DESIGN	FED.RD. DIV.NO.	STATE PROJECT NO.			
	6	C 918-11-110			
GRAPHICS	STATE	CONT	SECT	JOB	HIGHWAY NO.
	TEXAS	0918	11	110	VARIOUS
CHECK	CHECK	DIST	COUNTY		SHEET NO.
		DAL	KAUFMAN, ETC		1

FINAL PLANS

NAME OF CONTRACTOR: ____________

DATE OF LETTING: ____________

DATE WORK BEGAN: ____________

DATE WORK COMPLETED: ____________

DATE WORK ACCEPTED: ____________

SUMMARY OF CHANGE ORDERS:

STATE OF TEXAS
DEPARTMENT OF TRANSPORTATION

PLANS OF PROPOSED
STATE HIGHWAY IMPROVEMENT

STATE PROJECT
C 918-11-110
CSJ: 0918-11-110

VARIOUS

KAUFMAN COUNTY, ETC

LIMITS: FROM VARIOUS LOCATIONS
TO IN THE DALLAS DISTRICT

TOTAL LENGTH OF PROJECT =

ROADWAY	= 12315.00 FT.	=	2.33	MI.
BRIDGE	= 0.00 FT.	=	0.000	MI.
TOTAL	= 12315.00 FT.	=	2.33	MI.

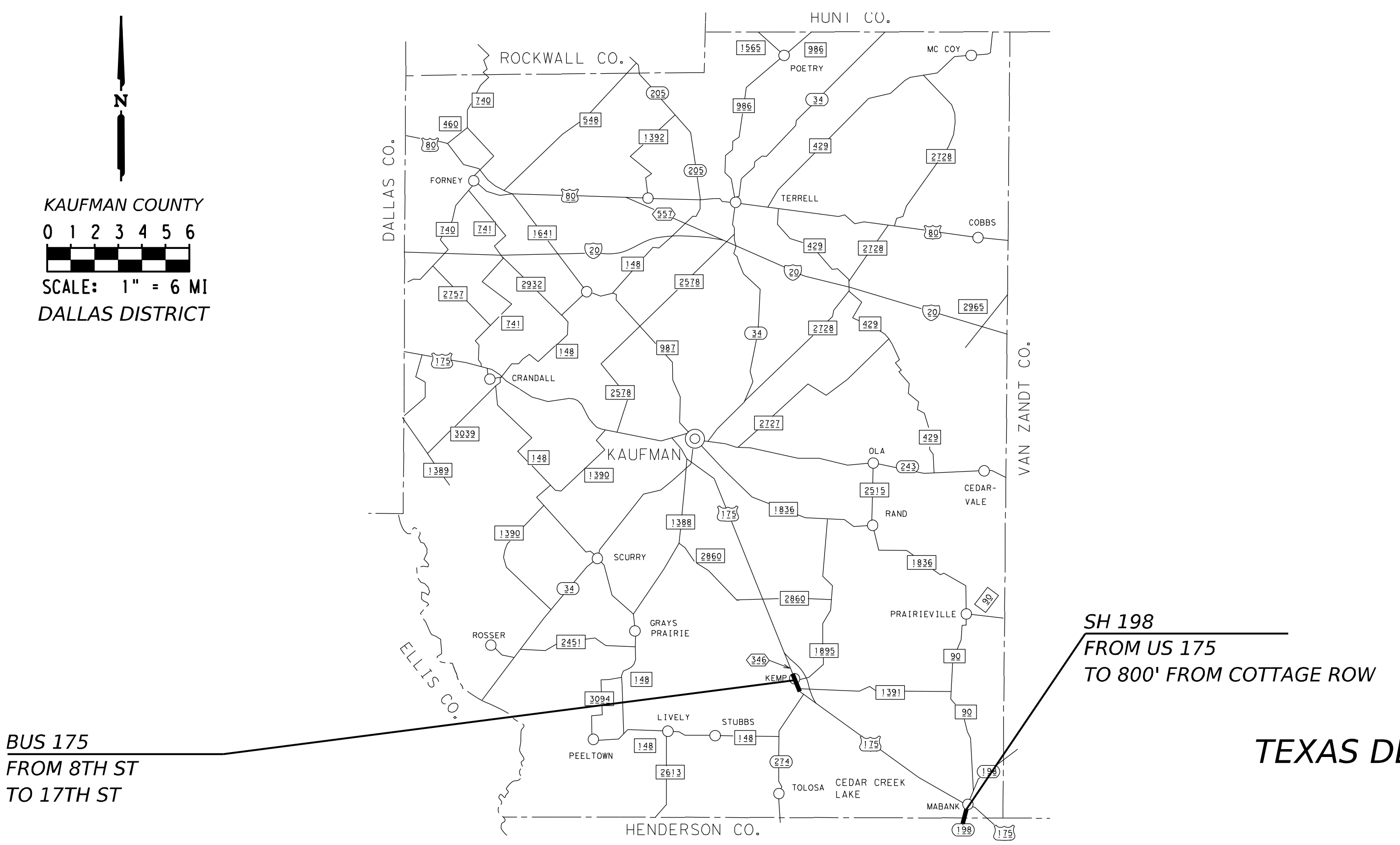
FOR THE CONSTRUCTION OF PEDESTRIAN SIDEWALKS & CURB RAMPS
CONSISTING OF FY24 DALLAS DISTRICT-WIDE ADA PROJECT

DESIGN SPEEDS: NOT APPLICABLE
FUNCTIONAL CLASSIFICATION: MAJOR COLLECTOR - OTHER

NOTE:

SPECIFICATIONS ADOPTED BY THE TEXAS DEPARTMENT OF TRANSPORTATION, NOVEMBER 1, 2014, AND THE CONTRACT PROVISIONS LISTED AND DATED AS FOLLOWS SHALL GOVERN ON THIS PROJECT: SPECIAL LABOR PROVISIONS FOR STATE PROJECTS (000-008)

Registered Accessibility Specialist (RAS) inspection required. TDLR No. TABS2024017609



EQUATIONS: NONE
EXCEPTIONS: NONE
RAILROAD CROSSINGS: NONE

SAMUEL J. LUNDQUIST 122185 LICENSED PROFESSIONAL ENGINEER STATE OF TEXAS

Kimley»Horn F-928

SUBMITTED FOR LETTING: 5/29/2024

____________, P.E.
PROJECT MANAGER KIMLEY-HORN ASSOCIATES, INC.

TEXAS DEPARTMENT OF TRANSPORTATION

RECOMMENDED FOR LETTING: 5/30/2024
DocuSigned by: James P. Campbell, P.E.
9867C1D9B6A4C2...
DIRECTOR OF TRANSPORTATION PLANNING & DEVELOPMENT

RECOMMENDED FOR LETTING: 5/30/2024
DocuSigned by: Lane Selman, P.E.
29F92BAFC5...
AREA ENGINEER

APPROVED FOR LETTING: 5/30/2024
DocuSigned by: Ceason Clemens, P.E.
A879E0D1...
DISTRICT ENGINEER

WORK WAS COMPLETED ACCORDING TO THE PLANS AND CONTRACT.

____________, P.E.
Signature of Registrant & Date

DATE: ____________

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4		BUS 175 LOCATION MAP
5		TYPICAL SECTIONS - SH 198
6		TYPICAL SECTIONS - BUS 175
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8, 8A		ESTIMATE & QUANTITY
9-11		PROJECT SUMMARY
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NONE

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NONE

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NONE

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X. MISCELLANEOUS ITEMS

NONE

5/31/2024

SAMUEL J. LUNDQUIST
122185
LICENSED PROFESSIONAL ENGINEER
STATE OF TEXAS

* *THE STANDARD SHEETS SPECIFICALLY IDENTIFIED ABOVE HAVE BEEN SELECTED BY ME OR UNDER MY SUPERVISION AS BEING APPLICABLE TO THIS PROJECT.*

SAMUEL J. LUNDQUIST, P.E. *122185*
5/31/2024

Kimley»Horn F-928

Texas Department of Transportation

INDEX OF SHEETS

SHEET 1 OF 1

CONT	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN, ETC			2

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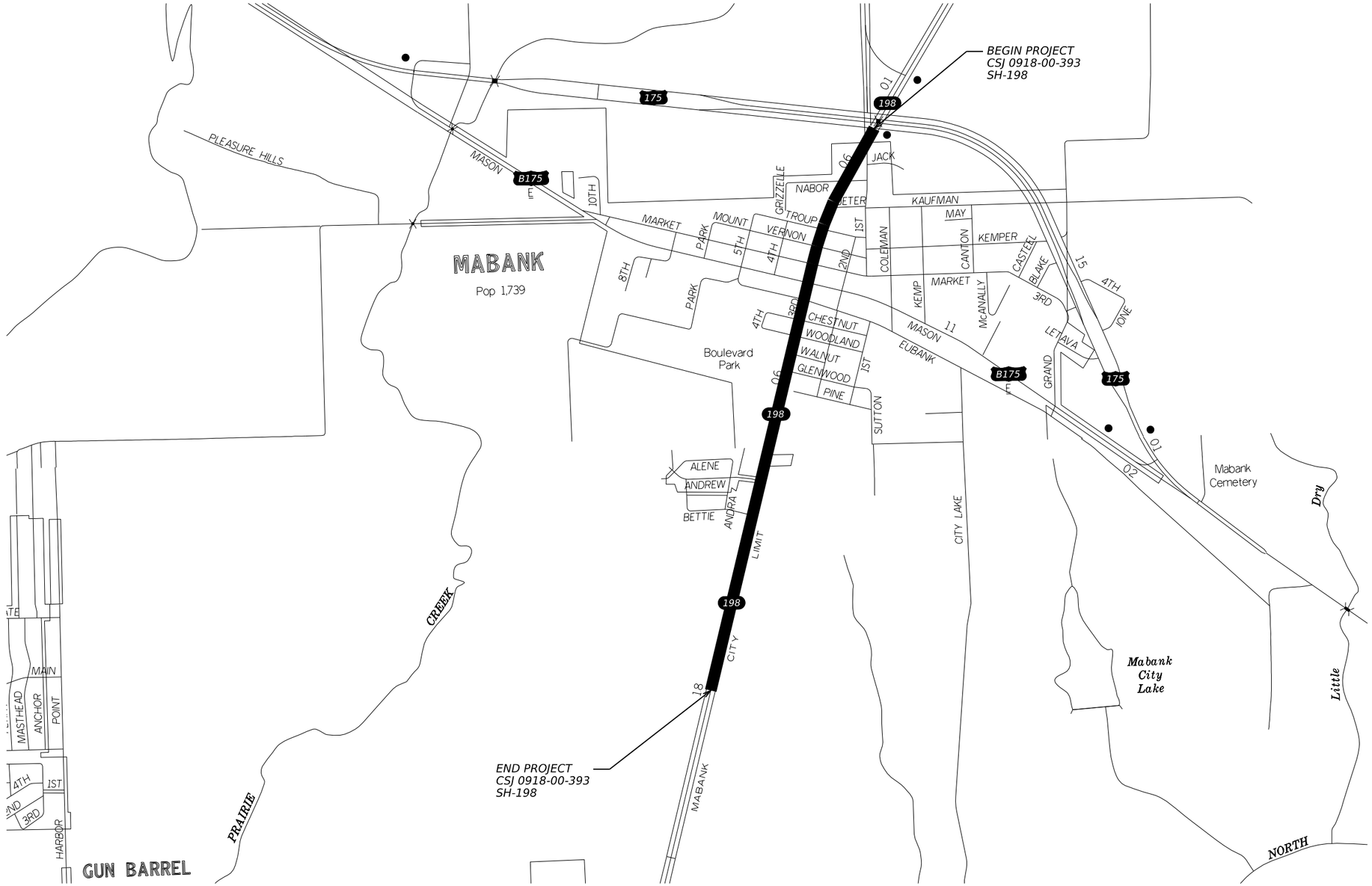

5/28/2024

STATE OF TEXAS
SAMUEL J. LUNDQUIST
122185
LICENSED
PROFESSIONAL ENGINEER

Kimley»Horn
F-928

Texas Department of Transportation

SH 198 LOCATION MAP

SHEET 1 OF 1

CONT	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN, ETC			3

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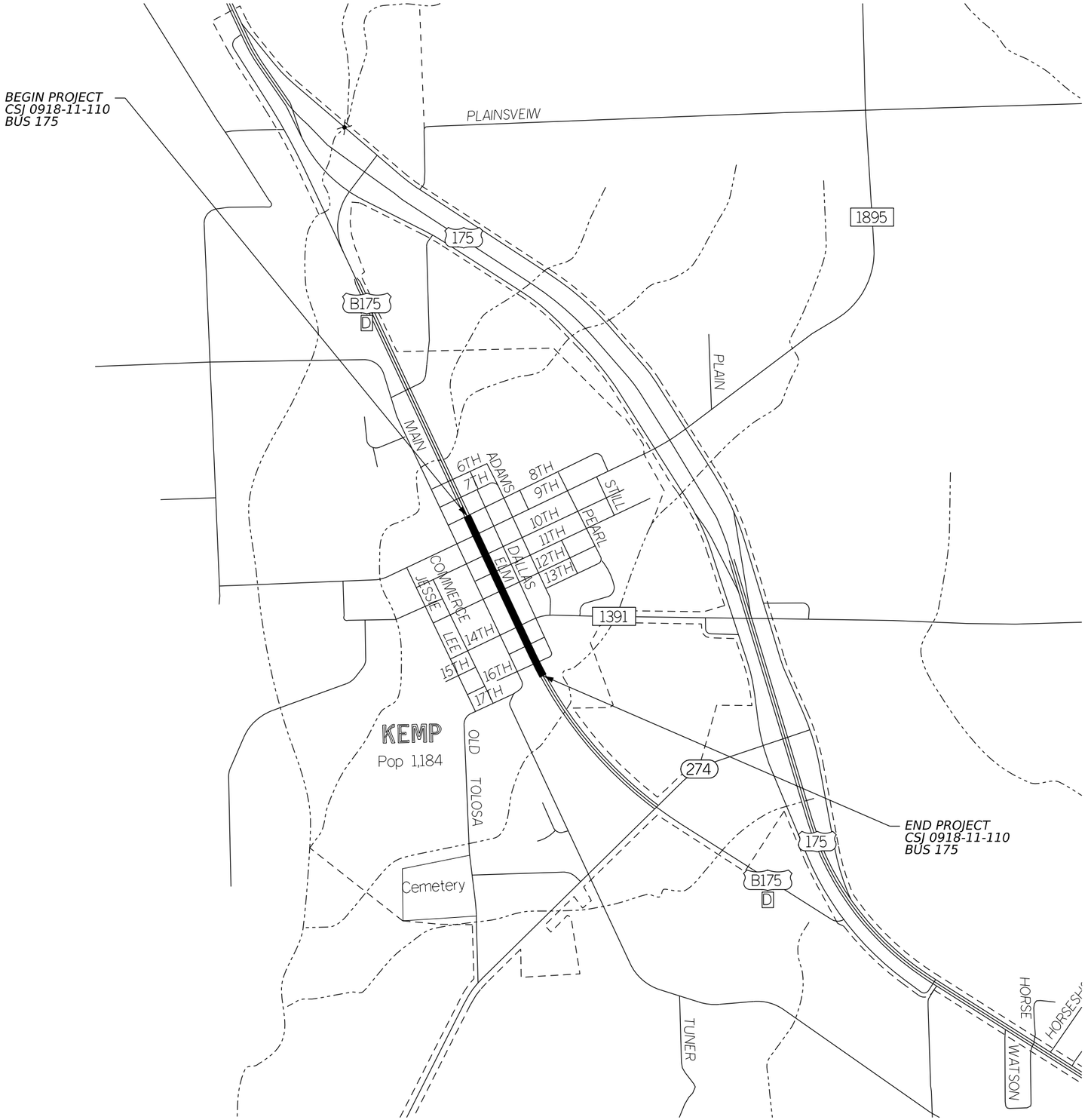

0 750 1500

SCALE: 1" = 1500'

CivilCorp
ENGINEERS • SURVEYORS
2825 WILCREST DRIVE, SUITE 100, HOUSTON TEXAS 77042
TEL# 713-785-9815 FAX# 713-782-6922 TXENG FIRM 10283

STATE OF TEXAS
GUS NOWAK JR.
22952
LICENSED
PROFESSIONAL ENGINEER

5/24/2024

Gus Nowak, Jr.

Kimley»Horn F-928

Texas Department of Transportation

BUS 175 LOCATION MAP

SHEET 1 OF 1

CONT	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN,ETC			4

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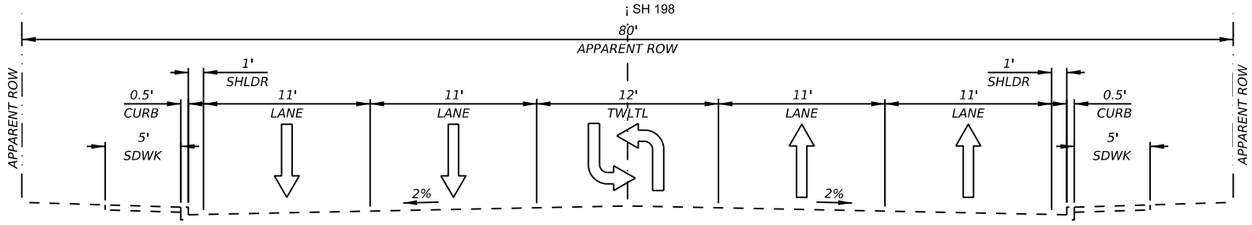
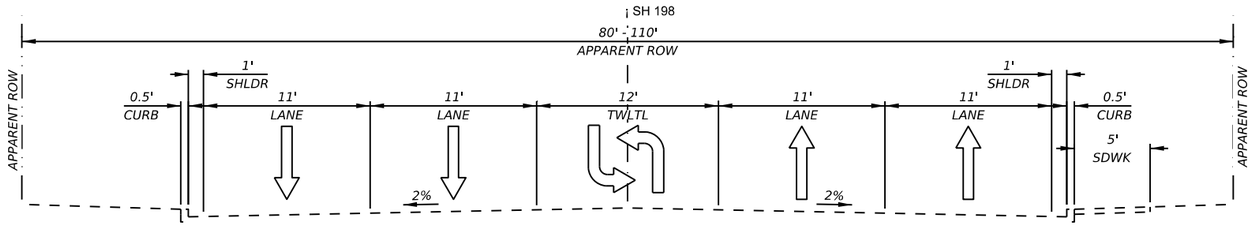


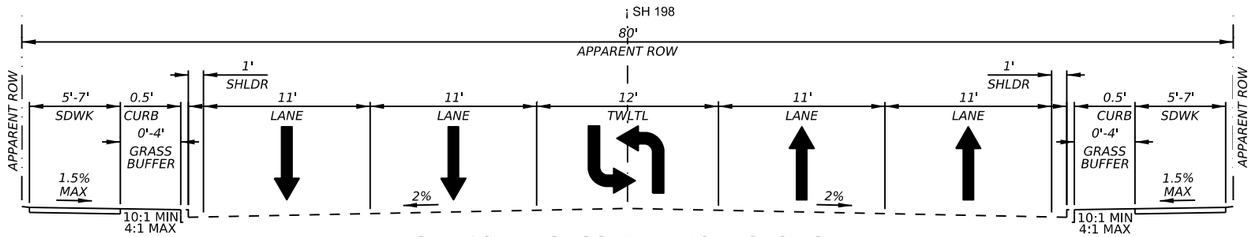
SH 198 - EXISITNG TYPICAL SECTION

BEGIN PROJECT TO STA 52+50.00



SH 198 - EXISITNG TYPICAL SECTION

STA 52+50.00 TO END PROJECT



SH 198 - PROPOSED TYPICAL SECTION

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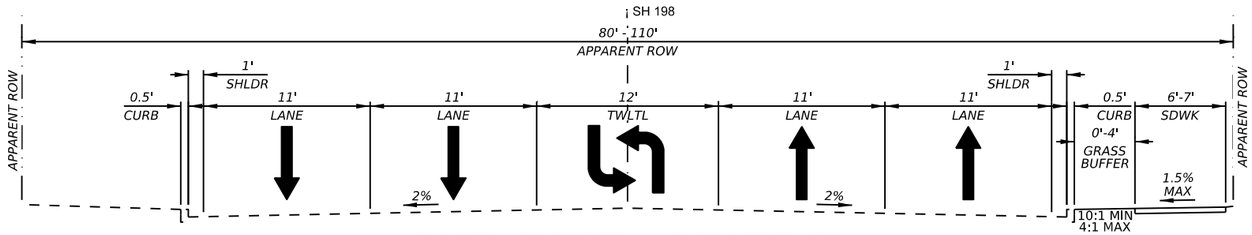

SH 198 - PROPOSED TYPICAL SECTION

STA 52+50.00 TO END PROJECT

5/28/2024

STATE OF TEXAS
SAMUEL J. LUNDQUIST
122185
LICENSED
PROFESSIONAL ENGINEER

Kimley»Horn F-928

Texas Department of Transportation

TYPICAL SECTIONS - SH 198

SHEET 1 OF 1

CONT	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN, ETC			5

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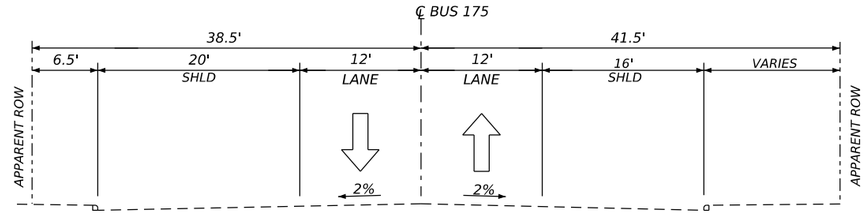
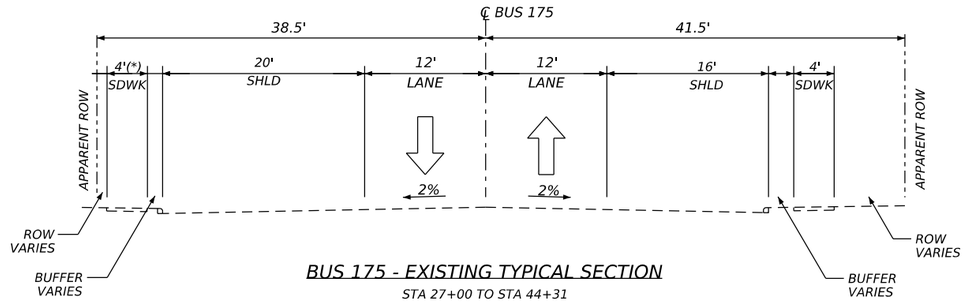


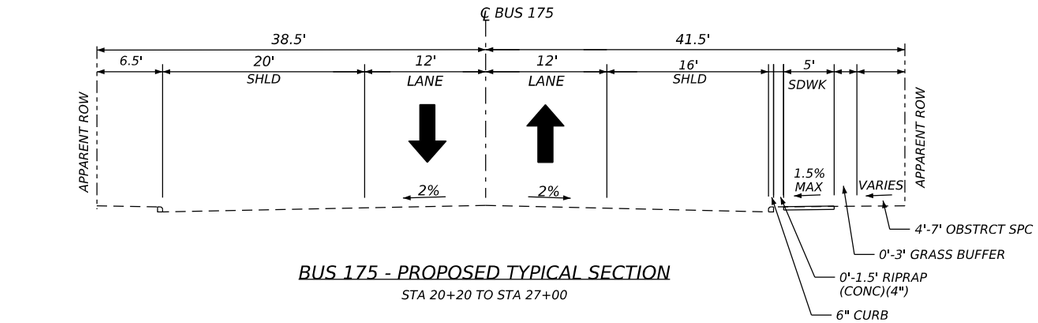
BUS 175 - EXISTING TYPICAL SECTION

STA 20+20 TO STA 27+00



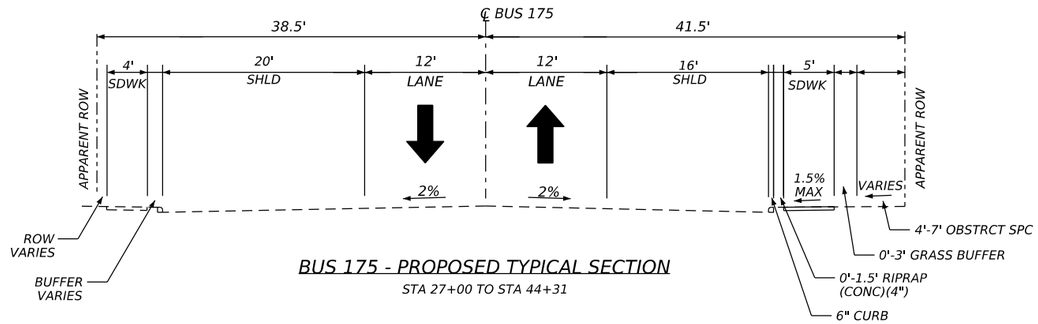
BUS 175 - EXISTING TYPICAL SECTION

STA 27+00 TO STA 44+31



BUS 175 - PROPOSED TYPICAL SECTION

STA 20+20 TO STA 27+00



BUS 175 - PROPOSED TYPICAL SECTION

STA 27+00 TO STA 44+31

SCALE : NTS

CivilCorp
ENGINEERS • SURVEYORS
2825 WILCREST DRIVE, SUITE 100, HOUSTON TEXAS 77042
TEL: 713-785-9815 FAX: 713-782-6922 TXENG FIRM 10283

STATE OF TEXAS
GUS NOWAK JR.
22952
LICENSED
PROFESSIONAL ENGINEER

5/24/2024

Gus Nowak, Jr.

Kimley»Horn F-928

Texas Department of Transportation

TYPICAL SECTIONS - BUS 175

CONT	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN,ETC			6

DATE: 5/24/2024 10:46:22 AM
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SPECIFICATION DATA

Table 1: Basis of Estimate for Permanent Construction					
Item	Description	Thickness	Rate		Quantity
162	Block Sod	N/A	See Specifications		4,986 SY
166 *	Fertilizer (12-6-6)	N/A	500	Lbs./Ac	0.26 Ton
168	Vegetative Watering (Warm)**	N/A	12	MG/Ac/Day	772 MG
*For contractor's information only **Use Summer rate for calculation, adjust for actual field conditions/temperatures as necessary. See Vegetation Establishment Plan Sheet for estimated daily rates.					
Note: (1) Base material weight based on 1.50 Ton/CY (dry- compacted) (2) Asphalt weight based on 110 Lbs./SY/In					

GENERAL

The construction, operation and maintenance of the proposed project will be consistent with the state implementation plan as prepared by the Texas Commission on Environmental Quality.

The disturbed area for this project, as shown on the plans is 4.1 acres. However, the Total Disturbed Area (TDA) will establish the required authorization for storm water discharges. The TDA of this project will be determined by the sum of the disturbed area in all project locations in the contract, and all disturbed area on all Project-Specific Locations (PSL) located in the project limits and/or within 1 mile of the project limits. The department will obtain an authorization to discharge storm water from the Texas Commission on Environmental Quality (TCEQ) for the construction site as shown on the plans, according to the TDA of the project. The contractor will obtain any required authorization from the TCEQ for the discharge of storm water from any PSL for construction support activities on or off of the project row according to the TDA of the project. When the TDA for the project exceeds 1 acre, provide a copy of the appropriate application of permit (NOI, or Construction Site Notice) to the engineer, for any PSL located in the project limits or within 1 mile of the project limits. Follow the directives and adhere to all requirements set forth in the TCEQ, Texas Pollution Discharge Elimination System, Construction General Permit (TPDES, CGP).

Leave all right of way areas undisturbed until actual construction is to be performed in said areas.

Questions may be submitted via the Letting Pre-Bid Q&A web page. This webpage can be accessed from the Notice to Contractors dashboard located at the following Address:

CSJ:0918-11-110 Sheet 7

County: Kaufman, etc.

Highway: Various

https://tableau.txdot.gov/views/ProjectInformationDashboard/NoticetoContractors

or Contractor questions on this project are to be addressed to the following individual(s):

Lane Selman, P.E. *Lane.Selman@TxDOT.gov*
Nicholas Wadlington, P.E. *Nicholas.Wadlington@TxDOT.gov*

Contractor questions will be accepted through email, phone, and in person by the above individuals.

All contractor questions will be reviewed by the Engineer. All questions and any corresponding responses that are generated will be posted through the same Letting Pre-Bid Q&A web page.

The Letting Pre-Bid Q&A web page for each project can be accessed by using the dashboard to navigate to the project you are interested in by scrolling or filtering the dashboard using the controls on the left. Hover over the blue hyperlink for the project you want to view the Q&A for and click on the link in the window that pops up.

Item 5:
Underground utilities owned by the Texas Department of Transportation may be present within the Right-Of-Way on this project. For signal, illumination, surveillance, and communications & control maintained by TxDOT, call the TxDOT Traffic Signal Office (214-320-6682) for locates a minimum of 48 hours in advance of excavation. For irrigation systems, call TxDOT Landscape Office (214-320-6205) for locates a minimum of 48 hours in advance of excavation. If city or town owned irrigation facilities are present, call the appropriate department of the local city or town a minimum of 48 hours in advance of excavation. The Contractor is liable for all damages when utilities are damaged due to Contractor's negligence including, but not limited to, repair or replacement at the Contractor's expense.

For the project to be deemed complete, permanently stabilize all unpaved disturbed areas of the project with a vegetative cover at a minimum of 70% density for the control of erosion.

Place construction stakes/station markings at intervals of no more than 100 feet or as directed by the Engineer. Place stakes and markings so as not to interfere with normal construction operations.

Submit all shop drawings, working drawings, or other documents which require review sufficiently in advance of scheduled construction to allow no less than thirty (30) calendar days for review and response.

Item 7:
Repair or replace any structures and utilities that might have been damaged by negligence or a failure to have utility locates performed.

Perform all electrical work in accordance with the National Electrical Code and Texas Department of Transportation Specifications.

County: Kaufman, etc.

Highway: Various

Consult with appropriate electric company representatives according to their respective area to coordinate electrical services installations.

Holiday restrictions – The Engineer may decide that no lane closures or construction operations shall be allowed during the restricted periods listed in the following holiday schedule. TxDOT has the right to lengthen, shorten, or otherwise modify these restricted periods as actual, or expected, traffic conditions may warrant. Working days will not be charged for these restricted periods. No additional compensation will be allowed for these closures (i.e., overhead, delays, stand-by, barricades or any other associated cost impacts).

- New Year's Eve and Day (5 am on December 31 thru 10:00 pm January 1)
- Easter Holiday weekend (5 am on Friday thru 10:00 pm Sunday)
- Memorial Day weekend (5 am on Friday thru 10:00pm Monday)
- Independence Day (5 am on July 3 thru 10:00 pm on July 5)
- Labor Day weekend (5 am on Friday thru 10:00 pm Monday)
- Thanksgiving Holiday (5 am on Wednesday thru 10:00 pm Sunday)
- Christmas Holiday (5 am on December 23 thru 10:00 pm December 26)

No significant traffic generator events identified.

Item 8:
This Project will be a Standard Workweek.
SP 008-055, 60 day convenience delay for material procurement, is included on this project.

Meet weekly with the engineer to notify him or her of planned work for the upcoming week.

Critical Path Method (CPM) schedule in P6 format will be required for this project. Submit baseline schedule and obtain approval prior to beginning construction. The estimate will be held if monthly schedule update is not submitted.

Provide the engineer with a daily work schedule of planned work.

Item 100:
Remove the existing roadway small signs, delineators and object markers as shown on the plans, or as directed, during construction within the right of way. Small sign, delineator and object marker removals are subsidiary to this Item.

The limits of preparing right of way will be measured on SH 198 from Sta. 5+00 to Sta.104+00 and BUS 175 from Sta. 20+20 to Sta. 44+35 along the centerline of construction.

Item 104:
In those areas where the pavement is not to be overlaid, provide a smooth surface after the curb removal. Planing or grinding is considered an acceptable method at these locations. Measurement and payment is in accordance with this item.

Sawing of concrete is not paid for directly, but is considered subsidiary to this item.

CSJ:0918-11-110 Sheet 7A

County: Kaufman, etc.

Highway: Various

Items 105, 251, 305, and 354:
Saw existing asphalt along neat lines where portions are to be left in place temporarily or permanently. Sawing is not paid for directly, but is subsidiary to this item.

Item 105:
Take possession of recycled asphalt pavement from the project and recycle the material.

Properly dispose of unsalvageable material at your own expense.

Item 400:
Structural Excavation is not paid for directly but is considered subsidiary to pertinent Items.

When placing concrete storm drain pipe on slopes of greater than 10 percent, provide cement stabilized backfill to a depth shown in plans.

Item 479:
Salvage and stockpile all existing inlet grates and manhole covers removed under this item at a location designated by the engineer.

Submit a plan detailing proposed methods of handling phased construction at manholes and water valves.

Payment for the phase construction will be considered subsidiary to this item.

Item 496:
Salvage all existing inlet grates and manhole covers being removed.

Item 500:
Material On Hand (MOH) will not be used in calculating partial payments for Mobilization.

Item 502:
The Contractor Force Account "Safety Contingency" that has been established for this project is intended to be utilized for work zone enhancements, to improve the effectiveness of the Traffic Control Plan, that could not be foreseen in the project planning and design stage. These enhancements will be mutually agreed upon by the Engineer and the Contractor's Responsible Person based on weekly or more frequent traffic management reviews on the project. The Engineer may choose to use existing bid items if it does not slow the implementation of enhancement.

Access will be provided to all business and residences at all times. Where turning radii are limited during phased construction at intersections, provide all weather surfaces such as RAP or base in turning movements to accommodate and to protect the traffic from edge drop-offs. Materials, labor, maintenance and removal for these temporary accesses and radii will not be paid for directly but will be considered subsidiary to the various bid items.

Provide written proposed lane closure information by 1:00 pm on the business day prior to the proposed closures. Do not close lanes when this requirement is not met.

When excavation is required next to a pavement lane carrying traffic and the widening is not completed by the end of the work day, backfill against the edge of the pavement with at least a 3:1 slope using an acceptable material to support vehicular traffic. Carefully remove and dispose of this material when work resumes. Backfilling pavement edges, and the materials required for the work will be subsidiary to this item.

Place barricades and signs in locations that do not obstruct the sight distance of drivers entering the highway from driveways or side streets.

Do not operate or park any equipment/machinery closer than 30 feet from the traveled roadway after sunset unless authorized by the engineer.

When moving unlicensed equipment on or across any pavement or public highways, protect the pavement from all damage using an acceptable method.

As approved by the Engineer, provide uniformed off duty police officers and squad cars during lane or ramp closures, night time work or other situations that indicate a need for additional traffic control to protect the traveling public or the construction workforce. Provide documentation such as payroll, log sheets with signatures and badge number, or invoices from the government entity providing the officers for reimbursement. Complete the weekly tracking form provided by the department and submit invoices that agree with the tracking form for payment at the end of each month approved services were provided. Reimbursement will not be made for coordination fees charged by any party.

Patrol vehicles must be clearly marked to correspond with the officer's agency and equipped with appropriate lights to identify them as law enforcement. For patrol vehicles not owned by a law enforcement agency, markings will be retroreflective and legible from 100 ft. from both sides and the rear of the vehicle. Lights will be high intensity and visible from all angles.

Limit lane closures along SH-198 and B-175 to the hours between 9:00 am and 3:30 pm. Work in other areas of the project is not restricted to this time frame.

Traffic Control Plans with Lane Closures causing backups of 20 minutes or greater in duration will be modified by the Engineer up to and including removal of the lane closure and adjustment of lane closure times.

Work in other areas of the project is not restricted to this time frame.

Additional lanes may be closed, started earlier, or extended later with written permission of the Engineer.

Item 506:
Take all practicable precautions to prevent debris from being discharged into the Waters of Texas or a designated wetland. Install Best Management Practices before demolition begins and maintain them during the demolition. Remove any debris or construction material that escapes containment devices and are discharged into the restricted areas, before the next rain event or within 24 hours of the discharge.

CSJ:0918-11-110 **Sheet 7**B

County: Kaufman, etc.

Highway: Various

Provide SW3P Signs. Obtain from the Engineer a copy of the project's completed TPDES Storm Water Program Construction Site Notice and Contractor Site Notice. Laminate the sheets and bond with adhesive to 36" X 36" plywood sign blanks. Ensure the sheets remain dry. Apply Type C Blue reflective sheeting as the background and add the text "SW3P" in 5" white lettering, centered at the top. Attach the signs to approved temporary mounts and locate at each of the project limits just inside the right of way line at a readable height or as directed by the Engineer. If the sign cannot be placed outside the clear zone, it must adhere to the TMUTCD. SW3P signs, maintenance, and reposting (for replacement or as needed to ensure readability) will be subsidiary to Item 502.

Concrete Washouts are required per the CGP. The Concrete Washout Area(s) structural controls must consist of temporary berms, temporary shallow pits, and/or temporary storage tanks to prevent contaminated runoff and must be lined as to prevent contamination of underlying soil. Ensure pits properly maintained including removal of concrete as not to allow over flow. The location(s) of washout area will be approved by the Engineer. When washout pits are no longer needed, they will be removed and area will be restored to original condition. This work, materials and labor will not be measured or paid for directly but will be subsidiary to Item 506, "Temporary Erosion, Sedimentation, and Environmental Controls."

Item 529:
Provide grooved joints at 10-foot intervals and ¾ inch expansion joint material for doweled curb at the same locations as on the existing pavement.

For Curb and Gutter sections, provide grooved joints at 10-foot intervals and ¾ inch expansion joint material at a maximum of 50-foot centers and at all radius points and inlets.

Curb and Gutter transitions will be paid for by the foot at the unit price for the corresponding curb or curb and gutter section.

Saw joints at the same location as on the existing pavement.

Item 530 & 531:
The furnishing and installation of the sand cushion in proposed sidewalks, sidewalk ramps, and driveways will not be paid for directly but will be subsidiary to this bid item.

The furnishing and installation of backfill in proposed sidewalks, sidewalk ramps, and driveways will not be paid for directly but will be subsidiary to this bid item.

Install an approved cast in place detectable warning surface on all new curb ramps.

Construct compliant curb ramps based upon referenced design criteria, Public ROW Accessibility Guidelines, Texas Accessibility Standards, and TxDOT Pedestrian Facilities Standards. Consider the locations of existing traffic and pedestrian control devices including loop detectors and pedestrian push buttons during curb ramp construction at signalized intersections, and construct ramps to allow such existing facilities to remain undisturbed and reused to the fullest extent possible while providing for full ADA compliance. All corners are

unique and it may be necessary to use various combinations of ramp elements to achieve a compliant ramp configuration.

Review the curb ramp location and layout with TxDOT's inspector prior to demolition so that both parties agree that the curb ramp can be installed properly. Should it become apparent at any time during the ramp layout and construction process that a curb ramp cannot be installed as indicated on the Project Drawings, promptly notify the TxDOT inspector.

Any approval, inspection, or checking of the contractor's layout by TxDOT and the acceptance of all or any part of it shall not relieve the contractor of his responsibility to secure the proper dimensions, grades and elevations of the various parts of the work.

Construction of each curb ramp is to be completed within seven (7) working days after start of construction process. Construction process of curb ramps shall include: demolition of existing conditions, placement of concrete or brick, removal of lips, street surface patching in front of the curb or ramp, adjustment of counter slope within 24-inches of the bottom of the ramp or curb and gutter, street level landings, backfill, placement of topsoil, grading and sodding, and clean-up. All other related work such as adjustment of crosswalk, special heat-welds, asphalt overlays, and other work that does not affect accessibility shall be completed per a schedule pre-approved by TxDOT.

Furnish and install #3 dia. reinforcing steel bars @ 18" O.C./B.W. for sidewalk, curb ramps and curb ramp components.

Proposed curb ramps, sidewalks, curbs, and riprap is to be doweled 8in minimum into existing, using 1/2in reinforcement placed on 12in centers.

The curb ramp locations shown in the plans have taken into account the geometric features of the intersection, traffic signals, and the pavement markings. If anything changes during construction, the location of curb ramps must be adjusted to ensure they meet PROWAG requirements.

Contractor is to match existing concrete color and texturing at various locations which, as directed by the engineer, require matching.

Item 618:
The polymer concrete barrier box will not be paid for separately, but will be considered subsidiary to ITEM 618, "CONDUIT". Mount the polymer concrete junction boxes shown on the Concrete Safety Barrier (CSB) standard sheets recessed (-¼ ", - ¾")and weld a¼" steel plate to the captive bolts so that it is flush (+0", -¼")with surface of concrete barrier.

The location of conduits and ground boxes are diagrammatic only and may be shifted to accommodate field conditions as directed.

Secure permission and approval from the proper authority prior to cutting into or removing any sidewalks or curbs for installation of this Item.

CSJ:0918-11-110 **Sheet 7C**

County: Kaufman, etc.

Highway: Various

When holes are drilled through concrete structures, use a coring device. Do not use masonry or concrete drills.
Structurally mount junction boxes as shown on the plans. When used for traffic signal installations, use boxes 12"x12"x8", or as approved.

Use conduit hangers for 3 inch and larger conduit when hanging conduit from structures.

Place conduit under existing pavement by an approved boring method. Do not place boring pits closer than 2 feet from the edge of the pavement unless otherwise directed. Do not use water jetting. When conduits are bored, do not exceed 18 inches in the vertical and horizontal tolerances as measured from the intended target point.

Do not use a pneumatically driven device for punching holes beneath the pavement (commonly known as a "missile").

Furnish and install a flat, high tensile strength polyester fiber pull tape in conduit runs in excess of 50 feet or for future use and protected with standard weather-tight conduit caps, as approved. Acceptable products include Garvin# PT-1250-3K, ComStar PUL 1250P3K, Ideal Part No. 31-315 or equal as approved by the Engineer. This work will not be paid for directly, but is subsidiary to this Item.

Use a colored cleaner-primer on all PVC to PVC joints before application of PVC cement.

Seal all conduit ends with a permanently soft, non-toxic duct seal. Use a duct seal that does not adversely affect other plastic materials or corrode metals.

Item 620:
The equipment grounding conductor shall be identified by a continuous green colored jacket insulation or bare wire. Grounded conductors (Neutral) shall be identified by a continuous white colored jacket. Ungrounded conductors (Hot) in a 120/240v or 240/480v system shall be identified by each pole or leg. For 240-volt branch circuit fed from 120/240 source and 480-volt branch circuit fed from 240/480 source, ensure one leg is identified by a continuous black colored jacket and the other leg by a continuous red colored jacket.

For both transformer and shoe-base type illumination poles, provide double-pole breakaway fuse holder as shown on the Texas Department of Transportation (TxDOT) - Construction Division's (CST) materials producers list. Category is "Roadway Illumination and Electrical Supplies." Fuse holder is shown on list under Items 610 & 620. Provide 10 amp time delay fuses.

Items 644:
Provide two (2) sets of shop drawings for signs. The shop drawings shall conform to the details shown on the plans. The shop drawings shall show the details of the panels, wind beams, stiffeners, joint backing plates, splices, fasteners, brackets, and sign support connections. The shop drawings shall show letter types and sizes, interline spacing and message arrangements.

Affix a sign identification decal to the back of all signs in accordance with Item 643.

County: Kaufman, etc.

Highway: Various

Prior to taking elevations to determine lengths for fabrication of sign posts and/or sign support towers, obtain verification of all proposed locations.

All sign mounts shall have a clamp base system for all small roadside sign assemblies. Removal of concrete foundations including steel shall be at full length for small and large sign assemblies, unless otherwise shown on the plans.

Communications cable shall be installed in a separate conduit and bored separately.

Item 677:
A water blasting method approved by the Engineer will be the only method allowed for the removal of permanent and temporary pavement markings except on a sealcoat surface. A 2 foot wide sealcoat will be required on sealcoat surfaces to eliminate permanent and temporary pavement markings.

Item 684:
Provide stranded 14 AWG Type A signal cables for LED signal heads and stranded 12 AWG Type C cables for APS units.

Provide a separate multi-conductor signal cable (14 AWG) inside pedestal poles and signal poles from the terminal strip to each signal head as shown on the plans.

Identify each cable as shown on the plans (cable 1, etc.) with permanent marking labels (Panduit Type PLM standard single marker tie, Thomas&Betts Type 548M, or equal) at each ground box, pole base, and controller.

Item 687:
The bid price for this item is for a standard galvanized pedestal pole.

Provide 12 circuit Buchanan Type 112SN, Kulka Type 985-GP-10 CU, or equal terminal strip in the pedestal pole base. The conductors for the line and load side of the terminal strip shall be identified with a plastic label with two straps per tag. The load side shall have each signal head and ped head identified on the tag.

Item 688:
Provide pedestrian push button assemblies that have permanent-type signs within the detector unit which indicates which crosswalk signal is actuated. Provide push buttons with a minimum 2 inch convex plunger. Provide a protective shroud encircling the plunger to deter vandalism that is cast as part of the housing cover. Use a plunger that protrudes beyond the shroud a distance adequate to accommodate the switch travel.

Item 6185:
The total number of truck mounted attenuators (TMAs) or trailer attenuators (TAs) required when utilizing the traffic control standards are shown in the tables below.

TCP 1 Series	Scenario	Required TMA/TA
(1-1)-18 / (1-2)-18		1

CSJ:0918-11-110 Sheet 7D

County: Kaufman, etc.

Highway: Various

(1-3)-18	A	B	1	2
(1-4)-18			1	

TCP 2 Series	Scenario	Required TMA/TA
(2-1)-18	All	1

WZ (BTS) Series	Scenario	Required TMA/TA
(BTS-1)-13	Near Side Lane Closure	1

The contractor will be responsible for determining if one or more of these operations will be ongoing at the same time to determine the total number of TMAs/TAs needed for the project. Additional TMAs/TAs used that are not specified in the plans in which the contractor expects compensation will require prior approval from the Engineer.

The TMA/TA used for installation/removal of traffic control for a work area will be subsidiary to the TMA/TA used to perform the work.

Estimate & Quantity Sheet

CONTROLLING PROJECT ID 0918-11-110 **DISTRICT** Dallas **COUNTY** Kaufman
HIGHWAY Various

			CONTROL SECTION JOB		**0918-11-110**	TOTAL EST.	TOTAL FINAL
			PROJECT ID		**A00208777**		
			COUNTY		**Kaufman**		
			HIGHWAY		**Various**		
ALT	**BID CODE**	**DESCRIPTION**	**UNIT**	EST.	FINAL		
	100-6002	PREPARING ROW	STA	124.000		124.000	
	104-6017	REMOVING CONC (DRIVEWAYS)	SY	3,303.000		3,303.000	
	104-6029	REMOVING CONC (CURB OR CURB & GUTTER)	LF	865.000		865.000	
	104-6036	REMOVING CONC (SIDEWALK OR RAMP)	SY	2,744.000		2,744.000	
	105-6037	REMOVING STAB BASE AND ASPH PAV(0"-16")	SY	111.000		111.000	
	162-6002	BLOCK SODDING	SY	4,986.000		4,986.000	
	168-6001	VEGETATIVE WATERING	MG	772.000		772.000	
	400-6008	CUT & RESTORE ASPH PAVING	SY	448.000		448.000	
	416-6030	DRILL SHAFT (TRF SIG POLE) (24 IN)	LF	12.000		12.000	
	432-6001	RIPRAP (CONC)(4 IN)	CY	104.000		104.000	
	450-6048	RAIL (HANDRAIL)(TY B)	LF	128.000		128.000	
	479-6001	ADJUSTING MANHOLES	EA	4.000		4.000	
	479-6005	ADJUSTING MANHOLES (WATER VALVE BOX)	EA	1.000		1.000	
	479-6006	ADJUSTING INLET (CAP)	EA	6.000		6.000	
	496-6093	REMOV STR (MASONARY)	LF	43.000		43.000	
	500-6001	MOBILIZATION	LS	1.000		1.000	
	502-6001	BARRICADES, SIGNS AND TRAFFIC HANDLING	MO	11.000		11.000	
	506-6038	TEMP SEDMT CONT FENCE (INSTALL)	LF	5,157.000		5,157.000	
	506-6039	TEMP SEDMT CONT FENCE (REMOVE)	LF	5,157.000		5,157.000	
	506-6040	BIODEG EROSN CONT LOGS (INSTL) (8")	LF	1,284.000		1,284.000	
	506-6043	BIODEG EROSN CONT LOGS (REMOVE)	LF	1,281.000		1,281.000	
	529-6008	CONC CURB & GUTTER (TY II)	LF	1,259.000		1,259.000	
	530-6004	DRIVEWAYS (CONC)	SY	3,665.000		3,665.000	
	531-6001	CONC SIDEWALKS (4")	SY	8,748.000		8,748.000	
	531-6004	CURB RAMPS (TY 1)	EA	2.000		2.000	
	531-6005	CURB RAMPS (TY 2)	EA	10.000		10.000	
	531-6006	CURB RAMPS (TY 3)	EA	15.000		15.000	
	531-6010	CURB RAMPS (TY 7)	EA	70.000		70.000	
	560-6025	RELOCATE EXISTING MAILBOX	EA	18.000		18.000	
	618-6023	CONDT (PVC) (SCH 40) (2")	LF	11.000		11.000	
	620-6007	ELEC CONDR (NO.8) BARE	LF	11.000		11.000	
	636-6001	ALUMINUM SIGNS (TY A)	SF	18.000		18.000	
	644-6001	IN SM RD SN SUP&AM TY10BWG(1)SA(P)	EA	6.000		6.000	
	644-6004	IN SM RD SN SUP&AM TY10BWG(1)SA(T)	EA	1.000		1.000	
	644-6009	IN SM RD SN SUP&AM TY10BWG(1)SB(P)	EA	2.000		2.000	
	644-6068	RELOCATE SM RD SN SUP&AM TY 10BWG	EA	30.000		30.000	
	644-6070	RELOCATE SM RD SN SUP&AM TY S80	EA	2.000		2.000	

Estimate & Quantity Sheet

CONTROLLING PROJECT ID 0918-11-110 **DISTRICT** Dallas **COUNTY** Kaufman
HIGHWAY Various

						TOTAL EST.	TOTAL FINAL
		CONTROL SECTION JOB		**0918-11-110**			
		PROJECT ID		**A00208777**			
		COUNTY		**Kaufman**			
		HIGHWAY		**Various**			
ALT	**BID CODE**	**DESCRIPTION**	**UNIT**	EST.	FINAL		
	666-6042	REFL PAV MRK TY I (W)12"(SLD)(100MIL)	LF	53.000		53.000	
	666-6048	REFL PAV MRK TY I (W)24"(SLD)(100MIL)	LF	1,589.000		1,589.000	
	666-6228	PAVEMENT SEALER 12"	LF	53.000		53.000	
	666-6230	PAVEMENT SEALER 24"	LF	1,589.000		1,589.000	
	677-6001	ELIM EXT PAV MRK & MRKS (4")	LF	30.000		30.000	
	677-6005	ELIM EXT PAV MRK & MRKS (12")	LF	1,089.000		1,089.000	
	677-6007	ELIM EXT PAV MRK & MRKS (24")	LF	662.000		662.000	
	678-6006	PAV SURF PREP FOR MRK (12")	LF	148.000		148.000	
	678-6008	PAV SURF PREP FOR MRK (24")	LF	1,589.000		1,589.000	
	684-6031	TRF SIG CBL (TY A)(14 AWG)(5 CONDR)	LF	113.000		113.000	
	684-6079	TRF SIG CBL (TY C)(12 AWG)(2 CONDR)	LF	113.000		113.000	
	685-6002	RELOCATE RDSD FLASH BEACON ASSEMBLY	EA	1.000		1.000	
	687-6001	PED POLE ASSEMBLY	EA	1.000		1.000	
	688-6002	PED DETECT PUSH BUTTON (STANDARD)	EA	12.000		12.000	
	690-6024	REMOVAL OF SIGNAL HEAD ASSM	EA	1.000		1.000	
	690-6026	INSTALL OF SIGNAL HEAD ASSM	EA	1.000		1.000	
	690-6030	REMOVAL OF PEDESTRIAN PUSH BUTTONS	EA	12.000		12.000	
	6001-6002	PORTABLE CHANGEABLE MESSAGE SIGN	EA	2.000		2.000	
	6027-6009	GROUND BOX (ADJUST)	EA	16.000		16.000	
	6185-6005	TMA (MOBILE OPERATION)	DAY	3.000		3.000	
	6372-6001	REC RAPID FLASH BEACON(RRFB) SOLAR PWR	EA	2.000		2.000	
	08	CONTRACTOR FORCE ACCOUNT EROSION CONTROL MAINTENANCE (NON-PARTICIPATING)	LS	1.000		1.000	
		CONTRACTOR FORCE ACCOUNT SAFETY CONTINGENCY (NON-PARTICIPATING)	LS	1.000		1.000	
		CONTRACTOR FORCE ACCOUNT LAW ENFORCEMENT (NON-PARTICIPATING)	LS	1.000		1.000	

SUMMARY OF ROADWAY ITEMS

LOCATION	100 6002	400 6008	432 6001	450 6048	479 6001	479 6005	479 6006	529 6008	530 6017	531 6001	531 6004	531 6005	531 6006	531 6010	560 6025	618 6023	620 6007	684 6031	684 6079	687 6001	688 6002	690 6024	690 6026	690 6030	6027 6009
	PREPARING ROW	CUT & RESTORE ASPH PAVING	RIPRAP (CONC)(4 IN)	RAIL (HANDRAIL)(TY B)	ADJUSTING MANHOLES	ADJUSTING MANHOLES (WATER VALVE BOX)	ADJUSTING INLET (CAP)	CONC CURB & GUTTER (TY II)	DRIVEWAYS (CONC) (HES)	CONC SIDEWALKS (4")	CURB RAMPS (TY 1)	CURB RAMPS (TY 2)	CURB RAMPS (TY 3)	CURB RAMPS (TY 7)	RELOCATE EXISTING MAILBOX	CONDT (PVC) (SCH 40) (2")	ELEC CONDR (NO.8) BARE	TRF SIG CBL (TY A)(14 AWG)(5 CONDR)	TRF SIG CBL (TY C)(12 AWG)(2 CONDR)	PED POLE ASSEMBLY	PED DETECT PUSH BUTTON (STANDARD)	REMOVAL OF SIGNAL HEAD ASSM	INSTALL OF SIGNAL HEAD ASSM	REMOVAL OF PEDESTRIAN PUSH BUTTONS	GROUND BOX (ADJUST)
	STA	SY	CY	LF	EA	EA	EA	LF	SY	SY	EA	EA	EA	EA	EA	LF	LF	LF	LF	EA	EA	EA	EA	EA	EA
SH 198:																									
SHEET 1 OF 42	1.7							20		166		1		1							2			2	2
SHEET 2 OF 42	2.4		1					5	78	242				2											
SHEET 3 OF 42	2.4		6					12	76	242				2											
SHEET 4 OF 42	2.4		3	36				10	135	706		1	1												
SHEET 5 OF 42	2.4		2	62				12	37	197		2		2											
SHEET 6 OF 42	2.4		4	30					82	243															
SHEET 7 OF 42	2.4		4					20	90	268				2											1
SHEET 8 OF 42	2.4		1				1		167	244															
SHEET 9 OF 42	2.4		3						101	206				4	1										
SHEET 10 OF 42	2.4		3				1	18	52	231				4											1
SHEET 11 OF 42	2.4		1				1	119	21	333	1		2	4											1
SHEET 12 OF 42	2.4		1				1		126	234		1	1												
SHEET 13 OF 42	2.4		4					46	118	175			1	7		11	11	113	113	1	8	1	1	8	3
SHEET 14 OF 42	2.4		4				1		93	203				4											
SHEET 15 OF 42	2.4		4					10	62	260				2	1										
SHEET 16 OF 42	2.4		4			1		58	197	185				2											1
SHEET 17 OF 42	2.4		5					20	74	216				4											
SHEET 18 OF 42	2.4		2					10	2	237				4											1
SHEET 19 OF 42	2.4		1					1	132	258				1											
SHEET 20 OF 42	2.4		4					12	143	243				1											
SHEET 21 OF 42	2.4		1					10	21	248															
SHEET 22 OF 42	2.4									187															
SHEET 23 OF 42	2.4									184															
SHEET 24 OF 42	2.4									187															
SHEET 25 OF 42	2.4						1	13	56	171															
SHEET 26 OF 42	2.4							7	50	157					1										1
SHEET 27 OF 42	2.4							30	146	87					1										
SHEET 28 OF 42	2.4							43	40	90				2							2			2	
SHEET 29 OF 42	2.4				1			30	60	129															
SHEET 30 OF 42	2.4		1					8		149				1											1
SHEET 31 OF 42	2.4		1					25	94	83				1											1
SHEET 32 OF 42	2.4							10	83	115															1
SHEET 33 OF 42	2.4		1					15	10	86				2											
SHEET 34 OF 42	2.4		3					29	126	89															
SHEET 35 OF 42	2.4		1					39	102	113					1										1
SHEET 36 OF 42	2.4		1					25	133	98															
SHEET 37 OF 42	2.4		2					40	159	87					2										
SHEET 38 OF 42	2.4							30	132	121															
SHEET 39 OF 42	2.4		1					53	82	83				2											
SHEET 40 OF 42	2.4							11	35	143															1
SHEET 41 OF 42	2.4							29	99	109															
SHEET 42 OF 42	1.4		2					15	62	43															
BUS 175:																									
SHEET 1 OF 11	2	19	1					22		90	1		1	1											
SHEET 2 OF 11	2.4	61	4					38	87	60		1	1	2	1										
SHEET 3 OF 11	2.4	60	5					30	97	57		1	1	2											
SHEET 4 OF 11	2.4	59	5					77	19	91			3	1	3										
SHEET 5 OF 11	2.4	95	5					134	42	72		1	2	2	1										
SHEET 6 OF 11	2.4	26	3		3			17	16	96				2	2										
SHEET 7 OF 11	2.4	37	2					38		100		1	1	2	1										
SHEET 8 OF 11	2.4	26	2					20	20	105				2											
SHEET 9 OF 11	2.4	43	1					32	81	92		1	1	1	1										
SHEET 10 OF 11	2.4	22	2					16	27	108				1	2										
SHEET 11 OF 11	0.6		1							29															
PROJECT TOTALS	123.3	448	102	128	4	1	6	1259	3665	8748	2	10	15	70	18	11	11	113	113	1	12	1	1	12	16

Kimley»Horn F-928

Texas Department of Transportation

PROJECT SUMMARY

SHEET 1 OF 3

CONT	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN, ETC			9

DATE: 5/29/2024 10:57:57 AM
FILE: c:\pw\kh1\d0251478\Quantity Summary 01.dgn

CK DW CK DW

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SUMMARY OF SIGNING ITEMS

LOCATION	416 6030	636 6001	644 6001	644 6004	644 6009	644 6068	644 6070	685 6002	6372 6001
	DRILL SHAFT (TRF SIG POLE) (24 IN)	ALUMINUM SIGNS (TY A)	IN SM RD SN SUP&AM TY10BWG(1)SA (P)	IN SM RD SN SUP&AM TY10BWG(1)S A(T)	IN SM RD SN SUP&AM TY10BWG(1)S B(P)	RELOCATE SM RD SN SUP&AM TY 10BWG	RELOCATE SM RD SN SUP&AM TY S80	RELOCATE RDSD FLASH BEACON ASSEMBLY	REC RAPID FLASH BEACON(RRFB) SOLAR PWR
	LF	SF	EA	EA	EA	EA	EA	EA	EA
SH 198:									
SHEET 1 OF 42						1			
SHEET 2 OF 42						1			
SHEET 3 OF 42						1			
SHEET 4 OF 42	12	18							2
SHEET 5 OF 42									
SHEET 6 OF 42						2			
SHEET 7 OF 42						1			
SHEET 8 OF 42									
SHEET 9 OF 42									
SHEET 10 OF 42									
SHEET 11 OF 42					2	1			
SHEET 12 OF 42			2						
SHEET 13 OF 42							2		
SHEET 14 OF 42						3			
SHEET 15 OF 42									
SHEET 16 OF 42									
SHEET 17 OF 42						1			
SHEET 18 OF 42						1			
SHEET 19 OF 42									
SHEET 20 OF 42						1			
SHEET 21 OF 42									
SHEET 22 OF 42									
SHEET 23 OF 42									
SHEET 24 OF 42									
SHEET 25 OF 42						1			
SHEET 26 OF 42						2			
SHEET 27 OF 42									
SHEET 28 OF 42									
SHEET 29 OF 42									
SHEET 30 OF 42									
SHEET 31 OF 42									
SHEET 32 OF 42						1			
SHEET 33 OF 42									
SHEET 34 OF 42						1			
SHEET 35 OF 42									
SHEET 36 OF 42									
SHEET 37 OF 42									
SHEET 38 OF 42									
SHEET 39 OF 42									
SHEET 40 OF 42									
SHEET 41 OF 42									
SHEET 42 OF 42									
BUS 175:									
SHEET 1 OF 11			3			1			
SHEET 2 OF 11			1			1			
SHEET 3 OF 11									
SHEET 4 OF 11						2			
SHEET 5 OF 11						1			
SHEET 6 OF 11				1		1			
SHEET 7 OF 11						2		1	
SHEET 8 OF 11						1			
SHEET 9 OF 11						1			
SHEET 10 OF 11						2			
SHEET 11 OF 11									
PROJECT TOTALS	12	18	6	1	2	30	2	1	2

SUMMARY OF PAVEMENT MARKING ITEMS

	666 6042	666 6048	666 6228	666 6230	677 6001	677 6005	677 6007	678 6006	678 6008
	REFL PAV MRK TY I (W)12"(SLD) (100MIL)	REFL PAV MRK TY I (W)24"(SLD) (100MIL)	PAVEMENT SEALER 12"	PAVEMENT SEALER 24"	ELIM EXT PAV MRK & MRKS (4")	ELIM EXT PAV MRK & MRKS (12")	ELIM EXT PAV MRK & MRKS (24")	PAV SURF PREP FOR MRK (12")	PAV SURF PREP FOR MRK (24")
	LF	LF	LF	LF	LF	LF	LF	LF	LF
SH 198:									
SHEET 1 OF 42		174		174		228	24		174
SHEET 2 OF 42		24		24			24		24
SHEET 3 OF 42		17		17			20		17
SHEET 4 OF 42		90		90			112		90
SHEET 5 OF 42		28		28			28		28
SHEET 6 OF 42									0
SHEET 7 OF 42		10		10			10		10
SHEET 8 OF 42									
SHEET 9 OF 42		21		21			21		21
SHEET 10 OF 42		20		20			20		20
SHEET 11 OF 42	53	148	53	148		20	52	148	148
SHEET 12 OF 42		110		110					110
SHEET 13 OF 42		523		523	18	461	115		523
SHEET 14 OF 42		22		22			22		22
SHEET 15 OF 42		10		10			9		10
SHEET 16 OF 42		10		10			10		10
SHEET 17 OF 42		20		20			19		20
SHEET 18 OF 42		30		30			29		30
SHEET 19 OF 42		10		10			9		10
SHEET 20 OF 42									
SHEET 21 OF 42									
SHEET 22 OF 42									
SHEET 23 OF 42									
SHEET 24 OF 42									
SHEET 25 OF 42									
SHEET 26 OF 42									
SHEET 27 OF 42									
SHEET 28 OF 42		18		18		97	16		18
SHEET 29 OF 42									
SHEET 30 OF 42									
SHEET 31 OF 42		12		12			42		12
SHEET 32 OF 42									
SHEET 33 OF 42		30		30		167	18		30
SHEET 34 OF 42									
SHEET 35 OF 42									
SHEET 36 OF 42									
SHEET 37 OF 42									
SHEET 38 OF 42									
SHEET 39 OF 42		10		10			10		10
SHEET 40 OF 42									
SHEET 41 OF 42									
SHEET 42 OF 42									
BUS 175:									
SHEET 1 OF 11		100		100	12				100
SHEET 2 OF 11		14		14			14		14
SHEET 3 OF 11									
SHEET 4 OF 11		14		14			14		14
SHEET 5 OF 11									
SHEET 6 OF 11		8		8			8		8
SHEET 7 OF 11									
SHEET 8 OF 11		8		8			8		8
SHEET 9 OF 11		100		100		116			100
SHEET 10 OF 11		8		8			8		8
SHEET 11 OF 11									
PROJECT TOTALS	53	1589	53	1589	30	1089	662	148	1589

SUMMARY OF EROSION CONTROL ITEMS

LOCATION	162 6002	168 6001	506 6038	506 6039	506 6040	506 6043
	BLOCK SODDING	VEGETATIVE WATERING	TEMP SEDMT CONT FENCE (INSTALL)	TEMP SEDMT CONT FENCE (REMOVE)	BIODEG EROSN CONT LOGS (INSTL) (8")	BIODEG EROSN CONT LOGS (REMOVE)
	SY	MG	LF	LF	LF	LF
SH 198:						
SHEET 1 OF 42	264	40	269	269		
SHEET 2 OF 42	177	27	92	92	24	24
SHEET 3 OF 42	112	17	11	11	99	99
SHEET 4 OF 42	155	24	343	343	3	3
SHEET 5 OF 42	172	26	326	326	57	57
SHEET 6 OF 42	153	23	37	37	91	91
SHEET 7 OF 42	114	17	214	214	60	60
SHEET 8 OF 42	130	20	155	155	30	30
SHEET 9 OF 42	116	18	164	164	12	12
SHEET 10 OF 42	130	20	106	106	30	30
SHEET 11 OF 42	91	14			90	90
SHEET 12 OF 42	119	18			60	60
SHEET 13 OF 42	131	20	136	136	24	24
SHEET 14 OF 42	101	16	231	231	62	62
SHEET 15 OF 42	135	21	243	243	36	36
SHEET 16 OF 42	99	15	28	28	33	33
SHEET 17 OF 42	115	18	47	47	51	51
SHEET 18 OF 42	150	23	50	50	30	30
SHEET 19 OF 42	111	17	20	20	42	42
SHEET 20 OF 42	135	21	102	102	48	48
SHEET 21 OF 42	210	32	362	362	66	66
SHEET 22 OF 42	94	14	240	240	18	18
SHEET 23 OF 42	79	12	237	237		
SHEET 24 OF 42	80	12	109	109	18	18
SHEET 25 OF 42	72	11			18	18
SHEET 26 OF 42	80	12			18	18
SHEET 27 OF 42	47	7			14	14
SHEET 28 OF 42	68	11			4	4
SHEET 29 OF 42	81	13			12	12
SHEET 30 OF 42	90	14			18	18
SHEET 31 OF 42	49	8				
SHEET 32 OF 42	75	12				
SHEET 33 OF 42	47	7			12	12
SHEET 34 OF 42	39	6			108	108
SHEET 35 OF 42	63	10			12	12
SHEET 36 OF 42	48	8			18	18
SHEET 37 OF 42	41	7			12	12
SHEET 38 OF 42	77	12				
SHEET 39 OF 42	44	7	92	92	18	18
SHEET 40 OF 42	93	14	213	213		
SHEET 41 OF 42	68	11	163	163		
SHEET 42 OF 42	7	2	76	76	36	36
BUS 175:						
SHEET 1 OF 11	107	16	172	172		
SHEET 2 OF 11	27	5	96	96		
SHEET 3 OF 11	40	6	102	102		
SHEET 4 OF 11	44	7	112	112		
SHEET 5 OF 11	57	9	50	50		
SHEET 6 OF 11	70	11	182	182		
SHEET 7 OF 11	70	11	83	83		
SHEET 8 OF 11	70	11	141	141		
SHEET 9 OF 11	116	18	137	137		
SHEET 10 OF 11	101	16				
SHEET 11 OF 11	31	5	16	16		
PROJECT TOTALS	4995	772	5157	5157	1284	1284

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Kimley»Horn F-928

Texas Department of Transportation

PROJECT SUMMARY

SHEET 2 OF 3

CONT	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN, ETC			10

CK
DW
CK
DW

SUMMARY OF REMOVAL ITEMS

LOCATION	104 6017	104 6029	104 6036	105 6037	496 6093
	REMOVING CONC (DRIVEWAYS)	REMOVING CONC (CURB OR CURB & GUTTER)	REMOVING CONC (SIDEWALK OR RAMP)	REMOVING STAB BASE AND ASPH PAV(0"-16")	REMOV STR (MASONARY)
	SY	LF	SY	SY	LF
SH 198:					
SHEET 1 OF 42		16	137		
SHEET 2 OF 42	74	10	84		
SHEET 3 OF 42	73	8	112		
SHEET 4 OF 42	131	7	6		
SHEET 5 OF 42	35	23	7		
SHEET 6 OF 42	72		128		
SHEET 7 OF 42	83	8	55		
SHEET 8 OF 42	157		36		
SHEET 9 OF 42	97	9	8		
SHEET 10 OF 42	49	21	75		
SHEET 11 OF 42	20	95	77		
SHEET 12 OF 42	121	10	66		
SHEET 13 OF 42	121	90	93		
SHEET 14 OF 42	84	14	64		
SHEET 15 OF 42	59	11	138		25
SHEET 16 OF 42	191	18	87		
SHEET 17 OF 42	71	15	105		
SHEET 18 OF 42	1	19	98		
SHEET 19 OF 42	120	9	29		
SHEET 20 OF 42	132	32	90		
SHEET 21 OF 42	20	11	86		
SHEET 22 OF 42					
SHEET 23 OF 42					
SHEET 24 OF 42					
SHEET 25 OF 42	51				
SHEET 26 OF 42	43		54		
SHEET 27 OF 42	134		46		
SHEET 28 OF 42	39	3	56		
SHEET 29 OF 42	58		81		
SHEET 30 OF 42		5	95		
SHEET 31 OF 42	76	8	53		
SHEET 32 OF 42	78		75		
SHEET 33 OF 42	9	17	57		
SHEET 34 OF 42	102		47		
SHEET 35 OF 42	94		63		
SHEET 36 OF 42	119		53		
SHEET 37 OF 42	133		48		
SHEET 38 OF 42	126		77		18
SHEET 39 OF 42	79	14	52		
SHEET 40 OF 42	28		93		
SHEET 41 OF 42	87		68		
SHEET 42 OF 42	58		14		
BUS 175:					
SHEET 1 OF 11		22	46		
SHEET 2 OF 11	87	38			
SHEET 3 OF 11	97	30	20		
SHEET 4 OF 11	19	73			
SHEET 5 OF 11	42	137	17		
SHEET 6 OF 11		14	2	16	
SHEET 7 OF 11		30	1		
SHEET 8 OF 11	20	20			
SHEET 9 OF 11		18		81	
SHEET 10 OF 11	13	10	37	14	
SHEET 11 OF 11			10		
PROJECT TOTALS	3303	865	2746	111	43

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Kimley»Horn F-928

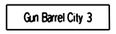
Texas Department of Transportation

PROJECT SUMMARY

SHEET 3 OF 3

CONT	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN, ETC			11

SUMMARY OF SMALL SIGNS

PLAN SHEET NO.	SIGN NO.	SIGN NOMENCLATURE	SIGN	DIMENSIONS	FLAT ALUMINUM (TYPE A)	EXAL ALUMINUM (TYPE G)	SM RD SGN ASSM TY XXXXX (X) XX (X-XXXX) POST TYPE FRP = Fiberglass TWT = Thin-Wall 10BWG = 10 BWG S80 = Sch 80	POSTS 1 or 2	ANCHOR TYPE UA=Universal Conc UB=Universal Bolt SA=Slipbase-Conc SB=Slipbase-Bolt WS=Wedge Steel WP=Wedge Plastic	MOUNTING DESIGNATION PREFABRICATED P = "Plain" T = "T" U = "U"	1EXT or 2EXT = # of Ext BM = Extruded Wind Beam WC = 1.12 #/ft Wing Channel EXAL= Extruded Alum Sign Panels	BRIDGE MOUNT CLEARANCE SIGNS (See Note 2) TY = TYPE TY N TY S
1 OF 42												
	1-1	S1-1		36"x 36"			RELOCATE SM RD SN SUP&AM TY 10BWG					
		W16-9P		24"x 12"								
2 OF 42												
	2-1	D2-1		VAR X VAR			RELOCATE SM RD SN SUP&AM TY 10BWG					
3 OF 42												
		M3-3		24"x 12"								
	3-1	M1-6T		24"x 24"			RELOCATE SM RD SN SUP&AM TY 10BWG					
		D10-7AT		3"x 10"								
		D10-7AT		3"x 10"								
4 OF 42												
	4-1	W11-2		36"x 36"	X		10BWG	1	SB	P		
		W16-7PL		24"x 12"	X							
4 OF 42												
	4-2	W11-2		36"x 36"	X		10BWG	1	SB	P		
		W16-7PL		24"x 12"	X							
6 OF 42												
	6-1	M2-1		21"x 15"			RELOCATE SM RD SN SUP&AM TY 10BWG					
		M1-4(3 dgt)		30"x 24"								
6 of 42												
	6-2	S1-1		36"x 36"			RELOCATE SM RD SN SUP&AM TY 10BWG					
7 OF 42												
		M2-1		21"x 15"								
	7-1	M4-3		24"x 12"			RELOCATE SM RD SN SUP&AM TY 10BWG					
		M1-4(3 dgt)		30"x 24"								
11 OF 42												
		D3-1		VAR x VAR								
	11-1	D3-1		VAR x VAR			RELOCATE SM RD SN SUP&AM TY 10BWG					
		R1-1		24"x 12"								
11 OF 42												
	11-2	W11-2		36"x 36"	X		10BWG	1	SB	P		
		W16-7PL		24"x 12"	X							
11 OF 42												
	11-3	W11-2		36"x 36"	X		10BWG	1	SB	P		
		W16-7PL		24"x 12"	X							
12 OF 42												
	12-1	W11-2		36"x 36"	X		10BWG	1	SB	P		
		W16-7PL		24"x 12"	X							

ALUMINUM SIGN BLANKS THICKNESS	
Square Feet	Minimum Thickness
Less than 7.5	0.080"
7.5 to 15	0.100"
Greater than 15	0.125"

The Standard Highway Sign Designs for Texas (SHSD) can be found at the following website.

http://www.txdot.gov/

NOTE:

1. Sign supports shall be located as shown on the plans, except that the Engineer may shift the sign supports, within design guidelines, where necessary to secure a more desirable location or to avoid conflict with utilities. Unless otherwise shown on the plans, the Contractor shall stake and the Engineer will verify all sign support locations.
2. For installation of bridge mount clearance signs, see Bridge Mounted Clearance Sign Assembly (BMCS)Standard Sheet.
3. For Sign Support Descriptive Codes, see Sign Mounting Details Small Roadside Signs General Notes & Details SMD(GEN).

Texas Department of Transportation

Traffic Operations Division Standard

SUMMARY OF SMALL SIGNS SH 198

SOSS

SHEET 1 OF 5

FILE: sums16.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT May 1987	CONT	SECT	JOB	HIGHWAY
REVISIONS	0918	11	110	VARIOUS
4-16	DIST	COUNTY		SHEET NO.
8-16	DAL	KAUFMAN, ETC		12

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DATE: 5/28/2024 2:42:01 PM
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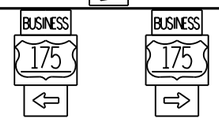
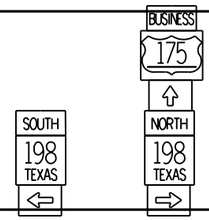
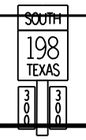
SUMMARY OF SMALL SIGNS

PLAN SHEET NO.	SIGN NO.	SIGN NOMENCLATURE	SIGN	DIMENSIONS	FLAT ALUMINUM (TYPE A)	EXAL ALUMINUM (TYPE G)	SM RD SGN ASSM TY XXXXX (X) XX (X-XXXX) POST TYPE	POSTS	ANCHOR TYPE	MOUNTING DESIGNATION		BRIDGE MOUNT CLEARANCE SIGNS (See Note 2) TY = TYPE
							FRP = Fiberglass TWT = Thin-Wall 10BWG = 10 BWG S80 = Sch 80	1 or 2	UA=Universal Conc UB=Universal Bolt SA=Slipbase-Conc SB=Slipbase-Bolt WS=Wedge Steel WP=Wedge Plastic	PREFABRICATED P = "Plain" T = "T" U = "U"	1EXT or 2EXT = # of Ext BM = Extruded Wind Beam WC = 1.12 #/ft Wing Channel EXAL= Extruded Alum Sign Panels	TY N TY S
12 OF 42												
	12-2	W11-2		36"x 36"	X		10BWG	1	SB	P		
		W16-7PL		24"x 12"	X							
13 OF 42		M4-3		24"x 12"								
		M4-3		24"x 12"								
	13-1	M1-4(3 dgt)		30"x 24"			RELOCATED SM RD SN SUP&AM TY S80					
		M1-4(3 dgt)		30"x 24"								
		M6-1		21"x 15"								
		M6-1		21"x 15"								
13 OF 42		M4-3		24"x 12"								
		M1-4(3 dgt)		30"x 24"								
		M6-3		21"x 15"								
		M3-1		24"x 12"								
	13-2	M3-3		24"x 12"			RELOCATED SM RD SN SUP&AM TY S80					
		M1-6T		24"x 24"								
		M1-6T		24"x 24"								
		M6-1		21"x 15"								
		M6-1		21"x 15"								
14 OF 42												
	14-1	R12-3		24"x 36"			RELOCATED SM RD SN SUP&AM TY 10BWG					
14 OF 42												
	14-2	R2-1		30"x 36"			RELOCATED SM RD SN SUP&AM TY 10BWG					
14 OF 42												
	14-3	R2-1		30"x 36"			RELOCATED SM RD SN SUP&AM TY 10BWG					
17 OF 42												
	17-1	D7-4		VAR X VAR			RELOCATED SM RD SN SUP&AM TY 10BWG					
18 OF 42												
		M2-1		21"x 15"								
	18-1	M4-3		24"x 12"			RELOCATED SM RD SN SUP&AM TY 10BWG					
		M1-6T		24"x 24"								
20 OF 42												
	20-1	D7-4		VAR X VAR			RELOCATED SM RD SN SUP&AM TY 10BWG					
25 OF 42												
	25-1	I-2		24"x 18"			RELOCATED SM RD SN SUP&AM TY 10BWG					
26 OF 42												
		M3-3		24"x 12"								
	26-1	M1-6T		24"x 24"			RELOCATED SM RD SN SUP&AM TY 10BWG					
		D10-7AT		3"x 10"								
		D10-7AT		3"x 10"								

ALUMINUM SIGN BLANKS THICKNESS	
Square Feet	Minimum Thickness
Less than 7.5	0.080"
7.5 to 15	0.100"
Greater than 15	0.125"

The Standard Highway Sign Designs for Texas (SHSD) can be found at the following website.

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NOTE:

1. Sign supports shall be located as shown on the plans, except that the Engineer may shift the sign supports, within design guidelines, where necessary to secure a more desirable location or to avoid conflict with utilities. Unless otherwise shown on the plans, the Contractor shall stake and the Engineer will verify all sign support locations.
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Texas Department of Transportation

Traffic Operations Division Standard

SUMMARY OF SMALL SIGNS SH 198

SOSS

SHEET 2 OF 5

FILE:	sums16.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT	May 1987	CONT	SECT	JOB	HIGHWAY
REVISIONS		0918	11	110	VARIOUS
4-16		DIST	COUNTY		SHEET NO.
8-16		DAL	KAUFMAN, ETC		13

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DATE: 5/28/2024 2:42:28 PM
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SUMMARY OF SMALL SIGNS

SM RD SGN ASSM TY XXXXX (X) XX (X-XXXX)

PLAN SHEET NO.	SIGN NO.	SIGN NOMENCLATURE	SIGN	DIMENSIONS	FLAT ALUMINUM (TYPE A)	EXAL ALUMINUM (TYPE G)	POST TYPE FRP = Fiberglass TWT = Thin-Wall 10BWG = 10 BWG S80 = Sch 80	POSTS 1 or 2	ANCHOR TYPE UA=Universal Conc UB=Universal Bolt SA=Slipbase-Conc SB=Slipbase-Bolt WS=Wedge Steel WP=Wedge Plastic	MOUNTING DESIGNATION PREFABRICATED P = "Plain" T = "T" U = "U"	1EXT or 2EXT = # of Ext BM = Extruded Wind Beam WC = 1.12 #/ft Wing Channel EXAL= Extruded Alum Sign Panels	BRIDGE MOUNT CLEARANCE SIGNS (See Note 2) TY = TYPE TY N TY S
26 OF 42												
	26-2	R2-1	SPEED LIMIT 45	30"x 36"			RELOCATED SM RD SN SUP&AM TY 10BWG					
32 OF 42												
	32-1	N/A	DIB, ORGILL, TRUE VALUE ONLY	VAR X VAR			RELOCATED SM RD SN SUP&AM TY 10BWG					
34 OF 42												
	34-1	R2-1	SPEED LIMIT 45	30"x 36"			RELOCATED SM RD SN SUP&AM TY 10BWG					

ALUMINUM SIGN BLANKS THICKNESS	
Square Feet	Minimum Thickness
Less than 7.5	0.080"
7.5 to 15	0.100"
Greater than 15	0.125"

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1. Sign supports shall be located as shown on the plans, except that the Engineer may shift the sign supports, within design guidelines, where necessary to secure a more desirable location or to avoid conflict with utilities. Unless otherwise shown on the plans, the Contractor shall stake and the Engineer will verify all sign support locations.
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Texas Department of Transportation

Traffic Operations Division Standard

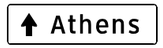
SUMMARY OF SMALL SIGNS SH 198

SOSS

SHEET 3 OF 5

FILE: sums16.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT May 1987	CONT	SECT	JOB	HIGHWAY
REVISIONS	0918	11	110	VARIOUS
4-16	DIST	COUNTY		SHEET NO.
8-16	DAL	KAUFMAN, ETC		14

SUMMARY OF SMALL SIGNS

PLAN SHEET NO.	SIGN NO.	SIGN NOMENCLATURE	SIGN	DIMENSIONS	FLAT ALUMINUM (TYPE A)	EXAL ALUMINUM (TYPE G)	SM RD SGN ASSM TY XXXXX (X) XX (X-XXXX)					BRIDGE MOUNT CLEARANCE SIGNS (See Note 2)
							POST TYPE	POSTS	ANCHOR TYPE	MOUNTING DESIGNATION		TY = TYPE
							FRP = Fiberglass TWT = Thin-Wall 10BWG = 10 BWG S80 = Sch 80	1 or 2	UA=Universal Conc UB=Universal Bolt SA=Slipbase-Conc SB=Slipbase-Bolt WS=Wedge Steel WP=Wedge Plastic	PREFABRICATED P = "Plain" T = "T" U = "U"	1EXT or 2EXT = # of Ext BM = Extruded Wind Beam WC = 1.12 #/ft Wing Channel EXAL= Extruded Alum Sign Panels	TY N TY S
1 OF 11												
	1-1	S1-1		36" x 36"	X		10BWG	1	SA	P		
		SW16-9P		36" X 24"	X							
	1-2	S1-1		36" x 36"	X		10BWG	1	SA	P		
		SW16-7PL		24" X 12"	X							
	1-3	S1-1		36" x 36"	X		10BWG	1	SA	P		
		SW16-7PR		24" X 12"	X							
	1-4	D1-2		VAR x 30"	X		RELOCATE SM RD SN SUP&AM TY 10BWG					
2 OF 11												
	2-1	R1-1		36" x 36"	X		RELOCATE SM RD SN SUP&AM TY 10BWG					
	2-2	S1-1		36" x 36"	X		10BWG	1	SA	P		
		SW16-9P		36" X 24"	X							
4 OF 11												
	4-1	M2-1		21" x 15"	X		RELOCATE SM RD SN SUP&AM TY 10BWG					
		M1-6F		24" x 24"	X							
	4-2	D3-1		VAR X VAR	X							
		D3-1		VAR X VAR	X		RELOCATE SM RD SN SUP&AM TY 10BWG					
		R1-1		36" x 36"	X							
5 OF 11												
	5-1	S1-1		36" x 36"	X		RELOCATE SM RD SN SUP&AM TY 10BWG					
		S4-3P		36" x 12"	X							
6 OF 11												
	6-1	D1-1		66" x 18"	X		10BWG	1	SA	T		

ALUMINUM SIGN BLANKS THICKNESS	
Square Feet	Minimum Thickness
Less than 7.5	0.080"
7.5 to 15	0.100"
Greater than 15	0.125"

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NOTE:

1. Sign supports shall be located as shown on the plans, except that the Engineer may shift the sign supports, within design guidelines, where necessary to secure a more desirable location or to avoid conflict with utilities. Unless otherwise shown on the plans, the Contractor shall stake and the Engineer will verify all sign support locations.
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3. For Sign Support Descriptive Codes, see Sign Mounting Details Small Roadside Signs General Notes & Details SMD(GEN).

Texas Department of Transportation

Traffic Operations Division Standard

SUMMARY OF SMALL SIGNS BUS 175

SOSS

FILE: sums16.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT May 1987	CONT	SECT	JOB	HIGHWAY
REVISIONS	0918	11	110	VARIOUS
4-16 8-16	DIST	COUNTY		SHEET NO.
	DAL	KAUFMAN, ETC		15

18

DATE: 5/24/2024 10:46:44 AM
FILE: c:\pw\khl\d0373033\C_SOSS_KEMP_ADA_01.dgn

SUMMARY OF SMALL SIGNS

PLAN SHEET NO.	SIGN NO.	SIGN NOMENCLATURE	SIGN	DIMENSIONS	FLAT ALUMINUM (TYPE A)	EXAL ALUMINUM (TYPE G)	SM RD SGN ASSM TY XXXXX (X) XX (X-XXXX)					BRIDGE MOUNT CLEARANCE SIGNS (See Note 2)
							POST TYPE	POSTS	ANCHOR TYPE	MOUNTING DESIGNATION		TY = TYPE
										PREFABRICATED	1EXT or 2EXT = # of Ext BM = Extruded Wind Beam WC = 1.12 #/ft Wing Channel EXAL= Extruded Alum Sign Panels	TY N TY S
							FRP = Fiberglass TWT = Thin-Wall 10BWG = 10 BWG S80 = Sch 80	1 or 2	UA=Universal Conc UB=Universal Bolt SA=Slipbase-Conc SB=Slipbase-Bolt WS=Wedge Steel WP=Wedge Plastic	P = "Plain" T = "T" U = "U"		
6 OF 11												
	6-2	D3-1		VAR X VAR	X							
		D3-1		VAR X VAR	X		RELOCATE SM RD SN SUP&AM TY 10BWG					
		R1-1		36" x 36"	X							
7 OF 11		M3-2		24" x 12"	X							
		M1-6F		24" x 24"	X							
		M6-1		21" x 15"	X							
	7-1	M3-2		24" x 12"	X		RELOCATE SM RD SN SUP&AM TY S80					
		M4-3		24" x 12"	X							
		M1-4B		30" X 24"	X							
		M6-3		21" x 15"	X							
												
		M4-3		24" x 12"	X							
	7-2	M1-4B		30" X 24"	X		RELOCATE SM RD SN SUP&AM TY 10BWG					
		M6-4		21" x 15"	X							
												
	7-3	S5-1		36" X 72"	X		RELOCATE EXISTING SIGN PANELS WITH EXISTING FLASH BEACON ASSEMBLY					
		S7-1T		36" x 18"	X							
8 OF 11												
	8-1	R1-1		36" x 36"	X		RELOCATE SM RD SN SUP&AM TY 10BWG					
9 OF 11												
	9-1	S1-1		36" x 36"	X		RELOCATE SM RD SN SUP&AM TY 10BWG					
		SW16-7PL		30" X 18"	X							
10 OF 11												
	10-1	D3-1		VAR X VAR	X							
		D3-1		VAR X VAR	X		RELOCATE SM RD SN SUP&AM TY 10BWG					
		R1-1		36" x 36"	X							
	10-2	R2-1		36" x 36"	X		RELOCATE SM RD SN SUP&AM TY 10BWG					

ALUMINUM SIGN BLANKS THICKNESS	
Square Feet	Minimum Thickness
Less than 7.5	0.080"
7.5 to 15	0.100"
Greater than 15	0.125"

The Standard Highway Sign Designs for Texas (SHSD) can be found at the following website.

http://www.txdot.gov/

NOTE:

1. Sign supports shall be located as shown on the plans, except that the Engineer may shift the sign supports, within design guidelines, where necessary to secure a more desirable location or to avoid conflict with utilities. Unless otherwise shown on the plans, the Contractor shall stake and the Engineer will verify all sign support locations.
2. For installation of bridge mount clearance signs, see Bridge Mounted Clearance Sign Assembly (BMCS)Standard Sheet.
3. For Sign Support Descriptive Codes, see Sign Mounting Details Small Roadside Signs General Notes & Details SMD(GEN).

Texas Department of Transportation

Traffic Operations Division Standard

SUMMARY OF SMALL SIGNS BUS 175

SOSS

FILE: sums16.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT May 1987	CONT	SECT	JOB	HIGHWAY
REVISIONS	0918	11	110	VARIOUS
4-16 8-16	DIST	COUNTY		SHEET NO.
	DAL	KAUFMAN, ETC		16

18

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CK
DW
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DW

GENERAL NOTES

1. ADVANCE WARNING SIGNS SHALL REMAIN IN PLACE THROUGHOUT THE DURATION OF THE PROJECT. CONTRACTOR SHALL ADJUST LOCATION OF SIGNS IN ACCORDANCE WITH APPLICABLE BC STANDARDS AND THE LATEST TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD).
2. ALL TRAFFIC CONTROL DEVICES SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD) AND TCP STANDARDS.
3. COVER OR REMOVE ANY EXISTING SIGNS WHICH CONFLICT WITH TEMPORARY TRAFFIC CONTROL OPERATIONS. THE CONTRACTOR SHALL MAINTAIN ALL EXISTING AND NON-CONFLICTING SIGNS THROUGHOUT CONSTRUCTION, EXCEPT THOSE SPECIFIED TO BE REMOVED IN THE TRAFFIC CONTROL PLANS.
4. WORK SITE SHOULD BE CAREFULLY MONITORED TO ENSURE THAT TRAFFIC CONTROL MEASURES ARE OPERATING EFFECTIVELY AND THAT ALL DEVICES USED ARE CLEARLY VISIBLE, CLEAN AND IN GOOD CONDITIONS.
5. ALL LANES ALONG THE VARIOUS PROJECT LIMITS WILL REMAIN OPEN TO TRAFFIC THROUGHOUT CONSTRUCTION EXCEPT AS OTHERWISE DIRECTED BY THE ENGINEER.
6. TRAFFIC MUST PASS THROUGH THE PROJECT IN COMFORT AND SAFETY DURING NON-WORK HOURS, AND NO EQUIPMENT OR MATERIAL WILL BE LEFT IN A POSITION THAT, IN THE OPINION OF THE ENGINEER, SHALL CONSTITUTE A HAZARD OR ENDANGERS TRAFFIC.
7. THE CONTRACTOR SHALL MAINTAIN DRIVEWAY ACCESS AT ALL TIMES. THE PLANS DO NOT ACCOUNT FOR SUB-STEP WORK THAT MAY BE NECESSARY FOR MAINTAINING TWO-WAY ACCESS AT ALL TIMES. COST ASSOCIATED WITH MAINTAINING DRIVEWAY ACCESS, SUCH AS FLAGGING, WILL BE CONSIDERED SUBSIDIARY TO ITEM 502, UNLESS SPECIFIED OTHERWISE.
8. MATERIALS DURING HAULING OPERATIONS. WHEN DIRECTED BY THE ENGINEER, THE CONTRACTOR SHALL CEASE ALL CONSTRUCTION OPERATIONS TO CLEAN THE ROADWAY, TO THE SATISFACTION OF THE ENGINEER.
9. ALL TEMPORARY SW3P CONTROL DEVICES SHALL BE INSTALLED IN ACCORDANCE WITH APPLICABLE STANDARDS AND SHALL BE MAINTAINED THROUGHOUT THE PROJECT DURATION. TEMPORARY SW3P CONTROL MEASURES SHALL ONLY BE PLACED IN AREAS WHERE SOIL DISTURBANCE OR POTENTIAL POLLUTANT-GENERATING ACTIVITIES ARE EXPECTED TO OCCUR WITHIN TWO WEEKS. TEMPORARY SW3P CONTROL MEASURES SHALL BE REMOVED IN EACH AREA WITHIN TWO WEEKS OF VEGETATION ESTABLISHMENT OR AS APPROVED BY THE ENGINEER.
10. CONTRACTOR SHALL PROTECT ALL EXISTING STRUCTURES THAT ARE TO REMAIN IN-PLACE. IF ANY STRUCTURE IS DAMAGED DURING CONSTRUCTION, THE CONTRACTOR SHALL REPLACE OR REPAIR AT THE CONTRACTOR'S EXPENSE.
11. EXISTING ABOVE GROUND AND UNDERGROUND UTILITY LOCATIONS CANNOT BE GUARANTEED BY THE ENGINEER. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ALL DAMAGES WHICH OCCUR AS A RESULT OF THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY ABOVE GROUND AND UNDERGROUND UTILITIES.
12. CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE THROUGHOUT THE CONSTRUCTION OF THE PROJECT. THE CONTRACTOR SHALL CORRECT DRAINAGE DEFICIENCIES THAT PRESENT A HAZARD TO THE TRAVELING PUBLIC OR PROPERTY AS DIRECTED BY THE ENGINEER.
13. ACCESS TO ADJOINING PROPERTY MUST BE MAINTAINED AT ALL TIMES.
14. CONTRACTOR SHALL CONSTRUCT SIDEWALK, CURB RAMPS, DRIVEWAYS, HANDRAILS AND PEDESTRIAN PUSH BUTTONS IN ACCORDANCE WITH STANDARDS, LATEST TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD), AND PROPOSED ACCESSIBILITY GUIDELINES FOR PEDESTRIAN FACILITIES IN THE PUBLIC RIGHT-OF-WAY (PROWAG).
15. CONTRACTOR SHALL MAINTAIN A 4' MIN CLEAR GROUND SPACE AT FIXTURE OBSTRUCTION.
16. CONTRACTOR SHALL RELOCATE SIGNS WITHIN TXDOT RIGHT OF WAY. SIGNS SHALL BE ADJUSTED VERTICALLY IF THEY ARE CONSIDERED AN OBSTRUCTION IN VERTICAL PROTECTED ZONE.
17. ANY REQUEST TO ALTER THE SEQUENCE OF OPERATION OR TRAFFIC CONTROL PLAN WILL BE SUBMITTED TO THE ENGINEER FOR WRITTEN APPROVAL.
18. UPON COMPLETION OF THE WORK, THE CONTRACTOR SHALL PLACE FINAL SODDING.
19. UPON COMPLETION OF THE WORK AND BEFORE FINAL ACCEPTANCE AND FINAL PAYMENT IS MADE, THE CONTRACTOR SHALL CLEAR AND REMOVE FROM THE SITE ALL SURPLUS AND DISPLACED MATERIALS AND DEBRIS OF ANY KIND AND LEAVE THE ENTIRE PROJECT IN A SMOOTH, NEAT AND SIGHTLY CONDITION.

SEQUENCE OF WORK NARRATIVE

1. CONTRACTOR TO BEGIN WORK IN CITY OF KEMP AND ONCE ALL WORK IS COMPLETE, BEGIN WORK IN CITY OF MABANK UNLESS OTHERWISE APPROVED BY ENGINEER.
2. ESTABLISH AND MAINTAIN TRAFFIC CONTROL AND SW3P FEATURES PER THE VARIOUS STANDARDS INCLUDED IN THIS PLAN SET OR AS DIRECTED.
3. REMOVE EXISTING CONCRETE, ASPHALT, FOUNDATIONS, OR OTHER FEATURES WHERE INDICATED IN THE PLANS WITHIN THE AREA OF PROPOSED WORK
4. EXCAVATE OR BACKFILL AS NECESSARY TO ACHIEVE PROPOSED GRADES.PLACE BEDDING MATERIALS
5. FORM PROPOSED CONCRETE FEATURES
6. PLACE CONCRETE OR ASPHALT, REMOVE AND INSTALL PAVEMENT MARKINGS, AND RELOCATE SIGNS WHERE INDICATED
7. REMOVE FORMWORK AND BACKFILL DISTURBED AREAS FOR SMOOTH FINISHED GRADE. GRADE TO DRAIN AS NECESSARY
8. PLACE AND IRRIGATE BLOCK SODDING WHERE INDICATED AND AS SPECIFIED.
9. REMOVE ANY DEBRIS, TRAFFIC CONTROL, AND SW3P FEATURES AT THE COMPLETION OF CONSTRUCTION

5/28/2024

STATE OF TEXAS
SAMUEL J. LUNDQUIST
122185
LICENSED
PROFESSIONAL ENGINEER

Kimley»Horn F-928

Texas Department of Transportation

TRAFFIC CONTROL PLAN NARRATIVE

SHEET 1 OF 1

CONT	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN, ETC			17

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BARRICADE AND CONSTRUCTION (BC) STANDARD SHEETS GENERAL NOTES:

1. The Barricade and Construction Standard Sheets (BC sheets) are intended to show typical examples for placement of temporary traffic control devices, construction pavement markings, and typical work zone signs. The information contained in these sheets meet or exceed the requirements shown in the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD).

2. The development and design of the Traffic Control Plan (TCP)is the responsibility of the Engineer.

3. The Contractor may propose changes to the TCP that are signed and sealed by a licensed professional engineer for approval. The Engineer may develop, sign and seal Contractor proposed changes.

4. The Contractor is responsible for installing and maintaining the traffic control devices as shown in the plans. The Contractor may not move or change the approximate location of any device without the approval of the Engineer.

5. Geometric design of lane shifts and detours should, when possible, meet the applicable design criteria contained in manuals such as the American Association of State Highway and Transportation Officials (AASHTO), "A Policy on Geometric Design of Highways and Streets," the TxDOT "Roadway Design Manual" or engineering judgment.

6. When projects abut, the Engineer(s) may omit the END ROAD WORK, TRAFFIC FINES DOUBLE, and other advance warning signs if the signing would be redundant and the work areas appear continuous to the motorists. If the adjacent project is completed first, the Contractor shall erect the necessary warning signs as shown on these sheets, the TCP sheets or as directed by the Engineer. The BEGIN ROAD WORK NEXT X MILES sign shall be revised to show appropriate work zone distance.

7. The Engineer may require duplicate warning signs on the median side of divided highways where median width will permit and traffic volumes justify the signing.

8. All signs shall be constructed in accordance with the details found in the "Standard Highway Sign Designs for Texas," latest edition. Sign details not shown in this manual shall be shown in the plans or the Engineer shall provide a detail to the Contractor before the sign is manufactured.

9. The temporary traffic control devices shown in the illustrations of the BC sheets are examples. As necessary, the Engineer will determine the most appropriate traffic control devices to be used.

10. Where highway construction or maintenance work is being undertaken, other than mobile operations as defined by the Texas Manual on Uniform Traffic Control Devices, CSJ limit signs are required. CSJ limit signs are shown on BC(2). The OBEY WARNING SIGNS STATE LAW sign, STAY ALERT TALK OR TEXT LATER and the WORK ZONE TRAFFIC FINES DOUBLE sign with plaque shall be erected in advance of the CSJ limits. The BEGIN ROAD WORK NEXT X MILES, CONTRACTOR and END ROAD WORK signs shall be erected at or near the CSJ limits. For mobile operations, CSJ limit signs are not required.

11. Traffic control devices should be in place only while work is actually in progress or a definite need exists.

12. The Engineer has the final decision on the location of all traffic control devices.

13. Inactive equipment and work vehicles, including workers' private vehicles must be parked away from travel lanes. They should be as close to the right-of-way line as possible, or located behind a barrier or guardrail, or as approved by the Engineer.

WORKER SAFETY NOTES:

1. Workers on foot who are exposed to traffic or to construction equipment within the right-of-way shall wear high-visibility safety apparel meeting the requirements of ISEA "American National Standard for High-Visibility Apparel," or equivalent revisions, and labeled as ANSI 107-2004 standard performance for Class 2 or 3 risk exposure. Class 3 garments should be considered for high traffic volume work areas or night time work.

2. Except in emergency situations, flagger stations shall be illuminated when flagging is used at night.

COMPLIANT WORKZONE TRAFFIC CONTROL DEVICES

1. Only pre-qualified products shall be used. The "Compliant Work Zone Traffic Control Devices List" (CWZTCD) describes pre-qualified products and their sources.

2. Work zone traffic control devices shall be compliant with the Manual for Assessing safety Hardware (MASH).

THE DOCUMENTS BELOW CAN BE FOUND ON-LINE AT http://www.txdot.gov
COMPLIANT WORK ZONE TRAFFIC CONTROL DEVICES LIST (CWZTCD)
DEPARTMENTAL MATERIAL SPECIFICATIONS (DMS)
MATERIAL PRODUCER LIST (MPL)
ROADWAY DESIGN MANUAL - SEE "MANUALS (ONLINE MANUALS)"
STANDARD HIGHWAY SIGN DESIGNS FOR TEXAS (SHSD)
TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD)
TRAFFIC ENGINEERING STANDARD SHEETS

Texas Department of Transportation

Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION GENERAL NOTES AND REQUIREMENTS

BC(1)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT November 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS	0918	11	110	VARIOUS
4-03 7-13	DIST	COUNTY		SHEET NO.
9-07 8-14	DAL	KAUFMAN, ETC		18
5-10 5-21				

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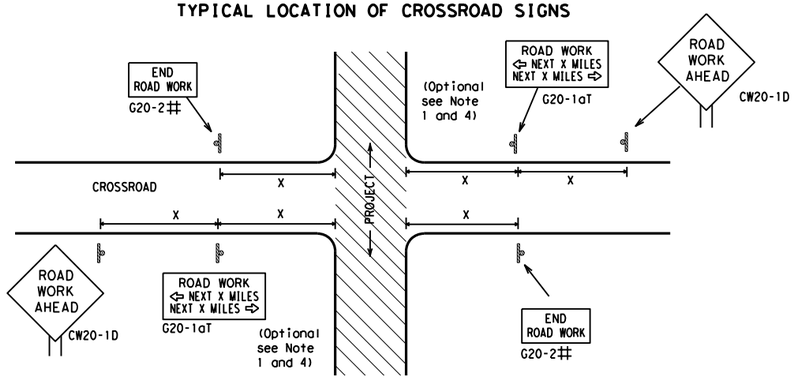
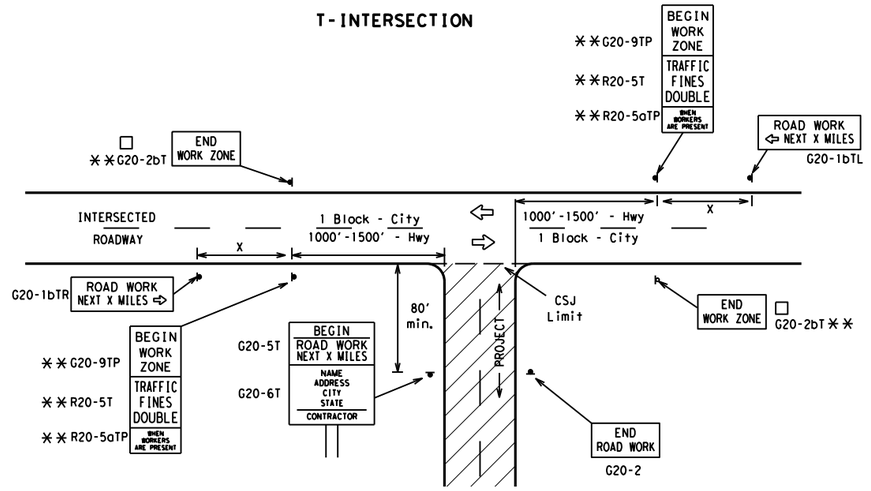
TYPICAL LOCATION OF CROSSROAD SIGNS



May be mounted on back of "ROAD WORK AHEAD"(CW20-1D) sign with approval of Engineer. (See note 2 below)

1. The typical minimum signing on a crossroad approach should be a "ROAD WORK AHEAD" (CW20-1D)sign and a (G20-2) "END ROAD WORK" sign, unless noted otherwise in plans.
2. The Engineer may use the reduced size 36" x 36" ROAD WORK AHEAD (CW20-1D) sign mounted back to back with the reduced size 36" x 18" "END ROAD WORK"(G20-2) sign on low volume crossroads (see Note 4 under "Typical Construction Warning Sign Size and Spacing"). See the "Standard Highway Sign Designs for Texas" manual for sign details. The Engineer may omit the advance warning signs on low volume crossroads. The Engineer will determine whether a road is low volume as per TMUTCD Part 5. This information shall be shown in the plans.
3. Based on existing field conditions, the Engineer/Inspector may require additional signs such as FLAGGER AHEAD, LOOSE GRAVEL, or other appropriate signs. When additional signs are required, these signs will be considered part of the minimum requirements. The Engineer/Inspector will determine the proper location and spacing of any sign not shown on the BC sheets, Traffic Control Plan sheets or the Work Zone Standard Sheets.
4. The "ROAD WORK NEXT X MILES"(G20-1aT)sign shall be required at high volume crossroads to advise motorists of the length of construction in either direction from the intersection. The Engineer will determine whether a roadway is considered high volume.
5. Additional traffic control devices may be shown elsewhere in the plans for higher volume crossroads.
6. When work occurs in the intersection area, appropriate traffic control devices, as shown elsewhere in the plans or as determined by the Engineer/Inspector, shall be in place.

T-INTERSECTION



CSJ LIMITS AT T-INTERSECTION

1. The Engineer will determine the types and location of any additional traffic control devices, such as a flagger and accompanying signs, or other signs, that should be used when work is being performed at or near an intersection.
2. If construction closes the road at a T-intersection, the Contractor shall place the "CONTRACTOR NAME"(G20-6T) sign behind the Type 3 Barricades for the road closure (see BC(10) also). The "ROAD WORK NEXT X MILES" left arrow(G20-1bTL) and "ROAD WORK NEXT X MILES" right arrow (G20-1bTR)" signs shall be replaced by the detour signing called for in the plans.

TYPICAL CONSTRUCTION WARNING SIGN SIZE AND SPACING[1,5,6]

SIZE

Sign Number or Series	Conventional Road	Expressway/ Freeway
CW20[4] CW21 CW22 CW23 CW25	48" x 48"	48" x 48"
CW1, CW2, CW7, CW8, CW9, CW11, CW14	36" x 36"	48" x 48"
CW3, CW4, CW5, CW6, CW8-3, CW10, CW12	48" x 48"	48" x 48"

SPACING

Posted Speed	Sign △ Spacing "X"
MPH	Feet (Apprx.)
30	120
35	160
40	240
45	320
50	400
55	500[2]
60	600[2]
65	700[2]
70	800[2]
75	900[2]
80	1000[2]
*	*[3]

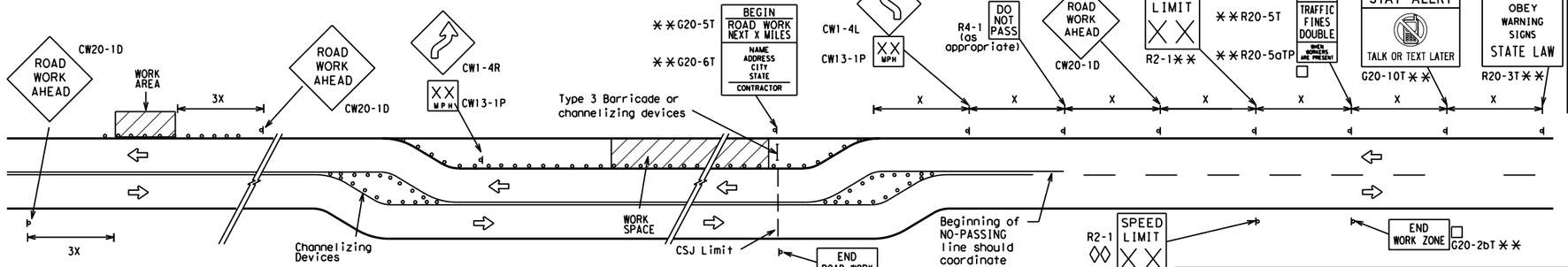
* For typical sign spacings on divided highways, expressways and freeways, see Part 6 of the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD) typical application diagrams or TCP Standard Sheets.

△ Minimum distance from work area to first Advance Warning sign nearest the work area and/or distance between each additional sign.

GENERAL NOTES

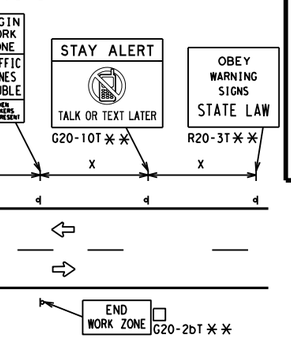
1. Special or larger size signs may be used as necessary.
2. Distance between signs should be increased as required to have 1500 feet advance warning.
3. Distance between signs should be increased as required to have 1/2 mile or more advance warning.
4. 36" x 36" "ROAD WORK AHEAD" (CW20-1D)signs may be used on low volume crossroads at the discretion of the Engineer as per TMUTCD Part 5. See Note 2 under "Typical Location of Crossroad Signs".
5. Only diamond shaped warning sign sizes are indicated.
6. See sign size listing in "TMUTCD", Sign Appendix or the "Standard Highway Sign Designs for Texas" manual for complete list of available sign design sizes.

WORK AREAS IN MULTIPLE LOCATIONS WITHIN CSJ LIMITS

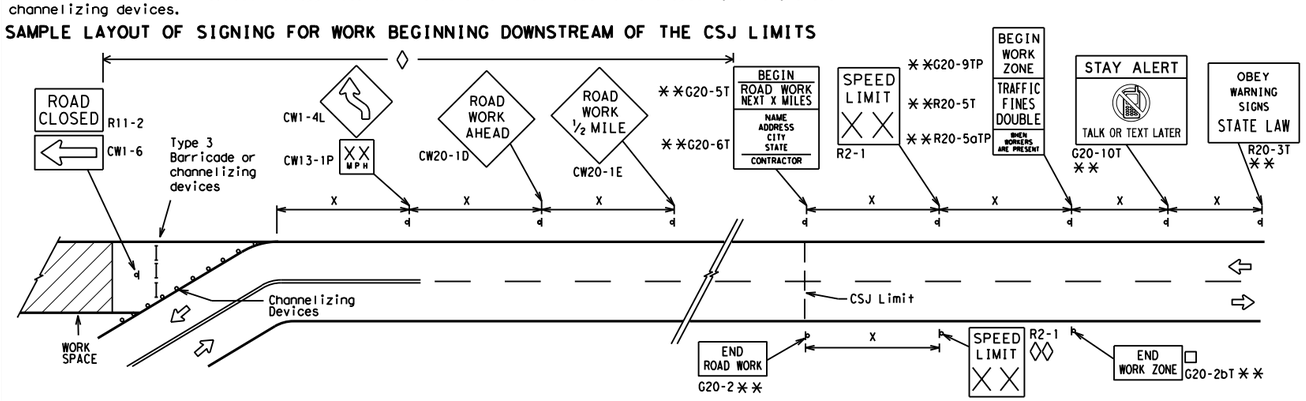


When extended distances occur between minimal work spaces, the Engineer/Inspector should ensure additional "ROAD WORK AHEAD"(CW20-1D)signs are placed in advance of these work areas to remind drivers they are still within the project limits. See the applicable TCP sheets for exact location and spacing of signs and channelizing devices.

SAMPLE LAYOUT OF SIGNING FOR WORK BEGINNING AT THE CSJ LIMITS



SAMPLE LAYOUT OF SIGNING FOR WORK BEGINNING DOWNSTREAM OF THE CSJ LIMITS



NOTES

The Contractor shall determine the appropriate distance to be placed on the G20-1 series signs and "BEGIN ROAD WORK NEXT X MILES"(G20-5T)sign for each specific project. This distance shall replace the "X" and shall be rounded to the nearest whole mile with the approval of the Engineer. No decimals shall be used.

□ The "BEGIN WORK ZONE"(G20-9TP) and "END WORK ZONE" (G20-2bT) shall be used as shown on the sample layout when advance signs are required outside the CSJ Limits. They inform the motorist of entering or leaving a part of the work zone lying outside the CSJ Limits where traffic fines may double if workers are present.

** CSJ limit signing is required for highway construction and maintenance work, with the exception of mobile operations.

◊ Area for placement of "ROAD WORK AHEAD" (CW20-1D)sign and other signs or devices as called for on the Traffic Control Plan.

◊◊ Contractor will install a regulatory speed limit sign at the end of the work zone.

LEGEND

⊢⊣	Type 3 Barricade
○ ○ ○	Channelizing Devices
▬	Sign
X	See Typical Construction Warning Sign Size and Spacing chart or the TMUTCD for sign spacing requirements.

Texas Department of Transportation

Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION PROJECT LIMIT

BC(2)-21

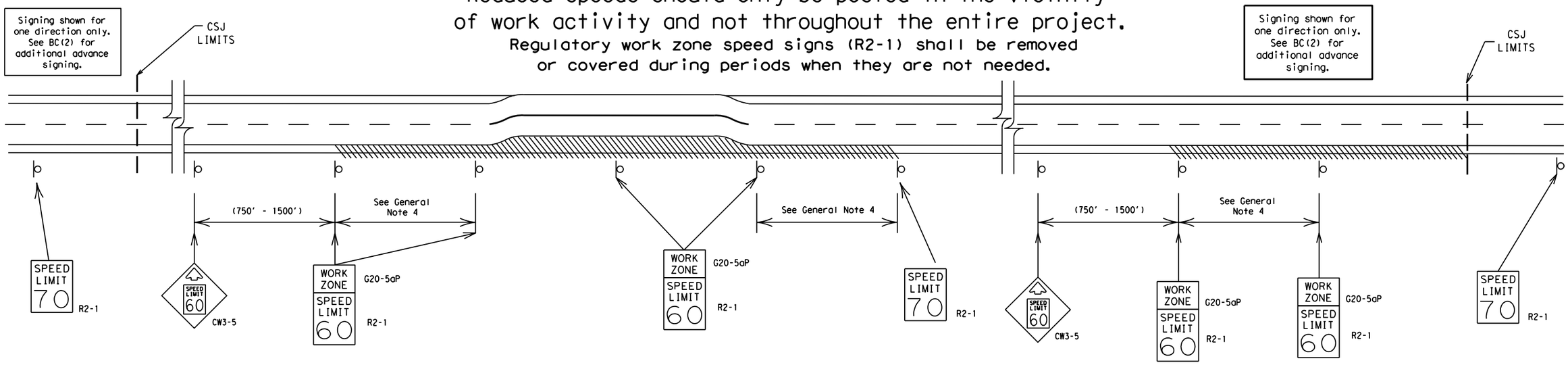
FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT November 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS	0918	11	110	VARIOUS
9-07 8-14	DIST	COUNTY		SHEET NO.
7-13 5-21	DAL	KAUFMAN, ETC		19

TYPICAL APPLICATION OF WORK ZONE SPEED LIMIT SIGNS

Work zone speed limits shall be regulatory, established in accordance with the "Procedures for Establishing Speed Zones," and approved by the Texas Transportation Commission, or by City Ordinance when within Incorporated City Limits.

Reduced speeds should only be posted in the vicinity of work activity and not throughout the entire project.

Regulatory work zone speed signs (R2-1) shall be removed or covered during periods when they are not needed.



GUIDANCE FOR USE:

LONG/INTERMEDIATE TERM WORK ZONE SPEED LIMITS

This type of work zone speed limit should be included on the design of the traffic control plans when restricted geometrics with a lower design speed are present in the work zone and modification of the geometrics to a higher design speed is not feasible.

Long/Intermediate Term Work Zone Speed Limit signs, when approved as described above, should be posted and visible to the motorist when work activity is present. Work activity may also be defined as a change in the roadway that requires a reduced speed for motorists to safely negotiate the work area, including:

a) rough road or damaged pavement surface
b) substantial alteration of roadway geometrics (diversions)
c) construction detours
d) grade
e) width
f) other conditions readily apparent to the driver

As long as any of these conditions exist, the work zone speed limit signs should remain in place.

SHORT TERM WORK ZONE SPEED LIMITS

This type of work zone speed limit may be included on the design of the traffic control plans when workers or equipment are not behind concrete barrier, when work activity is within 10 feet of the traveled way or actually in the traveled way.

Short Term Work Zone Speed Limit signs should be posted and visible to the motorists only when work activity is present. When work activity is not present, signs shall be removed or covered.
(See Removing or Covering on BC(4)).

GENERAL NOTES

1. Regulatory work zone speed limits should be used only for sections of construction projects where speed control is of major importance.
2. Regulatory work zone speed limit signs shall be placed on supports at a 7 foot minimum mounting height.
3. Speed zone signs are illustrated for one direction of travel and are normally posted for each direction of travel.
4. Frequency of work zone speed limit signs should be:
   40 mph and greater 0.2 to 2 miles
   35 mph and less 0.2 to 1 mile
5. Regulatory speed limit signs shall have black legend and border on a white reflective background (See "Reflective Sheeting" on BC(4)).
6. Fabrication, erection and maintenance of the"ADVANCE SPEED LIMIT"(CW3-5)sign, "WORK ZONE"(G20-5aP) plaque and the "SPEED LIMIT"(R2-1)signs shall not be paid for directly, but shall be considered subsidiary to Item 502.
7. Turning signs from view, laying signs over or down will not be allowed, unless as otherwise noted under "REMOVING OR COVERING" on BC(4).
8. Techniques that may help reduce traffic speeds include but are not limited to:
   A. Law enforcement.
   B. Flagger stationed next to sign.
   C. Portable changeable message sign (PCMS).
   D. Low-power (drone) radar transmitter.
   E. Speed monitor trailers or signs.
9. Speeds shown on details above are for illustration only. Work Zone Speed Limits should only be posted as approved for each project.
10. For more specific guidance concerning the type of work, work zone conditions and factors impacting allowable regulatory construction speed zone reduction see TxDOT form #1204 in the TxDOT e-form system.

Texas Department of Transportation | Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION WORK ZONE SPEED LIMIT

BC(3)-21

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©TxDOT November 2002		CONT	SECT	JOB		HIGHWAY	
REVISIONS		0918	11	110		VARIOUS	
9-07 8-14		DIST	COUNTY			SHEET NO.	
7-13 5-21		DAL	KAUFMAN, ETC			20	

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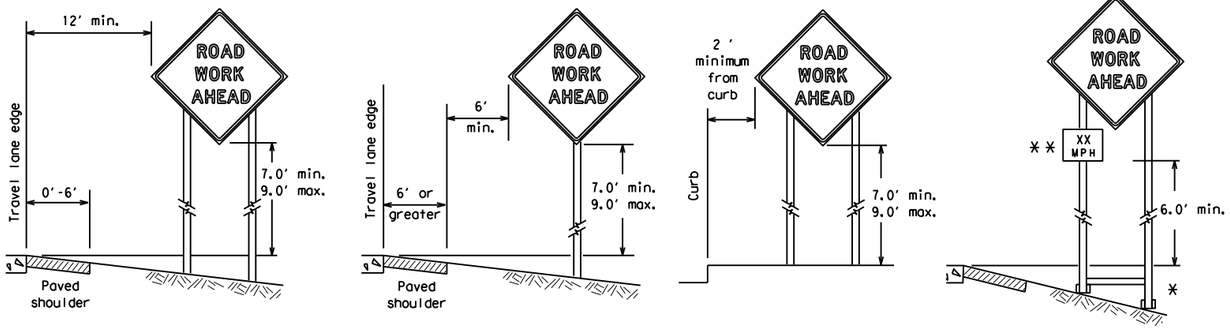
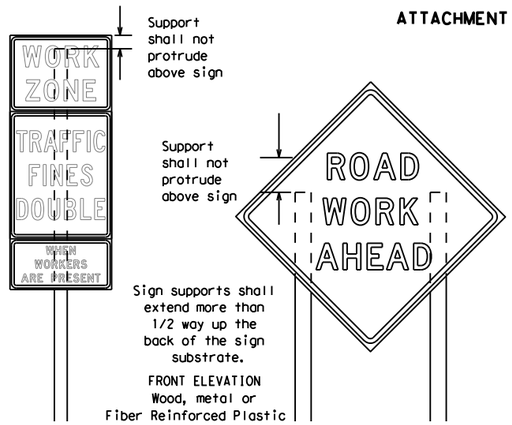
TYPICAL MINIMUM CLEARANCES FOR LONG TERM AND INTERMEDIATE TERM SIGNS

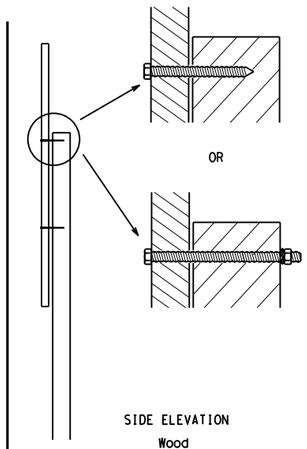


* When placing skid supports on unlevel ground, the leg post lengths must be adjusted so the sign appears straight and plumb. Objects shall NOT be placed under skids as a means of leveling.

** When plaques are placed on dual-leg supports, they should be attached to the upright nearest the travel lane. Supplemental plaques (advisory or distance) should not cover the surface of the parent sign.

ATTACHMENT FOR SIGN SUPPORTS





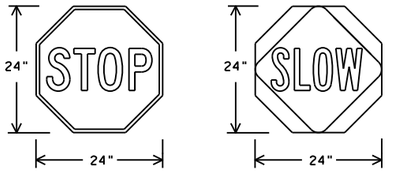
Attachment to wooden supports will be by bolts and nuts or screws. Use TxDOT's or manufacturer's recommended procedures for attaching sign substrates to other types of sign supports

Nails shall NOT be allowed. Each sign shall be attached directly to the sign support. Multiple signs shall not be joined or spliced by any means. Wood supports shall not be extended or repaired by splicing or other means.

Splicing embedded perforated square metal tubing in order to extend post height will only be allowed when the splice is made using four bolts, two above and two below the spice point. Splice must be located entirely behind the sign substrate, not near the base of the support. Splice insert lengths should be at least 5 times nominal post size, centered on the splice and of at least the same gauge material.

STOP/SLOW PADDLES

1. STOP/SLOW paddles are the primary method to control traffic by flaggers. The STOP/SLOW paddle size should be 24" x 24".
2. STOP/SLOW paddles shall be retroreflectorized when used at night.
3. STOP/SLOW paddles may be attached to a staff with a minimum length of 6' to the bottom of the sign.
4. Any lights incorporated into the STOP or SLOW paddle faces shall only be as specifically described in Section 6E.03 Hand Signaling Devices in the TMUTCD.



SHEETING REQUIREMENTS (WHEN USED AT NIGHT)		
USAGE	COLOR	SIGN FACE MATERIAL
BACKGROUND	RED	TYPE B OR C SHEETING
BACKGROUND	ORANGE	TYPE B_{FL} OR C_{FL} SHEETING
LEGEND & BORDER	WHITE	TYPE B OR C SHEETING
LEGEND & BORDER	BLACK	ACRYLIC NON-REFLECTIVE FILM

CONTRACTOR REQUIREMENTS FOR MAINTAINING PERMANENT SIGNS WITHIN THE PROJECT LIMITS

1. Permanent signs are used to give notice of traffic laws or regulations, call attention to conditions that are potentially hazardous to traffic operations, show route designations, destinations, directions, distances, services, points of interest, and other geographical, recreational, specific service (LOGO), or cultural information. Drivers proceeding through a work zone need the same, if not better route guidance as normally installed on a roadway without construction.
2. When permanent regulatory or warning signs conflict with work zone conditions, remove or cover the permanent signs until the permanent sign message matches the roadway condition. For details for covering large guide signs see the TS-CD standard.
3. When existing permanent signs are moved and relocated due to construction purposes, they shall be visible to motorists at all times.
4. If existing signs are to be relocated on their original supports, they shall be installed on crashworthy bases as shown on the SMD Standard sheets. The signs shall meet the required mounting heights shown on the BC Sheets or the SMD Standards. This work should be paid for under the appropriate pay item for relocating existing signs.
5. If permanent signs are to be removed and relocated using temporary supports, the Contractor shall use crashworthy supports as shown on the BC standard sheets, TLRS standard sheets or the CWZTCD list. The signs shall meet the required mounting heights shown on the BC, or the SMD standard sheets during construction. This work should be paid for under the appropriate pay item for relocating existing signs.
6. Any sign or traffic control device that is struck or damaged by the Contractor or his/her construction equipment shall be replaced as soon as possible by the Contractor to ensure proper guidance for the motorists. This will be subsidiary to Item 502.

GENERAL NOTES FOR WORK ZONE SIGNS

1. Contractor shall install and maintain signs in a straight and plumb condition and/or as directed by the Engineer.
2. Wooden sign posts shall be painted white.
3. Barricades shall NOT be used as sign supports.
4. All signs shall be installed in accordance with the plans or as directed by the Engineer. Signs shall be used to regulate, warn, and guide the traveling public safely through the work zone.
5. The Contractor may furnish either the sign design shown in the plans or in the "Standard Highway Sign Designs for Texas" (SHSD). The Engineer/Inspector may require the Contractor to furnish other work zone signs that are shown in the TMUTCD but may have been omitted from the plans. Any variation in the plans shall be documented by written agreement between the Engineer and the Contractor's Responsible Person. All changes must be documented in writing before being implemented. This can include documenting the changes in the Inspector's TxDOT diary and having both the Inspector and Contractor initial and date the agreed upon changes.
6. The Contractor shall furnish sign supports listed in the "Compliant Work Zone Traffic Control Device List" (CWZTCD) for small roadside signs. Supports for temporary large roadside signs shall meet the requirements detailed on the Temporary Large Roadside Signs (TLRS) standard sheets. The Contractor shall install the sign support in accordance with the manufacturer's recommendations. If there is a question regarding installation procedures, the Contractor shall furnish the Engineer a copy of the manufacturer's installation recommendations so the Engineer can verify the correct procedures are being followed.
7. The Contractor is responsible for installing signs on approved supports and replacing signs with damaged or cracked substrates and/or damaged or marred reflective sheeting as directed by the Engineer/Inspector.
8. Identification markings may be shown only on the back of the sign substrate. The maximum height of letters and/or company logos used for identification shall be 1 inch.
9. The Contractor shall replace damaged wood posts. New or damaged wood sign posts shall not be spliced.

DURATION OF WORK (as defined by the "Texas Manual on Uniform Traffic Control Devices" Part 6)

1. The types of sign supports, sign mounting height, the size of signs, and the type of sign substrates can vary based on the type of work being performed. The Engineer is responsible for selecting the appropriate size sign for the type of work being performed. The Contractor is responsible for ensuring the sign support, sign mounting height and substrate meets manufacturer's recommendations in regard to crashworthiness and duration of work requirements.
   a. Long-term stationary - work that occupies a location more than 3 days.
   b. Intermediate-term stationary - work that occupies a location more than one daylight period up to 3 days, or nighttime work lasting more than one hour.
   c. Short-term stationary - daytime work that occupies a location for more than 1 hour in a single daylight period.
   d. Short, duration - work that occupies a location up to 1 hour.
   e. Mobile - work that moves continuously or intermittently (stopping for up to approximately 15 minutes.)

SIGN MOUNTING HEIGHT

1. The bottom of Long-term/Intermediate-term signs shall be at least 7 feet, but not more than 9 feet, above the paved surface, except as shown for supplemental plaques mounted below other signs.
2. The bottom of Short-term/Short Duration signs shall be a minimum of 1 foot above the pavement surface but no more than 2 feet above the ground.
3. Long-term/Intermediate-term Signs may be used in lieu of Short-term/Short Duration signing.
4. Short-term/Short Duration signs shall be used only during daylight and shall be removed at the end of the workday or raised to appropriate Long-term/Intermediate sign height.
5. Regulatory signs shall be mounted at least 7 feet, but not more than 9 feet, above the paved surface regardless of work duration.

SIZE OF SIGNS

1. The Contractor shall furnish the sign sizes shown on BC (2) unless otherwise shown in the plans or as directed by the Engineer.

SIGN SUBSTRATES

1. The Contractor shall ensure the sign substrate is installed in accordance with the manufacturer's recommendations for the type of sign support that is being used. The CWZTCD lists each substrate that can be used on the different types and models of sign supports.
2. "Mesh" type materials are NOT an approved sign substrate, regardless of the tightness of the weave.
3. All wooden individual sign panels fabricated from 2 or more pieces shall have one or more plywood cleat, 1/2" thick by 6" wide, fastened to the back of the sign and extending fully across the sign. The cleat shall be attached to the back of the sign using wood screws that do not penetrate the face of the sign panel. The screws shall be placed on both sides of the splice and spaced at 6" centers. The Engineer may approve other methods of splicing the sign face.

REFLECTIVE SHEETING

1. All signs shall be retroreflective and constructed of sheeting meeting the color and retro-reflectivity requirements of DMS-8300 for rigid signs or DMS-8310 for roll-up signs. The web address for DMS specifications is shown on BC(1).
2. White sheeting, meeting the requirements of DMS-8300 Type A, shall be used for signs with a white background.
3. Orange sheeting, meeting the requirements of DMS-8300 Type B_{FL} or Type C_{FL}, shall be used for rigid signs with orange backgrounds.

SIGN LETTERS

1. All sign letters and numbers shall be clear, and open rounded type uppercase alphabet letters as approved by the Federal Highway Administration (FHWA) and as published in the "Standard Highway Sign Design for Texas" manual. Signs, letters and numbers shall be of first class workmanship in accordance with Department Standards and Specifications.

REMOVING OR COVERING

1. When sign messages may be confusing or do not apply, the signs shall be removed or completely covered.
2. Long-term stationary or intermediate stationary signs installed on square metal tubing may be turned away from traffic 90 degrees when the sign message is not applicable. This technique may not be used for signs installed in the median of divided highways or near any intersections where the sign may be seen from approaching traffic.
3. Signs installed on wooden skids shall not be turned at 90 degree angles to the roadway. These signs should be removed or completely covered when not required.
4. When signs are covered, the material used shall be opaque, such as heavy mil black plastic, or other materials which will cover the entire sign face and maintain their opaque properties under automobile headlights at night, without damaging the sign sheeting.
5. Burlap shall NOT be used to cover signs.
6. Duct tape or other adhesive material shall NOT be affixed to a sign face.
7. Signs and anchor stubs shall be removed and holes backfilled upon completion of work.

SIGN SUPPORT WEIGHTS

1. Where sign supports require the use of weights to keep from turning over, the use of sandbags with dry, cohesionless sand should be used.
2. The sandbags will be tied shut to keep the sand from spilling and to maintain a constant weight.
3. Rock, concrete, iron, steel or other solid objects shall not be permitted for use as sign support weights.
4. Sandbags should weigh a minimum of 35 lbs and a maximum of 50 lbs.
5. Sandbags shall be made of a durable material that tears upon vehicular impact. Rubber (such as tire inner tubes) shall NOT be used.
6. Rubber ballasts designed for channelizing devices should not be used for ballast on portable sign supports. Sign supports designed and manufactured with rubber bases may be used when shown on the CWZTCD list.
7. Sandbags shall only be placed along or laid over the base supports of the traffic control device and shall not be suspended above ground level or hung with rope, wire, chains or other fasteners. Sandbags shall be placed along the length of the skids to weigh down the sign support.
8. Sandbags shall NOT be placed under the skid and shall not be used to level sign supports placed on slopes.

FLAGS ON SIGNS

1. Flags may be used to draw attention to warning signs. When used, the flag shall be 16 inches square or larger and shall be orange or fluorescent red-orange in color. Flags shall not be allowed to cover any portion of the sign face.

Texas Department of Transportation

Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION TEMPORARY SIGN NOTES

BC(4)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT November 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS	0918	11	110	VARIOUS
9-07 8-14	DIST	COUNTY		SHEET NO.
7-13 5-21	DAL	KAUFMAN, ETC		21

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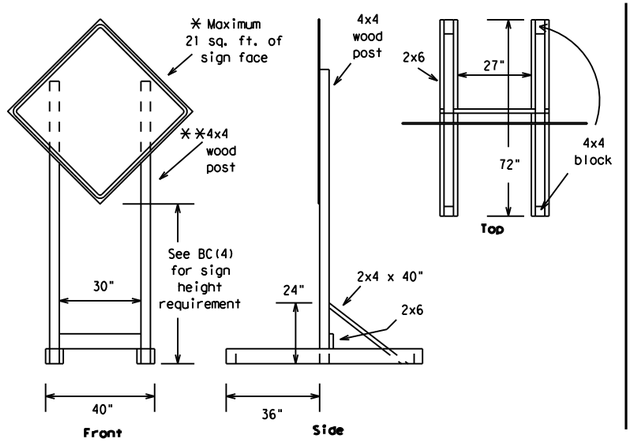
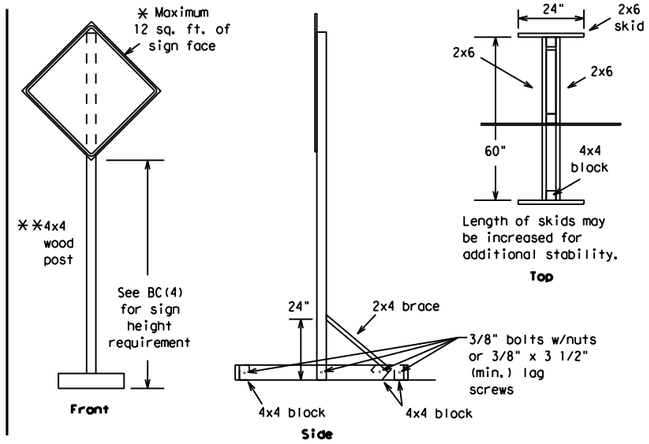
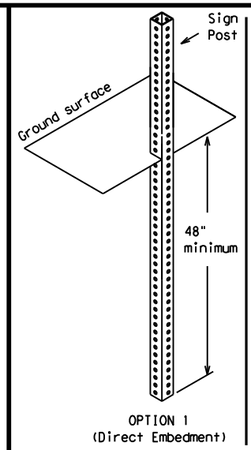
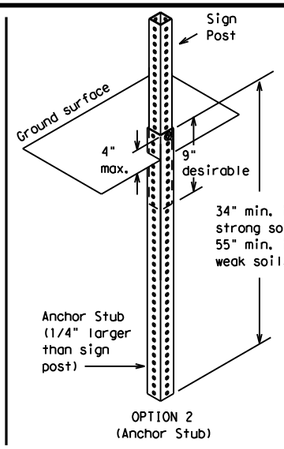


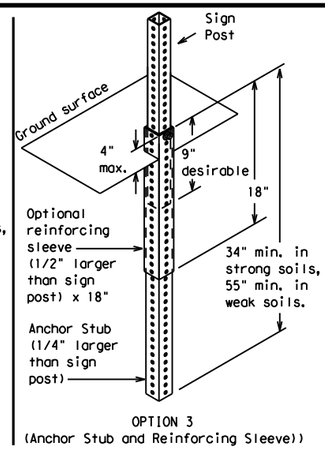


SKID MOUNTED WOOD SIGN SUPPORTS

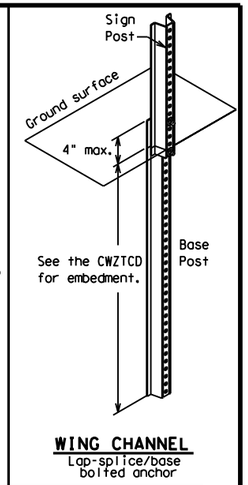
* LONG/INTERMEDIATE TERM STATIONARY - PORTABLE SKID MOUNTED SIGN SUPPORTS







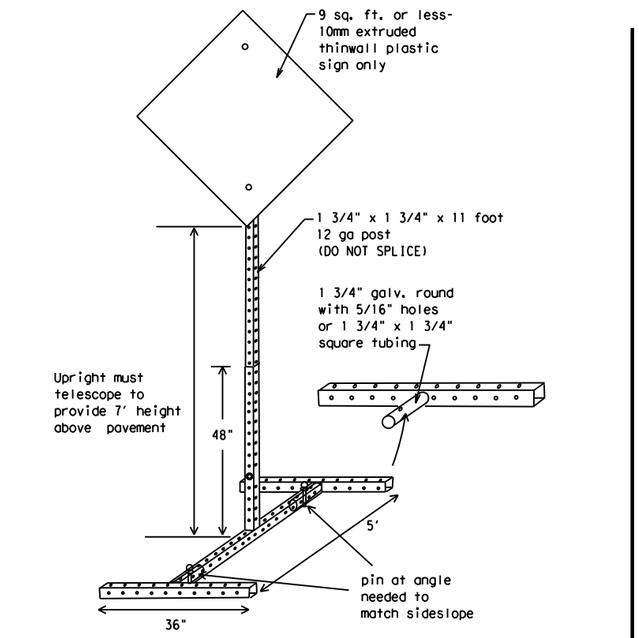
PERFORATED SQUARE METAL TUBING

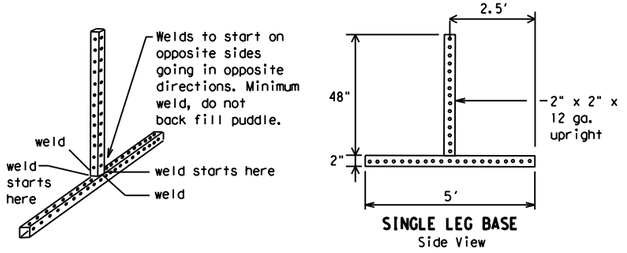


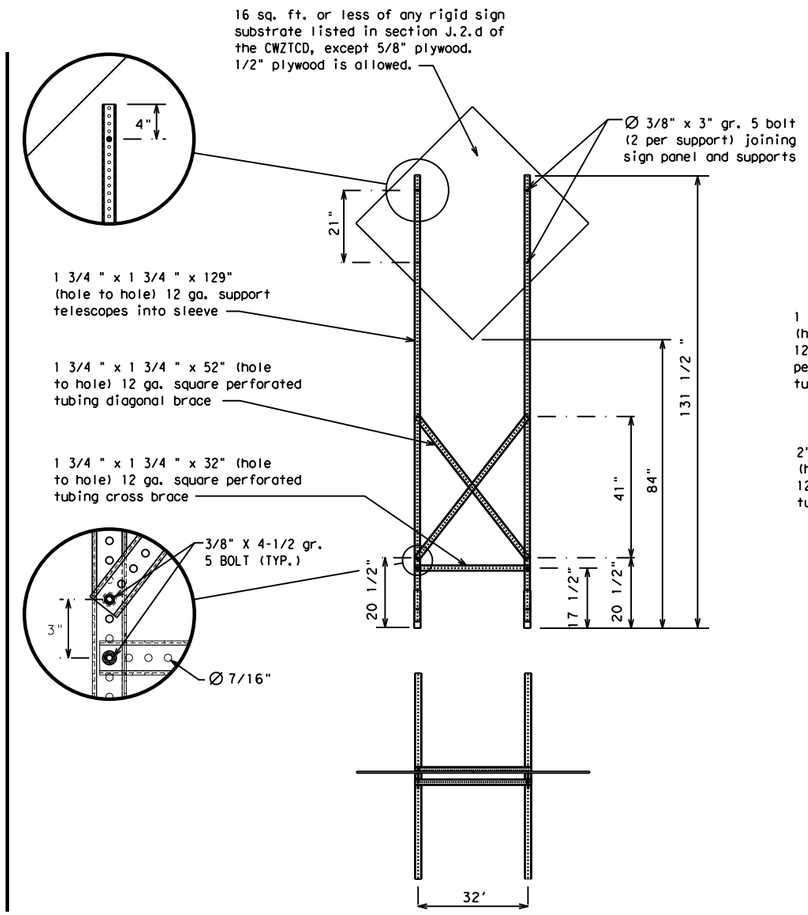
WING CHANNEL
Lap-splice/base bolted anchor

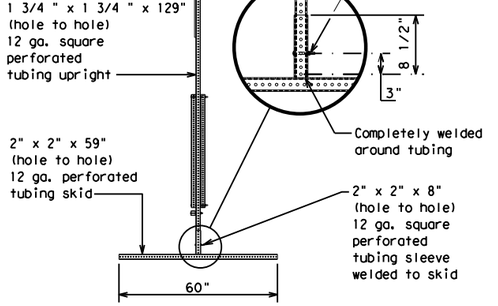
GROUND MOUNTED SIGN SUPPORTS

Refer to the CWZTCD and the manufacturer's installation procedure for each type sign support.
The maximum sign square footage shall adhere to the manufacturer's recommendation.
Two post installations can be used for larger signs.









SKID MOUNTED PERFORATED SQUARE STEEL TUBING SIGN SUPPORTS

* LONG/INTERMEDIATE TERM STATIONARY - PORTABLE SKID MOUNTED SIGN SUPPORTS

WEDGE ANCHORS

Both steel and plastic Wedge Anchor Systems as shown on the SMD Standard Sheets may be used as temporary sign supports for signs up to 10 square feet of sign face. They may be set in concrete or in sturdy soils if approved by the Engineer. (See web address for "Traffic Engineering Standard Sheets" on BC(1)).

OTHER DESIGNS

MORE DETAILS OF APPROVED LONG/INTERMEDIATE AND SHORT TERM SUPPORTS CAN BE FOUND ON THE CWZTCD LIST. SEE BC(1) FOR WEBSITE LOCATION.

GENERAL NOTES

1. Nails may be used in the assembly of wooden sign supports, but 3/8" bolts with nuts or 3/8" x 3 1/2" lag screws must be used on every joint for final connection.
2. No more than 2 sign posts shall be placed within a 7 ft. circle, except for specific materials noted on the CWZTCD List.
3. When project is completed, all sign supports and foundations shall be removed from the project site. This will be considered subsidiary to Item 502.

* See BC(4) for definition of "Work Duration."

** Wood sign posts MUST be one piece. Splicing will NOT be allowed. Posts shall be painted white.

☐ See the CWZTCD for the type of sign substrate that can be used for each approved sign support.

SHEET 5 OF 12

Texas Department of Transportation | Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION TYPICAL SIGN SUPPORT

BC(5)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
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DATE:
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WHEN NOT IN USE, REMOVE THE PCMS FROM THE RIGHT-OF-WAY OR PLACE THE PCMS BEHIND BARRIER OR GUARDRAIL WITH SIGN PANEL TURNED PARALLEL TO TRAFFIC

PORTABLE CHANGEABLE MESSAGE SIGNS

1. The Engineer/Inspector shall approve all messages used on portable changeable message signs (PCMS).
2. Messages on PCMS should contain no more than 8 words (about four to eight characters per word), not including simple words such as "TO," "FOR," "AT," etc.
3. Messages should consist of a single phase, or two phases that alternate. Three-phase messages are not allowed. Each phase of the message should convey a single thought, and must be understood by itself.
4. Use the word "EXIT" to refer to an exit ramp on a freeway; i.e., "EXIT CLOSED." Do not use the term "RAMP."
5. Always use the route or interstate designation (IH, US, SH, FM) along with the number when referring to a roadway.
6. When in use, the bottom of a stationary PCMS message panel should be a minimum 7 feet above the roadway, where possible.
7. The message term "WEEKEND" should be used only if the work is to start on Saturday morning and end by Sunday evening at midnight. Actual days and hours of work should be displayed on the PCMS if work is to begin on Friday evening and/or continue into Monday morning.
8. The Engineer/Inspector may select one of two options which are available for displaying a two-phase message on a PCMS. Each phase may be displayed for either four seconds each or for three seconds each.
9. Do not "flash" messages or words included in a message. The message should be steady burn or continuous while displayed.
10. Do not present redundant information on a two-phase message; i.e., keeping two lines of the message the same and changing the third line.
11. Do not use the word "Danger" in message.
12. Do not display the message "LANES SHIFT LEFT" or "LANES SHIFT RIGHT" on a PCMS. Drivers do not understand the message.
13. Do not display messages that scroll horizontally or vertically across the face of the sign.
14. The following table lists abbreviated words and two-word phrases that are acceptable for use on a PCMS. Both words in a phrase must be displayed together. Words or phrases not on this list should not be abbreviated, unless shown in the TMUTCD.
15. PCMS character height should be at least 18 inches for trailer mounted units. They should be visible from at least 1/2 (.5) mile and the text should be legible from at least 600 feet at night and 800 feet in daylight. Truck mounted units must have a character height of 10 inches and must be legible from at least 400 feet.
16. Each line of text should be centered on the message board rather than left or right justified.
17. If disabled, the PCMS should default to an illegible display that will not alarm motorists and will only be used to alert workers that the PCMS has malfunctioned. A pattern such as a series of horizontal solid bars is appropriate.

WORD OR PHRASE	ABBREVIATION
Access Road	ACCS RD
Alternate	ALT
Avenue	AVE
Best Route	BEST RTE
Boulevard	BLVD
Bridge	BRDG
Cannot	CANT
Center	CTR
Construction Ahead	CONST AHD
CROSSING	XING
Detour Route	DETOUR RTE
Do Not	DONT
East	E
Eastbound	(route) E
Emergency	EMER
Emergency Vehicle	EMER VEH
Entrance, Enter	ENT
Express Lane	EXP LN
Expressway	EXPWY
XXXX Feet	XXXX FT
Fog Ahead	FOG AHD
Freeway	FRWY, FWY
Freeway Blocked	FWY BLKD
Friday	FRI
Hazardous Driving	HAZ DRIVING
Hazardous Material	HAZMAT
High-Occupancy	HOV
Vehicle Highway	HWY
Hour(s)	HR, HRS
Information	INFO
It Is	ITS
Junction	JCT
Left	LFT
Left Lane	LFT LN
Lane Closed	LN CLOSED
Lower Level	LWR LEVEL
Maintenance	MAINT

WORD OR PHRASE	ABBREVIATION
Major	MAJ
Miles	MI
Miles Per Hour	MPH
Minor	MNR
Monday	MON
Normal	NORM
North	N
Northbound	(route) N
Parking	PKING
Road	RD
Right Lane	RT LN
Saturday	SAT
Service Road	SERV RD
Shoulder	SHLDR
Slippery	SLIP
South	S
Southbound	(route) S
Speed	SPD
Street	ST
Sunday	SUN
Telephone	PHONE
Temporary	TEMP
Thursday	THURS
To Downtown	TO DWNTN
Traffic	TRAF
Travelers	TRVLRS
Tuesday	TUES
Time Minutes	TIME MIN
Upper Level	UPR LEVEL
Vehicles (s)	VEH, VEHS
Warning	WARN
Wednesday	WED
Weight Limit	WT LIMIT
West	W
Westbound	(route) W
Wet Pavement	WET PVMT
Will Not	WONT

Roadway designation * IH-number, US-number, SH-number, FM-number

RECOMMENDED PHASES AND FORMATS FOR PCMS MESSAGES DURING ROADWORK ACTIVITIES

(The Engineer may approve other messages not specifically covered here.)

Phase 1: Condition Lists

Road/Lane/Ramp Closure List

- FREEWAY CLOSED X MILE
- FRONTAGE ROAD CLOSED
- ROAD CLOSED AT SH XXX
- SHOULDER CLOSED XXX FT
- ROAD CLSD AT FM XXXX
- RIGHT LN CLOSED XXX FT
- RIGHT X LANES CLOSED
- RIGHT X LANES OPEN
- CENTER LANE CLOSED
- DAYTIME LANE CLOSURES
- NIGHT LANE CLOSURES
- I-XX SOUTH EXIT CLOSED
- VARIOUS LANES CLOSED
- EXIT XXX CLOSED X MILE
- EXIT CLOSED
- RIGHT LN TO BE CLOSED
- MALL DRIVEWAY CLOSED
- X LANES CLOSED TUE - FRI
- XXXXXXXX BLVD CLOSED

Other Condition List

- ROADWORK XXX FT
- ROAD REPAIRS XXXX FT
- FLAGGER XXXX FT
- LANE NARROWS XXXX FT
- RIGHT LN NARROWS XXXX FT
- TWO-WAY TRAFFIC XX MILE
- MERGING TRAFFIC XXXX FT
- CONST TRAFFIC XXX FT
- LOOSE GRAVEL XXXX FT
- UNEVEN LANES XXXX FT
- DETOUR X MILE
- ROUGH ROAD XXXX FT
- ROADWORK PAST SH XXXX
- ROADWORK NEXT FRI-SUN
- BUMP XXXX FT
- US XXX EXIT X MILES
- TRAFFIC SIGNAL XXXX FT
- LANES SHIFT *

* LANES SHIFT in Phase 1 must be used with STAY IN LANE in Phase 2.

Phase 2: Possible Component Lists

Action to Take/Effect on Travel List

- MERGE RIGHT
- FORM X LINES RIGHT
- DETOUR NEXT X EXITS
- USE XXXXX RD EXIT
- USE EXIT XXX
- USE EXIT I-XX NORTH
- STAY ON US XXX SOUTH
- USE I-XX E TO I-XX N
- TRUCKS USE US XXX N
- WATCH FOR TRUCKS
- WATCH FOR TRUCKS
- EXPECT DELAYS
- EXPECT DELAYS
- PREPARE TO STOP
- REDUCE SPEED XXX FT
- END SHOULDER USE
- USE OTHER ROUTES
- WATCH FOR WORKERS
- STAY IN LANE *

Location List

- AT FM XXXX
- BEFORE RAILROAD CROSSING
- NEXT X MILES
- PAST US XXX EXIT
- XXXXXXX TO XXXXXXX
- US XXX TO FM XXXX

Warning List

- SPEED LIMIT XX MPH
- MAXIMUM SPEED XX MPH
- MINIMUM SPEED XX MPH
- ADVISORY SPEED XX MPH
- RIGHT LANE EXIT
- USE CAUTION
- DRIVE SAFELY
- DRIVE WITH CARE

** Advance Notice List

- TUE-FRI XX AM- X PM
- APR XX-XX X PM-X AM
- BEGINS MONDAY
- BEGINS MAY XX
- MAY X-X XX PM - XX AM
- NEXT FRI-SUN
- XX AM TO XX PM
- NEXT TUE AUG XX
- TONIGHT XX PM- XX AM

* LANES SHIFT in Phase 1 must be used with STAY IN LANE in Phase 2.

** See Application Guidelines Note 6.

APPLICATION GUIDELINES

1. Only 1 or 2 phases are to be used on a PCMS.
2. The 1st phase (or both) should be selected from the "Road/Lane/Ramp Closure List" and the "Other Condition List".
3. A 2nd phase can be selected from the "Action to Take/Effect on Travel, Location, General Warning, or Advance Notice Phase Lists".
4. A Location Phase is necessary only if a distance or location is not included in the first phase selected.
5. If two PCMS are used in sequence, they must be separated by a minimum of 1000 ft. Each PCMS shall be limited to two phases, and should be understandable by themselves.
6. For advance notice, when the current date is within seven days of the actual work date, calendar days should be replaced with days of the week. Advance notification should typically be for no more than one week prior to the work.

WORDING ALTERNATIVES

1. The words RIGHT, LEFT and ALL can be interchanged as appropriate.
2. Roadway designations IH, US, SH, FM and LP can be interchanged as appropriate.
3. EAST, WEST, NORTH and SOUTH (or abbreviations E, W, N and S) can be interchanged as appropriate.
4. Highway names and numbers replaced as appropriate.
5. ROAD, HIGHWAY and FREEWAY can be interchanged as needed.
6. AHEAD may be used instead of distances if necessary.
7. FT and MI, MILE and MILES interchanged as appropriate.
8. AT, BEFORE and PAST interchanged as needed.
9. Distances or AHEAD can be eliminated from the message if a location phase is used.

PCMS SIGNS WITHIN THE R.O.W. SHALL BE BEHIND GUARDRAIL OR CONCRETE BARRIER OR SHALL HAVE A MINIMUM OF FOUR (4) PLASTIC DRUMS PLACED PERPENDICULAR TO TRAFFIC ON THE UPSTREAM SIDE OF THE PCMS, WHEN EXPOSED TO ONE DIRECTION OF TRAFFIC. WHEN EXPOSED TO TWO WAY TRAFFIC, THE FOUR DRUMS SHOULD BE PLACED WITH ONE DRUM AT EACH OF THE FOUR CORNERS OF THE UNIT.

FULL MATRIX PCMS SIGNS

1. When Full Matrix PCMS signs are used, the character height and legibility/visibility requirements shall be maintained as listed in Note 15 under "PORTABLE CHANGEABLE MESSAGE SIGNS" above.
2. When symbol signs, such as the "Flagger Symbol"(CW20-7) are represented graphically on the Full Matrix PCMS sign and, with the approval of the Engineer, it shall maintain the legibility/visibility requirement listed above.
3. When symbol signs are represented graphically on the Full Matrix PCMS, they shall only supplement the use of the static sign represented, and shall not substitute for, or replace that sign.
4. A full matrix PCMS may be used to simulate a flashing arrow board provided it meets the visibility, flash rate and dimming requirements on BC(7), for the same size arrow.

Texas Department of Transportation

Traffic Safety Division Standard

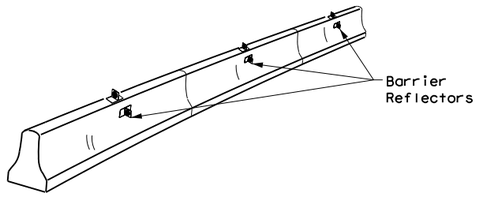
BARRICADE AND CONSTRUCTION PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)

BC(6)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT November 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS	0918	11	110	VARIOUS
9-07 8-14	DIST	COUNTY		SHEET NO.
7-13 5-21	DAL	KAUFMAN, ETC		23

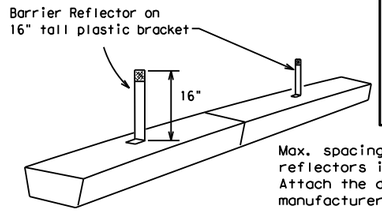
100

1. Barrier Reflectors shall be pre-qualified, and conform to the color and reflectivity requirements of DMS-8600. A list of prequalified Barrier Reflectors can be found at the Material Producer List web address shown on BC(1).
2. Color of Barrier Reflectors shall be as specified in the TMUTCD. The cost of the reflectors shall be considered subsidiary to Item 512.



CONCRETE TRAFFIC BARRIER (CTB)

3. Where traffic is on one side of the CTB, two (2) Barrier Reflectors shall be mounted in approximately the midsection of each section of CTB. An alternate mounting location is uniformly spaced at one end of each CTB. This will allow for attachment of a barrier grapple without damaging the reflector. The Barrier Reflector mounted on the side of the CTB shall be located directly below the reflector mounted on top of the barrier, as shown in the detail above.
4. Where CTB separates two-way traffic, three barrier reflectors shall be mounted on each section of CTB. The reflector unit on top shall have two yellow reflective faces (Bi-Directional)while the reflectors on each side of the barrier shall have one yellow reflective face, as shown in the detail above.
5. When CTB separates traffic traveling in the same direction, no barrier reflectors will be required on top of the CTB.
6. Barrier Reflector units shall be yellow or white in color to match the edgeline being supplemented.
7. Maximum spacing of Barrier Reflectors is forty (40) feet.
8. Pavement markers or temporary flexible-reflective roadway marker tabs shall NOT be used as CTB delineation.
9. Attachment of Barrier Reflectors to CTB shall be per manufacturer's recommendations.
10. Missing or damaged Barrier Reflectors shall be replaced as directed by the Engineer.
11. Single slope barriers shall be delineated as shown on the above detail.

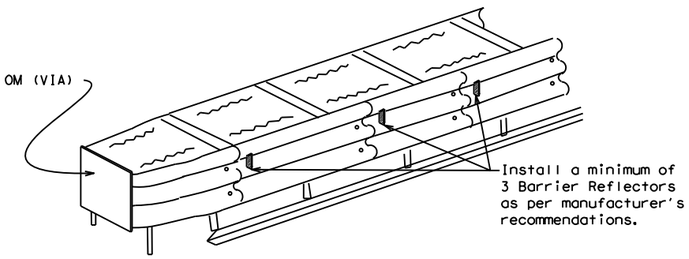


Max. spacing of barrier reflectors is 20 feet. Attach the delineators as per manufacturer's recommendations.

LOW PROFILE CONCRETE BARRIER (LPCB) USED IN WORK ZONES

LPCB is approved for use in work zone locations, where the posted speed is 45mph, or less. See Roadway Standard Sheet LPCB.

LOW PROFILE CONCRETE BARRIER (LPCB)

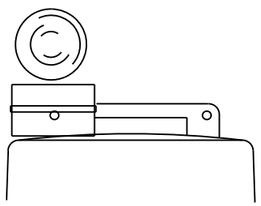


DELINEATION OF END TREATMENTS

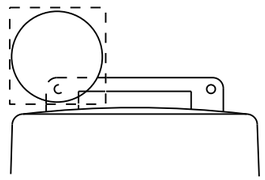
END TREATMENTS FOR CTB'S USED IN WORK ZONES

End treatments used on CTB's in work zones shall meet the apppropriate crashworthy standards as defined in the Manual for Assessing Safety Hardware (MASH). Refer to the CWZTCD List for approved end treatments and manufacturers.

BARRIER REFLECTORS FOR CONCRETE TRAFFIC BARRIER AND ATTENUATORS



Type C Warning Light or approved substitute mounted on a drum adjacent to the travel way.



Warning reflector may be round or square.Must have a yellow reflective surface area of at least 30 square inches

WARNING LIGHTS

1. Warning lights shall meet the requirements of the TMUTCD.
2. Warning lights shall NOT be installed on barricades.
3. Type A-Low Intensity Flashing Warning Lights are commonly used with drums. They are intended to warn of or mark a potentially hazardous area. Their use shall be as indicated on this sheet and/or other sheets of the plans by the designation "FL". The Type A Warning Lights shall not be used with signs manufactured with Type B_{FL} or C_{FL} Sheeting meeting the requirements of Departmental Material Specification DMS-8300.
4. Type-C and Type D 360 degree Steady Burn Lights are intended to be used in a series for delineation to supplement other traffic control devices. Their use shall be as indicated on this sheet and/or other sheets of the plans by the designation "SB".
5. The Engineer/Inspector or the plans shall specify the location and type of warning lights to be installed on the traffic control devices.
6. When required by the Engineer, the Contractor shall furnish a copy of the warning lights certification. The warning light manufacturer will certify the warning lights meet the requirements of the latest ITE Purchase Specifications for Flashing and Steady-Burn Warning Lights.
7. When used to delineate curves, Type-C and Type D Steady Burn Lights should only be placed on the outside of the curve, not the inside.
8. The location of warning lights and warning reflectors on drums shall be as shown elsewhere in the plans.

WARNING LIGHTS MOUNTED ON PLASTIC DRUMS

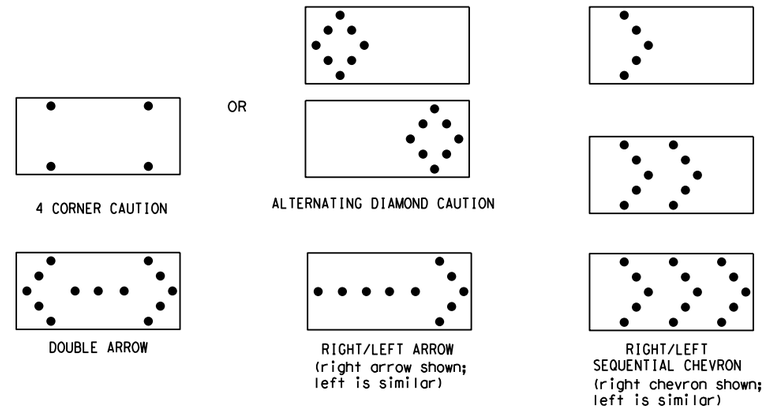
1. Type A flashing warning lights are intended to warn drivers that they are approaching or are in a potentially hazardous area.
2. Type A random flashing warning lights are not intended for delineation and shall not be used in a series.
3. A series of sequential flashing warning lights placed on channelizing devices to form a merging taper may be used for delineation. If used, the successive flashing of the sequential warning lights should occur from the beginning of the taper to the end of the merging taper in order to identify the desired vehicle path. The rate of flashing for each light shall be 65 flashes per minute, plus or minus 10 flashes.
4. Type C and D steady-burn warning lights are intended to be used in a series to delineate the edge of the travel lane on detours, on lane changes, on lane closures, and on other similar conditions.
5. Type A, Type C and Type D warning lights shall be installed at locations as detailed on other sheets in the plans.
6. Warning lights shall not be installed on a drum that has a sign, chevron or vertical panel.
7. The maximum spacing for warning lights on drums should be identical to the channelizing device spacing.

WARNING REFLECTORS MOUNTED ON PLASTIC DRUMS AS A SUBSTITUTE FOR TYPE C (STEADY BURN) WARNING LIGHTS

1. A warning reflector or approved substitute may be mounted on a plastic drum as a substitute for a Type C, steady burn warning light at the discretion of the Contractor unless otherwise noted in the plans.
2. The warning reflector shall be yellow in color and shall be manufactured using a sign substrate approved for use with plastic drums listed on the CWZTCD.
3. The warning reflector shall have a minimum retroreflective surface area (one-side) of 30 square inches.
4. Round reflectors shall be fully reflectorized, including the area where attached to the drum.
5. Square substrates must have a minimum of 30 square inches of reflectorized sheeting. They do not have to be reflectorized where it attaches to the drum.
6. The side of the warning reflector facing approaching traffic shall have sheeting meeting the color and retroreflectivity requirements for DMS 8300-Type B or Type C.
7. When used near two-way traffic, both sides of the warning reflector shall be reflectorized.
8. The warning reflector should be mounted on the side of the handle nearest approaching traffic.
9. The maximum spacing for warning reflectors should be identical to the channelizing device spacing requirements.

Arrow Boards may be located behind channelizing devices in place for a shoulder taper or merging taper, otherwise they shall be delineated with four (4) channelizing devices placed perpendicular to traffic on the upstream side of traffic.

1. The Flashing Arrow Board should be used for all lane closures on multi-lane roadways, or slow moving maintenance or construction activities on the travel lanes.
2. Flashing Arrow Boards should not be used on two-lane, two-way roadways, detours, diversions or work on shoulders unless the "CAUTION" display (see detail below) is used.
3. The Engineer/Inspector shall choose all appropriate signs, barricades and/or other traffic control devices that should be used in conjunction with the Flashing Arrow Board.
4. The Flashing Arrow Board should be able to display the following symbols:



5. The "CAUTION" display consists of four corner lamps flashing simultaneously, or the Alternating Diamond Caution mode as shown.
6. The straight line caution display is NOT ALLOWED.
7. The Flashing Arrow Board shall be capable of minimum 50 percent dimming from rated lamp voltage. The flashing rate of the lamps shall not be less than 25 nor more than 40 flashes per minute.
8. Minimum lamp "on time" shall be approximately 50 percent for the flashing arrow and equal intervals of 25 percent for each sequential phase of the flashing chevron.
9. The sequential arrow display is NOT ALLOWED.
10. The flashing arrow display is the TxDOT standard; however, the sequential chevron display may be used during daylight operations.
11. The Flashing Arrow Board shall be mounted on a vehicle, trailer or other suitable support.
12. A Flashing Arrow Board SHALL NOT BE USED to laterally shift traffic.
13. A full matrix PCMS may be used to simulate a Flashing Arrow Board provided it meets visibility, flash rate and dimming requirements on this sheet for the same size arrow.
14. Minimum mounting height of trailer mounted Arrow Boards should be 7 feet from roadway to bottom of panel.

REQUIREMENTS			
TYPE	MINIMUM SIZE	MINIMUM NUMBER OF PANEL LAMPS	MINIMUM VISIBILITY DISTANCE
B	30 x 60	13	3/4 mile
C	48 x 96	15	1 mile

ATTENTION

Flashing Arrow Boards shall be equipped with automatic dimming devices.

WHEN NOT IN USE, REMOVE THE ARROW BOARD FROM THE RIGHT-OF-WAY OR PLACE THE ARROW BOARD BEHIND CONCRETE TRAFFIC BARRIER OR GUARDRAIL.

FLASHING ARROW BOARDS

TRUCK-MOUNTED ATTENUATORS

1. Truck-mounted attenuators (TMA) used on TxDOT facilities must meet the requirements outlined in the Manual for Assessing Safety Hardware (MASH).
2. Refer to the CWZTCD for the requirements of Level 2 or Level 3 TMAs.
3. Refer to the CWZTCD for a list of approved TMAs.
4. TMAs are required on freeways unless otherwise noted in the plans.
5. A TMA should be used anytime that it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the work performance.
6. The only reason a TMA should not be required is when a work area is spread down the roadway and the work crew is an extended distance from the TMA.

Texas Department of Transportation — Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION ARROW PANEL, REFLECTORS, WARNING LIGHTS & ATTENUATOR

BC(7)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT November 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS	0918	11	110	VARIOUS
9-07 8-14	DIST	COUNTY		SHEET NO.
7-13 5-21	DAL	KAUFMAN, ETC		24

DATE:
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GENERAL NOTES

1. For long term stationary work zones on freeways, drums shall be used as the primary channelizing device.
2. For intermediate term stationary work zones on freeways, drums should be used as the primary channelizing device but may be replaced in tangent sections by vertical panels, or 42" two-piece cones. In tangent sections, one-piece cones may be used with the approval of the Engineer but only if personnel are present on the project at all times to maintain the cones in proper position and location.
3. For short term stationary work zones on freeways, drums are the preferred channelizing device but may be replaced in tapers, transitions and tangent sections by vertical panels, two-piece cones or one-piece cones as approved by the Engineer.
4. Drums and all related items shall comply with the requirements of the current version of the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD) and the "Compliant Work Zone Traffic Control Devices List" (CWZTCD).
5. Drums, bases, and related materials shall exhibit good workmanship and shall be free from objectionable marks or defects that would adversely affect their appearance or serviceability.
6. The Contractor shall have a maximum of 24 hours to replace any plastic drums identified for replacement by the Engineer/Inspector. The replacement device must be an approved device.

GENERAL DESIGN REQUIREMENTS

Pre-qualified plastic drums shall meet the following requirements:

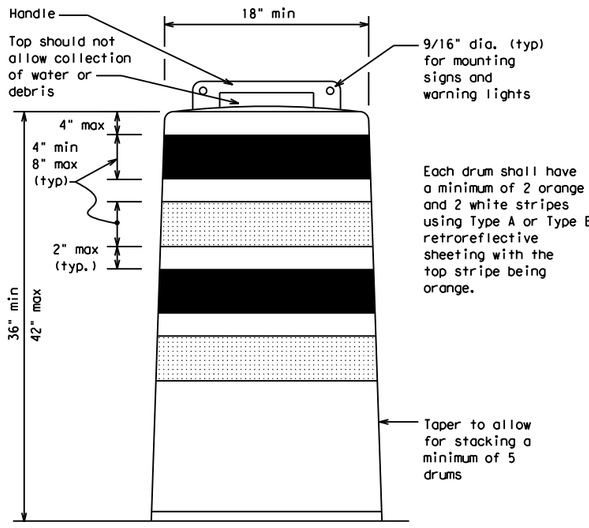
1. Plastic drums shall be a two-piece design; the "body" of the drum shall be the top portion and the "base" shall be the bottom.
2. The body and base shall lock together in such a manner that the body separates from the base when impacted by a vehicle traveling at a speed of 20 MPH or greater but prevents accidental separation due to normal handling and/or air turbulence created by passing vehicles.
3. Plastic drums shall be constructed of lightweight flexible, and deformable materials. The Contractor shall NOT use metal drums or single piece plastic drums as channelization devices or sign supports.
4. Drums shall present a profile that is a minimum of 18 inches in width at the 36 inch height when viewed from any direction. The height of drum unit (body installed on base) shall be a minimum of 36 inches and a maximum of 42 inches.
5. The top of the drum shall have a built-in handle for easy pickup and shall be designed to drain water and not collect debris. The handle shall have a minimum of two widely spaced 9/16 inch diameter holes to allow attachment of a warning light, warning reflector unit or approved compliant sign.
6. The exterior of the drum body shall have a minimum of four alternating orange and white retroreflective circumferential stripes not less than 4 inches nor greater than 8 inches in width. Any non-reflectorized space between any two adjacent stripes shall not exceed 2 inches in width.
7. Bases shall have a maximum width of 36 inches, a maximum height of 4 inches, and a minimum of two footholds of sufficient size to allow base to be held down while separating the drum body from the base.
8. Plastic drums shall be constructed of ultra-violet stabilized, orange, high-density polyethylene (HDPE) or other approved material.
9. Drum body shall have a maximum unballasted weight of 11 lbs.
10. Drum and base shall be marked with manufacturer's name and model number.

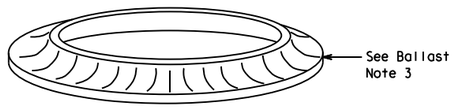
RETROREFLECTIVE SHEETING

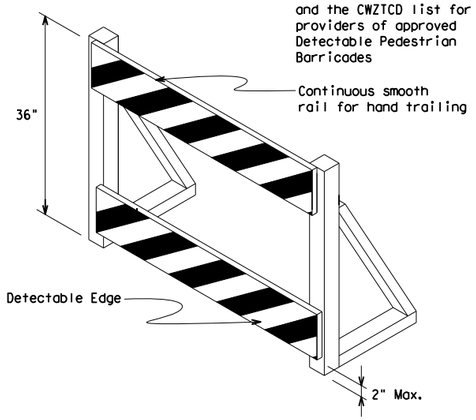
1. The stripes used on drums shall be constructed of sheeting meeting the color and retroreflectivity requirements of Departmental Materials Specification DMS-8300, "Sign Face Materials," Type A or Type B reflective sheeting shall be supplied unless otherwise specified in the plans.
2. The sheeting shall be suitable for use on and shall adhere to the drum surface such that, upon vehicular impact, the sheeting shall remain adhered in-place and exhibit no delaminating, cracking, or loss of retroreflectivity other than that loss due to abrasion of the sheeting surface.

BALLAST

1. Unballasted bases shall be large enough to hold up to 50 lbs. of sand. This base, when filled with the ballast material, should weigh between 35 lbs (minimum) and 50 lbs (maximum). The ballast may be sand in one to three sandbags separate from the base, sand in a sand-filled plastic base, or other ballasting devices as approved by the Engineer. Stacking of sandbags will be allowed, however height of sandbags above pavement surface may not exceed 12 inches.
2. Bases with built-in ballast shall weigh between 40 lbs. and 50 lbs. Built-in ballast can be constructed of an integral crumb rubber base or a solid rubber base.
3. Recycled truck tire sidewalls may be used for ballast on drums approved for this type of ballast on the CWZTCD list.
4. The ballast shall not be heavy objects, water, or any material that would become hazardous to motorists, pedestrians, or workers when the drum is struck by a vehicle.
5. When used in regions susceptible to freezing, drums shall have drainage holes in the bottoms so that water will not collect and freeze becoming a hazard when struck by a vehicle.
6. Ballast shall not be placed on top of drums.
7. Adhesives may be used to secure base of drums to pavement.

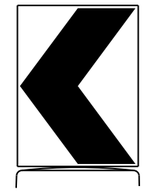




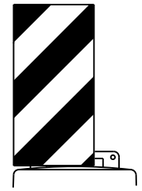


DETECTABLE PEDESTRIAN BARRICADES

1. When existing pedestrian facilities are disrupted, closed, or relocated in a TTC zone, the temporary facilities shall be detectable and include accessibility features consistent with the features present in the existing pedestrian facility. Refer to WZ(BTS-2) for Pedestrian Control requirements for Sidewalk Diversions, Sidewalk Detours and Crosswalk Closures.
2. Where pedestrians with visual disabilities normally use the closed sidewalk, a Detectable Pedestrian Barricade shall be placed across the full width of the closed sidewalk instead of a Type 3 Barricade.
3. Detectable pedestrian barricades similar to the one pictured above, longitudinal channelizing devices, some concrete barriers, and wood or chain link fencing with a continuous detectable edging can satisfactorily delineate a pedestrian path.
4. Tape, rope, or plastic chain strung between devices are not detectable, do not comply with the design standards in the "Americans with Disabilities Act Accessibility Guidelines (ADAAG)" and should not be used as a control for pedestrian movements.
5. Warning lights shall not be attached to detectable pedestrian barricades.
6. Detectable pedestrian barricades should use 8" nominal barricade rails as shown on BC(10) provided that the top rail provides a smooth continuous rail suitable for hand trailing with no splinters, burrs, or sharp edges.



18" x 24" Sign
(Maximum Sign Dimension)
Chevron CW1-8, Opposing Traffic Lane Divider, Driveway sign D70a, Keep Right R4 series or other signs as approved by Engineer



12" x 24"
Vertical Panel
mount with diagonals sloping down towards travel way

Plywood, Aluminum or Metal sign substrates shall NOT be used on plastic drums

SIGNS, CHEVRONS, AND VERTICAL PANELS MOUNTED ON PLASTIC DRUMS

1. Signs used on plastic drums shall be manufactured using substrates listed on the CWZTCD.
2. Chevrons and other work zone signs with an orange background shall be manufactured with Type B_{FL} or Type C_{FL} Orange sheeting meeting the color and retroreflectivity requirements of DMS-8300, "Sign Face Material," unless otherwise specified in the plans.
3. Vertical Panels shall be manufactured with orange and white sheeting meeting the requirements of DMS-8300 Type A or Type B. Diagonal stripes on Vertical Panels shall slope down toward the intended traveled lane.
4. Other sign messages (text or symbolic) may be used as approved by the Engineer. Sign dimensions shall not exceed 18 inches in width or 24 inches in height, except for the R9 series signs discussed in note 8 below.
5. Signs shall be installed using a 1/2 inch bolt (nominal) and nut, two washers, and one locking washer for each connection.
6. Mounting bolts and nuts shall be fully engaged and adequately torqued. Bolts should not extend more than 1/2 inch beyond nuts.
7. Chevrons may be placed on drums on the outside of curves, on merging tapers or on shifting tapers. When used in these locations, they may be placed on every drum or spaced not more than on every third drum. A minimum of three (3) should be used at each location called for in the plans.
8. R9-9, R9-10, R9-11 and R9-11a Sidewalk Closed signs which are 24 inches wide may be mounted on plastic drums, with approval of the Engineer.

Texas Department of Transportation

Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES

BC(8)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT November 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS	0918	11	110	VARIOUS
4-03 8-14	DIST	COUNTY		SHEET NO.
9-07 5-21	DAL	KAUFMAN, ETC		25
7-13				

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DATE:
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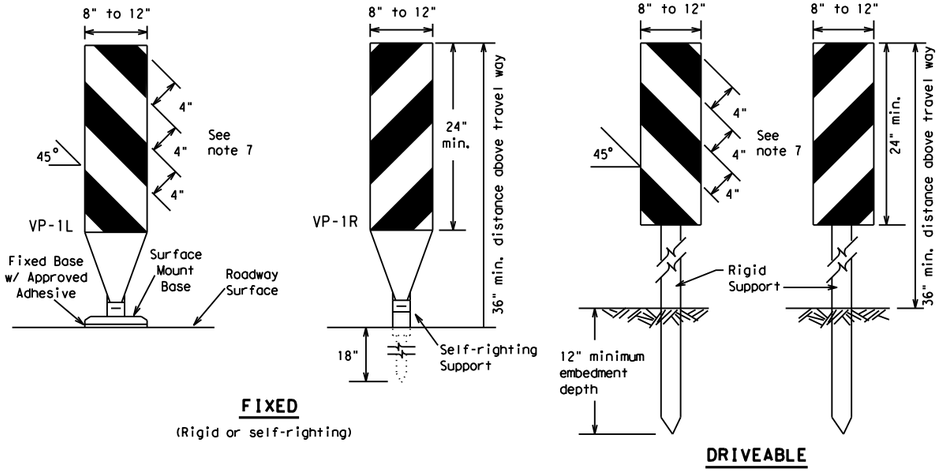


FIXED
(Rigid or self-righting)

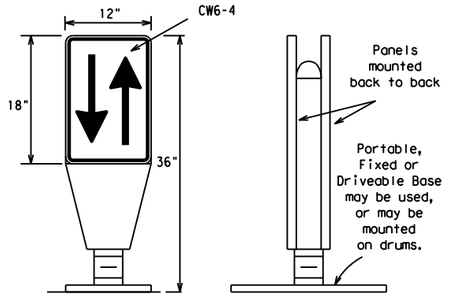
DRIVEABLE

(Rigid or self-righting)

PORTABLE

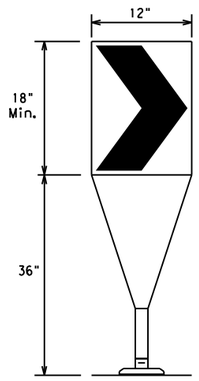
VERTICAL PANELS (VPs)

1. Vertical Panels (VP's) are normally used to channelize traffic or divide opposing lanes of traffic.
2. VP's may be used in daytime or nighttime situations. They may be used at the edge of shoulder drop-offs and other areas such as lane transitions where positive daytime and nighttime delineation is required. The Engineer/Inspector shall refer to the Roadway Design Manual for additional requirements on the use VP's for drop-offs.
3. VP's should be mounted back to back if used at the edge of cuts adjacent to two-way two lane roadways. Stripes are to be reflective orange and reflective white and should always slope downward toward the travel lane.
4. VP's used on expressways and freeways or other high speed roadways, may have more than 270 square inches of retroreflective area facing traffic.
5. Self-righting supports are available with portable base. See "Compliant Work Zone Traffic Control Devices List" (CWZTCD).
6. Sheeting for the VP's shall be retroreflective Type A or Type B conforming to Departmental Material Specification DMS-8300, unless noted otherwise.
7. Where the height of reflective material on the vertical panel is 36 inches or greater, a panel stripe of 6 inches shall be used.



1. Opposing Traffic Lane Dividers (OTLD) are delineation devices designed to convert a normal one-way roadway section to two-way operation. OTLD's are used on temporary centerlines. The upward and downward arrows on the sign's face indicate the direction of traffic on either side of the divider. The base is secured to the pavement with an adhesive or rubber weight to minimize movement caused by a vehicle impact or wind gust.
2. The OTLD may be used in combination with 42" cones or VPs.
3. Spacing between the OTLD shall not exceed 500 feet. 42" cones or VPs placed between the OTLD's should not exceed 100 foot spacing.
4. The OTLD shall be orange with a black non-reflective legend. Sheeting for the OTLD shall be retroreflective Type B_{FL} or Type C_{FL} conforming to Departmental Material Specification DMS-8300, unless noted otherwise. The legend shall meet the requirements of DMS-8300.

OPPOSING TRAFFIC LANE DIVIDERS (OTLD)



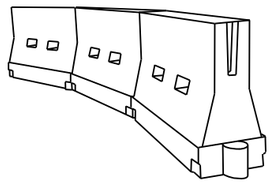
Fixed Base w/ Approved Adhesive (Driveable Base, or Flexible Support can be used)

1. The chevron shall be a vertical rectangle with a minimum size of 12 by 18 inches.
2. Chevrons are intended to give notice of a sharp change of alignment with the direction of travel and provide additional emphasis and guidance for vehicle operators with regard to changes in horizontal alignment of the roadway.
3. Chevrons, when used, shall be erected on the outside of a sharp curve or turn, or on the far side of an intersection. They shall be in line with and at right angles to approaching traffic. Spacing should be such that the motorist always has three in view, until the change in alignment eliminates its need.
4. To be effective, the chevron should be visible for at least 500 feet.
5. Chevrons shall be orange with a black nonreflective legend. Sheeting for the chevron shall be retroreflective Type B_{FL} or Type C_{FL} conforming to Departmental Material Specification DMS-8300, unless noted otherwise. The legend shall meet the requirements of DMS-8300.
6. For Long Term Stationary use on tapers or transitions on freeways and divided highways, self-righting chevrons may be used to supplement plastic drums but not to replace plastic drums.

CHEVRONS

GENERAL NOTES

1. Work Zone channelizing devices illustrated on this sheet may be installed in close proximity to traffic and are suitable for use on high or low speed roadways. The Engineer/Inspector shall ensure that spacing and placement is uniform and in accordance with the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD).
2. Channelizing devices shown on this sheet may have a driveable, fixed or portable base. The requirement for self-righting channelizing devices must be specified in the General Notes or other plan sheets.
3. Channelizing devices on self-righting supports should be used in work zone areas where channelizing devices are frequently impacted by errant vehicles or vehicle related wind gusts making alignment of the channelizing devices difficult to maintain. Locations of these devices shall be detailed elsewhere in the plans. These devices shall conform to the TMUTCD and the "Compliant Work Zone Traffic Control Devices List" (CWZTCD).
4. The Contractor shall maintain devices in a clean condition and replace damaged, nonreflective, faded, or broken devices and bases as required by the Engineer/Inspector. The Contractor shall be required to maintain proper device spacing and alignment.
5. Portable bases shall be fabricated from virgin and/or recycled rubber. The portable bases shall weigh a minimum of 30 lbs.
6. Pavement surfaces shall be prepared in a manner that ensures proper bonding between the adhesives, the fixed mount bases and the pavement surface. Adhesives shall be prepared and applied according to the manufacturer's recommendations.
7. The installation and removal of channelizing devices shall not cause detrimental effects to the final pavement surfaces, including pavement surface discoloration or surface integrity. Driveable bases shall not be permitted on final pavement surfaces. The Engineer/Inspector shall approve all application and removal procedures of fixed bases.



LONGITUDINAL CHANNELIZING DEVICES (LCD)

1. LCDs are crashworthy, lightweight, deformable devices that are highly visible, have good target value and can be connected together. They are not designed to contain or redirect a vehicle on impact.
2. LCDs may be used instead of a line of cones or drums.
3. LCDs shall be placed in accordance to application and installation requirements specific to the device, and used only when shown on the CWZTCD list.
4. LCDs should not be used to provide positive protection for obstacles, pedestrians or workers.
5. LCDs shall be supplemented with retroreflective delineation as required for temporary barriers on BC(7) when placed roughly parallel to the travel lanes.
6. LCDs used as barricades placed perpendicular to traffic should have at least one row of reflective sheeting meeting the requirements for barricade rails as shown on BC(10). Place reflective sheeting near the top of the LCD along the full length of the device.

WATER BALLASTED SYSTEMS USED AS BARRIERS

1. Water ballasted systems used as barriers shall not be used solely to channelize road users, but also to protect the work space per the appropriate Manual for Assessing Safety Hardware (MASH) crashworthiness requirements based on roadway speed and barrier application.
2. Water ballasted systems used to channelize vehicular traffic shall be supplemented with retroreflective delineation or channelizing devices to improve daytime/nighttime visibility. They may also be supplemented with pavement markings.
3. Water ballasted systems used as barriers shall be placed in accordance to application and installation requirements specific to the device, and used only when shown on the CWZTCD list.
4. Water ballasted systems used as barriers should not be used for a merging taper except in low speed (less than 45 MPH) urban areas. When used on a taper in a low speed urban area, the taper shall be delineated and the taper length should be designed to optimize road user operations considering the available geometric conditions.
5. When water ballasted systems used as barriers have blunt ends exposed to traffic, they should be attenuated as per manufacturer recommendations or flared to a point outside the clear zone.

If used to channelize pedestrians, longitudinal channelizing devices or water ballasted systems must have a continuous detectable bottom for users of long canes and the top of the unit shall not be less than 32 inches in height.

HOLLOW OR WATER BALLASTED SYSTEMS USED AS LONGITUDINAL CHANNELIZING DEVICES OR BARRIERS

Posted Speed	Formula	Minimum Desirable Taper Lengths ** 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices: On a Taper	On a Tangent
30	$L = \frac{WS^2}{60}$	150'	165'	180'	30'	60'
35		205'	225'	245'	35'	70'
40		265'	295'	320'	40'	80'
45	L = WS	450'	495'	540'	45'	90'
50		500'	550'	600'	50'	100'
55		550'	605'	660'	55'	110'
60		600'	660'	720'	60'	120'
65		650'	715'	780'	65'	130'
70		700'	770'	840'	70'	140'
75		750'	825'	900'	75'	150'
80		800'	880'	960'	80'	160'

** Taper lengths have been rounded off.
L=Length of Taper (FT.) W=Width of Offset (FT.)
S=Posted Speed (MPH)

SUGGESTED MAXIMUM SPACING OF CHANNELIZING DEVICES AND MINIMUM DESIRABLE TAPER LENGTHS

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Texas Department of Transportation | Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES

BC(9)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
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REVISIONS	0918	11	110	VARIOUS
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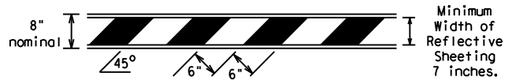
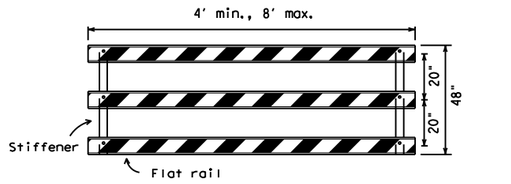
TYPE 3 BARRICADES

1. Refer to the Compliant Work Zone Traffic Control Devices List (CWZTCD) for details of the Type 3 Barricades and a list of all materials used in the construction of Type 3 Barricades.
2. Type 3 Barricades shall be used at each end of construction projects closed to all traffic.
3. Barricades extending across a roadway should have stripes that slope downward in the direction toward which traffic must turn in detouring. When both right and left turns are provided, the chevron striping may slope downward in both directions from the center of the barricade. Where no turns are provided at a closed road, striping should slope downward in both directions toward the center of roadway.
4. Striping of rails, for the right side of the roadway, should slope downward to the left. For the left side of the roadway, striping should slope downward to the right.
5. Identification markings may be shown only on the back of the barricade rails. The maximum height of letters and/or company logos used for identification shall be 1".
6. Barricades shall not be placed parallel to traffic unless an adequate clear zone is provided.
7. Warning lights shall NOT be installed on barricades.
8. Where barricades require the use of weights to keep from turning over, the use of sandbags with dry, cohesionless sand is recommended. The sandbags will be tied shut to keep the sand from spilling and to maintain a constant weight. Sand bags shall not be stacked in a manner that covers any portion of a barricade rails reflective sheeting. Rock, concrete, iron, steel or other solid objects will NOT be permitted. Sandbags should weigh a minimum of 35 lbs and a maximum of 50 lbs. Sandbags shall be made of a durable material that tears upon vehicular impact. Rubber (such as tire inner tubes) shall not be used for sandbags. Sandbags shall only be placed along or upon the base supports of the device and shall not be suspended above ground level or hung with rope, wire, chains or other fasteners.
9. Sheeting for barricades shall be retroreflective Type A or Type B conforming to Departmental Material Specification DMS-8300 unless otherwise noted.

Barricades shall NOT be used as a sign support.



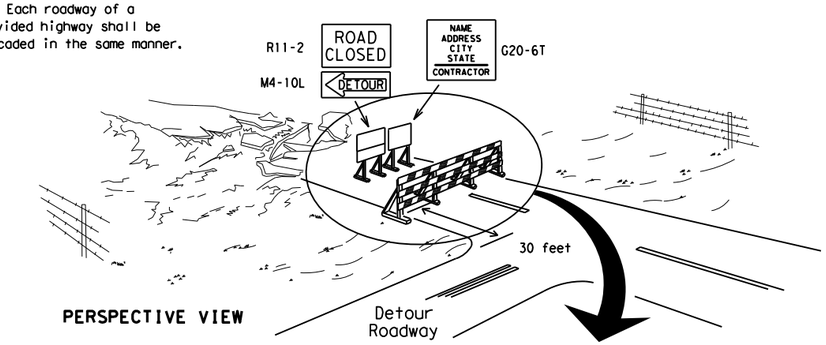
TYPICAL STRIPING DETAIL FOR BARRICADE RAIL



Stiffener may be inside or outside of support, but no more than 2 stiffeners shall be allowed on one barricade.

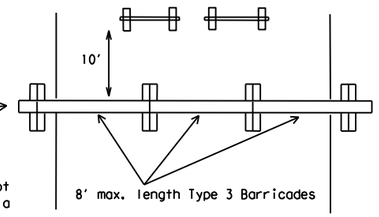
TYPICAL PANEL DETAIL FOR SKID OR POST TYPE BARRICADES

Each roadway of a divided highway shall be barricaded in the same manner.



PERSPECTIVE VIEW

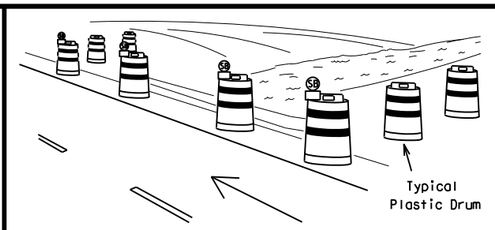
The three rails on Type 3 barricades shall be reflectorized orange and reflective white stripes on one side facing one-way traffic and both sides for two-way traffic.
Barricade striping should slant downward in the direction of detour.



PLAN VIEW

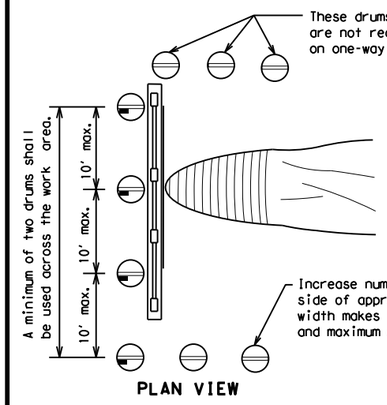
1. Signs should be mounted on independent supports at a 7 foot mounting height in center of roadway. The signs should be a minimum of 10 feet behind Type 3 Barricades.
2. Advance signing shall be as specified elsewhere in the plans.

TYPE 3 BARRICADE (POST AND SKID) TYPICAL APPLICATION



PERSPECTIVE VIEW

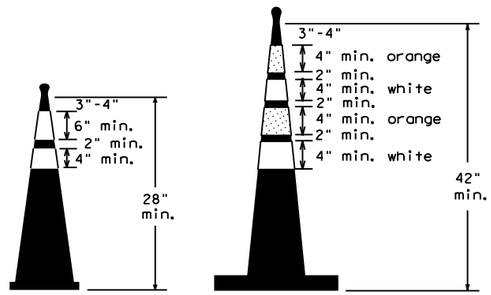
1. Where positive redirectional capability is provided, drums may be omitted.
2. Plastic construction fencing may be used with drums for safety as required in the plans.
3. Vertical Panels on flexible support may be substituted for drums when the shoulder width is less than 4 feet.
4. When the shoulder width is greater than 12 feet, steady-burn lights may be omitted if drums are used.
5. Drums must extend the length of the culvert widening.



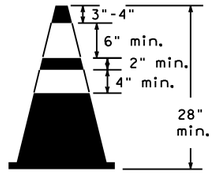
LEGEND	
	Plastic drum
	Plastic drum with steady burn light or yellow warning reflector
SB	Steady burn warning light or yellow warning reflector

PLAN VIEW

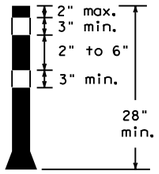
CULVERT WIDENING OR OTHER ISOLATED WORK WITHIN THE PROJECT LIMITS



Two-Piece cones



One-Piece cones

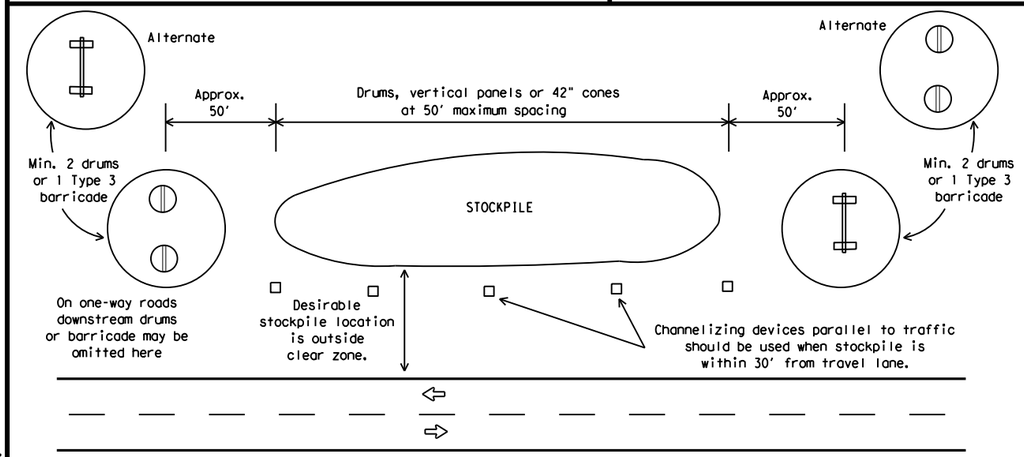


Tubular Marker

28" Cones shall have a minimum weight of 9 1/2 lbs.

42" 2-piece cones shall have a minimum weight of 30 lbs. including base.

1. Traffic cones and tubular markers shall be predominantly orange, and meet the height and weight requirements shown above.
2. One-piece cones have the body and base of the cone molded in one consolidated unit. Two-piece cones have a cone shaped body and a separate rubber base, or ballast, that is added to keep the device upright and in place.
3. Two-piece cones may have a handle or loop extending up to 8" above the minimum height shown, in order to aid in retrieving the device.
4. Cones or tubular markers shall have white or white and orange reflective bands as shown above. The reflective bands shall have a smooth, sealed outer surface and meet the requirements of Departmental Material Specification DMS-8300 Type A or Type B.
5. 28" cones and tubular markers are generally suitable for short duration and short-term stationary work as defined on BC(4). These should not be used for intermediate-term or long-term stationary work unless personnel is on-site to maintain them in their proper upright position.
6. 42" two-piece cones, vertical panels or drums are suitable for all work zone durations.
7. Cones or tubular markers used on each project should be of the same size and shape.



TRAFFIC CONTROL FOR MATERIAL STOCKPILES

SHEET 10 OF 12

Texas Department of Transportation

Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES

BC(10)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
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WORK ZONE PAVEMENT MARKINGS

GENERAL

1. The Contractor shall be responsible for maintaining work zone and existing pavement markings, in accordance with the standard specifications and special provisions, on all roadways open to traffic within the CSJ limits unless otherwise stated in the plans.
2. Color, patterns and dimensions shall be in conformance with the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD).
3. Additional supplemental pavement marking details may be found in the plans or specifications.
4. Pavement markings shall be installed in accordance with the TMUTCD and as shown on the plans.
5. When short term markings are required on the plans, short term markings shall conform with the TMUTCD, the plans and details as shown on the Standard Plan Sheet WZ(STPM).
6. When standard pavement markings are not in place and the roadway is opened to traffic, DO NOT PASS signs shall be erected to mark the beginning of the sections where passing is prohibited and PASS WITH CARE signs at the beginning of sections where passing is permitted.
7. All work zone pavement markings shall be installed in accordance with Item 662, "Work Zone Pavement Markings."

RAISED PAVEMENT MARKERS

1. Raised pavement markers are to be placed according to the patterns on BC(12).
2. All raised pavement markers used for work zone markings shall meet the requirements of Item 672, "RAISED PAVEMENT MARKERS" and Departmental Material Specification DMS-4200 or DMS-4300.

PREFABRICATED PAVEMENT MARKINGS

1. Removable prefabricated pavement markings shall meet the requirements of DMS-8241.
2. Non-removable prefabricated pavement markings (foil back) shall meet the requirements of DMS-8240.

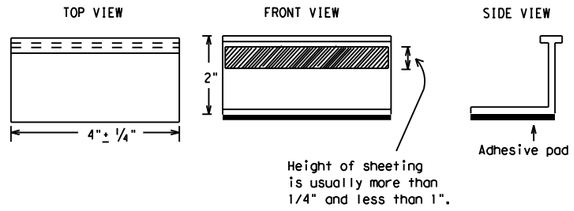
MAINTAINING WORK ZONE PAVEMENT MARKINGS

1. The Contractor will be responsible for maintaining work zone pavement markings within the work limits.
2. Work zone pavement markings shall be inspected in accordance with the frequency and reporting requirements of work zone traffic control device inspections as required by Form 599.
3. The markings should provide a visible reference for a minimum distance of 300 feet during normal daylight hours and 160 feet when illuminated by automobile low-beam headlights at night, unless sight distance is restricted by roadway geometrics.
4. Markings failing to meet this criteria within the first 30 days after placement shall be replaced at the expense of the Contractor as per Specification Item 662.

REMOVAL OF PAVEMENT MARKINGS

1. Pavement markings that are no longer applicable, could create confusion or direct a motorist toward or into the closed portion of the roadway shall be removed or obliterated before the roadway is opened to traffic.
2. The above shall not apply to detours in place for less than three days, where flaggers and/or sufficient channelizing devices are used in lieu of markings to outline the detour route.
3. Pavement markings shall be removed to the fullest extent possible, so as not to leave a discernable marking. This shall be by any method approved by TxDOT Specification Item 677 for "Eliminating Existing Pavement Markings and Markers".
4. The removal of pavement markings may require resurfacing or seal coating portions of the roadway as described in Item 677.
5. Subject to the approval of the Engineer, any method that proves to be successful on a particular type pavement may be used.
6. Blast cleaning may be used but will not be required unless specifically shown in the plans.
7. Over-painting of the markings SHALL NOT BE permitted.
8. Removal of raised pavement markers shall be as directed by the Engineer.
9. Removal of existing pavement markings and markers will be paid for directly in accordance with Item 677, "ELIMINATING EXISTING PAVEMENT MARKINGS AND MARKERS," unless otherwise stated in the plans.
10. Black-out marking tape may be used to cover conflicting existing markings for periods less than two weeks when approved by the Engineer.

Temporary Flexible-Reflective Roadway Marker Tabs



STAPLES OR NAILS SHALL NOT BE USED TO SECURE TEMPORARY FLEXIBLE-REFLECTIVE ROADWAY MARKER TABS TO THE PAVEMENT SURFACE

1. Temporary flexible-reflective roadway marker tabs used as guidemarks shall meet the requirements of DMS-8242.
2. Tabs detailed on this sheet are to be inspected and accepted by the Engineer or designated representative. Sampling and testing is not normally required, however at the option of the Engineer, either "A" or "B" below may be imposed to assure quality before placement on the roadway.
   A. Select five (5) or more tabs at random from each lot or shipment and submit to the Construction Division, Materials and Pavement Section to determine specification compliance.
   B. Select five (5) tabs and perform the following test. Affix five (5) tabs at 24 inch intervals on an asphaltic pavement in a straight line. Using a medium size passenger vehicle or pickup, run over the markers with the front and rear tires at a speed of 35 to 40 miles per hour, four (4) times in each direction. No more than one (1) out of the five (5) reflective surfaces shall be lost or displaced as a result of this test.
3. Small design variances may be noted between tab manufacturers.
4. See Standard Sheet WZ(STPM) for tab placement on new pavements. See Standard Sheet TCP(7-1) for tab placement on seal coat work.

RAISED PAVEMENT MARKERS USED AS GUIDEMARKS

1. Raised pavement markers used as guidemarks shall be from the approved product list, and meet the requirements of DMS-4200.
2. All temporary construction raised pavement markers provided on a project shall be of the same manufacturer.
3. Adhesive for guidemarks shall be bituminous material hot applied or butyl rubber pad for all surfaces, or thermoplastic for concrete surfaces.

Guidemarks shall be designated as:
YELLOW - (two amber reflective surfaces with yellow body).
WHITE - (one silver reflective surface with white body).

DEPARTMENTAL MATERIAL SPECIFICATIONS	
PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
TRAFFIC BUTTONS	DMS-4300
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240
TEMPORARY REMOVABLE, PREFABRICATED PAVEMENT MARKINGS	DMS-8241
TEMPORARY FLEXIBLE, REFLECTIVE ROADWAY MARKER TABS	DMS-8242

A list of prequalified reflective raised pavement markers, non-reflective traffic buttons, roadway marker tabs and other pavement markings can be found at the Material Producer List web address shown on BC(1).

Texas Department of Transportation

Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION PAVEMENT MARKINGS

BC(11)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
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2-98 9-07 5-21	DIST	COUNTY		SHEET NO.
1-02 7-13	DAL	KAUFMAN, ETC		28
11-02 8-14				

DATE:
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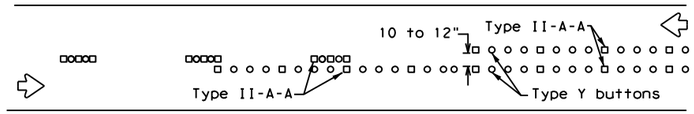
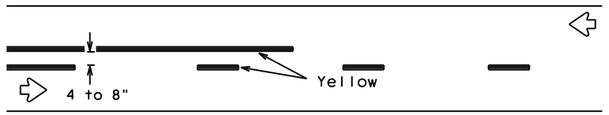
PAVEMENT MARKING PATTERNS

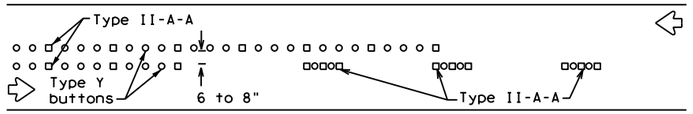
REFLECTORIZED PAVEMENT MARKINGS - PATTERN A



RAISED PAVEMENT MARKERS - PATTERN A



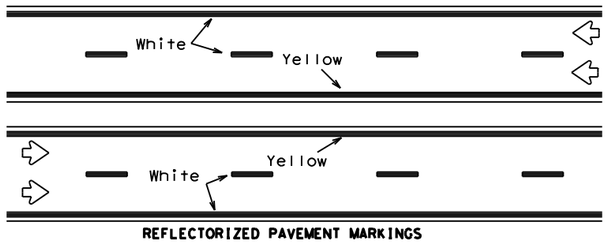
REFLECTORIZED PAVEMENT MARKINGS - PATTERN B



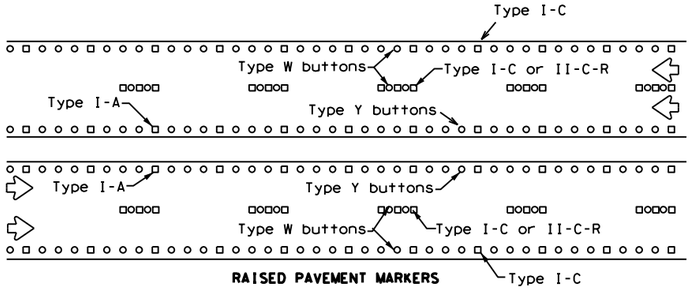
RAISED PAVEMENT MARKERS - PATTERN B

Pattern A is the TXDOT Standard, however Pattern B may be used if approved by the Engineer.
Prefabricated markings may be substituted for reflectorized pavement markings.

CENTER LINE & NO-PASSING ZONE BARRIER LINES FOR TWO-LANE, TWO-WAY HIGHWAYS



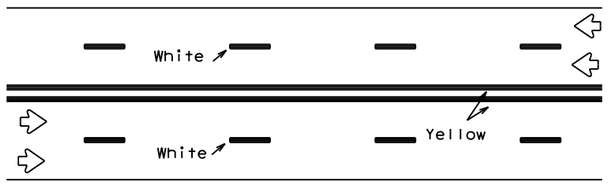
REFLECTORIZED PAVEMENT MARKINGS



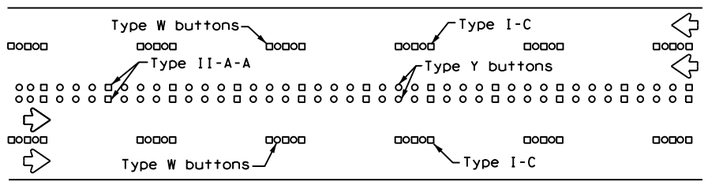
RAISED PAVEMENT MARKERS

Prefabricated markings may be substituted for reflectorized pavement markings.

EDGE & LANE LINES FOR DIVIDED HIGHWAY



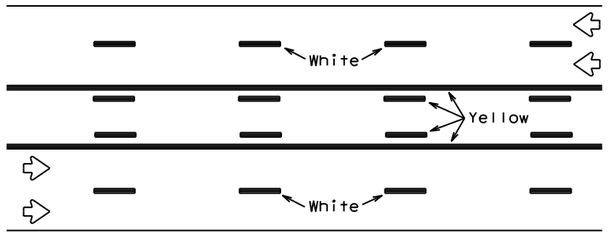
REFLECTORIZED PAVEMENT MARKINGS



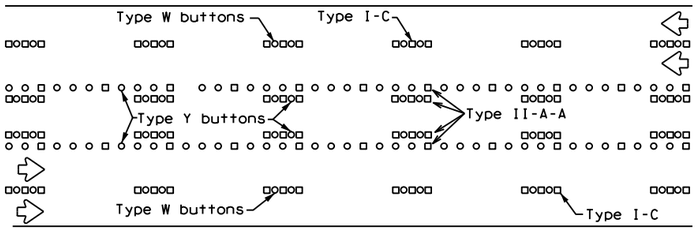
RAISED PAVEMENT MARKERS

Prefabricated markings may be substituted for reflectorized pavement markings.

LANE & CENTER LINES FOR MULTILANE UNDIVIDED HIGHWAYS



REFLECTORIZED PAVEMENT MARKINGS



RAISED PAVEMENT MARKERS

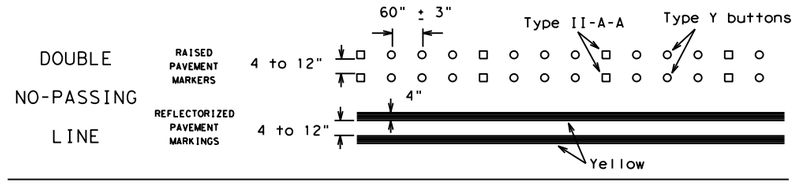
Prefabricated markings may be substituted for reflectorized pavement markings.

TWO-WAY LEFT TURN LANE

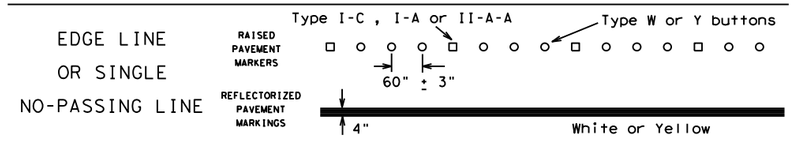
STANDARD WORK ZONE PAVEMENT MARKINGS DETAILS

SOLID LINES

DOUBLE NO-PASSING LINE

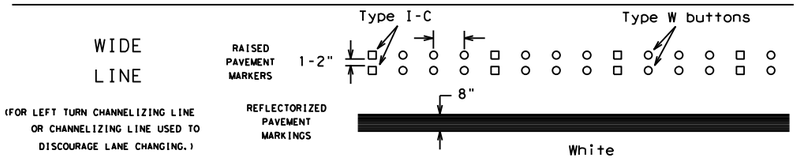


EDGE LINE OR SINGLE NO-PASSING LINE



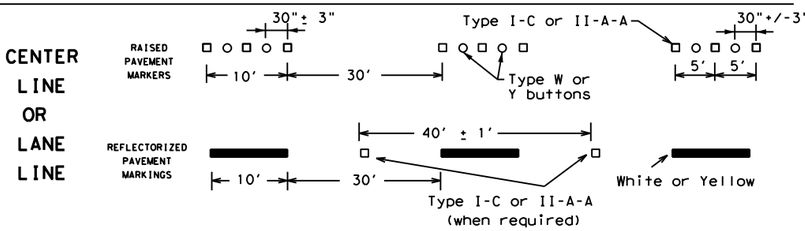
WIDE LINE

(FOR LEFT TURN CHANNELIZING LINE OR CHANNELIZING LINE USED TO DISCOURAGE LANE CHANGING.)

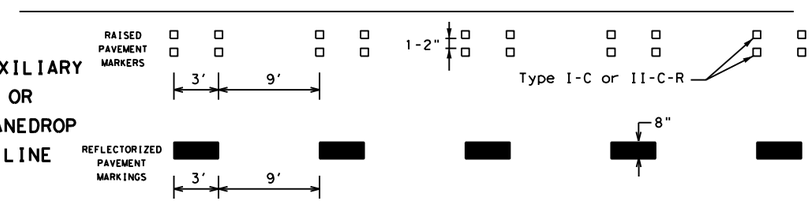


BROKEN LINES

CENTER LINE OR LANE LINE

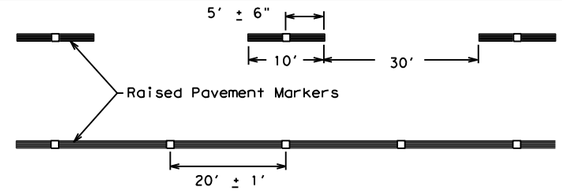


AUXILIARY OR LANEDROP LINE



REMOVABLE MARKINGS WITH RAISED PAVEMENT MARKERS

If raised pavement markers are used to supplement REMOVABLE markings, the markers shall be applied to the top of the tape at the approximate mid length of tape used for broken lines or at 20 foot spacing for solid lines. This allows an easier removal of raised pavement markers and tape.



Centerline only - not to be used on edge lines

Raised pavement markers used as standard pavement markings shall be from the approved products list and meet the requirements of Item 672 "RAISED PAVEMENT MARKERS."

SHEET 12 OF 12

Texas Department of Transportation

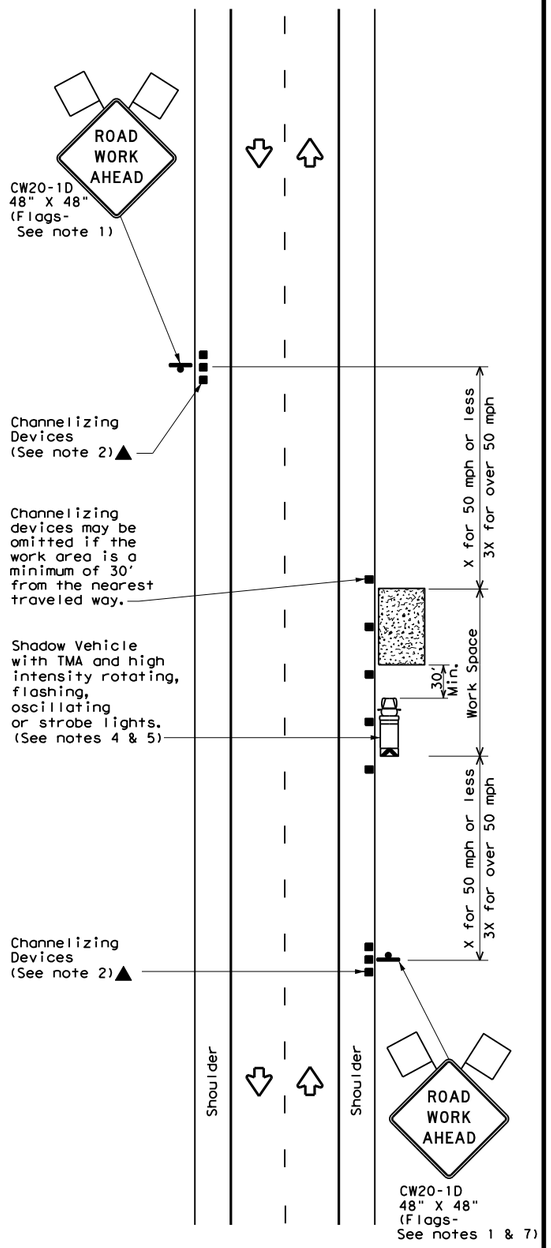
Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION PAVEMENT MARKING PATTERNS

BC(12)-21

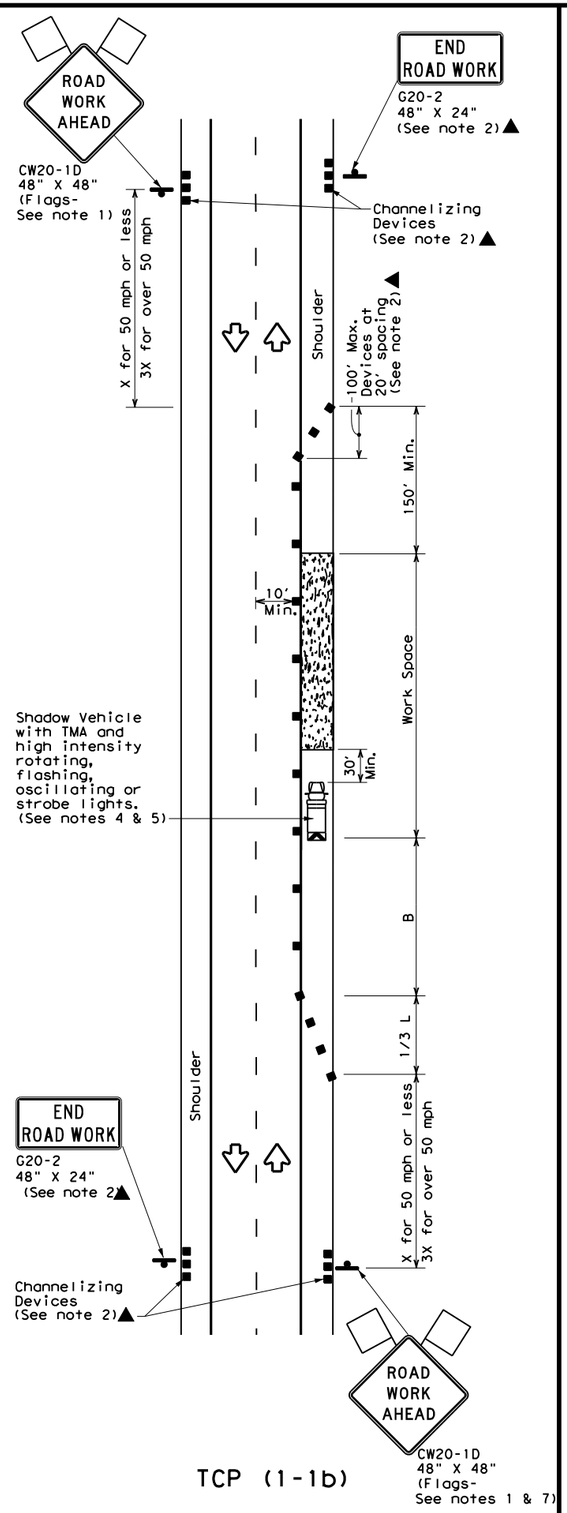
FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT February 1998	CONT	SECT	JOB	HIGHWAY
REVISIONS 1-97 9-07 5-21 2-98 7-13 11-02 8-14	0918	11	110	VARIOUS
	DIST	COUNTY		SHEET NO.
	DAL	KAUFMAN, ETC		29

DATE:
FILE:



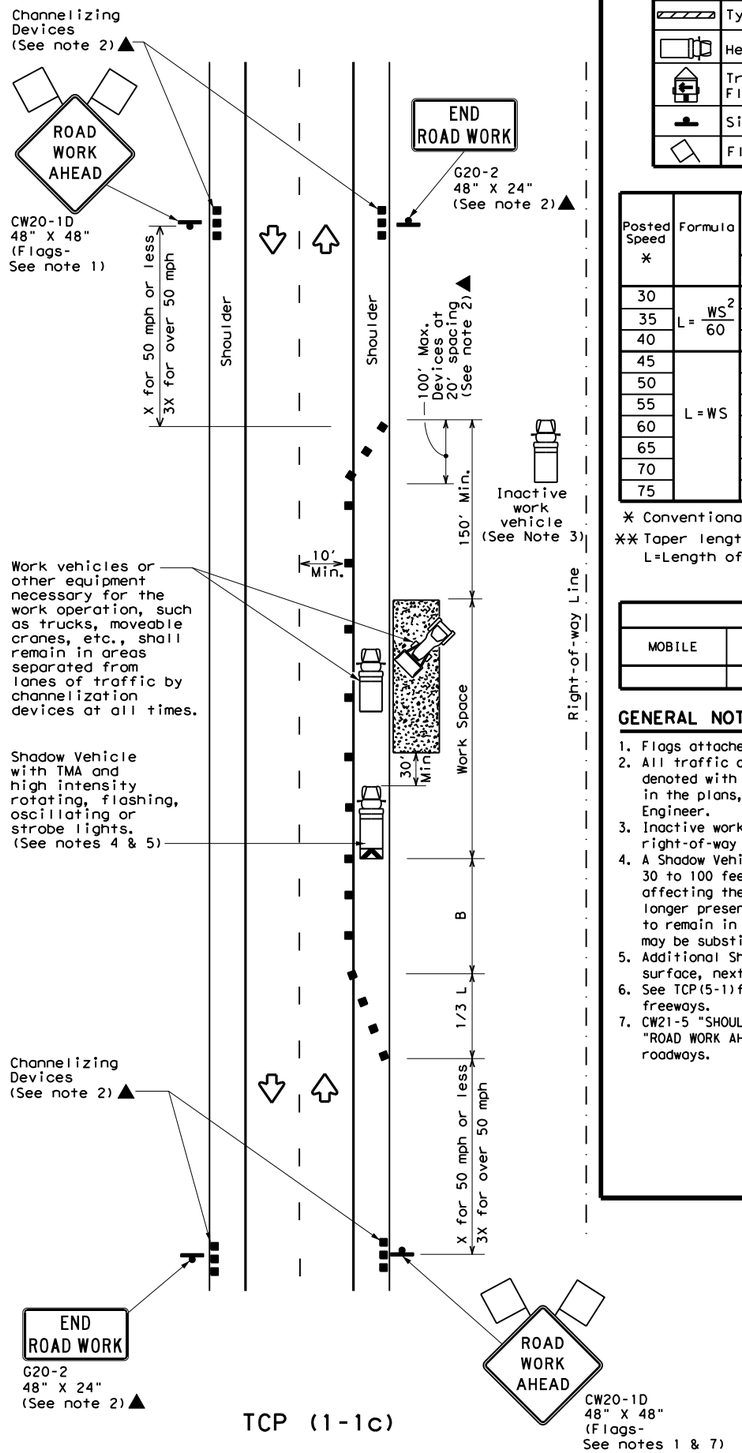
TCP (1-1a)

WORK SPACE NEAR SHOULDER
Conventional Roads



TCP (1-1b)

WORK SPACE ON SHOULDER
Conventional Roads



TCP (1-1c)

WORK VEHICLES ON SHOULDER
Conventional Roads

LEGEND			
	Type 3 Barricade		Channelizing Devices
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Trailer Mounted Flashing Arrow Board	M	Portable Changeable Message Sign (PCMS)
	Sign		Traffic Flow
	Flag		Flagger

Posted Speed *	Formula	Minimum Desirable Taper Lengths ** 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices On a Taper	On a Tangent	Minimum Sign Spacing "X" Distance	Suggested Longitudinal Buffer Space "B"
30	$L=\frac{WS^2}{60}$	150'	165'	180'	30'	60'	120'	90'
35		205'	225'	245'	35'	70'	160'	120'
40		265'	295'	320'	40'	80'	240'	155'
45	L=WS	450'	495'	540'	45'	90'	320'	195'
50		500'	550'	600'	50'	100'	400'	240'
55		550'	605'	660'	55'	110'	500'	295'
60		600'	660'	720'	60'	120'	600'	350'
65		650'	715'	780'	65'	130'	700'	410'
70		700'	770'	840'	70'	140'	800'	475'
75		750'	825'	900'	75'	150'	900'	540'

* Conventional Roads Only

** Taper lengths have been rounded off.
L=Length of Taper(FT) W=Width of Offset(FT) S=Posted Speed(MPH)

TYPICAL USAGE				
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
	✓	✓		

GENERAL NOTES

1. Flags attached to signs where shown are REQUIRED.
2. All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work, when approved by the Engineer.
3. Inactive work vehicles or other equipment should be parked near the right-of-way line and not parked on the paved shoulder.
4. A Shadow Vehicle with a TMA should be used anytime it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require the traffic control to remain in place, Type 3 Barricades or other channelizing devices may be substituted for the Shadow Vehicle and TMA.
5. Additional Shadow Vehicles with TMAs may be positioned off the paved surface, next to those shown in order to protect wider work spaces.
6. See TCP(5-1)for shoulder work on divided highways, expressways and freeways.
7. CW21-5 "SHOULDER WORK" signs may be used in place of CW20-1D "ROAD WORK AHEAD" signs for shoulder work on conventional roadways.

Texas Department of Transportation

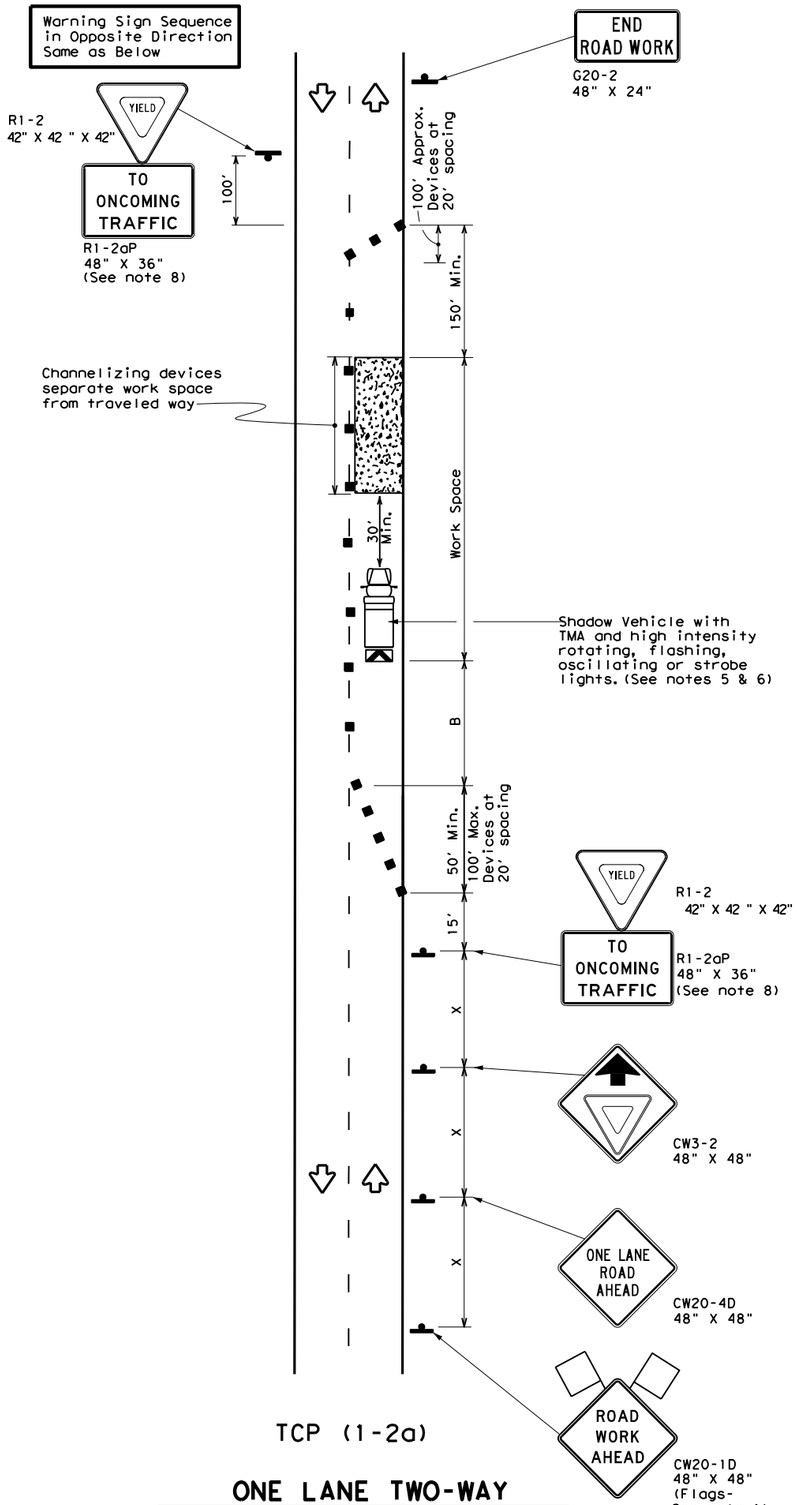
Traffic Operations Division Standard

TRAFFIC CONTROL PLAN CONVENTIONAL ROAD SHOULDER WORK

TCP(1-1)-18

FILE: tcp1-1-18.dgn	DN:	CK:	DW:	CK:
© TxDOT December 1985	CONT	SECT	JOB	HIGHWAY
REVISIONS	0918	11	110	VARIOUS
2-94 4-98	DIST	COUNTY		SHEET NO.
8-95 2-12				
1-97 2-18	DAL	KAUFMAN, ETC 30		

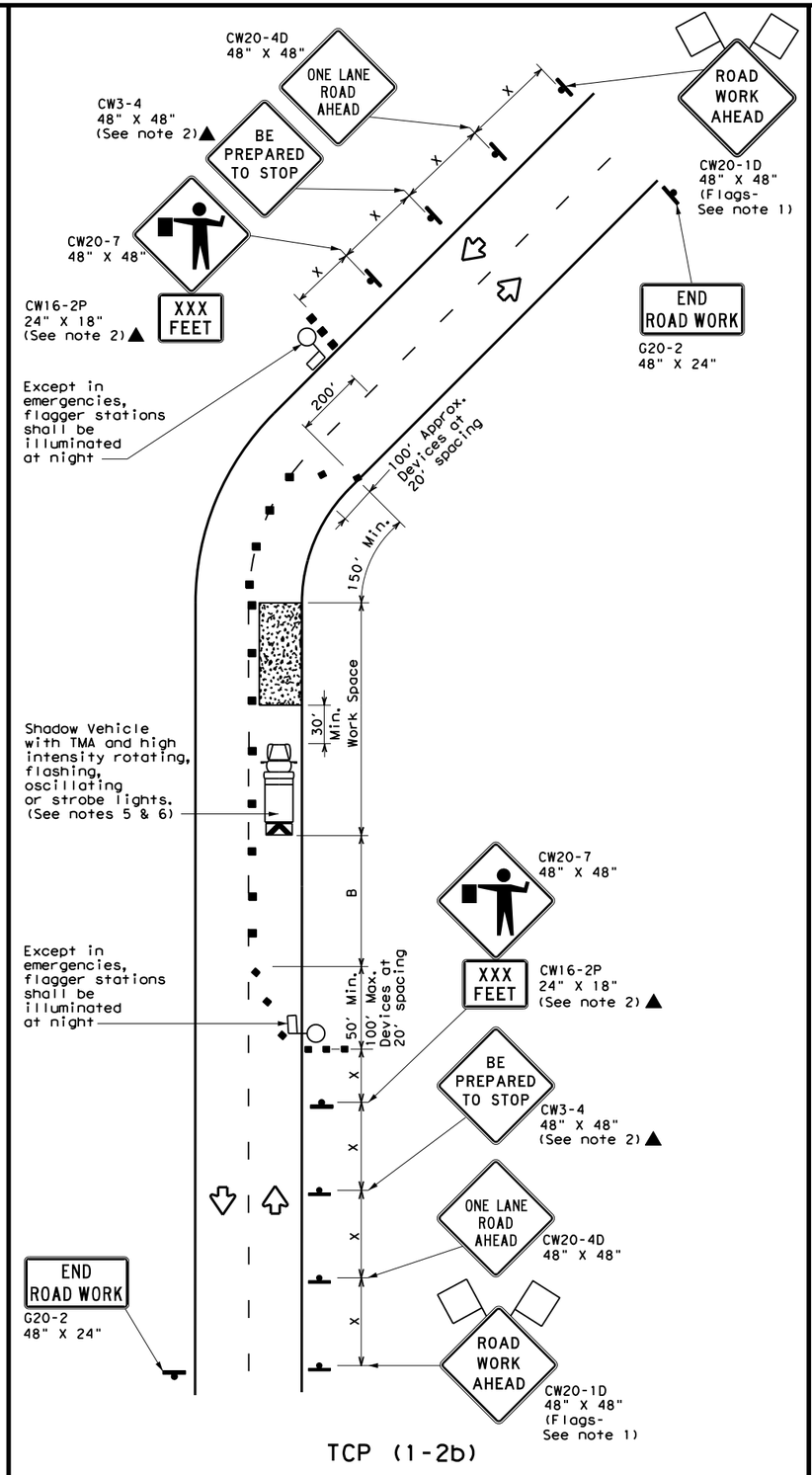
DATE:
FILE:



TCP (1-2a)

ONE LANE TWO-WAY CONTROL WITH YIELD SIGNS

(Less than 2000 ADT - See note 7)



TCP (1-2b)

ONE LANE TWO-WAY CONTROL WITH FLAGGERS

LEGEND			
	Type 3 Barricade		Channelizing Devices
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Trailer Mounted Flashing Arrow Board	M	Portable Changeable Message Sign (PCMS)
	Sign		Traffic Flow
	Flag		Flagger

Posted Speed *	Formula	Minimum Desirable Taper Lengths ** 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices On a Taper	On a Tangent	Minimum Sign Spacing "X" Distance	Suggested Longitudinal Buffer Space "B"	Stopping Sight Distance
30	$L = \frac{WS^2}{60}$	150'	165'	180'	30'	60'	120'	90'	200'
35		205'	225'	245'	35'	70'	160'	120'	250'
40		265'	295'	320'	40'	80'	240'	155'	305'
45	L = WS	450'	495'	540'	45'	90'	320'	195'	360'
50		500'	550'	600'	50'	100'	400'	240'	425'
55		550'	605'	660'	55'	110'	500'	295'	495'
60		600'	660'	720'	60'	120'	600'	350'	570'
65		650'	715'	780'	65'	130'	700'	410'	645'
70		700'	770'	840'	70'	140'	800'	475'	730'
75		750'	825'	900'	75'	150'	900'	540'	820'

* Conventional Roads Only
** Taper lengths have been rounded off.
L=Length of Taper(FT) W=Width of Offset(FT) S=Posted Speed(MPH)

TYPICAL USAGE				
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
	✓	✓		

GENERAL NOTES

1. Flags attached to signs where shown are REQUIRED.
2. All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work, when approved by the Engineer.
3. The CW3-4 "BE PREPARED TO STOP" sign may be installed after the CW20-4D "ONE LANE ROAD AHEAD" sign, but proper sign spacing shall be maintained.
4. Sign spacing may be increased or an additional CW20-1D "ROAD WORK AHEAD" sign may be used if advance warning ahead of the flagger or R1-2 "YIELD" sign is less than 1500 feet.
5. A Shadow Vehicle with a TMA should be used anytime it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require the traffic control to remain in place, Type 3 Barricades or other channelizing devices may be substituted for the Shadow Vehicle and TMA.
6. Additional Shadow Vehicles with TMAs may be positioned off the paved surface, next to those shown in order to protect wider work spaces.

TCP (1-2a)

7. R1-2 "YIELD" sign traffic control may be used on projects with approaches that have adequate sight distance. For projects in urban areas, work spaces should be no longer than one half city block. In rural areas on roadways with less than 2000 ADT, work spaces should be no longer than 400 feet.
8. R1-2 "YIELD" sign with R1-2aP "TO ONCOMING TRAFFIC" plaque shall be placed on a support at a 7 foot minimum mounting height.

TCP (1-2b)

9. Flaggers should use two-way radios or other methods of communication to control traffic.
10. Length of work space should be based on the ability of flaggers to communicate.
11. If the work space is located near a horizontal or vertical curve, the buffer distances should be increased in order to maintain adequate stopping sight distance to the flagger and a queue of stopped vehicles (see table above).
12. Channelizing devices on the center-line may be omitted when a pilot car is leading traffic and approved by the Engineer.
13. Flaggers should use 24" STOP/SLOW paddles to control traffic. Flags should be limited to emergency situations.

Texas Department of Transportation

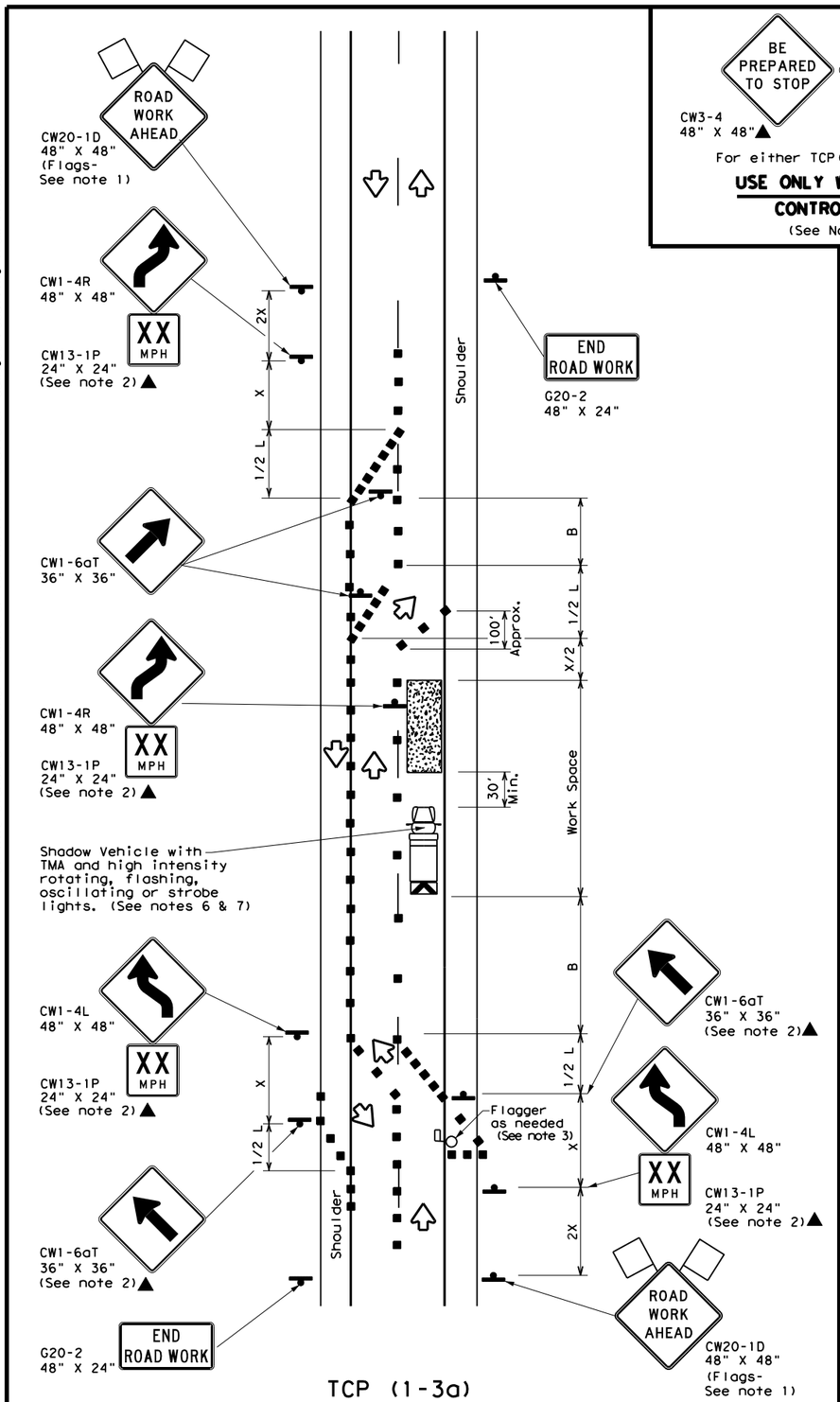
Traffic Operations Division Standard

TRAFFIC CONTROL PLAN ONE-LANE TWO-WAY TRAFFIC CONTROL

TCP(1-2)-18

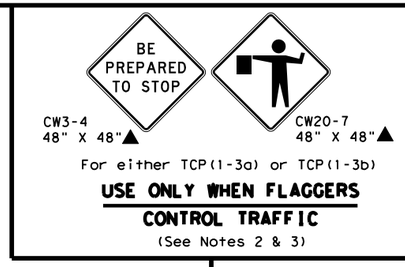
FILE: tcp1-2-18.dgn	DN:	CK:	DW:	CK:
©TxDOT December 1985	CONT	SECT	JOB	HIGHWAY
REVISIONS	0918	11	110	VARIOUS
4-90 4-98	DIST	COUNTY		SHEET NO.
2-94 2-12	DAL	KAUFMAN, ETC		31
1-97 2-18				

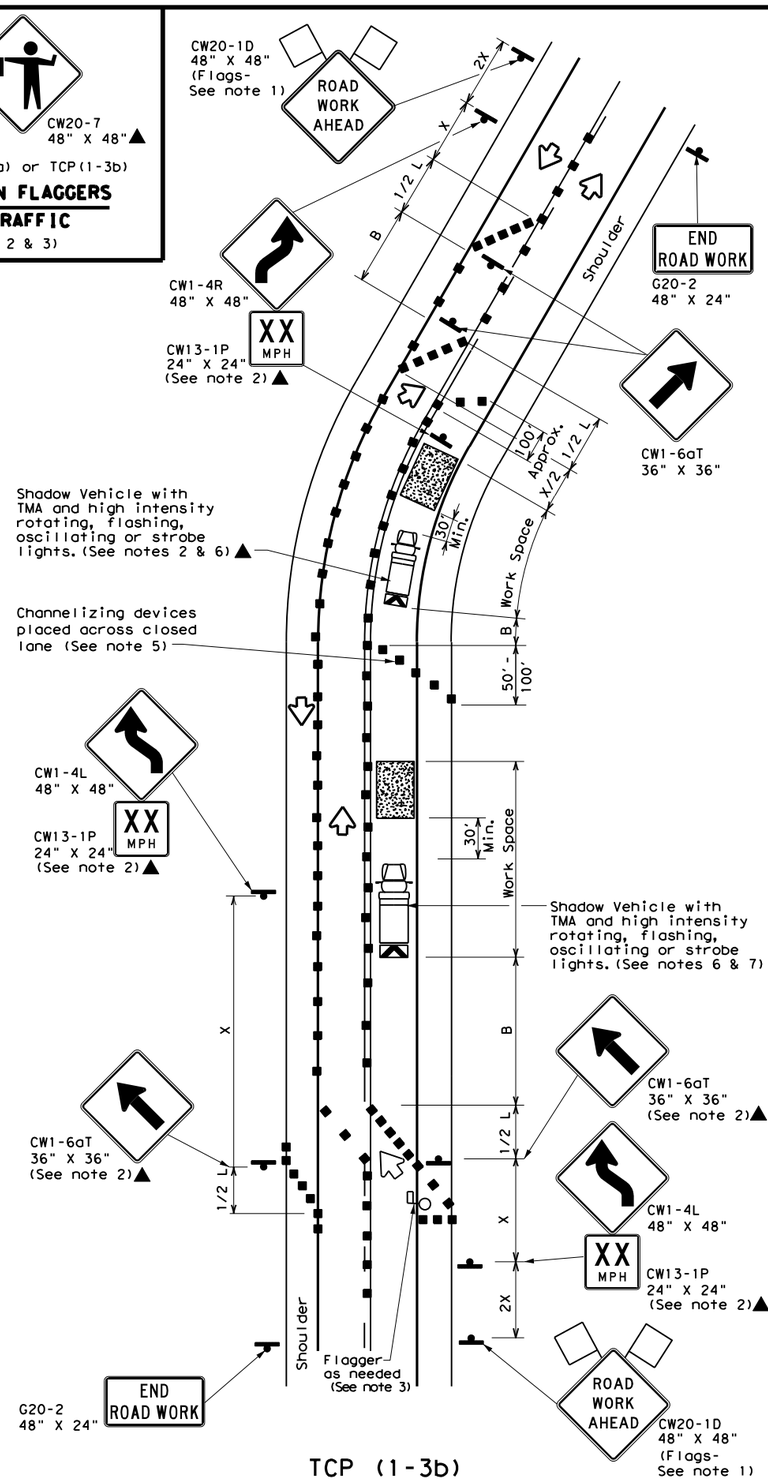
DATE:
FILE:



TCP (1-3a)
2-LANE ROADWAY WITH PAVED SHOULDERS

ONE LANE CLOSED
ADEQUATE FIELD OF VIEW





TCP (1-3b)
2-LANE ROADWAY WITH PAVED SHOULDERS

ONE LANE CLOSED
INADEQUATE FIELD OF VIEW

LEGEND			
	Type 3 Barricade		Channelizing Devices
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Trailer Mounted Flashing Arrow Board	M	Portable Changeable Message Sign (PCMS)
	Sign		Traffic Flow
	Flag		Flagger

Posted Speed *	Formula	Minimum Desirable Taper Lengths ** 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices On a Taper	On a Tangent	Minimum Sign Spacing "X" Distance	Suggested Longitudinal Buffer Space "B"
30	$L=\frac{WS^2}{60}$	150'	165'	180'	30'	60'	120'	90'
35		205'	225'	245'	35'	70'	160'	120'
40		265'	295'	320'	40'	80'	240'	155'
45	L=WS	450'	495'	540'	45'	90'	320'	195'
50		500'	550'	600'	50'	100'	400'	240'
55		550'	605'	660'	55'	110'	500'	295'
60		600'	660'	720'	60'	120'	600'	350'
65		650'	715'	780'	65'	130'	700'	410'
70		700'	770'	840'	70'	140'	800'	475'
75		750'	825'	900'	75'	150'	900'	540'

* Conventional Roads Only

** Taper lengths have been rounded off.
L=Length of Taper(FT) W=Width of Offset(FT) S=Posted Speed(MPH)

TYPICAL USAGE				
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
	✓	✓		

GENERAL NOTES

1. Flags attached to signs where shown are REQUIRED.
2. All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work, when approved by the Engineer.
3. Flagger control should NOT be used unless roadway conditions or heavy traffic volume require additional emphasis to safely control traffic. Additional flaggers may be positioned in advance of traffic queues to alert traffic to reduce speed.
4. DO NOT PASS, PASS WITH CARE and construction regulatory speed zone signs may be installed downstream of the ROAD WORK AHEAD signs.
5. When the work zone is made up of several work spaces, channelizing devices should be placed laterally across the closed lane to re-emphasize closure. Laterally placed channelizing devices should be repeated every 500 to 1000 feet in urban areas and every 1/4 to 1/2 mile in rural areas.
6. A Shadow Vehicle with a TMA should be used anytime it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require the traffic control to remain in place, Type 3 Barricades or other channelizing devices may be substituted for the Shadow Vehicle and TMA.
7. Additional Shadow Vehicles with TMAs may be positioned off the paved surface, next to those shown in order to protect wider work spaces.
8. Where traffic is directed over a yellow centerline, channelizing devices which separate two-way traffic should be spaced on tapers at 20', or 15' if posted speed are 35 mph or slower, and for tangent sections, at 1/2S where S is the speed in mph. This tighter device spacing is intended for the area of conflicting markings not the entire work zone.

Texas Department of Transportation

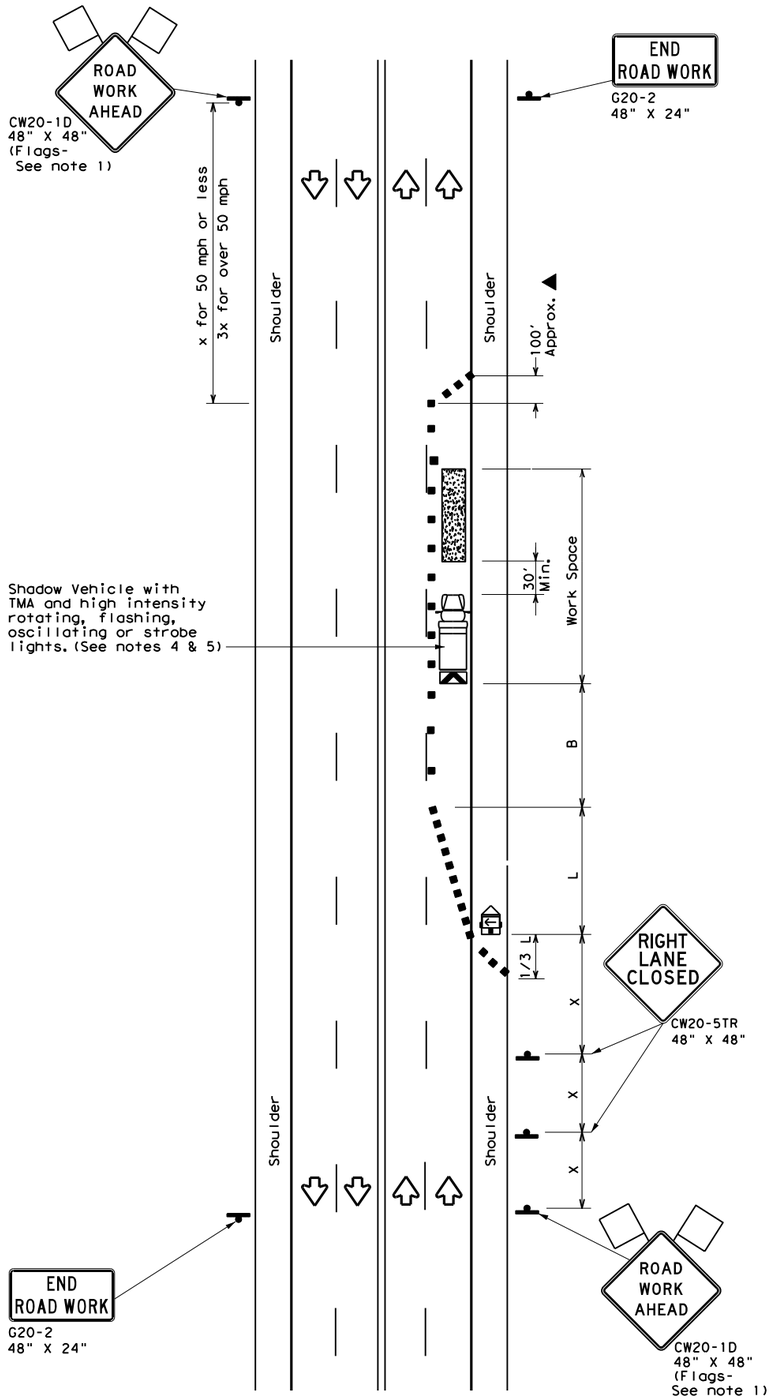
Traffic Operations Division Standard

TRAFFIC CONTROL PLAN
TRAFFIC SHIFTS ON TWO LANE ROADS

TCP(1-3)-18

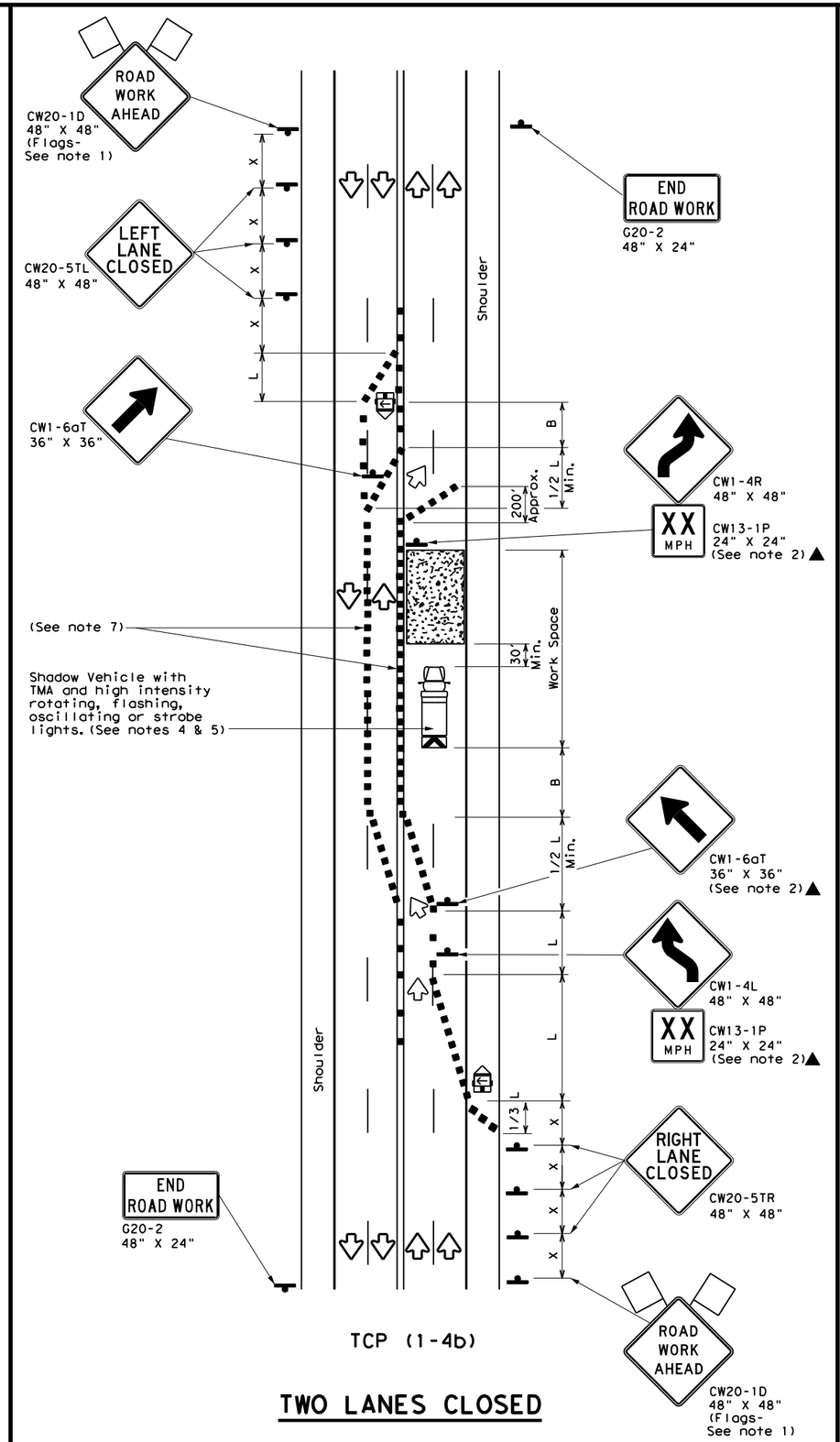
FILE: tcp1-3-18.dgn	DN:	CK:	DW:	CK:
© TxDOT December 1985	CONT	SECT	JOB	HIGHWAY
REVISIONS	0918	11	110	VARIOUS
2-94 4-98	DIST	COUNTY		SHEET NO.
8-95 2-12	DAL	KAUFMAN, ETC		32
1-97 2-18				

DATE:
FILE:



TCP (1-4a)

ONE LANE CLOSED



TCP (1-4b)

TWO LANES CLOSED

LEGEND			
	Type 3 Barricade		Channelizing Devices
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Trailer Mounted Flashing Arrow Board	M	Portable Changeable Message Sign (PCMS)
	Sign		Traffic Flow
	Flag		Flagger

Posted Speed *	Formula	Minimum Desirable Taper Lengths ** 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices On a Taper	On a Tangent	Minimum Sign Spacing "X" Distance	Suggested Longitudinal Buffer Space "B"
30	$L=\frac{WS^2}{60}$	150'	165'	180'	30'	60'	120'	90'
35		205'	225'	245'	35'	70'	160'	120'
40		265'	295'	320'	40'	80'	240'	155'
45	L=WS	450'	495'	540'	45'	90'	320'	195'
50		500'	550'	600'	50'	100'	400'	240'
55		550'	605'	660'	55'	110'	500'	295'
60		600'	660'	720'	60'	120'	600'	350'
65		650'	715'	780'	65'	130'	700'	410'
70		700'	770'	840'	70'	140'	800'	475'
75		750'	825'	900'	75'	150'	900'	540'

* Conventional Roads Only
** Taper lengths have been rounded off.
L=Length of Taper(FT) W=Width of Offset(FT) S=Posted Speed(MPH)

TYPICAL USAGE				
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
	✓	✓		

GENERAL NOTES

1. Flags attached to signs where shown are REQUIRED.
2. All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work, when approved by the Engineer.
3. The CW20-1D "ROAD WORK AHEAD" sign may be repeated if the visibility of the work zone is less than 1500 feet.
4. A Shadow Vehicle with a TMA should be used anytime it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require the traffic control to remain in place, Type 3 Barricades or other channelizing devices may be substituted for the Shadow Vehicle and TMA.
5. Additional Shadow Vehicles with TMAs may be positioned off the paved surface, next to those shown in order to protect wider work spaces.

TCP (1-4a)

6. If this TCP is used for a left lane closure , CW20-5TL "LEFT LANE CLOSED" signs shall be used and channelizing devices shall be placed on the centerline where needed to protect the work space from opposing traffic with the arrow panel placed in the closed lane near the end of the merging taper.

TCP (1-4b)

7. Where traffic is directed over a yellow centerline, channelizing devices which separate two-way traffic should be spaced on tapers at 20' or 15' if posted speeds are 35 mph or slower, and for tangent sections, at 1/2S where S is the speed in mph. This tighter device spacing is intended for the areas of conflicting markings, not the entire work zone.

Texas Department of Transportation

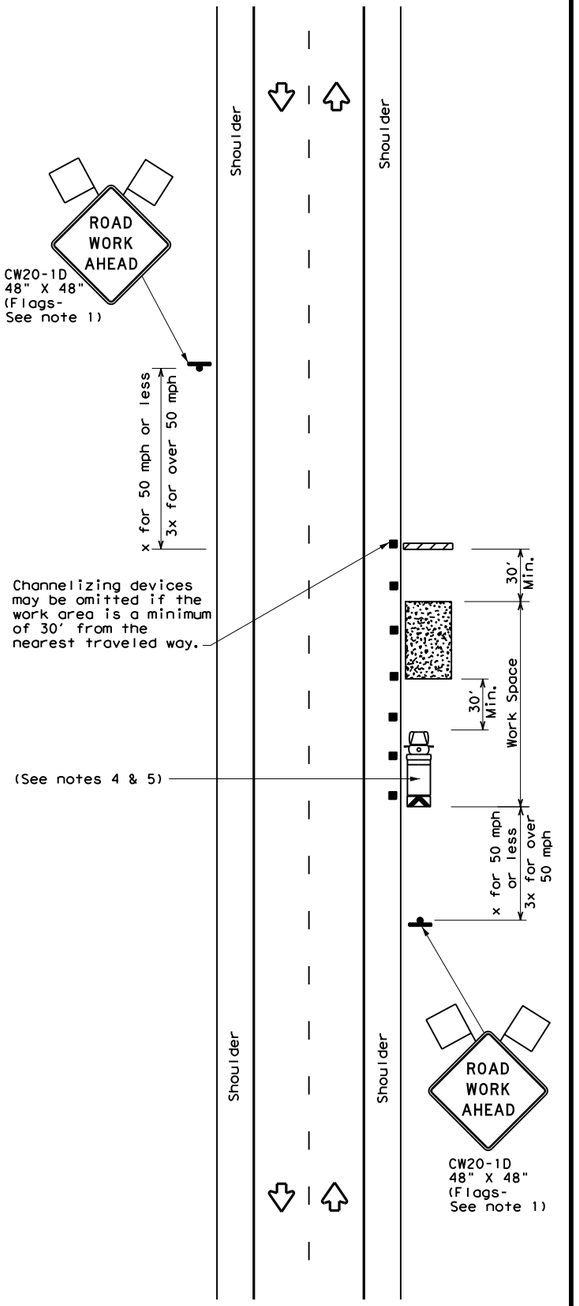
Traffic Operations Division Standard

TRAFFIC CONTROL PLAN LANE CLOSURES ON MULTILANE CONVENTIONAL ROADS

TCP(1-4)-18

FILE: tcp1-4-18.dgn	DN:	CK:	DW:	CK:
© TxDOT December 1985	CONT	SECT	JOB	HIGHWAY
REVISIONS	0918	11	110	VARIOUS
2-94 4-98	DIST	COUNTY		SHEET NO.
8-95 2-12	DAL	KAUFMAN, ETC33		
1-97 2-18				

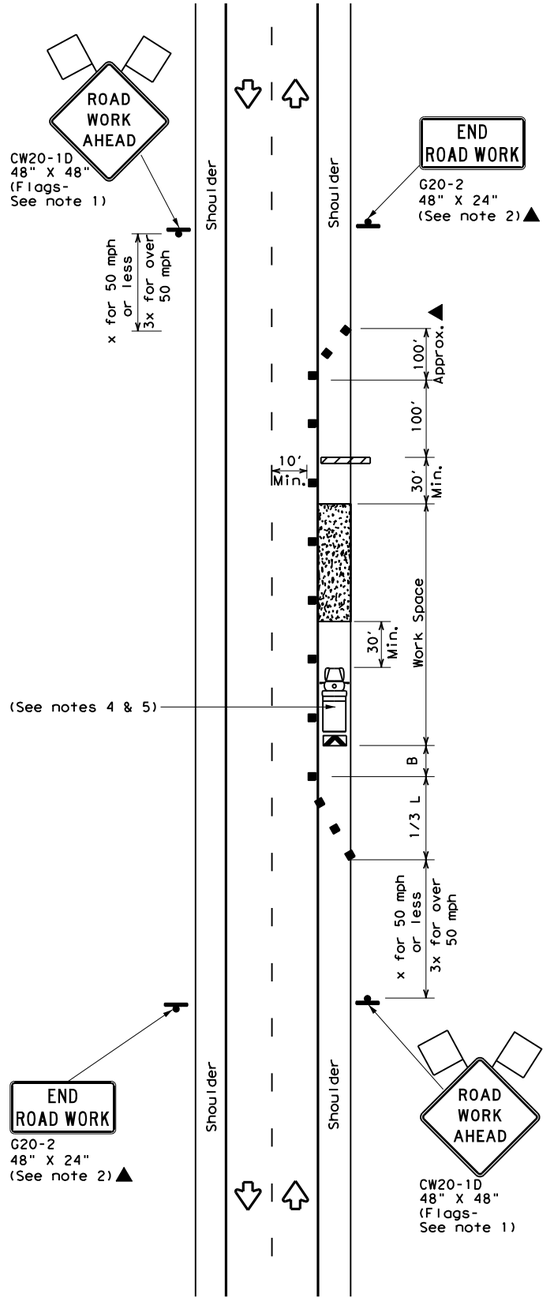
DATE:
FILE:



TCP (2-1a)

WORK SPACE NEAR SHOULDER

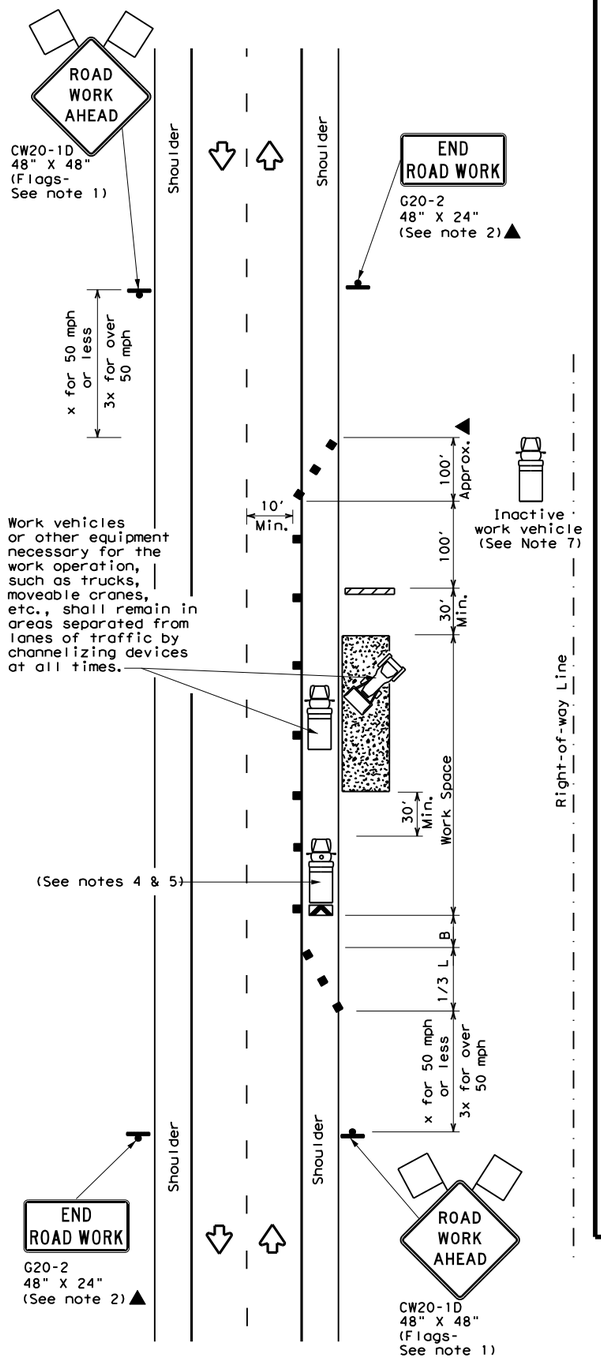
Conventional Roads



TCP (2-1b)

WORK SPACE ON SHOULDER

Conventional Roads



TCP (2-1c)

WORK VEHICLES ON SHOULDER

Conventional Roads

LEGEND			
	Type 3 Barricade		Channelizing Devices
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Trailer Mounted Flashing Arrow Board	M	Portable Changeable Message Sign (PCMS)
	Sign		Traffic Flow
	Flag		Flagger

Posted Speed *	Formula	Minimum Desirable Taper Lengths ** 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices On a Taper	On a Tangent	Minimum Sign Spacing "X" Distance	Suggested Longitudinal Buffer Space "B"
30	$L=\frac{WS^2}{60}$	150'	165'	180'	30'	60'	120'	90'
35		205'	225'	245'	35'	70'	160'	120'
40		265'	295'	320'	40'	80'	240'	155'
45	L=WS	450'	495'	540'	45'	90'	320'	195'
50		500'	550'	600'	50'	100'	400'	240'
55		550'	605'	660'	55'	110'	500'	295'
60		600'	660'	720'	60'	120'	600'	350'
65		650'	715'	780'	65'	130'	700'	410'
70		700'	770'	840'	70'	140'	800'	475'
75		750'	825'	900'	75'	150'	900'	540'

* Conventional Roads Only

** Taper lengths have been rounded off.
L=Length of Taper(FT) W=Width of Offset(FT) S=Posted Speed(MPH)

TYPICAL USAGE				
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
	✓	✓	✓	✓

GENERAL NOTES

1. Flags attached to signs where shown, are REQUIRED.
2. All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated in the plans, or for routine maintenance work, when approved by the Engineer.
3. Stockpiled material should be placed a minimum of 30 feet from nearest traveled way.
4. Shadow Vehicle with TMA and high intensity rotating, flashing, oscillating or strobe lights. A Shadow Vehicle with a TMA should be used anytime it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require the traffic control to remain in place, Type 3 Barricades or other channelizing devices may be substituted for the Shadow Vehicle and TMA.
5. Additional Shadow Vehicles with TMAs may be positioned off the paved surface, next to those shown in order to protect a wider work space.
6. See TCP(5-1) for shoulder work on divided highways, expressways and freeways.
7. Inactive work vehicles or other equipment should be parked near the right-of-way line and not parked on the paved shoulder.
8. CW21-5 "SHOULDER WORK" signs may be used in place of CW20-1D "ROAD WORK AHEAD" signs for shoulder work on conventional roadways.

Texas Department of Transportation

Traffic Operations Division Standard

TRAFFIC CONTROL PLAN CONVENTIONAL ROAD SHOULDER WORK

TCP(2-1)-18

FILE: tcp2-1-18.dgn	DN:	CK:	DW:	CK:
© TxDOT December 1985	CONT	SECT	JOB	HIGHWAY
REVISIONS	091811		110	VARIOUS
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8-95 2-12	DAL	KAUFMAN, ETC		34
1-97 2-18				

DATE:
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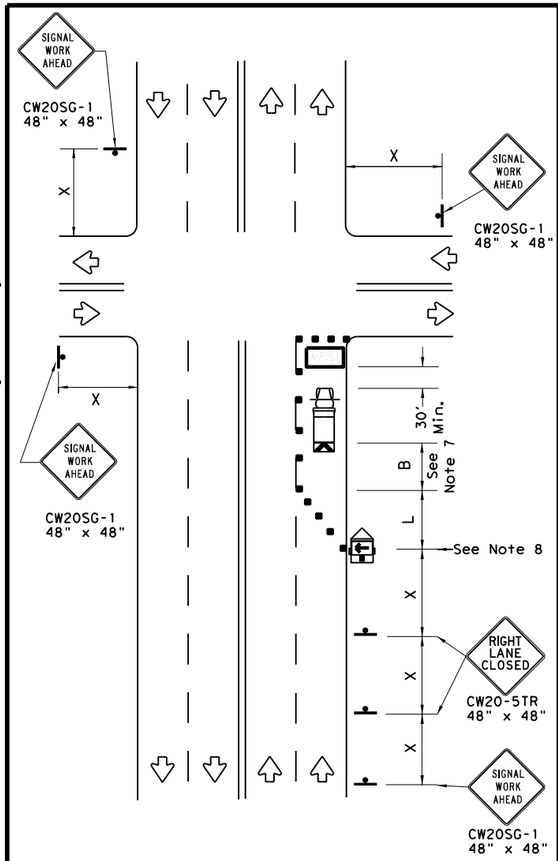
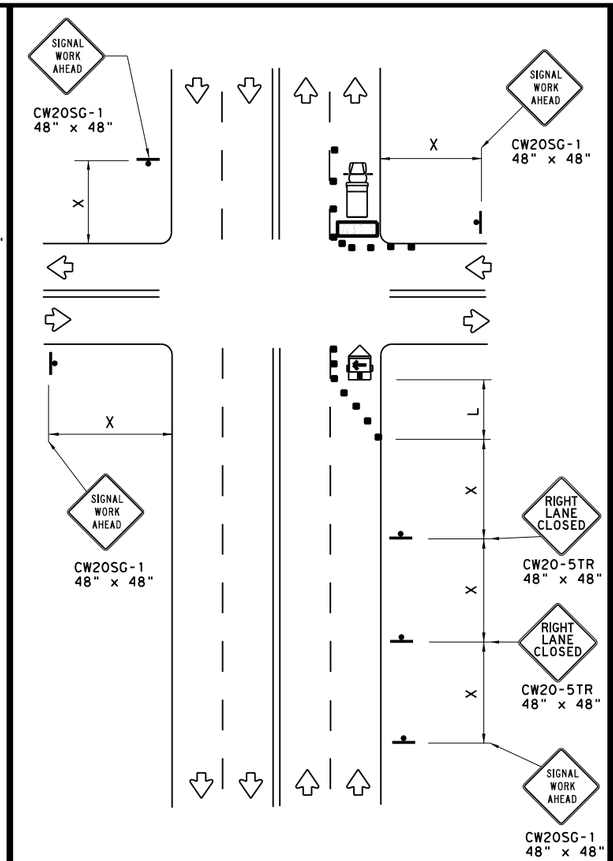


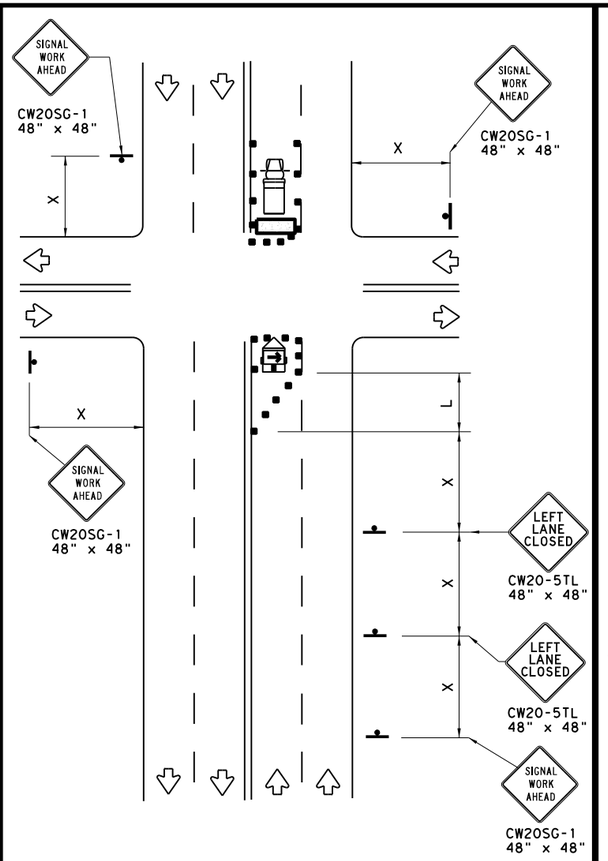
NEAR SIDE LANE CLOSURE

SHORT DURATION OR SHORT TERM STATIONARY



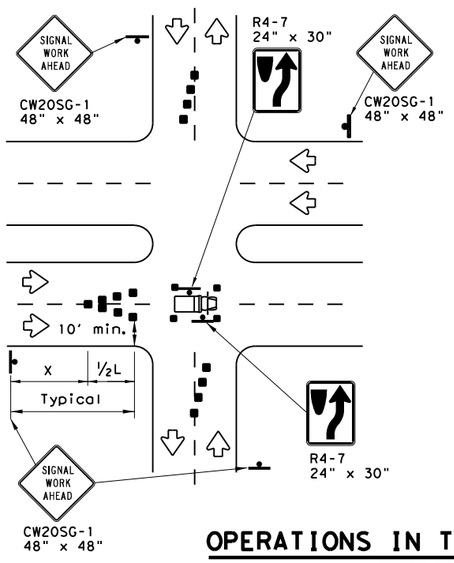
FAR SIDE RIGHT LANE CLOSURE

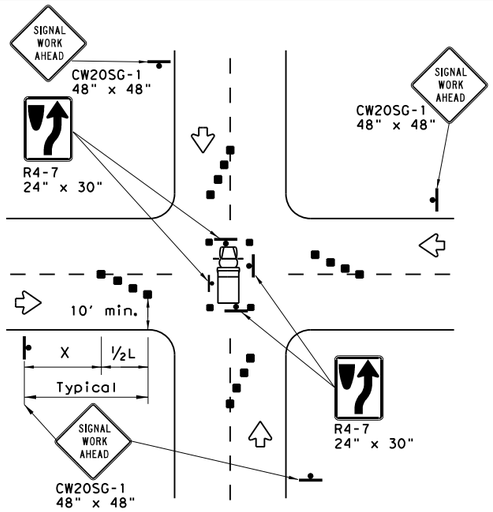
SHORT DURATION OR SHORT TERM STATIONARY



FAR SIDE LEFT LANE CLOSURE

SHORT DURATION OR SHORT TERM STATIONARY





OPERATIONS IN THE INTERSECTION

SHORT DURATION

GENERAL NOTES

1. The minimum size channelizing device is the 28" cone. 42" Two-piece cones, drums, vertical panels or barricades will be required when the device must be left unattended at night.
2. Obstructions or hazards at the work area shall be clearly marked and delineated at all times.
3. Flaggers and Flagger Symbol (CW20-7) signs may be required according to field conditions.
4. Vehicles parked in roadway shall be equipped with at least two high intensity rotating, flashing, oscillating or strobe type lights.
5. High level warning devices (flag trees) may be used at corners of the vehicle.
6. When work operations are performed on existing signals, the signals may be placed in flashing red mode when approved by the engineer. If existing signals do not have power, All-Way Stop (R1-1 and R1-3P) signs may be implemented when approved by the engineer.
7. For Short-Term Stationary work the buffer space "B" from the above table should be used if field conditions permit. For Short Duration (less than 1 hour) any buffer space provided will enhance the safety of the setup.
8. The arrow board at this location may be omitted for Short Duration work if the work vehicle has an arrow board in operation. As an option, the arrow board may be placed at the end of the taper in the closed lane if space is not available at the beginning of the taper.
9. Signs and devices for the NEAR SIDE LANE CLOSURE may be altered for a left lane closure by using a LEFT LANE CLOSED (CW20-5TL) and adding channelizing devices on the centerline to protect the work space from opposing traffic.

LEGEND			
	Type 3 Barricade	■ ■	Channelizing Devices
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Trailer Mounted Flashing Arrow Board	M	Portable Changeable Message Sign (PCMS)
	Sign		Traffic Flow
	Flag		Flagger

Posted Speed *	Formula	Minimum Desirable Taper Lengths ** 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices On a Taper	On a Tangent	Minimum Sign Spacing "X" Distance	Suggested Longitudinal Buffer Space "B"
30	$L = \frac{WS^2}{60}$	150'	165'	180'	30'	60'	120'	90'
35		205'	225'	245'	35'	70'	160'	120'
40		265'	295'	320'	40'	80'	240'	155'
45	L = WS	450'	495'	540'	45'	90'	320'	195'
50		500'	550'	600'	50'	100'	400'	240'
55		550'	605'	660'	55'	110'	500'	295'
60		600'	660'	720'	60'	120'	600'	350'
65		650'	715'	780'	65'	130'	700'	410'
70		700'	770'	840'	70'	140'	800'	475'
75		750'	825'	900'	75'	150'	900'	540'

* Conventional Roads Only

** Taper lengths have been rounded off.
L=Length of Taper(FT) W=Width of Offset(FT) S=Posted Speed(MPH)

WORKERS IN BUCKET TRUCKS SHALL NOT WORK ABOVE OPEN LANES OF TRAFFIC.

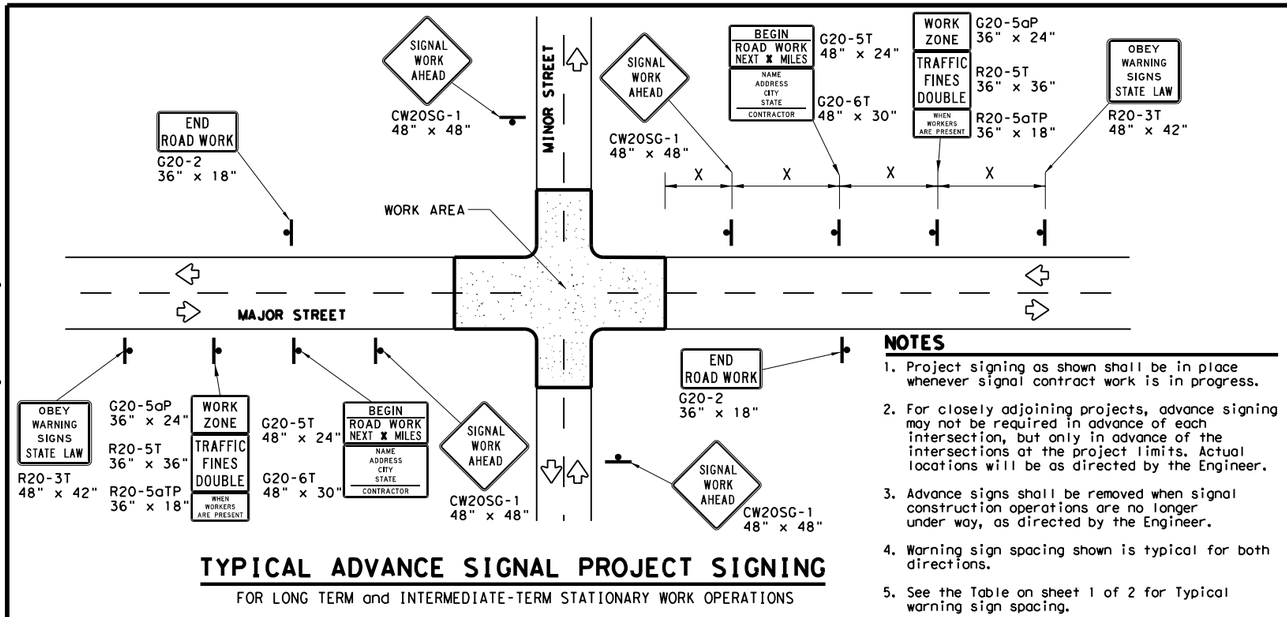
Texas Department of Transportation

Traffic Operations Division Standard

TRAFFIC SIGNAL WORK TYPICAL DETAILS

WZ(BTS-1)-13

FILE: wzbts-13.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT April 1992	CONT	SECT	JOB	HIGHWAY
REVISIONS	0918	11	110	VARIOUS
2-98 10-99 7-13	DIST	COUNTY		SHEET NO.
4-98 3-03	DAL	KAUFMAN, ETC		35



DATE:
FILE:

TYPICAL ADVANCE SIGNAL PROJECT SIGNING

FOR LONG TERM and INTERMEDIATE-TERM STATIONARY WORK OPERATIONS

NOTES

1. Project signing as shown shall be in place whenever signal contract work is in progress.
2. For closely adjoining projects, advance signing may not be required in advance of each intersection, but only in advance of the intersections at the project limits. Actual locations will be as directed by the Engineer.
3. Advance signs shall be removed when signal construction operations are no longer under way, as directed by the Engineer.
4. Warning sign spacing shown is typical for both directions.
5. See the Table on sheet 1 of 2 for Typical warning sign spacing.

GENERAL NOTES FOR WORK ZONE SIGNS

1. Signs shall be installed and maintained in a straight and plumb condition.
2. Wooden sign posts shall be painted white.
3. Barricades shall NOT be used as sign supports.
4. Nails shall NOT be used to attach signs to any support.
5. All signs shall be installed in accordance with the plans or as directed by the Engineer.
6. The Contractor shall furnish the sign design shown in the plans or in the "Standard Highway Sign Designs for Texas" (SHSD).
7. The Contractor shall furnish sign supports and substrates listed in the "Compliant Work Zone Traffic Control Device List" (CWZTCD), installed as per the manufacturer's recommendations.
8. Temporary signs that have damaged or cracked substrates and/or damaged or marred reflective sheeting shall be replaced as directed by the Engineer.
9. Identification markings may be shown only on the back of the sign substrate. The maximum height of letters and/or company logos used for identification shall be 1".
10. Damaged wood posts shall be replaced. Splicing wood posts will not be allowed.

DURATION OF WORK

1. Work zone durations are defined in Part 6, Section 6G.02 of the Texas Manual on Uniform Traffic Control Devices (TMUTCD).

SIGN MOUNTING HEIGHT

1. Sign height of Long-term/Intermediate-term warning signs shall be as shown on Figure 6F-1 of the TMUTCD.
2. Sign height of Short-term/Short Duration warning signs shall be as shown on Figure 6F-2 of the TMUTCD.
3. Regulatory signs shall be mounted at least 7 feet, but not more than 9 feet, above the paved surface regardless of work duration.

REMOVING OR COVERING

1. When sign messages may be confusing or do not apply, the signs shall be removed or completely covered, unless otherwise approved by the Engineer.
2. When signs are covered, the material used shall be opaque, such as heavy mil black plastic, or other materials which will cover the entire sign face and maintain their opaque properties under automobile headlights at night without damaging the sign sheeting. Burlap, or heavy materials such as plywood or aluminum shall not be used to cover signs.
3. Duct tape or other adhesive material shall NOT be affixed to a sign face.
4. Signs and anchor stubs shall be removed and holes back filled upon completion of the work.

REFLECTIVE SHEETING

1. All signs shall be retroreflective and constructed of sheeting meeting the requirements of the DMS and color usage table shown on this sheet.

SIGN SUPPORT WEIGHTS

1. Weights used to keep signs from turning over should be sandbags filled with dry, cohesionless material.
2. The sandbags will be tied shut to keep the sand from spilling and to maintain a constant weight.
3. Rock, concrete, iron, steel or other solid objects will not be permitted for use as sign support weights.
4. Sandbags should weigh a minimum of 35 lbs and a maximum of 50 lbs.
5. Sandbags shall be made of a durable material that tears upon vehicular impact. Rubber, such as tire inner tubes, shall not be used.
6. Rubber ballasts designed for channelizing devices should not be used for ballast on portable sign supports. Sign supports designed and manufactured with rubber bases may be used when shown on the CWZTCD list.
7. Sandbags shall only be placed along or laid over the base supports of the traffic control device and shall not be suspended above ground level or hung with rope, wire, chains or other fastners. Sandbags shall be placed along the length of the skids to weigh down the sign support.
8. Sandbags shall NOT be placed under the skid and shall not be used to level sign supports placed on slopes.

LEGEND	
┻	Sign
■ ■	Channelizing Devices
▨	Type 3 Barricade

DEPARTMENTAL MATERIAL SPECIFICATIONS	
SIGN FACE MATERIALS	DMS-8300
FLEXIBLE ROLL-UP REFLECTIVE SIGNS	DMS-8310

COLOR	USAGE	SHEETING MATERIAL
ORANGE	BACKGROUND	TYPE B_{FL} OR TYPE C_{FL} SHEETING
WHITE	BACKGROUND	TYPE A SHEETING
BLACK	LEGEND & BORDERS	ACRYLIC NON-REFLECTIVE SHEETING

Only pre-qualified products shall be used. A copy of the "Compliant Work Zone Traffic Control Devices List" (CWZTCD) describes pre-qualified products and their sources and may be found at the following web address:
http://www.txdot.gov/txdot_library/publications/construction.htm

SIDEWALK DIVERSION

SIDEWALK DETOUR

CROSSWALK CLOSURES

PEDESTRIAN CONTROL

1. Holes, trenches or other hazards shall be adequately protected by covering, delineating or surrounding the hazard with orange plastic pedestrian fencing or longitudinal channelizing devices, or as directed by the Engineer.
2. "CROSSWALK CLOSURES" as detailed above will require the Engineer's approval prior to installation.
3. R9 series signs shown may be placed on supports detailed on the BC standards or CWZTCD list, or when fabricated from approved lightweight plastic substrates, they may be mounted on top of a plastic drum at or near the location shown.
4. For speeds less than 45 mph longitudinal channelizing devices may be used instead of traffic barriers when approved by the Engineer. Attenuation of blunt ends and installation of water filled devices shall be as per BC(9) and manufacturer's recommendations.
5. Location of devices are for general guidance. Actual device spacing and location must be field adjusted to meet actual conditions.
6. Where pedestrians with visual disabilities normally use the closed sidewalk Detectable Pedestrian Barricades should be used instead of the Type 3 Barricades shown.
7. The width of existing sidewalk should be maintained if practical.
8. Pavement markings for mid-block crosswalks shall be paid for under the appropriate bid items.
9. When crosswalks or other pedestrian facilities are closed or relocated, temporary facilities shall be detectable and shall include accessibility features consistent with the features present in the existing pedestrian facility.

SHEET 2 OF 2

Texas Department of Transportation

Traffic Operations Division Standard

TRAFFIC SIGNAL WORK BARRICADES AND SIGNS

WZ(BTS-2)-13

FILE: wzbts-13.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT

REVISIONS	CONT	SECT	JOB	HIGHWAY
2-98 10-99 7-13 4-98 3-03	0918	11	110	VARIOUS

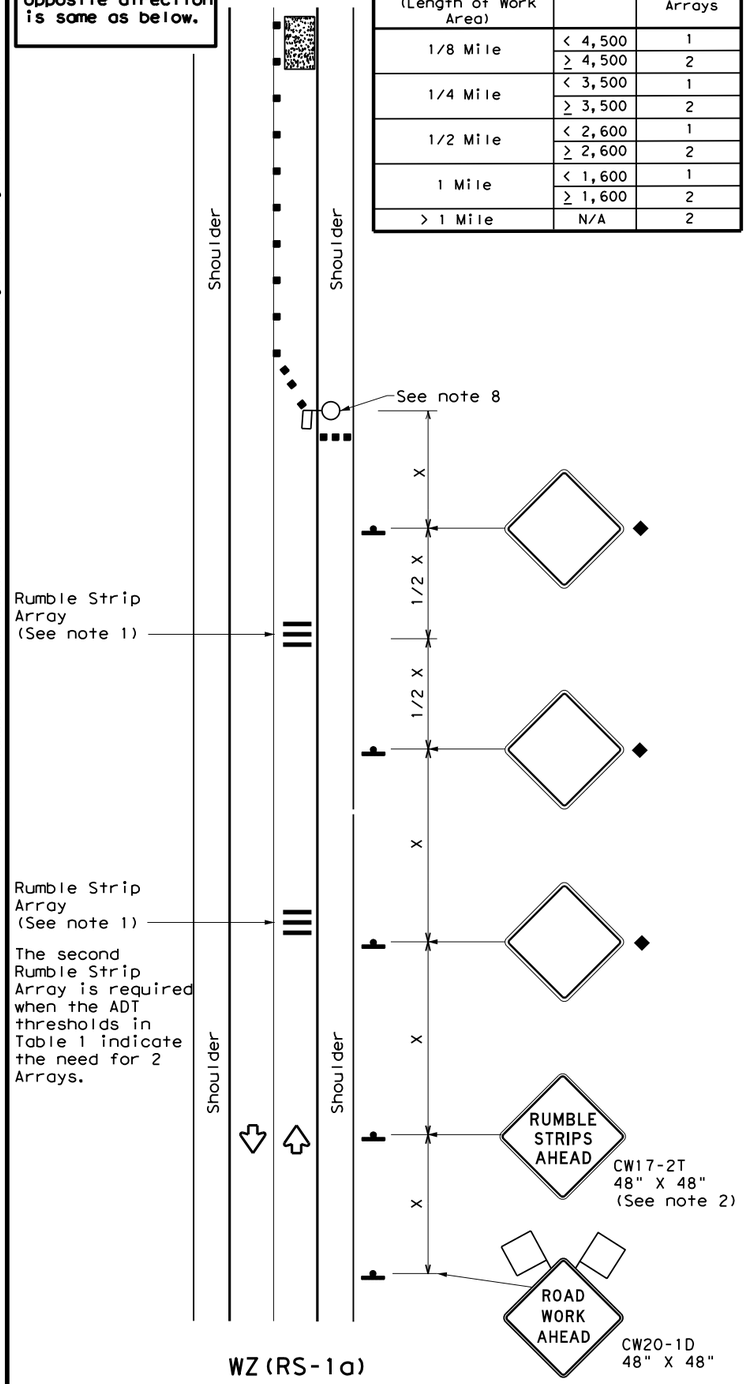
DIST	COUNTY	SHEET NO.
DAL	KAUFMAN, ETC	36

115

DATE:
FILE:

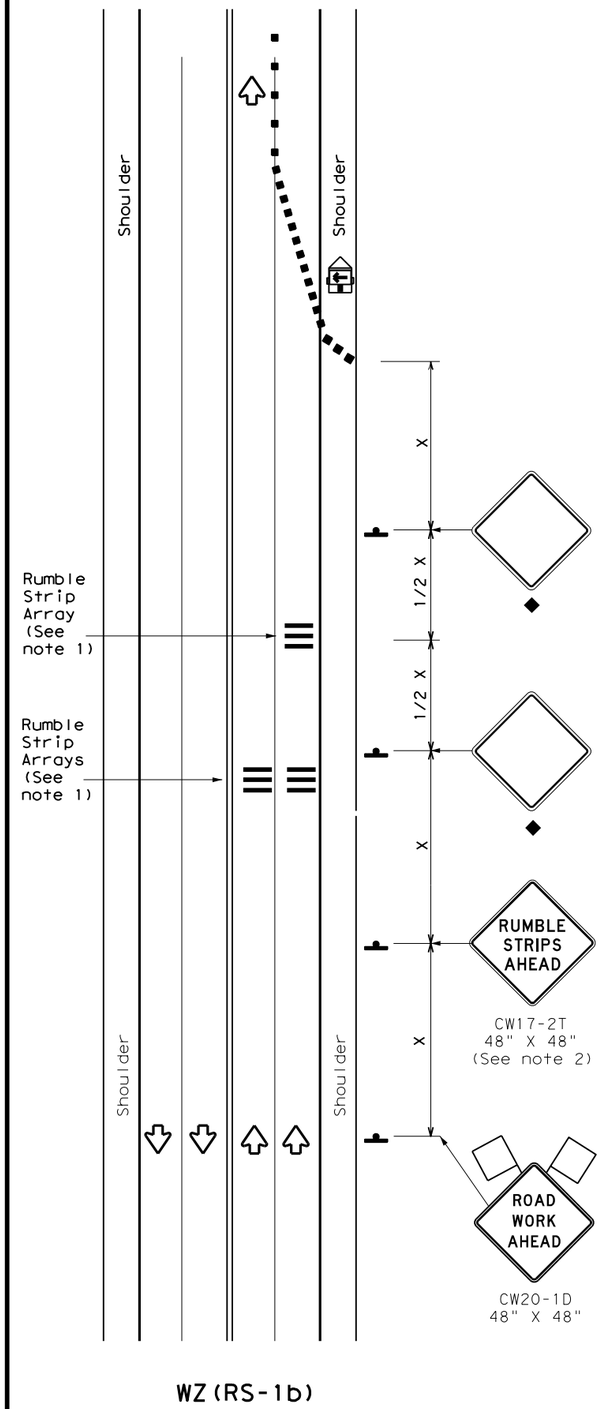
Warning sign and rumble strip sequence in opposite direction is same as below.

TABLE 1		
Flagger to Flagger (Length of Work Area)	ADT	# of Rumble Strip Arrays
1/8 Mile	< 4,500	1
	≥ 4,500	2
1/4 Mile	< 3,500	1
	≥ 3,500	2
1/2 Mile	< 2,600	1
	≥ 2,600	2
1 Mile	< 1,600	1
	≥ 1,600	2
> 1 Mile	N/A	2



WZ(RS-1a)

RUMBLE STRIPS ON ONE-LANE TWO-WAY APPLICATION



WZ(RS-1b)

RUMBLE STRIPS FOR LANE CLOSURE ON CONVENTIONAL ROADWAY

GENERAL NOTES

1. Each Rumble Strip Array should consist of three rumble strips spaced center to center at the spacing shown in Table 2, placed transverse across the lane at locations shown.
2. The CW17-2T "RUMBLE STRIPS AHEAD" sign should be located after the CW20-1D "ROAD WORK AHEAD sign and spaced as shown. If traffic is observed to be queuing, or is expected to queue beyond the Rumble Strips, the CW17-2T sign and the first Rumble Strip Array may be located upstream of the CW20-1D sign as necessary to provide needed warning.
3. Temporary Rumble Strips will be considered subsidiary to Item 502, and shall be a product listed on the Compliant Work Zone Traffic Control Devices.
4. Remove Temporary Rumble Strips before removing the advanced warning signs.
5. Temporary Rumble Strips should not be used on horizontal curves, loose gravel, soft or bleeding asphalt, heavily rutted pavements or unpaved surfaces.
6. Temporary Rumble Strips shall be installed and maintained as per manufacturer's recommendations.
7. This standard sheet shall be used in conjunction with other appropriate TCP standard, TMUTCD typical application or project specific detail for the project.
8. The one-lane two-way application may utilize a flagger, an Automated Flagger Assistance Device (AFAD) or a Portable Traffic Signal (PTS).
9. Replace defective Temporary Rumble Strips as directed by the Engineer.
10. Temporary Rumble Strips may be used on freeways or expressways based on engineering judgment and written direction from the Engineer.

LEGEND			
	Type 3 Barricade		Channelizing Devices
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Trailer Mounted Flashing Arrow Panel	M	Portable Changeable Message Sign (PCMS)
	Sign		Traffic Flow
	Flag		Flagger

Posted Speed *	Formula	Minimum Desirable Taper Lengths ** 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices On a Taper	On a Tangent	Minimum Sign Spacing "X" Distance	Suggested Longitudinal Buffer Space "B"
30	$L=\frac{WS^2}{60}$	150'	165'	180'	30'	60'	120'	90'
35		205'	225'	245'	35'	70'	160'	120'
40		265'	295'	320'	40'	80'	240'	155'
45	L=WS	450'	495'	540'	45'	90'	320'	195'
50		500'	550'	600'	50'	100'	400'	240'
55		550'	605'	660'	55'	110'	500'	295'
60		600'	660'	720'	60'	120'	600'	350'
65		650'	715'	780'	65'	130'	700'	410'
70		700'	770'	840'	70'	140'	800'	475'
75		750'	825'	900'	75'	150'	900'	540'

* Conventional Roads Only

** Taper lengths have been rounded off.
L=Length of Taper(FT) W=Width of Offset(FT)
S=Posted Speed(MPH)

TYPICAL USAGE				
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
	✓	✓		

◆ Signs are for illustrative purposes only. Signs required may vary depending on the TCP, TMUTCD Typical Application, or project specific details for the project.

* For posted speeds in excess of 65 MPH, it is recommended that spacing is increased as speed limits increase. Increasing space between rumble strips will improve effectiveness.

TABLE 2	
Speed	Approximate distance between strips in an array
≤ 40 MPH	10'
> 40 MPH & ≤ 55 MPH	15'
= 60 MPH	20'
≥ 65 MPH	* 35' +

Texas Department of Transportation

Traffic Safety Division Standard

TEMPORARY RUMBLE STRIPS

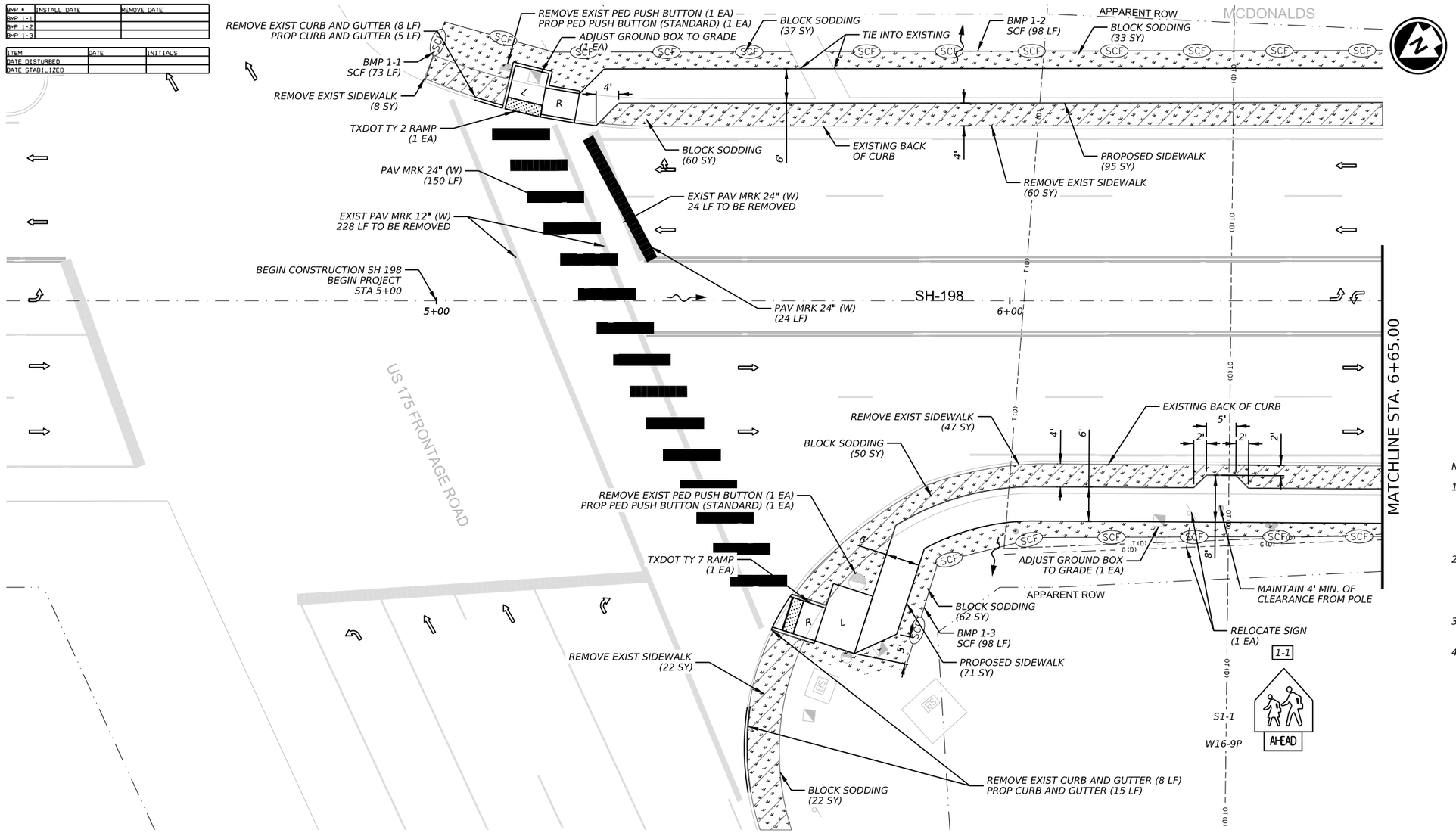
WZ(RS)-22

FILE: wzrs22.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT November 2012	CONT	SECT	JOB	HIGHWAY
REVISIONS	0918	11	110	VARIOUS
2-14 1-22	DIST	COUNTY		SHEET NO.
4-16	DAL	KAUFMAN, ETC		37

117

BMP #	INSTALL DATE	REMOVE DATE
BMP 1-1		
BMP 1-2		
BMP 1-3		

ITEM	DATE	INITIALS
DATE DISTURBED		
DATE STABILIZED		



SHEET #			1
ITEM	DESCRIPTION	UNIT	QTY
0100 6002	PREPARING ROW	STA	1.7
0104 6029	REMOVING CONC (CURB OR CURB & GUTTER)	LF	16
0104 6036	REMOVING CONC (SIDEWALK OR RAMP)	SY	137
0162 6002	BLOCK SODDING	SY	264
0168 6001	VEGETATIVE WATERING	MG	40
0506 6038	TEMP SEDMT CONT FENCE (INSTALL)	LF	269
0506 6039	TEMP SEDMT CONT FENCE (REMOVE)	LF	269
0529 6008	CONC CURB & GUTTER (TY II)	LF	20
05316001	CONC SIDEWALKS (4")	SY	166
05316005	CURB RAMPS (TY 2)	EA	1
05316010	CURB RAMPS (TY 7)	EA	1
0644 6068	RELOCATE SM RD SN SUP&AM TY 10BWG	EA	1
0666 6048	REFL PAV MRK TY I (W)24"(SLD)(100MIL)	LF	174
0666 6230	PAVEMENT SEALER 24"	LF	174
0677 6005	ELIM EXT PAV MRK & MRKS (12")	LF	228
0677 6007	ELIM EXT PAV MRK & MRKS (24")	LF	24
0678 6008	PAV SURF PREP FOR MRK (24")	LF	174
0688 6002	PED DETECT PUSH BUTTON (STANDARD)	EA	2
0690 6030	REMOVAL OF PEDESTRIAN PUSH BUTTONS	EA	2
6027 6009	GROUND BOX (ADJUST)	EA	2

NOTES:

1. *THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILTIES PRIOR TO BEGINNING CONSTRUCTION.*
2. *LONGITUDINAL SLOPE SIDEWALKS SHALL NOT EXCEED 5% EXCEPT IN CASES WHERE THE ADJACENT ROADWAY SLOPE EXCEEDS 5%. IF ROADWAY SLOPE EXCEEDS 5%, LONGITUDINAL SLOPE OF THE SIDEWALK MAY MATCH THAT OF THE ROADWAY.*
3. *ALL CONCRETE DRIVEWAYS ARE TO BE SAWCUT AT THE ROADWAY INTERSECTION UNLESS OTHERWISE NOTED.*
4. *REMOVAL OF EXISTING SIGNS AND WITNESS POSTS THAT ARE IN CONFLICT WITH PROPOSED CONSTRUCTION SHALL BE SUBSIDIARY TO ITEM 100, "PREPARING RIGHT OF WAY."*

0 10 20
SCALE: 1" = 20'

SPECIAL NOTES & DETAILS

LEGEND

— × —	FENCE	☼	LIGHT POLE	SL	LONGITUDINAL SLOPES MAY NOT EXCEED 5%, CROSS SLOPE MAY NOT EXCEED 2%
F	FLARE	▢	MAIL BOX		CUT & RESTORE PVMT
	FIRE HYDRANT		MANHOLE	#-#	RELOCATE EXISTING SIGN
	GAS METER/VALVE		PEDESTAL SIGNAL POLE	#-#	PROPOSED SIGN
	GROUND BOX		POWER/UTILITY POLE		TRAFFIC FLOW
L	LANDING	R	RAMP	SB	TRAFFIC SIGNAL BOX
L1	LANDING (COMMON)		RIPRAP (CONC)		TRAFFIC SIGNAL CONTROLLER
LS	LEVEL SIDEWALK (2% MAX)		SIGN		TRAFFIC SIGNAL POLE
	GUY WIRE		SODDING		TREE/BUSHES
	GUARD FENCE/RAIL	T	TRANSITION		WATER METER/VALVE
	PROPOSED CONDUIT (BORE)		REMOVAL OF EXISTING ITEMS		GUTTER LINE PROJECTION
	WATER FLOW DIRECTION		IRRIGATION CONTROLS		GRATE INLET
	EROSION CONTROL LOG		UTILITY WITNESS		PROPOSED PEDESTAL POLE
SCF	SEDIMENT CONTROL FENCE				PROPOSED CONDUIT
					EXISTING CONDUIT
					STAMPED CONCRETE

5/29/2024

STATE OF TEXAS
SAMUEL J. LUNDQUIST
122185
LICENSED
PROFESSIONAL ENGINEER

Kimley»Horn F-928

Texas Department of Transportation

SIDEWALK AND SIGNING PLANS
SH 198

SHEET 1 OF 42

CONT	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN, ETC			38

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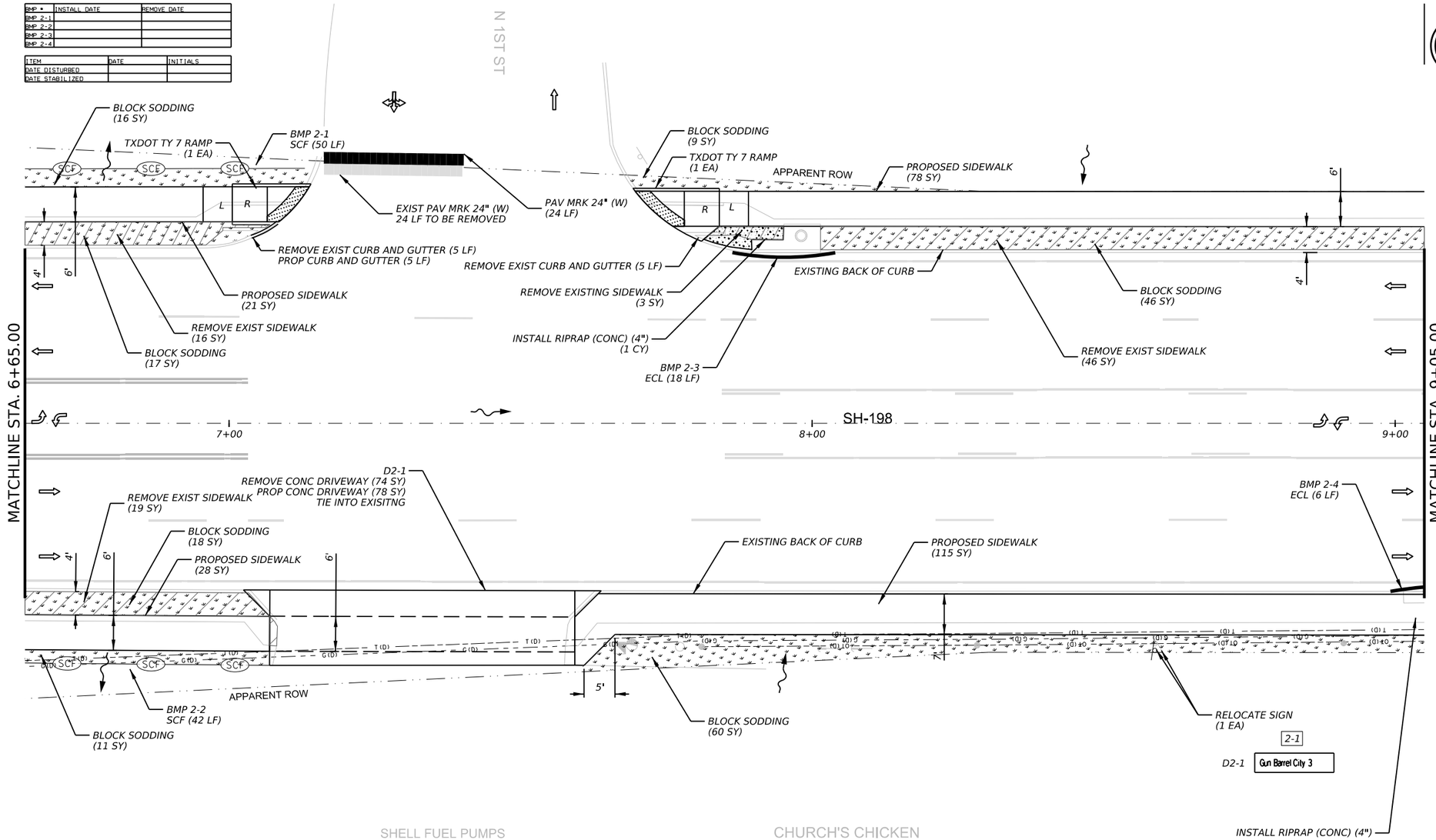
BMP 2-2		
BMP 2-3		
BMP 2-4		

ITEM	DATE	INITIALS
DATE DISTURBED		
DATE STABILIZED		



SHEET #			2
ITEM	DESCRIPTION	UNIT	QTY
0100 6002	PREPARING ROW	STA	2.4
0104 6017	REMOVING CONC (DRIVEWAYS)	SY	74
0104 6029	REMOVING CONC (CURB OR CURB & GUTTER)	LF	10
0104 6036	REMOVING CONC (SIDEWALK OR RAMP)	SY	84
0162 6002	BLOCK SODDING	SY	177
0168 6001	VEGETATIVE WATERING	MG	27
0432 6001	RIPRAP (CONC)(4 IN)	CY	1
0506 6038	TEMP SEDMT CONT FENCE (INSTALL)	LF	92
0506 6039	TEMP SEDMT CONT FENCE (REMOVE)	LF	92
0506 6040	BIODEG EROSN CONT LOGS (INSTL) (8")	LF	24
0506 6043	BIODEG EROSN CONT LOGS (REMOVE)	LF	24
0529 6008	CONC CURB & GUTTER (TY II)	LF	5
0530 6017	DRIVEWAYS (CONC) (HES)	SY	78
05316001	CONC SIDEWALKS (4")	SY	242
05316010	CURB RAMPS (TY 7)	EA	2
0644 6068	RELOCATE SM RD SN SUP&AM TY 10BWG	EA	1
0666 6048	REFL PAV MRK TY I (W)24"(SLD)(100MIL)	LF	24
0666 6230	PAVEMENT SEALER 24"	LF	24
0677 6007	ELIM EXT PAV MRK & MRKS (24")	LF	24
0678 6008	PAV SURF PREP FOR MRK (24")	LF	24

NOTES:

1. *THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILTIES PRIOR TO BEGINNING CONSTRUCTION.*
2. *LONGITUDINAL SLOPE SIDEWALKS SHALL NOT EXCEED 5% EXCEPT IN CASES WHERE THE ADJACENT ROADWAY SLOPE EXCEEDS 5%. IF ROADWAY SLOPE EXCEEDS 5%, LONGITUDINAL SLOPE OF THE SIDEWALK MAY MATCH THAT OF THE ROADWAY.*
3. *ALL CONCRETE DRIVEWAYS ARE TO BE SAWCUT AT THE ROADWAY INTERSECTION UNLESS OTHERWISE NOTED.*
4. *REMOVAL OF EXISTING SIGNS AND WITNESS POSTS THAT ARE IN CONFLICT WITH PROPOSED CONSTRUCTION SHALL BE SUBSIDIARY TO ITEM 100, "PREPARING RIGHT OF WAY."*

0 10 20
SCALE: 1" = 20'

5/28/2024

STATE OF TEXAS
SAMUEL J. LUNDQUIST
122185
LICENSED
PROFESSIONAL ENGINEER

SPECIAL NOTES & DETAILS

LEGEND

— × —	FENCE	☼	LIGHT POLE	SL	LONGITUDINAL SLOPES MAY NOT EXCEED 5%, CROSS SLOPE MAY NOT EXCEED 2%
F	FLARE		MAIL BOX		TRAFFIC FLOW
	FIRE HYDRANT		MANHOLE	SB	TRAFFIC SIGNAL BOX
	GAS METER/VALVE		PEDESTAL SIGNAL POLE		TRAFFIC SIGNAL CONTROLLER
	GROUND BOX		POWER/UTILITY POLE		TRAFFIC SIGNAL POLE
L	LANDING	R	RAMP		TREE/BUSHES
L1	LANDING (COMMON)		RIPRAP (CONC)		WATER METER/VALVE
LS	LEVEL SIDEWALK (2% MAX)		SIGN		GUTTER LINE PROJECTION
⟵	GUY WIRE		SODDING		GRATE INLET
	GUARD FENCE/RAIL	T	TRANSITION		PROPOSED PEDESTAL POLE
	PROPOSED CONDUIT (BORE)		REMOVAL OF EXISTING ITEMS		PROPOSED CONDUIT
	WATER FLOW DIRECTION		IRRIGATION CONTROLS		EXISTING CONDUIT
	EROSION CONTROL LOG		UTILITY WITNESS		STAMPED CONCRETE
SCF	SEDIMENT CONTROL FENCE				CUT & RESTORE PVMT
				#-#	RELOCATE EXISTING SIGN
				#-#	PROPOSED SIGN

Kimley»Horn F-928

Texas Department of Transportation

SIDEWALK AND SIGNING PLANS
SH 198

SHEET 2 OF 42

CONT	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN, ETC			39

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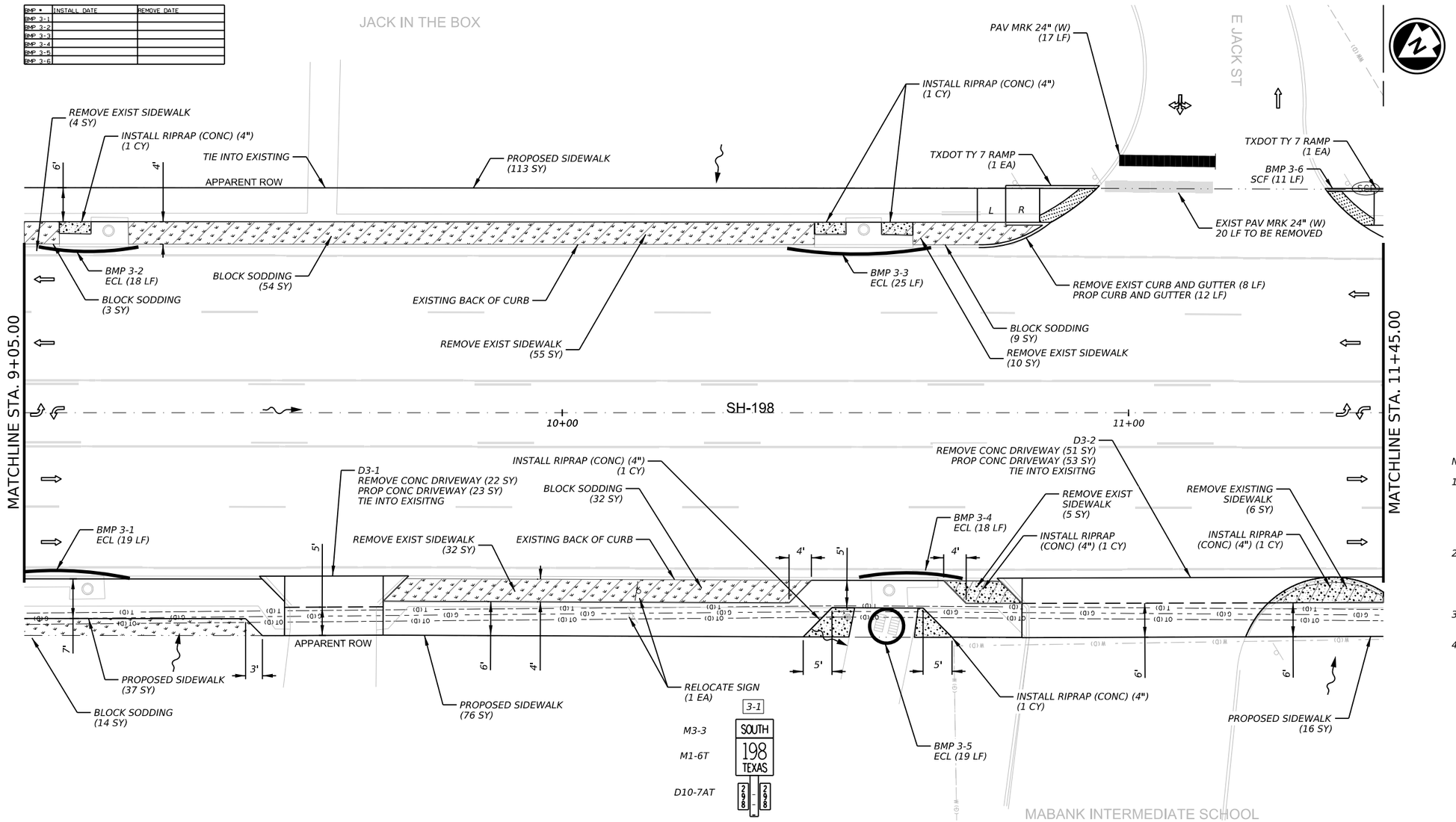
BMP 3-2		
BMP 3-3		
BMP 3-4		
BMP 3-5		
BMP 3-6		

JACK IN THE BOX



MABANK INTERMEDIATE SCHOOL

SHEET #			3
ITEM	DESCRIPTION	UNIT	QTY
0100 6002	PREPARING ROW	STA	2,4
0104 6017	REMOVING CONC (DRIVEWAYS)	SY	73
0104 6029	REMOVING CONC (CURB OR CURB & GUTTER)	LF	8
0104 6036	REMOVING CONC (SIDEWALK OR RAMP)	SY	112
0162 6002	BLOCK SODDING	SY	112
0168 6001	VEGETATIVE WATERING	MG	17
0432 6001	RIPRAP (CONC)(4 IN)	CY	6
0506 6038	TEMP SEDMT CONT FENCE (INSTALL)	LF	11
0506 6039	TEMP SEDMT CONT FENCE (REMOVE)	LF	11
0506 6040	BIODEG EROSN CONT LOGS (INSTL) (8")	LF	99
0506 6043	BIODEG EROSN CONT LOGS (REMOVE)	LF	99
0529 6008	CONC CURB & GUTTER (TY II)	LF	12
0530 6017	DRIVEWAYS (CONC) (HES)	SY	76
05316001	CONC SIDEWALKS (4")	SY	242
05316010	CURB RAMPS (TY 7)	EA	2
0644 6068	RELOCATE SM RD SN SUP&AM TY 10BWG	EA	1
0666 6048	REFL PAV MRK TY I (W)24"(SLD)(100MIL)	LF	17
0666 6230	PAVEMENT SEALER 24"	LF	17
0677 6007	ELIM EXT PAV MRK & MRKS (24")	LF	20
0678 6008	PAV SURF PREP FOR MRK (24")	LF	17

NOTES:

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2. *LONGITUDINAL SLOPE SIDEWALKS SHALL NOT EXCEED 5% EXCEPT IN CASES WHERE THE ADJACENT ROADWAY SLOPE EXCEEDS 5%. IF ROADWAY SLOPE EXCEEDS 5%, LONGITUDINAL SLOPE OF THE SIDEWALK MAY MATCH THAT OF THE ROADWAY.*
3. *ALL CONCRETE DRIVEWAYS ARE TO BE SAWCUT AT THE ROADWAY INTERSECTION UNLESS OTHERWISE NOTED.*
4. *REMOVAL OF EXISTING SIGNS AND WITNESS POSTS THAT ARE IN CONFLICT WITH PROPOSED CONSTRUCTION SHALL BE SUBSIDIARY TO ITEM 100, "PREPARING RIGHT OF WAY."*

0 10 20
SCALE: 1" = 20'

5/28/2024

STATE OF TEXAS
SAMUEL J. LUNDQUIST
122185
LICENSED PROFESSIONAL ENGINEER

Kimley»Horn F-928

Texas Department of Transportation

SPECIAL NOTES & DETAILS

LEGEND

— X —	FENCE		LIGHT POLE	SL	LONGITUDINAL SLOPES MAY NOT EXCEED 5%, CROSS SLOPE MAY NOT EXCEED 2%
F	FLARE		MAIL BOX		TRAFFIC FLOW
	FIRE HYDRANT		MANHOLE	SB	TRAFFIC SIGNAL BOX
	GAS METER/VALVE		PEDESTAL SIGNAL POLE		TRAFFIC SIGNAL CONTROLLER
	GROUND BOX		POWER/UTILITY POLE		TRAFFIC SIGNAL POLE
L	LANDING	R	RAMP		TREE/BUSHES
L1	LANDING (COMMON)		RIPRAP (CONC)		WATER METER/VALVE
LS	LEVEL SIDEWALK (2% MAX)		SIGN		GUTTER LINE PROJECTION
⟵	GUY WIRE		SODDING		GRATE INLET
	GUARD FENCE/RAIL	T	TRANSITION		PROPOSED PEDESTAL POLE
	PROPOSED CONDUIT (BORE)		REMOVAL OF EXISTING ITEMS		PROPOSED CONDUIT
	WATER FLOW DIRECTION		IRRIGATION CONTROLS		EXISTING CONDUIT
	EROSION CONTROL LOG		UTILITY WITNESS		STAMPED CONCRETE
SCF	SEDIMENT CONTROL FENCE				CUT & RESTORE PVMT
				#-#	RELOCATE EXISTING SIGN
				#-#	PROPOSED SIGN

Texas Department of Transportation

SIDEWALK AND SIGNING PLANS
SH 198

SHEET 3 OF 42

CONT	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN, ETC			40

DATE: 5/28/2024 2:49:05 PM
FILE: c:\pw\kh1\d0251465\DAL_RDWY_ADA_PLAN_03.dgn

BMP #	INSTALL DATE	REMOVE DATE
BMP 4-1		
BMP 4-2		
BMP 4-3		
BMP 4-4		
BMP 4-5		
BMP 4-6		
BMP 4-7		

ITEM	DATE	INITIALS
DATE DISTURBED		
DATE STABILIZED		

BARTON'S TRANSMISSION & SUPPLY

OPEN CHANNEL WITH HEADWALL STRUCTURE
BLOCK SODDING (13 SY)
BMP 4-2 SCF (35 LF)
TXDOT TY 2 RAMP (1 EA)
INSTALL RRFB1 (1 EA)
BMP 4-1 SCF (28 LF)
APPARENT ROW
BLOCK SODDING (69 SY)
BMP 4-5 SCF (123 LF)
REMOVE EXIST PED RAIL (32 LF)
PROPOSED PED RAIL (6 LF)
BMP 4-7 ECL (3 LF)
BLOCK SODDING (6 SY)
PROPOSED SIDEWALK (27 SY)
REMOVE EXIST PED RAIL (32 LF)
PROPOSED PED RAIL (30 LF)
INSTALL RIPRAP (CONC) (4") (1 CY)
D4-2
REMOVE CONC DRIVEWAY (39 SY)
PROP CONC DRIVEWAY (41 SY)
TIE INTO EXISITNG
EXISTING BACK OF CURB
PROPOSED SIDEWALK (73 SY)
PROPOSED SIDEWALK (5 SY)
REMOVE EXIST CURB AND GUTTER (7 LF)
PROP CURB AND GUTTER (10 LF)
EXIST PAV MRK 24" (W) 112 LF TO BE REMOVED
SH-198
MATCHLINE STA. 11+45.00
MATCHLINE STA. 13+85.00
12+00
13+00
D4-1
REMOVE CONC DRIVEWAY (50 SY)
PROP CONC DRIVEWAY (50 SY)
TIE INTO EXISITNG
PAV MRK 24" (W) (90 LF)
REMOVE EXISTING SIDEWALK (2 SY)
REMOVE EXISTING SIDEWALK (3 SY)
INSTALL RRFB2 (1 EA)
INSTALL RIPRAP (CONC) (4") (1 CY)
INSTALL RIPRAP (CONC) (4") (1 CY)
EXISTING BACK OF CURB
D4-3
REMOVE CONC DRIVEWAY (42 SY)
PROP CONC DRIVEWAY (44 SY)
TIE INTO EXISITNG
PROPOSED SIDEWALK (6 SY)
PROPOSED SIDEWALK (58 SY)
PROPOSED SIDEWALK (33 SY)
APPARENT ROW
TXDOT TY 3 RAMP (1 EA)
BLOCK SODDING (36 SY)
TIE INTO EXISTING
BMP 4-3 SCF (10 LF)
BLOCK SODDING (2 SY)
BMP 4-4 SCF (89 LF)
BLOCK SODDING (29 SY)
BMP 4-6 SCF (58 LF)
REMOVE EXIST PED RAIL (52 LF)
PROPOSED SIDEWALK (4 SY)
REMOVE EXISTING SIDEWALK (1 SY)
MABANK INTERMEDIATE SCHOOL
MAGNOLIA CROSSING RETAIL CENTER

SHEET #			4
ITEM	DESCRIPTION	UNIT	QTY
0100 6002	PREPARING ROW	STA	2.4
0104 6017	REMOVING CONC (DRIVEWAYS)	SY	131
0104 6029	REMOVING CONC (CURB OR CURB & GUTTER)	LF	7
0104 6036	REMOVING CONC (SIDEWALK OR RAMP)	SY	6
0162 6002	BLOCK SODDING	SY	155
0168 6001	VEGETATIVE WATERING	MG	24
0432 6001	RIPRAP (CONC)(4 IN)	CY	3
0450 6048	RAIL (HANDRAIL)(TY B)	LF	36
0506 6038	TEMP SEDMT CONT FENCE (INSTALL)	LF	343
0506 6039	TEMP SEDMT CONT FENCE (REMOVE)	LF	343
0506 6040	BIODEG EROSN CONT LOGS (INSTL) (8")	LF	3
0506 6043	BIODEG EROSN CONT LOGS (REMOVE)	LF	3
0529 6008	CONC CURB & GUTTER (TY II)	LF	10
0530 6017	DRIVEWAYS (CONC) (HES)	SY	135
05316001	CONC SIDEWALKS (4")	SY	706
05316005	CURB RAMPS (TY 2)	EA	1
05316006	CURB RAMPS (TY 3)	EA	1
0636 6001	ALUMINUM SIGNS (TY A)	SF	18
0666 6048	REFL PAV MRK TY I (W)24"(SLD)(100MIL)	LF	90
0666 6230	PAVEMENT SEALER 24"	LF	90
0677 6007	ELIM EXT PAV MRK & MRKS (24")	LF	112
0678 6008	PAV SURF PREP FOR MRK (24")	LF	90
6373 6001	REC RAPID FLASH BEACON(RRFB) SOLAR PW	EA	2

NOTES:

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0 10 20
SCALE: 1" = 20'

SOLAR PANEL
RECTANGULAR RAPID FLASHING BEACON RRFB1, RRFB (2 EA)
S1-1 (36" x 36")
FLASHING BEACON
SW16-7P (24" x 12")
MIN. 7' CLEARANCE FROM SIDEWALK ELECATION TO BOTTOM OF SIGN

SPECIAL NOTES & DETAILS

PROPOSED RRFB DETAILS

PROPOSED RRFB PEDESTRIAN PUSH BUTTON DETAILS

R10-25 (9" X 12")
PUSH BUTTON TO TURN ON WARNING LIGHTS
INSTALL PUSH BUTTONS
RRFB1, RRFB2 (2 EA)

LEGEND

— × —	FENCE		LIGHT POLE	SL	LONGITUDINAL SLOPES MAY NOT EXCEED 5%, CROSS SLOPE MAY NOT EXCEED 2%
F	FLARE		MAIL BOX		TRAFFIC FLOW
	FIRE HYDRANT		MANHOLE	SB	TRAFFIC SIGNAL BOX
	GAS METER/VALVE		PEDESTAL SIGNAL POLE		TRAFFIC SIGNAL CONTROLLER
	GROUND BOX		POWER/UTILITY POLE		TRAFFIC SIGNAL POLE
L	LANDING	R	RAMP		TREE/BUSHES
L1	LANDING (COMMON)		RIPRAP (CONC)		WATER METER/VALVE
LS	LEVEL SIDEWALK (2% MAX)		SIGN		GUTTER LINE PROJECTION
	GUY WIRE		SODDING		GRATE INLET
	GUARD FENCE/RAIL	T	TRANSITION		PROPOSED PEDESTAL POLE
	PROPOSED CONDUIT (BORE)		REMOVAL OF EXISTING ITEMS		PROPOSED CONDUIT
	WATER FLOW DIRECTION		IRRIGATION CONTROLS		EXISTING CONDUIT
	EROSION CONTROL LOG		UTILITY WITNESS		STAMPED CONCRETE
SCF	SEDIMENT CONTROL FENCE				CUT & RESTORE PVMT
				#-#	RELOCATE EXISTING SIGN
				#-#	PROPOSED SIGN

5/28/2024

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Texas Department of Transportation

SIDEWALK AND SIGNING PLANS
SH 198

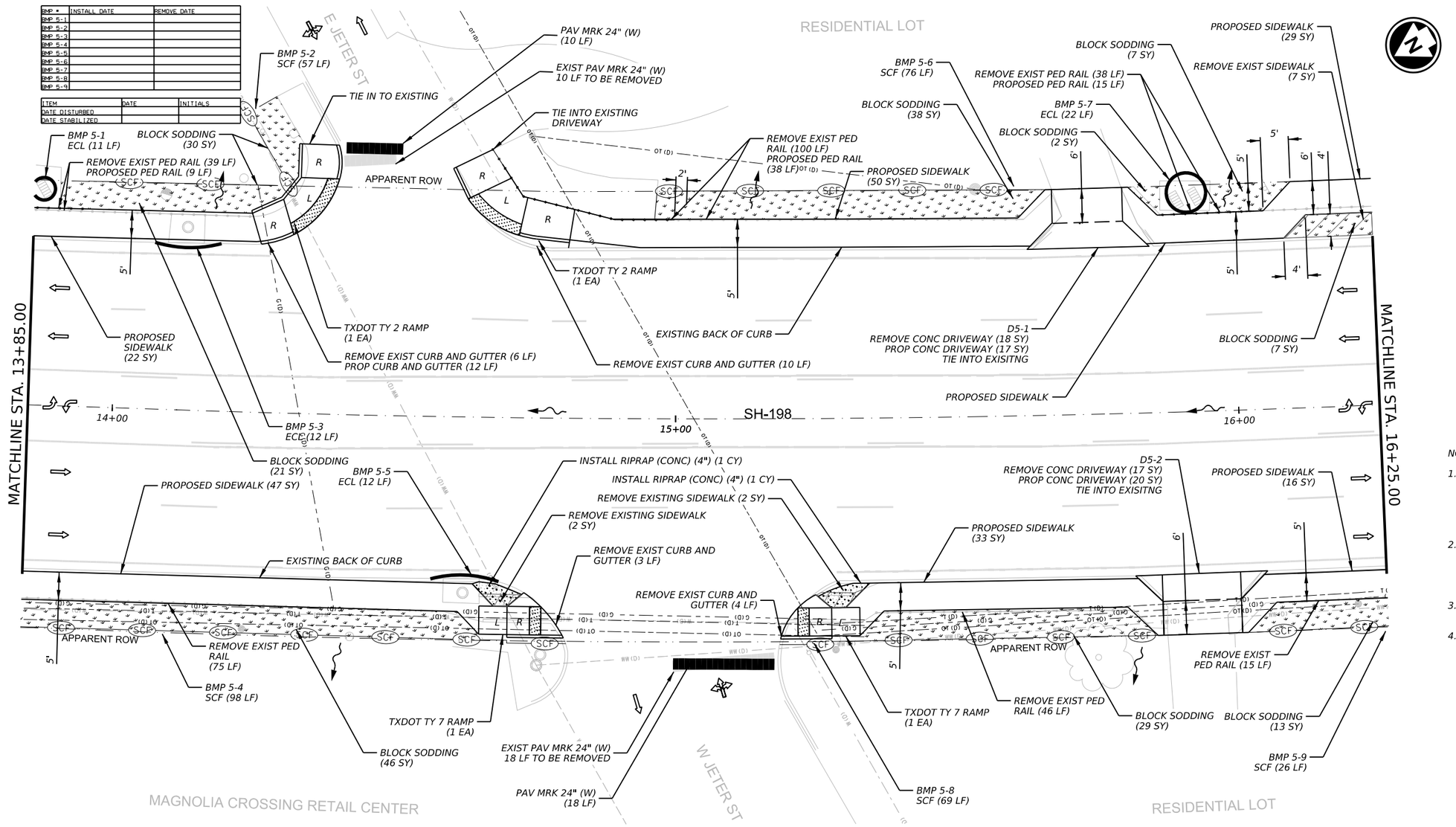
SHEET 4 OF 42

CONT	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN, ETC			41

DATE: 5/28/2024 2:49:37 PM
FILE: c:\pw\kh1\d0251465\DAL_ROWY_ADA_PLAN_04.dgn

BMP #	INSTALL DATE	REMOVE DATE
BMP 5-1		
BMP 5-2		
BMP 5-3		
BMP 5-4		
BMP 5-5		
BMP 5-6		
BMP 5-7		
BMP 5-8		
BMP 5-9		

ITEM	DATE	INITIALS
DATE DISTURBED		
DATE STABILIZED		



SHEET #			5
ITEM	DESCRIPTION	UNIT	QTY
0100 6002	PREPARING ROW	STA	2,4
0104 6017	REMOVING CONC (DRIVEWAYS)	SY	35
0104 6029	REMOVING CONC (CURB OR CURB & GUTTER)	LF	23
0104 6036	REMOVING CONC (SIDEWALK OR RAMP)	SY	7
0162 6002	BLOCK SODDING	SY	172
0168 6001	VEGETATIVE WATERING	MG	26
0416 6030	DRILL SHAFT (TRF SIG POLE) (24 IN)	LF	12
0432 6001	RIPRAP (CONC)(4 IN)	CY	2
0450 6048	RAIL (HANDRAIL)(TY B)	LF	62
0506 6038	TEMP SEDMT CONT FENCE (INSTALL)	LF	326
0506 6039	TEMP SEDMT CONT FENCE (REMOVE)	LF	326
0506 6040	BIODEG EROSN CONT LOGS (INSTL) (8")	LF	57
0506 6043	BIODEG EROSN CONT LOGS (REMOVE)	LF	57
0529 6008	CONC CURB & GUTTER (TY II)	LF	12
0530 6017	DRIVEWAYS (CONC) (HES)	SY	37
05316001	CONC SIDEWALKS (4")	SY	197
05316005	CURB RAMPS (TY 2)	EA	2
05316010	CURB RAMPS (TY 7)	EA	2
0666 6048	REFL PAV MRK TY I (W)24"(SLD)(100MIL)	LF	28
0666 6230	PAVEMENT SEALER 24"	LF	28
0677 6007	ELIM EXT PAV MRK & MRKS (24")	LF	28
0678 6008	PAV SURF PREP FOR MRK (24")	LF	28

NOTES:

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SCALE: 1" = 20'

SPECIAL NOTES & DETAILS

LEGEND

— × —	FENCE		LIGHT POLE	SL	LONGITUDINAL SLOPES MAY NOT EXCEED 5%, CROSS SLOPE MAY NOT EXCEED 2%
F	FLARE		MAIL BOX		TRAFFIC FLOW
	FIRE HYDRANT		MANHOLE	SB	TRAFFIC SIGNAL BOX
	GAS METER/VALVE		PEDESTAL SIGNAL POLE		TRAFFIC SIGNAL CONTROLLER
	GROUND BOX		POWER/UTILITY POLE		TRAFFIC SIGNAL POLE
L	LANDING	R	RAMP		TREE/BUSHES
L1	LANDING (COMMON)		RIPRAP (CONC)		WATER METER/VALVE
LS	LEVEL SIDEWALK (2% MAX)		SIGN		GUTTER LINE PROJECTION
⟵	GUY WIRE		SODDING		GRATE INLET
	GUARD FENCE/RAIL	T	TRANSITION		PROPOSED PEDESTAL POLE
	PROPOSED CONDUIT (BORE)		REMOVAL OF EXISTING ITEMS		PROPOSED CONDUIT
	WATER FLOW DIRECTION		IRRIGATION CONTROLS		EXISTING CONDUIT
	EROSION CONTROL LOG		UTILITY WITNESS		STAMPED CONCRETE
SCF	SEDIMENT CONTROL FENCE				CUT & RESTORE PVMT
				#-#	RELOCATE EXISTING SIGN
				#-#	PROPOSED SIGN

5/28/2024

SAMUEL J. LUNDQUIST 122185 LICENSED PROFESSIONAL ENGINEER STATE OF TEXAS

Kimley»Horn F-928

Texas Department of Transportation

SIDEWALK AND SIGNING PLANS
SH 198

SHEET 5 OF 42

CONT	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN, ETC			42

DATE: 5/28/2024 2:50:05 PM
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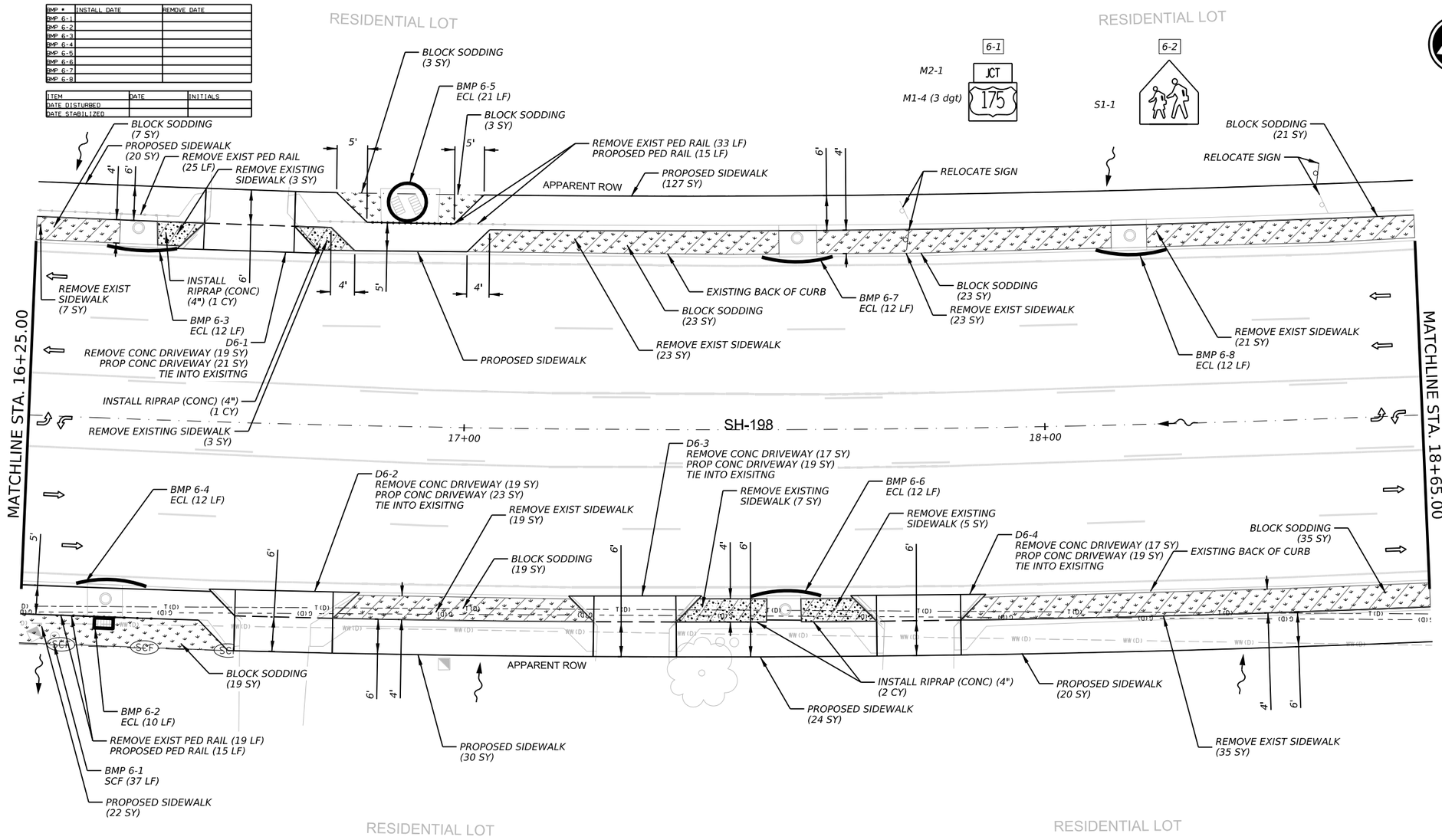
DW: DW: CK: CK:

BMP #	INSTALL DATE	REMOVE DATE
BMP 6-1		
BMP 6-2		
BMP 6-3		
BMP 6-4		
BMP 6-5		
BMP 6-6		
BMP 6-7		
BMP 6-8		

ITEM	DATE	INITIALS
DATE DISTURBED		
DATE STABILIZED		



SHEET #			6
ITEM	DESCRIPTION	UNIT	QTY
0100 6002	PREPARING ROW	STA	2,4
0104 6017	REMOVING CONC (DRIVEWAYS)	SY	72
0104 6036	REMOVING CONC (SIDEWALK OR RAMP)	SY	128
0162 6002	BLOCK SODDING	SY	153
0168 6001	VEGETATIVE WATERING	MG	23
0432 6001	RIPRAP (CONC)(4 IN)	CY	4
0450 6048	RAIL (HANDRAIL)(TY B)	LF	30
0506 6038	TEMP SEDMT CONT FENCE (INSTALL)	LF	37
0506 6039	TEMP SEDMT CONT FENCE (REMOVE)	LF	37
0506 6040	BIODEG EROSN CONT LOGS (INSTL) (8")	LF	91
0506 6043	BIODEG EROSN CONT LOGS (REMOVE)	LF	91
0530 6017	DRIVEWAYS (CONC) (HES)	SY	82
0531 6001	CONC SIDEWALKS (4")	SY	243
0644 6068	RELOCATE SM RD SN SUP&AM TY 10BWG	EA	2

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0 10 20

SCALE: 1" = 20'

SPECIAL NOTES & DETAILS

LEGEND

— × —	FENCE		LIGHT POLE	SL	LONGITUDINAL SLOPES MAY NOT EXCEED 5%, CROSS SLOPE MAY NOT EXCEED 2%
F	FLARE		MAIL BOX		TRAFFIC FLOW
	FIRE HYDRANT		MANHOLE	SB	TRAFFIC SIGNAL BOX
	GAS METER/VALVE		PEDESTAL SIGNAL POLE		TRAFFIC SIGNAL CONTROLLER
	GROUND BOX		POWER/UTILITY POLE		TRAFFIC SIGNAL POLE
L	LANDING	R	RAMP		TREE/BUSHES
L1	LANDING (COMMON)		RIPRAP (CONC)		WATER METER/VALVE
LS	LEVEL SIDEWALK (2% MAX)		SIGN		GUTTER LINE PROJECTION
	GUY WIRE		SODDING		GRATE INLET
	GUARD FENCE/RAIL	T	TRANSITION		PROPOSED PEDESTAL POLE
	PROPOSED CONDUIT (BORE)		REMOVAL OF EXISTING ITEMS		PROPOSED CONDUIT
	WATER FLOW DIRECTION		IRRIGATION CONTROLS		EXISTING CONDUIT
	EROSION CONTROL LOG		UTILITY WITNESS		STAMPED CONCRETE
SCF	SEDIMENT CONTROL FENCE				CUT & RESTORE PVMT
				#-#	RELOCATE EXISTING SIGN
				#-#	PROPOSED SIGN

5/28/2024

STATE OF TEXAS
SAMUEL J. LUNDQUIST
122185
LICENSED
PROFESSIONAL ENGINEER

Kimley»Horn F-928

Texas Department of Transportation

SIDEWALK AND SIGNING PLANS
SH 198

SHEET 6 OF 42

CONT	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN, ETC			43

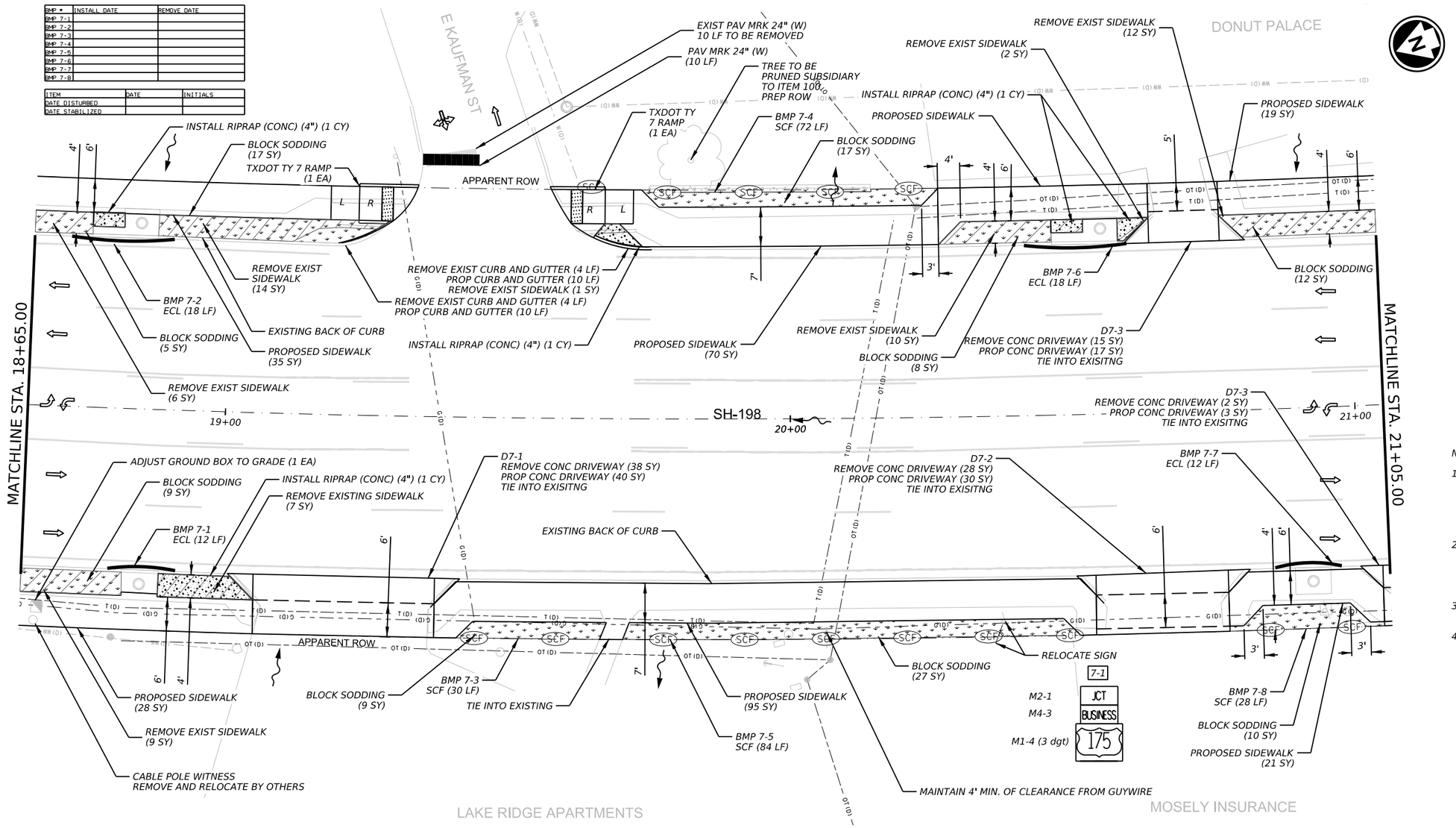
DATE: 5/28/2024 2:50:36 PM
FILE: c:\pw\khi1d025146\DAL_RDWY_ADA_PLAN_06.dgn

CK: DW: CK: DW:

BMP #	INSTALL DATE	REMOVE DATE
BMP 7-1		
BMP 7-2		
BMP 7-3		
BMP 7-4		
BMP 7-5		
BMP 7-6		
BMP 7-7		
BMP 7-8		

ITEM	DATE	INITIALS
DATE DISTURBED		
DATE STABILIZED		

SHEET #			7
ITEM	DESCRIPTION	UNIT	QTY
0100 6002	PREPARING ROW	STA	2,4
0104 6017	REMOVING CONC (DRIVEWAYS)	SY	83
0104 6029	REMOVING CONC (CURB OR CURB & GUTTER)	LF	8
0104 6036	REMOVING CONC (SIDEWALK OR RAMP)	SY	55
0162 6002	BLOCK SODDING	SY	114
0168 6001	VEGETATIVE WATERING	MG	17
0432 6001	RIPRAP (CONC)(4 IN)	CY	4
0506 6038	TEMP SEDMT CONT FENCE (INSTALL)	LF	214
0506 6039	TEMP SEDMT CONT FENCE (REMOVE)	LF	214
0506 6040	BIODEG EROSN CONT LOGS (INSTL) (8")	LF	60
0506 6043	BIODEG EROSN CONT LOGS (REMOVE)	LF	60
0529 6008	CONC CURB & GUTTER (TY II)	LF	20
0530 6017	DRIVEWAYS (CONC) (HES)	SY	90
05316001	CONC SIDEWALKS (4")	SY	268
05316010	CURB RAMPS (TY 7)	EA	2
0644 6068	RELOCATE SM RD SN SUP&AM TY 10BWG	EA	1
0666 6048	REFL PAV MRK TY I (W)24"(SLD)(100MIL)	LF	10
0666 6230	PAVEMENT SEALER 24"	LF	10
0677 6007	ELIM EXT PAV MRK & MRKS (24")	LF	10
0678 6008	PAV SURF PREP FOR MRK (24")	LF	10
6027 6009	GROUND BOX (ADJUST)	EA	1



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0 10 20
SCALE: 1" = 20'

5/28/2024

STATE OF TEXAS
SAMUEL J. LUNDQUIST
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LICENSED
PROFESSIONAL ENGINEER

SPECIAL NOTES & DETAILS

LEGEND

— × —	FENCE		LIGHT POLE	SL	LONGITUDINAL SLOPES MAY NOT EXCEED 5%, CROSS SLOPE MAY NOT EXCEED 2%
F	FLARE		MAIL BOX		CUT & RESTORE PVMT
	FIRE HYDRANT		MANHOLE		TRAFFIC FLOW
	GAS METER/VALVE	SB	PEDESTAL SIGNAL POLE	#-#	RELOCATE EXISTING SIGN
	GROUND BOX		POWER/UTILITY POLE	#-#	TRAFFIC SIGNAL BOX
L	LANDING	R	RAMP		TRAFFIC SIGNAL CONTROLLER
L1	LANDING (COMMON)		RIPRAP (CONC)		TRAFFIC SIGNAL POLE
LS	LEVEL SIDEWALK (2% MAX)		SIGN		TREE/BUSHES
	GUY WIRE		SODDING		WATER METER/VALVE
	GUARD FENCE/RAIL	T	TRANSITION		GUTTER LINE PROJECTION
	PROPOSED CONDUIT (BORE)		REMOVAL OF EXISTING ITEMS		GRATE INLET
	WATER FLOW DIRECTION		IRRIGATION CONTROLS		PROPOSED PEDESTAL POLE
	EROSION CONTROL LOG		UTILITY WITNESS		PROPOSED CONDUIT
SCF	SEDIMENT CONTROL FENCE				EXISTING CONDUIT
					STAMPED CONCRETE

Kimley»Horn F-928

Texas Department of Transportation

SIDEWALK AND SIGNING PLANS
SH 198

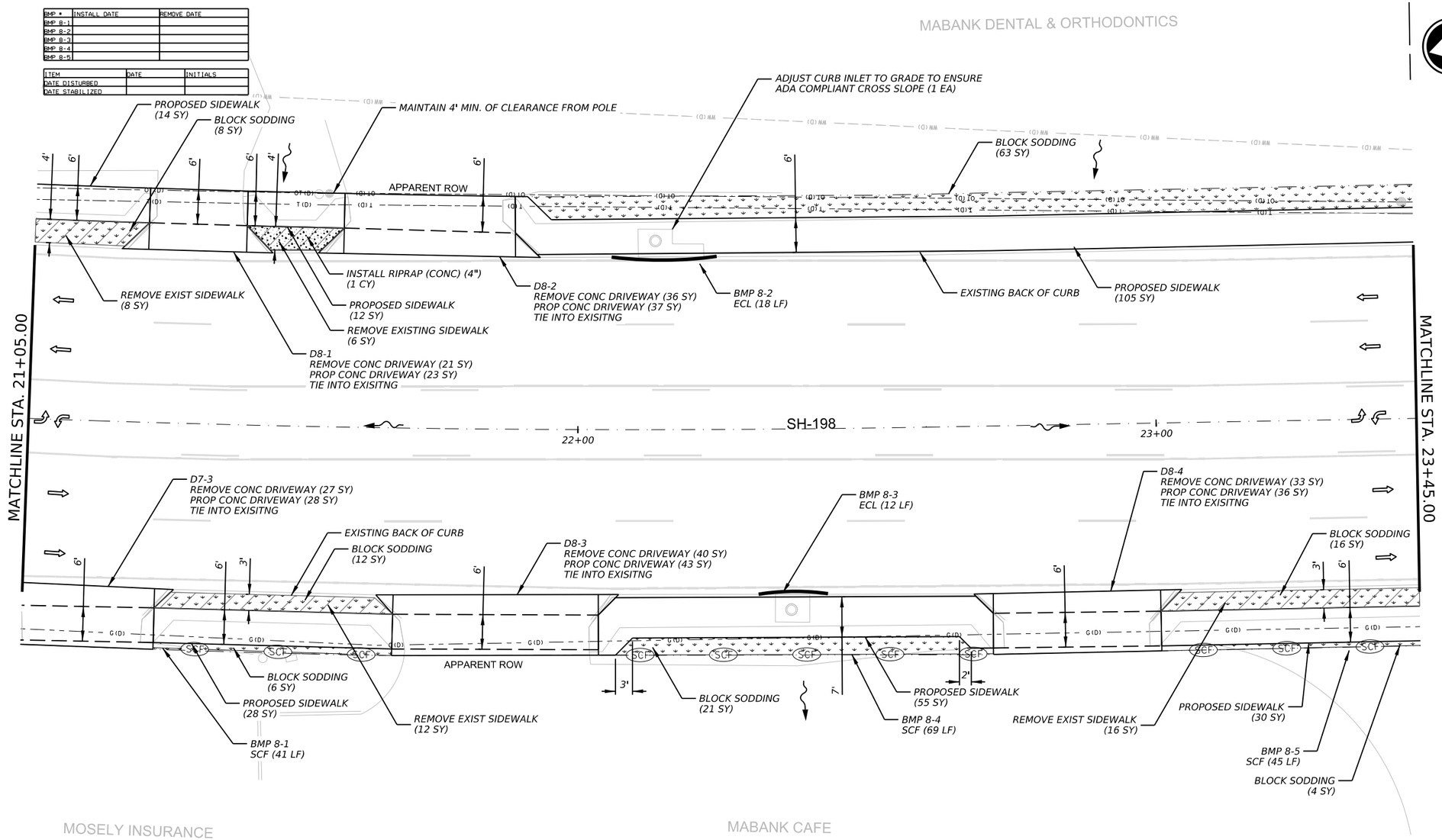
SHEET 7 OF 42

CONT	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN, ETC			44

DATE: 5/28/2024 2:51:06 PM
FILE: c:\pw\khi1d0251465\DAL_RDWY_ADA_PLAN_07.dgn

BMP #	INSTALL DATE	REMOVE DATE
BMP 8-1		
BMP 8-2		
BMP 8-3		
BMP 8-4		
BMP 8-5		

ITEM	DATE	INITIALS
DATE DISTURBED		
DATE STABILIZED		



SHEET #			8
ITEM	DESCRIPTION	UNIT	QTY
0100 6002	PREPARING ROW	STA	2.4
0104 6017	REMOVING CONC (DRIVEWAYS)	SY	157
0104 6036	REMOVING CONC (SIDEWALK OR RAMP)	SY	36
0162 6002	BLOCK SODDING	SY	130
0168 6001	VEGETATIVE WATERING	MG	20
0432 6001	RIPRAP (CONC)(4 IN)	CY	1
0479 6006	ADJUSTING INLET (CAP)	EA	1
0506 6038	TEMP SEDMT CONT FENCE (INSTALL)	LF	155
0506 6039	TEMP SEDMT CONT FENCE (REMOVE)	LF	155
0506 6040	BIODEG EROSN CONT LOGS (INSTL) (8")	LF	30
0506 6043	BIODEG EROSN CONT LOGS (REMOVE)	LF	30
0530 6017	DRIVEWAYS (CONC) (HES)	SY	167
05316001	CONC SIDEWALKS (4")	SY	244

NOTES:

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2. *LONGITUDINAL SLOPE SIDEWALKS SHALL NOT EXCEED 5% EXCEPT IN CASES WHERE THE ADJACENT ROADWAY SLOPE EXCEEDS 5%. IF ROADWAY SLOPE EXCEEDS 5%, LONGITUDINAL SLOPE OF THE SIDEWALK MAY MATCH THAT OF THE ROADWAY.*
3. *ALL CONCRETE DRIVEWAYS ARE TO BE SAWCUT AT THE ROADWAY INTERSECTION UNLESS OTHERWISE NOTED.*
4. *REMOVAL OF EXISTING SIGNS AND WITNESS POSTS THAT ARE IN CONFLICT WITH PROPOSED CONSTRUCTION SHALL BE SUBSIDIARY TO ITEM 100, "PREPARING RIGHT OF WAY."*

0 10 20
SCALE: 1" = 20'

SPECIAL NOTES & DETAILS

LEGEND

— × —	FENCE		LIGHT POLE	SL	LONGITUDINAL SLOPES MAY NOT EXCEED 5%, CROSS SLOPE MAY NOT EXCEED 2%
F	FLARE		MAIL BOX		TRAFFIC FLOW
	FIRE HYDRANT		MANHOLE	SB	TRAFFIC SIGNAL BOX
	GAS METER/VALVE		PEDESTAL SIGNAL POLE		TRAFFIC SIGNAL CONTROLLER
	GROUND BOX		POWER/UTILITY POLE		TRAFFIC SIGNAL POLE
L	LANDING	R	RAMP		TREE/BUSHES
L1	LANDING (COMMON)		RIPRAP (CONC)		WATER METER/VALVE
LS	LEVEL SIDEWALK (2% MAX)		SIGN		GUTTER LINE PROJECTION
	GUY WIRE		SODDING		GRATE INLET
	GUARD FENCE/RAIL	T	TRANSITION		PROPOSED PEDESTAL POLE
	PROPOSED CONDUIT (BORE)		REMOVAL OF EXISTING ITEMS		PROPOSED CONDUIT
	WATER FLOW DIRECTION		IRRIGATION CONTROLS		EXISTING CONDUIT
	EROSION CONTROL LOG		UTILITY WITNESS		STAMPED CONCRETE
SCF	SEDIMENT CONTROL FENCE				CUT & RESTORE PVMT
				#-#	RELOCATE EXISTING SIGN
				#-#	PROPOSED SIGN

5/28/2024

STATE OF TEXAS
SAMUEL J. LUNDQUIST
122185
LICENSED
PROFESSIONAL ENGINEER

Kimley»Horn F-928

Texas Department of Transportation

SIDEWALK AND SIGNING PLANS
SH 198

SHEET 8 OF 42

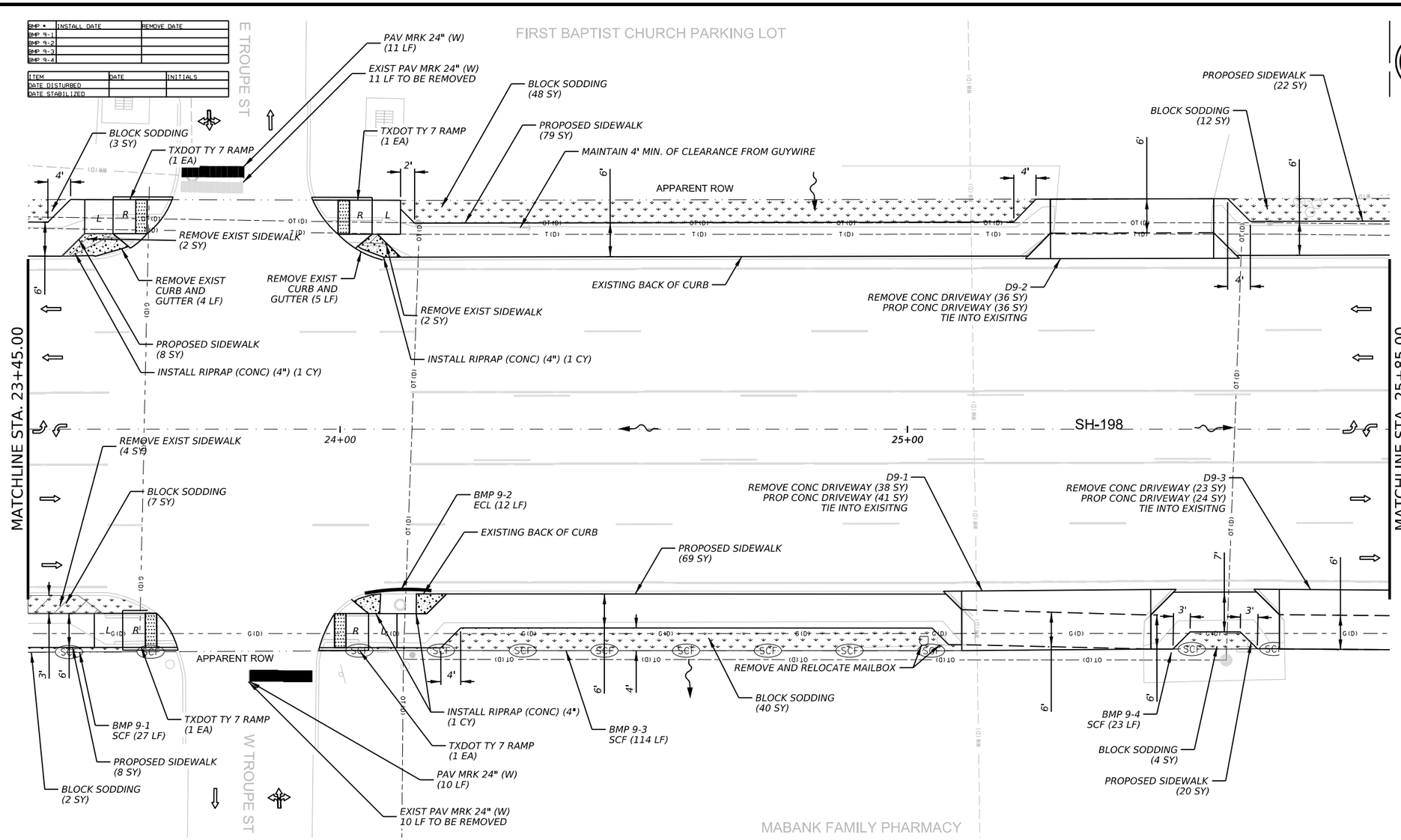
CONT	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN, ETC			45

DATE: 5/28/2024 2:51:36 PM
FILE: c:\pw\kh1\d0251465\DAL_ROWY_ADA_PLAN_08.dgn

CK: DW: CK: DW:

BMP #	INSTALL DATE	REMOVE DATE
BMP 9-1		
BMP 9-2		
BMP 9-3		
BMP 9-4		

ITEM	DATE	INITIALS
DATE DISTURBED		
DATE STABILIZED		



SHEET #			9
ITEM	DESCRIPTION	UNIT	QTY
0100 6002	PREPARING ROW	STA	2,4
0104 6017	REMOVING CONC (DRIVEWAYS)	SY	97
0104 6029	REMOVING CONC (CURB OR CURB & GUTTER)	LF	9
0104 6036	REMOVING CONC (SIDEWALK OR RAMP)	SY	8
0162 6002	BLOCK SODDING	SY	116
0168 6001	VEGETATIVE WATERING	MG	18
0432 6001	RIPRAP (CONC)(4 IN)	CY	3
0506 6038	TEMP SEDMT CONT FENCE (INSTALL)	LF	164
0506 6039	TEMP SEDMT CONT FENCE (REMOVE)	LF	164
0506 6040	BIODEG EROSN CONT LOGS (INSTL) (8")	LF	12
0506 6043	BIODEG EROSN CONT LOGS (REMOVE)	LF	12
0530 6017	DRIVEWAYS (CONC) (HES)	SY	101
05316001	CONC SIDEWALKS (4")	SY	206
05316010	CURB RAMPS (TY 7)	EA	4
0560 6025	RELOCATE EXISITING MAILBOX	EA	1
0666 6048	REFL PAV MRK TY I (W)24"(SLD)(100MIL)	LF	21
0666 6230	PAVEMENT SEALER 24"	LF	21
0677 6007	ELIM EXT PAV MRK & MRKS (24")	LF	21
0678 6008	PAV SURF PREP FOR MRK (24")	LF	21

NOTES:

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0 10 20
SCALE: 1" = 20'

SPECIAL NOTES & DETAILS

LEGEND

— × —	FENCE		LIGHT POLE	SL	LONGITUDINAL SLOPES MAY NOT EXCEED 5%, CROSS SLOPE MAY NOT EXCEED 2%
F	FLARE		MAIL BOX		CUT & RESTORE PVMT
	FIRE HYDRANT		MANHOLE		TRAFFIC FLOW
	GAS METER/VALVE		PEDESTAL SIGNAL POLE	#-#	RELOCATE EXISTING SIGN
	GROUND BOX		POWER/UTILITY POLE	SB	TRAFFIC SIGNAL BOX
L	LANDING	R	RAMP		TRAFFIC SIGNAL CONTROLLER
L1	LANDING (COMMON)		RIPRAP (CONC)		TRAFFIC SIGNAL POLE
LS	LEVEL SIDEWALK (2% MAX)		SIGN		TREE/BUSHES
	GUY WIRE		SODDING		WATER METER/VALVE
	GUARD FENCE/RAIL	T	TRANSITION		GUTTER LINE PROJECTION
	PROPOSED CONDUIT (BORE)		REMOVAL OF EXISTING ITEMS		GRATE INLET
	WATER FLOW DIRECTION		IRRIGATION CONTROLS		PROPOSED PEDESTAL POLE
	EROSION CONTROL LOG		UTILITY WITNESS		PROPOSED CONDUIT
SCF	SEDIMENT CONTROL FENCE				EXISTING CONDUIT
					STAMPED CONCRETE
				#-#	PROPOSED SIGN

5/29/2024

SAMUEL J. LUNDQUIST 122185 LICENSED PROFESSIONAL ENGINEER

Kimley»Horn F-928

Texas Department of Transportation

SIDEWALK AND SIGNING PLANS
SH 198

SHEET 9 OF 42

CONT	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN, ETC			46

DATE: 5/29/2024 10:11:24 AM
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BMP #	INSTALL DATE	REMOVE DATE
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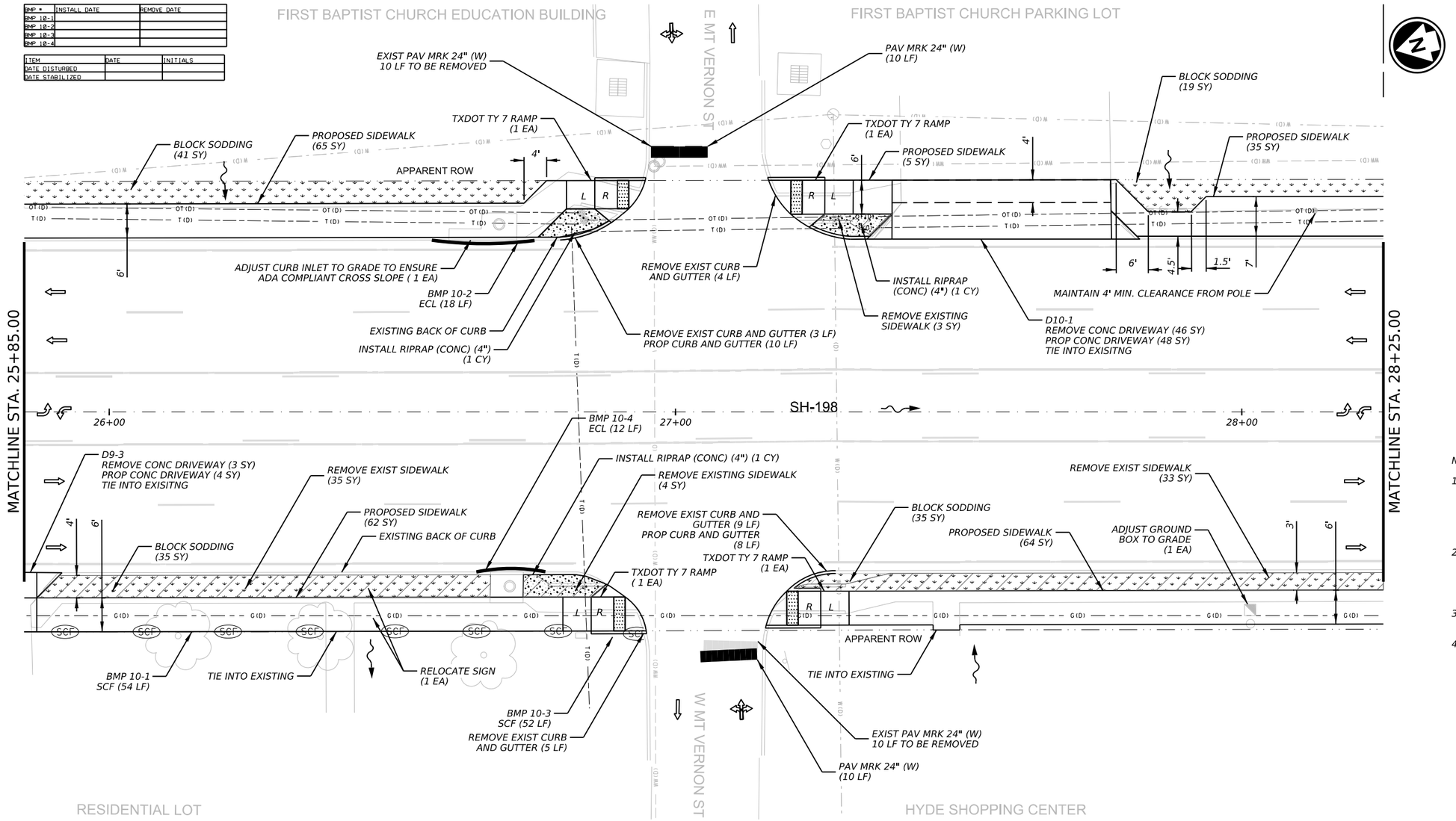
BMP 10-2		
BMP 10-3		
BMP 10-4		

ITEM	DATE	INITIALS
DATE DISTURBED		
DATE STABILIZED		



SHEET #			10
ITEM	DESCRIPTION	UNIT	QTY
0100 6002	PREPARING ROW	STA	2.4
0104 6017	REMOVING CONC (DRIVEWAYS)	SY	49
0104 6029	REMOVING CONC (CURB OR CURB & GUTTER)	LF	21
0104 6036	REMOVING CONC (SIDEWALK OR RAMP)	SY	75
0162 6002	BLOCK SODDING	SY	130
0168 6001	VEGETATIVE WATERING	MG	20
0432 6001	RIPRAP (CONC)(4 IN)	CY	3
0479 6006	ADJUSTING INLET (CAP)	EA	1
0506 6038	TEMP SEDMT CONT FENCE (INSTALL)	LF	106
0506 6039	TEMP SEDMT CONT FENCE (REMOVE)	LF	106
0506 6040	BIODEG EROSN CONT LOGS (INSTL) (8")	LF	30
0506 6043	BIODEG EROSN CONT LOGS (REMOVE)	LF	30
0529 6008	CONC CURB & GUTTER (TY II)	LF	18
0530 6017	DRIVEWAYS (CONC) (HES)	SY	52
05316001	CONC SIDEWALKS (4")	SY	231
05316010	CURB RAMPS (TY 7)	EA	4
0666 6048	REFL PAV MRK TY I (W)24"(SLD)(100MIL)	LF	20
0666 6230	PAVEMENT SEALER 24"	LF	20
0677 6007	ELIM EXT PAV MRK & MRKS (24")	LF	20
0678 6008	PAV SURF PREP FOR MRK (24")	LF	20
6027 6009	GROUND BOX (ADJUST)	EA	1

NOTES:

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0 10 20

SCALE: 1" = 20'

SPECIAL NOTES & DETAILS

LEGEND

— × —	FENCE		LIGHT POLE	SL	LONGITUDINAL SLOPES MAY NOT EXCEED 5%, CROSS SLOPE MAY NOT EXCEED 2%
F	FLARE		MAIL BOX		CUT & RESTORE PVMT
	FIRE HYDRANT		MANHOLE		TRAFFIC FLOW	#-#	RELOCATE EXISTING SIGN
	GAS METER/VALVE		PEDESTAL SIGNAL POLE	SB	TRAFFIC SIGNAL BOX	#-#	PROPOSED SIGN
	GROUND BOX		POWER/UTILITY POLE		TRAFFIC SIGNAL CONTROLLER		
L	LANDING	R	RAMP		TRAFFIC SIGNAL POLE		
L1	LANDING (COMMON)		RIPRAP (CONC)		TREE/BUSHES		
LS	LEVEL SIDEWALK (2% MAX)		SIGN		WATER METER/VALVE		
	GUY WIRE		SODDING		GUTTER LINE PROJECTION		
	GUARD FENCE/RAIL	T	TRANSITION		GRATE INLET		
	PROPOSED CONDUIT (BORE)		REMOVAL OF EXISTING ITEMS		PROPOSED PEDESTAL POLE		
	WATER FLOW DIRECTION		IRRIGATION CONTROLS		PROPOSED CONDUIT		
	EROSION CONTROL LOG		UTILITY WITNESS		EXISTING CONDUIT		
SCF	SEDIMENT CONTROL FENCE				STAMPED CONCRETE		

5/28/2024

STATE OF TEXAS
SAMUEL J. LUNDQUIST
122185
LICENSED
PROFESSIONAL ENGINEER

Kimley»Horn F-928

Texas Department of Transportation

SIDEWALK AND SIGNING PLANS
SH 198

SHEET 10 OF 42

CONT	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN, ETC			47

DATE: 5/28/2024 2:52:39 PM
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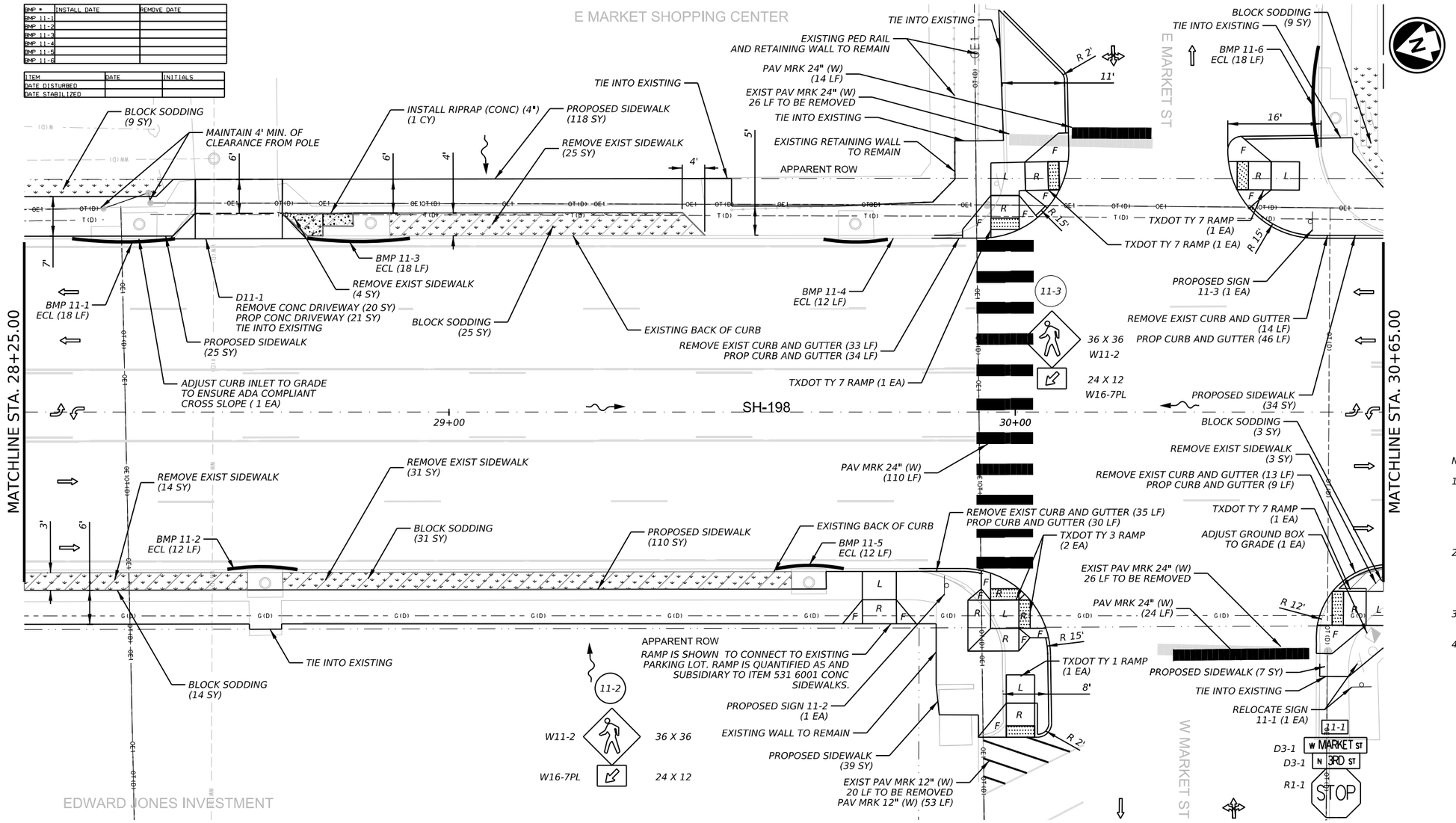
CK: DW: CK: DW:

BMP #	INSTALL DATE	REMOVE DATE
BMP 11-1		
BMP 11-2		
BMP 11-3		
BMP 11-4		
BMP 11-5		
BMP 11-6		

ITEM	DATE	INITIALS
DATE DISTURBED		
DATE STABILIZED		



SHEET #			11
ITEM	DESCRIPTION	UNIT	QTY
0100 6002	PREPARING ROW	STA	2.4
0104 6017	REMOVING CONC (DRIVEWAYS)	SY	20
0104 6029	REMOVING CONC (CURB OR CURB & GUTTER)	LF	95
0104 6036	REMOVING CONC (SIDEWALK OR RAMP)	SY	77
0162 6002	BLOCK SODDING	SY	91
0168 6001	VEGETATIVE WATERING	MG	14
0432 6001	RIPRAP (CONC)(4 IN)	CY	1
0479 6006	ADJUSTING INLET (CAP)	EA	1
0506 6040	BIODEG EROSN CONT LOGS (INSTL) (8")	LF	90
0506 6043	BIODEG EROSN CONT LOGS (REMOVE)	LF	90
0529 6008	CONC CURB & GUTTER (TY II)	LF	119
0530 6017	DRIVEWAYS (CONC) (HES)	SY	21
05316001	CONC SIDEWALKS (4")	SY	333
05316004	CURB RAMPS (TY 1)	EA	1
05316006	CURB RAMPS (TY 3)	EA	2
05316010	CURB RAMPS (TY 7)	EA	4
0644 6009	IN SM RD SN SUP&AM TY10BWG(1)SB(P)	EA	2
0644 6068	RELOCATE SM RD SN SUP&AM TY 10BWG	EA	1
0666 6042	REFL PAV MRK TY I (W)12"(SLD)(100MIL)	LF	53
0666 6048	REFL PAV MRK TY I (W)24"(SLD)(100MIL)	LF	148
0666 6228	PAVEMENT SEALER 12"	LF	53
0666 6230	PAVEMENT SEALER 24"	LF	148
0677 6005	ELIM EXT PAV MRK & MRKS (12")	LF	20
0677 6007	ELIM EXT PAV MRK & MRKS (24")	LF	52
0678 6006	PAV SURF PREP FOR MRK (12")	LF	148
0678 6008	PAV SURF PREP FOR MRK (24")	LF	148
6027 6009	GROUND BOX (ADJUST)	EA	1

NOTES:

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0 10 20
SCALE: 1" = 20'

SPECIAL NOTES & DETAILS

LEGEND

— × —	FENCE		LIGHT POLE	SL	LONGITUDINAL SLOPES MAY NOT EXCEED 5%, CROSS SLOPE MAY NOT EXCEED 2%
F	FLARE		MAIL BOX		TRAFFIC FLOW
	FIRE HYDRANT		MANHOLE	SB	TRAFFIC SIGNAL BOX
	GAS METER/VALVE		PEDESTAL SIGNAL POLE		TRAFFIC SIGNAL CONTROLLER
	GROUND BOX		POWER/UTILITY POLE		TRAFFIC SIGNAL POLE
L	LANDING	R	RAMP		TREE/BUSHES
L1	LANDING (COMMON)		RIPRAP (CONC)		WATER METER/VALVE
LS	LEVEL SIDEWALK (2% MAX)		SIGN		GUTTER LINE PROJECTION
	GUY WIRE		SODDING		GRATE INLET
	GUARD FENCE/RAIL	T	TRANSITION		PROPOSED PEDESTAL POLE
	PROPOSED CONDUIT (BORE)		REMOVAL OF EXISTING ITEMS		PROPOSED CONDUIT
	WATER FLOW DIRECTION		IRRIGATION CONTROLS		EXISTING CONDUIT
	EROSION CONTROL LOG		UTILITY WITNESS		STAMPED CONCRETE
SCF	SEDIMENT CONTROL FENCE				

CUT & RESTORE PVMT
#-# RELOCATE EXISTING SIGN
#-# PROPOSED SIGN

5/28/2024

STATE OF TEXAS
SAMUEL J. LUNDQUIST
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LICENSED
PROFESSIONAL ENGINEER

Kimley»Horn F-928

Texas Department of Transportation

SIDEWALK AND SIGNING PLANS
SH 198

SHEET 11 OF 42

CONT	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN, ETC			48

DATE: 5/28/2024 2:53:10 PM
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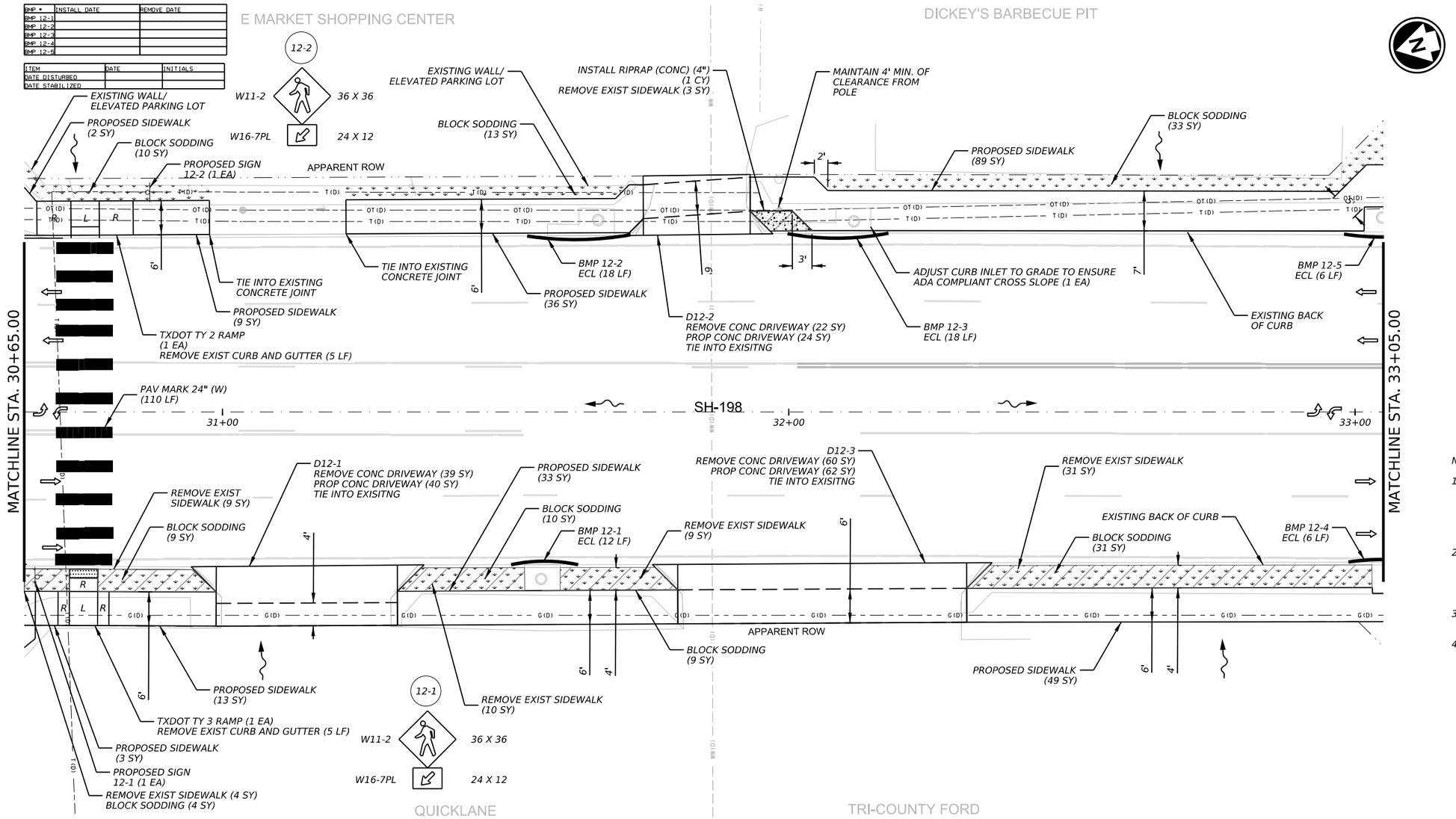
CK: DW: CK: DW:

BMP #	INSTALL DATE	REMOVE DATE
BMP 12-1		
BMP 12-2		
BMP 12-3		
BMP 12-4		
BMP 12-5		

ITEM	DATE	INITIALS
DATE DISTURBED		
DATE STABILIZED		

SHEET #			12
ITEM	DESCRIPTION	UNIT	QTY
0100 6002	PREPARING ROW	STA	2.4
0104 6017	REMOVING CONC (DRIVEWAYS)	SY	121
0104 6029	REMOVING CONC (CURB OR CURB & GUTTER)	LF	10
0104 6036	REMOVING CONC (SIDEWALK OR RAMP)	SY	66
0162 6002	BLOCK SODDING	SY	119
0168 6001	VEGETATIVE WATERING	MG	18
0432 6001	RIPRAP (CONC)(4 IN)	CY	1
0479 6006	ADJUSTING INLET (CAP)	EA	1
0506 6040	BIODEG EROSN CONT LOGS (INSTL) (8")	LF	60
0506 6043	BIODEG EROSN CONT LOGS (REMOVE)	LF	60
0530 6017	DRIVEWAYS (CONC) (HES)	SY	126
05316001	CONC SIDEWALKS (4")	SY	234
05316005	CURB RAMPS (TY 2)	EA	1
05316006	CURB RAMPS (TY 3)	EA	1
0644 6001	IN SM RD SN SUP&AM TY10BWG(1)SA(P)	EA	2
0666 6048	REFL PAV MRK TY I (W)24"(SLD)(100MIL)	LF	110
0666 6230	PAVEMENT SEALER 24"	LF	110
0678 6008	PAV SURF PREP FOR MRK (24")	LF	110



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0 10 20

SCALE: 1" = 20'

5/28/2024

STATE OF TEXAS
SAMUEL J. LUNDQUIST
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Kimley»Horn F-928

Texas Department of Transportation

SPECIAL NOTES & DETAILS

LEGEND

— × —	FENCE		LIGHT POLE	SL	LONGITUDINAL SLOPES MAY NOT EXCEED 5%, CROSS SLOPE MAY NOT EXCEED 2%
F	FLARE		MAIL BOX		CUT & RESTORE PVMT
	FIRE HYDRANT		MANHOLE	#-#	RELOCATE EXISTING SIGN
	GAS METER/VALVE		PEDESTAL SIGNAL POLE	#-#	PROPOSED SIGN
	GROUND BOX		POWER/UTILITY POLE		TRAFFIC FLOW
L	LANDING	R	RAMP	SB	TRAFFIC SIGNAL BOX
L1	LANDING (COMMON)		RIPRAP (CONC)		TRAFFIC SIGNAL CONTROLLER
LS	LEVEL SIDEWALK (2% MAX)		SIGN		TRAFFIC SIGNAL POLE
	GUY WIRE		SODDING		TREE/BUSHES
	GUARD FENCE/RAIL	T	TRANSITION		WATER METER/VALVE
	PROPOSED CONDUIT (BORE)		REMOVAL OF EXISTING ITEMS		GUTTER LINE PROJECTION
	WATER FLOW DIRECTION		IRRIGATION CONTROLS		GRATE INLET
	EROSION CONTROL LOG		UTILITY WITNESS		PROPOSED PEDESTAL POLE
SCF	SEDIMENT CONTROL FENCE				PROPOSED CONDUIT
					EXISTING CONDUIT
					STAMPED CONCRETE

SIDEWALK AND SIGNING PLANS
SH 198

SHEET 12 OF 42

CONT	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN, ETC			49

DATE: 5/28/2024 2:53:45 PM
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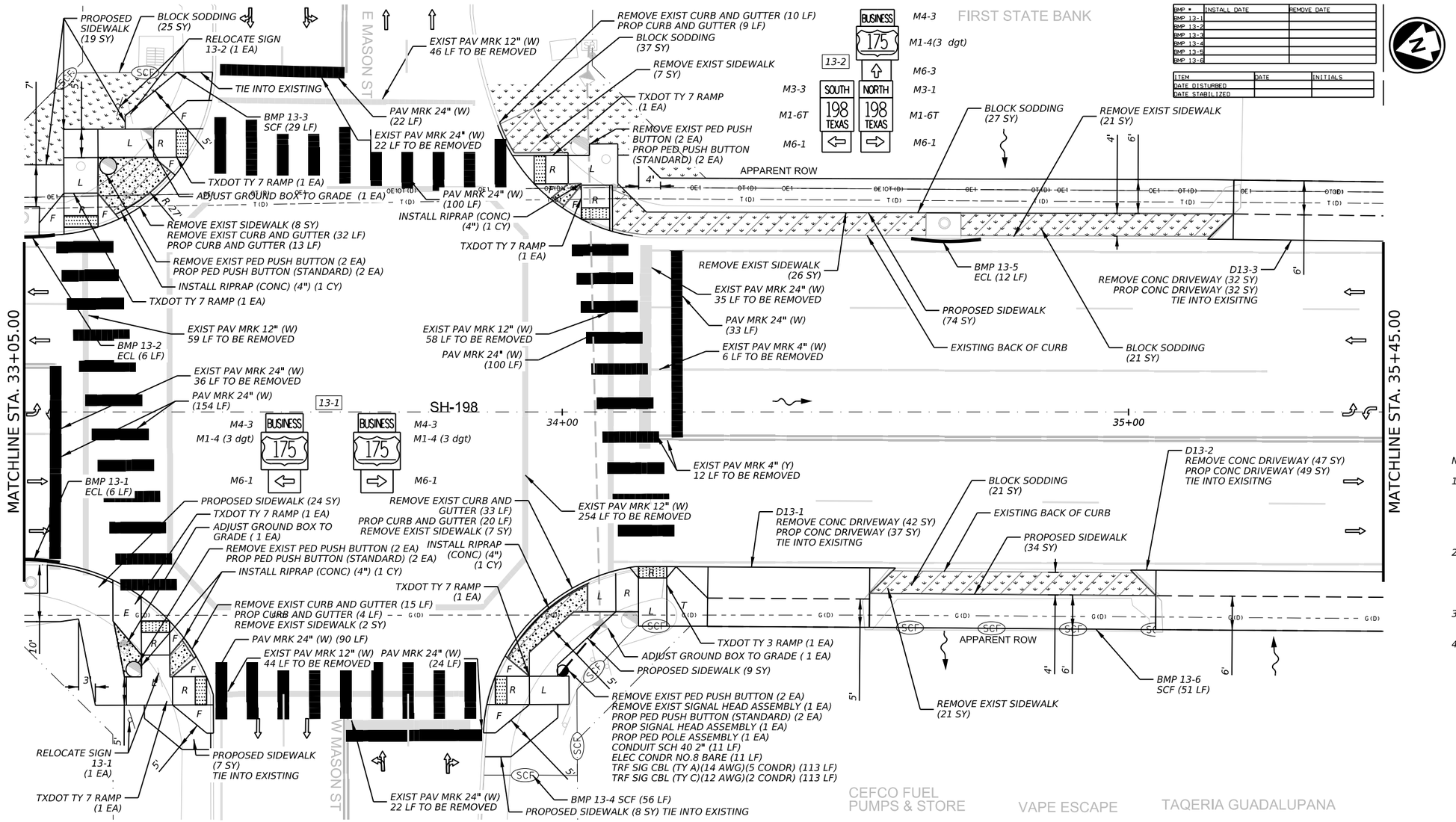
CK: DW: CK: DW:



BMP #	INSTALL DATE	REMOVE DATE
BMP 13-1		
BMP 13-2		
BMP 13-3		
BMP 13-4		
BMP 13-5		
BMP 13-6		

ITEM	DATE	INITIALS
DATE DISTURBED		
DATE STABILIZED		

SHEET #			13
ITEM	DESCRIPTION	UNIT	QTY
0100 6002	PREPARING ROW	STA	2.4
0104 6017	REMOVING CONC (DRIVEWAYS)	SY	121
0104 6029	REMOVING CONC (CURB OR CURB & GUTTER)	LF	90
0104 6036	REMOVING CONC (SIDEWALK OR RAMP)	SY	93
0162 6002	BLOCK SODDING	SY	131
0168 6001	VEGETATIVE WATERING	MG	20
0432 6001	RIPRAP (CONC)(4 IN)	CY	4
0506 6038	TEMP SEDMT CONT FENCE (INSTALL)	LF	136
0506 6039	TEMP SEDMT CONT FENCE (REMOVE)	LF	136
0506 6040	BIODEG EROSN CONT LOGS (INSTL) (8")	LF	24
0506 6043	BIODEG EROSN CONT LOGS (REMOVE)	LF	24
0529 6008	CONC CURB & GUTTER (TY II)	LF	46
0530 6017	DRIVEWAYS (CONC) (HES)	SY	118
05316001	CONC SIDEWALKS (4")	SY	175
05316006	CURB RAMPS (TY 3)	EA	1
05316010	CURB RAMPS (TY 7)	EA	7
0618 6023	CONDT (PVC) (SCH 40) (2")	LF	11
0620 6007	ELEC CONDR (NO.8) BARE	LF	11
0644 6070	RELOCATE SM RD SN SUP&AM TY S80	EA	2
0666 6048	REFL PAV MRK TY I (W)24"(SLD)(100MIL)	LF	523
0666 6230	PAVEMENT SEALER 24"	LF	523
0677 6001	ELIM EXT PAV MRK & MRKS (4")	LF	18
0677 6005	ELIM EXT PAV MRK & MRKS (12")	LF	461
0677 6007	ELIM EXT PAV MRK & MRKS (24")	LF	115
0678 6008	PAV SURF PREP FOR MRK (24")	LF	523
0684 6031	TRF SIG CBL (TY A)(14 AWG)(5 CONDR)	LF	113
0684 6079	TRF SIG CBL (TY C)(12 AWG)(2 CONDR)	LF	113
0687 6001	PED POLE ASSEMBLY	EA	1
0688 6002	PED DETECT PUSH BUTTON (STANDARD)	EA	8
0690 6024	REMOVAL OF SIGNAL HEAD ASSM	EA	1
0690 6026	INSTALL OF SIGNAL HEAD ASSM	EA	1
0690 6030	REMOVAL OF PEDESTRIAN PUSH BUTTONS	EA	8
6027 6009	GROUND BOX (ADJUST)	EA	3

NOTES:

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2. *LONGITUDINAL SLOPE SIDEWALKS SHALL NOT EXCEED 5% EXCEPT IN CASES WHERE THE ADJACENT ROADWAY SLOPE EXCEEDS 5%. IF ROADWAY SLOPE EXCEEDS 5%, LONGITUDINAL SLOPE OF THE SIDEWALK MAY MATCH THAT OF THE ROADWAY.*
3. *ALL CONCRETE DRIVEWAYS ARE TO BE SAWCUT AT THE ROADWAY INTERSECTION UNLESS OTHERWISE NOTED.*
4. *REMOVAL OF EXISTING SIGNS AND WITNESS POSTS THAT ARE IN CONFLICT WITH PROPOSED CONSTRUCTION SHALL BE SUBSIDIARY TO ITEM 100, "PREPARING RIGHT OF WAY."*

0 10 20
SCALE: 1" = 20'

5/28/2024

STATE OF TEXAS
SAMUEL J. LUNDQUIST
122185
LICENSED
PROFESSIONAL ENGINEER

Kimley»Horn F-928

Texas Department of Transportation

SPECIAL NOTES & DETAILS

LEGEND

— × —	FENCE		LIGHT POLE	SL	LONGITUDINAL SLOPES MAY NOT EXCEED 5%, CROSS SLOPE MAY NOT EXCEED 2%
F	FLARE		MAIL BOX		TRAFFIC FLOW
	FIRE HYDRANT		MANHOLE	SB	TRAFFIC SIGNAL BOX
	GAS METER/VALVE		PEDESTAL SIGNAL POLE		TRAFFIC SIGNAL CONTROLLER
	GROUND BOX		POWER/UTILITY POLE		TRAFFIC SIGNAL POLE
L	LANDING	R	RAMP		TREE/BUSHES
L1	LANDING (COMMON)		RIPRAP (CONC)		WATER METER/VALVE
LS	LEVEL SIDEWALK (2% MAX)		SIGN		GUTTER LINE PROJECTION
	GUY WIRE		SODDING		GRATE INLET
	GUARD FENCE/RAIL	T	TRANSITION		PROPOSED PEDESTAL POLE
	PROPOSED CONDUIT (BORE)		REMOVAL OF EXISTING ITEMS		PROPOSED CONDUIT
	WATER FLOW DIRECTION		IRRIGATION CONTROLS		EXISTING CONDUIT
	EROSION CONTROL LOG		UTILITY WITNESS		STAMPED CONCRETE
SCF	SEDIMENT CONTROL FENCE				

CUT & RESTORE PVMT
#-# RELOCATE EXISTING SIGN
#-# PROPOSED SIGN

SIDEWALK AND SIGNING PLANS
SH 198

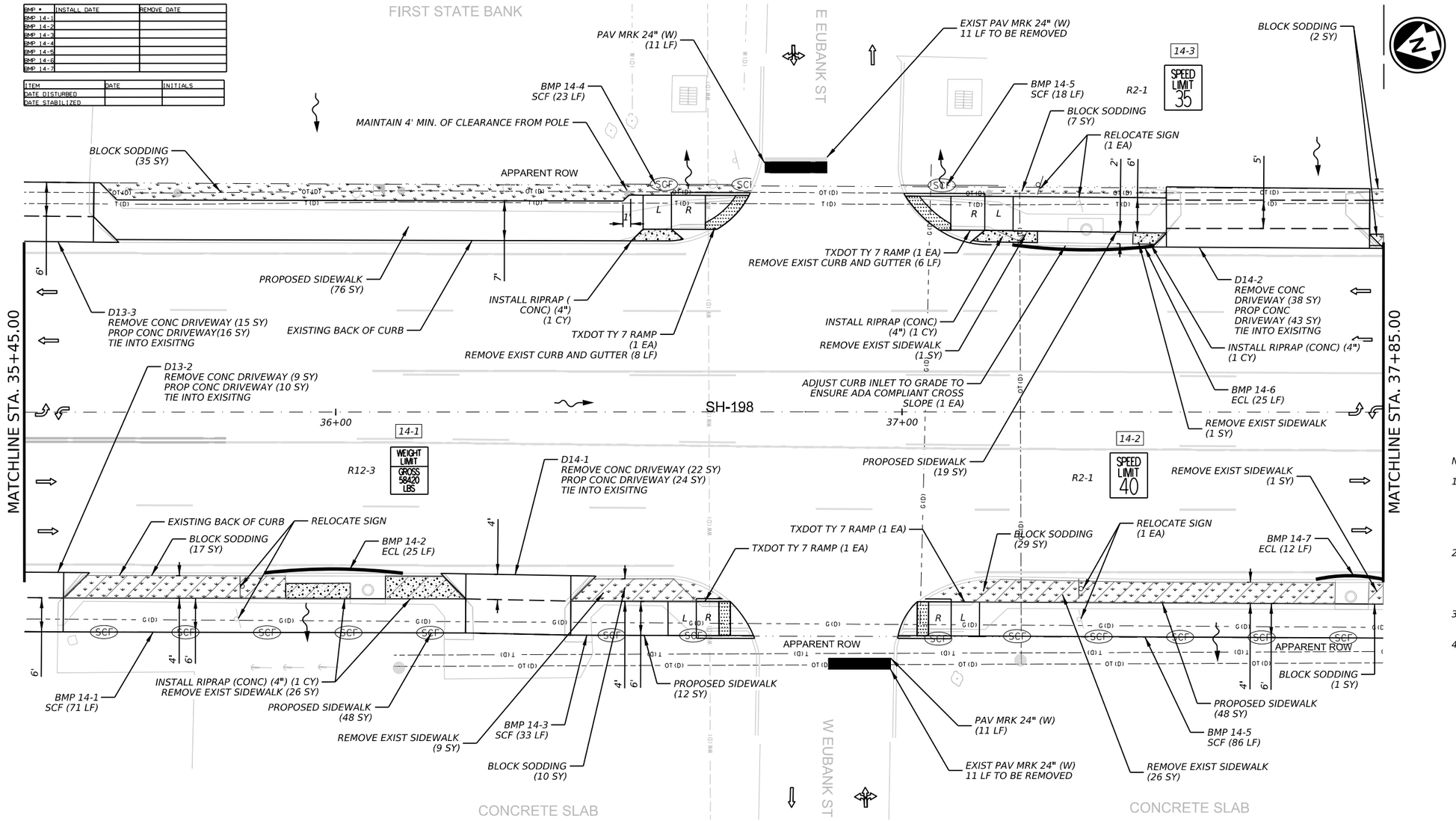
SHEET 13 OF 42

CONT	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN, ETC			50

DATE: 5/28/2024 2:54:17 PM
FILE: c:\pw\kh1\d0251465\DAL_ROWY_ADA_PLAN_13.dgn

SMP #	INSTALL DATE	REMOVE DATE
SMP 14-1		
SMP 14-2		
SMP 14-3		
SMP 14-4		
SMP 14-5		
SMP 14-6		
SMP 14-7		

ITEM	DATE	INITIALS
DATE DISTURBED		
DATE STABILIZED		



SHEET #			14
ITEM	DESCRIPTION	UNIT	QTY
0100 6002	PREPARING ROW	STA	2.4
0104 6017	REMOVING CONC (DRIVEWAYS)	SY	84
0104 6029	REMOVING CONC (CURB OR CURB & GUTTER)	LF	14
0104 6036	REMOVING CONC (SIDEWALK OR RAMP)	SY	64
0162 6002	BLOCK SODDING	SY	101
0168 6001	VEGETATIVE WATERING	MG	16
0432 6001	RIPRAP (CONC)(4 IN)	CY	4
0479 6006	ADJUSTING INLET (CAP)	EA	1
0506 6038	TEMP SEDMT CONT FENCE (INSTALL)	LF	231
0506 6039	TEMP SEDMT CONT FENCE (REMOVE)	LF	231
0506 6040	BIODEG EROSN CONT LOGS (INSTL) (8")	LF	62
0506 6043	BIODEG EROSN CONT LOGS (REMOVE)	LF	62
0530 6017	DRIVEWAYS (CONC) (HES)	SY	93
05316001	CONC SIDEWALKS (4")	SY	203
05316010	CURB RAMPS (TY 7)	EA	4
0644 6068	RELOCATE SM RD SN SUP&AM TY 10BWG	EA	3
0666 6048	REFL PAV MRK TY I (W)24"(SLD)(100MIL)	LF	22
0666 6230	PAVEMENT SEALER 24"	LF	22
0677 6007	ELIM EXT PAV MRK & MRKS (24")	LF	22
0678 6008	PAV SURF PREP FOR MRK (24")	LF	22

NOTES:

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0 10 20
SCALE: 1" = 20'

SPECIAL NOTES & DETAILS

LEGEND

— × —	FENCE	☼	LIGHT POLE	SL	LONGITUDINAL SLOPES MAY NOT EXCEED 5%, CROSS SLOPE MAY NOT EXCEED 2%
F	FLARE		MAIL BOX		CUT & RESTORE PVMT
	FIRE HYDRANT		MANHOLE		TRAFFIC FLOW
	GAS METER/VALVE		PEDESTAL SIGNAL POLE	#-#	RELOCATE EXISTING SIGN
	GROUND BOX		POWER/UTILITY POLE	SB	TRAFFIC SIGNAL BOX
L	LANDING	R	RAMP		TRAFFIC SIGNAL CONTROLLER
L1	LANDING (COMMON)		RIPRAP (CONC)		TRAFFIC SIGNAL POLE
LS	LEVEL SIDEWALK (2% MAX)		SIGN		TREE/BUSHES
	GUY WIRE		SODDING		WATER METER/VALVE
	GUARD FENCE/RAIL	T	TRANSITION		GUTTER LINE PROJECTION
	PROPOSED CONDUIT (BORE)		REMOVAL OF EXISTING ITEMS		GRATE INLET
	WATER FLOW DIRECTION		IRRIGATION CONTROLS		PROPOSED PEDESTAL POLE
	EROSION CONTROL LOG		UTILITY WITNESS		PROPOSED CONDUIT
SCF	SEDIMENT CONTROL FENCE				EXISTING CONDUIT
					STAMPED CONCRETE
				#-#	PROPOSED SIGN

5/28/2024

SAMUEL J. LUNDQUIST 122185 LICENSED PROFESSIONAL ENGINEER STATE OF TEXAS

Kimley»Horn F-928

Texas Department of Transportation

SIDEWALK AND SIGNING PLANS
SH 198

SHEET 14 OF 42

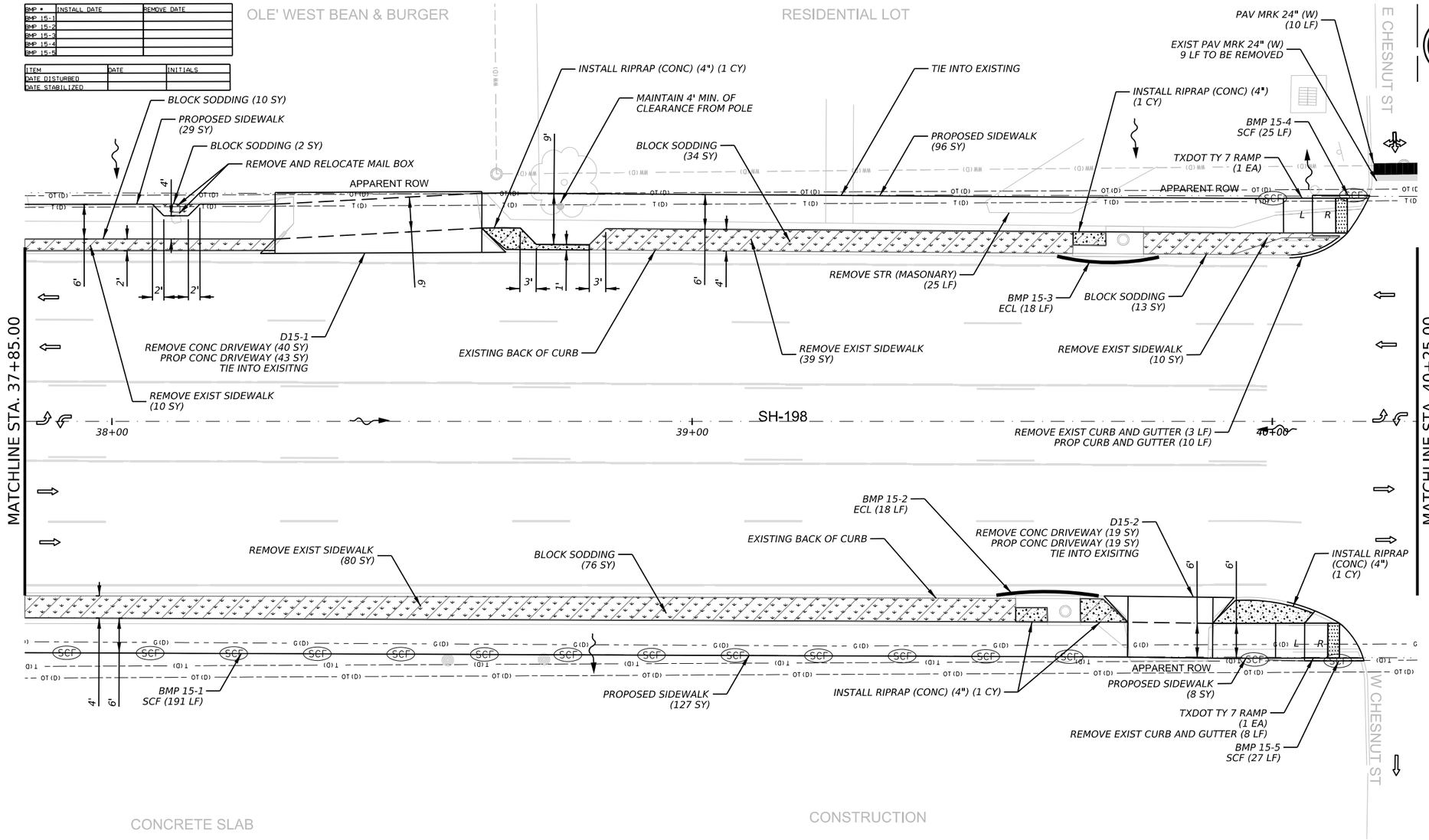
CONT	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN, ETC			51

DATE: 5/28/2024 2:55:29 PM
FILE: c:\pw\kh1\d0251465\DAL_RDWY_ADA_PLAN_14.dgn

CK: DW: CK: DW:

BMP #	INSTALL DATE	REMOVE DATE
BMP 15-1		
BMP 15-2		
BMP 15-3		
BMP 15-4		
BMP 15-5		

ITEM	DATE	INITIALS
DATE DISTURBED		
DATE STABILIZED		



SHEET #			15
ITEM	DESCRIPTION	UNIT	QTY
0100 6002	PREPARING ROW	STA	2.4
0104 6017	REMOVING CONC (DRIVEWAYS)	SY	59
0104 6029	REMOVING CONC (CURB OR CURB & GUTTER)	LF	11
0104 6036	REMOVING CONC (SIDEWALK OR RAMP)	SY	138
0162 6002	BLOCK SODDING	SY	135
0168 6001	VEGETATIVE WATERING	MG	21
0432 6001	RIPRAP (CONC)(4 IN)	CY	4
0496 6093	REMOV STR (MASONARY)	LF	25
0506 6038	TEMP SEDMT CONT FENCE (INSTALL)	LF	243
0506 6039	TEMP SEDMT CONT FENCE (REMOVE)	LF	243
0506 6040	BIODEG EROSN CONT LOGS (INSTL) (8")	LF	36
0506 6043	BIODEG EROSN CONT LOGS (REMOVE)	LF	36
0529 6008	CONC CURB & GUTTER (TY II)	LF	10
0530 6017	DRIVEWAYS (CONC) (HES)	SY	62
05316001	CONC SIDEWALKS (4")	SY	260
05316010	CURB RAMPS (TY 7)	EA	2
0560 6025	RELOCATE EXISITING MAILBOX	EA	1
0666 6048	REFL PAV MRK TY I (W)24"(SLD)(100MIL)	LF	10
0666 6230	PAVEMENT SEALER 24"	LF	10
0677 6007	ELIM EXT PAV MRK & MRKS (24")	LF	9
0678 6008	PAV SURF PREP FOR MRK (24")	LF	10

NOTES:

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0 10 20
SCALE: 1" = 20'

SPECIAL NOTES & DETAILS

LEGEND

— × —	FENCE		LIGHT POLE	SL	LONGITUDINAL SLOPES MAY NOT EXCEED 5%, CROSS SLOPE MAY NOT EXCEED 2%
F	FLARE		MAIL BOX		TRAFFIC FLOW
	FIRE HYDRANT		MANHOLE	SB	TRAFFIC SIGNAL BOX
	GAS METER/VALVE		PEDESTAL SIGNAL POLE		TRAFFIC SIGNAL CONTROLLER
	GROUND BOX		POWER/UTILITY POLE		TRAFFIC SIGNAL POLE
L	LANDING	R	RAMP		TREE/BUSHES
L1	LANDING (COMMON)		RIPRAP (CONC)		WATER METER/VALVE
LS	LEVEL SIDEWALK (2% MAX)		SIGN		GUTTER LINE PROJECTION
	GUY WIRE		SODDING		GRATE INLET
	GUARD FENCE/RAIL	T	TRANSITION		PROPOSED PEDESTAL POLE
	PROPOSED CONDUIT (BORE)		REMOVAL OF EXISTING ITEMS		PROPOSED CONDUIT
	WATER FLOW DIRECTION		IRRIGATION CONTROLS		EXISTING CONDUIT
	EROSION CONTROL LOG		UTILITY WITNESS		STAMPED CONCRETE
SCF	SEDIMENT CONTROL FENCE				CUT & RESTORE PVMT
				#-#	RELOCATE EXISTING SIGN
				#-#	PROPOSED SIGN

5/28/2024

STATE OF TEXAS
SAMUEL J. LUNDQUIST
122185
LICENSED
PROFESSIONAL ENGINEER

Kimley»Horn F-928

Texas Department of Transportation

SIDEWALK AND SIGNING PLANS
SH 198

SHEET 15 OF 42

CONT	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN, ETC			52

DATE: 5/28/2024 2:56:00 PM
FILE: c:\pw\khi1d025146\DAL_RDWY_ADA_PLAN_15.dgn

CK: DW: CK: DW:

BMP #	INSTALL DATE	REMOVE DATE
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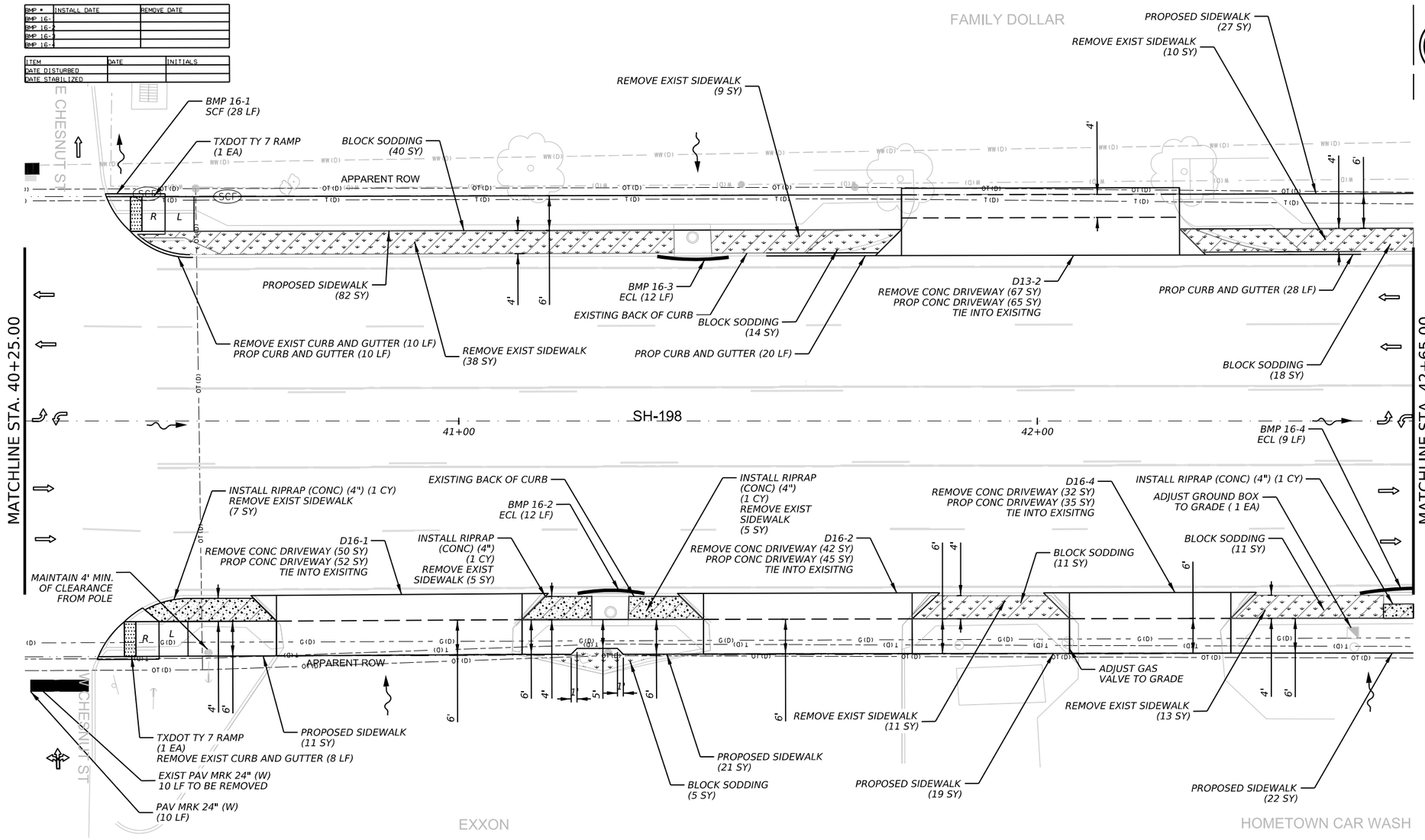
BMP 16-2		
BMP 16-3		
BMP 16-4		

ITEM	DATE	INITIALS
DATE DISTURBED		
DATE STABILIZED		



SHEET #			16
ITEM	DESCRIPTION	UNIT	QTY
0100 6002	PREPARING ROW	STA	2.4
0104 6017	REMOVING CONC (DRIVEWAYS)	SY	191
0104 6029	REMOVING CONC (CURB OR CURB & GUTTER)	LF	18
0104 6036	REMOVING CONC (SIDEWALK OR RAMP)	SY	87
0162 6002	BLOCK SODDING	SY	99
0168 6001	VEGETATIVE WATERING	MG	15
0432 6001	RIPRAP (CONC)(4 IN)	CY	4
0479 6005	ADJUSTING MANHOLES (WATER VALVE BOX)	EA	1
0506 6038	TEMP SEDMT CONT FENCE (INSTALL)	LF	28
0506 6039	TEMP SEDMT CONT FENCE (REMOVE)	LF	28
0506 6040	BIODEG EROSN CONT LOGS (INSTL) (8")	LF	33
0506 6043	BIODEG EROSN CONT LOGS (REMOVE)	LF	33
0529 6008	CONC CURB & GUTTER (TY II)	LF	58
0530 6017	DRIVEWAYS (CONC) (HES)	SY	197
05316001	CONC SIDEWALKS (4")	SY	185
05316010	CURB RAMPS (TY 7)	EA	2
0666 6048	REFL PAV MRK TY I (W)24"(SLD)(100MIL)	LF	10
0666 6230	PAVEMENT SEALER 24"	LF	10
0677 6007	ELIM EXT PAV MRK & MRKS (24")	LF	10
0678 6008	PAV SURF PREP FOR MRK (24")	LF	10
6027 6009	GROUND BOX (ADJUST)	EA	1

NOTES:

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0 10 20
SCALE: 1" = 20'

SPECIAL NOTES & DETAILS

LEGEND

— × —	FENCE	☼	LIGHT POLE	SL	LONGITUDINAL SLOPES MAY NOT EXCEED 5%, CROSS SLOPE MAY NOT EXCEED 2%
F	FLARE	▢	MAIL BOX		CUT & RESTORE PVMT
	FIRE HYDRANT	◎	MANHOLE		TRAFFIC FLOW
	GAS METER/VALVE		PEDESTAL SIGNAL POLE	SB	TRAFFIC SIGNAL BOX
	GROUND BOX		POWER/UTILITY POLE		TRAFFIC SIGNAL CONTROLLER
L	LANDING	R	RAMP		TRAFFIC SIGNAL POLE
L1	LANDING (COMMON)		RIPRAP (CONC)		TREE/BUSHES
LS	LEVEL SIDEWALK (2% MAX)	—○—	SIGN		WATER METER/VALVE
⟵	GUY WIRE		SODDING		GUTTER LINE PROJECTION
	GUARD FENCE/RAIL	T	TRANSITION		GRATE INLET
	PROPOSED CONDUIT (BORE)		REMOVAL OF EXISTING ITEMS		PROPOSED PEDESTAL POLE
	WATER FLOW DIRECTION		IRRIGATION CONTROLS		PROPOSED CONDUIT
	EROSION CONTROL LOG	○	UTILITY WITNESS		EXISTING CONDUIT
SCF	SEDIMENT CONTROL FENCE				STAMPED CONCRETE
				#-#	RELOCATE EXISTING SIGN
				#-#	PROPOSED SIGN

5/28/2024

STATE OF TEXAS
SAMUEL J. LUNDQUIST
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LICENSED
PROFESSIONAL ENGINEER

Kimley»Horn F-928

Texas Department of Transportation

SIDEWALK AND SIGNING PLANS
SH 198

SHEET 16 OF 42

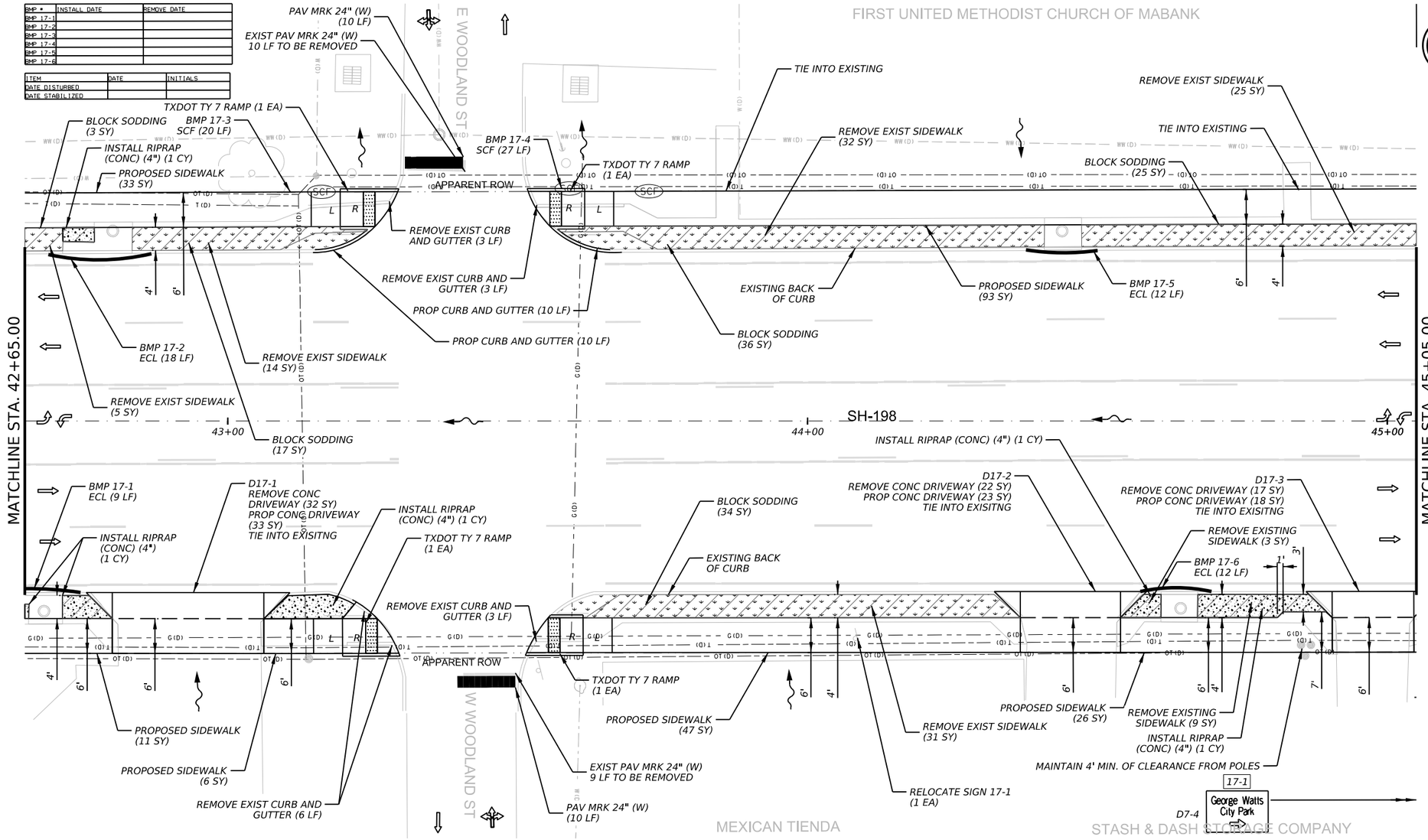
CONT	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN, ETC			53

DATE: 5/28/2024 2:56:32 PM
FILE: c:\pw\kh1\d0251465\DAL_RDWY_ADA_PLAN_16.dgn

CK: DW: CK: DW:

BMP #	INSTALL DATE	REMOVE DATE
BMP 17-1		
BMP 17-2		
BMP 17-3		
BMP 17-4		
BMP 17-5		
BMP 17-6		

ITEM	DATE	INITIALS
DATE DISTURBED		
DATE STABILIZED		



SHEET #			17
ITEM	DESCRIPTION	UNIT	QTY
0100 6002	PREPARING ROW	STA	2.4
0104 6017	REMOVING CONC (DRIVEWAYS)	SY	71
0104 6029	REMOVING CONC (CURB OR CURB & GUTTER)	LF	15
0104 6036	REMOVING CONC (SIDEWALK OR RAMP)	SY	105
0162 6002	BLOCK SODDING	SY	115
0168 6001	VEGETATIVE WATERING	MG	18
0432 6001	RIPRAP (CONC)(4 IN)	CY	5
0506 6038	TEMP SEDMT CONT FENCE (INSTALL)	LF	47
0506 6039	TEMP SEDMT CONT FENCE (REMOVE)	LF	47
0506 6040	BIODEG EROSN CONT LOGS (INSTL) (8")	LF	51
0506 6043	BIODEG EROSN CONT LOGS (REMOVE)	LF	51
0529 6008	CONC CURB & GUTTER (TY II)	LF	20
0530 6017	DRIVEWAYS (CONC) (HES)	SY	74
05316001	CONC SIDEWALKS (4")	SY	216
05316010	CURB RAMPS (TY 7)	EA	4
0644 6068	RELOCATE SM RD SN SUP&AM TY 10BWG	EA	1
0666 6048	REFL PAV MRK TY I (W)24"(SLD)(100MIL)	LF	20
0666 6230	PAVEMENT SEALER 24"	LF	20
0677 6007	ELIM EXT PAV MRK & MRKS (24")	LF	19
0678 6008	PAV SURF PREP FOR MRK (24")	LF	20

NOTES:

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0 10 20
SCALE: 1" = 20'

SPECIAL NOTES & DETAILS

LEGEND

— × —	FENCE		LIGHT POLE	SL	LONGITUDINAL SLOPES MAY NOT EXCEED 5%, CROSS SLOPE MAY NOT EXCEED 2%
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	FIRE HYDRANT		MANHOLE	SB	TRAFFIC SIGNAL BOX
	GAS METER/VALVE		PEDESTAL SIGNAL POLE		TRAFFIC SIGNAL CONTROLLER
	GROUND BOX		POWER/UTILITY POLE		TRAFFIC SIGNAL POLE
L	LANDING	R	RAMP		TREE/BUSHES
L1	LANDING (COMMON)		RIPRAP (CONC)		WATER METER/VALVE
LS	LEVEL SIDEWALK (2% MAX)		SIGN		GUTTER LINE PROJECTION
	GUY WIRE		SODDING		GRATE INLET
	GUARD FENCE/RAIL	T	TRANSITION		PROPOSED PEDESTAL POLE
	PROPOSED CONDUIT (BORE)		REMOVAL OF EXISTING ITEMS		PROPOSED CONDUIT
	WATER FLOW DIRECTION		IRRIGATION CONTROLS		EXISTING CONDUIT
	EROSION CONTROL LOG		UTILITY WITNESS		STAMPED CONCRETE
SCF	SEDIMENT CONTROL FENCE				

	CUT & RESTORE PVMT
#-#	RELOCATE EXISTING SIGN
#-#	PROPOSED SIGN

5/28/2024

STATE OF TEXAS
SAMUEL J. LUNDQUIST
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LICENSED PROFESSIONAL ENGINEER

Kimley»Horn F-928

Texas Department of Transportation

SIDEWALK AND SIGNING PLANS
SH 198

SHEET 17 OF 42

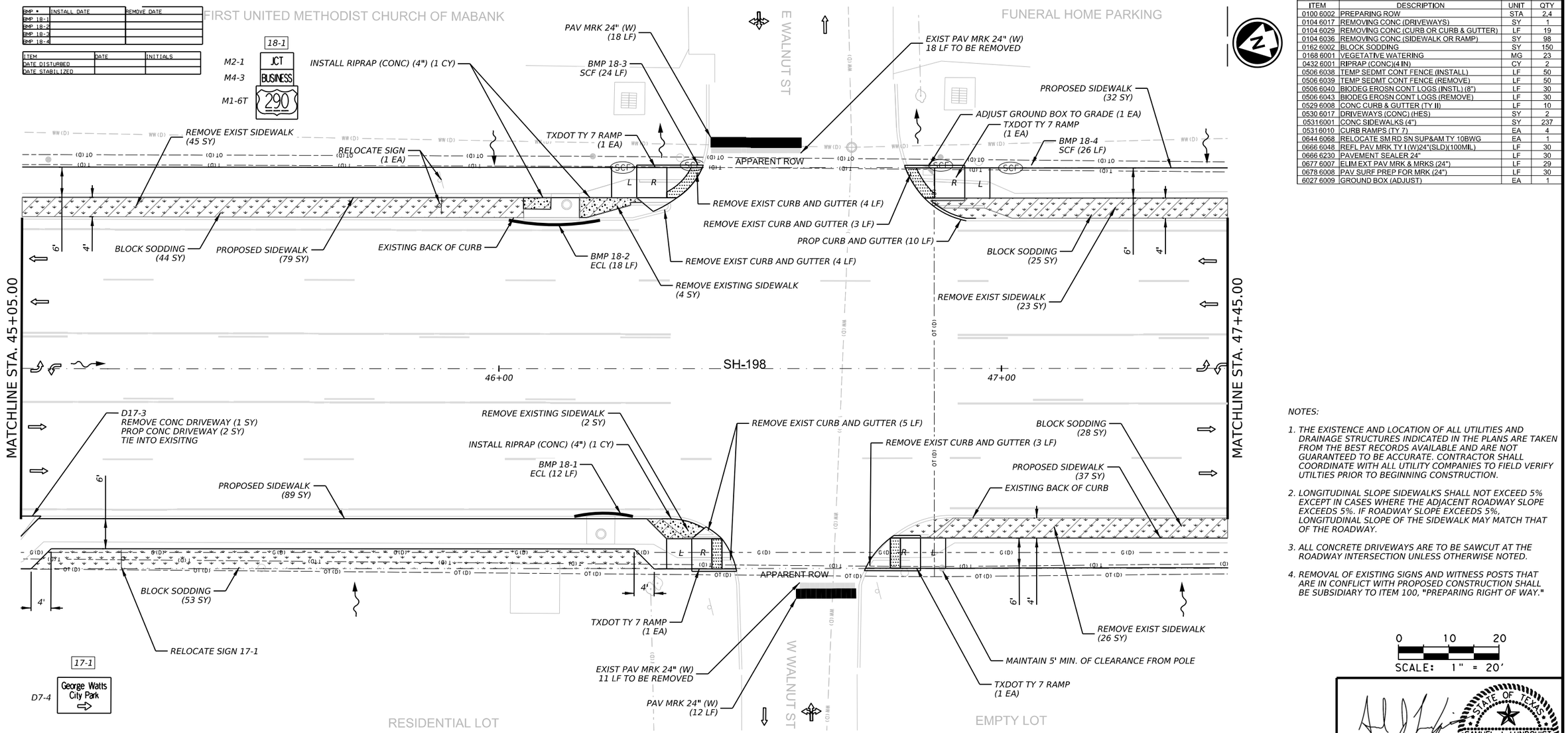
CONT	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN, ETC			54

DATE: 5/28/2024 2:57:06 PM
FILE: c:\pw\kh1\d0251465\DAL_RDWY_ADA_PLAN_17.dgn

CK:
DW:
CK:
DW:

BMP #	INSTALL DATE	REMOVE DATE
BMP 18-1		
BMP 18-2		
BMP 18-3		
BMP 18-4		

ITEM	DATE	INITIALS
DATE DISTURBED		
DATE STABILIZED		



SHEET #			18
ITEM	DESCRIPTION	UNIT	QTY
0100 6002	PREPARING ROW	STA	2.4
0104 6017	REMOVING CONC (DRIVEWAYS)	SY	1
0104 6029	REMOVING CONC (CURB OR CURB & GUTTER)	LF	19
0104 6036	REMOVING CONC (SIDEWALK OR RAMP)	SY	98
0162 6002	BLOCK SODDING	SY	150
0168 6001	VEGETATIVE WATERING	MG	23
0432 6001	RIPRAP (CONC)(4 IN)	CY	2
0506 6038	TEMP SEDMT CONT FENCE (INSTALL)	LF	50
0506 6039	TEMP SEDMT CONT FENCE (REMOVE)	LF	50
0506 6040	BIODEG EROSN CONT LOGS (INSTL) (8")	LF	30
0506 6043	BIODEG EROSN CONT LOGS (REMOVE)	LF	30
0529 6008	CONC CURB & GUTTER (TY II)	LF	10
0530 6017	DRIVEWAYS (CONC) (HES)	SY	2
05316001	CONC SIDEWALKS (4")	SY	237
05316010	CURB RAMPS (TY 7)	EA	4
0644 6068	RELOCATE SM RD SN SUP&AM TY 10BWG	EA	1
0666 6048	REFL PAV MRK TY I (W)24"(SLD)(100MIL)	LF	30
0666 6230	PAVEMENT SEALER 24"	LF	30
0677 6007	ELIM EXT PAV MRK & MRKS (24")	LF	29
0678 6008	PAV SURF PREP FOR MRK (24")	LF	30
6027 6009	GROUND BOX (ADJUST)	EA	1

NOTES:

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2. *LONGITUDINAL SLOPE SIDEWALKS SHALL NOT EXCEED 5% EXCEPT IN CASES WHERE THE ADJACENT ROADWAY SLOPE EXCEEDS 5%. IF ROADWAY SLOPE EXCEEDS 5%, LONGITUDINAL SLOPE OF THE SIDEWALK MAY MATCH THAT OF THE ROADWAY.*
3. *ALL CONCRETE DRIVEWAYS ARE TO BE SAWCUT AT THE ROADWAY INTERSECTION UNLESS OTHERWISE NOTED.*
4. *REMOVAL OF EXISTING SIGNS AND WITNESS POSTS THAT ARE IN CONFLICT WITH PROPOSED CONSTRUCTION SHALL BE SUBSIDIARY TO ITEM 100, "PREPARING RIGHT OF WAY."*

0 10 20
SCALE: 1" = 20'

SPECIAL NOTES & DETAILS

LEGEND

— × —	FENCE		LIGHT POLE	SL	LONGITUDINAL SLOPES MAY NOT EXCEED 5%, CROSS SLOPE MAY NOT EXCEED 2%		CUT & RESTORE PVMT
F	FLARE		MAIL BOX		TRAFFIC FLOW	#-#	RELOCATE EXISTING SIGN
	FIRE HYDRANT		MANHOLE	SB	TRAFFIC SIGNAL BOX	#-#	PROPOSED SIGN
	GAS METER/VALVE		PEDESTAL SIGNAL POLE		TRAFFIC SIGNAL CONTROLLER		
	GROUND BOX		POWER/UTILITY POLE		TRAFFIC SIGNAL POLE		
L	LANDING	R	RAMP		TREE/BUSHES		
L1	LANDING (COMMON)		RIPRAP (CONC)		WATER METER/VALVE		
LS	LEVEL SIDEWALK (2% MAX)		SIGN		GUTTER LINE PROJECTION		
	GUY WIRE		SODDING		GRATE INLET		
	GUARD FENCE/RAIL	T	TRANSITION		PROPOSED PEDESTAL POLE		
	PROPOSED CONDUIT (BORE)		REMOVAL OF EXISTING ITEMS		PROPOSED CONDUIT		
	WATER FLOW DIRECTION		IRRIGATION CONTROLS		EXISTING CONDUIT		
	EROSION CONTROL LOG		UTILITY WITNESS		STAMPED CONCRETE		
SCF	SEDIMENT CONTROL FENCE						

5/28/2024

STATE OF TEXAS
SAMUEL J. LUNDQUIST
122185
LICENSED PROFESSIONAL ENGINEER

Kimley»Horn F-928

Texas Department of Transportation

SIDEWALK AND SIGNING PLANS
SH 198

SHEET 18 OF 42

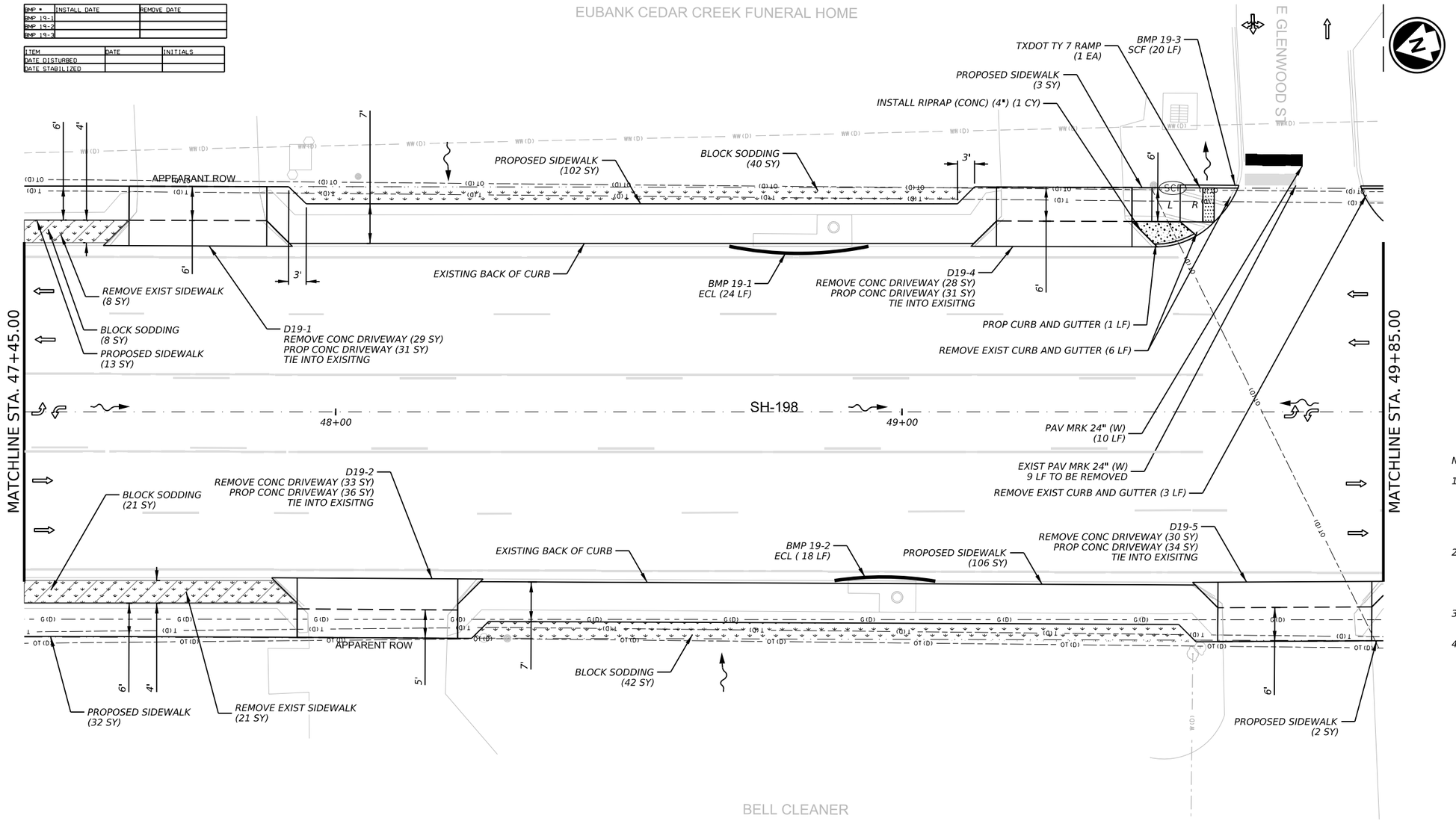
CONT	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN, ETC			55

DATE: 5/28/2024 2:57:39 PM
FILE: c:\pw\kh1\d0251465\DAL_RDWY_ADA_PLAN_18.dgn

BMP #	INSTALL DATE	REMOVE DATE
BMP 19-1		
BMP 19-2		
BMP 19-3		

ITEM	DATE	INITIALS
DATE DISTURBED		
DATE STABILIZED		

EUBANK CEDAR CREEK FUNERAL HOME



BELL CLEANER

SHEET #			19
ITEM	DESCRIPTION	UNIT	QTY
0100 6002	PREPARING ROW	STA	2.4
0104 6017	REMOVING CONC (DRIVEWAYS)	SY	120
0104 6029	REMOVING CONC (CURB OR CURB & GUTTER)	LF	9
0104 6036	REMOVING CONC (SIDEWALK OR RAMP)	SY	29
0162 6002	BLOCK SODDING	SY	111
0168 6001	VEGETATIVE WATERING	MG	17
0432 6001	RIPRAP (CONC)(4 IN)	CY	1
0506 6038	TEMP SEDMT CONT FENCE (INSTALL)	LF	20
0506 6039	TEMP SEDMT CONT FENCE (REMOVE)	LF	20
0506 6040	BIODEG EROSN CONT LOGS (INSTL) (8")	LF	42
0506 6043	BIODEG EROSN CONT LOGS (REMOVE)	LF	42
0529 6008	CONC CURB & GUTTER (TY II)	LF	1
0530 6017	DRIVEWAYS (CONC) (HES)	SY	132
05316001	CONC SIDEWALKS (4")	SY	258
05316010	CURB RAMPS (TY 7)	EA	1
0666 6048	REFL PAV MRK TY I (W)24"(SLD)(100MIL)	LF	10
0666 6230	PAVEMENT SEALER 24"	LF	10
0677 6007	ELIM EXT PAV MRK & MRKS (24")	LF	9
0678 6008	PAV SURF PREP FOR MRK (24")	LF	10

NOTES:

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3. *ALL CONCRETE DRIVEWAYS ARE TO BE SAWCUT AT THE ROADWAY INTERSECTION UNLESS OTHERWISE NOTED.*
4. *REMOVAL OF EXISTING SIGNS AND WITNESS POSTS THAT ARE IN CONFLICT WITH PROPOSED CONSTRUCTION SHALL BE SUBSIDIARY TO ITEM 100, "PREPARING RIGHT OF WAY."*

0 10 20
SCALE: 1" = 20'

SPECIAL NOTES & DETAILS

LEGEND

— × —	FENCE	☼	LIGHT POLE	SL	LONGITUDINAL SLOPES MAY NOT EXCEED 5%, CROSS SLOPE MAY NOT EXCEED 2%
F	FLARE	▢	MAIL BOX	⇨	TRAFFIC FLOW
	FIRE HYDRANT	◎	MANHOLE	SB	TRAFFIC SIGNAL BOX
	GAS METER/VALVE	◕	PEDESTAL SIGNAL POLE		TRAFFIC SIGNAL CONTROLLER
	GROUND BOX	●	POWER/UTILITY POLE		TRAFFIC SIGNAL POLE
L	LANDING	R	RAMP	⬡	TREE/BUSHES
L1	LANDING (COMMON)		RIPRAP (CONC)	⊘	WATER METER/VALVE
LS	LEVEL SIDEWALK (2% MAX)	—o—	SIGN	⌖	GUTTER LINE PROJECTION
⟵	GUY WIRE		SODDING		GRATE INLET
	GUARD FENCE/RAIL	T	TRANSITION	◕	PROPOSED PEDESTAL POLE
	PROPOSED CONDUIT (BORE)		REMOVAL OF EXISTING ITEMS		PROPOSED CONDUIT
	WATER FLOW DIRECTION	⬡	IRRIGATION CONTROLS		EXISTING CONDUIT
	EROSION CONTROL LOG	○	UTILITY WITNESS		STAMPED CONCRETE
SCF	SEDIMENT CONTROL FENCE				CUT & RESTORE PVMT
				#-#	RELOCATE EXISTING SIGN
				#-#	PROPOSED SIGN

5/28/2024

STATE OF TEXAS
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Kimley»Horn F-928

Texas Department of Transportation

SIDEWALK AND SIGNING PLANS
SH 198

SHEET 19 OF 42

CONT	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN, ETC			56

DATE: 5/28/2024 2:58:09 PM
FILE: c:\pwikh1\d0251465\DAL_RDWY_ADA_PLAN_19.dgn

BMP #	INSTALL DATE	REMOVE DATE
BMP 20-1		
BMP 20-2		
BMP 20-3		

ITEM	DATE	INITIALS
DATE DISTURBED		
DATE STABILIZED		

MABANK FLORAL & GIFTS

ABANDONED CAR WASH

EMPTY LOT

FIELD

RELOCATE SIGN (1 EA)

20-1

D7-4

George Watts City Park

TXDOT TY 7 RAMP (1 EA)

REMOVE EXIST SIDEWALK (49 SY)

MAINTAIN 4' MIN. OF CLEARANCE FROM POLE

REMOVE EXIST CURB AND GUTTER (2 LF)

PROPOSED SIDEWALK (5 SY)

INSTALL RIPRAP (CONC) (4") (1 CY)

ADJUST GRATE INLET TO GRADE (1 EA)

PROPOSED SIDEWALK (7 SY)

INSTALL RIPRAP (CONC) (4") (1 CY)

PROPOSED SIDEWALK (7 SY)

INSTALL RIPRAP (CONC) (4") (1 CY)

REMOVE EXIST CURB AND GUTTER (10 LF)

APPARENT ROW

EXISTING BACK OF CURB

REMOVE EXIST CURB AND GUTTER (3 LF)
PROP CURB AND GUTTER (5 LF)

PROPOSED SIDEWALK (75 SY)

BLOCK SODDING (52 SY)

D20-2
REMOVE CONC DRIVEWAY (25 SY)
PROP CONC DRIVEWAY (27 SY)
TIE INTO EXISITNG

REMOVE EXIST CURB AND GUTTER (8 LF)
PROP CURB AND GUTTER (3 LF)

BMP 20-3
ECL (30 LF)

D20-3
REMOVE CONC DRIVEWAY (40 SY)
PROP CONC DRIVEWAY (43 SY)
TIE INTO EXISITNG

D20-4
REMOVE CONC DRIVEWAY (42 SY)
PROP CONC DRIVEWAY (45 SY)
TIE INTO EXISITNG

REMOVE EXIST CURB AND GUTTER (11 LF)
PROP CURB AND GUTTER (4 LF)

MATCHLINE STA. 49+85.00

MATCHLINE STA. 52+25.00

SH-198

50+00

51+00

52+00

INSTALL RIPRAP (CONC) (4") (1 CY)

D19-5
PROP CONC DRIVEWAY (1 SY)
TIE INTO EXISITNG

REMOVE EXIST SIDEWALK (7 SY)

BMP 20-2
ECL (18 LF)

EXISTING BACK OF CURB

D20-5
REMOVE CONC DRIVEWAY (1 SY)
PROP CONC DRIVEWAY (1 SY)
TIE INTO EXISITNG

BLOCK SODDING (33 SY)

PROPOSED SIDEWALK (81 SY)

D20-1
REMOVE CONC DRIVEWAY (24 SY)
PROP CONC DRIVEWAY (26 SY)
TIE INTO EXISITNG

PROPOSED SIDEWALK (68 SY)

APPARENT ROW

MAINTAIN 4' MIN. OF CLEARANCE FROM POLE

BLOCK SODDING (50 SY)

BMP 20-1
SCF (102 LF)

EXISTING FENCE

MAINTAIN 4' MIN. OF CLEARANCE FROM POLE

REMOVE EXIST SIDEWALK (33 SY)

SHEET #			20
ITEM	DESCRIPTION	UNIT	QTY
0100 6002	PREPARING ROW	STA	2.4
0104 6017	REMOVING CONC (DRIVEWAYS)	SY	132
0104 6029	REMOVING CONC (CURB OR CURB & GUTTER)	LF	32
0104 6036	REMOVING CONC (SIDEWALK OR RAMP)	SY	90
0162 6002	BLOCK SODDING	SY	135
0168 6001	VEGETATIVE WATERING	MG	21
0432 6001	RIPRAP (CONC)(4 IN)	CY	4
0506 6038	TEMP SEDMT CONT FENCE (INSTALL)	LF	102
0506 6039	TEMP SEDMT CONT FENCE (REMOVE)	LF	102
0506 6040	BIODEG EROSN CONT LOGS (INSTL) (8")	LF	48
0506 6043	BIODEG EROSN CONT LOGS (REMOVE)	LF	48
0529 6008	CONC CURB & GUTTER (TY II)	LF	12
0530 6017	DRIVEWAYS (CONC) (HES)	SY	143
05316001	CONC SIDEWALKS (4")	SY	243
05316010	CURB RAMPS (TY 7)	EA	1
0644 6068	RELOCATE SM RD SN SUP&AM TY 10BWG	EA	1

NOTES:

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0 10 20

SCALE: 1" = 20'

SPECIAL NOTES & DETAILS

LEGEND

— × —	FENCE		LIGHT POLE	SL	LONGITUDINAL SLOPES MAY NOT EXCEED 5%, CROSS SLOPE MAY NOT EXCEED 2%
F	FLARE		MAIL BOX		TRAFFIC FLOW
	FIRE HYDRANT		MANHOLE	SB	TRAFFIC SIGNAL BOX
	GAS METER/VALVE		PEDESTAL SIGNAL POLE		TRAFFIC SIGNAL CONTROLLER
	GROUND BOX		POWER/UTILITY POLE		TRAFFIC SIGNAL POLE
L	LANDING	R	RAMP		TREE/BUSHES
L1	LANDING (COMMON)		RIPRAP (CONC)		WATER METER/VALVE
LS	LEVEL SIDEWALK (2% MAX)		SIGN		GUTTER LINE PROJECTION
←	GUY WIRE		SODDING		GRATE INLET
	GUARD FENCE/RAIL	T	TRANSITION		PROPOSED PEDESTAL POLE
	PROPOSED CONDUIT (BORE)		REMOVAL OF EXISTING ITEMS		PROPOSED CONDUIT
	WATER FLOW DIRECTION		IRRIGATION CONTROLS		EXISTING CONDUIT
	EROSION CONTROL LOG		UTILITY WITNESS		STAMPED CONCRETE
SCF	SEDIMENT CONTROL FENCE				CUT & RESTORE PVMT
				#-#	RELOCATE EXISTING SIGN
				#-#	PROPOSED SIGN

5/28/2024

STATE OF TEXAS
SAMUEL J. LUNDQUIST
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LICENSED
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Kimley»Horn F-928

Texas Department of Transportation

SIDEWALK AND SIGNING PLANS
SH 198

SHEET 20 OF 42

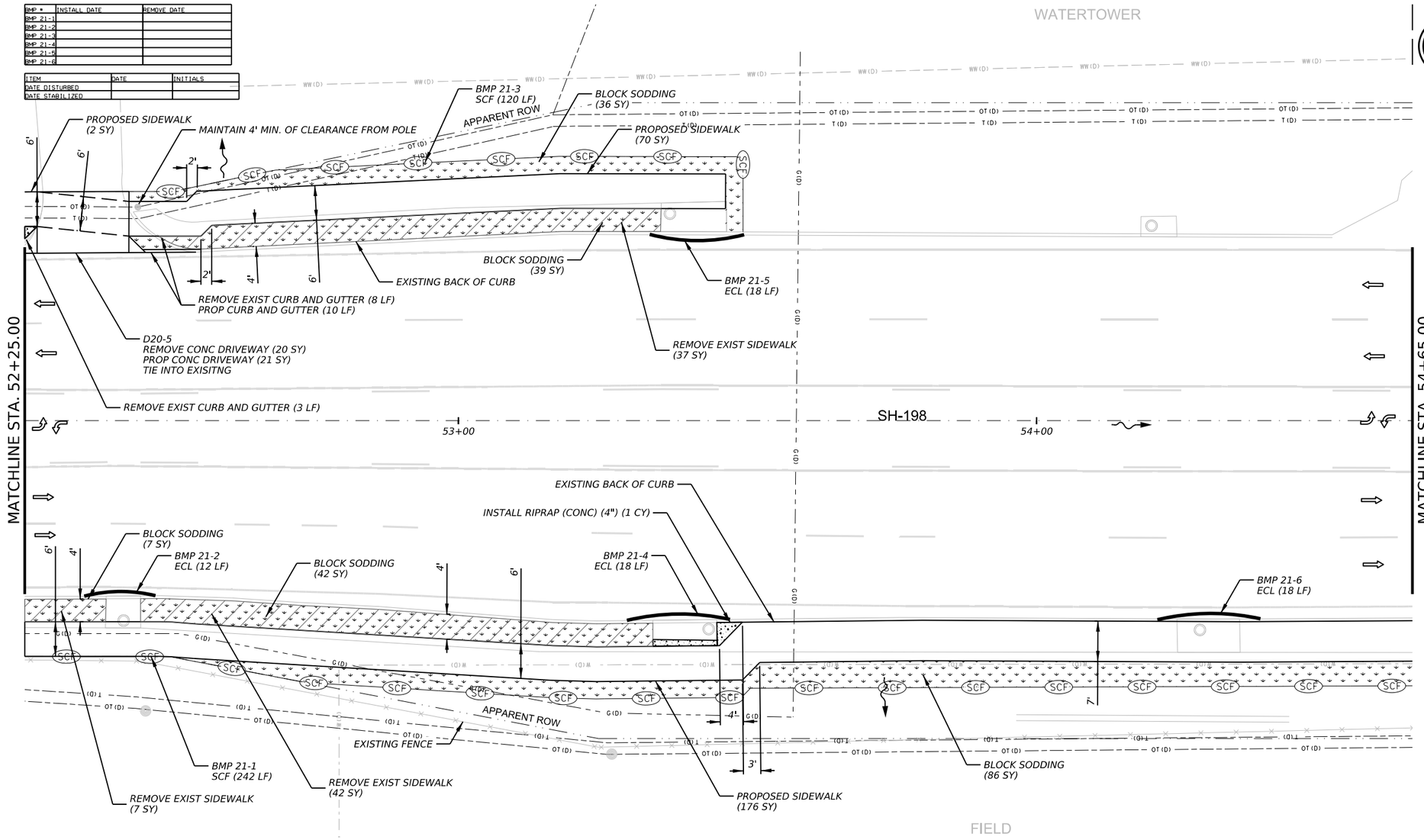
CONT	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN, ETC			57

DATE: 5/28/2024 2:58:39 PM
FILE: c:\pw\kh1\d0251465\DAL_RDWY_ADA_PLAN_20.dgn

CK: DW: CK: DW:

BMP #	INSTALL DATE	REMOVE DATE
BMP 21-1		
BMP 21-2		
BMP 21-3		
BMP 21-4		
BMP 21-5		
BMP 21-6		

ITEM	DATE	INITIALS
DATE DISTURBED		
DATE STABILIZED		



SHEET #			21
ITEM	DESCRIPTION	UNIT	QTY
0100 6002	PREPARING ROW	STA	2.4
0104 6017	REMOVING CONC (DRIVEWAYS)	SY	20
0104 6029	REMOVING CONC (CURB OR CURB & GUTTER)	LF	11
0104 6036	REMOVING CONC (SIDEWALK OR RAMP)	SY	86
0162 6002	BLOCK SODDING	SY	210
0168 6001	VEGETATIVE WATERING	MG	32
0432 6001	RIPRAP (CONC)(4 IN)	CY	1
0506 6038	TEMP SEDMT CONT FENCE (INSTALL)	LF	362
0506 6039	TEMP SEDMT CONT FENCE (REMOVE)	LF	362
0506 6040	BIODEG EROSN CONT LOGS (INSTL) (8")	LF	66
0506 6043	BIODEG EROSN CONT LOGS (REMOVE)	LF	66
0529 6008	CONC CURB & GUTTER (TY II)	LF	10
0530 6017	DRIVEWAYS (CONC) (HES)	SY	21
05316001	CONC SIDEWALKS (4")	SY	248

NOTES:

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0 10 20
SCALE: 1" = 20'

SPECIAL NOTES & DETAILS

LEGEND

— × —	FENCE	☼	LIGHT POLE	SL	LONGITUDINAL SLOPES MAY NOT EXCEED 5%, CROSS SLOPE MAY NOT EXCEED 2%
F	FLARE	▢	MAIL BOX	⇨	TRAFFIC FLOW
⊕	FIRE HYDRANT	◎	MANHOLE	SB	TRAFFIC SIGNAL BOX
⊘	GAS METER/VALVE	◕	PEDESTAL SIGNAL POLE	▭	TRAFFIC SIGNAL CONTROLLER
◪	GROUND BOX	◉	POWER/UTILITY POLE	⊗	TRAFFIC SIGNAL POLE
L	LANDING	R	RAMP	⬡	TREE/BUSHES
L1	LANDING (COMMON)	▦	RIPRAP (CONC)	⊘	WATER METER/VALVE
LS	LEVEL SIDEWALK (2% MAX)	—○—	SIGN	⌖	GUTTER LINE PROJECTION
⟵	GUY WIRE	▭	SODDING	▥	GRATE INLET
	GUARD FENCE/RAIL	T	TRANSITION	◕	PROPOSED PEDESTAL POLE
	PROPOSED CONDUIT (BORE)	▨	REMOVAL OF EXISTING ITEMS	- -	PROPOSED CONDUIT
~→	WATER FLOW DIRECTION	⬡	IRRIGATION CONTROLS	- -	EXISTING CONDUIT
	EROSION CONTROL LOG	○	UTILITY WITNESS	▤	STAMPED CONCRETE
SCF	SEDIMENT CONTROL FENCE			▩	CUT & RESTORE PVMT
				#-#	RELOCATE EXISTING SIGN
				(#-#)	PROPOSED SIGN

5/28/2024

STATE OF TEXAS
SAMUEL J. LUNDQUIST
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Kimley»Horn F-928

Texas Department of Transportation

SIDEWALK AND SIGNING PLANS
SH 198

SHEET 21 OF 42

CONT	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN, ETC			58

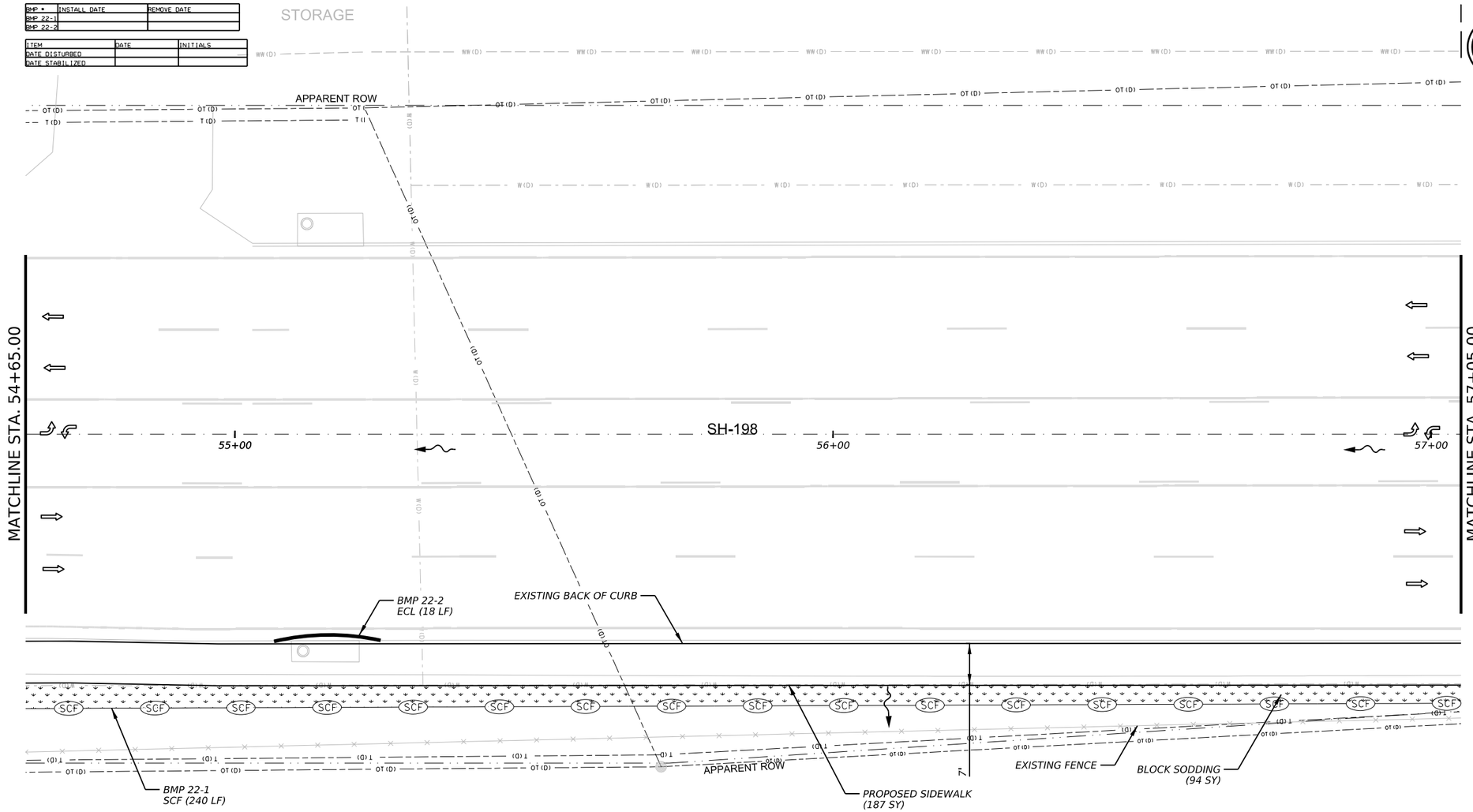
DATE: 5/28/2024 2:59:09 PM
FILE: c:\pw\kh1\d0251465\DAL_RDWY_ADA_PLAN_21.dgn

CK: DW: CK: DW:

BMP #	INSTALL DATE	REMOVE DATE
BMP 22-1		
BMP 22-2		

ITEM	DATE	INITIALS
DATE DISTURBED		
DATE STABILIZED		

SHEET #			22
ITEM	DESCRIPTION	UNIT	QTY
0100 6002	PREPARING ROW	STA	2.4
0162 6002	BLOCK SODDING	SY	94
0168 6001	VEGETATIVE WATERING	MG	14
0506 6038	TEMP SEDMT CONT FENCE (INSTALL)	LF	240
0506 6039	TEMP SEDMT CONT FENCE (REMOVE)	LF	240
0506 6040	BIODEG EROSN CONT LOGS (INSTL) (8")	LF	18
0506 6043	BIODEG EROSN CONT LOGS (REMOVE)	LF	18
05316001	CONC SIDEWALKS (4")	SY	187



2 Top
DAL_RDWY_ADA_PLAN_22 1"=200'

NOTES:

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0 10 20
SCALE: 1" = 20'

5/28/2024

STATE OF TEXAS
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LICENSED
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Kimley»Horn F-928

Texas Department of Transportation

SPECIAL NOTES & DETAILS

LEGEND

— × —	FENCE	☼	LIGHT POLE	SL	LONGITUDINAL SLOPES MAY NOT EXCEED 5%, CROSS SLOPE MAY NOT EXCEED 2%
F	FLARE	▢	MAIL BOX		CUT & RESTORE PVMT
	FIRE HYDRANT	◎	MANHOLE	#-#	RELOCATE EXISTING SIGN
	GAS METER/VALVE		PEDESTAL SIGNAL POLE	#-#	PROPOSED SIGN
	GROUND BOX		POWER/UTILITY POLE		TRAFFIC FLOW
L	LANDING	R	RAMP	SB	TRAFFIC SIGNAL BOX
L1	LANDING (COMMON)		RIPRAP (CONC)		TRAFFIC SIGNAL CONTROLLER
LS	LEVEL SIDEWALK (2% MAX)		SIGN		TRAFFIC SIGNAL POLE
	GUY WIRE		SODDING		TREE/BUSHES
	GUARD FENCE/RAIL	T	TRANSITION		WATER METER/VALVE
	PROPOSED CONDUIT (BORE)		REMOVAL OF EXISTING ITEMS		GUTTER LINE PROJECTION
	WATER FLOW DIRECTION		IRRIGATION CONTROLS		GRATE INLET
	EROSION CONTROL LOG		UTILITY WITNESS		PROPOSED PEDESTAL POLE
SCF	SEDIMENT CONTROL FENCE				PROPOSED CONDUIT
					EXISTING CONDUIT
					STAMPED CONCRETE

SIDEWALK AND SIGNING PLANS
SH 198

SHEET 22 OF 42

CONT	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN, ETC			59

DATE: 5/28/2024 2:59:40 PM
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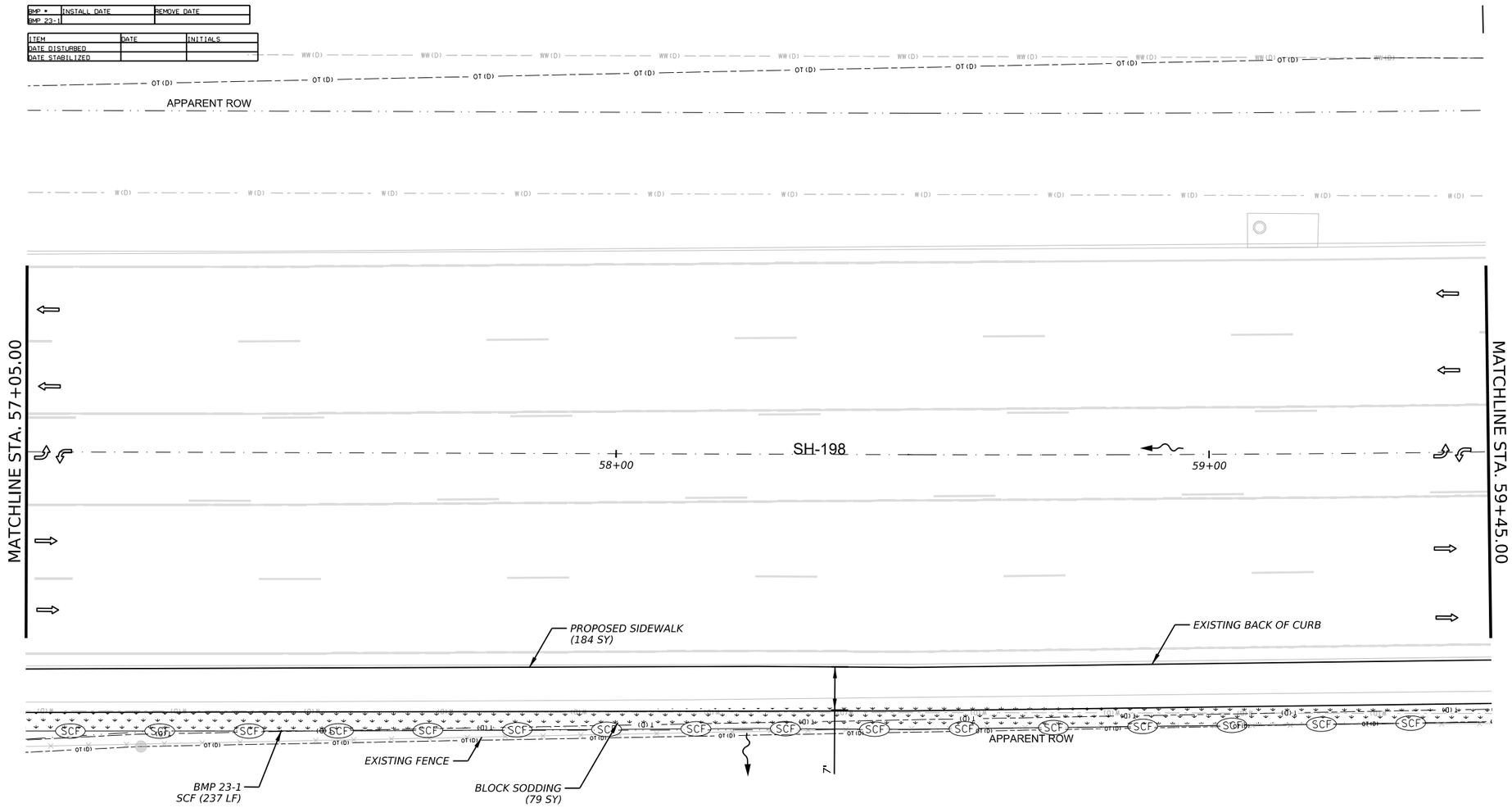
BMP #	INSTALL DATE	REMOVE DATE
BMP 23-1		

ITEM	DATE	INITIALS
DATE DISTURBED		
DATE STABILIZED		

SHEET #			23
ITEM	DESCRIPTION	UNIT	QTY
0100 6002	PREPARING ROW	STA	2.4
0162 6002	BLOCK SODDING	SY	79
0168 6001	VEGETATIVE WATERING	MG	12
0506 6038	TEMP SEDMT CONT FENCE (INSTALL)	LF	237
0506 6039	TEMP SEDMT CONT FENCE (REMOVE)	LF	237
05316001	CONC SIDEWALKS (4")	SY	184



NOTES:

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3. ALL CONCRETE DRIVEWAYS ARE TO BE SAWCUT AT THE ROADWAY INTERSECTION UNLESS OTHERWISE NOTED.
4. REMOVAL OF EXISTING SIGNS AND WITNESS POSTS THAT ARE IN CONFLICT WITH PROPOSED CONSTRUCTION SHALL BE SUBSIDIARY TO ITEM 100, "PREPARING RIGHT OF WAY."

SCALE: 1" = 20'

SPECIAL NOTES & DETAILS

LEGEND

— × —	FENCE	☼	LIGHT POLE	SL	LONGITUDINAL SLOPES MAY NOT EXCEED 5%, CROSS SLOPE MAY NOT EXCEED 2%
F	FLARE	▢	MAIL BOX		CUT & RESTORE PVMT
◇	FIRE HYDRANT	◎	MANHOLE	#-#	RELOCATE EXISTING SIGN
⊘	GAS METER/VALVE	◒	PEDESTAL SIGNAL POLE	#-#	PROPOSED SIGN
◪	GROUND BOX	◉	POWER/UTILITY POLE		TRAFFIC FLOW
L	LANDING	R	RAMP	SB	TRAFFIC SIGNAL BOX
L1	LANDING (COMMON)		RIPRAP (CONC)		TRAFFIC SIGNAL CONTROLLER
LS	LEVEL SIDEWALK (2% MAX)		SIGN		TRAFFIC SIGNAL POLE
⟵	GUY WIRE		SODDING	⬡	TREE/BUSHES
	GUARD FENCE/RAIL	T	TRANSITION	⊘	WATER METER/VALVE
	PROPOSED CONDUIT (BORE)		REMOVAL OF EXISTING ITEMS	⌖	GUTTER LINE PROJECTION
	WATER FLOW DIRECTION	⬡	IRRIGATION CONTROLS		GRATE INLET
	EROSION CONTROL LOG	○	UTILITY WITNESS	◒	PROPOSED PEDESTAL POLE
SCF	SEDIMENT CONTROL FENCE				PROPOSED CONDUIT
					EXISTING CONDUIT
					STAMPED CONCRETE

5/28/2024

STATE OF TEXAS
SAMUEL J. LUNDQUIST
122185
LICENSED PROFESSIONAL ENGINEER

Kimley»Horn F-928

Texas Department of Transportation

SIDEWALK AND SIGNING PLANS
SH 198

SHEET 23 OF 42

CONT	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN, ETC			60

DATE: 5/28/2024 3:00:11 PM
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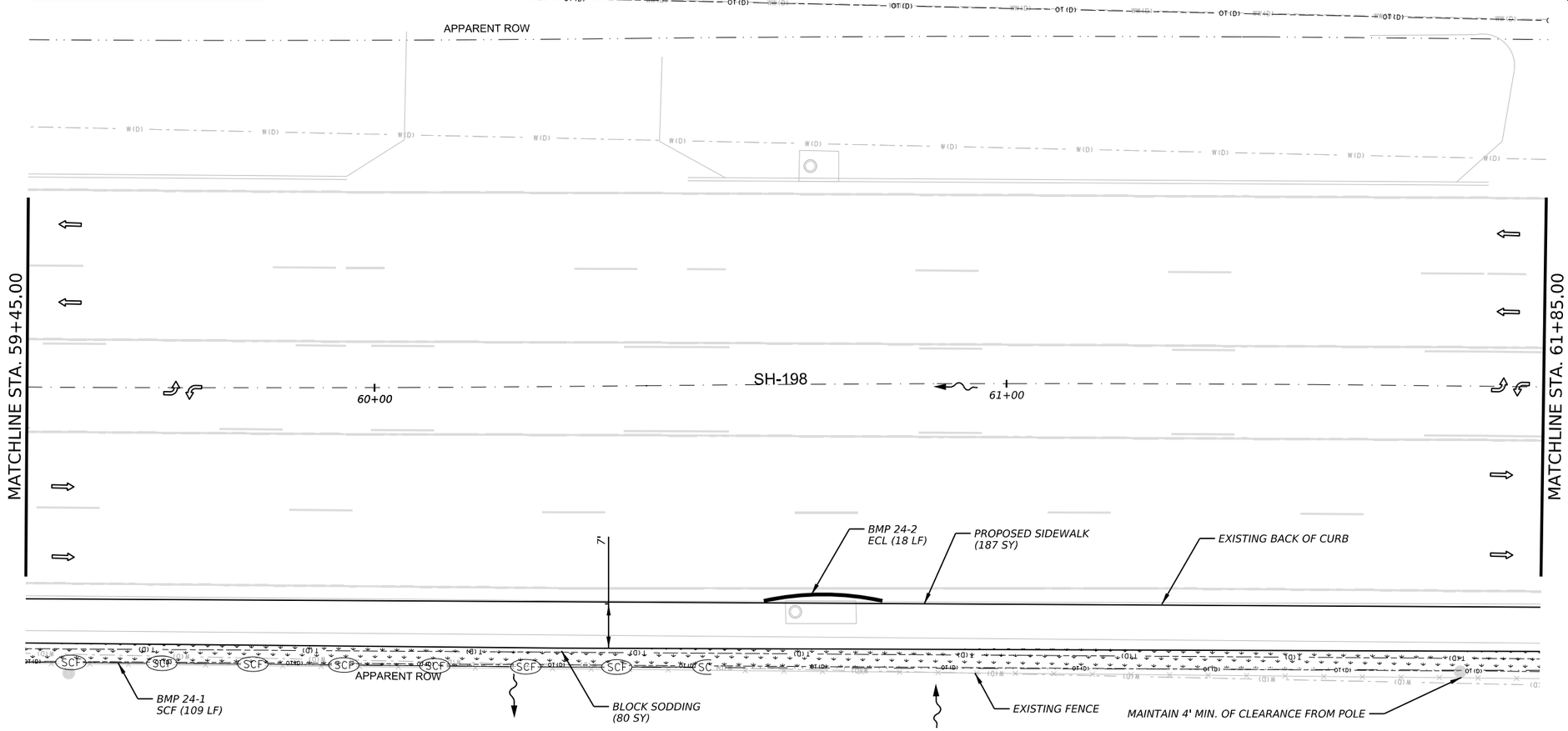
BMP #	INSTALL DATE	REMOVE DATE
BMP 24-1		
BMP 24-2		

ITEM	DATE	INITIALS
DATE DISTURBED		
DATE STABILIZED		

FLOORS 4 U

SHEET #			24
ITEM	DESCRIPTION	UNIT	QTY
0100 6002	PREPARING ROW	STA	2.4
0162 6002	BLOCK SODDING	SY	80
0168 6001	VEGETATIVE WATERING	MG	12
0506 6038	TEMP SEDMT CONT FENCE (INSTALL)	LF	109
0506 6039	TEMP SEDMT CONT FENCE (REMOVE)	LF	109
0506 6040	BIODEG EROSN CONT LOGS (INSTL) (8")	LF	18
0506 6043	BIODEG EROSN CONT LOGS (REMOVE)	LF	18
05316001	CONC SIDEWALKS (4")	SY	187



FIELD

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0 10 20

SCALE: 1" = 20'

5/28/2024

STATE OF TEXAS
SAMUEL J. LUNDQUIST
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LICENSED
PROFESSIONAL ENGINEER

SPECIAL NOTES & DETAILS

LEGEND

— × —	FENCE		LIGHT POLE	SL	LONGITUDINAL SLOPES MAY NOT EXCEED 5%, CROSS SLOPE MAY NOT EXCEED 2%
F	FLARE		MAIL BOX		TRAFFIC FLOW
	FIRE HYDRANT		MANHOLE	SB	TRAFFIC SIGNAL BOX
	GAS METER/VALVE		PEDESTAL SIGNAL POLE		TRAFFIC SIGNAL CONTROLLER
	GROUND BOX		POWER/UTILITY POLE		TRAFFIC SIGNAL POLE
L	LANDING	R	RAMP		TREE/BUSHES
L1	LANDING (COMMON)		RIPRAP (CONC)		WATER METER/VALVE
LS	LEVEL SIDEWALK (2% MAX)		SIGN		GUTTER LINE PROJECTION
	GUY WIRE		SODDING		GRATE INLET
	GUARD FENCE/RAIL	T	TRANSITION		PROPOSED PEDESTAL POLE
	PROPOSED CONDUIT (BORE)		REMOVAL OF EXISTING ITEMS		PROPOSED CONDUIT
	WATER FLOW DIRECTION		IRRIGATION CONTROLS		EXISTING CONDUIT
	EROSION CONTROL LOG		UTILITY WITNESS		STAMPED CONCRETE
SCF	SEDIMENT CONTROL FENCE				

	CUT & RESTORE PVMT
#-#	RELOCATE EXISTING SIGN
#-#	PROPOSED SIGN

Kimley»Horn F-928

Texas Department of Transportation

SIDEWALK AND SIGNING PLANS
SH 198

SHEET 24 OF 42

CONT	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN, ETC			61

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BMP #	INSTALL DATE	REMOVE DATE
BMP 25-1		

ITEM	DATE	INITIALS
DATE DISTURBED		
DATE STABILIZED		

SHEET #			25
ITEM	DESCRIPTION	UNIT	QTY
0100 6002	PREPARING ROW	STA	2.4
0104 6017	REMOVING CONC (DRIVEWAYS)	SY	51
0162 6002	BLOCK SODDING	SY	72
0168 6001	VEGETATIVE WATERING	MG	11
0479 6006	ADJUSTING INLET (CAP)	EA	1
0506 6040	BIODEG EROSN CONT LOGS (INSTL) (8")	LF	18
0506 6043	BIODEG EROSN CONT LOGS (REMOVE)	LF	18
0529 6008	CONC CURB & GUTTER (TY II)	LF	13
0530 6017	DRIVEWAYS (CONC) (HES)	SY	56
05316001	CONC SIDEWALKS (4")	SY	171
0644 6068	RELOCATE SM RD SN SUP&AM TY 10BWG	EA	1

ABANDONED BUILDING

APPARENT ROW

HENDERSON COUNTY
KAUFMAN COUNTY

MATCHLINE STA. 61+85.00

MATCHLINE STA. 64+25.00

SH-198

62+00

63+00

64+00

D25-1
REMOVE CONC DRIVEWAY (51 SY)
PROP CONC DRIVEWAY (56 SY)
TIE INTO EXISITNG

PROPOSED SIDEWALK (30 SY)

PROP CURB AND GUTTER (5 LF)

BMP 25-1
ECL (18 LF)

PROP CURB AND GUTTER (5 LF)

BLOCK SODDING (12 SY)

PROPOSED SIDEWALK (141 SY)

EXISTING BACK OF CURB

7'

4'

7'

2'

APPARENT ROW

BLOCK SODDING (60 SY)

EXISTING FENCE

ADJUST CURB INLET TO GRADE TO ENSURE ADA COMPLIANT CROSS SLOPE (1 EA)

RELOCATE SIGN (1 EA)

25-1

I-2

Henderson County Line

PROP CURB AND GUTTER (3 LF)

FIELD

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0 10 20

SCALE: 1" = 20'

5/28/2024

STATE OF TEXAS
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122185
LICENSED
PROFESSIONAL ENGINEER

Kimley»Horn F-928

Texas Department of Transportation

SPECIAL NOTES & DETAILS

LEGEND

— × —	FENCE		LIGHT POLE	SL	LONGITUDINAL SLOPES MAY NOT EXCEED 5%, CROSS SLOPE MAY NOT EXCEED 2%
F	FLARE		MAIL BOX		TRAFFIC FLOW
	FIRE HYDRANT		MANHOLE	SB	TRAFFIC SIGNAL BOX
	GAS METER/VALVE		PEDESTAL SIGNAL POLE		TRAFFIC SIGNAL CONTROLLER
	GROUND BOX		POWER/UTILITY POLE		TRAFFIC SIGNAL POLE
L	LANDING	R	RAMP		TREE/BUSHES
L1	LANDING (COMMON)		RIPRAP (CONC)		WATER METER/VALVE
LS	LEVEL SIDEWALK (2% MAX)		SIGN		GUTTER LINE PROJECTION
⟵	GUY WIRE		SODDING		GRATE INLET
	GUARD FENCE/RAIL	T	TRANSITION		PROPOSED PEDESTAL POLE
	PROPOSED CONDUIT (BORE)		REMOVAL OF EXISTING ITEMS		PROPOSED CONDUIT
	WATER FLOW DIRECTION		IRRIGATION CONTROLS		EXISTING CONDUIT
	EROSION CONTROL LOG		UTILITY WITNESS		STAMPED CONCRETE
SCF	SEDIMENT CONTROL FENCE				CUT & RESTORE PVMT
				#-#	RELOCATE EXISTING SIGN
				#-#	PROPOSED SIGN

SIDEWALK AND SIGNING PLANS
SH 198

SHEET 25 OF 42

CONT	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN, ETC			62

DATE: 5/28/2024 3:01:20 PM
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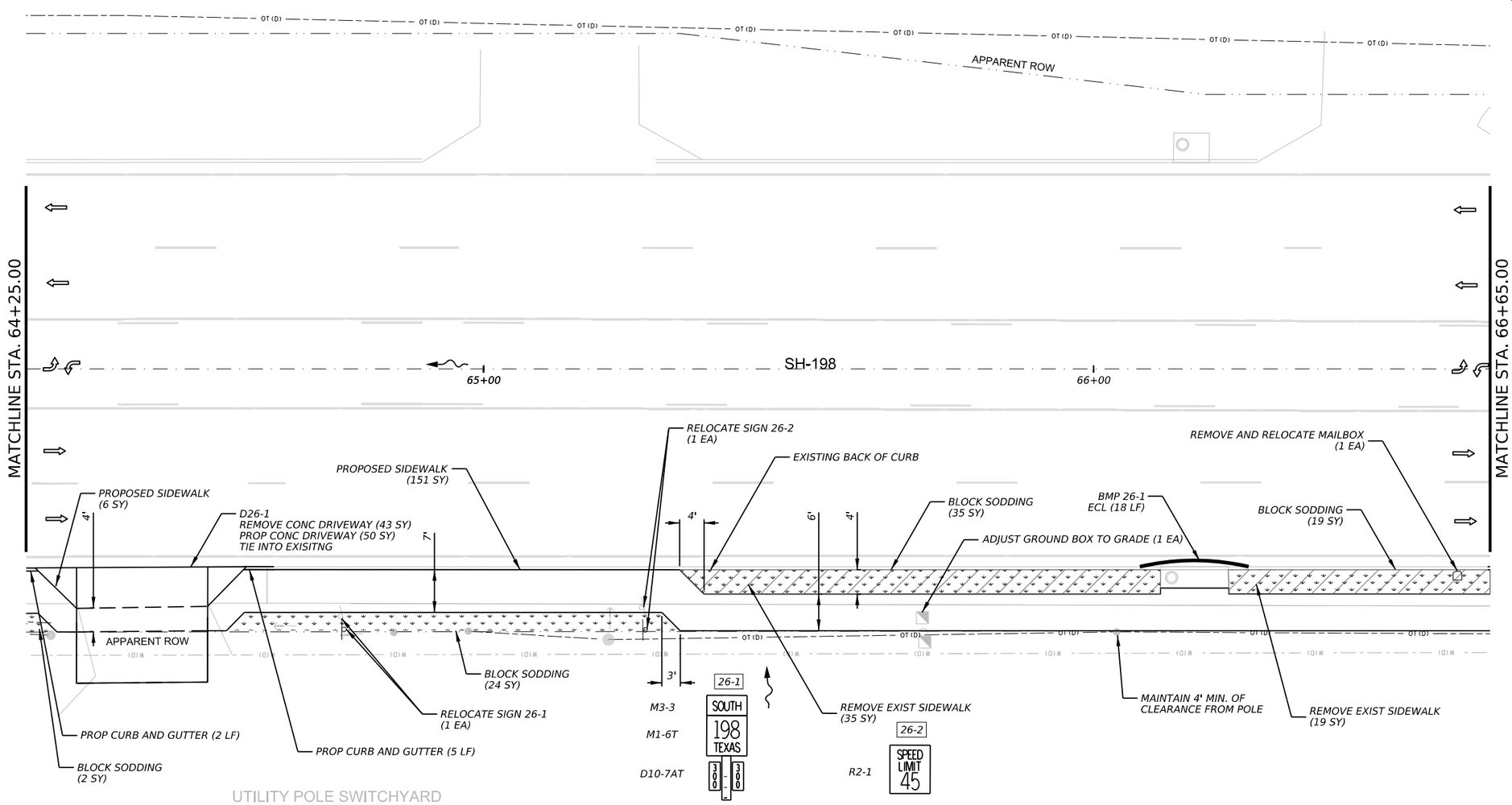
BMP #	INSTALL DATE	REMOVE DATE
BMP 26-1		

CONSTRUCTION

ITEM	DATE	INITIALS
DATE DISTURBED		
DATE STABILIZED		

SHEET #			26
ITEM	DESCRIPTION	UNIT	QTY
0100 6002	PREPARING ROW	STA	2.4
0104 6017	REMOVING CONC (DRIVEWAYS)	SY	43
0104 6036	REMOVING CONC (SIDEWALK OR RAMP)	SY	54
0162 6002	BLOCK SODDING	SY	80
0168 6001	VEGETATIVE WATERING	MG	12
0506 6040	BIODEG EROSN CONT LOGS (INSTL) (8")	LF	18
0506 6043	BIODEG EROSN CONT LOGS (REMOVE)	LF	18
0529 6008	CONC CURB & GUTTER (TY II)	LF	7
0530 6017	DRIVEWAYS (CONC) (HES)	SY	50
05316001	CONC SIDEWALKS (4")	SY	157
0560 6025	RELOCATE EXISITING MAILBOX	EA	1
0644 6068	RELOCATE SM RD SN SUP&AM TY 10BWG	EA	2
6027 6009	GROUND BOX (ADJUST)	EA	1



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0 10 20
SCALE: 1" = 20'

5/28/2024

STATE OF TEXAS
SAMUEL J. LUNDQUIST
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LICENSED
PROFESSIONAL ENGINEER

Kimley»Horn F-928

Texas Department of Transportation

SPECIAL NOTES & DETAILS

LEGEND

— × —	FENCE	☼	LIGHT POLE	SL	LONGITUDINAL SLOPES MAY NOT EXCEED 5%, CROSS SLOPE MAY NOT EXCEED 2%
F	FLARE	▢	MAIL BOX		CUT & RESTORE PVMT
⊙	FIRE HYDRANT	◎	MANHOLE	#-#	RELOCATE EXISTING SIGN
⊘	GAS METER/VALVE	◒	PEDESTAL SIGNAL POLE	(#-#)	PROPOSED SIGN
◪	GROUND BOX	●	POWER/UTILITY POLE		TRAFFIC FLOW
L	LANDING	R	RAMP	SB	TRAFFIC SIGNAL BOX
L1	LANDING (COMMON)	▭	RIPRAP (CONC)		TRAFFIC SIGNAL CONTROLLER
LS	LEVEL SIDEWALK (2% MAX)	⊸	SIGN		TRAFFIC SIGNAL POLE
⟵	GUY WIRE	▭	SODDING		TREE/BUSHES
	GUARD FENCE/RAIL	T	TRANSITION		WATER METER/VALVE
	PROPOSED CONDUIT (BORE)	▨	REMOVAL OF EXISTING ITEMS		GUTTER LINE PROJECTION
	WATER FLOW DIRECTION	⬡	IRRIGATION CONTROLS		GRATE INLET
	EROSION CONTROL LOG	○	UTILITY WITNESS		PROPOSED PEDESTAL POLE
SCF	SEDIMENT CONTROL FENCE				PROPOSED CONDUIT
					EXISTING CONDUIT
					STAMPED CONCRETE

SIDEWALK AND SIGNING PLANS
SH 198

SHEET 26 OF 42

CONT	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN, ETC			63

DATE: 5/28/2024 3:01:56 PM
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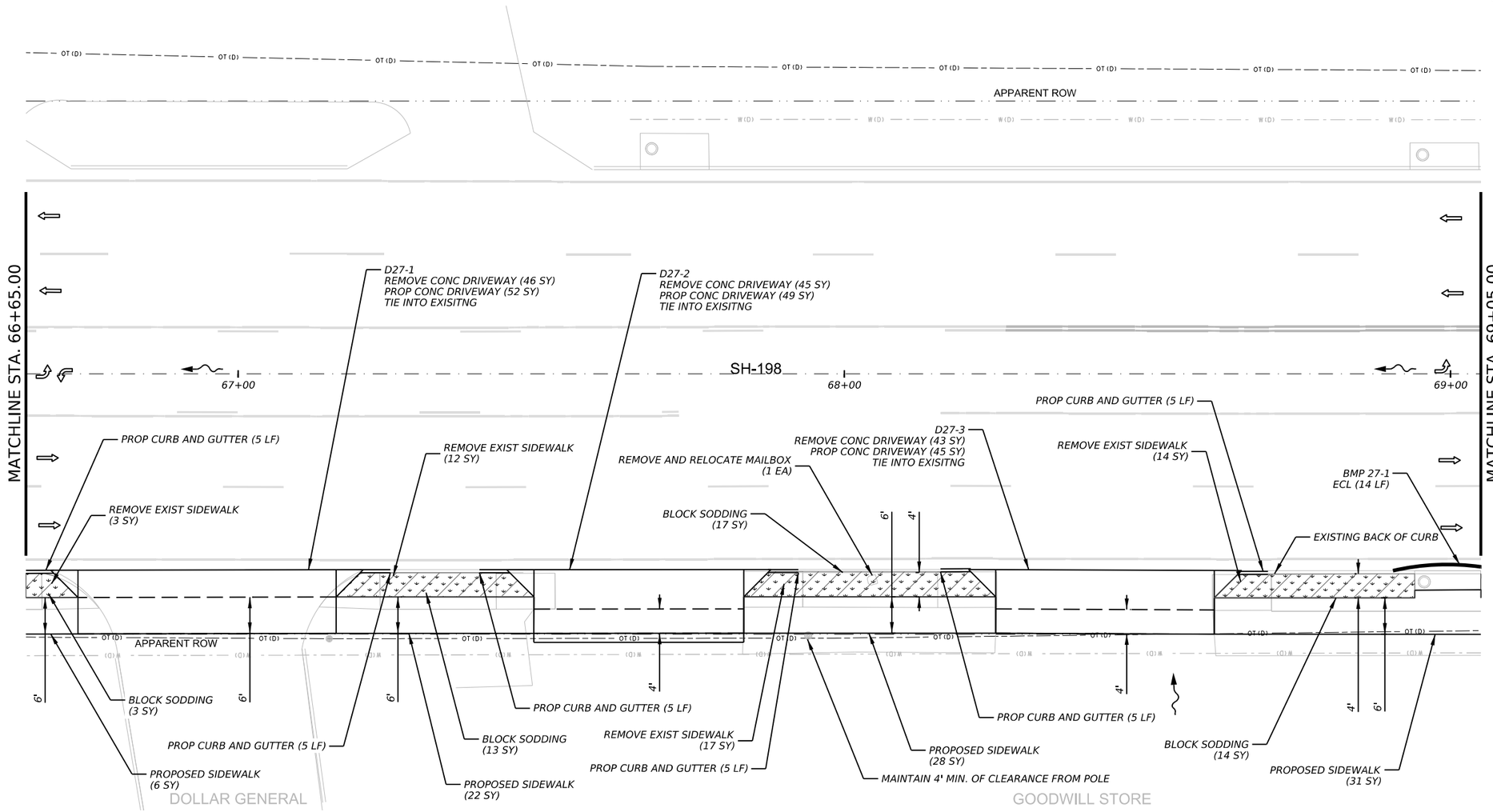
BMP #	INSTALL DATE	REMOVE DATE
BMP 27-1		

ITEM	DATE	INITIALS
DATE DISTURBED		
DATE STABILIZED		

ANGIE & CO SLAON & BOUTIQUE

SHEET #			27
ITEM	DESCRIPTION	UNIT	QTY
0100 6002	PREPARING ROW	STA	2.4
0104 6017	REMOVING CONC (DRIVEWAYS)	SY	134
0104 6036	REMOVING CONC (SIDEWALK OR RAMP)	SY	46
0162 6002	BLOCK SODDING	SY	47
0168 6001	VEGETATIVE WATERING	MG	7
0506 6040	BIODEG EROSN CONT LOGS (INSTL) (8")	LF	14
0506 6043	BIODEG EROSN CONT LOGS (REMOVE)	LF	14
0529 6008	CONC CURB & GUTTER (TY II)	LF	30
0530 6017	DRIVEWAYS (CONC) (HES)	SY	146
05316001	CONC SIDEWALKS (4")	SY	87
0560 6025	RELOCATE EXISITING MAILBOX	EA	1



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SCALE: 1" = 20'

5/28/2024

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SPECIAL NOTES & DETAILS

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	FIRE HYDRANT	◎	MANHOLE	#-#	RELOCATE EXISTING SIGN
	GAS METER/VALVE		PEDESTAL SIGNAL POLE	#-#	PROPOSED SIGN
	GROUND BOX		POWER/UTILITY POLE		TRAFFIC FLOW
L	LANDING	R	RAMP	SB	TRAFFIC SIGNAL BOX
L1	LANDING (COMMON)		RIPRAP (CONC)		TRAFFIC SIGNAL CONTROLLER
LS	LEVEL SIDEWALK (2% MAX)		SIGN		TRAFFIC SIGNAL POLE
	GUY WIRE		SODDING		TREE/BUSHES
	GUARD FENCE/RAIL	T	TRANSITION		WATER METER/VALVE
	PROPOSED CONDUIT (BORE)		REMOVAL OF EXISTING ITEMS		GUTTER LINE PROJECTION
	WATER FLOW DIRECTION		IRRIGATION CONTROLS		GRATE INLET
	EROSION CONTROL LOG		UTILITY WITNESS		PROPOSED PEDESTAL POLE
SCF	SEDIMENT CONTROL FENCE				PROPOSED CONDUIT
					EXISTING CONDUIT
					STAMPED CONCRETE

SIDEWALK AND SIGNING PLANS
SH 198

SHEET 27 OF 42

CONT	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN, ETC			64

DATE: 5/28/2024 3:02:30 PM
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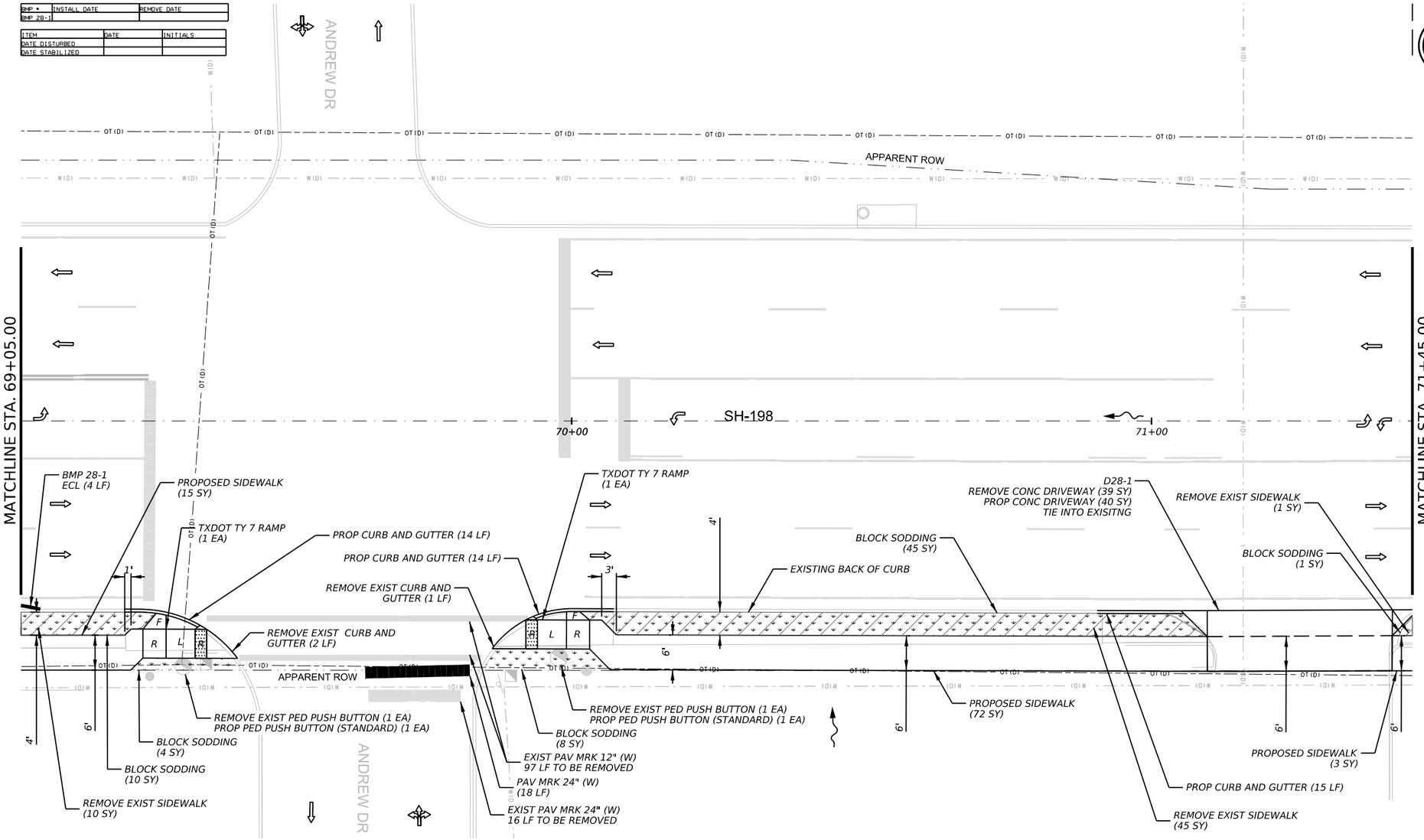
BMP #	INSTALL DATE	REMOVE DATE
BMP 28-1		

ITEM	DATE	INITIALS
DATE DISTURBED		
DATE STABILIZED		

SHEET #			28
ITEM	DESCRIPTION	UNIT	QTY
0100 6002	PREPARING ROW	STA	2.4
0104 6017	REMOVING CONC (DRIVEWAYS)	SY	39
0104 6029	REMOVING CONC (CURB OR CURB & GUTTER)	LF	3
0104 6036	REMOVING CONC (SIDEWALK OR RAMP)	SY	56
0162 6002	BLOCK SODDING	SY	68
0168 6001	VEGETATIVE WATERING	MG	11
0506 6040	BIODEG EROSN CONT LOGS (INSTL) (8")	LF	4
0506 6043	BIODEG EROSN CONT LOGS (REMOVE)	LF	4
0529 6008	CONC CURB & GUTTER (TY II)	LF	43
0530 6017	DRIVEWAYS (CONC) (HES)	SY	40
05316001	CONC SIDEWALKS (4")	SY	90
05316010	CURB RAMPS (TY 7)	EA	2
0666 6048	REFL PAV MRK TY I (W)24"(SLD)(100MIL)	LF	18
0666 6230	PAVEMENT SEALER 24"	LF	18
0677 6005	ELIM EXT PAV MRK & MRKS (12")	LF	97
0677 6007	ELIM EXT PAV MRK & MRKS (24")	LF	16
0678 6008	PAV SURF PREP FOR MRK (24")	LF	18
0688 6002	PED DETECT PUSH BUTTON (STANDARD)	EA	2
0690 6030	REMOVAL OF PEDESTRIAN PUSH BUTTONS	EA	2



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0 10 20

SCALE: 1" = 20'

SPECIAL NOTES & DETAILS

LEGEND

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F	FLARE	▢	MAIL BOX	⇨	TRAFFIC FLOW
◇	FIRE HYDRANT	◎	MANHOLE	SB	TRAFFIC SIGNAL BOX
⊘	GAS METER/VALVE	◕	PEDESTAL SIGNAL POLE	▭	TRAFFIC SIGNAL CONTROLLER
◪	GROUND BOX	●	POWER/UTILITY POLE	⊗	TRAFFIC SIGNAL POLE
L	LANDING	R	RAMP	⬡	TREE/BUSHES
L1	LANDING (COMMON)	▨	RIPRAP (CONC)	⊘	WATER METER/VALVE
LS	LEVEL SIDEWALK (2% MAX)	—○—	SIGN	⌖	GUTTER LINE PROJECTION
⟵	GUY WIRE	▭	SODDING	▥	GRATE INLET
	GUARD FENCE/RAIL	T	TRANSITION	◕	PROPOSED PEDESTAL POLE
	PROPOSED CONDUIT (BORE)	▨	REMOVAL OF EXISTING ITEMS		PROPOSED CONDUIT
	WATER FLOW DIRECTION	⬡	IRRIGATION CONTROLS		EXISTING CONDUIT
	EROSION CONTROL LOG	○	UTILITY WITNESS	▭	STAMPED CONCRETE
SCF	SEDIMENT CONTROL FENCE			▭	CUT & RESTORE PVMT
				#-#	RELOCATE EXISTING SIGN
				#-#	PROPOSED SIGN

5/28/2024

STATE OF TEXAS
SAMUEL J. LUNDQUIST
122185
LICENSED
PROFESSIONAL ENGINEER

Kimley»Horn F-928

Texas Department of Transportation

SIDEWALK AND SIGNING PLANS
SH 198

SHEET 28 OF 42

CONT	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN, ETC			65

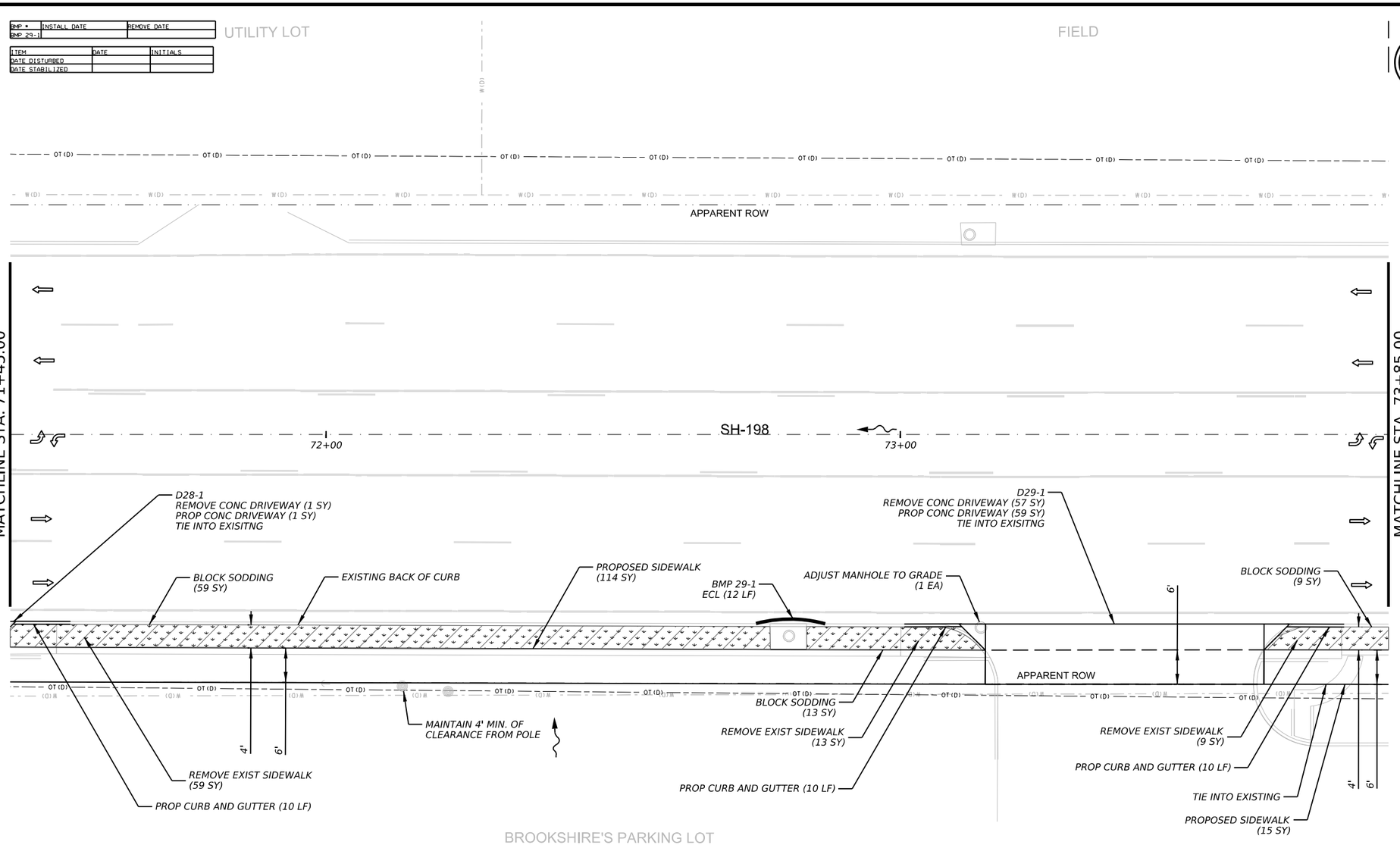
DATE: 5/28/2024 3:03:02 PM
FILE: c:\pw\khi1d0251465\DAL_RDWY_ADA_PLAN_28.dgn

CK:	DW:	CK:	DW:

BMP *	INSTALL DATE	REMOVE DATE
BMP 29-1		

ITEM	DATE	INITIALS
DATE DISTURBED		
DATE STABILIZED		

SHEET #			29
ITEM	DESCRIPTION	UNIT	QTY
0100 6002	PREPARING ROW	STA	2.4
0104 6017	REMOVING CONC (DRIVEWAYS)	SY	58
0104 6036	REMOVING CONC (SIDEWALK OR RAMP)	SY	81
0162 6002	BLOCK SODDING	SY	81
0168 6001	VEGETATIVE WATERING	MG	13
0479 6001	ADJUSTING MANHOLES	EA	1
0506 6040	BIODEG EROSN CONT LOGS (INSTL) (8")	LF	12
0506 6043	BIODEG EROSN CONT LOGS (REMOVE)	LF	12
0529 6008	CONC CURB & GUTTER (TY II)	LF	30
0530 6017	DRIVEWAYS (CONC) (HES)	SY	60
0531 6001	CONC SIDEWALKS (4")	SY	129



NOTES:

1. *THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILTIES PRIOR TO BEGINNING CONSTRUCTION.*
2. *LONGITUDINAL SLOPE SIDEWALKS SHALL NOT EXCEED 5% EXCEPT IN CASES WHERE THE ADJACENT ROADWAY SLOPE EXCEEDS 5%. IF ROADWAY SLOPE EXCEEDS 5%, LONGITUDINAL SLOPE OF THE SIDEWALK MAY MATCH THAT OF THE ROADWAY.*
3. *ALL CONCRETE DRIVEWAYS ARE TO BE SAWCUT AT THE ROADWAY INTERSECTION UNLESS OTHERWISE NOTED.*
4. *REMOVAL OF EXISTING SIGNS AND WITNESS POSTS THAT ARE IN CONFLICT WITH PROPOSED CONSTRUCTION SHALL BE SUBSIDIARY TO ITEM 100, "PREPARING RIGHT OF WAY."*

0 10 20
SCALE: 1" = 20'

5/28/2024

STATE OF TEXAS
SAMUEL J. LUNDQUIST
122185
LICENSED
PROFESSIONAL ENGINEER

Kimley»Horn F-928

Texas Department of Transportation

SPECIAL NOTES & DETAILS

LEGEND

— × —	FENCE		LIGHT POLE	SL	LONGITUDINAL SLOPES MAY NOT EXCEED 5%, CROSS SLOPE MAY NOT EXCEED 2%
F	FLARE		MAIL BOX		TRAFFIC FLOW
	FIRE HYDRANT		MANHOLE	SB	TRAFFIC SIGNAL BOX
	GAS METER/VALVE		PEDESTAL SIGNAL POLE		TRAFFIC SIGNAL CONTROLLER
	GROUND BOX		POWER/UTILITY POLE		TRAFFIC SIGNAL POLE
L	LANDING	R	RAMP		TREE/BUSHES
L1	LANDING (COMMON)		RIPRAP (CONC)		WATER METER/VALVE
LS	LEVEL SIDEWALK (2% MAX)		SIGN		GUTTER LINE PROJECTION
	GUY WIRE		SODDING		GRATE INLET
	GUARD FENCE/RAIL	T	TRANSITION		PROPOSED PEDESTAL POLE
	PROPOSED CONDUIT (BORE)		REMOVAL OF EXISTING ITEMS		PROPOSED CONDUIT
	WATER FLOW DIRECTION		IRRIGATION CONTROLS		EXISTING CONDUIT
	EROSION CONTROL LOG		UTILITY WITNESS		STAMPED CONCRETE
SCF	SEDIMENT CONTROL FENCE				

	CUT & RESTORE PVMT
#-#	RELOCATE EXISTING SIGN
#-#	PROPOSED SIGN

SIDEWALK AND SIGNING PLANS
SH 198

SHEET 29 OF 42

CONT	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN, ETC			66

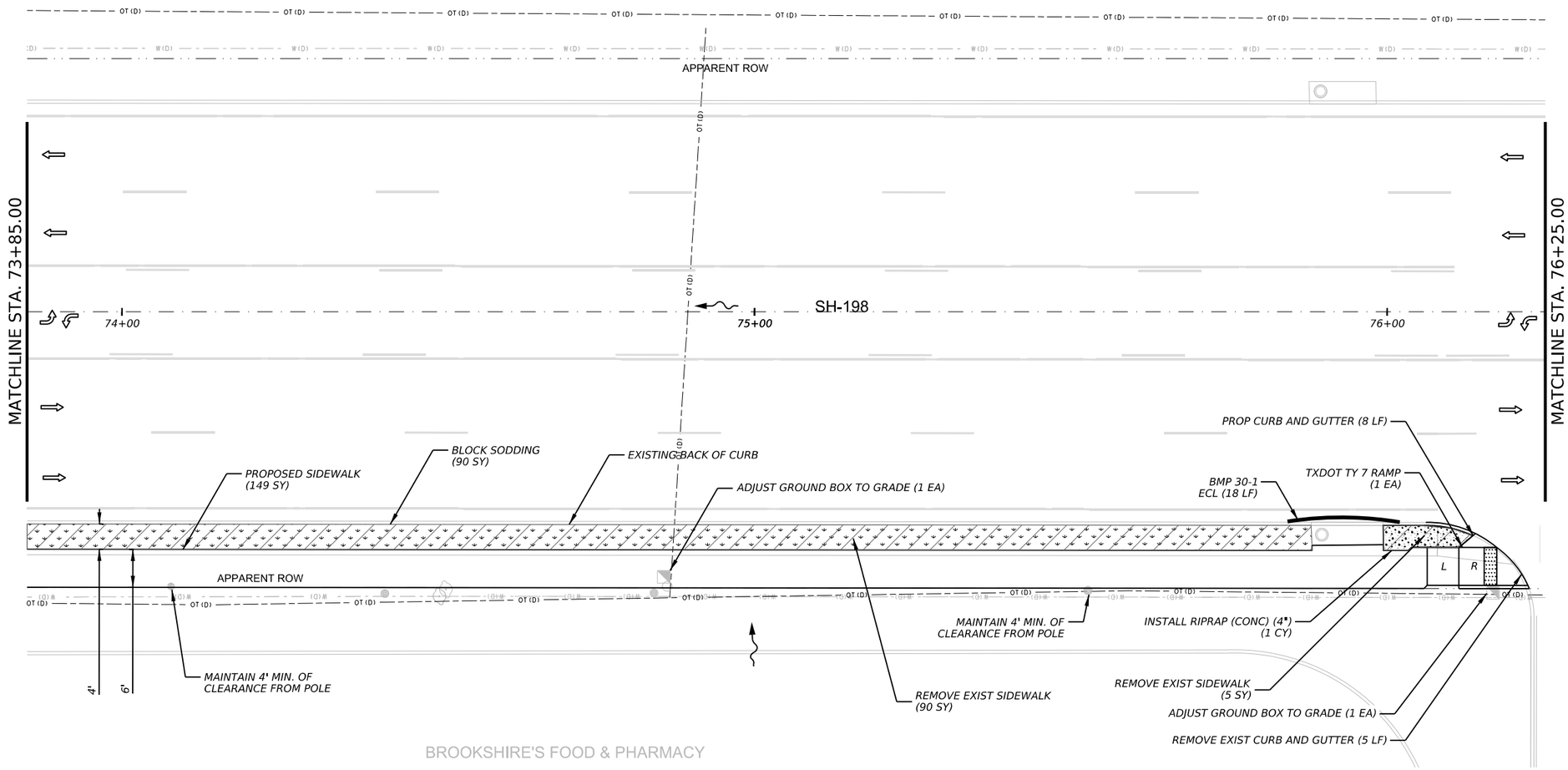
DATE: 5/28/2024 3:03:34 PM
FILE: c:\pw\khi1d025146\DAL_RDWY_ADA_PLAN_29.dgn

BMP #	INSTALL DATE	REMOVE DATE
BMP 30-1		

ITEM	DATE	INITIALS
DATE DISTURBED		
DATE STABILIZED		

FIELD

SHEET #			30
ITEM	DESCRIPTION	UNIT	QTY
0100 6002	PREPARING ROW	STA	2.4
0104 6029	REMOVING CONC (CURB OR CURB & GUTTER)	LF	5
0104 6036	REMOVING CONC (SIDEWALK OR RAMP)	SY	55
0162 6002	BLOCK SODDING	SY	90
0168 6001	VEGETATIVE WATERING	MG	14
0432 6001	RIPRAP (CONC)(4 IN)	CY	1
0506 6040	BIODEG EROSN CONT LOGS (INSTL) (8")	LF	18
0506 6043	BIODEG EROSN CONT LOGS (REMOVE)	LF	18
0529 6008	CONC CURB & GUTTER (TY II)	LF	8
05316001	CONC SIDEWALKS (4")	SY	149
05316010	CURB RAMPS (TY 7)	EA	1
6027 6009	GROUND BOX (ADJUST)	EA	1



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5/28/2024

STATE OF TEXAS
SAMUEL J. LUNDQUIST
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LICENSED
PROFESSIONAL ENGINEER

Kimley»Horn F-928

Texas Department of Transportation

SPECIAL NOTES & DETAILS

LEGEND

— × —	FENCE	☼	LIGHT POLE	SL	LONGITUDINAL SLOPES MAY NOT EXCEED 5%, CROSS SLOPE MAY NOT EXCEED 2%
F	FLARE	▢	MAIL BOX		CUT & RESTORE PVMT
⊙	FIRE HYDRANT	◎	MANHOLE	⟹	TRAFFIC FLOW	#-#	RELOCATE EXISTING SIGN
⊘	GAS METER/VALVE	◕	PEDESTAL SIGNAL POLE	SB	TRAFFIC SIGNAL BOX	(#-#)	PROPOSED SIGN
◪	GROUND BOX	●	POWER/UTILITY POLE		TRAFFIC SIGNAL CONTROLLER		
L	LANDING	R	RAMP	⊗	TRAFFIC SIGNAL POLE		
L1	LANDING (COMMON)	▭	RIPRAP (CONC)	⬡	TREE/BUSHES		
LS	LEVEL SIDEWALK (2% MAX)	⊸	SIGN	⊘	WATER METER/VALVE		
⟵	GUY WIRE	▭	SODDING	⌖	GUTTER LINE PROJECTION		
	GUARD FENCE/RAIL	T	TRANSITION	▥	GRATE INLET		
	PROPOSED CONDUIT (BORE)	▨	REMOVAL OF EXISTING ITEMS	◕	PROPOSED PEDESTAL POLE		
⟿	WATER FLOW DIRECTION	⬡	IRRIGATION CONTROLS	- —	PROPOSED CONDUIT		
	EROSION CONTROL LOG	○	UTILITY WITNESS	- —	EXISTING CONDUIT		
SCF	SEDIMENT CONTROL FENCE			▤	STAMPED CONCRETE		

SIDEWALK AND SIGNING PLANS
SH 198

SHEET 30 OF 42

CONT	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN, ETC			67

DATE: 5/28/2024 3:04:04 PM
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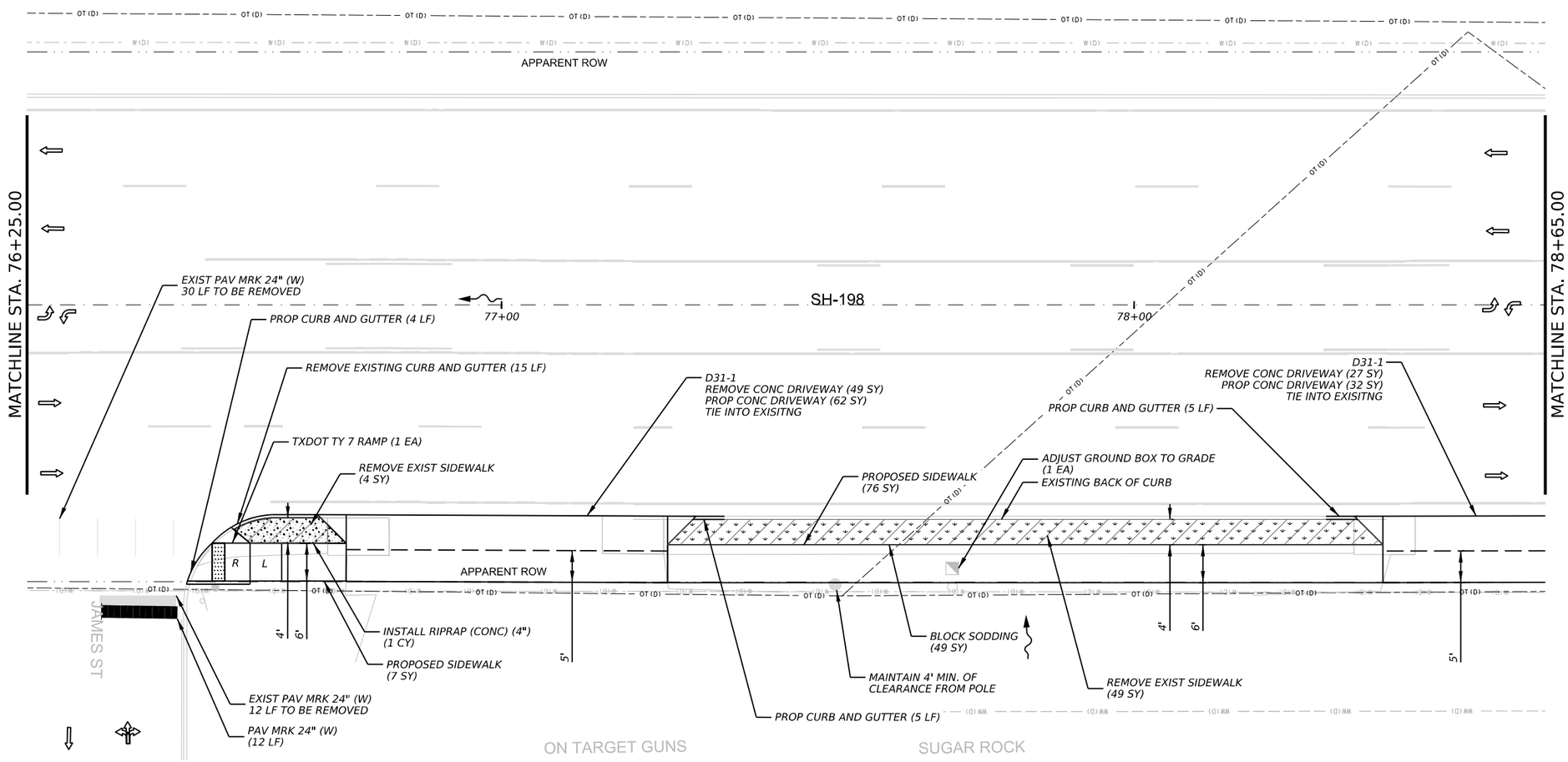
FIELD

SHEET #			31
ITEM	DESCRIPTION	UNIT	QTY
0100 6002	PREPARING ROW	STA	2.4
0104 6017	REMOVING CONC (DRIVEWAYS)	SY	76
0104 6029	REMOVING CONC (CURB OR CURB & GUTTER)	LF	8
0104 6036	REMOVING CONC (SIDEWALK OR RAMP)	SY	53
0162 6002	BLOCK SODDING	SY	49
0168 6001	VEGETATIVE WATERING	MG	8
0432 6001	RIPRAP (CONC)(4 IN)	CY	1
0529 6008	CONC CURB & GUTTER (TY II)	LF	25
0530 6017	DRIVEWAYS (CONC) (HES)	SY	94
05316001	CONC SIDEWALKS (4")	SY	83
05316010	CURB RAMPS (TY 7)	EA	1
0666 6048	REFL PAV MRK TY I (W)24"(SLD)(100MIL)	LF	12
0666 6230	PAVEMENT SEALER 24"	LF	12
0677 6007	ELIM EXT PAV MRK & MRKS (24")	LF	42
0678 6008	PAV SURF PREP FOR MRK (24")	LF	12
6027 6009	GROUND BOX (ADJUST)	EA	1



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0 10 20
SCALE: 1" = 20'

SPECIAL NOTES & DETAILS

LEGEND

— × —	FENCE	☼	LIGHT POLE	SL	LONGITUDINAL SLOPES MAY NOT EXCEED 5%, CROSS SLOPE MAY NOT EXCEED 2%
F	FLARE	▢	MAIL BOX	⟹	TRAFFIC FLOW
	FIRE HYDRANT	◎	MANHOLE	SB	TRAFFIC SIGNAL BOX
	GAS METER/VALVE	◕	PEDESTAL SIGNAL POLE		TRAFFIC SIGNAL CONTROLLER
	GROUND BOX	●	POWER/UTILITY POLE	⊗	TRAFFIC SIGNAL POLE
L	LANDING	R	RAMP	⬡	TREE/BUSHES
L1	LANDING (COMMON)		RIPRAP (CONC)	⊘	WATER METER/VALVE
LS	LEVEL SIDEWALK (2% MAX)	⏚	SIGN	⌖	GUTTER LINE PROJECTION
⟵	GUY WIRE		SODDING		GRATE INLET
	GUARD FENCE/RAIL	T	TRANSITION	◕	PROPOSED PEDESTAL POLE
	PROPOSED CONDUIT (BORE)		REMOVAL OF EXISTING ITEMS		PROPOSED CONDUIT
	WATER FLOW DIRECTION	⬡	IRRIGATION CONTROLS		EXISTING CONDUIT
	EROSION CONTROL LOG	○	UTILITY WITNESS		STAMPED CONCRETE
SCF	SEDIMENT CONTROL FENCE				CUT & RESTORE PVMT
				#-#	RELOCATE EXISTING SIGN
				#-#	PROPOSED SIGN

5/28/2024

STATE OF TEXAS
SAMUEL J. LUNDQUIST
122185
LICENSED
PROFESSIONAL ENGINEER

Kimley»Horn F-928

Texas Department of Transportation

SIDEWALK AND SIGNING PLANS
SH 198

SHEET 31 OF 42

CONT	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN, ETC			68

DATE: 5/28/2024 3:04:36 PM
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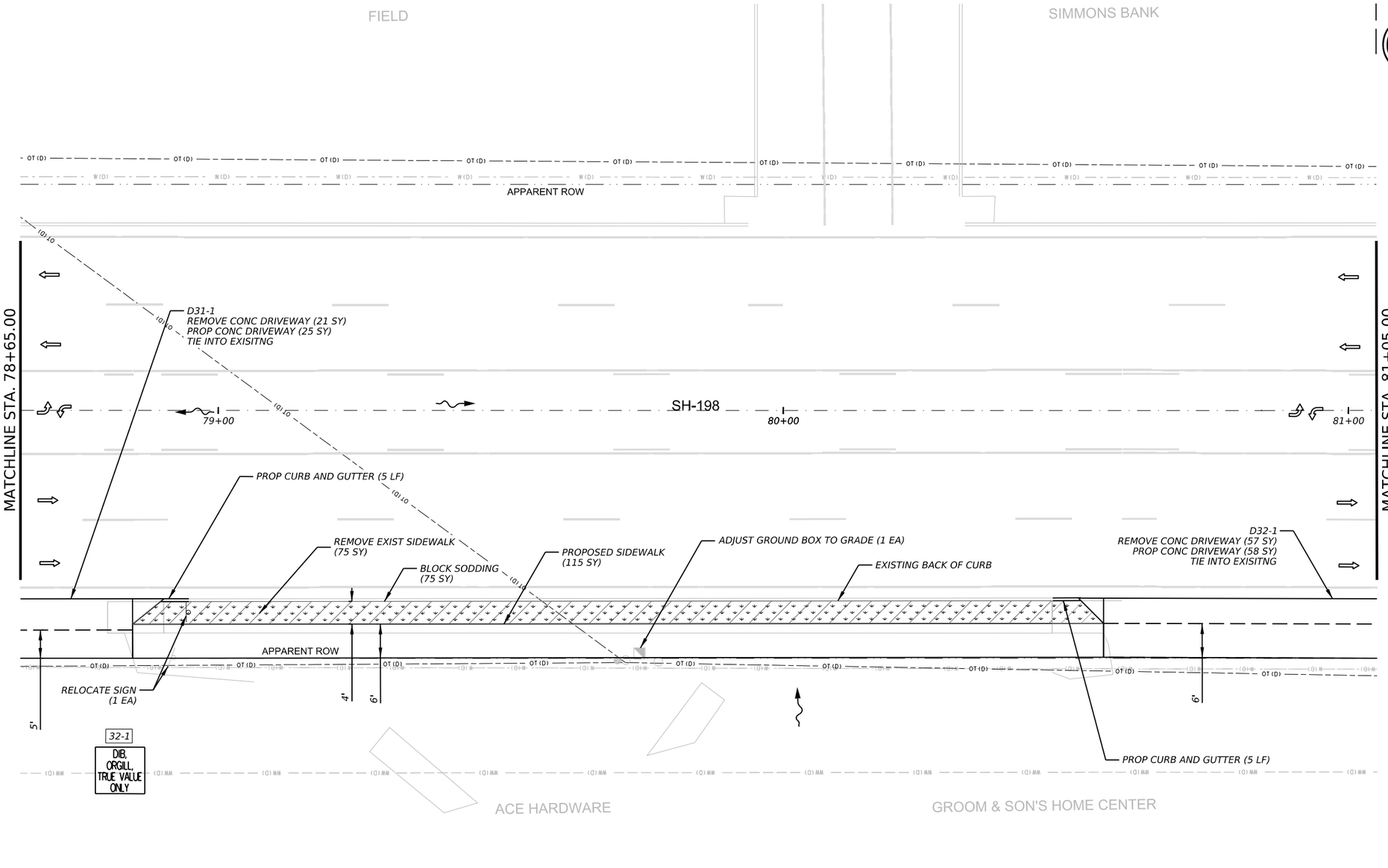

SHEET #			32
ITEM	DESCRIPTION	UNIT	QTY
0100 6002	PREPARING ROW	STA	2.4
0104 6017	REMOVING CONC (DRIVEWAYS)	SY	78
0104 6036	REMOVING CONC (SIDEWALK OR RAMP)	SY	75
0162 6002	BLOCK SODDING	SY	75
0168 6001	VEGETATIVE WATERING	MG	12
0529 6008	CONC CURB & GUTTER (TY II)	LF	10
0530 6017	DRIVEWAYS (CONC) (HES)	SY	83
05316001	CONC SIDEWALKS (4")	SY	115
0644 6068	RELOCATE SM RD SN SUP&AM TY 10BWG	EA	1
6027 6009	GROUND BOX (ADJUST)	EA	1

NOTES:

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0 10 20
SCALE: 1" = 20'

5/28/2024

STATE OF TEXAS
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LICENSED PROFESSIONAL ENGINEER

Kimley»Horn F-928

Texas Department of Transportation

SPECIAL NOTES & DETAILS

LEGEND

— × —	FENCE		LIGHT POLE	SL	LONGITUDINAL SLOPES MAY NOT EXCEED 5%, CROSS SLOPE MAY NOT EXCEED 2%
F	FLARE		MAIL BOX		TRAFFIC FLOW
	FIRE HYDRANT		MANHOLE	SB	TRAFFIC SIGNAL BOX
	GAS METER/VALVE		PEDESTAL SIGNAL POLE		TRAFFIC SIGNAL CONTROLLER
	GROUND BOX		POWER/UTILITY POLE		TRAFFIC SIGNAL POLE
L	LANDING	R	RAMP		TREE/BUSHES
L1	LANDING (COMMON)		RIPRAP (CONC)		WATER METER/VALVE
LS	LEVEL SIDEWALK (2% MAX)		SIGN		GUTTER LINE PROJECTION
	GUY WIRE		SODDING		GRATE INLET
	GUARD FENCE/RAIL	T	TRANSITION		PROPOSED PEDESTAL POLE
	PROPOSED CONDUIT (BORE)		REMOVAL OF EXISTING ITEMS		PROPOSED CONDUIT
	WATER FLOW DIRECTION		IRRIGATION CONTROLS		EXISTING CONDUIT
	EROSION CONTROL LOG		UTILITY WITNESS		STAMPED CONCRETE
SCF	SEDIMENT CONTROL FENCE				

	CUT & RESTORE PVMT
#-#	RELOCATE EXISTING SIGN
#-#	PROPOSED SIGN

SIDEWALK AND SIGNING PLANS
SH 198

SHEET 32 OF 42

CONT	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN, ETC			69

DATE: 5/28/2024 3:05:08 PM
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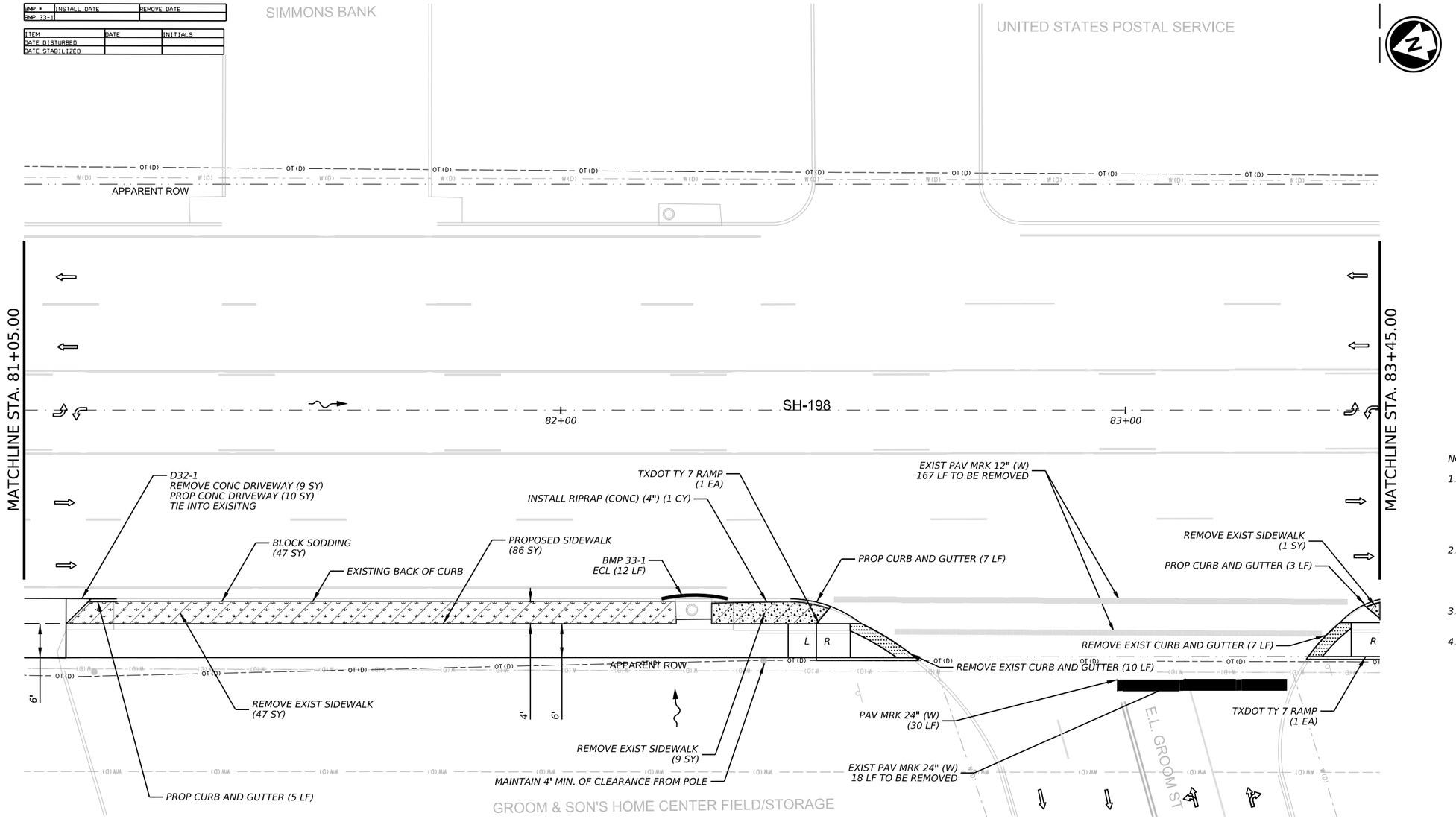
BMP *	INSTALL DATE	REMOVE DATE
BMP 33-1		

ITEM	DATE	INITIALS
DATE DISTURBED		
DATE STABILIZED		



SHEET #			33
ITEM	DESCRIPTION	UNIT	QTY
0100 6002	PREPARING ROW	STA	2.4
0104 6017	REMOVING CONC (DRIVEWAYS)	SY	9
0104 6029	REMOVING CONC (CURB OR CURB & GUTTER)	LF	17
0104 6036	REMOVING CONC (SIDEWALK OR RAMP)	SY	57
0162 6002	BLOCK SODDING	SY	47
0168 6001	VEGETATIVE WATERING	MG	7
0432 6001	RIPRAP (CONC)(4 IN)	CY	1
0506 6040	BIODEG EROSN CONT LOGS (INSTL) (8")	LF	12
0506 6043	BIODEG EROSN CONT LOGS (REMOVE)	LF	12
0529 6008	CONC CURB & GUTTER (TY II)	LF	15
0530 6017	DRIVEWAYS (CONC) (HES)	SY	10
05316001	CONC SIDEWALKS (4")	SY	86
0531 6010	CURB RAMPS (TY 7)	EA	2
0666 6048	REFL PAV MRK TY I (W)24"(SLD)(100MIL)	LF	30
0666 6230	PAVEMENT SEALER 24"	LF	30
0677 6005	ELIM EXT PAV MRK & MRKS (12")	LF	167
0677 6007	ELIM EXT PAV MRK & MRKS (24")	LF	18
0678 6008	PAV SURF PREP FOR MRK (24")	LF	30

NOTES:

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0 10 20
SCALE: 1" = 20'

5/28/2024

STATE OF TEXAS
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Texas Department of Transportation

SPECIAL NOTES & DETAILS

LEGEND

— × —	FENCE	☼	LIGHT POLE	SL	LONGITUDINAL SLOPES MAY NOT EXCEED 5%, CROSS SLOPE MAY NOT EXCEED 2%
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	FIRE HYDRANT	◎	MANHOLE		TRAFFIC FLOW
	GAS METER/VALVE		PEDESTAL SIGNAL POLE	#-#	RELOCATE EXISTING SIGN
	GROUND BOX		POWER/UTILITY POLE	SB	TRAFFIC SIGNAL BOX
L	LANDING	R	RAMP		TRAFFIC SIGNAL CONTROLLER
L1	LANDING (COMMON)		RIPRAP (CONC)		TRAFFIC SIGNAL POLE
LS	LEVEL SIDEWALK (2% MAX)		SIGN		TREE/BUSHES
←	GUY WIRE		SODDING		WATER METER/VALVE
	GUARD FENCE/RAIL	T	TRANSITION		GUTTER LINE PROJECTION
	PROPOSED CONDUIT (BORE)		REMOVAL OF EXISTING ITEMS		GRATE INLET
	WATER FLOW DIRECTION		IRRIGATION CONTROLS		PROPOSED PEDESTAL POLE
	EROSION CONTROL LOG	○	UTILITY WITNESS		PROPOSED CONDUIT
SCF	SEDIMENT CONTROL FENCE				EXISTING CONDUIT
					STAMPED CONCRETE

SIDEWALK AND SIGNING PLANS
SH 198

SHEET 33 OF 42

CONT	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN, ETC			70

DATE: 5/28/2024 3:05:41 PM
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DW: CK: DW: CK: DW:

CK:	DW:	CK:	DW:

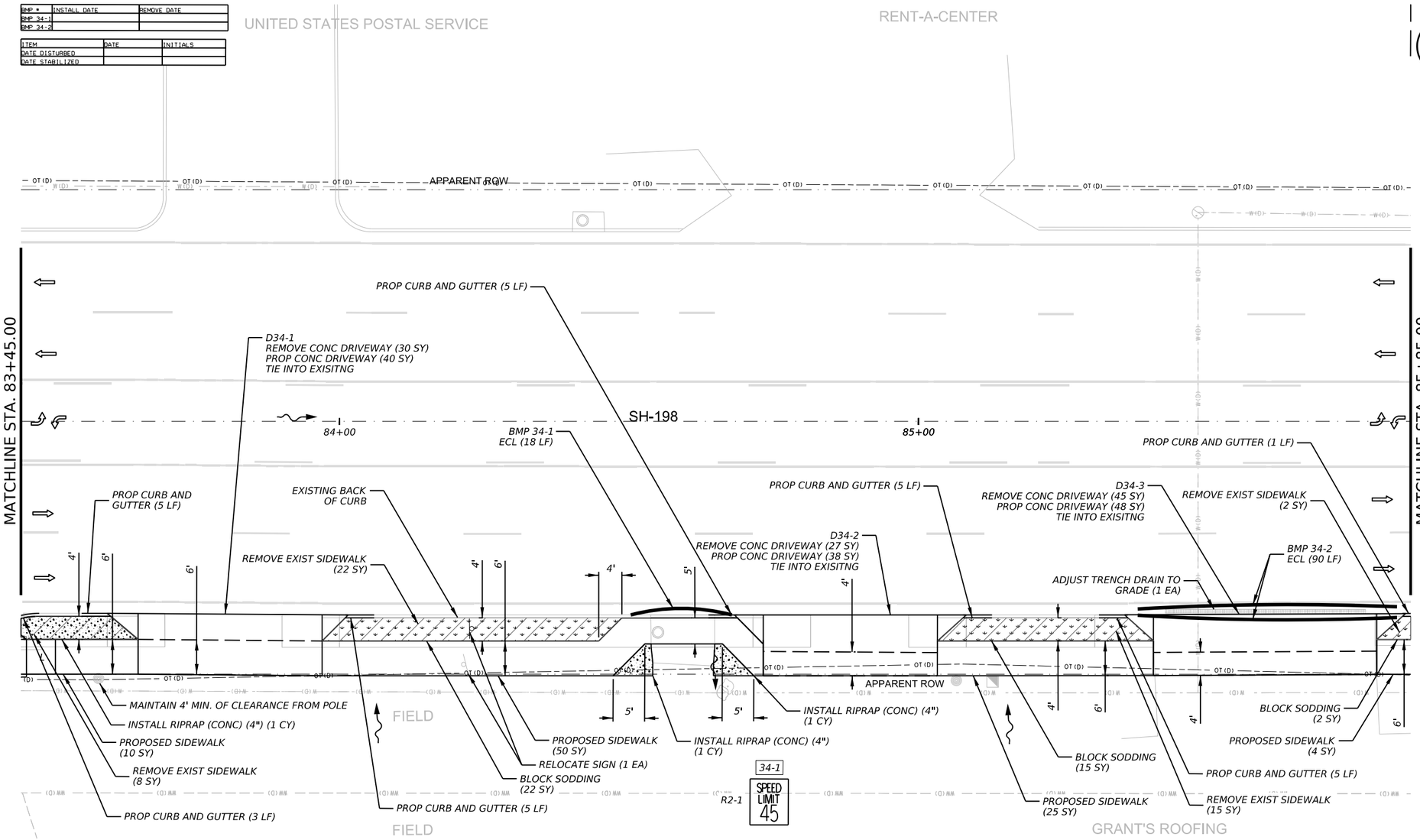
BMP #	INSTALL DATE	REMOVE DATE
BMP 34-1		
BMP 34-2		

ITEM	DATE	INITIALS
DATE DISTURBED		
DATE STABILIZED		

UNITED STATES POSTAL SERVICE

RENT-A-CENTER

SHEET #			34
ITEM	DESCRIPTION	UNIT	QTY
0100 6002	PREPARING ROW	STA	2.4
0104 6017	REMOVING CONC (DRIVEWAYS)	SY	102
0104 6036	REMOVING CONC (SIDEWALK OR RAMP)	SY	47
0162 6002	BLOCK SODDING	SY	39
0168 6001	VEGETATIVE WATERING	MG	6
0432 6001	RIPRAP (CONC)(4 IN)	CY	3
0506 6040	BIODEG EROSN CONT LOGS (INSTL) (8")	LF	108
0506 6043	BIODEG EROSN CONT LOGS (REMOVE)	LF	108
0529 6008	CONC CURB & GUTTER (TY II)	LF	29
0530 6017	DRIVEWAYS (CONC) (HES)	SY	126
05316001	CONC SIDEWALKS (4")	SY	89
0644 6068	RELOCATE SM RD SN SUP&AM TY 10BWG	EA	1



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SCALE: 1" = 20'

5/28/2024

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SAMUEL J. LUNDQUIST
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PROFESSIONAL ENGINEER

SPECIAL NOTES & DETAILS

LEGEND

— × —	FENCE	☼	LIGHT POLE	SL	LONGITUDINAL SLOPES MAY NOT EXCEED 5%, CROSS SLOPE MAY NOT EXCEED 2%
F	FLARE	▢	MAIL BOX		CUT & RESTORE PVMT
	FIRE HYDRANT		MANHOLE	#-#	RELOCATE EXISTING SIGN
	GAS METER/VALVE		PEDESTAL SIGNAL POLE	#-#	PROPOSED SIGN
	GROUND BOX		POWER/UTILITY POLE		TRAFFIC FLOW
L	LANDING	R	RAMP	SB	TRAFFIC SIGNAL BOX
L1	LANDING (COMMON)		RIPRAP (CONC)		TRAFFIC SIGNAL CONTROLLER
LS	LEVEL SIDEWALK (2% MAX)		SIGN		TRAFFIC SIGNAL POLE
	GUY WIRE		SODDING		TREE/BUSHES
	GUARD FENCE/RAIL	T	TRANSITION		WATER METER/VALVE
	PROPOSED CONDUIT (BORE)		REMOVAL OF EXISTING ITEMS		GUTTER LINE PROJECTION
	WATER FLOW DIRECTION		IRRIGATION CONTROLS		GRATE INLET
	EROSION CONTROL LOG		UTILITY WITNESS		PROPOSED PEDESTAL POLE
SCF	SEDIMENT CONTROL FENCE				PROPOSED CONDUIT
					EXISTING CONDUIT
					STAMPED CONCRETE

Kimley»Horn F-928

Texas Department of Transportation

SIDEWALK AND SIGNING PLANS
SH 198

SHEET 34 OF 42

CONT	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN, ETC			71

DATE: 5/28/2024 3:06:14 PM
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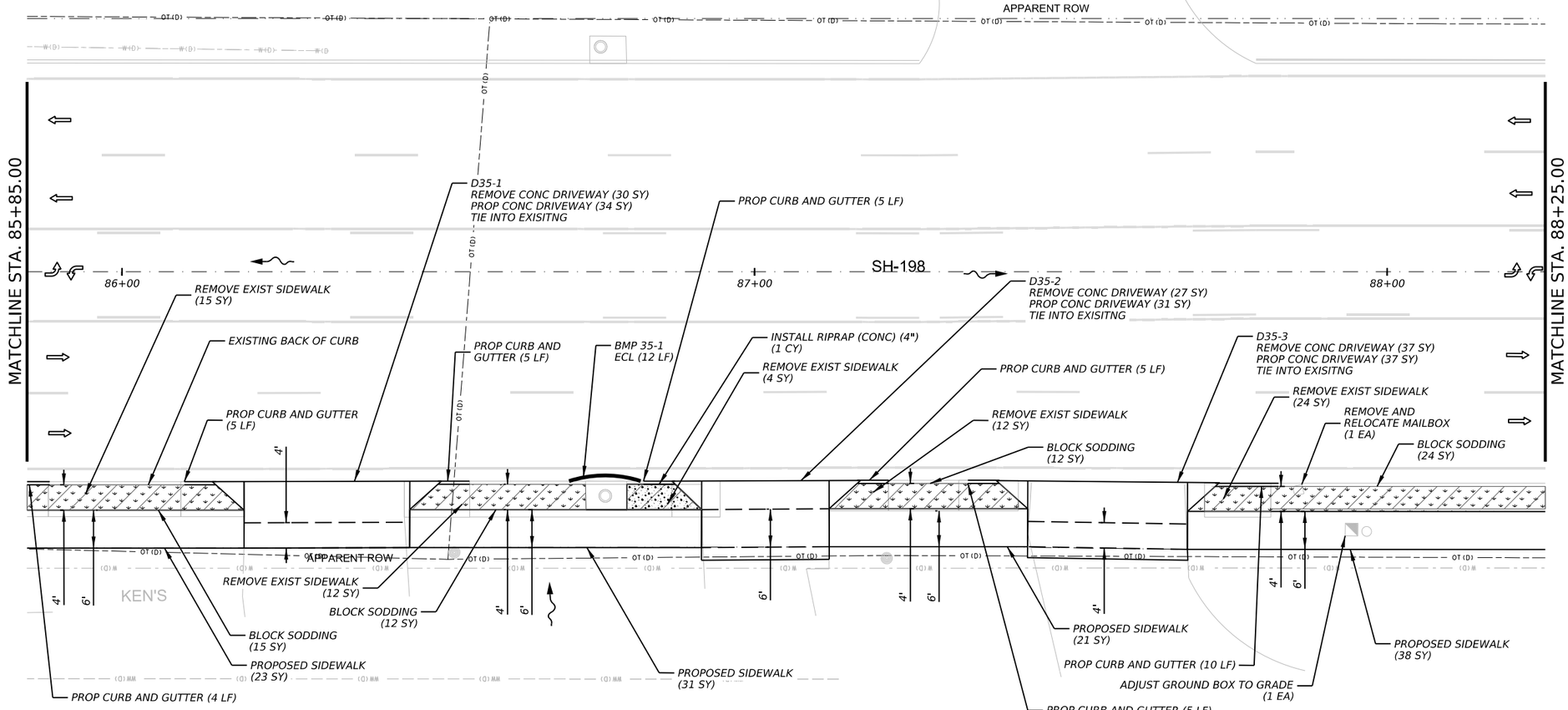
BMP #	INSTALL DATE	REMOVE DATE
BMP 35-1		

ITEM	DATE	INITIALS
DATE DISTURBED		
DATE STABILIZED		

SHEET #			35
ITEM	DESCRIPTION	UNIT	QTY
0100 6002	PREPARING ROW	STA	2.4
0104 6017	REMOVING CONC (DRIVEWAYS)	SY	94
0104 6036	REMOVING CONC (SIDEWALK OR RAMP)	SY	63
0162 6002	BLOCK SODDING	SY	63
0168 6001	VEGETATIVE WATERING	MG	10
0432 6001	RIPRAP (CONC)(4 IN)	CY	1
0506 6040	BIODEG EROSN CONT LOGS (INSTL) (8")	LF	12
0506 6043	BIODEG EROSN CONT LOGS (REMOVE)	LF	12
0529 6008	CONC CURB & GUTTER (TY II)	LF	39
0530 6017	DRIVEWAYS (CONC) (HES)	SY	102
05316001	CONC SIDEWALKS (4")	SY	113
0560 6025	RELOCATE EXISITING MAILBOX	EA	1
6027 6009	GROUND BOX (ADJUST)	EA	1



NOTES:

1. *THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILTIES PRIOR TO BEGINNING CONSTRUCTION.*
2. *LONGITUDINAL SLOPE SIDEWALKS SHALL NOT EXCEED 5% EXCEPT IN CASES WHERE THE ADJACENT ROADWAY SLOPE EXCEEDS 5%. IF ROADWAY SLOPE EXCEEDS 5%, LONGITUDINAL SLOPE OF THE SIDEWALK MAY MATCH THAT OF THE ROADWAY.*
3. *ALL CONCRETE DRIVEWAYS ARE TO BE SAWCUT AT THE ROADWAY INTERSECTION UNLESS OTHERWISE NOTED.*
4. *REMOVAL OF EXISTING SIGNS AND WITNESS POSTS THAT ARE IN CONFLICT WITH PROPOSED CONSTRUCTION SHALL BE SUBSIDIARY TO ITEM 100, "PREPARING RIGHT OF WAY."*

SCALE: 1" = 20'

SPECIAL NOTES & DETAILS

LEGEND

	FENCE		LIGHT POLE	SL	LONGITUDINAL SLOPES MAY NOT EXCEED 5%, CROSS SLOPE MAY NOT EXCEED 2%
F	FLARE		MAIL BOX		TRAFFIC FLOW
	FIRE HYDRANT		MANHOLE	SB	TRAFFIC SIGNAL BOX
	GAS METER/VALVE		PEDESTAL SIGNAL POLE		TRAFFIC SIGNAL CONTROLLER
	GROUND BOX		POWER/UTILITY POLE		TRAFFIC SIGNAL POLE
L	LANDING	R	RAMP		TREE/BUSHES
L1	LANDING (COMMON)		RIPRAP (CONC)		WATER METER/VALVE
LS	LEVEL SIDEWALK (2% MAX)		SIGN		GUTTER LINE PROJECTION
	GUY WIRE		SODDING		GRATE INLET
	GUARD FENCE/RAIL	T	TRANSITION		PROPOSED PEDESTAL POLE
	PROPOSED CONDUIT (BORE)		REMOVAL OF EXISTING ITEMS		PROPOSED CONDUIT
	WATER FLOW DIRECTION		IRRIGATION CONTROLS		EXISTING CONDUIT
	EROSION CONTROL LOG		UTILITY WITNESS		STAMPED CONCRETE
SCF	SEDIMENT CONTROL FENCE				CUT & RESTORE PVMT
				#-#	RELOCATE EXISTING SIGN
				#-#	PROPOSED SIGN

5/28/2024

STATE OF TEXAS
SAMUEL J. LUNDQUIST
122185
LICENSED
PROFESSIONAL ENGINEER

Kimley»Horn F-928

Texas Department of Transportation

SIDEWALK AND SIGNING PLANS
SH 198

SHEET 35 OF 42

CONT.	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN, ETC			72

DATE: 5/28/2024 3:06:47 PM
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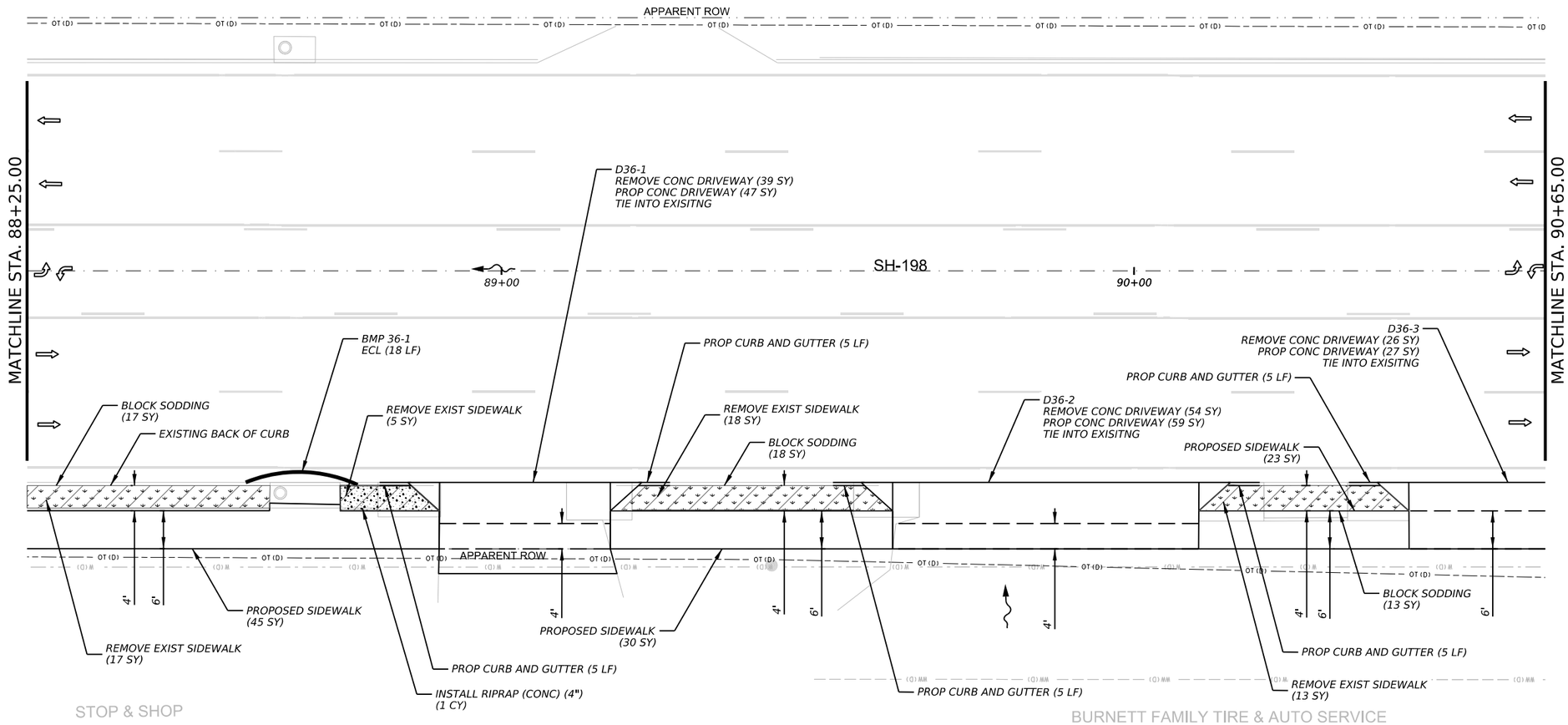
BMP #	INSTALL DATE	REMOVE DATE
BMP 36-1		

ITEM	DATE	INITIALS
DATE DISTURBED		
DATE STABILIZED		

FIELD

SHEET #			36
ITEM	DESCRIPTION	UNIT	QTY
0100 6002	PREPARING ROW	STA	2.4
0104 6017	REMOVING CONC (DRIVEWAYS)	SY	119
0104 6036	REMOVING CONC (SIDEWALK OR RAMP)	SY	53
0162 6002	BLOCK SODDING	SY	48
0168 6001	VEGETATIVE WATERING	MG	8
0432 6001	RIPRAP (CONC)(4 IN)	CY	1
0506 6040	BIODEG EROSN CONT LOGS (INSTL) (8")	LF	18
0506 6043	BIODEG EROSN CONT LOGS (REMOVE)	LF	18
0529 6008	CONC CURB & GUTTER (TY II)	LF	25
0530 6017	DRIVEWAYS (CONC) (HES)	SY	133
05316001	CONC SIDEWALKS (4")	SY	98



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0 10 20

SCALE: 1" = 20'

SPECIAL NOTES & DETAILS

LEGEND

— × —	FENCE		LIGHT POLE	SL	LONGITUDINAL SLOPES MAY NOT EXCEED 5%, CROSS SLOPE MAY NOT EXCEED 2%
F	FLARE		MAIL BOX		TRAFFIC FLOW
	FIRE HYDRANT		MANHOLE	SB	TRAFFIC SIGNAL BOX
	GAS METER/VALVE		PEDESTAL SIGNAL POLE		TRAFFIC SIGNAL CONTROLLER
	GROUND BOX		POWER/UTILITY POLE		TRAFFIC SIGNAL POLE
L	LANDING	R	RAMP		TREE/BUSHES
L1	LANDING (COMMON)		RIPRAP (CONC)		WATER METER/VALVE
LS	LEVEL SIDEWALK (2% MAX)		SIGN		GUTTER LINE PROJECTION
	GUY WIRE		SODDING		GRATE INLET
	GUARD FENCE/RAIL	T	TRANSITION		PROPOSED PEDESTAL POLE
	PROPOSED CONDUIT (BORE)		REMOVAL OF EXISTING ITEMS		PROPOSED CONDUIT
	WATER FLOW DIRECTION		IRRIGATION CONTROLS		EXISTING CONDUIT
	EROSION CONTROL LOG		UTILITY WITNESS		STAMPED CONCRETE
SCF	SEDIMENT CONTROL FENCE				

	CUT & RESTORE PVMT
#-#	RELOCATE EXISTING SIGN
#-#	PROPOSED SIGN

5/28/2024

STATE OF TEXAS
SAMUEL J. LUNDQUIST
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Kimley»Horn F-928

Texas Department of Transportation

SIDEWALK AND SIGNING PLANS
SH 198

SHEET 36 OF 42

CONT	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN, ETC			73

DATE: 5/28/2024 3:07:25 PM
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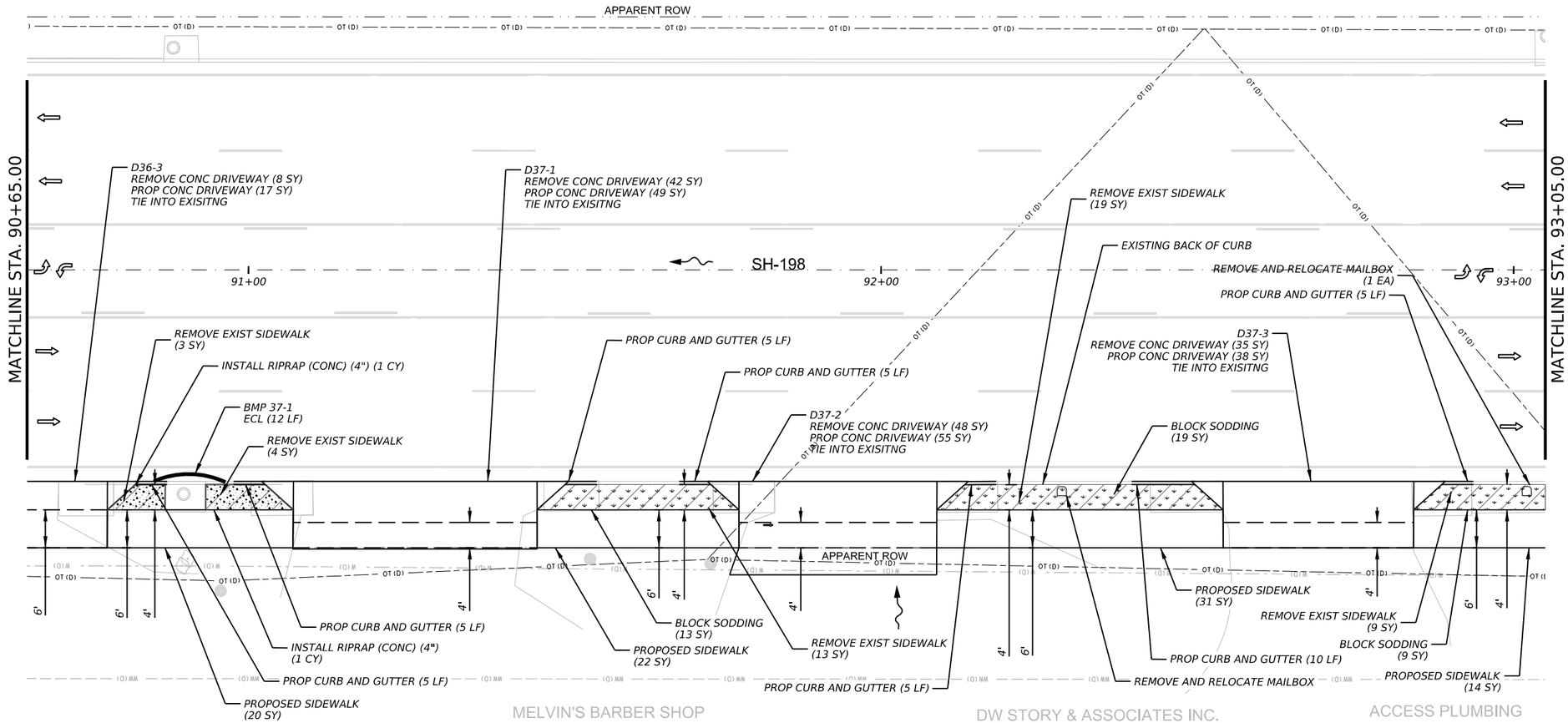
BMP #	INSTALL DATE	REMOVE DATE
BMP 37-1		

ITEM	DATE	INITIALS
DATE DISTURBED		
DATE STABILIZED		

FIELD

SHEET #			37
ITEM	DESCRIPTION	UNIT	QTY
0100 6002	PREPARING ROW	STA	2.4
0104 6017	REMOVING CONC (DRIVEWAYS)	SY	133
0104 6036	REMOVING CONC (SIDEWALK OR RAMP)	SY	48
0162 6002	BLOCK SODDING	SY	41
0168 6001	VEGETATIVE WATERING	MG	7
0432 6001	RIPRAP (CONC)(4 IN)	CY	2
0506 6040	BIODEG EROSN CONT LOGS (INSTL) (8")	LF	12
0506 6043	BIODEG EROSN CONT LOGS (REMOVE)	LF	12
0529 6008	CONC CURB & GUTTER (TY II)	LF	40
0530 6017	DRIVEWAYS (CONC) (HES)	SY	159
05316001	CONC SIDEWALKS (4")	SY	87
0560 6025	RELOCATE EXISITING MAILBOX	EA	2



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0 10 20
SCALE: 1" = 20'

5/28/2024

STATE OF TEXAS
SAMUEL J. LUNDQUIST
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PROFESSIONAL ENGINEER

Kimley»Horn F-928

Texas Department of Transportation

SPECIAL NOTES & DETAILS

LEGEND

— × —	FENCE	☼	LIGHT POLE	SL	LONGITUDINAL SLOPES MAY NOT EXCEED 5%, CROSS SLOPE MAY NOT EXCEED 2%
F	FLARE	▢	MAIL BOX		CUT & RESTORE PVMT
	FIRE HYDRANT	◎	MANHOLE		TRAFFIC FLOW
	GAS METER/VALVE		PEDESTAL SIGNAL POLE	SB	TRAFFIC SIGNAL BOX
	GROUND BOX		POWER/UTILITY POLE		TRAFFIC SIGNAL CONTROLLER
L	LANDING	R	RAMP		TRAFFIC SIGNAL POLE
L1	LANDING (COMMON)		RIPRAP (CONC)		TREE/BUSHES
LS	LEVEL SIDEWALK (2% MAX)		SIGN		WATER METER/VALVE
	GUY WIRE		SODDING		GUTTER LINE PROJECTION
	GUARD FENCE/RAIL	T	TRANSITION		GRATE INLET
	PROPOSED CONDUIT (BORE)		REMOVAL OF EXISTING ITEMS		PROPOSED PEDESTAL POLE
	WATER FLOW DIRECTION		IRRIGATION CONTROLS		PROPOSED CONDUIT
	EROSION CONTROL LOG	○	UTILITY WITNESS		EXISTING CONDUIT
SCF	SEDIMENT CONTROL FENCE				STAMPED CONCRETE
				#-#	RELOCATE EXISTING SIGN
				#-#	PROPOSED SIGN

SIDEWALK AND SIGNING PLANS
SH 198

SHEET 37 OF 42

CONT	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN, ETC			74

DATE: 5/28/2024 3:08:43 PM
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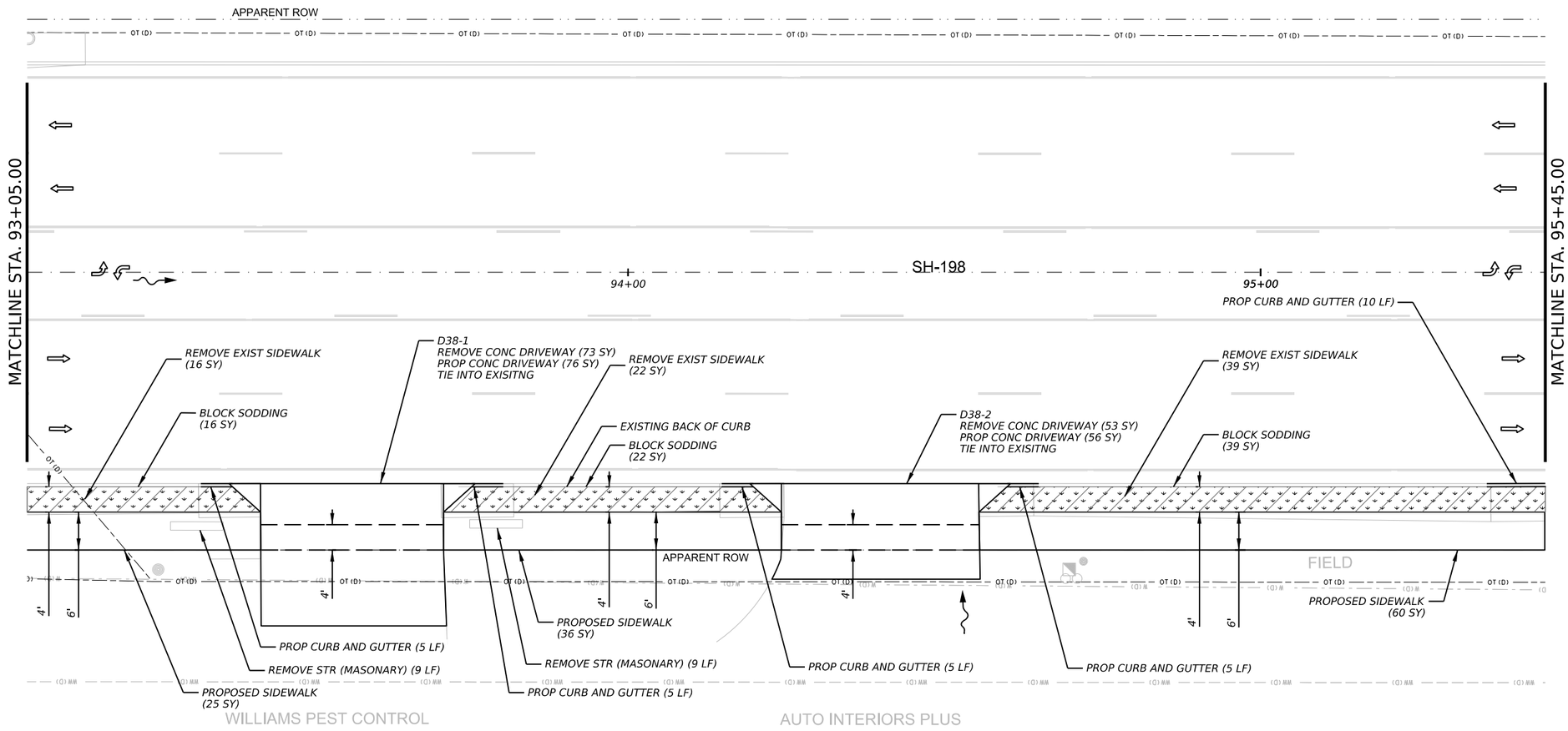
SHEET #			38
ITEM	DESCRIPTION	UNIT	QTY
0100 6002	PREPARING ROW	STA	2.4
0104 6017	REMOVING CONC (DRIVEWAYS)	SY	126
0104 6036	REMOVING CONC (SIDEWALK OR RAMP)	SY	77
0162 6002	BLOCK SODDING	SY	77
0168 6001	VEGETATIVE WATERING	MG	12
0496 6093	REMOV STR (MASONARY)	LF	18
0529 6008	CONC CURB & GUTTER (TY II)	LF	30
0530 6017	DRIVEWAYS (CONC) (HES)	SY	132
05316001	CONC SIDEWALKS (4")	SY	121



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0 10 20
SCALE: 1" = 20'

SPECIAL NOTES & DETAILS

LEGEND

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	FIRE HYDRANT		MANHOLE	SB	TRAFFIC SIGNAL BOX
	GAS METER/VALVE		PEDESTAL SIGNAL POLE		TRAFFIC SIGNAL CONTROLLER
	GROUND BOX		POWER/UTILITY POLE		TRAFFIC SIGNAL POLE
L	LANDING	R	RAMP		TREE/BUSHES
L1	LANDING (COMMON)		RIPRAP (CONC)		WATER METER/VALVE
LS	LEVEL SIDEWALK (2% MAX)		SIGN		GUTTER LINE PROJECTION
	GUY WIRE		SODDING		GRATE INLET
	GUARD FENCE/RAIL	T	TRANSITION		PROPOSED PEDESTAL POLE
	PROPOSED CONDUIT (BORE)		REMOVAL OF EXISTING ITEMS		PROPOSED CONDUIT
	WATER FLOW DIRECTION		IRRIGATION CONTROLS		EXISTING CONDUIT
	EROSION CONTROL LOG		UTILITY WITNESS		STAMPED CONCRETE
SCF	SEDIMENT CONTROL FENCE				CUT & RESTORE PVMT
				#-#	RELOCATE EXISTING SIGN
				#-#	PROPOSED SIGN

5/28/2024

STATE OF TEXAS
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Texas Department of Transportation

SIDEWALK AND SIGNING PLANS
SH 198

SHEET 38 OF 42

CONT	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN, ETC			75

DATE: 5/28/2024 3:09:24 PM
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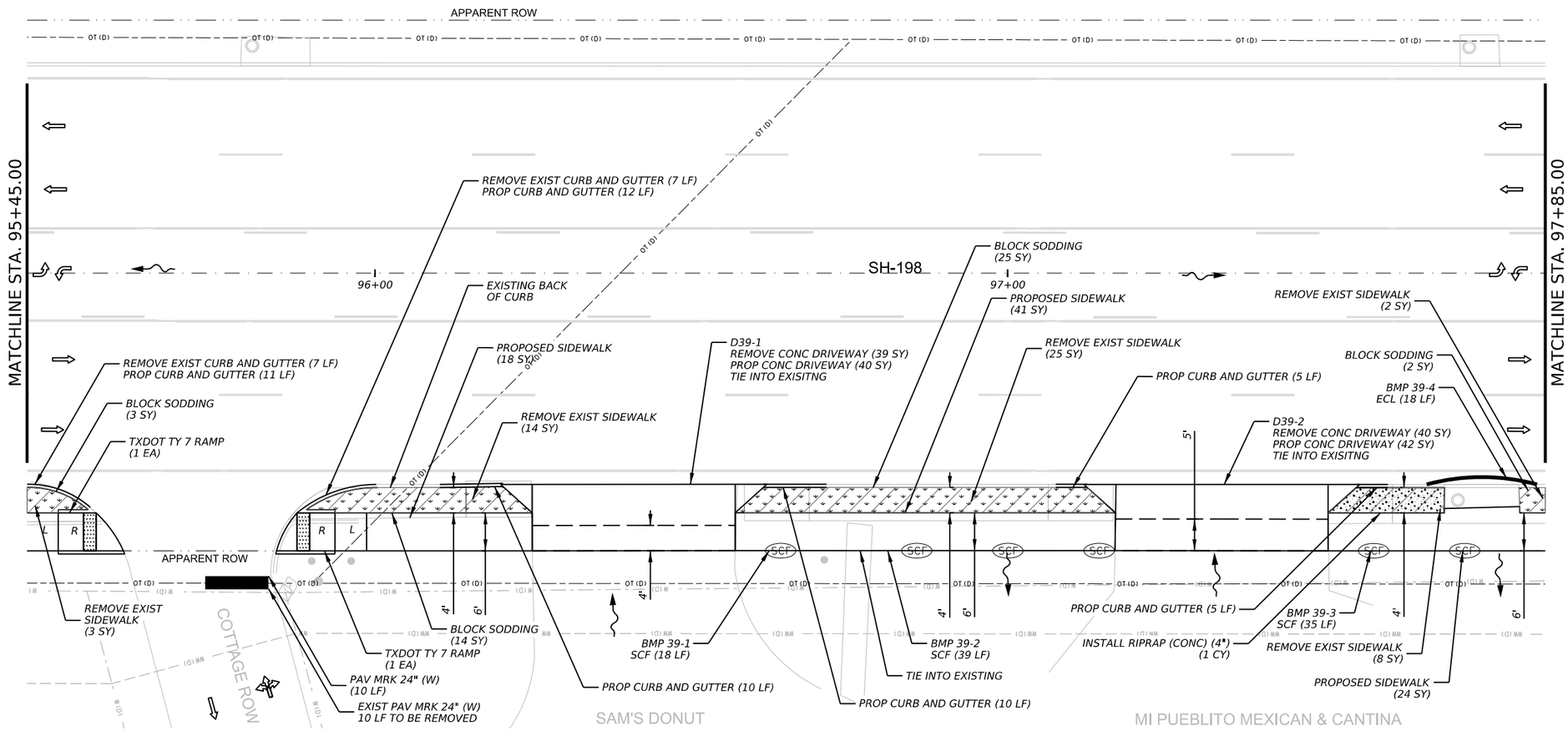
BMP #	INSTALL DATE	REMOVE DATE
BMP 39-1		
BMP 39-2		
BMP 39-3		
BMP 39-4		

ITEM	DATE	INITIALS
DATE DISTURBED		
DATE STABILIZED		

FIELD

SHEET #			39
ITEM	DESCRIPTION	UNIT	QTY
0100 6002	PREPARING ROW	STA	2.4
0104 6017	REMOVING CONC (DRIVEWAYS)	SY	79
0104 6029	REMOVING CONC (CURB OR CURB & GUTTER)	LF	14
0104 6036	REMOVING CONC (SIDEWALK OR RAMP)	SY	52
0162 6002	BLOCK SODDING	SY	44
0168 6001	VEGETATIVE WATERING	MG	7
0432 6001	RIPRAP (CONC)(4 IN)	CY	1
0506 6038	TEMP SEDMT CONT FENCE (INSTALL)	LF	92
0506 6039	TEMP SEDMT CONT FENCE (REMOVE)	LF	92
0506 6040	BIODEG EROSN CONT LOGS (INSTL) (8")	LF	18
0506 6043	BIODEG EROSN CONT LOGS (REMOVE)	LF	18
0529 6008	CONC CURB & GUTTER (TY II)	LF	53
0530 6017	DRIVEWAYS (CONC) (HES)	SY	82
05316001	CONC SIDEWALKS (4")	SY	83
05316010	CURB RAMPS (TY 7)	EA	2
0666 6048	REFL PAV MRK TY I (W)24"(SLD)(100MIL)	LF	10
0666 6230	PAVEMENT SEALER 24"	LF	10
0677 6007	ELIM EXT PAV MRK & MRKS (24")	LF	10
0678 6008	PAV SURF PREP FOR MRK (24")	LF	10



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0 10 20
SCALE: 1" = 20'

SPECIAL NOTES & DETAILS

LEGEND

— × —	FENCE	☼	LIGHT POLE	SL	LONGITUDINAL SLOPES MAY NOT EXCEED 5%, CROSS SLOPE MAY NOT EXCEED 2%
F	FLARE	▢	MAIL BOX		CUT & RESTORE PVMT
◇	FIRE HYDRANT	◎	MANHOLE	⟹	TRAFFIC FLOW	#-#	RELOCATE EXISTING SIGN
⊘	GAS METER/VALVE	◕	PEDESTAL SIGNAL POLE	SB	TRAFFIC SIGNAL BOX	(#-#)	PROPOSED SIGN
◪	GROUND BOX	●	POWER/UTILITY POLE		TRAFFIC SIGNAL CONTROLLER		
L	LANDING	R	RAMP	⊗	TRAFFIC SIGNAL POLE		
L1	LANDING (COMMON)	▩	RIPRAP (CONC)	⬡	TREE/BUSHES		
LS	LEVEL SIDEWALK (2% MAX)	⊸	SIGN	⊘	WATER METER/VALVE		
⟵	GUY WIRE	▭	SODDING	⌖	GUTTER LINE PROJECTION		
	GUARD FENCE/RAIL	T	TRANSITION	▥	GRATE INLET		
	PROPOSED CONDUIT (BORE)	▨	REMOVAL OF EXISTING ITEMS	◕	PROPOSED PEDESTAL POLE		
⟿	WATER FLOW DIRECTION	⬡	IRRIGATION CONTROLS	- -	PROPOSED CONDUIT		
	EROSION CONTROL LOG	○	UTILITY WITNESS	- -	EXISTING CONDUIT		
(SCF)	SEDIMENT CONTROL FENCE			▤	STAMPED CONCRETE		

5/28/2024

STATE OF TEXAS
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Kimley»Horn F-928

Texas Department of Transportation

SIDEWALK AND SIGNING PLANS
SH 198

SHEET 39 OF 42

CONT.	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN, ETC			76

DATE: 5/28/2024 3:10:06 PM
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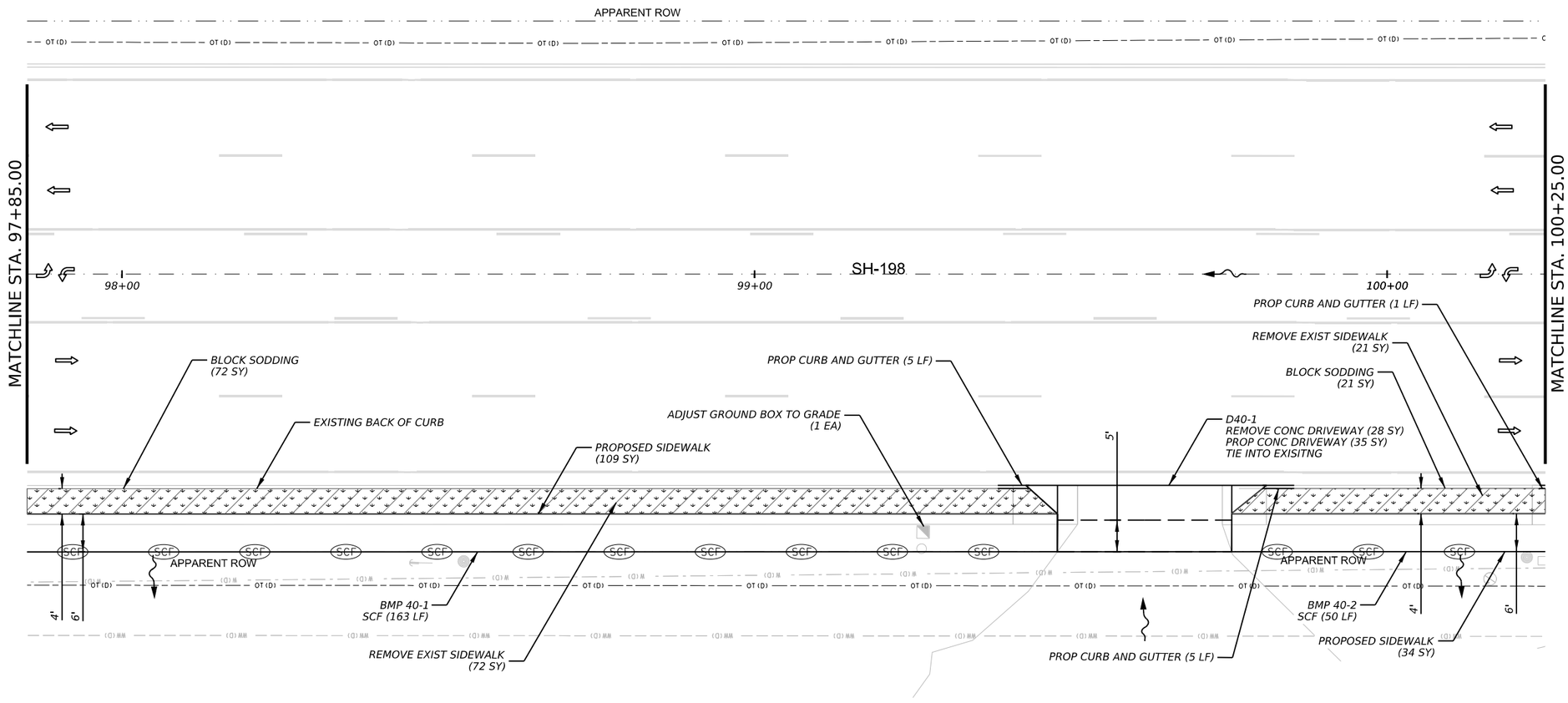
CK: DW: CK: DW:

BMP #	INSTALL DATE	REMOVE DATE
BMP 40-1		
BMP 40-2		

ITEM	DATE	INITIALS
DATE DISTURBED		
DATE STABILIZED		

FIELD

SHEET #			40
ITEM	DESCRIPTION	UNIT	QTY
0100 6002	PREPARING ROW	STA	2.4
0104 6017	REMOVING CONC (DRIVEWAYS)	SY	28
0104 6036	REMOVING CONC (SIDEWALK OR RAMP)	SY	93
0162 6002	BLOCK SODDING	SY	93
0168 6001	VEGETATIVE WATERING	MG	14
0506 6038	TEMP SEDMT CONT FENCE (INSTALL)	LF	213
0506 6039	TEMP SEDMT CONT FENCE (REMOVE)	LF	213
0529 6008	CONC CURB & GUTTER (TY II)	LF	11
0530 6017	DRIVEWAYS (CONC) (HES)	SY	35
05316001	CONC SIDEWALKS (4")	SY	143
6027 6009	GROUND BOX (ADJUST)	EA	1



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0 10 20
SCALE: 1" = 20'

5/28/2024

STATE OF TEXAS
SAMUEL J. LUNDQUIST
122185
LICENSED PROFESSIONAL ENGINEER

Kimley»Horn F-928

Texas Department of Transportation

SPECIAL NOTES & DETAILS

LEGEND

— × —	FENCE	☼	LIGHT POLE	SL	LONGITUDINAL SLOPES MAY NOT EXCEED 5%, CROSS SLOPE MAY NOT EXCEED 2%
F	FLARE	▢	MAIL BOX		CUT & RESTORE PVMT
	FIRE HYDRANT	◎	MANHOLE		TRAFFIC FLOW
	GAS METER/VALVE		PEDESTAL SIGNAL POLE	SB	TRAFFIC SIGNAL BOX
	GROUND BOX		POWER/UTILITY POLE		TRAFFIC SIGNAL CONTROLLER
L	LANDING	R	RAMP		TRAFFIC SIGNAL POLE
L1	LANDING (COMMON)		RIPRAP (CONC)		TREE/BUSHES
LS	LEVEL SIDEWALK (2% MAX)		SIGN		WATER METER/VALVE
	GUY WIRE		SODDING		GUTTER LINE PROJECTION
	GUARD FENCE/RAIL	T	TRANSITION		GRATE INLET
	PROPOSED CONDUIT (BORE)		REMOVAL OF EXISTING ITEMS		PROPOSED PEDESTAL POLE
	WATER FLOW DIRECTION		IRRIGATION CONTROLS		PROPOSED CONDUIT
	EROSION CONTROL LOG		UTILITY WITNESS		EXISTING CONDUIT
SCF	SEDIMENT CONTROL FENCE				STAMPED CONCRETE
				#-#	RELOCATE EXISTING SIGN
				#-#	PROPOSED SIGN

SIDEWALK AND SIGNING PLANS
SH 198

SHEET 40 OF 42

CONT.	SECT.	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN, ETC			77

DATE: 5/28/2024 3:10:44 PM
FILE: c:\pw\kh1\d0251465\DAL_RDWY_ADA_PLAN_40.dgn

CK: DW: CK: DN:

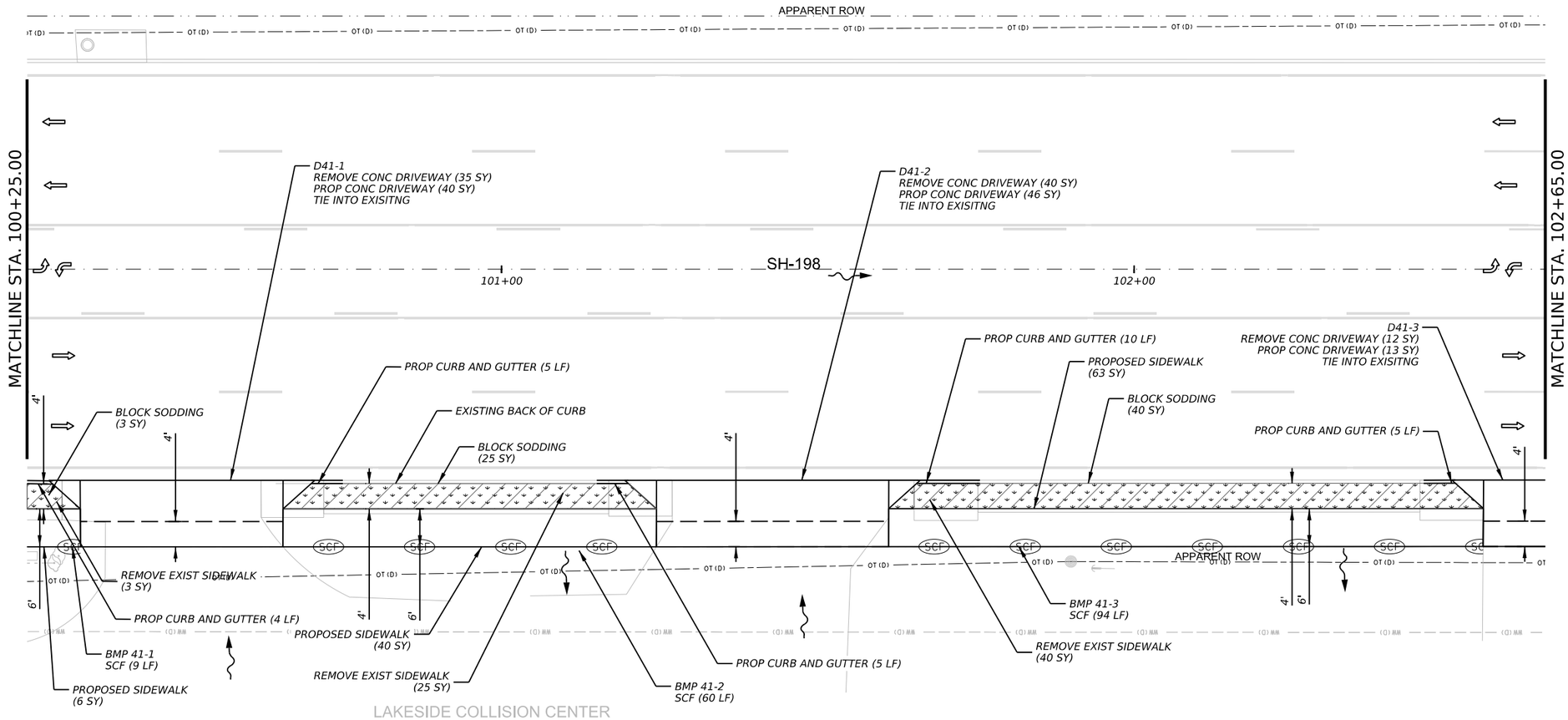
CK:	
DW:	
CK:	
DN:	

BMP #	INSTALL DATE	REMOVE DATE
BMP 41-1		
BMP 41-2		
BMP 41-3		

ITEM	DATE	INITIALS
DATE DISTURBED		
DATE STABILIZED		

FIELD

SHEET #			41
ITEM	DESCRIPTION	UNIT	QTY
0100 6002	PREPARING ROW	STA	2.4
0104 6017	REMOVING CONC (DRIVEWAYS)	SY	67
0104 6036	REMOVING CONC (SIDEWALK OR RAMP)	SY	68
0162 6002	BLOCK SODDING	SY	68
0168 6001	VEGETATIVE WATERING	MG	11
0506 6038	TEMP SEDMT CONT FENCE (INSTALL)	LF	163
0506 6039	TEMP SEDMT CONT FENCE (REMOVE)	LF	163
0529 6008	CONC CURB & GUTTER (TY II)	LF	29
0530 6017	DRIVEWAYS (CONC) (HES)	SY	99
05316001	CONC SIDEWALKS (4")	SY	109



LAKESIDE COLLISION CENTER

NOTES:

1. *THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILTIES PRIOR TO BEGINNING CONSTRUCTION.*
2. *LONGITUDINAL SLOPE SIDEWALKS SHALL NOT EXCEED 5% EXCEPT IN CASES WHERE THE ADJACENT ROADWAY SLOPE EXCEEDS 5%. IF ROADWAY SLOPE EXCEEDS 5%, LONGITUDINAL SLOPE OF THE SIDEWALK MAY MATCH THAT OF THE ROADWAY.*
3. *ALL CONCRETE DRIVEWAYS ARE TO BE SAWCUT AT THE ROADWAY INTERSECTION UNLESS OTHERWISE NOTED.*
4. *REMOVAL OF EXISTING SIGNS AND WITNESS POSTS THAT ARE IN CONFLICT WITH PROPOSED CONSTRUCTION SHALL BE SUBSIDIARY TO ITEM 100, "PREPARING RIGHT OF WAY."*

0 10 20
SCALE: 1" = 20'

SPECIAL NOTES & DETAILS

LEGEND

— × —	FENCE	☼	LIGHT POLE	SL	LONGITUDINAL SLOPES MAY NOT EXCEED 5%, CROSS SLOPE MAY NOT EXCEED 2%
F	FLARE	▢	MAIL BOX	⟹	TRAFFIC FLOW
◇	FIRE HYDRANT	◎	MANHOLE	SB	TRAFFIC SIGNAL BOX
⊘	GAS METER/VALVE	◕	PEDESTAL SIGNAL POLE	▭	TRAFFIC SIGNAL CONTROLLER
◪	GROUND BOX	●	POWER/UTILITY POLE	⊗	TRAFFIC SIGNAL POLE
L	LANDING	R	RAMP	⬡	TREE/BUSHES
L1	LANDING (COMMON)	▭	RIPRAP (CONC)	⊘	WATER METER/VALVE
LS	LEVEL SIDEWALK (2% MAX)	—o—	SIGN	⌖	GUTTER LINE PROJECTION
⟵	GUY WIRE	▭	SODDING	▥	GRATE INLET
═══	GUARD FENCE/RAIL	T	TRANSITION	◕	PROPOSED PEDESTAL POLE
═══	PROPOSED CONDUIT (BORE)	▨	REMOVAL OF EXISTING ITEMS	- -	PROPOSED CONDUIT
~~→	WATER FLOW DIRECTION	⬡	IRRIGATION CONTROLS	- -	EXISTING CONDUIT
▬	EROSION CONTROL LOG	○	UTILITY WITNESS	▤	STAMPED CONCRETE
SCF	SEDIMENT CONTROL FENCE			▭	CUT & RESTORE PVMT
				#-#	RELOCATE EXISTING SIGN
				#-#	PROPOSED SIGN

5/28/2024

STATE OF TEXAS
SAMUEL J. LUNDQUIST
122185
LICENSED
PROFESSIONAL ENGINEER

Kimley»Horn F-928

Texas Department of Transportation

SIDEWALK AND SIGNING PLANS
SH 198

SHEET 41 OF 42

CONT	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN, ETC			78

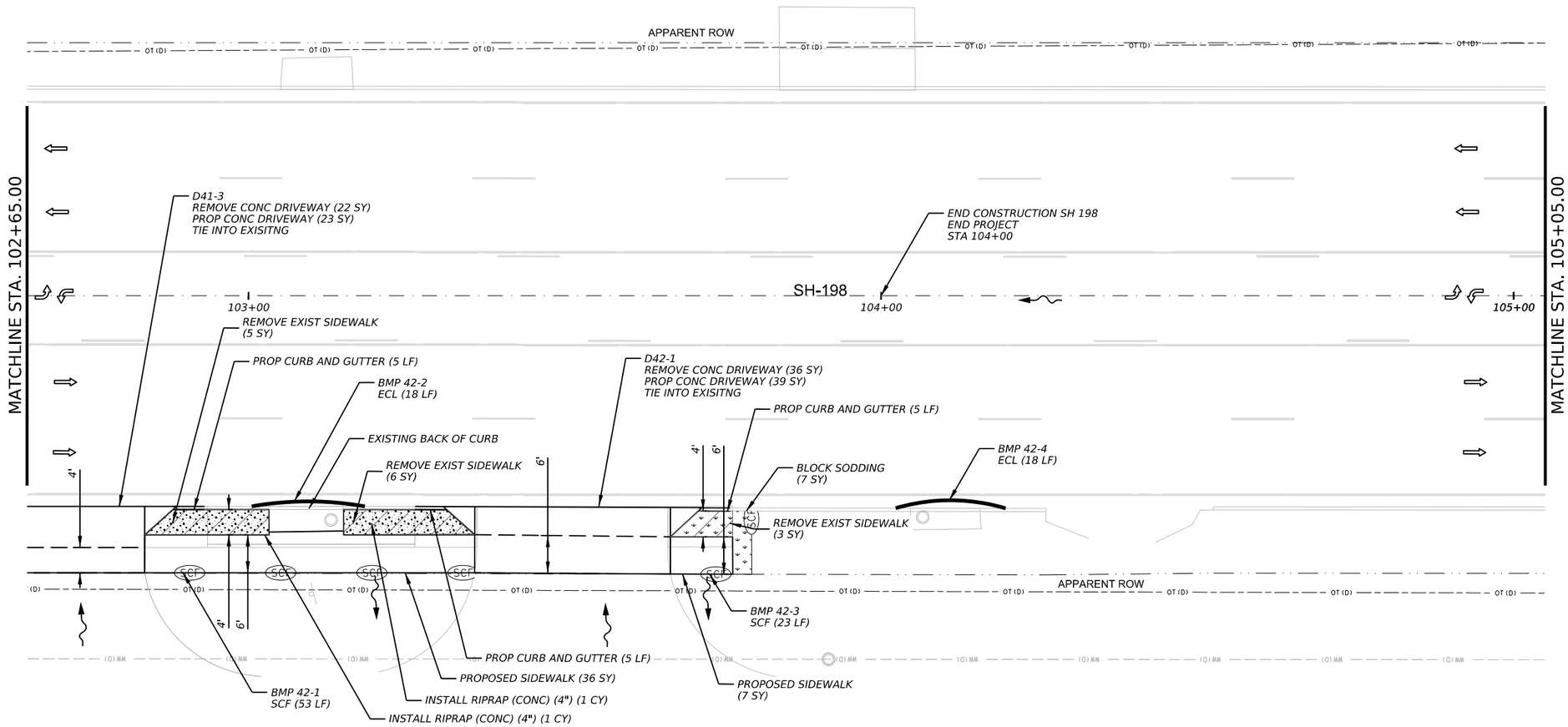
DATE: 5/28/2024 3:11:22 PM
FILE: c:\pw\khi1d0251465\DAL_RDWY_ADA_PLAN_41.dgn

BMP #	INSTALL DATE	REMOVE DATE
BMP 42-1		
BMP 42-2		
BMP 42-3		
BMP 42-4		

ITEM	DATE	INITIALS
DATE DISTURBED		
DATE STABILIZED		

FIELD

SHEET #			42
ITEM	DESCRIPTION	UNIT	QTY
0100 6002	PREPARING ROW	STA	1.4
0104 6017	REMOVING CONC (DRIVEWAYS)	SY	58
0104 6036	REMOVING CONC (SIDEWALK OR RAMP)	SY	14
0162 6002	BLOCK SODDING	SY	7
0168 6001	VEGETATIVE WATERING	MG	2
0432 6001	RIPRAP (CONC)(4 IN)	CY	2
0506 6038	TEMP SEDMT CONT FENCE (INSTALL)	LF	76
0506 6039	TEMP SEDMT CONT FENCE (REMOVE)	LF	76
0506 6040	BIODEG EROSN CONT LOGS (INSTL) (8")	LF	36
0506 6043	BIODEG EROSN CONT LOGS (REMOVE)	LF	36
0529 6008	CONC CURB & GUTTER (TY II)	LF	15
0530 6017	DRIVEWAYS (CONC) (HES)	SY	62
05316001	CONC SIDEWALKS (4")	SY	43



BOYD'S AUTOMOTIVE

CONSTRUCTION

NOTES:

1. *THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILTIES PRIOR TO BEGINNING CONSTRUCTION.*
2. *LONGITUDINAL SLOPE SIDEWALKS SHALL NOT EXCEED 5% EXCEPT IN CASES WHERE THE ADJACENT ROADWAY SLOPE EXCEEDS 5%. IF ROADWAY SLOPE EXCEEDS 5%, LONGITUDINAL SLOPE OF THE SIDEWALK MAY MATCH THAT OF THE ROADWAY.*
3. *ALL CONCRETE DRIVEWAYS ARE TO BE SAWCUT AT THE ROADWAY INTERSECTION UNLESS OTHERWISE NOTED.*
4. *REMOVAL OF EXISTING SIGNS AND WITNESS POSTS THAT ARE IN CONFLICT WITH PROPOSED CONSTRUCTION SHALL BE SUBSIDIARY TO ITEM 100, "PREPARING RIGHT OF WAY."*

0 10 20
SCALE: 1" = 20'

5/29/2024

STATE OF TEXAS
SAMUEL J. LUNDQUIST
122185
LICENSED
PROFESSIONAL ENGINEER

Kimley»Horn F-928

Texas Department of Transportation

SPECIAL NOTES & DETAILS

LEGEND

— × —	FENCE	☼	LIGHT POLE	SL	LONGITUDINAL SLOPES MAY NOT EXCEED 5%, CROSS SLOPE MAY NOT EXCEED 2%
F	FLARE	▢	MAIL BOX	⟹	TRAFFIC FLOW
◇	FIRE HYDRANT	◎	MANHOLE	SB	TRAFFIC SIGNAL BOX
⊘	GAS METER/VALVE	◕	PEDESTAL SIGNAL POLE	▭	TRAFFIC SIGNAL CONTROLLER
◪	GROUND BOX	◉	POWER/UTILITY POLE	⊗	TRAFFIC SIGNAL POLE
L	LANDING	R	RAMP	⬡	TREE/BUSHES
L1	LANDING (COMMON)	▨	RIPRAP (CONC)	⊘	WATER METER/VALVE
LS	LEVEL SIDEWALK (2% MAX)	—o—	SIGN	⌖	GUTTER LINE PROJECTION
⟵	GUY WIRE	▭	SODDING	▥	GRATE INLET
	GUARD FENCE/RAIL	T	TRANSITION	◕	PROPOSED PEDESTAL POLE
	PROPOSED CONDUIT (BORE)	▨	REMOVAL OF EXISTING ITEMS	- -	PROPOSED CONDUIT
∿→	WATER FLOW DIRECTION	⬡	IRRIGATION CONTROLS	- -	EXISTING CONDUIT
	EROSION CONTROL LOG	○	UTILITY WITNESS	▭	STAMPED CONCRETE
SCF	SEDIMENT CONTROL FENCE				

▭	CUT & RESTORE PVMT
#-#	RELOCATE EXISTING SIGN
#-#	PROPOSED SIGN

SIDEWALK AND SIGNING PLANS
SH 198

SHEET 42 OF 42

CONT	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN, ETC			79

DATE: 5/29/2024 10:11:51 AM
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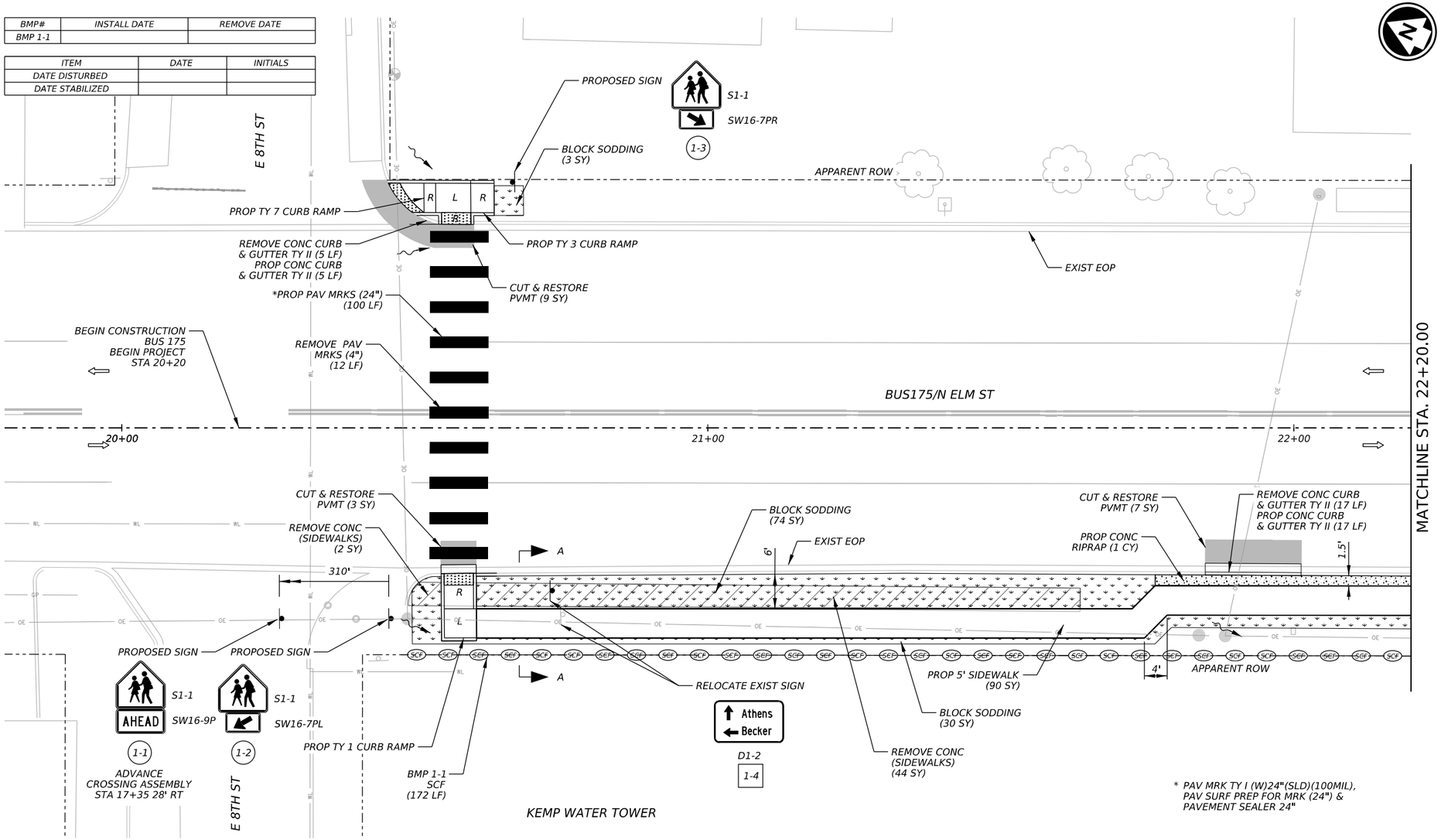
DW:
CK:
DN:

BMP#	INSTALL DATE	REMOVE DATE
BMP 1-1		

ITEM	DATE	INITIALS
DATE DISTURBED		
DATE STABILIZED		

SHEET #			1
ITEM	DESCRIPTION	UNIT	QTY
0100 6002	PREPARING ROW	STA	2
0104 6029	REMOVING CONC (CURB OR CURB & GUTTER)	LF	22
0104 6036	REMOVING CONC (SIDEWALK OR RAMP)	SY	46
0162 6002	BLOCK SODDING	SY	107
0168 6001	VEGETATIVE WATERING	MG	16
0400 6008	CUT & RESTORE ASPH PAVING	SY	19
0432 6001	RIPRAP (CONC)(4 IN)	CY	1
0506 6038	TEMP SEDMT CONT FENCE (INSTALL)	LF	172
0506 6039	TEMP SEDMT CONT FENCE (REMOVE)	LF	172
0529 6008	CONC CURB & GUTTER (TY II)	LF	22
0531 6001	CONC SIDEWALKS (4")	SY	90
0531 6004	CURB RAMPS (TY 1)	EA	1
0531 6006	CURB RAMPS (TY 3)	EA	1
0531 6010	CURB RAMPS (TY 7)	EA	1
0644 6001	IN SM RD SN SUP&AM TY10BWG(1)SA(P)	EA	3
0644 6068	RELOCATE SM RD SN SUP&AM TY 10BWG	EA	1
0666 6048	REFL PAV MRK TY I (W)24"(SLD)(100MIL)	LF	100
0666 6230	PAVEMENT SEALER 24"	LF	100
0677 6001	ELIM EXT PAV MRK & MRKS (4")	LF	12
0678 6008	PAV SURF PREP FOR MRK (24")	LF	100



* PAV MRK TY I (W)24"(SLD)(100MIL), PAV SURF PREP FOR MRK (24") & PAVEMENT SEALER 24"

NOTES:

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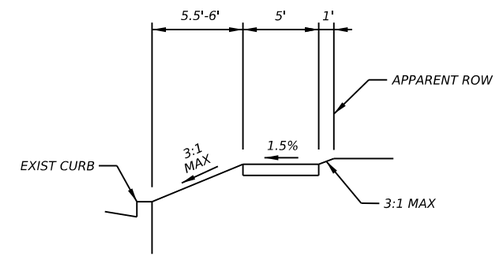
3.REMOVAL OF EXISTING SIGNS AND WITNESS POSTS THAT ARE IN CONFLICT WITH PROPOSED CONSTRUCTION SHALL BE SUBSIDIARY TO ITEM 100, PREPARING RIGHT OF WAY.

0 10 20

SCALE: 1" = 20'

SPECIAL NOTES & DETAILS



SECTION A-A

NTS

LEGEND

— × —	FENCE	☼	LIGHT POLE	SL	LONGITUDINAL SLOPES MAY NOT EXCEED 5%, CROSS SLOPE MAY NOT EXCEED 2%
F	FLARE		MAIL BOX		TRAFFIC FLOW
	FIRE HYDRANT		MANHOLE	SB	TRAFFIC SIGNAL BOX
	GAS METER/VALVE		PEDESTAL SIGNAL POLE		TRAFFIC SIGNAL CONTROLLER
	GROUND BOX		POWER/UTILITY POLE		TRAFFIC SIGNAL POLE
L	LANDING	R	RAMP		TREE/BUSHES
L1	LANDING (COMMON)		RIPRAP (CONC)		WATER METER/VALVE
LS	LEVEL SIDEWALK (2% MAX)		SIGN		GUTTER LINE PROJECTION
	GUY WIRE		SODDING		GRATE INLET
	GUARD FENCE/RAIL	T	TRANSITION		PROPOSED PEDESTAL POLE
	PROPOSED CONDUIT (BORE)		REMOVAL OF EXISTING ITEMS		PROPOSED CONDUIT
	WATER FLOW DIRECTION		IRRIGATION CONTROLS		EXISTING CONDUIT
	EROSION CONTROL LOG		UTILITY WITNESS		STAMPED CONCRETE
SCF	SEDIMENT CONTROL FENCE				CUT & RESTORE PVMT
				#	EXISTING SIGN
				#	PROPOSED SIGN

CivilCorp ENGINEERS • SURVEYORS
2825 WILCREST DRIVE, SUITE 100, HOUSTON, TEXAS 77042
TEL: 713-785-9815 FAX: 713-782-6922 TXENG FIRM 10283

STATE OF TEXAS
GUS NOWAK JR.
22952
LICENSED PROFESSIONAL ENGINEER

5/24/2024

Gus Nowak, Jr.

Kimley»Horn F-928

Texas Department of Transportation

SIDEWALK AND SIGNING PLANS
BUS 175

SHEET 1 OF 11

CONT	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN,ETC			80

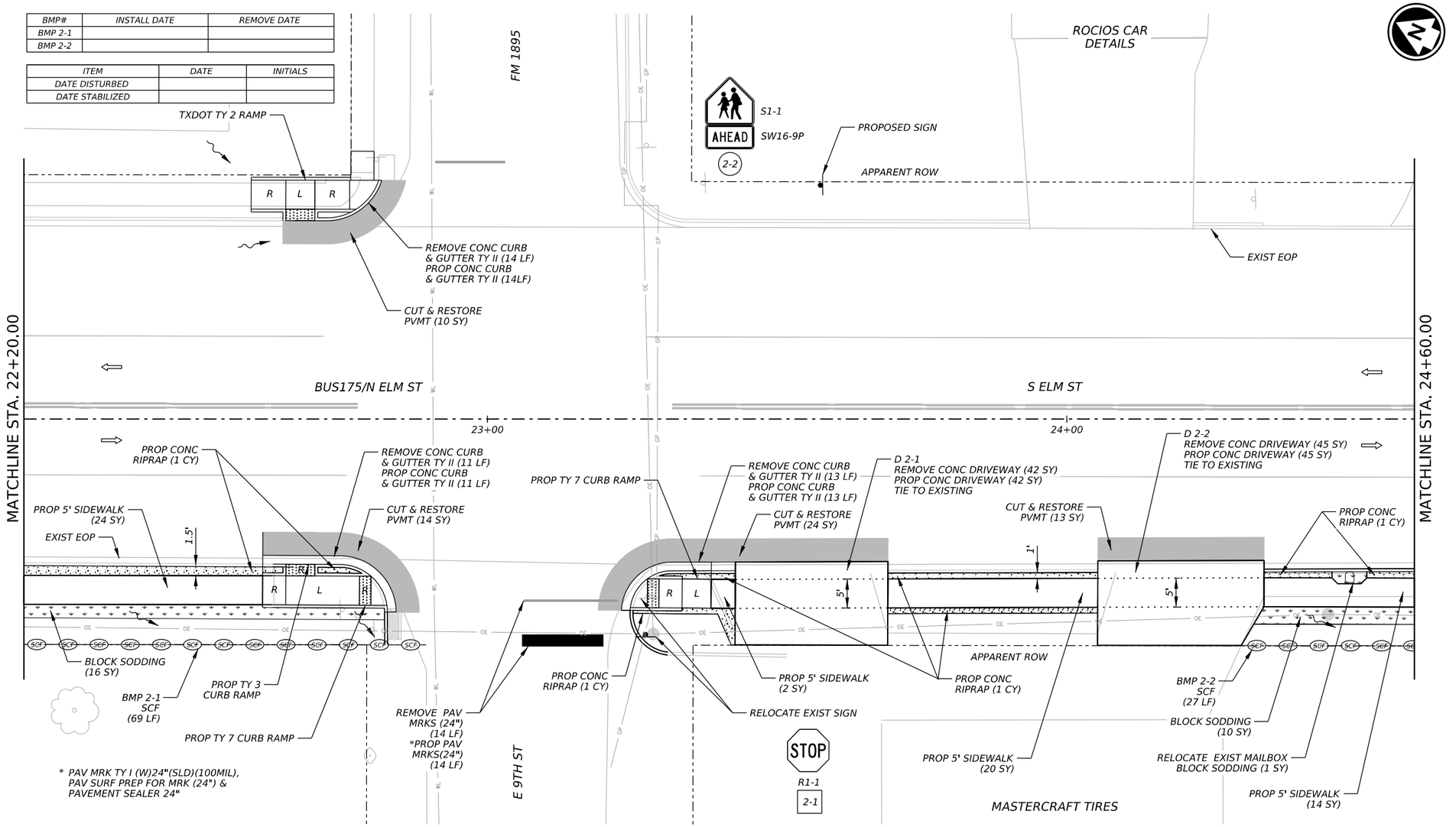
DATE: 5/24/2024 10:47:29 AM
FILE: c:\pw\kh1\d0373033\C_DAL_RDWY_ADA_PLAN_04.dgn

CK: DW: CK: DW:

BMP#	INSTALL DATE	REMOVE DATE
BMP 2-1		
BMP 2-2		

ITEM	DATE	INITIALS
DATE DISTURBED		
DATE STABILIZED		

SHEET #			2
ITEM	DESCRIPTION	UNIT	QTY
0100 6002	PREPARING ROW	STA	2.4
0104 6017	REMOVING CONC (DRIVEWAYS)	SY	87
0104 6029	REMOVING CONC (CURB OR CURB & GUTTER)	LF	38
0162 6002	BLOCK SODDING	SY	27
0168 6001	VEGETATIVE WATERING	MG	5
0400 6008	CUT & RESTORE ASPH PAVING	SY	61
0432 6001	RIPRAP (CONC)(4 IN)	CY	4
0506 6038	TEMP SEDMT CONT FENCE (INSTALL)	LF	96
0506 6039	TEMP SEDMT CONT FENCE (REMOVE)	LF	96
0529 6008	CONC CURB & GUTTER (TY II)	LF	38
0530 6017	DRIVEWAYS (CONC) (HES)	SY	87
0531 6001	CONC SIDEWALKS (4")	SY	60
0531 6005	CURB RAMPS (TY 2)	EA	1
0531 6006	CURB RAMPS (TY 3)	EA	1
0531 6010	CURB RAMPS (TY 7)	EA	2
0560 6025	RELOCATE EXISTING MAILBOX	EA	1
0644 6001	IN SM RD SN SUP&AM TY10BWG(1)SA(P)	EA	1
0644 6068	RELOCATE SM RD SN SUP&AM TY 10BWG	EA	1
0666 6048	REFL PAV MRK TY I (W)24"(SLD)(100MIL)	LF	14
0666 6230	PAVEMENT SEALER 24"	LF	14
0677 6007	ELIM EXT PAV MRK & MRKS (24")	LF	14
0678 6008	PAV SURF PREP FOR MRK (24")	LF	14



NOTES:

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0 10 20
SCALE: 1" = 20'

SPECIAL NOTES & DETAILS

LEGEND

FENCE		LIGHT POLE	SL	LONGITUDINAL SLOPES MAY NOT EXCEED 5%, CROSS SLOPE MAY NOT EXCEED 2%	CUT & RESTORE PVMT
F	FLARE	MAIL BOX		TRAFFIC FLOW	EXISTING SIGN
	FIRE HYDRANT	MANHOLE	SB	TRAFFIC SIGNAL BOX	PROPOSED SIGN
	GAS METER/VALVE	PEDESTAL SIGNAL POLE		TRAFFIC SIGNAL CONTROLLER	
	GROUND BOX	POWER/UTILITY POLE		TRAFFIC SIGNAL POLE	
L	LANDING	R RAMP		TREE/BUSHES	
L1	LANDING (COMMON)	RIPRAP (CONC)		WATER METER/VALVE	
LS	LEVEL SIDEWALK (2% MAX)	SIGN		GUTTER LINE PROJECTION	
	GUY WIRE	SODDING		GRATE INLET	
	GUARD FENCE/RAIL	T TRANSITION		PROPOSED PEDESTAL POLE	
	PROPOSED CONDUIT (BORE)	REMOVAL OF EXISTING ITEMS		PROPOSED CONDUIT	
	WATER FLOW DIRECTION	IRRIGATION CONTROLS		EXISTING CONDUIT	
	EROSION CONTROL LOG	UTILITY WITNESS		STAMPED CONCRETE	
SCF	SEDIMENT CONTROL FENCE				

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5/24/2024

Gus Nowak, Jr.

Kimley»Horn F-928

Texas Department of Transportation

SIDEWALK AND SIGNING PLANS
BUS 175

SHEET 2 OF 11

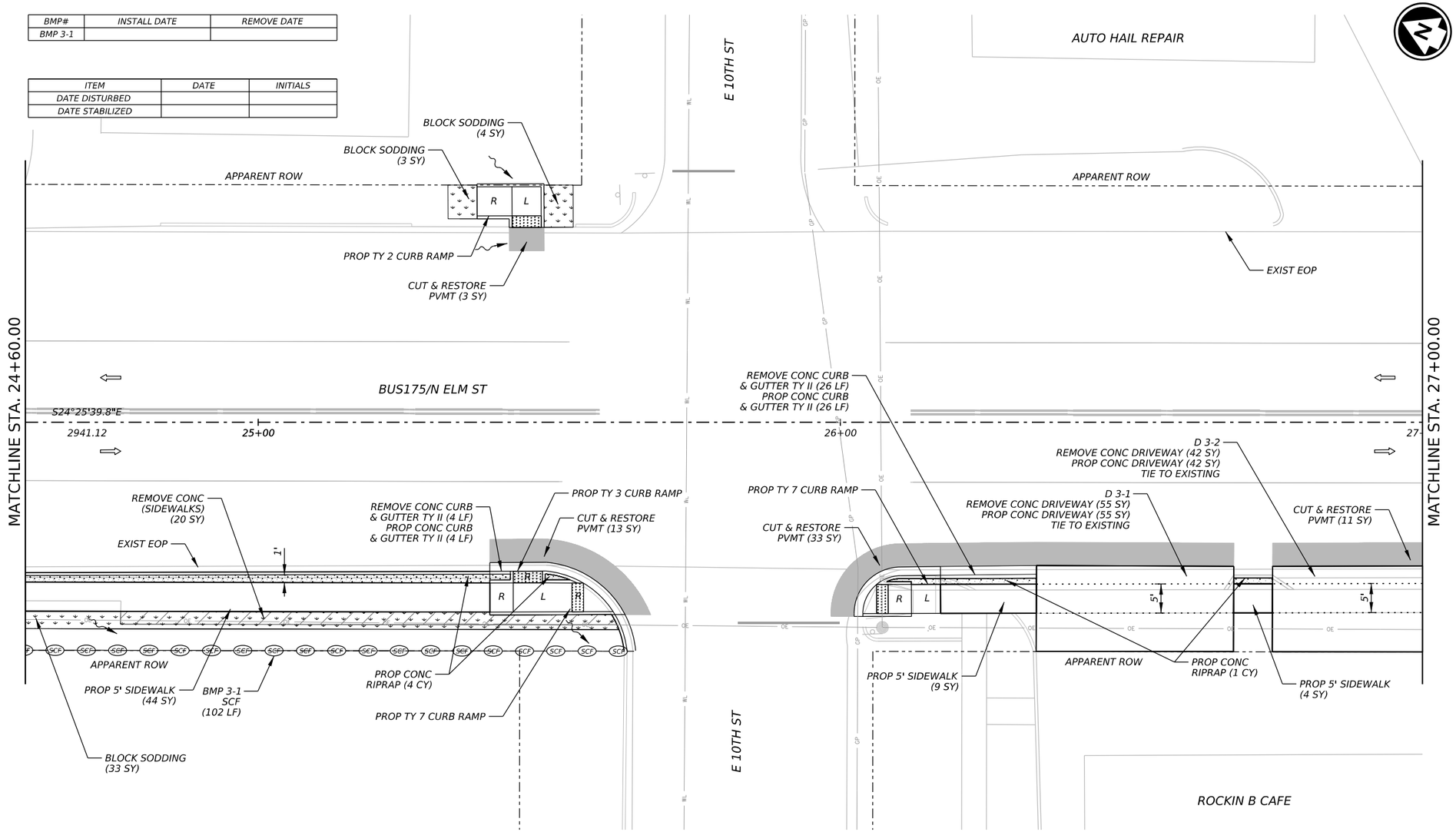
CONT	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN,ETC			81

DATE: 5/24/2024 10:47:51 AM
FILE: c:\pw\kh1\d0373033\C_DAL_RDWY_ADA_PLAN_05.dgn

BMP#	INSTALL DATE	REMOVE DATE
BMP 3-1		

ITEM	DATE	INITIALS
DATE DISTURBED		
DATE STABILIZED		

SHEET #			3
ITEM	DESCRIPTION	UNIT	QTY
0100 6002	PREPARING ROW	STA	2.4
0104 6017	REMOVING CONC (DRIVEWAYS)	SY	97
0104 6029	REMOVING CONC (CURB OR CURB & GUTTER)	LF	30
0104 6036	REMOVING CONC (SIDEWALK OR RAMP)	SY	20
0162 6002	BLOCK SODDING	SY	40
0168 6001	VEGETATIVE WATERING	MG	6
0400 6008	CUT & RESTORE ASPH PAVING	SY	60
0432 6001	RIPRAP (CONC)(4 IN)	CY	5
0506 6038	TEMP SEDMT CONT FENCE (INSTALL)	LF	102
0506 6039	TEMP SEDMT CONT FENCE (REMOVE)	LF	102
0529 6008	CONC CURB & GUTTER (TY II)	LF	30
0530 6017	DRIVEWAYS (CONC) (HES)	SY	97
0531 6001	CONC SIDEWALKS (4")	SY	57
0531 6005	CURB RAMPS (TY 2)	EA	1
0531 6006	CURB RAMPS (TY 3)	EA	1
0531 6010	CURB RAMPS (TY 7)	EA	2



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0 10 20

SCALE: 1" = 20'

SPECIAL NOTES & DETAILS

LEGEND

— × —	FENCE	☼	LIGHT POLE	SL	LONGITUDINAL SLOPES MAY NOT EXCEED 5%, CROSS SLOPE MAY NOT EXCEED 2%
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⊘	GAS METER/VALVE	◕	PEDESTAL SIGNAL POLE	▣	TRAFFIC SIGNAL CONTROLLER
◪	GROUND BOX	●	POWER/UTILITY POLE	⊗	TRAFFIC SIGNAL POLE
L	LANDING	R	RAMP	⬡	TREE/BUSHES
L1	LANDING (COMMON)	▨	RIPRAP (CONC)	⊘	WATER METER/VALVE
LS	LEVEL SIDEWALK (2% MAX)	⊸	SIGN	⌖	GUTTER LINE PROJECTION
⟵	GUY WIRE	SOD	SODDING	▥	GRATE INLET
	GUARD FENCE/RAIL	T	TRANSITION	◕	PROPOSED PEDESTAL POLE
	PROPOSED CONDUIT (BORE)	▨	REMOVAL OF EXISTING ITEMS	—	PROPOSED CONDUIT
~►	WATER FLOW DIRECTION	⬡	IRRIGATION CONTROLS		EXISTING CONDUIT
	EROSION CONTROL LOG	○	UTILITY WITNESS	▤	STAMPED CONCRETE
SCF	SEDIMENT CONTROL FENCE			▨	CUT & RESTORE PVMT
				#	EXISTING SIGN
				(#)	PROPOSED SIGN

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ENGINEERS • SURVEYORS
2825 WILCREST DRIVE, SUITE 100, HOUSTON TEXAS 77042
TEL: 713-785-9815 FAX: 713-782-6922 TXENG FIRM 10283

STATE OF TEXAS
GUS NOWAK JR.
22952
LICENSED
PROFESSIONAL ENGINEER

5/24/2024

Gus Nowak, Jr.

Kimley»Horn F-928

Texas Department of Transportation

SIDEWALK AND SIGNING PLANS
BUS 175

SHEET 3 OF 11

CONT.	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN,ETC			82

CK: DW: CK: DW:

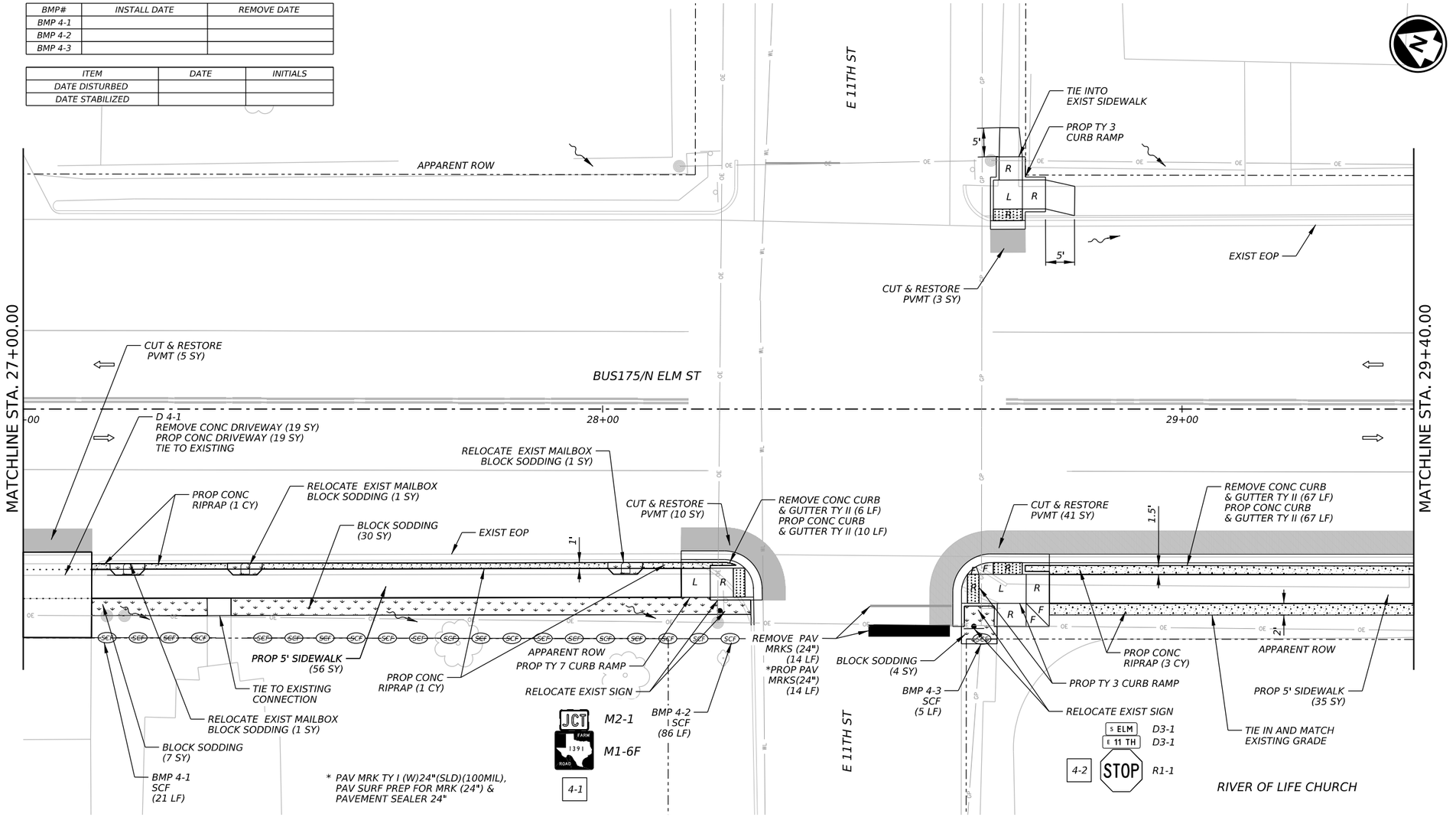
DATE: 5/24/2024 10:48:13 AM
FILE: c:\pw\kh1\d0373033\C_DAL_RDWY_ADA_PLAN_06.dgn

CK
DW
CK
DW

BMP#	INSTALL DATE	REMOVE DATE
BMP 4-1		
BMP 4-2		
BMP 4-3		

ITEM	DATE	INITIALS
DATE DISTURBED		
DATE STABILIZED		

SHEET #			4
ITEM	DESCRIPTION	UNIT	QTY
0100 6002	PREPARING ROW	STA	2.4
0104 6017	REMOVING CONC (DRIVEWAYS)	SY	19
0104 6029	REMOVING CONC (CURB OR CURB & GUTTER)	LF	73
0162 6002	BLOCK SODDING	SY	44
0168 6001	VEGETATIVE WATERING	MG	7
0400 6008	CUT & RESTORE ASPH PAVING	SY	59
0432 6001	RIPRAP (CONC)(4 IN)	CY	5
0506 6038	TEMP SEDMT CONT FENCE (INSTALL)	LF	112
0506 6039	TEMP SEDMT CONT FENCE (REMOVE)	LF	112
0529 6008	CONC CURB & GUTTER (TY II)	LF	77
0530 6017	DRIVEWAYS (CONC) (HES)	SY	19
0531 6001	CONC SIDEWALKS (4")	SY	91
0531 6006	CURB RAMPS (TY 3)	EA	3
0531 6010	CURB RAMPS (TY 7)	EA	1
0560 6025	RELOCATE EXISTING MAILBOX	EA	3
0644 6068	RELOCATE SM RD SN SUP&AM TY 10BWG	EA	2
0666 6048	REFL PAV MRK TY I (W)24"(SLD)(100MIL)	LF	14
0666 6230	PAVEMENT SEALER 24"	LF	14
0677 6007	ELIM EXT PAV MRK & MRKS (24")	LF	14
0678 6008	PAV SURF PREP FOR MRK (24")	LF	14



NOTES:

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1. THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLAN ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.

2. LONGITUDINAL SLOPE SIDEWALKS SHALL NOT EXCEED 5% EXCEPT IN CASES WHERE THE ADJACENT ROADWAY SLOPE EXCEEDS 5%. IF ROADWAY SLOPE EXCEEDS 5%, LONGITUDINAL SLOPE OF THE SIDEWALK MAY MATCH THAT OF THE ROADWAY.

3.REMOVAL OF EXISTING SIGNS AND WITNESS POSTS THAT ARE IN CONFLICT WITH PROPOSED CONSTRUCTION SHALL BE SUBSIDIARY TO ITEM 100, PREPARING RIGHT OF WAY.

0 10 20
SCALE: 1" = 20'

SPECIAL NOTES & DETAILS

LEGEND

— × —	FENCE	☼	LIGHT POLE	SL	LONGITUDINAL SLOPES MAY NOT EXCEED 5%, CROSS SLOPE MAY NOT EXCEED 2%
F	FLARE	▢	MAIL BOX	⟹	TRAFFIC FLOW
◇	FIRE HYDRANT	◎	MANHOLE	SB	TRAFFIC SIGNAL BOX
⊘	GAS METER/VALVE	◕	PEDESTAL SIGNAL POLE	▭	TRAFFIC SIGNAL CONTROLLER
◪	GROUND BOX	◉	POWER/UTILITY POLE	⊗	TRAFFIC SIGNAL POLE
L	LANDING	R	RAMP	⬡	TREE/BUSHES
L1	LANDING (COMMON)	▨	RIPRAP (CONC)	⊘	WATER METER/VALVE
LS	LEVEL SIDEWALK (2% MAX)	—○—	SIGN	⌖	GUTTER LINE PROJECTION
⟵	GUY WIRE	▭	SODDING	▥	GRATE INLET
	GUARD FENCE/RAIL	T	TRANSITION	◕	PROPOSED PEDESTAL POLE
	PROPOSED CONDUIT (BORE)	▨	REMOVAL OF EXISTING ITEMS	—	PROPOSED CONDUIT
~→	WATER FLOW DIRECTION	⬡	IRRIGATION CONTROLS	—	EXISTING CONDUIT
	EROSION CONTROL LOG	○	UTILITY WITNESS	▤	STAMPED CONCRETE
SCF	SEDIMENT CONTROL FENCE			▭	CUT & RESTORE PVMT
				#	EXISTING SIGN
				(#)	PROPOSED SIGN

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Texas Department of Transportation

SIDEWALK AND SIGNING PLANS
BUS 175

SHEET 4 OF 11

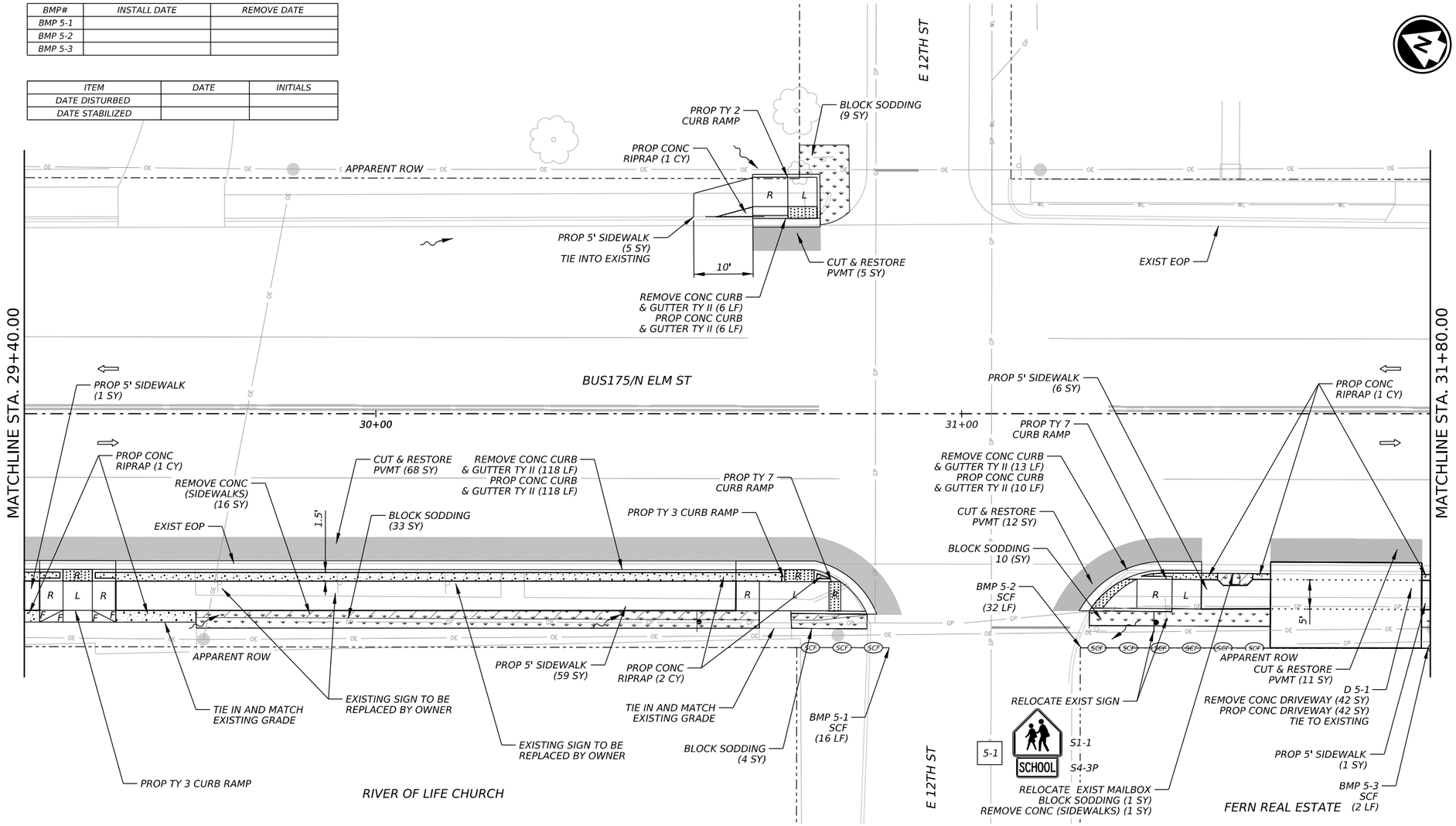
CONT	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN,ETC			83

DATE: 5/24/2024 10:48:34 AM
FILE: c:\pwikh1\d0373033IC_DAL_RDWY_ADA_PLAN_07.dgn

BMP#	INSTALL DATE	REMOVE DATE
BMP 5-1		
BMP 5-2		
BMP 5-3		

ITEM	DATE	INITIALS
DATE DISTURBED		
DATE STABILIZED		

SHEET #			5
ITEM	DESCRIPTION	UNIT	QTY
0100 6002	PREPARING ROW	STA	2.4
0104 6017	REMOVING CONC (DRIVEWAYS)	SY	42
0104 6029	REMOVING CONC (CURB OR CURB & GUTTER)	LF	137
0104 6036	REMOVING CONC (SIDEWALK OR RAMP)	SY	17
0162 6002	BLOCK SODDING	SY	57
0168 6001	VEGETATIVE WATERING	MG	9
0400 6008	CUT & RESTORE ASPH PAVING	SY	95
0432 6001	RIPRAP (CONC)(4 IN)	CY	5
0506 6038	TEMP SEDMT CONT FENCE (INSTALL)	LF	50
0506 6039	TEMP SEDMT CONT FENCE (REMOVE)	LF	50
0529 6008	CONC CURB & GUTTER (TY II)	LF	134
0530 6017	DRIVEWAYS (CONC) (HES)	SY	42
0531 6001	CONC SIDEWALKS (4")	SY	72
0531 6005	CURB RAMPS (TY 2)	EA	1
0531 6006	CURB RAMPS (TY 3)	EA	2
0531 6010	CURB RAMPS (TY 7)	EA	2
0560 6025	RELOCATE EXISTING MAILBOX	EA	1
0644 6068	RELOCATE SM RD SN SUP&AM TY 10BWG	EA	1



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0 10 20
SCALE: 1" = 20'

SPECIAL NOTES & DETAILS

LEGEND

— × —	FENCE		LIGHT POLE	SL	LONGITUDINAL SLOPES MAY NOT EXCEED 5%, CROSS SLOPE MAY NOT EXCEED 2%
F	FLARE		MAIL BOX		TRAFFIC FLOW
	FIRE HYDRANT		MANHOLE	SB	TRAFFIC SIGNAL BOX
	GAS METER/VALVE		PEDESTAL SIGNAL POLE		TRAFFIC SIGNAL CONTROLLER
	GROUND BOX		POWER/UTILITY POLE		TRAFFIC SIGNAL POLE
L	LANDING	R	RAMP		TREE/BUSHES
L1	LANDING (COMMON)		RIPRAP (CONC)		WATER METER/VALVE
LS	LEVEL SIDEWALK (2% MAX)		SIGN		GUTTER LINE PROJECTION
	GUY WIRE		SODDING		GRATE INLET
	GUARD FENCE/RAIL	T	TRANSITION		PROPOSED PEDESTAL POLE
	PROPOSED CONDUIT (BORE)		REMOVAL OF EXISTING ITEMS		PROPOSED CONDUIT
	WATER FLOW DIRECTION		IRRIGATION CONTROLS		EXISTING CONDUIT
	EROSION CONTROL LOG		UTILITY WITNESS		STAMPED CONCRETE
SCF	SEDIMENT CONTROL FENCE				

CUT & RESTORE PVMT
EXISTING SIGN
PROPOSED SIGN

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Texas Department of Transportation

SIDEWALK AND SIGNING PLANS
BUS 175

SHEET 5 OF 11

CONT	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN,ETC			84

DATE: 5/24/2024 10:48:54 AM
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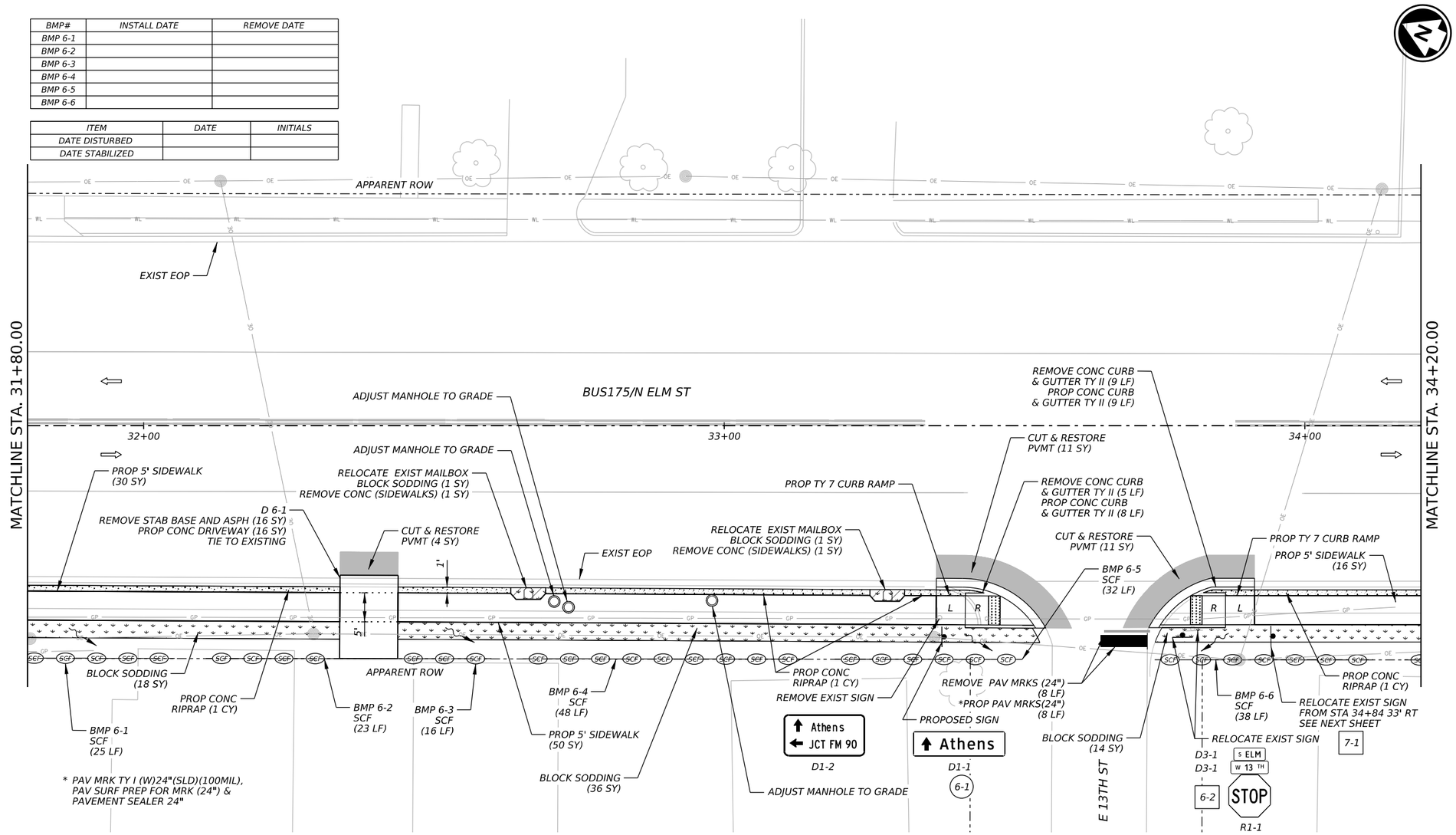
CK: DW: CK: DW:

BMP#	INSTALL DATE	REMOVE DATE
BMP 6-1		
BMP 6-2		
BMP 6-3		
BMP 6-4		
BMP 6-5		
BMP 6-6		

ITEM	DATE	INITIALS
DATE DISTURBED		
DATE STABILIZED		

SHEET #			6
ITEM	DESCRIPTION	UNIT	QTY
0100 6002	PREPARING ROW	STA	2.4
0104 6029	REMOVING CONC (CURB OR CURB & GUTTER)	LF	14
0104 6036	REMOVING CONC (SIDEWALK OR RAMP)	SY	2
0105 6037	REMOVING STAB BASE AND ASPH PAV(0"-16")	SY	16
0162 6002	BLOCK SODDING	SY	70
0168 6001	VEGETATIVE WATERING	MG	11
0400 6008	CUT & RESTORE ASPH PAVING	SY	26
0432 6001	RIPRAP (CONC)(4 IN)	CY	3
0479 6001	ADJUSTING MANHOLES	EA	3
0506 6038	TEMP SEDMT CONT FENCE (INSTALL)	LF	182
0506 6039	TEMP SEDMT CONT FENCE (REMOVE)	LF	182
0529 6008	CONC CURB & GUTTER (TY II)	LF	17
0530 6017	DRIVEWAYS (CONC) (HES)	SY	16
0531 6001	CONC SIDEWALKS (4")	SY	96
0531 6010	CURB RAMPS (TY 7)	EA	2
0560 6025	RELOCATE EXISTING MAILBOX	EA	2
0644 6004	IN SM RD SN SUP&AM TY10BWG(1)SA(T)	EA	1
0644 6068	RELOCATE SM RD SN SUP&AM TY 10BWG	EA	1
0644 6076	REMOVE SM RD SN SUP&AM	EA	1
0666 6048	REFL PAV MRK TY I (W)24"(SLD)(100MIL)	LF	8
0666 6230	PAVEMENT SEALER 24"	LF	8
0677 6007	ELIM EXT PAV MRK & MRKS (24")	LF	8
0678 6008	PAV SURF PREP FOR MRK (24")	LF	8



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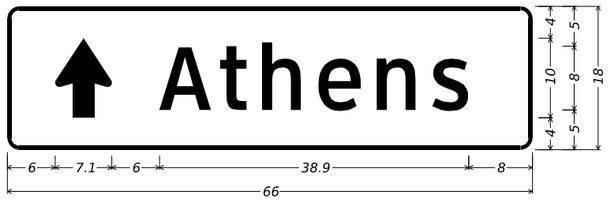
0 10 20
SCALE: 1" = 20'

SPECIAL NOTES & DETAILS



D1-1U;
1.5" Radius, 0.5" Border, White on Green;
Standard Arrow Custom 10.0" X 7.1" 90°; "Athens", ClearviewHwy-3-W;

LEGEND

— × —	FENCE	☼	LIGHT POLE	SL	LONGITUDINAL SLOPES MAY NOT EXCEED 5%, CROSS SLOPE MAY NOT EXCEED 2%
F	FLARE	▢	MAIL BOX	⇨	TRAFFIC FLOW
◇	FIRE HYDRANT	◎	MANHOLE	SB	TRAFFIC SIGNAL BOX
⊘	GAS METER/VALVE	◕	PEDESTAL SIGNAL POLE	▭	TRAFFIC SIGNAL CONTROLLER
◪	GROUND BOX	●	POWER/UTILITY POLE	⊗	TRAFFIC SIGNAL POLE
L	LANDING	R	RAMP	⬡	TREE/BUSHES
L1	LANDING (COMMON)	▨	RIPRAP (CONC)	⊘	WATER METER/VALVE
LS	LEVEL SIDEWALK (2% MAX)	⊸	SIGN	⌖	GUTTER LINE PROJECTION
←	GUY WIRE	▭	SODDING	▥	GRATE INLET
	GUARD FENCE/RAIL	T	TRANSITION	◕	PROPOSED PEDESTAL POLE
	PROPOSED CONDUIT (BORE)	▨	REMOVAL OF EXISTING ITEMS	—	PROPOSED CONDUIT
⇝	WATER FLOW DIRECTION	⬡	IRRIGATION CONTROLS		EXISTING CONDUIT
	EROSION CONTROL LOG	○	UTILITY WITNESS	▤	STAMPED CONCRETE
SCF	SEDIMENT CONTROL FENCE			▬	CUT & RESTORE PVMT
				#	EXISTING SIGN
				(#)	PROPOSED SIGN

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SIDEWALK AND SIGNING PLANS
BUS 175

SHEET 6 OF 11

CONT	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN,ETC			85

DATE: 5/24/2024 10:49:17 AM
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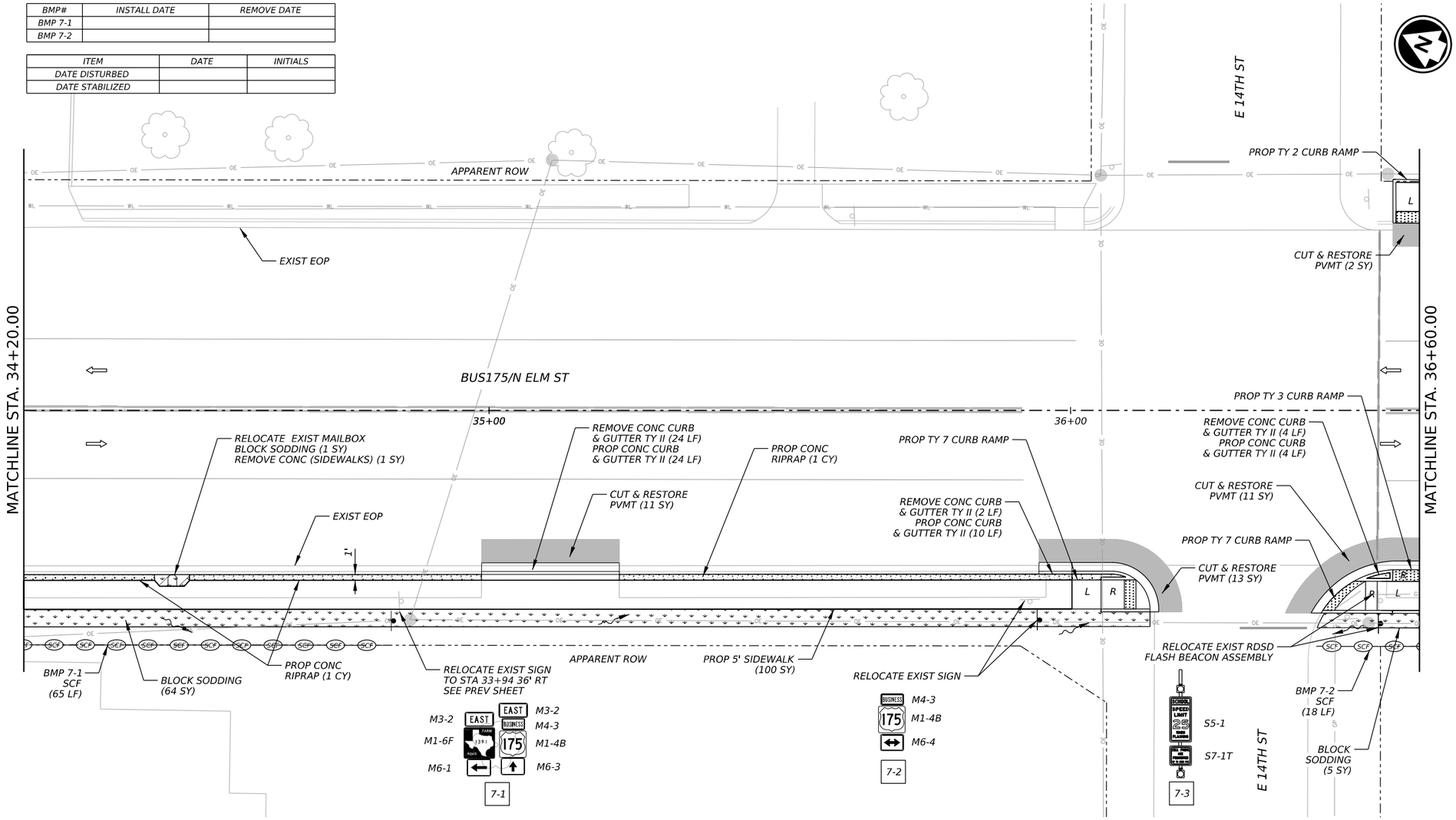
CK: DW: CK: DW:

BMP#	INSTALL DATE	REMOVE DATE
BMP 7-1		
BMP 7-2		

ITEM	DATE	INITIALS
DATE DISTURBED		
DATE STABILIZED		

SHEET #			7
ITEM	DESCRIPTION	UNIT	QTY
0100 6002	PREPARING ROW	STA	2.4
0104 6029	REMOVING CONC (CURB OR CURB & GUTTER)	LF	30
0104 6036	REMOVING CONC (SIDEWALK OR RAMP)	SY	1
0162 6002	BLOCK SODDING	SY	70
0168 6001	VEGETATIVE WATERING	MG	11
0400 6008	CUT & RESTORE ASPH PAVING	SY	37
0432 6001	RIPRAP (CONC)(4 IN)	CY	2
0506 6038	TEMP SEDMT CONT FENCE (INSTALL)	LF	83
0506 6039	TEMP SEDMT CONT FENCE (REMOVE)	LF	83
0529 6008	CONC CURB & GUTTER (TY II)	LF	38
0531 6001	CONC SIDEWALKS (4")	SY	100
0531 6005	CURB RAMPS (TY 2)	EA	1
0531 6006	CURB RAMPS (TY 3)	EA	1
0531 6010	CURB RAMPS (TY 7)	EA	2
0560 6025	RELOCATE EXISTING MAILBOX	EA	1
0644 6068	RELOCATE SM RD SN SUP&AM TY 10BWG	EA	2
0685 6002	RELOCATE RDSD FLASH BEACON ASSEMBLY	EA	1



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0 10 20

SCALE: 1" = 20'

SPECIAL NOTES & DETAILS

LEGEND

— × —	FENCE		LIGHT POLE	SL	LONGITUDINAL SLOPES MAY NOT EXCEED 5%, CROSS SLOPE MAY NOT EXCEED 2%
F	FLARE		MAIL BOX		TRAFFIC FLOW
	FIRE HYDRANT		MANHOLE	SB	TRAFFIC SIGNAL BOX
	GAS METER/VALVE		PEDESTAL SIGNAL POLE		TRAFFIC SIGNAL CONTROLLER
	GROUND BOX		POWER/UTILITY POLE		TRAFFIC SIGNAL POLE
L	LANDING	R	RAMP		TREE/BUSHES
L1	LANDING (COMMON)		RIPRAP (CONC)		WATER METER/VALVE
LS	LEVEL SIDEWALK (2% MAX)		SIGN		GUTTER LINE PROJECTION
	GUY WIRE		SODDING		GRATE INLET
	GUARD FENCE/RAIL	T	TRANSITION		PROPOSED PEDESTAL POLE
	PROPOSED CONDUIT (BORE)		REMOVAL OF EXISTING ITEMS		PROPOSED CONDUIT
	WATER FLOW DIRECTION		IRRIGATION CONTROLS		EXISTING CONDUIT
	EROSION CONTROL LOG		UTILITY WITNESS		STAMPED CONCRETE
SCF	SEDIMENT CONTROL FENCE				CUT & RESTORE PVMT
				#	EXISTING SIGN
				(#)	PROPOSED SIGN

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SIDEWALK AND SIGNING PLANS
BUS 175

SHEET 7 OF 11

CONT	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN,ETC			86

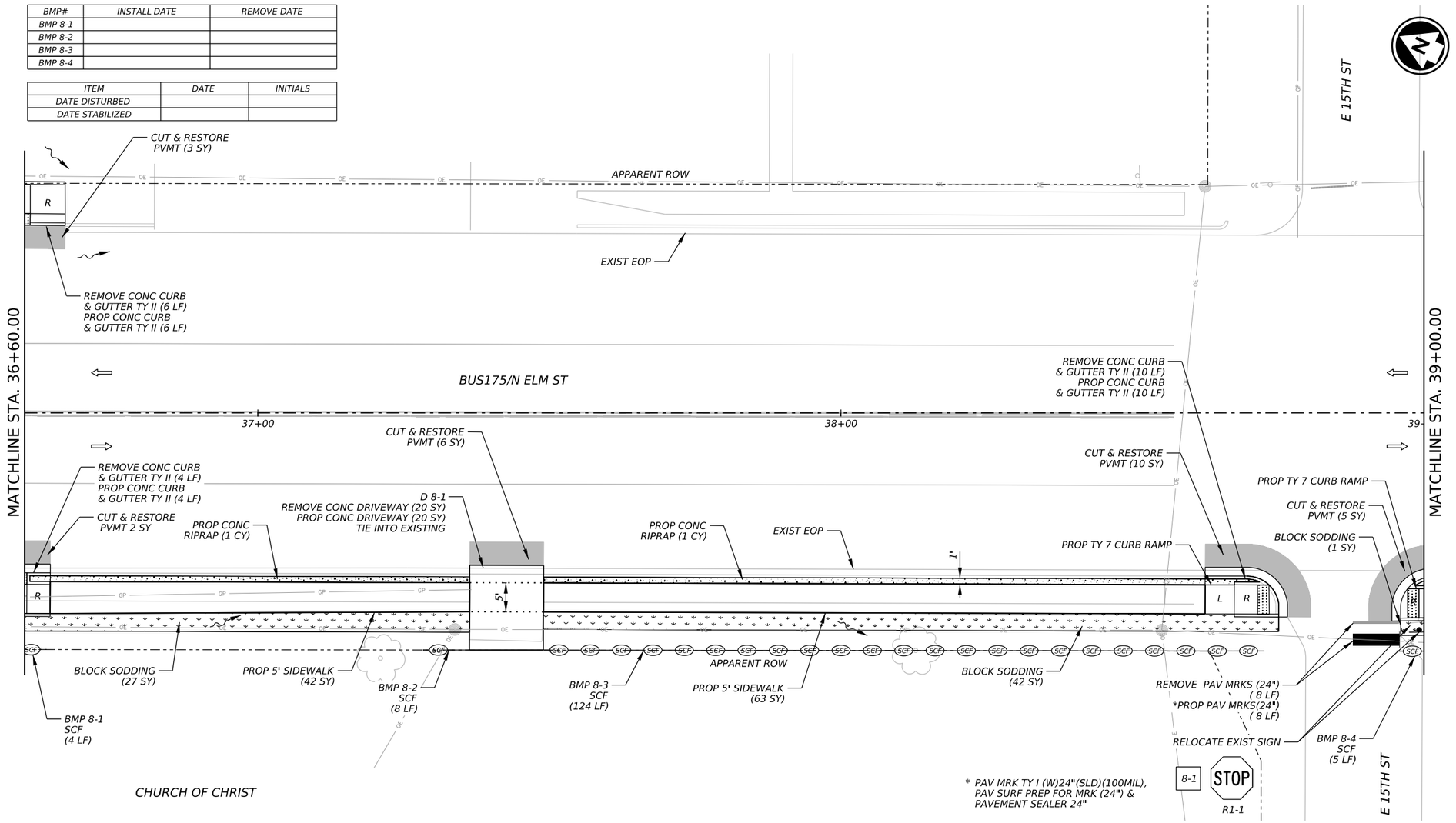
DATE: 5/24/2024 10:49:40 AM
FILE: c:\pw\kh1\d0373033\C_DAL_RDWY_ADA_PLAN_10.dgn

CK
DW
CK
DW

BMP#	INSTALL DATE	REMOVE DATE
BMP 8-1		
BMP 8-2		
BMP 8-3		
BMP 8-4		

ITEM	DATE	INITIALS
DATE DISTURBED		
DATE STABILIZED		

SHEET #			8
ITEM	DESCRIPTION	UNIT	QTY
0100 6002	PREPARING ROW	STA	2.4
0104 6017	REMOVING CONC (DRIVEWAYS)	SY	20
0104 6029	REMOVING CONC (CURB OR CURB & GUTTER)	LF	20
0162 6002	BLOCK SODDING	SY	70
0168 6001	VEGETATIVE WATERING	MG	11
0400 6008	CUT & RESTORE ASPH PAVING	SY	26
0432 6001	RIPRAP (CONC)(4 IN)	CY	2
0506 6038	TEMP SEDMT CONT FENCE (INSTALL)	LF	141
0506 6039	TEMP SEDMT CONT FENCE (REMOVE)	LF	141
0529 6008	CONC CURB & GUTTER (TY II)	LF	20
0530 6017	DRIVEWAYS (CONC) (HES)	SY	20
0531 6001	CONC SIDEWALKS (4")	SY	105
0531 6010	CURB RAMPS (TY 7)	EA	2
0644 6068	RELOCATE SM RD SN SUP&AM TY 10BWG	EA	1
0666 6048	REFL PAV MRK TY I (W)24"(SLD)(100MIL)	LF	8
0666 6230	PAVEMENT SEALER 24"	LF	8
0677 6007	ELIM EXT PAV MRK & MRKS (24")	LF	8
0678 6008	PAV SURF PREP FOR MRK (24")	LF	8



* PAV MRK TY I (W)24"(SLD)(100MIL), PAV SURF PREP FOR MRK (24") & PAVEMENT SEALER 24"

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0 10 20
SCALE: 1" = 20'

SPECIAL NOTES & DETAILS

LEGEND

— × —	FENCE	☼	LIGHT POLE	SL	LONGITUDINAL SLOPES MAY NOT EXCEED 5%, CROSS SLOPE MAY NOT EXCEED 2%
F	FLARE	▢	MAIL BOX	⇨	TRAFFIC FLOW
◇	FIRE HYDRANT	◎	MANHOLE	SB	TRAFFIC SIGNAL BOX
⊘	GAS METER/VALVE	◕	PEDESTAL SIGNAL POLE	▭	TRAFFIC SIGNAL CONTROLLER
◪	GROUND BOX	●	POWER/UTILITY POLE	⊗	TRAFFIC SIGNAL POLE
L	LANDING	R	RAMP	⬡	TREE/BUSHES
L1	LANDING (COMMON)	▭	RIPRAP (CONC)	⊘	WATER METER/VALVE
LS	LEVEL SIDEWALK (2% MAX)	—o—	SIGN	⌖	GUTTER LINE PROJECTION
←	GUY WIRE	▭	SODDING	▥	GRATE INLET
	GUARD FENCE/RAIL	T	TRANSITION	◕	PROPOSED PEDESTAL POLE
	PROPOSED CONDUIT (BORE)	▨	REMOVAL OF EXISTING ITEMS	—	PROPOSED CONDUIT
~→	WATER FLOW DIRECTION	⬡	IRRIGATION CONTROLS		EXISTING CONDUIT
	EROSION CONTROL LOG	○	UTILITY WITNESS	▤	STAMPED CONCRETE
SCF	SEDIMENT CONTROL FENCE			▭	CUT & RESTORE PVMT
				#	EXISTING SIGN
				(#)	PROPOSED SIGN

CivilCorp
ENGINEERS • SURVEYORS
2825 WILCREST DRIVE, SUITE 100, HOUSTON TEXAS 77042
TEL: 713-785-9815 FAX: 713-782-6922 TXENG FIRM 10283

STATE OF TEXAS
GUS NOWAK JR.
22952
LICENSED
PROFESSIONAL ENGINEER

5/24/2024

Gus Nowak, Jr.

Kimley»Horn F-928

Texas Department of Transportation

SIDEWALK AND SIGNING PLANS
BUS 175

SHEET 8 OF 11

CONT	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN,ETC			87

DATE: 5/24/2024 10:50:01 AM
FILE: c:\pw\kh1\d0373033\C_DAL_RDWY_ADA_PLAN_11.dgn

CK
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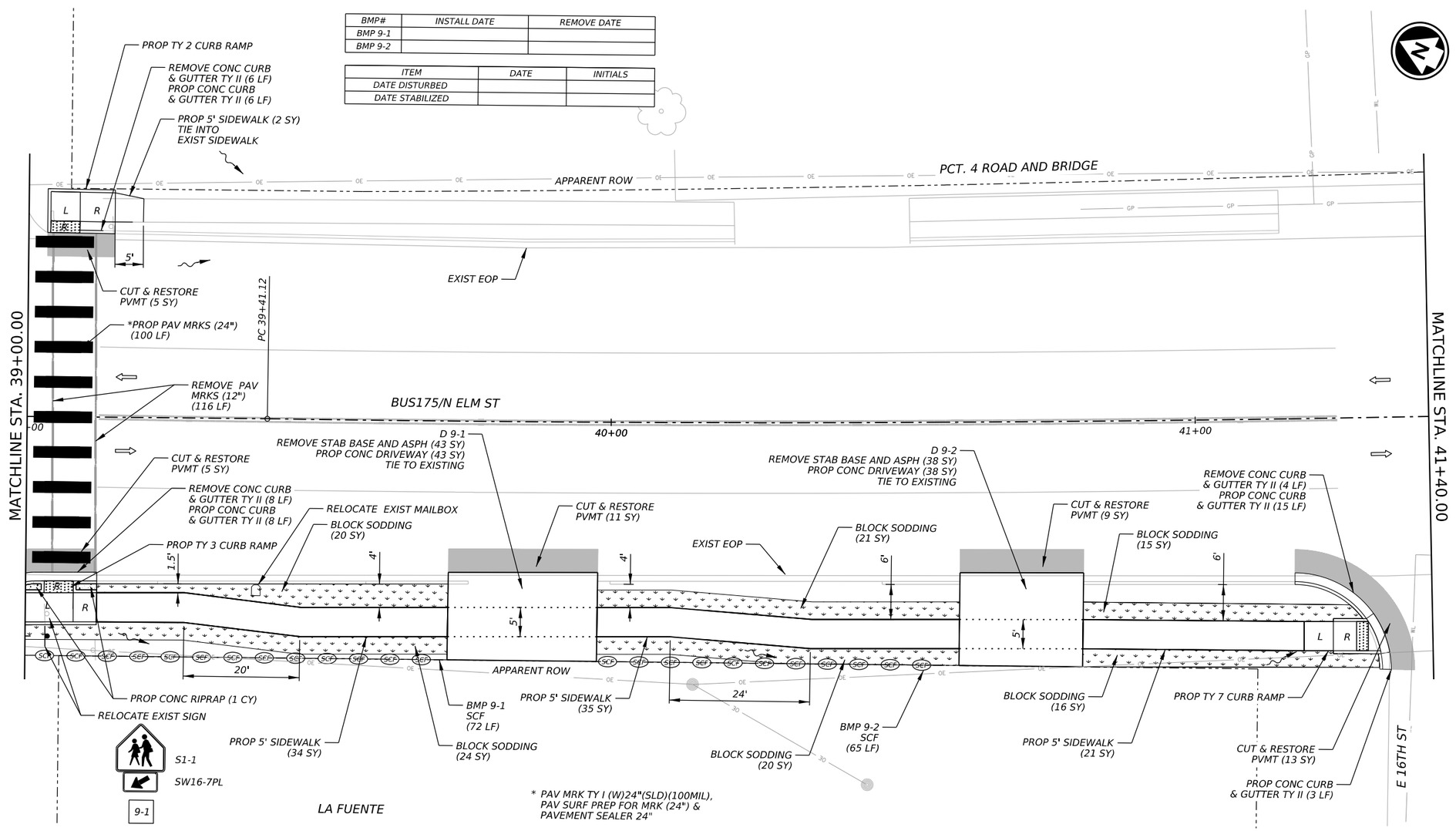
BMP#	INSTALL DATE	REMOVE DATE
BMP 9-1		
BMP 9-2		

ITEM	DATE	INITIALS
DATE DISTURBED		
DATE STABILIZED		

SHEET #			9
ITEM	DESCRIPTION	UNIT	QTY
0100 6002	PREPARING ROW	STA	2.4
0104 6029	REMOVING CONC (CURB OR CURB & GUTTER)	LF	18
0105 6037	REMOVING STAB BASE AND ASPH PAV(0"-16")	SY	81
0162 6002	BLOCK SODDING	SY	116
0168 6001	VEGETATIVE WATERING	MG	18
0400 6008	CUT & RESTORE ASPH PAVING	SY	43
0432 6001	RIPRAP (CONC)(4 IN)	CY	1
0506 6038	TEMP SEDMT CONT FENCE (INSTALL)	LF	137
0506 6039	TEMP SEDMT CONT FENCE (REMOVE)	LF	137
0529 6008	CONC CURB & GUTTER (TY II)	LF	32
0530 6017	DRIVEWAYS (CONC) (HES)	SY	81
0531 6001	CONC SIDEWALKS (4")	SY	92
0531 6005	CURB RAMPS (TY 2)	EA	1
0531 6006	CURB RAMPS (TY 3)	EA	1
0531 6010	CURB RAMPS (TY 7)	EA	1
0560 6025	RELOCATE EXISTING MAILBOX	EA	1
0644 6068	RELOCATE SM RD SN SUP&AM TY 10BWG	EA	1
0666 6048	REFL PAV MRK TY I (W)24"(SLD)(100MIL)	LF	100
0666 6230	PAVEMENT SEALER 24"	LF	100
0677 6005	ELIM EXT PAV MRK & MRKS (12")	LF	116
0678 6008	PAV SURF PREP FOR MRK (24")	LF	100



NOTES:

* FOR CONTRACTOR INFORMATION ONLY

1. THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLAN ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.

2. LONGITUDINAL SLOPE SIDEWALKS SHALL NOT EXCEED 5% EXCEPT IN CASES WHERE THE ADJACENT ROADWAY SLOPE EXCEEDS 5%. IF ROADWAY SLOPE EXCEEDS 5%, LONGITUDINAL SLOPE OF THE SIDEWALK MAY MATCH THAT OF THE ROADWAY.

3.REMOVAL OF EXISTING SIGNS AND WITNESS POSTS THAT ARE IN CONFLICT WITH PROPOSED CONSTRUCTION SHALL BE SUBSIDIARY TO ITEM 100, PREPARING RIGHT OF WAY.

0 10 20
SCALE: 1" = 20'

SPECIAL NOTES & DETAILS

LEGEND

— × —	FENCE	☼	LIGHT POLE	SL	LONGITUDINAL SLOPES MAY NOT EXCEED 5%, CROSS SLOPE MAY NOT EXCEED 2%
F	FLARE	▢	MAIL BOX	⇨	TRAFFIC FLOW
◇	FIRE HYDRANT	◎	MANHOLE	SB	TRAFFIC SIGNAL BOX
⊘	GAS METER/VALVE	◕	PEDESTAL SIGNAL POLE	▭	TRAFFIC SIGNAL CONTROLLER
◪	GROUND BOX	◉	POWER/UTILITY POLE	⊗	TRAFFIC SIGNAL POLE
L	LANDING	R	RAMP	⬡	TREE/BUSHES
L1	LANDING (COMMON)	▨	RIPRAP (CONC)	⊘	WATER METER/VALVE
LS	LEVEL SIDEWALK (2% MAX)	⊸	SIGN	⌖	GUTTER LINE PROJECTION
⟵	GUY WIRE	▭	SODDING	▥	GRATE INLET
	GUARD FENCE/RAIL	T	TRANSITION	◕	PROPOSED PEDESTAL POLE
	PROPOSED CONDUIT (BORE)	▨	REMOVAL OF EXISTING ITEMS	—	PROPOSED CONDUIT
~→	WATER FLOW DIRECTION	⬡	IRRIGATION CONTROLS		EXISTING CONDUIT
	EROSION CONTROL LOG	○	UTILITY WITNESS	▤	STAMPED CONCRETE
SCF	SEDIMENT CONTROL FENCE			▭	CUT & RESTORE PVMT
				#	EXISTING SIGN
				(#)	PROPOSED SIGN

CivilCorp ENGINEERS • SURVEYORS
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Texas Department of Transportation

SIDEWALK AND SIGNING PLANS
BUS 175

SHEET 9 OF 11

CONT	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN,ETC			88

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CK
DW
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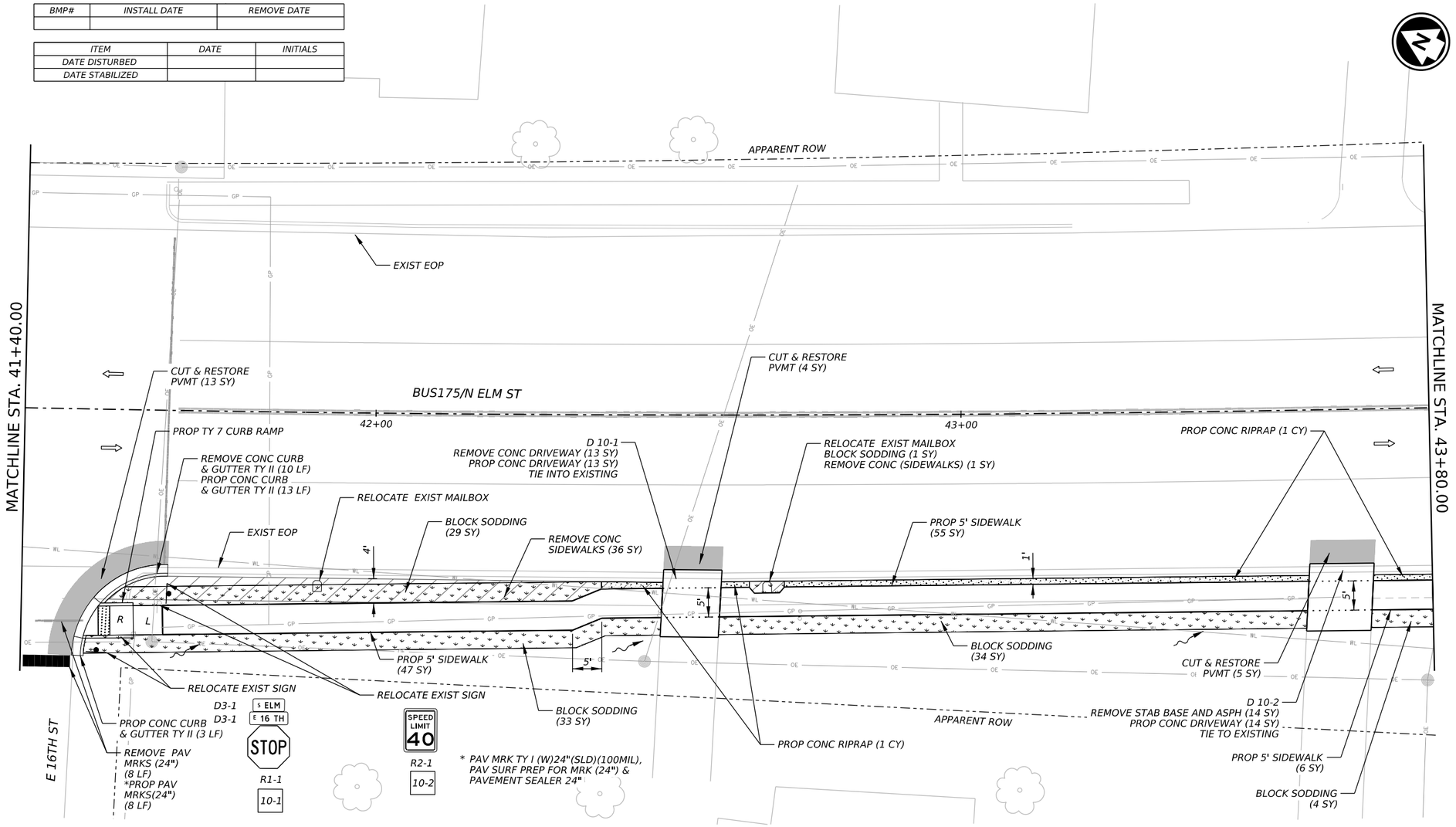
BMP#	INSTALL DATE	REMOVE DATE

ITEM	DATE	INITIALS
DATE DISTURBED		
DATE STABILIZED		

SHEET #			10
ITEM	DESCRIPTION	UNIT	QTY
0100 6002	PREPARING ROW	STA	2.4
0104 6017	REMOVING CONC (DRIVEWAYS)	SY	13
0104 6029	REMOVING CONC (CURB OR CURB & GUTTER)	LF	10
0104 6036	REMOVING CONC (SIDEWALK OR RAMP)	SY	37
0105 6037	REMOVING STAB BASE AND ASPH PAV(0"-16")	SY	14
0162 6002	BLOCK SODDING	SY	101
0168 6001	VEGETATIVE WATERING	MG	16
0400 6008	CUT & RESTORE ASPH PAVING	SY	22
0432 6001	RIPRAP (CONC)(4 IN)	CY	2
0529 6008	CONC CURB & GUTTER (TY II)	LF	16
0530 6017	DRIVEWAYS (CONC) (HES)	SY	27
0531 6001	CONC SIDEWALKS (4")	SY	108
0531 6010	CURB RAMPS (TY 7)	EA	1
0560 6025	RELOCATE EXISTING MAILBOX	EA	2
0644 6068	RELOCATE SM RD SN SUP&AM TY 10BWG	EA	2
0666 6048	REFL PAV MRK TY I (W)24"(SLD)(100MIL)	LF	8
0666 6230	PAVEMENT SEALER 24"	LF	8
0677 6007	ELIM EXT PAV MRK & MRKS (24")	LF	8
0678 6008	PAV SURF PREP FOR MRK (24")	LF	8



NOTES:

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3.REMOVAL OF EXISTING SIGNS AND WITNESS POSTS THAT ARE IN CONFLICT WITH PROPOSED CONSTRUCTION SHALL BE SUBSIDIARY TO ITEM 100, PREPARING RIGHT OF WAY.

0 10 20
SCALE: 1" = 20'

SPECIAL NOTES & DETAILS

LEGEND

— × —	FENCE	☼	LIGHT POLE	SL	LONGITUDINAL SLOPES MAY NOT EXCEED 5%, CROSS SLOPE MAY NOT EXCEED 2%
F	FLARE	▢	MAIL BOX	⟹	TRAFFIC FLOW
	FIRE HYDRANT	◎	MANHOLE	SB	TRAFFIC SIGNAL BOX
	GAS METER/VALVE		PEDESTAL SIGNAL POLE		TRAFFIC SIGNAL CONTROLLER
	GROUND BOX		POWER/UTILITY POLE		TRAFFIC SIGNAL POLE
L	LANDING	R	RAMP		TREE/BUSHES
L1	LANDING (COMMON)		RIPRAP (CONC)		WATER METER/VALVE
LS	LEVEL SIDEWALK (2% MAX)		SIGN		GUTTER LINE PROJECTION
←	GUY WIRE		SODDING		GRATE INLET
	GUARD FENCE/RAIL	T	TRANSITION		PROPOSED PEDESTAL POLE
	PROPOSED CONDUIT (BORE)		REMOVAL OF EXISTING ITEMS		PROPOSED CONDUIT
	WATER FLOW DIRECTION		IRRIGATION CONTROLS		EXISTING CONDUIT
	EROSION CONTROL LOG		UTILITY WITNESS		STAMPED CONCRETE
SCF	SEDIMENT CONTROL FENCE				CUT & RESTORE PVMT
				#	EXISTING SIGN
				#	PROPOSED SIGN

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5/24/2024

Gus Nowak, Jr.

Kimley»Horn F-928

Texas Department of Transportation

SIDEWALK AND SIGNING PLANS
BUS 175

SHEET 10 OF 11

CONT	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN,ETC			89

DATE: 5/24/2024 10:50:43 AM
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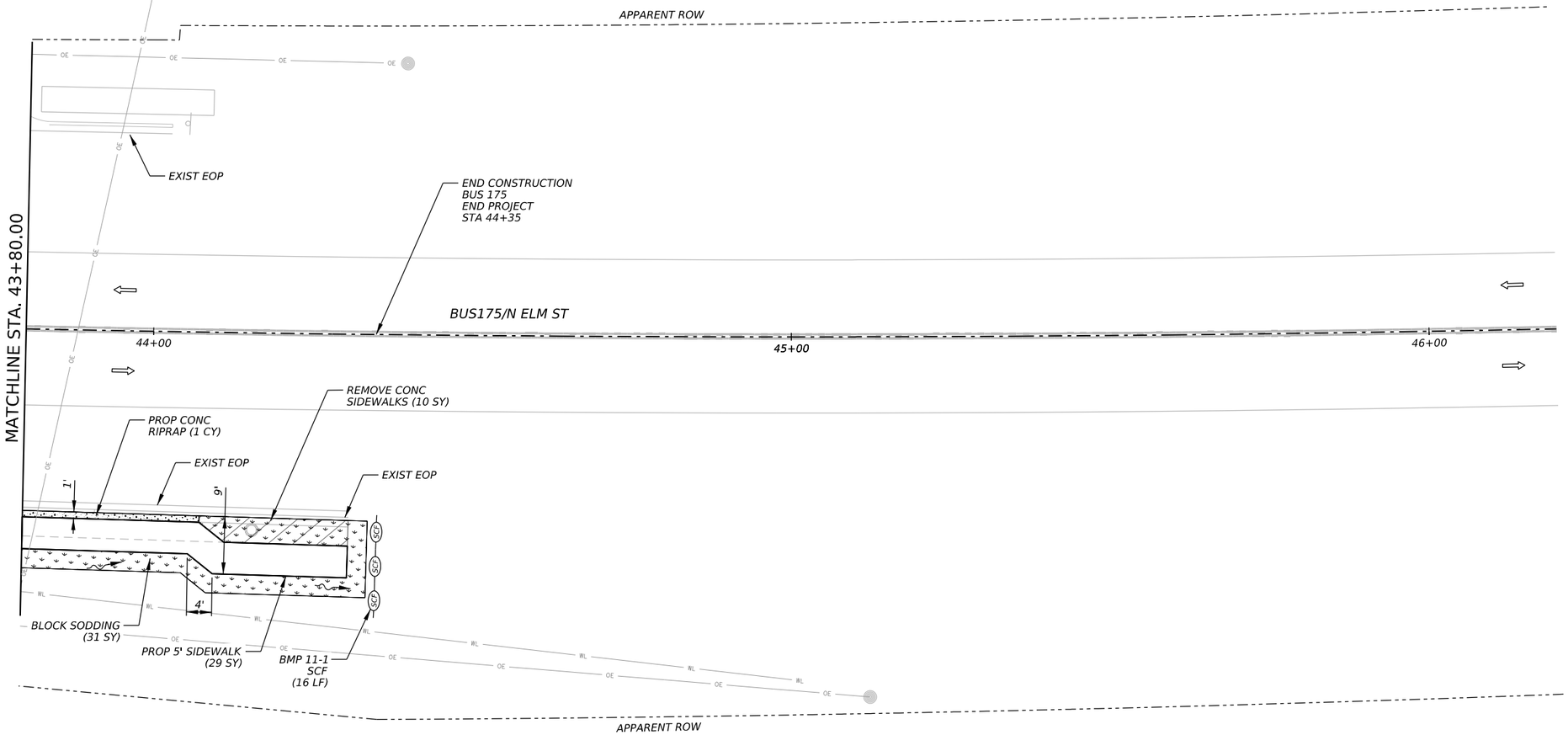
BMP#	INSTALL DATE	REMOVE DATE
BMP 11-1		

ITEM	DATE	INITIALS
DATE DISTURBED		
DATE STABILIZED		

SHEET #			11
ITEM	DESCRIPTION	UNIT	QTY
0100 6002	PREPARING ROW	STA	0.6
0104 6036	REMOVING CONC (SIDEWALK OR RAMP)	SY	10
0162 6002	BLOCK SODDING	SY	31
0168 6001	VEGETATIVE WATERING	MG	5
0432 6001	RIPRAP (CONC)(4 IN)	CY	1
0506 6038	TEMP SEDMT CONT FENCE (INSTALL)	LF	16
0506 6039	TEMP SEDMT CONT FENCE (REMOVE)	LF	16
0531 6001	CONC SIDEWALKS (4")	SY	29



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0 10 20

SCALE: 1" = 20'

SPECIAL NOTES & DETAILS

LEGEND

— × —	FENCE		LIGHT POLE	SL	LONGITUDINAL SLOPES MAY NOT EXCEED 5%, CROSS SLOPE MAY NOT EXCEED 2%
F	FLARE		MAIL BOX		TRAFFIC FLOW
	FIRE HYDRANT		MANHOLE	SB	TRAFFIC SIGNAL BOX
	GAS METER/VALVE		PEDESTAL SIGNAL POLE		TRAFFIC SIGNAL CONTROLLER
	GROUND BOX		POWER/UTILITY POLE		TRAFFIC SIGNAL POLE
L	LANDING	R	RAMP		TREE/BUSHES
L1	LANDING (COMMON)		RIPRAP (CONC)		WATER METER/VALVE
LS	LEVEL SIDEWALK (2% MAX)		SIGN		GUTTER LINE PROJECTION
⟵	GUY WIRE		SODDING		GRATE INLET
	GUARD FENCE/RAIL	T	TRANSITION		PROPOSED PEDESTAL POLE
	PROPOSED CONDUIT (BORE)		REMOVAL OF EXISTING ITEMS		PROPOSED CONDUIT
	WATER FLOW DIRECTION		IRRIGATION CONTROLS		EXISTING CONDUIT
	EROSION CONTROL LOG		UTILITY WITNESS		STAMPED CONCRETE
SCF	SEDIMENT CONTROL FENCE				CUT & RESTORE PVMT
				#	EXISTING SIGN
				#	PROPOSED SIGN

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Texas Department of Transportation

SIDEWALK AND SIGNING PLANS
BUS 175

SHEET 11 OF 11

CONT	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN,ETC			90

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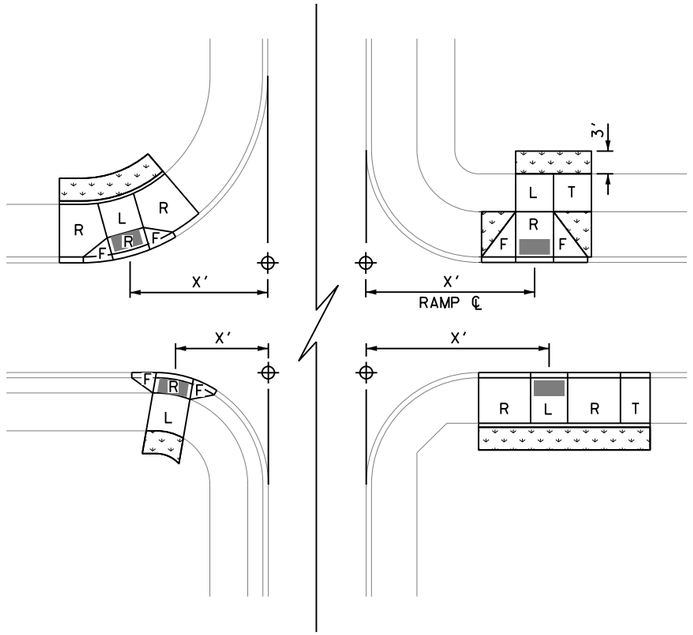
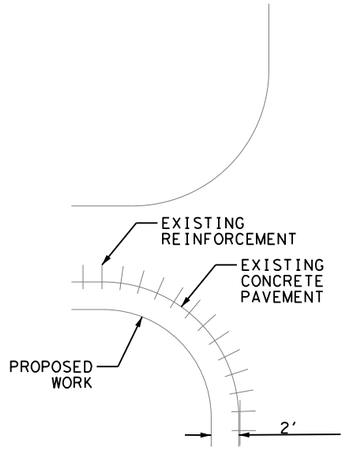
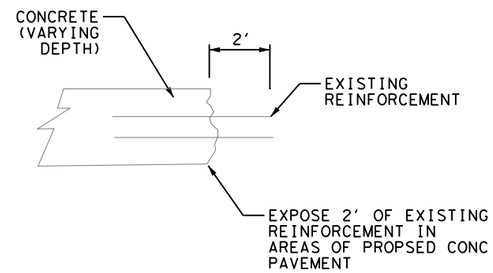
HORIZONTAL RAMP CONTROL







* WORK ASSOCIATED WITH THE ABOVE WORK IS NOT PAID FOR DIRECTLY BUT CONSIDERED SUBSIDARY TO ITEM 530

CONCRETE BREAKOUT DETAIL

NTS

X = LENGTH MEASURED FROM PI POINT
F = FLARE (10:1 OR LESS)
R = RAMP (CROSS SLOPE NOT TO EXCEED 50:1, LONGITUDINAL NOT TO EXCEED 12:1)
L = LANDING (SHALL NOT EXCEED 50:1 SLOPE IN ANY DIRECTION)
L1 = SHARED LANDING (SHALL NOT EXCEED 50:1 SLOPE IN ANY DIRECTION)
LS = LEVEL SIDEWALK (SHALL NOT EXCEED 50:1 SLOPE IN ANY DIRECTION) (PAID AS SIDEWALK)
SL = SLOPED SIDEWALK (LONGITUDINAL SLOPES MAY NOT EXCEED 20:1, CROSS SLOPES MAY NOT EXCEED 48:1)
T = TRANSITION (PAID FOR UNDER CONC SIDEWALKS)
TOC = TOP OF CURB
BOC = BACK OF CURB
EOP = EDGE OF PAVEMENT
⊕ = PI POINT MEASURED FROM TANGENTIAL BACK OF CURB OR EDGE OF PAVEMENT INTERSECTION

NOTES

1. FLARE (F), RAMP (R), AND LANDING (L), DIRECTLY IN CONTACT WITH THE CURB RAMP ARE PAID FOR UNDER ITEM 531 "CURB RAMPS".
2. LEVEL SIDEWALK (LS) AND RIPRAP (RR) PAID FOR UNDER ITEM 531 "SIDEWALK"
3. ALL CURB RAMPS ARE TO BE 6" IN THICKNESS UNLESS OTHERWISE SHOWN.

5/28/2024

STATE OF TEXAS
SAMUEL J. LUNDQUIST
122185
LICENSED
PROFESSIONAL ENGINEER

Kimley»Horn
F-928

Texas Department of Transportation

SPECIAL DETAILS

SHEET 1 OF 9

CONT	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN, ETC			91

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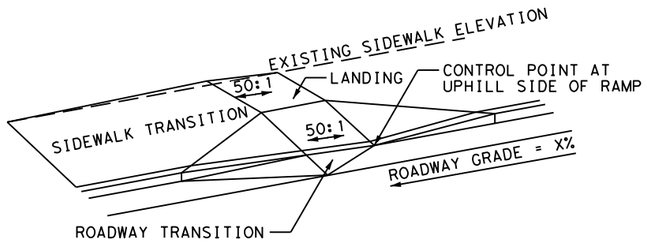
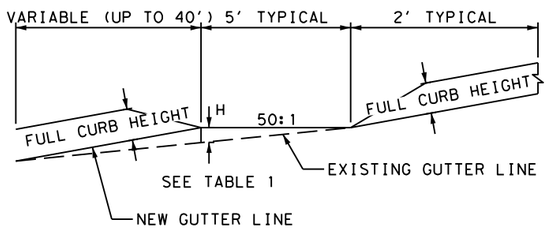
ROADWAY TRANSITION



CURB ELEVATION

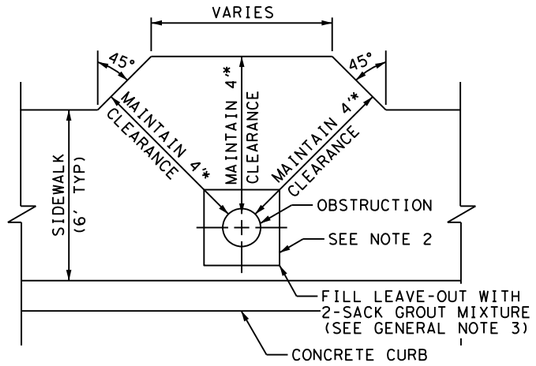


NOTES:

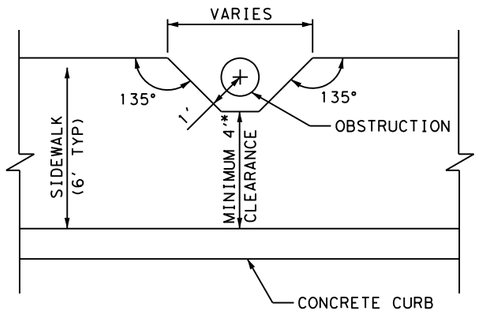
1. UTILIZE ROADWAY TRANSITION TO TIE CROSS SLOPE OF NEWLY CONSTRUCTED CURB RAMP TO THE EXISTING ROADWAY GRADE. ROADWAY TRANSITIONS SHOULD NOT EXTEND MORE THAN 4 FEET INTO ROADWAY.
2. FOR CURB SECTION, REMOVE A 1 FOOT WIDE (MIN.) BY 2 INCH DEEP SECTION OF PAVEMENT THE LENGTH OF THE TRANSITION PRIOR TO CONSTRUCTION.
3. FOR CURB AND GUTTER SECTION, REMOVE CURB, GUTTER AND IF NECESSARY A SECTION OF PAVEMENT (48 INCHES MIN.) BEYOND THE GUTTER BY 6 INCHES DEEP. CONSTRUCT TRANSITION IN THE GUTTER SECTION AS SHOWN.
4. CONSTRUCT FULL HEIGHT CURB AND CURB RAMP FLARES (IF REQUIRED) BASED ON NEW GUTTER LINE ELEVATIONS.
5. CONSTRUCT TRANSITION FROM BOTTOM OF CURB RAMP TO ROADWAY WITH HOT-MIX ASPHALT CONCRETE AS PER PLANS AND SPECIFICATION OR AS DIRECTED.
6. TRAFFIC SIGNAL LOOP DETECTORS MAY EXIST WITHIN THE ROADWAY CONSTRUCTION TRANSITION ZONE. MAINTAIN OPERATION OF LOOP DETECTORS THROUGHOUT CONSTRUCTION. REPAIR OR REPLACE ANY LOOP DETECTORS DAMAGED DURING CONSTRUCTION OPERATIONS.

TABLE 1		
DIFFERENTIAL BETWEEN RAMP AND ROADWAY LONGITUDINAL SLOPE	H	
1%	0.04'	0.50"
2%	0.08'	1.00"
3%	0.12'	1.50"
4%	0.16'	2.00"
5%	0.20'	2.40"
6%	0.24'	2.90"

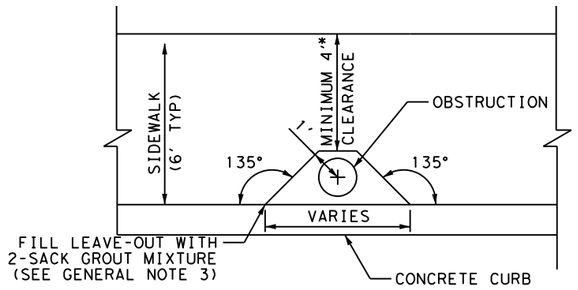
OBSTRUCTION CONFLICT



OBSTRUCTION IN SIDEWALK
* UNLESS OTHERWISE SPECIFIED



OBSTRUCTION IN SIDEWALK
* UNLESS OTHERWISE SPECIFIED



OBSTRUCTION IN SIDEWALK
* UNLESS OTHERWISE SPECIFIED

NOTES:

1. UTILIZE DETAIL AT OBSTRUCTION ENCROACHMENTS INTO THE PEDESTRIAN ACCESS ROUTE. A MINIMUM UNOBSTRUCTED CLEARANCE OF 4', UNLESS OTHERWISE SPECIFIED, SHOULD BE MAINTAINED AROUND THE OBSTRUCTION MEASURED FROM THE MOST RESTRICTIVE LOCATION OR AS APPROVED BY THE ENGINEER.
2. IF OBSTRUCTION IS LOCATED WITHIN THE SIDEWALK, CONSTRUCT 2' SQUARE CONSTRUCTION JOINT CENTERED ON OBRESTRUCTION TO FACILITATE FUTURE MAINTENANCE WITHOUT FULL SIDEWALK PANEL REMOVAL/REPLACEMENT.
3. THE LEAVE-OUTS SHALL BE FILLED WITH NO MORE THAN A 2-SACK GROUT MIXTURE AND PLACED IN ACCORDANCE WITH SECTION 421.2.F, "MORTAR AND GROUT." PAYMENT FOR FURNISHING AND PLACING THE GROUT MIXTURE WILL BE SUBSIDIARY TO THE PAY ITEM OF CONCRETE SIDEWALKS.

5/28/2024

STATE OF TEXAS
SAMUEL J LUNDQUIST
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Kimley»Horn F-928

Texas Department of Transportation

SPECIAL DETAILS

SHEET 2 OF 9

CONT	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN, ETC			92

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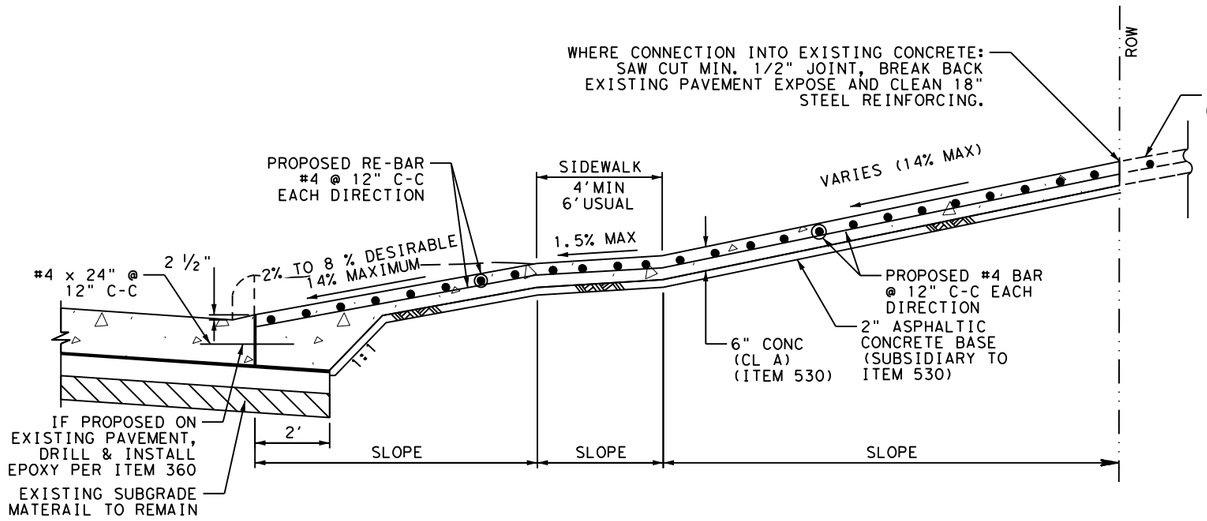
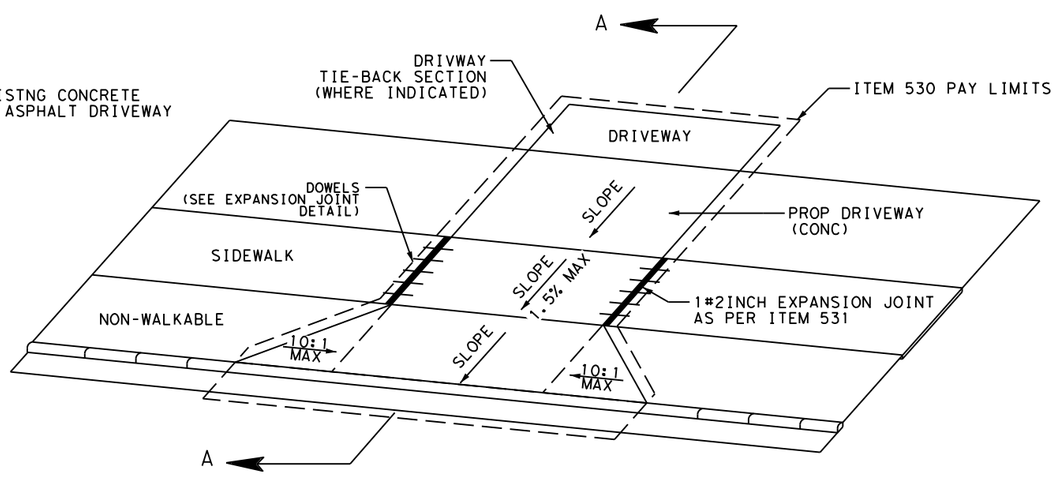
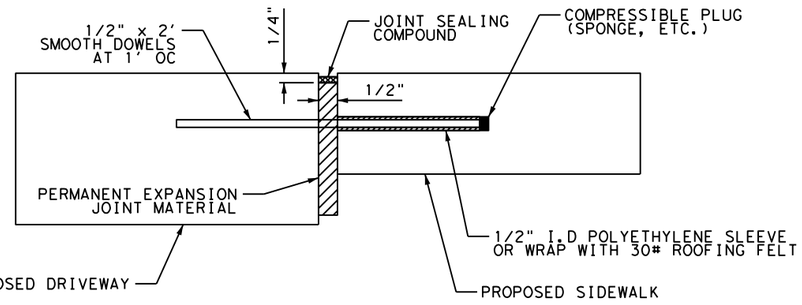


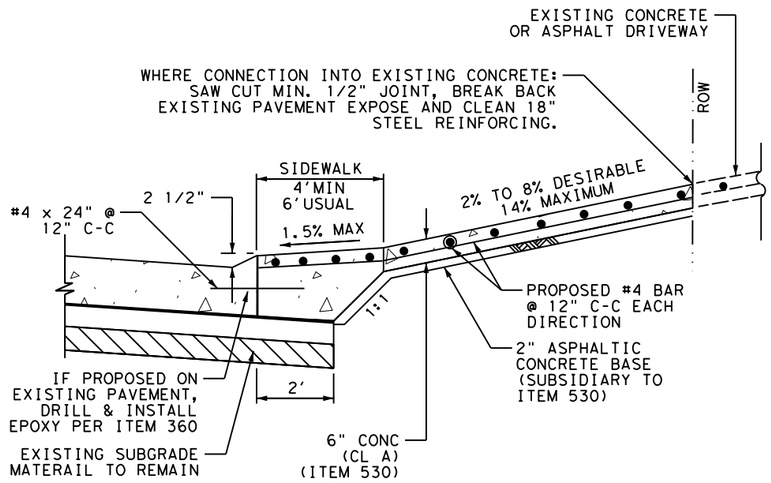
DRIVEWAY SLOPES W/ SIDEWALKS OFFSET FROM CURB
(SECTION A-A)



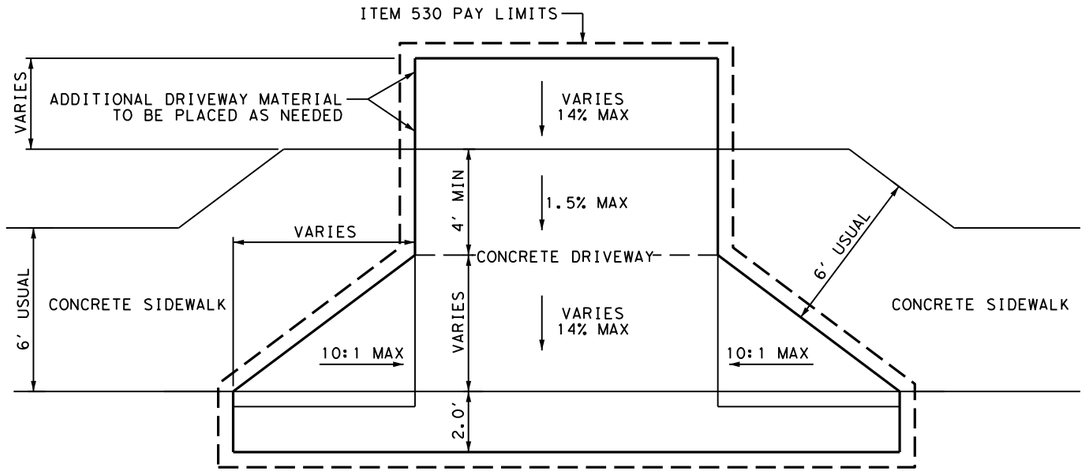
SIDEWALK OFFSET FROM CURB DETAILS



EXPANSION JOINT DETAIL



DRIVEWAY SLOPES W/ SIDEWALKS ADJACENT TO CURB
(SECTION B-B)



SIDEWALK ADJACENT TO CURB DETAILS

NOTES:

1. ACP DRIVEWAYS WILL CONSIST 6" HMA TY D PAID FOR UNDER ITEM 530.
2. BASE DRIVEWAYS WILL CONSIST OF 6" OF ASPHALTIC CONCRETE BASE OR 6" OF CEMENT TREATED BASE PAID FOR UNDER ITEM 530.
3. SEE FOR ASPHALT DRIVEWAY TIE IN DETAILS.

5/28/2024

STATE OF TEXAS
SAMUEL J. LUNDQUIST
122185
LICENSED PROFESSIONAL ENGINEER

Kimley»Horn F-928

Texas Department of Transportation

SPECIAL DETAILS

SHEET 3 OF 9

CONT	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN, ETC			93

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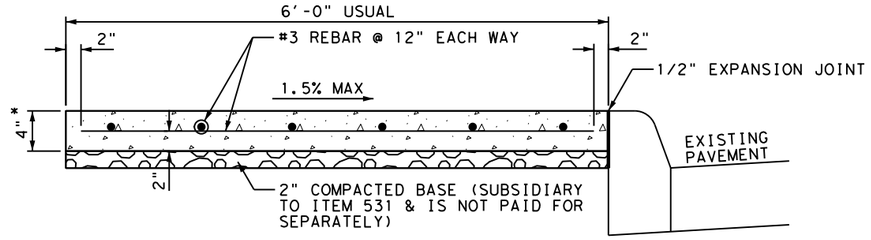
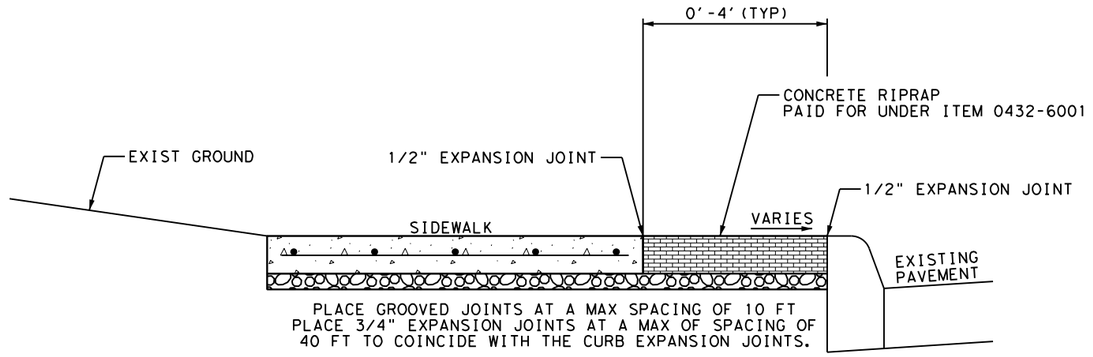


PLACE GROOVED JOINTS IN THE SIDEWALK AT A MAX SPACING OF 10 FT
PLACE 3/4" EXPANSION JOINTS AT A MAX SPACING OF 40 FT TO COINCIDE WITH THE CURB EXPANSION JOINTS.

* UNLESS OTHERWISE SHOWN

SIDEWALK DETAILS



PLACE GROOVED JOINTS AT A MAX SPACING OF 10 FT
PLACE 3/4" EXPANSION JOINTS AT A MAX OF SPACING OF 40 FT TO COINCIDE WITH THE CURB EXPANSION JOINTS.

** CONTRACTOR TO USE NO. 4 REINFORCING BARS AS SPECIFIED IN ITEM 432. CONTRACTOR MAY USE HIGHER STRENGTH CLASS A CONCRETE IN LIEU OF CLASS B.

RIPRAP DETAIL

NOTES:

1. LONGITUDINAL SLOPE OF SIDEWALKS SHALL NOT EXCEED 5% EXCEPT IN CASES WHERE THE ADJACENT ROADWAY SLOPE EXCEEDS 5%. IF ROADWAY SLOPE EXCEEDS 5%, LONGITUDINAL SLOPE OF SIDEWALK MAY MATCH THAT OF ROADWAY.

2. IF SIDEWALK WIDTH IS LESS THAN 5', PROVIDE 5' x 5' PASSING AREAS AT INTERVALS NOT TO EXCEED 200' SPACING.

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SPECIAL DETAILS

SHEET 4 OF 9

CONT	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN, ETC			94

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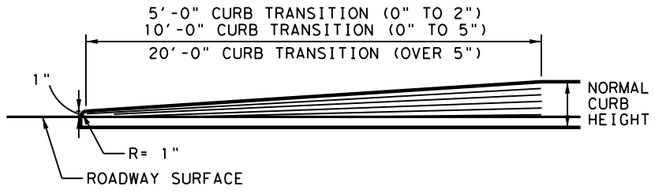
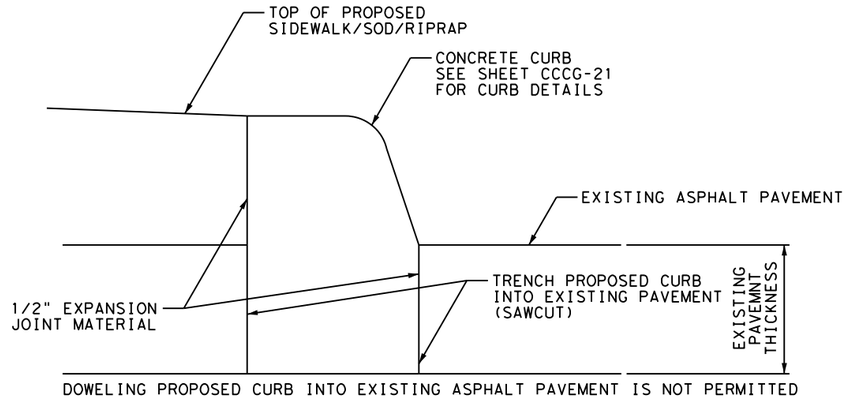
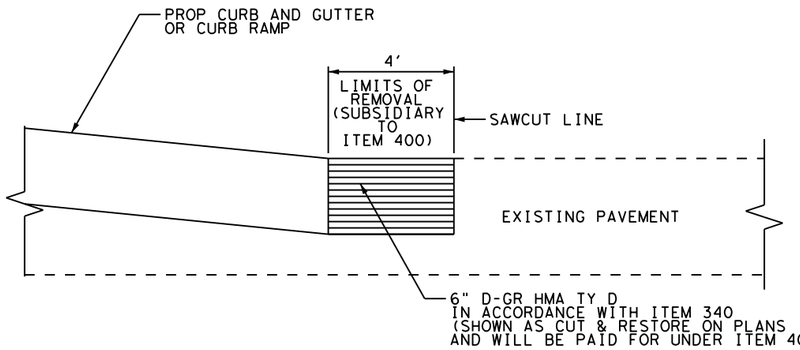


NOTE:
TRANSITIONS FOR CONCRETE CURB ENDS WILL NOT BE PAID FOR DIRECTLY BUT SHALL BE CONSIDERED SUBSIDIARY TO ITEM 529.

TYPICAL TRANSITION
FOR CONCRETE CURB ENDS



CURB TRENCH DETAIL



PAVEMENT CUT & RESTORE DETAIL

5/28/2024

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SPECIAL DETAILS

SHEET 5 OF 9

CONT	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN, ETC			95

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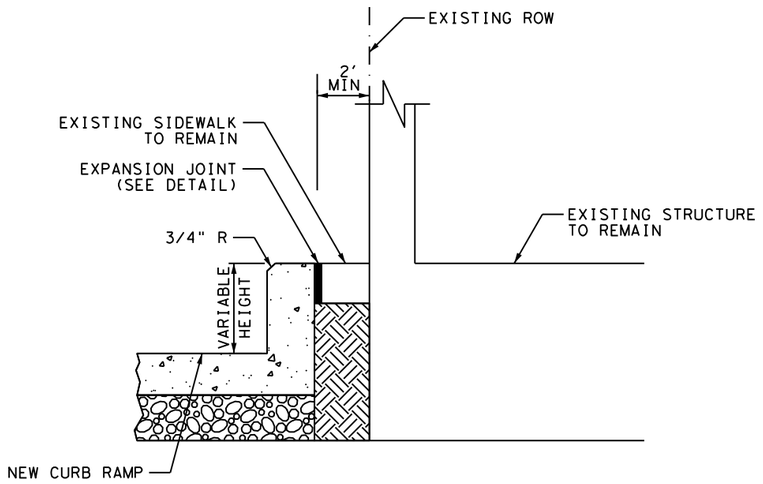
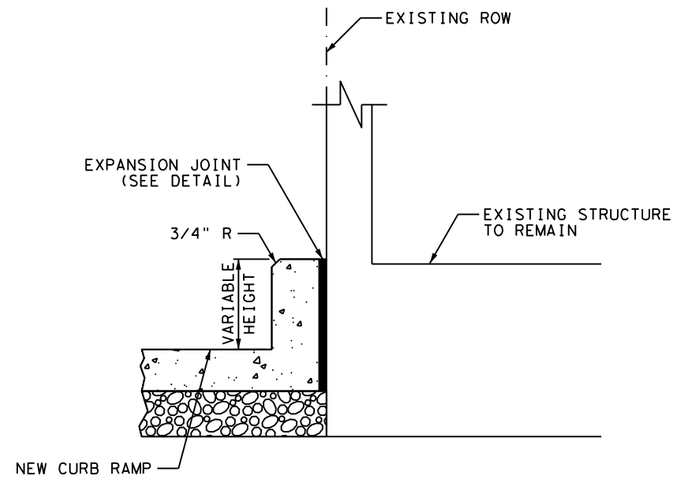
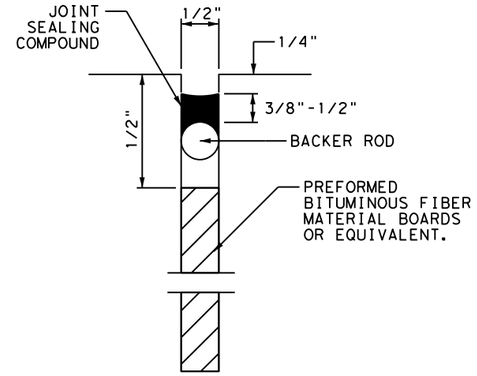


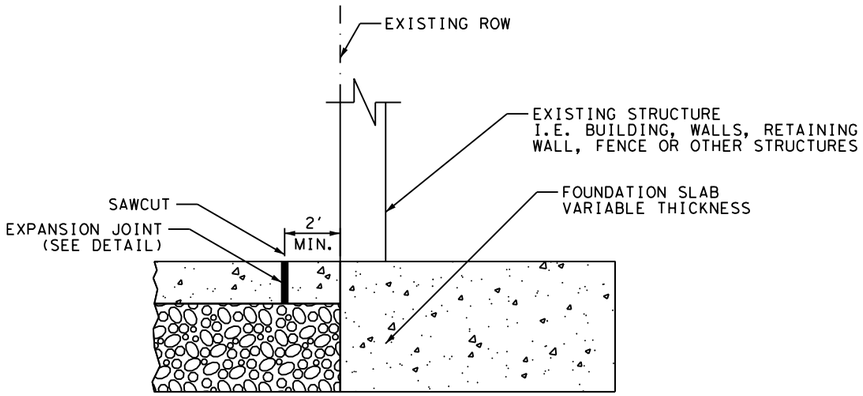
ADJACENT SIDEWALK
TO REMAIN DETAIL



ADJACENT SIDEWALK
REMOVED DETAIL



EXPANSION
JOINT DETAIL



SAWCUT DETAIL

PAVING OPTION @ BUILDING FACE
N.T.S.

GENERAL PROTECTION NOTES FOR BUILDINGS AND HISTORIC STRUCTURES:

1. SAW CUT EXISTING SIDEWALK 6 TO 8 INCHES AWAY FROM PROTECTED BUILDING/STRUCTURE TO MINIMIZE POTENTIAL DAMAGE, PRIOR TO DEMOLITION OF WALK.

2. CONTRACTOR IS RESPONSIBLE FOR PREVENTING DAMAGE TO ALL BUILDINGS AND STRUCTURES DURING THE ENTIRE CONSTRUTION PROJECT. IF DIRECTED BY ENGINEER TO HAND REMOVE EXISTING PAVING ADJACENT TO HISTORIC STRUCTURES. PROTECT FOUNDATION, MATERIALS, ELEVATION AND ENTRYWAYS. DO NOT REMOVE EXISTING MATERIALS IF FACADE (BRICK/STONE, ETC.) UTILIZES THE MATERIALS TO BE REMOVED AS A FOOTING, FOUNDATION OR SUPPORT. IF THIS CONDITION IS OBSERVED, IMEDIATELY CONTACT ENGINEER AND DO NOT EXCAVATE FURTHER. SEPARATE PAYMENT WILL NOT BE MADE FOR HAND REMOVAL.

3. REPAIR OR REPLACE IN KIND, AT NO EXPENSE TO THE DEPARTMENT, ANY DAMAGE TO HISTORIC OR NON-HISTORIC MATERIAL THAT RESULTS FROM AN ACT OF OMISSION ON THE PART OF OR ON BEHALF OF THE CONTRACTOR. CONTRACTOR IS RESPONSIBLE FOR LOCATING A REPLACEMENT SOURCE FOR HISTORIC AND NON-HISTORIC MATERIALS DAMAGED IN THE PROCESS OF CONSTRUCTION. INFORM TXDOT ENVIRONMENTAL AFFAIRS DIVISION (ENV) OF PROPOSED REPAIRS AND/OR DAMAGED AREAS IN ORDER TO FACILITATE CONSULTATION WITH TEXAS HISTORICAL COMMISSION. MATERIAL AND SOURCE SHALL BE APPROVED BY TXDOT ENV PRIOR TO REPLACEMENT.

4. PROTECT BUILDINGS AND STRUCTURE FROM CONCRETE SPLASH UTILIZING A MATERIAL APPROVED BY THE ENGINEER. ANY CONCRETE SPLASH AS A RESULT OF CONSTRUCTION ACTIVITIES MUST BE REMOVED FROM THE BUILDING OR STRUCTURE AT CONTRACTORS EXPENSE. NO PAYMENT WILL BE MADE FOR BUILDING PROTECTION.

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SPECIAL DETAILS

SHEET 6 OF 9

CONT	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN, ETC			96

DATE: 5/28/2024 3:12:34 PM
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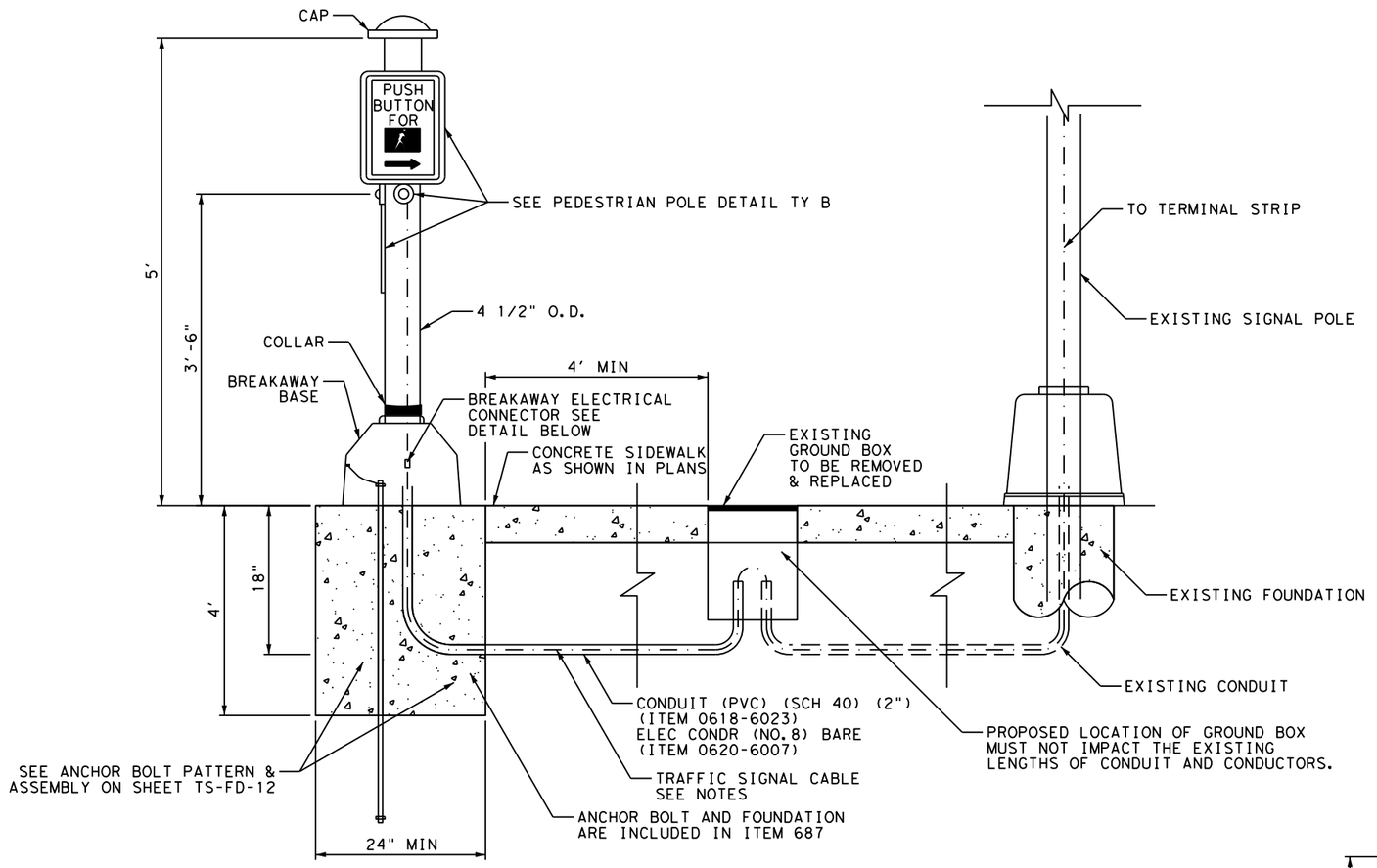


PEDESTRIAN POLE DETAIL
TY A

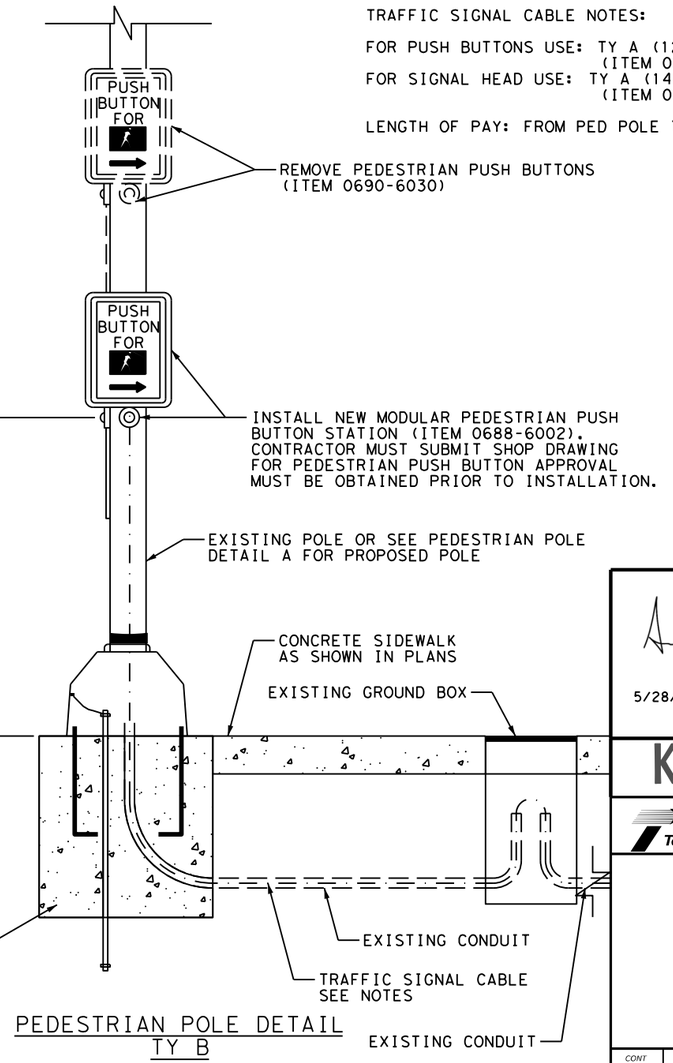
USE DETAIL TY A FOR INSTALLATION OF NEW POLE.

NOTE:
1. SEE PEDESTRIAN SIGNAL HEAD DETAILS (DAL) FOR POLE, SIGN AND SIGNAL HEAD MOUNTING DETAILS AND NOTES.
2. GROUND ROD, FOUNDATION, BREAKAWAY BASE ARE INCLUSIVE TO PEDESTRIAN POLE ITEM 0687-6001.
3. PUSH BUTTONS TO BE PAID FOR AS ITEM 0688-6002. ITEM 0688-6002 INCLUDES INSTALLATION OF NEW PUSH BUTTON STATION ASSEMBLY (PELCO SE-2023 OR SE-2019 WITH PUSH BUTTON MEETING REQUIREMENTS OF TMUTCD 4E.08 THROUGH 4E.13 AND R403 OF THE U.S. ACCESS BOARD PROWAG. PUSH BUTTON SHOULD BE NO LESS THAN 2" OF UNOBSTRUCTED SURFACE AREA) AND ALL INCIDENTAL CONSTRUCTION INCLUDING BUT NOT LIMITED TO PLUGGING EXISTING HOLES.
4. SPLICES AT GROUND BOXES ARE NOT ALLOWED.
5. FOUNDATION TO BE FLUSH WITH SIDEWALK.
6. BREAKAWAY ELECTRIC CONNECTORS ARE REQUIRED.
7. PUSH BUTTON AND PEDESTRIAN SIGNAL HEAD ADJUSTMENTS ARE TO UTILIZE EXISTING CONDUCTORS WHERE FEASIBLE AND NEW CONDUCTORS WHERE NECESSARY AND AS SHOWN IN THE PLANS.

TRAFFIC SIGNAL CABLE NOTES:

FOR PUSH BUTTONS USE: TY A (12 AWG) (2 CONDR) (ITEM 0684-6007)
FOR SIGNAL HEAD USE: TY A (14 AWG) (5 CONDR) (ITEM 0684-6031)

LENGTH OF PAY: FROM PED POLE TO EXISTING SIGNAL POLE



PEDESTRIAN POLE DETAIL
TY B

USE DETAIL TY B WHEN ADJUSTING PEDESTRIAN PUSH BUTTONS VERTICALLY AND WHEN RELOCATING PEDESTRIAN PUSH BUTTONS FROM EXISTING POLE TO NEW POLE.

5/28/2024

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SPECIAL DETAILS

SHEET 7 OF 9

CONT	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN, ETC			97

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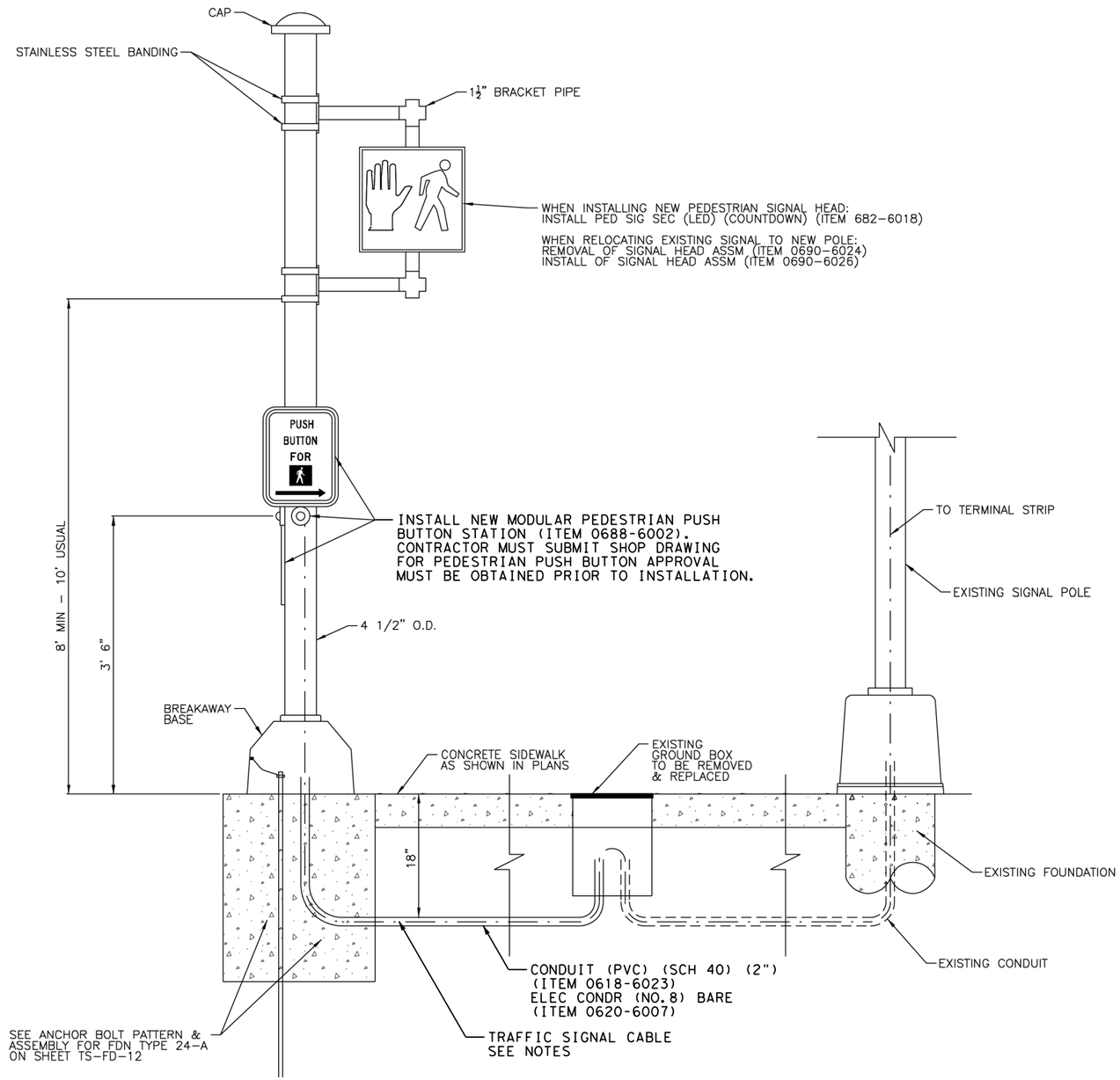

PEDESTRIAN POLE DETAIL
TY D

USE DETAIL TY D FOR INSTALLATION OF NEW PED POLE WITH PEDESTRIAN SIGNAL HEADS.

NOTE:
1. SEE PEDESTRIAN SIGNAL HEAD DETAILS (DAL) FOR POLE, SIGN AND SIGNAL HEAD MOUNTING DETAILS AND NOTES.
2. GROUND ROD, FOUNDATION, BREAKAWAY BASE ARE INCLUSIVE TO PEDESTRIAN POLE ITEM 0687-6001.
3. PUSH BUTTONS TO BE PAID FOR AS ITEM 0688-6002. ITEM 0688-6002 INCLUDES INSTALLATION OF NEW PUSH BUTTON STATION ASSEMBLY (PELCO SE-2023 OR SE-2019 WITH PUSH BUTTON MEETING REQUIREMENTS OF TMUTCD 4E.08 THROUGH 4E.13 AND R403 OF THE U.S. ACCESS BOARD PROWAG. PUSH BUTTON SHOULD BE NO LESS THAN 2" OF UNOBSTRUCTED SURFACE AREA) AND ALL INCIDENTAL CONSTRUCTION INCLUDING BUT NOT LIMITED TO PLUGGING EXISTING HOLES.
4. SPLICES AT GROUND BOXES ARE NOT ALLOWED.
5. FOUNDATION TO BE FLUSH WITH SIDEWALK.
6. BREAKAWAY ELECTRIC CONNECTORS ARE REQUIRED.
7. PUSH BUTTON AND PEDESTRIAN SIGNAL HEAD ADJUSTMENTS ARE TO UTILIZE EXISTING CONDUCTORS WHERE FEASIBLE AND NEW CONDUCTORS WHERE NECESSARY AND AS SHOWN IN THE PLANS.

TRAFFIC SIGNAL CABLE NOTES:

FOR PUSH BUTTONS USE: TY A (12 AWG) (2 CONDR) (ITEM 0684-6007)
FOR SIGNAL HEAD USE: TY A (14 AWG) (5 CONDR) (ITEM 0684-6031)

LENGTH OF PAY: FROM PED POLE TO EXISTING SIGNAL POLE

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Kimley»Horn F-928

Texas Department of Transportation

SPECIAL DETAILS

SHEET 8 OF 9

CONT	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN, ETC			98

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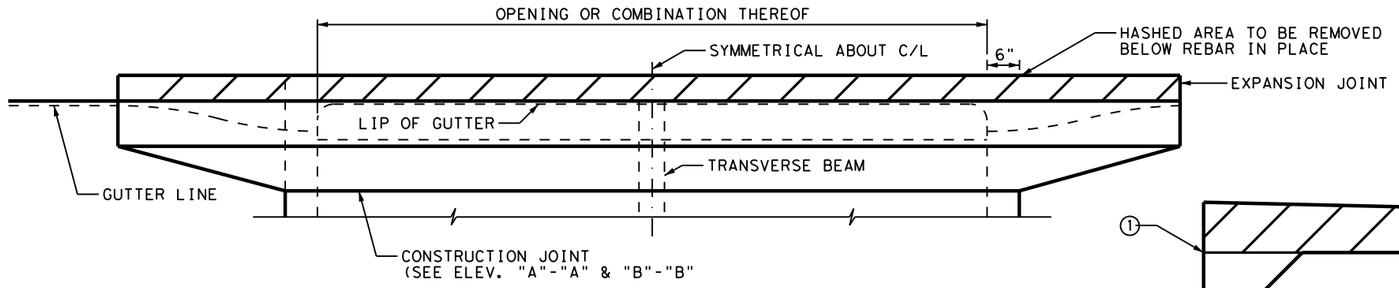
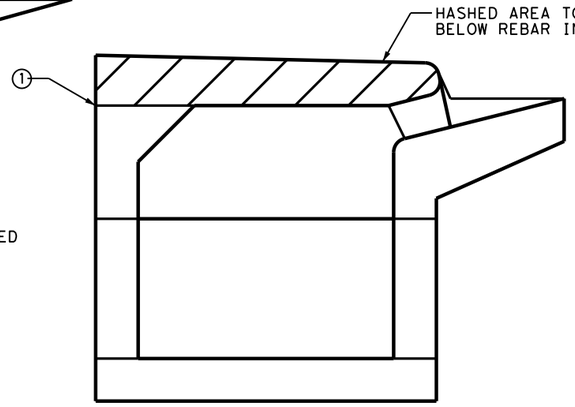
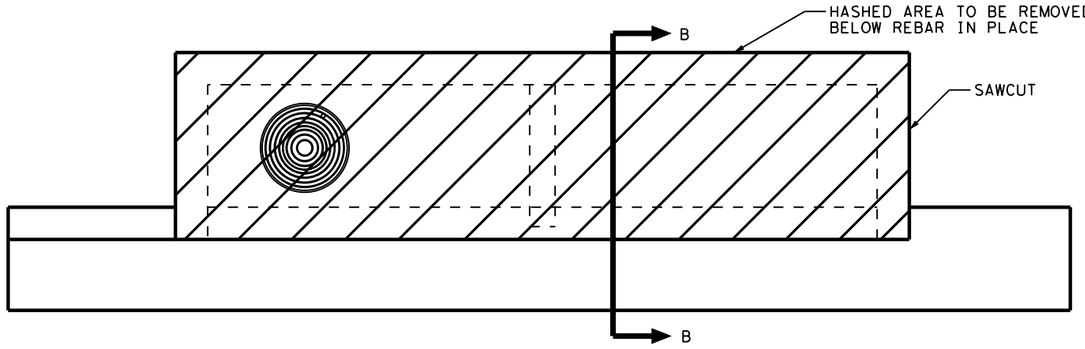


FRONT ELEVATION VIEW



SECTION "B-B"

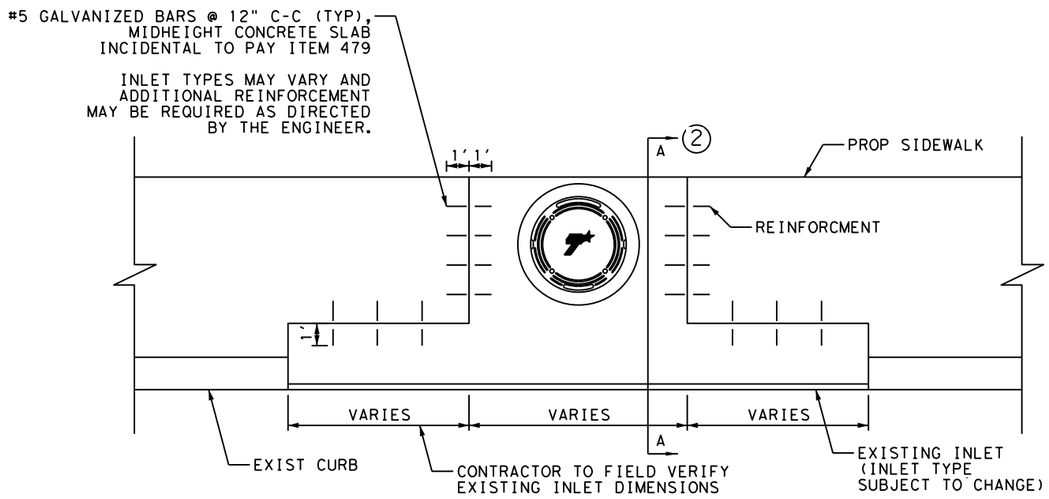


PLAN VIEW

GENERAL NOTES

1. See TxDOT Standard CCO, attached, for more information not shown on this sheet. Contractor shall comply with TxDOT Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges.
2. Saw cut existing inlet extension away from sidewalk and inlet.
3. Remove all concrete in hashed area to bottom of existing rebar.
4. Saw cut and demo are subsidiary to Item 479.
5. After removal of concrete, notify Engineer who will inspect the remaining portion of the structure.
6. Dowel into existing curb inlet per Inlet doweling detail.
7. Replace top slab of inlet per TxDOT Standard CCO Cast-In-Place Curb Inlet Outside Roadway.
8. Match top of sidewalk elevation on adjacent panels.
9. Contractor responsible to repair and/or replace any damage to existing inlet as required by the engineer.

INLET ADJUSTMENT CAP DETAIL



INLET DOWELING DETAIL
N.T.S.

1. DEMOLISH CONCRETE ELEMENTS AS DEEP AS NECESSARY TO ACHIEVE THE MODIFICATION TASK. PRESERVE EXISTING VERTICAL REINFORCEMENT, TO BE DOWELED INTO THE PROPOSED CONCRETE SECTION. WHERE APPLICABLE, THE DEMO SURFACES NEED TO BE ROUGHENED TO MAGNITUDE OF 1/4" AND CLEANED BEFORE NEW CONCRETE IS POURED.
2. SEE LID SECTIONS ON TXDOT STANDARD CCO FOR DETAILS

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SPECIAL DETAILS

SHEET 9 OF 9

CONT	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN, ETC			99

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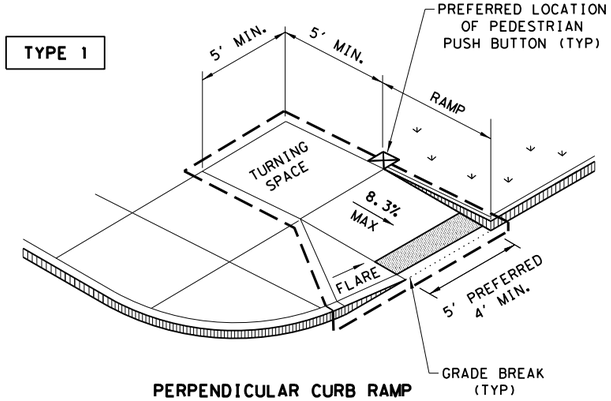
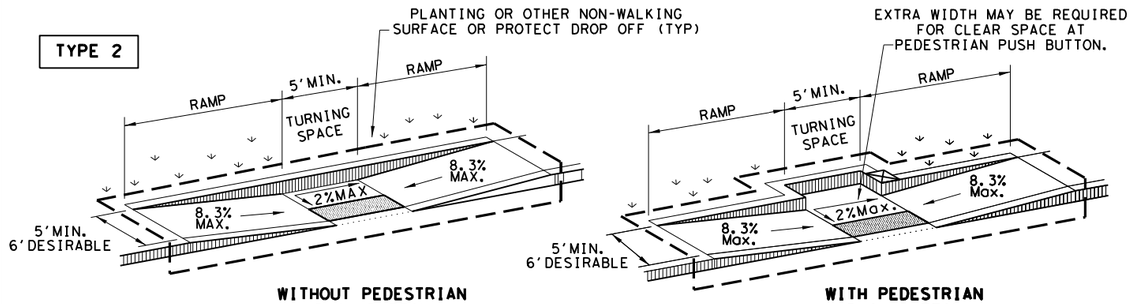


PERPENDICULAR CURB RAMP

TYPE 2

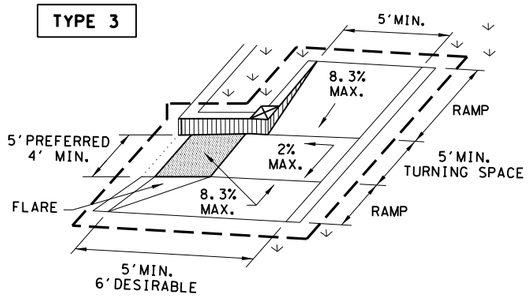


WITHOUT PEDESTRIAN PUSH BUTTON

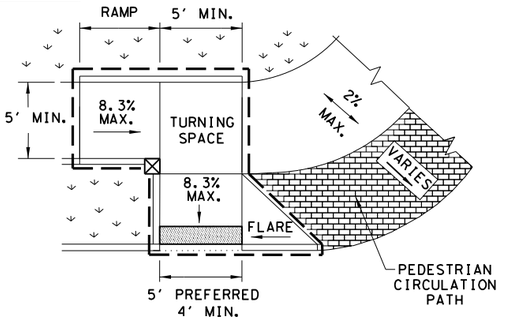
WITH PEDESTRIAN PUSH BUTTON

PARALLEL CURB RAMP

TYPE 3

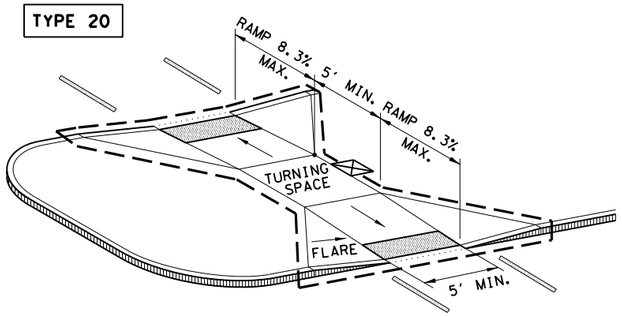


TYPE 6



COMBINATION CURB RAMPS

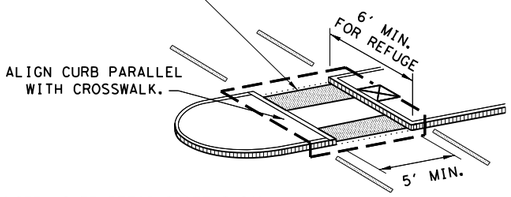
TYPE 20



CURB RAMPS AT MEDIAN ISLANDS

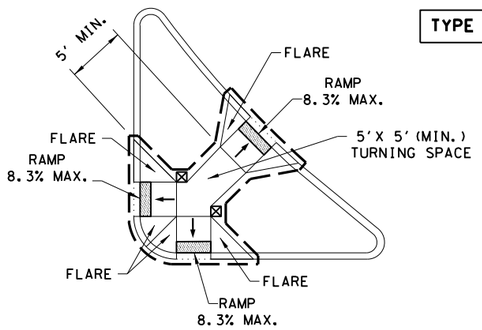
INSTALL DETECTABLE WARNING SURFACE AT EACH END OF THE CUT-THROUGH RAMP WITH A MINIMUM 2' USUAL SIDEWALK SURFACE BETWEEN. IF MEDIAN IS LESS THAN 6' WIDE, ELIMINATE DETECTABLE WARNING SURFACES.

TYPE 21



NOTE: CURB DETAILS ARE SHOWN ELSEWHERE IN THE PLANS.

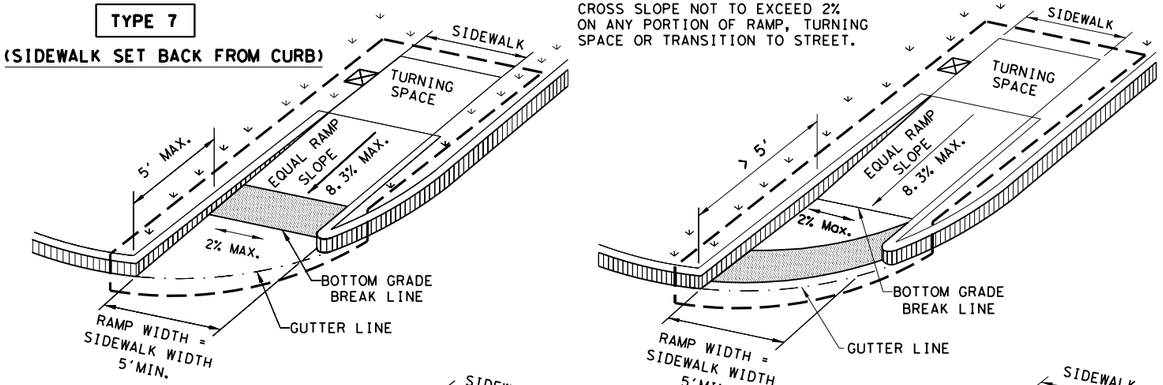
TYPE 22



COMBINATION ISLAND RAMPS

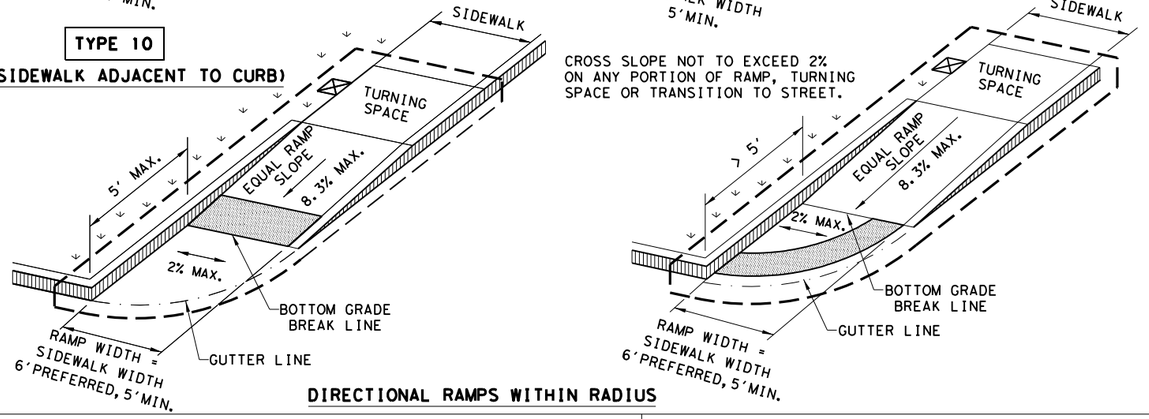
TYPE 7 (SIDEWALK SET BACK FROM CURB)

CROSS SLOPE NOT TO EXCEED 2% ON ANY PORTION OF RAMP, TURNING SPACE OR TRANSITION TO STREET.



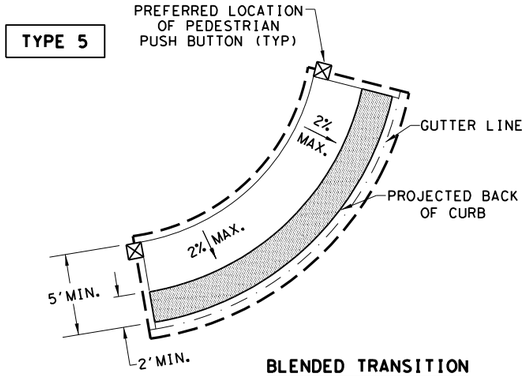
TYPE 10 (SIDEWALK ADJACENT TO CURB)

CROSS SLOPE NOT TO EXCEED 2% ON ANY PORTION OF RAMP, TURNING SPACE OR TRANSITION TO STREET.



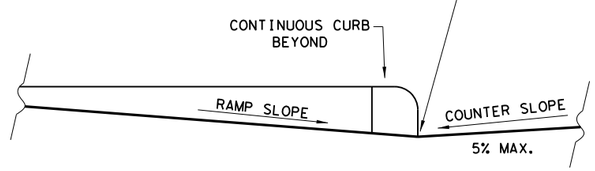
DIRECTIONAL RAMPS WITHIN RADIUS

TYPE 5



BLENDED TRANSITION (FLUSH LANDING)

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.

DETECTABLE WARNING SURFACE

DENOTES PREFERRED LOCATION OF PEDESTRIAN PUSH BUTTON IF APPLICABLE.

GUTTER LINE

GRADE BREAK .....

RAMP LIMITS OF PAYMENT

Texas Department of Transportation

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
REVISIONS	0918	11	110	VARIOUS
REVISED 08,2005	DIST	COUNTY		SHEET NO.
REVISED 06,2012	DAL	KAUFMAN, ETC		100
REVISED 01,2018				

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 applicalble standards may remain in place unless otherwise shown on the plans.

DETECTABLE WARNING MATERIAL

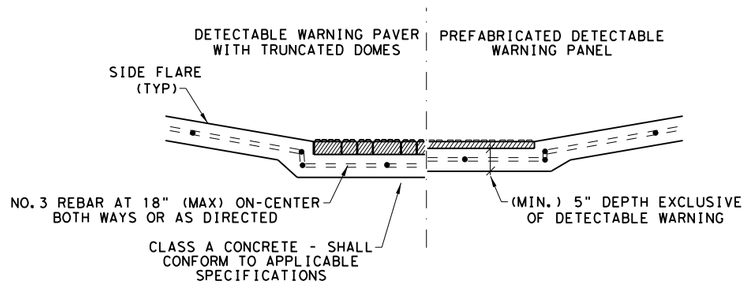
19. Curb ramps must contain a detectable warning surface that consists of raised truncated domes complying with PROWAG. The surface must contrast visually with adjoining surfaces, including side flares. Furnish and install an approved cast-in-place dark brown or dark red detectable warning surface material 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.

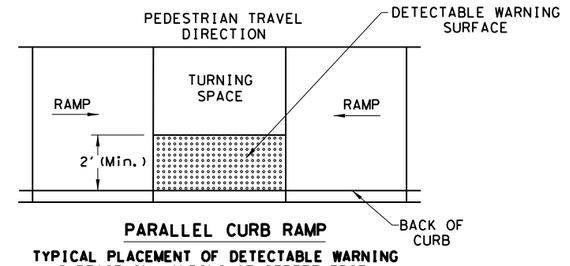
SIDEWALKS

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.



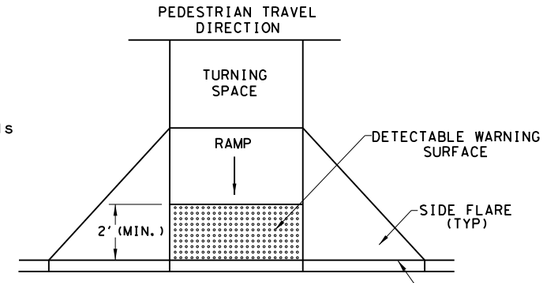
SECTION VIEW DETAIL
CURB RAMP AT DETECTIBLE WARNINGS

DETECTABLE WARNING SURFACE DETAILS



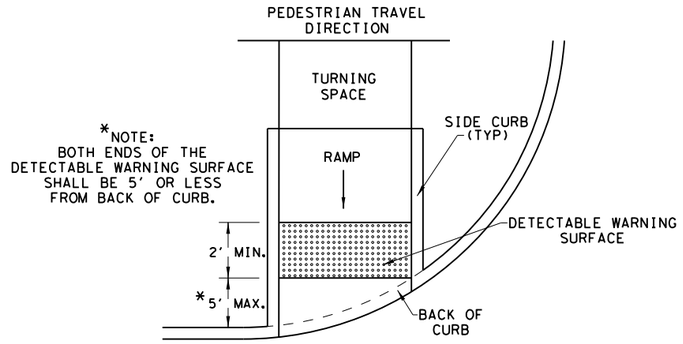
PARALLEL CURB RAMP

TYPICAL PLACEMENT OF DETECTABLE WARNING SURFACE ON LANDING AT STREET EDGE.



PERPENDICULAR CURB RAMP

TYPICAL PLACEMENT OF DETECTABLE WARNING SURFACE ON SLOPING RAMP RUN.



DIRECTIONAL CURB RAMP

TYPICAL PLACEMENT OF DETECTABLE WARNING SURFACE ON SLOPING RAMP RUN.

SHEET 2 OF 4

Texas Department of Transportation | Design Division Standard

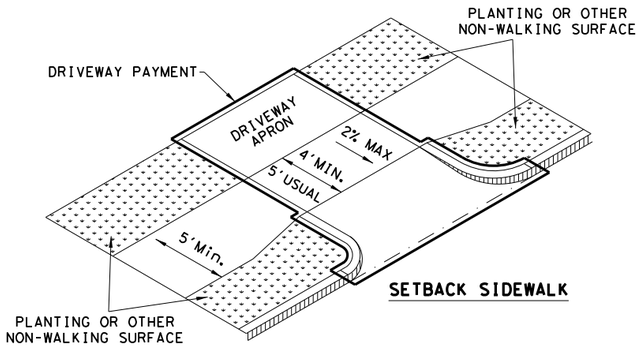
PEDESTRIAN FACILITIES CURB RAMPS

PED-18

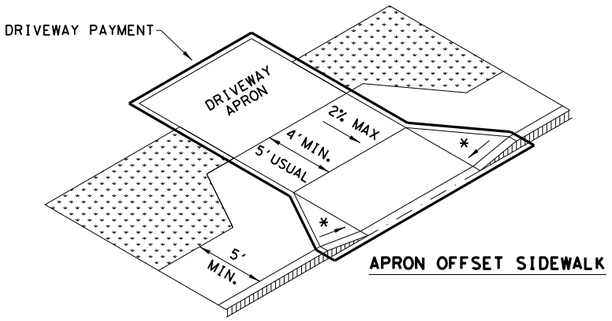
FILE: ped18	DN: TxDOT		DW: VP	CK: KM	CK: PK & JG
© TxDOT: MARCH, 2002	CONT	SECT	JOB		HIGHWAY
REVISIONS	0918	11	110		VARIOUS
REVISED 08,2005 REVISED 06,2012 REVISED 01,2018	DIST	COUNTY			SHEET NO.
	DAL	KAUFMAN, ETC			101

DATE:
FILE:

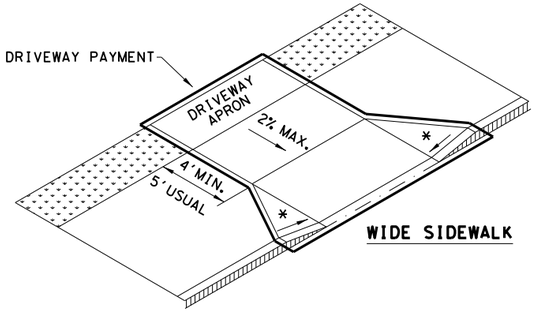
SIDEWALK TREATMENT AT DRIVEWAYS



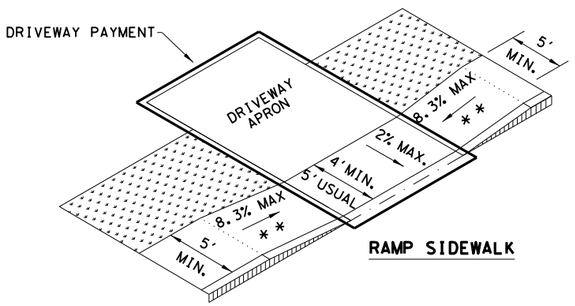
SETBACK SIDEWALK



APRON OFFSET SIDEWALK



WIDE SIDEWALK

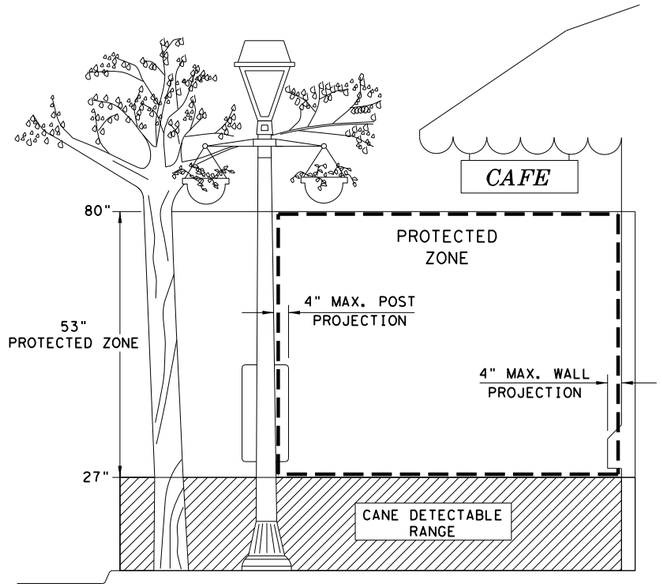


RAMP SIDEWALK

NOTES:

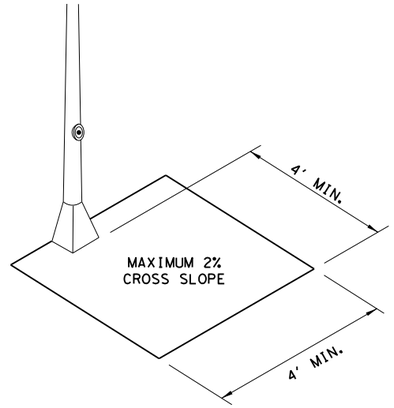
* WHERE DRIVEWAYS CROSS THE PEDESTRIAN ROUTE, SIDES SHALL BE FLARED AT 10% MAX SLOPE.

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

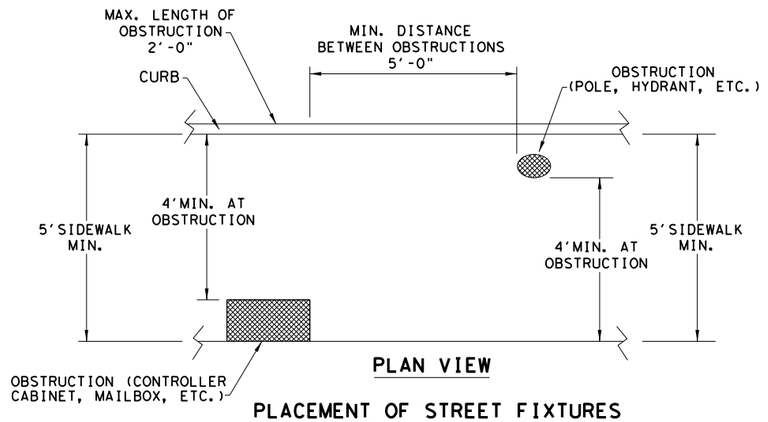


PROTECTED ZONE

NOTE: IN PEDESTRIAN CIRCULATION AREA, MAXIMUM 4" PROJECTION FOR POST OR WALL MOUNTED OBJECTS BETWEEN 27" AND 80" ABOVE THE SURFACE.



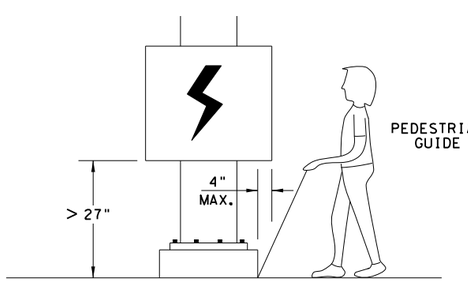
CLEAR SPACE ADJACENT TO PEDESTRIAN PUSH BUTTON



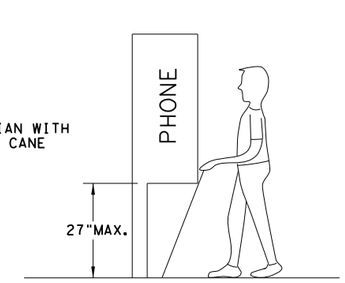
PLAN VIEW

PLACEMENT OF STREET FIXTURES

NOTE: ITEMS NOT INTENDED FOR PUBLIC USE. MINIMUM 4' X 4' CLEAR GROUND SPACE REQUIRED AT PUBLIC USE FIXTURES.



WHEN AN OBSTRUCTION OF A HEIGHT GREATER THAN 27" FROM THE SURFACE WOULD CREATE A PROTRUSION OF MORE THAN 4" INTO THE PEDESTRIAN CIRCULATION AREA, CONSTRUCT ADDITIONAL CURB OR FOUNDATION AT THE BOTTOM TO PROVIDE A MAXIMUM 4" OVERHANG.



PROTRUDING OBJECTS OF A HEIGHT ≤ 27" ARE DETECTABLE BY CANE AND DO NOT REQUIRE ADDITIONAL TREATMENT.

DETECTION BARRIER FOR VERTICAL CLEARANCE < 80"

Texas Department of Transportation

Design Division Standard

PEDESTRIAN FACILITIES CURB RAMPS

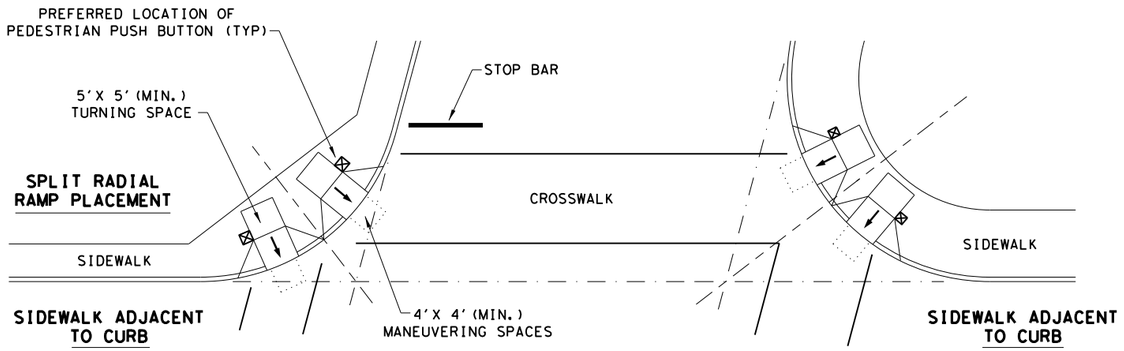
PED-18

FILE: ped18	DN: TxDOT	DW: VP	CK: KM	CK: PK & JG	
© TxDOT: MARCH, 2002	CONT	SECT	JOB	HIGHWAY	
REVISIONS	0918	11	110	VARIOUS	
REVISED 08, 2005 REVISED 06, 2012 REVISED 01, 2018	DIST	COUNTY		SHEET NO.	
	DAL	KAUFMAN, ETC		102	

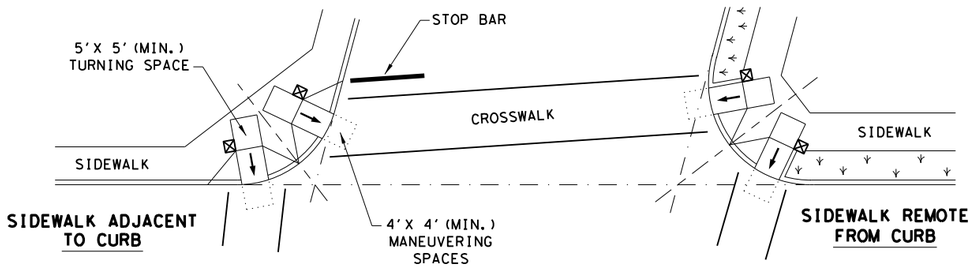
DATE:
FILE:

TYPICAL CROSSING LAYOUTS

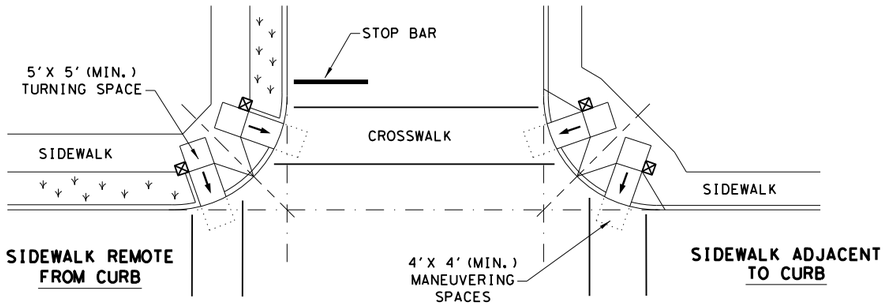
SEE SHEET 1 OF 4 FOR DETAILS AND DIMENSIONS



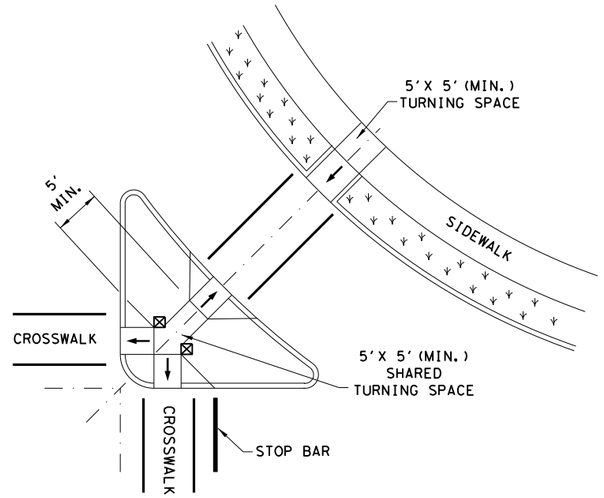
SKEWED INTERSECTION WITH "LARGE" RADIUS



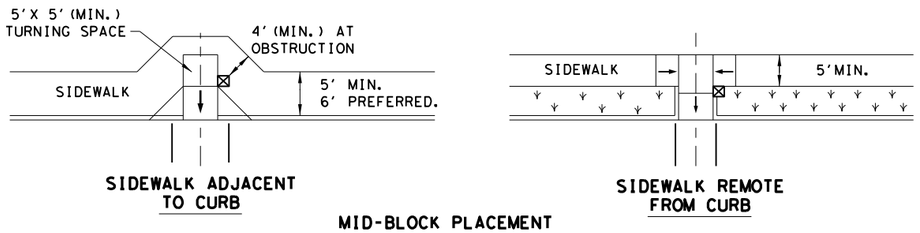
SKEWED INTERSECTION WITH "SMALL" RADIUS



NORMAL INTERSECTION WITH "SMALL" RADIUS



AT INTERSECTION
W/FREE RIGHT TURN & ISLAND



MID-BLOCK PLACEMENT
PERPENDICULAR RAMPS

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.

Texas Department of Transportation

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
REVISIONS	0918	11	110		VARIOUS
REVISED 08, 2005 REVISED 06, 2012 REVISED 01, 2018	DIST	COUNTY			SHEET NO.
	DAL	KAUFMAN, ETC			103

DATE: 5/28/2024
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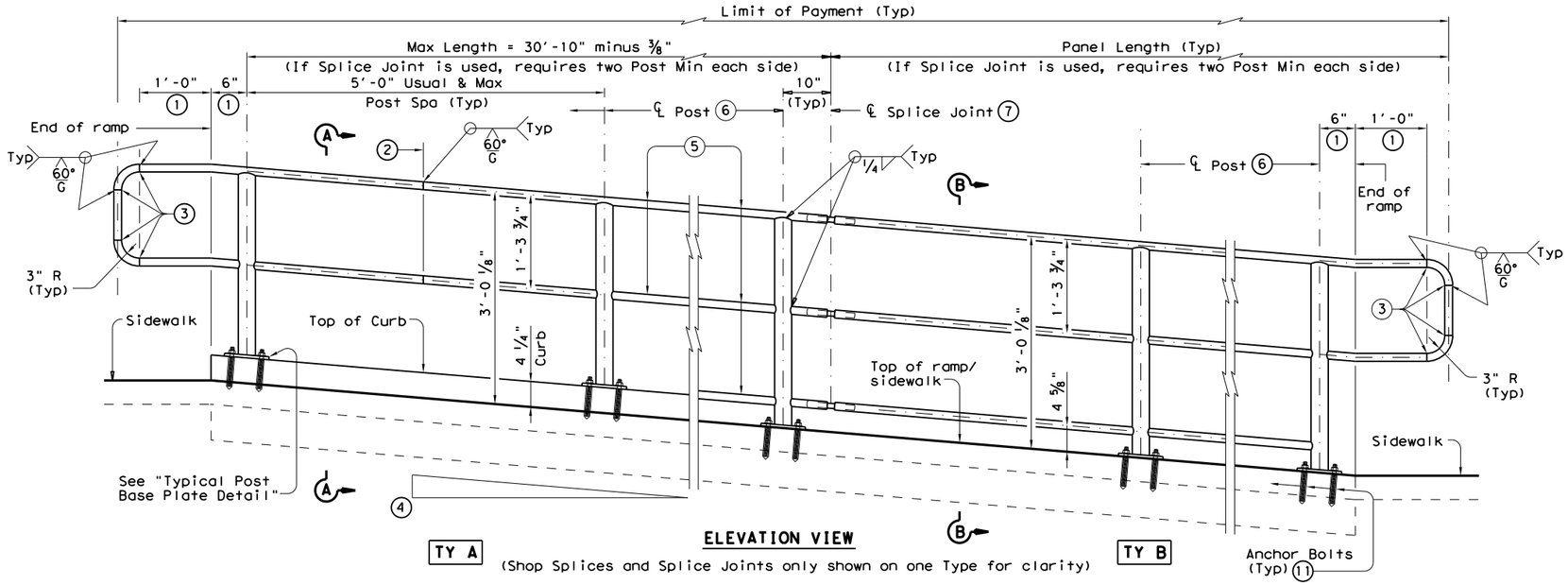
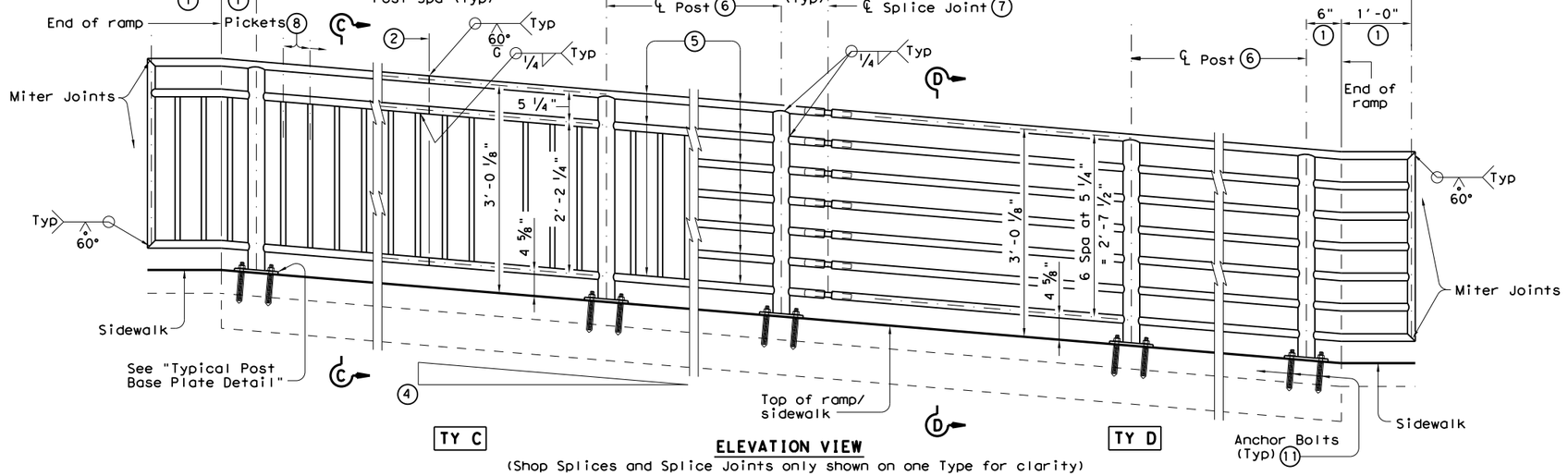


ELEVATION VIEW

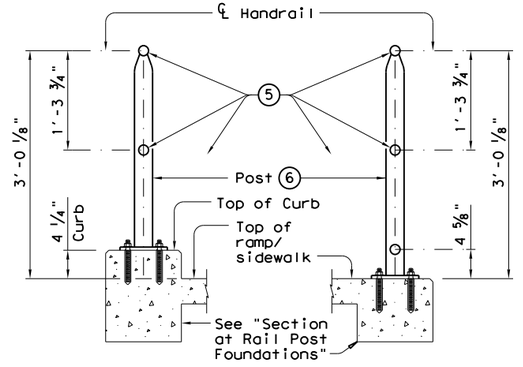
(Shop Splices and Splice Joints only shown on one Type for clarity)



ELEVATION VIEW

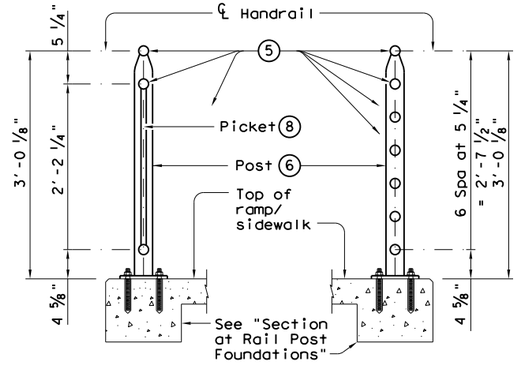
(Shop Splices and Splice Joints only shown on one Type for clarity)

RECOMMENDED USAGE (9) (10)	
Dropoff Height/ Condition	Recommended Rail Options
<30" dropoff	TY A, TY B, TY C, or TY D
≥ 30" dropoff, or along Bike Path	TY E or TY F



SECTION A-A
(Showing Handrail **TY A**)

SECTION B-B
(Showing Handrail **TY B**)



SECTION C-C
(Showing Handrail **TY C**)

SECTION D-D
(Showing Handrail **TY D**)

(1) Parallel to ground.

(2) One shop splice per panel is permitted with minimum 85 percent penetration. The weld may be square groove or single vee groove. Grind smooth.

(3) Shop splice is permitted with minimum 85 percent penetration. The weld may be square groove or single vee groove. Grind smooth.

(4) See Ramp Details located elsewhere in plans for ramp slope and dimensions. Maximum ramp slope will not exceed 8.3 percent. Level landing required for each 30" rise if grade exceeds 5 percent.

(5) 1 ½" Dia. Standard Pipe (1.900" O.D., 0.145" wall thickness). Parallel to ramp / sidewalk. Provide holes as needed in 1 ½" Dia. pipe for galvanizing drainage and venting.

(6) 2 ½" Dia. Standard Pipe (2.875" O.D., 0.203" wall thickness). See "Post Mount Detail" for crimping and trimming post to fit Dia. of top rail. Provide holes as needed in post for galvanizing drainage and venting. Plumb all posts.

(7) See "Handrail Fabrication Details" for Splice Joints.

(8) ℄ ⅝" Dia. Round Bar equal spacing at 4 ½" Max. Plumb all pickets.

(9) When needed for accessibility (grade > 5 percent) or as needed for pedestrian safety.

(10) Not to be used on bridges.

(11) See "General Notes" for anchor bolt information.

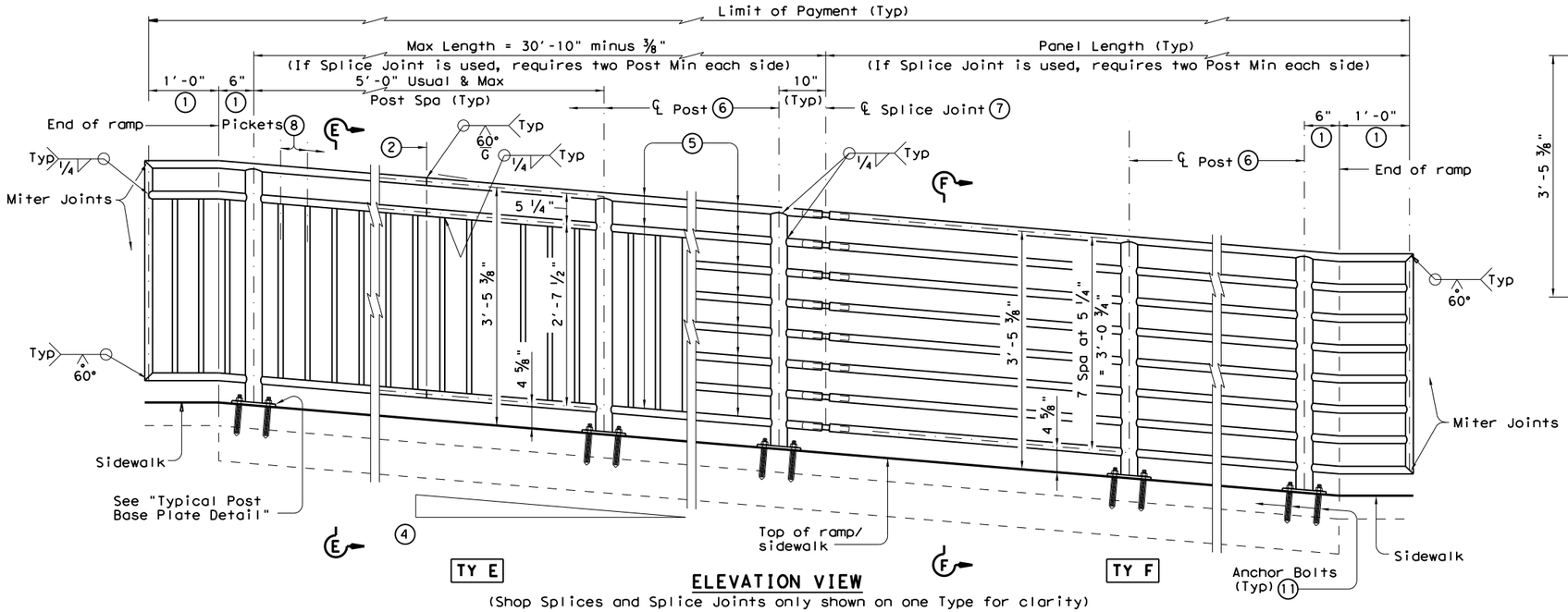
SHEET 1 OF 3

Texas Department of Transportation | Design Division Standard

PEDESTRIAN HANDRAIL DETAILS

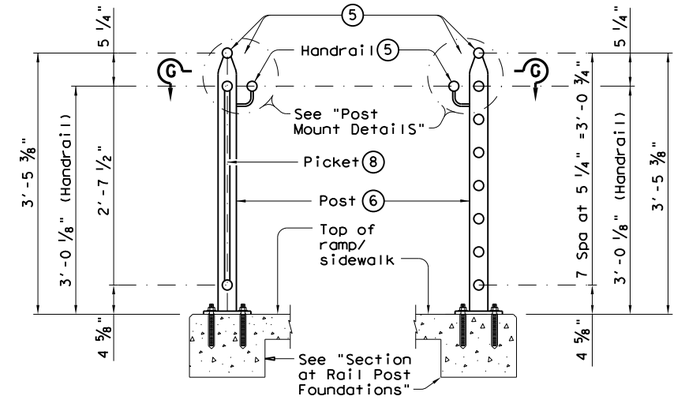
PRD-13

FILE: prd13.dgn	DN: TxDOT	CK: AM	DW: JTR	CK: CGL
©TxDOT Decmeber 2006	CONT	SECT	JOB	HIGHWAY
REVISIONS REVISED MAY, 2013 (VP)	0918	11	110	VARIOUS
	DIST	COUNTY		SHEET NO.
	DAL	KAUFMAN, ETC		104



ELEVATION VIEW

(Shop Splices and Splice Joints only shown on one Type for clarity)

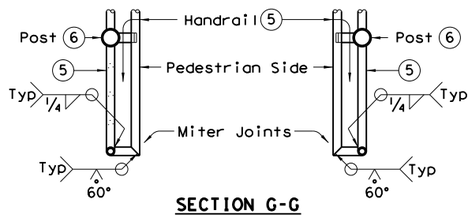


SECTION E-E

(Showing Handrail TY E)

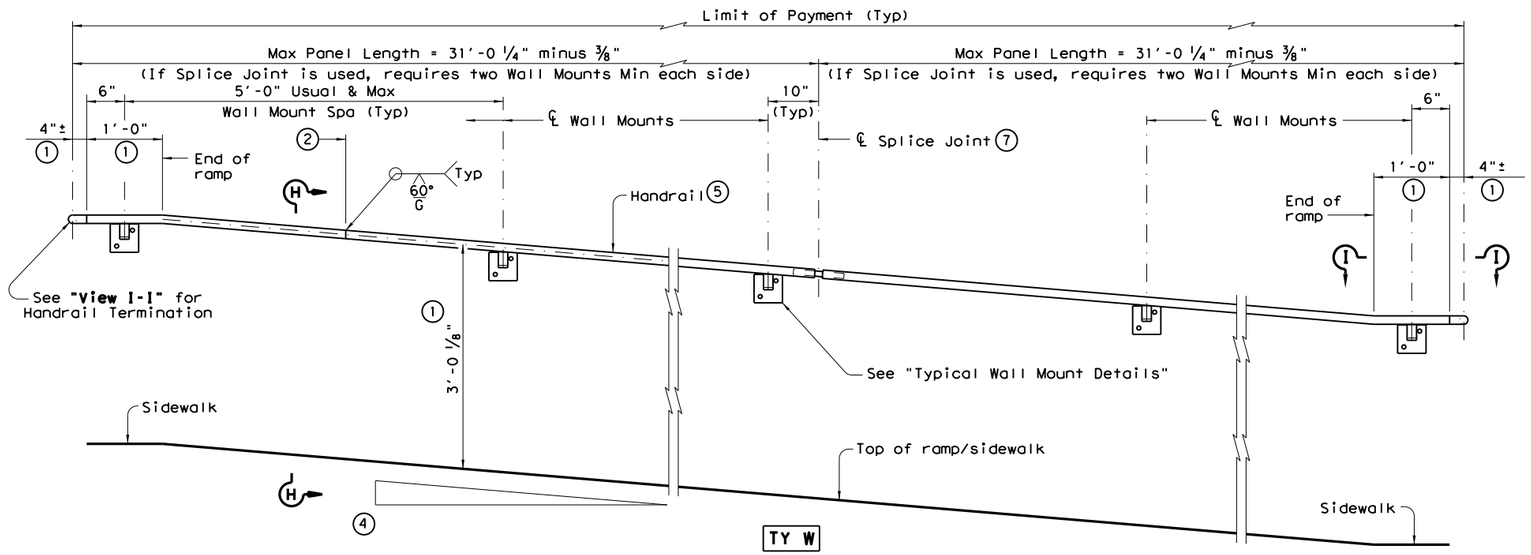
SECTION F-F

(Showing Handrail TY F)

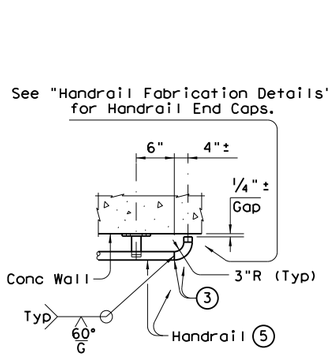


SECTION G-G

(Showing Handrail Termination)

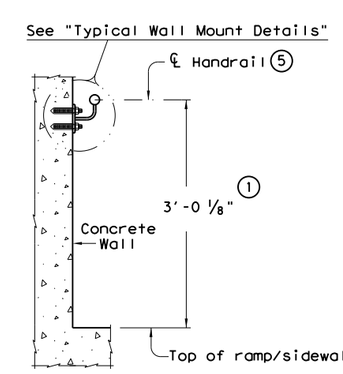


ELEVATION VIEW



VIEW I-I

(Showing Handrail Termination)



SECTION H-H

(Showing Handrail TY W)

1. Parallel to ground.
2. One shop splice per panel is permitted with minimum 85 percent penetration. The weld may be square groove or single vee groove. Grind smooth.
3. Shop splice is permitted with minimum 85 percent penetration. The weld may be square groove or single vee groove. Grind smooth.
4. See Ramp Details located elsewhere in plans for ramp slope and dimensions. Maximum ramp slope will not exceed 8.3 percent. Level landing required for each 30" rise if grade exceeds 5 percent.
5. 1 ½" Dia. Standard Pipe (1.900" O.D., 0.145" wall thickness). Parallel to ramp / sidewalk. Provide holes as needed in 1 ½" Dia. pipe for galvanizing drainage and venting.
6. 2 ½" Dia. Standard Pipe (2.875" O.D., 0.203" wall thickness). See "Post Mount Detail" for crimping and trimming post to fit Dia. of top rail. Provide holes as needed in post for galvanizing drainage and venting. Plumb all posts.
7. See "Handrail Fabrication Details" for Splice Joints.
8. ℄ ⅝" Dia. Round Bar equal spacing at 4 ½" Max. Plumb all pickets.
11. See "General Notes" for anchor bolt information.

SHEET 2 OF 3

Texas Department of Transportation

Design Division Standard

PEDESTRIAN HANDRAIL DETAILS

PRD-13

FILE: prd13.dgn	DN: TxDOT	CK: AM	DW: JTR	CK: CGL
©TxDOT December 2006	CONT	SECT	JOB	HIGHWAY
REVISIONS REVISED MAY, 2013 (VP)	0918	11	110	VARIOUS
	DIST	COUNTY		SHEET NO.
	DAL	KAUFMAN, ETC		105

DATE: 5/28/2024
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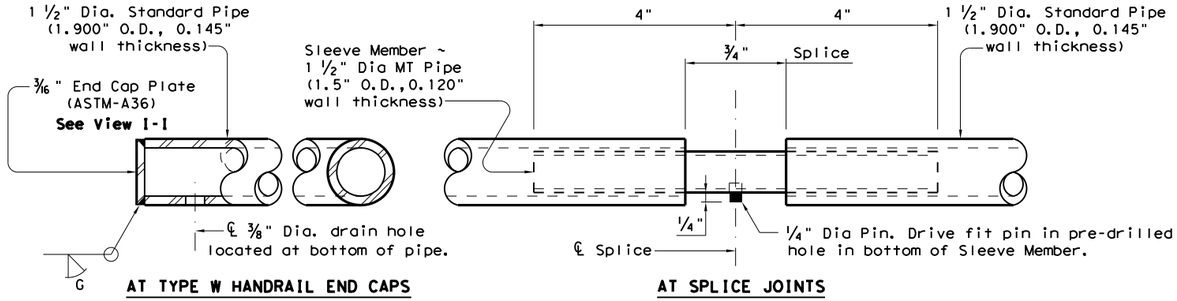
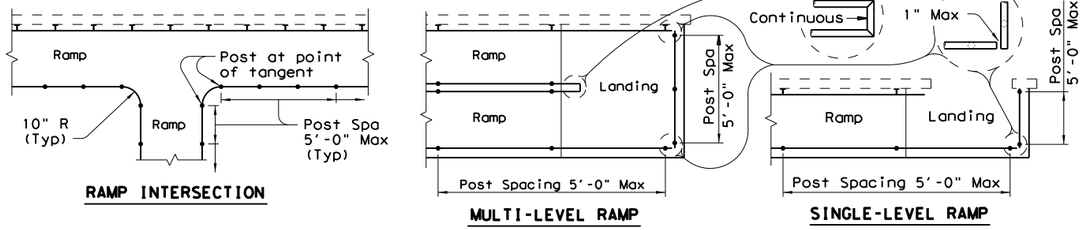


AT TYPE W HANDRAIL END CAPS

AT SPLICE JOINTS

HANDRAIL FABRICATION DETAILS

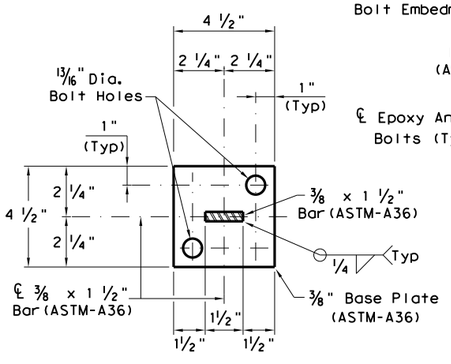


RAMP INTERSECTION

MULTI-LEVEL RAMP

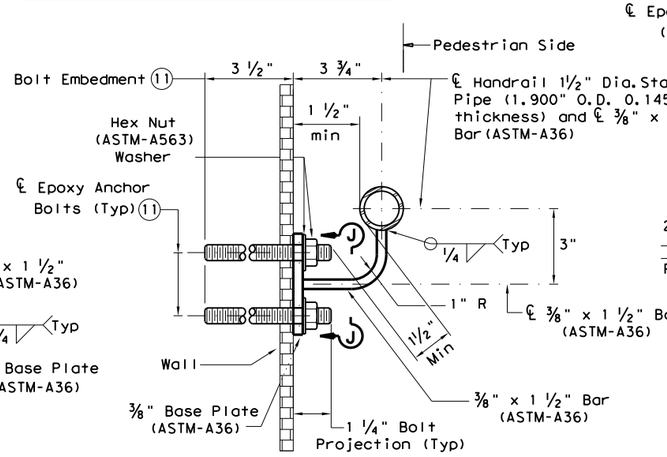
SINGLE-LEVEL RAMP

PLAN SHOWING RAIL AT RAMP CONDITIONS

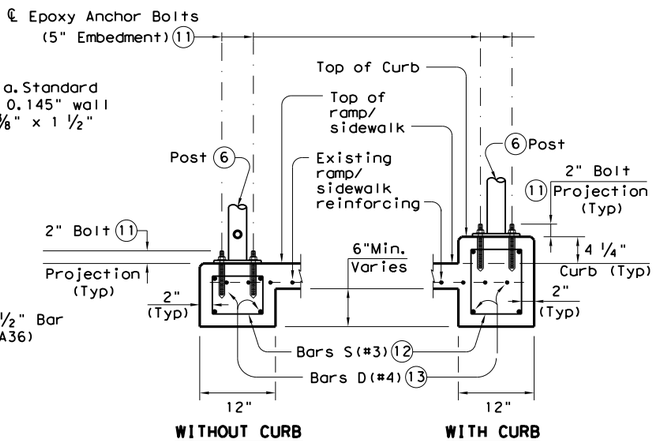


SECTION J-J

(Anchor Bolts not shown for clarity)



SECTION AT WALL MOUNT



WITHOUT CURB

WITH CURB

SECTION AT RAIL POST FOUNDATIONS

GENERAL NOTES

Designed according to ADAAG, Texas Accessibility Standards, Uniform Building Code, and AASHTO LRFD Specifications.

Handrail anchorage details shown on this standard may require modification for select structure types. See appropriate details elsewhere in plans for these modifications.

Pipe will conform to ASTM-A53 Grade B or A500 Grade B. Steel plates and steel bars will conform to ASTM-A36. Mechanical tubing (MT) will conform to ASTM A513 Grade 1015 or higher. Galvanize all steel components except reinforcing steel unless noted otherwise.

Concrete for foundations will be in accordance with Item 531 "Sidewalks". All reinforcing steel must be Grade 60. Bar laps, where required, will be as follows: Uncoated ~ #4 = 1'-5" Epoxy coated ~ #4 = 2'-1"

When the plans require painted steel, follow the requirements for painting galvanized steel in Item 446, "Cleaning and Painting Steel". Sleeve Members will receive galvanization and only get field painted after installation unless directed otherwise by Engineer.

Epoxy Anchor bolts for wall mount and post base plate will be ⅝" Dia. ASTM A36 threaded rods with one hex nut and one hardened steel washer at each bolt. ⅝" Dia. threaded rod embedment depth for wall mounts is 3 ½" and embedment depth for post base plate is 5".

Embed threaded rods into concrete with a Type III (Class C) epoxy meeting the requirements of DMS-6100, "Epoxies and Adhesives". Mix and dispense adhesive with the manufacturer's static mixing nozzle/dual cartridge system. Core drill holes (percussion drilling not permitted).

At the contractor's option the post base plate anchor bolts may be cast with the Ramp/Sidewalk (See Cast-in-Place Anchor Bolt Options).

Optional cast-in-place anchor bolts will be ⅝" Dia ASTM A307 Grade A bolts (or A36 threaded rods with one tack welded hex nut each) with one hex nut and one hardened steel washer at each bolt. Embedment depth of cast-in-place bolt will be 8" for post base plate.

Handrails and any wall or other surface adjacent to them will be free of any sharp or abrasive elements.

Submit shop drawings to the Engineer unless otherwise noted. For curved handrail applications, fabricate the handrail to the curve if radius is less than 600 ft. Shop drawings are required when rail is fabricated to the curve.

For all handrails, erection drawings will be submitted to the Engineer for approval to ensure proper installation.

Drawings will show handrail mount locations with bolts setting, spacing, ramp slope, and/or splice joint locations, and handrail lengths with identification showing where each handrail goes on the layout.

Payment for concrete sidewalks or curb ramps will be paid for in accordance with Item 531 "Sidewalks".

Payment for all items shown is to be included in unit price bid in accordance with Item 450 "Railing" of the type specified.

All exposed edges will be rounded or chamfered to approximately ⅛" by grinding.

TYPICAL WALL MOUNT DETAILS

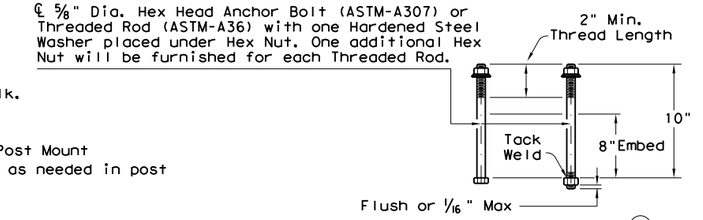
(5) 1 ½" Dia. Standard Pipe (1.900" O.D., 0.145" wall thickness). Parallel to ramp/sidewalk. Provide holes as needed in 1 ½" Dia. pipe for galvanizing drainage and venting.

(6) 2 ½" Dia. Standard Pipe (2.875" O.D., 0.203" wall thickness). Plumb all posts. See "Post Mount Detail" for crimping and trimming post to fit the diamenter of top rail. Provide holes as needed in post for galvanizing drainage and venting.

(11) See "General Notes" for anchor bolt information.

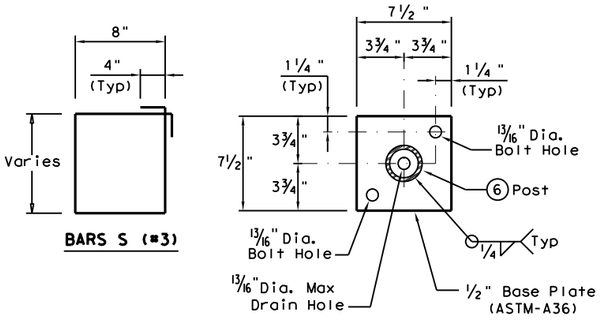
(12) Bars S(#3) spaced at 12" Max (Spaced 3" from outside edge of overall length of Ramp/Sidewalk).

(13) Provide 1 ½" end cover to Bars D(#4) from outside edge of overall length of Ramp/Sidewalk.

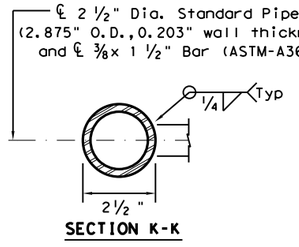


CAST-IN-PLACE ANCHOR BOLT OPTIONS

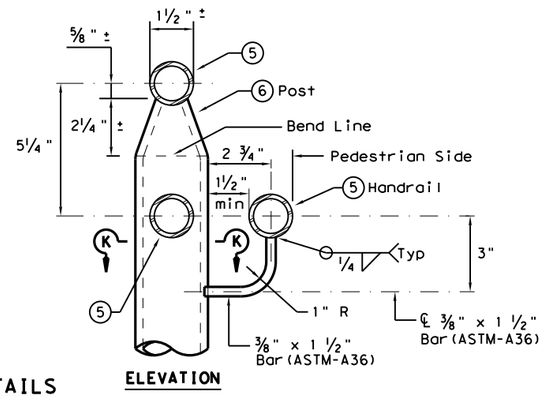
(Used for Post Base Plate only)



TYPICAL POST BASE PLATE DETAIL



SECTION K-K



ELEVATION

POST MOUNT DETAILS

SHEET 3 OF 3

Texas Department of Transportation

Design Division Standard

PEDESTRIAN HANDRAIL DETAILS

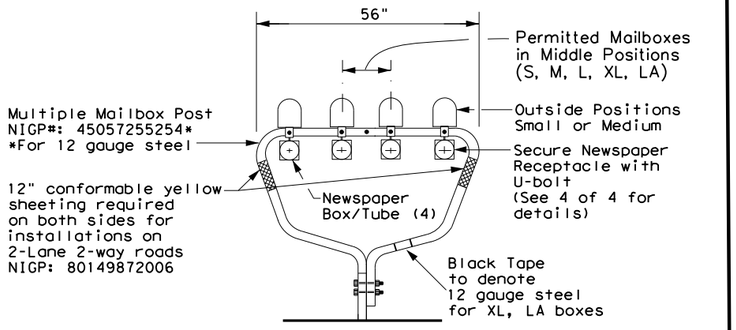
PRD-13

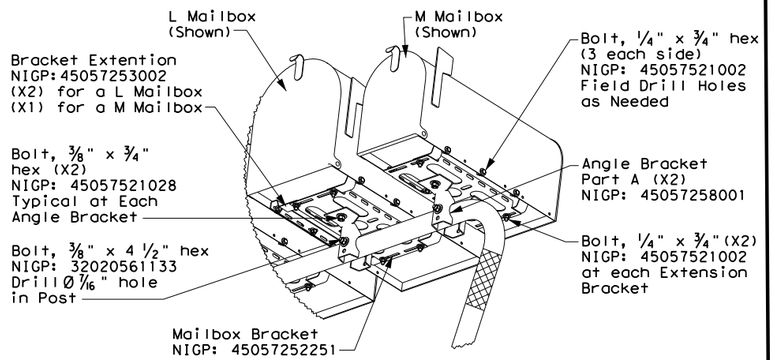
FILE: prd13.dgn	DN: TxDOT	CK: AM	DW: JTR	CK: CGL
©TxDOT December 2006	CONT	SECT	JOB	HIGHWAY
REVISIONS	0918	11	110	VARIOUS
REVISED MAY, 2013 (VP)	DIST	COUNTY		SHEET NO.
	DAL	KAUFMAN, ETC		106

DATE: 5/28/2024
FILE: c:\pw\kni\d0251481\prd13.dgn

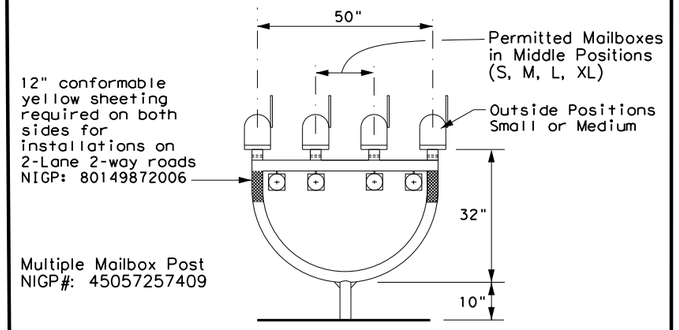
DATE:
FILE:

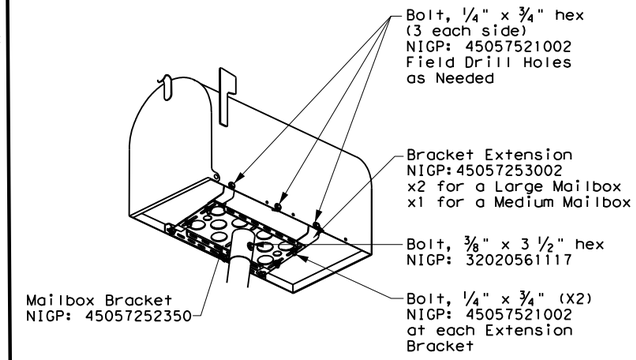
TYPE 1 - MULTIPLE





TYPE 4 - MULTIPLE





MAILBOX SIZES

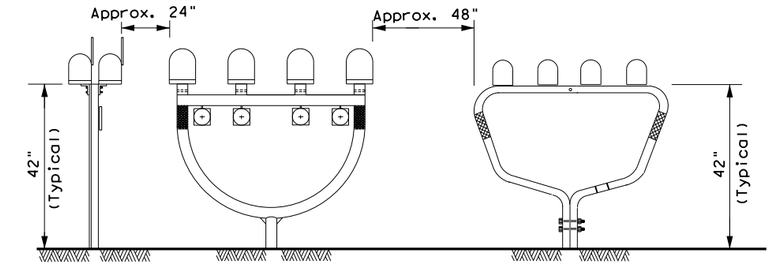
MAILBOX SIZE	TYPICAL DIMENSIONS			MAX **
	LENGTH	WIDTH	HEIGHT	WEIGHT
SMALL	19 1/2"	6"	7"	6 LBS
MEDIUM	22 1/2" *	8" *	11 1/2" *	8 LBS
LARGE	23 1/2"	11 1/2"	13 1/2"	11 LBS
EXTRA LARGE	18"	14"	12"	13 LBS
LOCKABLE	18"	11 1/2"	15"	23 LBS

* See Note 1.
** Excluding Molded Plastic on 4 X 4 Post

GENERAL NOTES:

1. Dimensions shown (length, width, and height) are typical, not maximums. However, anytime a medium size mailbox is mounted on a single/double mount or on the outside position on a multi mount, the dimensions shown are maximums.
2. Mailboxes shall be made of light weight sheet metal or light weight plastic. Heavy steel, cast iron or decorative mailboxes shall not be used on the state highway system.

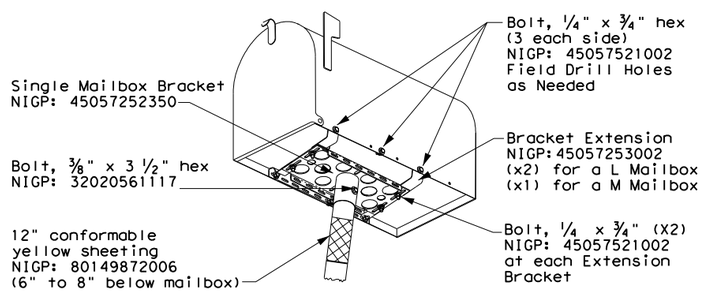
TYPICAL INSTALLATION MEASUREMENTS

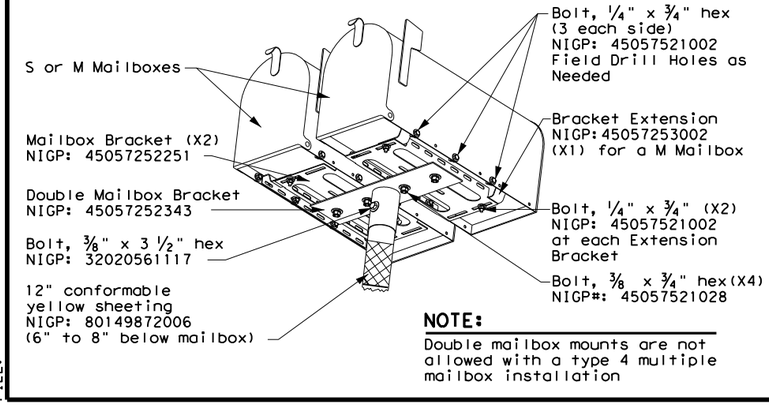


NOTE:

Mailbox installations in sidewalk areas shall be in accordance with the latest TxDOT Design Standard sheets PED-Pedestrian Facilities Curb Ramps.

TYPE 2 and 4 - SINGLE/DOUBLE

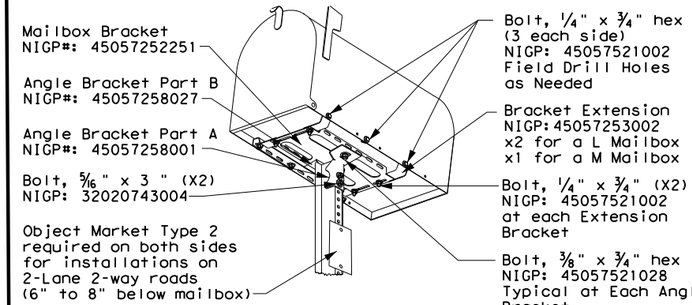


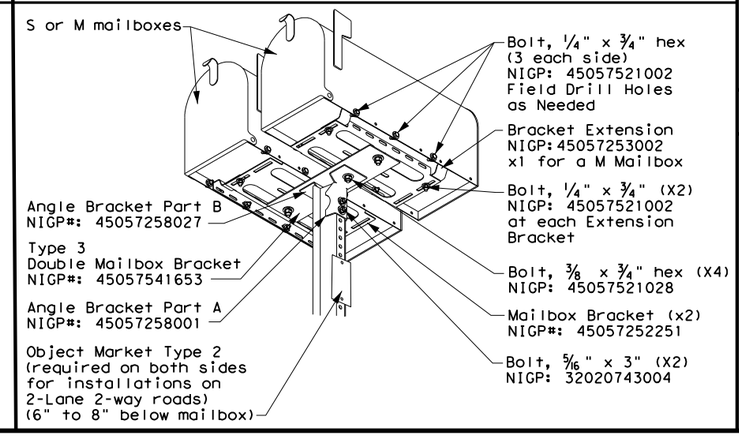


NOTE:

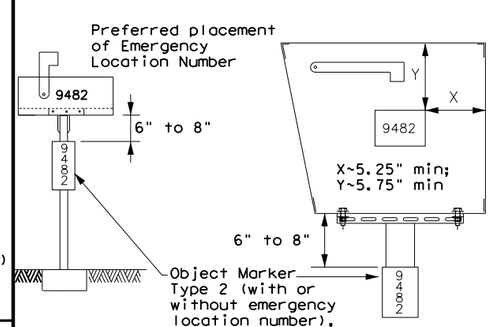
Double mailbox mounts are not allowed with a type 4 multiple mailbox installation

TYPE 3 - SINGLE/DOUBLE





PLACEMENT OF EMERGENCY LOCATION NUMBER

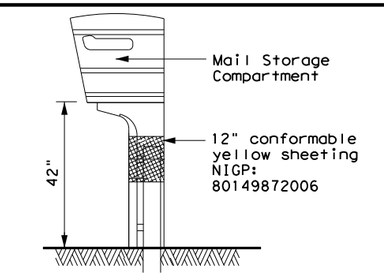


NOTES:

1. Location numbers are provided by homeowner. Minimum size 1" height.
2. Location number is typically placed on the mailbox in a contrasting color.
3. Black numbers may be placed on the Type 2 object marker if the numbers cannot be placed on the mailbox.
4. Alternatively, a green or blue plate with white numbers attached may be mounted below the object marker. Other contrasting color configuration, as approved, may be used.
5. See 3 of 4 for Foundation details.
6. See 4 of 4 for Hardware details.

SHEET 1 OF 4

TYPE 5



Typical Molded Plastic Mailbox

Texas Department of Transportation

Maintenance Division Standard

MAILBOX MOUNTING AND ASSEMBLY

MB(1)-21

FILE: MB-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT March 2004	CONT	SECT	JOB	HIGHWAY
REVISIONS 2/2005 11/2009 4/2015 6/2005 1/2011 11/2006 7/2014	0918	11	110	VARIOUS
	DIST	COUNTY		SHEET NO.
	DAL	KAUFMAN, ETC		107

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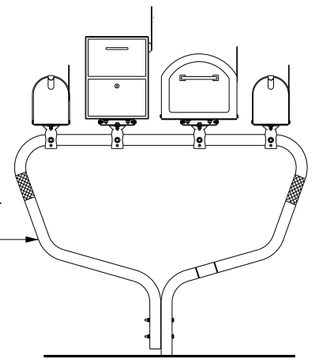
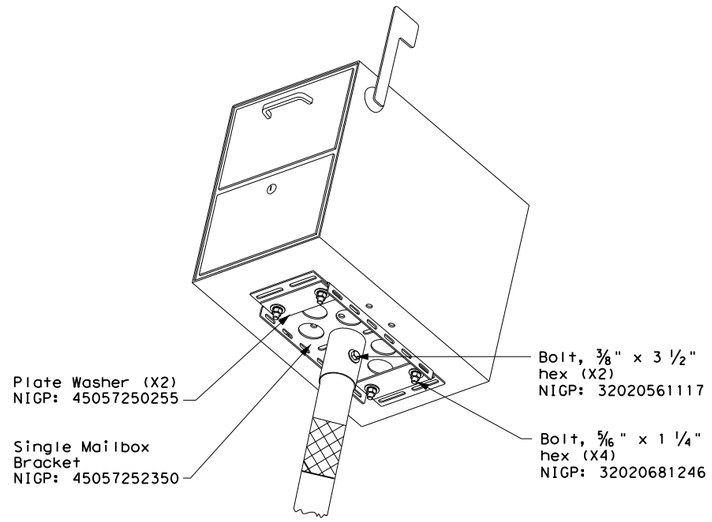
DATE:
FILE:

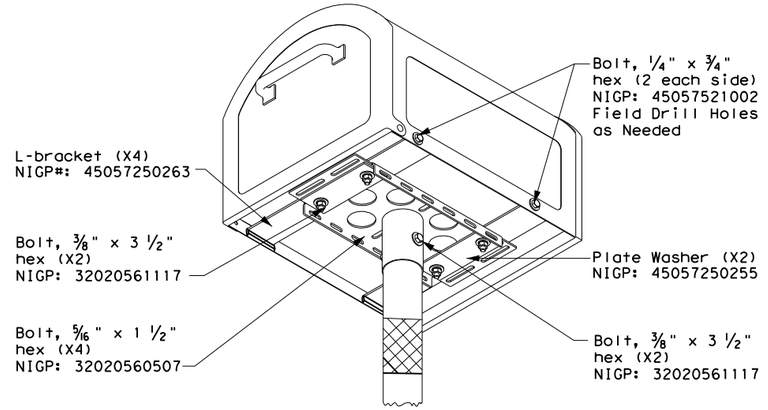
TYPE 1- MULTI LOCKABLE AND XL MAILBOX



TYPE 2/4 - SINGLE LOCKABLE MAILBOX

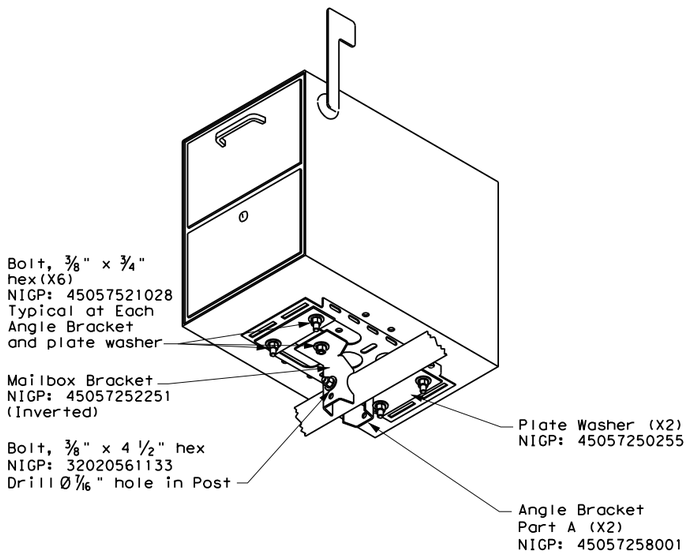


TYPE 2/4 - SINGLE XL MAILBOX

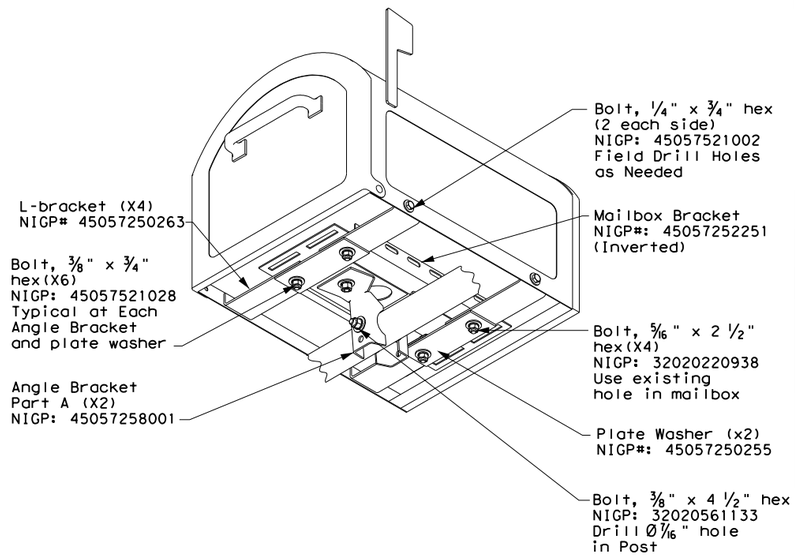


NOTE:
Follow same configuration when mounting an XL mailbox on a Type 4 multi post.

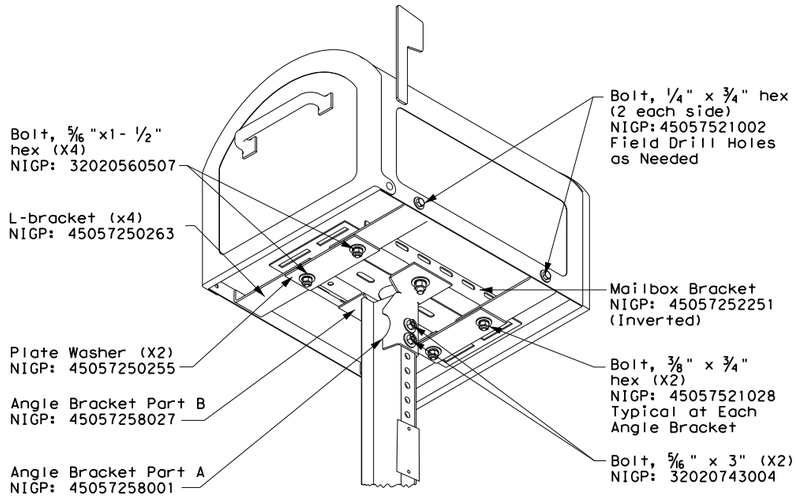
TYPE 1 MULTI – LOCKABLE ARCHITECTURAL (LA)



TYPE 1 MULTI – XL MAILBOX



TYPE 3 - XL MAILBOX MOUNTING



Texas Department of Transportation

Maintenance Division Standard

XL AND LOCKABLE ARCHITECTURAL MAILBOX ASSEMBLY

MB(2)-21

FILE: MB-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT March 2004	CONT	SECT	JOB	HIGHWAY
REVISIONS 2/2005 11/2009 4/2015 6/2005 1/2011 11/2006 7/2014	0918	11	110	VARIOUS
	DIST	COUNTY		SHEET NO.
	DAL	KAUFMAN, ETC		108

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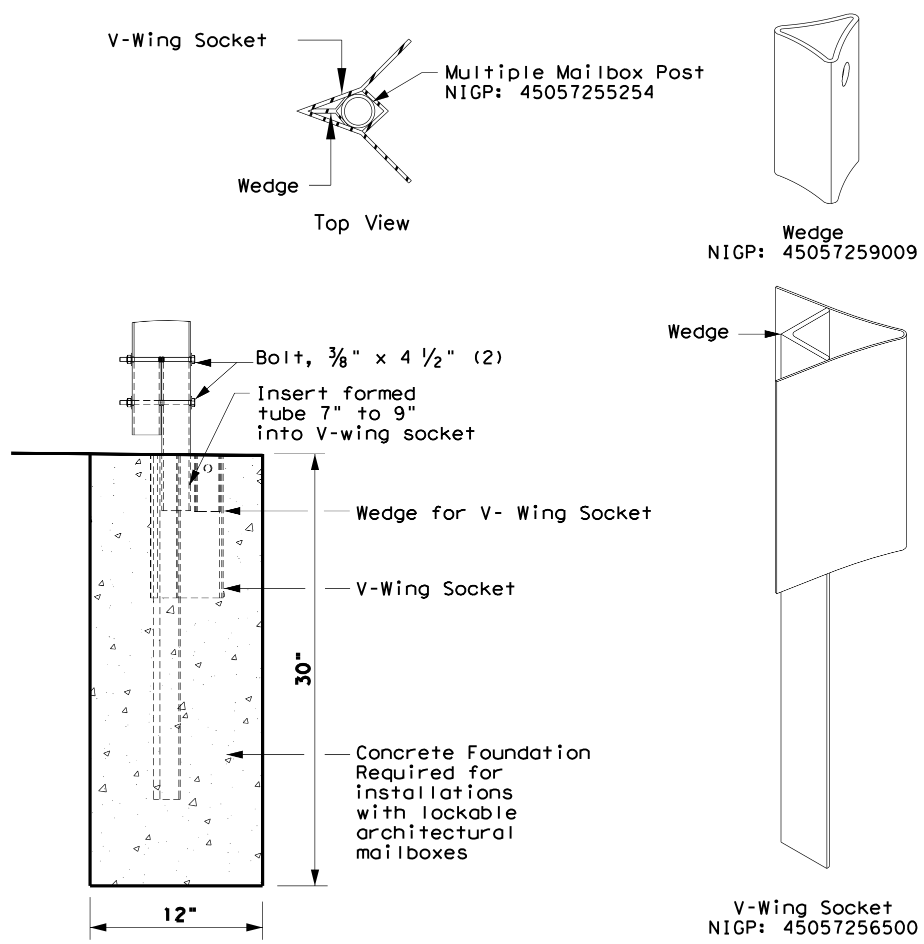
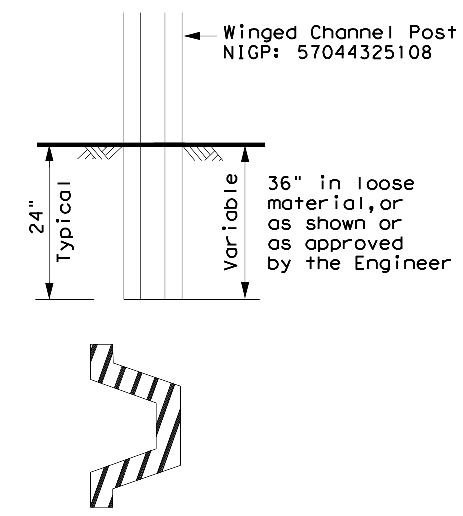
TYPE 1 - SUPPORT/FOUNDATION
Thin Wall Tube w/ V-LOC Anchorage



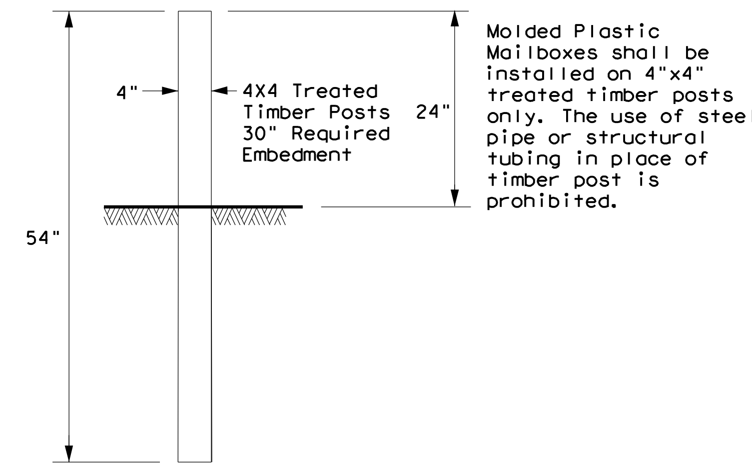
TYPE 3 - SUPPORT/FOUNDATION



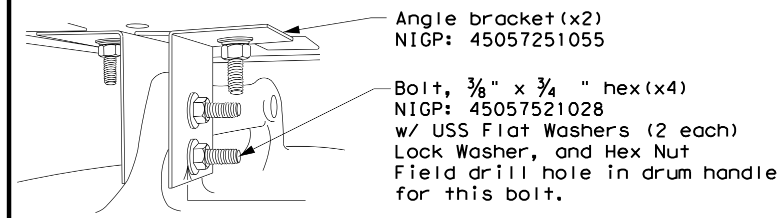
NOTES:

1. Attach Object Marker (OM) facing direction of traffic.
2. OM will also be required on opposite side if installed on a 2-Lane, 2-Way roadway.

TYPE 5 - SUPPORT/FOUNDATION



TYPE 6 - TEMPORARY MAILBOX SUPPORT



Plastic Drum NIGP: 55093383655
Rubber Collar NIGP: 55093387102

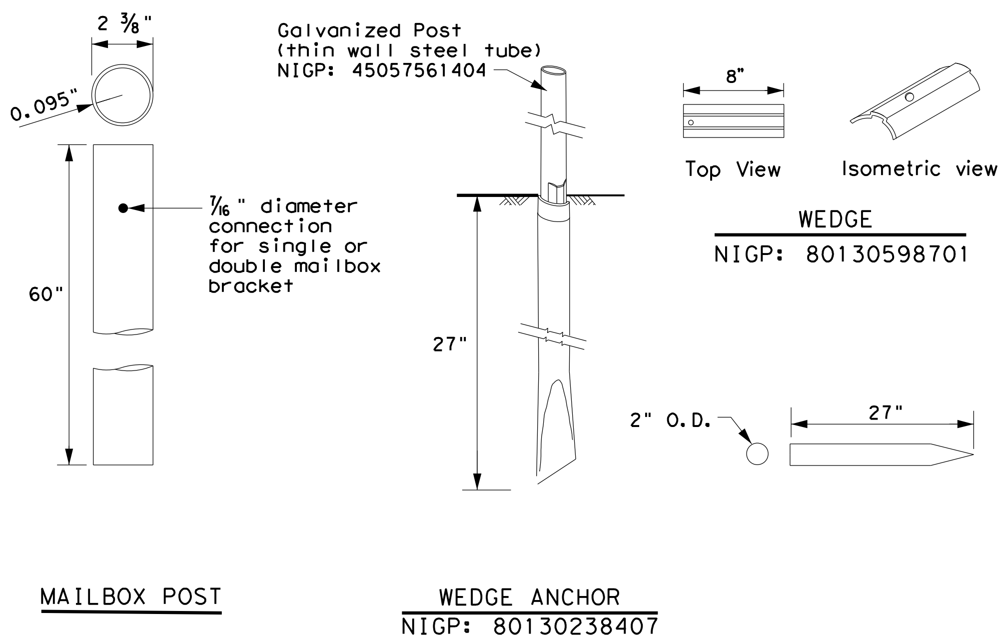
NOTES:

1. Place on approved plastic drum as shown in the Compliant Work Zone Traffic Control Devices (CWZTCD).
2. Existing attachment hardware shall be used unless damaged. Damaged hardware shall be replaced.

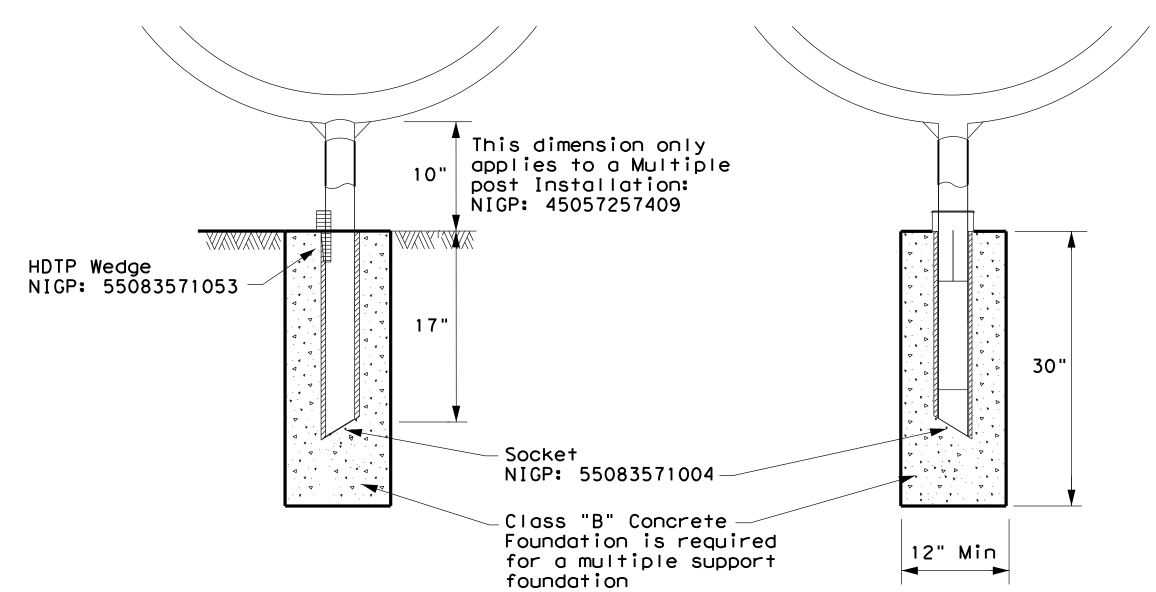
GENERAL NOTES:

1. Erect post plumb or vertical.
2. When galvanized part is required galvanize in accordance with Item 445.
3. Use a concrete footing as shown or when directed. Concrete footing will be required when soils do not hold the support/foundations in a stable condition, only on Type 1, Type 2, and Type 4

TYPE 2 - SUPPORT/FOUNDATION
Thin Wall Steel Tube w/Wedge Anchor System



TYPE 4 - SUPPORT/FOUNDATION
Whitecoated steel post NIGP: 45057561107
Multiple post NIGP: 45057257409
Recycled Rubber post (RR) NIGP: 45057561057



SHEET 3 OF 4

Texas Department of Transportation | Maintenance Division Standard

MAILBOX SUPPORT AND FOUNDATION

MB(3)-21

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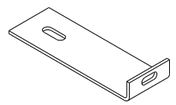
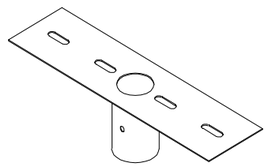
REVISIONS 2/2005 11/2009 4/2015	0918	11	110	VARIOUS
6/2005 1/2011	DIST		COUNTY	SHEET NO.
11/2006 7/2014	DAL		KAUFMAN, ETC	109

DATE: 5/28/2024 3:11:13 PM
FILE: c:\pw\...\mb21(1).dgn

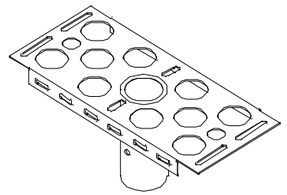
TYPE	TYPE 1	TYPE 2	TYPE 3	TYPE 4			TYPE 5	TYPE 6
Configuration	Multiple	Single or Double	Single or Double	Single	Double	Multiple	Single	Single
Mailbox Size NIGP #	Outside Position: S or M Inside Position: S, M, L, XL, or LA	Single: S, M, L, XL, or LA Double: SS, SM, MM	Single: S, M, L, or XL Double: SS, SM, MM	S, M, L, XL, or LA	SS, SM, or MM	Outside Position: S or M Inside Position: S, M, L, or XL	Molded Plastic	S, or M
Mailbox Post NIGP #	45057255254 (Galvanized Multiple)	45057561404 (Thin Walled Gavanize)	57044325108 (Wing Channel Post)	45057561107 (Thin walled white powder coated) 45057561057 (Recycled Rubber Post: S or M only)	45057561107 (Thin Walled White Powder Coated)	45057257409 (White Powder Coated Multiple)	4x4 Timber	Construction Barrel
Post and Mailbox Hardware NIGP #	45057259009 (Wedge) 45057256500 (V-Wing Socket) 45057253002 (Bracket Extension) 45057252251 (Mailbox Bracket) 45057258001 (Part A Angle Bracket x2) 45057250255 (Plate Washer for XL/LA x2) 45057250263 (L-Bracket for XL x4)	80130598701 (Wedge) 80130238407 (Wedge Anchor) 45057253002 (Bracket Extension) 45057252343 (Double MB Bracket) 45057252350 (S. Mailbox Bracket) 45057252251 (Mailbox Bracket) 45057250255 (Plate Washer for XL/LA x2) 45057250263 (L-Bracket forXL x4)	45057541653 (Type 3 Double Mailbox Bracket) 45057252251 (Mailbox Bracket) 45057253002 (Bracket Extension) 45057258001 (Part A Angle Bracket) 45057258027 (Part B Angle Bracket) 45057250255 (Plate Washer for XL x2) 45057250263 (L-Bracket for XL x4)	55083571053 (Wedge) 55083571004 (Socket) 45057252350 (Single Mailbox Bracket) 45057253002 (Bracket Extension) 45057250255 (Plate Washer for XL/LA x2) 45057250263 (L-Bracket for XL x4)	55083571053 (Wedge) 55083571004 (Socket) 45057253002 (Bracket Extension) 45057252343 (Double Mount Bracket) 45057252251 (Mailbox Bracket x2)	55083571053 (Wedge) 55083571004 (Socket) 45057253002 (Bracket Extension) 45057252350 (Single Mount Bracket) 45057250255 (Plate Washer for XL x2) 45057250263 (L-Bracket for XL x4)	None	45057251055 Angle Bracket (x2)
Foundation Used	Class B Concrete (Required for LA Mailboxes)	Class B Concrete (Required for LA Mailboxes)	None	Class B Concrete (not used with recycled rubber post, required for LA Mailboxes)	Class B Concrete (not required)	Class B Concrete	None	None



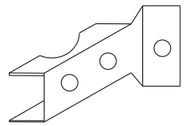
NIGP: 45057250263
L-Bracket x4 for
XL sized mailboxes



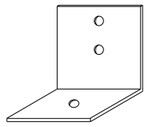
NIGP: 45057252343
Double Mailbox Bracket
For Type 2 and Type 4
double mount



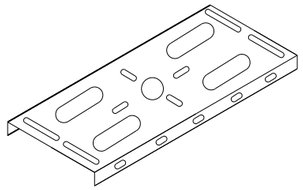
NIGP: 45057252350
Single Mailbox Bracket
For Type 2 single and for
Type 4 single and multi mount



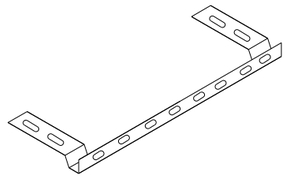
NIGP: 45057258001
Part "A" Angle Bracket
For Type 1 multi (2 per mailbox)
and Type 3 single and double



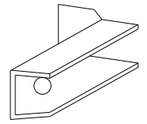
NIGP: 45057251055
Type 6 Angle Bracket
(2 per mailbox)



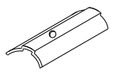
NIGP: 45057252251
Mailbox Bracket
For Type 1 multi and
any double mount (use 2)



NIGP: 45057253002
Bracket Extension
Use 1 for a medium Mailbox
Use 2 for a Large Mailbox



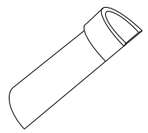
NIGP: 45057258027
Part "B" Angle Bracket
For Type 3 single
and double



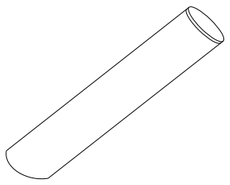
NIGP: 80130598701
Wedge for Type 2

NIGP: 45057250255
Plate Washer for Architecural
and XL Mailboxes

NIGP: 45057541653
Type 3 double mailbox bracket

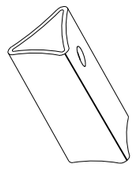


NIGP: 55083571053
Type 4 Mailbox Wedge

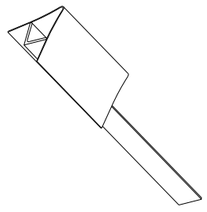


NIGP: 55083571004
Type 4 Mailbox Socket

NIGP: 80130238407
Type 2 Wedge Anchor



NIGP: 45057259009
Wedge for Type 1 V-wing Socket



NIGP: 45057256500
V-wing Socket for
Type 1 Foundation

NIGP #	OBJECT MARKERS AND CONFORMABLE SHEETING
55008311759	Type 2 OM 4"x4" (3 Needed) for Type 3 Wing Channel Post
55008312906	Type 2 OM 6"x12" (1 needed) for Type 3 Wing Channel Post
80149872006	12" Conformable Reflective Yellow Sheeting for Flexible Posts

NOTES:

1. Type 2 object marker in accordance with Traffic Engineering Standard Delineators & Object Markers.
2. A light weight receptacle for newspaper delivery can be attached to mailbox posts if the receptacle does not touch the mailbox, present a hazard to traffic or delivery of the mail, extend beyond the front of the mailbox, or display advertising, except the publication title.

BID CODES FOR CONTRACTS

MB-(X) ASSM TY (XXX) (X)

Type of Mailbox
- S = Single
- D = Double
- M = Multiple
- MP = Molded Plastic

Type of Post
- WC = Winged Channel Post
- RR = Recycled Rubber
- TWW = Thin Walled White Tubing
- TWG = Thin Walled Galvanized Tubing
- TIM = Timber

Type of Foundation
- Ty 1 = V-Loc
- Ty 2 = Wedge Anchor Steel System
- Ty 3 = Winged Channel post
- Ty 4 = Wedge Anchor Plastic System
- Ty 5 = 4 X 4 Post

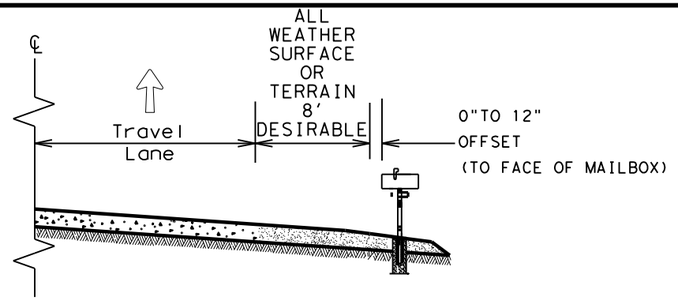
DATE: 5/28/2024 3:14:14 PM
FILE: c:\pw\khl\d0251481\mb-21(1).dgn

Texas Department of Transportation — Maintenance Division Standard

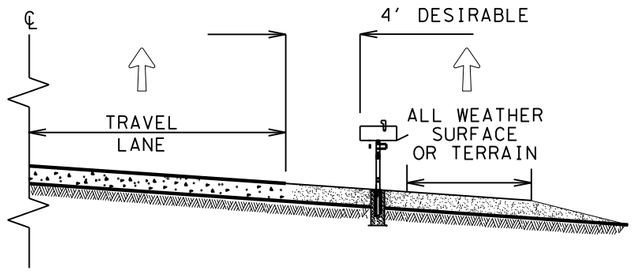
NIGP PARTS LIST AND COMPATIBILITY

MB(4)-21

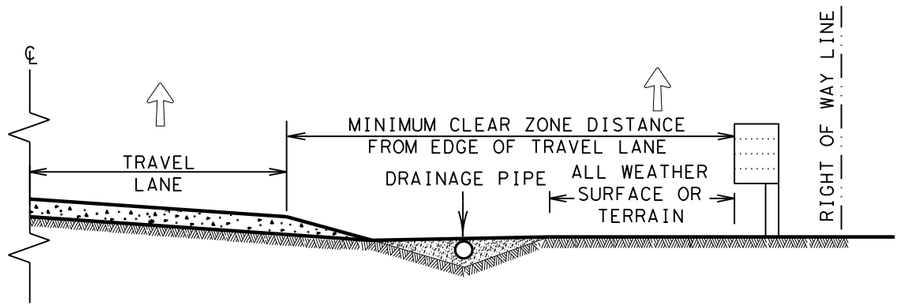
FILE: MB-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT March 2004	CONT	SECT	JOB	HIGHWAY
REVISIONS 2/2005 11/2009 4/2015 6/2005 1/2011 11/2006 7/2014	0918	11	110	VARIOUS
	DIST	COUNTY		SHEET NO.
	DAL	KAUFMAN, ETC		110



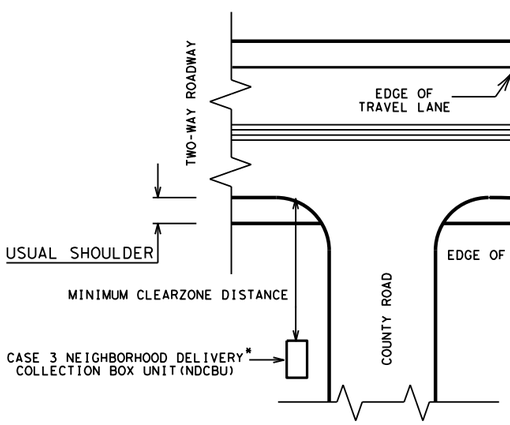
CASE 1. OFF TRAVEL WAY DELIVERY

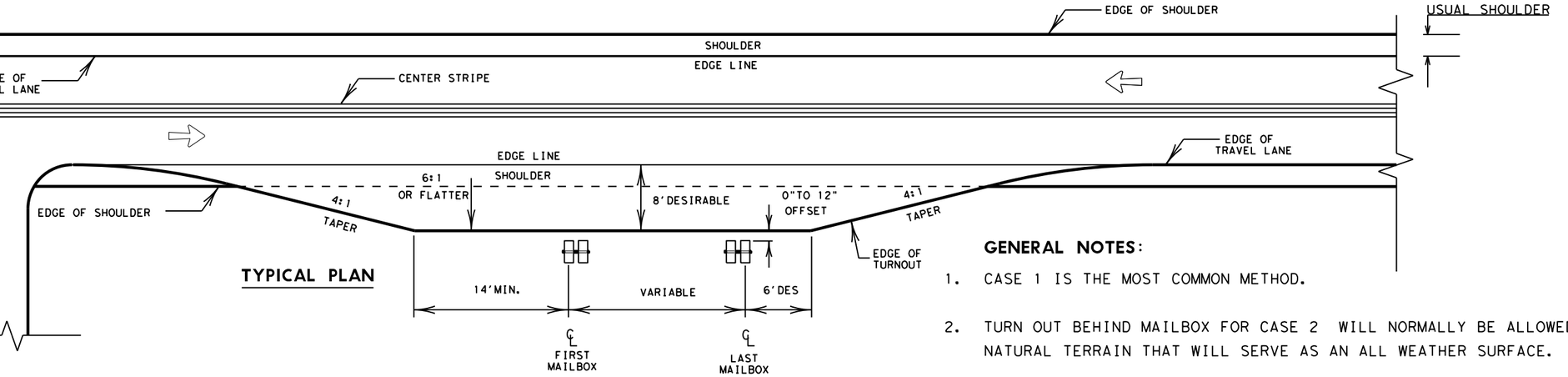


CASE 2. BACK SIDE DELIVERY

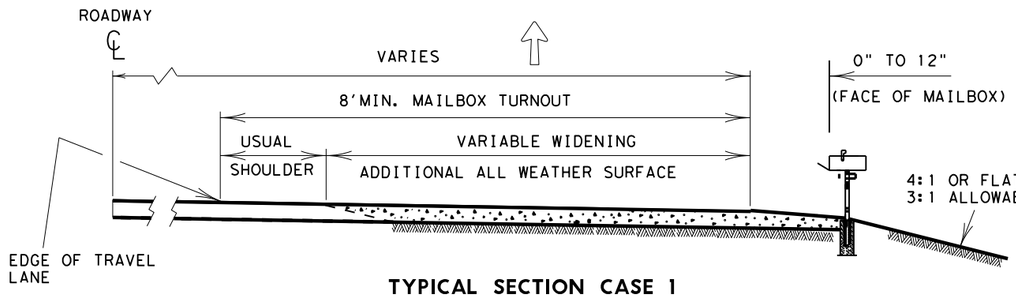


CASE 3. DELIVERY NEAR RIGHT OF WAY LINE





TYPICAL PLAN



TYPICAL SECTION CASE 1

GENERAL NOTES:

1. CASE 1 IS THE MOST COMMON METHOD.
2. TURN OUT BEHIND MAILBOX FOR CASE 2 WILL NORMALLY BE ALLOWED FOR NATURAL TERRAIN THAT WILL SERVE AS AN ALL WEATHER SURFACE.
3. ALL WEATHER DRIVEWAYS FOR CASE 3 MAILBOXES LOCATED AT THE RIGHT OF WAY LINE SHOULD NORMALLY BE PLACED IN CONJUNCTION WITH COUNTY ROADS OR OTHER CONNECTING COMMUNITY ROADS OR STREETS. WHEN 3 OR MORE MULTI-RACKS ARE ANTICIPATED, THE USE OF AN NDCBU IS RECOMMENDED. ONLY RURAL PATRONS LOCATED ON STATE MAINTAINED HIGHWAYS MAY HAVE A MAILBOX OR NDCBU SLOT ON TXDOT RIGHT OF WAY.

*NDCBU MAY BE INSTALLED ON COUNTY ROAD ROW WITH APPROVAL OF COUNTY.

MAIL DELIVERY VEHICLE TRAVEL DIRECTION

Texas Department of Transportation | Maintenance Division Standard

Guideline

MAILBOX SIDE ROAD PLACEMENT AND TURNOUTS

MBP(1)-22

FILE: MBP-22.DGN	DN: VS	CK:	DW: VS	CK:
© TxDOT OCTOBER 2022	CONT	SECT	JOB	HIGHWAY
REVISIONS 12/2012 5/2014	0918	11	110	VARIOUS
	DIST	COUNTY		SHEET NO.
	DAL	KAUFMAN, ETC		111

DATE: 5/28/2024 3:14:43 PM
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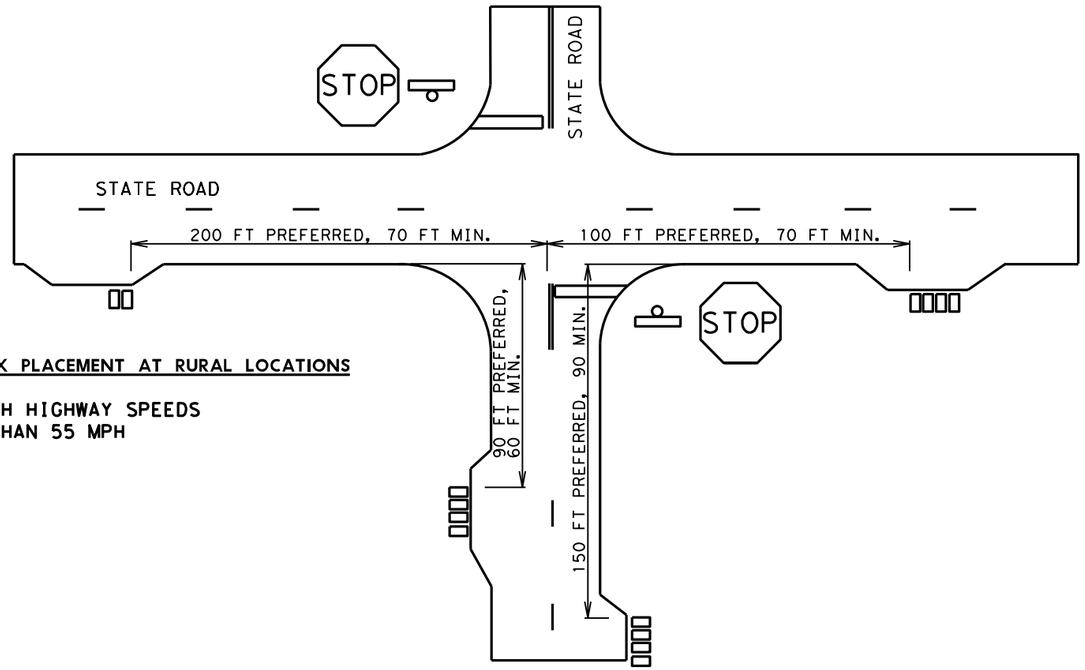
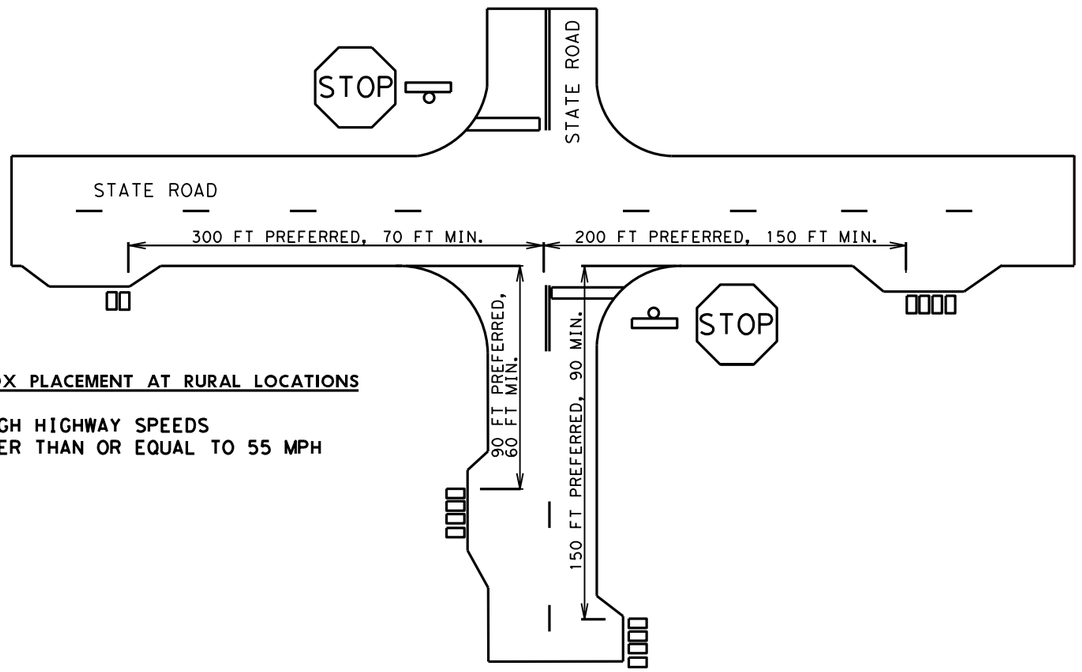


MAILBOX PLACEMENT AT RURAL LOCATIONS

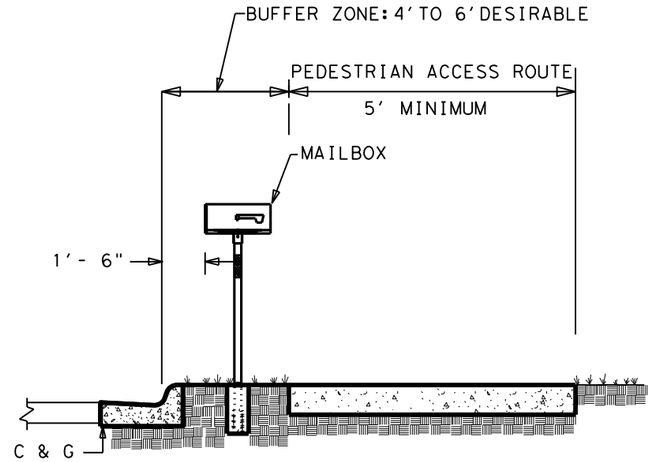
THROUGH HIGHWAY SPEEDS
LESS THAN 55 MPH



MAILBOX PLACEMENT AT RURAL LOCATIONS

THROUGH HIGHWAY SPEEDS
GREATER THAN OR EQUAL TO 55 MPH

CURB AND GUTTER MAILBOX INSTALLATION



NOTES:
1. A NON-TRAVERSABLE SURFACE MUST BE INSTALLED NEAR THE MAILBOX (NATURAL VEGETATION OR OTHER) IN THE BUFFER ZONE. ALTERNATIVELY, A BASE WITH A MINIMUM HEIGHT OF 2.5 INCHES MAY BE INSTALLED SO THAT THE EDGE OF THE MAILBOX DOES NOT EXTEND OUT MORE THAN 4 INCHES HORIZONTALLY BEYOND THE BASE.

2. THE SIDEWALK WIDTH MAY BE REDUCED TO 4 FOOT FOR SHORT DISTANCES AROUND THE MAILBOX IF NEEDED.

3. MAINTAIN A MINIMUM OF 5 FEET BETWEEN OBSTRUCTIONS IN THE PEDESTRIAN ACCESS ROUTE.

Texas Department of Transportation | Maintenance Division Standard

MAILBOX PLACEMENT CURBS & INTERSECTIONS

MBP(2)-22

FILE: MBP-22.DGN	DN: VS		CK:	DW: VS		CK:	
	CONT	SECT	JOB		HIGHWAY		
REVISIONS 12/2012 5/2014	0918	11	110		VARIOUS		
	DIST	COUNTY				SHEET NO.	
	DAL	KAUFMAN, ETC				112	

DATE: 5/28/2024 3:14:43 PM
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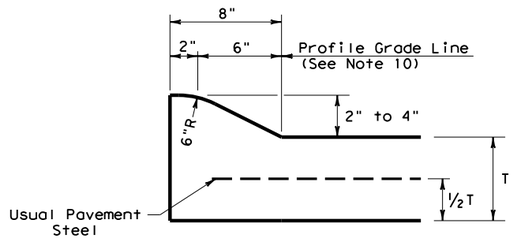
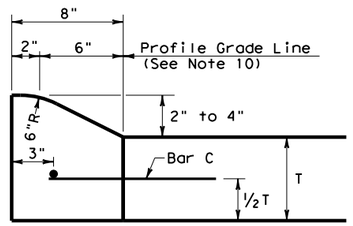
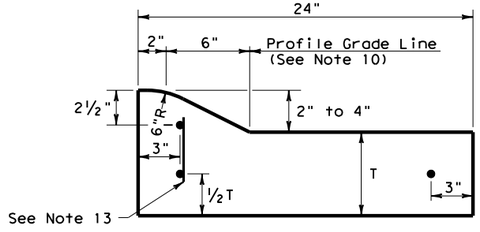


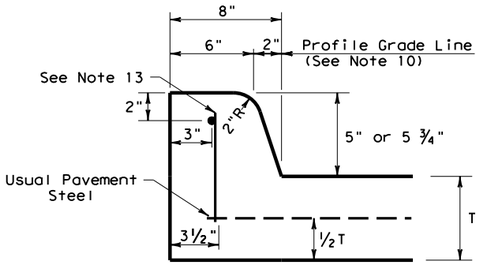
TYPE I CURB (MONOLITHIC)
2" - 4" HEIGHT



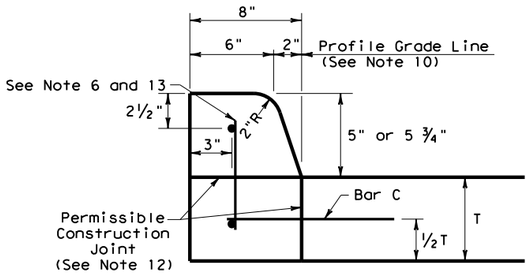
TYPE I CURB
2" - 4" HEIGHT



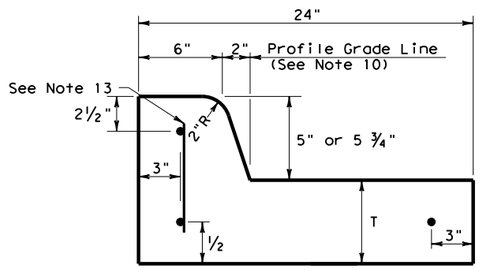
TYPE I CURB AND GUTTER
2" - 4" HEIGHT



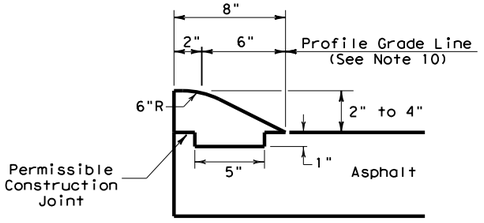
TYPE II CURB (MONOLITHIC)
5" - 5 ¾" HEIGHT



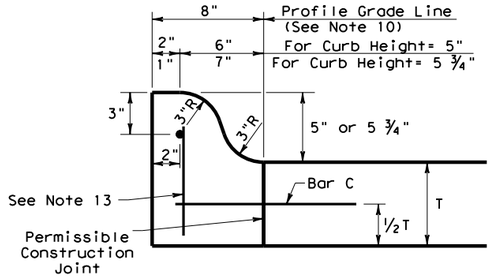
TYPE II CURB
5" - 5 ¾" HEIGHT



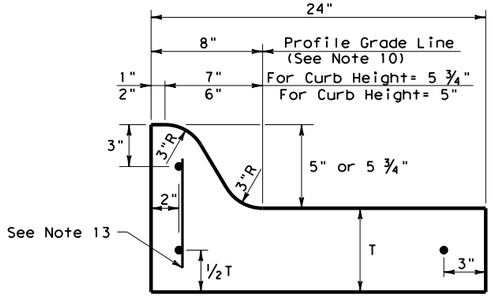
TYPE II CURB AND GUTTER
5" - 5 ¾" HEIGHT



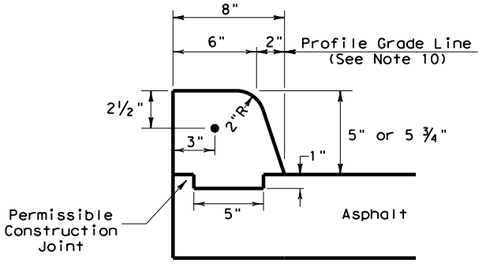
TYPE III CURB (KEYED)
2" - 4" HEIGHT



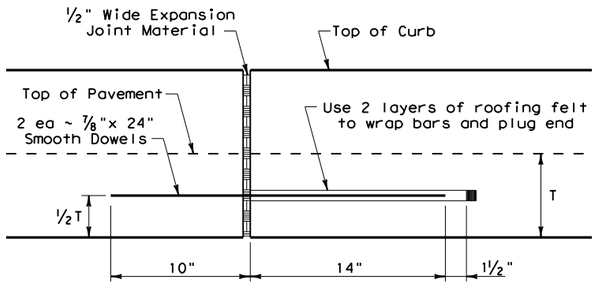
TYPE IIa CURB
5" - 5 ¾" HEIGHT



TYPE IIa CURB AND GUTTER
5" - 5 ¾" HEIGHT

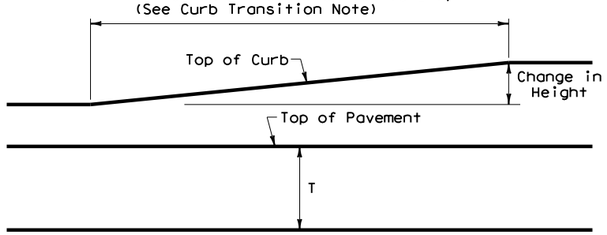


TYPE IV CURB (KEYED)
5" - 5 ¾" HEIGHT



EXPANSION JOINT DETAIL

CURB TRANSITION NOTE:
Field conditions may require a longer or shorter transition, and shall be shown elsewhere in the plans, or as directed by the Engineer.

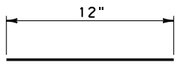


CURB TRANSITION
Note: To be paid for as Highest Curb

GENERAL NOTES

1. All materials and construction shall be in accordance with Item 529, "Concrete Curb, Gutter, and Combined Curb and Gutter."
2. Concrete shall be Class A.
3. When reinforcing bars are used, they shall be No.4 unless otherwise shown. The use of fiber reinforced concrete in lieu of reinforcing steel is acceptable. Use fibers meeting the requirements of DMS 4550, "Fibers for Concrete," and dose fibers in accordance with Material Producers List (MPL) "Fibers for Class A and B Concrete Applications."
4. Round exposed sharp edges with a rounding tool, to a minimum radius of ¼ inch.
5. All existing curbs and driveways to be removed shall be sawed or removed at existing joints.
6. Where concrete curb is to be placed on existing concrete pavement, Bar B may be drilled and grouted in place, or may be inserted into fresh concrete.
7. Expansion and contraction joints shall be constructed to match pavement joints in all curbs and curb and gutter adjacent to jointed concrete pavement. Where placement of curb or curb and gutter is not adjacent to concrete pavement, expansion joints shall be provided at structures, curb returns at streets, and at locations directed by The Engineer.
8. Vertical and horizontal dowel bars and transverse reinforcing bars shall be placed at four feet C~C.
9. Dimension 'T' shown is the thickness of concrete pavement. When curb is installed adjacent to flexible pavement dimension 'T' is 8" maximum.
10. Usual profile grade line. Refer to typical sections and plan-profile sheets for exact locations.
11. One-half inch expansion joint material shall be provided where curb or curb and gutter is adjacent to sidewalk or riprap.
12. When horizontal permissible construction joints are used, the longitudinal pavement steel shall be placed in accordance with pavement details shown elsewhere in the plans. Reinforcing steel for curb section shall then conform to that required for concrete curb.
13. Bar B placement as needed (typically at four ft. C-C) to support curb reinforcing steel during concrete placement.

BAR B



BAR C

Texas Department of Transportation

Design Division Standard

CONCRETE CURB AND CURB AND GUTTER

CCCG-22

FILE: cccg21.dgn	DN: TXDOT	CK: AN	DW: CS	CK: KM
© TxDOT: JUNE 2022	CONT	SECT	JOB	HIGHWAY
REVISIONS	0918	11	110	VARIOUS
	DIST	COUNTY		SHEET NO.
	DAL	KAUFMAN, ETC		113

DATE: 5/28/2024
FILE: c:\pw\khi\d0251481\cccg22.dgn

Size (Y)	N	MH Dia (2)
3'	9"	18"
4'	16"	32"
5'	16"	32"
6'	16"	32"

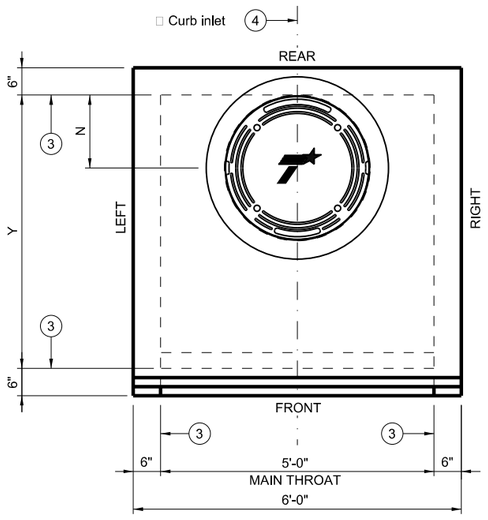
BAR TABLE	
BAR	SIZE
A1	#3
A2	#3
A3 (1)	#3
A4 (1)	#3
B1	#4
B2	#4
B3 (1)	#4
C (1)	#4
G	#4
L (1)	#5
Ra	#5
U1 (1)	#5
U2 (1)	#5

(1) Reinforcing bar used only with extension(s).

(2) Nominal ring and cover size.

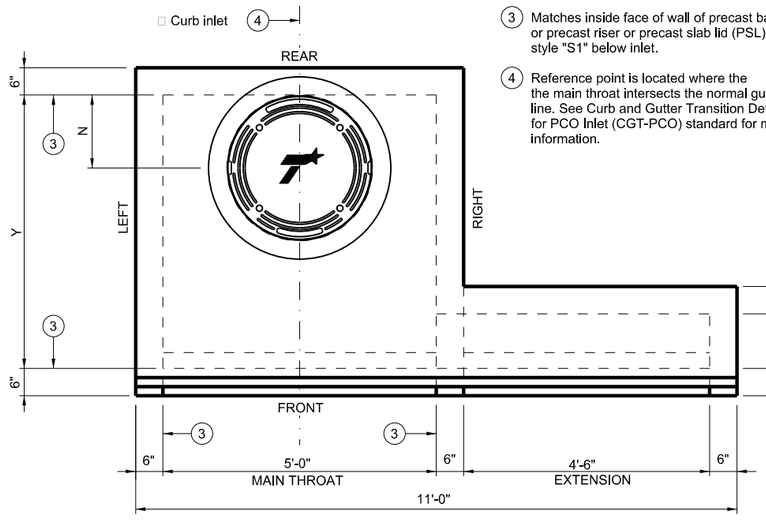
(3) Matches inside face of wall of precast base or precast riser or precast slab lid (PSL) style "S1" below inlet.

(4) Reference point is located where the ℄ of the main throat intersects the normal gutter line. See Curb and Gutter Transition Details for PCO Inlet (CGT-PCO) standard for more information.



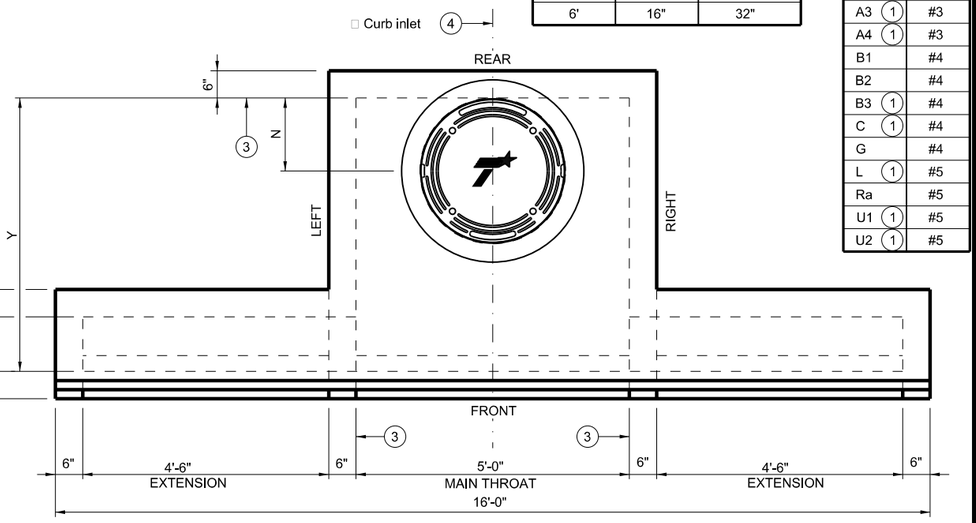
PLAN VIEW

(Shown without extensions.)
See SHEET 2 OF 4 for details.



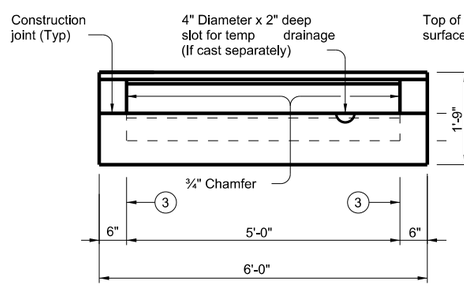
PLAN VIEW

(Showing one extension.)
See SHEET 3 OF 4 for details.



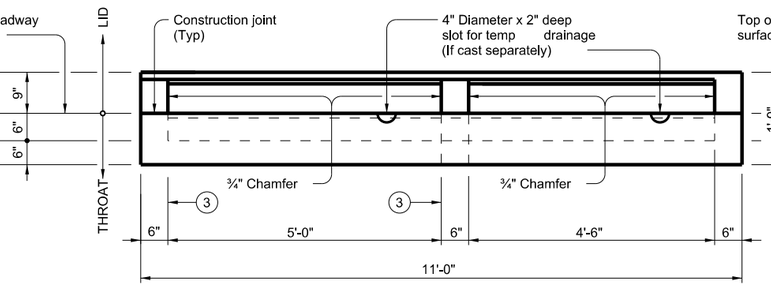
PLAN VIEW

(Showing extension on each side)
See SHEET 4 OF 4 for details.



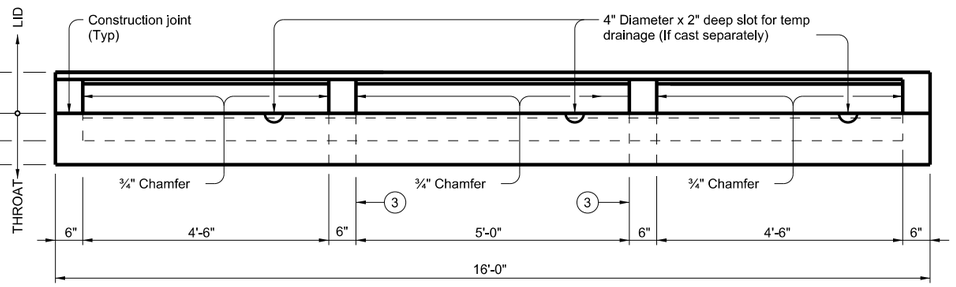
FRONT VIEW

(Shown without extensions.)
See SHEET 2 OF 4 for details.



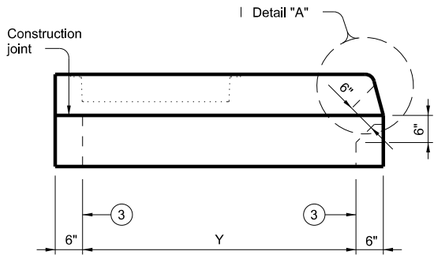
FRONT VIEW

(Showing one extension.)
See SHEET 3 OF 4 for details.



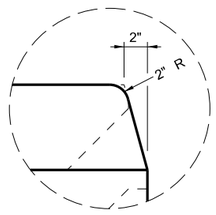
FRONT VIEW

(Showing extension on each side.)
See SHEET 4 OF 4 for details.



LEFT SIDE VIEW

(Extensions not shown for clarity.)



DETAIL "A"

CONSTRUCTION NOTES:

Chamfer all vertical edges of inlet lid 3/4" as shown in Front View, Sheet 1 of 4.
Maintain 1 1/2" clear cover to ends of all vertical reinforcing bars, unless otherwise noted.

MATERIAL NOTES:

Provide Class "S" concrete (f'c = 4,000 psi).
Provide Grade 60 reinforcing steel or equivalent area of WWR.
Provide cast iron solid cover, unless noted otherwise elsewhere in the plans.

GENERAL NOTES:

Designed according to AASHTO LRFD Bridge Design Specifications.
The intent of this standard is to provide a cast-in-place lid to be used with precast base, precast riser or precast slab lid style "S1".
Inlet throat and lid are not intended for direct traffic. Do not place in roadway.
Lid and throat may be cast monolithically or separately.
See Precast Base (PB) standard for details and notes not shown.
See Precast Slab Lid (PSL) standard for details and notes not shown.
See Curb & Gutter Transitions Details (CGT-PCO) standard for transition examples.
Extensions may be right, left, both, or none. Provide extensions as specified elsewhere in the plans.
Shop drawings for approval are not required.
Payment for inlet is per Item 465, "Junction Boxes, Manholes, and Inlets" by type, size, and extension placement. Extensions are subsidiary to inlet.
Open area of main throat = 360 sq in.
Open area of one extension throat = 324 sq in.

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

HL93 LOADING

SHEET 1 OF 4

Texas Department of Transportation

Bridge Division Standard

CAST-IN-PLACE CURB INLET OUTSIDE ROADWAY

CCO

FILE:	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS	0918	11	110	VARIOUS
06-2023: Added reference point.	DIST	COUNTY		SHEET NO.
	DAL	KAUFMAN, ETC		114

DATE: 5/28/2024 3:15:39 PM
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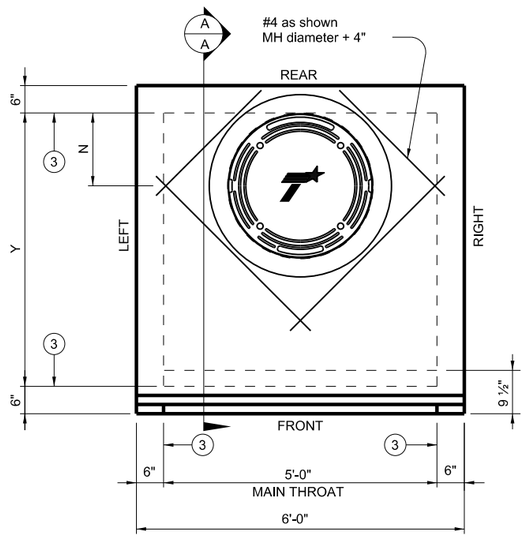
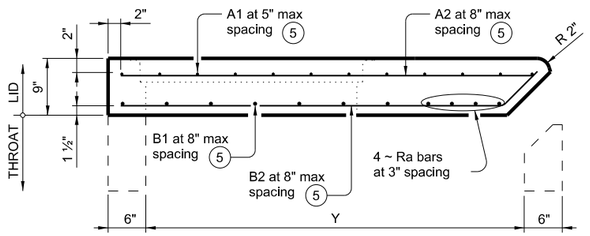
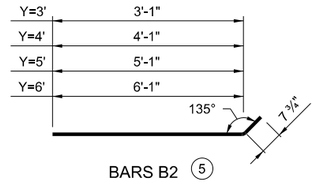


LID PLAN VIEW

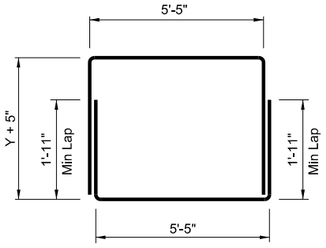
(Shown without extensions)



LID SECTION A-A

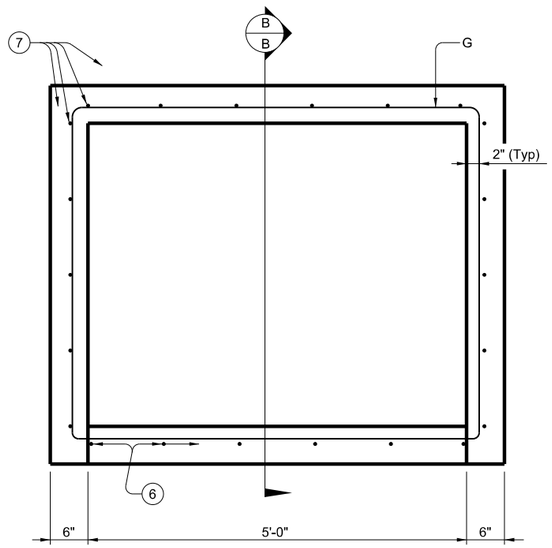


BARS B2 (5)



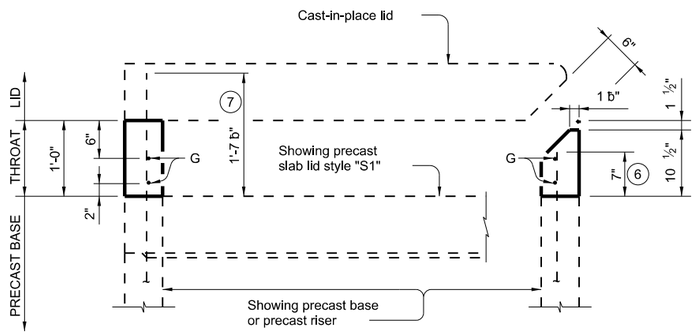
BARS G

Showing one complete bar.



THROAT PLAN VIEW

(Shown without extensions)



THROAT SECTION B-B

(Showing reinforcing bar extended from precast base or precast riser or precast slab lid style "S1".)

(3) Matches inside face of wall of precast base or precast riser or precast slab lid style "S1" below inlet.

(5) Cut reinforcing bars as needed to provide 1 ½" clear to manhole.

(6) Extend reinforcing bars from precast base or precast riser or precast slab lid style "S1" 7".

(7) Extend reinforcing bars from precast base or precast riser or precast slab lid style "S1" 1'-7 b".

HL93 LOADING

Texas Department of Transportation

Bridge Division Standard

CAST-IN-PLACE CURB INLET OUTSIDE ROADWAY

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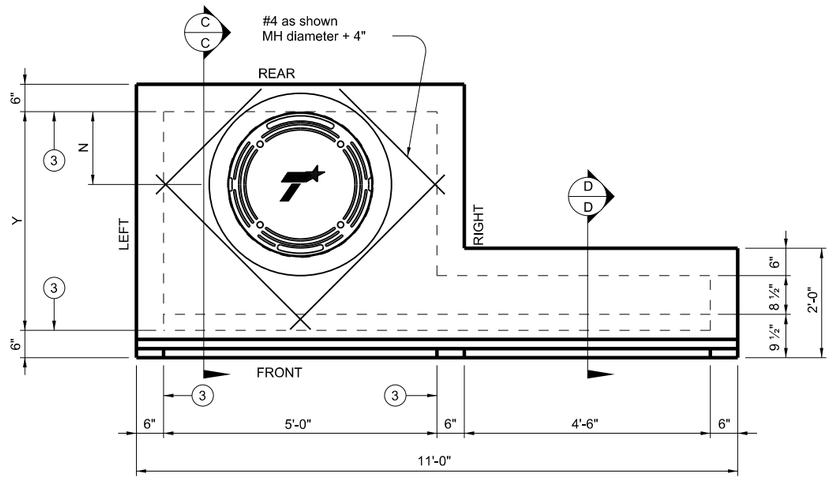
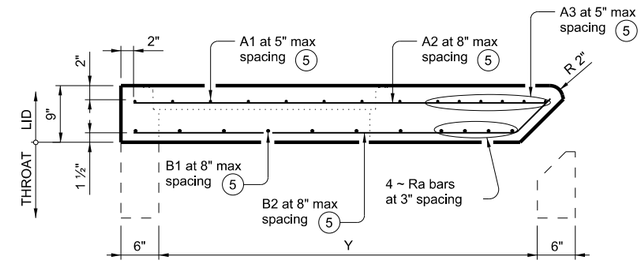
REVISIONS	0918	11	110	VARIOUS
06-2023: Added reference point.	DIST	COUNTY		SHEET NO.
	DAL	KAUFMAN, ETC		115

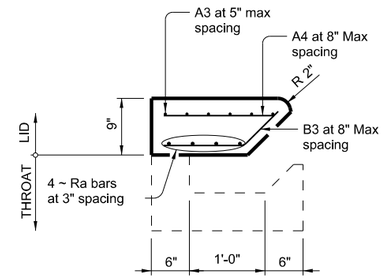


LID PLAN VIEW

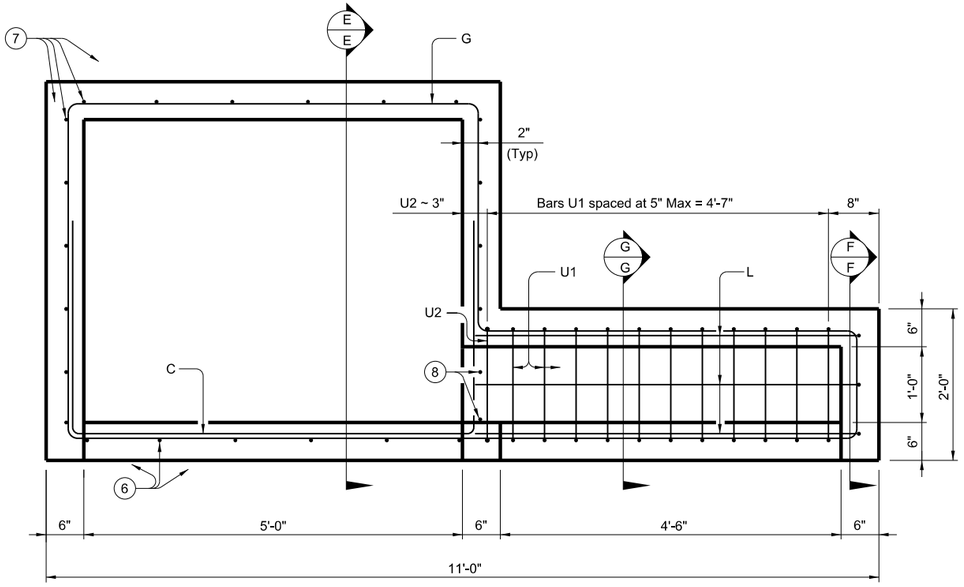
(Showing one extension.)



LID SECTION C-C

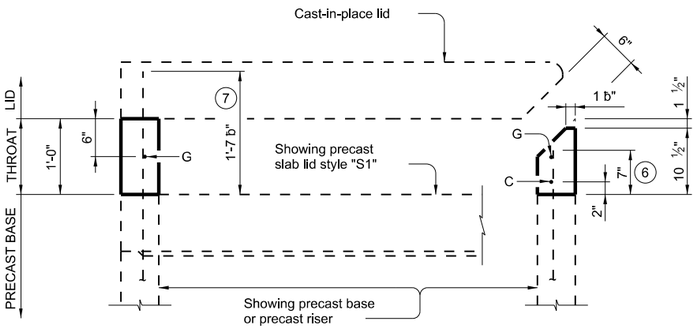


LID SECTION D-D



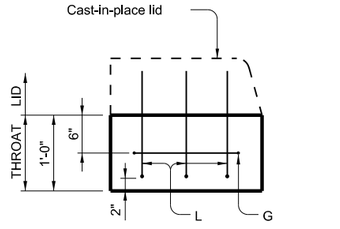
THROAT PLAN VIEW

(Showing one extension.)

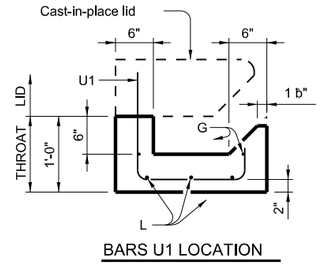


THROAT SECTION E-E

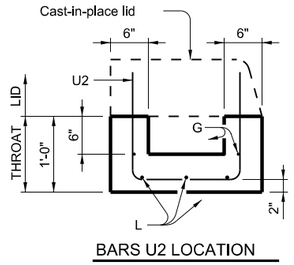
(Showing reinforcing bar extended from precast base or precast riser or precast slab lid style "S1".)



THROAT SECTION F-F

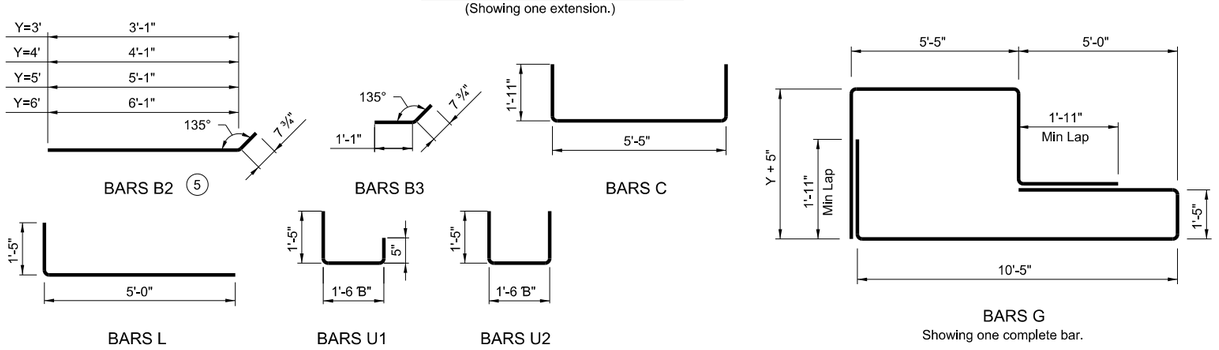


BARS U1 LOCATION



BARS U2 LOCATION

THROAT SECTION G-G



(3) Matches inside face of wall of precast base or precast riser or precast slab lid style "S1" below inlet.

(5) Cut reinforcing bars as needed to provide 1 ½" clear to manhole.

(6) Extend reinforcing bars from precast base or precast riser or precast slab lid style "S1" 7".

(7) Extend reinforcing bars from precast base or precast riser or precast slab lid style "S1" 1'-7 b".

(8) Do not extend reinforcing bars from precast base.

HL93 LOADING

Texas Department of Transportation

Bridge Division Standard

CAST-IN-PLACE CURB INLET OUTSIDE ROADWAY

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REVISIONS		0918	11	110		VARIOUS	
06-2023: Added reference point.		DIST	COUNTY			SHEET NO.	
		DAL	KAUFMAN, ETC			116	

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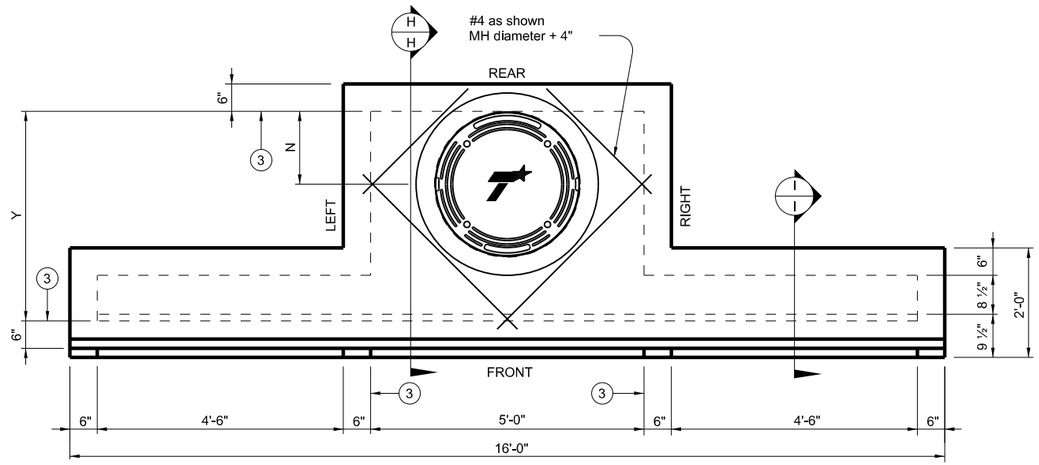
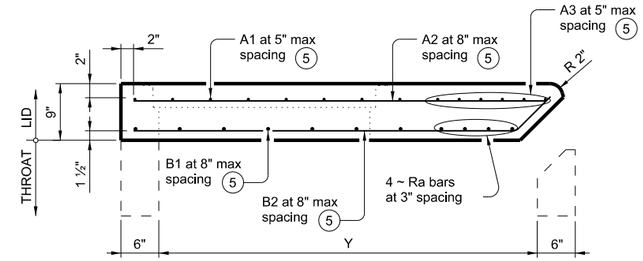
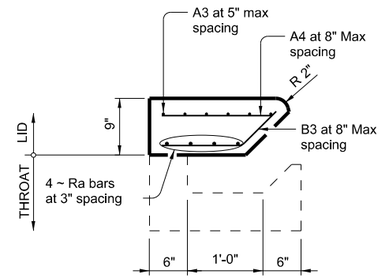


LID PLAN VIEW

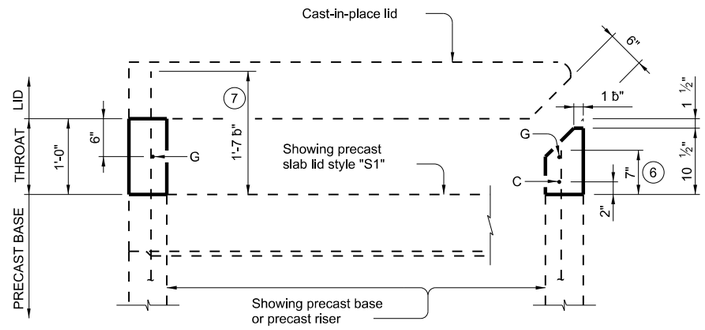
(Showing extension on each side.)



LID SECTION H-H

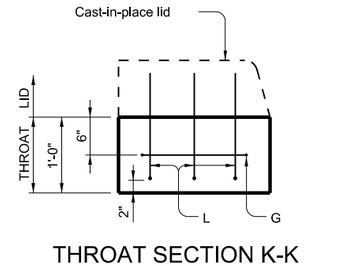


LID SECTION I-I

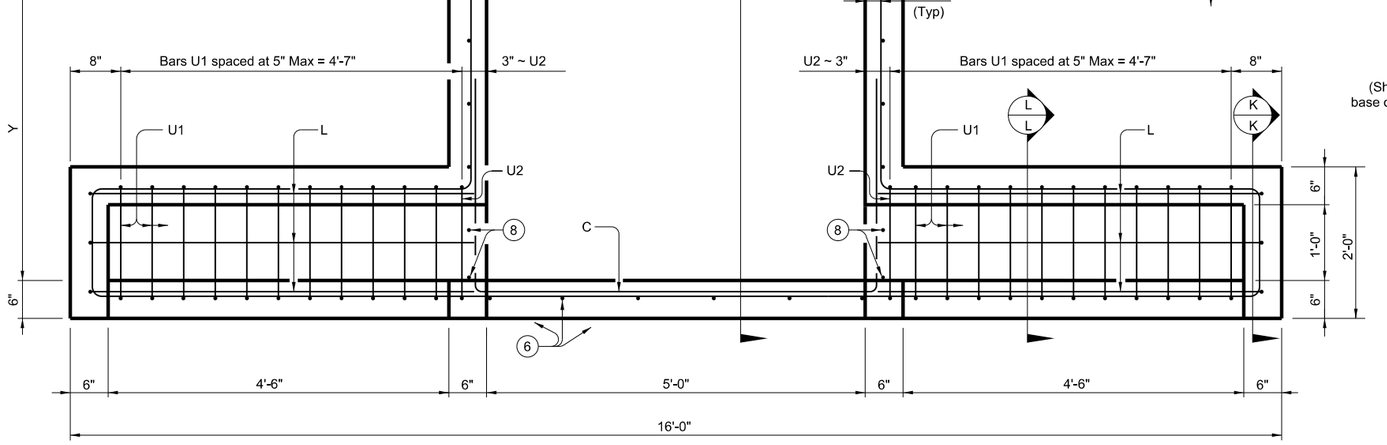


THROAT SECTION J-J

(Showing reinforcing bar extended from precast base or precast riser or precast slab lid style "S1".)

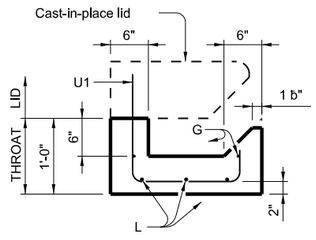


THROAT SECTION K-K

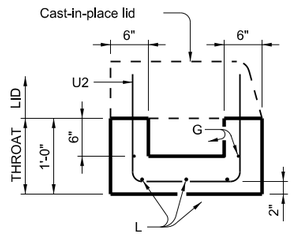


THROAT PLAN VIEW

(Showing extension on each side.)

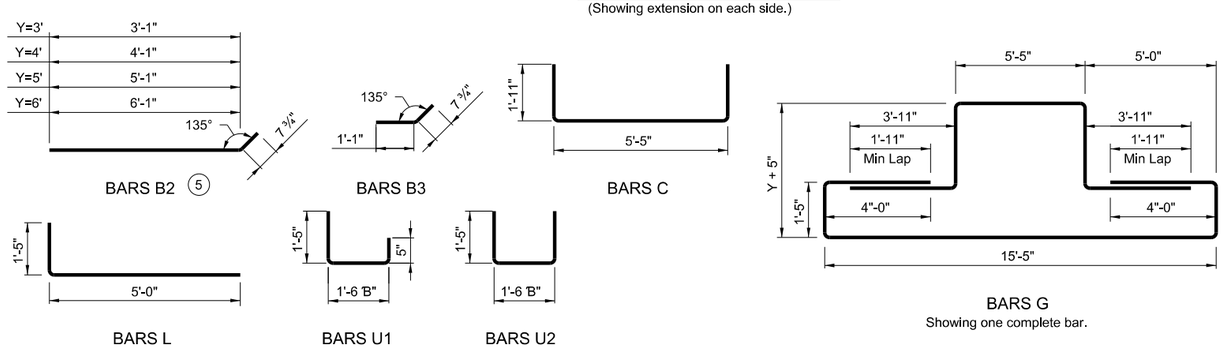


BARS U1 LOCATION



BARS U2 LOCATION

THROAT SECTION L-L



(3) Matches inside face of wall of precast base or precast riser or precast slab lid style "S1" below inlet.

(5) Cut reinforcing bars as needed to provide 1 ½" clear to manhole.

(6) Extend reinforcing bars from precast base or precast riser or precast slab lid style "S1" 7".

(7) Extend reinforcing bars from precast base or precast riser or precast slab lid style "S1" 1'-7 ⅞".

(8) Do not extend reinforcing bars from precast base.

HL93 LOADING

SHEET 4 OF 4

Texas Department of Transportation

Bridge Division Standard

CAST-IN-PLACE CURB INLET OUTSIDE ROADWAY

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FILE:	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
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REVISIONS	0918	11	110	VARIOUS
06-2023: Added reference point.	DIST	COUNTY		SHEET NO.
	DAL	KAUFMAN, ETC		117

DATE:
FILE:

GENERAL NOTES FOR ALL ELECTRICAL WORK

1. The location of all conduits, junction boxes, ground boxes, and electrical services is diagrammatic and may be shifted to accommodate field conditions.

2. Provide new and unused materials. Ensure that all materials and installations comply with the applicable articles of the National Electrical Code (NEC), TxDOT standards and specifications, National Electrical Manufacturers Association (NEMA), and are listed by Underwriters Laboratories (UL) or a Nationally Recognized Testing Lab (NRTL). NRTLs such as Canadian Standard Association (CSA), Intertek Testing Services NA Inc., or FM Approvals LLC can be considered equivalent to UL. Where reference is made to NEMA listed devices, International Electrotechnical Commission (IEC) listed devices will not be considered an acceptable equal to a NEMA listed device. Acceptable devices may have both a NEMA and IEC listing. Faulty fabrication or poor workmanship in any material, equipment, or installation is justification for rejection. Replace or reinstall rejected material or equipment at no additional cost to the Department.

3. Miscellaneous nuts, bolts and hardware, except for high strength bolts, may be stainless steel when plans specify galvanized, provided the bolt size is ½ in. or less in diameter.

4. Provide the following test equipment as required by the Engineer to confirm compliance with the contract and the NEC: voltmeter, ammeter, megohm meter (1000 volt DC), ground resistance tester, torque wrenches, and torque screwdrivers. Ensure all equipment has been properly calibrated within the last year. Provide calibration certification to the Engineer upon request. Operate test equipment during inspection as requested by the Engineer.

5. Install grounding as shown on the plans and in accordance with the NEC. Ensure all metallic conduits; metal poles; luminaires; and metal enclosures are bonded to the equipment grounding conductor. Provide stranded bare copper or green insulated grounding conductors. Ground rods, connectors, and bonding jumpers are subsidiary to the various bid items.

6. When required by the Engineer, notify the Department in writing of materials from the Material Producers List (MPL) intended for use on each project. Prequalified materials are listed on the MPL on TxDOT's website under "Roadway Illumination and Electrical Supplies." No substitutions will be allowed for materials on this list.

CONDUIT

A. MATERIALS

1. Provide conduit, junction boxes, fittings, and hardware as per TxDOT Departmental Material Specification (DMS) 11030 "Conduit" and Item 618 "Conduit" of TxDOT's "Standard Specifications For Construction And Maintenance Of Highways, Streets, And Bridges," latest edition. Provide conduits listed under Item 618 on the MPL under "Roadway Illumination and Electrical Supplies." Provide conduit types according to the descriptive code or as shown on the plans. Do not substitute other types of conduits for those shown. Provide liquidtight flexible metal conduit (LFMC) when flexible conduit is called for on galvanized steel rigid metallic conduit (RMC) systems. Provide liquidtight flexible nonmetallic conduit (LFNC) when flexible conduit is called for on polyvinyl chloride (PVC) systems.

2. Provide galvanized steel RMC for all exposed conduits, unless otherwise shown on the plans. Properly bond all metal conduits.

3. Unless otherwise shown on the plans, provide junction boxes with a minimum size as shown in the following table, which applies to the greatest number of conductors entering the box through one conduit with no more than four conduits per box. When a mixture of conductor sizes is present, count the conductors as if all are of the larger size. For situations not applicable to the table, size junction boxes in accordance with NEC.

AWG	3 CONDUCTORS	5 CONDUCTORS	7 CONDUCTORS
#1	10" x 10" x 4"	12" x 12" x 4"	16" x 16" x 4"
#2	8" x 8" x 4"	10" x 10" x 4"	12" x 12" x 4"
#4	8" x 8" x 4"	10" x 10" x 4"	10" x 10" x 4"
#6	8" x 8" x 4"	8" x 8" x 4"	10" x 10" x 4"
#8	8" x 8" x 4"	8" x 8" x 4"	8" x 8" x 4"

4. Junction boxes with an internal volume of less than 100 cu. in. and supported by entering raceways must have threaded entries or hubs identified for the intended purpose and supported by connection of two or more rigid metal conduits. Secure conduit within 3 ft. of the enclosure or within 18 in. of the enclosure if all conduit entries are on the same side. Mechanically secure all junction boxes with an internal volume greater than 100 cu. inches.

5. Provide hot dipped galvanized cast iron or sand cast aluminum outlet boxes for junction boxes containing only 10 AWG or 12 AWG conductors. Do not use die cast aluminum boxes. Size outlet boxes according to the NEC.

6. Do not use intermediate metal conduit (IMC) or electrical metallic tubing (EMT) unless specifically required by the plan sheets. When EMT is called for, provide junction boxes made from galvanized steel sheeting, listed and approved for outdoor use, unless otherwise noted on the plans. Size all galvanized steel junction boxes in accordance with the NEC. Provide junction boxes for IMC conduit systems that meet the same requirements for junction boxes used with RMC systems.

7. Provide PVC junction boxes intended for outdoor use on PVC conduit systems, unless otherwise noted on the plans.

8. Provide PVC elbows in PVC conduit systems, unless otherwise shown on the plans. Use only a flat, high tensile strength polyester fiber pull tape for pulling conductors through the PVC conduit system. When galvanized steel RMC elbows are specifically called for in the plans and any portion of the RMC elbow is buried less than 18 in., ground the RMC elbow by means of a grounding bushing on a rigid metal extension. Grounding of the rigid metal elbow is not required if the entire RMC elbow is encased in a minimum of 2 in. of concrete. PVC extensions are allowed on these concrete encased rigid metal elbows. RMC or PVC elbows are subsidiary to various bid items.

9. When required, provide High-Density Polyethylene (HDPE) conduit with factory installed internal conductors according to Item 622 "Duct Cable." At the Contractor's request and with approval by the Engineer, substitute HDPE conduit with no conductors for bored schedule 40 or schedule 80 PVC conduit bid under Item 618. Ensure bored HDPE substituted for PVC is schedule 40 and of the same size PVC called for in the plans. Ensure the substituted HDPE meets the requirements of Item 622, except that the conduit is supplied without factory-installed conductors. Make the transition of the HDPE conduit to PVC (or RMC elbow when required) at the bore pit. Provide conduit of the size and schedule as shown on the plans. Do not extend substituted conduit into ground boxes or foundations. Provide PVC or galvanized steel RMC elbows as called for at all ground boxes and foundations.

10. Use two-hole straps when supporting 2 in. and larger conduits. On electrical service poles, properly sized stainless steel or hot dipped galvanized one-hole standoff straps are allowed on the service riser conduit.

B. CONSTRUCTION METHODS

1. Provide and install expansion joint conduit fittings on all structure-mounted conduits at the structure's expansion joints to allow for movement of the conduit. In addition, provide and install expansion joint fittings on all continuous runs of galvanized steel RMC conduit externally exposed on structures such as bridges at maximum intervals of 150 ft. When requested by the project Engineer, supply manufacturer's specification sheet for expansion joint conduit fittings. Repair or replace expansion joint fittings that do not allow for movement at no additional cost to the Department. Provide the method of determining the amount of expansion to the Engineer upon request. Do not use LFMC or LFNC as a substitute for the required expansion conduit fittings.

2. Space all conduit supports at maximum intervals of 5 ft. Install conduit spacers when attaching metal conduit to surface of concrete structures. See "Conduit Mounting Options" on ED(2). Install conduit support within 3 ft. of all enclosures and conduit terminations.

3. Do not attach conduit supports directly to pre-stressed concrete beams except as shown specifically in the plans or as approved by the Engineer.

4. Unless otherwise shown on the plans, jack or bore conduit placed beneath existing roadways, driveways, sidewalks, or after the base or surfacing operation has begun. Backfill and compact the bore pits below the conduit per Item 476 "Jacking, Boring, or Tunneling Pipe or Box" prior to installing conduit or duct cable to prevent bending of the connections.

5. When placing conduit in the sub-grade of new roadways, backfill all trenches with excavated material unless otherwise noted on the plans. When placing conduit in the sub-base of new roadways, backfill all trenches with cement-stabilized base as per requirements of Items 110 "Excavation", 400 "Excavation and Backfill for Structures", 401 "Flowable Backfill", 402 "Trench Excavation Protection", and 403 "Temporary Special Shoring."

6. Provide and place warning tape approximately 10 in. above all trenched conduit as per Item 618.

7. During construction, temporarily cap or plug open ends of all conduit and raceways immediately after installation to prevent entry of dirt, debris and animals. Temporary caps constructed of durable duct tape are allowed. Tightly fix the tape to the conduit opening. Clean out the conduit and prove it clear in accordance with Item 618 prior to installing any conductors.

8. Ensure conduit entry into the top of any enclosure is waterproof by installing conduit sealing hubs or using boxes with threaded bosses. This includes surface mounted safety switches, meter cans, service enclosures, auxiliary enclosures and junction boxes. Grounding bushings on water tight sealing hubs are not required.

9. Fit the ends of all PVC conduit terminations with bushings or bell end fittings. Provide and install a grounding type bushing on all metal conduit terminations.

10. Install a bonding jumper from each grounding bushing to the nearest ground rod, grounding lug, or equipment grounding conductor. Ensure all bonding jumpers are the same size as the equipment grounding conductor. Bonding of conduit used as a casing under roadways for duct cable is not required, if the duct extends the full length through the casing.

11. At all electrical services, install a 6 AWG solid copper grounding electrode conductor.

12. Place conduits entering ground boxes so that the conduit openings are between 3 in. and 6 in. from the bottom of the box. See the ground box detail on sheet ED(4).

13. Seal ends of all conduits with duct seal, expandable foam, or by other methods approved by the Engineer. Seal conduit immediately after completion of conductor installation and pull tests. Do not use duct tape as a permanent conduit sealant. Do not use silicone caulk as a conduit sealant.

14. File smooth the cut ends of all mounting strut and conduit. Before installing, paint the field cut ends of all mounting strut and RMC (threaded or non-threaded) with zinc rich paint (94% or more zinc content) to alleviate overspray. Use zinc rich paint to touch up galvanized material as allowed under Item 445 "Galvanizing." Do not paint non-galvanized material with a zinc rich paint as an alternative for materials required to be galvanized.

Texas Department of Transportation

Traffic Operations Division Standard

ELECTRICAL DETAILS CONDUITS & NOTES

ED(1)-14

FILE:	ed1-14.dgn	DN:	CK:	DW:	CK:
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REVISIONS		0918	11	110	VARIOUS
		DIST	COUNTY		SHEET NO.
		DAL	KAUFMAN, ETC		118

ELECTRICAL CONDUCTORS

A. MATERIAL INFORMATION

1. Provide Type XHHW insulated conductors in accordance with Departmental Material Specification (DMS)11040 "Conductors" and Item 620 "Electrical Conductors." Provide conductors as listed on the Material Producers List (MPL) on the Department web site under "Roadway Illumination and Electrical Supplies" Item 620. Color code insulated conductors in conformance with the NEC. Identify grounded (neutral) conductors with white insulation. Identify grounding conductors (ground wires) with green insulation or bare conductors. Identify ungrounded (hot) conductors with any color insulation except green, white, or gray. Keep color scheme consistent throughout the wiring system. Identify conductors 6 American Wire Gauge (AWG) and smaller by continuous color jacket. Identify electrical conductors 4 AWG and larger by continuous color jacket or by colored tape. When identifying conductors with colored tape, mark at least 6 in. of the conductor's insulation with half laps of tape.
2. Provide a solid copper 6 AWG grounding electrode conductor to bond the electrical service equipment to the concrete encased grounding electrode or the ground rod at the service location. Connect the grounding electrode conductor to the ground rod with a UL listed connector in accordance with DMS 11040. Connect the grounding electrode conductor to the concrete encased grounding electrode as shown in the plans.
3. Where two or more circuits are present in one conduit or enclosure, permanently identify the conductors of each branch circuit by attaching a non-metallic tag around both circuit conductors at each accessible location. Provide tags with two straps, large enough to indicate circuit number, letter, or other identification as shown in the plans. Print circuit identification on the tag with a permanent marker.
4. Use listed compression or screw type pressure connectors, terminal blocks, or split bolt connectors for splicing as specified in DMS 11040. Use hot melt adhesive tape to fill the gap and seal the ends of heat shrink tubing. Provide UL listed gel-filled insulating splice covers. Splicing materials, insulating materials, breakaway disconnects, splice covers, and fuse holders are subsidiary to various bid items.

B. CONSTRUCTION METHODS

1. Use only a flat, high tensile strength polyester fiber pull tape for pulling conductors through the conduit system. After installing conductors in conduit, perform conductor pull test. If a conductor cannot be freely pulled, make any needed alterations or repairs at no additional cost to the department. Perform insulation resistance tests in accordance with Item 620. Coordinate with the Engineer to witness the tests.
2. Leave 2 ft. minimum, 3 ft. maximum length for each conductor up to the splice in ground boxes. Leave 3 ft. minimum, 4 ft. maximum length of conductor in ground boxes when pulled through with no splice. Leave 1 ft. minimum, 1.5 ft. maximum length of conductor at enclosures, weatherheads and pole bases.
3. Make splices only in junction boxes, ground boxes, pole bases, or electrical enclosures and use only listed compression or screw type pressure connectors, terminal blocks, or split bolt connectors. Insulate splices with heavy wall heat shrink tubing or gel-filled insulating splice covers to provide a watertight splice. Overlap conductor insulation with heat shrink tubing a minimum of 2 in. past both sides of the splice. Where heat shrink tubing may not shrink sufficiently to provide a watertight seal around the individual conductors, prior to heating the tubing, increase the diameter of the conductor insulation using hot melt adhesive tape to provide a watertight seal between the individual conductors and the heat shrink tubing. Ensure the tape extends past the heat shrink tubing. Use hot melt adhesive tape to fill the gap and seal the ends of heat shrink tubing. Heat shrink tubing that appears to have been burned, or overheated, is considered defective and must be replaced.
4. Size and install gel-filled insulating splice covers according to manufacturer's specifications when used in place of heat shrink tubing.
5. Wire nuts with factory applied waterproof sealant may be used for 8 AWG or smaller conductors in above ground junction boxes, but not in pole bases or ground boxes. Install wire nuts in an upright position to prevent the accumulation of water.
6. Support conductors in illumination poles with a J-hook at the top of the pole.
7. When terminating conductors, remove the insulation and jacketing material without nicking the individual strands of the conductor. Conductors with nicked individual conductor strands or removed strands will be considered damaged.
8. Replace conductors and cables that are damaged beyond repair or that fail an insulation resistance test at no additional cost to the department.
9. Do not repair damaged conductors with duct tape, electrical tape, or wire nuts. Use only approved splicing methods.
10. Do not terminate more than one conductor under a single connector, unless the connector is rated for multiple conductors. Do not exceed the pressure connector's listing for maximum number and size of conductors allowed.
11. Install breakaway connectors on conductors bid under Item 620 whenever those conductors pass through a breakaway support device. Follow manufacturer's instructions when terminating conductors to breakaway connectors. Properly torque threaded connections. Proper terminations are critical to the safe operation of breakaway devices. Trim waterproofing boots on breakaway connectors to fit snugly around the conductor to ensure waterproof connection. Only one conductor may enter a single opening in a boot. Provide waterproof boots with the correct number of openings. Leave unused openings factory sealed. Use prequalified breakaway connectors as shown on the MPL.
12. Provide and install a separate stranded equipment grounding conductor (EGC) in all conduits that contain circuit wiring of 50 volts or more. Unless shown elsewhere, size the EGC to be the same size as the largest current carrying conductor contained in the conduit. Ensure all EGCs are bonded together at every accessible location. For traffic signal installations, provide a minimum size 8 AWG EGC. The EGC is paid for under Item 620.

C. TEMPORARY WIRING

1. Install temporary conductors and electrical equipment in accordance with the NEC article "Temporary Installations" and Department standard sheets.
2. Provide a ground fault circuit interrupter (GFCI) for power outlets for portable electrical equipment, power tools, ice machines, ice storage bins and refrigerators located outdoors at grade. GFCI may be any one of the following: molded cord and plug set, receptacle, or circuit breaker type.
3. Use listed wire nuts with factory applied sealant for temporary wiring where approved.
4. Enclose conductor splices within a listed enclosure or ground box, or ensure the splices are more than 10 ft. above grade vertically and more than 5 ft. horizontally from any metal structure. Where installing temporary conductors in areas subject to vehicle traffic or mobile construction equipment, ensure the vertical clearance to ground is at least 18 ft. when measured at the lowest point. Ground messenger wires that support power conductors in conformance with the NEC.
5. Protect and when necessary repair any existing electrical conduits uncovered during the construction process in a timely manner and in conformance with the NEC.

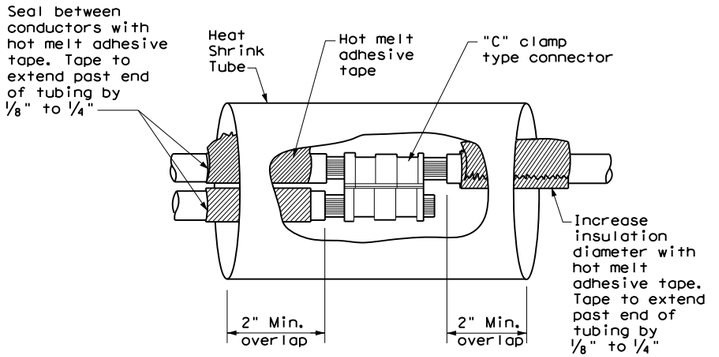
GROUND RODS & GROUNDING ELECTRODES

A. MATERIAL INFORMATION

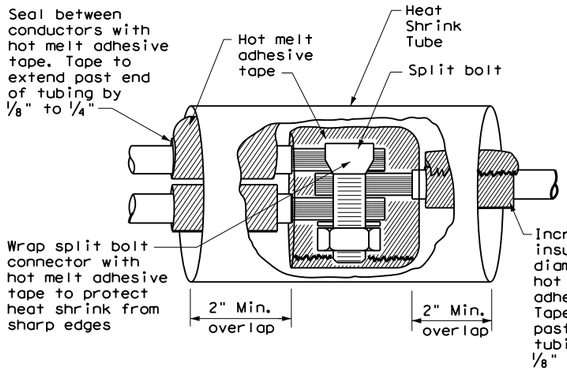
1. Provide and install a grounding electrode at electrical services. Provide ground rods according to DMS 11040 and the plans. Larger diameter or longer length rods may be called for in some specific locations, see the individual plans sheets. Concrete encased grounding electrodes may be called for in specific locations including electrical service, see individual plan sheets.

B. CONSTRUCTION METHODS

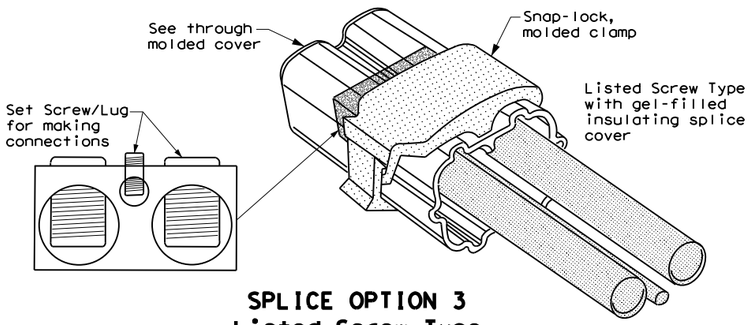
1. Furnish auxiliary ground rods for lightning protection and install in soil, concrete, or both, as called for in the plans. For ground rods installed in concrete, ensure the connection of the conductor to the ground rod is readily accessible for inspection or repairs. For ground rods installed in soil, ensure that the upper end is between 2 to 4 in. below finished grade.
2. Do not place ground rods in the same drilled hole as a timber pole.
3. Install ground rods so the imprinted part number is at the upper end of the rod.
4. Remove all non-conductive coatings such as concrete splatter from the rod at the clamp location.
5. Route all conductors as short and straight as possible for connection to lightning protection ground rods. When a bend is required, ensure a minimum radius bend of four inches for these conductors.
6. Unless otherwise called for in the plans, protect grounding electrode conductors with non-metallic conduit. When protecting grounding electrode conductors with metal conduit, provide and install a grounding type bushing and properly sized bonding jumper on each end of the metal conduit.
7. Written authorization is required before installing a ground rod in a horizontal trench for rocky soil or a solid rock bottom.



SPLICE OPTION 1
Compression Type



SPLICE OPTION 2
Split Bolt Type



SPLICE OPTION 3
Listed Screw Type

Texas Department of Transportation

Traffic Operations Division Standard

ELECTRICAL DETAILS CONDUCTORS

ED(3)-14

FILE:	ed3-14.dgn	DN:		CK: TxDOT	DW: TxDOT	CK: TxDOT	
© TxDOT	October 2014	CONT	SECT	JOB		HIGHWAY	
REVISIONS		0918	11	110		VARIOUS	
		DIST	COUNTY			SHEET NO.	
		DAL	KAUFMAN, ETC			119	

71C

DATE:
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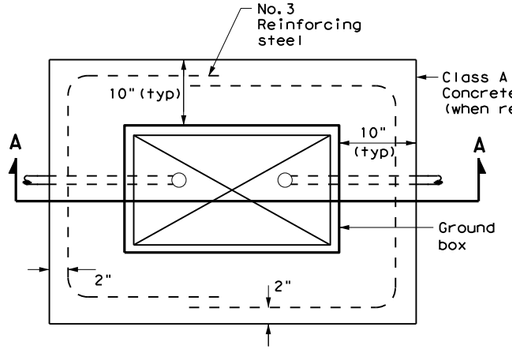
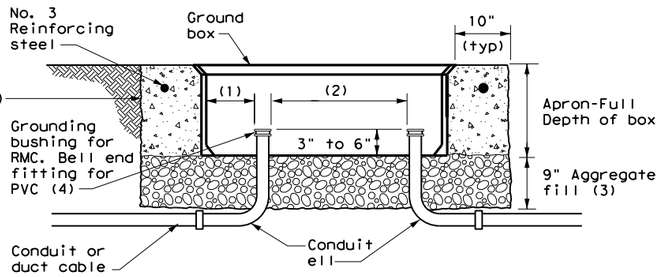


PLAN VIEW



SECTION A - A

APRON FOR GROUND BOX

(1) Uniformly space ends of conduits within the ground box. Position ends of conduits so that ground box walls do not interfere with the installation of grounding bushings or bell end fittings.

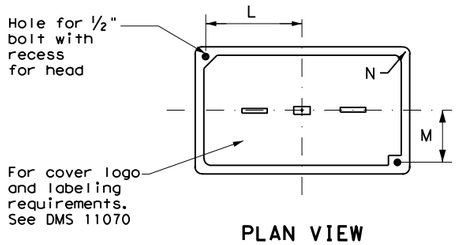
(2) Maintain sufficient space between conduits to allow for proper installation of bushing.

(3) Place aggregate under the box, not in the box. Aggregate should not encroach on the interior volume of the box.

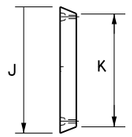
(4) Install a grounding bushing on the upper end of all RMC terminating in a ground box. Ground RMC elbows when any part of the elbow is less than 18 in. below the bottom of the ground box. Install a PVC bushing or bell end fitting on the upper end of all PVC conduits terminating in a ground box.

GROUND BOX DIMENSIONS	
TYPE	OUTSIDE DIMENSIONS (INCHES) (Width x Length X Depth)
A	12 X 23 X 11
B	12 X 23 X 22
C	16 X 29 X 11
D	16 X 29 X 22
E	12 X 23 X 17

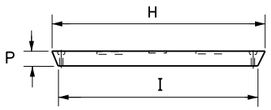
GROUND BOX COVER DIMENSIONS								
TYPE	DIMENSIONS (INCHES)							
	H	I	J	K	L	M	N	P
A, B & E	23 1/4	23	13 3/4	13 1/2	9 7/8	5 1/8	1 3/8	2
C & D	30 1/2	30 1/4	17 1/2	17 1/4	13 1/4	6 3/4	1 3/8	2



PLAN VIEW



END



SIDE

GROUND BOX COVER

GROUND BOXES

A. MATERIALS

1. Provide polymer concrete ground boxes measuring 16x30x24 in. (WxLxD) or smaller in accordance with Departmental Material Specification (DMS) 11070 "Ground Boxes" and Item 624 "Ground Boxes."

2. Provide Type A, B, C, D, and E ground boxes as shown in the plans, and as listed on the Material Producers List (MPL) on the Department web site under "Roadway Illumination and Electrical Supplies," Item 624.

3. Ensure ground box cover is correctly labeled in accordance with DMS 11070.

4. Provide larger ground boxes in accordance with Item 624 and as shown in the plans.

B. CONSTRUCTION METHODS

1. Remove all gravel and dirt from conduit. Cap all conduits prior to placing aggregate and setting ground box. Provide Grade 3 or 4 coarse aggregate as shown on Table 2 of Item 302 "Aggregates for Surface Treatments." Ensure aggregate bed is in place and at least 9 inches deep, prior to setting the ground box. Install ground box on top of aggregate.

2. Cast ground box aprons in place. Reinforcing steel may be field bent. Ensure the depth of concrete for the apron extends from finished grade to the top of the aggregate bed under the box. Ground box aprons, including concrete and reinforcing steel, are subsidiary to ground boxes when called for by descriptive code.

3. Keep bolt holes in the box clear of dirt. Bolt covers down when not working in ground boxes.

4. Install all conduits and ells in a neat and workmanlike manner. Uniformly space conduits so grounding bushings and bell end fittings can easily be installed.

5. Temporarily seal all conduits in the ground box until conductors are installed.

6. Permanently seal conduits immediately after the completion of conductor installation and pull tests. Permanently seal the ends of all conduits with duct seal, expandable foam, or other method as approved. Do not use duct tape as a permanent conduit sealant. Do not use silicone caulk as a sealant.

7. When a ground rod is present in a ground box, bond all equipment grounding conductors together and to the ground rod with listed connectors.

8. When a type B or D ground box is stacked to meet volume requirements, it is allowable to cut an appropriately sized hole for conduit entry in the side wall at least 18 inches below grade.

9. If an existing ground box in the contract has a metal cover, bond the cover to the equipment grounding conductor with a 3 ft. long stranded bonding jumper the same size as the grounding conductor. The bonding jumper is subsidiary to various bid items. Verify existing ground boxes with metal covers are shown on the plans, with notes fully describing the work required.

10. If other ground boxes with metal covers are within the project limits but are not part of the contract, the Engineer may direct the Contractor to bond the metal covers, identifying the specific boxes in writing. This work will be paid for separately.

11. Bond metal ground box covers to the grounding conductor with a tank ground type lug.

Texas Department of Transportation

Traffic Operations Division Standard

ELECTRICAL DETAILS
GROUND BOXES

ED(4)-14

FILE: ed4-14.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT October 2014	CONT	SECT	JOB	HIGHWAY
REVISIONS	0918	11	110	VARIOUS
	DIST	COUNTY		SHEET NO.
	DAL	KAUFMAN, ETC		120

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DATE:
FILE:

FOUNDATION DESIGN TABLE

FDN TYPE	DRILLED SHAFT DIA	REINFORCING STEEL		EMBEDDED DRILLED SHAFT LENGTH-ft ④, ⑤, ⑥			ANCHOR BOLT DESIGN ①				FOUNDATION DESIGN LOAD ②		TYPICAL APPLICATION
		VERT BARS	SPIRAL & PITCH	TEXAS CONE PENETROMETER N blows/ft 10	15	40	ANCHOR BOLT DIA	Fy (ksi)	BOLT CIR DIA	ANCHOR TYPE	MOMENT K-ft	SHEAR Kips	
24-A	24"	4- #5	#2 at 12"	5.7	5.3	4.5	¾"	36	12 ¾"	1	10	1	Pedestal pole, pedestal mounted controller.
30-A	30"	8- #9	#3 at 6"	11.3	10.3	8.0	1 ½"	55	17"	2	87	3	Mast arm assembly. (see Selection Table)
36-A	36"	10- #9	#3 at 6"	13.2	12.0	9.4	1 ¾"	55	19"	2	131	5	Mast arm assembly. (see Selection Table) 30' strain pole with or without luminaire.
36-B	36"	12- #9	#3 at 6"	15.2	13.6	10.4	2"	55	21"	2	190	7	Mast arm assembly. (see Selection Table) Strain pole taller than 30' & strain pole with mast arm
42-A	42"	14- #9	#3 at 6"	17.4	15.6	11.9	2 ¼"	55	23"	2	271	9	Mast arm assembly. (see Selection Table)

NOTES:

① Anchor bolt design develops the foundation capacity given under Foundation Design Loads.

② Foundation Design Loads are the allowable moments and shears at the base of the structure.

③ Foundations may be listed separately or grouped according to similarity of location and type. Quantities are for the Contractor's information only.

④ Field Penetrometer readings at a depth of approximately 3 to 5 feet may be used to adjust shaft lengths.

⑤ If rock is encountered, the Drilled Shaft shall extend a minimum of two diameters into solid rock.

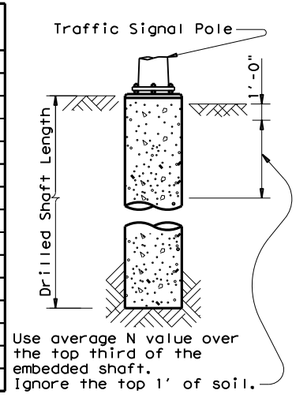
⑥ Decimal lengths in Design Table are to allow interpolation for other penetrometer values. Round to nearest foot for entry into Summary Table.

FOUNDATION SUMMARY TABLE ③

LOCATION IDENTIFICATION	AVG. N BLOW /ft.	FDN TYPE	NO. EA	DRILLED SHAFT LENGTH ⑥ (FEET) 24-A	30-A	36-A	36-B	42-A
MABANK INTERMEDIATE SCHOOL		24-A	2	6				
MASON ST		24-A	1	6				
TOTAL DRILLED SHAFT LENGTHS				18				

FOUNDATION SELECTION TABLE FOR STANDARD MAST ARM PLUS ILSN SUPPORT ASSEMBLIES (ft)

		FDN 30-A	FDN 36-A	FDN 36-B	FDN 42-A
80 MPH DESIGN WIND SPEED	MAX SINGLE ARM LENGTH	32'	48'		
	MAXIMUM DOUBLE ARM LENGTH COMBINATIONS	24' X 24'			
		28' X 28'			
		32' X 28'	32' X 32'		
			36' X 36'		
			40' X 36'		
			44' X 28'	44' X 36'	
100 MPH DESIGN WIND SPEED	MAX SINGLE ARM LENGTH		36'	44'	
	MAXIMUM DOUBLE ARM LENGTH COMBINATIONS		24' X 24'		
			28' X 28'		
			32' X 24'	32' X 32'	
				36' X 36'	
				40' x24'	40' X 36'
					44' x 36'



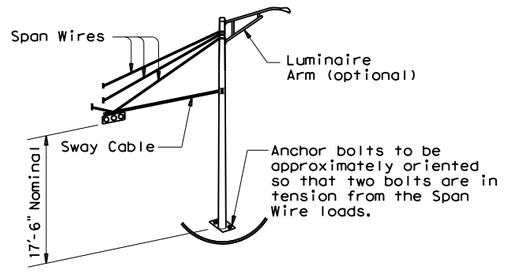
Use average N value over the top third of the embedded shaft. Ignore the top 1' of soil.

ANCHOR BOLT & TEMPLATE SIZES

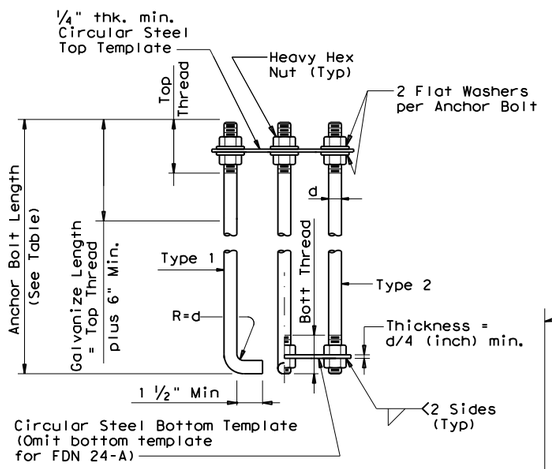
BOLT DIA IN.	⑦ BOLT LENGTH	TOP THREAD	BOTTOM THREAD	BOLT CIRCLE	R2	R1
¾"	1'-6"	3"	—	12 ¾"	7 ⅛"	5 ⅝"
1 ½"	3'-4"	6"	4"	17"	10"	7"
1 ¾"	3'-10"	7"	4 ½"	19"	11 ¼"	7 ¾"
2"	4'-3"	8"	5"	21"	12 ½"	8 ½"
2 ¼"	4'-9"	9"	5 ½"	23"	13 ¾"	9 ¼"

⑦ Min dimensions given, longer bolts are acceptable.

EXAMPLE:
1. For 80mph design wind speed, foundation 30-A can support up to a 32' arm with another arm up to 28'
2. For 100mph design wind speed, foundation 36-A can support a single 36' mast arm.



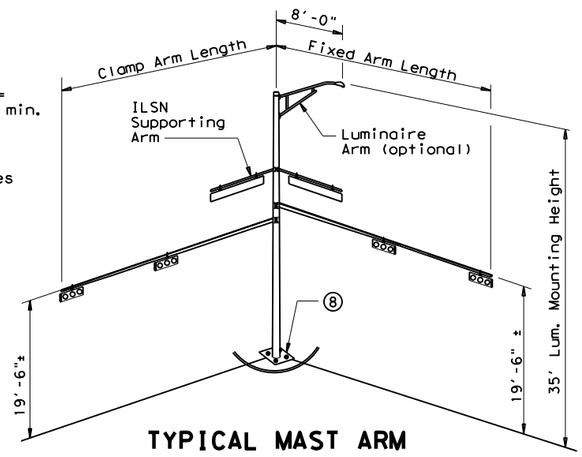
TYPICAL STRAIN POLE ASSEMBLY



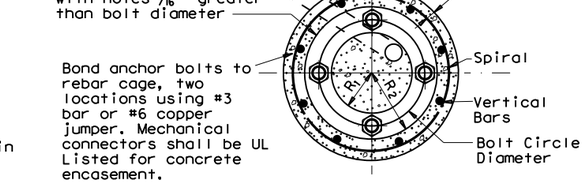
HOOKED ANCHOR (TYPE 1) NUT ANCHOR (TYPE 2)

ANCHOR BOLT ASSEMBLY

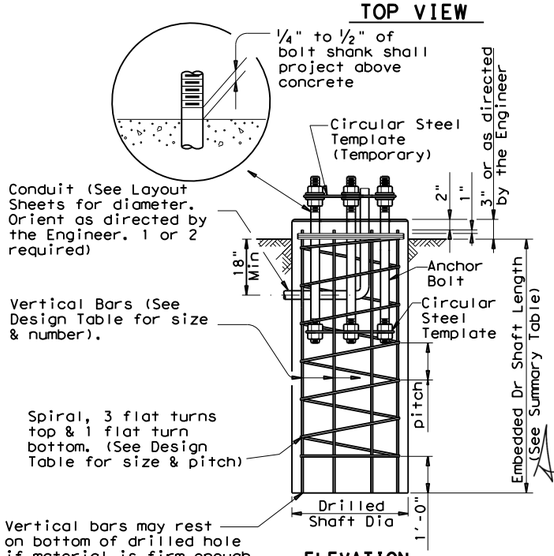
⑧ Orient anchor bolts orthogonal with the fixed arm direction to ensure that two bolts are in tension under dead load.



TYPICAL MAST ARM ASSEMBLY



TOP VIEW



ELEVATION

FOUNDATION DETAILS

GENERAL NOTES:

Design conforms to 1994 AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals and interim revisions thereto.

Reinforcing steel shall conform to Item 440, "Reinforcing Steel".

Concrete shall be Class "C".

Threads for anchor bolts and nuts shall be rolled or cut threads of 8UN series up to 2" in diameter or UNC series for all sizes. Bolts and nuts shall have Class 2A and 2B fit tolerances. Galvanized nuts shall be tapped after galvanizing.

Anchor bolts that are larger than 1" in diameter shall conform to "alloy steel" or "medium-strength mild steel" per Item 449, "Anchor Bolts". Anchor bolts that are 1" in diameter or less shall conform to ASTM A36. Galvanize a minimum of the top end thread length plus 6" for all anchor bolts unless otherwise noted. Exposed washers and exposed nuts shall be galvanized. All galvanizing shall be in accordance with Item 445, "Galvanizing".

Templates and embedded nuts need not be galvanized. Lubricate and tighten anchor bolts when erecting the structure in accordance with Item 449, "Anchor Bolts".

5/28/2024

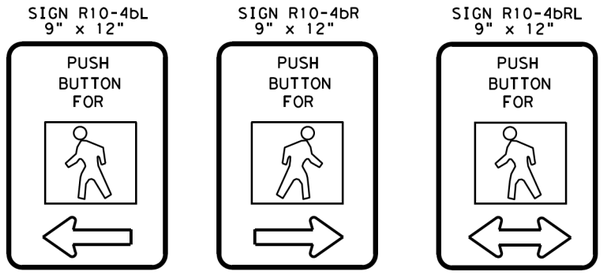
STATE OF TEXAS
SAMUEL J. LUNDQUIST
122185
LICENSED
PROFESSIONAL ENGINEER

Texas Department of Transportation
Traffic Operations Division

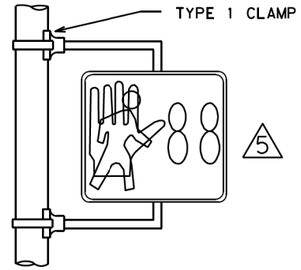
TRAFFIC SIGNAL POLE FOUNDATION

TS-FD-12

REVISIONS	DN: MS	CK: JSY	DW: MAO/MMF	CK: JSY/TEB
5-96 11-99 1-12	CONT	SECT	JOB	HIGHWAY
	0918	11	110	VARIOUS
	DIST	COUNTY		SHEET NO.
	DAL	KAUFMAN, ETC		121

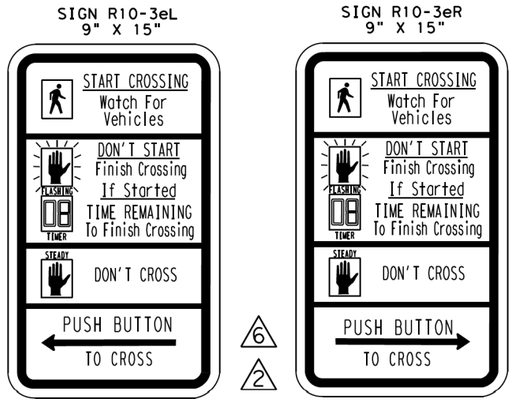


PEDESTRIAN PUSHBUTTON SIGN DETAILS

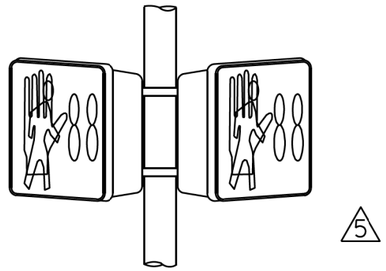


PEDESTRIAN SIGNAL HEAD MOUNTING FOR ONE PEDESTRIAN SIGNAL HEAD

152A

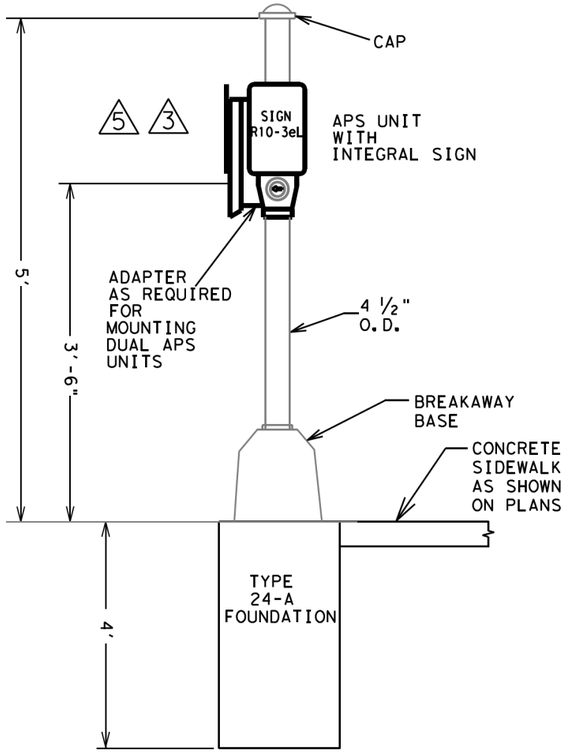


COUNTDOWN PEDESTRIAN PUSHBUTTON SIGN DETAILS

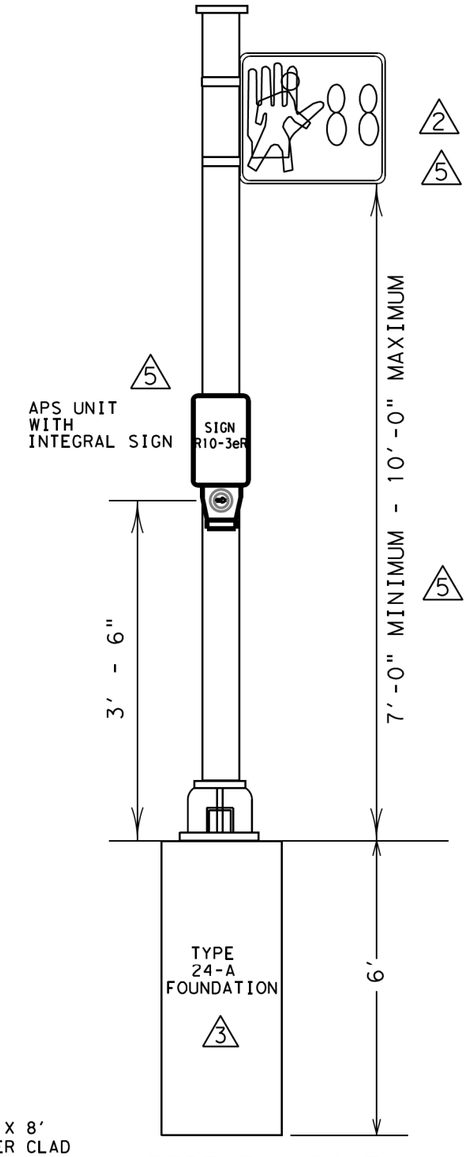


PEDESTRIAN SIGNAL HEAD MOUNTING FOR TWO PEDESTRIAN SIGNAL HEADS

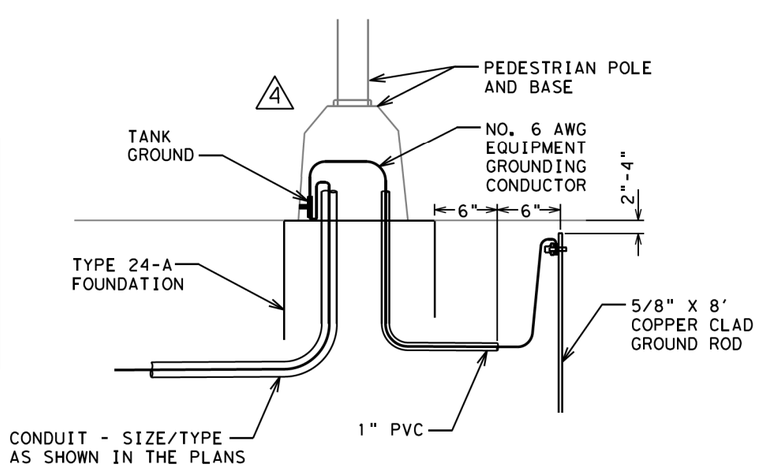
143C



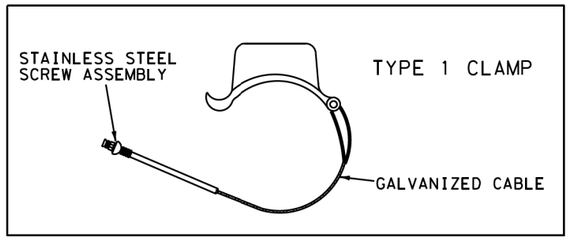
PEDESTRIAN PUSH BUTTON POLE



PEDESTAL POLE



PEDESTRIAN PUSH BUTTON POLE GROUNDING DETAILS



1 NOTE: EITHER TYPE 1 CLAMPS OR CLAM SHELL MOUNTING HARDWARE MAY BE USED AS APPROVED BY THE ENGINEER. FOR CLAM SHELLS, USE ICC P/N 4805 OR McCAIN QUICKMOUNT OR APPROVED EQUAL.

5

1 ALTERNATIVE MOUNTING METHOD
revised 12-92

2 ALTERNATIVE PEDESTRIAN SIGNAL HEAD AND SIGNING
revised 10-08

3 PEDESTRIAN PUSH BUTTON POLE
revised 01-11

4 PEDESTRIAN PUSH BUTTON POLE GROUNDING DETAILS
revised 09-15

5 APS UNIT ADDED
"SYMBOLS ONLY" PEDESTRIAN SIGNAL HEAD REMOVED
MOUNTING HARDWARE NOTES REVISED
MOUNTING HEIGHT REVISED
revised 06-17

6 APS SIGN REVISED
revised 11-20

NOTES:

5
1. ALL PEDESTRIAN SIGNAL HEADS SHALL BE INSTALLED ON THE AWAY-FROM-TRAFFIC SIDE OF THE PEDESTAL OR MAST ARM POLE.
2. ALL WIRING FOR PEDESTRIAN SIGNALS SHALL BE TOTALLY ENCLOSED WITHIN THE SIGNAL MOUNTING HARDWARE.
3. ALL PEDESTRIAN SIGNAL HEADS AND PUSH BUTTON SIGNS SHALL DISPLAY THE SYMBOLIZED MESSAGES SHOWN ABOVE.

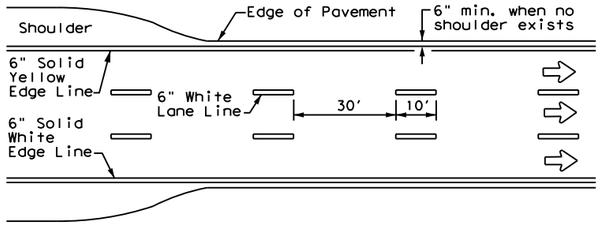
NOTE:

THE POLES ON THIS DRAWING ARE SHOWN AS AN EXAMPLE ONLY. POLES OF SIMILAR DESIGN FOR ANY CROSS SECTION WHICH MEET THE SPECIFICATIONS AND REQUIREMENTS SHOWN ON THESE DRAWINGS AND ARE APPROVED BY THE ENGINEER WILL BE DEEMED ACCEPTABLE.

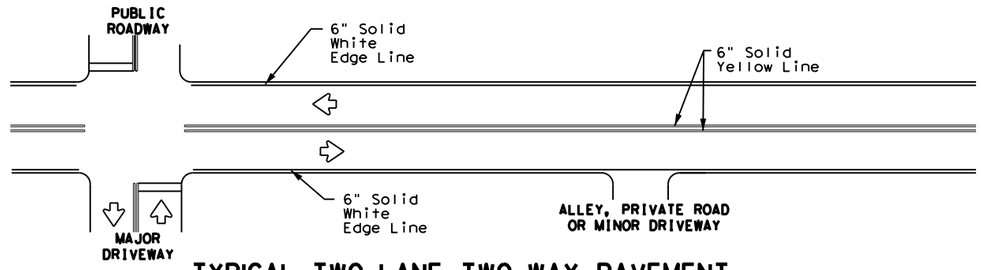
DALLAS DISTRICT STANDARD

FED.RD. DIV.NO.	PROJECT NO.		SHEET NO.
6	(SEE TITLE SHEET)		122
STATE	STATE DIST.	COUNTY	
TEXAS	18	KAUFMAN, ETC	
CONT.	SECT.	JOB	HIGHWAY NO.
0918	11	110	VARIOUS

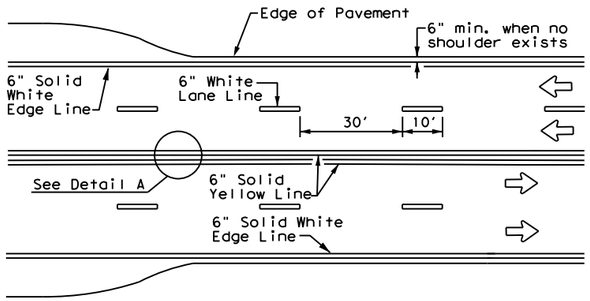
PEDESTRIAN SIGNAL HEAD DETAILS (DAL)

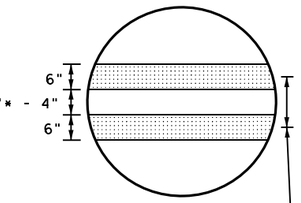


EDGE LINE AND LANE LINES ONE-WAY ROADWAY WITH OR WITHOUT SHOULDERS



TYPICAL TWO-LANE, TWO-WAY PAVEMENT MARKINGS THROUGH INTERSECTIONS





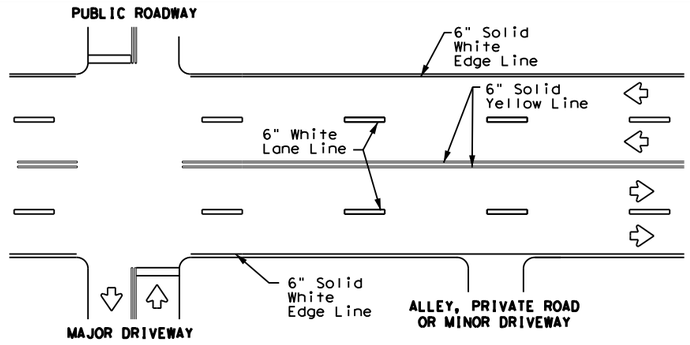
DETAIL "A"

9"** min. - 10" typ.
(18" max. for traveled way greater than 48' only)

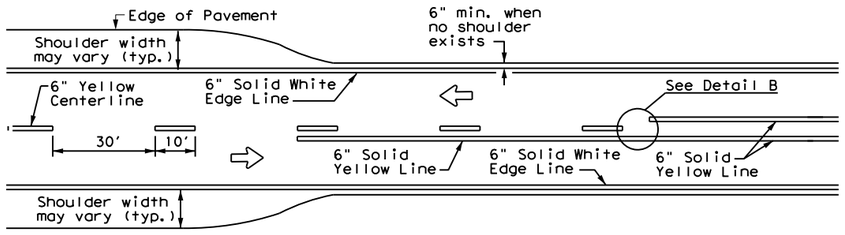
CENTERLINE AND LANE LINES FOUR LANE TWO-WAY ROADWAY WITH OR WITHOUT SHOULDERS

* 2" minimum for restripe projects when approved by the Engineer.

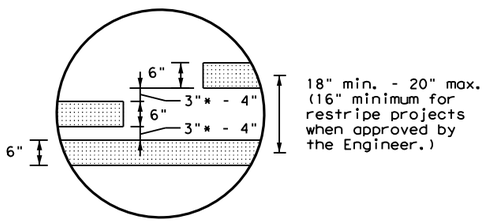
** 8" minimum for restripe projects when approved by the Engineer.



TYPICAL MULTI-LANE, TWO-WAY PAVEMENT MARKINGS THROUGH INTERSECTIONS

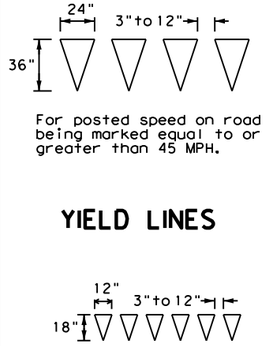


TWO LANE TWO-WAY ROADWAY WITH OR WITHOUT SHOULDERS

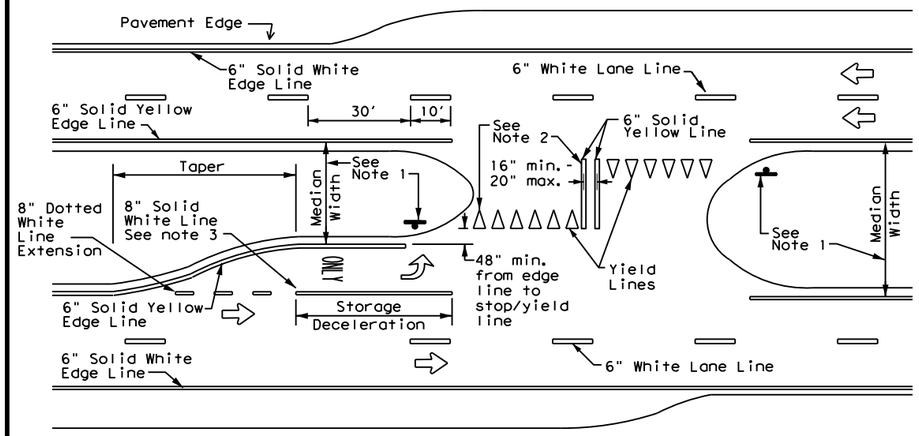


DETAIL "B"

* 2" minimum for restripe projects when approved by the Engineer.



YIELD LINES



FOUR LANE DIVIDED ROADWAY CROSSOVERS

NOTES

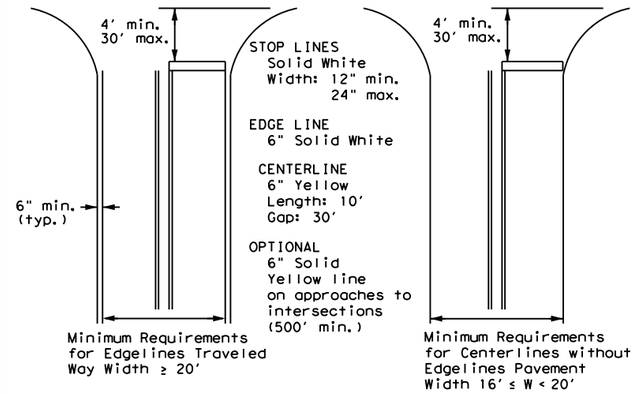
1. Where divided highways are separated by median widths at the median opening itself of 30 feet or more, median openings shall be signed as two separate intersections.
   Each median opening has two width measurements, with one measurement for each approach. The narrow median width will be the controlling width to determine if signs are required. Yield signs are the typical intersection control. Stop signs and stop bars are optional as determined by the Engineer.
2. Install median striping (double yellow centerlines and stop lines/yield lines) when a 50' or greater median centerline can be placed. Stop lines shall only be used with stop signs. Yield lines shall only be used with yield signs.
3. Length of turn bays, including taper, deceleration, and storage lengths shall be as shown on the plans or as directed by the Engineer.

GENERAL NOTES

1. Edge line striping shall be as shown in the plans or as directed by the Engineer. The edge line should not be placed less than 6 inches from the edge of pavement. This distance may vary due to pavement raveling or other conditions. Edge lines are not required in curb and gutter sections of roadways.
2. The traveled way includes only that portion of the roadway used for vehicular travel. It does not include the parking lanes, sidewalks, berms and shoulders. The traveled ways shall be measured from the center of edge line to the center of edge line of a two lane roadway.

MATERIAL SPECIFICATIONS	
PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
TRAFFIC PAINT	DMS-8200
HOT APPLIED THERMOPLASTIC	DMS-8220
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240

All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.



NOTE: Traveled way is exclusive of shoulder widths. Refer to General Note 2 for additional details.

GUIDE FOR PLACEMENT OF STOP LINES, EDGE LINE & CENTERLINE

Based on Traveled Way and Pavement Widths for Undivided Roadways

Texas Department of Transportation

Traffic Safety Division Standard

TYPICAL STANDARD PAVEMENT MARKINGS

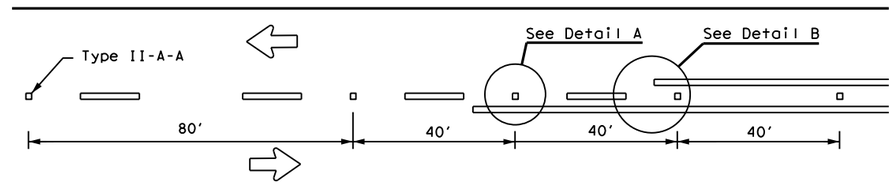
PM(1)-22

FILE: pm1-22.dgn	DN:	CK:	DW:	CK:
© TxDOT December 2022	CONT	SECT	JOB	HIGHWAY
REVISIONS	0918	11	110	VARIOUS
11-78 8-00 6-20	DIST	COUNTY		SHEET NO.
8-95 3-03 12-22	DAL	KAUFMAN, ETC		123
5-00 2-12				

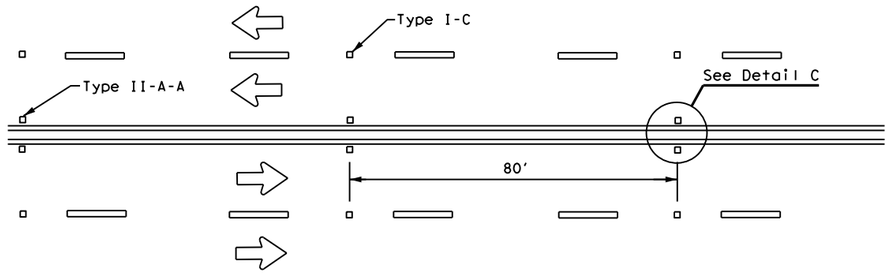
22A

DATE:
FILE:

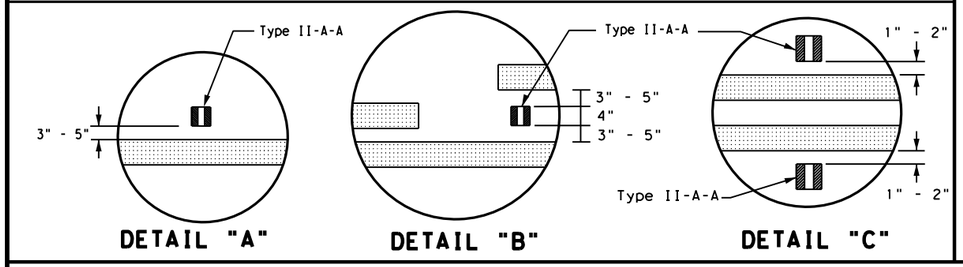
REFLECTIVE RAISED PAVEMENT MARKERS FOR VEHICLE POSITIONING GUIDANCE

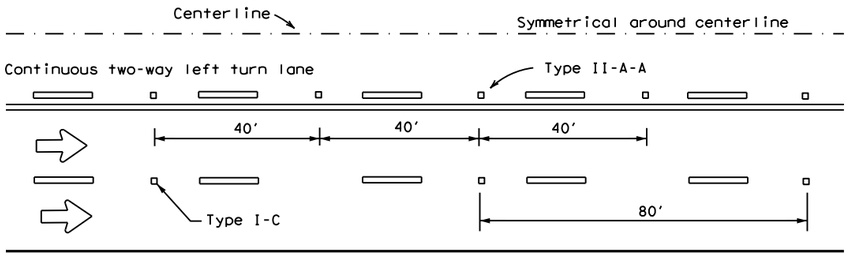


CENTERLINE FOR ALL TWO LANE TWO-WAY ROADWAYS

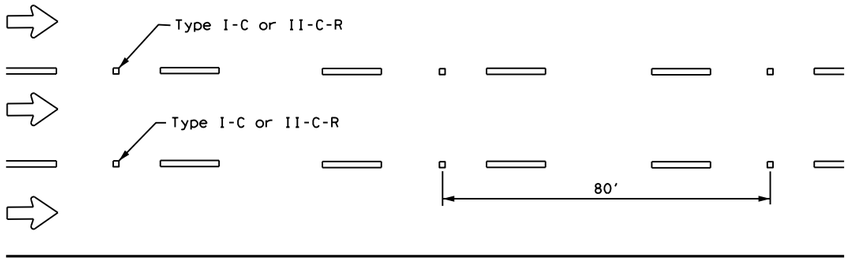


CENTERLINE & LANE LINES FOR FOUR LANE TWO-WAY ROADWAYS





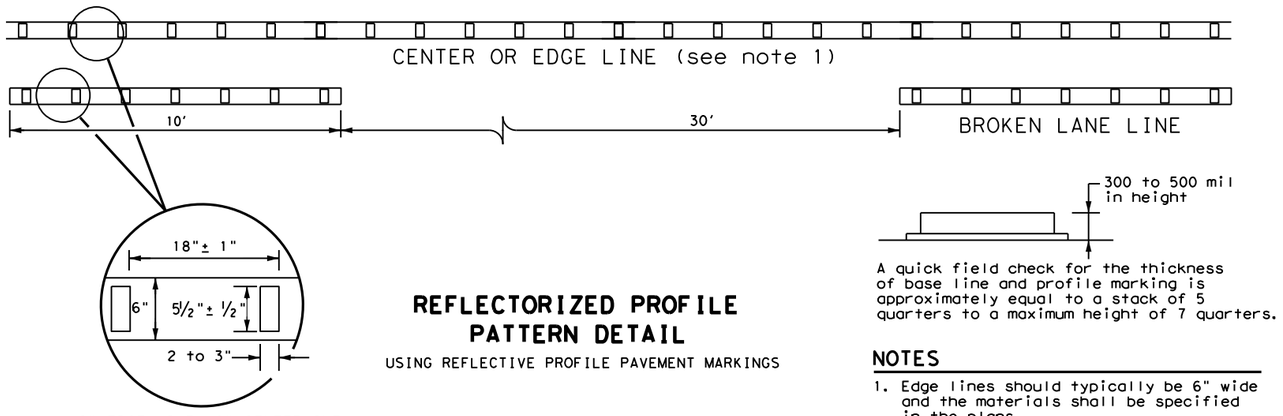
CENTERLINE AND LANE LINES FOR TWO-WAY LEFT TURN LANE



LANE LINES FOR ONE-WAY ROADWAY (NON-FREEWAY FACILITIES)

Raised pavement markers Type II-C-R shall have clear face toward normal traffic and red face toward wrong-way traffic.

See Note 3.



REFLECTORIZED PROFILE PATTERN DETAIL

USING REFLECTIVE PROFILE PAVEMENT MARKINGS

NOTES

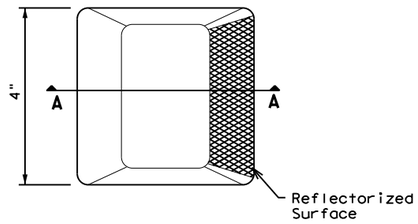
1. Edge lines should typically be 6" wide and the materials shall be specified in the plans.
2. Profile markings shall not be placed on roadways with a posted speed limit of 45 MPH or less.

GENERAL NOTES

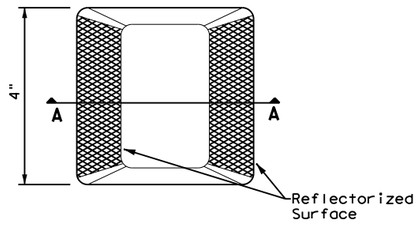
1. All raised pavement markers placed along broken lines shall be placed in line with and midway between the stripes.
2. On concrete pavements, the raised pavement markers should be placed to one side of the longitudinal joints.
3. Use raised pavement marker Type I-C with undivided roadways, flush medians, and two way left turn lanes. Use raised pavement marker Type II-C-R with divided highways and raised medians.

MATERIAL SPECIFICATIONS	
PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
TRAFFIC PAINT	DMS-8200
HOT APPLIED THERMOPLASTIC	DMS-8220
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240

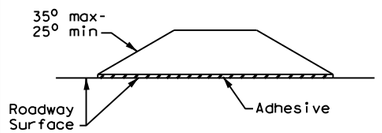
All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.



Type I (Top View)



Type II (Top View)



SECTION A

RAISED PAVEMENT MARKERS

Texas Department of Transportation

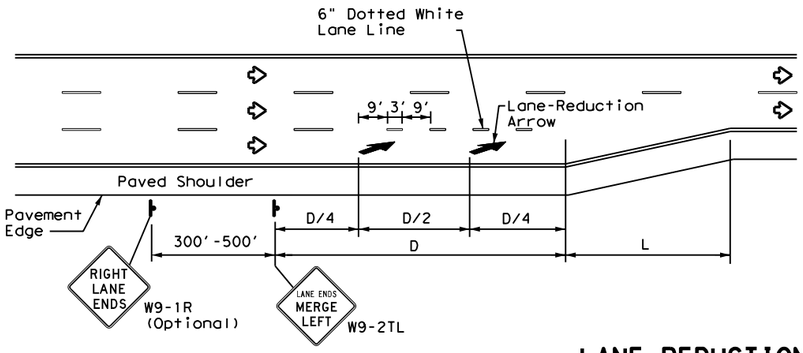
Traffic Safety Division Standard

POSITION GUIDANCE USING RAISED MARKERS REFLECTORIZED PROFILE MARKINGS PM(2)-22

FILE: pm2-22.dgn	DN:	CK:	DW:	CK:
©TxDOT December 2022	CONT	SECT	JOB	HIGHWAY
REVISIONS	0918	11	110	VARIOUS
4-77 8-00 6-20	DIST	COUNTY		SHEET NO.
4-92 2-10 12-22	DAL	KAUFMAN, ETC		124
5-00 2-12				

22B

DATE:
FILE:

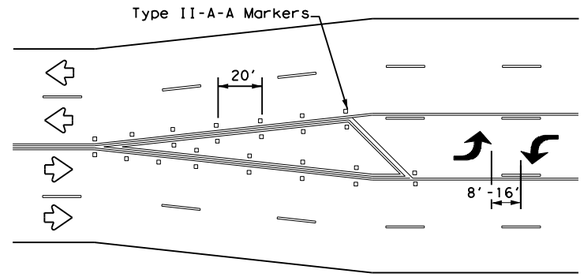


LANE REDUCTION

NOTES

1. Lane reduction pavement markings are used where the number of through lanes is reduced because of narrowing of the roadway or because of a section of on-street parking in what would otherwise be a through lane. For Texas Super 2 Passing Lanes, see TS2(PL) standard sheets.
2. On divided highways, an additional RIGHT LANE ENDS (W9-1R) sign may be installed in the median aligned with the W9-1R sign on the right side of the highway.
3. Lane reduction arrows are required for speeds of 45 mph or greater. An optional third lane reduction arrow may be added based on engineering judgement. If used, the optional third lane reduction arrow should be centered between the first and last lane reduction arrows.
4. For lane reductions on Freeways and Expressways, signing shall conform to the TxDOT Freeway Signing Handbook.

ADVANCED WARNING SIGN DISTANCE (D)		
Posted Speed	D (ft)	L (ft)
30 MPH	460	$L=\frac{WS^2}{60}$
35 MPH	565	
40 MPH	670	
45 MPH	775	L=WS
50 MPH	885	
55 MPH	990	
60 MPH	1,100	
65 MPH	1,200	
70 MPH	1,250	
75 MPH	1,350	



A two-way left-turn (TWLT) lane-use arrow pavement marking should be used at or just downstream from the beginning of a two-way left-turn lane within a corridor. Repeating the marking after each intersection or dedicated turn bay is not required unless stated elsewhere in the plans.

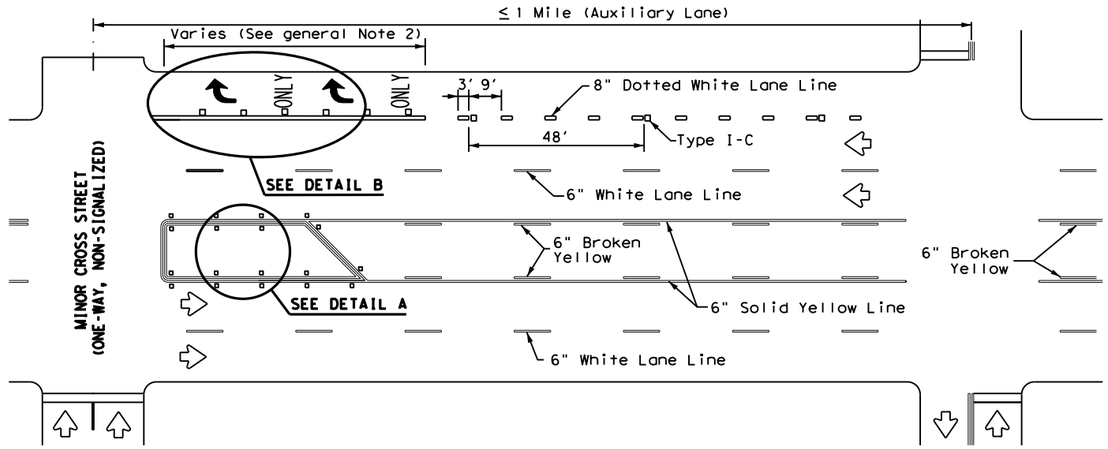
TYPICAL TRANSITION FOR TWLTL AND DIVIDED HIGHWAY

GENERAL NOTES

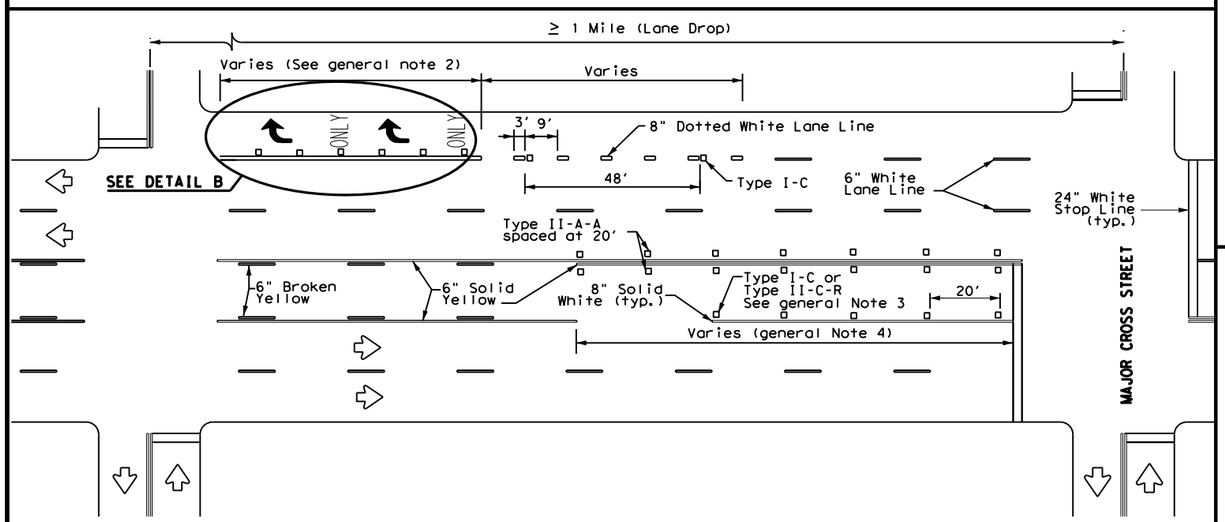
1. Lane use word and arrow markings shall be used where through lanes approaching an intersection become mandatory turn lanes. Lane use word and arrow markings should be used in auxiliary lanes of substantial length. Lane use arrow markings or word and arrow markings may be used in other lanes and turn bays for emphasis. Details for words and arrows are as shown in the Standard Highway Sign Designs for Texas.
2. When lane-use words and arrow markings are used, two sets of arrows should be used if the length of the bay is greater than 180 feet. When a single lane use arrow or word and arrow marking is used for a short turn lane, it should be located at or near the upstream end of the full-width turn lane.
3. Use raised pavement marker Type I-C with undivided highways, flush medians and two way left turn lanes. Use raised pavement marker Type II-C-R with divided highways and raised medians.
4. Length of turn bays, including taper, deceleration, and storage lengths shall be as shown on the plans or as directed by the Engineer. See Chapter 3 of the Roadway Design Manual for additional information on turning lanes or storage lengths.

MATERIAL SPECIFICATIONS	
PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
TRAFFIC PAINT	DMS-8200
HOT APPLIED THERMOPLASTIC	DMS-8220
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240

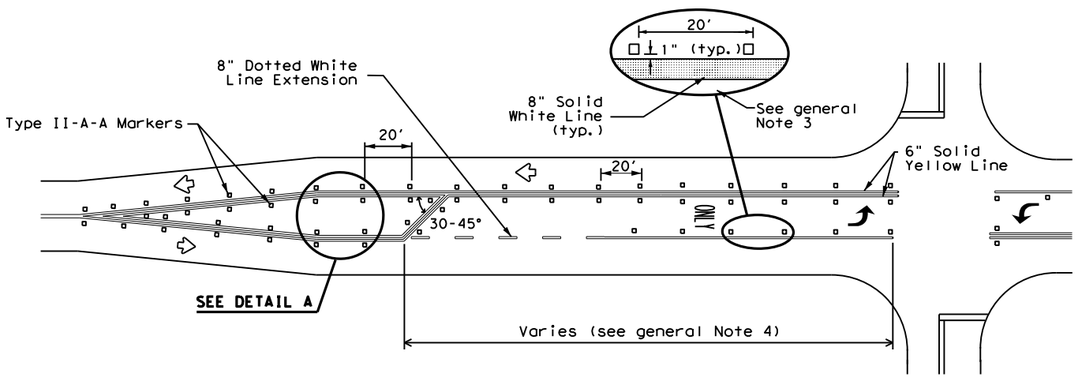
All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.



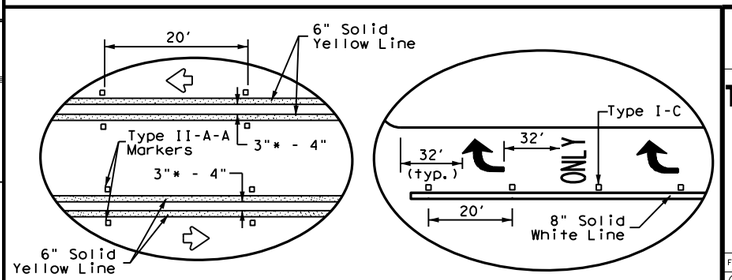
TYPICAL TWLTL AT ONE-WAY STREET AND RIGHT TURN AUXILIARY LANE



TYPICAL TWLTL AT TWO-WAY CROSS STREET AND RIGHT TURN LANE DROP



TYPICAL TWO-LANE ROADWAY INTERSECTION WITH LEFT TURN BAYS



* 2" minimum allowed for restripe projects when approved by the Engineer.

Texas Department of Transportation

Traffic Safety Division Standard

TWO-WAY LEFT TURN LANES, RURAL LEFT TURN BAYS, AND LANE REDUCTION PAVEMENT MARKINGS

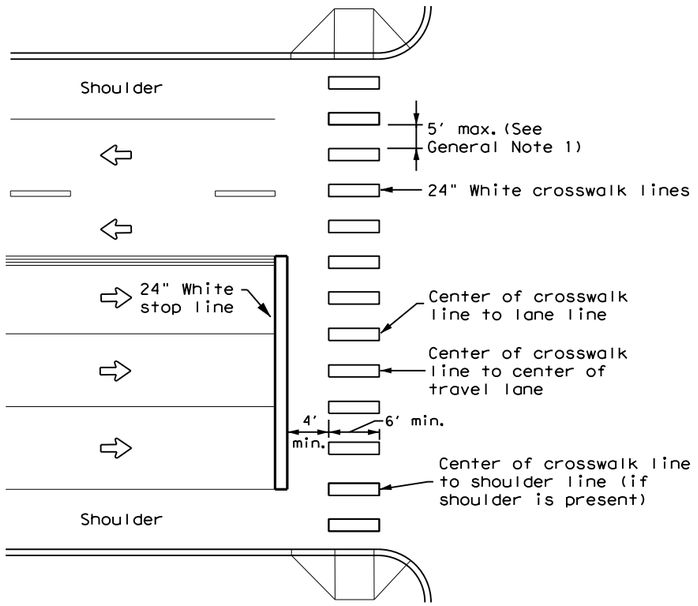
PM(3)-22

FILE: pm3-22.dgn	DN:	CK:	DW:	CK:
© TxDOT December 2022	CONT	SECT	JOB	HIGHWAY
REVISIONS 4-98 3-03 6-20 5-00 2-10 12-22 8-00 2-12	0918	11	110	VARIOUS
	DIST	COUNTY		SHEET NO.
	DAL	KAUFMAN, ETC		125

22C

DATE:
FILE:

DATE:
FILE:



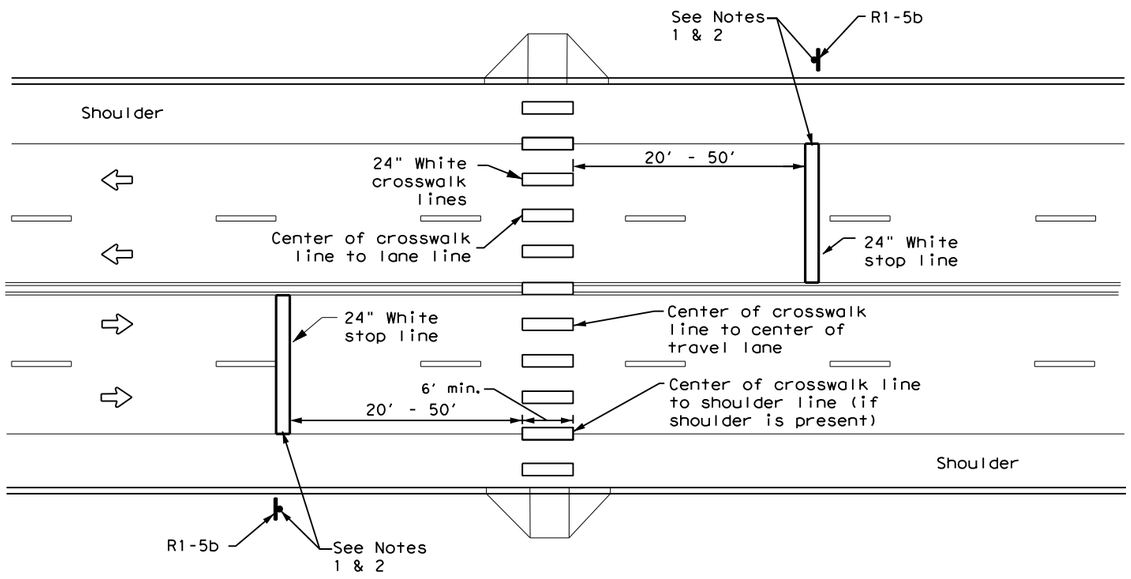
HIGH-VISIBILITY LONGITUDINAL CROSSWALK AT CONTROLLED APPROACH

GENERAL NOTES

1. Longitudinal crosswalk lines should not be placed in the wheel path of vehicles. Center the crosswalk lines on travel lanes, lane lines, and shoulder lines (if present).
2. A minimum 6" clear distance shall be provided to the curb face. If the last crosswalk line falls into this distance it must be omitted.
3. For divided roadways, adjustments in spacing of the crosswalk lines should be made in the median so that the crosswalk lines are maintained in their proper location across the travel portion of the roadway.
4. At skewed crosswalks, the crosswalk lines are to remain parallel to the lane lines.
5. Each crosswalk shall be a minimum of 6' wide.
6. The High-Visibility Longitudinal Crosswalk is the preferred crosswalk pattern on State Highways. Other crosswalk patterns as shown in the "Texas Manual on Uniform Traffic Control Devices" may be used. All crosswalk designs and dimension shall comply with the "Texas Manual on Uniform Traffic Control Devices."
7. Final placement of Stop Bar and Crosswalk shall be approved by the Engineer in the field.

MATERIAL SPECIFICATIONS	
PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
TRAFFIC PAINT	DMS-8200
HOT APPLIED THERMOPLASTIC	DMS-8220
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240

All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.



UNSIGNALIZED MIDBLOCK HIGH-VISIBILITY LONGITUDINAL CROSSWALK

NOTES:

1. Use stop bars with Stop Here For Pedestrians (R1-5b) signs at unsignalized midblock cross walks.
2. Use stop bars with STOP HERE ON RED (R10-6 or R10-6a) signs at mid block crosswalks controlled by traffic signals or pedestrian hybrid beacons.

Texas Department of Transportation

Traffic Safety Division Standard

CROSSWALK PAVEMENT MARKINGS

PM(4)-22A

FILE: pm4-22a.dgn	DN:	CK:	DW:	CK:
© TxDOT December 2022	CONT	SECT	JOB	HIGHWAY
REVISIONS	091811		110	VARIOUS
6-20	DIST	COUNTY		SHEET NO.
6-22	DAL	KAUFMAN, ETC		126
12-22				

22D

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SIGN SUPPORT DESCRIPTIVE CODES

(Descriptive Codes correspond to project estimate and quantities sheets)

SM RD SGN ASSM TY XXXXX(X)XX(X-XXXX)

Post Type

FRP = Fiberglass Reinforced Plastic Pipe (see SMD(FRP))
TWT = Thin-Walled Tubing (see SMD(TWT))
10BWG = 10 BWG Tubing (see SMD(SLIP-1) to (SLIP-3))
S80 = Schedule 80 Pipe (see SMD(SLIP-1) to (SLIP-3))

Number of Posts (1 or 2)

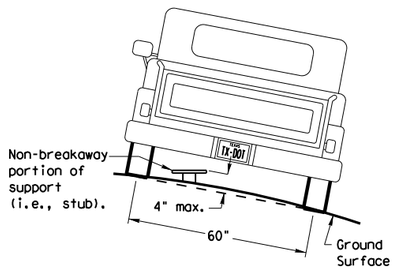
Anchor Type

UA = Universal Anchor - Concreted (see SMD(FRP) and (TWT))
UB = Universal Anchor - Bolted down (see SMD(FRP) and (TWT))
WS = Wedge Anchor Steel - (see SMD(TWT))
WP = Wedge Anchor Plastic (see SMD(TWT))
SA = Slipbase - Concreted (see SMD(SLIP-1) to (SLIP-3))
SB = Slipbase - Bolted Down (see SMD(SLIP-1) to (SLIP-3))

Sign Mounting Designation

P = Prefab. "Plain" (see SMD(SLIP-1) to (SLIP-3), (TWT), (FRP))
T = Prefab. "T" (see SMD(SLIP-1) to (SLIP-3), (TWT))
U = Prefab. "U" (see SMD(SLIP-1) to (SLIP-3))
IF REQUIRED
1EXT or 2EXT = Number of Extensions (see SMD(SLIP-1) to (SLIP-3), (TWT))
BM = Extruded Wind Beam (see SMD(SLIP-1) to (SLIP-3))
WC = 1.12 #/ft Wing Channel (see SMD(SLIP-1) to (SLIP-3))
EXAL = Extruded Aluminum Sign Panels (see SMD(SLIP-1) to (SLIP-3))

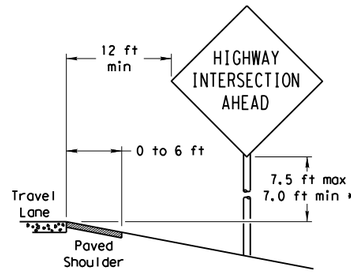
REQUIRED CLEARANCE FOR BREAKAWAY SUPPORT



To avoid vehicle undercarriage snagging, any substantial remains of a breakaway support, when it is broken away, should not project more than 4 inches above a 60-inch chord (i.e., typical space between wheel paths).

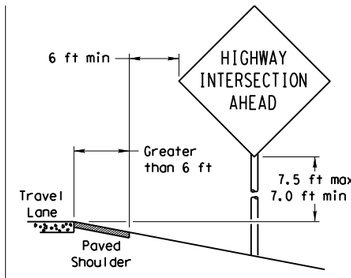
SIGN LOCATION

PAVED SHOULDERS



LESS THAN 6 FT. WIDE

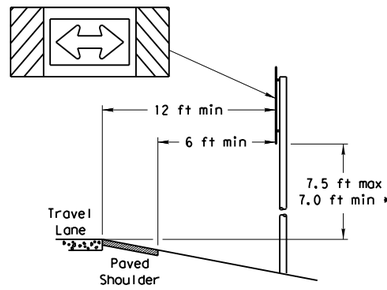
When the shoulder is 6 ft. or less in width, the sign must be placed at least 12 ft. from the edge of the travel lane.



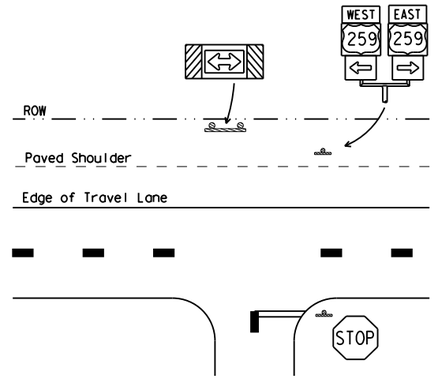
GREATER THAN 6 FT. WIDE

When the shoulder is greater than 6 ft in width, the sign must be placed at least 6 ft. from the edge of the shoulder.

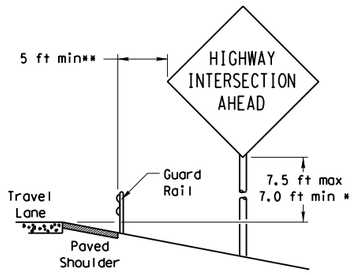
T-INTERSECTION



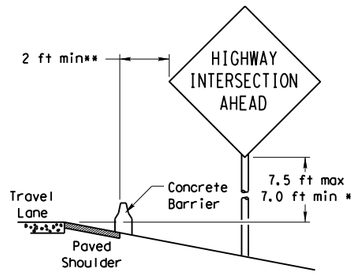
When this sign is needed at the end of a two-lane, two way roadway, the right edge of the sign should be in line with the centerline of the roadway. Place as close to ROW as practical.



BEHIND BARRIER



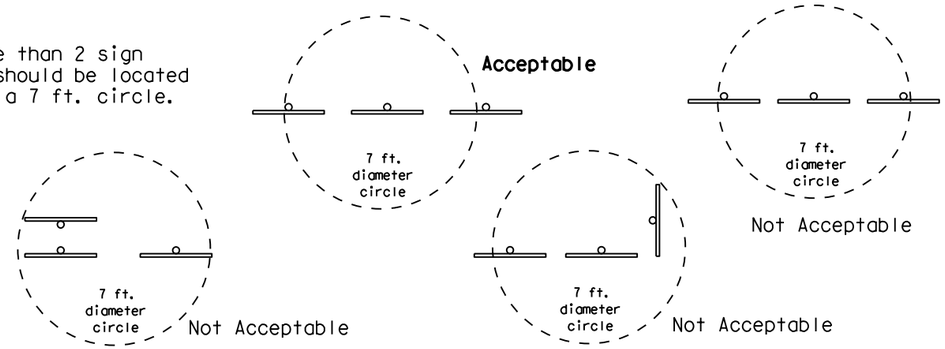
BEHIND GUARDRAIL



BEHIND CONCRETE BARRIER

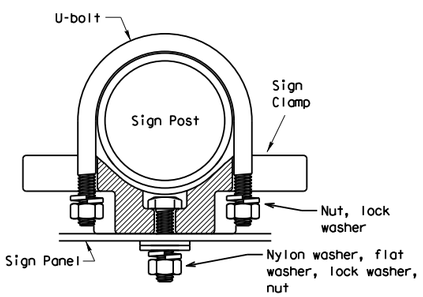
**Sign clearance based on distance required for proper guard rail or concrete barrier performance.

No more than 2 sign posts should be located within a 7 ft. circle.



TYPICAL SIGN ATTACHMENT DETAIL

Single Signs

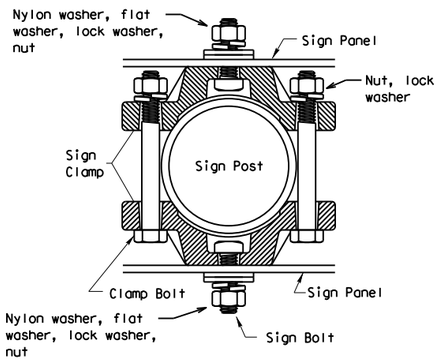


Bolts used to mount sign panels to the clamp are 5/16-18 UNC galvanized square head with nut, nylon washer, flat washer and lock washer. The bolt length is 1 inch for aluminum.

When two sign clamps are used to mount signs back-to-back, use a 5/16-18 UNC galvanized hex head per ASTM A307 with nut and helical-spring lock washer. The approximate bolt lengths for various post sizes and sign clamp types are given in the table at right. The bolt length may need to be adjusted depending upon field conditions.

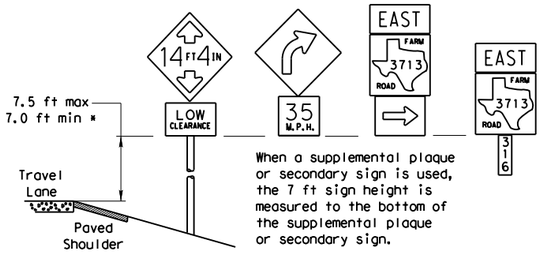
Sign clamps may be either the specific size clamp or the universal clamp.

Back-to-Back Signs



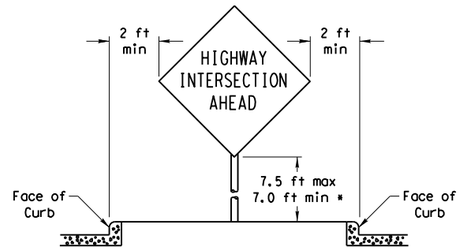
Pipe Diameter	Approximate Bolt Length	
	Specific Clamp	Universal Clamp
2" nominal	3"	3 or 3 1/2"
2 1/2" nominal	3 or 3 1/2"	3 1/2 or 4"
3" nominal	3 1/2 or 4"	4 1/2"

SIGNS WITH PLAQUES



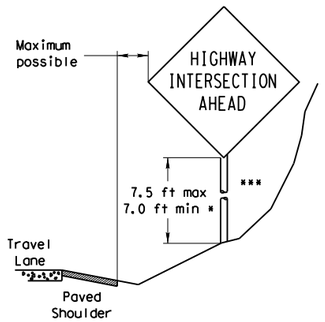
When a supplemental plaque or secondary sign is used, the 7 ft sign height is measured to the bottom of the supplemental plaque or secondary sign.

CURB & GUTTER OR RAISED ISLAND



RESTRICTED RIGHT-OF-WAY

(When 6 ft min. is not possible.)



Right-of-way restrictions may be created by rocks, water, vegetation, forest, buildings, a narrow island, or other factors.

In situations where a lateral restriction prevents the minimum horizontal clearance from the edge of the travel lane, signs should be placed as far from the travel lane as practical.

*** Post may be shorter if protected by guardrail or if Engineer determines the post could not be hit due to extreme slope.

* Signs shall be mounted using the following condition that results in the greatest sign elevation:

(1) a minimum of 7 to a maximum of 7.5 feet above the edge of the travel lane or

(2) a minimum of 7 to a maximum of 7.5 feet above the grade at the base of the support when sign is installed on the backslope.

The maximum values may be increased when directed by the Engineer.

See the Traffic Operations Division website for detailed drawings of sign clamps, Triangular Slipbase System components and Wedge Anchor System components.

The website address is:
http://www.txdot.gov/publications/traffic.htm

Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS SMALL ROADSIDE SIGNS GENERAL NOTES & DETAILS

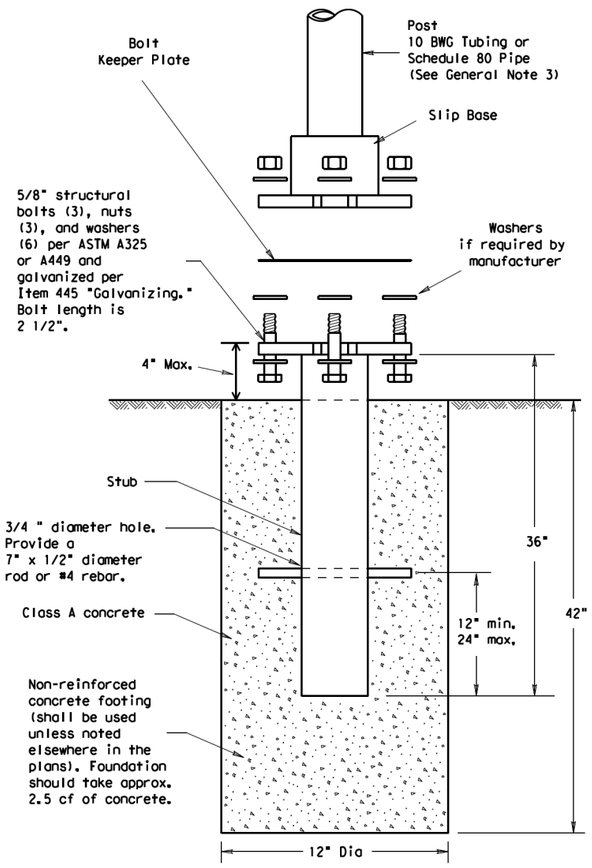
SMD(GEN)-08

REVISIONS
9-08

DN: TXDOT	CK: TXDOT	DW: TXDOT	CK: TXDOT
CONT	SECT	JOB	HIGHWAY
0918	11	110	VARIOUS
DIST	COUNTY		SHEET NO.
DAL	KAUFMAN, ETC		127

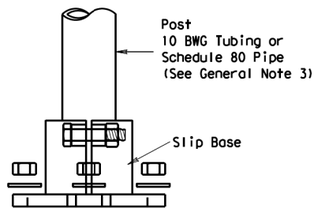
DATE:
FILE:

TRIANGULAR SLIPBASE INSTALLATION GENERAL REQUIREMENTS

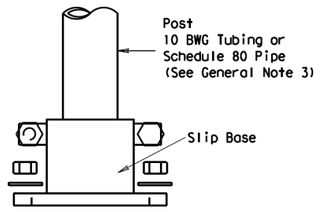


SM RD SGN ASSM TY XXXXX(X)SA(X-XXXX)

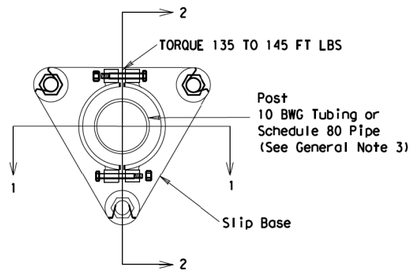
NOTE
The devices shall be installed per manufacturers' recommendations. Installation procedures shall be provided to the Engineer by Contractor.



SIDE VIEW 1-1



SIDE VIEW 2-2



TOP VIEW

DETAIL A

GENERAL NOTES:

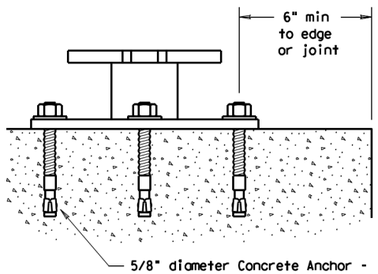
1. Slip base shall be permanently marked to indicate manufacturer. Method, design, and location of marking are subject to approval of the TxDOT Traffic Standards Engineer.
2. Material used as post with this system shall conform to the following specifications:
   10 BWG Tubing (2.875" outside diameter)
   0.134" nominal wall thickness
   Seamless or electric-resistance welded steel tubing or pipe
   Steel shall be HSLAS Gr 55 per ASTM A1011 or ASTM A1008
   Other steels may be used if they meet the following:
   55,000 PSI minimum yield strength
   70,000 PSI minimum tensile strength
   20% minimum elongation in 2"
   Wall thickness (uncoated) shall be within the range of 0.122" to 0.138"
   Outside diameter (uncoated) shall be within the range of 2.867" to 2.883"
   Galvanization per ASTM A123 or ASTM A653 G210. For precoated steel tubing (ASTM A653), recoat tube outside diameter weld seam by metallizing with zinc wire per ASTM B833.
   Schedule 80 Pipe (2.875" outside diameter)
   0.276" nominal wall thickness
   Steel tubing per ASTM A500 Gr C
   Other seamless or electric-resistance welded steel tubing or pipe with equivalent outside diameter and wall thickness may be used if they meet the following:
   46,000 PSI minimum yield strength
   62,000 PSI minimum tensile strength
   21% minimum elongation in 2"
   Wall thickness (uncoated) shall be within the range of 0.248" to 0.304"
   Outside diameter (uncoated) shall be within the range of 2.855" to 2.895"
   Galvanization per ASTM A123
3. See the Traffic Operations Division website for detailed drawings of sign clamps and Texas Universal Triangular Slipbase System components. The website address is:
   http://www.txdot.gov/publications/traffic.htm
4. Sign supports shall not be spliced except where shown. Sign support posts shall not be spliced.

ASSEMBLY PROCEDURE

Foundation
1. Prepare 12-inch diameter by 42-inch deep hole. If solid rock is encountered, the depth of the foundation may be reduced such that it is embedded a minimum of 18 inches into the solid rock.
2. The Engineer may permit batches of concrete less than 2 cubic yards to be mixed with a portable, motor-driven concrete mixer. For small placements less than 0.5 cubic yards, hand mixing in a suitable container may be allowed by Engineer. Concrete shall be Class A.
3. Push the pipe end of the slip base stub into the center of the concrete. Rotate the stub back and forth while pushing it down into the concrete to assure good contact between the concrete and stub. Continue to work the stub into the concrete until it is between 2 to 4 inches above the ground.
4. Plumb the stub. Allow a minimum of 4 days to set, unless otherwise directed by the Engineer.
5. The triangular slipbase system is multidirectional and is designed to release when struck from any direction.

Support
1. Cut support so that the bottom of the sign will be 7 to 7.5 feet above the edge of the travelway (i.e., edge of the closest lane) when slip plate is below the edge of pavement or 7 to 7.5 feet above slip plate when the slip plate is above the edge of the travelway. The cut shall be plumb and straight.
2. Attach sign to support using connections shown. When multiple signs are installed on the same support, ensure the minimum clearance between each sign is maintained. See SMD(SLIP-2) for clearances based on sign types.

CONCRETE ANCHOR



SM RD SGN ASSM TY XXXXX(X)SB(X-XXXX)

Concrete anchor consists of 5/8" diameter stud bolt with UNC series bolt threads on the upper end. Heavy hex nut per ASTM A563, and hardened washer per ASTM F436. The stud bolt shall have a minimum yield and ultimate tensile strength of 50 and 75 KSI, respectively. Nuts, bolts and washers shall be galvanized per Item 445, "Galvanizing." Adhesive type anchors shall have stud bolts installed with Type III epoxy per DMS-6100, "Epoxies and Adhesives." Adhesive anchors may be loaded after adequate epoxy cure time per the manufacturer's recommendations. Top of bolt shall extend at least flush with top of the nut when installed. The anchor, when installed in 4000 psi normal-weight concrete with a 5 1/2" minimum embedment, shall have a minimum allowable tension and shear of 3900 and 3100 psi, respectively.

ADDED DETAIL A FOR CLAMP BASE
10-2010

Texas Department of Transportation
Dallas District Standard

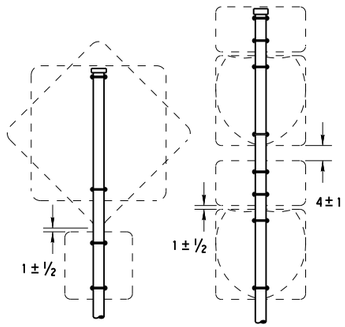
SIGN MOUNTING DETAILS
SMALL ROADSIDE SIGNS
TRIANGULAR SLIPBASE SYSTEM

SMD(SLIP-1)-08(DAL)

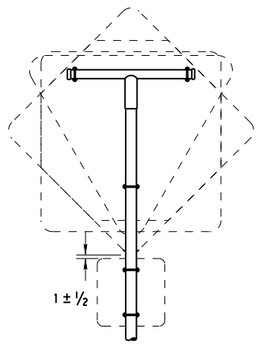
DN: TXDOT	CK: TXDOT	DW: TXDOT	CK: TXDOT

9-08 REVISIONS	CONT	SECT	JOB	HIGHWAY
12-10 (DISTRICT) ADDED CLAMP BASE DETAIL FOR SLIP BASE INSTALLATION	0918	11	110	VARIOUS
	DIST	COUNTY		SHEET NO.
	DAL	KAUFMAN, ETC		128

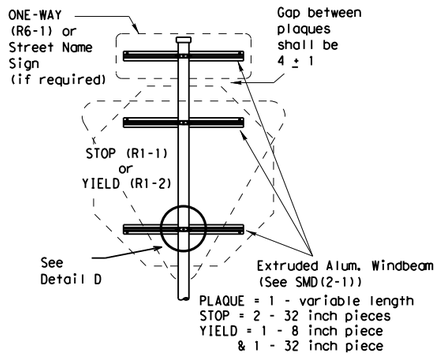
DATE:
FILE:



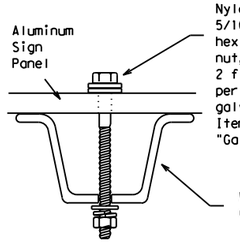
SM RD SGN ASSM TY XXXXX(1)XX(P)



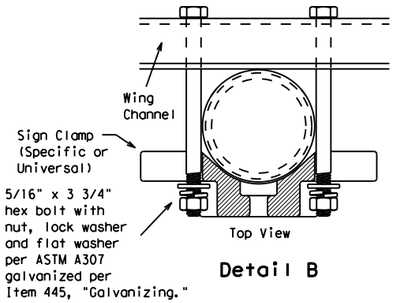
SM RD SGN ASSM TY XXXXX(1)XX(T)



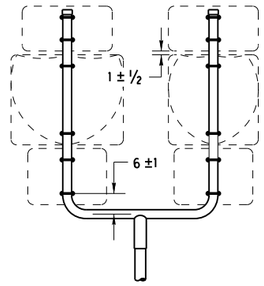
SM RD SGN ASSM TY XXXXX(1)XX(P-BM)



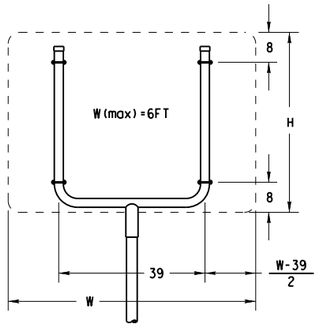
Detail A



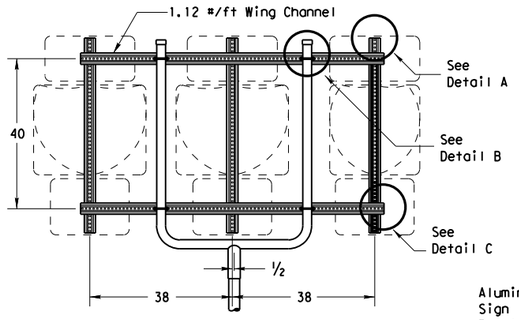
Detail B



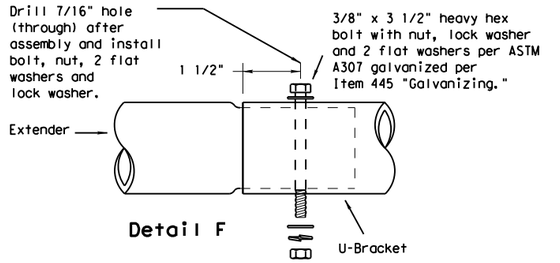
SM RD SGN ASSM TY XXXXX(1)XX(U)



SM RD SGN ASSM TY XXXXX(1)XX(U)

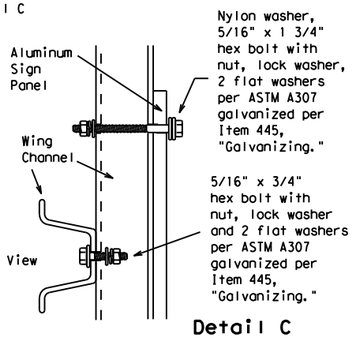


SM RD SGN ASSM TY XXXXX(1)XX(U-WC)
(See Note 11)

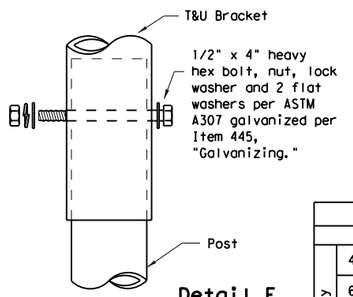


Detail F

Splices shall only be allowed behind the sign substrate.



Detail C



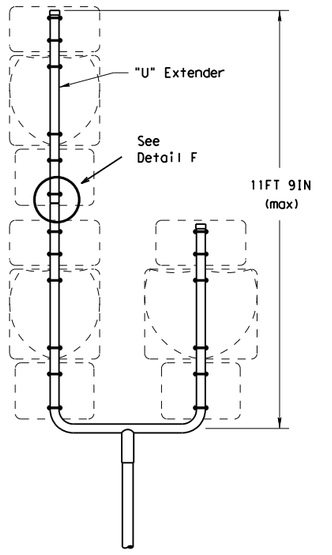
Detail E

GENERAL NOTES:

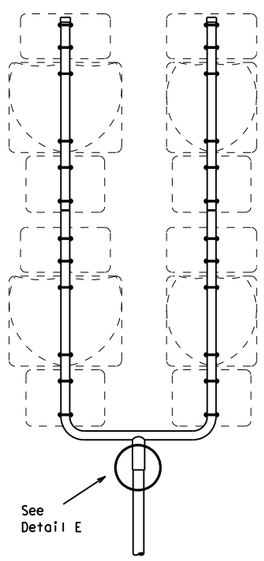
1.

SIGN SUPPORT	# OF POSTS	MAX. SIGN AREA
10 BWG	1	16 SF
10 BWG	2	32 SF
Sch 80	1	32 SF
Sch 80	2	64 SF

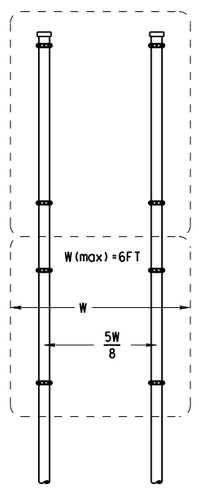
2. The Engineer may require that a Schedule 80 post be used in place of a 10 BWG where a sign height is abnormally high due to a fill slope.
3. Sign supports shall not be spliced except where shown. Sign support posts shall not be spliced.
4. Aluminum sign blanks shall conform to Departmental Material Specifications DMS-7110 and shall have the following minimum thicknesses: 0.080 for signs less than 7.5 sq. ft., 0.100 for signs 7.5 to 15 sq. ft., and 0.125 for signs greater than 15 sq. ft.
5. Signs that require specific supports due to reasons in addition to windloading are indicated on the "REQUIRED SUPPORT" table on this sheet.
6. For horizontal rectangular signs fabricated from flat aluminum, T-brackets are used for signs 24 inches or less in height. U-brackets are used for signs of greater height.
7. When two triangular slipbase supports are used to support a single sign, they shall not be "rigidly" connected to each other except through the sign panel. This will allow each support to act independently when impacted by an errant vehicle.
8. Wing channel shall meet ASTM A 1011 SS Gr 50 and be galvanized per ASTM A 123.
9. Excess pipe, wing channel, or windbeam shall be cut off so that it does not extend beyond the sign panel (i.e., excess support shall not be visible when the sign is viewed from the front.) Repair galvanized coating at cut support ends per Item 445, "Galvanizing."
10. Additional route markers may be added vertically, provided the total sign area does not exceed the maximum allowable amount per Note 1.
11. Additional sign clamp required on the "T-bracket" post for 24 inch height signs. Place the clamp 3 inches above bottom of sign when possible.
12. Post open ends shall be fitted with Friction Caps.
13. Sign blanks shall be the sizes and shapes shown on the plans.



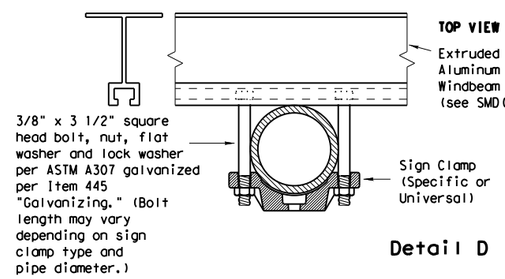
SM RD SGN ASSM TY S80(1)XX(U-1EXT)



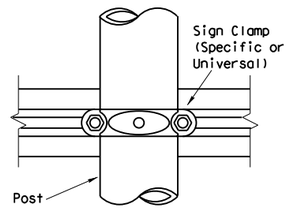
SM RD SGN ASSM TY S80(1)XX(U-2EXT)



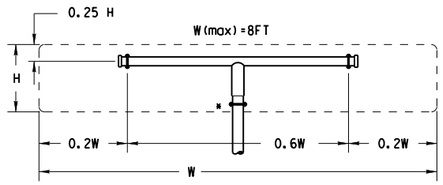
SM RD SGN ASSYM TY XXXXX(2)XX(P)



Detail D



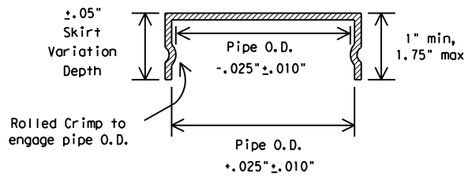
REQUIRED SUPPORT		
	SIGN DESCRIPTION	SUPPORT
Regulatory	48-inch STOP sign (R1-1)	TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-BM)
	60-inch YIELD sign (R1-2)	TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-BM)
	48x16-inch ONE-WAY sign (R6-1)	TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-BM)
	36x48, 48x36, and 48x48-inch signs	TY 10BWG(1)XX(T)
	48x60-inch signs	TY S80(1)XX(T)
Warning	48x48-inch signs (diamond or square)	TY 10BWG(1)XX(T)
	48x60-inch signs	TY S80(1)XX(T)
	48-inch Advance School X-ing sign (S1-1)	TY 10BWG(1)XX(T)
	48-inch School X-ing sign (S2-1)	TY 10BWG(1)XX(T)
	Large Arrow sign (W1-6 & W1-7)	TY 10BWG(1)XX(T)



SM RD SGN ASSM TY XXXXX(1)XX(T)
(* - See Note 12)

All dimensions are in english unless detailed otherwise.

FRICTION CAP DETAIL



Friction caps may be manufactured from hot rolled or cold rolled steel sheets. The minimum sheet metal thickness shall be 24 gauge for all cap sizes.

The rim edges shall be reasonably straight and smooth. Caps shall be sized and formed in such a manner as to produce a drive-on friction fit and have no tendency to rock when seated on the pipe. The depth shall be sufficient to give positive protection against entrance of rainwater. They shall be free of sharp creases or indentations and show no evidence of metal fracture.

Caps shall have an electrodeposited coating of zinc in accordance with the requirements of ASTM B633 Class FE/ZN 8.

Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS SMALL ROADSIDE SIGNS TRIANGULAR SLIPBASE SYSTEM

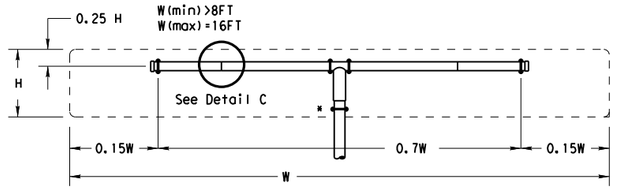
SMD(SLIP-2)-08

DN: TXDOT	CK: TXDOT	DW: TXDOT	CK: TXDOT
CONT	SECT	JOB	HIGHWAY
0918	11	110	VARIOUS
DIST	COUNTY		SHEET NO.
DAL	KAUFMAN, ETC		129

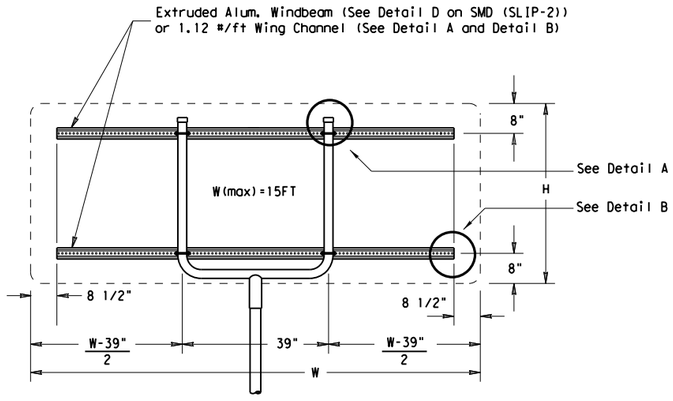
9-08 REVISIONS

DATE:
FILE:

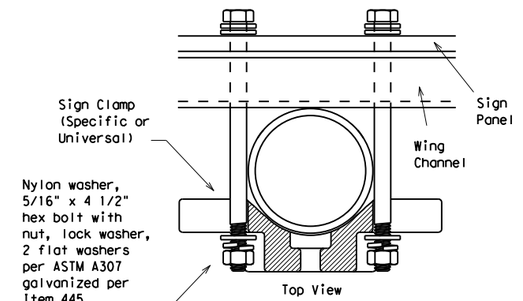
DATE:
FILE:



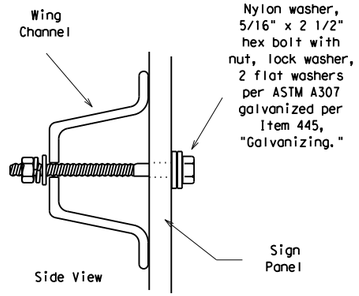
SM RD SGN ASSM TY XXXXX(1)XX(T-2EXT)
(* - See Note 12)



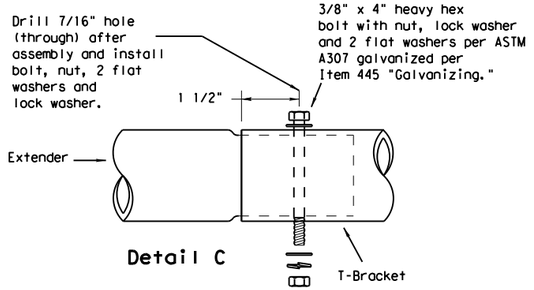
SM RD SGN ASSM TY XXXXX(1)XX(U-XX)



Detail A

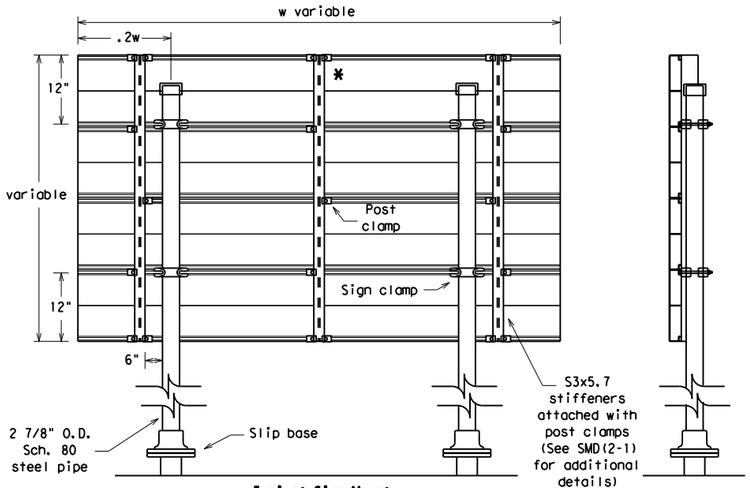


Detail B



Detail C

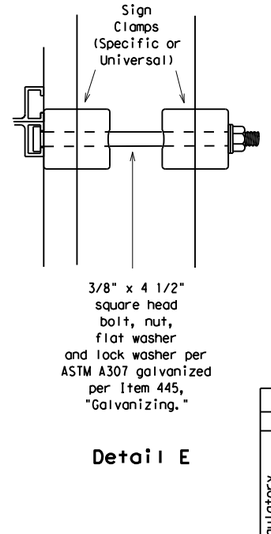
Splices shall only be allowed behind the sign substrate.



Typical Sign Mount

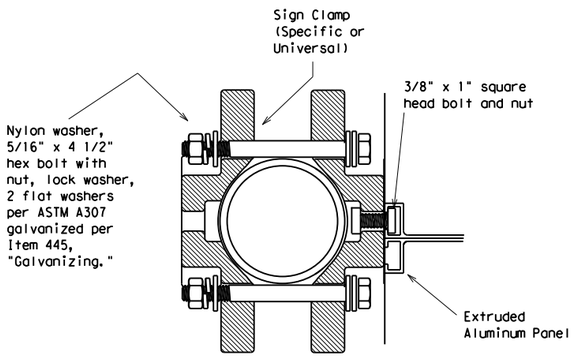
SM RD SGN ASSM TY S80(2)XX(P-EXAL)

* Additional stiffener placed at approximate center of signs when sign width is greater than 10'.

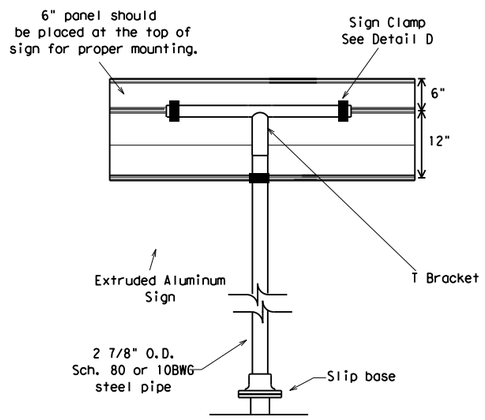


Detail E

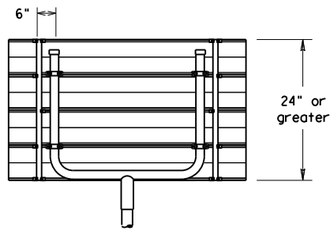
See Detail E
for clamp installation



Detail D
EXTRUDED ALUMINUM SIGN WITH T BRACKET



Extruded Aluminum Sign
With T Bracket



Use Extruded Alum. Windbeam as stiffeners
See SMD (2-1) for additional details

See Detail E
for clamp installation

GENERAL NOTES:

SIGN SUPPORT	# OF POSTS	MAX. SIGN AREA
10 BWG	1	16 SF
10 BWG	2	32 SF
Sch 80	1	32 SF
Sch 80	2	64 SF

1. The Engineer may require that a Schedule 80 post be used in place of a 10 BWG where a sign height is abnormally high due to a fill slope.
2. Sign supports shall not be spliced except where shown. Sign support posts shall not be spliced.
3. Aluminum sign blanks shall conform to Departmental Material Specifications DMS-7110 and shall have the following minimum thicknesses: 0.080 for signs less than 7.5 sq. ft., 0.100 for signs 7.5 to 15 sq. ft., and 0.125 for signs greater than 15 sq. ft.
4. Signs that require specific supports due to reasons in addition to windloading are indicated on the "REQUIRED SUPPORT" table on this sheet.
5. For horizontal rectangular signs fabricated from flat aluminum, T-brackets are used for signs 24 inches or less in height. U-brackets are used for signs of greater height.
6. When two triangular slipbase supports are used to support a single sign, they shall not be "rigidly" connected to each other except through the sign panel. This will allow each support to act independently when impacted by an errant vehicle.
7. Wing channel shall meet ASTM A 1011 SS Gr 50 and be galvanized per ASTM A 123.
8. Excess pipe, wing channel, or windbeam shall be cut off so that it does not extend beyond the sign panel (i.e., excess support shall not be visible when the sign is viewed from the front.) Repair galvanized coating at cut support ends per Item 445, "Galvanizing."
9. Sign blanks shall be the sizes and shapes shown on the plans.
10. Additional sign clamp required on the "T-bracket" post for 24 inch high signs. Place the clamp 3 inches above bottom of sign when possible.
11. Post open ends shall be fitted with Friction Caps.

REQUIRED SUPPORT		
	SIGN DESCRIPTION	SUPPORT
Regulatory	48-inch STOP sign (R1-1)	TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-BM)
	60-inch YIELD sign (R1-2)	TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-BM)
	48x16-inch ONE-WAY sign (R6-1)	TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-BM)
	36x48, 48x36, and 48x48-inch signs	TY 10BWG(1)XX(T)
	48x60-inch signs	TY S80(1)XX(T)
Warning	48x48-inch signs (diamond or square)	TY 10BWG(1)XX(T)
	48x60-inch signs	TY S80(1)XX(T)
	48-inch Advance School X-ing sign (S1-1)	TY 10BWG(1)XX(T)
	48-inch School X-ing sign (S2-1)	TY 10BWG(1)XX(T)
	Large Arrow sign (W1-6 & W1-7)	TY 10BWG(1)XX(T)

Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS
SMALL ROADSIDE SIGNS
TRIANGULAR SLIPBASE SYSTEM

SMD(SLIP-3)-08

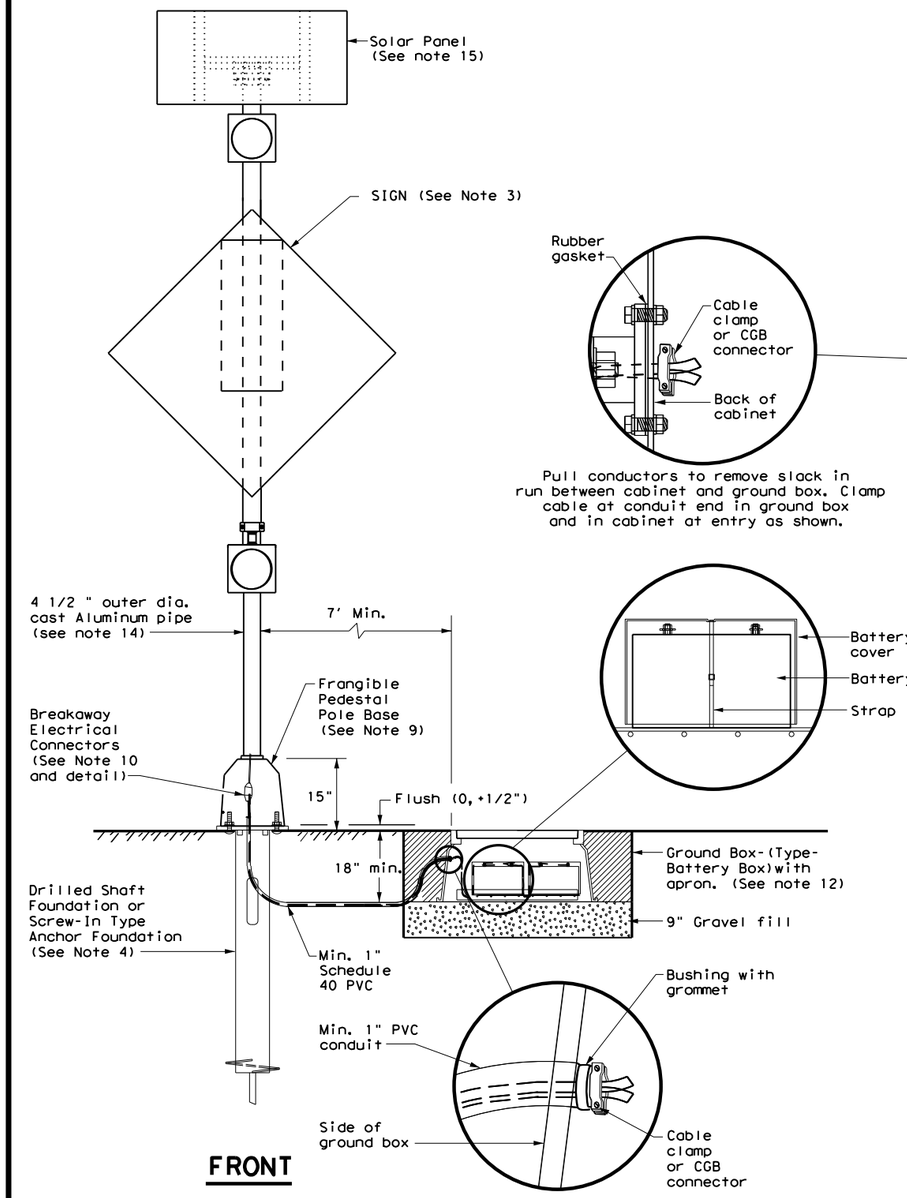
REVISIONS
9-08

DN: TXDOT	CK: TXDOT	DW: TXDOT	CK: TXDOT

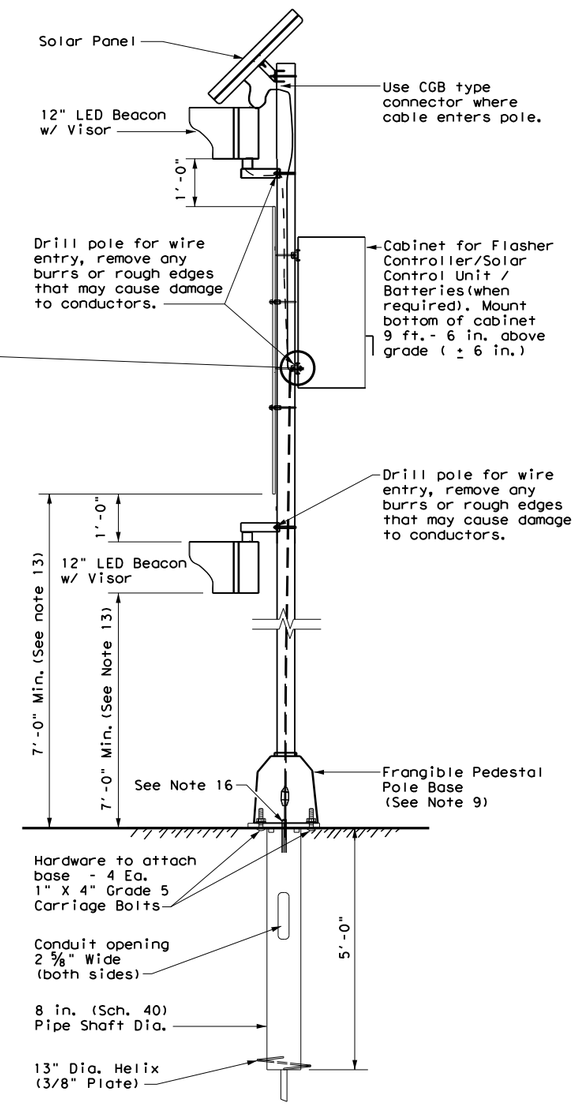
CONT	SECT	JOB	HIGHWAY
0918	11	110	VARIOUS
DIST	COUNTY		SHEET NO.
DAL	KAUFMAN, ETC		130

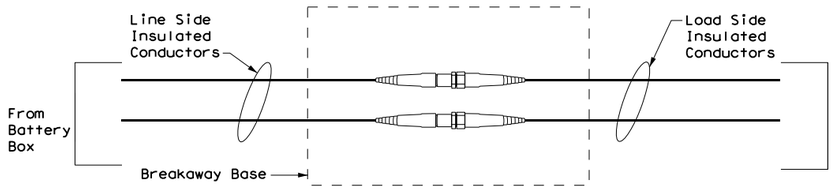
GENERAL NOTES:

1. Details show a typical warning sign with two flashing beacon heads, other arrangements are possible. When only one beacon is required, install the upper beacon.
2. See Item 685, "Roadside Flashing Beacon Assemblies" for further requirements.
3. See SMD standard sheets for lateral and vertical clearances and sign mounting details. Install signs as shown on the sign layout sheets.
4. Use either a Screw-In Type Anchor Foundation or a Drilled Shaft Foundation as shown elsewhere in the plans. When plans require a Drilled Shaft Foundation, see standard sheet TS-FD. Install the Screw-In Type Anchor Foundation as per manufacturer's recommendations. On a slope, install one edge at ground level. Screw-In/Drilled Shaft Foundation is subsidiary to Item 685. Installation of a ground rod is not required for solar powered flashing beacon assemblies.
5. When used, provide Screw-In Type Anchor Foundations as shown on TxDOT's Material Producer List (MPL) in the file "Highway Traffic Signals".
6. Use materials specifically designed for attaching cabinets, beacon heads, solar panels, etc., to poles.
7. Install beacon heads as shown here, as shown elsewhere on the plans, or as directed. Use hardware specifically designed for mounting beacon heads on poles.
8. Conduit in foundation and within 6 in. of foundation is subsidiary to the Item 685, "Roadside Flashing Beacon Assemblies."
9. Per manufacturer's recommendations, engage all threads on the pedestal pole base and pipe unless the pipe is fully seated into base. In high winds, use a pole and base collar assembly to add strength and prevent loosening on connection.
10. Provide single pole non-fused watertight breakaway electrical connectors for frangible pedestal pole bases, as shown on TxDOT's MPL in the file "Roadway Illumination and Electrical Supplies." Approved models are listed under Item 685. For ungrounded (hot) conductors, install a breakaway connector with a dummy fuse slug). For grounded (neutral) conductors, install a breakaway connector with a white colored marking and a permanently installed dummy fuse (slug).
11. Install the batteries in a battery box. Place the batteries on a 3/16" thick plastic sheet and connect together. Place a plastic cover (battery bell jar) over the top of each battery and secure the battery bell jar to the battery with a strap. The batteries, bell jars, straps and 3/16" plastic sheet are subsidiary to the Item 685, "Roadside Flashing Beacon Assemblies." When required, install batteries in the flasher cabinet. Wire batteries according to manufacturers recommendations. Provide the number of batteries as required by the manufacturer.
12. See standard sheet Electrical Details (ED) for additional requirements regarding the installation of ground boxes/battery boxes, conduit, and cabinets.
13. Provide clearance as shown above the sidewalk or pavement grade at the edge of the road. When a bottom beacon is not used, mount the bottom of the sign at least 7 ft. above the sidewalk or pavement grade at the edge of the road.
14. Unless otherwise shown on the plans, pole shaft shall be one piece, Schedule 40 Aluminum pipe, ASTM B429 or B221 (Alloy 6061-T6 only). Aluminum conduit will not develop the necessary strength and will not be allowed.
15. Orient solar panel for optimum exposure to sunlight (face to the south). Prior to installation, check the location to ensure there is no overhead obstruction that would block the solar panel from receiving full sunlight. Unless specified elsewhere, mount a minimum of 14' above grade.
16. Ensure height of conduit is below top of anchor bolts.

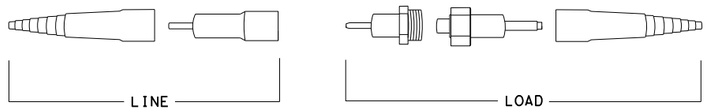


Pull conductors to remove slack in run between cabinet and ground box. Clamp cable at conduit end in ground box and in cabinet at entry as shown.





NON-FUSED BREAKAWAY ELECTRICAL CONNECTORS



NON-FUSED BREAKAWAY ELECTRICAL CONNECTORS EXPLODED VIEW

Texas Department of Transportation

Traffic Operations Division Standard

SOLAR POWERED ROADSIDE FLASHING BEACON ASSEMBLY DETAILS

SPRFBA(1)-13

FILE: spb1-13.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT May 2003	CONT	SECT	JOB	HIGHWAY
REVISIONS	0918	11	110	VARIOUS
12-04	DIST	COUNTY		SHEET NO.
3-13	DAL	KAUFMAN, ETC		131

DATE:
FILE:

75A

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DATE:
FILE:

NOTE: Structures north of ice line to be designed for ice.

ZONE 2
(90 MPH WIND)

ZONE 3
(80 MPH WIND)

ZONE 4
(70 MPH WIND)

ICE LINE

ZONE 4
(70 MPH WIND)

ICE LINE

ZONE 3
(80 MPH WIND)

ZONE 1
(100 MPH WIND)

LEGEND

ZONE 1 - = (100 MPH WIND)
ZONE 2 - = (90 MPH WIND)
ZONE 3 - = (80 MPH WIND)
ZONE 4 - = (70 MPH WIND)
= (ICE LINE)
= (DISTRICT LINES)

WIND VELOCITY & ICE ZONES FOR APPLICABLE OVERHEAD SIGN SUPPORTS, HIGH MAST POLES, AND TRAFFIC SIGNAL POLES

Based on 50 Year Mean Recurrence Interval of Fastest Mile Wind Velocity at 33 feet height.

THIS SHEET TO BE INCLUDED IN ALL P.S.&E. PACKAGES CONTAINING ONE OR MORE OF THE APPLICABLE STANDARD SHEETS LISTED HEREON

APPLICABLE STANDARDS SHEETS

OVERHEAD SIGN BRIDGE STANDARDS:

OSB-SE
OSB-Z#
OSB-Z#1
HOSB-Z#
HOSB-Z1L
HOSB-Z#1
OSBT
OSBC
OSBC-SC-Z#
OSBS-SC
OSB-FD
OSB-FD-SC

CANTILEVER OVERHEAD SIGN SUPPORT STANDARDS:

COSS-SE
COSS-Z#-10
HCOSS-Z#-10
COSS-Z21-10
COSS-Z#&Z#1-10
COSSD
COSSF
COSS-FD

Note: # = Wind Zone number 1, 2, 3 or 4

HIGH MAST ILLUMINATION POLE STANDARDS:

HMIP-98
HMIF-98

WALKWAYS AND BRACKETS STANDARDS:

SWW
SB(SWL-1)

TRAFFIC SIGNAL POLE STANDARDS:

SP-80
SP-100
SMA-80
SMA-100
DMA-80
DMA-100
MA-C
MAC(ILSN)
MAD-D
TS-FD
LUM-A
CFA
LMA
TS-C
MA-DPD

FOR HARRIS CO. ONLY
Zone line is just North of US 90, around on the North, West and South sides of IH 610 and down the West side of SH 288.

FOR JACKSON CO. ONLY
Zone line is just North of SH 616.

Texas Department of Transportation

Traffic Operations Division Standard

WIND VELOCITY AND ICE ZONES

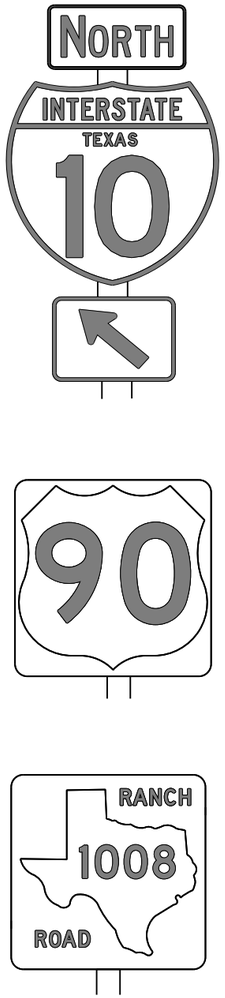
WV & IZ-14

FILE: windice.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT April 1996	CONT	SECT	JOB	HIGHWAY
REVISIONS	0918	11	110	VARIOUS
8-14-Added list of applicable standards, restricting use to structures designed for Fastest Mile wind speeds.	DIST	COUNTY		SHEET NO.
	DAL	KAUFMAN, ETC		132

DATE:
FILE:

REQUIREMENTS FOR INDEPENDENT MOUNTED ROUTE SIGNS

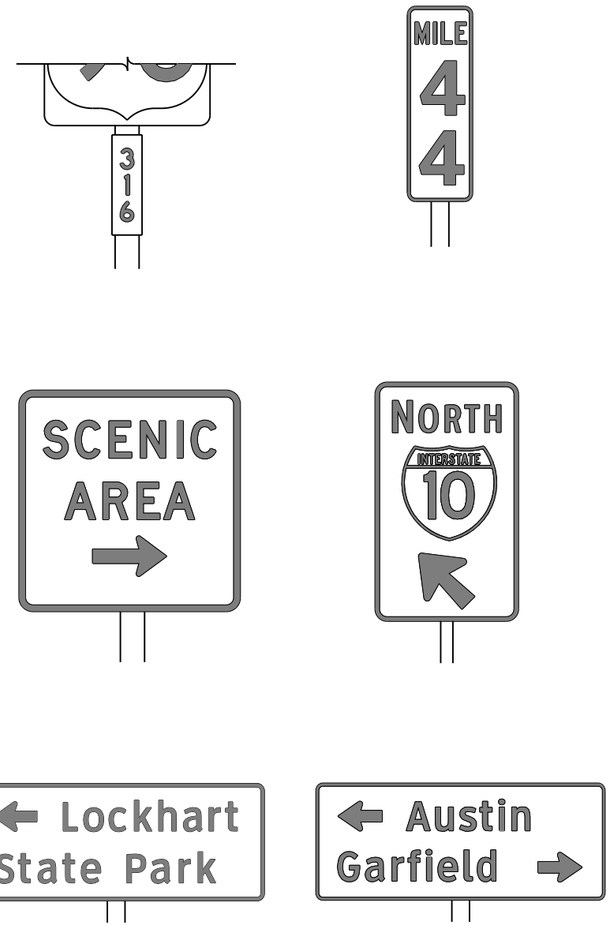
SHEETING REQUIREMENTS		
USAGE	COLOR	SIGN FACE MATERIAL
BACKGROUND	WHITE	TYPE A SHEETING
BACKGROUND	ALL OTHERS	TYPE B OR C SHEETING
LEGEND & BORDERS	WHITE	TYPE A SHEETING
LEGEND & BORDERS	BLACK	ACRYLIC NON-REFLECTIVE FILM
LEGEND & BORDERS	ALL OTHERS	TYPE B or C SHEETING



TYPICAL EXAMPLES

REQUIREMENTS FOR BLUE, BROWN & GREEN D AND I SERIES GUIDE SIGNS

SHEETING REQUIREMENTS		
USAGE	COLOR	SIGN FACE MATERIAL
BACKGROUND	ALL	TYPE B OR C SHEETING
LEGEND & BORDERS	WHITE	TYPE D SHEETING
LEGEND, SYMBOLS & BORDERS	ALL OTHERS	TYPE B OR C SHEETING



TYPICAL EXAMPLES

GENERAL NOTES

1. Signs to be furnished shall be as detailed elsewhere in the plans and/or as shown on sign tabulation sheet. Standard sign designs and arrow dimensions can be found in the "Standard Highway Sign Designs for Texas" (SHSD).

2. White legend shall use the Clearview Alphabet. The following Clearview fonts shall be used to replace the existing white Federal Highway Administration (FHWA) Standard Highway Alphabets, when not specified in the SHSD, or in the plans.

B	CV-1W
C	CV-2W
D	CV-3W
E	CV-4W
Emod	CV-5WR
F	CV-6W

3. Route sign legend (ie. IH, US, SH and FM shields) shall use the Federal Highway Administration (FHWA) Standard Highway Alphabets B, C, D, E, Emod or F).

4. Lateral spacing between letters and numerals shall conform with the SHSD, and any approved changes thereto. Lateral spacing of legend shall provide a balanced appearance when spacing is not shown.

5. Independent mounted route sign with white or colored legend and borders shall be applied by screening process with transparent color ink, transparent colored overlay film to white background sheeting or cut-out white sheeting to colored background sheeting, or combination thereof. White legend, symbols and borders on all other signs shall be cut-out white sheeting applied to colored background sheeting.

6. Information regarding borders and radii for signs is found in the "Standard Highway Sign Designs for Texas". Dimensions shown and described for borders and corner radii on parent sign are nominal. Borders may vary in width as much as 1/2 inch. Corner radii above 3 inches may vary in width as much as 1 inch. Borders and corner radii within a parent sign must be of matching widths. The sign area outside the corner radius should be trimmed or rounded.

7. Sign substrate shall be any material that meets the Departmental Material Specification requirements of DMS-7110 or approved alternative.

8. Mounting details of roadside signs are shown in the "SMD series" Standard Plan Sheets.

DEPARTMENTAL MATERIAL SPECIFICATIONS	
ALUMINUM SIGN BLANKS	DMS-7110
SIGN FACE MATERIALS	DMS-8300

ALUMINUM SIGN BLANKS THICKNESS	
Square Feet	Minimum Thickness
Less than 7.5	0.080
7.5 to 15	0.100
Greater than 15	0.125

The Standard Highway Sign Designs for Texas (SHSD) can be found at the following website.

http://www.txdot.gov/

Texas Department of Transportation

Traffic Operations Division Standard

TYPICAL SIGN REQUIREMENTS

SHEET 1 OF 3 TSR(3)-13

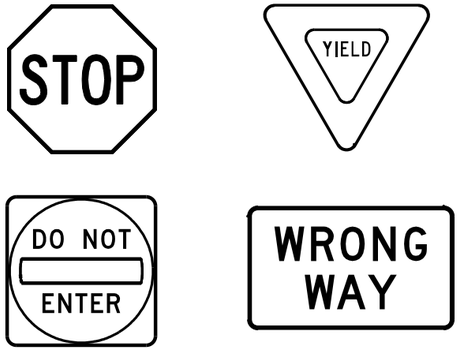
FILE: tsr3-13.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT October 2003	CONT	SECT	JOB	HIGHWAY
REVISIONS	0918	11	110	VARIOUS
12-03 7-13	DIST	COUNTY		SHEET NO.
9-08	DAL	KAUFMAN, ETC		133

3

DATE:
FILE:

REQUIREMENTS FOR RED BACKGROUND REGULATORY SIGNS

(STOP, YIELD, DO NOT ENTER AND WRONG WAY SIGNS)



REQUIREMENTS FOR FOUR SPECIFIC SIGNS ONLY

SHEETING REQUIREMENTS		
USAGE	COLOR	SIGN FACE MATERIAL
BACKGROUND	RED	TYPE B OR C SHEETING
BACKGROUND	WHITE	TYPE B OR C SHEETING
LEGEND & BORDERS	WHITE	TYPE B OR C SHEETING
LEGEND	RED	TYPE B OR C SHEETING

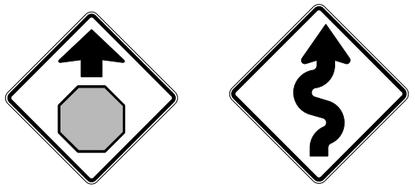
REQUIREMENTS FOR WHITE BACKGROUND REGULATORY SIGNS

(EXCLUDING STOP, YIELD, DO NOT ENTER AND WRONG WAY SIGNS)

TYPICAL EXAMPLES

SHEETING REQUIREMENTS		
USAGE	COLOR	SIGN FACE MATERIAL
BACKGROUND	WHITE	TYPE A SHEETING
BACKGROUND	ALL OTHERS	TYPE B OR C SHEETING
LEGEND, BORDERS AND SYMBOLS	BLACK	ACRYLIC NON-REFLECTIVE FILM
LEGEND, BORDERS AND SYMBOLS	ALL OTHER	TYPE B OR C SHEETING

REQUIREMENTS FOR WARNING SIGNS



TYPICAL EXAMPLES

SHEETING REQUIREMENTS		
USAGE	COLOR	SIGN FACE MATERIAL
BACKGROUND	FLOURESCENT YELLOW	TYPE B_{FL} OR C_{FL} SHEETING
LEGEND & BORDERS	BLACK	ACRYLIC NON-REFLECTIVE FILM
LEGEND & SYMBOLS	ALL OTHER	TYPE B OR C SHEETING

REQUIREMENTS FOR SCHOOL SIGNS

TYPICAL EXAMPLES

SHEETING REQUIREMENTS		
USAGE	COLOR	SIGN FACE MATERIAL
BACKGROUND	WHITE	TYPE A SHEETING
BACKGROUND	FLOURESCENT YELLOW GREEN	TYPE B_{FL} OR C_{FL} SHEETING
LEGEND, BORDERS AND SYMBOLS	BLACK	ACRYLIC NON-REFLECTIVE FILM
SYMBOLS	RED	TYPE B OR C SHEETING

GENERAL NOTES

1. Signs to be furnished shall be as detailed elsewhere in the plans and/or as shown on sign tabulation sheet. Standard sign designs and arrow dimensions can be found in the "Standard Highway Sign Designs for Texas" (SHSD).
2. Sign legend shall use the Federal Highway Administration (FHWA) Standard Highway Alphabets (B, C, D, E, Emod or F).
3. Lateral spacing between letters and numerals shall conform with the SHSD, and any approved changes thereto. Lateral spacing of legend shall provide a balanced appearance when spacing is not shown.
4. Black legend and borders shall be applied by screening process or cut-out acrylic non-reflective black film to background sheeting, or combination thereof.
5. White legend and borders shall be applied by screening process with transparent colored ink, transparent colored overlay film to white background sheeting or cut-out white sheeting to colored background sheeting, or combination thereof.
6. Colored legend shall be applied by screening process with transparent colored ink, transparent colored overlay film or colored sheeting to background sheeting, or combination thereof.
7. Sign substrate shall be any material that meets the Departmental Material Specification requirements of DMS-7110 or approved alternative.
8. Mounting details for roadside mounted signs are shown in the "SMD series" Standard Plan Sheets.

ALUMINUM SIGN BLANKS THICKNESS	
Square Feet	Minimum Thickness
Less than 7.5	0.080
7.5 to 15	0.100
Greater than 15	0.125

DEPARTMENTAL MATERIAL SPECIFICATIONS	
ALUMINUM SIGN BLANKS	DMS-7110
SIGN FACE MATERIALS	DMS-8300

The Standard Highway Sign Designs for Texas (SHSD) can be found at the following website.

http://www.txdot.gov/

Texas Department of Transportation

Traffic Operations Division Standard

TYPICAL SIGN REQUIREMENTS

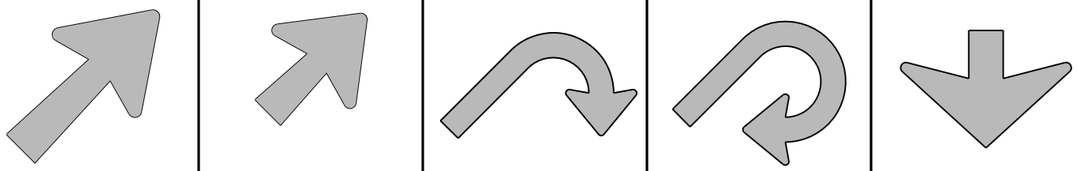
SHEET 2 OF 3 TSR(4)-13

FILE:	tsr4-13.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT	October 2003	CONT	SECT	JOB	HIGHWAY
REVISIONS		0918	11	110	VARIOUS
12-03 7-13		DIST	COUNTY		SHEET NO.
9-08		DAL	KAUFMAN, ETC		134

DATE:
FILE:

ARROW DETAILS

for Large Ground-Mounted and Overhead Guide Signs



TYPE	LETTER SIZE	USE
A-1	10.67" U/L and 10" Caps	Single Lane Exits
A-2	13.33" U/L and 12" Caps	
A-3	16" & 20" U/L	
B-1	10.67" U/L and 10" Caps	Multiple Lane Exits
B-2	13.33" U/L and 12" Caps	
B-3	16" & 20" U/L	

CODE	USED ON SIGN NO.
E-3	E5-1aT
E-4	E5-1bT

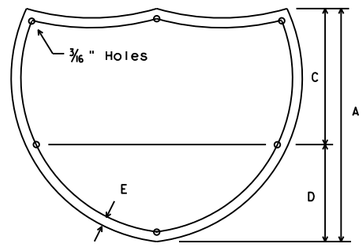
NOTE

Arrow dimensions are shown in the "Standard Highway Sign Designs for Texas" manual.

The Standard Highway Sign Designs for Texas (SHSD) can be found at the following website.

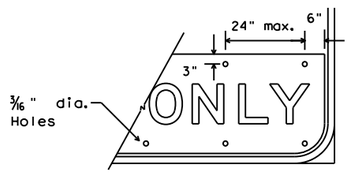
http://www.txdot.gov/

SIGN BLANK PUNCHING DETAILS FOR ATTACHMENTS WHEN SPECIFIED TO BE TYPE A ALUMINUM SIGNS (FOR MOUNTING TO GUIDE SIGN FACE)

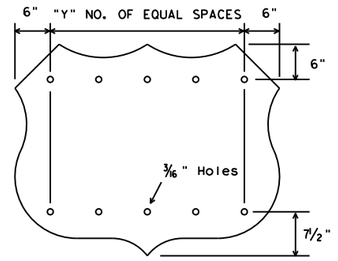


INTERSTATE ROUTE MARKERS

A	C	D	E
36	21	15	1 1/2
48	28	20	1 3/4

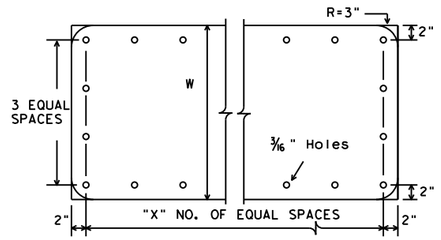


EXIT ONLY PANEL



U.S. ROUTE MARKERS

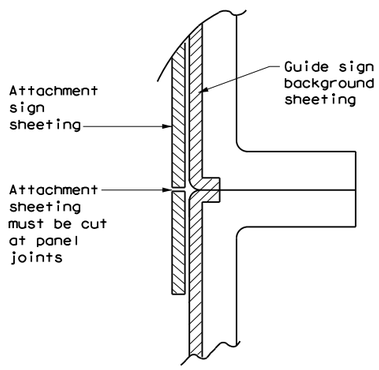
Sign Size	"Y"
24x24	2
30x24	3
36x36	3
45x36	4
48x48	4
60x48	5



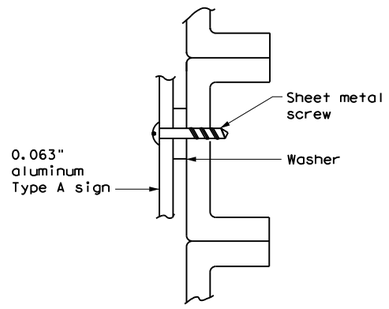
STATE ROUTE MARKERS

No. of Digits	W	X
4	24	4
4	36	5
4	48	6
3	24	3
3	36	4
3	48	5

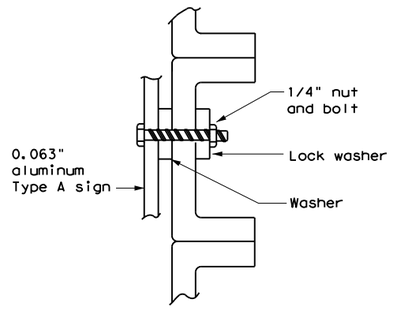
MOUNTING DETAILS OF ATTACHMENTS TO GUIDE SIGN FACE ("EXIT ONLY" AND "LEFT EXIT" PANELS, ROUTE MARKERS AND OTHER ATTACHMENTS)



DIRECT APPLIED ATTACHMENT



SCREW ATTACHMENT



NUT/BOLT ATTACHMENT

NOTE:

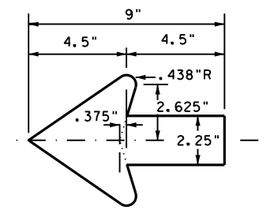
1. Sheeting for legend, symbols, and borders must be cut at panel joints.
2. Direct applied attachment signs will be subsidiary to "Aluminum Signs" or "Fiberglass Signs".

NOTE:

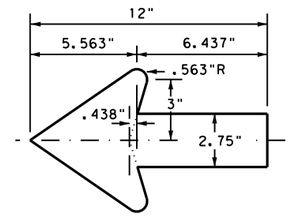
Furnish Type A aluminum sign attachments only when specified in the plans. These signs will be paid for under "Aluminum Signs".

ARROW DETAILS

for Destination Signs (Type D)



Standard arrow to be used with 6 inch letters.



Standard arrow to be used with 8 inch letters.

Texas Department of Transportation

Traffic Operations Division Standard

TYPICAL SIGN REQUIREMENTS

SHEET 3 OF 3 **TSR(5)-13**

FILE: tsr5-13.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT October 2003	CONT	SECT	JOB	HIGHWAY
REVISIONS	0918	11	110	VARIOUS
12-03 7-13	DIST	COUNTY		SHEET NO.
9-08	DAL	KAUFMAN, ETC		135

5

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damge resulting from its use.

Notes To Designer:
1. Do not alter Sheet Design or Font style, size or weight - match text attributes.
2. If additional space is needed for a numbered section, fence and adjust sections up or down as needed for proportioning and readability but do not relocate from its relative position.
3. All areas should be addressed thoroughly and verify the necessary pay items are set up to support actions needed.

Filled Out: XX/XX/XXXX
Prepared by: Name/Section

I. STORMWATER POLLUTION PREVENTION PLAN-CLEAN WATER ACT SECTION 402

TPDES TXR 150000: Stormwater Discharge Permit or Construction General Perrmit required for projects with 1 or more acres disturbed soil. Projects with any disturbed soil must protect for erosion and sedimentation in accordance with Item 506.
List adjacent MS 4 Operator(s) that receive discharges from this project. They need to be notified prior to construction activities.
(Note: Leave blank only if no adjacent MS 4 Operator(s) are affected.)

1.

2.

☐ No Action Required ☒ Required Action

Action Number:

1. Prevent stormwater pollution by controlling erosion and sedimentation in accordance with TPDES Permit TXR 150000.
2. Comply with the SW3P and revise when necessary to control pollution or required by the Engineer.
3. Post Construction Site Notice (CSN) with SW3P information on or near the site, accessible to the public and TCEQ, EPA or other inspectors.
4. When Contractor project specific locations (PSL's) increase disturbed soil area to 5 acres or more, submit NOI to TCEQ and the Engineer.

II. WORK IN OR NEAR STREAMS, WATERBODIES AND WETLANDS CLEAN WATER ACT SECTIONS 401 AND 404

USACE Permit required for filling, dredging, excavating or other work in any water bodies, rivers, creeks, streams, wetlands or wet areas. No equipment is allowed in any sream channel below the ordinary High Water Mark except on approved temporary stream crossings or drill pads.

The Contractor must adhere to all of the terms and conditions associated with the following permit(s):

☒ No Permit Required
☐ Nationwide Permit 14 - PCN not Required (less than 1/10th acre waters or wetlands affected)
☐ Nationwide Permit 14 - PCN Required (1/10 to <1/2 acre, 1/3 in tidal waters)
☐ Individual 404 Permit Required
☐ Other Nationwide Permit Required: NWP# _____

Required Actions: List Waters of the US Permit applies to, location in project and check Best Management Practices planned to control erosion, sedimentation and post-project TSS.

N/A

The elevation of the ordinary high water marks of any areas requiring work to be performed in the waters of the US requiring the use of a nationwide permit can be found on the Bridge Layouts.

Best Management Practices for applicable 401 General Conditions:
(Note: If CORP Permit not required, do not check boxes.)

Erosion	Sedimentation	Post-Construction TSS
☐ Temporary Vegetation	☒ Silt Fence	☐ Vegetative Filter Strips
☐ Blankets/Matting	☐ Rock Berm	☐ Retention/Irrigation Systems
☐ Mulch	☐ Triangular Filter Dike	☐ Extended Detention Basin
☒ Sodding	☐ Sand Bag Berm	☐ Constructed Wetlands
☐ Interceptor Swale	☐ Straw Bale Dike	☐ Wet Basin
☐ Diversion Dike	☐ Brush Berms	☐ Erosion Control Compost
☐ Erosion Control Compost	☐ Erosion Control Compost	☐ Mulch Filter Berm and Socks
☐ Mulch Filter Berm and Socks	☐ Mulch Filter Berm and Socks	☐ Compost Filter Berm and Socks
☐ Compost Filter Berm and Socks	☐ Compost Filter Berm and Socks	☐ Vegetation Lined Ditches
	☐ Stone Outlet Sediment Traps	☐ Sand Filter Systems
	☐ Sediment Basins	☐ Grassy Swales

III. CULTURAL RESOURCES

Refer to TxDOT Standard Specifications in the event historical issues or archeological artifacts are found during construction. Upon discovery of archeological artifacts (bones, burnt rock, flint, pottery, etc.) cease work in the immediate area and contact the Engineer immediately.

☒ No Action Required ☐ Required Action

Action Number:

1.

2.

3.

IV. VEGETATION RESOURCES

Preserve native vegetation to the extent practical.
Contractor must adhere to Construction Specification Requirements Specs 162, 164, 192, 193, 506, 730, 751 & 752 in order to comply with requirements for invasive species, beneficial landscaping and tree/brush removal commitments.

☒ No Action Required ☐ Required Action

Action Number:

1.

2.

3.

4.

V. FEDERAL LISTED, PROPOSED THREATENED, ENDANGERED SPECIES, CRITICAL HABITAT, STATE LISTED SPECIES, CANDIDATE SPECIES AND MIGRATORY BIRDS TREATY ACT.

☒ No Action Required ☐ Required Action

Action Number:

1.

2.

3.

4.

If any of the listed species are observed, cease work in the immediate area, do not disturb species or habitat and contact the Engineer immediately. The work may not remove active nests from bridges and other structures during nesting season of the birds associated with the nests. If caves or sinkholes are discovered, cease work in the immediated area, and contact the Engineer immediately.

Special Note: The Migratory Bird Act of 1918 states that it is unlawful to kill, capture, collect, possess, buy, sell, trade or transport any migratory bird, nest, young, feather or egg in part or in whole, without a federal permit issued in accordance within the Act's policies and regulations. The contractor would remove all old migratory bird nests from any structure where work would be done from October 1 to February 15. In addition, the contractor would be prepared to prevent migratory birds from building nest(s) between February 15 to October 1. In the event that migratory birds are encountered on-site during project construction, efforts to avoid adverse impacts on protected birds, active nests, eggs and/or young would be observed.

LIST OF ABBREVIATIONS

BMP:	Best Management Practice	SPCC:	Spill Prevention Control and Countermeasure
CGP:	Construction General Permit	SW3P:	Storm Water Pollution Prevention Plan
DSHS:	Texas Department of State Health Services	PCN:	Pre-Construction Notification
FHWA:	Federal Highway Administration	PSL:	Project Specific Location
MOA:	Memorandum of Agreement	TCEQ:	Texas Commission on Environmental Quality
MOU:	Memorandum of Understanding	TPDES:	Texas Pollutant Discharge Elimination System
MS4:	Municipal Separate Stormwater Sewer System	TPWD:	Texas Parks and Wildlife Department
MBTA:	Migratory Bird Treaty Act	TxDOT:	Texas Department of Transportation
NOT:	Notice of Termination	T&E:	Threatened and Endangered Species
NWP:	Nationwide Permit	USACE:	U.S. Army Corp of Engineers
NOI:	Notice of Intent	USFWS:	U.S. Fish and Wildlife Service

VI. HAZARDOUS MATERIALS OR CONTAMINATION ISSUES

General (applies to all projects):
Comply with the Hazard Communication Act (the Act) for personnel who will be working with hazardous materials by conducting safety meetings prior to beginning construction and making workers aware of potential hazards in the workplace. Ensure that all workers are provided with personal protective equipment appropiate for any hazardous materials used.

Obtain and keep on-site Material Safety Data Sheets (MSDS) for all hazardous products used on the project, which may include, but are not limited to the following categories: Paints, acids, solvents, asphalt products, chemical additives, fuels and concrete curing compounds or additives. Provide protected storage, off bare ground and covered, for products which may be hazardous. Maintain product labelling as required by the Act. Maintain an adequate supply of on-site spill response materials, as indicated in the MSDS. In the event of a spill, take actions to mitigate the spill as indicated in the MSDS, in accordance with safe work practices, and contact the District Spill Coordinator immediately. The Contractor shall be responsible for the proper containment and cleanup of all product spills.

Contact the Engineer if any of the following are detected:
* Dead or distressed vegetation (not identified as normal)
* Trash piles, drums, canisters, barrels, etc.
* Undesirable smells or odors
* Evidence of leaching or seepage of substances

Does the project involve any bridge class structure rehabilitation(s) or replacement(s) (bridge class structures not including box culverts)?

☐ Yes ☒ No

If "No", then no further action is required.
If "Yes", then TxDOT is responsible for completing asbestos assessment/inspection.

Are the results of the asbestos inspection positive (is asbestos present)?

☐ Yes ☐ No

If "Yes", then TxDOT must retain a DSHS licensed asbestos consultant to assist with the notification, develop abatement/mitigation procedures, and perform management activities as necessary. The notification form to DSHS must be postmarked at least 15 working days prior to scheduled demolition.

If "No", then TxDOT is still required to notifiy DSHS 15 working days prior to any scheduled demolition.

In either case, the Contractor is responsible for providing the date(s) for abatement activities and/or demolition with careful coordination between the Engineer and asbestos consultant in order to minimize construction delays and subsequent claims.

Any other evidence indicating possible hazardous materials or contamination discovered on site. Hazardous Materials or Contamination Issues Specific to this Project:

☐ No Action Required ☐ Required Action

Action Number:

1.

2.

3.

VII. OTHER ENVIRONMENTAL ISSUES

(includes regional issues such as Edwards Aquifer District, etc.)

☒ No Action Required ☐ Required Action

Action Number:

1.

2.

3.

GENERAL NOTE:

Any change orders and/or deviations from the final design must be reported to the Engineer prior to commencement of construction activities, as additional environmental clearance may be required.

LAST REVISION: 1/15/15

 Texas Department of Transportation
Dallas District

ENVIRONMENTAL PERMITS, ISSUES AND COMMITMENTS (EPIC)

FED.RD. DIV.NO.	PROJECT NO.		HIGHWAY NO.
6	SEE TITLE SHEET		VARIOUS
STATE	DISTRICT	COUNTY	
TEXAS	DALLAS	KAUFMAN, ETC	
CONTROL	SECTION	JOB	SHEET NO.
0918	11	110	136

STORMWATER POLLUTION PREVENTION PLAN (SWP3):

This SWP3 has been developed in accordance with the TPDES Construction General Permit TXR150000 (CGP). The Texas Department of Transportation (TxDOT) ensures that project specifications include adequate best management practices (BMPs) for this project.

For all projects with soil disturbing activity and for projects that have Environmental, Permits, Issues, and Commitments (EPICs) dependent on stormwater controls and water quality measures TxDOT will maintain a SWP3 with all pertinent records, correspondence, environmental documents, etc. at the project field office, Area Office, or electronically.

This SWP3 is consistent with requirements specified in applicable stormwater plans and the projects environmental permits, issues, and commitments (EPICs). A copy of the CGP is included in Attachment 2.12 of the SWP3 binder.

1.0 SITE/PROJECT DESCRIPTION

1.1 PROJECT CONTROL SECTION JOB (CSJ): 0918-00-393

1.2 PROJECT LIMITS:
MABANK: SH-198 FROM US-175 TO PASCHALL ROAD
KEMP: BUS-175 FROM 8 TH ST TO TX-274

1.3 PROJECT COORDINATES:
SH-198 BEGIN: (Lat) 32.3727° (N) , (Long) 96.0976° (W)
SH-198 END: (Lat) 32.3468° (N), (Long) 96.1074° (W)
BUS-175 BEGIN: (Lat) 32.4448° (N) , (Long) 96.2315° (W)
BUS-175 END: (Lat) 32.4381° (N), (Long) 96.2281° (W)

1.4 TOTAL PROJECT AREA (Acres):
MABANK: 14.6 ACRES
KEMP: 5.7 ACRES

1.5 TOTAL AREA TO BE DISTURBED (Acres):
MABANK: 3.59 ACRES
KEMP: 0.53 ACRES

1.6 NATURE OF CONSTRUCTION ACTIVITY:
CONSTRUCTION OF CURB RAMPS, SIDEWALKS, AND MISCELLANEOUS PEDESTRIAN ELEMENTS

1.7 MAJOR SOIL TYPES:

Soil Type	Description
Crockett Fine Sandy Loam, 1-3% Slopes	85% Crockett, Moderately Well Drained, High Rate of Runoff
Crockett Fine Sandy Loam, 2-5% Slopes	85% Crockett, Moderately Well Drained, High Rate of Runoff
Kemp Loam,Frequently Flooded	100% Kemp, Moderately Well Drained, Negligible Rate of Runoff
Mabank Fine Sandy Loam, 0-1% Slopes	85% Mabank, Moderately Well Drained, High Rate of Runoff
Burleson Clay, 1-3% Slopes	85% Burleson, Moderately Well Drained, Very High Rate of Runoff
Ferris-Heiden Complex, 2-5% Slopes	50% Ferris, 40% Heiden, Well Drained, Very High Rate of Runoff
Trinity Clay, 0-1% Slopes, Frequently Flooded	85% Trinity, Moderately Well Drained, High Rate of Runoff

EXISTING VEGETATION CONSISTS LARGELY OF NATIVE GRASSLAND COVERING THE AREAS FROM THE EDGE OF PAVEMENT TO APPARENT RIGHT OF WAY, WITH A DENSITY OF APPROXIMATELY 80%.

1.8 PROJECT SPECIFIC LOCATIONS (PSLs):

PSLs must be depicted on the Environmental Layout Sheets in Attachment 1.2 of this SWP3. PSLs may be identified during preconstruction meetings or during the construction process. Please choose from the options below:

☐ PSLs determined during preconstruction meeting
☒ PSLs determined during construction
☐ No PSLs planned for construction

Type	Sheet #s

All off-ROW PSLs required by the Contractor are the Contractor's responsibility. The Contractor shall secure all permits required by local, state, federal laws for off-ROW PSLs. The contractor shall provide diagrams, areas of disturbance, acreage, and BMPs for all off-ROW PSLs within one mile of the project.

1.9 CONSTRUCTION ACTIVITIES:

(Use the following list as a starting point when developing the Construction Activity Schedule and Ceasing Record in Attachment 2.5.)

☒ Mobilization
☒ Install sediment and erosion controls
☒ Blade existing topsoil into windrows, prep ROW, clear and grub
☒ Remove existing pavement
☒ Grading operations, excavation, and embankment
☐ Excavate and prepare subgrade for proposed pavement widening
☐ Remove existing culverts, safety end treatments (SETs)
☐ Remove existing metal beam guard fence (MBGF), bridge rail
☒ Install proposed pavement per plans
☐ Install culverts, culvert extensions, SETs
☐ Install mow strip, MBGF, bridge rail
☐ Place flex base
☒ Rework slopes, grade ditches
☒ Blade windrowed material back across slopes
☒ Revegetation of unpaved areas
☒ Achieve site stabilization and remove sediment and erosion control measures
☐ Other: _____
☐ Other: _____
☐ Other: _____

1.10 POTENTIAL POLLUTANTS AND SOURCES:

☒ Sediment laden stormwater from stormwater conveyance over disturbed area
☒ Fuels, oils, and lubricants from construction vehicles, equipment, and storage
☒ Solvents, paints, adhesives, etc. from various construction activities
☒ Transported soils from offsite vehicle tracking
☒ Construction debris and waste from various construction activities
☒ Contaminated water from excavation or dewatering pump-out water
☒ Sanitary waste from onsite restroom facilities
☒ Trash from various construction activities/receptacles
☐ Long-term stockpiles of material and waste
☐
☐ Other: _____
☐ Other: _____
☐ Other: _____

1.11 RECEIVING WATERS:

Receiving waters must be depicted on the Environmental Layout Sheets in Attachment 1.2 of this SWP3. Include Segment # for receiving waters.

Tributaries	Classified Waterbody
Prairie Creek	Segment 0818E Unclassified
Kings Creek	Segment 0818C Unclassified

* Add (*) for impaired waterbodies with pollutant in ().

1.12 ROLES AND RESPONSIBILITIES: TxDOT

☐ Development of plans and specifications
☐ Submit Notice of Intent (NOI) to TCEQ (≥5 acres)
☒ Post Construction Site Notice
☐ Submit NOI/CSN to local MS4
☐ Perform SWP3 inspections
☒ Maintain SWP3 records and update to reflect daily operations
☐ Complete and submit Notice of Termination to TCEQ
☒ Maintain SWP3 records for 3 years
☐ Other: _____
☐ Other: _____
☐ Other: _____

1.13 ROLES AND RESPONSIBILITIES: CONTRACTOR

☒ Day To Day Operational Control
☐ Submit Notice of Intent (NOI) to TCEQ (≥5 acres)
☒ Post Construction Site Notice
☐ Submit NOI/CSN to local MS4
☒ Maintain schedule of major construction activities
☒ Install, maintain and modify BMPs
☐ Complete and submit Notice of Termination to TCEQ
☒ Maintain SWP3 records for 3 years
☐ Other: _____
☐ Other: _____
☐ Other: _____

1.14 LOCAL MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) OPERATOR COORDINATION:

MS4 Entity
No MS4s receive stormwater discharge from the site

5/28/2024

STATE OF TEXAS
SAMUEL J. LUNDQUIST
122185
LICENSED
PROFESSIONAL ENGINEER

STORMWATER POLLUTION PREVENTION PLAN (SWP3)

July 2023 Sheet 1 of 2

Texas Department of Transportation

FED. RD. DIV. NO.	PROJECT NO.		SHEET NO.
			137
STATE	STATE DIST.	COUNTY	
TEXAS	DAL	KAUFMAN, ETC	
CONT.	SECT.	JOB	HIGHWAY NO.
0918	11	110	VARIOUS

STORMWATER POLLUTION PREVENTION PLAN (SWP3):

2.0 BEST MANAGEMENT PRACTICES (BMPs) AND CONTROLS, INSPECTION, AND MAINTENANCE

The Contractor shall be the responsible party for implementing the BMPs described herein and for complying with the SWP3 for control of erosion and sedimentation during day-to-day operations. The Contractor shall implement changes to this SWP3 approved by TxDOT within the times specified in this SWP3 or the CGP.

2.1 EROSION CONTROL AND SOIL STABILIZATION BMPs:

T / P

- ☐ ☐ Protection of Existing Vegetation
- ☐ ☐ Vegetated Buffer Zones
- ☐ ☐ Soil Retention Blankets
- ☐ ☐ Geotextiles
- ☐ ☐ Mulching/ Hydromulching
- ☐ ☐ Soil Surface Treatments
- ☒ ☐ Temporary Seeding
- ☐ ☒ Permanent Planting, Sodding or Seeding
- ☒ ☐ Biodegradable Erosion Control Logs
- ☐ ☐ Rock Filter Dams/ Rock Check Dams
- ☒ ☐ Vertical Tracking
- ☐ ☐ Interceptor Swale
- ☐ ☐ Riprap
- ☐ ☐ Diversion Dike
- ☐ ☐ Temporary Pipe Slope Drain
- ☐ ☐ Embankment for Erosion Control
- ☐ ☐ Paved Flumes
- ☐ ☐ Other: _____
- ☐ ☐ Other: _____
- ☐ ☐ Other: _____
- ☐ ☐ Other: _____

2.2 SEDIMENT CONTROL BMPs:

T / P

- ☐ ☐ Biodegradable Erosion Control Logs
- ☐ ☐ Dewatering Controls
- ☒ ☐ Inlet Protection
- ☐ ☐ Rock Filter Dams/ Rock Check Dams
- ☐ ☐ Sandbag Berms
- ☒ ☐ Sediment Control Fence
- ☐ ☐ Stabilized Construction Exit
- ☐ ☐ Floating Turbidity Barrier
- ☐ ☐ Vegetated Buffer Zones
- ☐ ☐ Vegetated Filter Strips
- ☐ ☐ Other: _____
- ☐ ☐ Other: _____
- ☐ ☐ Other: _____
- ☐ ☐ Other: _____

Refer to the Environmental Layout Sheets/ SWP3 Layout Sheets located in Attachment 1.2 of this SWP3

Sediment control BMPs requiring design capacity calculations (See SWP3 Attachment 1.3.):

T / P

- ☐ ☐ Sediment Trap
  - ☐ Calculated volume runoff from 2-year, 24-hour storm for each acre of disturbed area
  - ☐ 3,600 cubic feet of storage per acre drained
- ☐ ☐ Sedimentation Basin
  - ☒ Not required (<10 acres disturbed)
  - ☐ Required (>10 acres) and implemented.
    - ☐ Calculated volume runoff from 2-year, 24-hour storm for each acre of disturbed area
    - ☐ 3,600 cubic feet of storage per acre drained
  - ☐ Required (>10 acres), but not feasible due to:
    - ☐ Available area/Site geometry
    - ☐ Site slope/Drainage patterns
    - ☐ Site soils/Geotechnical factors
    - ☐ Public safety
    - ☐ Other: _____

2.3 PERMANENT CONTROLS:

(Coordinate post-construction BMPs with appropriate TxDOT maintenance sections.)

BMPs To Be Left In Place Post Construction:

Type	Stationing	
	From	To
Permanent Planting, Sodding, or Seeding	Begin Project	End Project

Refer to the Environmental Layout Sheets/ SWP3 Layout Sheets located in Attachment 1.2 of this SWP3

2.4 OFFSITE VEHICLE TRACKING CONTROLS:

- ☒ Excess dirt/mud on road removed daily
- ☐ Haul roads dampened for dust control
- ☒ Loaded haul trucks to be covered with tarpaulin
- ☒ Stabilized construction exit
- ☐ Daily street sweeping
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

2.5 POLLUTION PREVENTION MEASURES:

- ☒ Chemical Management
- ☒ Concrete and Materials Waste Management
- ☒ Debris and Trash Management
- ☒ Dust Control
- ☒ Sanitary Facilities
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

2.6 VEGETATED BUFFER ZONES:

Natural vegetated buffers shall be maintained as feasible to protect adjacent surface waters. If vegetated natural buffer zones are not feasible due to site geometry, the appropriate additional sediment control measures have been incorporated into this SWP3.

Type	Stationing	
	From	To

Refer to the Environmental Layout Sheets/ SWP3 Layout Sheets located in Attachment 1.2 of this SWP3

2.7 ALLOWABLE NON-STORMWATER DISCHARGES:

- ☒ Fire hydrant flushings
- ☒ Irrigation drainage
- ☒ Pavement washwater (where spills or leaks have not occurred, and detergents are not used)
- ☒ Potable water sources
- ☒ Springs
- ☒ Uncontaminated groundwater
- ☒ Water used to wash vehicles or control dust
- ☒ Other allowable non-stormwater discharges as allowed by TPDES GP TXR150000.

2.8 DEWATERING:

Dewatering discharges of accumulated stormwater, groundwater, and surface water including discharges from dewatering of trenches, excavations, foundations, vaults, and other points of accumulation are prohibited unless managed by appropriate controls to prevent and minimize the offsite discharge of sediment and other pollutants.

2.9 INSPECTIONS:

All disturbed areas and erosion and sediment control devices shall be inspected at least once every seven (7) days. Inspections shall be performed by TxDOT as indicated on the Field Inspection and Maintenance Report Form 2118 and retained in Attachment 2.5 of this SWP3.

When dewatering activities are present, a daily inspection will be conducted once per day during those activities and documented in accordance with CGP and TxDOT requirements.

2.10 MAINTENANCE:

Control measures shall be properly installed according to specifications. If it is determined that a BMP or control measure is not operating effectively, maintenance must be accomplished as soon as possible and before the next anticipated rain event, but in no case later than 7 calendar days after being able to access the site. Maintenance shall be performed by the Contractor as indicated on the Field Inspection and Maintenance Report Form 2118 and retained in Attachment 2.5 of this SWP3.

5/28/2024

STATE OF TEXAS
SAMUEL J. LUNDQUIST
122185
LICENSED
PROFESSIONAL ENGINEER

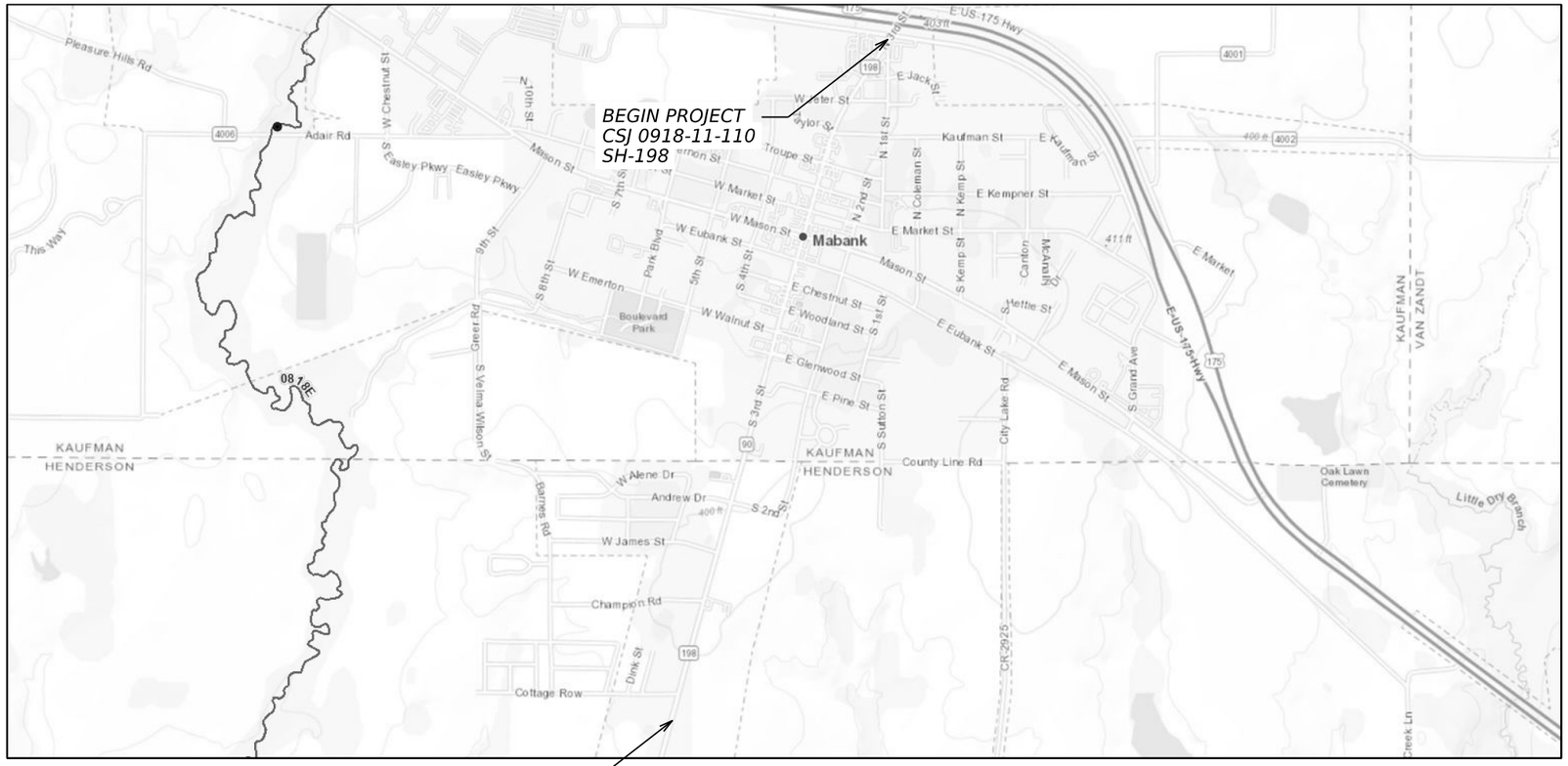
STORMWATER POLLUTION PREVENTION PLAN (SWP3)

July 2023 Sheet 2 of 2

Texas Department of Transportation

FED. RD. DIV. NO.	PROJECT NO.		SHEET NO.
			138
STATE	STATE DIST.	COUNTY	
TEXAS	DAL	KAUFMAN, ETC	
CONT.	SECT.	JOB	HIGHWAY NO.
0918	11	110	VARIOUS

Surface Water Quality in Texas Custom Map



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Stream Segments

SWQM Stations (Active)

1:18,056

0 0.17 0.35 0.7 mi

0 0.28 0.55 1.1 km

Texas Parks & Wildlife, Esri, HERE, Garmin, INCREMENT P, USGS, METI/NASA, EPA, USDA, TCEQ

Web AppBuilder for ArcGIS
Texas Parks & Wildlife, Esri, HERE, Garmin, INCREMENT P, USGS, METI/NASA, EPA, USDA | TCEQ |

N

5/28/2024

STATE OF TEXAS
SAMUEL J. LUNDQUIST
122185
LICENSED
PROFESSIONAL ENGINEER

Kimley»Horn F-928

Texas Department of Transportation

RECEIVING WATERS MAP
SH 198

SHEET 1 OF 1

CONT	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN, ETC			139

DATE: 5/28/2024 3:26:13 PM
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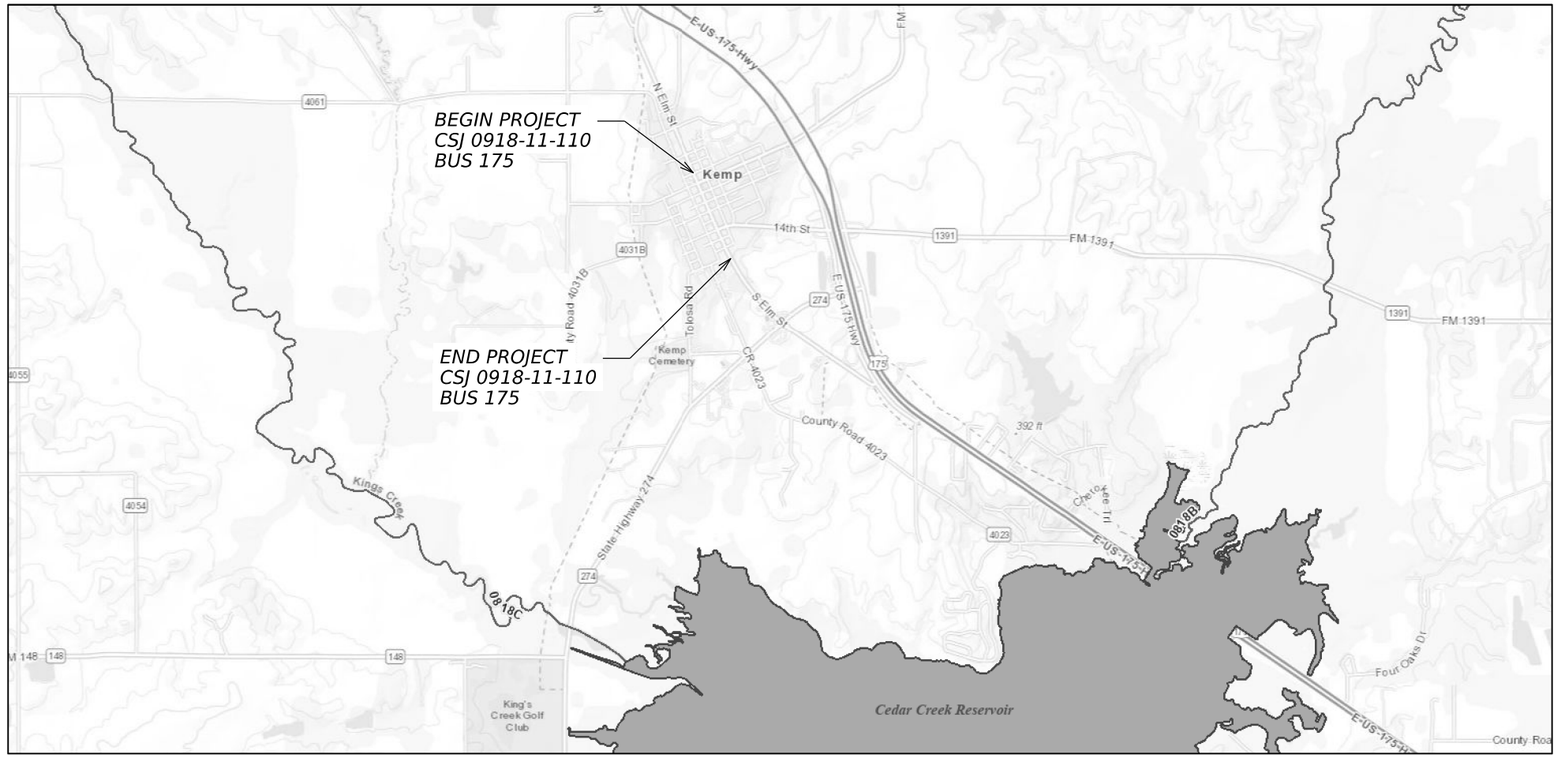
Surface Water Quality in Texas Custom Map



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Stream Segments

Reservoir Segments

1:36,112

0 0.35 0.7 1.4 mi

0 0.5 1 2 km

Texas Parks & Wildlife, Esri, HERE, Garmin, INCREMENT P, USGS, METI/NASA, EPA, USDA, TCEQ

Web AppBuilder for ArcGIS

Texas Parks & Wildlife, Esri, HERE, Garmin, INCREMENT P, USGS, METI/NASA, EPA, USDA | TCEQ |

N

CivilCorp
ENGINEERS • SURVEYORS
2825 WILCREST DRIVE, SUITE 100, HOUSTON TEXAS 77042
TEL: 713-785-9815 FAX: 713-782-6922 TXENG FIRM 10283

STATE OF TEXAS
GUS NOWAK JR.
22952
LICENSED
PROFESSIONAL ENGINEER

5/24/2024

Gus Nowak, Jr.

Kimley»Horn F-928

Texas Department of Transportation

RECEIVING WATERS MAP
BUS 175

SHEET 1 OF 1

CONT	SECT	JOB	PROJECT NO.	HIGHWAY
0918	11	110	SEE TITLE SHEET	VARIOUS
DIST	COUNTY			SHEET NO.
DAL	KAUFMAN,ETC			140

DATE: 5/24/2024 10:51:39 AM
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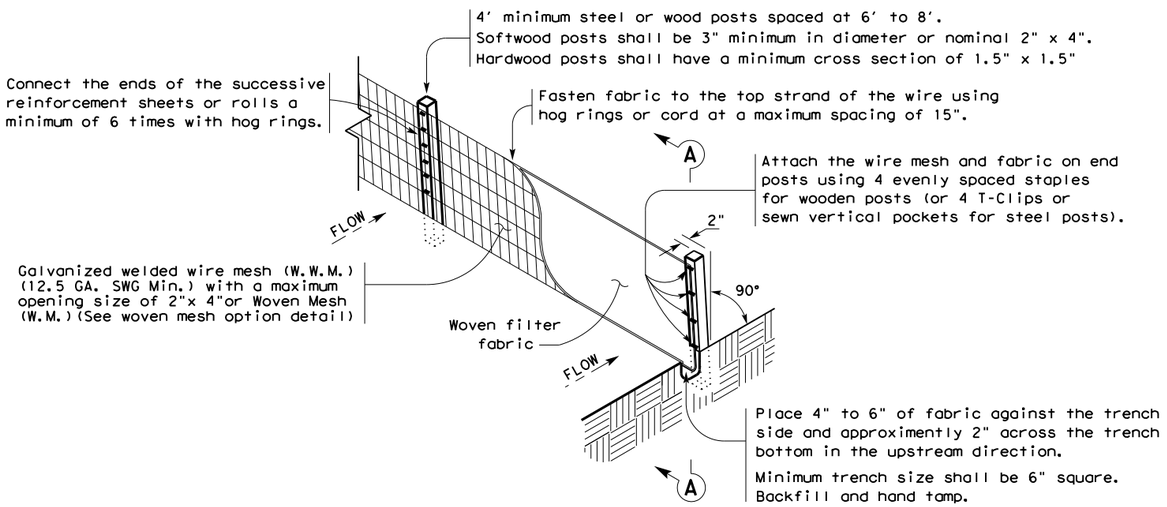
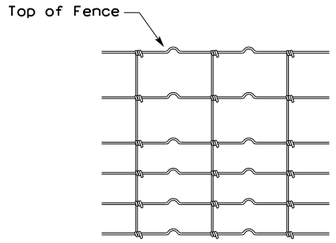
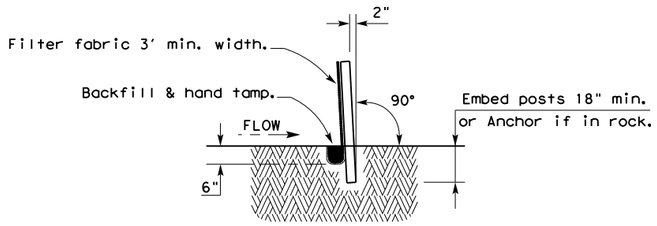


TEMPORARY SEDIMENT CONTROL FENCE

SCF





SECTION A-A

HINGE JOINT KNOT WOVEN MESH (OPTION) DETAIL

Galvanized hinge joint knot woven mesh (12.5 GA.SWG Min.) requires a minimum of five horizontal wires spaced at a maximum of 12 inches apart and all vertical wires spaced at a maximum of 12 inches apart.

SEDIMENT CONTROL FENCE USAGE GUIDELINES

A sediment control fence may be constructed near the downstream perimeter of a disturbed area along a contour to intercept sediment from overland runoff. A 2 year storm frequency may be used to calculate the flow rate to be filtered.

Sediment control fence should be sized to filter a maximum flow through rate of 100 GPM/FT^2. Sediment control fence is not recommended to control erosion from a drainage area larger than 2 acres.

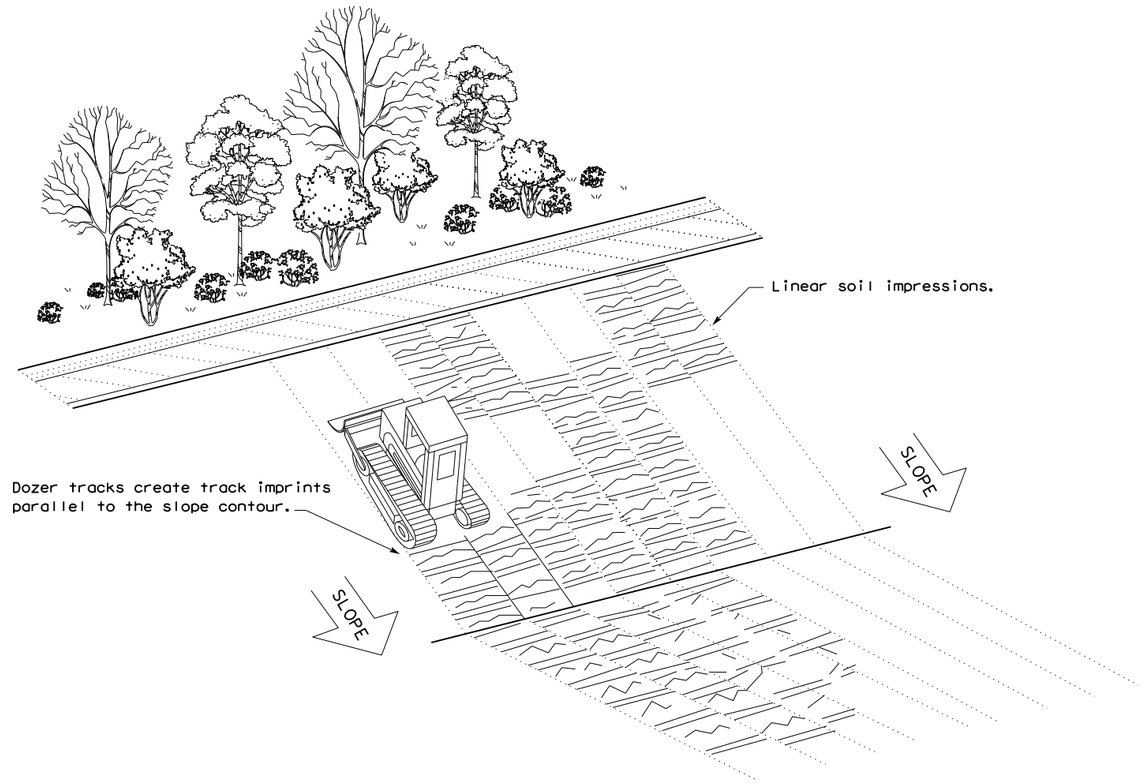
LEGEND

Sediment Control Fence

SCF

GENERAL NOTES

1. Vertical tracking is required on projects where soil distributing activities have occurred unless otherwise approved.
2. Perform vertical tracking on slopes to temporarily stabilize soil.
3. Provide equipment with a track undercarriage capable of producing linear soil impressions measuring a minimum of 12" in length by 2" to 4" in width by 1/2" to 2" in depth.
4. Do not exceed 12" between track impressions.
5. Install continous linear track impressions where the minimum 12" length impressions are perpendicular to the slope or direction of water flow.



VERTICAL TRACKING

Texas Department of Transportation

Design Division Standard

TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION CONTROL MEASURES

FENCE & VERTICAL TRACKING

EC(1)-16

FILE: ec116	DN: TxDOT		CK: KM		DW: VP	DN/CK: LS
© TxDOT: JULY 2016	CONT	SECT	JOB		HIGHWAY	
REVISIONS	0918	11	110		VARIOUS	
	DIST	COUNTY			SHEET NO.	
	DAL	KAUFMAN, ETC			141	

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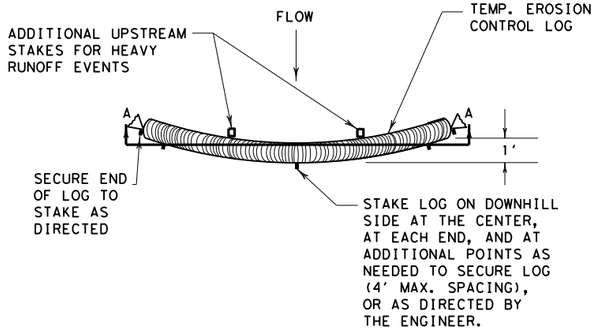
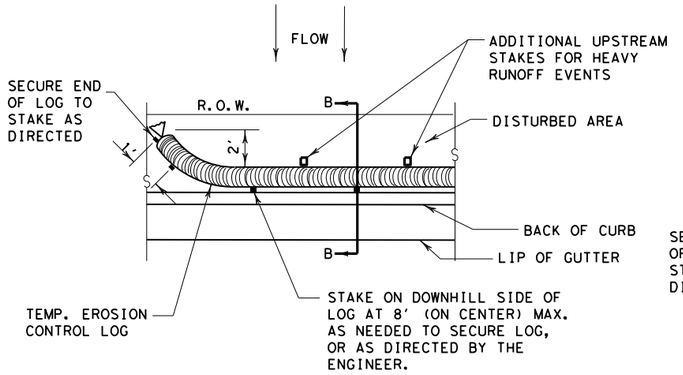


PLAN VIEW



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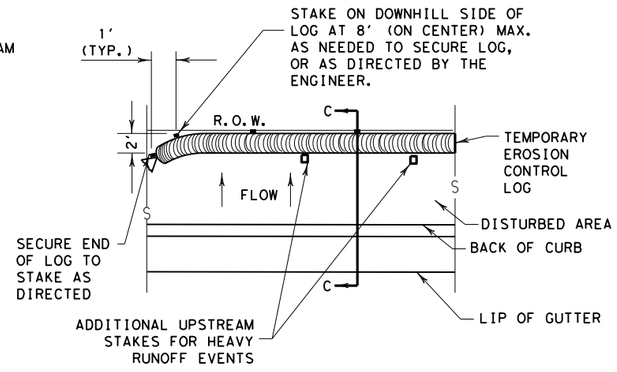
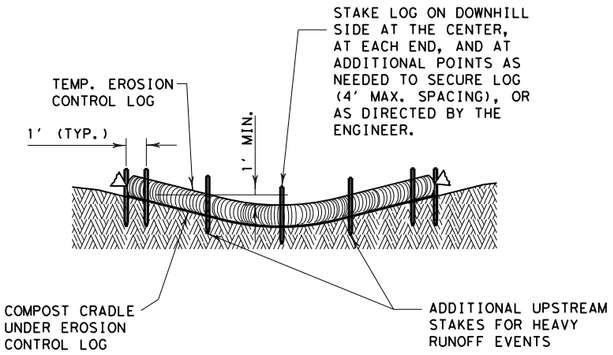


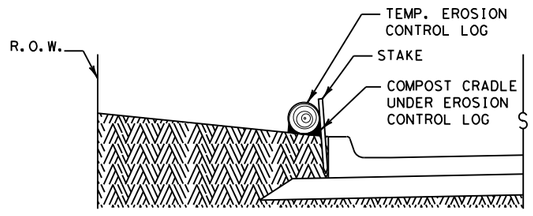
PLAN VIEW



SECTION A-A

EROSION CONTROL LOG DAM

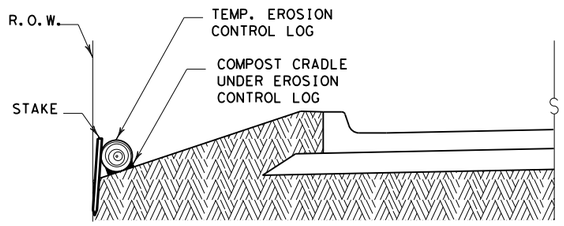
CL-D



SECTION B-B

EROSION CONTROL LOG AT BACK OF CURB

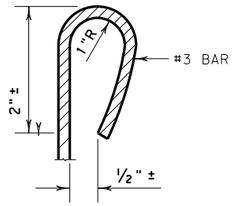
CL-BOC



SECTION C-C

EROSION CONTROL LOG AT EDGE OF RIGHT-OF-WAY

CL-ROW



REBAR STAKE DETAIL

GENERAL NOTES:

1. EROSION CONTROL LOGS SHALL BE INSTALLED IN ACCORDANCE WITH MANFACTURER'S RECOMMENDATIONS, OR AS DIRECTED BY THE ENGINEER.
2. LENGTHS OF EROSION CONTROL LOGS SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND AS REQUIRED FOR THE PURPOSE INTENDED.
3. UNLESS OTHERWISE DIRECTED, USE BIODEGRADABLE OR PHOTODEGRADABLE CONTAINMENT MESH ONLY WHERE LOG WILL REMAIN IN PLACE AS PART OF A VEGETATIVE SYSTEM. FOR TEMPORARY INSTALLATIONS, USE RECYCLABLE CONTAINMENT MESH.
4. FILL LOGS WITH SUFFICIENT FILTER MATERIAL TO ACHIEVE THE MINIMUM COMPACTED DIAMETER SPECIFIED IN THE PLANS WITHOUT EXCESSIVE DEFORMATION.
5. STAKES SHALL BE 2" X 2" WOOD OR #3 REBAR, 2'-4' LONG, EMBEDDED SUCH THAT 2" PROTRUDES ABOVE LOG, OR AS DIRECTED BY THE ENGINEER.
6. DO NOT PLACE STAKES THROUGH CONTAINMENT MESH.
7. COMPOST CRADLE MATERIAL IS INCIDENTAL & WILL NOT BE PAID FOR SEPARATELY.
8. SANDBAGS USED AS ANCHORS SHALL BE PLACED ON TOP OF LOGS & SHALL BE OF SUFFICIENT SIZE TO HOLD LOGS IN PLACE.
9. TURN THE ENDS OF EACH ROW OF LOGS UPSLOPE TO PREVENT RUNOFF FROM FLOWING AROUND THE LOG.
10. FOR HEAVY RUNOFF EVENTS, ADDITIONAL UPSTREAM STAKES MAY BE NECESSARY TO KEEP LOG FROM FOLDING IN ON ITSELF.

LEGEND

- CL-D — EROSION CONTROL LOG DAM
- CL-BOC — EROSION CONTROL LOG AT BACK OF CURB
- CL-ROW — EROSION CONTROL LOG AT EDGE OF RIGHT-OF-WAY
- CL-SST — EROSION CONTROL LOGS ON SLOPES STAKE AND TRENCHING ANCHORING
- CL-SSL — EROSION CONTROL LOGS ON SLOPES STAKE AND LASHING ANCHORING
- CL-DI — EROSION CONTROL LOG AT DROP INLET
- CL-CI — EROSION CONTROL LOG AT CURB INLET
- CL-GI — EROSION CONTROL LOG AT CURB & GRATE INLET

SEDIMENT BASIN & TRAP USAGE GUIDELINES

An erosion control log sediment trap may be used to filter sediment out of runoff draining from an unstabilized area.

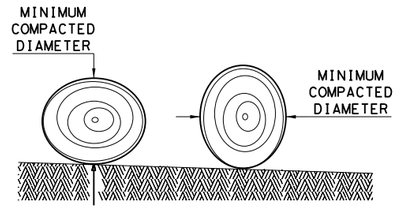
Log Traps: The drainage area for a sediment trap should not exceed 5 acres. The trap capacity should be 1800 CF/Acre (0.5" over the drainage area).

Control logs should be placed in the following locations:

1. Within drainage ditches spaced as needed or min. 500' on center
2. Immediately preceding ditch inlets or drain inlets
3. Just before the drainage enters a water course
4. Just before the drainage leaves the right of way
5. Just before the drainage leaves the construction limits where drainage flows away from the project.

The logs should be cleaned when the sediment has accumulated to a depth of 1/2 the log diameter.

Cleaning and removal of accumulated sediment deposits is incidental and will not be paid for separately.



DIAMETER MEASUREMENTS OF EROSION CONTROL LOGS SPECIFIED IN PLANS

Texas Department of Transportation

Design Division Standard

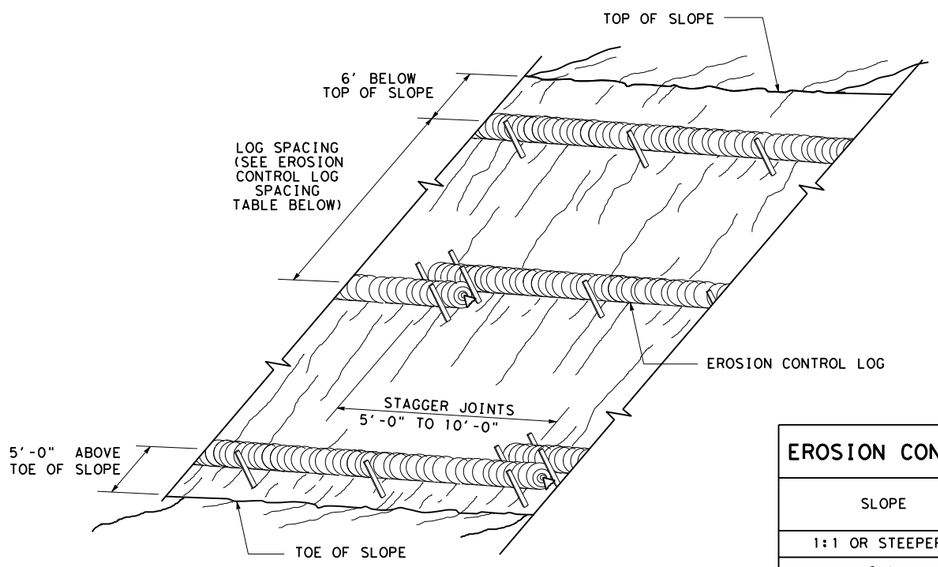
TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION CONTROL MEASURES

EROSION CONTROL LOG

EC(9)-16

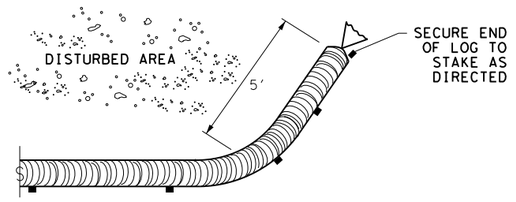
FILE: ec916		DN: TxDOT		CK: KM	DW: LS/PT		CK: LS
© TxDOT: JULY 2016	CONT	SECT	JOB		HIGHWAY		
REVISIONS	0918	11	110		VARIOUS		
	DIST	COUNTY				SHEET NO.	
	DAL	KAUFMAN, ETC				142	

DATE:
FILE:



EROSION CONTROL LOGS ON SLOPES
STAKE AND TRENCHING ANCHORING

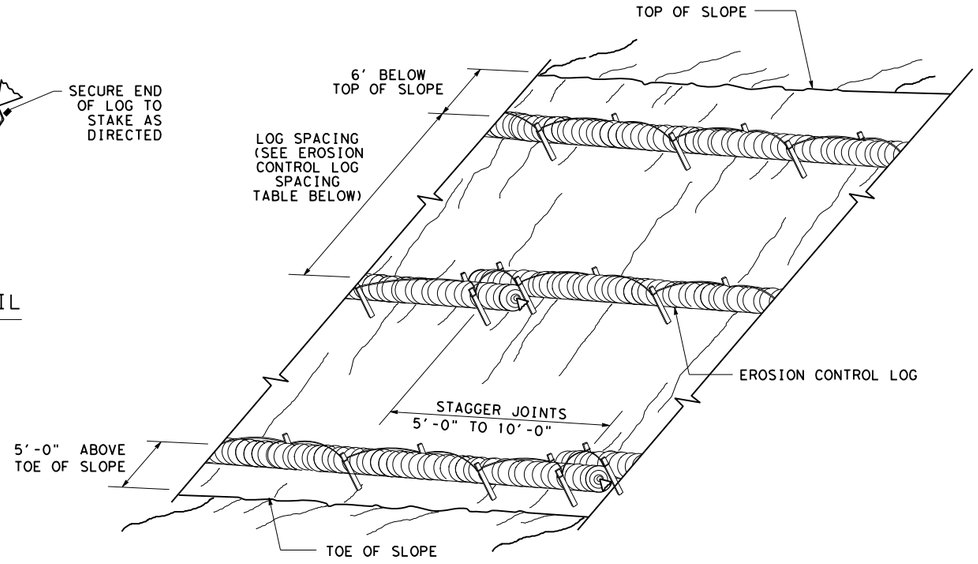
CL-SST



END SECTION RAP DETAIL

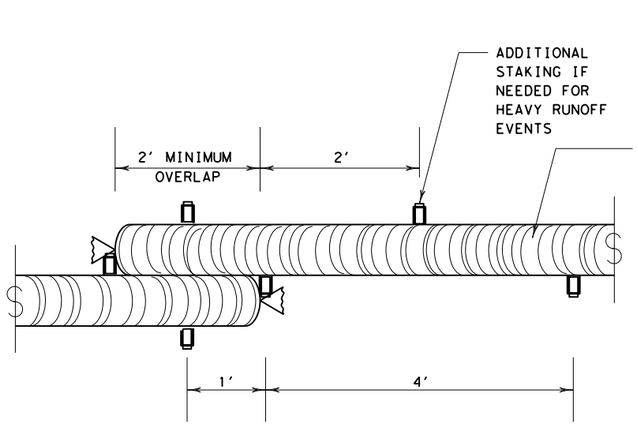
EROSION CONTROL LOG SPACING TABLE				
SLOPE	LOG DIAMETER			
	6"	8"	12"	18"
1:1 OR STEEPER	5'	10'	15'	20'
2:1	10'	20'	30'	40'
3:1	15'	30'	45'	60'
4:1 OR FLATTER	20'	40'	60'	80'

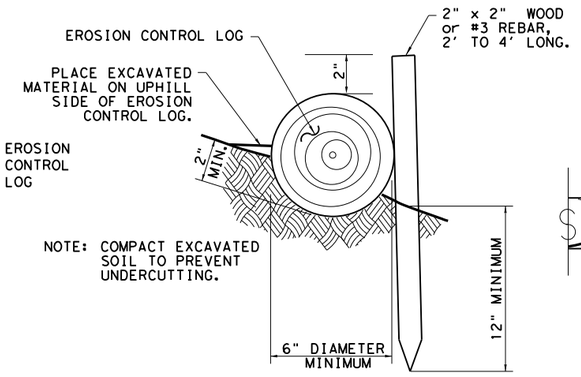
* ADJUSTMENTS CAN BE MADE FOR SOIL TYPE:
SOFT, LOAMY SOILS-ADJUST ROWS CLOSER TOGETHER;
HARD, ROCKY SOILS- ADJUST ROWS FARTHER APART



EROSION CONTROL LOGS ON SLOPES
STAKE AND LASHING ANCHORING

CL-SSL

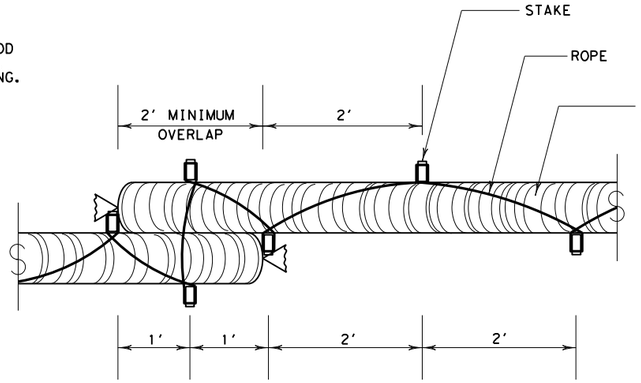


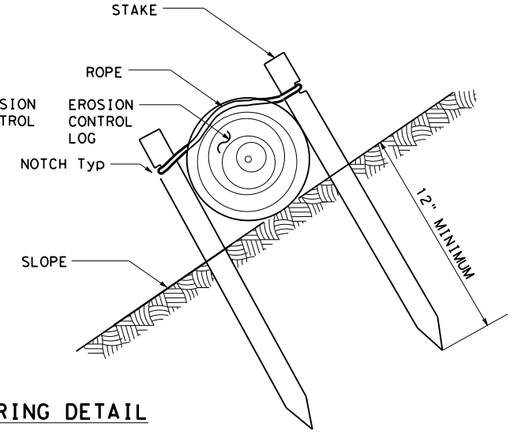


STAKE AND TRENCHING ANCHORING DETAIL

CL-SST

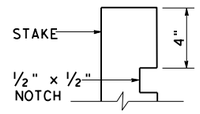
TRENCH DEPTH TABLE	
LOG DIAMETER	DEPTH
6"	2"
8"	3"
12"	4"
18"	5"





STAKE AND LASHING ANCHORING DETAIL

CL-SSL



STAKE NOTCH DETAIL

SHEET 2 OF 3

Texas Department of Transportation

Design Division Standard

TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION CONTROL MEASURES
EROSION CONTROL LOG
EC(9)-16

FILE: ec116	DN: TxDOT		CK: KM	DW: LS/PT		CK: LS
© TxDOT: JULY 2016	CONT	SECT	JOB		HIGHWAY	
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	DIST	COUNTY				SHEET NO.
	DAL	KAUFMAN, ETC				143

DATE:
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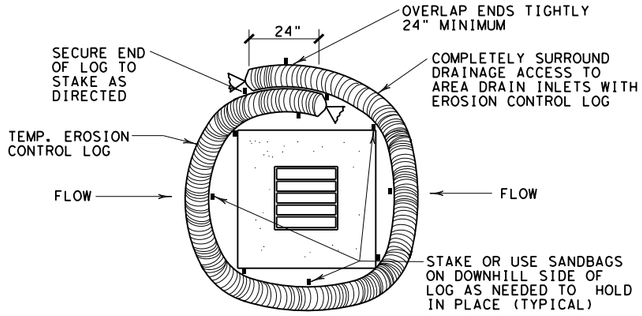
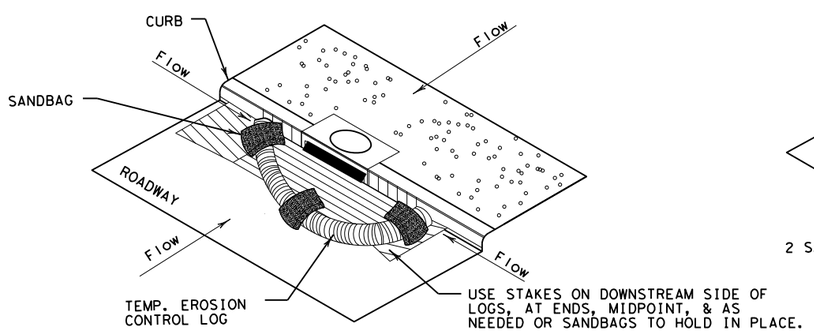


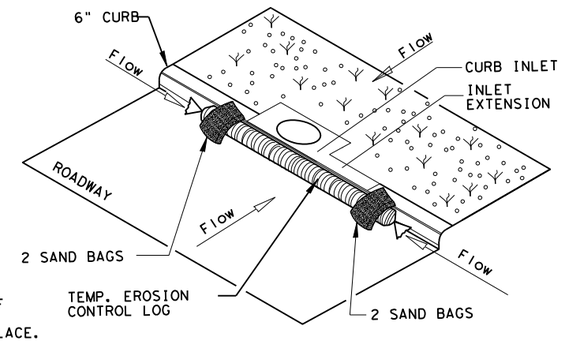
EROSION CONTROL LOG AT DROP INLET

CL-DI



EROSION CONTROL LOG AT CURB INLET

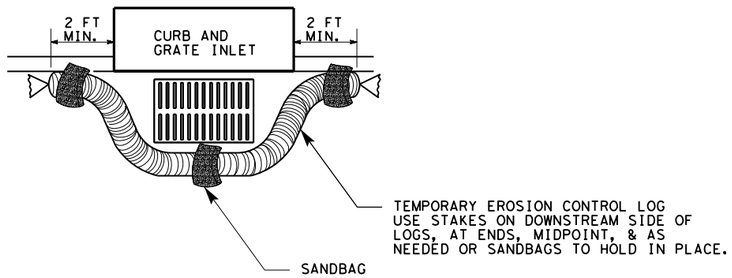
CL-CI



EROSION CONTROL LOG AT CURB INLET

CL-CI

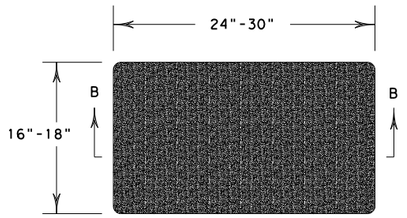
NOTE:
EROSION CONTROL LOGS USED AT CURB INLETS SHOULD ONLY BE USED IF THEY WILL NOT IMPEDE TRAFFIC OR FLOOD THE ROADWAY OR WHEN THE STORM SEWER SYSTEM IS NOT FULLY FUNCTIONAL.



EROSION CONTROL LOG AT CURB & GRADE INLET

CL-GI

SECTION B-B



SANDBAG DETAIL

SHEET 3 OF 3

Texas Department of Transportation

Design Division Standard

TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION CONTROL MEASURES

EROSION CONTROL LOG

EC(9)-16

FILE: ec916	DN: TxDOT		CK: KM		DW: LS/PT		CK: LS
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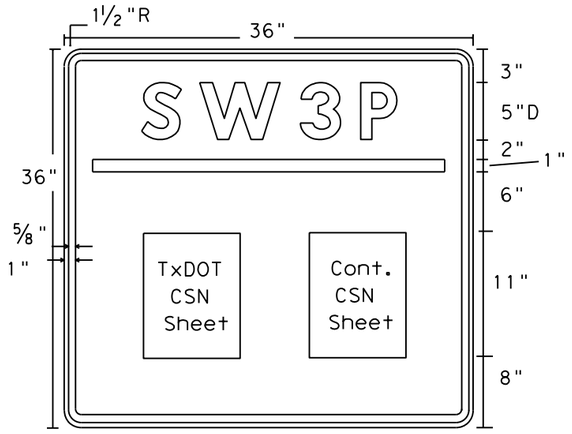
	DIST	COUNTY			SHEET NO.		
	DAL	KAUFMAN, ETC			144		



SW3P SIGN

TxDOT & Contractor Construction Site Note (CSN)

Sign Dimensions

36" X 36"

Letters - White
Numbers - White
Border - White
Background - Blue

GENERAL NOTES:

1. The alphabets and lateral spacing between letters and numerals shall conform with the "Texas Manual on Uniform Traffic Control Devices for Streets and Highways", (TMUTCD) latest edition, and the "Compliant Work Zone Traffic Control Devices List". Lateral spacing of text shall provide a balanced appearance. All materials shall conform to Department Specifications.
2. Legend and border may be applied by reverse screening process with transparent colored ink, cut-out white reflective sheeting applied to colored background or combination thereof. Background shall be reflective sheeting Type C.
3. CSN Sheets will be laminated and attached to the sign with an adhesive. Ensure sheets remain dry. (See Figure 1).
4. SW3P Signs should be placed just inside the ROW line at the project limits at a readable height. It may be placed perpendicular or parallel to ROW line. If the sign cannot be placed outside the clear zone, it will be mounted per TMUTCD requirements.
5. Final location of the signs will be as approved by the Engineer.

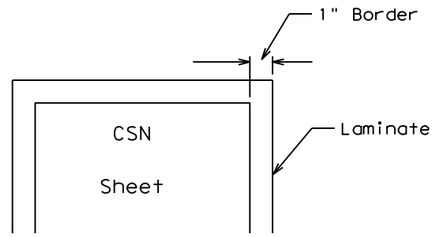
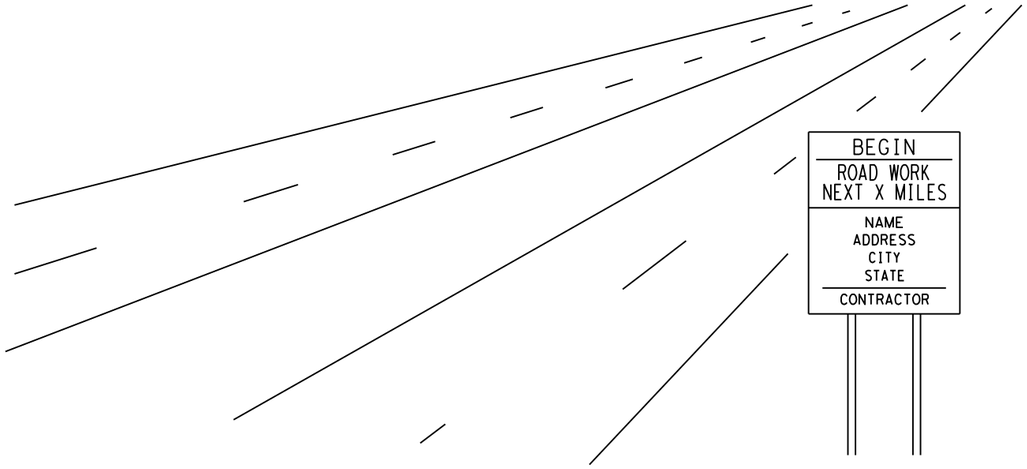
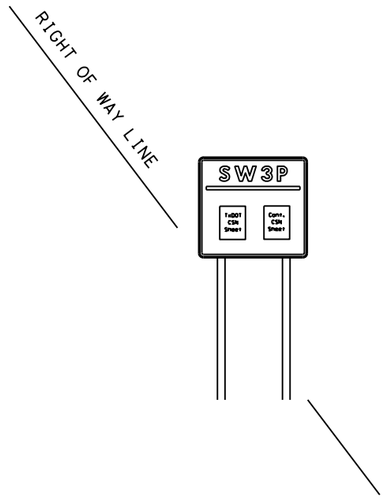


Figure 1





DEPARTMENT MATERIAL SPECIFICATIONS	
PLYWOOD SIGN BLANKS	DMS-7100
FLAT SURFACE REFLECTIVE SHEETING	DMS-8300
VINYL NON-REFLECTIVE DECAL SHEETING	DMS-8320

COLOR	USAGE	REFLECTIVE SHEETING OR OTHER MATERIAL
BLUE	BACKGROUND	TYPE C (FLUORESCENT PRISMATIC)
WHITE	LEGEND & BORDERS	VINYL NON-REFLECTIVE DECAL SHEETING

Texas Department of Transportation
DALLAS DISTRICT STANDARD

SW3P SIGN SHEET

SHEET 1 OF 1

FILE:	DN: IxDOT	CK:	DW:	CK:
©TxDOT 2016	DISTRICT	FEDERAL AID PROJECT		SHEET
REVISION DATE: 10-16-15	DAL	SEE TITLE SHEET		145
	COUNTY	CONTROL	SECT	JOB	HIGHWAY
	KAUFMAN, ETC	0918	11	110	VAR

LEVELS DISPLAYED
PATH:

USER ID

SURFACE PREPARATION ITEM 160* TOPSOIL SY / ITEM 161* COMPOST MANUF. TOPSOIL (BOS) (4") SY

SURFACE PREPARATION

Prepare planting area surface BEFORE placing Topsoil, Compost, Fertilizer, Seed and/or Sod.
Once project area has been completed to final lines, grade and compaction, remove objectionable materials from planting area surface and cultivate existing surface to a depth of 4 inches, unless otherwise specified or directed.

Refer to Items 160 and 161 of TxDOT 2014 Standard Specifications* for specifications, dimensions, volumes, and measurements that have been modified or not shown in plans. Materials and construction shall meet all specifications.

TOPSOIL NOTES:
1. When Topsoil is specified under Item 160, use suitable material salvaged from the project ROW in accordance with Item 160 specifications, and/or secure additional good material from approved sources.
2. Topsoil shall include only the top 6 inches of its native surface, and be easily cultivated, fertile, erosion-resistant and free of objectionable materials.
3. Topsoil obtained from sites outside of the ROW must come from approved sources and have a pH between 5.5 and 8.5 su.
4. Place Topsoil on pre-cultivated surface, spread to a uniform loose cover at thickness specified, and shape per plans. Water and roll the finished surface with a light roller or other suitable equipment per Item 160.3; do not over-compact.

COMPOST NOTES:
1. When Compost Manufactured Topsoil (4") is specified under Item 161, use compost meeting all requirements of Item 161.2 and Table 1. Provide quality control (QC) documentation and obtain Engineer approval prior to compost delivery.
2. Contractor shall provide tickets/invoices that document material type, quantity and placement for all compost delivered.
3. Additional topsoil may be required to be imported to achieve the compost/topsoil mix ratio. Topsoil must meet Item 160 specifications.

APPLICATION OF COMPOST MANUFACTURED TOPSOIL (4")

AFTER Surface Preparation, uniformly spread a 1-inch layer of compost on-grade with 3 inches topsoil over pre-cultivated planting area. (25% compost and 75% topsoil = 1" compost and 3" topsoil.)
Then mix compost and topsoil together by cultivating the compost into the topsoil (by till or disk) to a 4-inch (4") depth.
Roll the finished surface with a light corrugated drum; do not over-compact.

FERTILIZER ITEM 166* FERTILIZER AC

SOIL ANALYSIS FOR FERTILIZER APPLICATION RATE

Unless otherwise stated in the plans, Contractor shall perform at least one soil analysis on each project before fertilization, and submit results to Engineer with recommended fertilizer rates based on soil analysis.
Engineer may direct sample location(s). Soil analysis may be waived if both compost and sod are used on entire project.

FERTILIZER NOTES:
1. Refer to Item 166 of TxDOT 2014 Standard Specifications* for specifications, dimensions, volumes, and measurements that have been modified or not shown in plans. Materials and construction shall meet all specifications.
2. Apply fertilizer BEFORE seeding, or AFTER placing sod.
3. Use fertilizer containing nitrogen (N), phosphoric acid (P) and potash (K) nutrients, unless otherwise specified. At least 50% of the Nitrogen component shall be a slow-release sulfur-coated urea as described in Item 166.3. Do not apply more than 60 lbs Nitrogen per acre without Engineer concurrence.
4. Deliver fertilizer in bags, clearly labeled to show contents, unless otherwise specified or approved prior to delivery. When non-bagged, loose fertilizer is approved, provide documentation for each load of material delivered, to validate authenticity of the material.
5. Apply fertilizer uniformly, as a dry, granular material, essentially dust-free, and do not mix with water for application as a slurry.
6. When both temporary and permanent seeding are specified for the same area, apply half of the required fertilizer before the temporary seeding operation and the other half before the permanent seeding operation.

SEEDING FOR EROSION CONTROL ITEM 164* DRILL SEEDING AC

RECOMMENDED PLANTING SEASON	PERMANENT RURAL SEED MIX ITEM 164 - DRILL SEEDING (PERM) (RURAL)(CLAY)		PERMANENT URBAN SEED MIX ITEM 164 - DRILL SEEDING (PERM) (URBAN)(CLAY)		TEMPORARY DRILL SEED MIX ITEM 164 - DRILL SEEDING (TEMP) (WARM OR COOL)	
		Pure Live Seed Rate**		Pure Live Seed Rate**		Pure Live Seed Rate**
WARM SEASON Mar.15th, April, May, June, July, August, Sept. 15th	Green Sprangletop (Van Horn)	- 1.0 lbs/AC	Green Sprangletop (Leptochloa dubia)	- 0.3 lbs/AC	Foxtail Millet (Setaria italica)	- 34 lbs/AC
	Sideoats Grama (Haskell)	- 1.0 lbs/AC	Sideoats Grama (El Reno)(Bouteloua curtipendula)	- 3.6 lbs/AC		
	Texas Grama (Atascosa)	- 1.0 lbs/AC	Buffalograss (Texoka)(Buchloe dactyloides)	- 1.6 lbs/AC		
	Hairy Grama (Chaparral)	- 0.4 lbs/AC	Bermudagrass (Cynodon dactylon)	- 2.4 lbs/AC		
	Shortspike Windmillgrass (Welder)	- 0.2 lbs/AC				
	Little Bluestem (OK Select)	- 0.8 lbs/AC				
	Purple Prairie Clover (Cuero)	- 0.6 lbs/AC				
	Engelmann Daisy (Eldorado)	- 0.75lbs/AC				
	Illinois Bundleflower	- 1.3 lbs/AC				
	Awnless Bushsunflower (Plateau)	- 0.2 lbs/AC				
COOL SEASON Sept 16th, Oct, Nov, Dec, Jan, Feb, Mar 14th						Pure Live Seed Rate**
					Tall Fescue (Festuca arundinaceae)	- 4.5 lbs/AC
					Western Wheatgrass (Agropyron smithii)	- 5.6 lbs/AC
					Red Winter Wheat (Triticum aestivum)	- 34 lbs/AC
					Cereal Rye	- 34 lbs/AC

SEEDING NOTES:
1. When seeding is specified under Item 164, refer to TxDOT 2014 Standard Specifications* for specifications, dimensions, volumes, and measurements that have been modified or not shown. Materials and construction shall meet specifications.
2. Conduct seeding upon completion of each applicable construction stage (dependent upon planting season requirements), without compensation for additional move-ins.
3. Place seed AFTER preparing planting area surface. Refer to Surface Preparation detail this sheet, as well as Topsoil Item 160 and Compost Manufactured Topsoil Item 161 when specified. Apply fertilizer per Item 166 BEFORE seeding, per specifications and this sheet, to help drill the fertilizer into the soil.
4. When temporary grasses are well-established and more than 2 inches tall, mow planting area before seeding permanent grasses; mowing for this purpose will be subsidiary. When vegetation is not already well-established, cultivate planting area to a depth as described in Item 164.3, before temporary seeding and before permanent seeding.
5. Seed material must be appropriate to the location, soil type and season. Use the seed mix species and pure live seed rates designated in Tables 1-4 of the TxDOT 2014 Standard Specifications* for Item 164, unless otherwise specified.
6. All seed shall meet labeling, delivery, analysis, and testing requirements described in Item 164.2.1. Deliver seed in labeled, unopened bags or containers to Engineer prior to planting.
7. Uniformly plant seed over the designated planting area, along the contour of slopes, and drill seed to a depth as described in Item 164.3.4.
8. Hydroseeding may be allowed, when specified or Engineer concurs.
9. Implement and continue Vegetative Watering per the schedule, rate and volume specified under Item 168.

TXDOT REFERENCE MATERIALS:

- * "STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MAINTENANCE OF HIGHWAYS, STREETS, AND BRIDGES" 2014
- "A GUIDANCE TO ROADSIDE VEGETATION ESTABLISHMENT" 2004
- ONLINE TRAINING COURSE: MNT415 REVEGETATION DURING CONSTRUCTION
- DALLAS DISTRICT "VEGETATION ESTABLISHMENT GUIDELINES"

SODDING FOR EROSION CONTROL ITEM 162* BLOCK SOD (BERMUDA) SY

BLOCK OR ROLL SOD	COMMON NAME	BOTANICAL NAME
	Common Bermuda Grass	Cynodon dactylon

SODDING NOTES:
1. Refer to Item 162 of TxDOT 2014 Standard Specifications* for specifications, dimensions, volumes, and measurements that have been modified or not shown in plans. Materials and construction shall meet all specifications.
2. Place sod between the average date of the last freeze in the Spring and 6 weeks before the average date of the first freeze in the Fall, per the Texas Almanac for the project area.
3. Place sod only AFTER soil surface preparation is complete as detailed in this sheet. Dry soil may require pre-watering.
4. Place all sod (blocks or rolls) within 24 hours of delivery to the site, and keep moist from the time it is dug up until it is planted. Sod with dried roots will not be accepted.
5. Place sod with joints alternating on each row to prevent all joints from lining up, and place blocks firmly against adjacent blocks. Roll, tamp and trim sod per Item 162.3.
6. Place fertilizer promptly AFTER sodding operation is complete in each area.
7. Water sod immediately following placement, and continue Vegetative Watering per Item 168.

VEGETATIVE WATERING FOR ESTABLISHING SEED AND SOD ITEM 168* VEGETATIVE WATERING MG

WATERING SCHEDULE

SEASON (Usual Months)	RATE	TIME SCHEDULE	TOTAL WATER ESTIMATE
SPRING & FALL (March, April, May, October)	7,000 gallons/acre per working day	Vegetative watering for seed shall begin on the day after rainfall described below and continue for 60 consecutive working days; vegetative watering for sod shall begin on the day the sod is placed and continue for a minimum of 15 consecutive working days.	420,000 gallons/acre (60 working days)
SUMMER (June, July, August, September)	12,000 gallons/acre per working day		720,000 gallons/acre (60 working days)
WINTER (November through February)	1,000 gallons/acre per working day	Vegetative watering for seed and/or sod shall begin on the day after placement for 15 consecutive working days	15,000 gallons/acre (15 working days)

Notes: Rate and frequency may be adjusted, with the approval of the Engineer, to meet site conditions (especially with sod).
For informational purposes only: 1,000 gallons equals 1 MG

VEGETATIVE WATERING NOTES:
1. Refer to Item 168 of TxDOT 2014 Standard Specifications* for specifications, dimensions, volumes, and measurements that have been modified or not shown in plans. Materials and construction shall meet all specifications.
2. Use clean water free of industrial waste and other substances harmful to vegetation growth, per Item 168.2.
3. Use Vegetative Watering to keep the seed bed moist during germination; not to provide initial watering. After drill seeding, postpone watering operations until site receives at least 1/2-inch of natural rainfall in a single day. Delay watering operations for warm season grasses until soil temperature exceeds 70 degrees F.
4. For sod, water immediately.
5. All water distribution equipment shall be furnished and operated to provide water at a uniform and controllable rate. Use a metering device on all watering equipment.
6. Evenly distribute water over entire area designated for seeding and/or sodding, using even spray patterns that do not disturb seed bed and/or dislodge seed from seed bed.
7. Do not water between the hours of 12:00 p.m. and 6:00 p.m. when daytime temperatures exceed 95 degrees F.
8. After initial establishment period, continue intermittent watering of newly established seed or sod at a rate of approximately 1-inch water/week, during summer months until end of contract.
9. If 1/4-inch or more of rainfall occurs on site on any given working day, no vegetative watering will be needed on that working day. (Note: 1/4-inch rain equals 7,000 gallons of water per acre.)
10. Should the Contractor fail to apply the specified amount of water within the time allowed, any seed or sod in poor condition shall be replaced, fertilized, and watered at Contractor's expense.

**Note: The amount of Pure Live Seed (PLS) in one pound of bulk seed is based on three factors: % Purity, % Germination, and % Dormant. Use the following formula to calculate PLS in bulk seed: PLS = % Purity X (% Germination + % Dormant) Ensure that the specified amount of pure live seed is placed.

ROADSIDE MOWING ITEM 730* PROJECT MAINTENANCE AC

MOWING NOTES:
1. During project construction, once seed is established, use mowing to promote permanent grasses by mowing any remaining temporary grasses.
2. Also mow established turf and ROW grasses in designated areas of project limits as specified or directed by Engineer.
3. Remove litter and debris prior to mowing.
4. Do not mow on wet ground when soil rutting can occur.
5. Hand-trim around obstructions and stormwater control devices as needed.
6. Maintain paved surfaces free of tracked soils and clipped vegetation.

SEQUENCE OF WORK:

- CULTIVATE SURFACE SOIL.
- PREPARE / PLACE TOPSOIL, OR
- PREPARE / PLACE COMPOST MANUFACTURED TOPSOIL.
- APPLY FERTILIZER AND THEN PLACE SEEDING, OR
- PLACE SOD AND THEN APPLY FERTILIZER.
- CONDUCT VEGETATIVE WATERING.
- CONDUCT ROADSIDE MOWING, AS DIRECTED.

VEGETATION ESTABLISHMENT SHEET

(DALLAS DISTRICT)

TEMPLATE REVISION DATE: 02/21/19

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
CPB	6	(See Title Sheet)		VARIOUS
GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.
XXX	TEXAS	DALLAS	KAUFMAN, ETC	
CHECK	CONTROL	SECTION	JOB	146
XXX	0918	11	110	
CHECK				
XXX				

DATE