOR REVIEW ONLY

THESE DOCUMENTS ARE FOR DESIGN REVIEW AND NOT INTENDED FOR CONSTRUCTION, BIDDING, OR PERMIT PURPOSES. THEY WERE PREPARED BY, OR UNDER SUPERVISION OF:

WADE J. BARNES	120012	4/16/2024
	P.E. No.	Date



TEXAS REG. No. F-2697

GENERAL NOTES AND
LEGEND

WORKING NUMBER:	SHEET NUMBER:
14434.023	2

STORM SEWER GENERAL NOTES

1. ALL CULVERT PIPE IN THE ROW SHALL BE ASTM C76, CLASS III REINFORCED CONCRETE PIPE (RCP), INSTALLED WITH COMPRESSIVE TYPE JOINTS, UNLESS CAST IN PLACE CONSTRUCTION IS INDICATED IN THE PLANS.
2. REINFORCED CONCRETE PIPE SHALL BE ASTM C76 CLASS III, BEDDED IN CLASS II OR BETTER MATERIAL, AS DEFINED IN ASTM D-2321 AND PLACED AS DIRECTED THEREIN. FOR ALL OTHER PIPE, BEDDING SHALL BE PER THE MANUFACTURER'S RECOMMENDATIONS. BACKFILL SHALL BE NATIVE MATERIAL COMPACTED TO 95% STANDARD PROCTOR DENSITY.
3. ALL TRENCHES SHALL BE COMPACTION TESTED AT THE RATE OF ONE TEST PER MAXIMUM 50 L.F. OF TRENCH PER LIFT. LIFTS SHALL BE NO GREATER THAN 12" LOOSE, TESTS SHALL BE STAGGERED SO THAT TESTS OF ADJACENT LIFTS ARE NOT DIRECTLY OVER THE PREVIOUS LIFT.

STORM WATER POLLUTION PREVENTION PLAN (SWPPP) AND EROSION CONTROL

1. THE CONTRACTOR IS REQUIRED BY THE CLEAN WATER ACT AND EPA REGULATIONS AND THE TPDES AND NPDES GENERAL PERMIT TO DEVELOP A SITE SPECIFIC STORM WATER POLLUTION PREVENTION PLAN (SWPPP) FOR THE PROJECT WHICH INCLUDES ALL AREAS DISTURBED BY THE CONSTRUCTION, INCLUDING BORROW, STAGING AND STORAGE AREAS AND TO SECURE A PERMIT FROM TCEQ. THE SWPPP WITH REQUIRED INSPECTION REPORTS MUST BE KEPT UP ON THE CONSTRUCTION SITE AT ALL TIMES. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR SUBMITTING NOTICE OF INTENT (NOI) AND NOTICE OF TERMINATION (NOT) DOCUMENTS TO TCEQ. THE CONTRACTOR MUST SECURE A PERMIT FROM TCEQ FOR CONSTRUCTION SITES OF ONE (1) OR MORE ACRES OF DISTURBED AREA WITH COPY OF THE NOI AND THE REQUIRED CONSTRUCTION SITE NOTICE POSTED AT THE CONSTRUCTION ENTRANCE IN CLEAR VIEW OF THE PUBLIC DURING THE CONSTRUCTION. A COPY OF THE NOI AND NOT MUST BE SUBMITTED TO THE CITY FOR EACH PERMITTED PROJECT. SEE STATE REGULATIONS GENERAL PERMIT TO DISCHARGE WASTE UNDER THE TEXAS POLLUTION DISCHARGE ELIMINATION SYSTEM (TPDES) NO. 150000.
2. THE CONTRACTOR SHALL CONFORM ACTIVITIES TO THE SWPPP AS SPECIFIED, INCLUDING INSTALLING, MAINTAINING, AND REMOVING POLLUTION CONTROLS, CONDUCTING AND DOCUMENTING INSPECTIONS OF POLLUTION CONTROLS, SPRINKLING FOR DUST CONTROL, MAINTAINING SPILL RESPONSE EQUIPMENT ON-SITE, AND "GOOD HOUSEKEEPING". POLLUTION CONTROLS INCLUDE SILT FENCE (OR EROSION CONTROL MATS), STABILIZED CONSTRUCTION ENTRANCE, ESTABLISHING GRASS, SPRINKLING FOR DUST CONTROL, ETC. DEPARTMENT.
3. EROSION CONTROL MEASURES MAY ONLY BE PLACED IN FRONT OF INLETS, OR IN CHANNELS, DRAINAGEWAYS OR BORROW DITCHES AT RISK OF CONTRACTOR. CONTRACTOR SHALL REMAIN LIABLE FOR ANY DAMAGE CAUSED BY THE MEASURES, INCLUDING FLOODING DAMAGE, WHICH MAY OCCUR DUE TO BLOCKED DRAINAGE. AT THE CONCLUSION OF ANY PROJECT, ALL CHANNELS, DRAINAGEWAYS AND BORROW DITCHES IN THE WORK ZONE SHALL BE DREDGED OF ANY SEDIMENT GENERATED BY THE PROJECT OR DEPOSITED AS A RESULT OF EROSION CONTROL MEASURES. PAYMENT FOR EROSION CONTROL FEATURES SHALL BE INCLUDED IN THE SWPPP.
4. THE CONTRACTOR IS RESPONSIBLE FOR KEEPING STREETS AND SIDEWALKS ADJACENT TO THE PROJECT FREE OF MUD AND DEBRIS ARISING FROM THE CONSTRUCTION ACTIVITY.
5. THE PAY ITEM "STORM WATER POLLUTION PREVENTION PLAN / EROSION CONTROL" SHALL INCLUDE ALL ITEMS NECESSARY FOR PREPARING, PROVIDING, MAINTAINING, AND REPORTING TO SATISFY THE NATIONAL, STATE, AND LOCAL REQUIREMENTS FOR A FULLY FUNCTIONING STORM WATER POLLUTION PREVENTION PLAN.

QUALITY CONTROL TESTING NOTES

1. THE CITY SHALL BE RESPONSIBLE FOR OBTAINING THE SERVICES OF A TESTING LABORATORY AND THE COST OF INITIAL TESTING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COSTS OF ANY RETESTS NEEDED TO SHOW COMPLIANCE WITH THE CITY STANDARDS AND/OR PROJECT SPECIFICATIONS. THE CONTRACTOR SHALL GIVE A MINIMUM 24-HOUR NOTICE TO THE CITY'S INSPECTOR OF NEEDED SERVICES FROM THE TESTING LABORATORY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY LABORATORY CHARGES IF NOT READY FOR TESTING WHEN THE 24-HOUR NOTIFICATION HAD BEEN MADE TO THE CITY.

PAVING GENERAL NOTES

1. ALL FILL WITHIN THE ROW SHALL BE COMPACTED TO A DENSITY OF AT LEAST NINETY-EIGHT (98%) PERCENT STANDARD PROCTOR AS PER ASTM D 698 AT OR UP TO 2% ABOVE OPTIMUM MOISTURE CONTENT. LIFTS SHALL BE AS SPECIFIED PER THE SOILS LAB RECOMMENDATION AND AS APPROVED BY THE CITY. ALL FILL SHALL BE TESTED AS INSTALLED AND CERTIFIED BY AN APPROVED SOILS LABORATORY.
2. ALL FILL OUTSIDE OF THE ROW SHALL BE COMPACTED TO A DENSITY OF AT LEAST NINETY-FIVE (95%) PERCENT STANDARD PROCTOR AS PER ASTM D 698 AT OR UP TO 2% ABOVE OPTIMUM MOISTURE CONTENT. LIFTS SHALL BE AS SPECIFIED PER THE SOILS LAB RECOMMENDATION AND AS APPROVED BY THE CITY. ALL FILL SHALL BE TESTED AS INSTALLED AND CERTIFIED BY AN APPROVED SOILS LABORATORY.
3. THE CONTRACTOR SHALL PROCEED WITH PAVING NO MORE THAN TWENTY-FOUR (24) HOURS AFTER DENSITY/MOISTURE TESTS HAVE BEEN TAKEN AND PASSED BY A REGULAR TESTING FIRM. COPIES OF THE TEST RESULTS SHALL BE FURNISHED TO THE CITY. IN THE EVENT PAVING OPERATIONS HAVE NOT COMMENCED WITHIN THE TWENTY-FOUR (24) HOUR LIMIT, A RETEST SHALL BE REQUIRED AT THE CONTRACTOR'S EXPENSE.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING ALL LOT CORNERS DISTURBED BY CONSTRUCTION TO CURRENT STANDARDS OF PRACTICE AS SET BY TBPELS AND THE TSPS.
5. THE CONTRACTOR SHALL PREPARE ALL TRAFFIC CONTROL PLANS AND SUBMIT TO THE CITY PRIOR TO THE ISSUANCE OF ANY CONSTRUCTION PERMITS FOR WORK WITHIN THE CITY. THE PLAN SHALL BE PREPARED IN ACCORDANCE WITH THE CURRENT EDITION OF THE MUTCD AND AS MODIFIED WITH THE TEXAS TMUTCD SUPPLEMENT AND NCTCOG REQUIREMENTS. THE PLAN SHALL ADDRESS THE REQUIREMENTS FOR ALL ELECTRONIC MESSAGE/ARROW BOARDS, SIGNS, BARRICADES, FLAGMEN, LIGHTS, HOURS OF CONSTRUCTION, AND OTHER DEVICES AS NECESSARY FOR SAFE TRAFFIC CONTROL.
6. PRIOR TO ACCEPTANCE OF THE IMPROVEMENTS, AN INSPECTION BY A REGISTERED ACCESSIBILITY SPECIALIST SHALL BE CONDUCTED AND ALL SUBSEQUENT WORK RESULTING FROM THE INSPECTION MUST BE COMPLETED.
7. REINFORCED CONCRETE PAVEMENT:

A. ALL CURBS SHALL BE PLACED INTEGRAL WITH PAVEMENT UNLESS OTHERWISE APPROVED BY THE OWNER.

B. CURBS SHALL MEET THE SAME COMPRESSIVE STRENGTH AS SPECIFIED FOR THE PAVEMENT.

C. BAR LAPS SHALL BE 30 DIAMETERS.

D. REINFORCING BARS SHALL BE SUPPORTED BY CHAIRS OR OTHER DEVICES APPROVED BY THE OWNER.
8. ANY DAMAGE DONE INCURRED BY CONSTRUCTION ACTIVITIES TO EXISTING ROADWAY OR SIDEWALK PANELS MUST BE REPLACED WITH FULL PANELS. CITY WILL NOT ACCEPT PATCHES FOR REPAIRS.
9. TYPE 2 WHITE PIGMENTED CURING COMPOUND SHALL BE APPLIED TO ALL NEWLY INSTALLED CONCRETE.
10. NEW CONCRETE SHALL RECEIVE A LIGHT BROOM FINISH.
11. WHERE NEW CONCRETE TIES TO EXISTING CONCRETE DOWEL AND EPOXY GROUT NEW REINFORCING STEEL INTO EXISTING CONCRETE.
12. NO WATER, RAIN SPOTS, WASH POLY COVERING OR SURFACE MARKING DAMAGE OF ANY KIND WILL BE ACCEPTED. ANY CONCRETE PLACED LATE IN THE DAY MUST BE MANNED AND PROTECTED FROM DAMAGE. ANY SURFACE MARKINGS (INCLUDING FOOTPRINTS OR OTHER DEPRESSIONS) THAT OCCUR AFTER FINISH AND APPLICATION OF CURING COMPOUND WHEN CONCRETE HAS HARDENED MAY REQUIRE THAT SECTION OF CONCRETE PAVING TO BE DEMOLISHED AND RE-INSTALLED, SUBJECT TO THE SOLE DETERMINATION OF THE CITY AND AT THE CONTRACTOR'S SOLE EXPENSE.
13. ALL CONCRETE CHANNEL SLOPE PAVING SHALL BE FORMED SUCH THAT ALL EDGES RUNNING UP AND DOWN THE SLOPE SHALL HAVE SMOOTH INTERFACE. NO STEPS ALLOWED.
14. ALL DETECTABLE WARNING PANELS ON BARRIER FREE RAMPS SHALL BE FULL WIDTH OF RAMP.
15. 4" WHITE STRIPING WILL BE MEASURED BY THE LINEAR FOOT OF "PAINT ON THE GROUND", NOT COUNTING GAPS. 4" WHITE DIAMOND STRIPING SURROUNDING BOLLARDS WILL ALSO BE PAID BY THE FOOT.

TRAFFIC CONTROL NOTES

- 1.BARRICADES AND WARNING SIGNS: THE CONTRACTOR SHALL ERECT BARRICADES OR OTHER PEDESTRIAN AND/OR VEHICULAR CONTROL DEVICES TO DETOUR THE PUBLIC AWAY OR THROUGH THE CONSTRUCTION WORK ZONE AND SHALL BE IN ACCORDANCE WITH ACCEPTABLE CONSTRUCTION PRACTICES. THE CONTRACTOR SHALL AT ALL TIMES PROVIDE PROPER BARRICADES AND MAINTAIN TRAFFIC FLOW AS PER GENERALLY ACCEPTED STANDARDS BASED UPON THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD), CURRENT EDITION. THE CONTRACTOR SHALL SUBMIT TO THE OWNER A TRAFFIC CONTROL PLAN PRIOR TO THE ISSUANCE OF ANY CONSTRUCTION PERMITS FOR WORK WITHIN THE CITY AND PRIOR TO BEGINNING CONSTRUCTION ACTIVITIES. THE PLAN SHALL BE PREPARED IN ACCORDANCE WITH THE CURRENT EDITION OF THE MUTCD AND AS MODIFIED WITH THE TEXAS TMUTCD SUPPLEMENT AND NCTCOG REQUIREMENTS. THE PLAN SHALL ADDRESS THE REQUIREMENTS FOR ALL ELECTRONIC MESSAGE/ARROW BOARDS, SIGNS, BARRICADES, FLAGMEN, LIGHTS, HOURS OF CONSTRUCTION, AND OTHER DEVICES AS NECESSARY FOR SAFE TRAFFIC CONTROL. INDIVIDUAL TRAFFIC CONTROL AND PEDESTRIAN SAFETY ITEMS WILL NOT BE PAID FOR SEPARATELY. DEVELOPMENT OF THE PLAN AND IMPLEMENTATION OF ALL TRAFFIC CONTROL AND PEDESTRIAN SAFETY FEATURES SHALL BE COVERED UNDER THIS TRAFFIC CONTROL PLAN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL TRAFFIC CONTROL FOR THIS PROJECT INCLUDING ANY DETOUR SIGNAGE FOR THE PHASING OF THE WORK.
2. HANDLING OF PEDESTRIAN TRAFFIC: ALL CONSTRUCTION OPERATIONS SHALL BE CONDUCTED TO PROVIDE THE LEAST POSSIBLE INTERFERENCE TO PEDESTRIAN TRAFFIC. THE CONTRACTOR SHALL SUBMIT TO THE OWNER A PEDESTRIAN CONTROL PLAN PRIOR TO BEGINNING CONSTRUCTION ACTIVITIES.

MISCELLANEOUS

404 PERMIT - PORTIONS OF THE PROJECT ARE IN WATERS OF THE U.S. CONTRACTOR SHALL ABIDE BY THE NATIONWIDE PERMIT.

LEGEND OF ABBREVIATIONS	
ADA	AMERICANS WITH DISABILITIES ACT
B/C	BACK OF CURB
CIRS	CAPPED IRON ROD SET
EOP	EDGE OF PAVEMENT
F.H.	FIRE HYDRANT
F/L	FLOW LINE
G	GUTTER FLOW LINE
P.P.	POWER POLE
PC	POINT OF CURVATURE
POB	POINT OF BEGINNING
POE	POINT OF END
PRC	POINT OF REVERSE CURVE
PT	POINT OF TANGENCY
PVMT	PAVEMENT
sf	US SURVEY FEET
SSCO	SANITARY SEWER CLEAN-OUT
T/C	TOP OF CURB
T/P	TOP OF PAVEMENT

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				QA/QC:	DATE:

SIDEWALK PROJECT T-1

CITY OF MURPHY

PRELIMINARY
FOR REVIEW ONLY

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WADE J. BARNES	120012	4/16/2024
	P.E. No.	Date



TEXAS REG. No. F-2697

GENERAL NOTES AND
LEGEND

WORKING NUMBER:	SHEET NUMBER:
14434.023	3

City of Murphy Sidewalk Project T-1 Sheet Quantities Final Design											
Pay Item	Description of Items	Unit	Spec. Sect.	General to Project	Sheet 6	Sheet 7	Sheet 8	Sheet 9	Sheet 10	Total	Bid Total
1	Mobilization	LS	TxDOT 500	1						1	1
2	General Site Preparation and Grading (includes clearing and grubbing, excavation, embankment, borrow and haul off and existing landscaping items removal and any paving removal)	LS	203	1						1	1
3	Project Sign	EA	107.21	1						1	1
4	Traffic Control	LS	801	1						1	1
5	Construction Staking	LS	105.4	1						1	1
6	Erosion Control / Environmental Protection / SWPPP	LS	202	1						1	1
7	Block Sodding	SY	204.5		212	234	28			474	500
8	4" White Thermoplastic Striping	LF	TxDOT 666		141	127				268	290
9	24" White Thermoplastic Crosswalk Striping	LF	TxDOT 666				135			135	150
10	Furnish & Install <i>Double</i> 8' x 8' Reinforced Concrete Box Culvert	LF	TxDOT 462					19		19	19
11	Wingwall (PW-1) (HW=10 FT)	EA	TxDOT 466						2	2	2
12	Reinforced Concrete Apron (per detail)(CL A Conc)	SY	803.3					271		271	290
13	Grouted Rock Rip Rap (Type R)(2' Min. Thickness)	CY	TxDOT 432					312		312	330
14	Pedestrian Hand Rail	LF	TxDOT 450						123	123	123
15	Furnish & Install <i>Double</i> 18" RCP CL III	LF	TxDOT 464		18					18	18
16	SET (TY II)(18 IN)(RCP)(4:1)(C)	EA	TxDOT 467		4					4	4
17	Remove Concrete Sidewalk	SY	TxDOT 104				66			66	70
18	6" Reinforced Concrete Sidewalk	SY	305.2		433	441	181			1,055	1,110
19	4" HMAC Base Course Type B	SY	302		165	132				297	320
20	2" HMAC Surface Course Type D	SY	302		165	132				297	320
21	Ribbon (Edge) Curb per detail	LF	305.1		313	315				628	660
22	Seeding / Hydromulch	SY	204.6		1,353	869				2,222	2,340
23	Detectable Warning (2x2' Matt CIP)	EA	TxDOT 531		6	6	19			31	31
24	Bollards (Removable)	EA	TxDOT 5033		3	3				6	6

SIDEWALK T-1 BASELINE ALIGNMENT		
POINT STATIONING	NORTHING	EASTING
BP STA. 1+00.00	7,053,926.18	2,551,530.19
S89°59'59.70"E - 19.96'		
PC STA. 1+19.96	7,053,926.18	2,551,550.15
CURVE DATA DELTA = 17°42'04" RADIUS = 150.00' TANGENT = 23.36' LENGTH = 46.34' CHORD = S81°08'58"E - 46.16'		
PT STA. 1+66.30	7,053,919.08	2,551,595.76
S72°17'55.64"E - 71.69'		
PC STA. 2+37.99	7,053,897.28	2,551,664.06
CURVE DATA DELTA = 28°32'04" RADIUS = 100.00' TANGENT = 25.43' LENGTH = 49.80' CHORD = S86°33'58"E - 49.29'		
PT STA. 2+87.80	7,053,894.33	2,551,713.26
N79°10'00.00"E - 4.53'		
PC STA. 2+92.32	7,053,895.18	2,551,717.70
CURVE DATA DELTA = 10°00'00" RADIUS = 150.00' TANGENT = 13.12' LENGTH = 26.18' CHORD = N84°10'00.00"E - 26.15'		
PT STA. 3+18.50	7,053,897.84	2,551,743.72
N89°10'00.00"E - 166.70'		
PC STA. 4+85.20	7,053,900.26	2,551,910.40
CURVE DATA DELTA = 03°10'59" RADIUS = 200.00' TANGENT = 5.56' LENGTH = 11.11' CHORD = N87°34'30"E - 11.11'		
PT STA. 4+96.31	7,053,900.73	2,551,921.50
N85°59'00.63"E - 138.80'		
PC STA. 6+35.11	7,053,910.46	2,552,059.95
CURVE DATA DELTA = 25°29'30" RADIUS = 150.82' TANGENT = 34.12' LENGTH = 67.10' CHORD = S79°41'17"E - 66.55'		
PRC STA. 7+02.21	7,053,898.54	2,552,125.43
CURVE DATA DELTA = 36°13'15" RADIUS = 150.00' TANGENT = 49.06' LENGTH = 94.83' CHORD = S85°01'32"E - 93.25'		
PCC STA. 7+97.04	7,053,890.46	2,552,218.33
CURVE DATA DELTA = 4°06'19" RADIUS = 150.00' TANGENT = 5.38' LENGTH = 10.75' CHORD = N74°48'41"E - 10.75'		
PT STA. 8+07.78	7,053,893.27	2,552,228.70
N72°45'31.38"E - 25.68'		
EP STA. 8+33.46	7,053,900.88	2,552,253.22

8 FT SIDEWALK BASELINE ALIGNMENT		
POINT STATIONING	NORTHING	EASTING
BP STA. 1+00.00	7,053,881.24	2,552,222.77
N13°56'06.25"W - 16.12'		
PC STA. 1+16.12	7,053,896.88	2,552,218.89
CURVE DATA DELTA = 29°09'10" RADIUS = 60.00' TANGENT = 15.60' LENGTH = 30.53' CHORD = N0°38'29"E - 30.53'		
PT STA. 1+46.65	7,053,927.08	2,552,219.23
N15°13'3.95"E - 6.18'		
PC STA. 1+52.82	7,053,933.04	2,552,220.85
CURVE DATA DELTA = 26°03'29" RADIUS = 61.16' TANGENT = 14.15' LENGTH = 27.82' CHORD = N02°04'29"E - 27.58'		
EP STA. 1+80.64	7,053,960.60	2,552,221.85

MID-BLOCK CROSSING BASELINE ALIGNMENT		
POINT STATIONING	NORTHING	EASTING
BP STA. 1+00.00	7,053,898.96	2,552,250.24
N72°40'03.79"E - 34.87'		
PI STA. 1+34.87	7,053,909.35	2,552,283.52
S19°11'19.28"E - 58.72'		
PI STA. 1+93.58	7,053,853.90	2,552,302.82
N68°28'22.66"E - 76.10'		
EP STA. 2+69.69	7,053,881.82	2,552,373.62

NOTICE TO DRAWING HOLDER

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SIDEWALK PROJECT T-1

CITY OF MURPHY

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TEXAS REG. No. F-2697

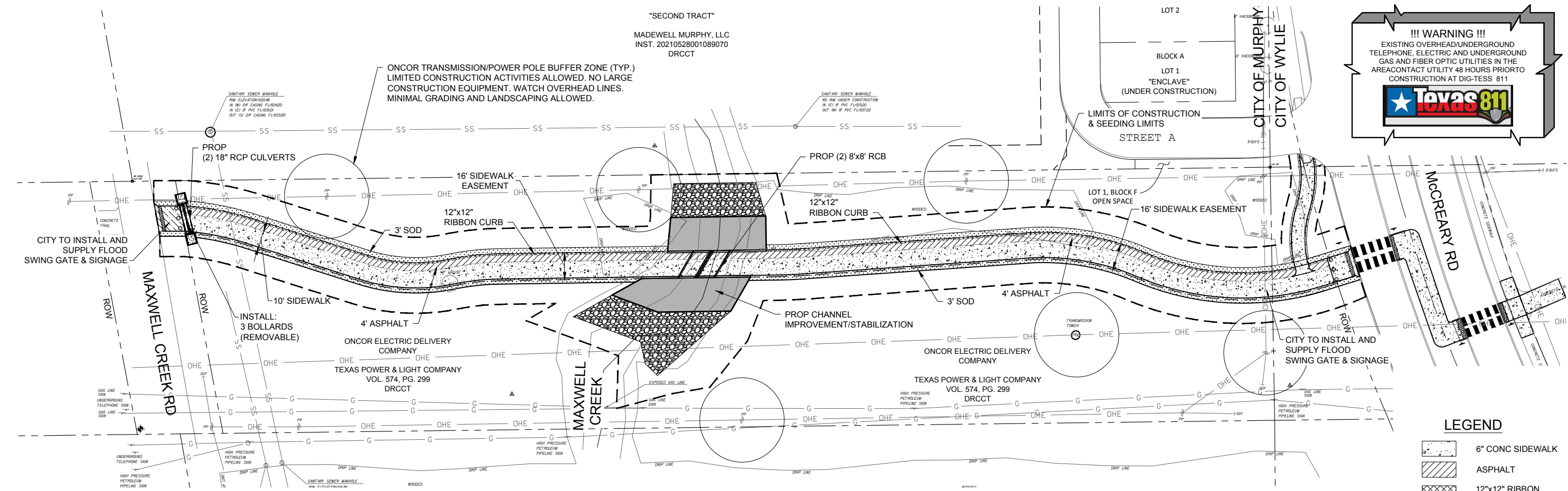
QUANTITIES &
ALIGNMENT DATA

WORKING NUMBER:

14434.023

SHEET NUMBER:

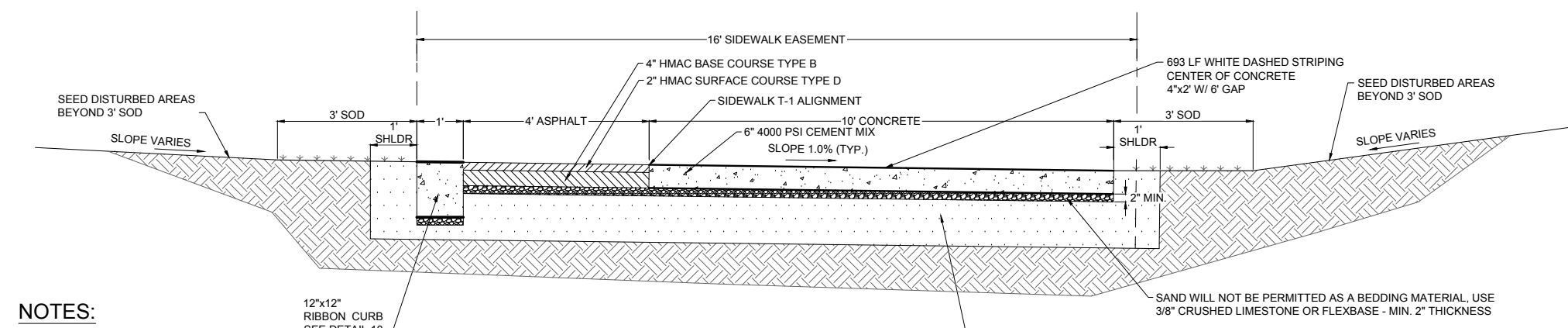
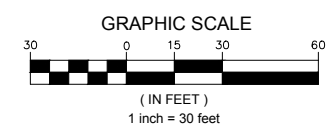
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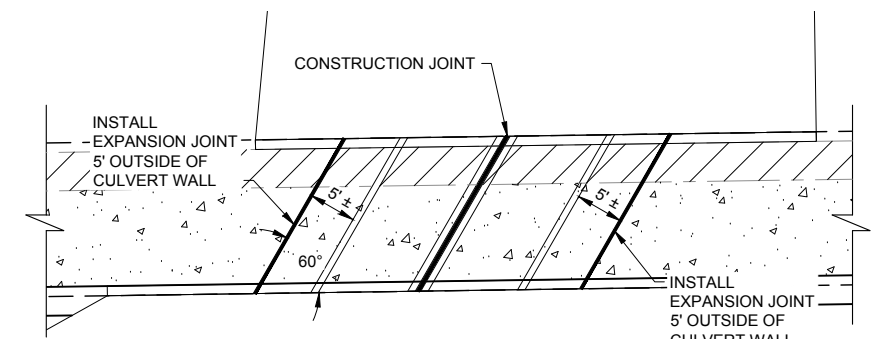
!!! WARNING !!!
EXISTING OVERHEAD/UNDERGROUND
TELEPHONE, ELECTRIC AND UNDERGROUND
GAS AND FIBER OPTIC UTILITIES IN THE
AREA CONTACT UTILITY 48 HOURS PRIOR TO
CONSTRUCTION AT DIG-TESS 811

LEGEND

- 6" CONC SIDEWALK
- ASPHALT
- 12"x12" RIBBON CURB
- SOD
- CONCRETE APRON
- 24" GROUTED ROCK RIP RAP
- 6" CONCRETE TRANSITION



TYPICAL TRAIL SECTION
NOT TO SCALE



APPROACH SLAB DETAIL
NOT TO SCALE

- NOTES:**
- CITY TO SUPPLY TRAIL SIGNS
 - TOTAL DISTURBED ACRES IN MAXWELL CREEK 0.16 AC.
 - SIDEWALK EXPANSION, CONTRACTION, & CONSTRUCTION JOINTS ARE PER DETAIL SHEET 11. EXCEPTION TO SIDEWALK JOINTING IS AT CULVERT LOCATION. SEE DETAIL THIS SHEET.
 - 4" WHITE STRIPING WILL BE MEASURED BY THE LINEAR FOOT OF "PAINT ON THE GROUND", NOT COUNTING GAPS. 4" WHITE DIAMOND STRIPING SURROUNDING BOLLARDS WILL ALSO BE PAID BY THE FOOT.

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			DGSN: JA	DATE: ___/___/___
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SIDEWALK PROJECT T-1

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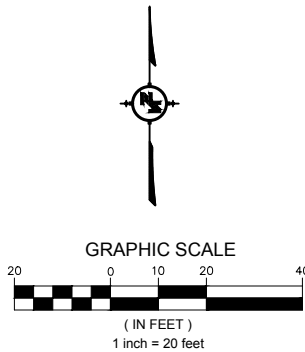
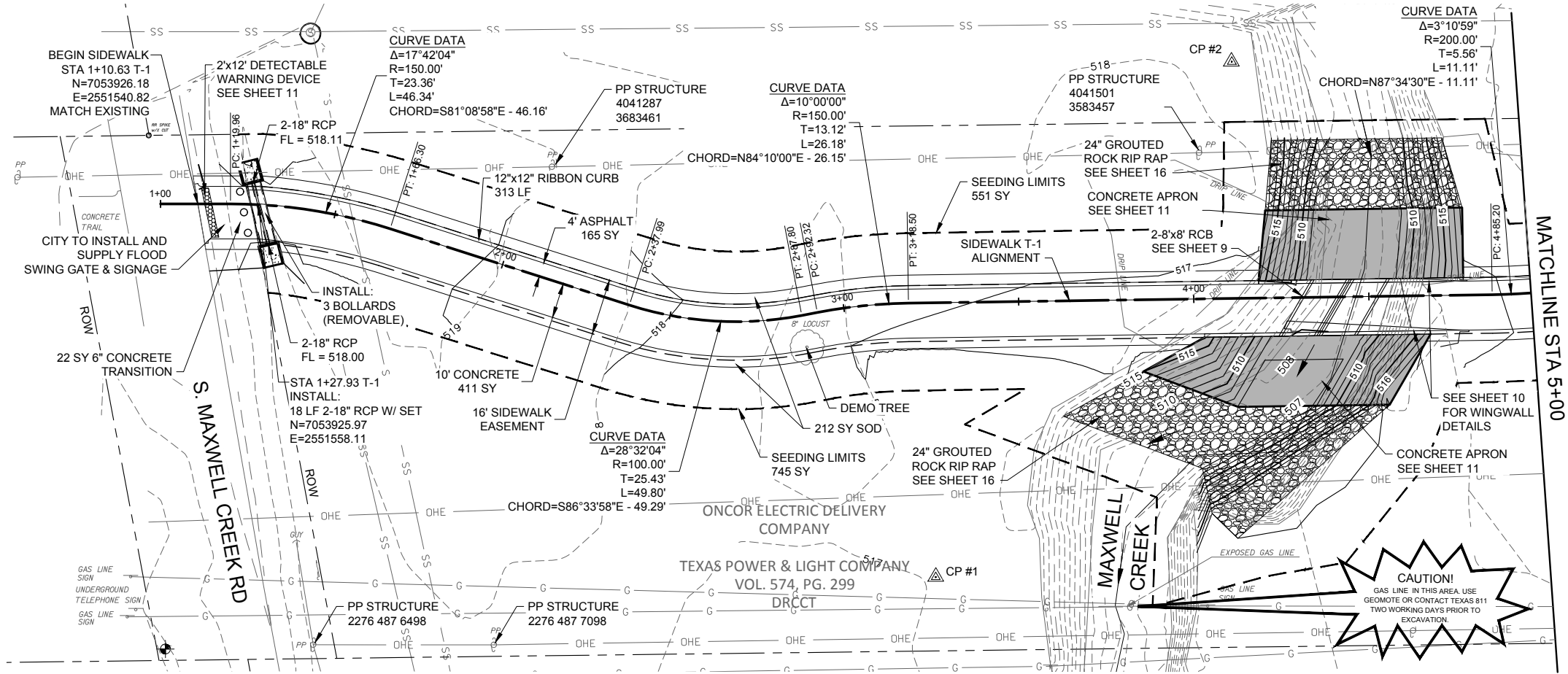
TEXAS REG. No. F-2697

**TYPICAL SECTION &
SITE PLAN**

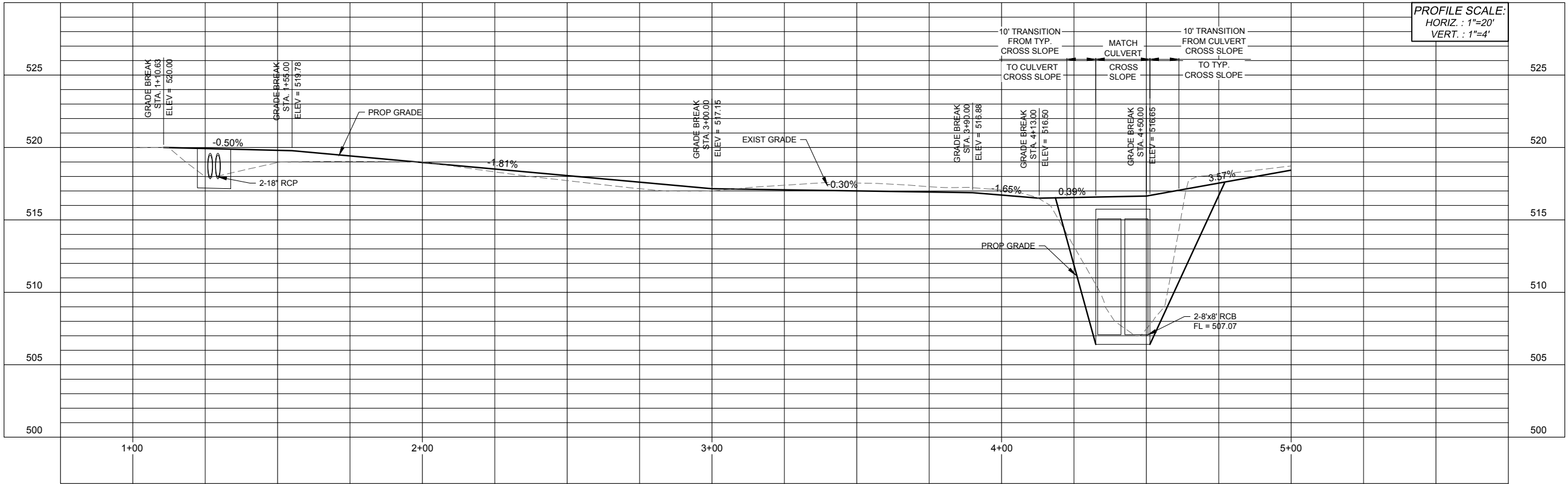
WORKING NUMBER:	SHEET NUMBER:
14434.023	5

PLOTTED BY: Chris Munoz
PLOT TIME: 4/16/2024 1:01 PM
PLOT SCALE: 1"=30'

PROJECT NO. 23-12CPW-4



SURVEY CONTROL POINT TABLE				
POINT	DESCRIPTION	NORTHING	EASTING	ELEV.
1	5/8" CIRS	7,053,819.61	2,551,751.53	517.02'
2	5/8" CIRS	7,053,966.78	2,551,836.05	517.63'



PLOTTED BY: Chris Munoz
PLOT TIME: 4/16/2024 11:43 AM
PLOT TABLE: Neel-Schaffer-N12.ctb

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			DRWN: CM	DATE: ___/___/___
			CHKD:	DATE: ___/___/___
			QA/QC:	DATE: ___/___/___

SIDEWALK PROJECT T-1

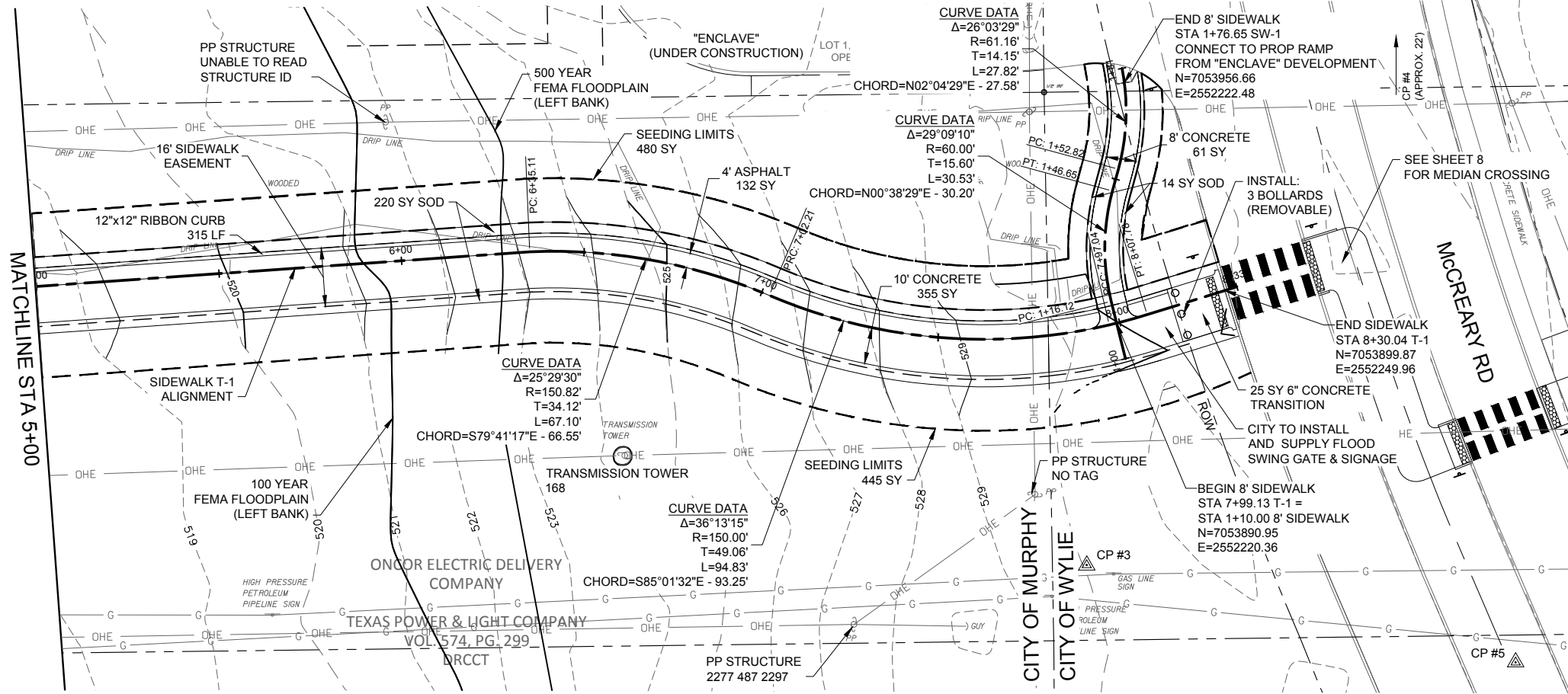
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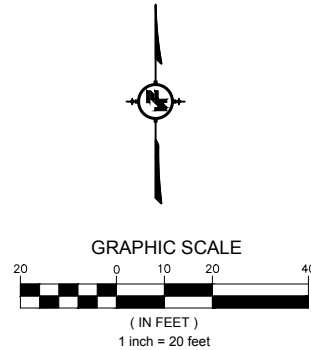
NEEL-SCHAFER
Solutions you can build upon
TEXAS REG. No. F-2697

**SIDEWALK PLAN & PROFILE
BEGIN TO STA. 5+00**
WORKING NUMBER: 14434.023
SHEET NUMBER: 6

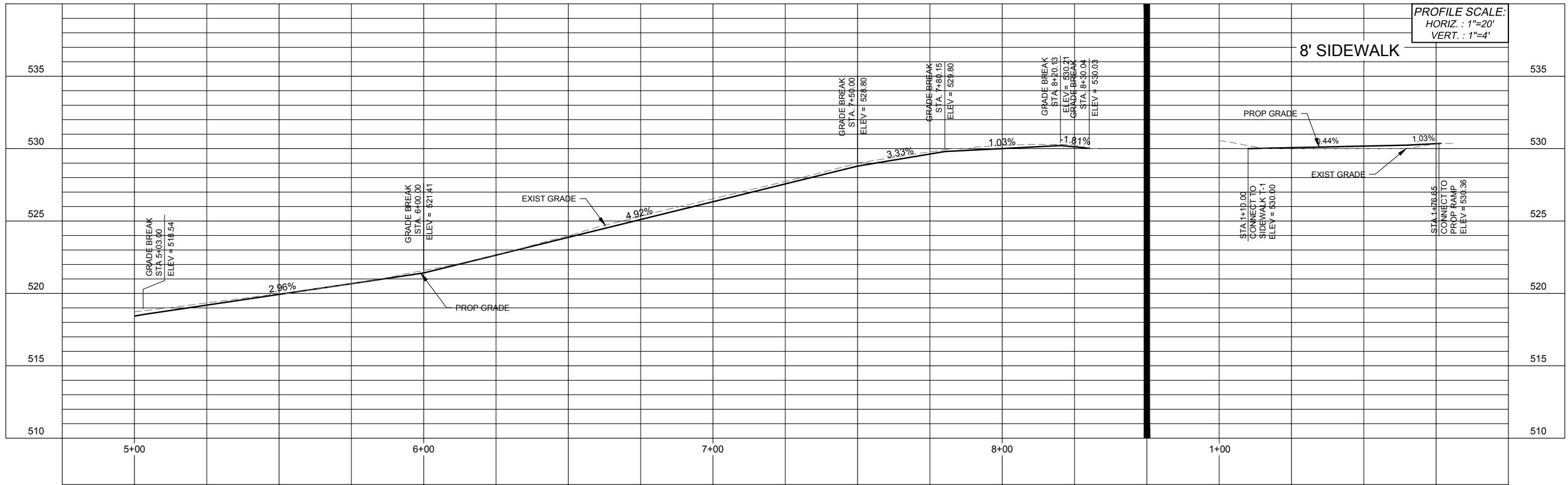
PROJECT NO. 23-12CPW-4



!!! WARNING !!!
EXISTING OVERHEAD/UNDERGROUND
TELEPHONE, ELECTRIC AND UNDERGROUND
GAS AND FIBER OPTIC UTILITIES IN THE
AREA CONTACT UTILITY 48 HOURS PRIOR TO
CONSTRUCTION AT DIG-TESS 811



SURVEY CONTROL POINT TABLE				
POINT	DESCRIPTION	NORTHING	EASTING	ELEV.
3	5/8" CIRS	7,053,824.83	2,552,212.17	530.07'
4	5/8" CIRS	7,053,997.20	2,552,262.50	530.67'
5	5/8" CIRS	7,053,798.20	2,552,329.40	531.14'



PLOTTED BY: Chris Munoz
4/16/2024 11:43 AM
PLOT TITLE: Neel-Schaffer-N12Cpb

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REVISIONS			DRAWING INFORMATION	
NO.	DATE	BY	DESCRIPTION	

SIDWALK PROJECT T-1

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P.E. No. Date

NEEL-SCHAFER

Solutions you can build upon

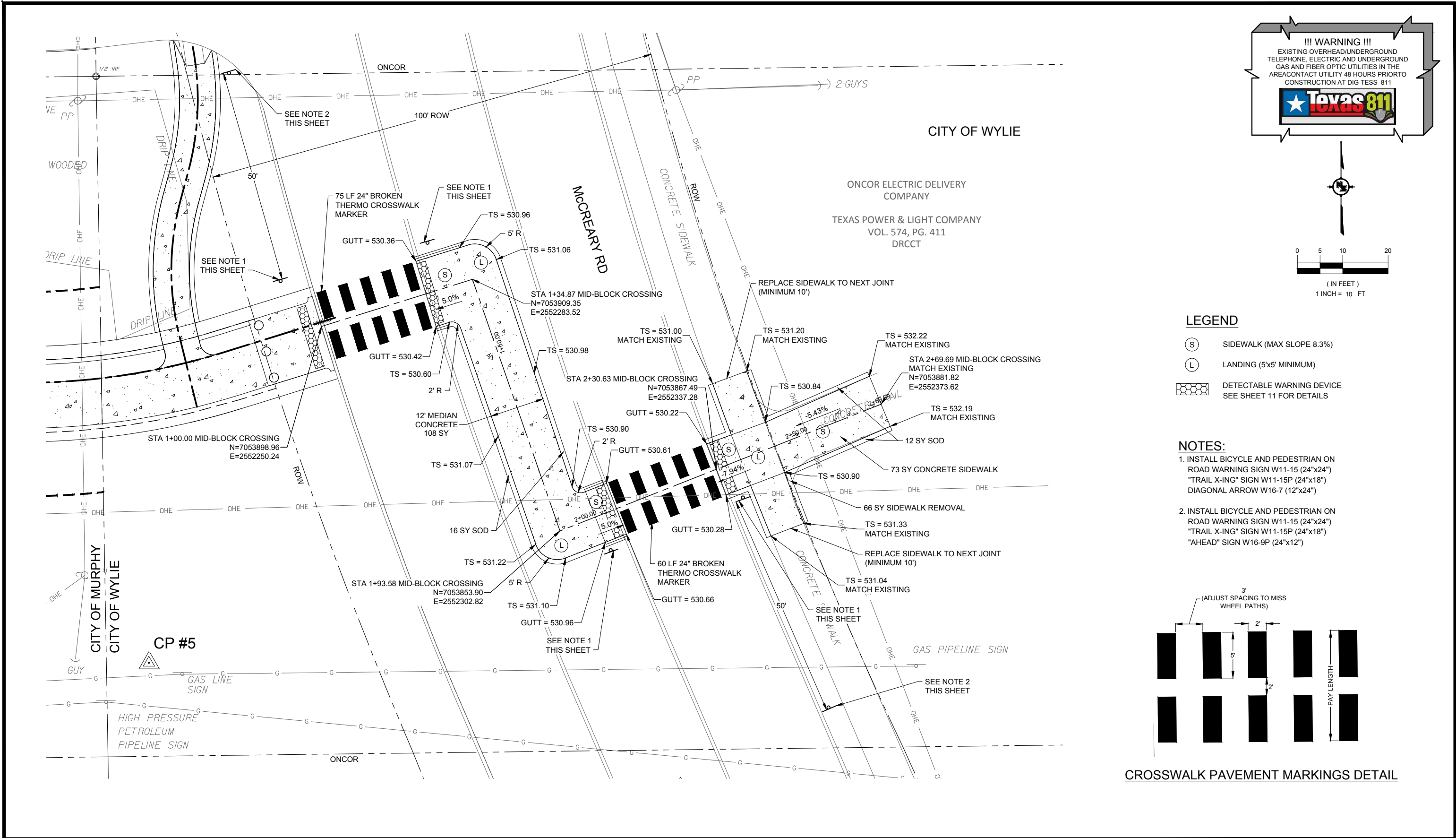
TEXAS REG. No. F-2697


SIDWALK PLAN & PROFILE
STA. 5+00 TO END

WORKING NUMBER: SHEET NUMBER:

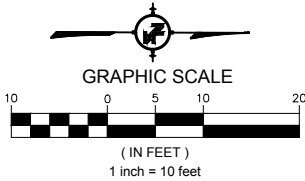
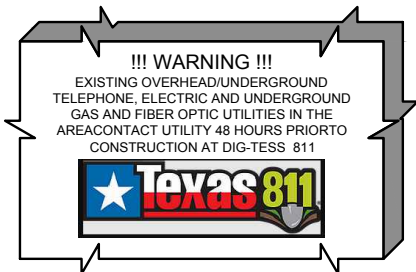
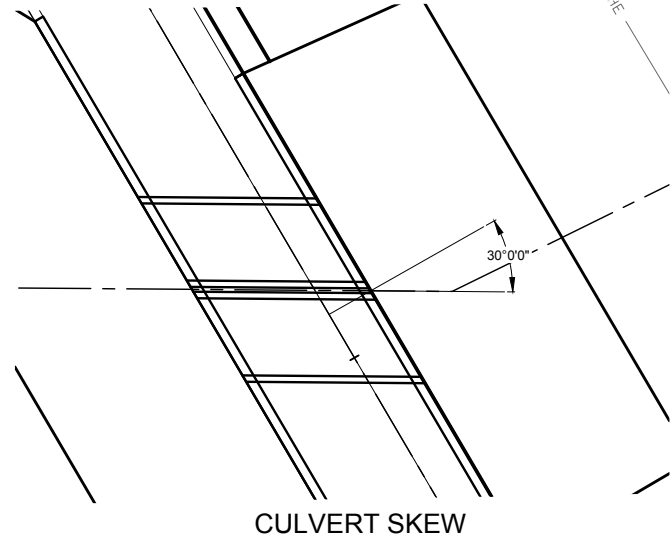
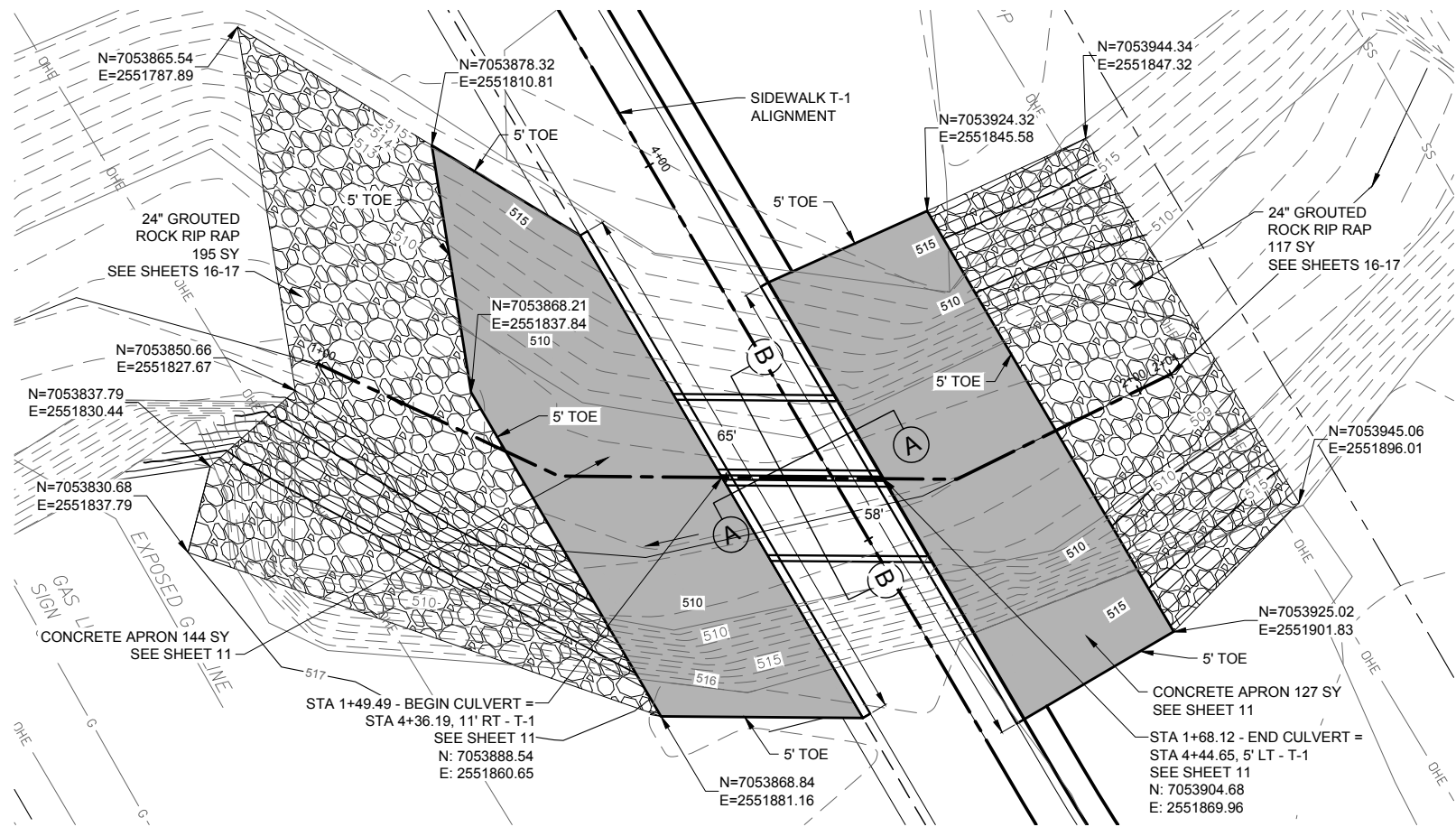
14434.023 7

PROJECT NO. 23-12CPW-4

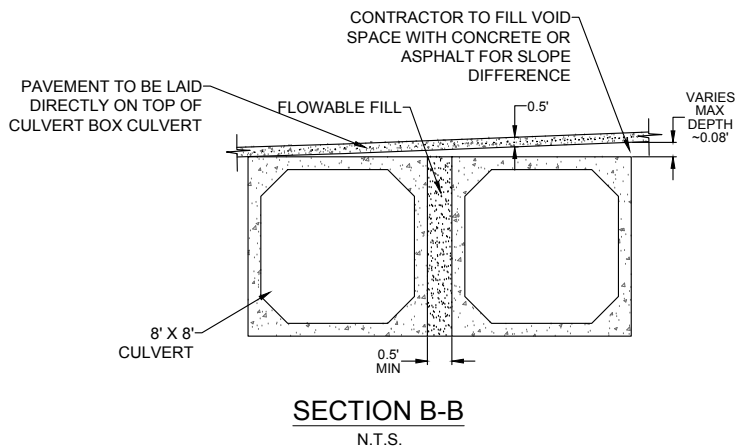
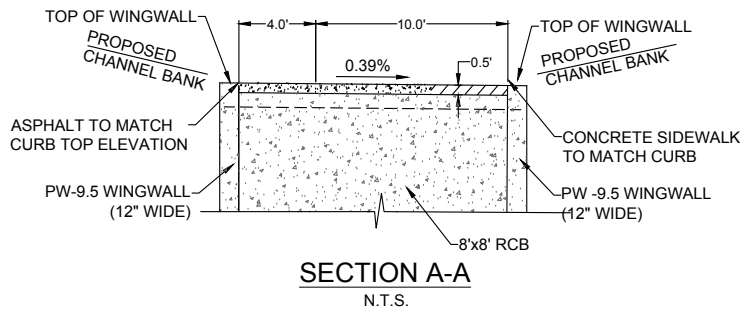
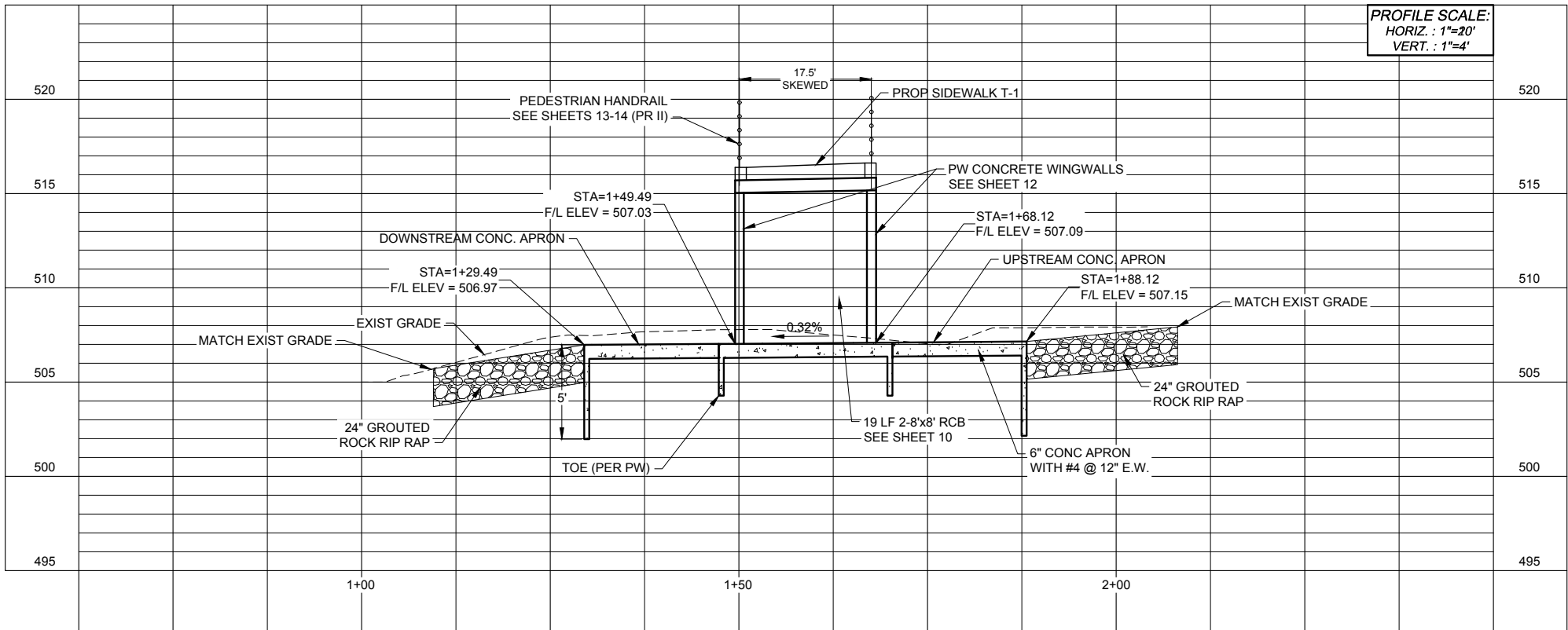


NOTICE TO DRAWING HOLDER NEEL-SCHAFFER, INC., HERINAFTER REFERRED TO AS THE ENGINEER HAS PREPARED AND FURNISHED THIS DRAWING TO THE OWNER FOR USE ON THIS PROJECT ONLY. THIS DRAWING SHOULD NOT BE USED ON EXTENSIONS OF THIS PROJECT OR ON ANY OTHER PROJECT. ANY REUSE OF THIS DRAWING, WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY THE ENGINEER, SHALL BE AT THE REUSER'S SOLE RISK AND THE REUSER SHALL INDEMNIFY AND HOLD HARMLESS THE ENGINEER FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES, INCLUDING ATTORNEY'S FEES ARISING OUT OF OR RESULTING THEREFROM.	REVISIONS			DRAWING INFORMATION		SIDEWALK PROJECT T-1 CITY OF MURPHY	PRELIMINARY FOR REVIEW ONLY THESE DOCUMENTS ARE FOR DESIGN REVIEW AND NOT INTENDED FOR CONSTRUCTION, BIDDING, OR PERMIT PURPOSES. THEY WERE PREPARED BY, OR UNDER SUPERVISION OF: WADE J. BARNES 120012 4/16/2024 P.E. No. Date	 NEEL-SCHAFFER Solutions you can build upon TEXAS REG. No. F-2697	MCCREARY RD MEDIAN CROSSING	
	NO.	DATE	BY	DESCRIPTION	N-S PROJECT NO.: 14434.023				WORKING NUMBER:	SHEET NUMBER:
					FILENAME: T-1-MEDIAN CROSSING.dwg				14434.023	8
					SCALE:					
					SURVEYED BY:					

PLOTTED BY: Chris Munoz
4/16/2024 11:43 AM
PLOT TITLE: Neel-Schaffer-N14Ctb



- NOTES:**
1. ADD FLOWABLE FILL BETWEEN CULVERTS PER TXDOT SPECIFICATION
 2. TOE PER TXDOT DETAIL "CONCRETE WINGWALLS WITH PARALLEL WINGS FOR BOX CULVERTS TYPES PW-1 AND PW-2" (PW) SEE SHEET 12 CULVERT DESIGN FOR FOOT TRAFFIC ONLY
 3. PEDESTRIAN HANDRAIL PER TXDOT DETAIL "PEDESTRIAN TAIL (TYPE PR II)" HANDRAIL TURN DOWN IS NOT REQUIRED SEE SHEET 13-14



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REVISIONS				DRAWING INFORMATION	
NO.	DATE	BY	DESCRIPTION	N-S PROJECT NO.: 14434.023	
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				DSGN: JA	DATE: ___/___/___
				DRWN: CM	DATE: ___/___/___
				CHKD:	DATE: ___/___/___
				QA/QC:	DATE: ___/___/___

DRAWING INFORMATION	
N-S PROJECT NO.: 14434.023	
FILENAME: T-1-CULVERT PP.dwg	
SCALE:	
SURVEYED BY:	
DSGN: JA	DATE: ___/___/___
DRWN: CM	DATE: ___/___/___
CHKD:	DATE: ___/___/___
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SIDEWALK PROJECT T-1

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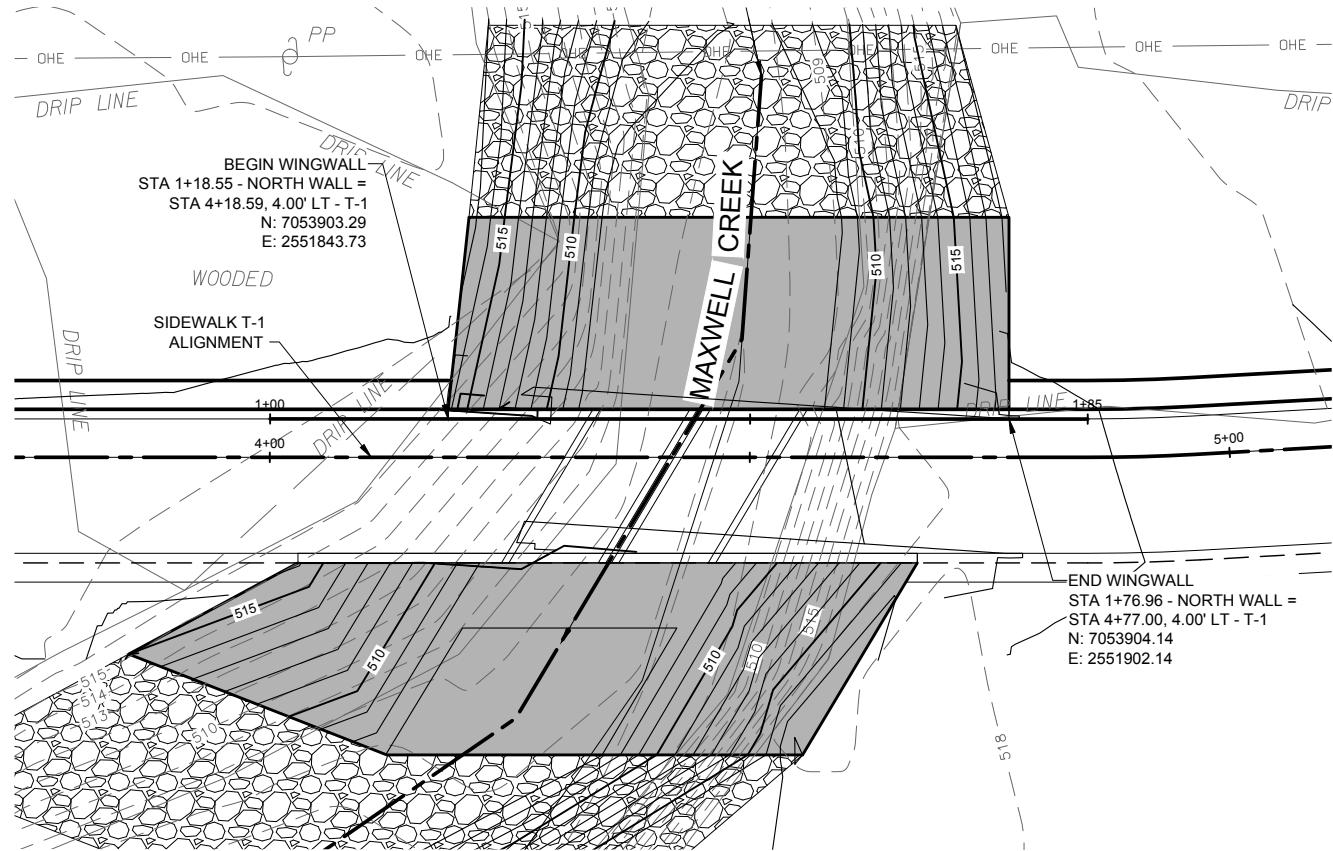


TEXAS REG. No. F-2697

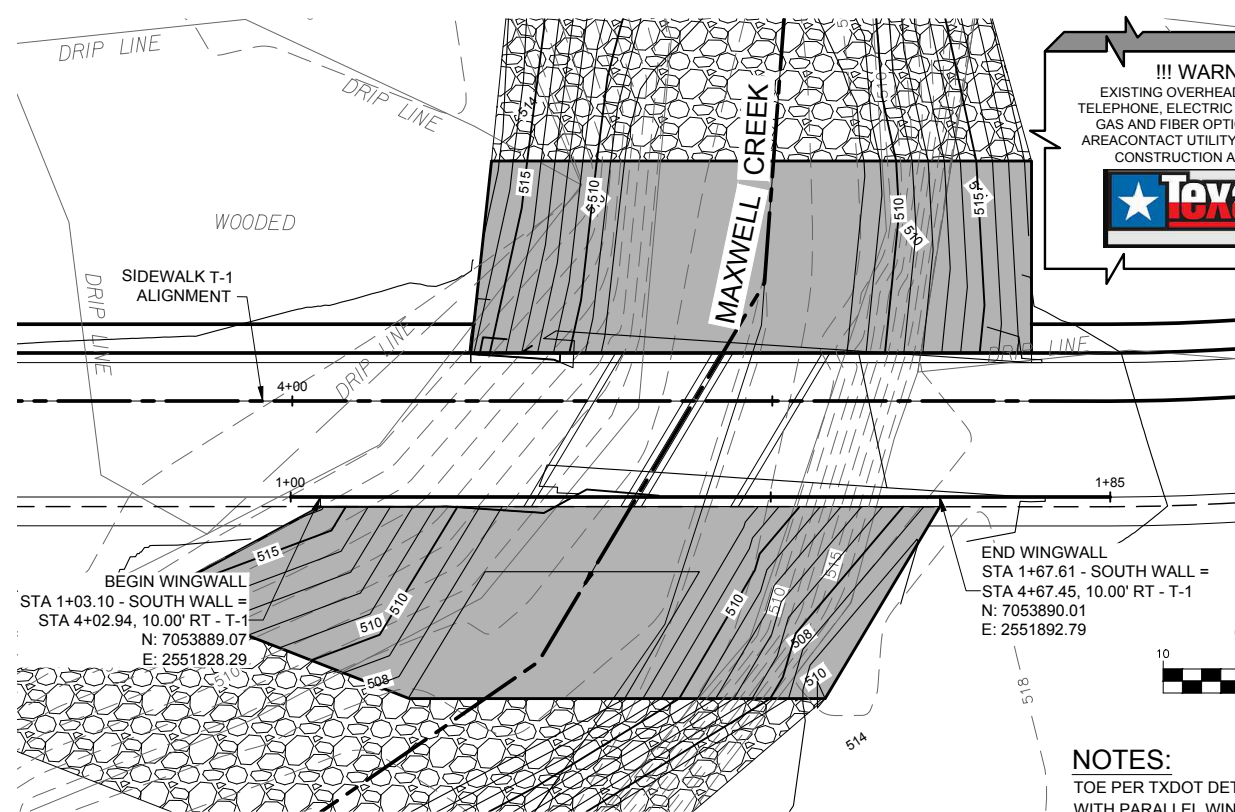
CULVERT PLAN & PROFILE

WORKING NUMBER:
14434.023

SHEET NUMBER:
9

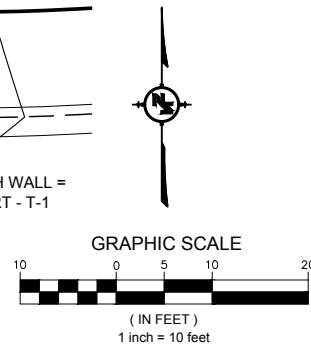


NORTH WING WALL



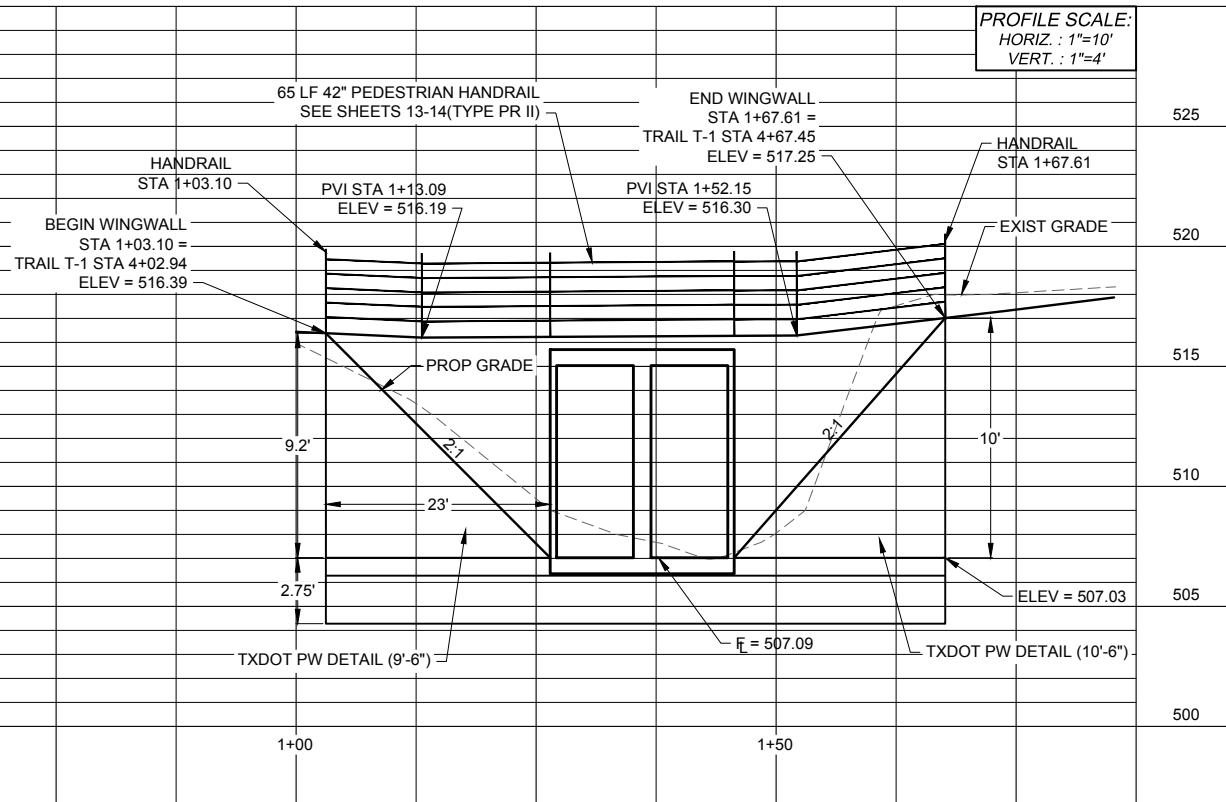
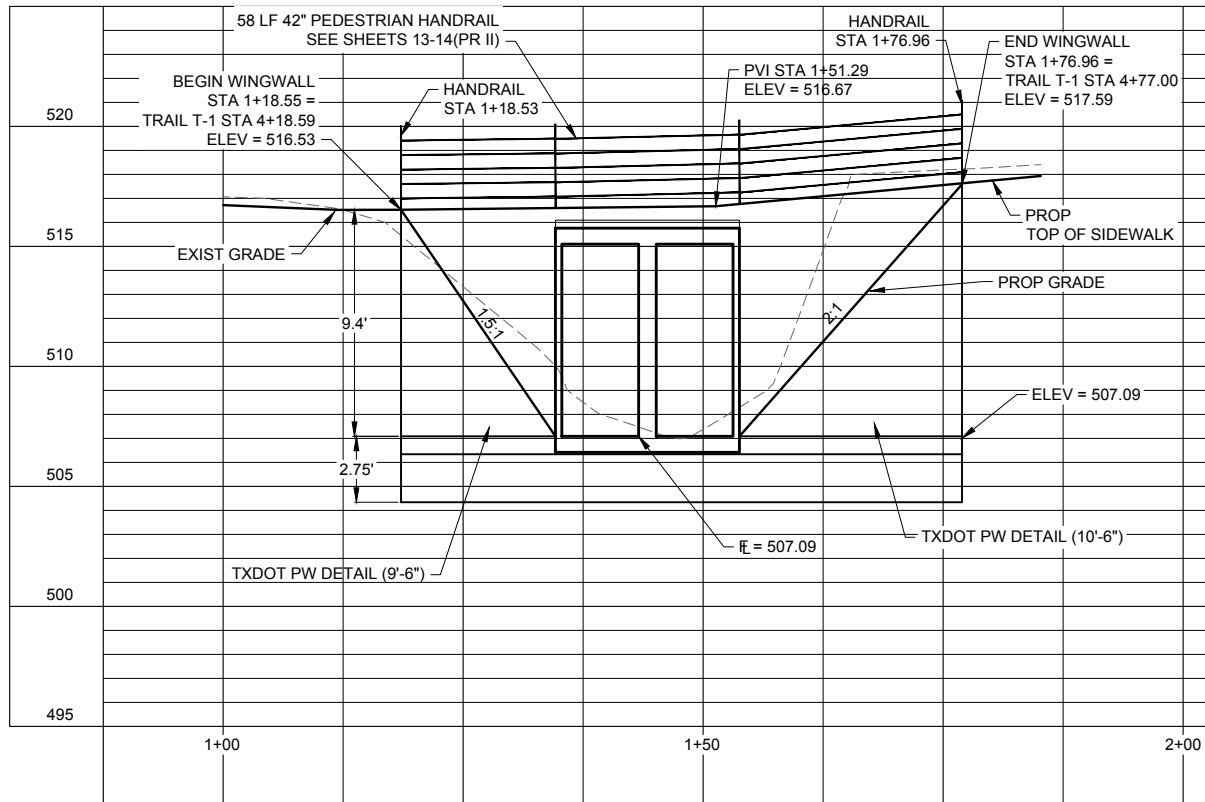
SOUTH WING WALL

!!! WARNING !!!
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CONSTRUCTION AT DIG-TESS 811



NOTES:
TOE PER TXDOT DETAIL "CONCRETE WINGWALLS
WITH PARALLEL WINGS FOR BOX CULVERTS
TYPES PW-1 AND PW-2" (PW) SEE SHEET 12

PEDESTRIAN HANDRAIL PER TXDOT DETAIL
"PEDESTRIAN TAIL (TYPE PR II)"
SEE SHEET 13-14



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REVISIONS				DRAWING INFORMATION	
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				SCALE:	
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				DRWN: CM	DATE: ___/___/___
				CHKD:	DATE: ___/___/___
				QA/QC:	DATE: ___/___/___

DRAWING INFORMATION	
N-S PROJECT NO.: 14434.023	
FILENAME: T-1-RET WALLS PP.dwg	
SCALE:	
SURVEYED BY:	
DSGN: JA	DATE: ___/___/___
DRWN: CM	DATE: ___/___/___
CHKD:	DATE: ___/___/___
QA/QC:	DATE: ___/___/___

SIDEWALK PROJECT T-1

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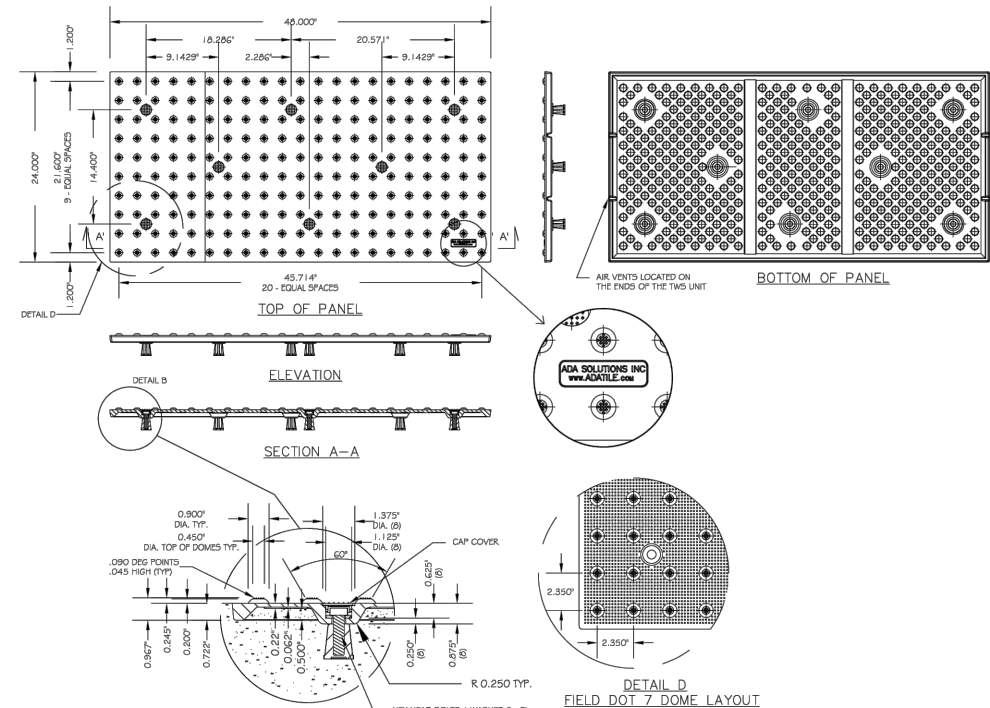
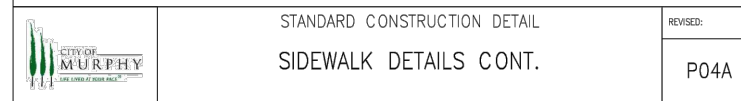
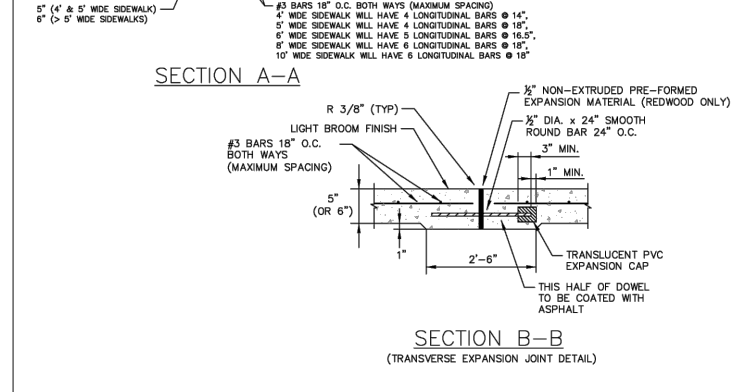
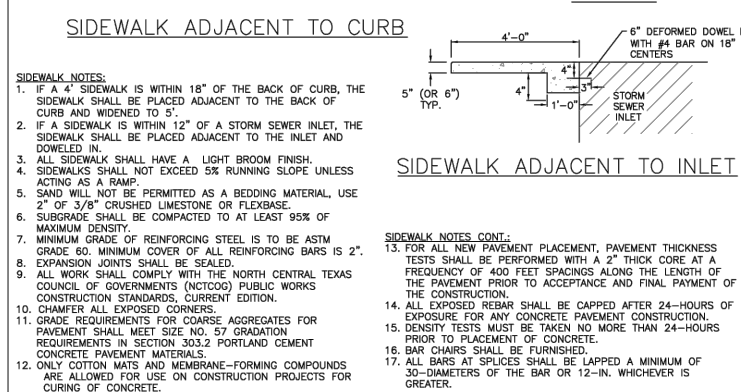


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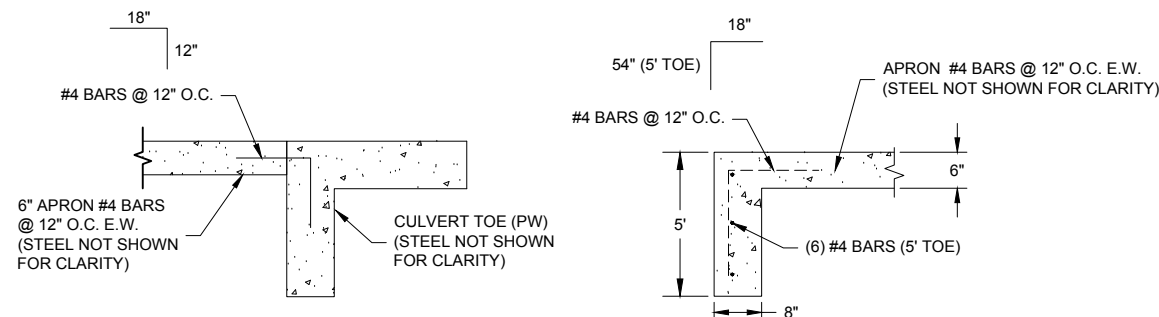
NORTH & SOUTH
WINGWALLS

WORKING NUMBER:
14434.023

SHEET NUMBER:
10



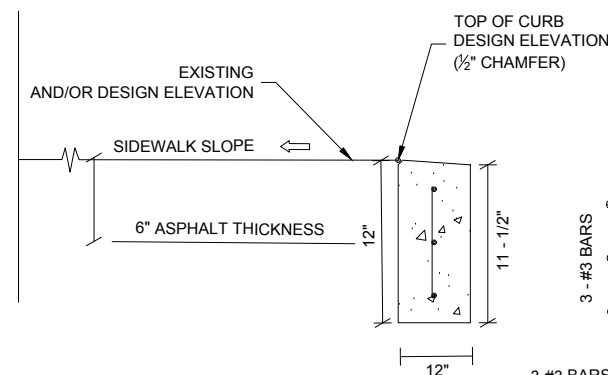
DETECTABLE WARNING DETAIL
N.T.S



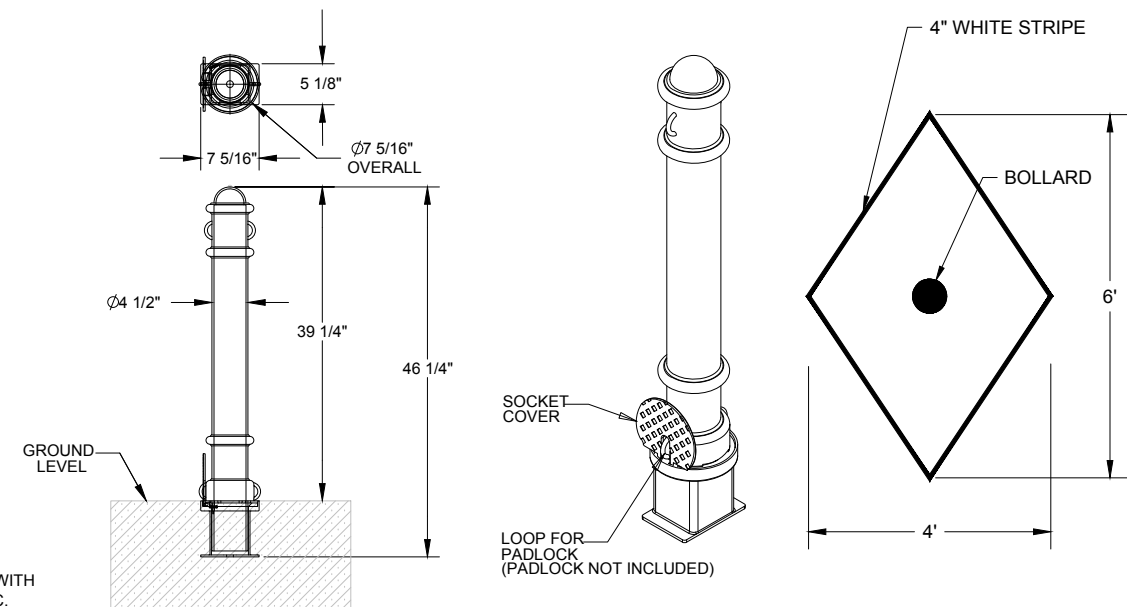
APRON DOWEL INTO
CULVERT TOE
DETAIL
N.T.S

APRON TOE
DETAIL
N.T.S

NOTE:
TOE IS ON ALL SIDES OF
APRON.



RIBBON CURB DETAIL
N.T.S



TYPICAL REMOVABLE BOLLARD DETAIL
N.T.S

<p align="center">NOTICE TO DRAWING HOLDER</p> <p>NEEL-SCHAFFER, INC., HEREINAFTER REFERRED TO AS THE ENGINEER HAS PREPARED AND FURNISHED THIS DRAWING TO THE OWNER FOR USE ON THIS PROJECT ONLY. THIS DRAWING SHOULD NOT BE USED ON EXTENSIONS OF THIS PROJECT OR ON ANY OTHER PROJECT. ANY REUSE OF THIS DRAWING, WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY THE ENGINEER, SHALL BE AT THE REUSER'S SOLE RISK AND THE REUSER SHALL INDEMNIFY AND HOLD HARMLESS THE ENGINEER FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES, INCLUDING ATTORNEY'S FEES ARISING OUT OF OR RESULTING THEREFROM.</p>	<p align="center">REVISIONS</p>				<p align="center">DRAWING INFORMATION</p>	
	NO.	DATE	BY	DESCRIPTION	<p>N-S PROJECT NO.: 14434.023</p>	
					<p>FILENAME: 8 SIDE WALK DETAIL.dwg</p>	
					<p>SCALE:</p>	
					<p>SURVEYED BY:</p>	
					<p>DSGN: JA</p>	<p>DATE: __/__/__</p>
					<p>DRWN: CM</p>	<p>DATE: __/__/__</p>
					<p>CHKD:</p>	<p>DATE:</p>
					<p>QA/QC:</p>	<p>DATE:</p>

SIDEWALK PROJECT T-1

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	P.F. No.	Date



TEXAS REG. No. F-2697

DETAILS

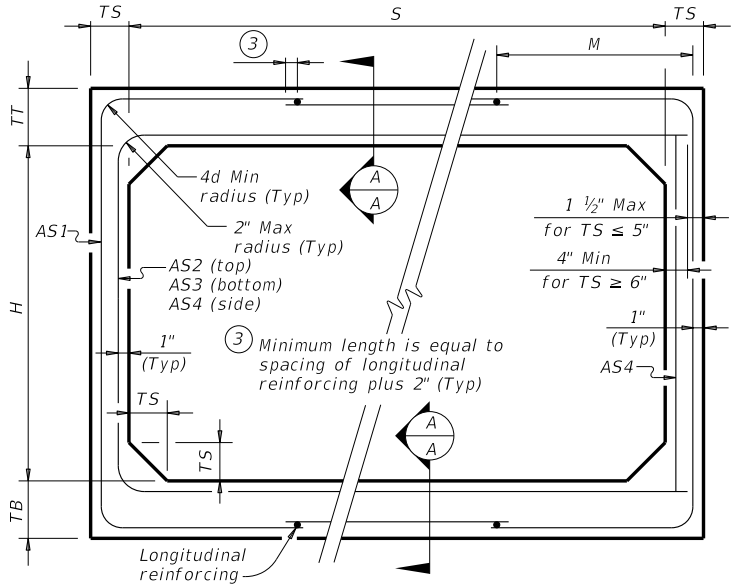
WORKING NUMBER:
14434.023

SHEET NUMBER:
11

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DATE:
FILE:

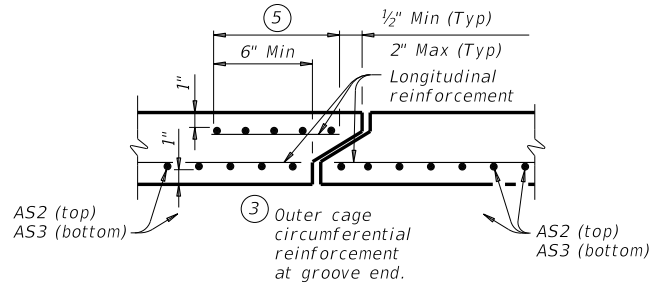
BOX DATA														
SECTION DIMENSIONS					Fill Height (ft.)	M (Min) (in.)	REINFORCING (sq. in. / ft.) ^②							^① Lift Weight (tons)
S (ft.)	H (ft.)	TT (in.)	TB (in.)	TS (in.)			AS1	AS2	AS3	AS4	AS5	AS7	AS8	
8	3	8	8	8	< 2	-	0.31	0.35	0.25	0.19	0.19	0.19	0.19	10.4
8	3	8	8	8	2 < 3	55	0.35	0.29	0.28	0.19	-	-	-	10.4
8	3	8	8	8	3 - 5	50	0.28	0.23	0.24	0.19	-	-	-	10.4
8	3	8	8	8	10	45	0.29	0.25	0.26	0.19	-	-	-	10.4
8	3	8	8	8	15	45	0.39	0.33	0.34	0.19	-	-	-	10.4
8	3	8	8	8	20	45	0.51	0.43	0.44	0.19	-	-	-	10.4
8	3	8	8	8	25	45	0.63	0.53	0.54	0.19	-	-	-	10.4
8	4	8	8	8	< 2	-	0.27	0.38	0.29	0.19	0.19	0.19	0.19	11.2
8	4	8	8	8	2 < 3	50	0.31	0.34	0.32	0.19	-	-	-	11.2
8	4	8	8	8	3 - 5	50	0.25	0.27	0.27	0.19	-	-	-	11.2
8	4	8	8	8	10	45	0.26	0.28	0.29	0.19	-	-	-	11.2
8	4	8	8	8	15	41	0.34	0.37	0.38	0.19	-	-	-	11.2
8	4	8	8	8	20	41	0.44	0.48	0.49	0.19	-	-	-	11.2
8	5	8	8	8	< 2	-	0.24	0.40	0.32	0.19	0.19	0.19	0.19	12.0
8	5	8	8	8	2 < 3	50	0.28	0.37	0.35	0.19	-	-	-	12.0
8	5	8	8	8	3 - 5	45	0.23	0.29	0.30	0.19	-	-	-	12.0
8	5	8	8	8	10	45	0.23	0.31	0.32	0.19	-	-	-	12.0
8	5	8	8	8	15	41	0.30	0.41	0.42	0.19	-	-	-	12.0
8	5	8	8	8	20	41	0.39	0.52	0.54	0.19	-	-	-	12.0
8	6	8	8	8	< 2	-	0.22	0.42	0.35	0.19	0.19	0.19	0.19	12.8
8	6	8	8	8	2 < 3	50	0.25	0.40	0.38	0.19	-	-	-	12.8
8	6	8	8	8	3 - 5	50	0.21	0.32	0.33	0.19	-	-	-	12.8
8	6	8	8	8	10	45	0.22	0.33	0.34	0.19	-	-	-	12.8
8	6	8	8	8	15	41	0.28	0.43	0.45	0.19	-	-	-	12.8
8	6	8	8	8	20	41	0.36	0.55	0.57	0.19	-	-	-	12.8
8	7	8	8	8	< 2	-	0.20	0.44	0.37	0.19	0.19	0.19	0.19	13.6
8	7	8	8	8	2 < 3	55	0.23	0.43	0.41	0.19	-	-	-	13.6
8	7	8	8	8	3 - 5	55	0.19	0.34	0.35	0.19	-	-	-	13.6
8	7	8	8	8	10	50	0.20	0.34	0.36	0.19	-	-	-	13.6
8	7	8	8	8	15	41	0.26	0.45	0.47	0.19	-	-	-	13.6
8	7	8	8	8	20	41	0.33	0.57	0.60	0.19	-	-	-	13.6
8	8	8	8	8	< 2	-	0.20	0.45	0.40	0.19	0.19	0.19	0.19	14.4
8	8	8	8	8	2 < 3	65	0.21	0.45	0.44	0.19	-	-	-	14.4
8	8	8	8	8	3 - 5	65	0.19	0.36	0.38	0.19	-	-	-	14.4
8	8	8	8	8	10	55	0.19	0.35	0.38	0.19	-	-	-	14.4
8	8	8	8	8	15	45	0.24	0.46	0.49	0.19	-	-	-	14.4
8	8	8	8	8	20	45	0.31	0.59	0.62	0.19	-	-	-	14.4



CORNER OPTION "A"

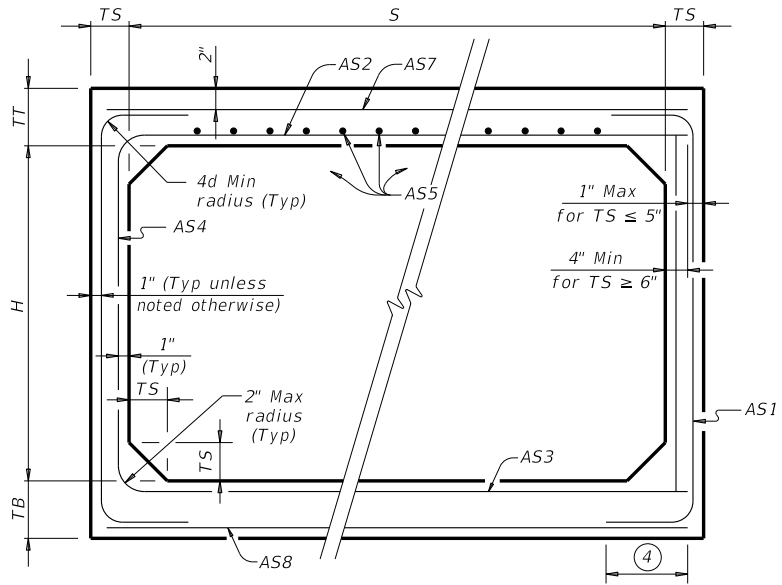
CORNER OPTION "B"

FILL HEIGHT 2 FT AND GREATER



SECTION A-A

(Showing top and bottom slab joint reinforcement.)



CORNER OPTION "A"

CORNER OPTION "B"

FILL HEIGHT LESS THAN 2 FT

^④ Length is equal to spacing of longitudinal reinforcing plus 2". (10" Min) (Typ)

MATERIAL NOTES:
Provide 0.03 sq. in./ft. minimum longitudinal reinforcing at each face in slabs and walls. This minimum requirement may be met by the transverse wires when wire mesh reinforcement is used.
Provide Class H concrete (f'c = 5,000 psi).

GENERAL NOTES:
Designs shown conform to ASTM C1577. Refer to ASTM C1577 for information or details not shown.
See Box Culverts Precast Miscellaneous Details (SCP-MD) standard sheet for details and notes not shown.
In lieu of furnishing the designs shown on this sheet, the contractor may furnish an alternate design that is equal to or exceeds the box design for the design fill height in the table. Submit shop plans for alternate designs in accordance with Item "Precast Concrete Structural Members (Fabrication)".

HL93 LOADING



Bridge
Division
Standard

**SINGLE BOX CULVERTS
PRECAST
8'-0" SPAN**

SCP-8

FILE: CD-SCP08-20.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS				
	DIST	COUNTY		SHEET NO.

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DATE:
FILE:

TABLE OF DIMENSIONS AND REINFORCING STEEL
(Wings for one structure end)

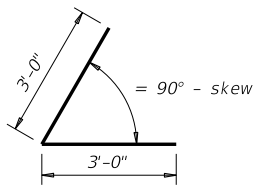
Dimensions					Variable Reinforcing				Estimated Quantities per ft of wing (2-wings) ⁽⁴⁾		Estimated Quantities per ft of Toewall (1-toewall)	
Maximum Wingwall Height Hw	W	X	Y	Z	Bars J1		Bars J2					
					Size	Spa	Size	Spa	Reinf (Lb/Ft)	Conc (CY/Ft)	Reinf (Lb/Ft)	Conc (CY/Ft)
2'-6"	2'-10"	10"	1'-0"	7"	#4	1'-0"	#4	1'-0"	48.64	0.406	6.85	0.071
2'-9"	2'-10"	10"	1'-0"	7"	#4	1'-0"	#4	1'-0"	49.31	0.424	6.85	0.071
3'-0"	2'-10"	10"	1'-0"	7"	#4	1'-0"	#4	1'-0"	49.98	0.444	6.85	0.071
3'-3"	2'-10"	10"	1'-0"	7"	#4	1'-0"	#4	1'-0"	53.32	0.462	6.85	0.071
3'-6"	2'-10"	10"	1'-0"	7"	#4	1'-0"	#4	1'-0"	53.98	0.480	6.85	0.071
4'-0"	3'-2"	1'-2"	1'-0"	7"	#4	1'-0"	#4	1'-0"	55.77	0.532	6.85	0.071
4'-6"	3'-2"	1'-2"	1'-0"	7"	#4	1'-0"	#4	1'-0"	59.77	0.568	6.85	0.071
5'-0"	3'-9"	1'-7"	1'-2"	7"	#4	1'-0"	#4	1'-0"	63.45	0.632	6.96	0.075
5'-6"	3'-9"	1'-7"	1'-2"	7"	#4	1'-0"	#4	1'-0"	67.46	0.668	6.96	0.075
6'-0"	4'-4"	2'-0"	1'-4"	7"	#5	1'-0"	#5	1'-0"	80.67	0.730	7.07	0.078
6'-6"	4'-4"	2'-0"	1'-4"	7"	#5	1'-0"	#5	1'-0"	85.05	0.768	7.07	0.078
7'-0"	5'-0"	2'-3"	1'-9"	8"	#5	1'-0"	#5	1'-0"	92.15	0.864	8.07	0.093
7'-6"	5'-0"	2'-3"	1'-9"	8"	#5	1'-0"	#5	1'-0"	96.54	0.902	8.07	0.093
8'-0"	5'-6"	2'-8"	1'-10"	8"	#5	6"	#5	6"	139.04	0.962	8.13	0.095
8'-6"	5'-6"	2'-8"	1'-10"	8"	#5	6"	#5	6"	144.47	1.000	8.13	0.095
9'-6"	6'-0"	2'-10"	2'-2"	9"	#5	6"	#5	6"	156.93	1.136	8.41	0.110
10'-6"	6'-5"	3'-0"	2'-5"	9"	#6	6"	#5	6"	196.27	1.234	8.57	0.117
11'-6"	7'-2"	3'-6"	2'-8"	11"	#6	6"	#6	6"	230.13	1.438	9.52	0.140
12'-6"	7'-8"	3'-9"	2'-11"	1'-0"	#7	6"	#6	6"	283.41	1.592	9.74	0.157
13'-6"	8'-2"	4'-0"	3'-2"	1'-2"	#8	6"	#6	6"	348.72	1.804	10.02	0.186
14'-6"	8'-10"	4'-5"	3'-5"	1'-4"	#9	6"	#6	6"	432.94	2.046	10.30	0.218
15'-6"	9'-6"	4'-10"	3'-8"	1'-6"	#9	6"	#7	6"	489.52	2.302	11.24	0.253
16'-0"	9'-11"	5'-0"	3'-11"	1'-7"	#9	6"	#7	6"	505.72	2.448	11.47	0.279

TABLE OF WINGWALL REINFORCING
(2-wings)

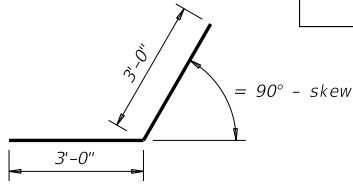
Bar	Size	No.	Spa
D1	#6	~	1'-0"
D2	#6	~	1'-0"
E1	#4	~	1'-0"
F	#4	~	1'-0"
G	#6	~	8"
M1	#4	4	~
P	#4	~	1'-0"
V	#4	~	1'-0"

TABLE OF TOEWALL REINFORCING

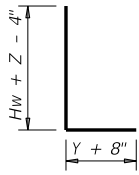
Bar	Size	No.	Spa
J3	#4	~	1'-0"
M2	#4	2	~
E2	#4	~	1'-0"



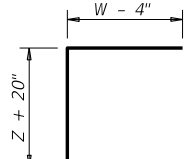
BARS D1



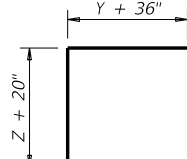
BARS D2



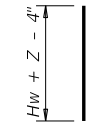
BARS J1



BARS J2



BARS J3



BARS V

WING DIMENSION FORMULAS:

(All values are in feet.)

$$Hw = H + T + C$$

$$Lw = (Hw) (SL) \div \cosine (\theta) \text{ for Type PW-1}$$

$$= (Hw - 1') (SL) \div \cosine (\theta) \text{ for Type PW-2 and } Hw \geq 4'$$
$$= (Hw - 0.5') (SL) \div \cosine (\theta) \text{ for Type PW-2 and } Hw < 4'$$

For cast-in-place culverts:

$$Ltw = [(N) (S) + (N + 1) (U)] \div \cosine (\theta)$$

For precast culverts:

$$Ltw = [(N) (2 U + S) + (N - 1) (0.5')] \div \cosine (\theta)$$

$$\text{Total Wingwall Area (two wings ~ SF)} = (2)(Hw)(Lw) \text{ for Type PW-1}$$

$$= (2)(Hw)(Lw) - 6 \text{ SF for Type PW-2 and } Hw \geq 4'$$

$$= (2)(Hw)(Lw) - 1.5 \text{ SF for Type PW-2 and } Hw < 4'$$

Hw = Height of wingwall

Lw = Length of wingwall

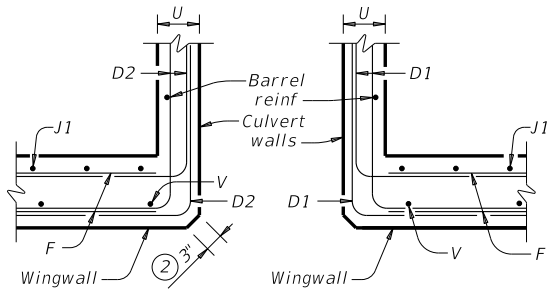
Ltw = Culvert toewall length

N = Number of culvert spans

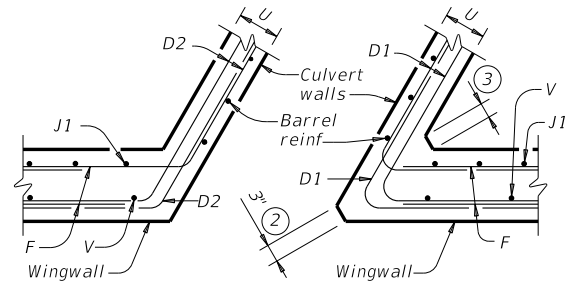
SL:1 = Channel slope ratio. (horizontal: 1 vertical, usual value is 2:1)

θ = Culvert skew

See applicable box culvert standard sheet for S, H, T, and U values.



SECTION C-C - PW-1



SECTION C-C - PW-2

DESIGNER NOTES:

Type PW-1 can be used for all applications and must be used if railing is to be mounted to the wingwall. Type PW-2 can only be used for applications without a railing mounted to the wingwall.

MATERIAL NOTES:

Provide Class C concrete ($f'c=3,600$ psi).

Provide Grade 60 reinforcing steel.

Provide galvanized reinforcing steel if required elsewhere in the plans.

GENERAL NOTES:

Designed in accordance with AASHTO LRFD Bridge Design Specifications.

Depth of toewalls for wingwalls and culverts may be reduced or eliminated when founded on solid rock, when directed by the Engineer.

See Box Culvert Supplement (BCS) standard sheet for wingwall type and additional dimensions and information.

Quantities for concrete and reinforcing steel resulting from the formulas given on this sheet are for the Contractor's information only.

Cover dimensions are clear dimensions, unless noted otherwise. Reinforcing dimensions are out-to-out of bars.



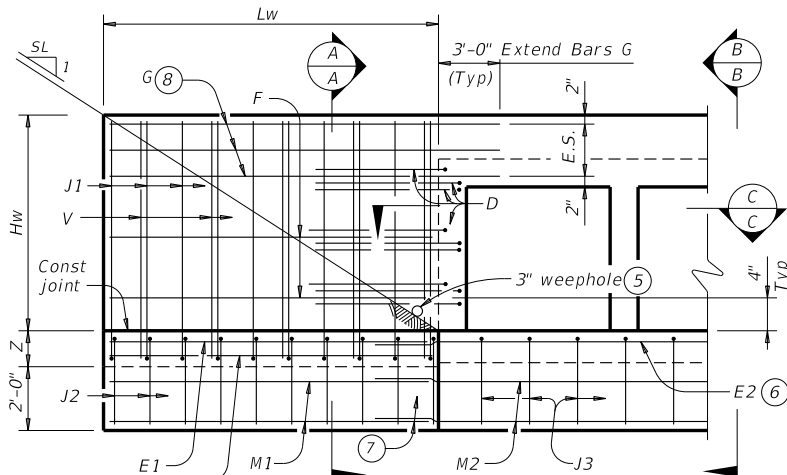
Texas Department of Transportation

Bridge Division Standard

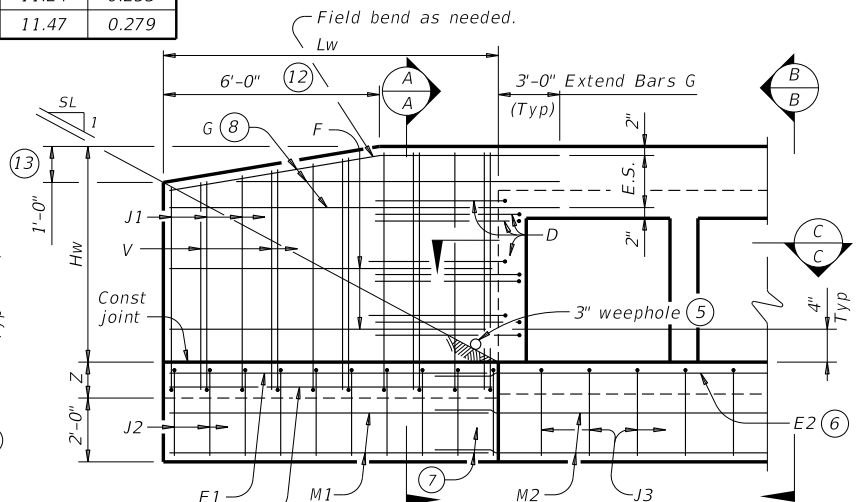
CONCRETE WINGWALLS
WITH PARALLEL WINGS FOR
BOX CULVERTS
TYPES PW-1 AND PW-2

PW

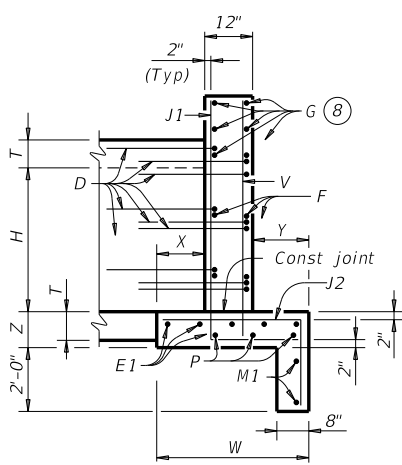
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©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS				
	DIST		COUNTY	SHEET NO.



PARTIAL ELEVATION - PW-1

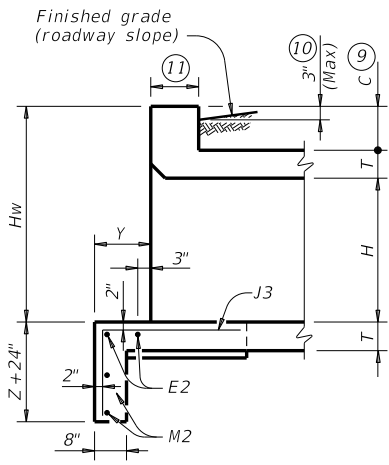


PARTIAL ELEVATION - PW-2



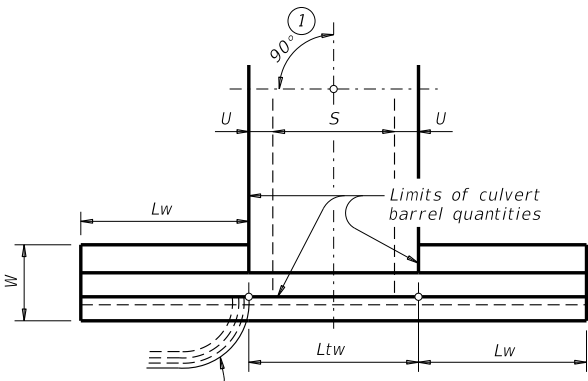
SECTION A-A

(Showing wing reinforcement.)



SECTION B-B

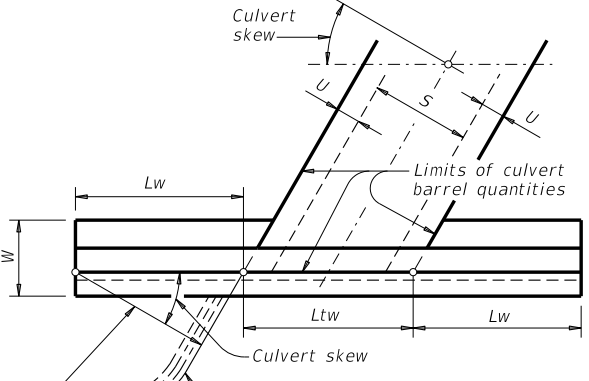
(Showing wing reinforcement.)



PLAN

DETAILS FOR
NON-SKEWED BOX CULVERTS

Length of wings based on SL:1 slope along this line.

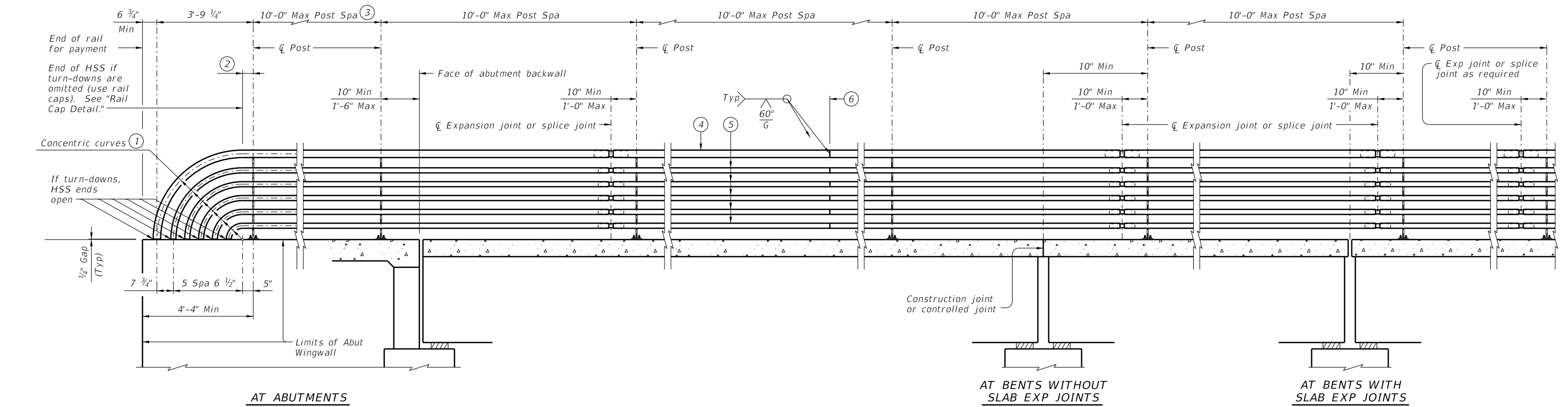
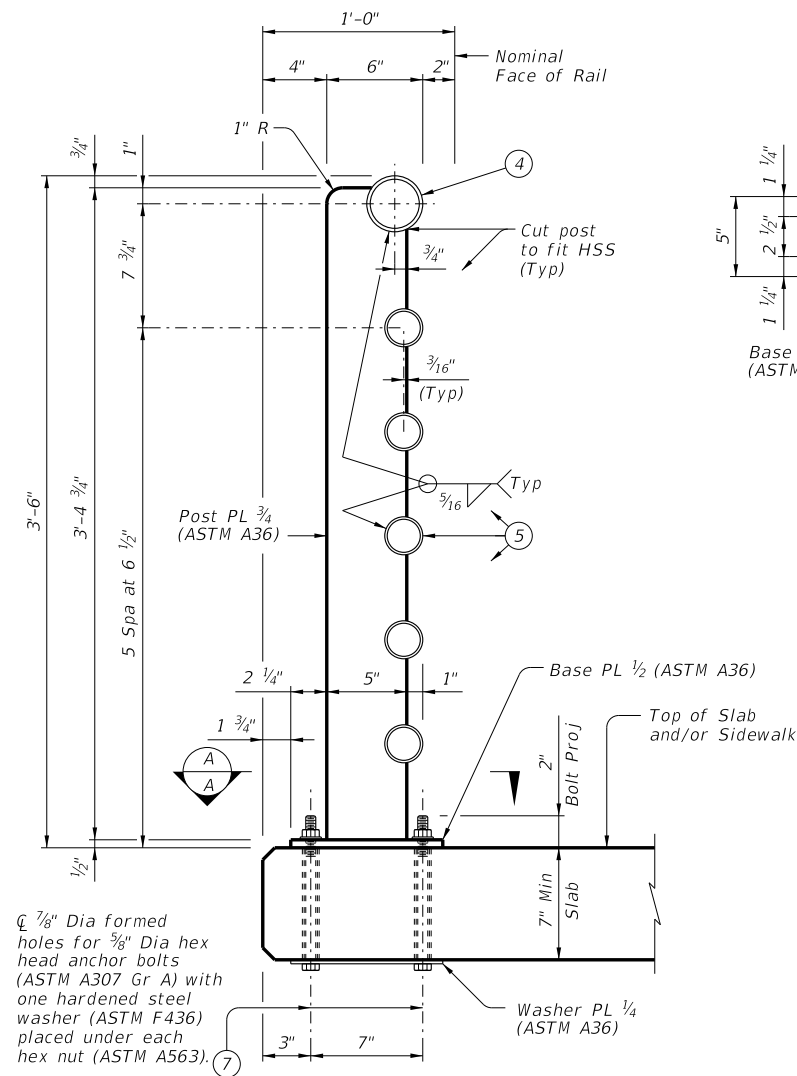


PLAN

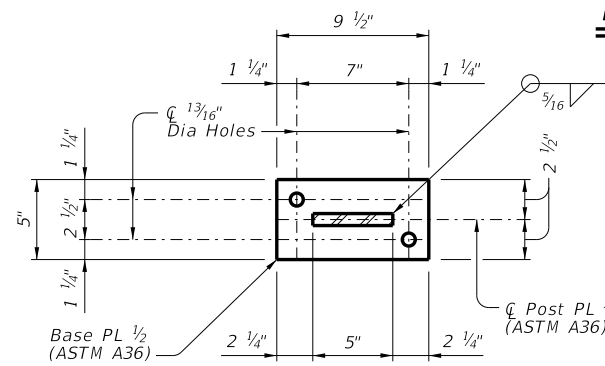
DETAILS FOR
SKEWED BOX CULVERTS

(Showing 30° skew.)

DATE: _____
FILE: _____

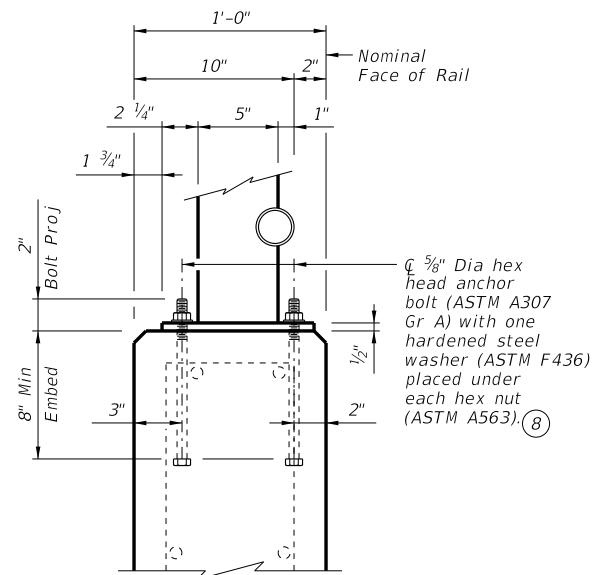
ROADWAY ELEVATION OF RAIL

ON BRIDGE SLAB



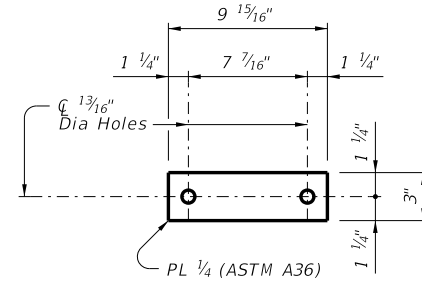
SECTION A-A

Showing base plate detail.

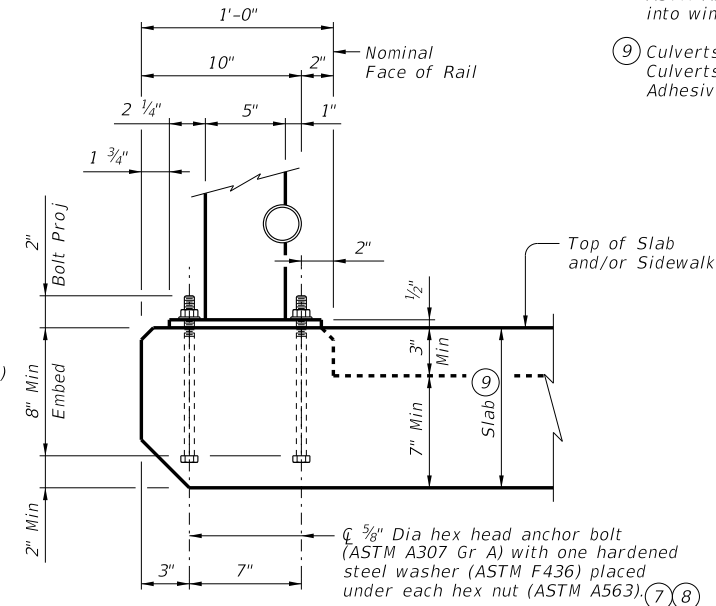


ON ABUTMENT WINGWALLS
OR CIP RETAINING WALLS

SECTIONS THRU RAIL



WASHER PLATE DETAIL



ON CULVERTS WITH OR WITHOUT CURBS

Used with 1'-0" Min thick parallel wings on culverts.

- ① Portion of railing with turn-downs to be used or omitted as indicated on Bridge Layout.
- ② 10" Min ~ 1'-6" Max if turn-downs are omitted.
- ③ Min of 2 posts required on wingwall.
- ④ HSS 3.500 x 0.216 (Rail Member)
- ⑤ HSS 2.375 x 0.154 (Rail Member)
- ⑥ One shop splice per panel is permitted (with minimum 85 percent penetration). The weld may be square groove or single V groove. Grind smooth.
- ⑦ At Contractor's option, adhesive anchors may be used. Adhesive anchors must be $\frac{5}{8}$ " Dia ASTM A307 Grade A fully threaded rods. Minimum adhesive anchor embedment depth is 5" into slabs or culverts without curbs. See "Material Notes" for adhesive anchor requirements.
- ⑧ At Contractor's option, adhesive anchors may be used. Adhesive anchors must be $\frac{5}{8}$ " Dia ASTM A307 Grade A fully threaded rods. Minimum adhesive anchor embedment depth is 7" into wingwalls or culverts with curbs. See "Material Notes" for adhesive anchor requirements.
- ⑨ Culverts without curbs for cast-in-place anchor bolts require a 10" Min slab thickness. Culverts with curbs for cast-in-place anchor bolts require a curb plus slab thickness of 10" Min. Adhesive anchors may be used with a 7" Min slab thickness or culverts with curbs.

SHEET 1 OF 2




Texas Department of Transportation

ridge
division
standard

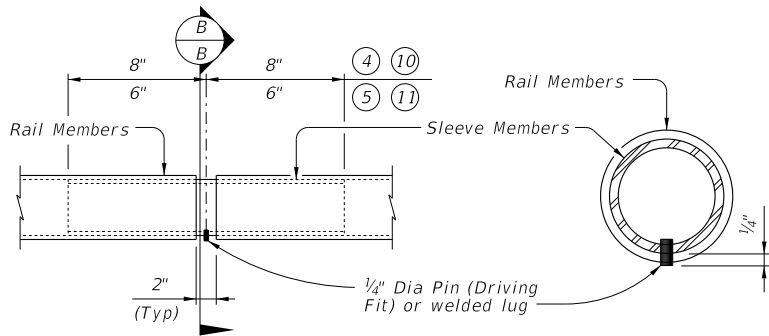
PEDESTRIAN RAIL

TYPE PR11

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 September 2019		CONT		SECT		JOB		HIGHWAY	
REVISIONS									
		DIST		COUNTY				SHEET NO.	

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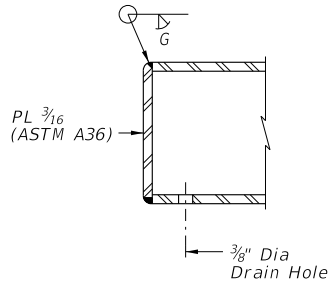
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FILE:



AT SPLICES OR EXP JTS

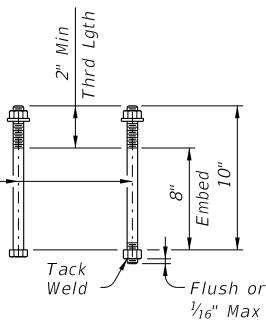
SECTION B-B

PIPE SPlice DETAIL



RAIL CAP DETAIL

Use 5/8" Dia hex head anchor bolt or threaded rod (ASTM A307 Gr A) with one hardened steel washer (ASTM F436) placed under each hex nut (ASTM A563). One additional hex nut must be furnished and tack welded for each threaded rod.



CAST-IN-PLACE & FORMED HOLE ANCHOR BOLT OPTIONS

- 4 HSS 3.500 x 0.216 (Rail Member)
- 5 HSS 2.375 x 0.154 (Rail Member)
- 10 HSS 2.875 x 0.203 (Sleeve Member)
- 11 HSS 1.900 x 0.145 (Sleeve Member)

CONSTRUCTION NOTES:

Panel lengths of railing must be attached to a minimum of three posts except at abutment wingwalls.
At the Contractor's option anchor bolts may be an adhesive anchorage system. See "Material Notes."
Test adhesive anchors in accordance with Item 450.3.3, "Tests". Test 3 anchors per 100 anchors installed. Perform corrective measures to provide adequate capacity if any of the tests do not meet the required test load. Repair damage from testing as directed.
Face of rail and posts must be vertical transversely unless otherwise approved. Posts must be perpendicular to adjacent roadway grade. Use Type VIII epoxy mortar under post base plates if gaps larger than 1/16" exist.
For curved railing applications, fabricate the HSS rail to the radius when the radius is 600' or less. Submit shop drawings for approval when tubes are required to be fabricated to a radius. Shop drawings must be submitted to the Engineer for approval.
Round or chamfer all exposed edges of steel components 1/16" by grinding prior to galvanizing.


MATERIAL NOTES:

Provide ASTM A500 Gr B, A1085 or A53 Gr B for all HSS.
Galvanize all metal components of steel rail system. Apply additional coatings when shown elsewhere on the plans. When plans require paint over galvanizing, follow the requirements for painting galvanized steel in Item 445, "Galvanizing" and when field painting, Item 446, "Field Cleaning and Painting Steel." Sleeve members and anchor bolts must receive galvanization prior to installation and only field paint after installation unless directed otherwise by Engineer.
Anchor bolts must be 5/8" Dia ASTM A307 Gr A with one hardened steel washer (ASTM F436) placed under each hex nut or ASTM A307 Gr A threaded rods with one tack welded hex nut each and with one hex nut with one hardened steel washer (ASTM F436) each. Nuts must conform to ASTM A563 requirements.
Optional adhesive anchorage system must be 5/8" Dia ASTM A307 Gr A fully threaded rods with one hex nut and one hardened steel washer (ASTM F436). Nuts must conform to ASTM A563 requirements. Embed fully threaded rods into slab, wingwalls, or culvert curbs using a Type III, Class C, D, E, or F anchor adhesive. Anchor adhesive chosen must be able to achieve a nominal bond strength in tension, Na, of a single anchor of 10 kips (edge distance must be accounted for). Submit signed and sealed calculations or the manufacturer's published literature showing the proposed anchor adhesive's ability to develop this load to the Engineer for approval prior to use. Anchor installation, including hole size, drilling, and clean out, must be in accordance with Item 450, "Railing".

GENERAL NOTES:

Designed according to AASHTO LRFD Specifications.
Do not use this railing on bridges with expansion joints providing more than 5" movement.
Rail anchorage details shown on this standard may require modification for select structure types. See appropriate details elsewhere in plans for these modifications.
For all rails, submit erection drawings showing section lengths, splice locations, rail post spacing and anchor bolt setting for approval. Average weight of railing is 30 plf.

SHEET 2 OF 2



Texas Department of Transportation

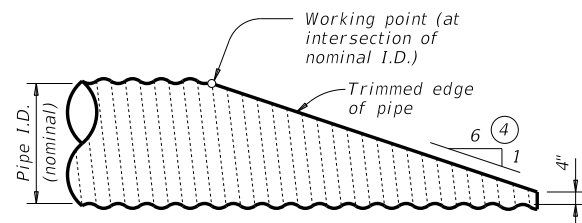
Bridge Division Standard

PEDESTRIAN RAIL

TYPE PR11

FILE: RL-PR11-19.dgn	DN: TAR	CK: TBE	DW: JTR	CK: TAR
©TxDOT September 2019	CONT	SECT	JOB	HIGHWAY
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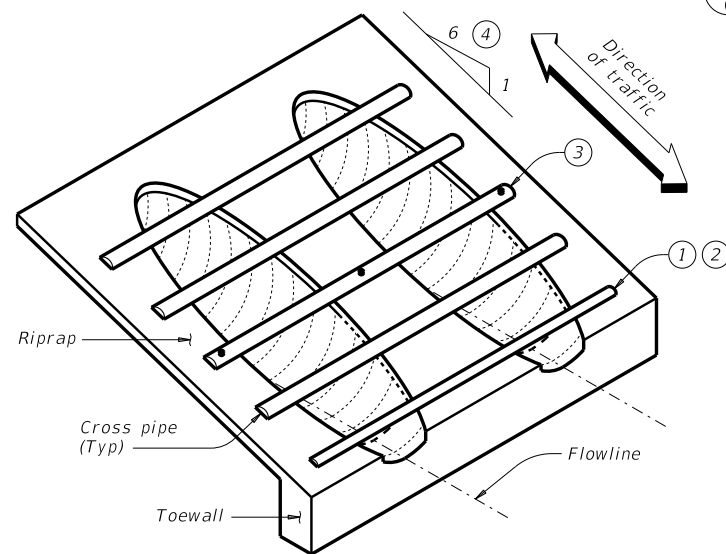
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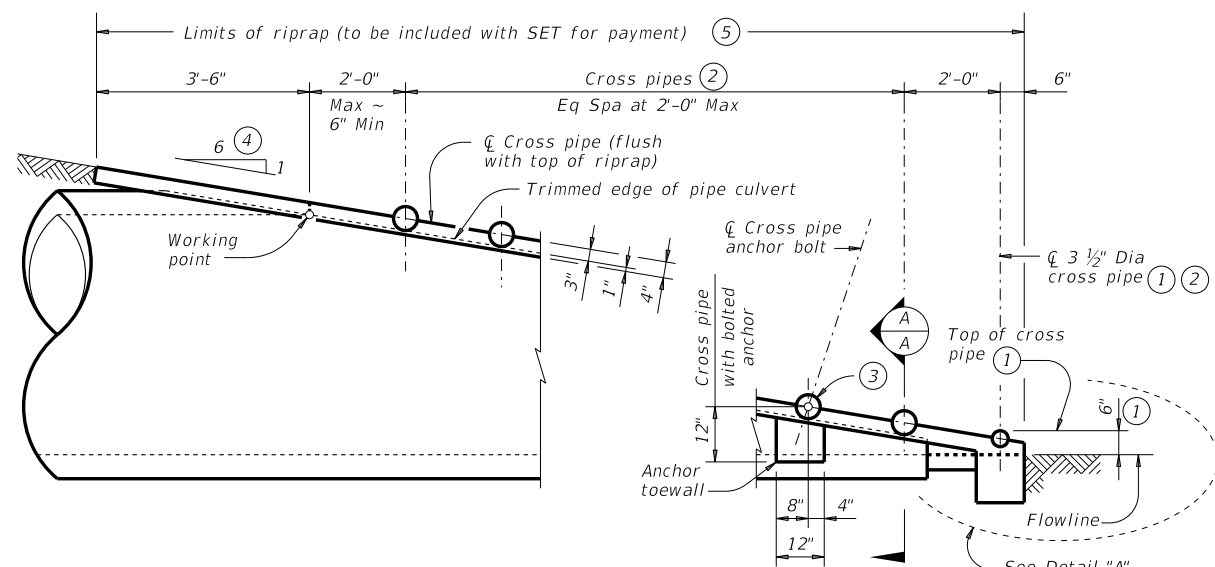
NOTE: All cross pipes, calculations, and dimensions are based on the pipe culverts mitered as shown in this detail. Alternate styles of mitered ends will require that appropriate adjustments be made to the values presented on this standard.

*SIDE ELEVATION OF TYPICAL
PIPE CULVERT MITER*

(Showing corrugated metal pipe (CMP) culvert
Details at reinforced concrete pipe (RCP)
culvert are similar.)

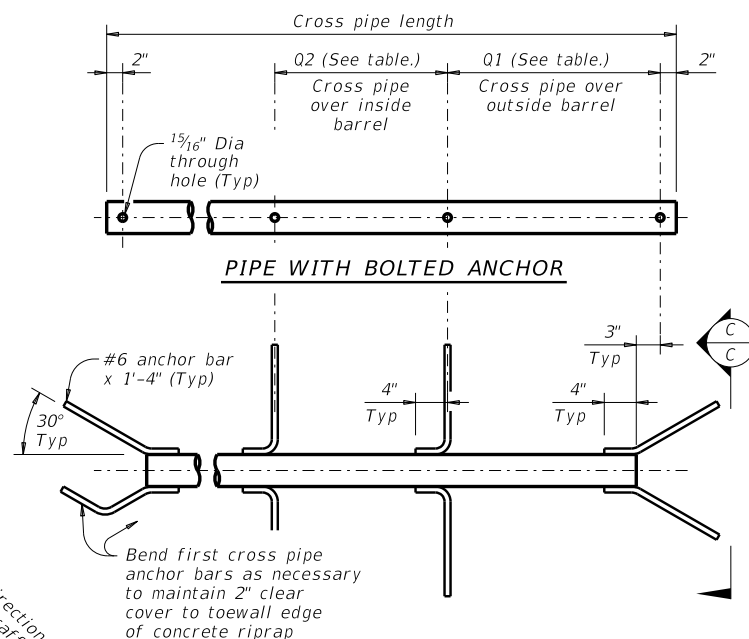


ISOMETRIC VIEW OF
TYPICAL INSTALLATION

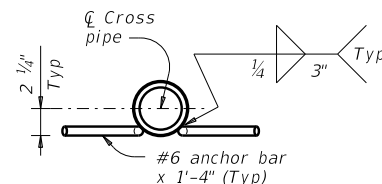


SIDE ELEVATION OF CAST-IN-PLACE CONCRETE

(Showing reinforced concrete pipe (RCP) culvert.
Details at corrugated metal pipe (CMP) culvert are similar.)

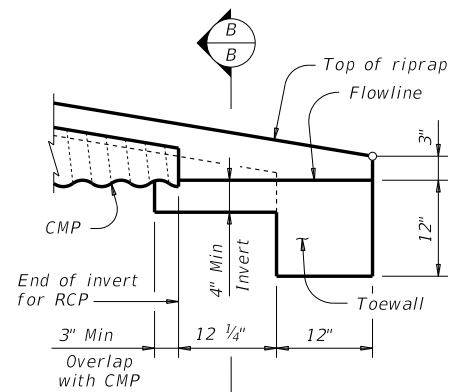


PIPE WITH ANCHOR BARS



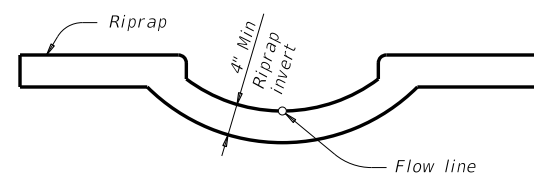
SECTION C-C

CROSS PIPE DETAILS



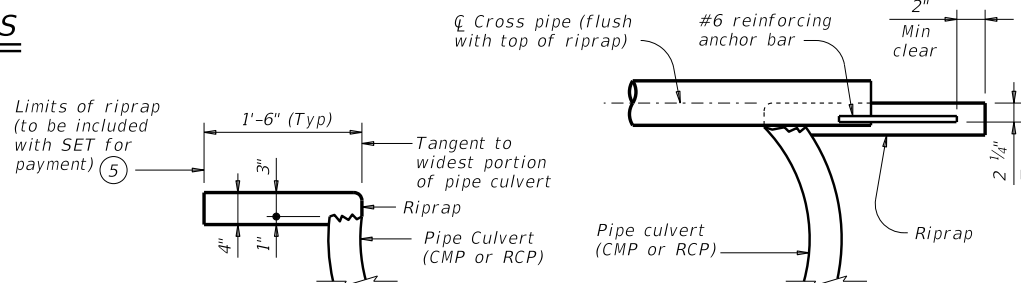
DETAIL "A"

(Showing invert with corrugated metal pipe (CMP) culvert. Reinforced concrete pipe (RCP) culvert details are similar. Cross pipes not shown for clarity.)



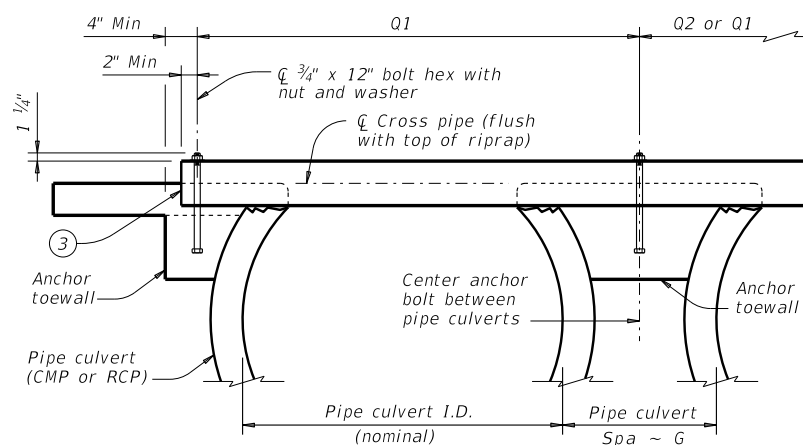
SECTION B-B

(Cross pipes not shown for clarity.)



SHOWING TYPICAL PIPE
CULVERT AND RIPRAP

SHOWING CROSS PIPE
WITH ANCHOR BAR



SHOWING CROSS PIPE
WITH BOLTED ANCHOR

SECTION A-A

CROSS PIPE LENGTHS, REQUIRED PIPE SIZES, AND RIPRAP QUANTITIES

Nominal Culvert I.D.	Conc Riprap (CY) ⑥	Pipe Culvert Spa ~ G	Single Barrel ~ Q1	Multi- Barrel ~ Q1	Q2	Conditions for Use of Cross Pipes	Cross Pipe Sizes
12"	0.6	0' - 9"	N/A	2' - 1"	1' - 9"	3 or more pipe culverts	3" Std (3.500" O.D.)
15"	0.7	0' - 11"	N/A	2' - 5"	2' - 2"		
18"	0.8	1' - 2"	N/A	2' - 10"	2' - 8"		
21"	0.9	1' - 4"	N/A	3' - 2"	3' - 1"		
24"	0.9	1' - 7"	N/A	3' - 6"	3' - 7"		
27"	1.0	1' - 8"	N/A	3' - 10"	3' - 11"	3 or more pipe culverts	3 ½" Std (4.000" O.D.)
30"	1.1	1' - 10"	N/A	4' - 2"	4' - 4"	2 or more pipe culverts	
33"	1.2	1' - 11"	4' - 2"	4' - 5"	4' - 8"	All pipe culverts	
36"	1.3	2' - 1"	4' - 5"	4' - 9"	5' - 1"	All pipe culverts	
42"	1.5	2' - 4"	4' - 11"	5' - 5"	5' - 10"		
48"	1.7	2' - 7"	5' - 5"	6' - 0"	6' - 7"		
54"	2.0	3' - 0"	5' - 11"	6' - 9"	7' - 6"	All pipe culverts	5" Std (5.563" O.D.)
60"	2.2	3' - 3"	6' - 5"	7' - 4"	8' - 3"		
66"	2.4	3' - 3"	6' - 11"	7' - 10"	8' - 9"		
72"	2.7	3' - 4"	7' - 5"	8' - 5"	9' - 4"		

- ① The proper installation of the first cross pipe is critical for vehicle safety. Place the top of the first cross pipe no more than 6" above the flow line.
- ② Provide cross pipes, except the first bottom pipe, of the size shown in the table. Provide a 3 1/2" standard pipe (4" O.D.) for the first bottom pipe.
- ③ Install the third cross pipe from the bottom of the culvert using a bolted connection. Ensure that riprap concrete does not flow into the cross pipe so as to permit disassembly of the bolted connection to allow cleanout access. At the Contractor's option, install all other cross pipes using the bolted connection details.
- ④ Match cross slope as shown elsewhere in the plans. Cross slope of 6:1 or flatter is required for vehicle safety.
- ⑤ Riprap placed beyond the limits shown will be paid for as concrete riprap in accordance with Item 432, "Riprap."
- ⑥ Quantities shown are for one end of one reinforced concrete pipe (RCP) culvert. For multiple pipe culverts or for corrugated metal pipe (CMP) culverts, quantities will need to be adjusted. Riprap quantities are for contractor's information only.

MATERIAL NOTES:

Synthetic fibers listed on the "Fibers for Concrete" Material Producer List (MPL) may be used in lieu of steel reinforcing in riprap concrete unless noted otherwise.

Provide cross pipes that meet the requirements of ASTM A53 (Type E or S, Gr B), ASTM A500 (Gr B), or API 5LX52.

Provide ASTM A307 bolts and nuts.

Galvanize all steel components, except concrete reinforcing, after fabrication. Repair galvanizing damaged during transport or construction in accordance with the specifications.

GENERAL NOTES:

Cross pipes are designed for a traversing load of 10,000 pounds at yield as recommended by Research Report 280-2F, "Safety Treatment of Roadside Parallel-Drainage Structures", Texas Transportation Institute, March 1981.

Safety end treatments (SET) shown herein are intended for use in those installations where out of control vehicles are likely to traverse the openings approximately perpendicular to the cross pipes.

Construct concrete riprap and all necessary inverts in accordance with the requirements of Item 432, "Riprap."


Payment for riprap and toewall is included in the Price Bid for each Safety End Treatment.



Texas Department of Transportation

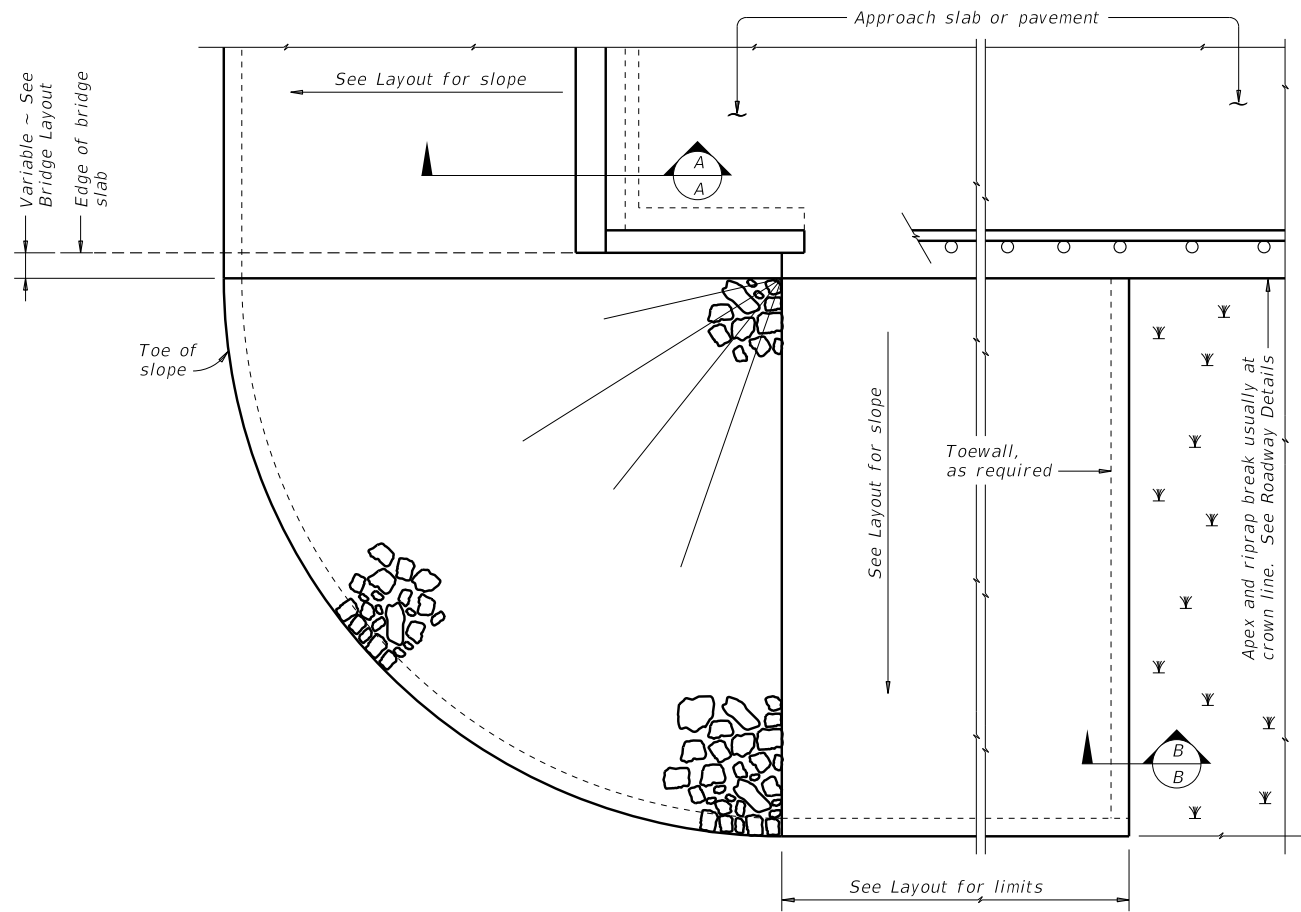
**Bridge
Division
Standard**

*SAFETY END TREATMENT
FOR 12" DIA TO 72" DIA
PIPE CULVERTS
TYPE II ~ PARALLEL DRAINAGE
SETP-PD*

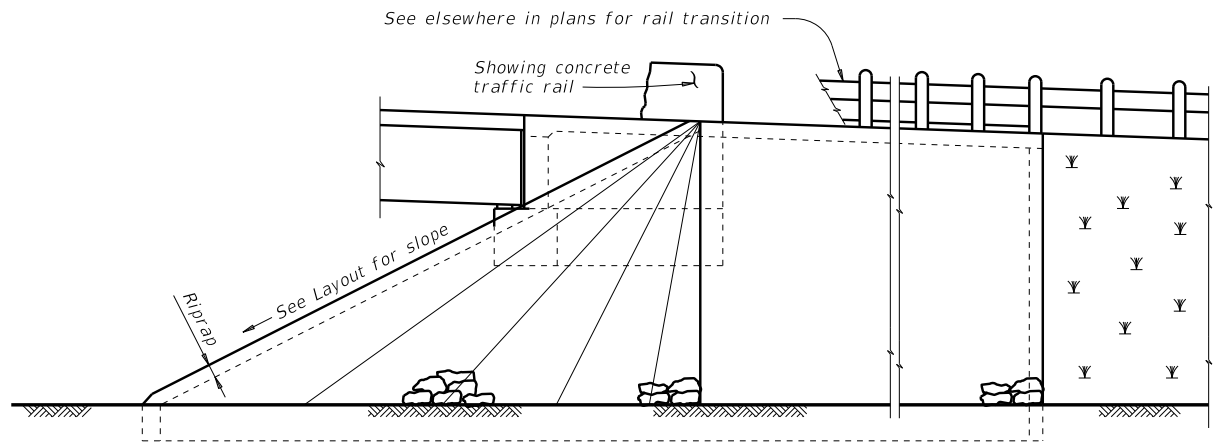
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 CDOT February 2020 REVISIONS	CONT	SECT	JOB			HIGHWAY			
	DIST	COUNTY					SHEET NO.		

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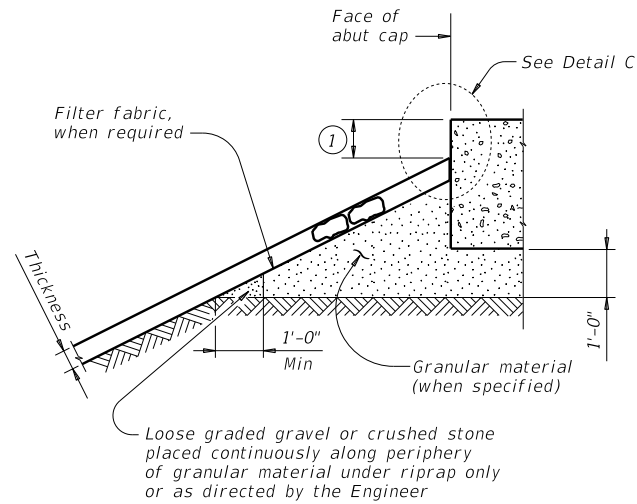
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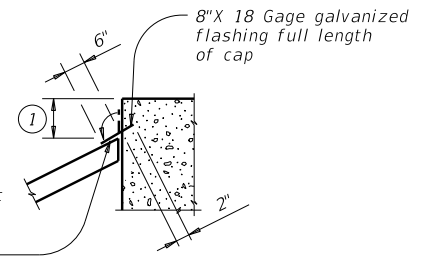
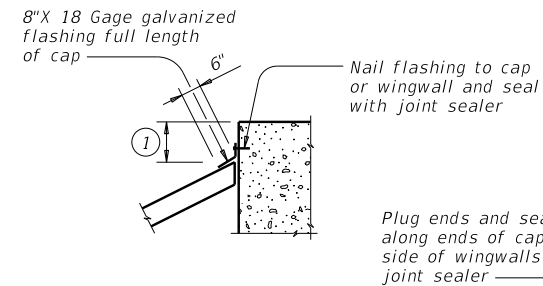
PLAN



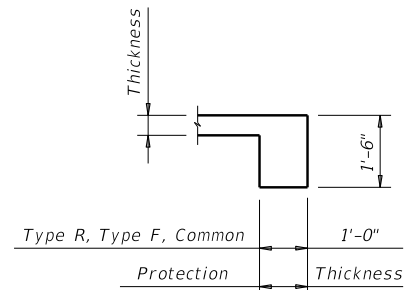
ELEVATION



SECTION A-A AT CAP



DETAIL C




Provide toewall when shoulder drain is located adjacent to limits of stone riprap. Omit toewall when thickness of protection riprap is greater than 18".

GENERAL NOTES:
Refer to Item 432, "Riprap" for stone size and gradation, and construction details. See Layout for limits and thickness of riprap specified.
See elsewhere in plans for locations and details of shoulder drains.

1 Top of cap to top of riprap dimension varies as directed by the Engineer. Provide 9" Min for beam/slab type bridges and 1'-6" for slab span, box beam, or slab beam bridges.

SHEET 1 OF 2

 <i>Texas Department of Transportation</i>				<i>Bridge Division Standard</i>	
<i>STONE RIPRAP</i>					
<i>SRR</i>					
FILE: MS-SRR-19.dgn		DN: AES	CK: JGD	DW: BWH	CK: AES
©TxDOT April 2019		CONT	SECT	JOB	HIGHWAY
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FILE:

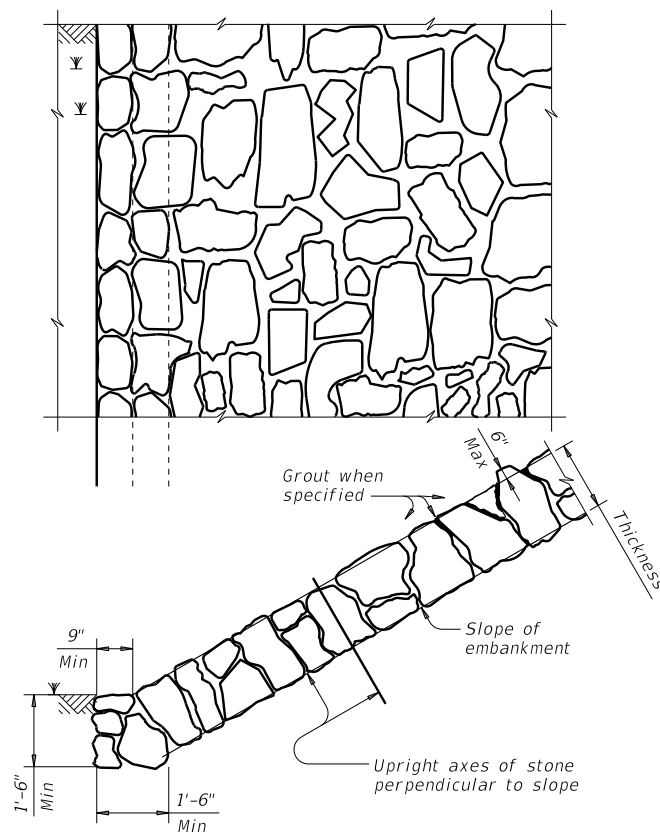


FIGURE 1 ~ TYPE R STONE RIPRAP
dry or grouted

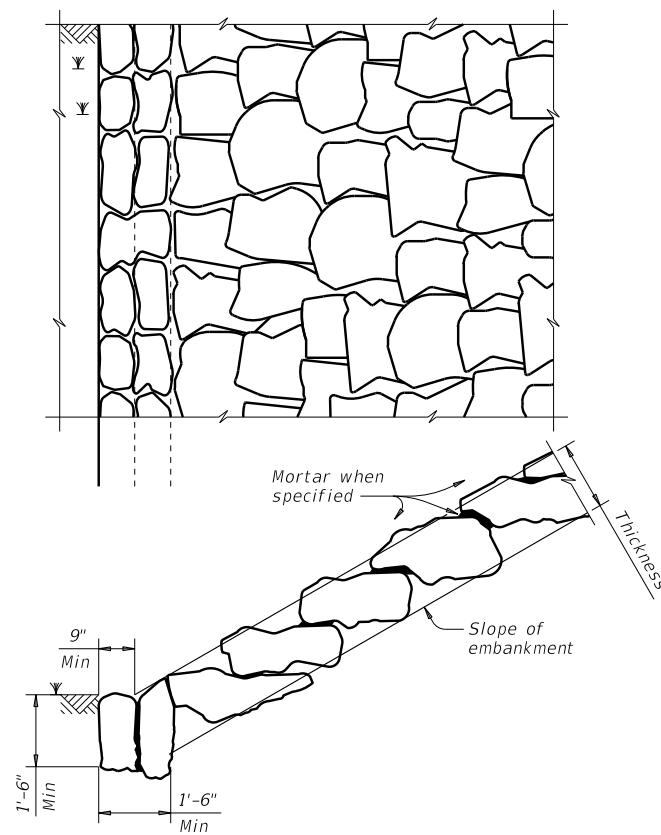


FIGURE 2 ~ TYPE F STONE RIPRAP
dry or mortared

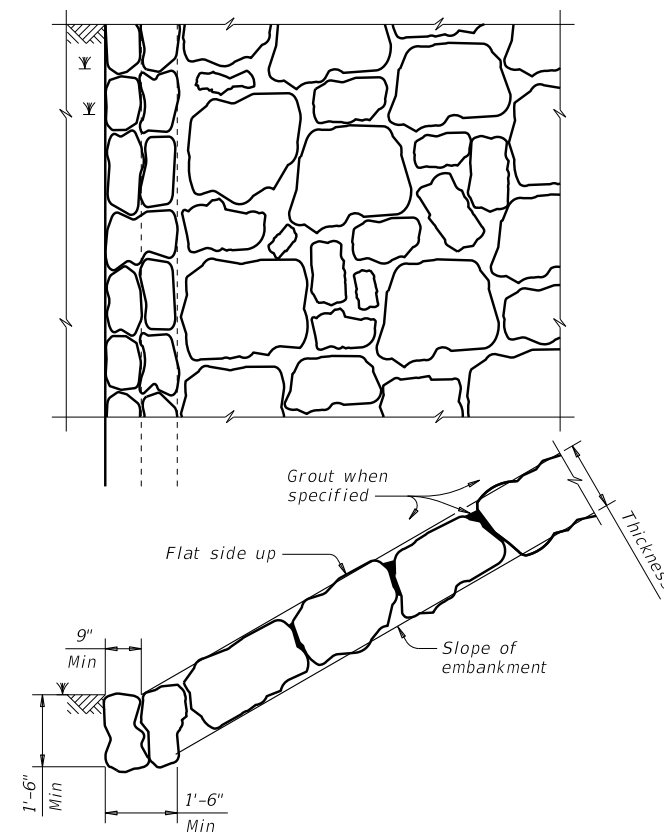


FIGURE 3 ~ TYPE F STONE RIPRAP
grouted

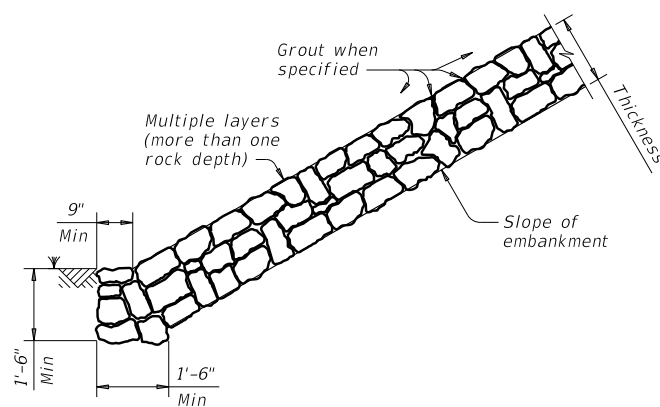
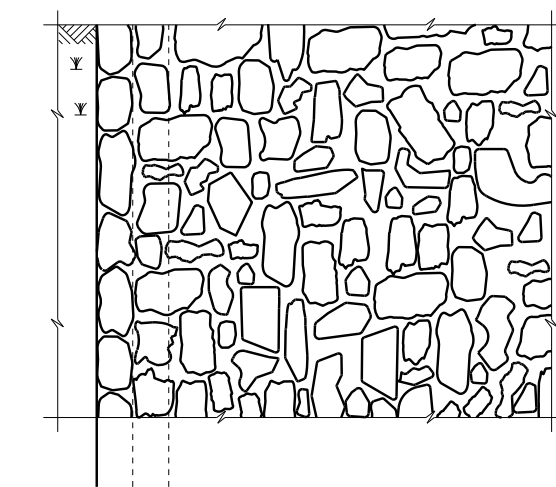


FIGURE 4 ~ COMMON STONE RIPRAP
dry or grouted

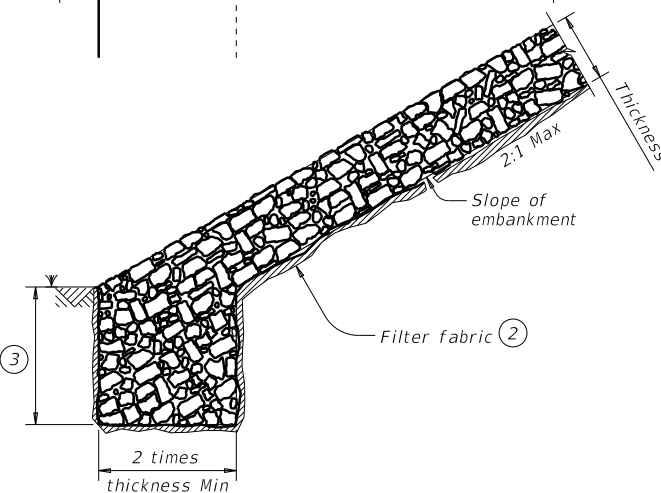
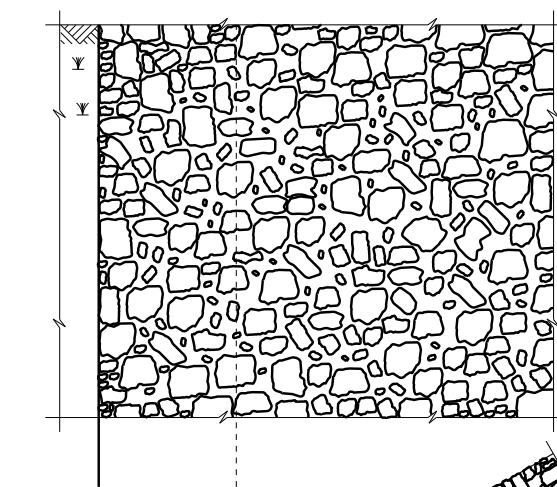
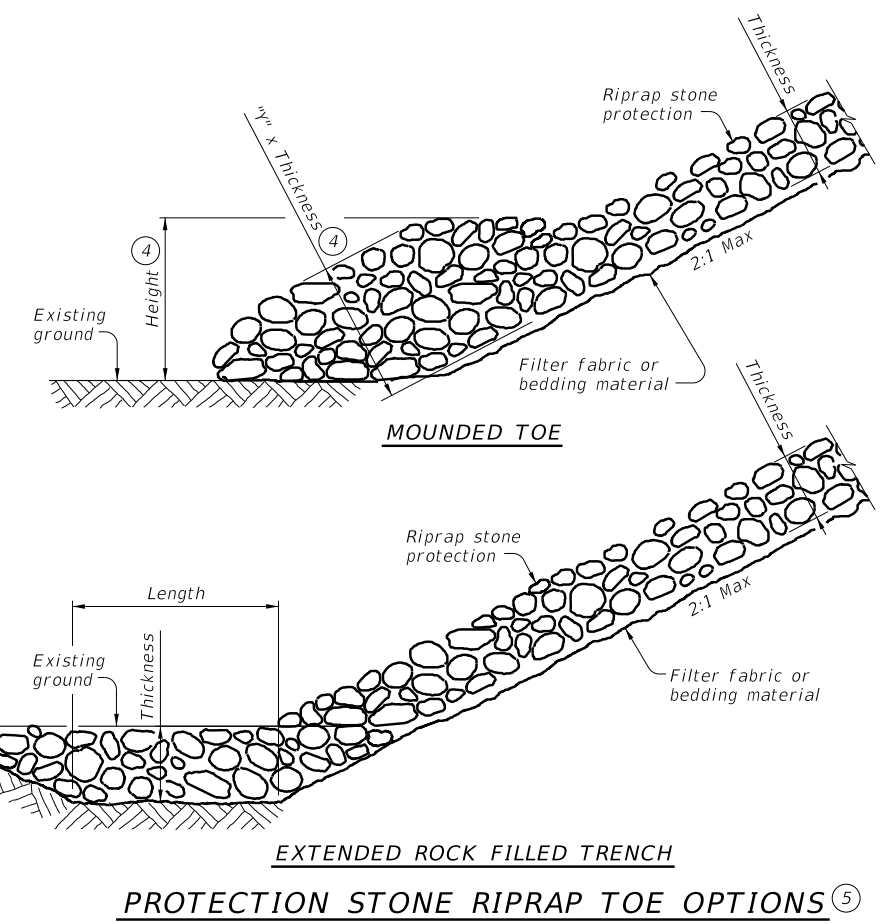



FIGURE 5 ~ PROTECTION STONE RIPRAP

- ② Provide bedding material instead of filter fabric if shown elsewhere in plans. See Layout for thickness of bedding material.
- ③ Minimum toe depth is the larger of the maximum scour depth or 2 times the riprap thickness.
- ④ "Y" and Height need to be defined. See layout or detail sheet for values if this option is used.
- ⑤ List Stone Protection as size (XX inch) and thickness (YY inch) on the layout.
Example: Riprap (Stone Protection) XX inch, Thickness = YY inch.



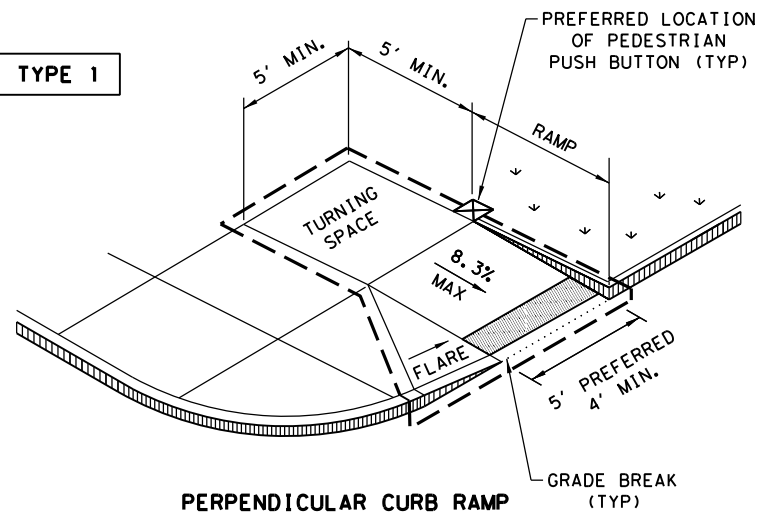
SHEET 2 OF 2

 Texas Department of Transportation				Bridge Division Standard	
STONE RIPRAP					
SRR					
FILE: MS-SRR-19.dgn	DN: AES	CK: JGD	DW: BWH	CK: AES	
©TxDOT April 2019	CONT	SECT	JOB	HIGHWAY	
REVISIONS					
	DIST	COUNTY			SHEET NO.

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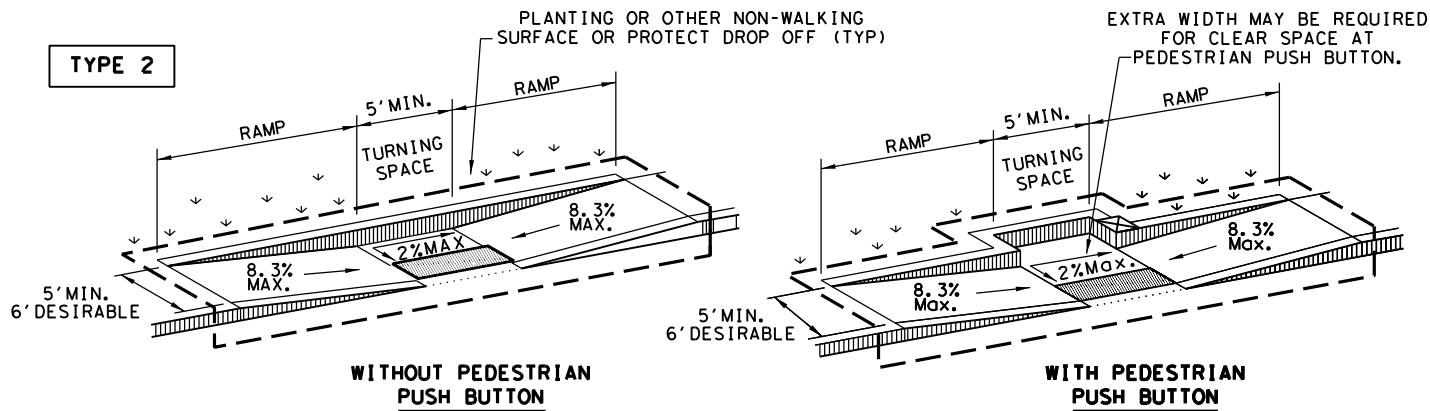
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TYPE 1



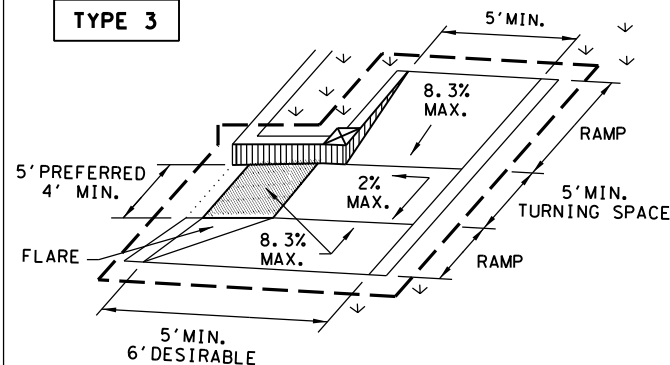
PERPENDICULAR CURB RAMP

TYPE 2

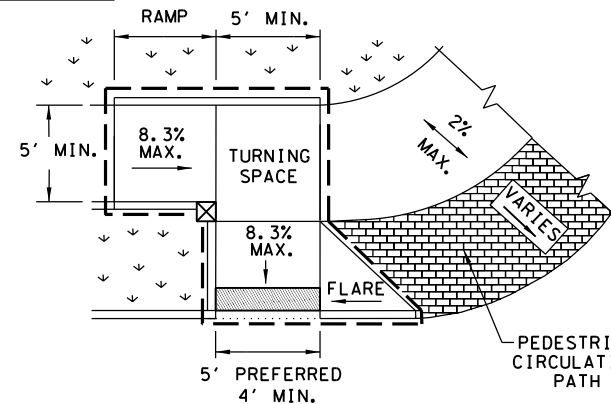


PARALLEL CURB RAMP

TYPE 3

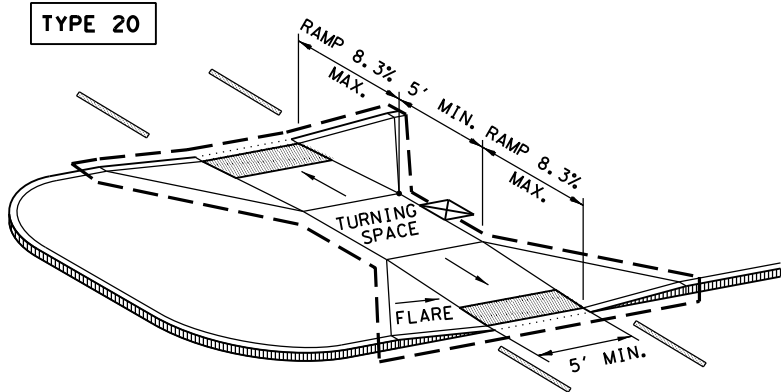


TYPE 6



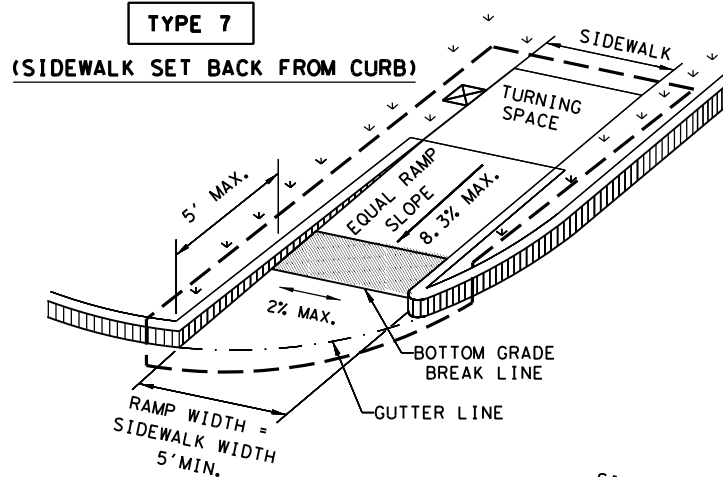
COMBINATION CURB RAMPS

TYPE 20

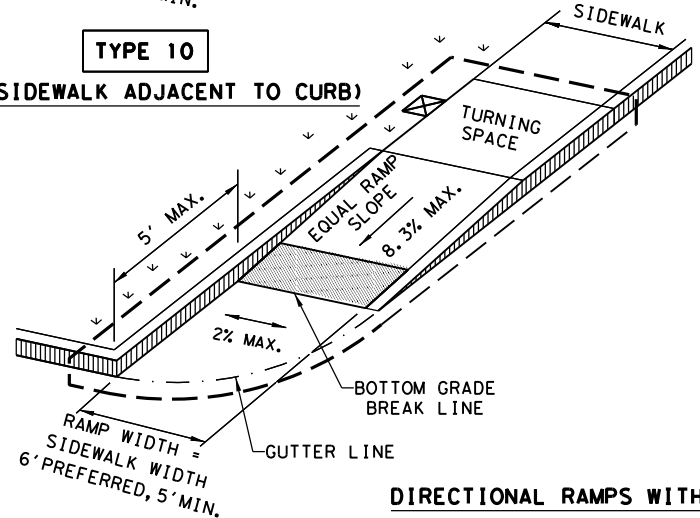


CURB RAMPS AT MEDIAN ISLANDS

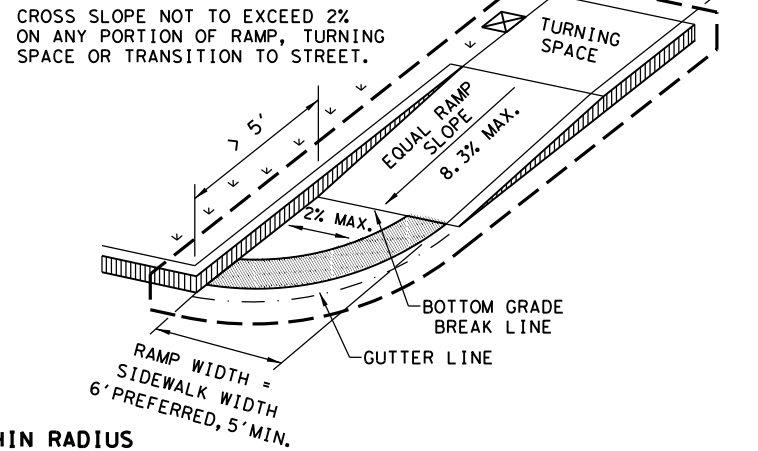
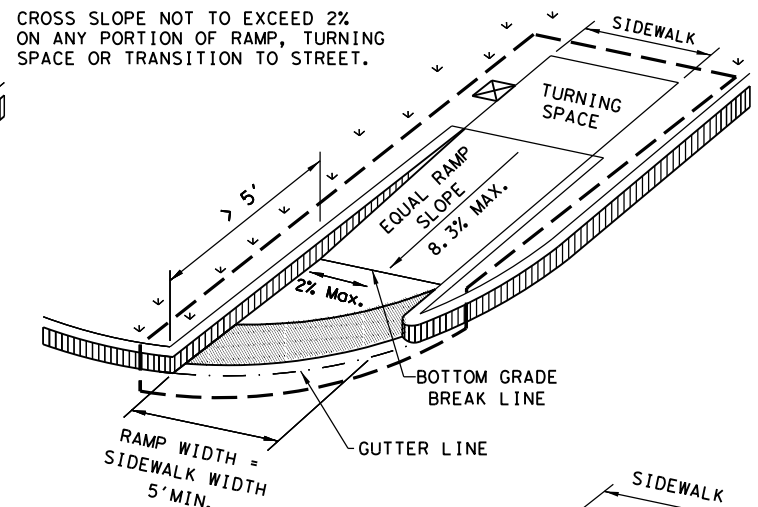
TYPE 7



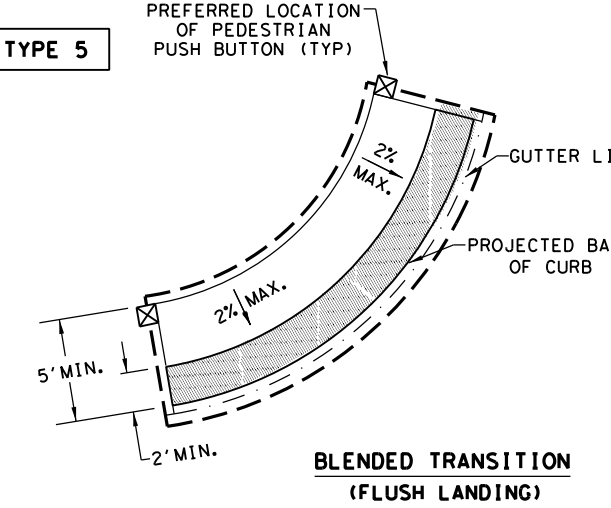
TYPE 10
(SIDEWALK ADJACENT TO CURB)



DIRECTIONAL RAMPS WITHIN RADIUS

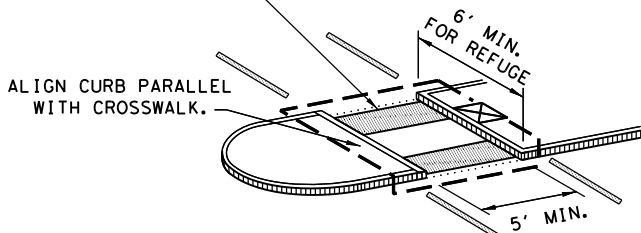


TYPE 5



BLENDED TRANSITION
(FLUSH LANDING)

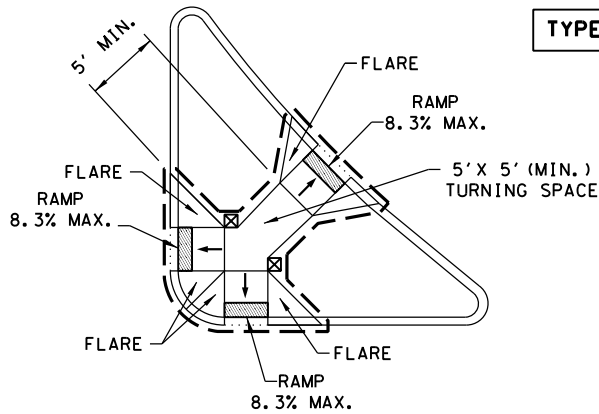
INSTALL DETECTABLE WARNING SURFACE AT EACH END OF THE CUT-THROUGH RAMP WITH A MINIMUM 2' USUAL SIDEWALK SURFACE BETWEEN. IF MEDIAN IS LESS THAN 6' WIDE, ELIMINATE DETECTABLE WARNING SURFACES.



NOTE: CURB DETAILS ARE SHOWN ELSEWHERE IN THE PLANS.

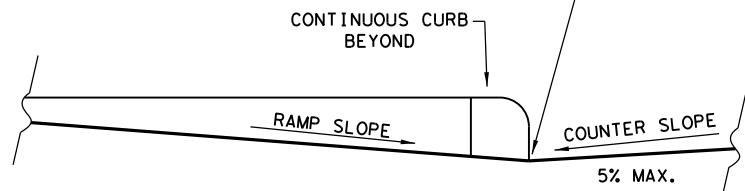
TYPE 21

TYPE 22



COMBINATION ISLAND RAMPS

BOTTOM GRADE BREAK OF CURB RAMP WILL NORMALLY BE AT GUTTER LINE. SURFACE SLOPES AT GRADE BREAKS SHALL BE FLUSH.



TYPICAL SECTION OF PERPENDICULAR CURB RAMP AT CONNECTION TO ROADWAY

NOTES / LEGEND:

SEE GENERAL NOTES ON SHEET 2 OF 4 FOR MORE INFORMATION.

DENOTES PLANTING OR NON-WALKING SURFACE NOT PART OF PEDESTRIAN CIRCULATION PATH.

DENOTES PREFERRED LOCATION OF PEDESTRIAN PUSH BUTTON IF APPLICABLE.



GUTTER LINE

GRADE BREAK

RAMP LIMITS OF PAYMENT

SHEET 1 OF 4

Texas Department of Transportation

Design Division Standard

PEDESTRIAN FACILITIES CURB RAMPS

PED-18

FILE: ped18	DN: TxDOT	DW: VP	CK: KM	CK: PK & JG
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REVISED 08, 2005	REVISIONS			
REVISED 06, 2012				
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DATE:
FILE:

GENERAL NOTES

CURB RAMPS

1. Install a curb ramp or blended transition at each pedestrian street crossing.
2. All slopes shown are maximum allowable. Cross slopes of 1.5% and lesser running should be used. Adjust curb ramp length or grade of approach sidewalks as directed.
3. Maximum allowable cross slope on sidewalk and curb ramp surfaces is 2%.
4. The minimum sidewalk width is 5'. Where the sidewalk is adjacent to the back of curb, a 6' sidewalk width is desirable. Where a 5' sidewalk cannot be provided due to site constraints, sidewalk width may be reduced to 4' for short distances. 5'x 5' passing areas at intervals not to exceed 200' are required.
5. Turning Spaces shall be 5'x 5' minimum. Cross slope shall be maximum 2%.
6. Clear space at the bottom of curb ramps shall be a minimum of 4'x 4' wholly contained within the crosswalk and wholly outside the parallel vehicular travel path.
7. Provide flared sides where the pedestrian circulation path crosses the curb ramp. Flared sides shall be sloped at 10% maximum, measured parallel to the curb. Returned curbs may be used only where pedestrians would not normally walk across the ramp, either because the adjacent surface is planted, substantially obstructed, or otherwise protected.
8. Additional information on curb ramp location, design, light reflective value and texture may be found in the latest draft of the Proposed Guidelines for Pedestrian Facilities in the Public Right of Way (PROWAG) as published by the U.S. Architectural and Transportation Barriers Compliance Board (Access Board).
9. To serve as a pedestrian refuge area, the median should be a minimum of 6' wide, measured from back of curbs. Medians should be designed to provide accessible passage over or through them.
10. Small channelization islands, which do not provide a minimum 5'x 5' landing at the top of curb ramps, shall be cut through level with the surface of the street.
11. Crosswalk dimensions, crosswalk markings and stop bar locations shall be as shown elsewhere in the plans. At intersections where crosswalk markings are not required, curb ramps shall align with theoretical crosswalks unless otherwise directed.
12. Provide curb ramps to connect the pedestrian access route at each pedestrian street crossing. Handrails are not required on curb ramps.
13. Curb ramps and landings shall be constructed and paid for in accordance with Item 531 "Sidewalks".
14. Place concrete at a minimum depth of 5" for ramps, flares and landings, unless otherwise directed.
15. Furnish and install No. 3 reinforcing steel bars at 18" o.c. both ways, unless otherwise directed.
16. Provide a smooth transition where the curb ramps connect to the street.
17. Curbs shown on sheet 1 within the limits of payment are considered part of the curb ramp for payment, whether it is concrete curb, gutter, or combined curb and gutter.
18. Existing features that comply with applicable standards may remain in place unless otherwise shown on the plans.

DETECTABLE WARNING MATERIAL

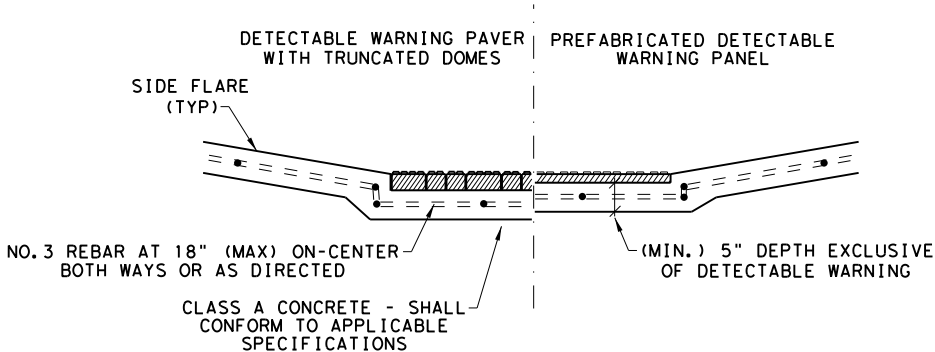
19. Curb ramps must contain a detectable warning surface that consists of raised truncated domes complying with PROWAG. The surface must contrast visually with adjoining surfaces, including side flares. Furnish and install an approved cast-in-place dark brown or dark red detectable warning surface material adjacent to uncolored concrete, unless specified elsewhere in the plans.
20. Detectable Warning Materials must meet TxDOT Departmental Materials Specification DMS 4350 and be listed on the Material Producer List. Install products in accordance with manufacturer's specifications.
21. Detectable warning surfaces must be firm, stable and slip resistant.
22. Detectable warning surfaces shall be a minimum of 24 inches in depth in the direction of pedestrian travel, and extend the full width of the curb ramp or landing where the pedestrian access route enters the street.
23. Detectable warning surfaces shall be located so that the edge nearest the curb line is at the back of curb and neither end of that edge is greater than 5 feet from the back of curb. Detectable warning surfaces may be curved along the corner radius.
24. Shaded areas on Sheet 1 of 4 indicate the approximate location for the detectable warning surface for each curb ramp type.

DETECTABLE WARNING PAVERS (IF USED)

25. Furnish detectable warning paver units meeting all requirements of ASTM C-936, C-33. Lay in a two by two unit basket weave pattern or as directed.
26. Lay full-size units first followed by closure units consisting of at least 25 percent (25%) of a full unit. Cut detectable warning paver units using a power saw.

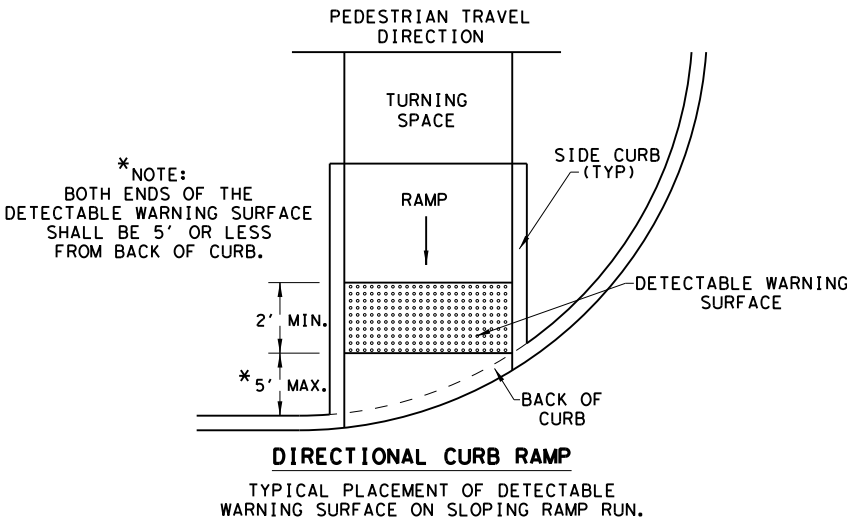
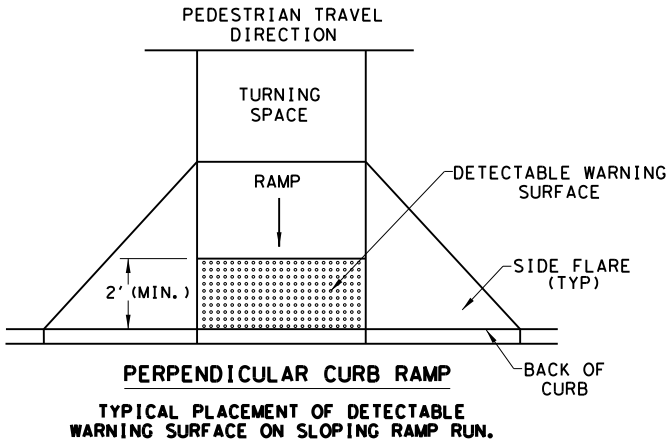
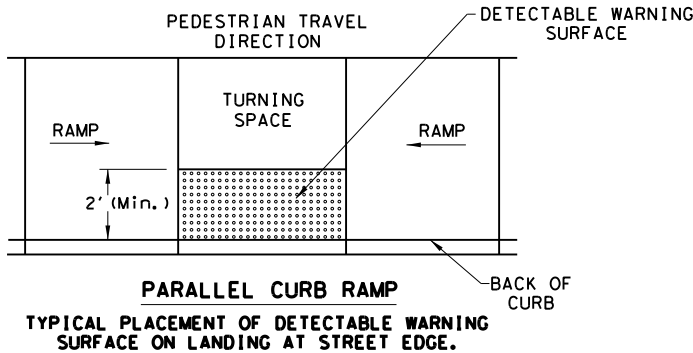
SIDEWALKS

27. Provide clear ground space at operable parts, including pedestrian push buttons. Operable parts shall be placed within unobstructed reach range specified in PROWAG section R406.
28. Place traffic signal or illumination poles, ground boxes, controller boxes, signs, drainage facilities and other items so as not to obstruct the pedestrian access route or clear ground space.
29. Street grades and cross slopes shall be as shown elsewhere in the plans.
30. Changes in level greater than 1/4 inch are not permitted.
31. The least possible grade should be used to maximize accessibility. The running slope of sidewalks and crosswalks within the public right of way may follow the grade of the parallel roadway. Where a continuous grade greater than five percent (5%) must be provided, handrails may be desirable to improve accessibility. Handrails may also be needed to protect pedestrians from potentially hazardous conditions. If provided, handrails shall comply with PROWAG R409.
32. Handrail extensions shall not protrude into the usable landing area or into intersecting pedestrian routes.
33. Driveways and turnouts shall be constructed and paid for in accordance with Item "Intersections, Driveways and Turnouts". Sidewalks shall be constructed and paid for in accordance with Item, "Sidewalks".
34. Sidewalk details are shown elsewhere in the plans.



SECTION VIEW DETAIL
CURB RAMP AT DETECTIBLE WARNINGS

DETECTABLE WARNING SURFACE DETAILS



SHEET 2 OF 4



Design
Division
Standard

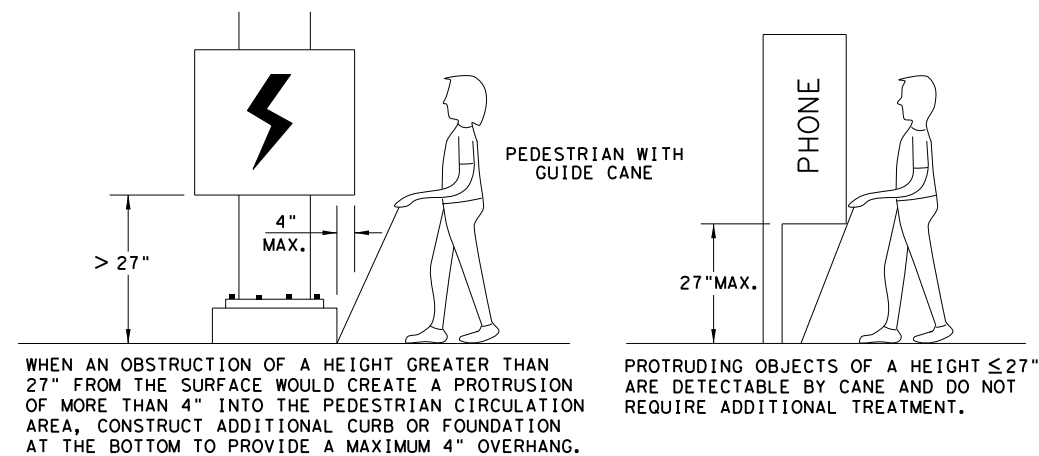
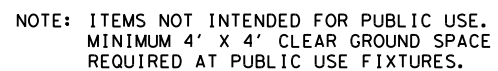
PEDESTRIAN FACILITIES
CURB RAMPS

PED-18

FILE: ped18	DN: TxDOT	DW: VP	CK: KM	CK: PK & JG
© TxDOT: MARCH, 2002	CONT	SECT	JOB	HIGHWAY
REVISED 08, 2005	REVISIONS			
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FILE: _____

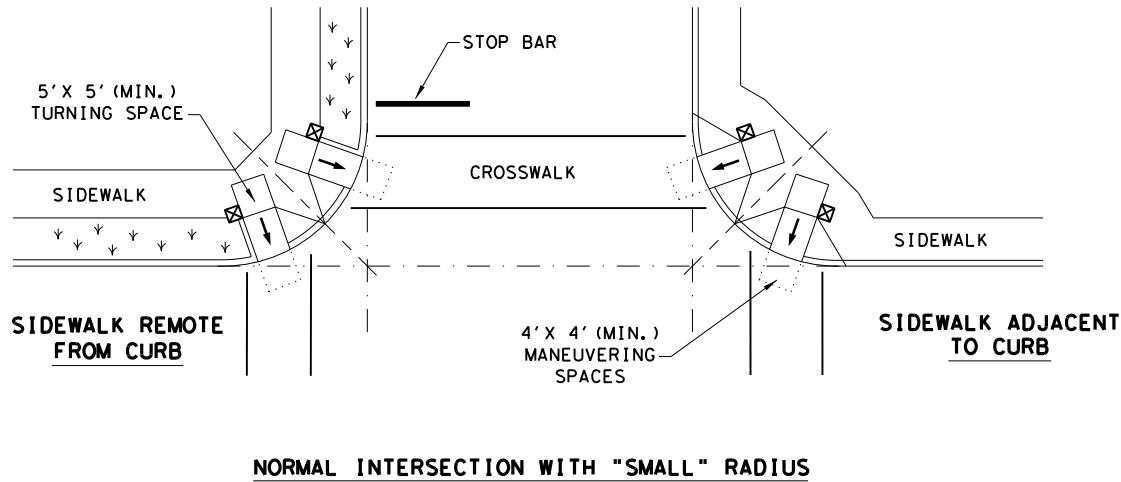
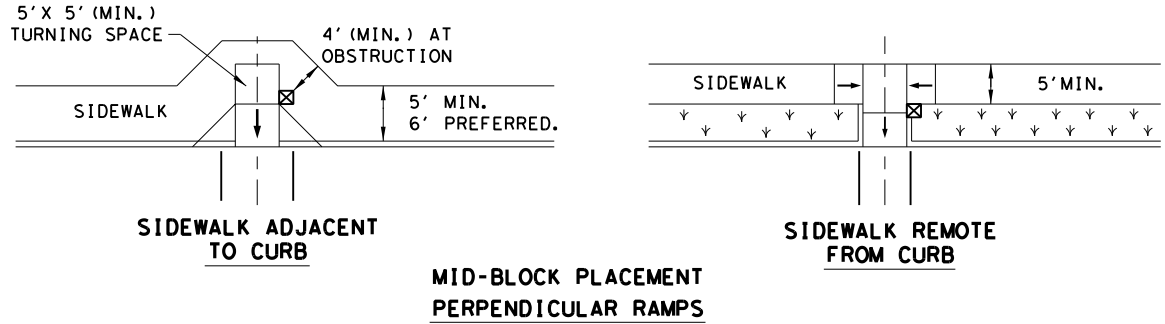
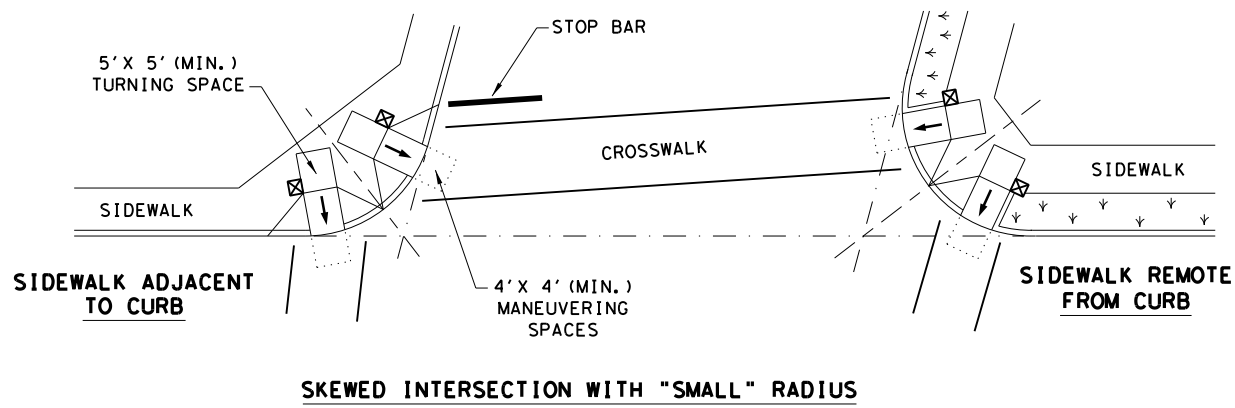
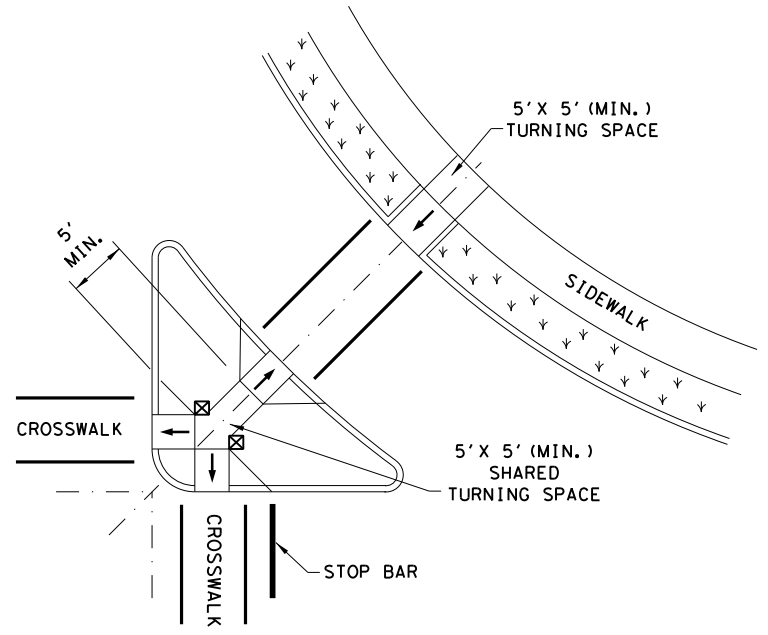
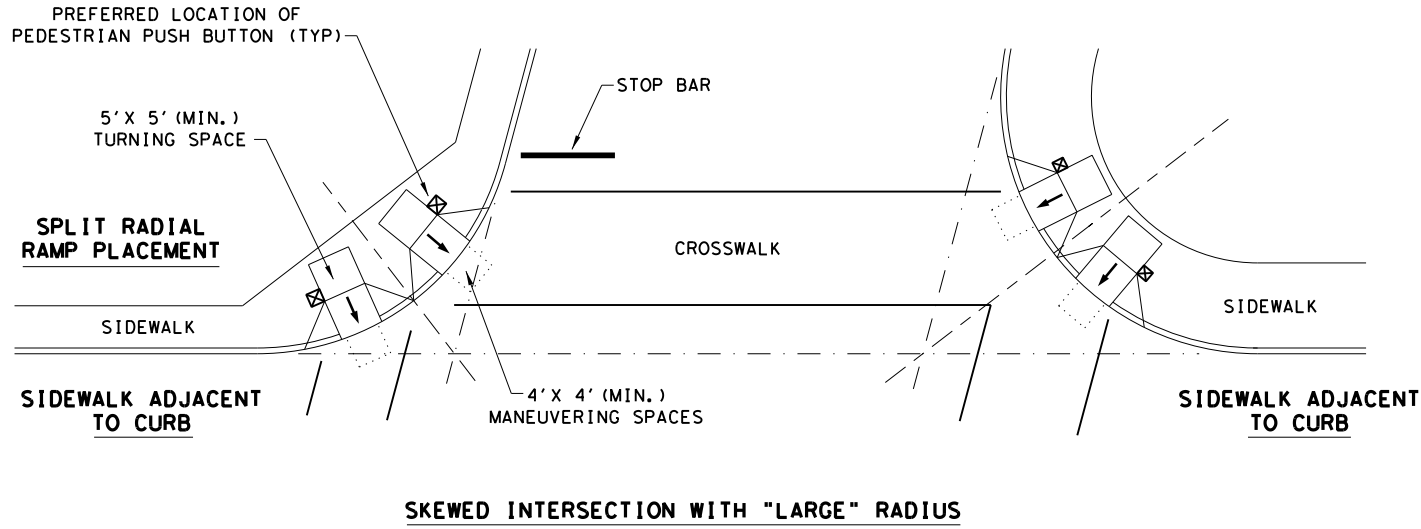
* * IF CURB HEIGHT IS GREATER THAN 6 INCHES, USE GRADE LESS THAN OR EQUAL TO 5%. HANDRAIL AND DETECTABLE WARNING ARE NOT REQUIRED.



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TYPICAL CROSSING LAYOUTS
SEE SHEET 1 OF 4 FOR DETAILS AND DIMENSIONS



LEGEND:

SHOWS DOWNWARD SLOPE.



DENOTES PREFERRED LOCATION OF PEDESTRIAN PUSH BUTTON (IF APPLICABLE).



DENOTES PLANTING OR NON-WALKING SURFACE NOT PART OF PEDESTRIAN CIRCULATION PATH.



SHEET 4 OF 4



PEDESTRIAN FACILITIES
CURB RAMPS

PED-18

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