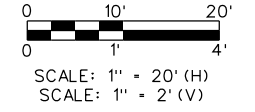
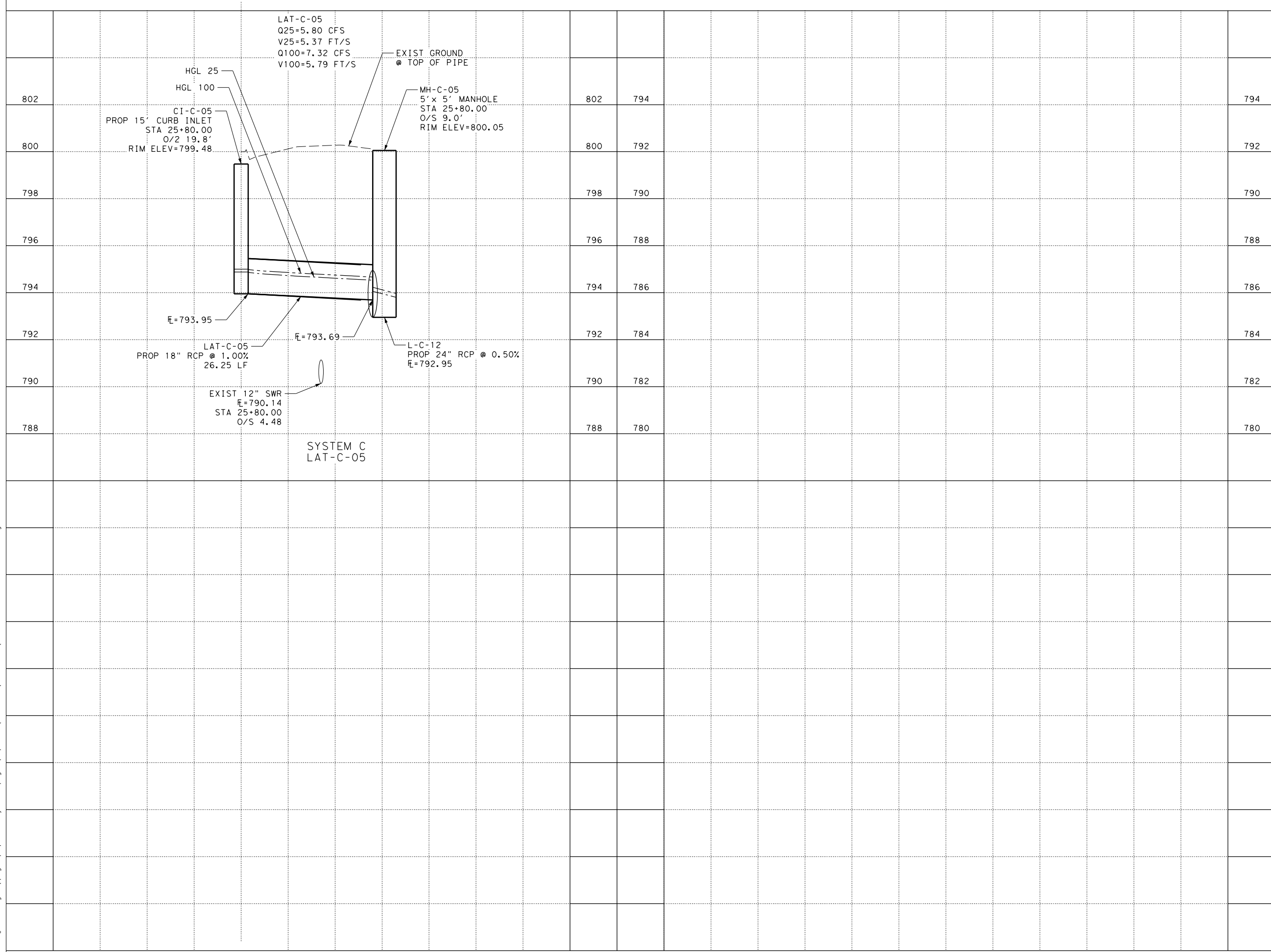




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 5/2/2024



CITY OF AUSTIN
BARTON CREEK OAK PARK
FLOOD RISK REDUCTION PROJECT
STORM SEWER LATERAL PROFILES
SYSTEM C (OAKCLAIRE DR)
SHEET 2 OF 2



NO.	BY	DATE	REVISIONS

SHEET INFORMATION
 DATE 5/2/2024
 SHEET 1 OF 1

rps Texas PE Firm Reg. #F-293
 4801 Southwest Pkwy, Pkwy 2, Suite 150, Austin, Texas 78735
 T +1 512 328 5771 E usinfrastructure@rpsgroup.com

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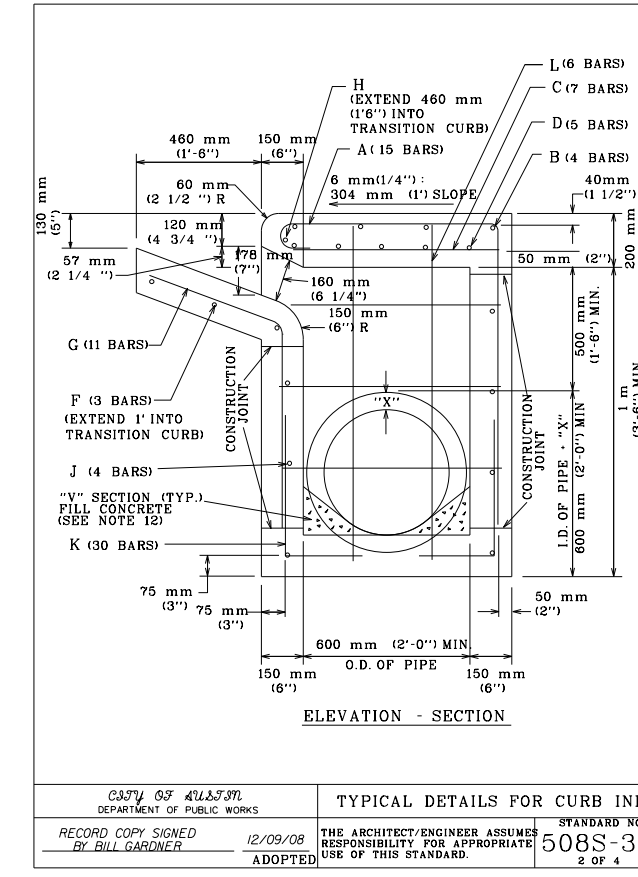
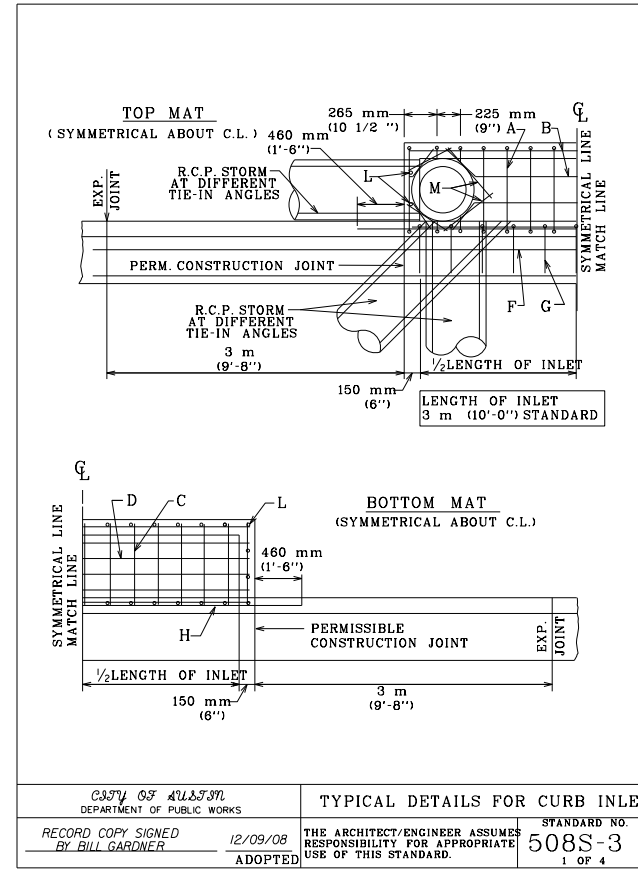
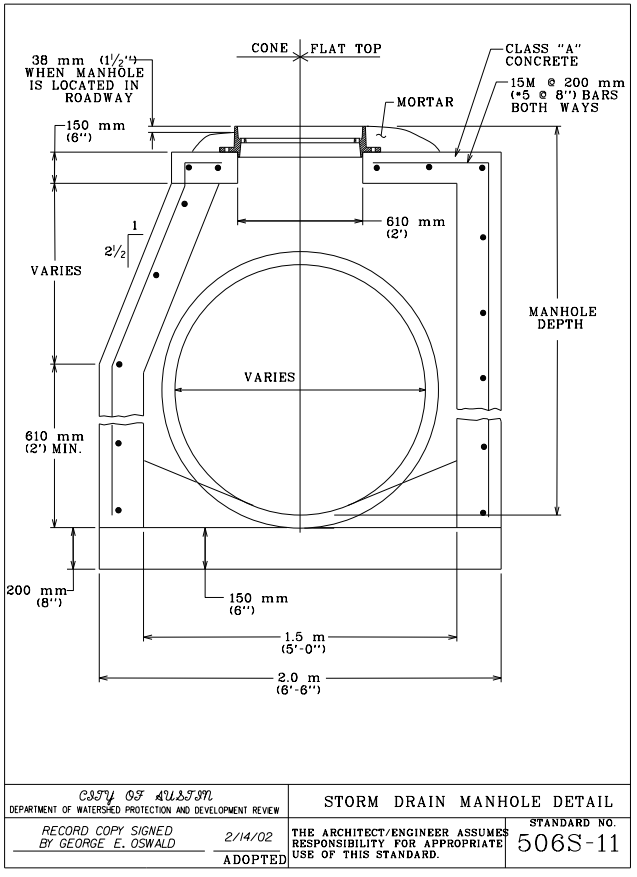
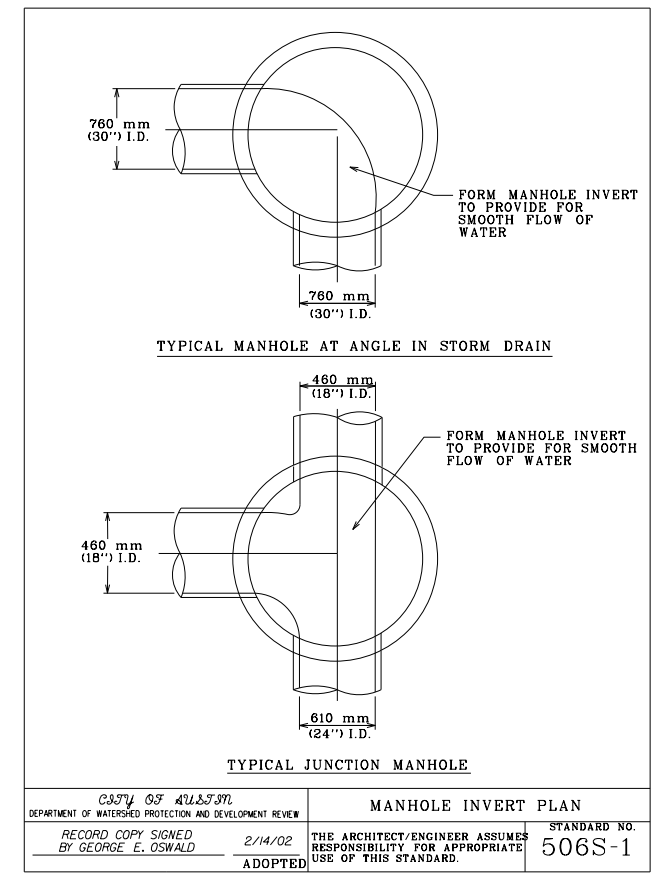
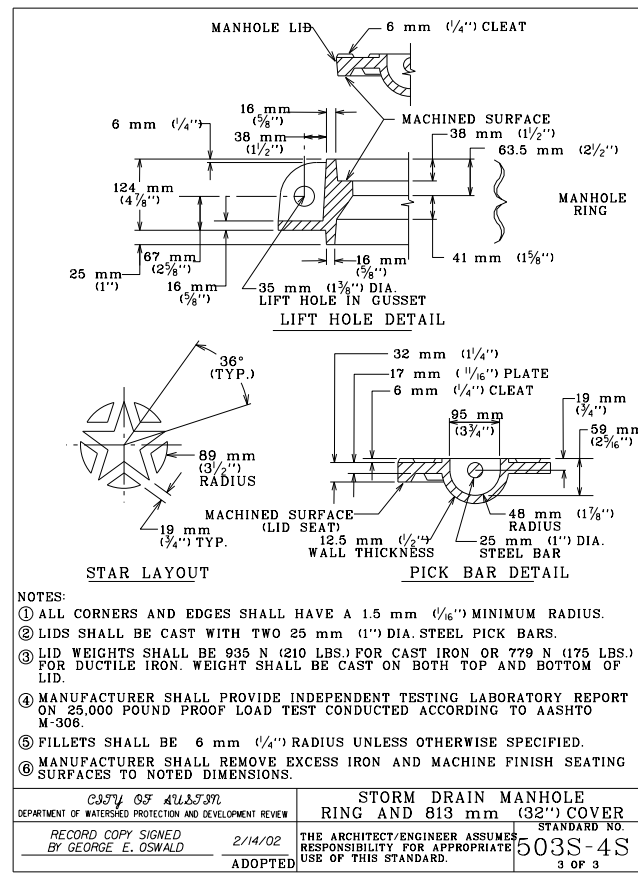
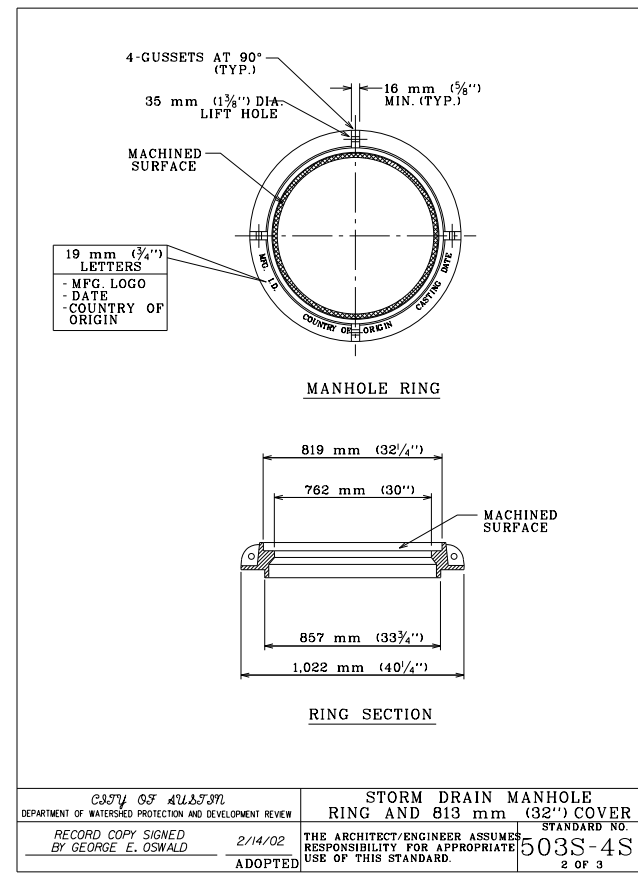
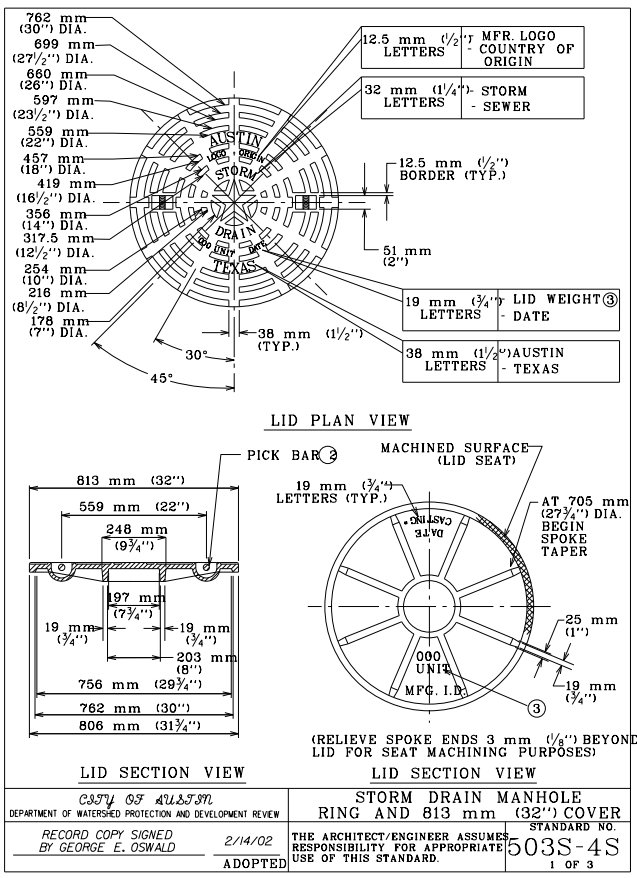


TABLE OF QUANTITIES FOR 18" OUTLET PIPE REINFORCING STEEL QUANTITIES

BARS	SIZE	SPACING	NUMBER	LENGTH	WEIGHT
A	4	230 mm (9")	15	2 m (7'-0")	73
B	4	250 mm (10")	4	3.25 m (10'-8")	29
C	4	460 mm (18")	7	760 mm (2'-6")	12
D	6	150 mm (6")	5	3.25 m (10'-8")	80
E	4	300 mm (12")	6	760 mm (2'-6")	10
F	4	250 mm (10")	3	4 m (13'-0")	35
G	4	300 mm (12")	11	1.25 m (4'-3")	31
H	6	-	1	4.25 m (14'-0")	20
J	4	300 mm (12")	7	3.25 m (10'-8")	50
K	4	230 mm (9")	30	800 mm (2'-7 1/2")	52
L	4	300 mm (12")	6	1.3 m (4'-4")	17
M	4	-	4	500 mm (1'-8") AVG	4
TOTAL STEEL, LB.					413
TOTAL CONCRETE, C.Y.					4.06

EXCEPT AS SHOWN ON PLAN

TYPICAL DETAILS FOR CURB INLET
STANDARD NO. 508S-3
3 OF 4

NO.	DATE	BY	REVISIONS

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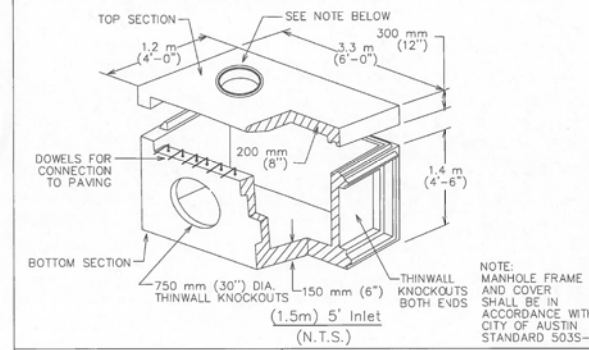
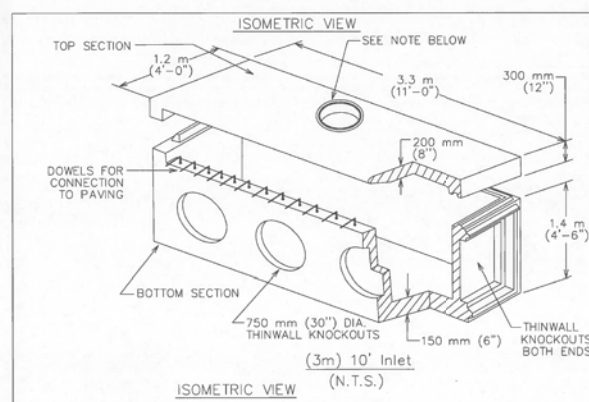
- NOTES:**
1. ALL CONCRETE SHALL BE CLASS "A"
 2. ALL REINFORCING STEEL SHALL BE GRADE 60
 3. DIMENSIONS RELATING TO REINFORCING STEEL ARE TO CENTERS OF BARS. VERTICAL STEEL MAY BE SPLICED (300 mm or 15" MIN. LAP) IN THE LOWER ONE-HALF OF ALL INLET WALLS. IN AREAS OF CONFLICT BETWEEN REINFORCING STEEL, PIPES AND MANHOLE FRAME, THE REINFORCEMENT SHALL BE BENT OR ADJUSTED TO CLEAR AS DIRECTED BY THE ENGINEER.
 4. QUANTITIES SHOWN HEREON ARE FOR THE CONTRACTOR'S INFORMATION ONLY. PAYMENT WILL BE MADE FOR EACH INLET OF THE TYPE SPECIFIED. COMPLETE IN PLACE INCLUDING MANHOLE FRAME AND COVER.
 5. CHAMFER ALL EXPOSED EDGES 20 mm (3/4")
 6. MANHOLE FRAME AND COVER SHALL BE IN ACCORDANCE WITH CITY OF AUSTIN STANDARD 503S-1
 7. THE CONTRACTOR MAY PROPOSE ALTERNATE PROCEDURES FOR THE CONSTRUCTION OF INLETS, INCLUDING PRECAST UNITS. PLANS FOR SUCH PROPOSED ALTERNATES SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL BEFORE CONSTRUCTION.
 8. ALL INLET WALLS SHALL BE FORMED EXCEPT WHERE THE NATURE OF THE SURROUNDING MATERIAL IS SUCH THAT IT CAN BE TRIMMED TO A SMOOTH VERTICAL FACE. WHEN INLET WALLS ARE PLACED TO NEAR EXCAVATION LINES THE WALL THICKNESS SHALL NOT EXCEED 10 INCHES.
 9. PAYMENT FOR INLET AT THE CONTRACT PRICE SHALL INCLUDE THE TRANSITION CURB.
 10. INVERT OF INLET SHALL BE SLOPED 1:20 WITH FILL CONCRETE, SHAPED AS "V" SECTION
 11. NO SPLICING OF REINFORCING STEEL SHALL BE PERMITTED UNLESS OTHERWISE NOTED ON THE PLANS OR PERMITTED IN WRITING BY THE ENGINEER.

REFERENCES:

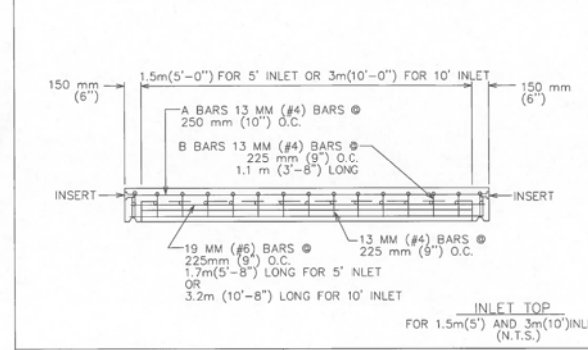
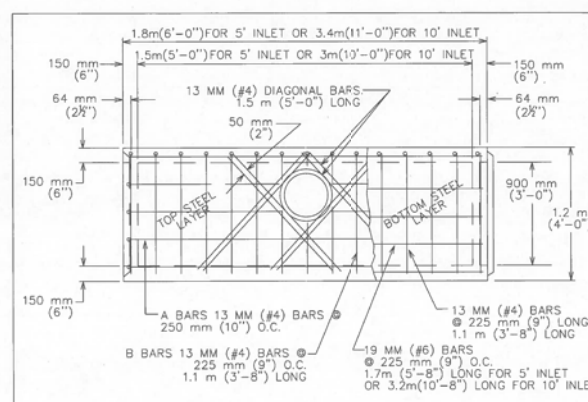
FOR EXPANSION JOINT DOWEL AND DOWEL LOCATION DETAILS SEE STD. 430S-3, "CURB EXPANSION JOINT DOWEL DETAIL".

FOR 18" MANHOLE FRAME AND COVER DETAILS SEE STD. 503S-1, "18" COVER AND FRAME".

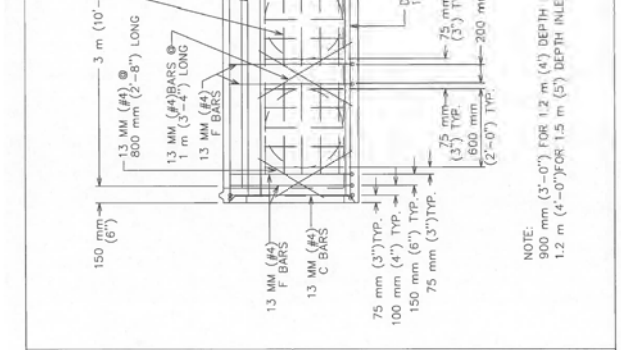
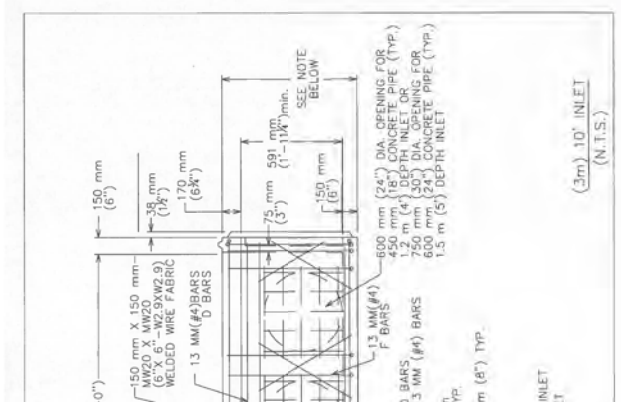
CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	TYPICAL DETAILS FOR CURB INLET	STANDARD NO. 508S-3 4 OF 4
RECORD COPY SIGNED BY BILL GARDNER 12/09/08 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	



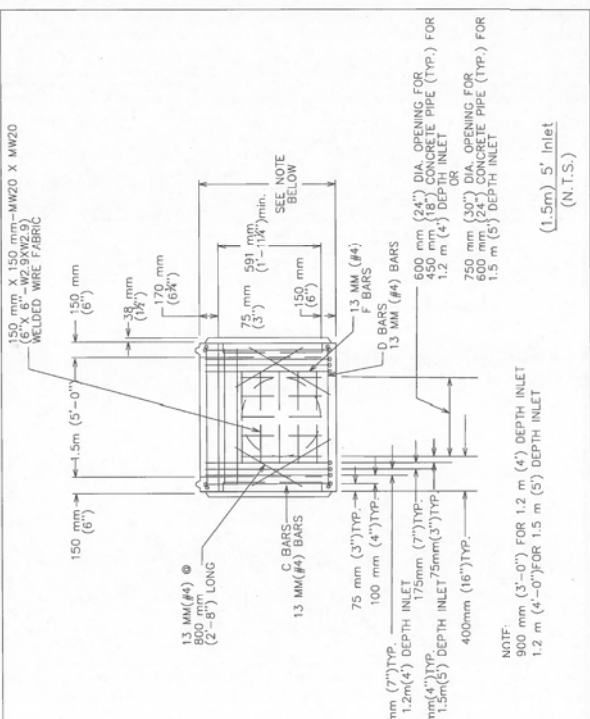
CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	CURB INLET 1.5m(5')AND3m(10')PRECAST TYPE 1 OR TYPE 1-R	STANDARD NO. 508S-4 1 OF 7
ADOPTED 4/25/19	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	



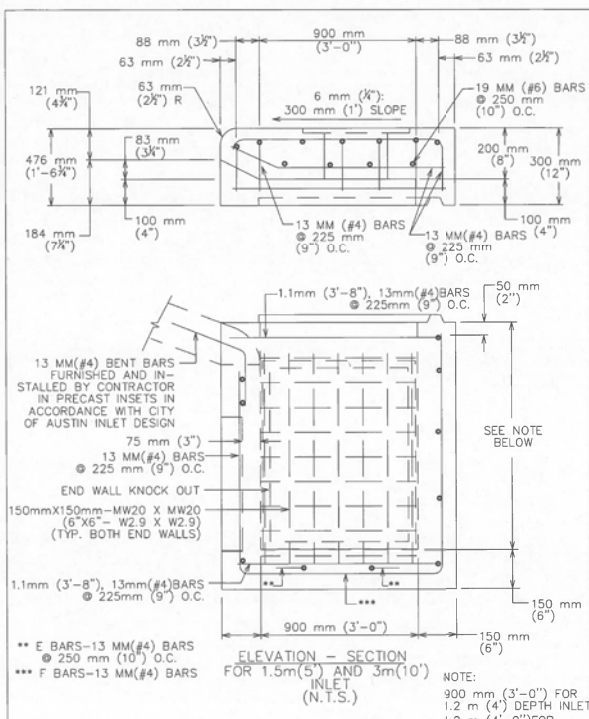
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ADOPTED 4/25/19	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	



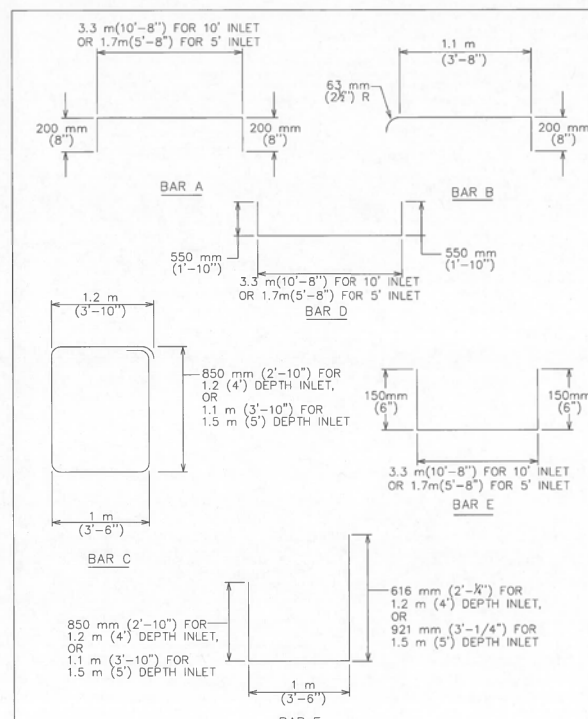
CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	CURB INLET 1.5m(5')AND3m(10')PRECAST TYPE 1 OR TYPE 1-R	STANDARD NO. 508S-4 3 OF 7
ADOPTED 4/25/19	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	



CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	CURB INLET 1.5m(5')AND3m(10')PRECAST TYPE 1 OR TYPE 1-R	STANDARD NO. 508S-4 4 OF 7
ADOPTED 4/25/19	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	



CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	CURB INLET 1.5m(5')AND3m(10')PRECAST TYPE 1 OR TYPE 1-R	STANDARD NO. 508S-4 5 OF 7
ADOPTED 4/25/19	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	

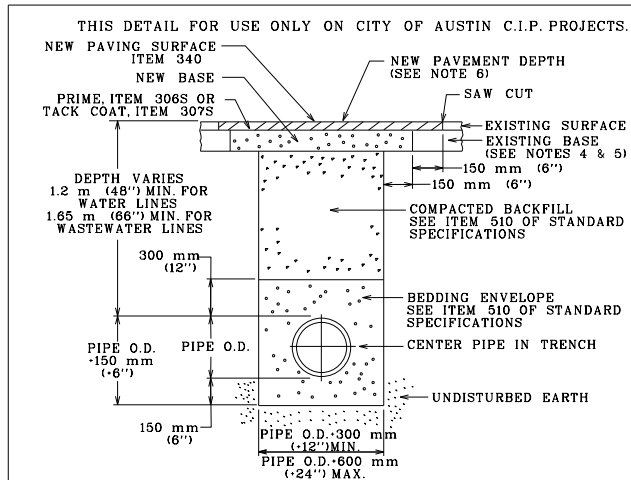


CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	CURB INLET 1.5m(5')AND3m(10')PRECAST TYPE 1 OR TYPE 1-R	STANDARD NO. 508S-4 6 OF 7
ADOPTED 4/25/19	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	

- NOTES:**
1. ALL CONCRETE SHALL BE CLASS "A" AS PER ITEM 403S.
 2. ALL REINFORCING STEEL SHALL BE GRADE 60
 3. DIMENSIONS RELATING TO REINFORCING STEEL ARE TO CENTERS OF BARS.
 4. IN AREAS OF CONFLICT BETWEEN REINFORCING STEEL, PIPES AND MANHOLE FRAME, THE REINFORCEMENT SHALL BE BENT OR ADJUSTED TO CLEAR AS DIRECTED BY THE ENGINEER.
 5. PAYMENT FOR INLET AT THE CONTRACT PRICE SHALL INCLUDE THE TRANSITION CURB. IN ACCORDANCE WITH CITY OF AUSTIN STANDARD INLET DESIGN.
 6. INVERT OF INLET SHALL BE SLOPED 1:20 WITH FILL CONCRETE BY CONTRACTOR, SHAPED AS "V" SECTION
 7. THIS STANDARD COMPLIES WITH THE CITY OF AUSTIN STANDARD SPECIFICATIONS ITEM NO. 508S.
 8. WHEN PLACING PRECAST INLETS IN SERIES TO CREATE A 15'-0" OR 20'-0" CURB INLET, THE CONNECTION BETWEEN INLET BOXES SHALL BE SOIL TIGHT AND FULLY CONVEY THE PEAK DESIGN FLOW FROM THE UPSTREAM INLET(S). THE 1:20 INVERT SLOPE DESCRIBED IN NOTE 6 OF THIS DETAIL SHALL EXTEND FROM THE MOST DOWNSTREAM POINT TO THE MOST UPSTREAM OF THE CONNECTED INLET BOXES. AT NO TIME CAN MORE THAN 20'-0" OF CURB OPENING BE CONNECTED TO A MAIN STORM DRAIN LINE WITH ONE LATERAL STORM DRAIN CONNECTION.

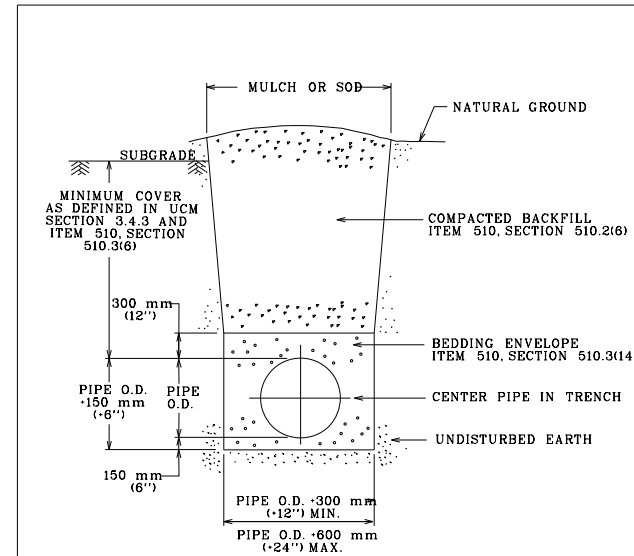


CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	CURB INLET 1.5m(5')AND3m(10')PRECAST TYPE 1 OR TYPE 1-R	STANDARD NO. 508S-4 7 OF 7
ADOPTED 4/25/19	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	



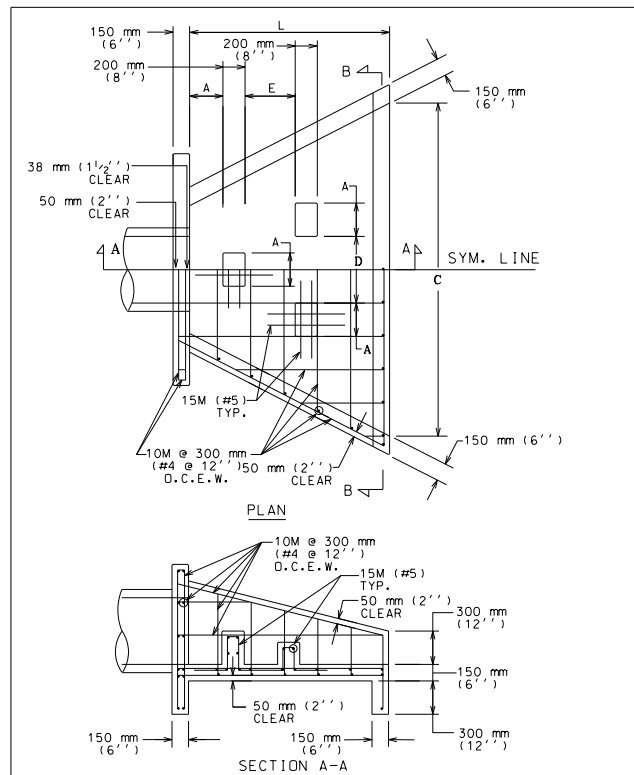
- NOTES:
- THE EXISTING PAVING SURFACE SHALL BE SAW CUT IN A STRAIGHT LINE A MINIMUM OF 300 mm (12'') WIDER THAN THE UNDISTURBED SIDES OF THE TRENCH, SYMMETRICAL ABOUT THE CENTER LINE OF THE EXCAVATION.
 - ANY CONCRETE PAVING SHALL BE SAW CUT 150 mm (6'') WIDER THAN UNDISTURBED SIDES OF EXCAVATION.
 - IF EXCAVATION AREA IS OPEN FOR TEMPORARY PUBLIC USE, THE SURFACE SHALL BE MAINTAINED LEVEL WITH ADJACENT RIDING SURFACE WITH COLD MIX OR TEMPORARY HOT MIX ASPHALTIC CONCRETE.
 - ROAD BASE AND SURFACE MATERIALS IN THE TRENCH CUT SHALL BE REPLACED IN KIND OF EQUAL THICKNESS OR MINIMUM BASE THICKNESS OF 250 mm (10''), WHICHEVER IS GREATER.
 - ALL DAMAGED AREAS OF PAVEMENT OUTSIDE THE TRENCH CUT SHALL BE REMOVED AND REPLACED WITH MINIMUM OF 200 mm (8'') OF BASE OR MATCH EXISTING THICKNESS, WHICHEVER IS GREATER.
 - SURFACE PAVEMENT SHALL BE OF THE KIND AND THICKNESS AS EXISTING, OR MINIMUM 50 mm (2''), WHICHEVER IS GREATER.

CITY OF AUSTIN WATER AND WASTEWATER UTILITY	TYPICAL TRENCH WITH PAVED SURFACE	STANDARD NO. 510S-3
RECORD COPY SIGNED BY KATH L. FLOWERS	8/19/02 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.

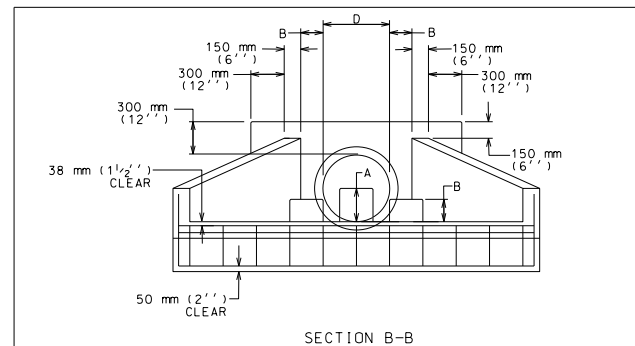


- REFERENCES:
- UTILITY CRITERIA MANUAL SECTION 3.4.3, "FINAL DESIGN"
 - STANDARD SPECIFICATION MANUAL ITEM 510, SECTION 510.2(6), "SELECT BACKFILL OR BORROW"; SECTION 510.3(6), "TRENCH DEPTH AND DEPTH OF COVER"; SECTION 510.3(14), "PIPE BEDDING ENVELOPE"

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	TYPICAL TRENCH DETAIL WITH UNFINISHED SURFACE	STANDARD NO. 510S-5
RECORD COPY SIGNED BY BILL GARDNER	03/13/06 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.



CITY OF AUSTIN DEPARTMENT OF WATERSHED PROTECTION AND DEVELOPMENT REVIEW	STANDARD HEADWALL AND ENERGY DISSIPATORS	STANDARD NO. 508S-13 1 OF 2
RECORD COPY SIGNED BY BILL GARDNER	08/20/07 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.



- NOTES:
- ALL CONCRETE SHALL BE TYPE "C" AS PER SPEC. 403S. CONCRETE FOR STRUCTURES.
 - CHAMFER ALL EXTERNAL VISIBLE CORNERS.
 - DISSIPATOR BLOCKS REQUIRED ON DISCHARGE HEADWALLS ONLY.

D	457 mm (18'')	533 mm (21'')	610 mm (24'')	685 mm (27'')	765 mm (30'')	838 mm (33'')	914 mm (36'')	1,067 mm (42'')	1,219 mm (48'')	1,372 mm (54'')	1,524 mm (60'')
A	225 mm (9'')	250 mm (10'')	300 mm (12'')	350 mm (14'')	375 mm (15'')	400 mm (16'')	450 mm (18'')	525 mm (21'')	600 mm (24'')	675 mm (27'')	750 mm (30'')
B	150 mm (6'')	175 mm (7'')	200 mm (8'')	225 mm (9'')	250 mm (10'')	275 mm (11'')	300 mm (12'')	350 mm (14'')	400 mm (16'')	450 mm (18'')	500 mm (20'')
C	2.29 m (90'')	2.67 m (105'')	3.05 m (120'')	3.43 m (135'')	3.81 m (150'')	4.19 m (165'')	4.57 m (180'')	5.33 m (210'')	6.10 m (240'')	6.86 m (270'')	7.62 m (300'')
L	1.37 m (54'')	1.60 m (63'')	1.83 m (72'')	2.06 m (81'')	2.29 m (90'')	2.51 m (99'')	2.74 m (108'')	3.20 m (126'')	3.66 m (144'')	4.11 m (162'')	4.57 m (180'')
E	300 mm (12'')	350 mm (14'')	400 mm (16'')	450 mm (18'')	500 mm (20'')	550 mm (22'')	600 mm (24'')	700 mm (28'')	800 mm (32'')	900 mm (36'')	1000 mm (40'')

DIMENSIONS IN MILLIMETERS, METERS AND (INCHES).
DISCHARGE VELOCITIES GREATER THAN 3 METERS/SECOND (10 FPS) REQUIRE ROCK OUTLET PROTECTION.

CITY OF AUSTIN DEPARTMENT OF WATERSHED PROTECTION AND DEVELOPMENT REVIEW	STANDARD HEADWALL AND ENERGY DISSIPATORS	STANDARD NO. 508S-13 2 OF 2
RECORD COPY SIGNED BY BILL GARDNER	08/20/07 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.

NO.	DATE	BY	REVISIONS

SHEET INFORMATION
DATE 5/2/2024
SHEET 1 OF 1

REVISIONS table with columns for NO., DATE, BY, and REMARKS.

SHEET INFORMATION
DATE 5/2/2024
SHEET 1 OF 1



BOX DATA table with columns for SECTION DIMENSIONS (S, H, TT, TB, TS, FB, M), REINFORCING (AS1-AS8), and LB Weight. Includes diagrams for CORNER OPTION 'A' and 'B' for structures with fill height less than 2 ft. Includes SECTION A-A detail and material/notes sections.

BOX DATA table with columns for SECTION DIMENSIONS (S, H, TT, TB, TS, FB, M), REINFORCING (AS1-AS8), and LB Weight. Includes diagrams for CORNER OPTION 'A' and 'B' for structures with fill height 2 ft and greater. Includes SECTION A-A detail and material/notes sections.

TXDOT logo, Texas Department of Transportation, HLE93 LOADING, Bridge Division Standard, SINGLE BOX CULVERTS PRECAST 4'-0" SPAN, SCP-4, and project metadata table.

BOX DATA table with columns for SECTION DIMENSIONS (S, H, TT, TB, TS, FB, M), REINFORCING (AS1-AS8), and LB Weight. Includes diagrams for CORNER OPTION 'A' and 'B' for structures with fill height less than 2 ft. Includes SECTION A-A detail and material/notes sections.

BOX DATA table with columns for SECTION DIMENSIONS (S, H, TT, TB, TS, FB, M), REINFORCING (AS1-AS8), and LB Weight. Includes diagrams for CORNER OPTION 'A' and 'B' for structures with fill height 2 ft and greater. Includes SECTION A-A detail and material/notes sections.

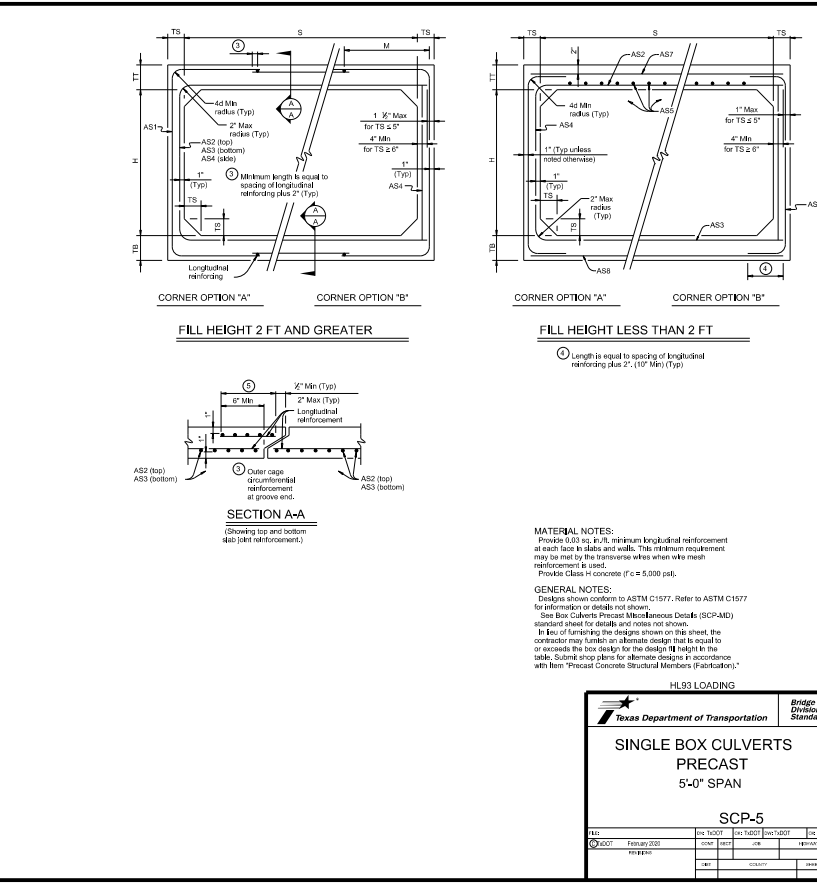
TXDOT logo, Texas Department of Transportation, HLE93 LOADING, Bridge Division Standard, SINGLE BOX CULVERTS PRECAST 8'-0" SPAN, SCP-8, and project metadata table.

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BOX DATA

SECTION DIMENSIONS	REINFORCING (see Note 1)		LB (top)	LB (bottom)
	AS1	AS2		
5' x 2' x 6'	AS1	AS2	1.19	0.19
5' x 2' x 8'	AS1	AS2	1.19	0.19
5' x 2' x 10'	AS1	AS2	1.19	0.19
5' x 2' x 12'	AS1	AS2	1.19	0.19
5' x 2' x 14'	AS1	AS2	1.19	0.19
5' x 2' x 16'	AS1	AS2	1.19	0.19
5' x 2' x 18'	AS1	AS2	1.19	0.19
5' x 2' x 20'	AS1	AS2	1.19	0.19
5' x 2' x 22'	AS1	AS2	1.19	0.19
5' x 2' x 24'	AS1	AS2	1.19	0.19
5' x 2' x 26'	AS1	AS2	1.19	0.19
5' x 2' x 28'	AS1	AS2	1.19	0.19
5' x 2' x 30'	AS1	AS2	1.19	0.19
5' x 2' x 32'	AS1	AS2	1.19	0.19
5' x 2' x 34'	AS1	AS2	1.19	0.19
5' x 2' x 36'	AS1	AS2	1.19	0.19
5' x 2' x 38'	AS1	AS2	1.19	0.19
5' x 2' x 40'	AS1	AS2	1.19	0.19
5' x 2' x 42'	AS1	AS2	1.19	0.19
5' x 2' x 44'	AS1	AS2	1.19	0.19
5' x 2' x 46'	AS1	AS2	1.19	0.19
5' x 2' x 48'	AS1	AS2	1.19	0.19
5' x 2' x 50'	AS1	AS2	1.19	0.19
5' x 2' x 52'	AS1	AS2	1.19	0.19
5' x 2' x 54'	AS1	AS2	1.19	0.19
5' x 2' x 56'	AS1	AS2	1.19	0.19
5' x 2' x 58'	AS1	AS2	1.19	0.19
5' x 2' x 60'	AS1	AS2	1.19	0.19



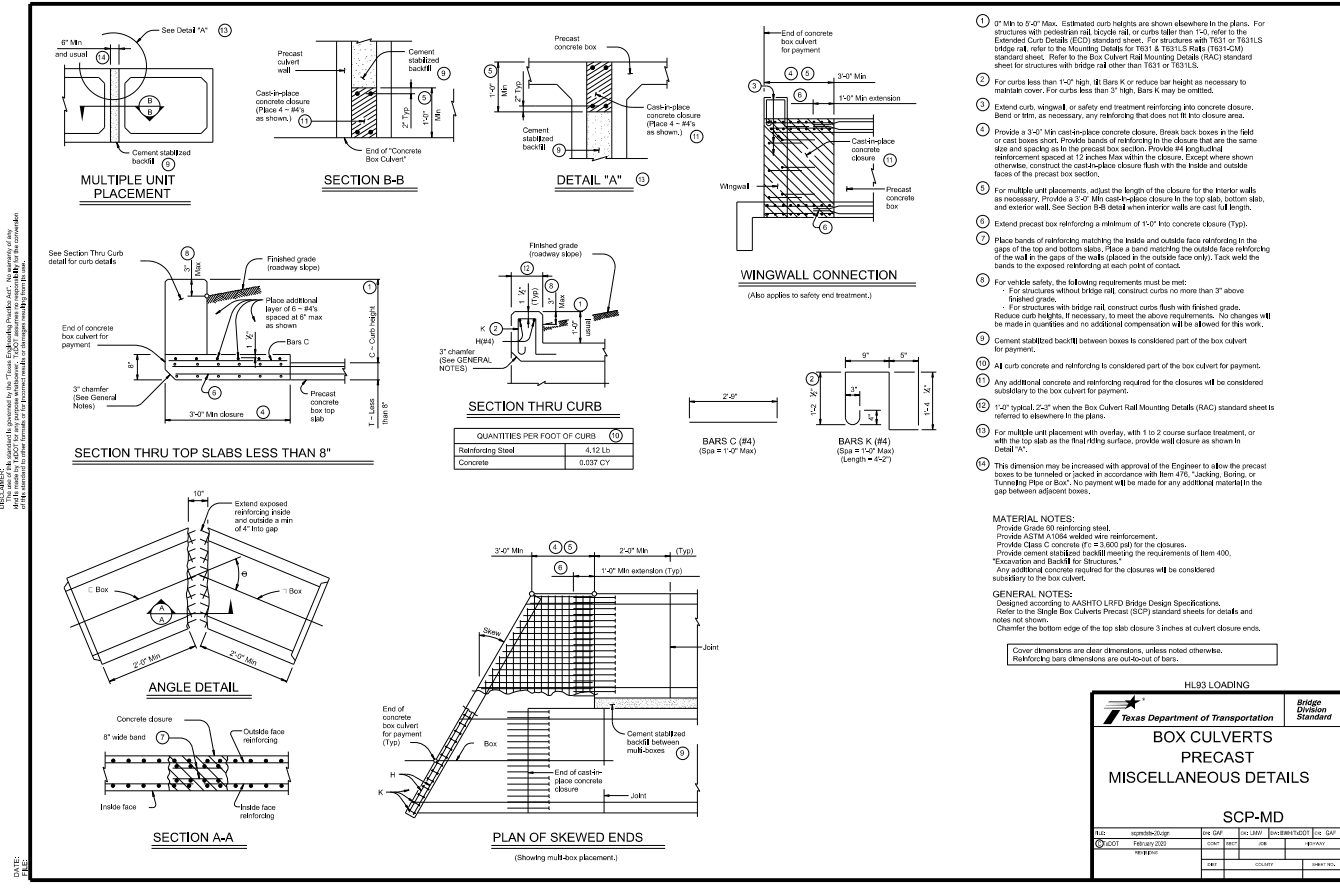
HL93 LOADING

Texas Department of Transportation
 Bridge Division
 Standard

SINGLE BOX CULVERTS
PRECAST
5'-0" SPAN

SCP-5

Span	10'00'	12'00'	14'00'	16'00'	18'00'
Reinforcing Steel	4.12 LB	4.12 LB	4.12 LB	4.12 LB	4.12 LB
Concrete	5.93 CY	5.93 CY	5.93 CY	5.93 CY	5.93 CY



HL93 LOADING

Texas Department of Transportation
 Bridge Division
 Standard

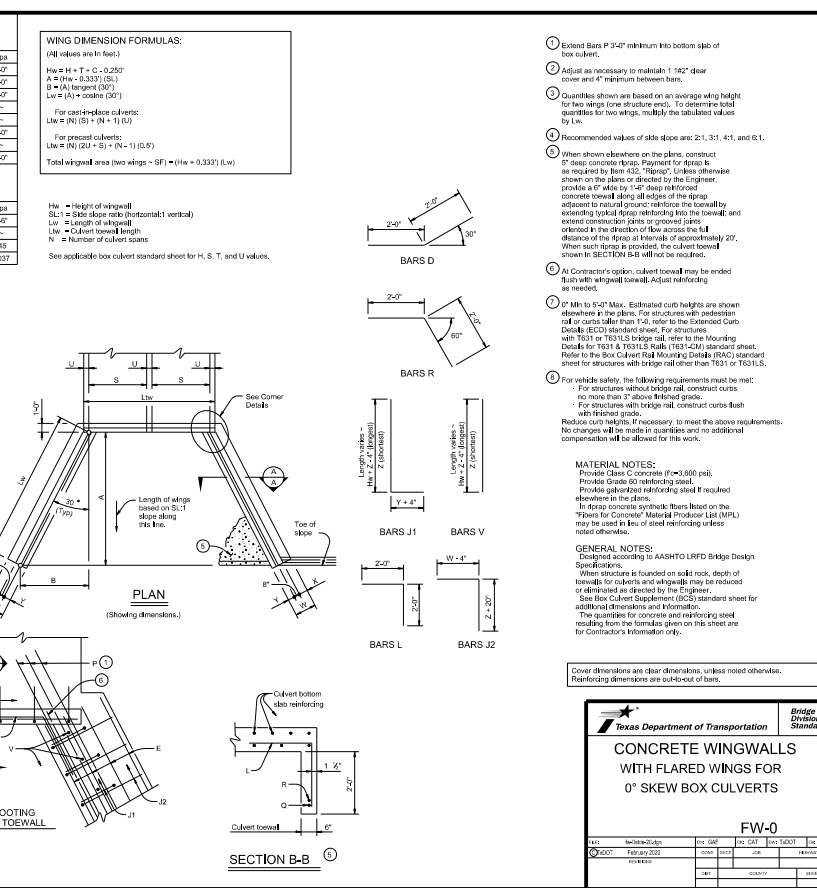
BOX CULVERTS
PRECAST
MISCELLANEOUS DETAILS

SCP-MD

Span	10'00'	12'00'	14'00'	16'00'	18'00'
Reinforcing Steel	4.12 LB	4.12 LB	4.12 LB	4.12 LB	4.12 LB
Concrete	5.93 CY	5.93 CY	5.93 CY	5.93 CY	5.93 CY

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

Dimensions	Variable Reinforcing		Estimated Quantities per ft of wing length (C=wing)
	Bars J1	Bars J2	
2'-0" x 2'-0" x 1'-0"	AS1	AS2	0.373, 0.248
3'-0" x 2'-0" x 1'-0"	AS1	AS2	0.373, 0.248
4'-0" x 2'-0" x 1'-0"	AS1	AS2	0.373, 0.248
5'-0" x 2'-0" x 1'-0"	AS1	AS2	0.373, 0.248
6'-0" x 2'-0" x 1'-0"	AS1	AS2	0.373, 0.248
7'-0" x 2'-0" x 1'-0"	AS1	AS2	0.373, 0.248
8'-0" x 2'-0" x 1'-0"	AS1	AS2	0.373, 0.248
9'-0" x 2'-0" x 1'-0"	AS1	AS2	0.373, 0.248
10'-0" x 2'-0" x 1'-0"	AS1	AS2	0.373, 0.248
11'-0" x 2'-0" x 1'-0"	AS1	AS2	0.373, 0.248
12'-0" x 2'-0" x 1'-0"	AS1	AS2	0.373, 0.248
13'-0" x 2'-0" x 1'-0"	AS1	AS2	0.373, 0.248
14'-0" x 2'-0" x 1'-0"	AS1	AS2	0.373, 0.248
15'-0" x 2'-0" x 1'-0"	AS1	AS2	0.373, 0.248
16'-0" x 2'-0" x 1'-0"	AS1	AS2	0.373, 0.248



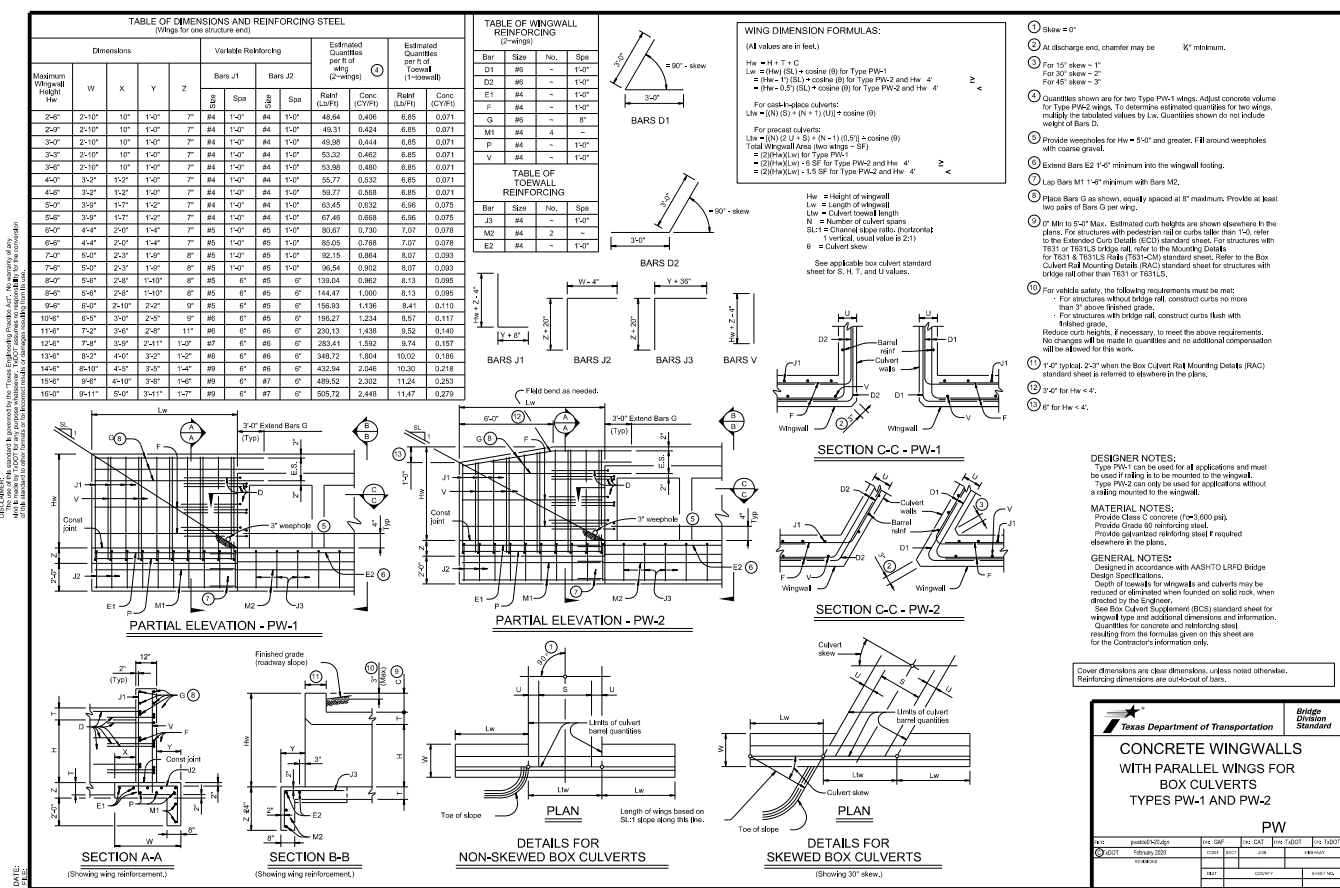
HL93 LOADING

Texas Department of Transportation
 Bridge Division
 Standard

CONCRETE WINGWALLS
WITH FLARED WINGS FOR
0° SKEW BOX CULVERTS

FW-0

Span	10'00'	12'00'	14'00'	16'00'	18'00'
Reinforcing Steel	4.12 LB	4.12 LB	4.12 LB	4.12 LB	4.12 LB
Concrete	5.93 CY	5.93 CY	5.93 CY	5.93 CY	5.93 CY



HL93 LOADING

Texas Department of Transportation
 Bridge Division
 Standard

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

PW

Span	10'00'	12'00'	14'00'	16'00'	18'00'
Reinforcing Steel	4.12 LB	4.12 LB	4.12 LB	4.12 LB	4.12 LB
Concrete	5.93 CY	5.93 CY	5.93 CY	5.93 CY	5.93 CY

REVISIONS

NO.	DATE	BY

REQUIREMENTS FOR CULVERT PIPES AND SAFETY PIPE RUNNERS

Pipe I.D.	RCP Wall Thickness	TP Wall Thickness	Slope	Min. Length	Pipe Runners Required		Required Pipe Runner Size
					Single	Multiple	
12"	2"	1.5"	17.00%	6'	4' - 9"	No	Yes, for 2' slope 3" STD 3.500" 3.068"
15"	2 1/4"	1.50"	26.50%	6'	6' - 0"	No	Yes, for 2' slope 3" STD 3.500" 3.068"
18"	2 1/2"	1.50"	24.00%	6'	6' - 0"	No	Yes, for 2' slope 3" STD 3.500" 3.068"
24"	3"	1.50"	31.00%	6'	11' - 3"	No	Yes, for 2' slope 3" STD 3.500" 3.068"
30"	3 1/2"	2.00"	38.50%	6'	14' - 0"	No	Yes 4" STD 4.500" 4.028"
36"	4"	2.75"	45.50%	6'	17' - 11"	Yes	Yes 4" STD 4.500" 4.028"
42"	4 1/2"	N/A	52.50%	6'	21' - 2"	Yes	Yes 4" STD 4.500" 4.028"

- Dimension "D" is based on reinforced concrete pipe (RCP) meeting the requirements of ASTM C-76, Class III (RCP Wall "B" thickness). Adjust "D" for any other wall thickness used. For thermoplastic pipe (TP), take into account the annular space requirements for grouted connections.
- Slope as shown elsewhere in the plans. Slope of 6:1 or flatter is required for vehicle safety.
- Towell to be used only when dimension is shown elsewhere in the plans.
- Fill the top 4" of void between precast treatments with concrete. Concrete is to be considered subsidiary to the Item 407, "Safety End Treatment".
- Adjust clear distance between pipes to provide for the minimum distance between safety end treatments.
- Provide center stabilization blocking and backfill in accordance with the Item 400, "Excavation and Backfill for Structures", blocking and backfill is considered subsidiary to the Item 407, "Safety End Treatment". When concrete is used, it is to be considered subsidiary to the Item 407, "Safety End Treatment".
- Thermoplastic pipe wall thickness may vary. Adjust accordingly. Thermoplastic pipe requires the safety end treatments to have a full bed for grouted connections.

GENERAL NOTES:
Precast safety end treatment for reinforced concrete pipe (RCP), and thermoplastic pipe (TP) may be used for TRES End Treatment as specified in Item "Safety End Treatment".
When precast safety end treatment is used as a Contractor's alternate to reinforced RCP, it will not be required unless noted otherwise on the plans.
Synthetic fibers added to the "Pipes for Concrete" Material Producer List (MPL) may be used in lieu of steel reinforcing in concrete unless noted otherwise.
Manufacture this product in accordance with Item 407, "Safety End Treatment" except as noted below:
A. Provide minimum reinforcing of #4 at 6" (Grade 40) or #4 at 12" (Grade 60) each way or #3@ 6" x D12 or D12 x D12 or #3@ 6" x D12 welded wire reinforcement (WWR).
B. For precast (steel formed) sections, provide Class "C" concrete (F_c = 3,000 psi).
At the option and expense of the Contractor the clear height between safety end treatments may be limited as long as the "D" dimension does not exceed the required size of pipe.
Pipe runners are designed for a bearing load of 10,000 lbs at yield as recommended by Research Report 280-02, "Safety Treatment of Roadside Parallel-Drainage Structures", Texas Transportation Institute, March 1981.
Provide pipe runners meeting the requirements of ASTM A53 (Type E or S, Grade 80), ASTM A500 (Grade 60), or A575 (Grade 50).
Collaborate with all sub-contractors and reinforcing steel after fabrication. Repeat galvanized damaged during transport or construction in accordance with the specifications.
Connect RCP using the Optional Joint for RCP detail shown or in accordance with Item 404, "Reinforced Concrete Pipe", Connect TP by grouting. See PRECIP standard for grouted connections with TP and precast safety end treatment.

Texas Department of Transportation
PRECAST SAFETY END TREATMENT
TYPE II - PARALLEL DRAINAGE

PSET-SP

REV	DATE	DESCRIPTION	BY	CHK	APP	REV	DATE	DESCRIPTION
01	February 2024	Issue for Review						
02	February 2024	Issue for Review						
03	February 2024	Issue for Review						

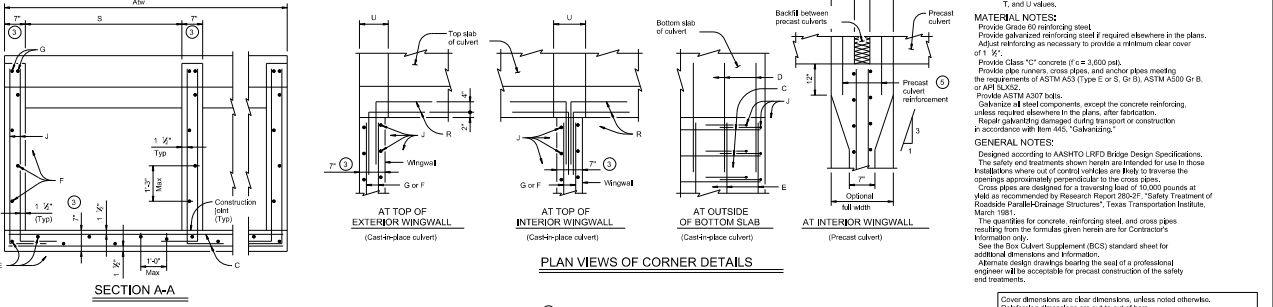
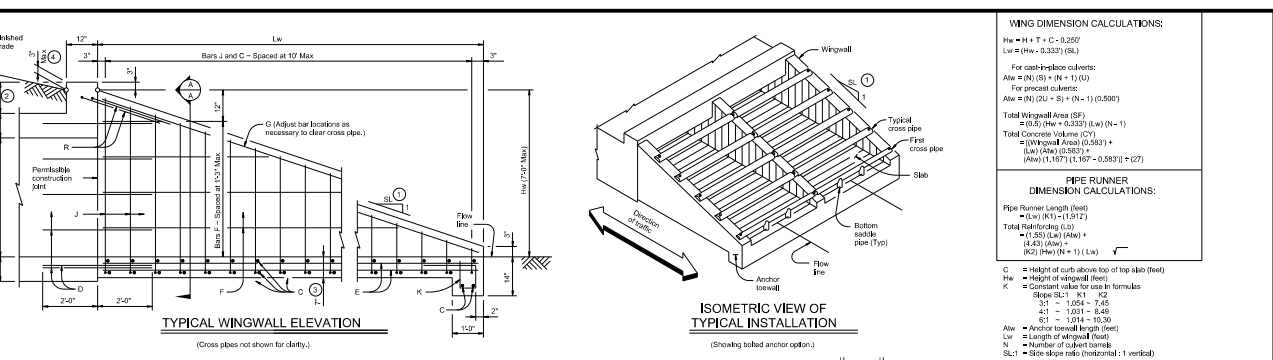
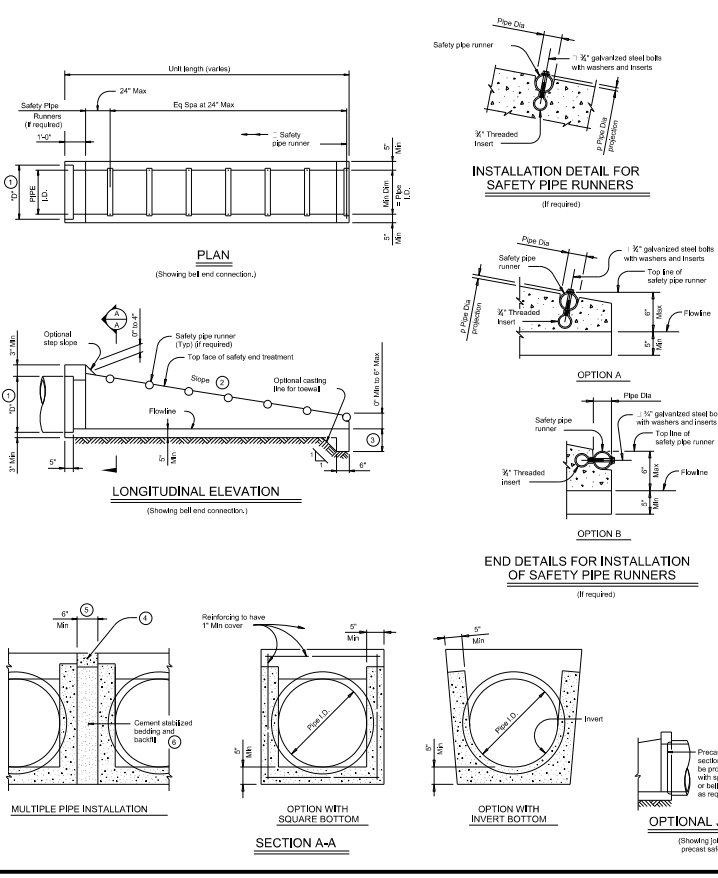


TABLE OF REINFORCING BAR SIZES AND SPACING

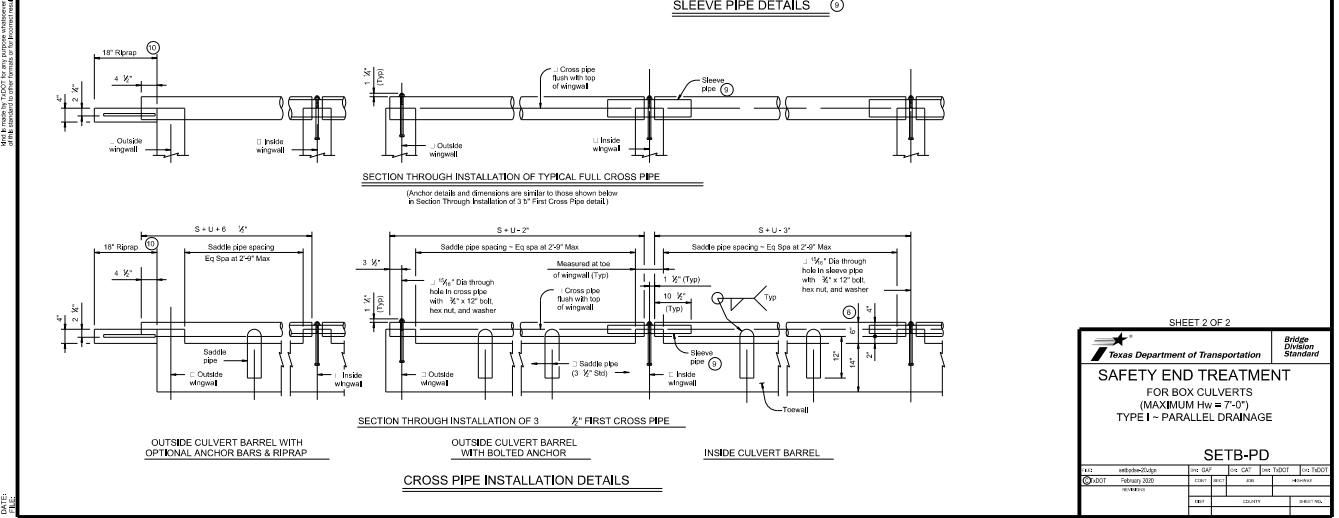
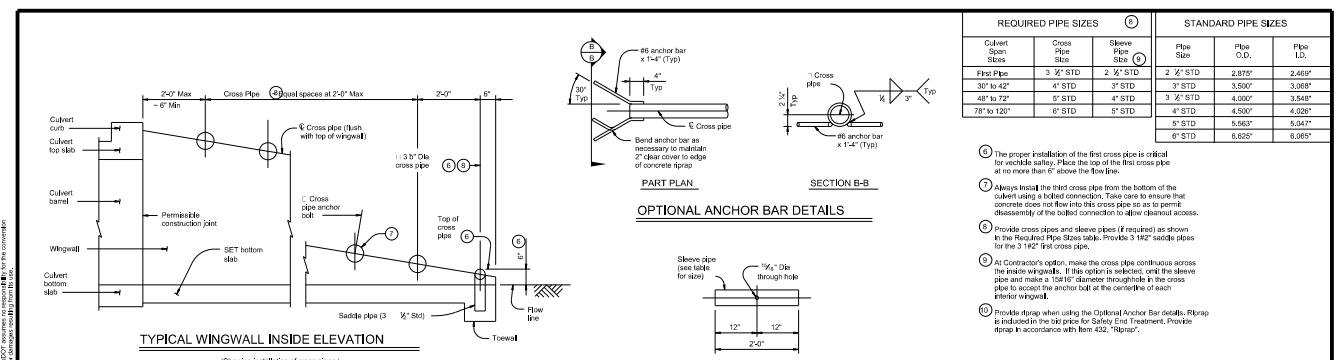
Bar	Size	Spacing
C	#4	12" Max
D	#4/6/8/10	F and E
E	#4 1'-0" Max	
F	#4 4'-0" Max	
G	#6	As shown
H	#4	12" Max
I	#4 1'-0" Max	
J	#4 1'-0" Max	
K	#4 1'-0" Max	
L	#4	As shown

- Provide 6:1 or flatter slope.
- 6" Min to 5'0" Max. Estimated curb heights are shown elsewhere in the plans. For structures without wing and curb taller than 1'-0", refer to Extended Curb Detail in the Extended Curb Detail (ECD) standard sheet.
- Wingwall and slab thicknesses may be the same as the adjacent culvert wall and slab thicknesses (7" Minimum). If thickness greater than the minimum (7") are used, no changes will be made in quantities and no additional compensation will be allowed for this work.
- For vehicle safety, reduce height, if necessary, to provide a maximum 3" projection above finished grade. No changes will be made in quantities and no additional compensation will be allowed for this work.
- For culverts with C = 0", the precast culvert reinforcing may extend 1'-0" minimum into wingwall. Wingwall bars D and R may be omitted. Otherwise, refer to the Wingwall Connection Detail on the Box Culvert Precast Manufacturer's Details (SCP-402) standard sheet.

Texas Department of Transportation
SAFETY END TREATMENT
FOR BOX CULVERTS
(MAXIMUM H_w = 7'-0")
TYPE I - PARALLEL DRAINAGE

SETB-PD

REV	DATE	DESCRIPTION	BY	CHK	APP	REV	DATE	DESCRIPTION
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02	February 2024	Issue for Review						
03	February 2024	Issue for Review						

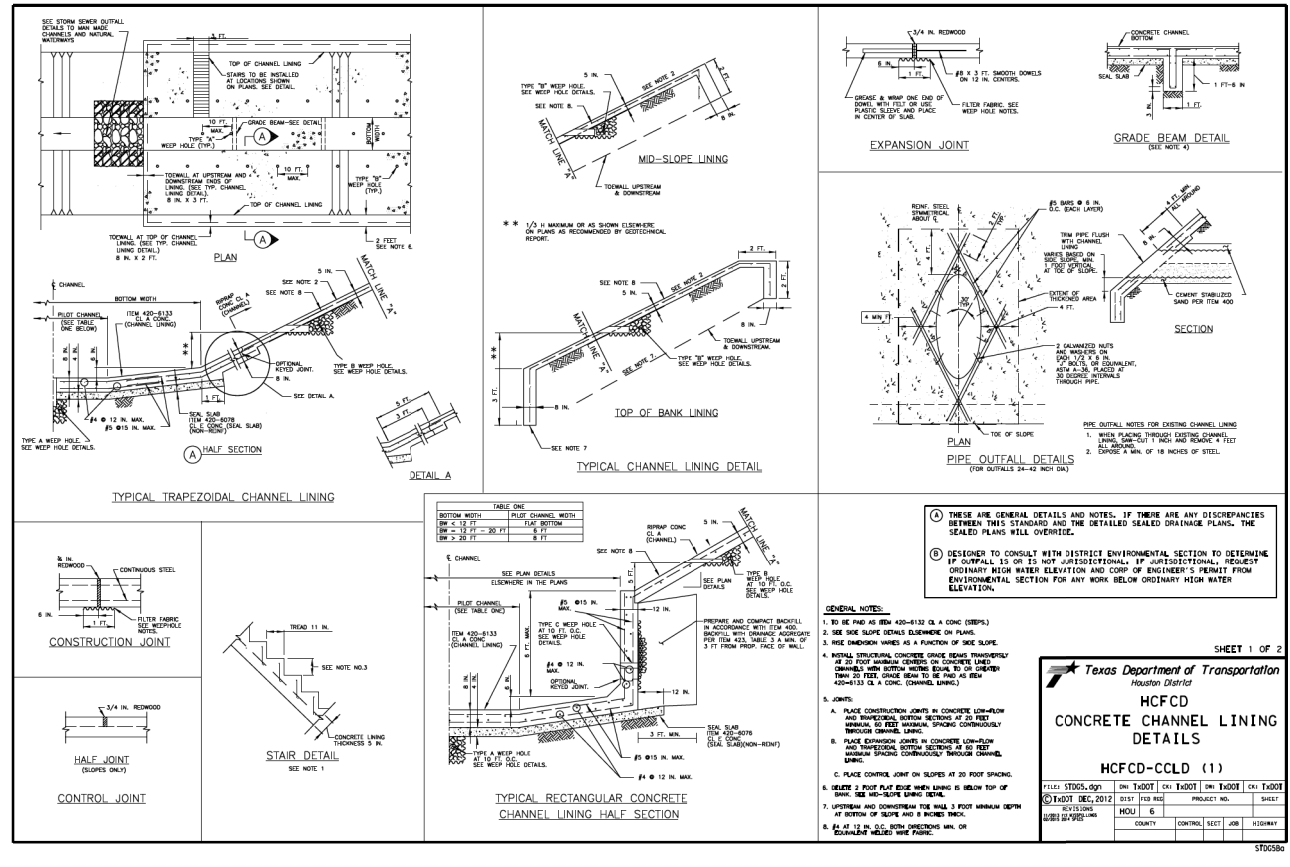


REVISIONS

NO.	DATE	BY	DESCRIPTION

SHEET INFORMATION
DATE 5/2/2024
SHEET 1 OF 1

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SHEET 1 OF 2

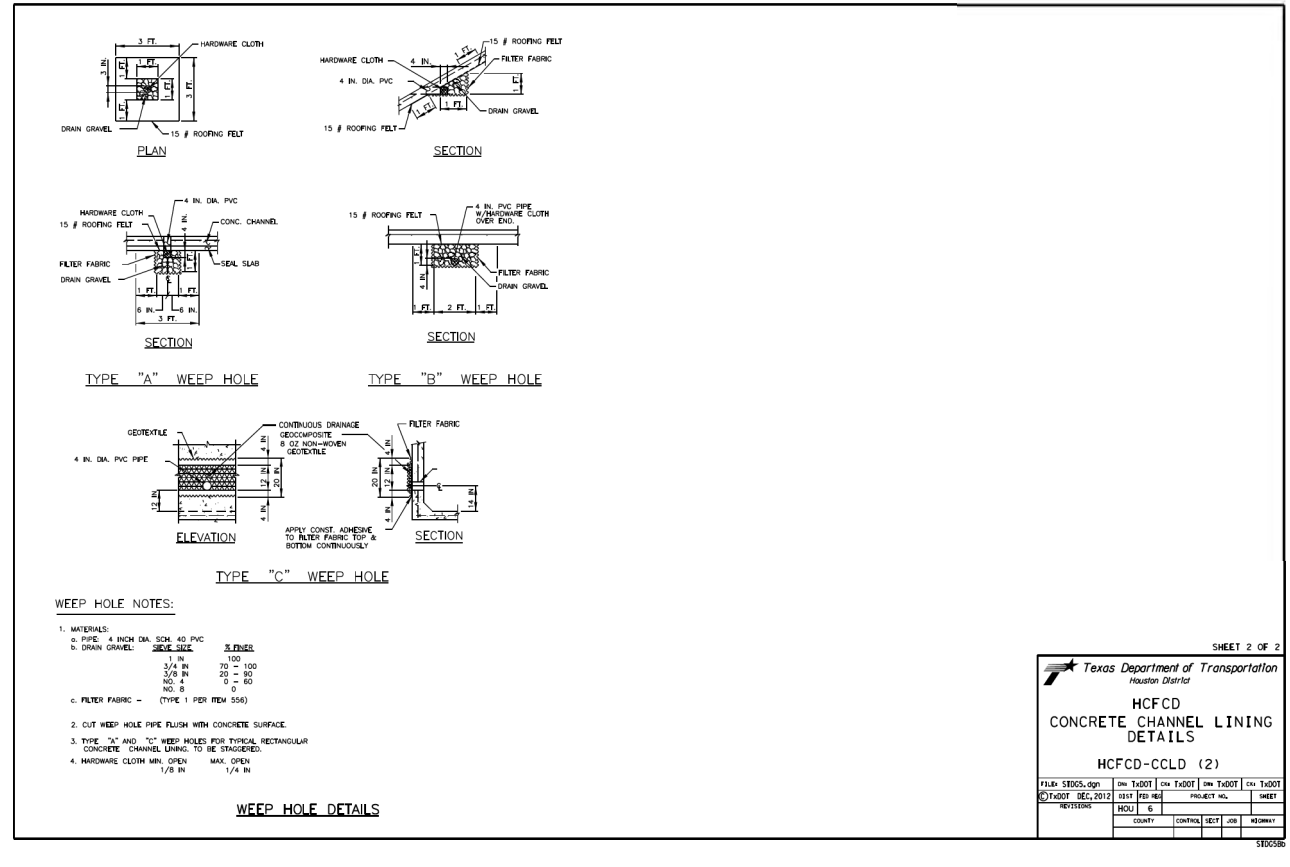
Texas Department of Transportation
Houston District

HCFC D
CONCRETE CHANNEL LINING
DETAILS

HCFC D-CCLD (1)

FILED 5/2/2024	BY TADOT	CHK TADOT	DATE TADOT	CHK TADOT
PROJECT NO.	1517	1517	1517	1517
PROJECT NAME	HOUSTON	HOUSTON	HOUSTON	HOUSTON
COUNTY	HOUSTON	HOUSTON	HOUSTON	HOUSTON
CONTROL SECT				
JOB				
DESIGNER				

5/2/2024



SHEET 2 OF 2

Texas Department of Transportation
Houston District

HCFC D
CONCRETE CHANNEL LINING
DETAILS

HCFC D-CCLD (2)

FILED 5/2/2024	BY TADOT	CHK TADOT	DATE TADOT	CHK TADOT
PROJECT NO.	1517	1517	1517	1517
PROJECT NAME	HOUSTON	HOUSTON	HOUSTON	HOUSTON
COUNTY	HOUSTON	HOUSTON	HOUSTON	HOUSTON
CONTROL SECT				
JOB				
DESIGNER				

5/2/2024

NO.	DATE	BY	REVISIONS

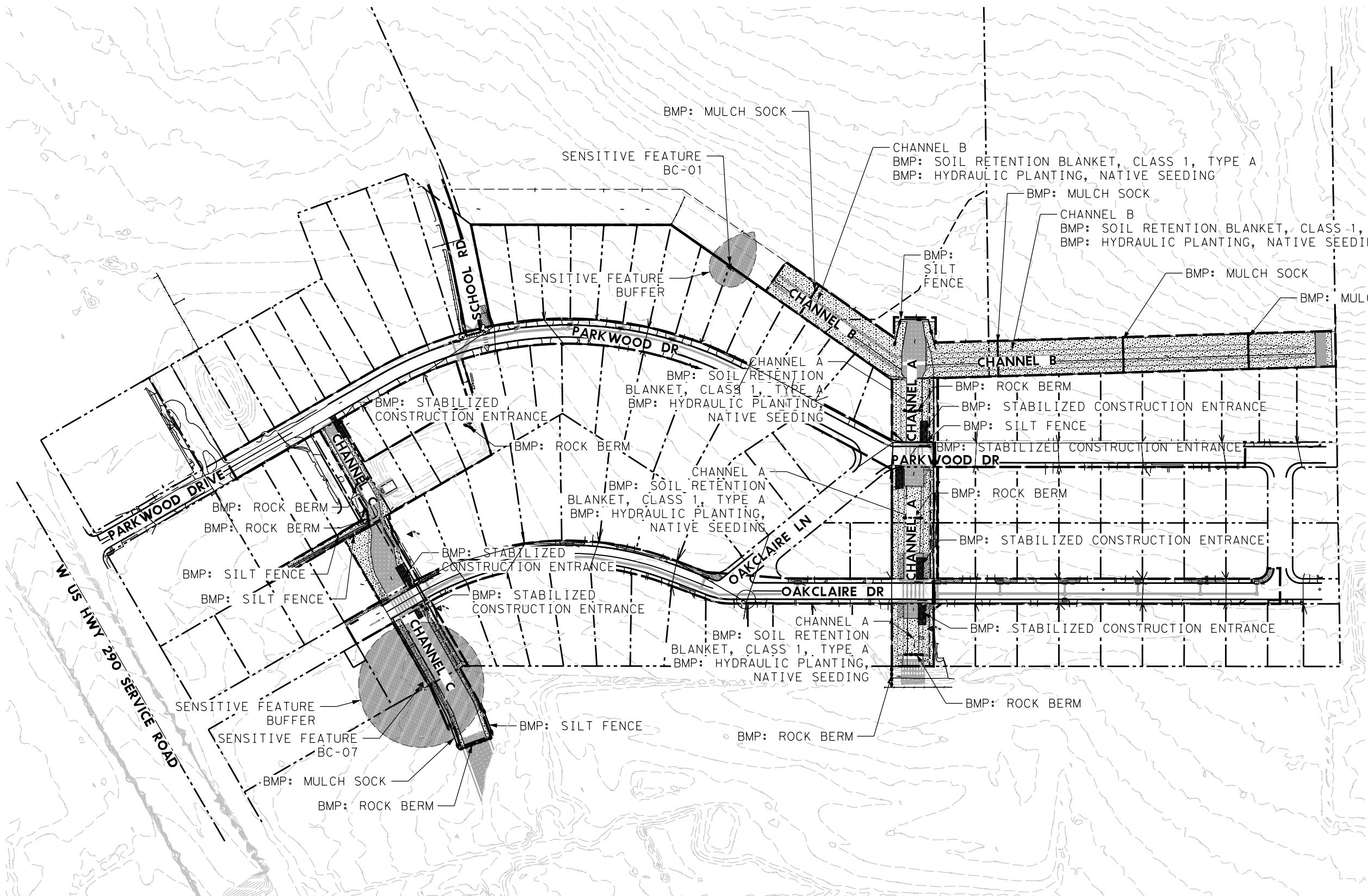
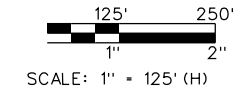
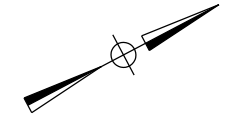
SHEET INFORMATION

DATE 5/2/2024

SHEET 1 OF 1

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- NOTES:
1. CONTRACTOR TO MONITOR CONSTRUCTION ACTIVITIES FOR VOIDS AND WILL NOTIFY TCEQ IF THEY ARE ENCOUNTERED.
 2. CONTRACTOR TO PROVIDE NOTICE TO PROJECT TEAM FOR EXCAVATION AROUND BC-07. A PROFESSIONAL GEOLOGIST MAY OBSERVE CONSTRUCTION NEAR THIS FEATURE.
 3. CONTRACTOR TO ENSURE RUNOFF FROM SITE IS DIVERTED AWAY FROM BC-07 USING MULCH SOCKS AND SANDBAG BERM AS NECESSARY.

CITY OF AUSTIN
 BARTON CREEK OAK PARK
 FLOOD RISK REDUCTION PROJECT
 TCEQ WATER QUALITY PLAN

NO.	BY	DATE	REVISIONS

SHEET INFORMATION
 DATE 5/2/2024
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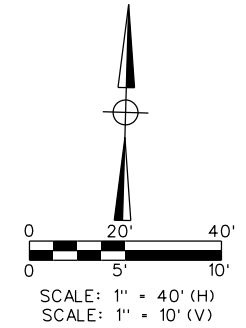


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5/13/2024

CITY OF AUSTIN
BARTON CREEK OAK PARK
FLOOD RISK REDUCTION PROJECT
TCEQ WATER QUALITY BC-07 PLAN
BUFFER ZONE EXHIBIT

NO.	BY	DATE	REVISIONS

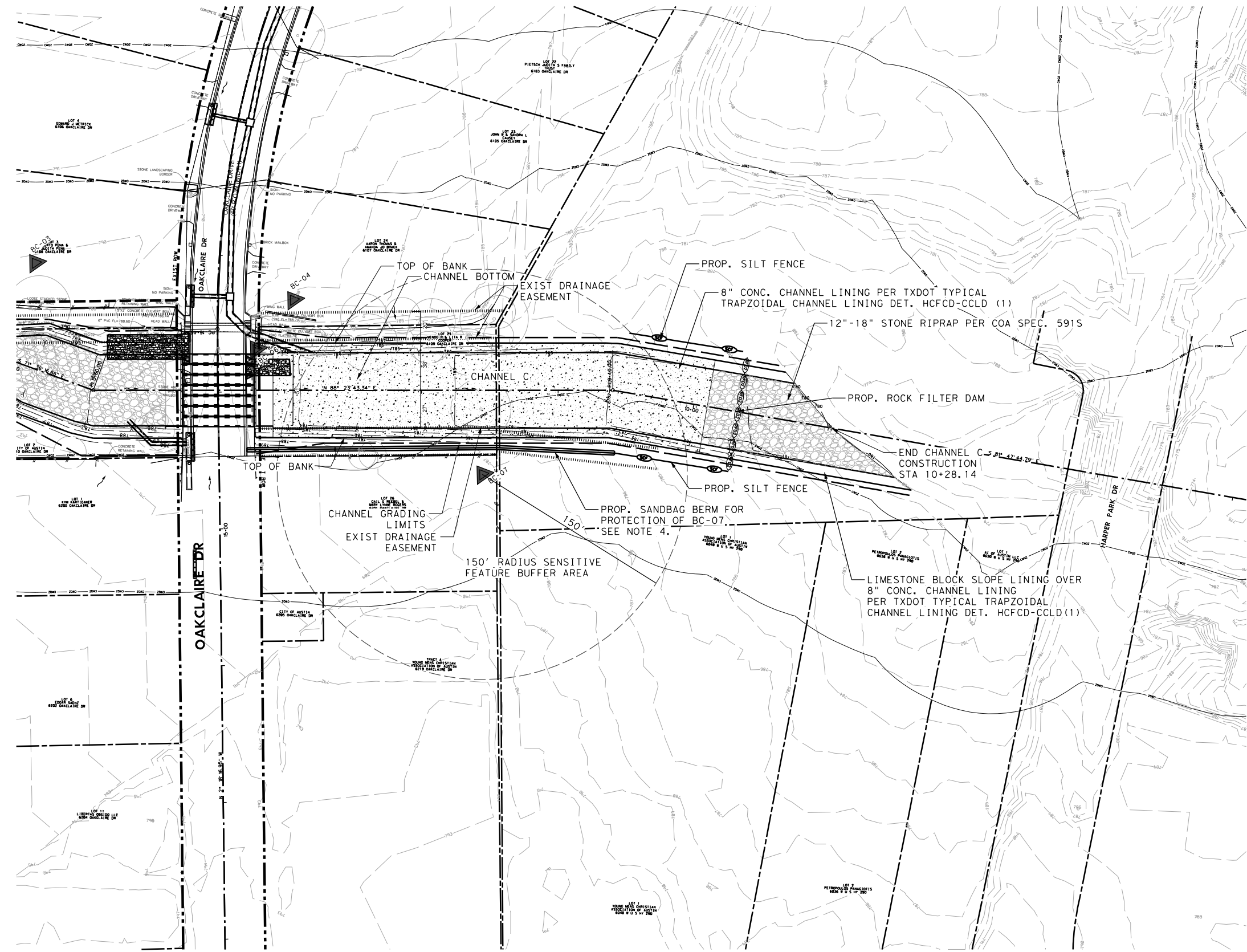
SHEET INFORMATION
DATE 5/13/2024
SHEET 1 OF 1



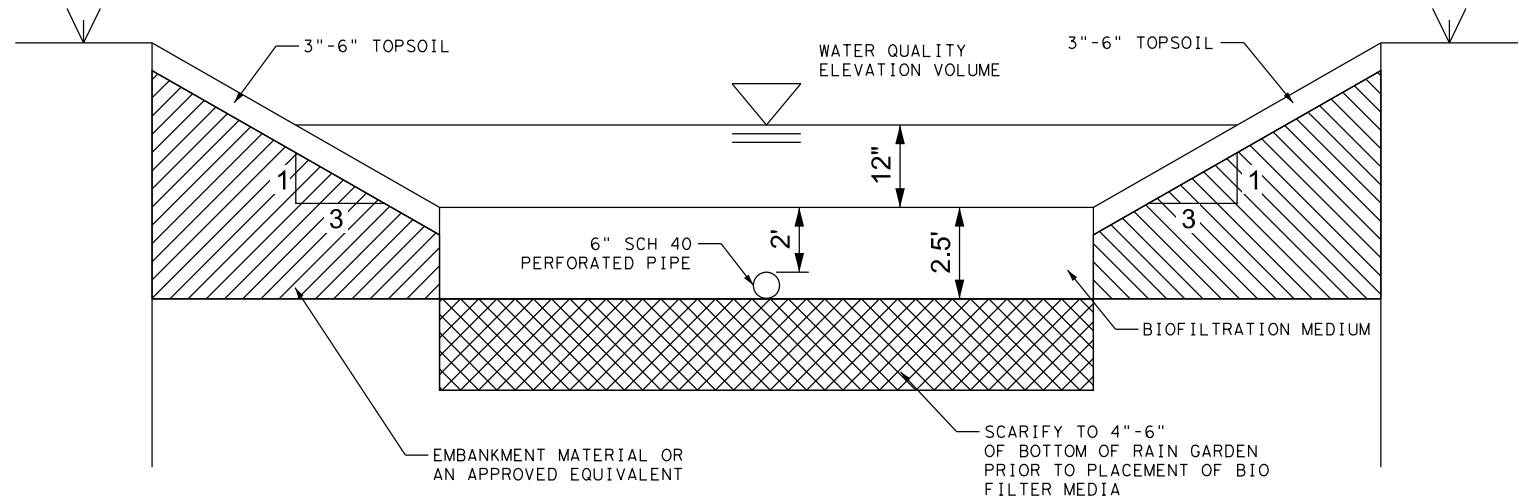
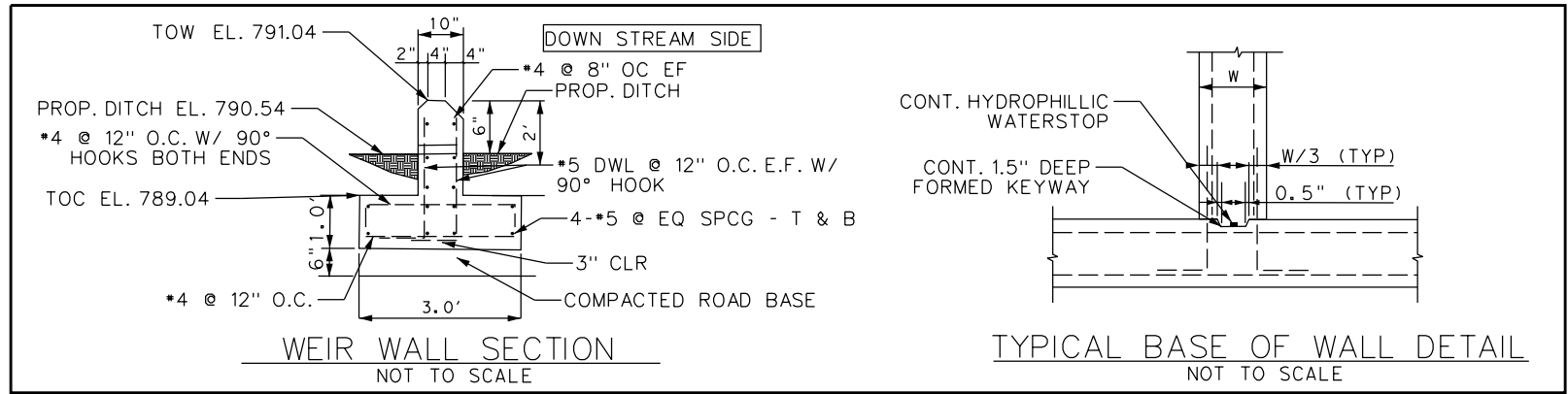
- LEGEND**
- EXIST ROW
 - EXIST DRN EASEMENT
 - PROP DRN EASEMENT
 - PROP FENCE
 - CRITICAL ENVIRONMENTAL FEATURE
 - CRITICAL WATER QUALITY ZONE SENSITIVE FEATURE LOCATION
 - SENSITIVE FEATURE BUFFER AREA
 - FLOW DIRECTION
 - PROPERTY LINE
 - EXIST CONTOURS
 - PROP CONTOURS

- NOTES**
- SEE CHANNEL AND CULVERT HYDRAULIC DATA SHEETS FOR HYDRAULIC INFORMATION.
 - SEE TYPICAL SHEET FOR CHANNEL DETAILS.
 - THE LOCATION AND ELEVATION OF UTILITIES ARE APPROXIMATE. CONTRACTOR TO VERIFY AND LOCATE ALL UTILITIES PRIOR TO CONSTRUCTION.
 - CONTRACTOR TO COORDINATE WITH PROFESSIONAL GEOLOGIST FOR LOCATION AND PLACEMENT OF SAND BAG BERM TO PROTECT BC-07.
 - PROFESSIONAL GEOLOGIST TO MONITOR EXCAVATION IN THIS AREA AND WILL NOTIFY TCEQ IF ANY VOIDS ARE ENCOUNTERED.

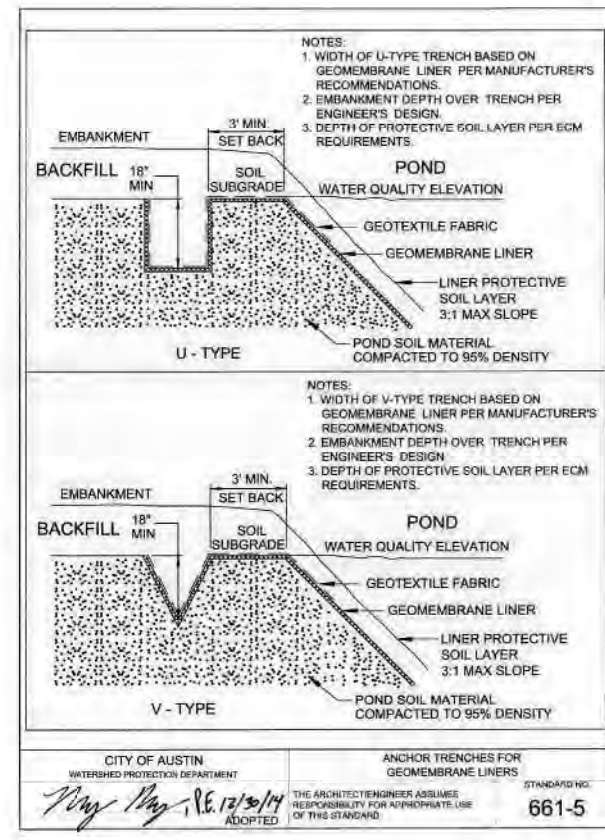
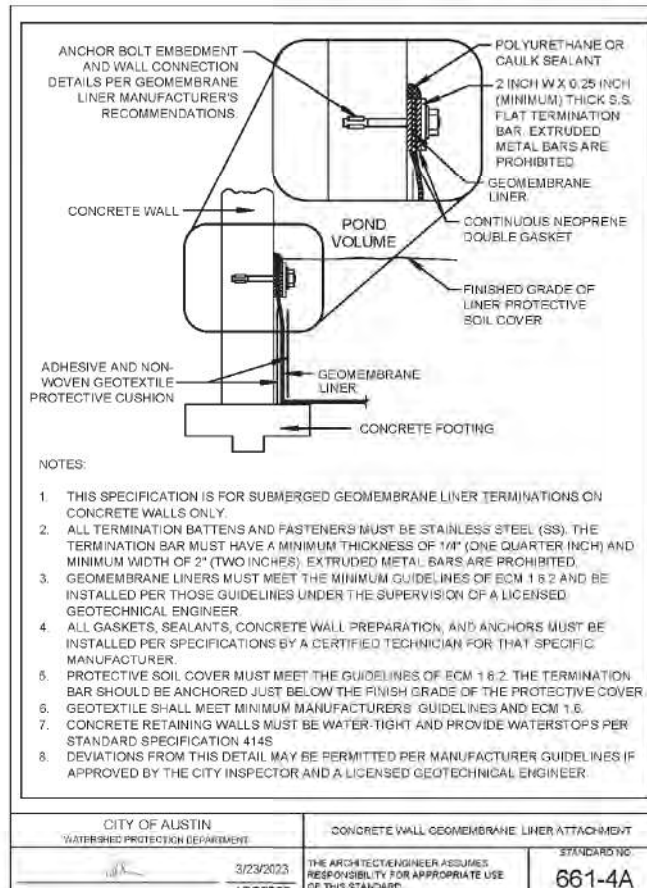
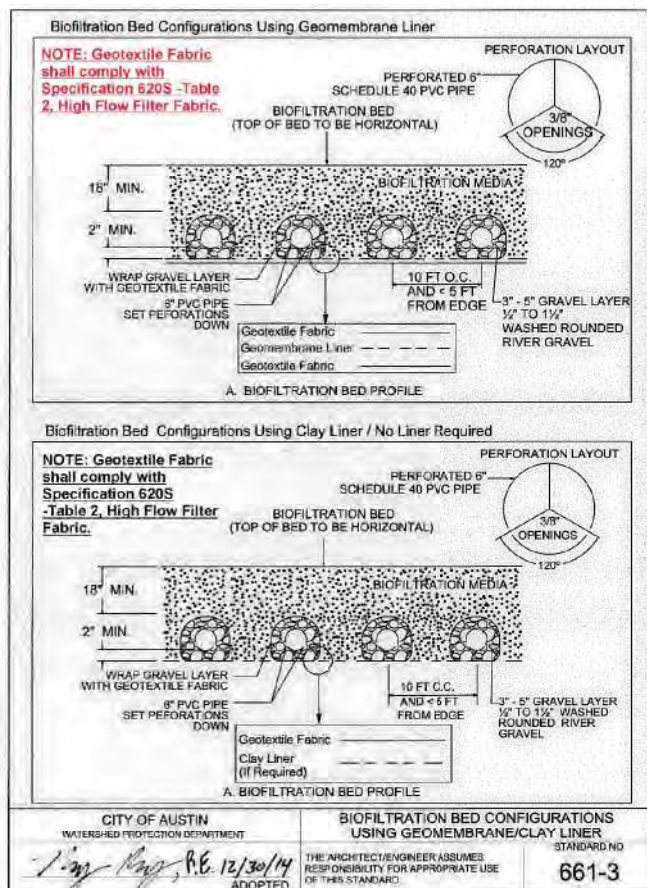
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CITY OF AUSTIN				
ENVIRONMENTAL CRITERIA MANUAL APPENDIX R-11				
RAIN GARDEN CALCULATIONS FOR DEVELOPMENT PERMITS				
DRAINAGE AREA DATA:				
DRAINAGE AREA TO CONTROL (DA - MAXIMUM 2.0 AC)	1.2	ac	52272	ft
DRAINAGE AREA PERCENT IMPERVIOUS COVER	97%			
CAPTURE DEPTH (CD)	1.27	in	0.11	ft
WATER QUALITY CONTROL CALCULATIONS:				
WATER QUALITY VOLUME	5,750	cf	5,866	cf
100 YEAR PEAK FLOW RATE TO CONTROL (Q100)	17.21	cf/s		
FILTRATION POND AREA (Af)				
DEPTH OF PONDING (D): MAX 1	1	ft	1	ft
DEPTH OF FILTRATION MEDIA (L): MAX 1.5	1.5	ft	1.5	ft
EFFECTIVE POROSITY WATER QUALITY VOLUME (WQV _{ec} = 0.24 * Af * L)			1,624	cf
PONDED WATER QUALITY VOLUME (WQV _{ponded} = WQV - WQV _{ec})			4,242	cf
WATER QUALITY ELEVATION (WQE)				
ELEVATION OF SPLITTER/OVERFLOW WEIR (MINIMUM WQE)			791.04	ft MSL
LENGTH OF SPLITTER WEIR			4	ft
REQUIRED HEAD TO PASS Q100	MAX 0.5	ft	0.5	ft
POND FREEBOARD PROVIDED TO PASS Q100	MIN 0.25	ft	0.25	ft
FOR FILTRATION RAIN GARDENS:				
RAIN GARDEN POND DRAWDOWN TIME	MIN 48	hr	48	hr
UNDERDRAIN ORIFICE SIZE (DIAMETER)			6	in
UNDERDRAIN ORIFICE SIZE (AREA)			4.71	sq in



RAIN GARDEN ELEVATION
NOT TO SCALE



City of Austin
WATERSHED PROTECTION

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5/13/2024

CITY OF AUSTIN
BARTON CREEK OAK PARK
FLOOD RISK REDUCTION PROJECT

WATER QUALITY CALCULATIONS
DITCH 3 RAIN GARDEN

NO.	DATE	BY	REVISIONS

SHEET INFORMATION

DATE 5/13/2024

SHEET 1 OF 1

84

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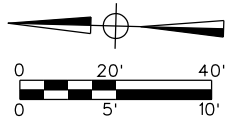
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CITY OF AUSTIN
 BARTON CREEK OAK PARK
 FLOOD RISK REDUCTION PROJECT
 WATER QUALITY PLAN AND PROFILE
 DITCH 03 RAIN GARDEN



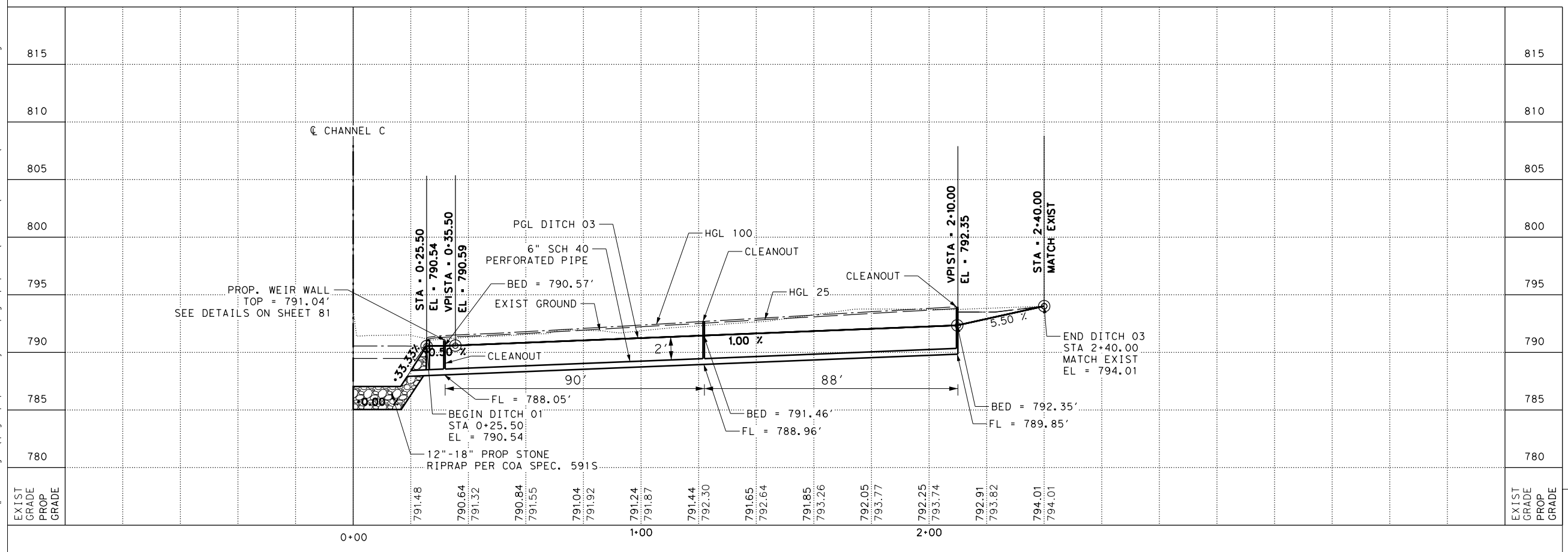
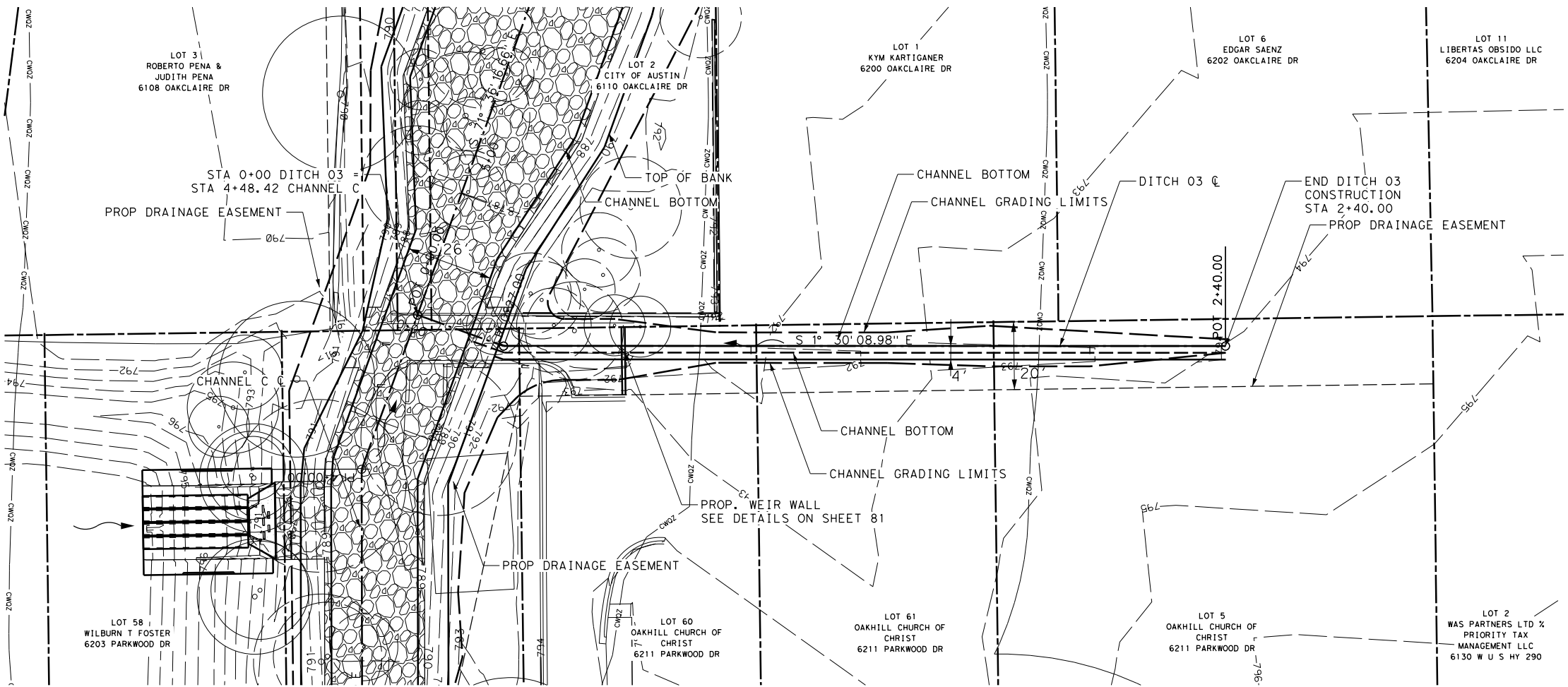
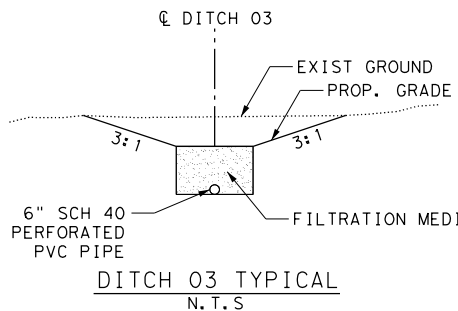
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 SCALE: 1" = 5' (V)

LEGEND

- EXIST ROW
- PROPERTY LINE
- EXIST CONTOURS
- PROP CONTOURS
- CRITICAL ENVIRONMENTAL FEATURE
- CRITICAL WATER QUALITY ZONE

NOTES

1. SEE CHANNEL AND CULVERT HYDRAULIC DATA SHEETS FOR HYDRAULIC INFORMATION.
2. SEE TYPICAL SHEET FOR CHANNEL DETAILS.
3. THE LOCATION AND ELEVATION OF UTILITIES ARE APPROXIMATE. CONTRACTOR TO VERIFY AND LOCATE ALL UTILITIES PRIOR TO CONSTRUCTION.



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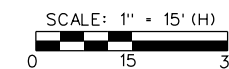
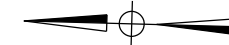
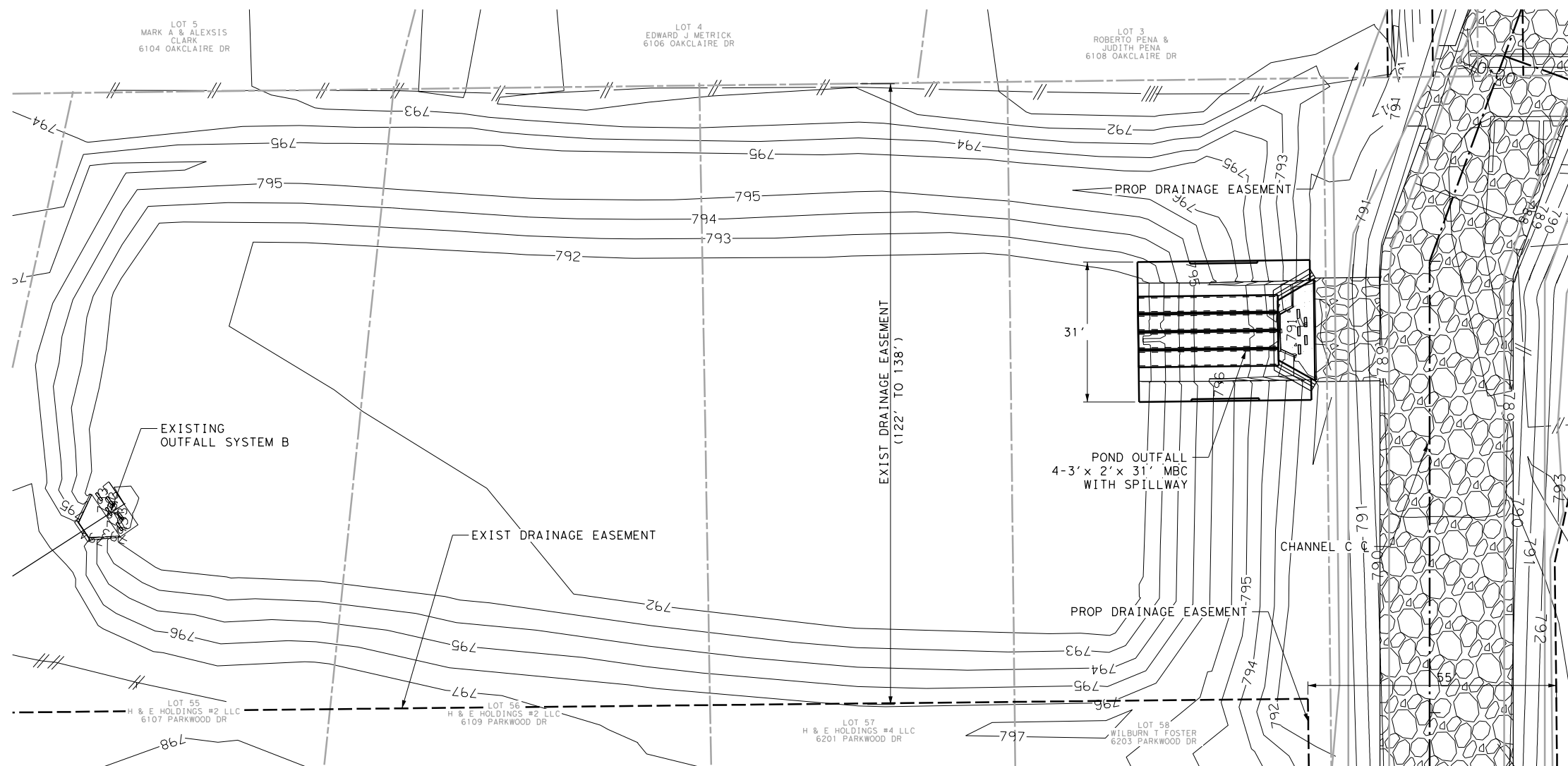
REVISIONS		REMARKS

NO.	BY	DATE

SHEET INFORMATION
 DATE 5/13/2024
 SHEET 1 OF 1

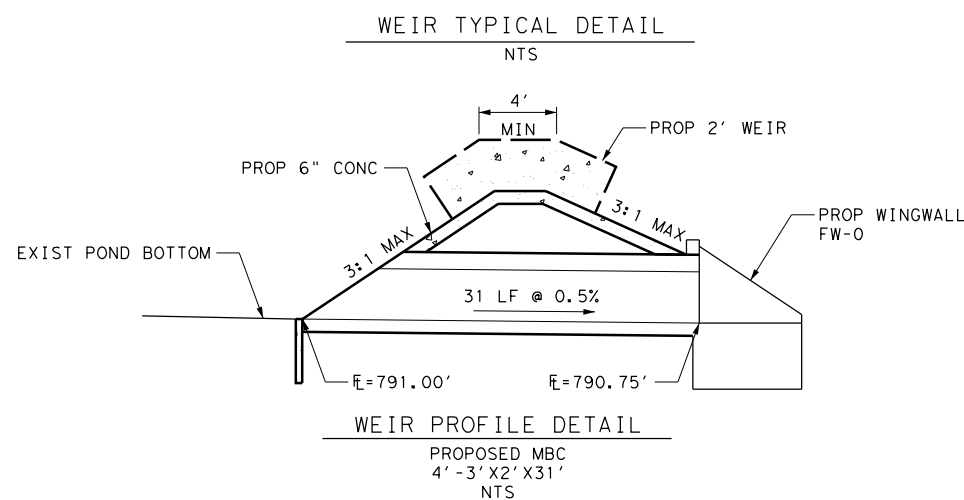
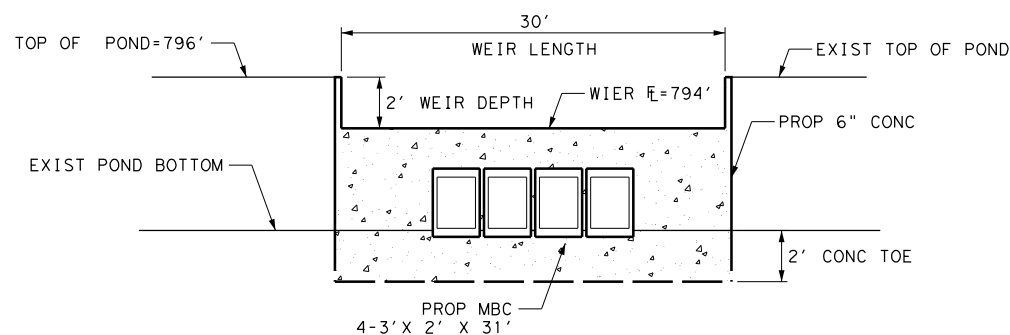
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CITY OF AUSTIN
 BARTON CREEK OAK PARK
 FLOOD RISK REDUCTION PROJECT
 DETENTION POND CALCULATIONS



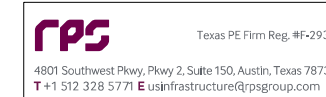
ELEVATION (FT)	BASE (FT)	TOP (FT)	HEIGHT (FT)	LENGTH (FT)	AREA (SQFT)	VOLUME (CUFT)	(AC-FT)
791	81	87	1	232	84	19488	0.447
792	87	93	1	238	90	21420	0.492
793	93	99	1	244	96	23424	0.538
794	99	105	1	250	102	25500	0.585
795	105	111	1	256	108	27648	0.635
796	111	-	-	-	-	-	-
				TOTAL	480	117480	2.697

	Pre-Development		Post-Development	
	25 Year	100 Year	25 Year	100 Year
Max WSEL (ft)	796.15	796.21	793.48	793.91
Flow (Total In Maximum) (cfs)	135.48	141.53	133.64	165.71
Flow (Out to Links Maximum) (cfs)	132.77	139.37	132.4	164.86
Pond Top of Bank (ft)	796	796	796	796
Freeboard	-0.15	-0.21	2.52	2.09
Incoming Pipe Size	42in RCP	42in RCP	42in RCP	42in RCP
Surcharged	Yes	Yes	Yes	Yes



NO.	DATE	BY	REVISIONS

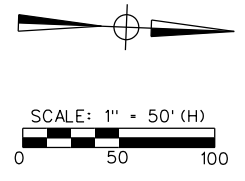
SHEET INFORMATION
 DATE 5/13/2024
 SHEET 1 OF 1



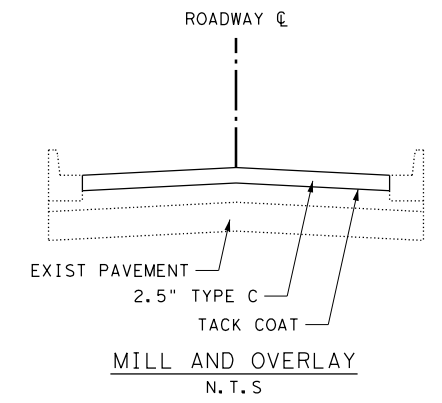
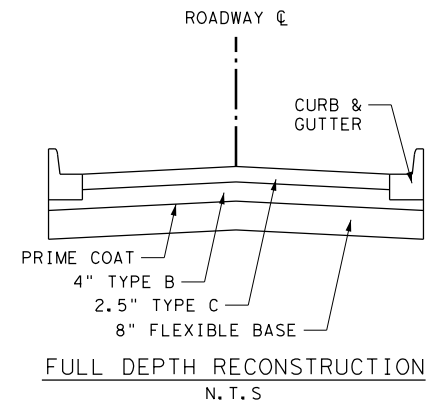


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**CITY OF AUSTIN
 BARTON CREEK OAK PARK
 FLOOD RISK REDUCTION PROJECT
 ROADWAY RESTORATION PLAN
 PARK WOOD BEGIN TO STA. 22+00
 OAK CLAIRE BEGIN TO STA. 20+00**



- LEGEND**
- EXIST ROW
 - PROPERTY LINE
 - FULL DEPTH RECONSTRUCTION
 - MILL & OVERLAY
 - PROP CONC DRIVEWAY
- NOTES**
- CONTRACTOR TO AVOID PAVING OVER AUSTIN WATER APPURTENANCES.



NO.	DATE	BY	REVISIONS

SHEET INFORMATION
 DATE 5/13/2024
 SHEET 1 OF 1

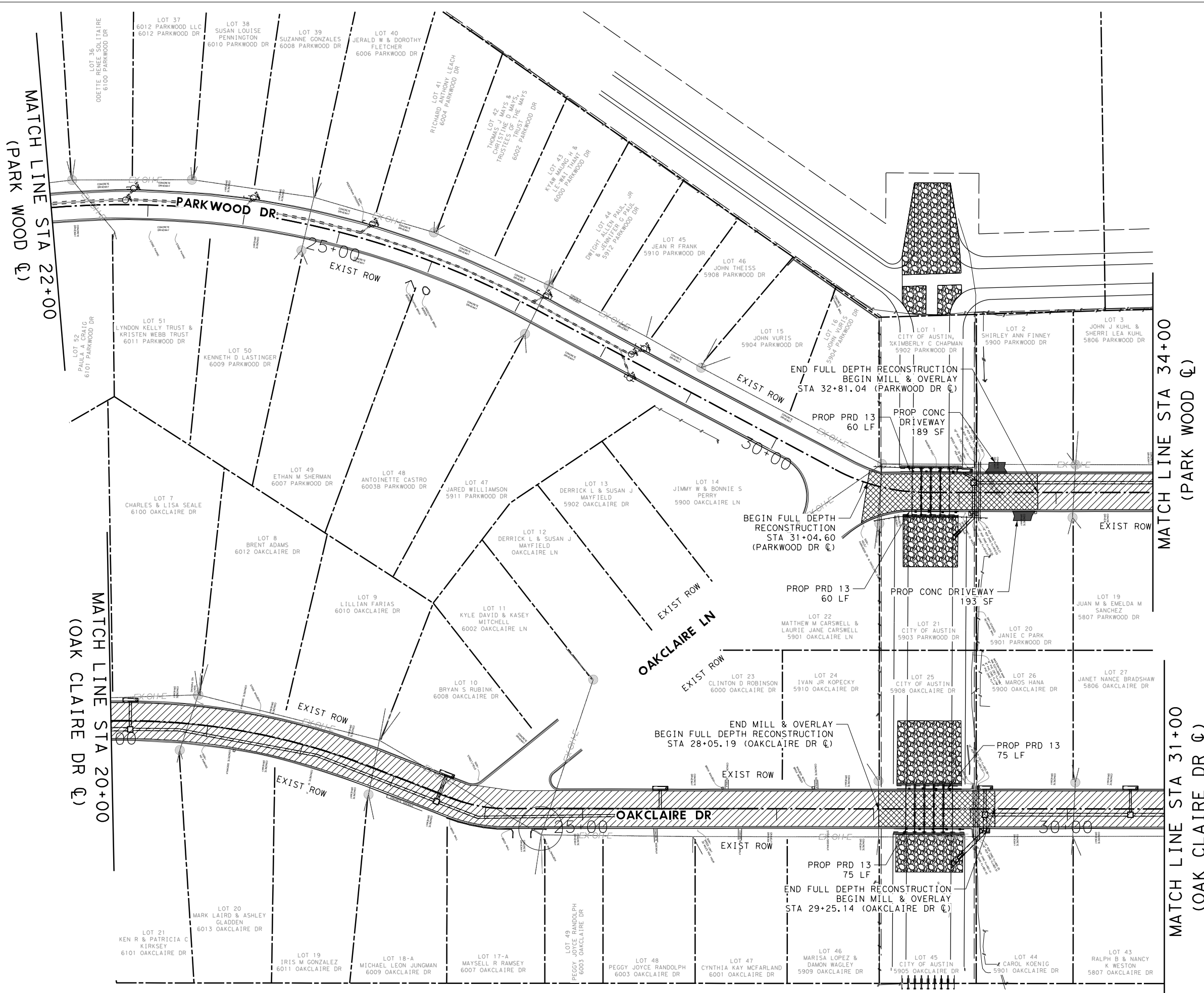
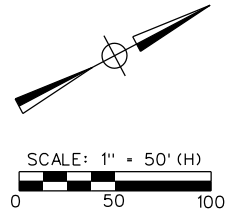
rps Texas PE Firm Reg. #F-293
 4801 Southwest Pkwy, Pkwy 2, Suite 150, Austin, Texas 78735
 T +1 512 328 5771 E usinfr@rpsgroup.com

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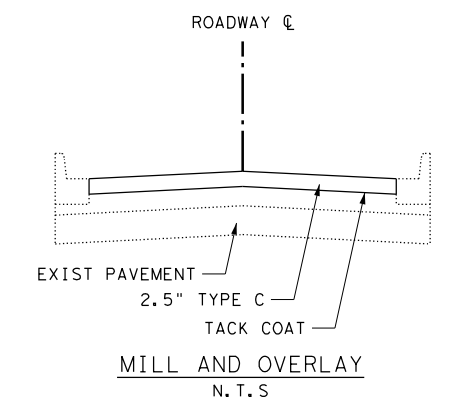
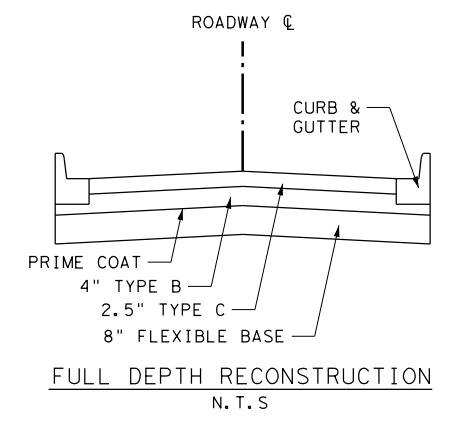


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 5/13/2024

**CITY OF AUSTIN
 BARTON CREEK OAK PARK
 FLOOD RISK REDUCTION PROJECT
 ROADWAY RESTORATION PLAN
 PARK WOOD STA. 22+00 TO STA 34+00
 OAK CLAIRE STA. 20+00 TO STA. 31+00**



- LEGEND**
- EXIST ROW
 - PROPERTY LINE
 - FULL DEPTH RECONSTRUCTION
 - MILL & OVERLAY
 - PROP CONC DRIVEWAY
- NOTES**
- CONTRACTOR TO AVOID PAVING OVER AUSTIN WATER APPURTENANCES.



NO.	DATE	BY	REVISIONS

SHEET INFORMATION

DATE 5/13/2024
 SHEET 1 OF 1

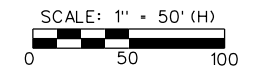
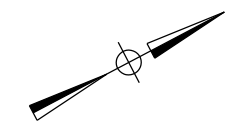
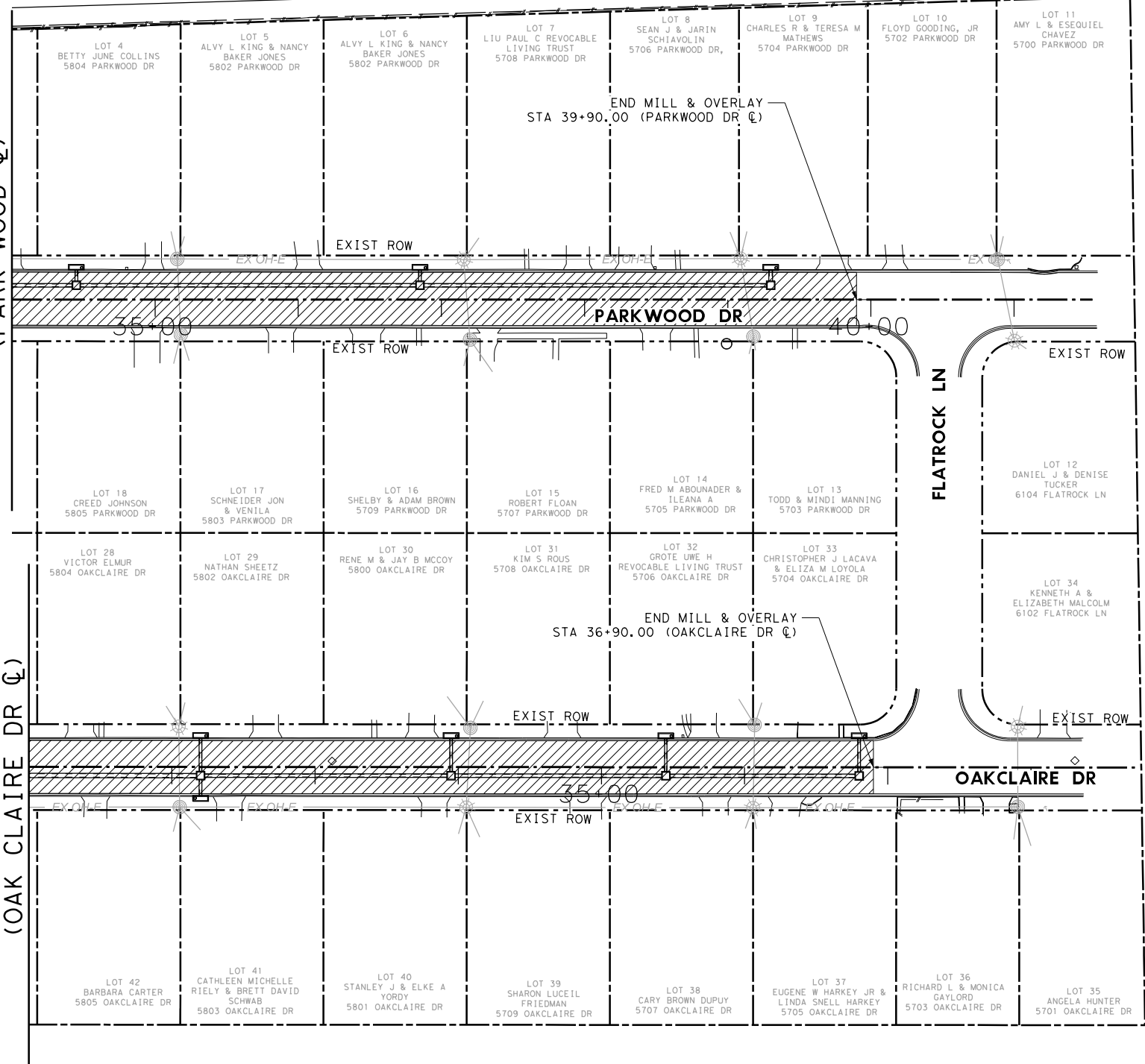
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 4801 Southwest Pkwy, Pkwy 2, Suite 150, Austin, Texas 78735
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MATCH LINE STA 34+00
(PARK WOOD CL)

MATCH LINE STA 31+00
(OAK CLAIRE DR CL)

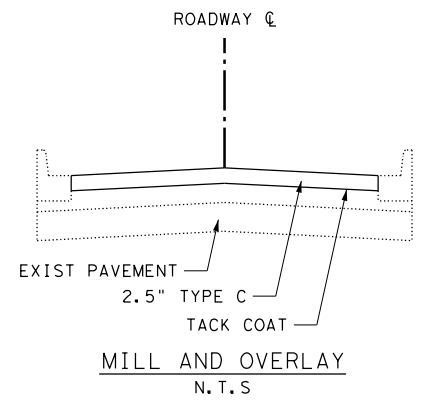


LEGEND

EXIST ROW	
PROPERTY LINE	
FULL DEPTH RECONSTRUCTION	
MILL & OVERLAY	
PROP CONC DRIVEWAY	

NOTES

1. CONTRACTOR TO AVOID PAVING OVER AUSTIN WATER APPURTENANCES.



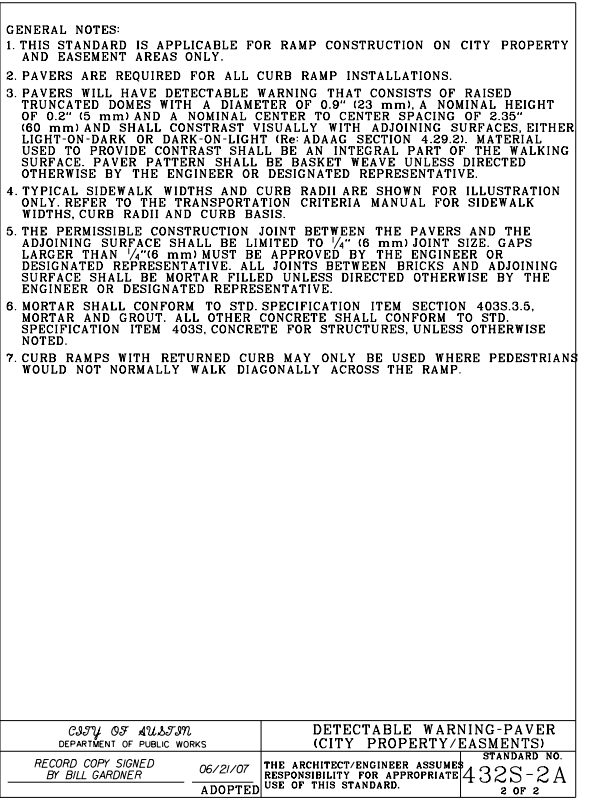
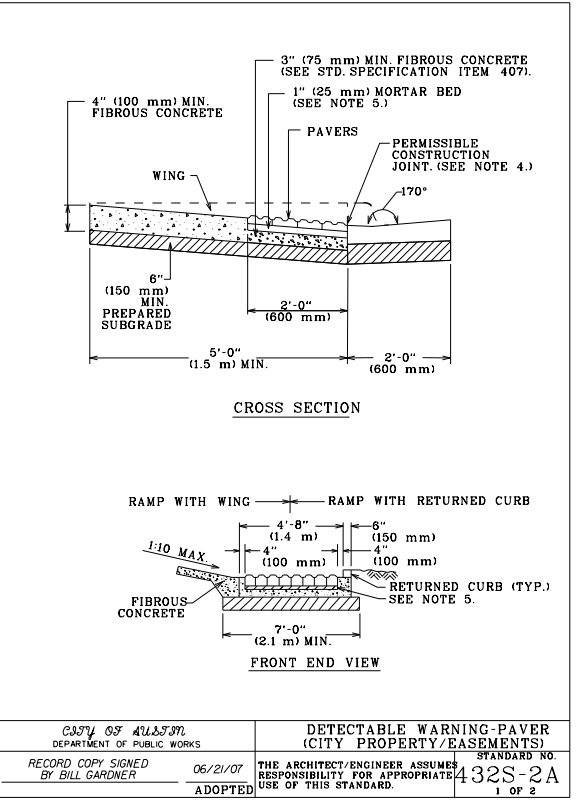
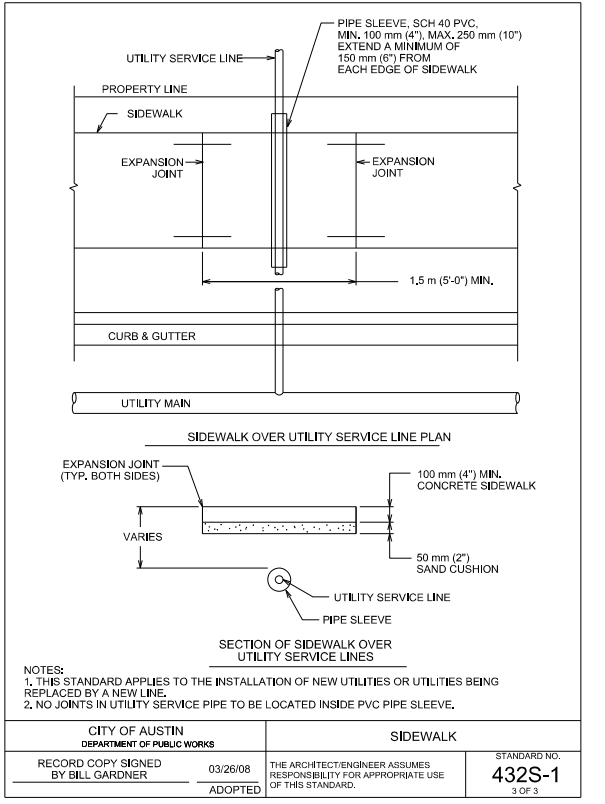
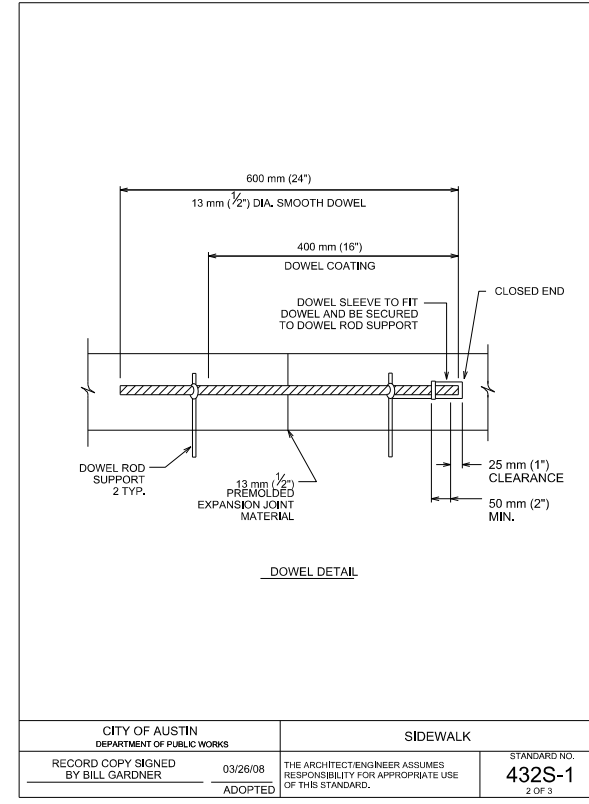
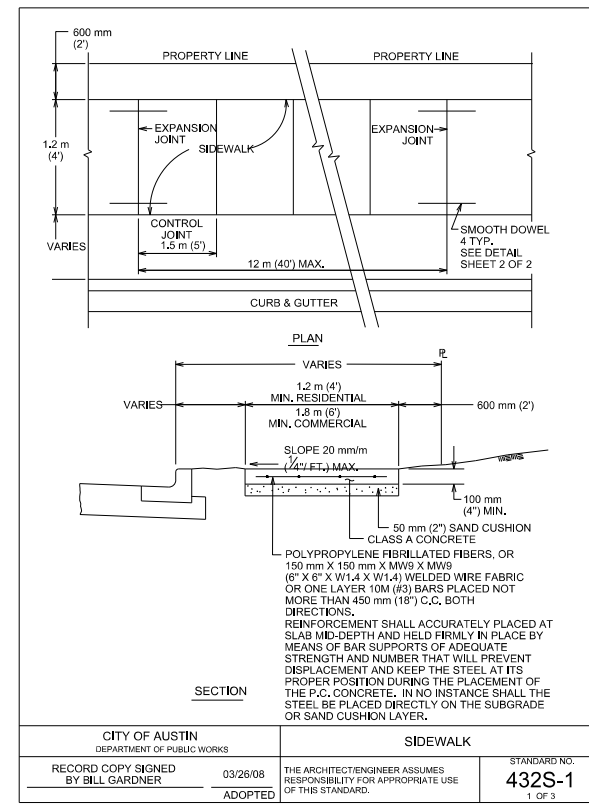
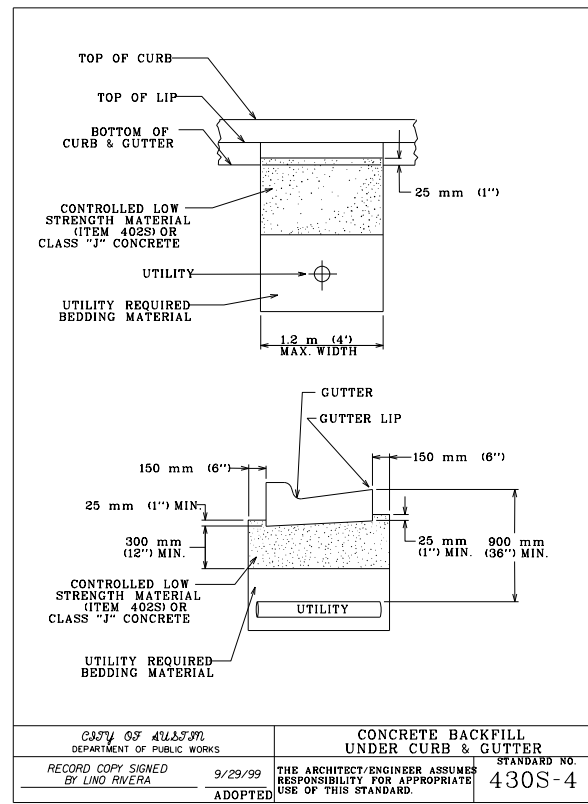
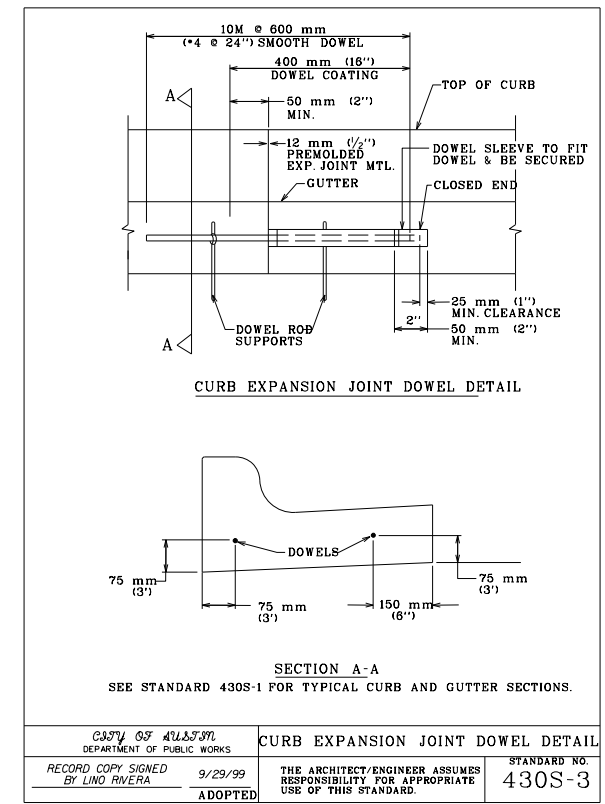
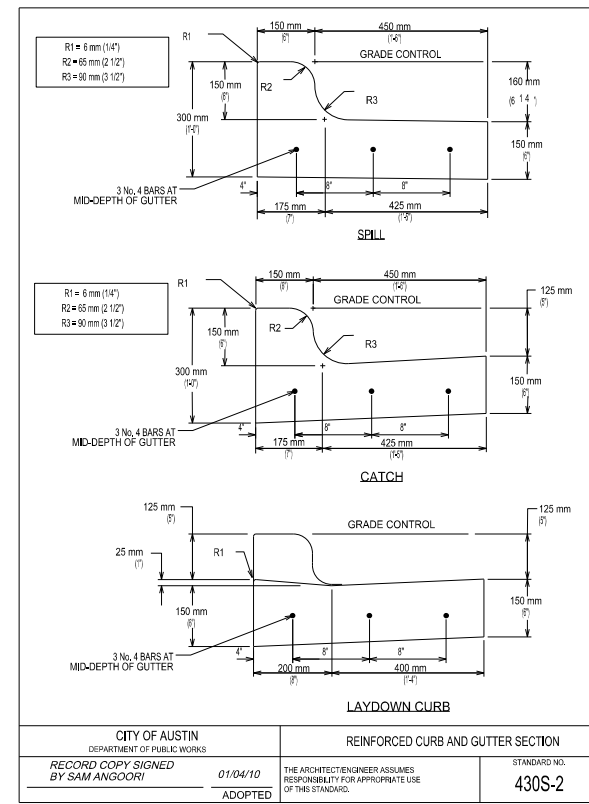
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5/13/2024

**CITY OF AUSTIN
BARTON CREEK OAK PARK
FLOOD RISK REDUCTION PROJECT
ROADWAY RESTORATION PLAN
PARK WOOD STA. 34+00 TO END
OAK CLAIRE STA. 31+00 TO END**

NO.	DATE	BY	REVISIONS

SHEET INFORMATION
DATE 5/13/2024
SHEET 1 OF 1

RPS Texas PE Firm Reg. #F-293
4801 Southwest Pkwy, Pkwy 2, Suite 150, Austin, Texas 78735
T +1 512 328 5771 E usinfrastructure@rpsgroup.com



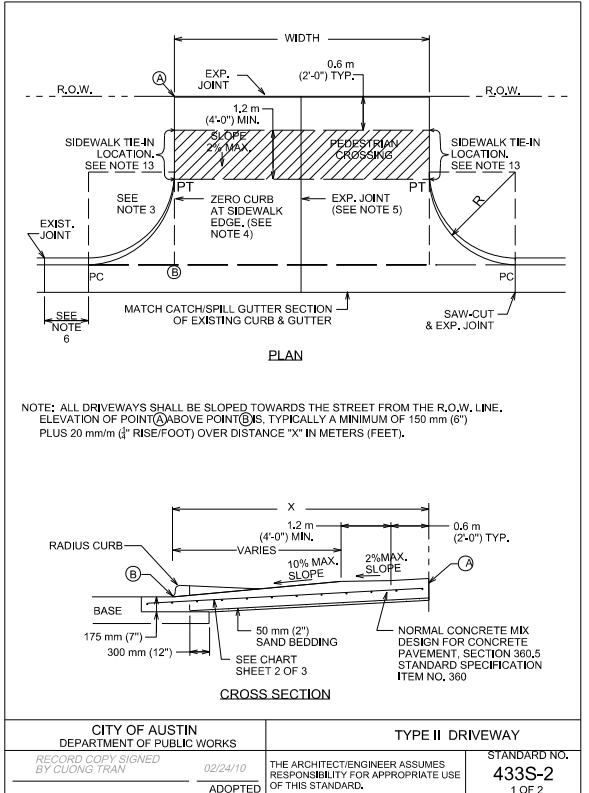
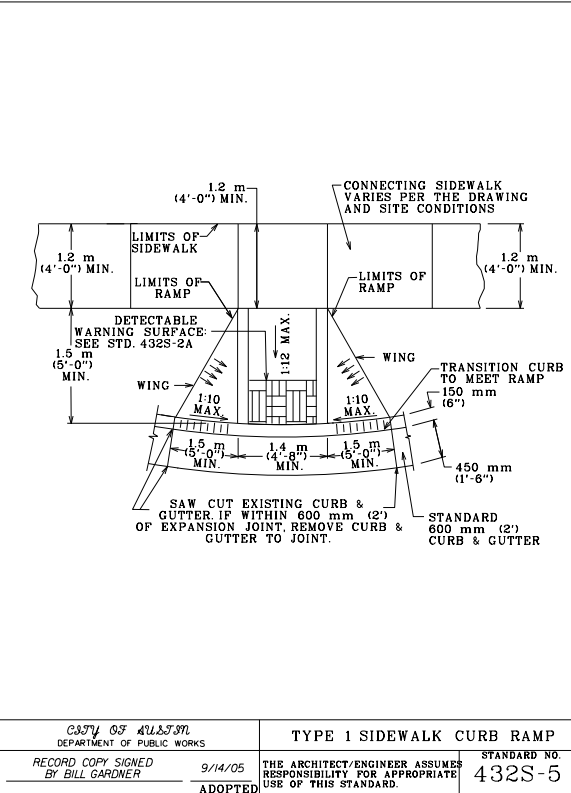
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REVISIONS

NO.	DATE	BY	REMARKS

SHEET INFORMATION	
DATE	5/13/2024
SHEET	1 OF 1



USE	THICKNESS	REINFORCEMENT
DRIVEWAYS FOR PASSENGER VEHICLE PARKING LOTS	150 mm (6") MIN.	125 mm (5") MIN. CONCRETE WITH ONE LAYER OF 13M (#4) BARS PLACED ON CHAIRS AT MIDTHREAT OF SLAB AT NO MORE THAN 450 mm (18") O.C. BOTH DIRECTIONS
ALL OTHERS	175 mm (7") MIN.	125 mm (5") MIN. CONCRETE WITH ONE LAYER OF 13M (#4) BARS PLACED ON CHAIRS AT MIDTHREAT OF SLAB AT NO MORE THAN 450 mm (18") O.C. BOTH DIRECTIONS

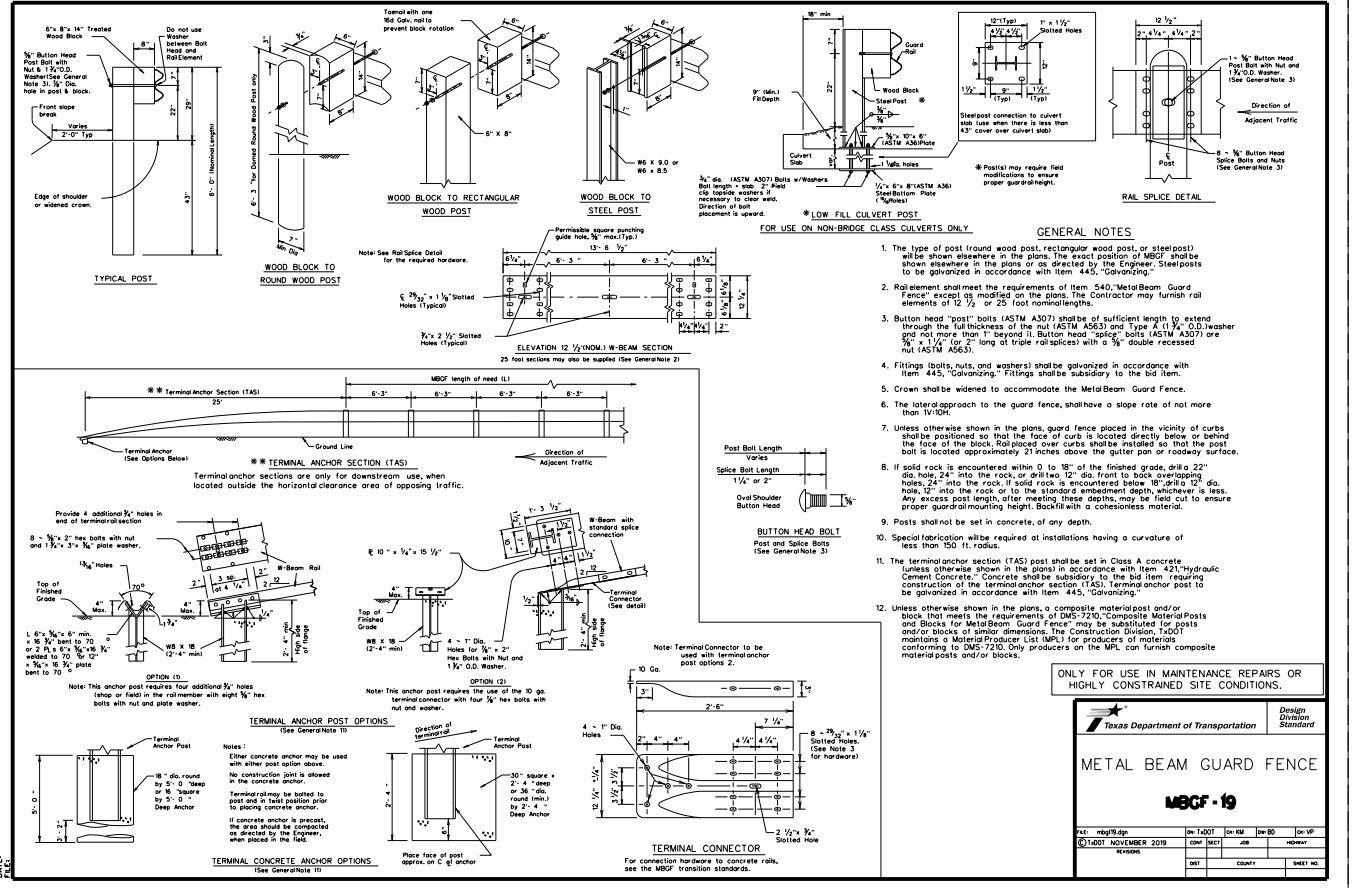
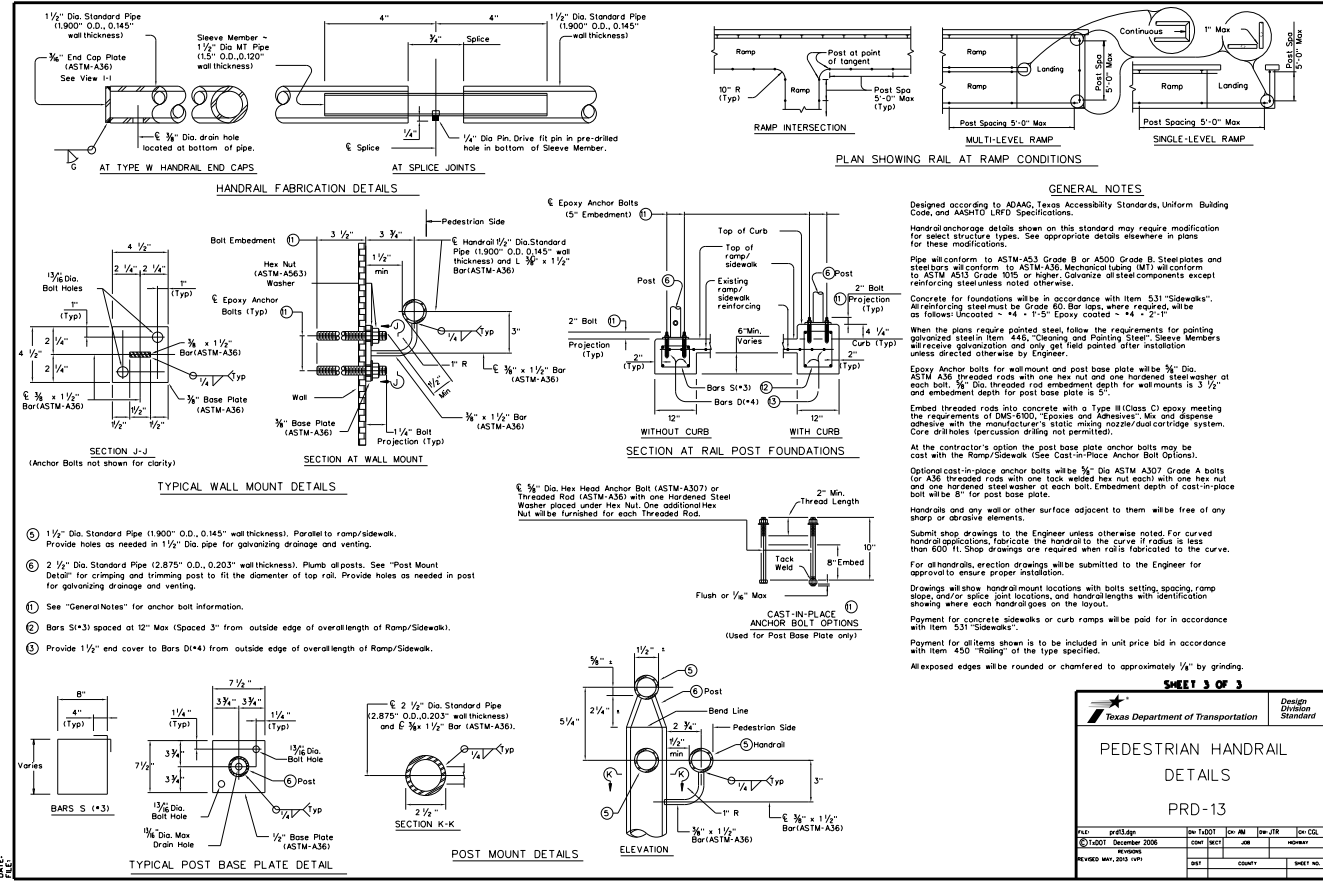
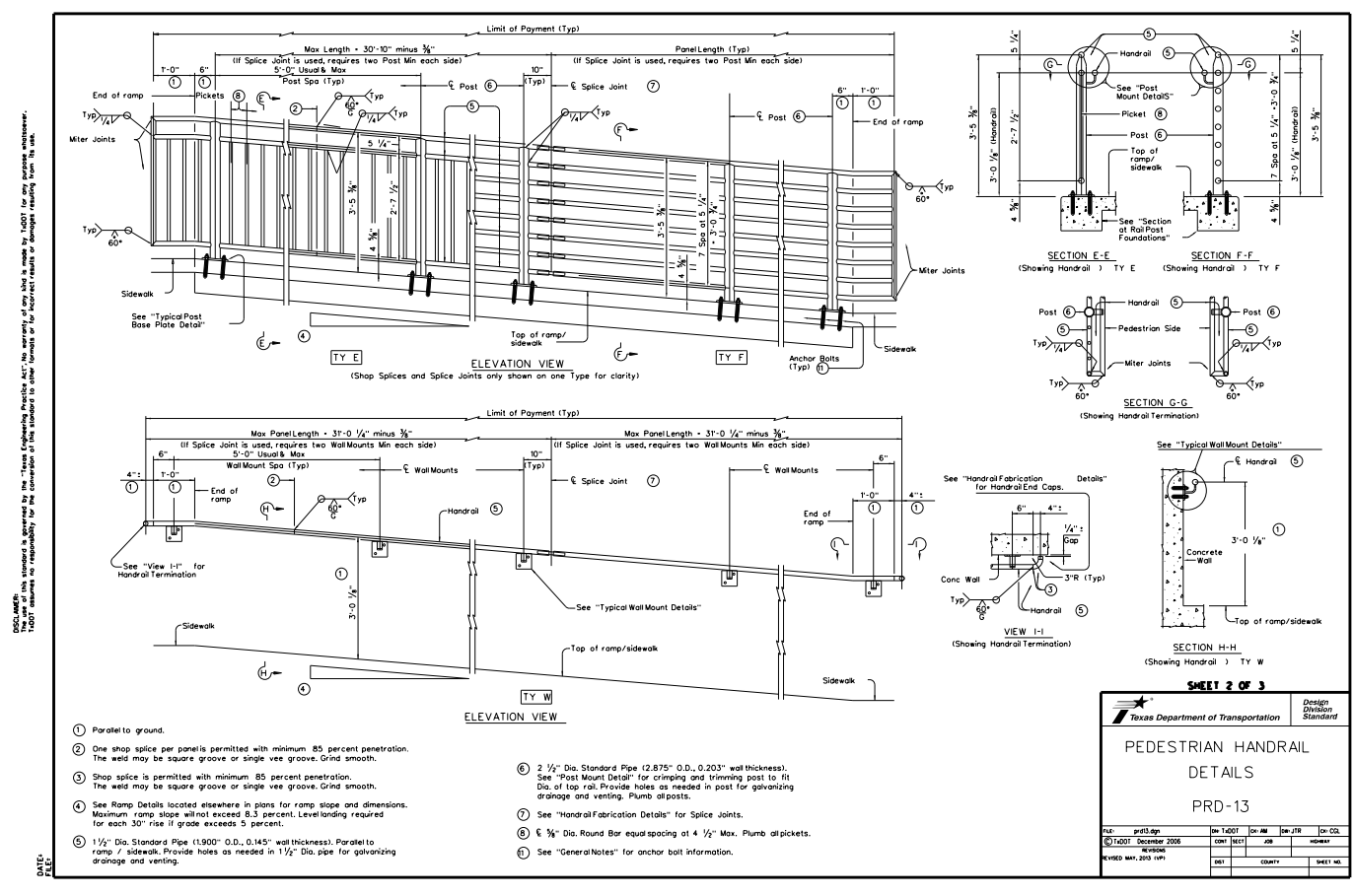
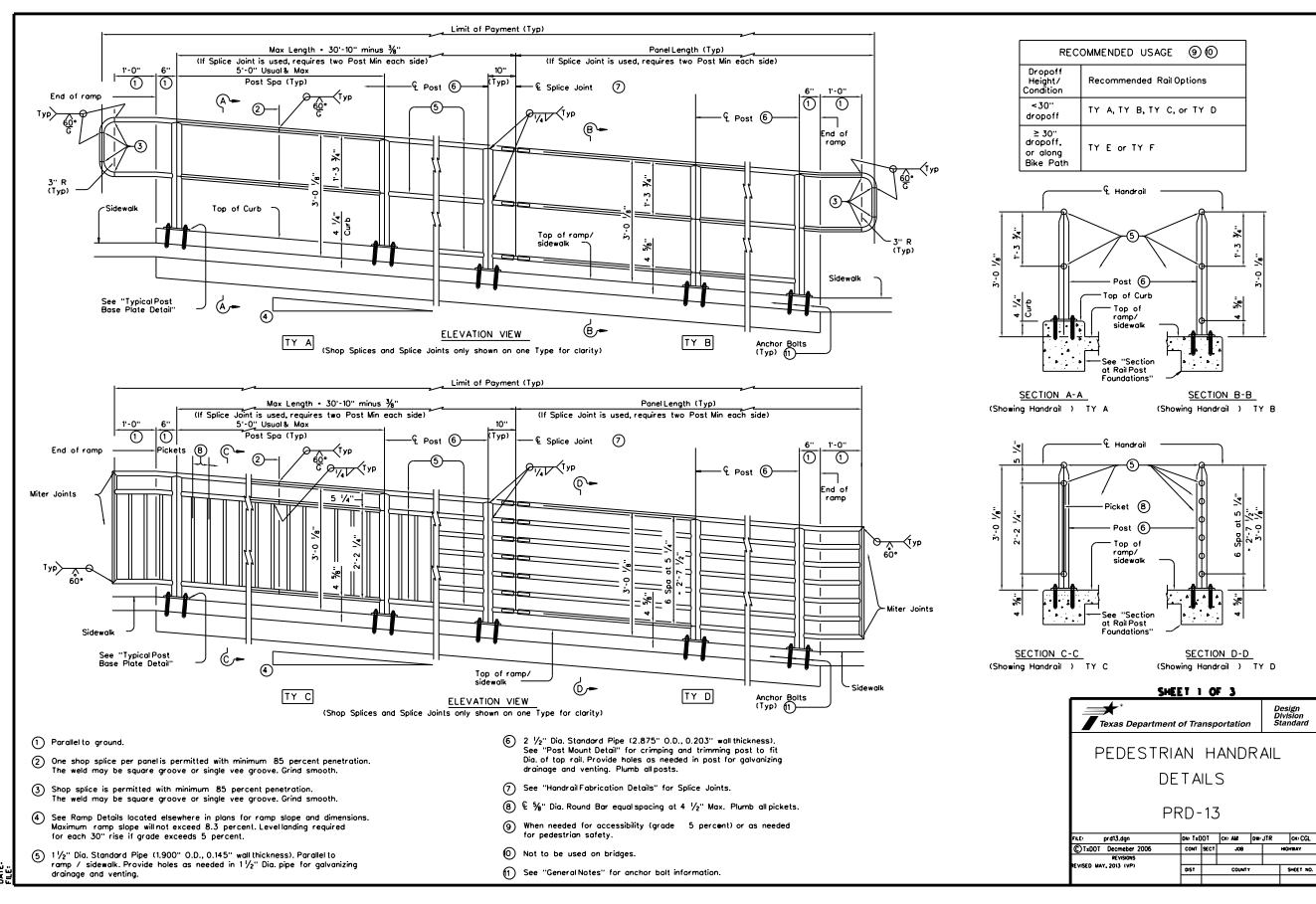
ALLOWABLE GRADES	
DRIVEWAY VOLUME (ADT)	D=GRADE CHANGE STD. MAX.
> 1500	0% 3%
500-1500	3% 6%
< 500	6% 15%

NOTES:

- ALL TYPE II DRIVEWAYS SHALL HAVE RADIUS ENDS.
- DRIVEWAY WIDTHS AND RADI DIMENSIONS, ONE/TWO WAY TRAVEL REQUIREMENTS, AND GEOMETRIC LAY-OUT ARE HIGHLY VARIABLE. SUBJECT TO SITE SPECIFIC CONDITIONS AND REQUIREMENTS. SEE TRANSPORTATION CRITERIA MANUAL, SECTION 5 "DRIVEWAYS".
- THE DRIVEWAY EDGE SHALL BE SMOOTHLY TRANSITIONED INTO THE SIDEWALK TIE-IN LOCATION BEGINNING AT THE RADIUS PC LINE.
- "ZERO" CURB AT PT OR SIDEWALK EDGE, WHICHEVER IS ENCOUNTERED FIRST.
- PLACE AN EXPANSION JOINT DOWN THE CENTER OF DRIVEWAY ALL DRIVEWAYS.
- IF DIMENSION IS LESS THAN 1.5 METERS (5 FEET), REMOVE CURB AND GUTTER TO EXISTING JOINT AND POUR MONOLITHICALLY WITH DRIVEWAY.
- IF THE BASE IS OVER-EXCAVATED WHERE THE CURB AND GUTTER WERE REMOVED, BACKFILL WITH CONCRETE MONOLITHICALLY WITH THE DRIVEWAY.
- TYPE II DRIVEWAYS ARE TO BE LOCATED NO CLOSER TO THE CORNER OF INTERSECTING RIGHT OF WAY THAN 60% OF PARCEL FRONTAGE AT 30 METERS (100 FEET) WHICHEVER IS LESS.
- DRIVEWAY SHALL NOT BE CONSTRUCTED WITHIN THE CURB RETURN OF A STREET INTERSECTION.
- WHILE THE PROPERTY OWNER REMAINS RESPONSIBLE FOR GRADE BREAKS WITHIN PRIVATE PROPERTY, THE FIRE DEPARTMENT SHALL BE CONSULTED WHERE THE DRIVEWAY IS ESSENTIAL TO EMERGENCY VEHICLE ACCESS AND 10% IS GREATER THAN 15%.
- USE 12 MM (1/2") ASPHALT BOARD OR OTHER APPROVED MATERIAL FOR CURB AND GUTTER EXPANSION JOINTS. SIDEWALK, AT THE R.O.W. LINE AND AT MIDWIDTH, SEE NOTE 5.
- SEE TRANSPORTATION CRITERIA MANUAL, SECTION 5 FOR OTHER DRIVEWAY REQUIREMENTS.
- THE SIDEWALK, REGARDLESS OF ITS LOCATION WITH RESPECT TO THE CURB OR PROPERTY LINE, SHALL BE CONNECTED TO THE DRIVEWAY AT THESE LOCATIONS.
- WATER METER BOXES AND WASTEWATER CLEAN OUTS ARE PROHIBITED FROM BEING LOCATED IN DRIVEWAY AREAS.

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS		TYPE II DRIVEWAY	
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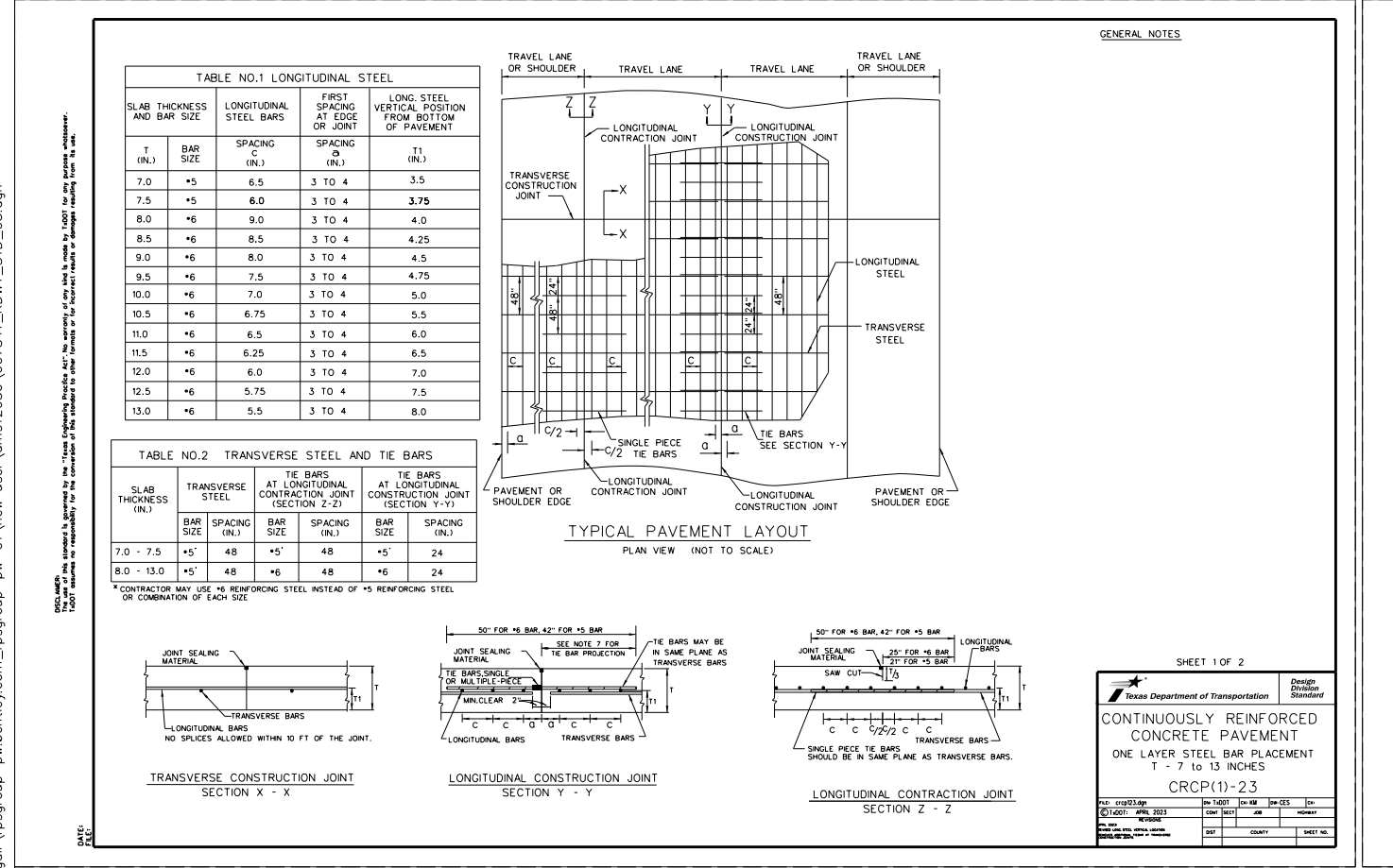
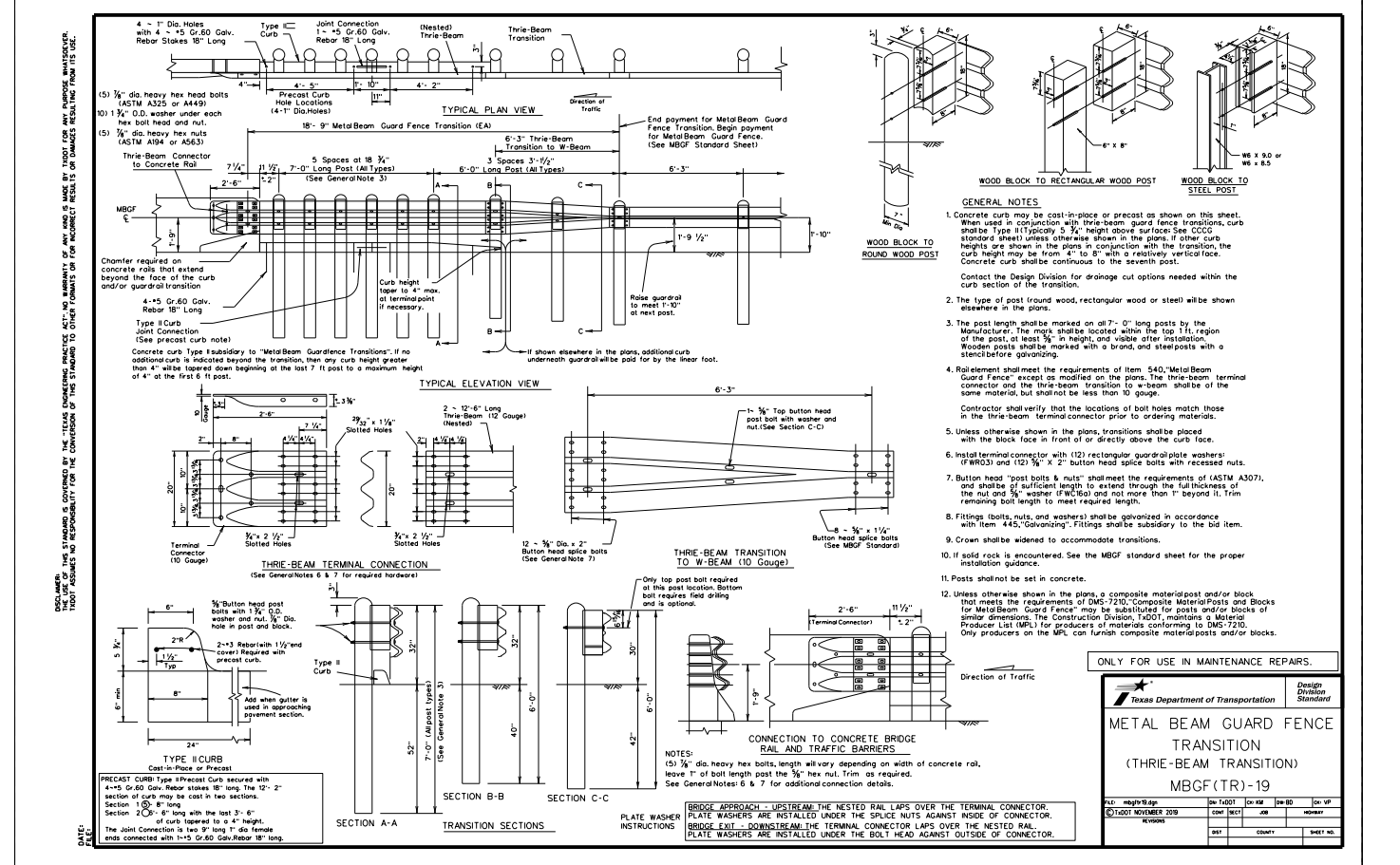
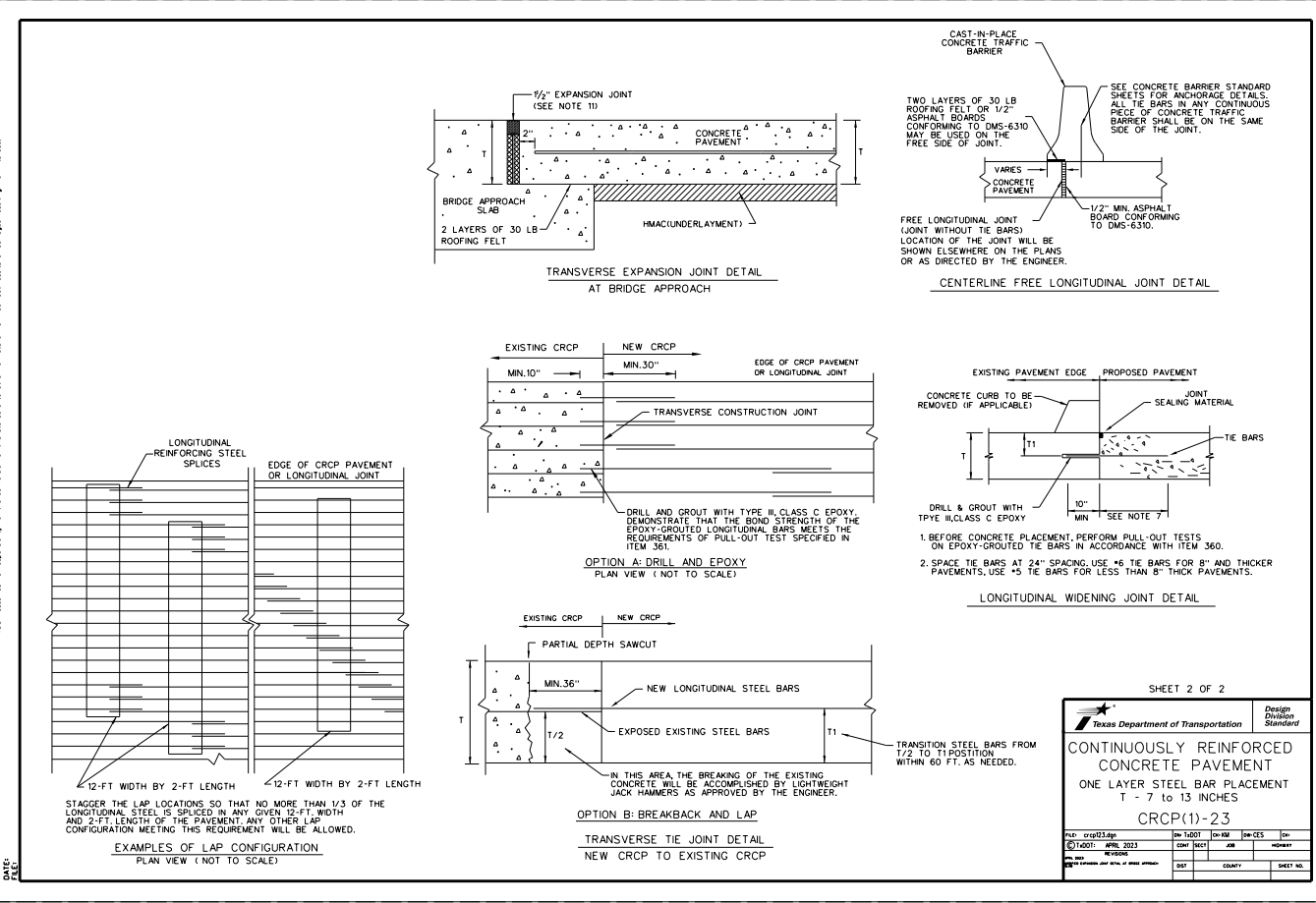
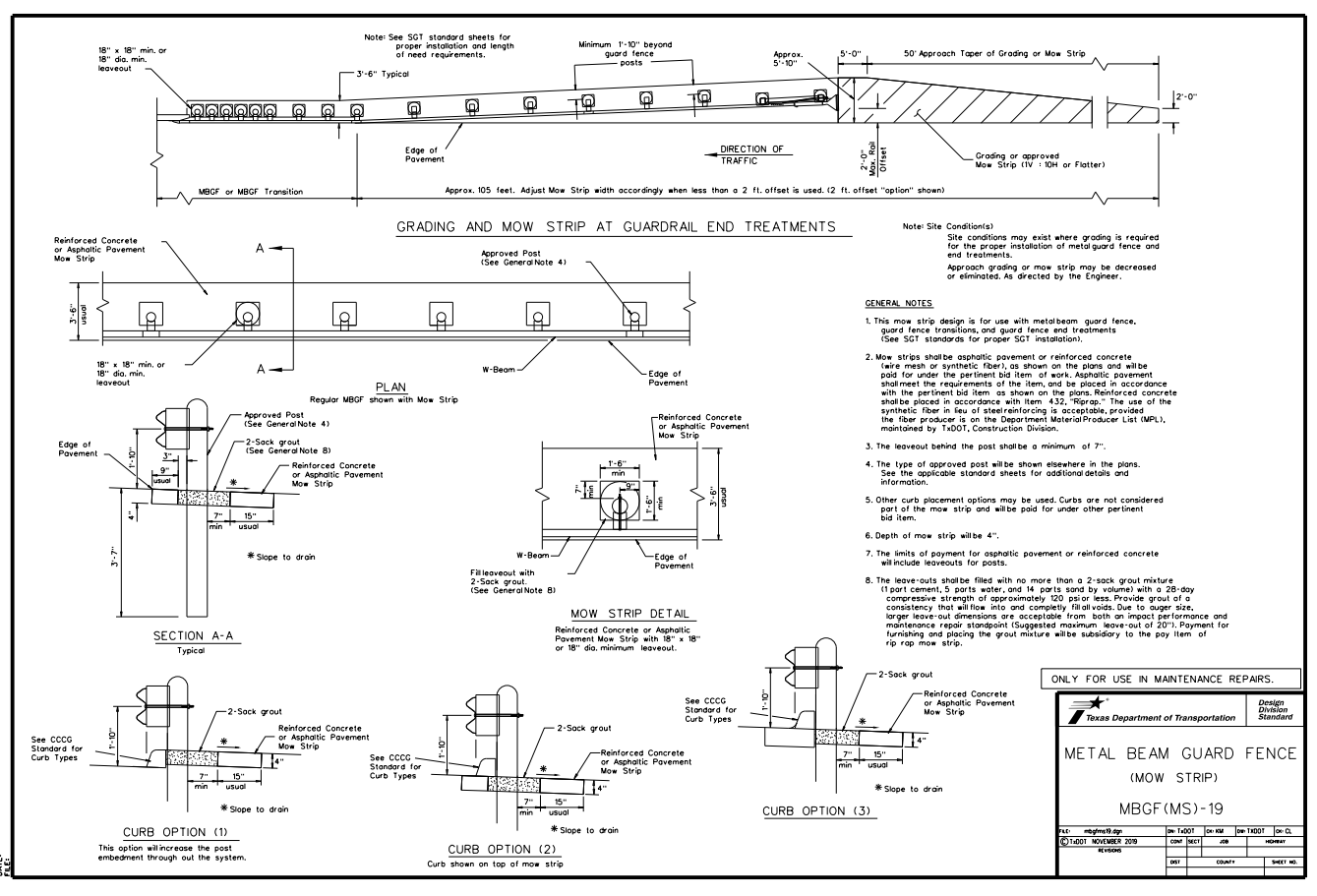
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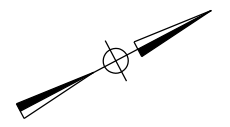
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NO.	DATE	BY	REVISIONS

NO.	BY	DATE	REVISIONS



MANHOLE TABLE		
MH ID	ALIGNMENT	STATION
A1	SWR_A	10+00.00
A2	SWR_A	11+05.94
A3	SWR_A	13+13.48
A4	SWR_A	13+89.59
A5	SWR_A	15+07.28
A6	SWR_A	16+11.88
A7	SWR_A	17+58.00
A8	SWR_A	19+14.78
A9	SWR_A	21+45.46
A10	SWR_A	25+66.29
A11	SWR_A	26+53.74
A12	SWR_A	28+07.68
B1	SWR_B	10+00.00
B2	SWR_B	11+08.24
B3	SWR_B	12+74.53
B4	SWR_B	15+24.90
B5	SWR_B	16+68.66



LEGEND	
EXIST ROW	-----
PROPERTY ID	XXXXXX
EXIST WW MAIN	---> WWL 12" PVC
EXIST WW MANHOLE	⊙
PROP WW MAIN	---> WWL 12" PVC
PROP WW MANHOLE	⊙



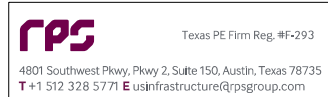
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 5/31/2024

**CITY OF AUSTIN
 BARTON CREEK OAK PARK
 FLOOD RISK REDUCTION PROJECT
 PROPOSED WASTEWATER
 OVERALL LAYOUT**

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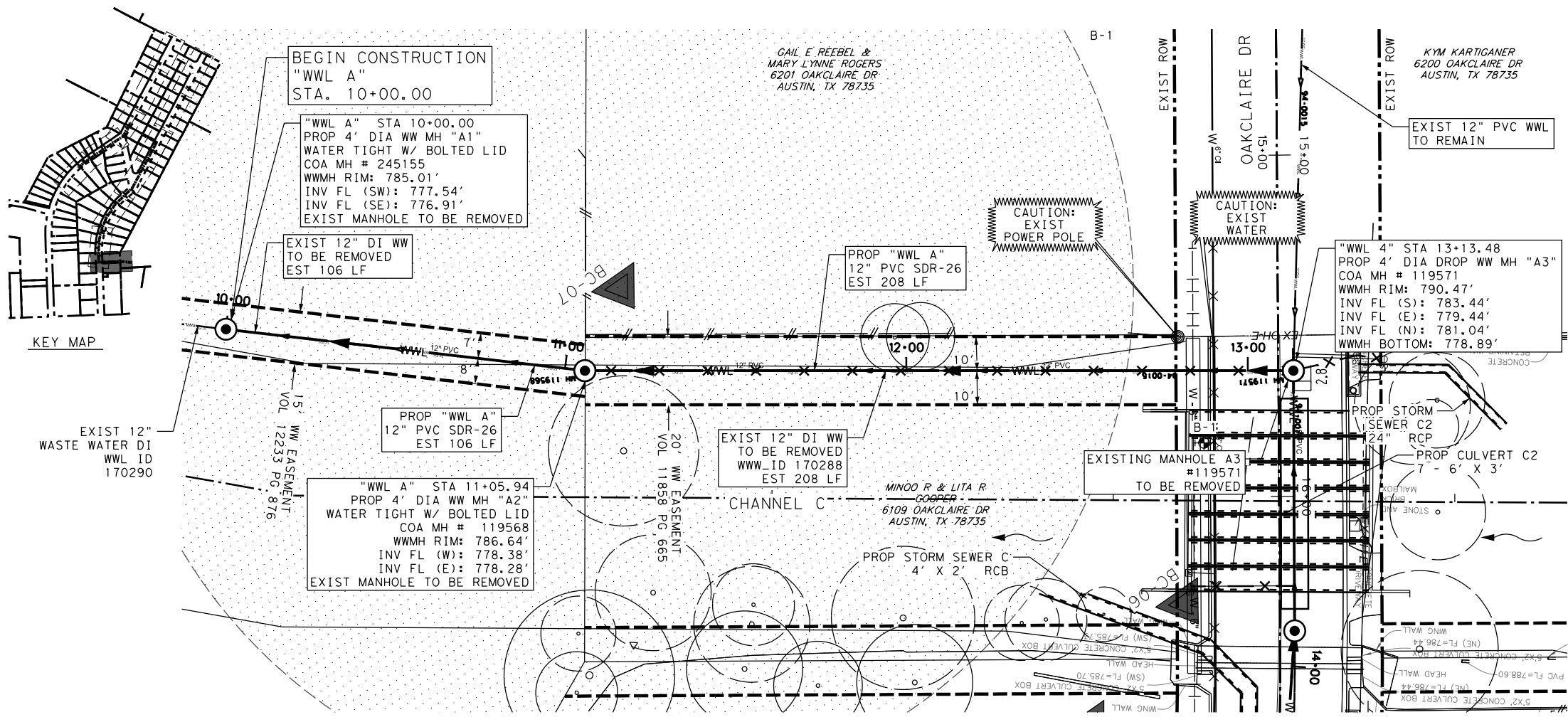
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 DATE 5/31/2024
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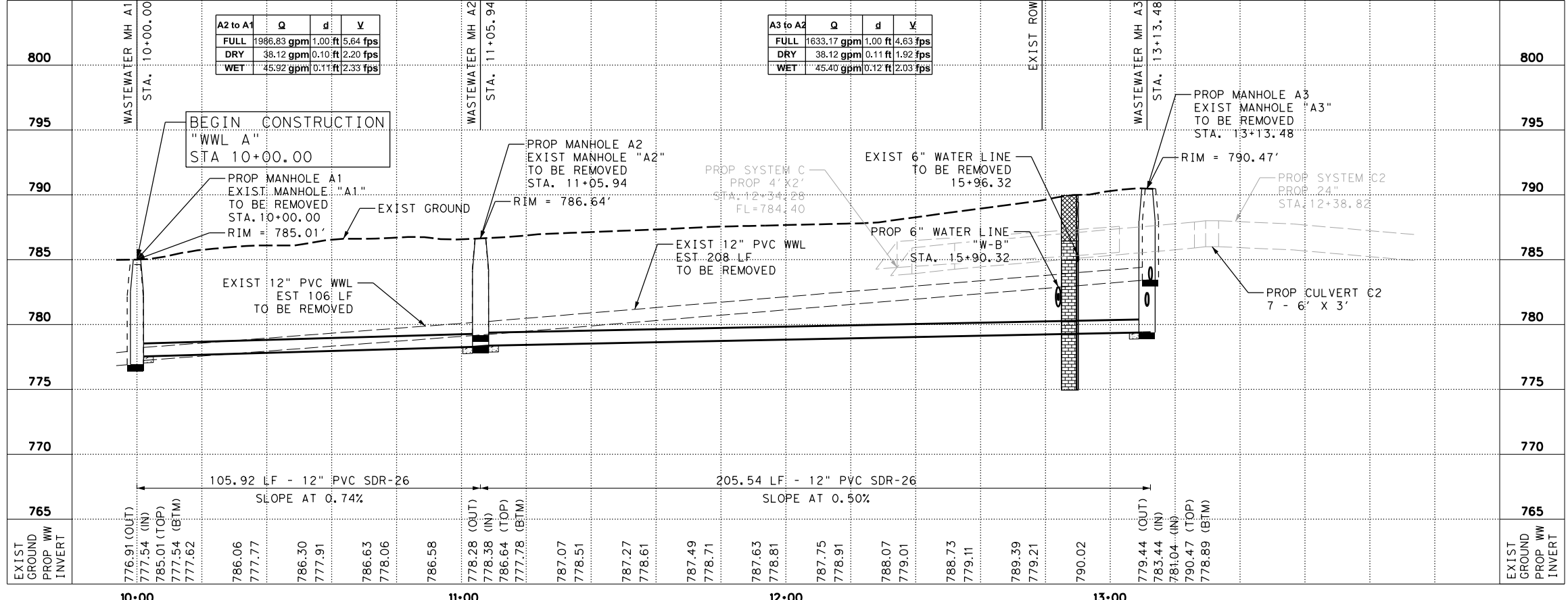
LEGEND

- EXIST ROW
- EXIST EASEMENT
- EXIST WW MAIN
- PROP WW MAIN
- WASTEWATER SERVICE TO BE REMOVED
- EXISTING STORM SEWER
- EXIST WW MANHOLE
- PROP WW MANHOLE
- EXIST WW LATERAL
- PROP WW LATERAL
- CEF LOCATION
- CEF SETBACK MITIGATION AREA

- NOTES**
- ALL WASTEWATER SERVICE LINES SHALL BE 6" PVC ASTM D 3034 SDR 26, WITH GASKETED HEAVY WALL JOINTS MEETING ASTM D3212 PER SPL WW-227B1.
 - ALL WASTEWATER SERVICE LINES SHALL HAVE A SLOPE NOT LESS THAN 1%.
 - ALL WASTEWATER MANHOLES SHALL HAVE BOLTED WATERTIGHT COVERS.
 - THE UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE AND FOR INFORMATION ONLY. CONTRACTOR IS RESPONSIBLE FOR LOCATING AND PROTECTING EXISTING WATER SERVICE RELAYS, WASTEWATER LATERALS, AND OTHER EXISTING UTILITIES DURING CONSTRUCTION. ANY REPAIRS OR TEMPORARY CONNECTIONS REQUIRED TO MAINTAIN SERVICE SHALL BE SUBSIDIARY TO PAY ITEM 510 PIPE.

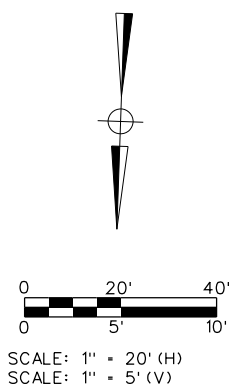


CHANNEL C WASTEWATER LINE A "WWL A"



THIS PROJECT REQUESTS A WAIVER FROM CITY OF AUSTIN'S UTILITY CRITERIA MANUAL SECTION 2.9.1.b.2 TO ALLOW THE INSTALLATION OF A PROP. WWMH (A3) WITHIN THE MINIMUM HORIZONTAL SEPARATION DISTANCE OF FIVE (5) FEET, BUT NO LESS THAN TWO (2) FEET FROM PROP. 24" RCP (L-C2-02) AT STA. 13+20.51 MEASURED FROM OD PIPE TO WWMH OD

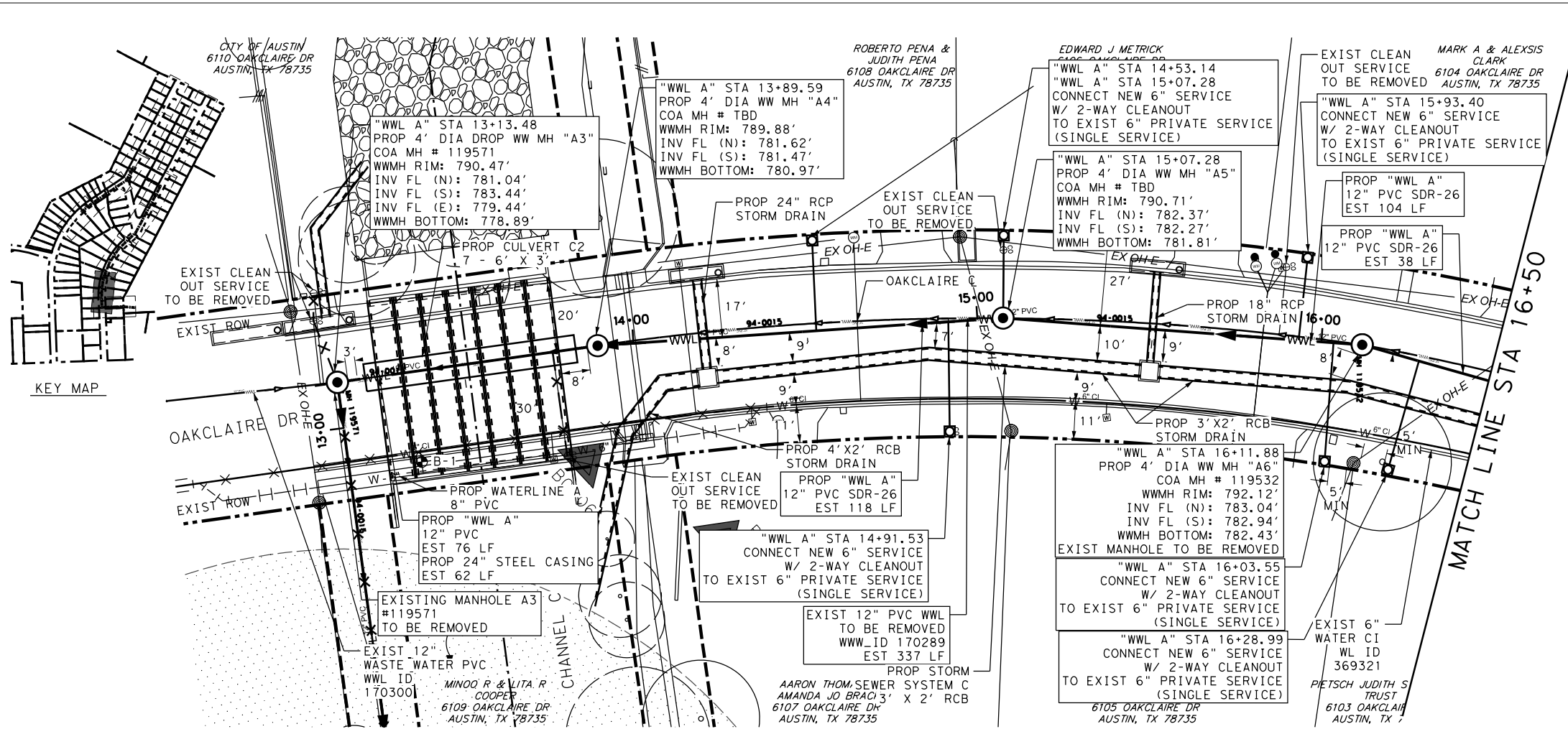
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NO.	DATE	BY	REVISIONS

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 DATE 5/31/2024
 SHEET 1 OF 1

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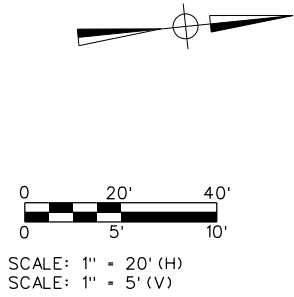
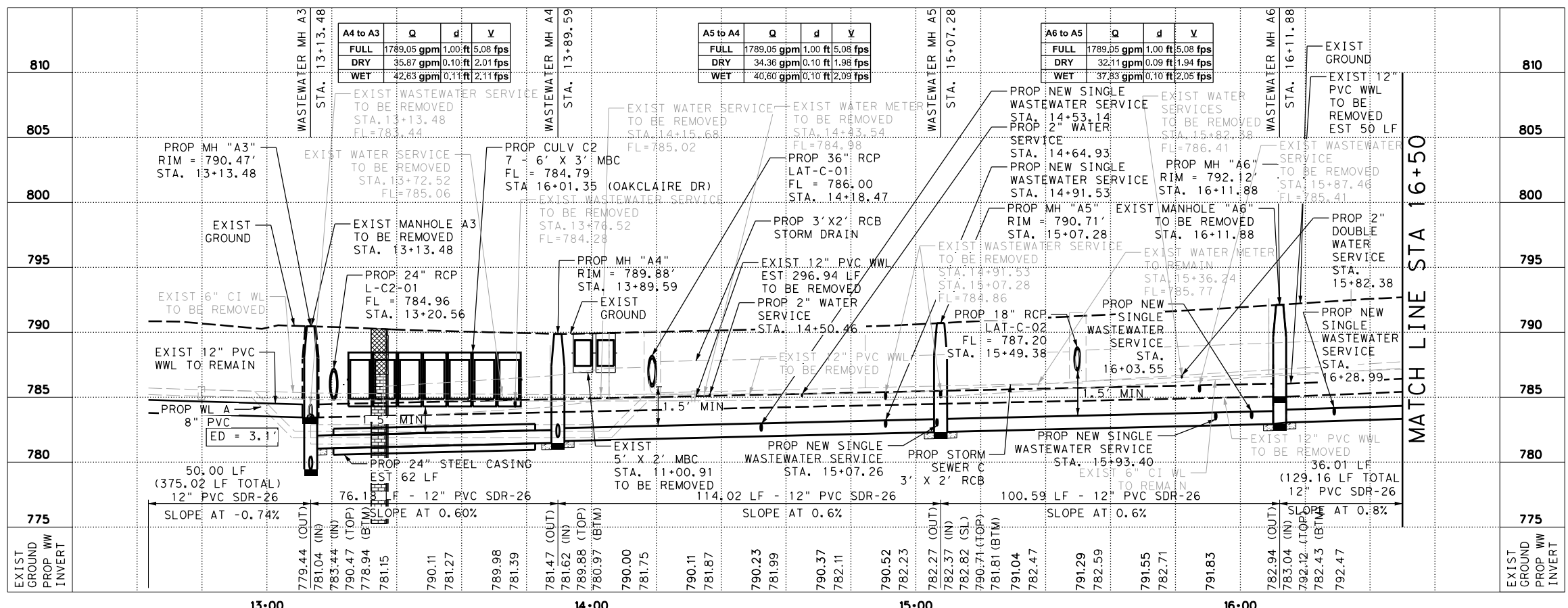


LEGEND

- EXIST ROW
- EXIST EASEMENT
- EXIST WW MAIN
- PROP WW MAIN
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- EXISTING STORM SEWER
- EXIST WW MANHOLE
- PROP WW MANHOLE
- EXIST WW LATERAL
- PROP WW LATERAL
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- CEF SETBACK MITIGATION AREA

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OAKCLAIRE DRIVE WASTEWATER LINE A "WWL A"



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5/31/2024

**CITY OF AUSTIN
BARTON CREEK OAK PARK
FLOOD RISK REDUCTION PROJECT
OAKCLAIRE DRIVE
WASTEWATER LINE A "WWL A"
STA. 13+00 TO STA. 16+50**

NO.	DATE	BY	REVISIONS	REMARKS

SHEET INFORMATION
DATE: 5/31/2024
SHEET 1 OF 1

rps Texas PE Firm Reg. #F-293
4801 Southwest Pkwy, Pkwy 2, Suite 150, Austin, Texas 78735
T+1 512 328 5771 E usinfr@rpsgroup.com

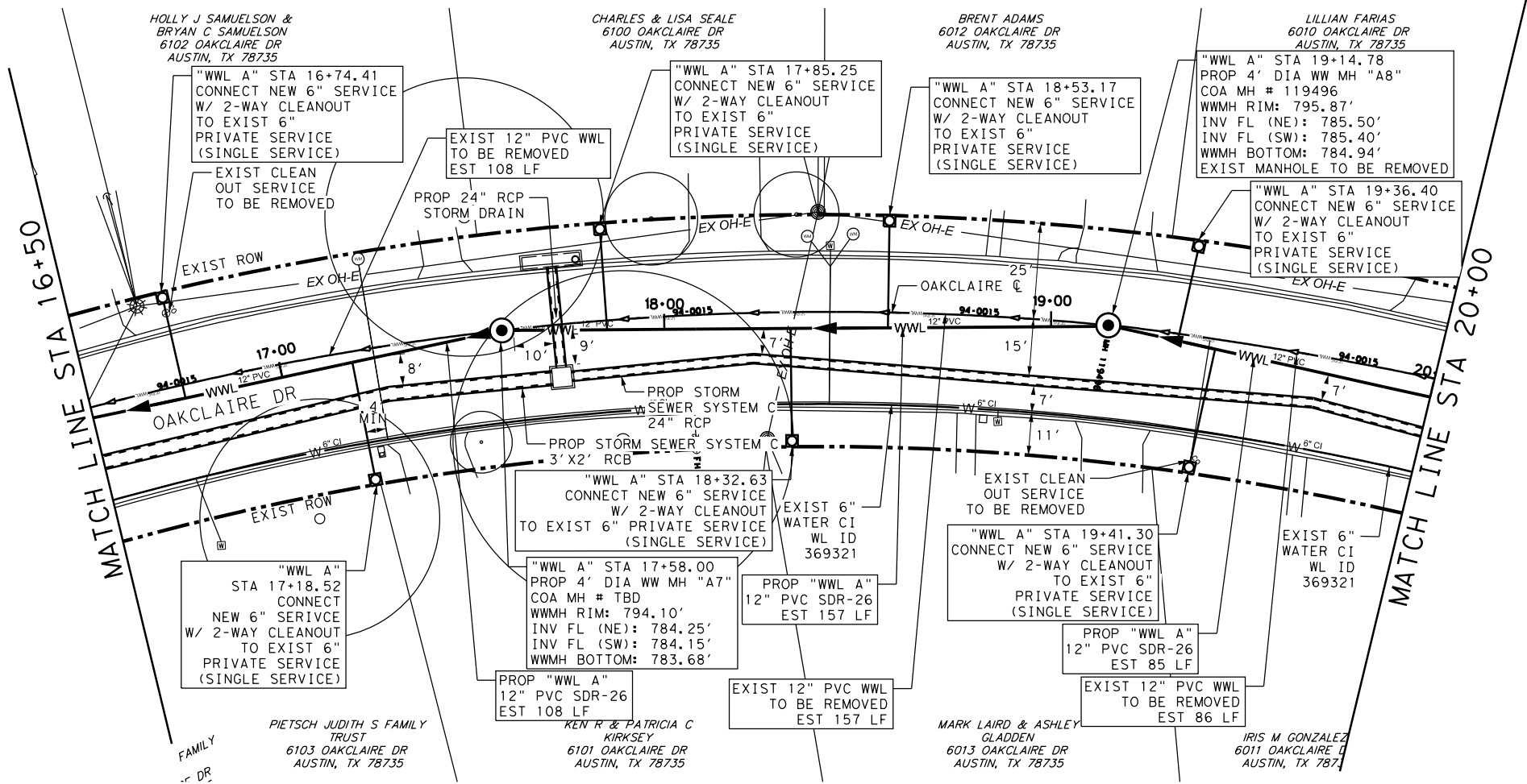
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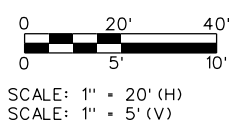
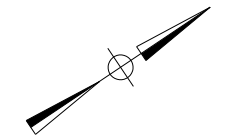
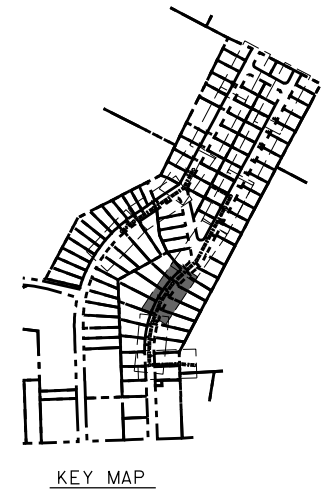
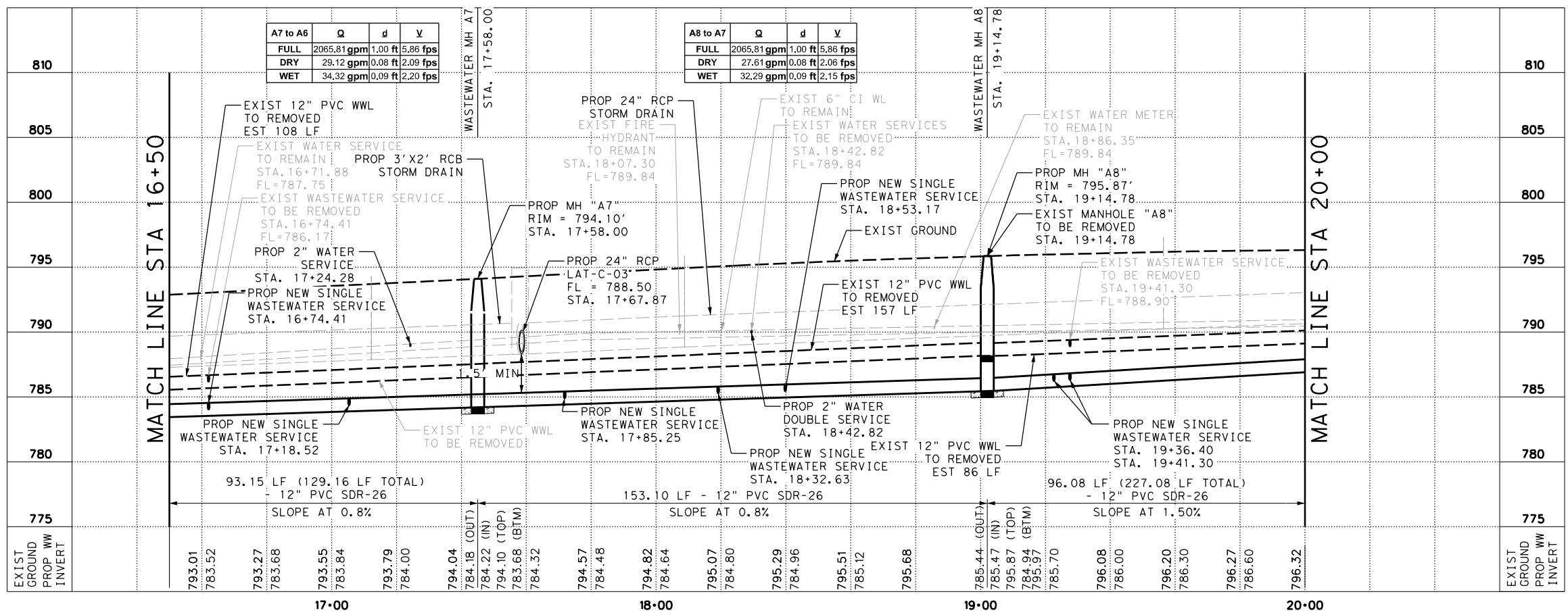
LEGEND

- EXIST ROW
- EXIST EASEMENT
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- PROP WW MAIN
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- EXISTING STORM SEWER
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- PROP WW LATERAL
- CEF LOCATION
- CEF SETBACK MITIGATION AREA

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OAKCLAIRE DRIVE WASTEWATER LINE A "WWL A"



REVISIONS	
NO.	DATE

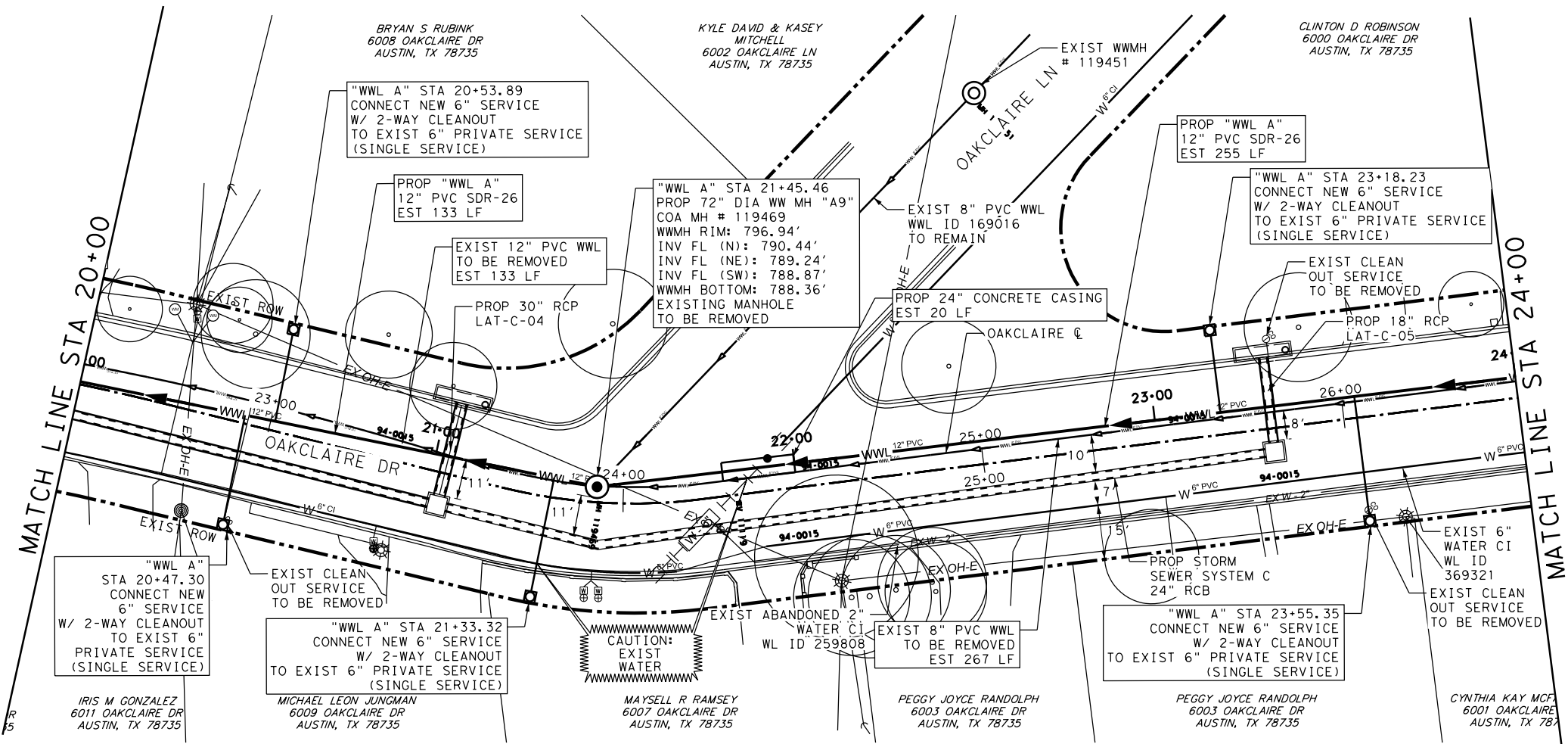
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SHEET	1 OF 1

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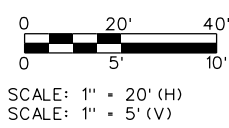
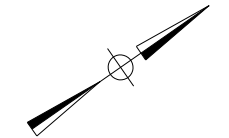
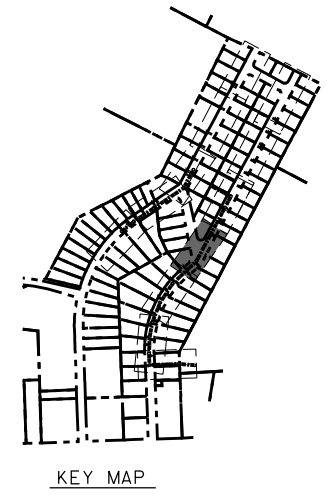
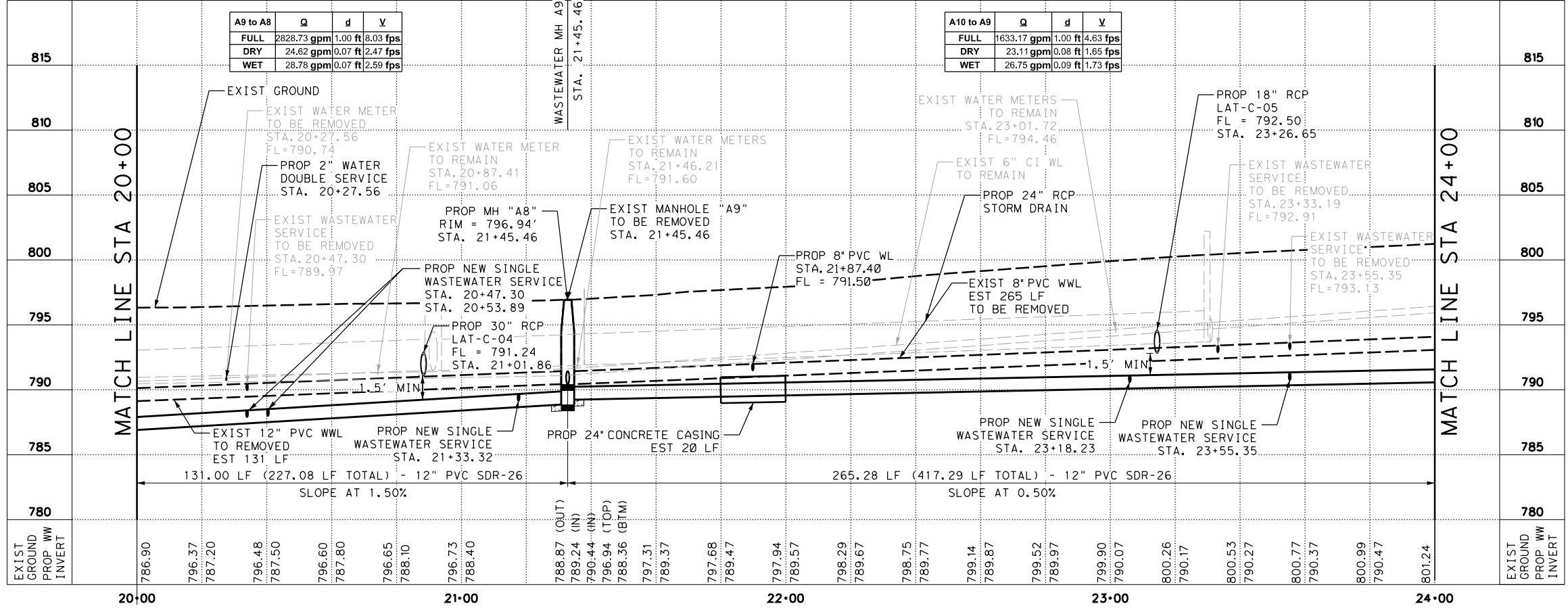
LEGEND

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- PROP WW MAIN
- WASTEWATER SERVICE TO BE REMOVED
- EXISTING STORM SEWER
- EXIST WW MANHOLE
- PROP WW MANHOLE
- EXIST WW LATERAL
- PROP WW LATERAL
- CEF LOCATION
- CEF SETBACK MITIGATION AREA

- NOTES**
- ALL WASTEWATER SERVICE LINES SHALL BE 6" PVC ASTM D 3034 SDR 26, WITH GASKETED HEAVY WALL JOINTS MEETING ASTM D3212 PER SPL WW-227B1.
 - ALL WASTEWATER SERVICE LINES SHALL HAVE A SLOPE NOT LESS THAN 1%.
 - ALL WASTEWATER MANHOLES SHALL HAVE BOLTED WATERTIGHT COVERS.
 - THE UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE AND FOR INFORMATION ONLY. CONTRACTOR IS RESPONSIBLE FOR LOCATING AND PROTECTING EXISTING WATER SERVICE RELAYS, WASTEWATER LATERALS, AND OTHER EXISTING UTILITIES DURING CONSTRUCTION. ANY REPAIRS OR TEMPORARY CONNECTIONS REQUIRED TO MAINTAIN SERVICE SHALL BE SUBSIDIARY TO PAY ITEM 510 PIPE.



OAKCLAIRE DRIVE WASTEWATER LINE A "WWL A"



NO.	DATE	BY	REVISIONS

SHEET INFORMATION
DATE 5/31/2024
SHEET 1 OF 1

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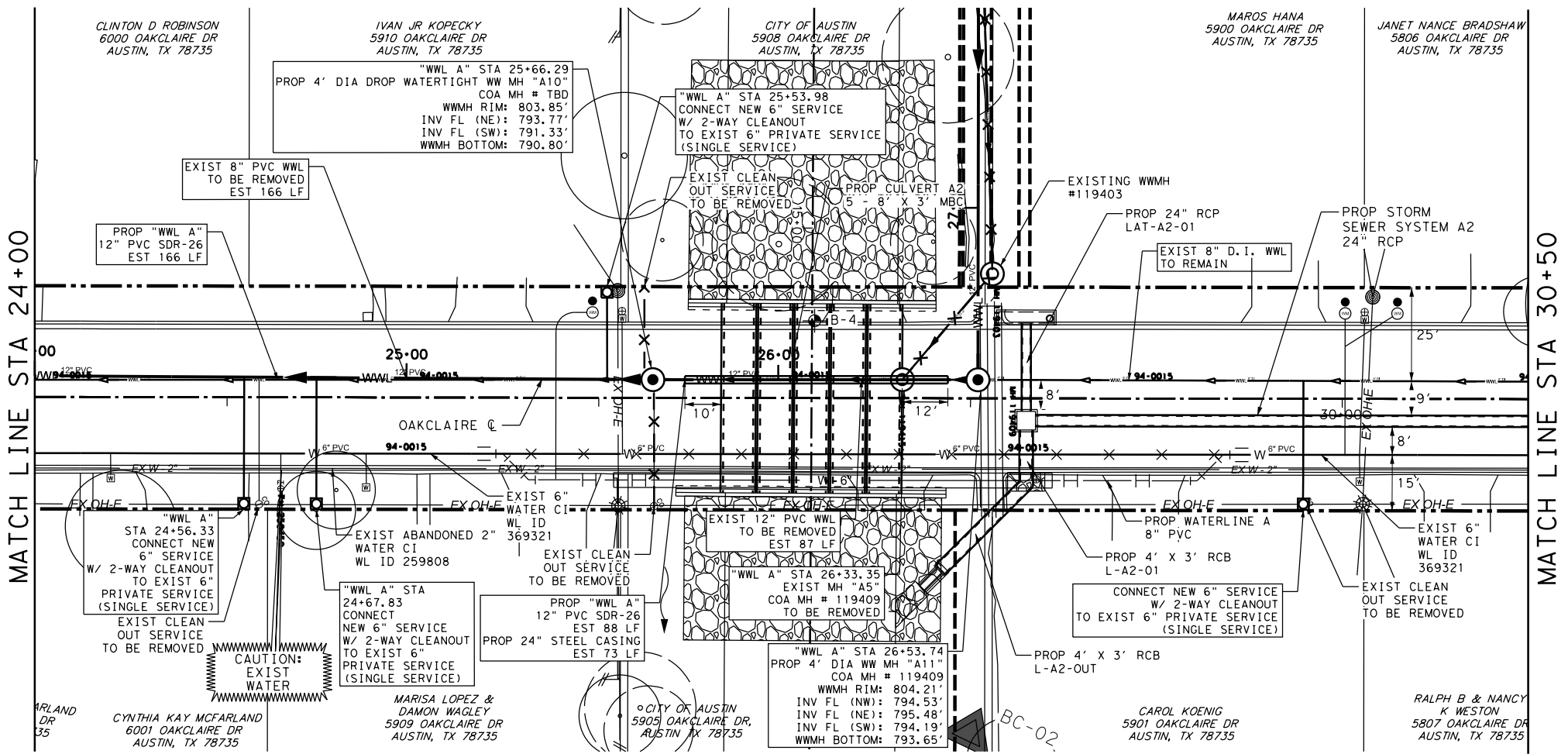
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CITY OF AUSTIN
 BARTON CREEK OAK PARK
 FLOOD RISK REDUCTION PROJECT
 OAKCLAIRE DRIVE
 WASTEWATER LINE A "WWL A"
 STA. 24+00 TO STA. 30+50

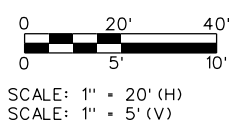
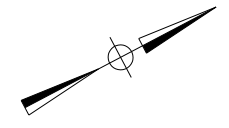
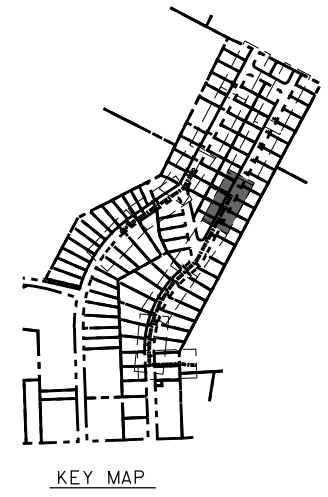
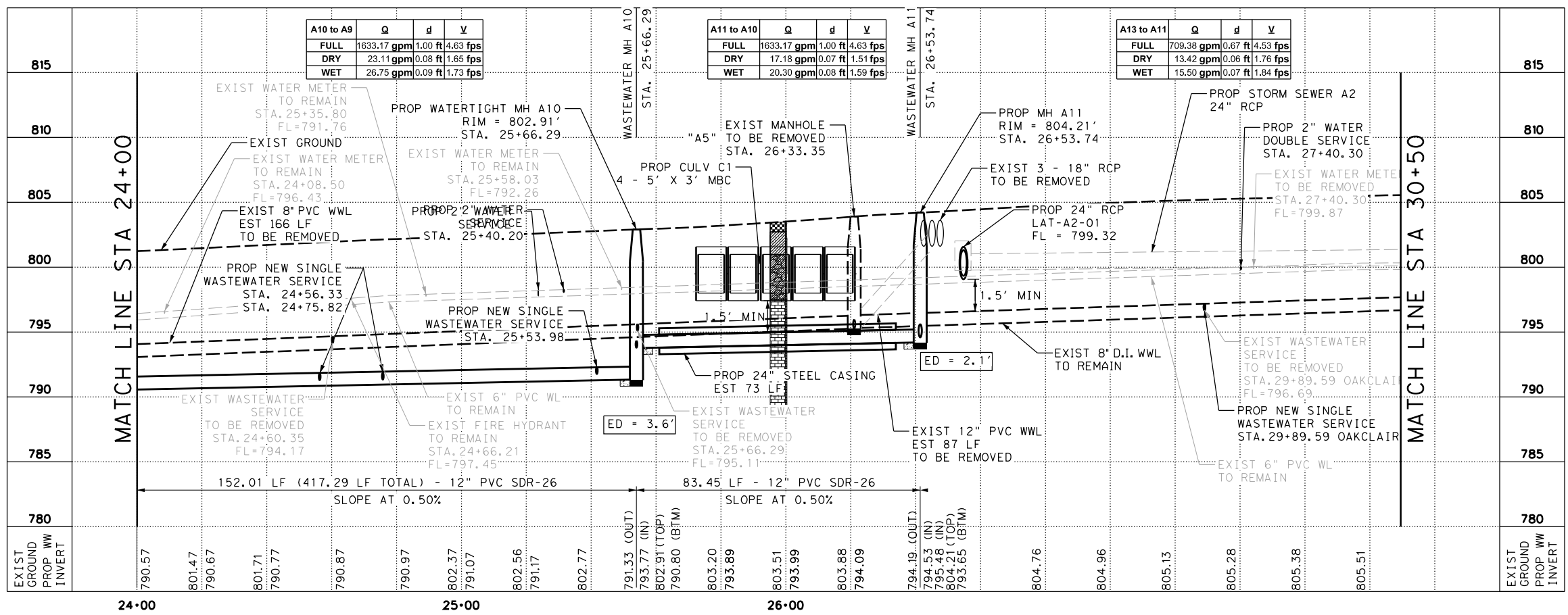
LEGEND

- EXIST ROW: Dashed line with long dashes
- EXIST EASEMENT: Dashed line with short dashes
- EXIST WW MAIN: Arrow with 'WWL 8" PVC'
- PROP WW MAIN: Arrow with 'WWL 12" PVC'
- WASTEWATER SERVICE TO BE REMOVED: Dashed line with 'X' marks
- EXISTING STORM SEWER: Arrow with 'S' mark
- EXIST WW MANHOLE: Circle with 'M' mark
- PROP WW MANHOLE: Circle with 'M' mark and center dot
- EXIST WW LATERAL: Line with 'L' mark
- PROP WW LATERAL: Line with 'L' mark and center dot
- CEF LOCATION: Triangle with 'C' mark
- CEF SETBACK MITIGATION AREA: Stippled area

- NOTES**
- ALL WASTEWATER SERVICE LINES SHALL BE 6" PVC ASTM D 3034 SDR 26, WITH GASKETED HEAVY WALL JOINTS MEETING ASTM D3212 PER SPL WW-227B1.
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 - ALL WASTEWATER MANHOLES SHALL HAVE BOLTED WATER TIGHT COVERS.
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OAKCLAIRE DRIVE WASTEWATER LINE A "WWL A"



NO.	DATE	BY	REVISIONS

SHEET INFORMATION
 DATE: 5/31/2024
 SHEET: 1 OF 1

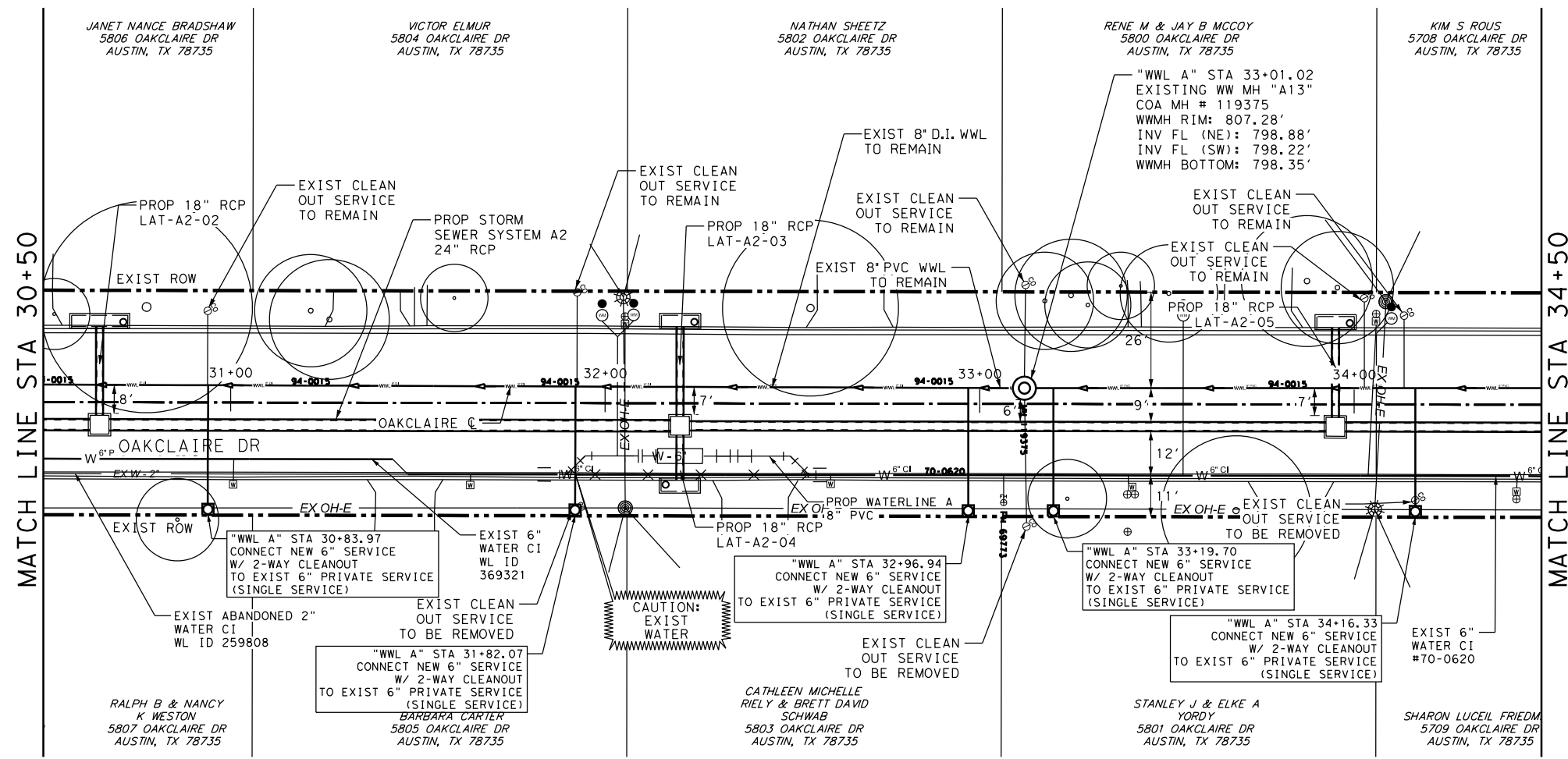
rps Texas PE Firm Reg. #F-293
 4801 Southwest Pkwy, Pkwy 2, Suite 150, Austin, Texas 78735
 T+1 512 328 5771 E usinfr@rpsgroup.com

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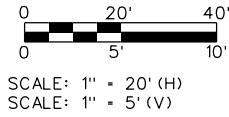
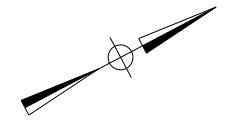
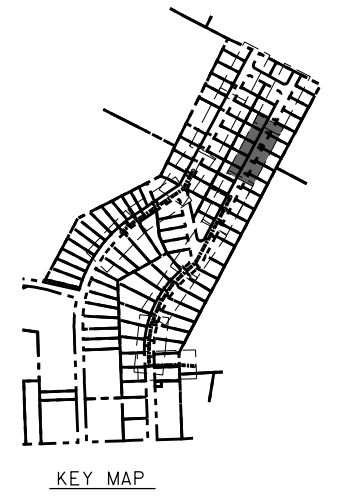
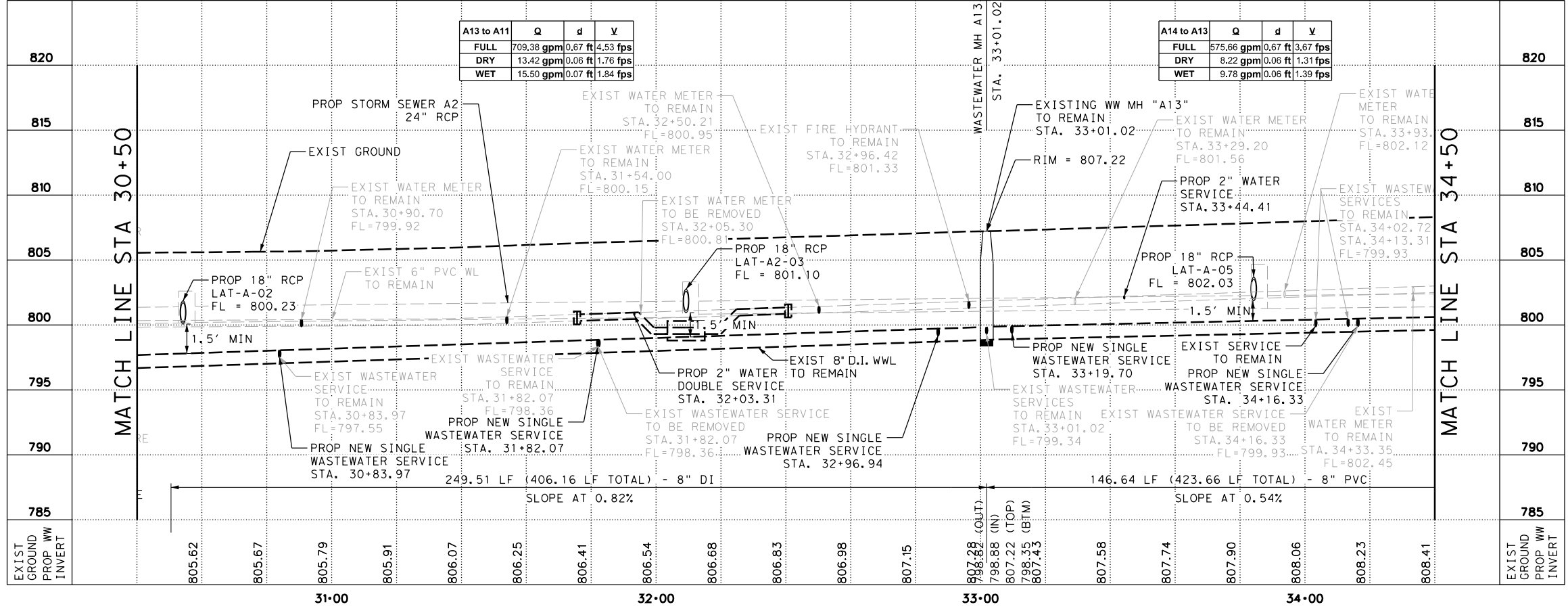
LEGEND

- EXIST ROW
- EXIST EASEMENT
- EXIST WW MAIN
- PROP WW MAIN
- WASTEWATER SERVICE TO BE REMOVED
- EXISTING STORM SEWER
- EXIST WW MANHOLE
- PROP WW MANHOLE
- EXIST WW LATERAL
- PROP WW LATERAL
- CEF LOCATION
- CEF SETBACK MITIGATION AREA

- NOTES**
- ALL WASTEWATER SERVICE LINES SHALL BE 6" PVC ASTM D 3034 SDR 26, WITH GASKETED HEAVY WALL JOINTS MEETING ASTM D3212 PER SPL WW-227B1.
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OAKCLAIRE DRIVE WASTEWATER LINE A "WWL A"



NO.	DATE	BY	REVISIONS

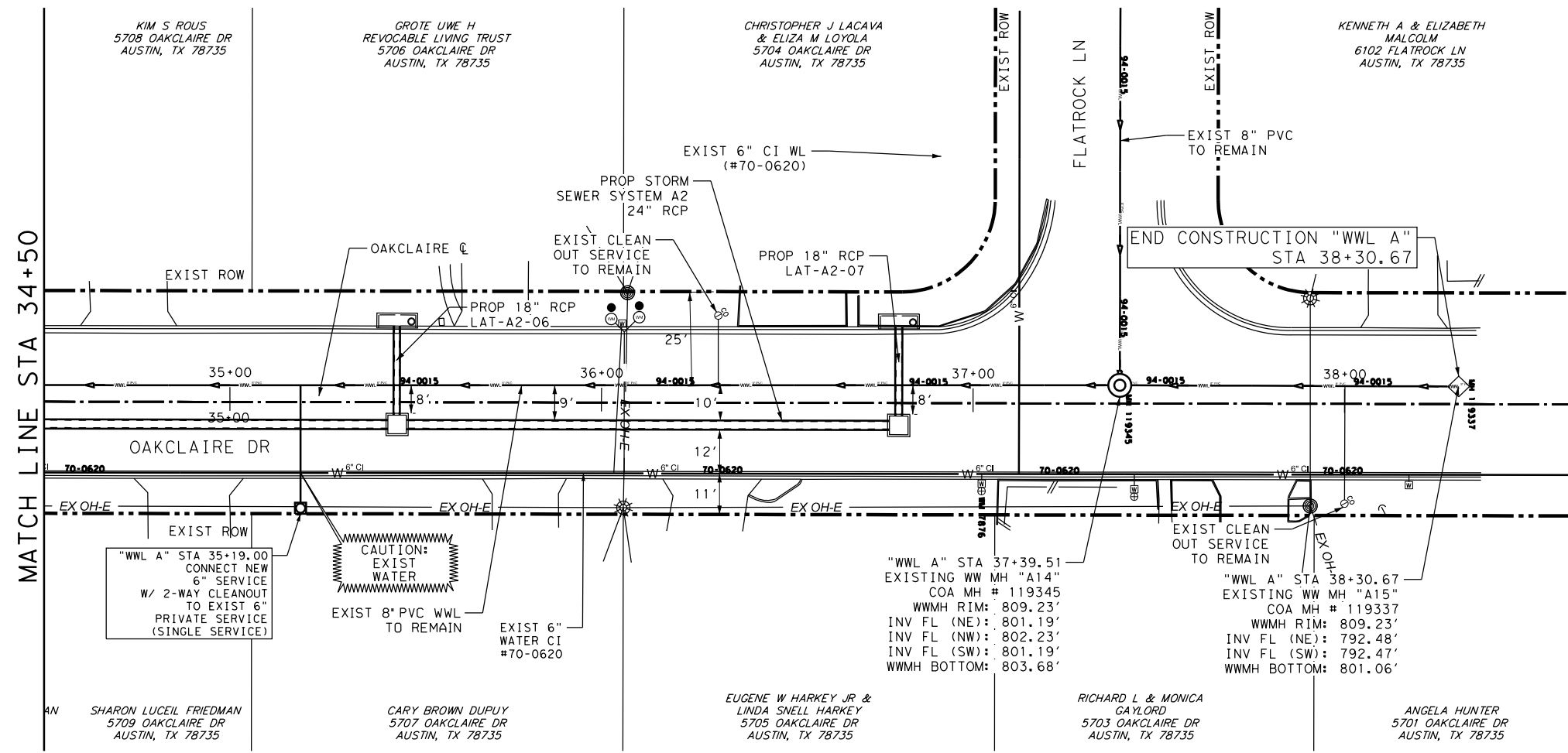
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 DATE 5/31/2024
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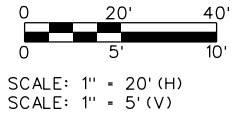
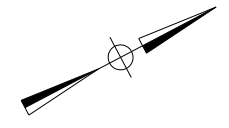
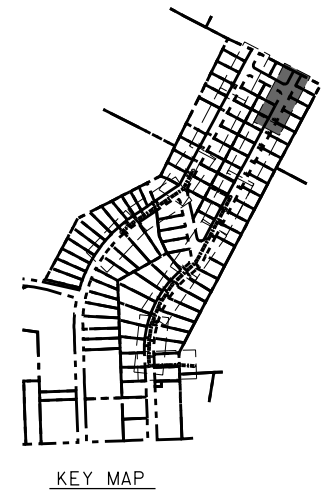
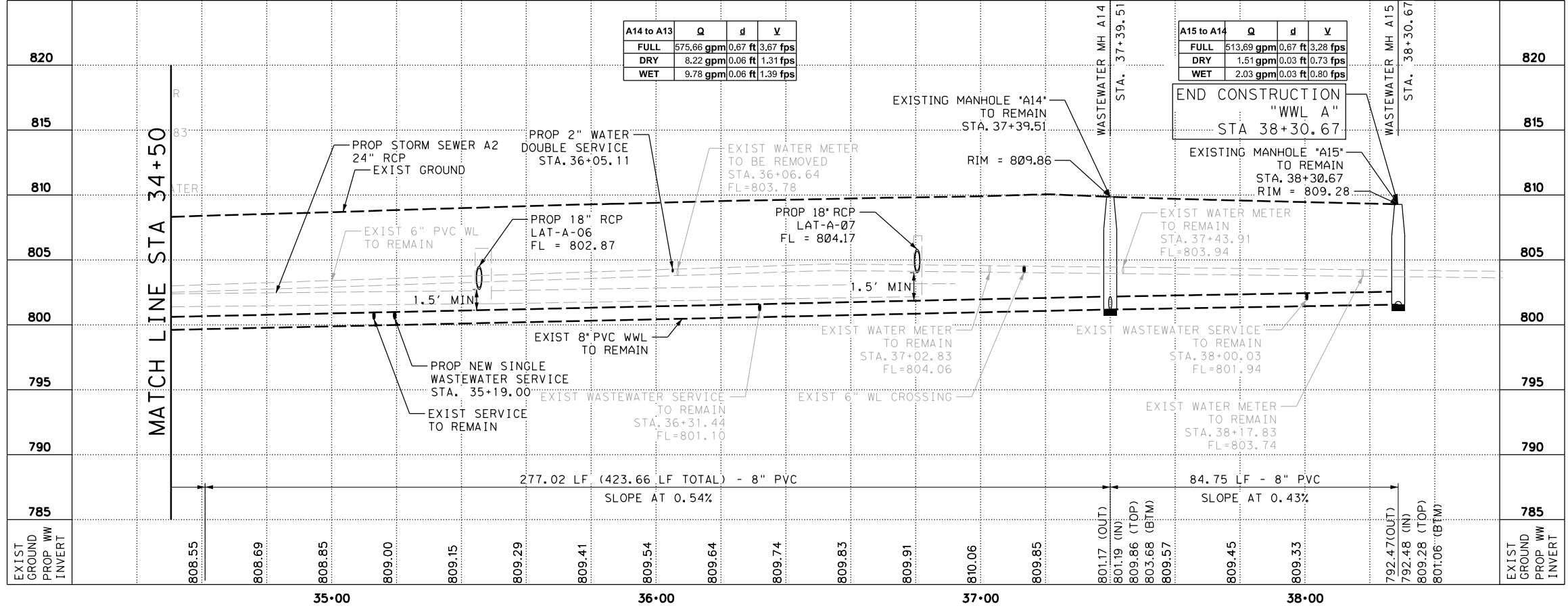
LEGEND

- EXIST ROW
- EXIST EASEMENT
- EXIST WW MAIN
- PROP WW MAIN
- WASTEWATER SERVICE TO BE REMOVED
- EXISTING STORM SEWER
- EXIST WW MANHOLE
- PROP WW MANHOLE
- EXIST WW LATERAL
- PROP WW LATERAL
- CEF LOCATION
- CEF SETBACK MITIGATION AREA

- NOTES**
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OAKCLAIRE DRIVE WASTEWATER LINE A "WWL A"

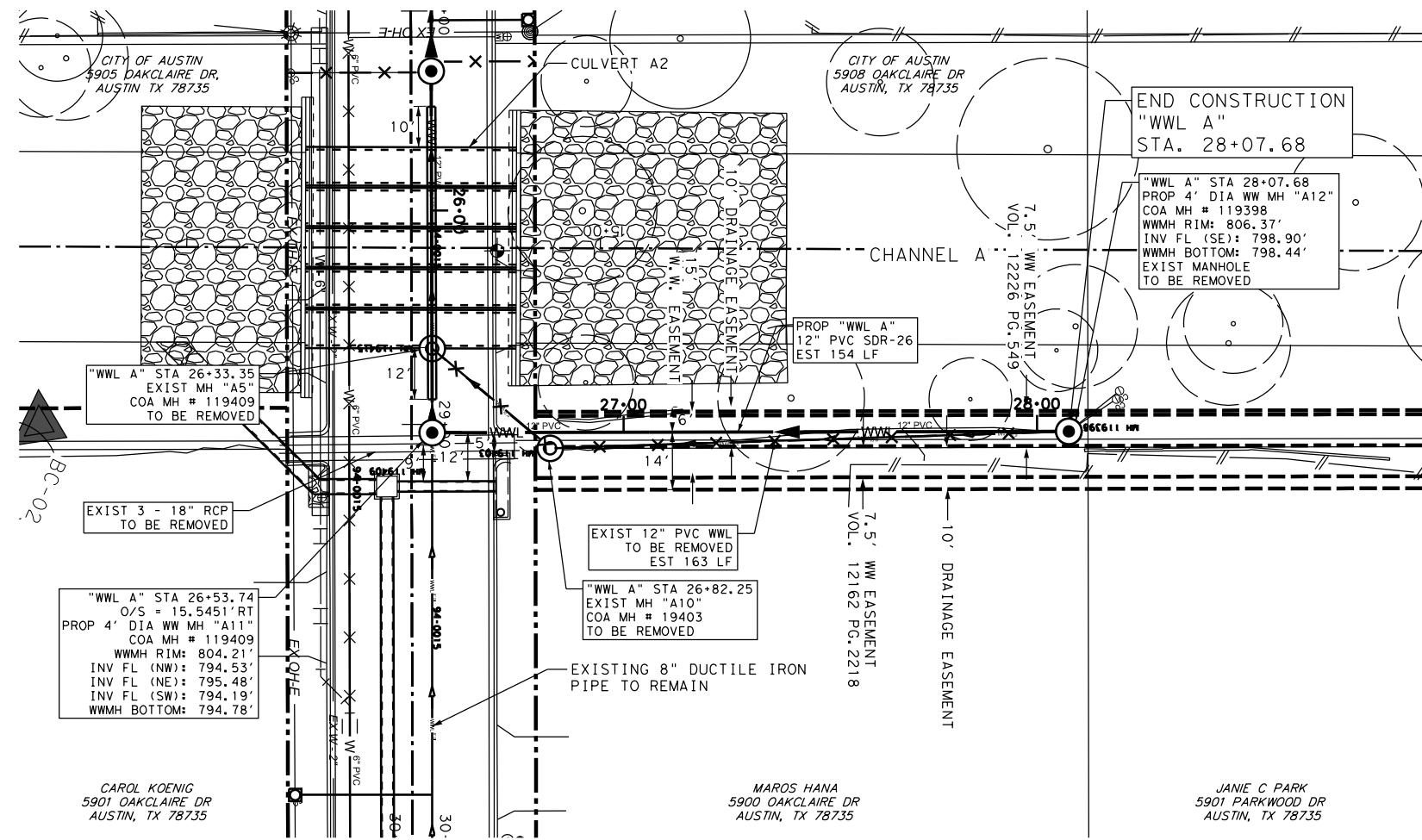


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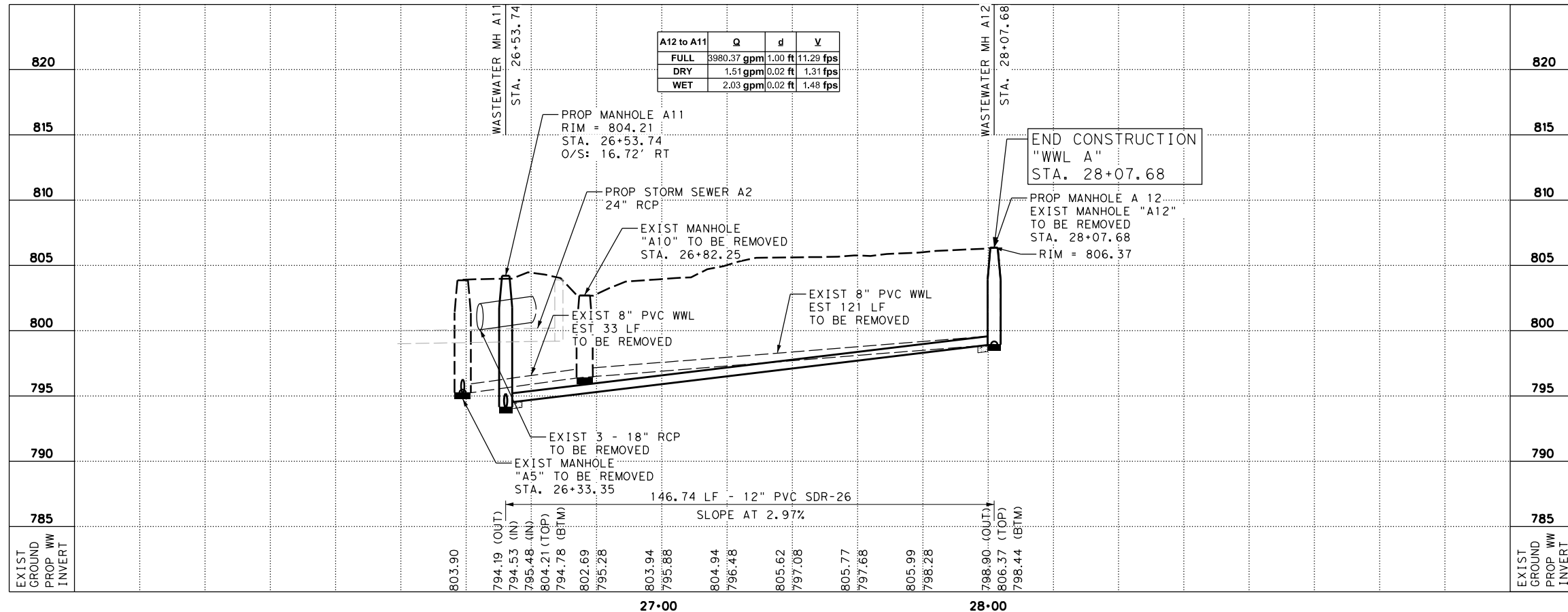
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DATE: 5/31/2024
SHEET 1 OF 1

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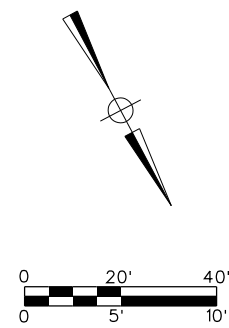
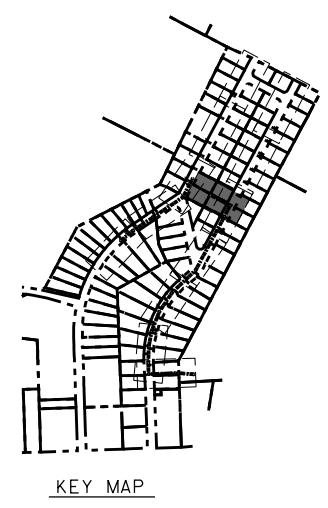
CHANNEL A WASTEWATER LINE A "WWL A"



LEGEND

- EXIST ROW: [Symbol]
- EXIST EASEMENT: [Symbol]
- EXIST WW MAIN: [Symbol] WWL 8" PVC
- PROP WW MAIN: [Symbol] WWL 12" PVC
- WASTEWATER SERVICE TO BE REMOVED: [Symbol]
- EXISTING STORM SEWER: [Symbol]
- EXIST WW MANHOLE: [Symbol]
- PROP WW MANHOLE: [Symbol]
- EXIST WW LATERAL: [Symbol]
- PROP WW LATERAL: [Symbol]
- CEF LOCATION: [Symbol]
- CEF SETBACK MITIGATION AREA: [Symbol]

- NOTES**
- ALL WASTEWATER SERVICE LINES SHALL BE 6" PVC ASTM D 3034 SDR 26, WITH GASKETED HEAVY WALL JOINTS MEETING ASTM D3212 PER SPL WW-227B1.
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City of Austin Watershed Protection

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5/31/2024

**CITY OF AUSTIN
 BARTON CREEK OAK PARK
 FLOOD RISK REDUCTION PROJECT
 CHANNEL A
 WASTEWATER LINE A "WWL A"
 STA. 26+00.00 TO END**

NO.	DATE	BY	REVISIONS

SHEET INFORMATION

DATE: 5/31/2024

SHEET 1 OF 1

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 4801 Southwest Pkwy, Pkwy 2, Suite 150, Austin, Texas 78735
 T+1 512 328 5771 E usinfr@rpsgroup.com



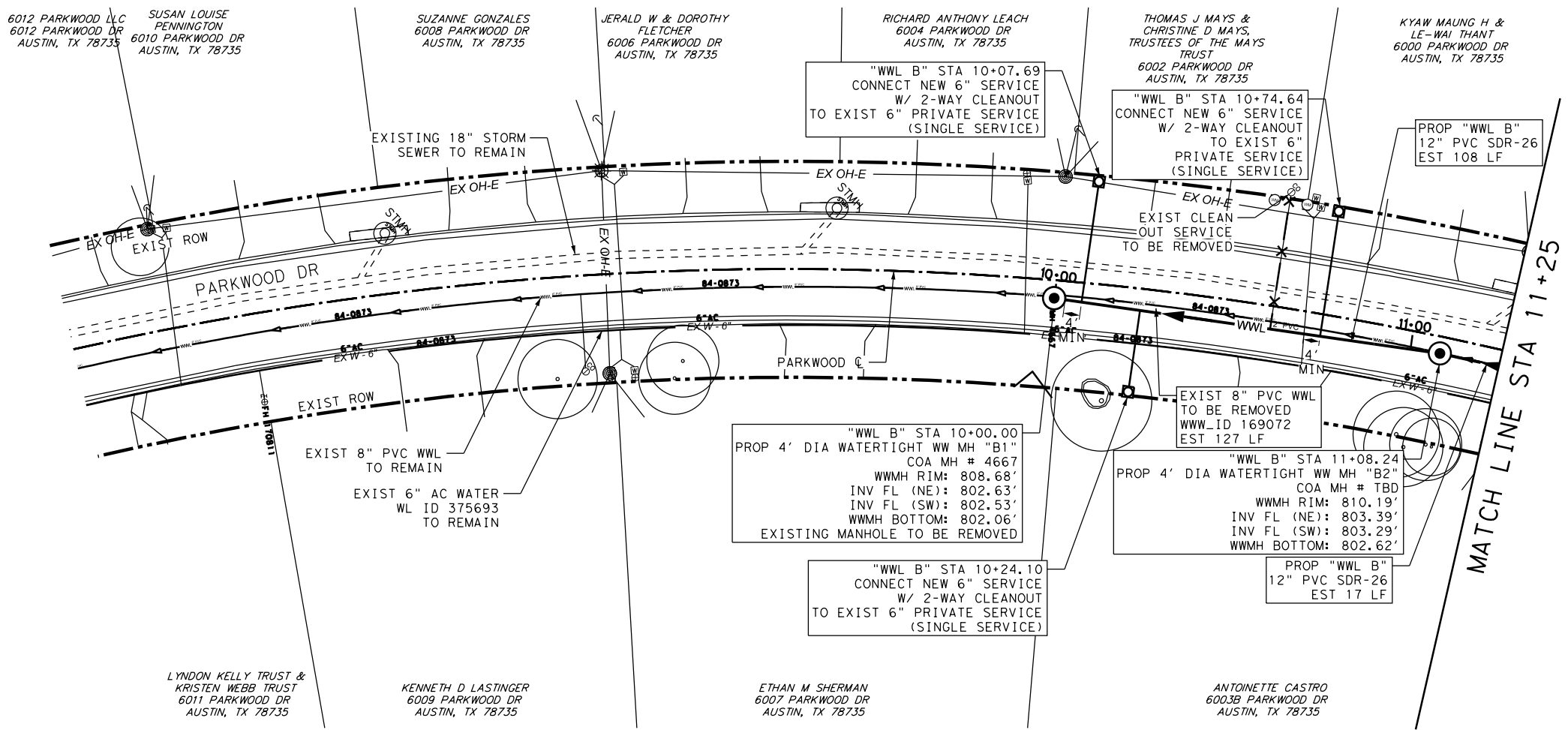
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 5/31/2024

**CITY OF AUSTIN
 BARTON CREEK OAK PARK
 FLOOD RISK REDUCTION PROJECT
 PARKWOOD DRIVE
 WASTEWATERLINE B "WWL B"
 BEGIN TO STA. 11+25**

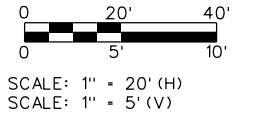
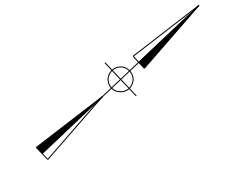
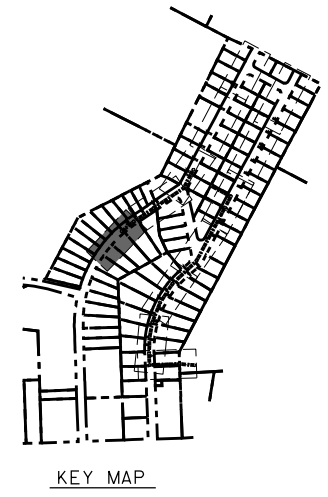
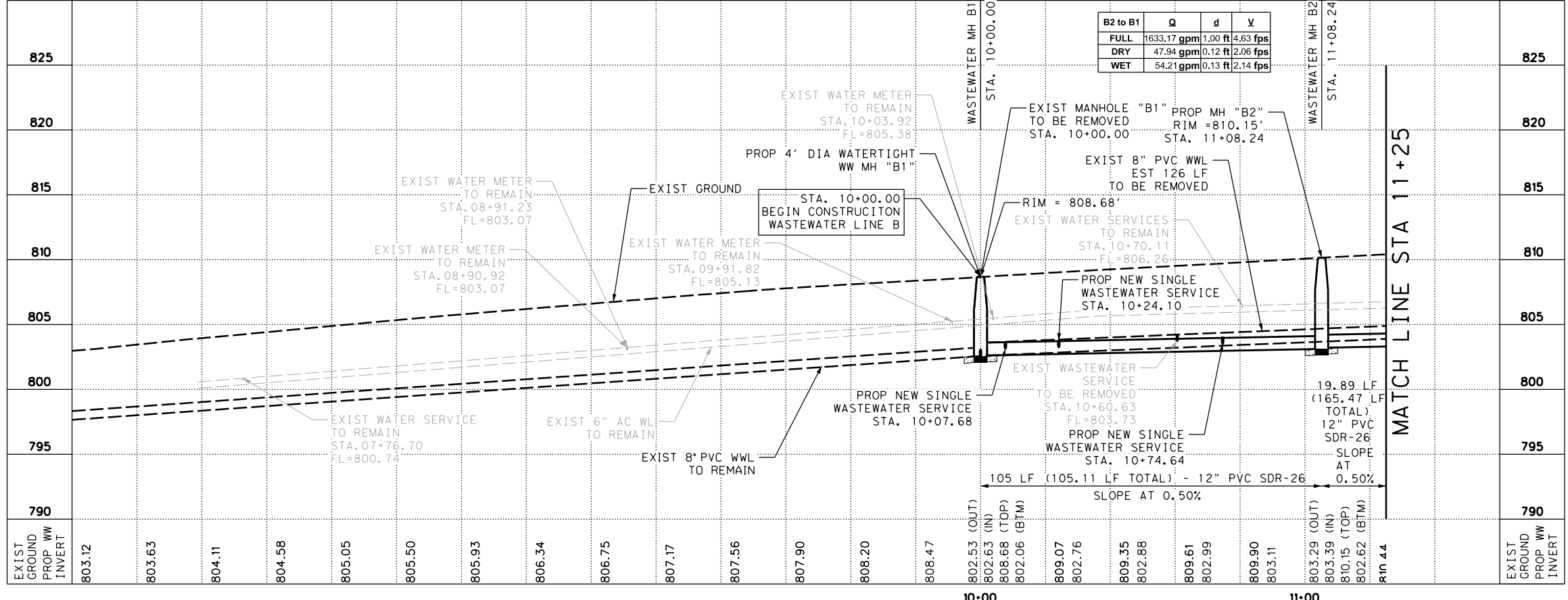
LEGEND

EXIST ROW	---
EXIST EASEMENT	----
EXIST WW MAIN	—▲— WWL 8" PVC
PROP WW MAIN	—▲— WWL 12" PVC
WASTEWATER SERVICE TO BE REMOVED	—X—X—X—
EXISTING STORM SEWER	—S—S—S—
EXIST WW MANHOLE	⊙
PROP WW MANHOLE	⊙
EXIST WW LATERAL	—○—
PROP WW LATERAL	—○—
CEF LOCATION	▲
CEF SETBACK MITIGATION AREA	▨

- NOTES**
- ALL WASTEWATER SERVICE LINES SHALL BE 6" PVC ASTM D 3034 SDR 26, WITH GASKETED HEAVY WALL JOINTS MEETING ASTM D3212 PER SPL WW-227B1.
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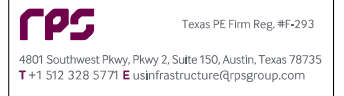
PARKWOOD DRIVE WASTEWATER LINE B "WWL B"



REVISIONS

NO.	DATE	BY	REMARKS

SHEET INFORMATION
 DATE 5/31/2024
 SHEET 1 OF 1



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CITY OF AUSTIN
BARTON CREEK OAK PARK
FLOOD RISK REDUCTION PROJECT
PARKWOOD DRIVE
WASTEWATERLINE B "WWL B"
STA. 11+25 TO STA. 14+00

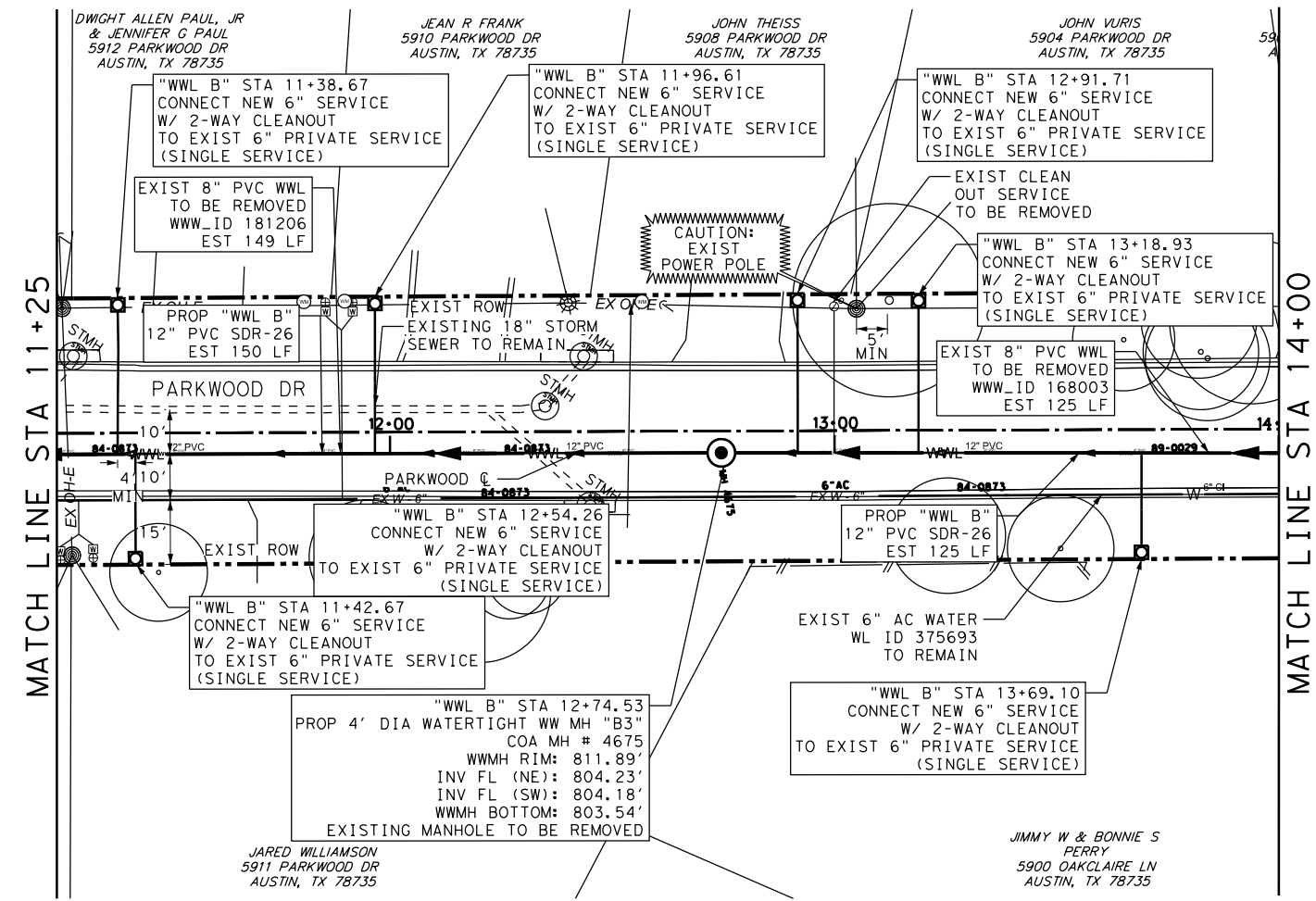
NO.	BY	DATE	REVISIONS

SHEET INFORMATION	
DATE	5/31/2024
SHEET	1 OF 1

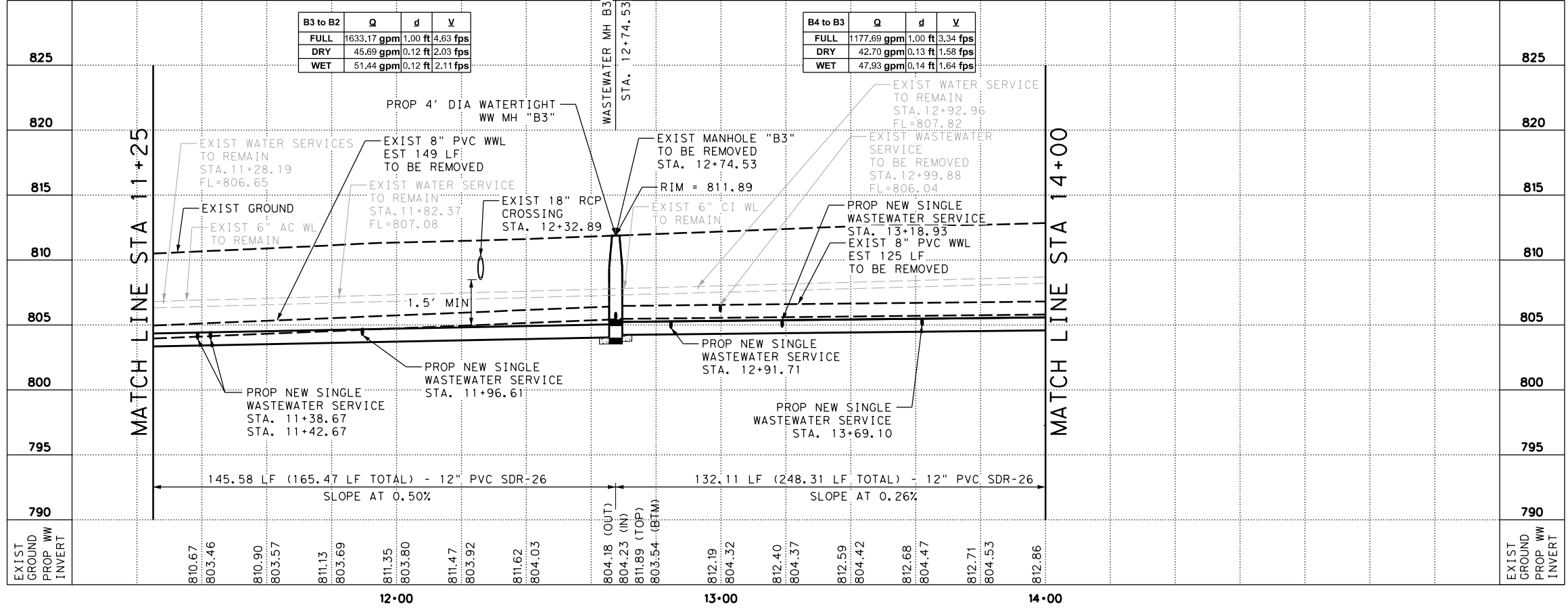
LEGEND

- EXIST ROW: Dashed line with long dashes
- EXIST EASEMENT: Dashed line with short dashes
- EXIST WW MAIN: Line with triangles and 'WWL 8" PVC'
- PROP WW MAIN: Line with triangles and 'WWL 12" PVC'
- WASTEWATER SERVICE TO BE REMOVED: Line with 'X' marks
- EXISTING STORM SEWER: Line with 'S' marks
- EXIST WW MANHOLE: Circle with a dot
- PROP WW MANHOLE: Circle with a dot and 'M'
- EXIST WW LATERAL: Line with circles and 'L'
- PROP WW LATERAL: Line with squares and 'L'
- CEF LOCATION: Triangle
- CEF SETBACK MITIGATION AREA: Dotted area

- NOTES**
- ALL WASTEWATER SERVICE LINES SHALL BE 6" PVC ASTM D 3034 SDR 26, WITH GASKETED HEAVY WALL JOINTS MEETING ASTM D3212 PER SPL WW-227B1.
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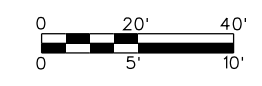
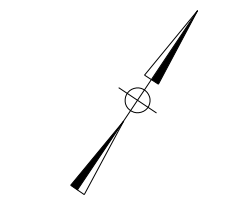
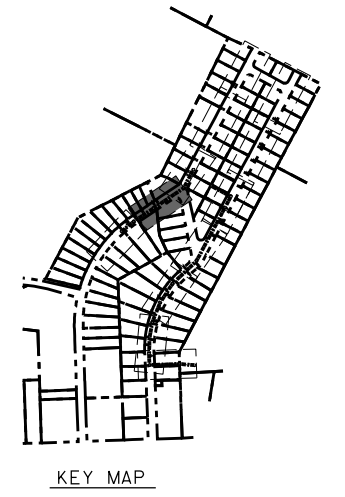


PARKWOOD DRIVE WASTEWATER LINE B "WWL B"



B3 to B2	Q	d	V
FULL	1633.17 gpm	1.00 ft	4.63 fps
DRY	45.69 gpm	0.12 ft	2.03 fps
WET	51.44 gpm	0.12 ft	2.11 fps

B4 to B3	Q	d	V
FULL	1177.69 gpm	1.00 ft	3.34 fps
DRY	42.70 gpm	0.13 ft	1.58 fps
WET	47.93 gpm	0.14 ft	1.64 fps



SCALE: 1" = 20' (H)
SCALE: 1" = 5' (V)

rps Texas PE Firm Reg. #F-293
4801 Southwest Pkwy, Pkwy 2, Suite 150, Austin, Texas 78735
T +1 512 328 5771 E usinfr@rpsgroup.com



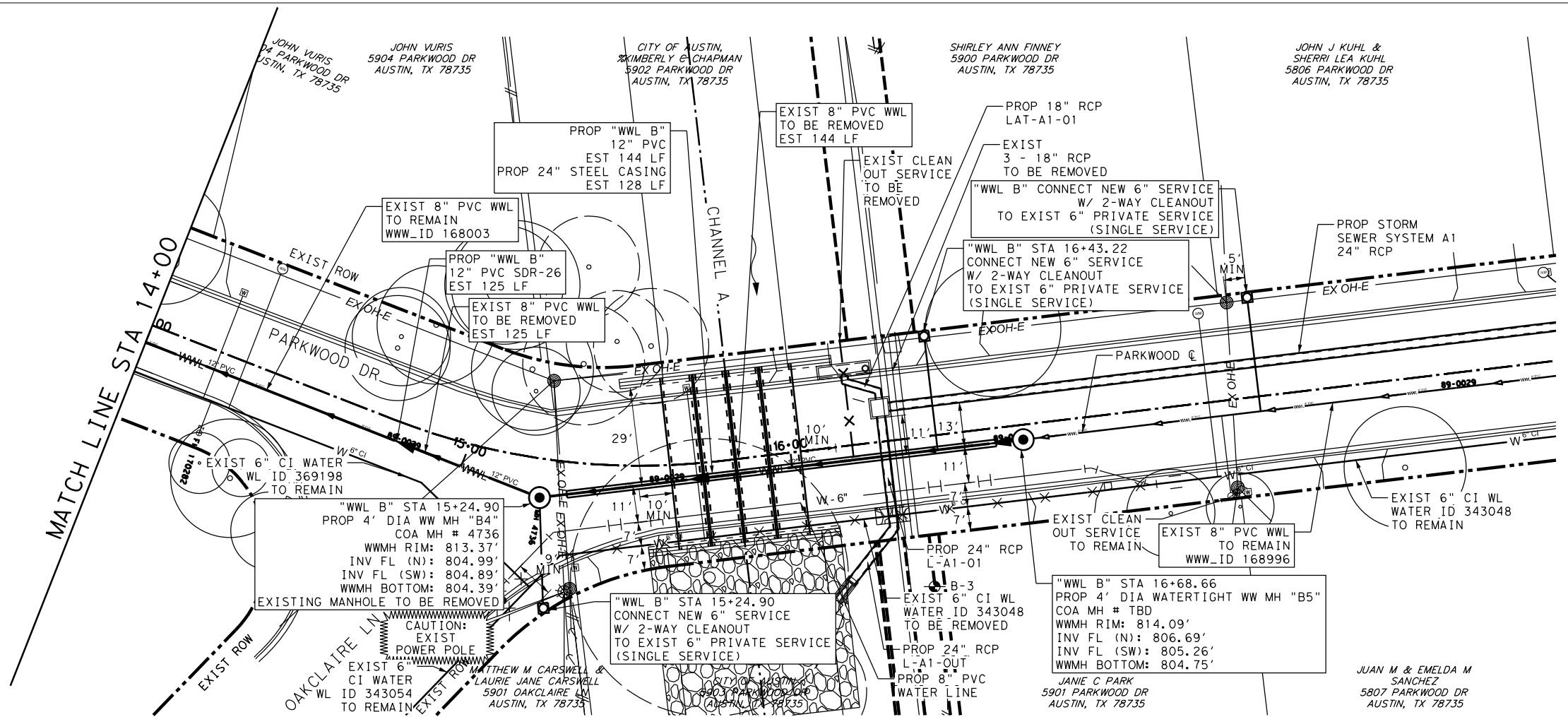
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CITY OF AUSTIN
 BARTON CREEK OAK PARK
 FLOOD RISK REDUCTION PROJECT
 PARKWOOD DRIVE
 WASTEWATERLINE B "WWL B"
 STA. 14+00 TO STA. 34+00

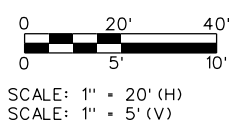
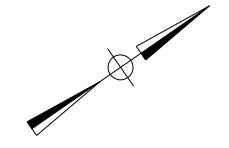
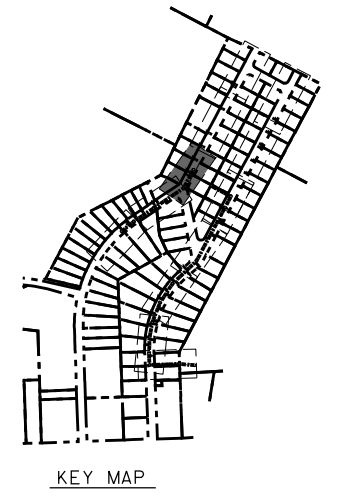
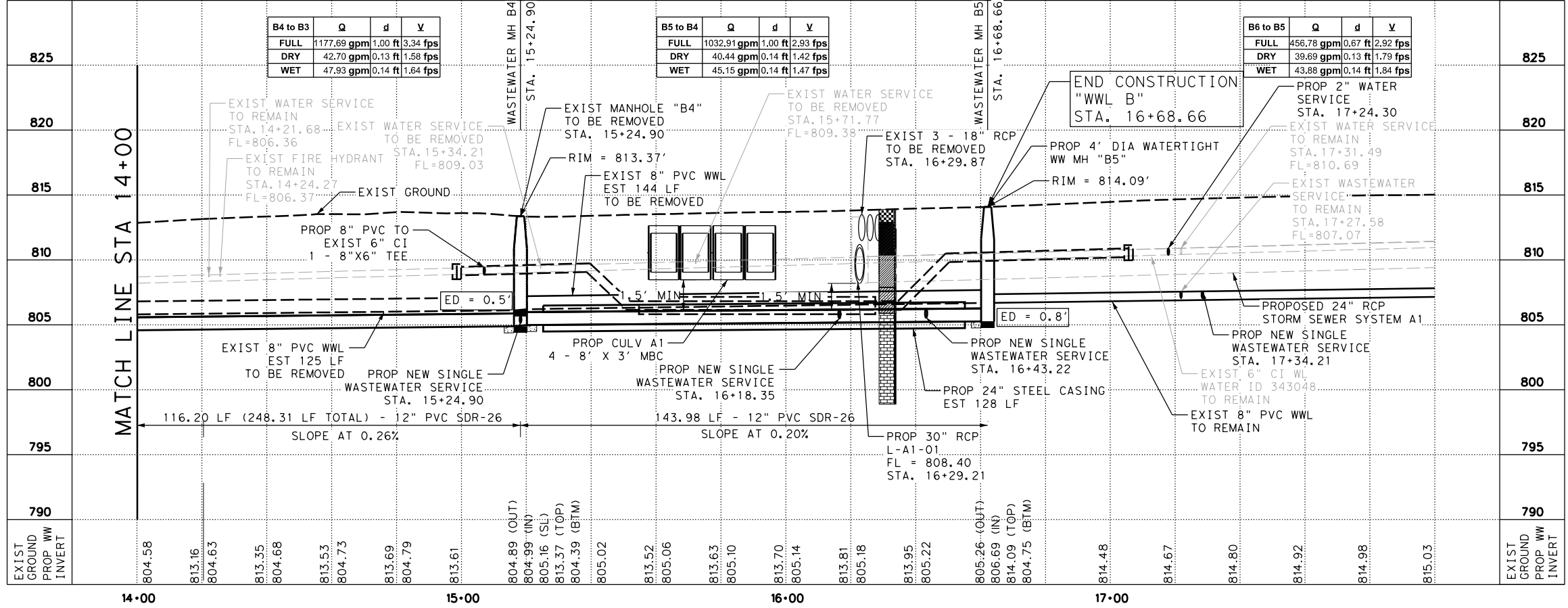
LEGEND

- EXIST ROW
- EXIST EASEMENT
- EXIST WW MAIN
- PROP WW MAIN
- WASTEWATER SERVICE TO BE REMOVED
- EXISTING STORM SEWER
- EXIST WW MANHOLE
- PROP WW MANHOLE
- EXIST WW LATERAL
- PROP WW LATERAL
- CEF LOCATION
- CEF SETBACK MITIGATION AREA

- NOTES**
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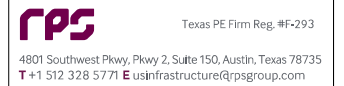


PARKWOOD DRIVE WASTEWATER LINE B "WWL B"



NO.	DATE	BY	REVISIONS

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 DATE 5/31/2024
 SHEET 1 OF 1

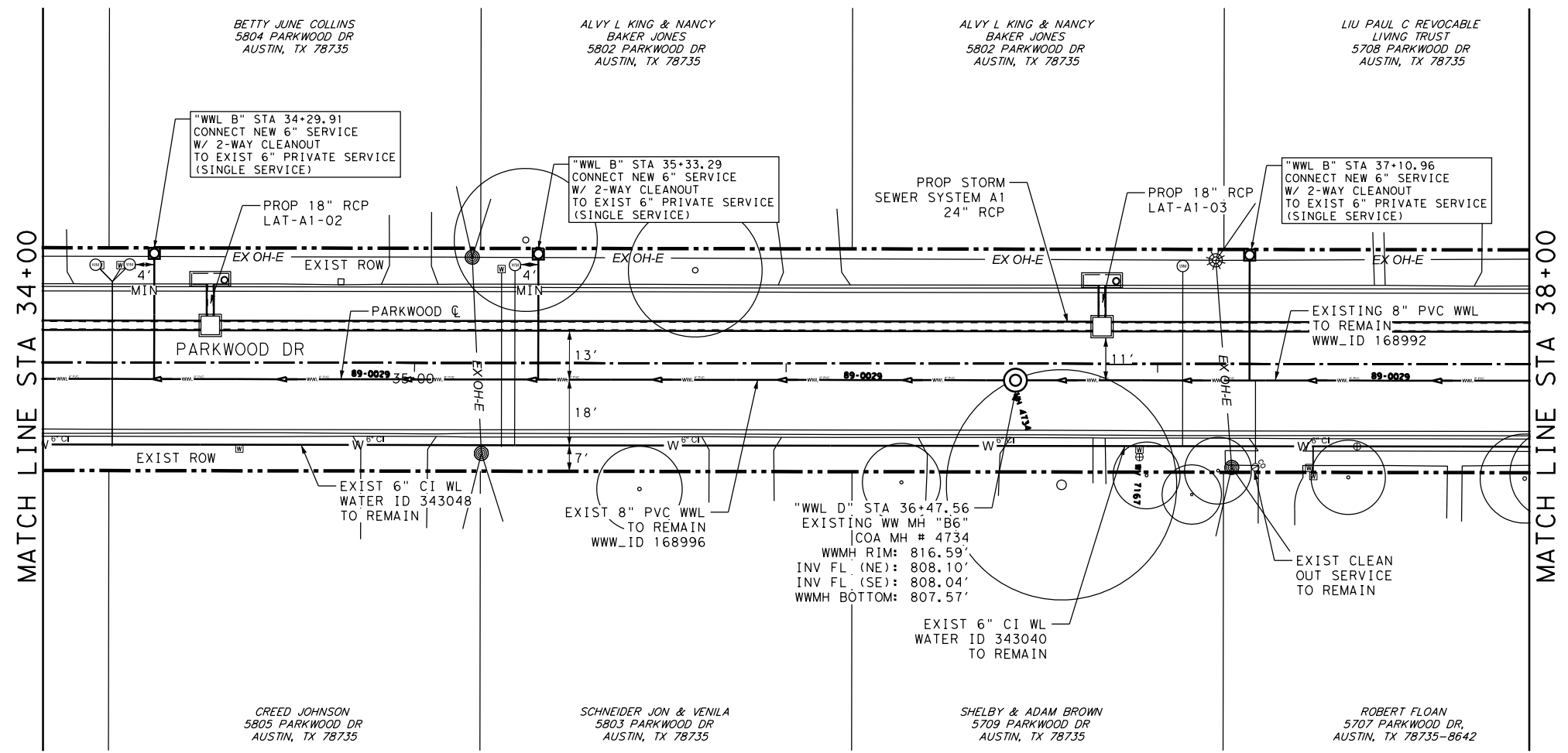


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 5/31/2024

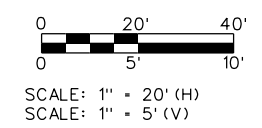
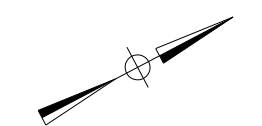
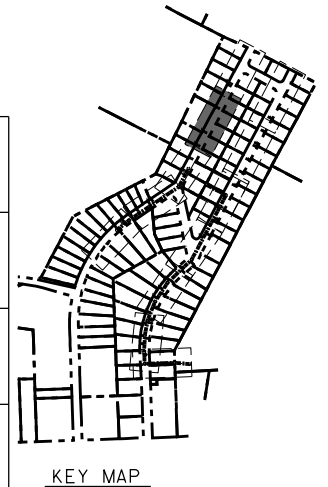
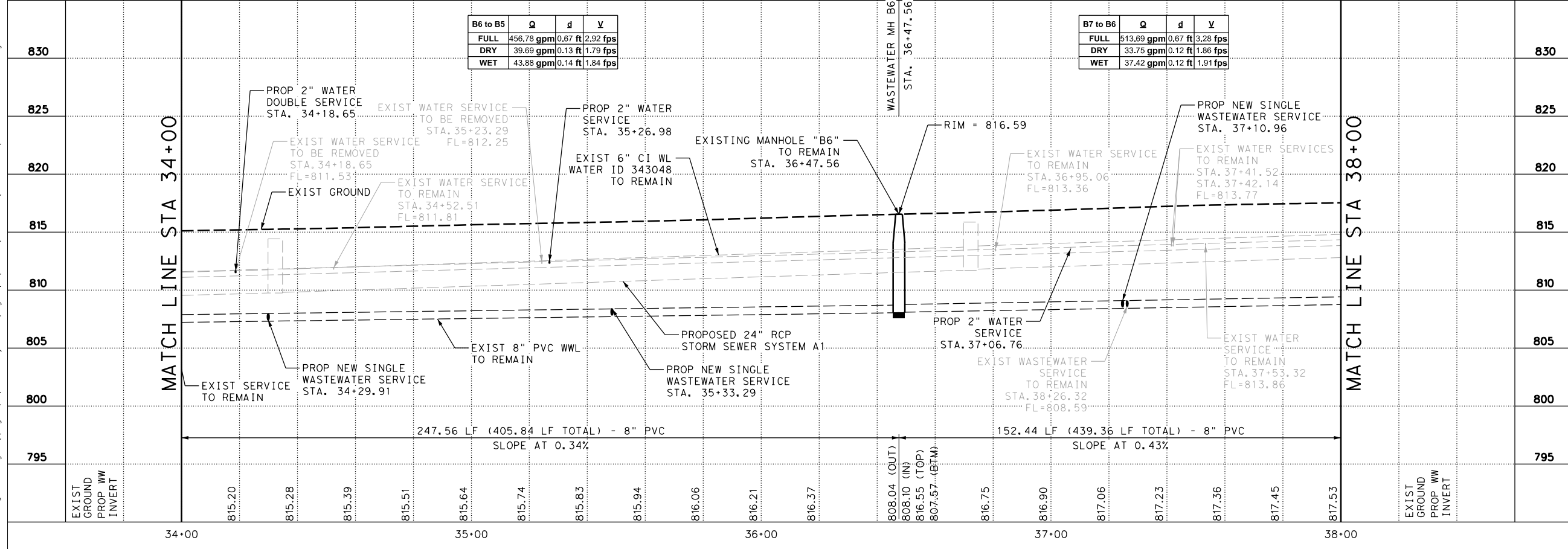
CITY OF AUSTIN
 BARTON CREEK OAK PARK
 FLOOD RISK REDUCTION PROJECT
 PARKWOOD DRIVE
 WASTEWATERLINE B "WWL B"
 STA. 34+00 TO STA. 38+00



- LEGEND**
- EXIST ROW
 - EXIST EASEMENT
 - EXIST WW MAIN
 - PROP WW MAIN
 - WASTEWATER SERVICE TO BE REMOVED
 - EXISTING STORM SEWER
 - EXIST WW MANHOLE
 - PROP WW MANHOLE
 - EXIST WW LATERAL
 - PROP WW LATERAL
 - CEF LOCATION
 - CEF SETBACK MITIGATION AREA

- NOTES**
- 1 ALL WASTEWATER SERVICE LINES SHALL BE 6" PVC ASTM D 3034 SDR 26, WITH GASKETED HEAVY WALL JOINTS MEETING ASTM D3212 PER SPL WW-227B1.
 - 2 ALL WASTEWATER SERVICE LINES SHALL HAVE A SLOPE NOT LESS THAN 1%.
 - 3 ALL WASTEWATER MANHOLES SHALL HAVE BOLTED WATERTIGHT COVERS.
 - 4 THE UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE AND FOR INFORMATION ONLY. CONTRACTOR IS RESPONSIBLE FOR LOCATING AND PROTECTING EXISTING WATER SERVICE RELAYS, WASTEWATER LATERALS, AND OTHER EXISTING UTILITIES DURING CONSTRUCTION. ANY REPAIRS OR TEMPORARY CONNECTIONS REQUIRED TO MAINTAIN SERVICE SHALL BE SUBSIDIARY TO PAY ITEM 510 PIPE.

PARKWOOD DRIVE WASTEWATER LINE B "WWL B"



NO.	DATE	BY	REVISIONS

SHEET INFORMATION
 DATE 5/31/2024
 SHEET 1 OF 1

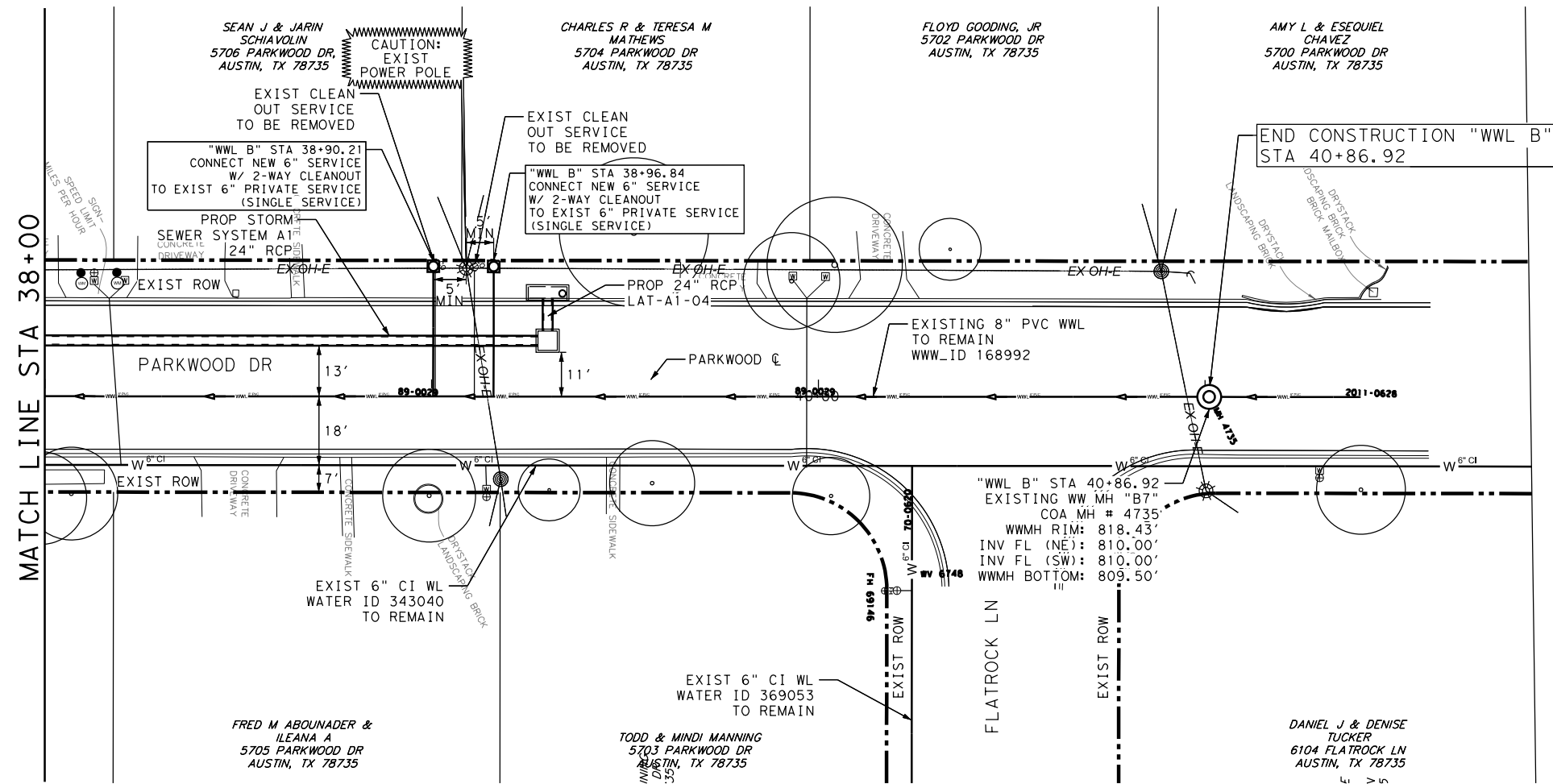
rps Texas PE Firm Reg. #F-293
 4801 Southwest Pkwy, Pkwy 2, Suite 150, Austin, Texas 78735
 T+1 512 328 5771 E+usinfrastructure@rpsgroup.com

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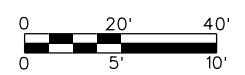
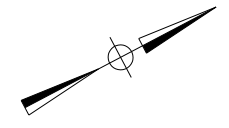
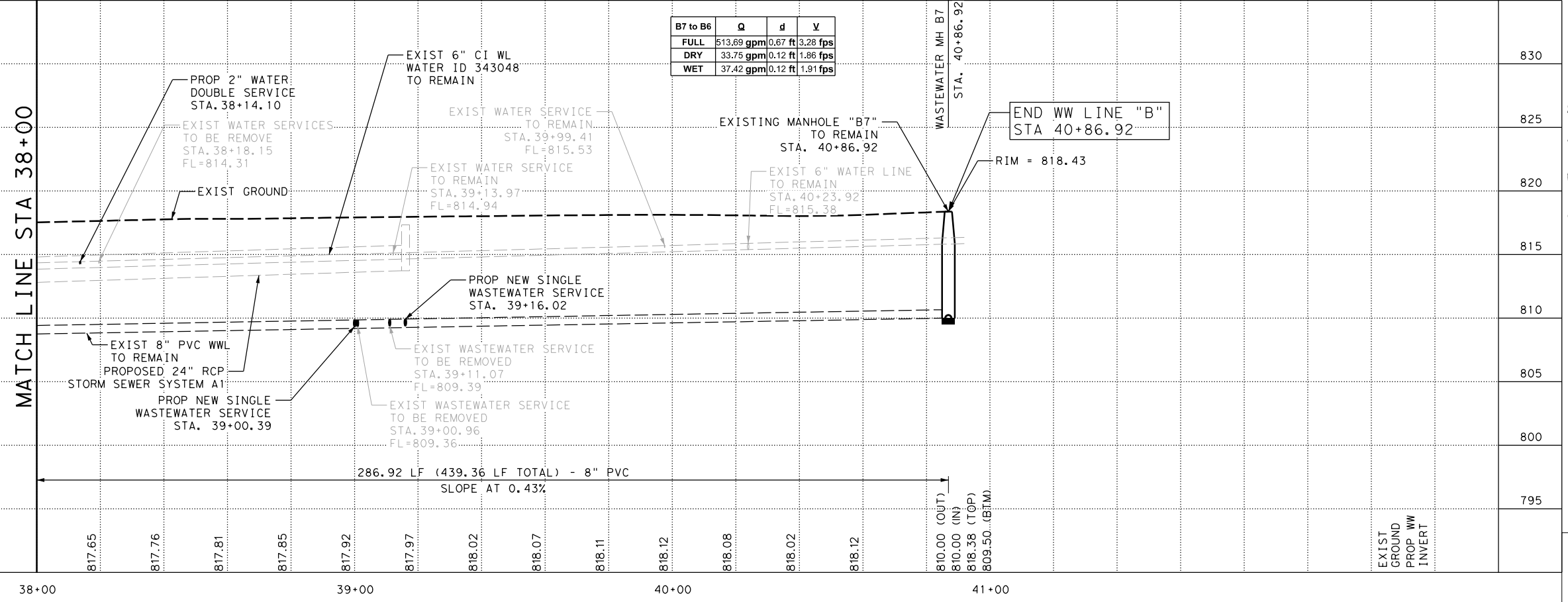
LEGEND

- EXIST ROW
- EXIST EASEMENT
- EXIST WW MAIN
- PROP WW MAIN
- WASTEWATER SERVICE TO BE REMOVED
- EXISTING STORM SEWER
- EXIST WW MANHOLE
- PROP WW MANHOLE
- EXIST WW LATERAL
- PROP WW LATERAL
- CEF LOCATION
- CEF SETBACK MITIGATION AREA

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PARKWOOD DRIVE WASTEWATER LINE B "WWL B"



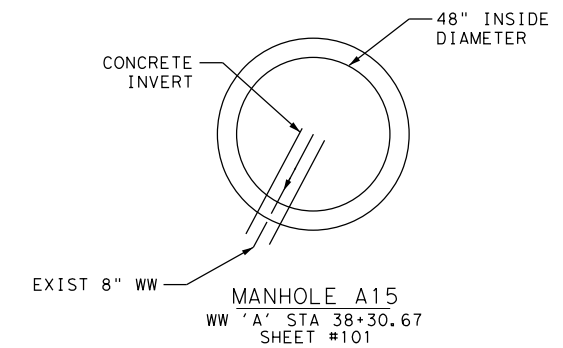
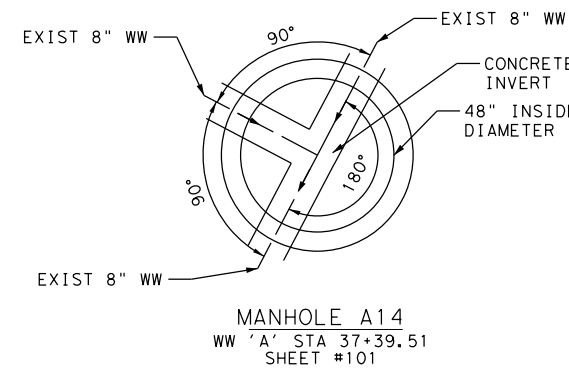
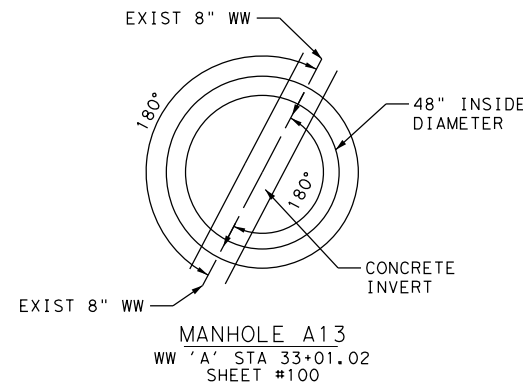
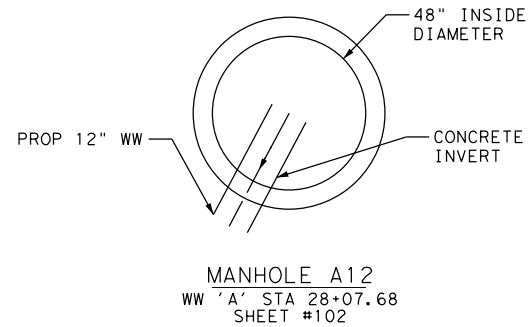
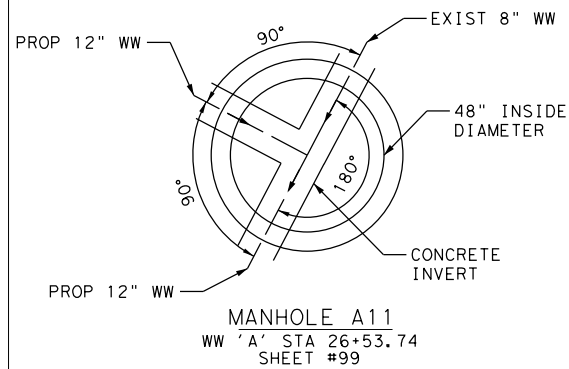
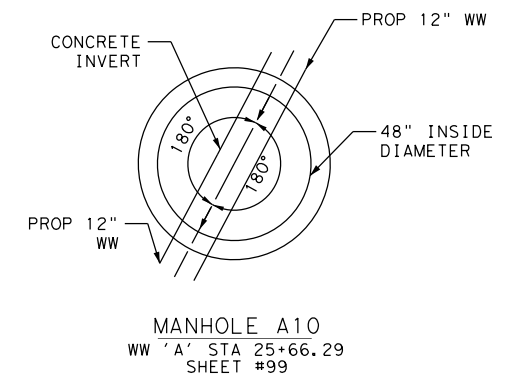
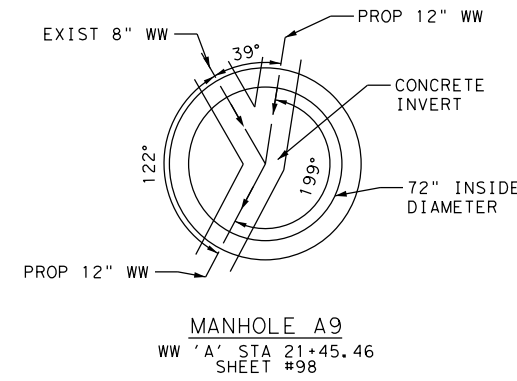
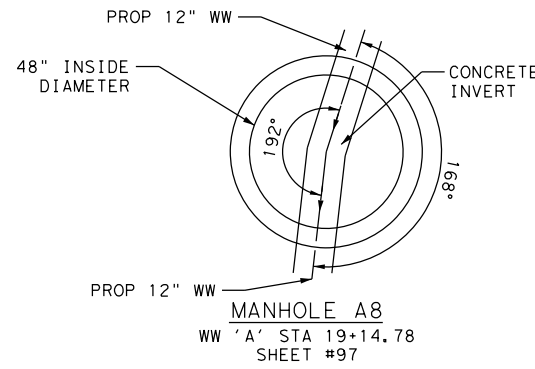
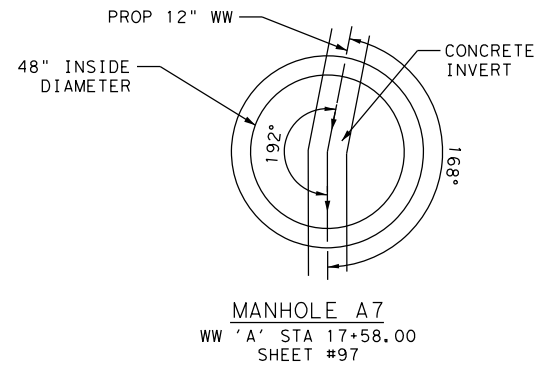
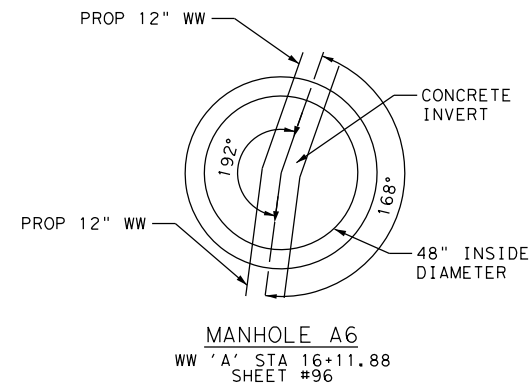
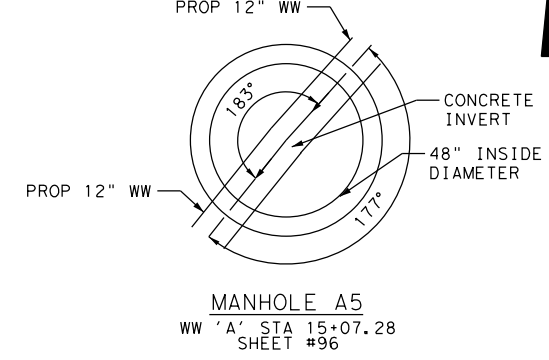
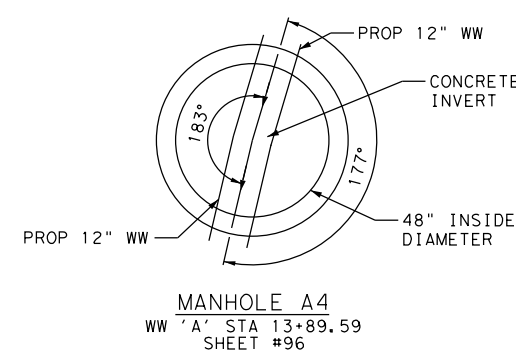
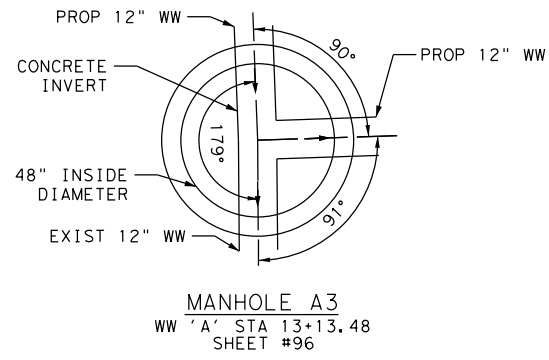
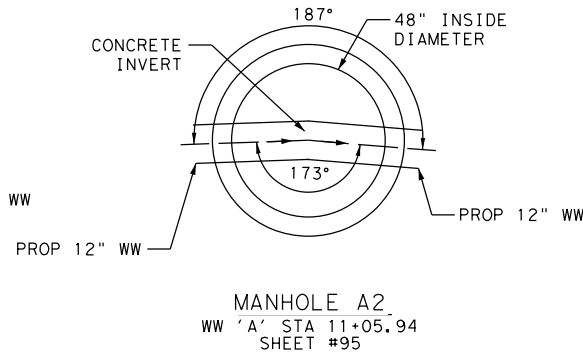
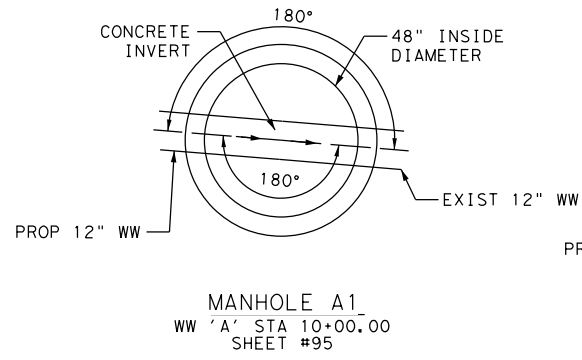
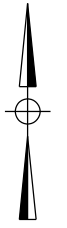
SCALE: 1" = 20' (H)
 SCALE: 1" = 5' (V)

NO.	DATE	BY	REVISIONS

SHEET INFORMATION
 DATE 5/31/2024
 SHEET 1 OF 1

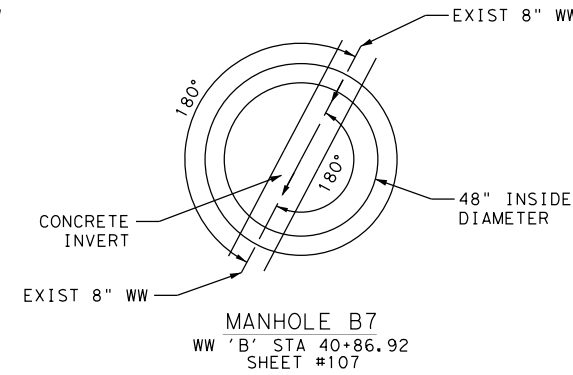
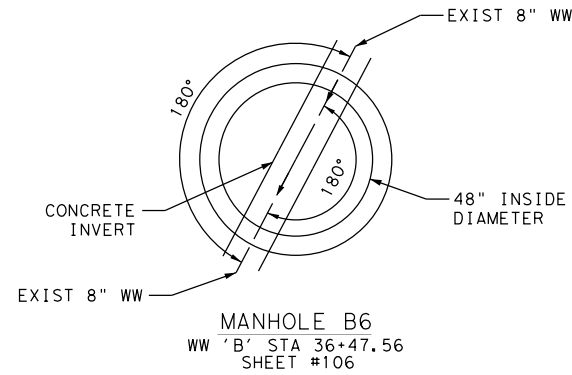
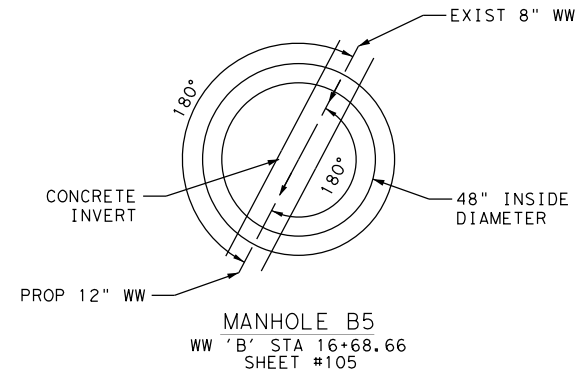
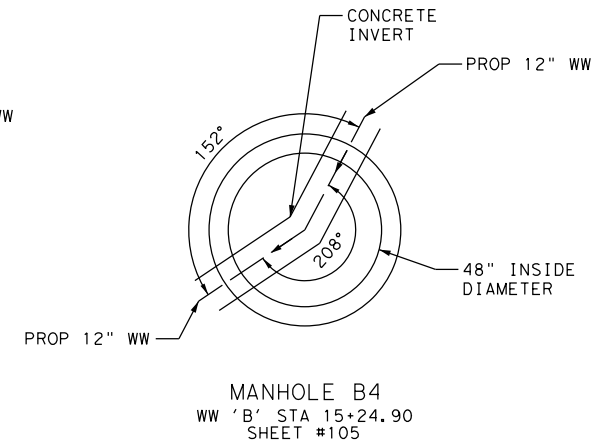
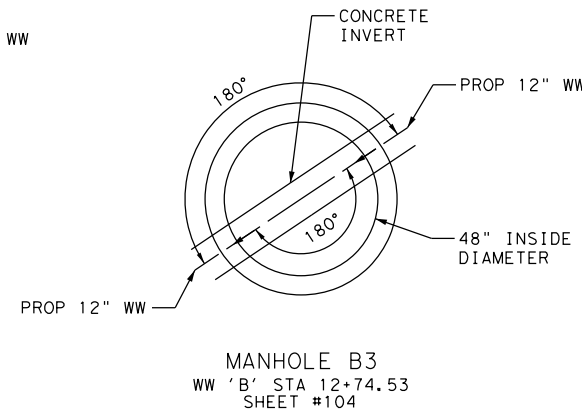
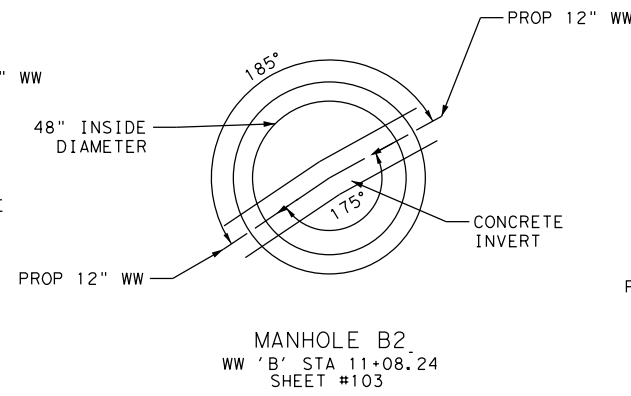
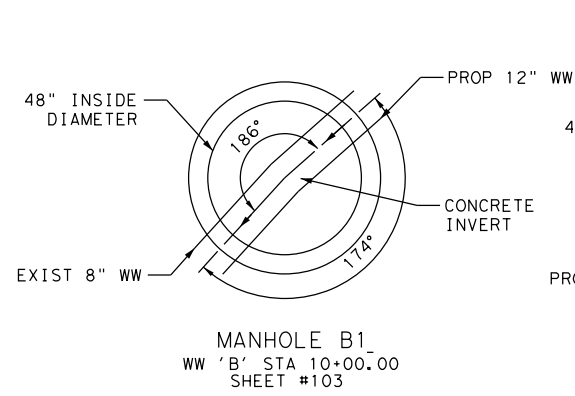
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CITY OF AUSTIN
 BARTON CREEK OAK PARK
 FLOOD RISK REDUCTION PROJECT
 WASTEWATER MANHOLE INVERTS SHEET 1 OF 2



NO.	BY	DATE	REVISIONS

SHEET INFORMATION
 DATE 5/31/2024
 SHEET 1 OF 1

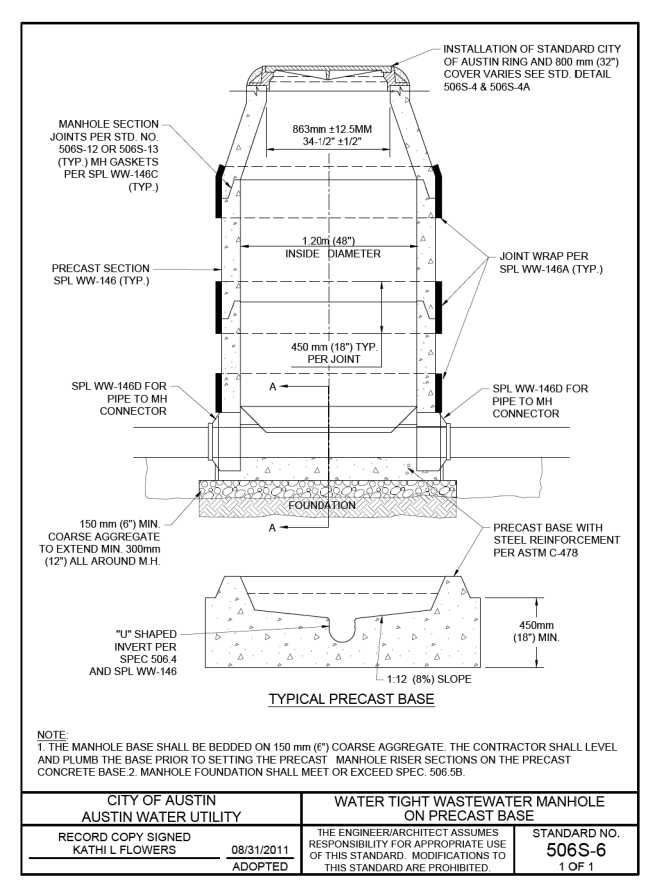
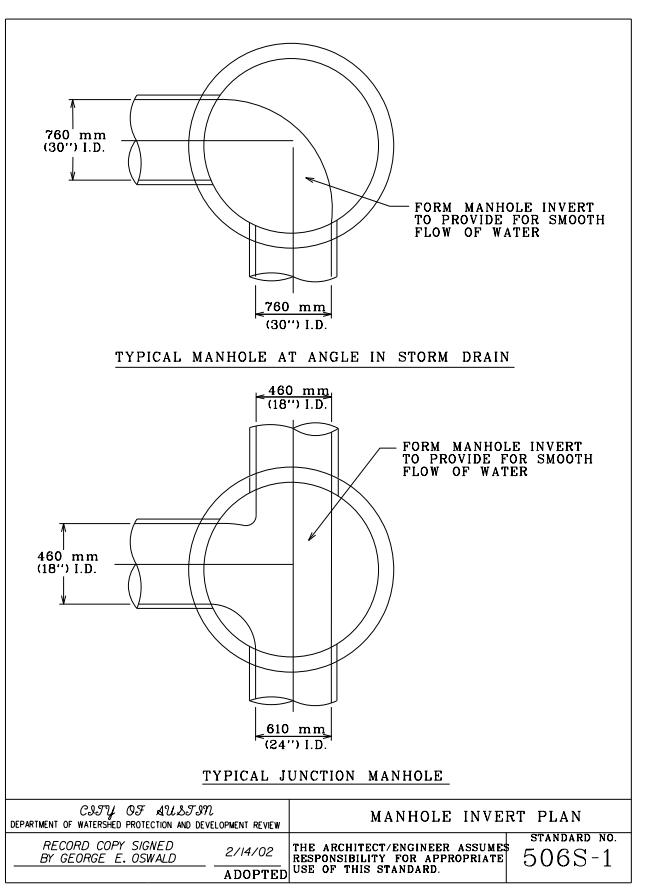
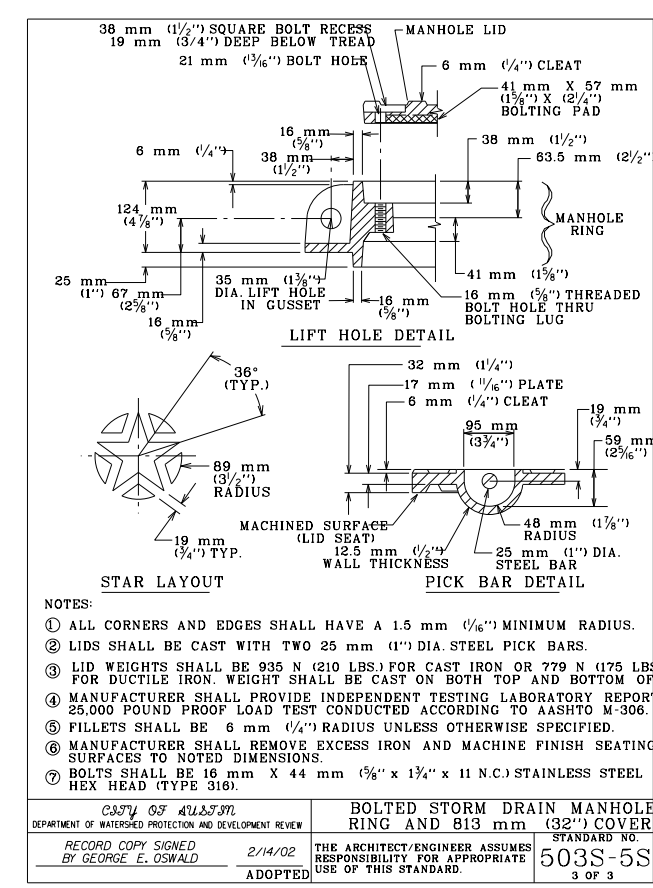
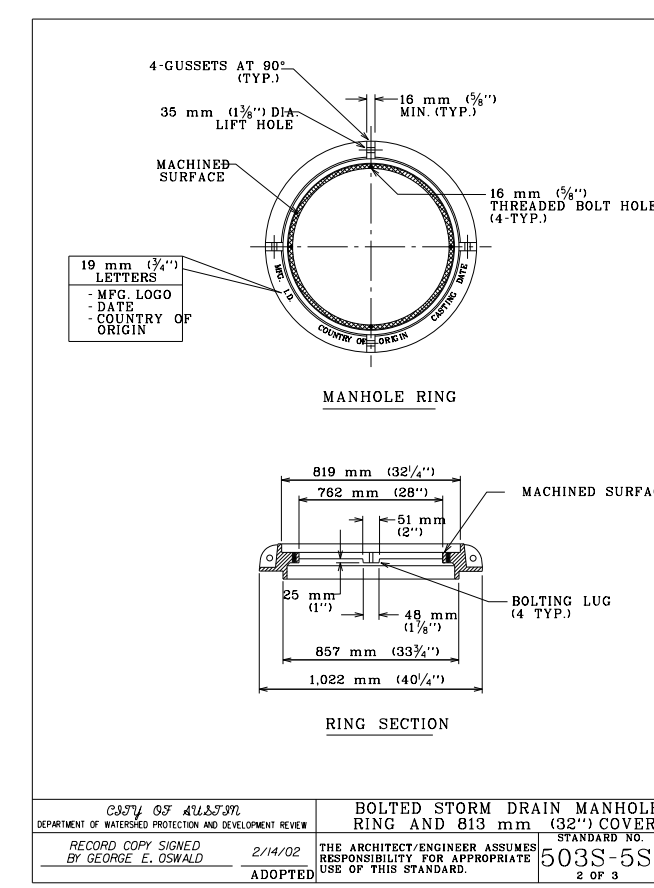
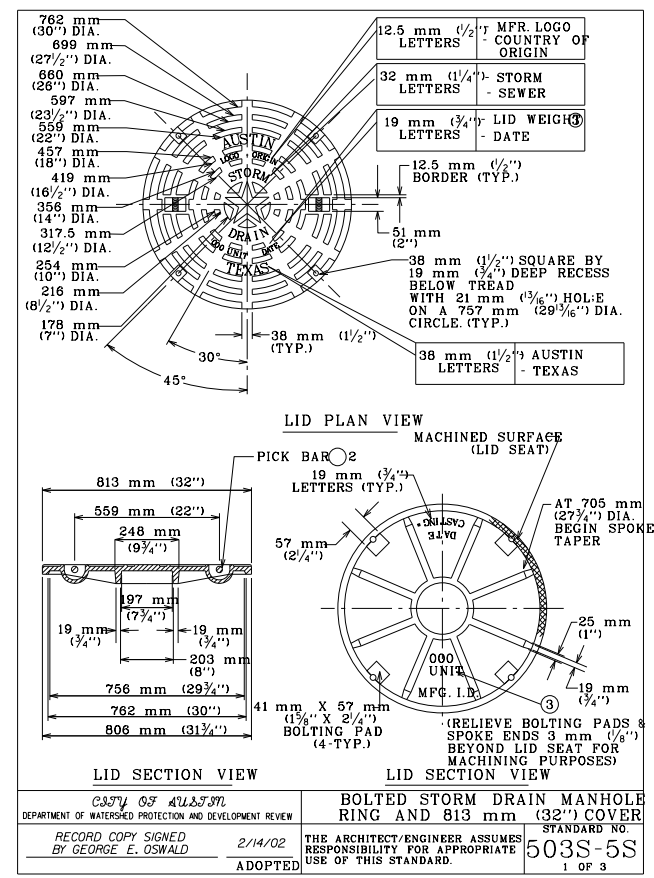
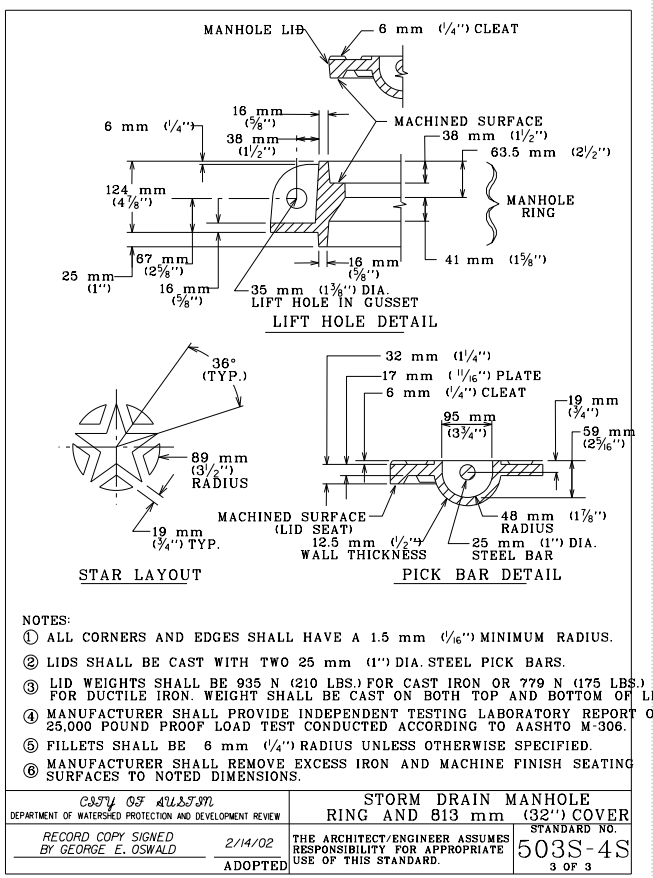
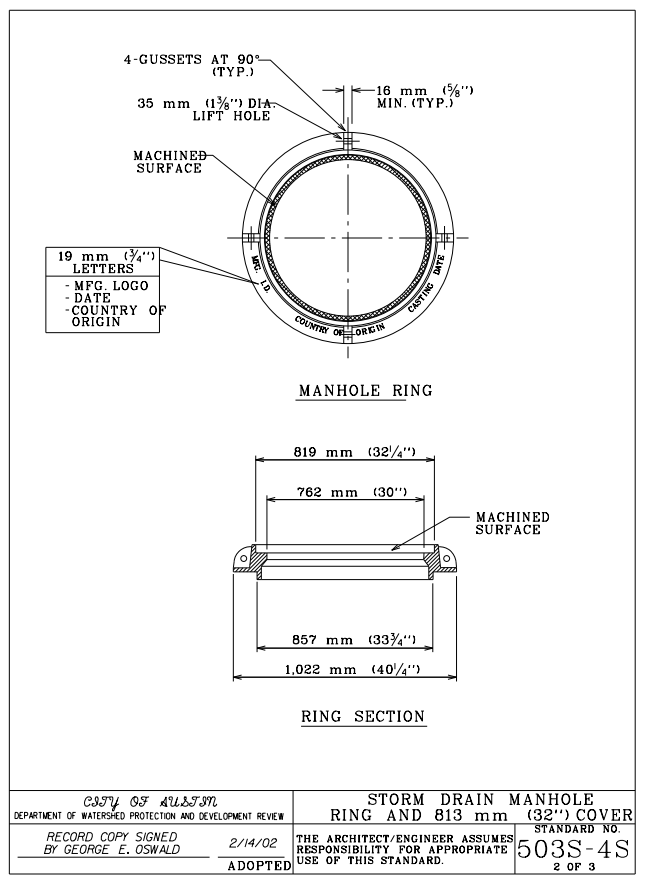
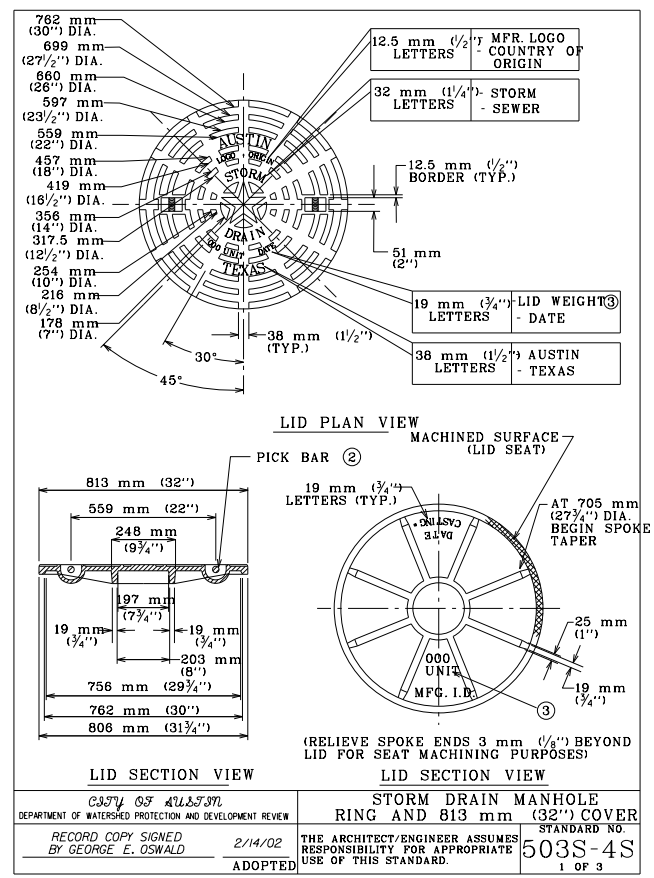


CITY OF AUSTIN
BARTON CREEK OAK PARK
FLOOD RISK REDUCTION PROJECT
WASTEWATER MANHOLE INVERTS SHEET 2 OF 2

NO.	BY	DATE	REVISIONS

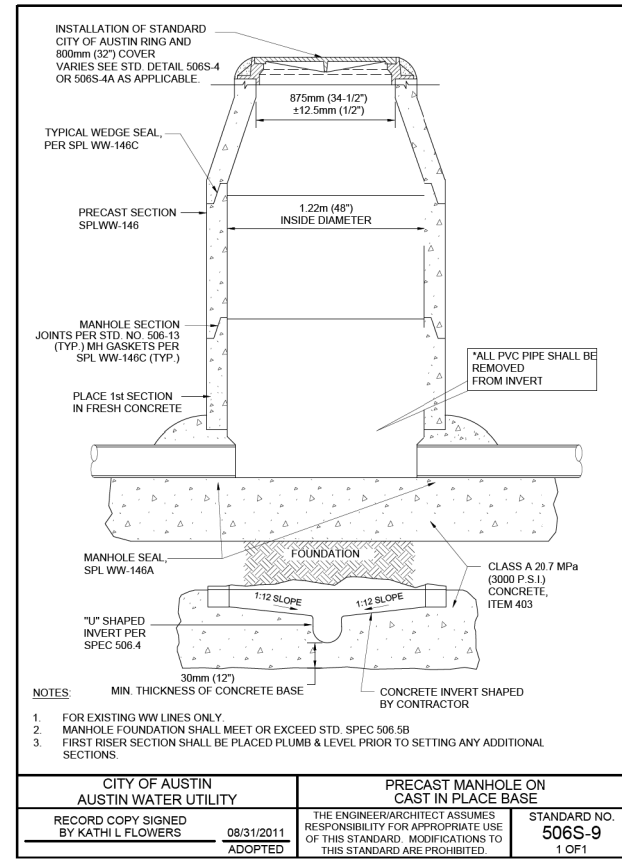
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 DATE 5/31/2024
 SHEET 1 OF 1

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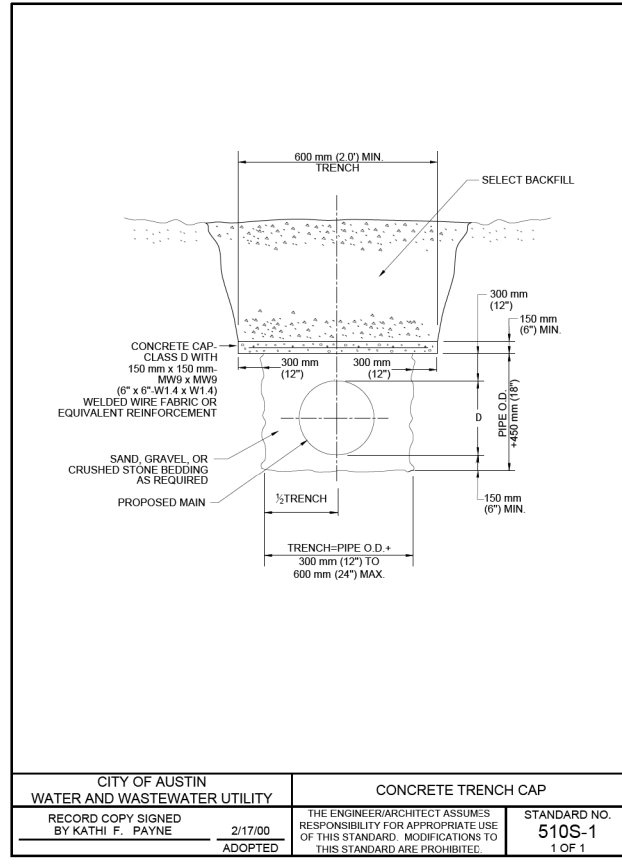


NO.	DATE	BY	REVISIONS

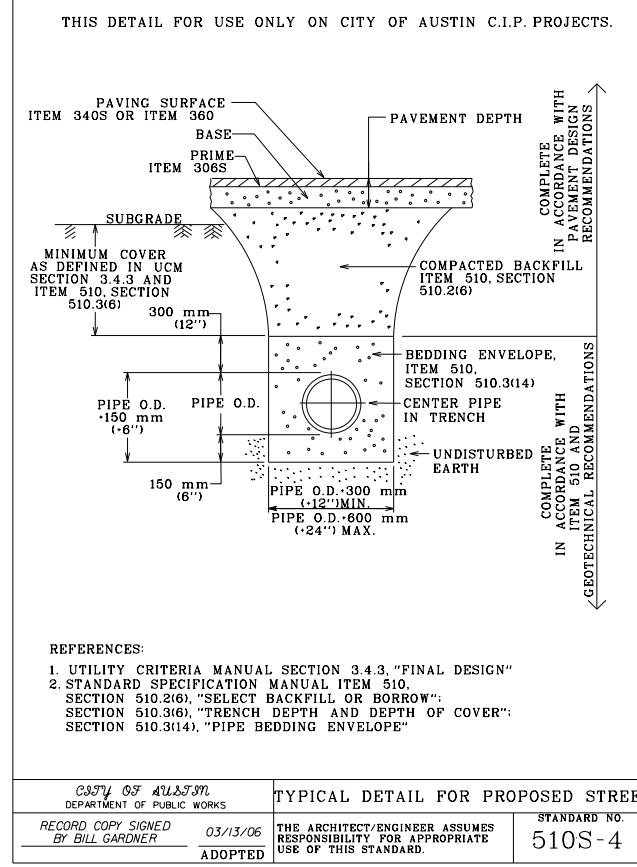
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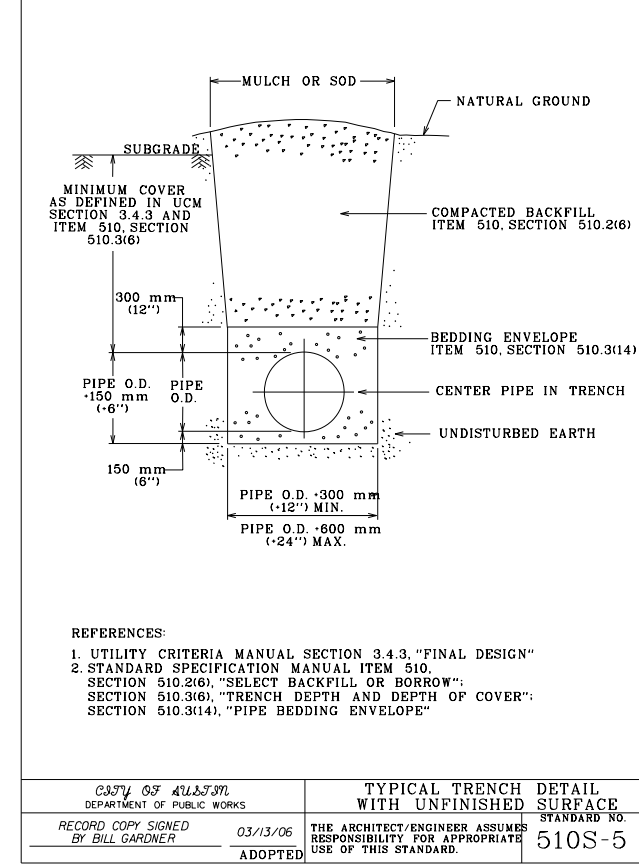
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RECORD COPY SIGNED BY KATHI L. FLOWERS	THE ENGINEER/ARCHITECT ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. MODIFICATIONS TO THIS STANDARD ARE PROHIBITED.	08/31/2011 ADOPTED



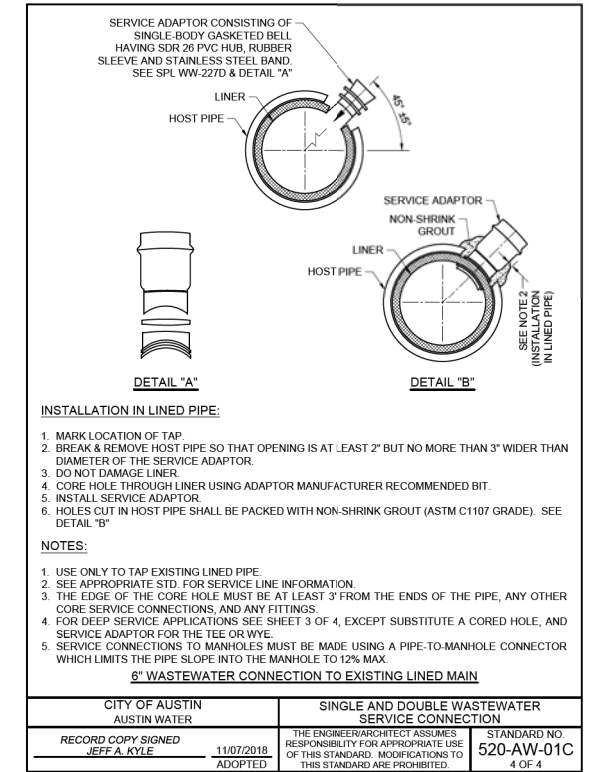
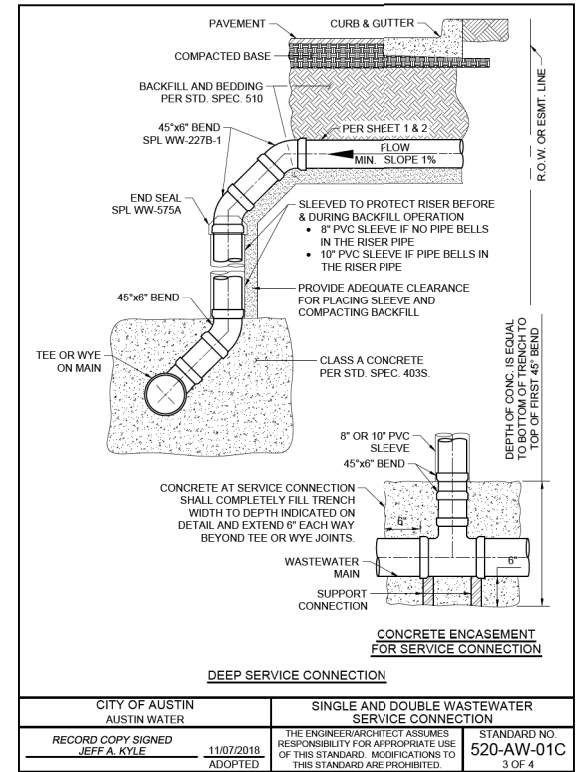
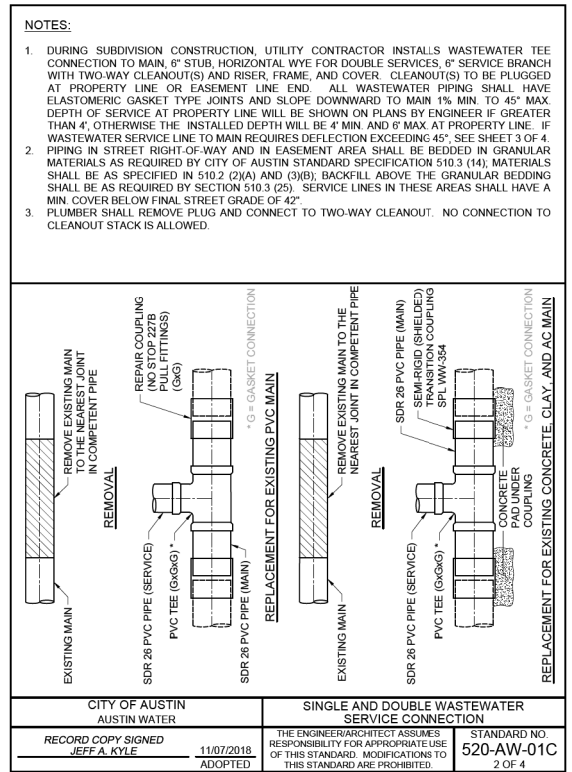
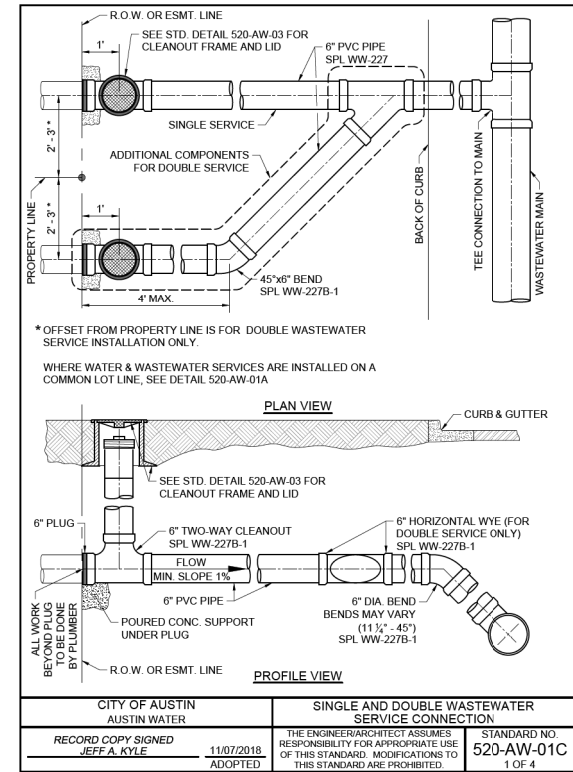
CITY OF AUSTIN WATER AND WASTEWATER UTILITY	CONCRETE TRENCH CAP	STANDARD NO. 510S-1 1 OF 1
RECORD COPY SIGNED BY KATHI F. PAYNE	THE ENGINEER/ARCHITECT ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. MODIFICATIONS TO THIS STANDARD ARE PROHIBITED.	2/17/00 ADOPTED



CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	TYPICAL DETAIL FOR PROPOSED STREET	STANDARD NO. 510S-4
RECORD COPY SIGNED BY BILL GARDNER	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	03/13/06 ADOPTED



CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	TYPICAL TRENCH DETAIL WITH UNFINISHED SURFACE	STANDARD NO. 510S-5
RECORD COPY SIGNED BY BILL GARDNER	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	03/13/06 ADOPTED



NO.	DATE	BY	REVISIONS

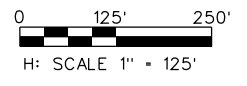
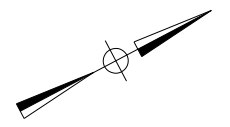
SHEET INFORMATION	DATE 5/31/2024
	SHEET 1 OF 1

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FIRE HYDRANT LOCATIONS			WATER VALVE LOCATIONS		
FH ID	NORTHING	EASTING	WV ID	NORTHING	EASTING
FHB1	10059154.89	3079580.78	WVB1	10059155.97	3079578.44
FHB2	10059688.43	3079959.41	WVB2	10059440.35	3079810.57
FHB3	10060211.00	3080237.51	WVB3	10059869.36	3080051.85
FHD1	10058156.28	3079023.63	WVD1	10058143.27	3078948.17
FHD2	10058561.21	3078997.00	WVD2	10058155.9	3079020.34
FHD3	10059042.36	3078991.93	WVD3	10059046.11	3078982.97
FHD4	10059447.5	3079132.24	WVD4	10060485.41	3080007.70
FHD5	10059854.26	3079620.22	WVG1	10060710.76	3080159.75
FHG1	10060706.84	3080161.60			

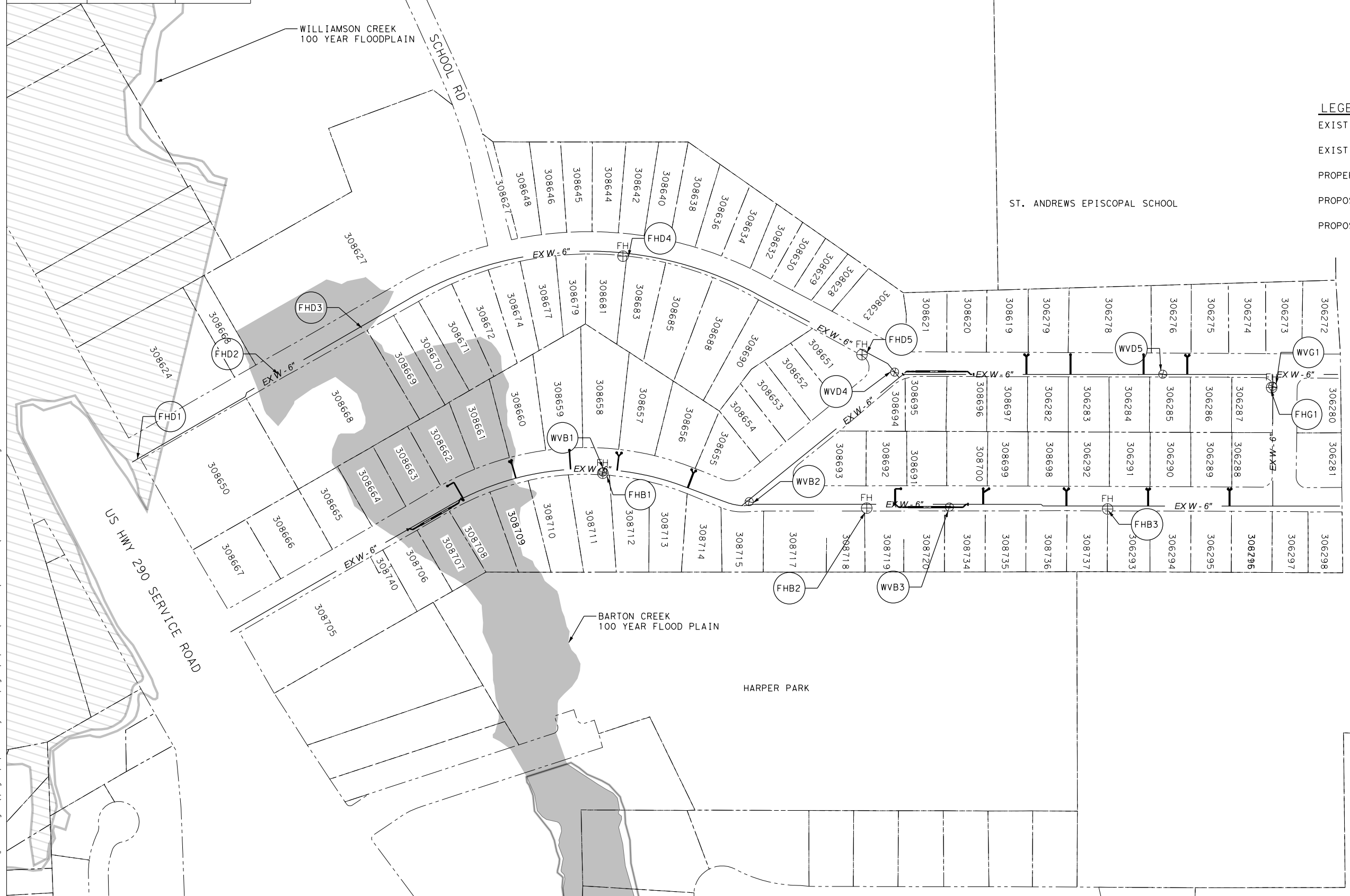


100% SUBMITTAL
 THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF INTERIM REVIEW. IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES. THIS DOCUMENT WAS CREATED UNDER THE AUTHORITY OF JOHN G. FRIEDMAN, P.E. TBPE #88486
 5/31/2024



LEGEND

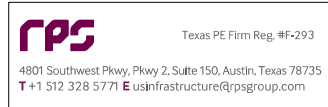
EXIST ROW	---
EXIST WATER MAIN	— EX W - 6" —
PROPERTY ID	XXXXXX
PROPOSED WATER VALVE	●
PROPOSED FIRE HYDRANT	⊕



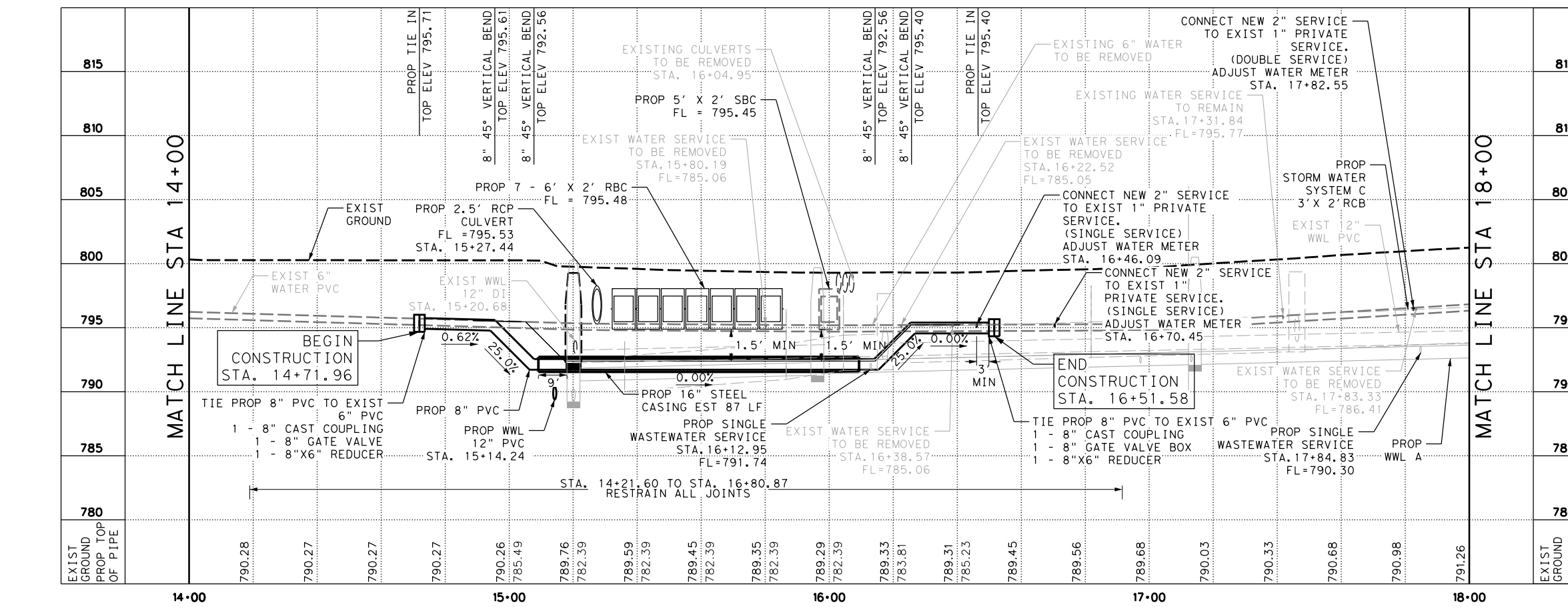
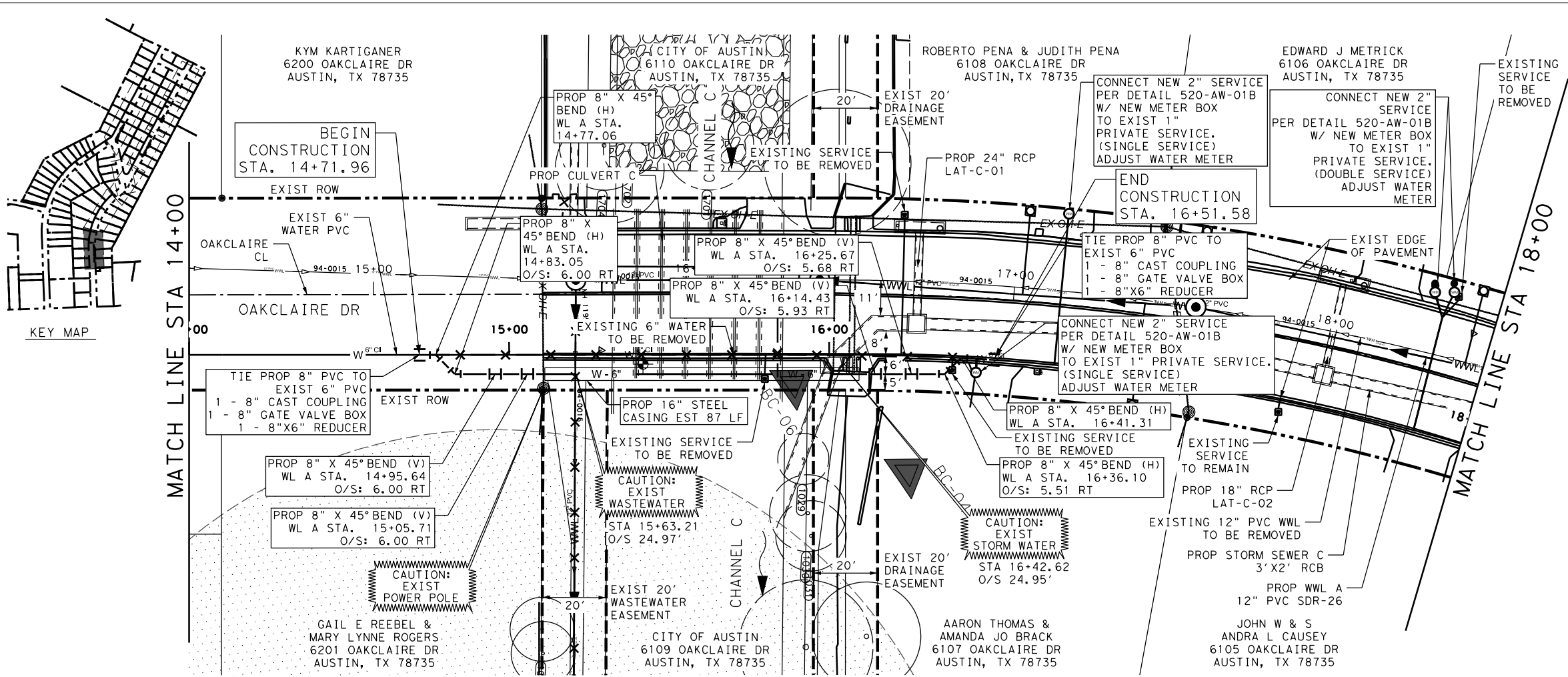
**CITY OF AUSTIN
 BARTON CREEK OAK PARK
 FLOOD RISK REDUCTION PROJECT
 PROPOSED WATERLINE
 OVERALL LAYOUT**

NO.	BY	DATE	REVISIONS

SHEET INFORMATION
 DATE 5/31/2024
 SHEET 1 OF 1



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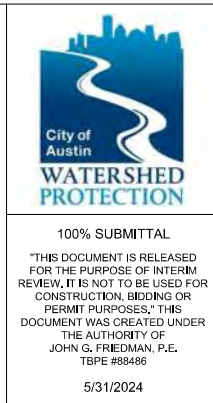
LEGEND

EXIST ROW	---
EXIST WATER MAIN	W 6" PVC
EXIST FIRE HYDRANT	FH
EXIST WATER VALVE	⊗
EXIST WATER METER	⊠
PROP WATER MAIN	W - 6"
PROP WATER VALVE	●
PROP WATER METER	⊙
PROP FIRE HYDRANT	⊕
CEF LOCATION	▲
CEF SETBACK MITIGATION AREA	[Hatched Box]

- NOTES**
- 1 ALL PROPOSED WATER MAIN PIPE SHALL BE PVC C900 DR-14.
 - 2 ALL WATER SERVICES SHALL BE INSTALLED ACCORDING TO CITY OF AUSTIN STANDARD 520-AW-01B.
 - 3 ALL FIRE HYDRANT LEAD LINES SHALL BE 6" DUCTILE IRON CLASS 350. THE CONTRACTOR SHALL REFER TO CITY OF AUSTIN STANDARD 511-AW-02 FOR FIRE HYDRANT DETAILS AND CONSTRUCTION METHODS.
 - 4 THE UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE AND FOR INFORMATION ONLY. CONTRACTOR IS RESPONSIBLE FOR LOCATING AND PROTECTING EXISTING WATER SERVICE RELAYS, WASTEWATER LATERALS, AND OTHER EXISTING UTILITIES DURING CONSTRUCTION. ANY REPAIRS OR TEMPORARY CONNECTIONS REQUIRED TO MAINTAIN SERVICE SHALL BE SUBSIDIARY TO PAY ITEM 510 PIPE.

THIS PROJECT REQUESTS A WAIVER FROM CITY OF AUSTIN'S UTILITY CRITERIA MANUAL SECTION 2.9.1.b.2 TO ALLOW THE INSTALLATION OF A PROP. 6" PVC WL WITHIN THE MINIMUM HORIZONTAL SEPARATION DISTANCE OF FIVE (5) FEET, BUT NO LESS THAN ONE (1) FOOT FROM PROP. CULVERT HEADWALL AT MEASURED FROM OD PIPE TO WALL

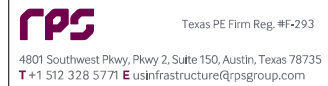
AUSTIN WATER UTILITY DATE



CITY OF AUSTIN
BARTON CREEK OAK PARK
FLOOD RISK REDUCTION PROJECT
OAKLAIRE DRIVE
WATERLINE A
BEGIN TO STA. 18+00

NO.	DATE	BY	REVISIONS

SHEET INFORMATION
 DATE 5/31/2024
 SHEET 1 OF 1



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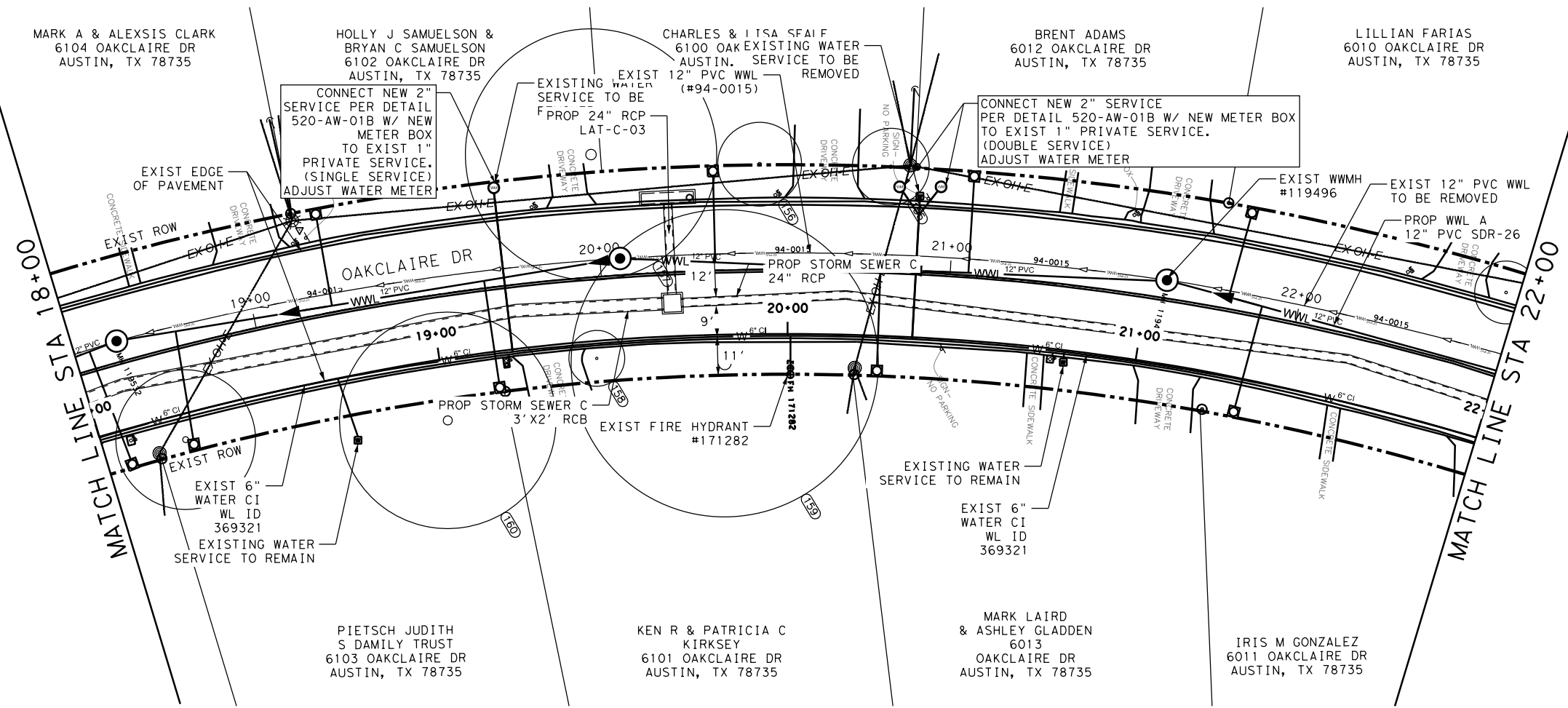
MARK A & ALEXSIS CLARK
6104 OAKCLAIRE DR
AUSTIN, TX 78735

HOLLY J SAMUELSON &
BRYAN C SAMUELSON
6102 OAKCLAIRE DR
AUSTIN, TX 78735

CHARLES & ITSA SFAIF
6100 OAKEXISTING WATER
AUSTIN. SERVICE TO BE
REMOVED

BRENT ADAMS
6012 OAKCLAIRE DR
AUSTIN, TX 78735

LILLIAN FARIAS
6010 OAKCLAIRE DR
AUSTIN, TX 78735



LEGEND

EXIST ROW

EXIST WATER MAIN

EXIST FIRE HYDRANT

EXIST WATER VALVE

EXIST WATER METER

PROP WATER MAIN

PROP WATER VALVE

PROP WATER METER

PROP FIRE HYDRANT

CEF LOCATION

CEF SETBACK MITIGATION AREA

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 - 4 THE UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE AND FOR INFORMATION ONLY. CONTRACTOR IS RESPONSIBLE FOR LOCATING AND PROTECTING EXISTING WATER SERVICE RELAYS, WASTEWATER LATERALS, AND OTHER EXISTING UTILITIES DURING CONSTRUCTION. ANY REPAIRS OR TEMPORARY CONNECTIONS REQUIRED TO MAINTAIN SERVICE SHALL BE SUBSIDIARY TO PAY ITEM 510 PIPE.

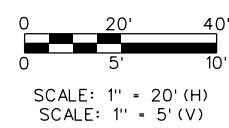
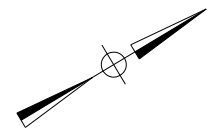
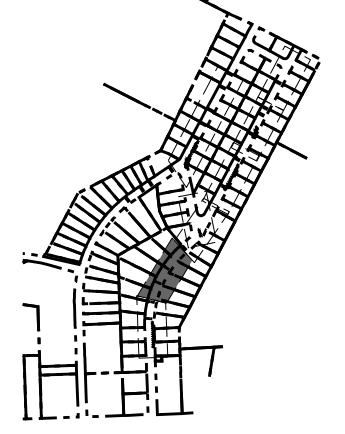
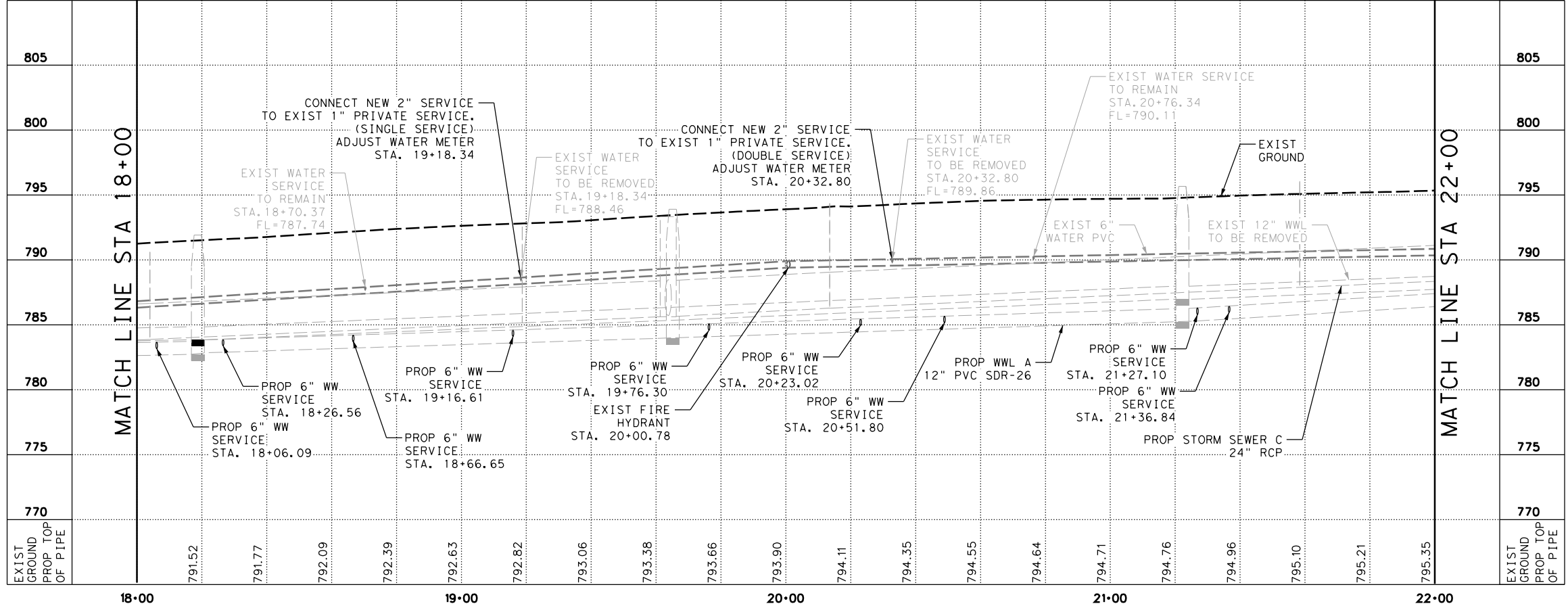
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5/31/2024

CITY OF AUSTIN
BARTON CREEK OAK PARK
FLOOD RISK REDUCTION PROJECT
OAKCLAIRE DRIVE
WATERLINE A
STA. 18+00 TO STA. 22+00

OAKCLAIRE DRIVE WATER LINE A



NO.	DATE	BY	REVISIONS

SHEET INFORMATION

DATE 5/31/2024

SHEET 1 OF 1

RPS Texas PE Firm Reg. #F-293
4801 Southwest Pkwy, Pkwy 2, Suite 150, Austin, Texas 78735
T+1 512 328 5771 E usinfr@rpsgroup.com

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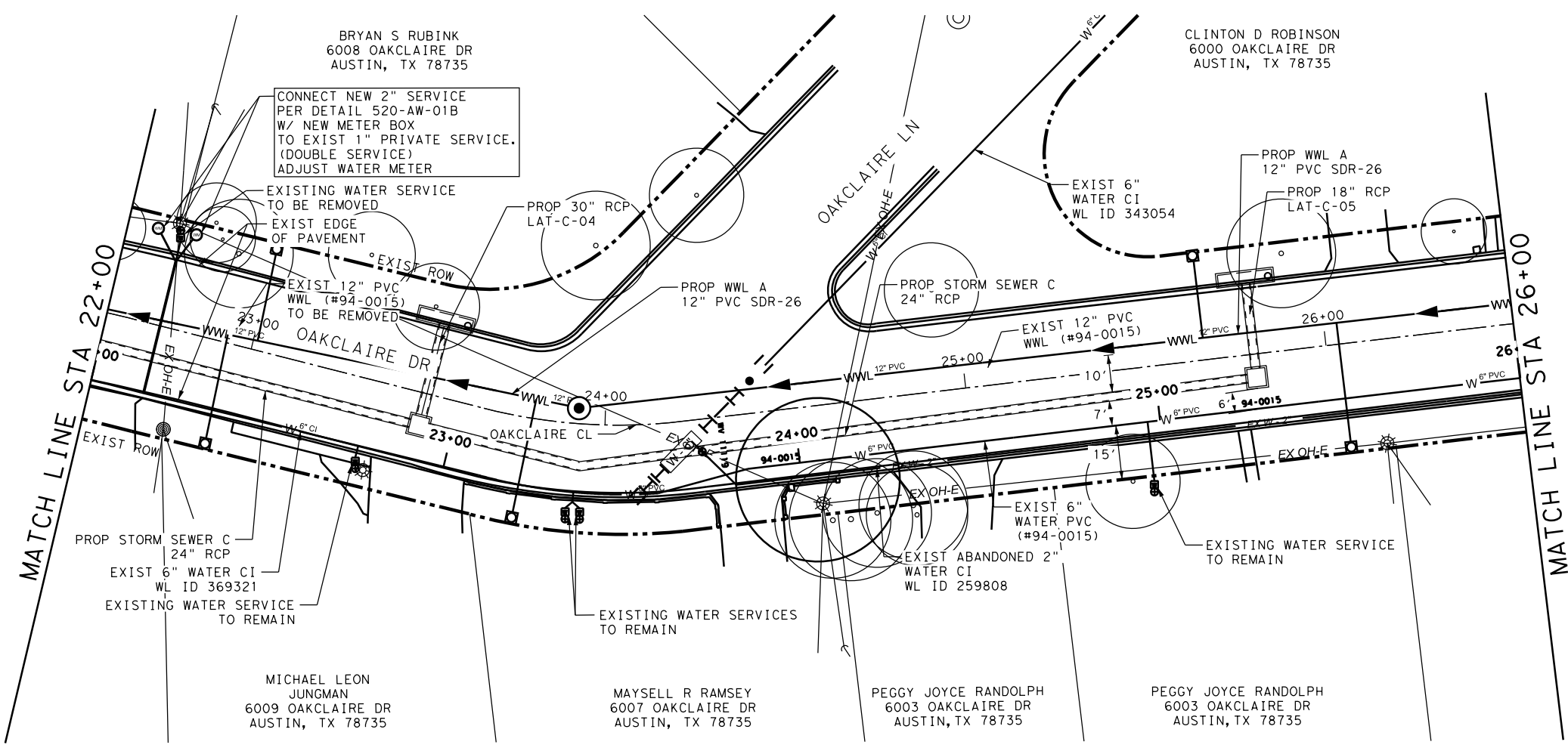
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 5/31/2024

CITY OF AUSTIN
 BARTON CREEK OAK PARK
 FLOOD RISK REDUCTION PROJECT
 OAKCLAIRE DRIVE
 WATERLINE A
 STA. 22+00 TO STA. 26+00

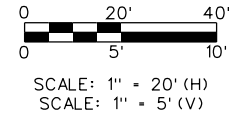
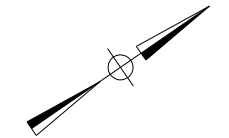
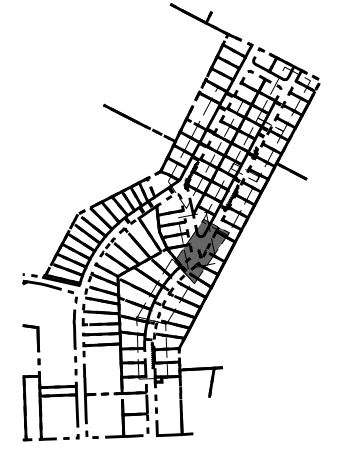
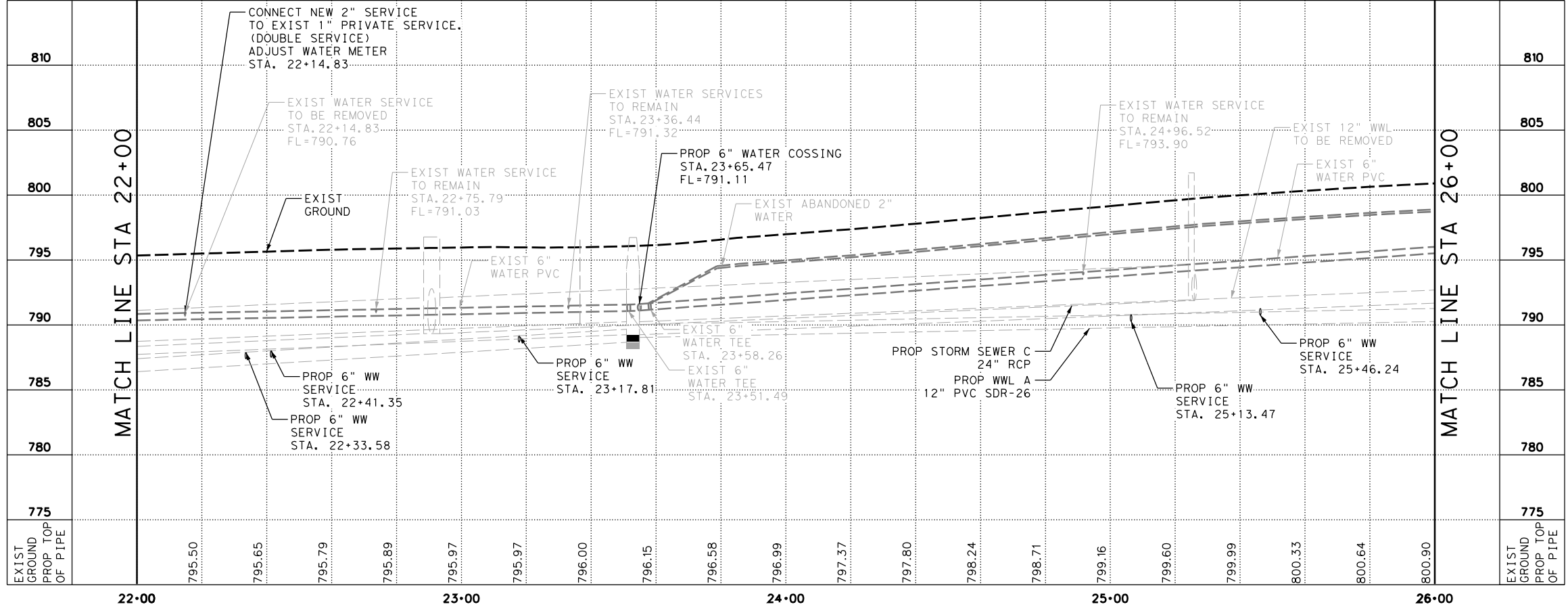
LEGEND

EXIST ROW	---
EXIST WATER MAIN	W 6" PVC
EXIST FIRE HYDRANT	FH
EXIST WATER VALVE	⊗
EXIST WATER METER	⊞
PROP WATER MAIN	W - 6"
PROP WATER VALVE	●
PROP WATER METER	⊞
PROP FIRE HYDRANT	⊞
CEF LOCATION	▲
CEF SETBACK MITIGATION AREA	[Hatched Box]

- NOTES**
- 1 ALL PROPOSED WATER MAIN PIPE SHALL BE PVC C900 DR-14.
 - 2 ALL WATER SERVICES SHALL BE INSTALLED ACCORDING TO CITY OF AUSTIN STANDARD 520-AW-01B.
 - 3 ALL FIRE HYDRANT LEAD LINES SHALL BE 6" DUCTILE IRON CLASS 350. THE CONTRACTOR SHALL REFER TO CITY OF AUSTIN STANDARD 511-AW-02 FOR FIRE HYDRANT DETAILS AND CONSTRUCTION METHODS.
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OAKCLAIRE DRIVE WATER LINE A

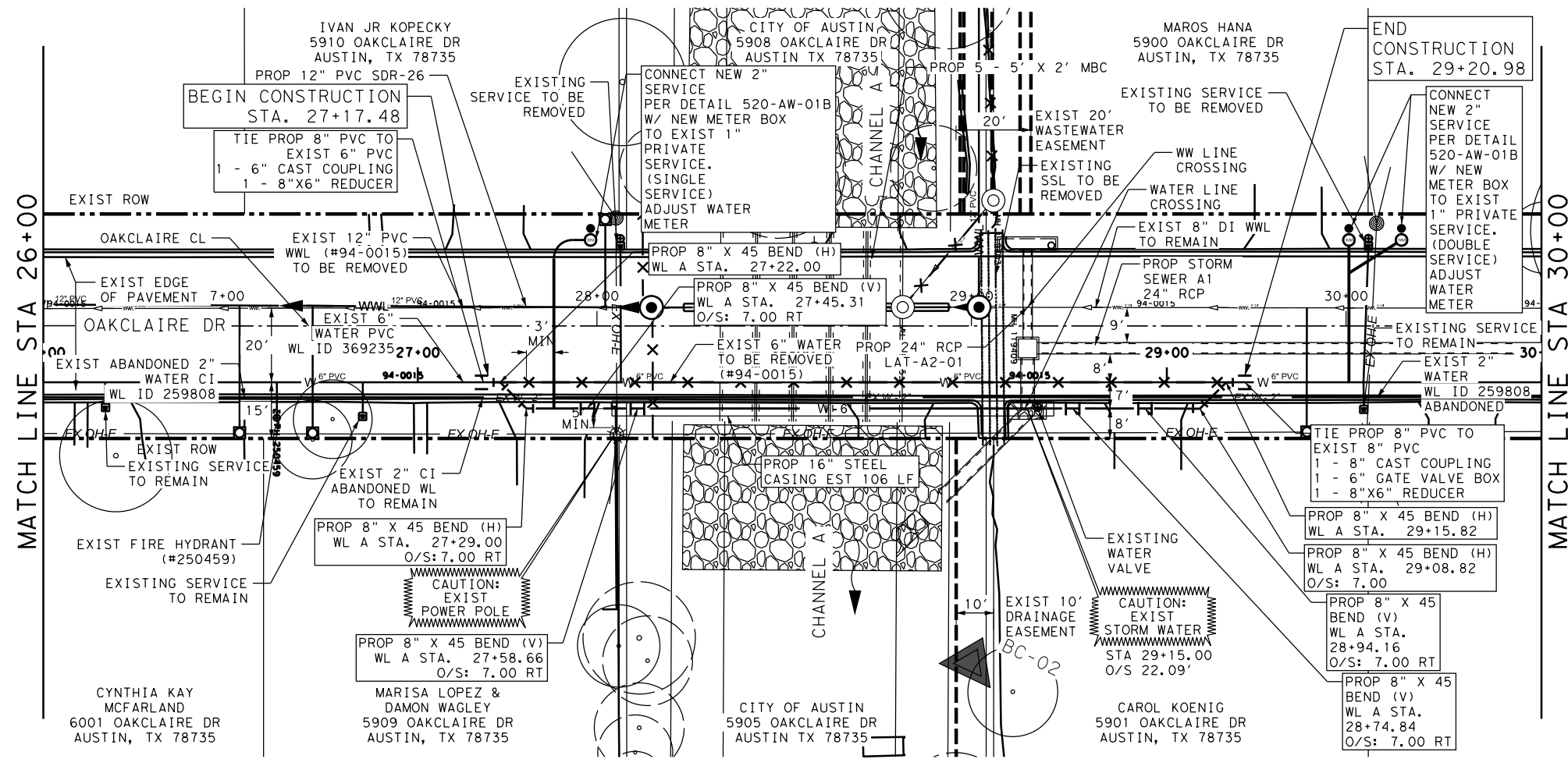


NO.	DATE	BY	REVISIONS

SHEET INFORMATION
 DATE 5/31/2024
 SHEET 1 OF 1

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 4801 Southwest Pkwy, Pkwy 2, Suite 150, Austin, Texas 78735
 T+1 512 328 5771 E+usinfrastructure@rpsgroup.com

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LEGEND

EXIST ROW

EXIST WATER MAIN

EXIST FIRE HYDRANT

EXIST WATER VALVE

EXIST WATER METER

PROP WATER MAIN

PROP WATER VALVE

PROP WATER METER

PROP FIRE HYDRANT

CEF LOCATION

CEF SETBACK MITIGATION AREA

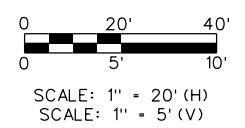
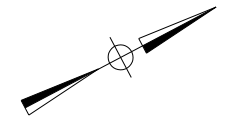
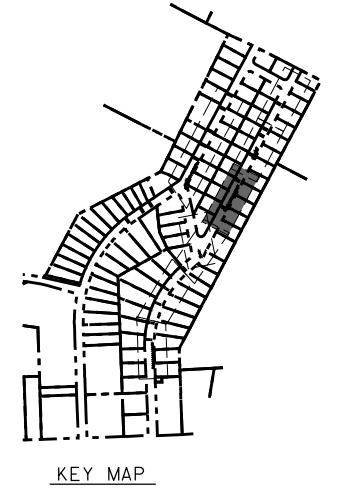
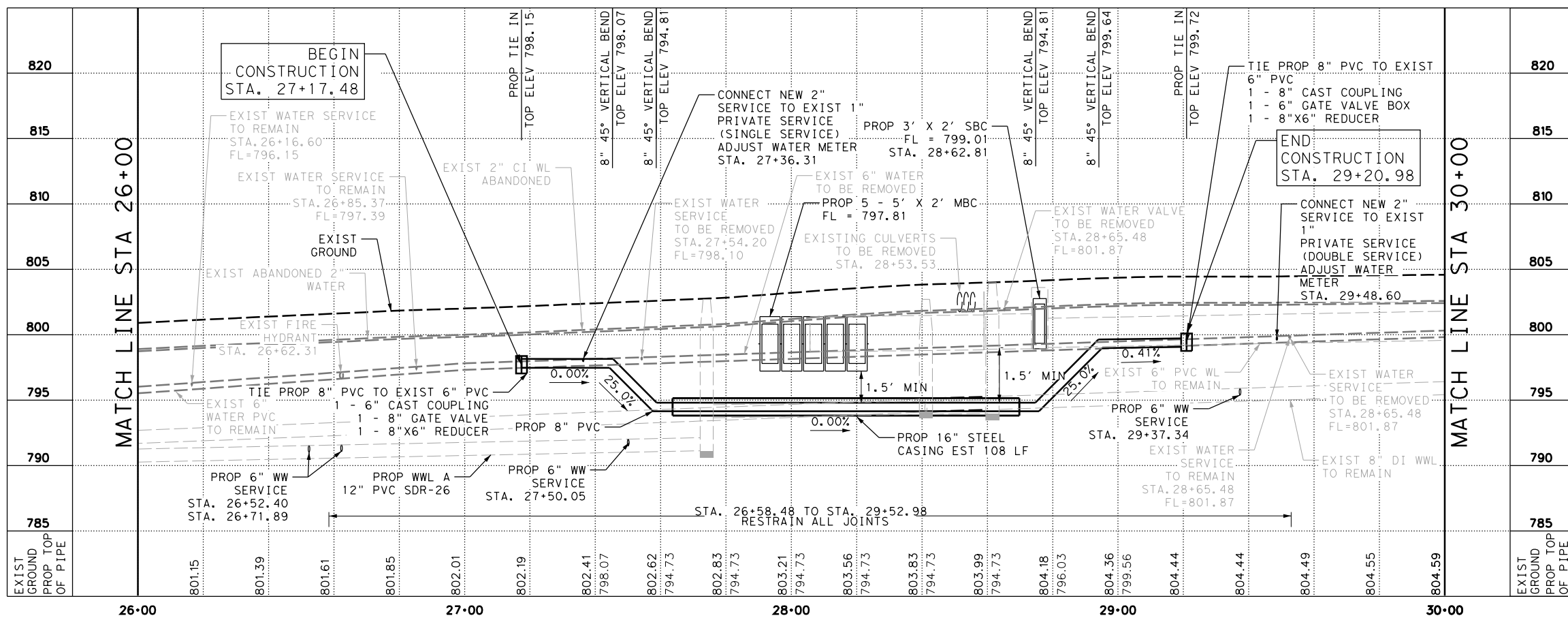
- NOTES**
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5/31/2024

CITY OF AUSTIN
BARTON CREEK OAK PARK
FLOOD RISK REDUCTION PROJECT
OAKCLAIRE DRIVE
WATERLINE A
STA. 26+00 TO STA. 30+00



NO.	DATE	BY	REVISIONS

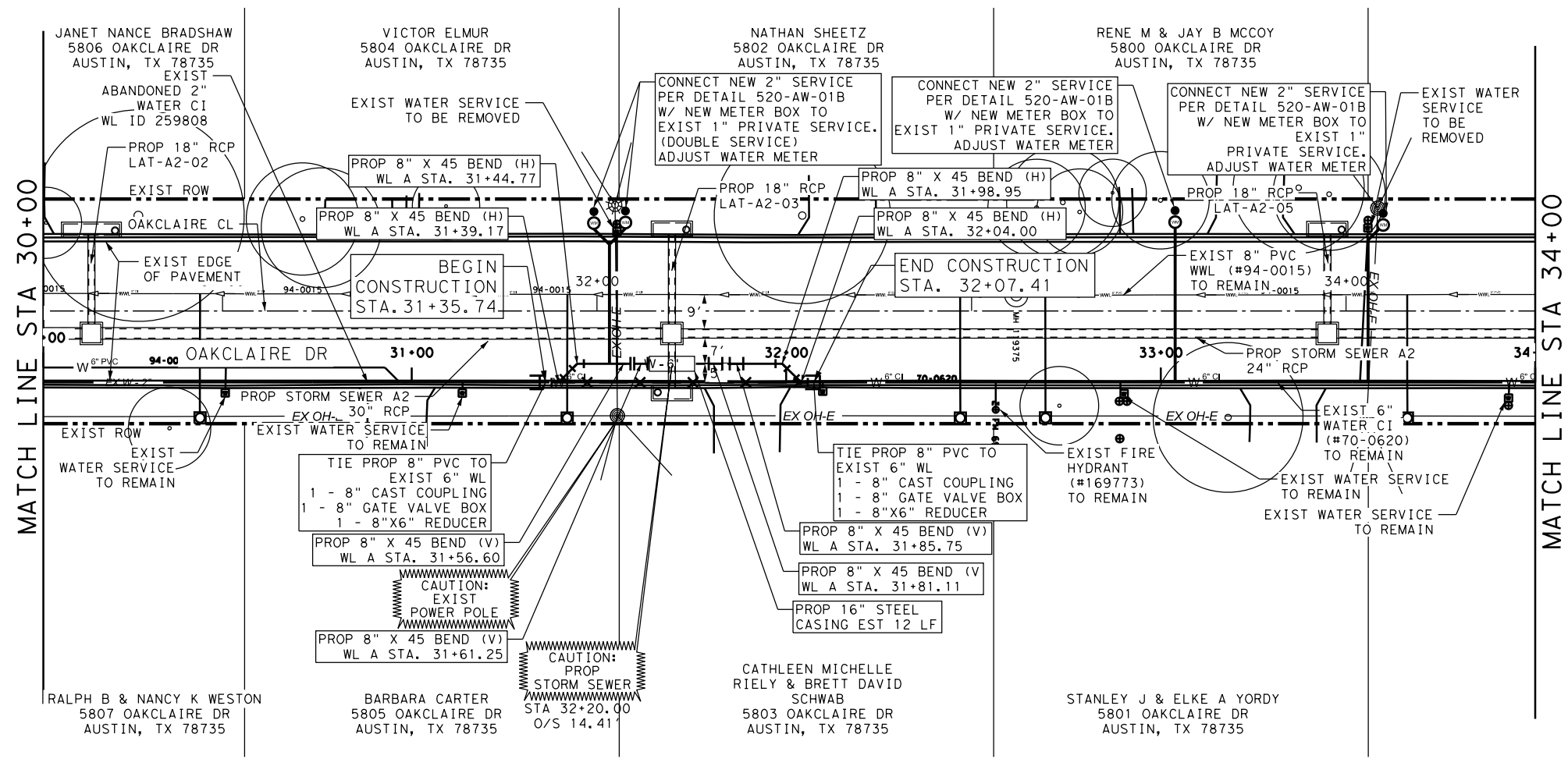
SHEET INFORMATION

DATE 5/31/2024

SHEET 1 OF 1

RPS
Texas PE Firm Reg. #F-293
4801 Southwest Pkwy, Pkwy 2, Suite 150, Austin, Texas 78735
T+1 512 328 5771 E+usinfo@rpsgroup.com

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OAKLAIRE DRIVE WATER LINE A

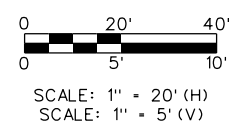
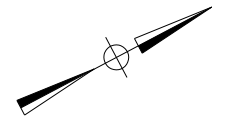
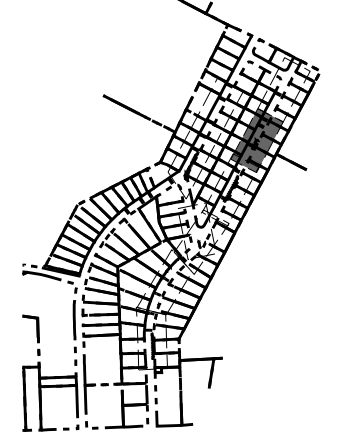
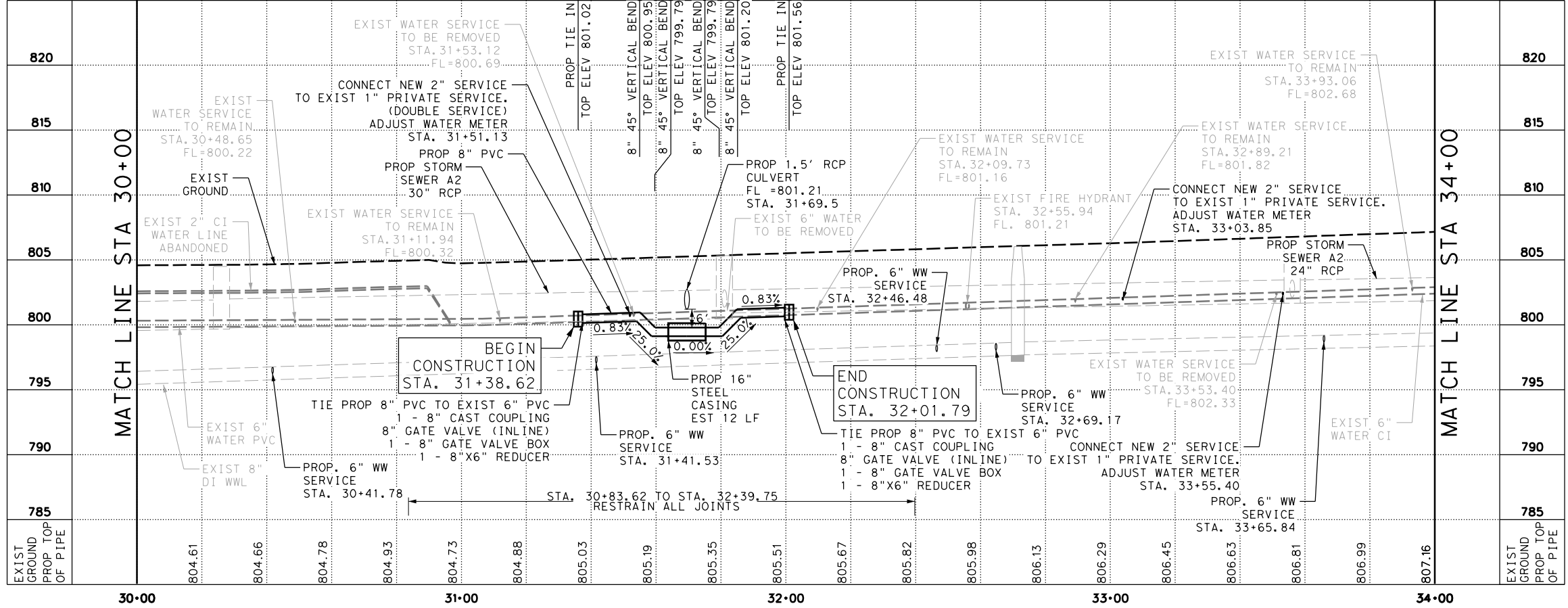
LEGEND

- EXIST ROW: - - - - -
- EXIST WATER MAIN: W 6" PVC
- EXIST FIRE HYDRANT: FH
- EXIST WATER VALVE: ⊗
- EXIST WATER METER: ⊞
- PROP WATER MAIN: W - 6"
- PROP WATER VALVE: ●
- PROP WATER METER: ⊞
- PROP FIRE HYDRANT: ⊕
- CEF LOCATION: ▲
- CEF SETBACK MITIGATION AREA: [Hatched Box]

- NOTES**
- ALL PROPOSED WATER MAIN PIPE SHALL BE PVC C900 DR-14.
 - ALL WATER SERVICES SHALL BE INSTALLED ACCORDING TO CITY OF AUSTIN STANDARD 520-AW-01B.
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 5/31/2024

CITY OF AUSTIN
 BARTON CREEK OAK PARK
 FLOOD RISK REDUCTION PROJECT
 OAKLAIRE DRIVE
 WATERLINE A
 STA. 30+00 TO STA. 34+00



NO.	DATE	REVISIONS

SHEET INFORMATION
 DATE 5/31/2024
 SHEET 1 OF 1

RPS
 Texas PE Firm Reg. #F-293
 4801 Southwest Pkwy, Pkwy 2, Suite 150, Austin, Texas 78735
 T+1 512 328 5771 E usinfr@rpsgroup.com

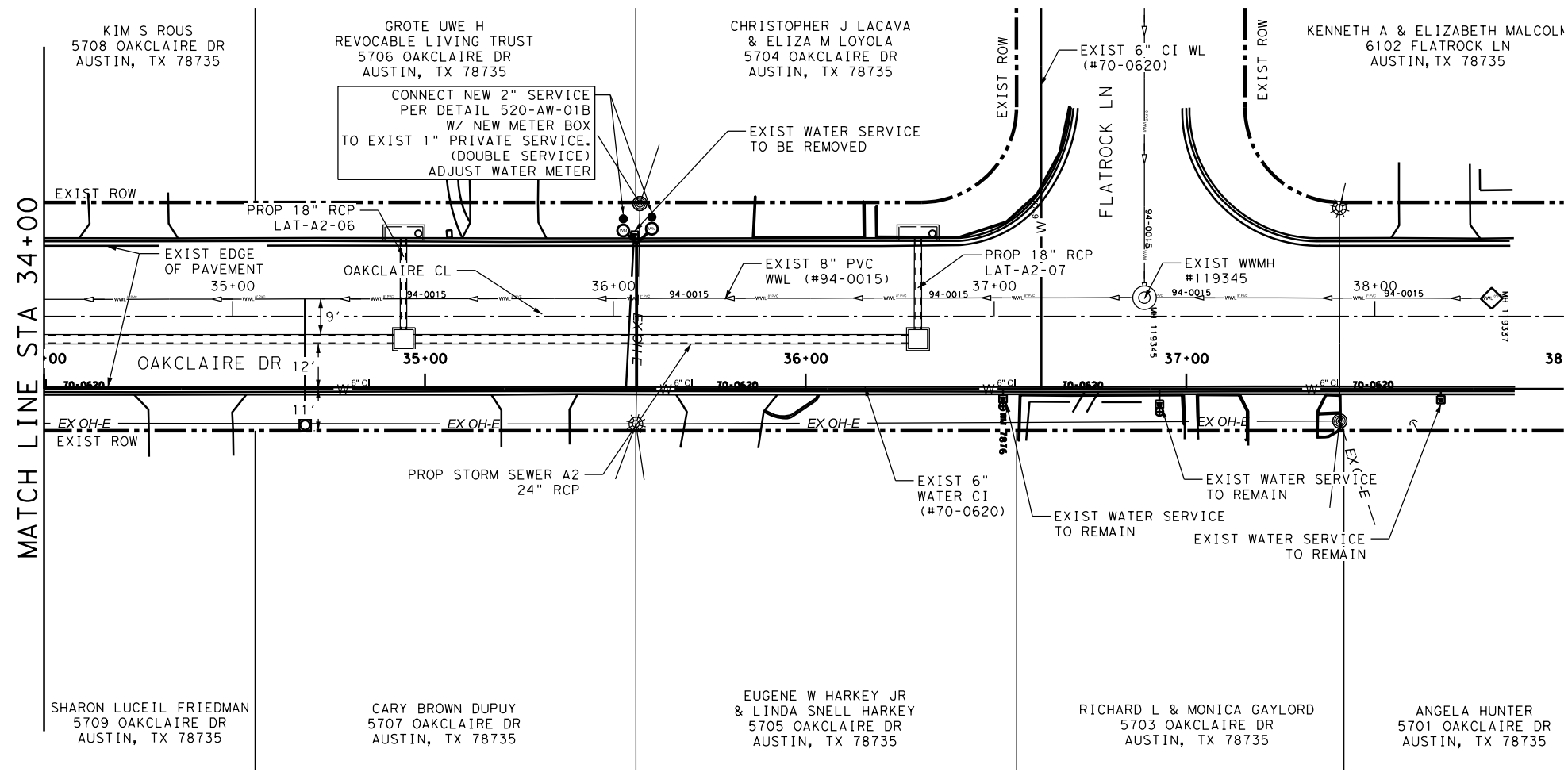
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**CITY OF AUSTIN
 BARTON CREEK OAK PARK
 FLOOD RISK REDUCTION PROJECT
 OAKCLAIRE DRIVE
 WATERLINE A
 STA. 34+00 TO END**

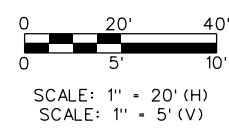
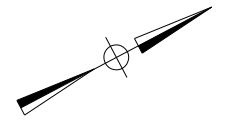
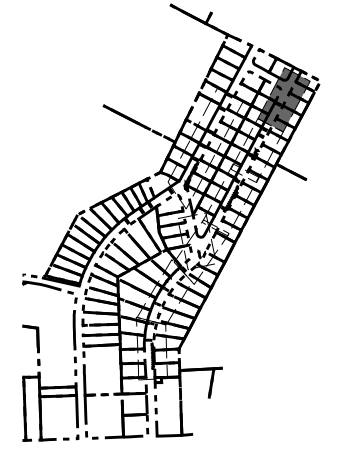
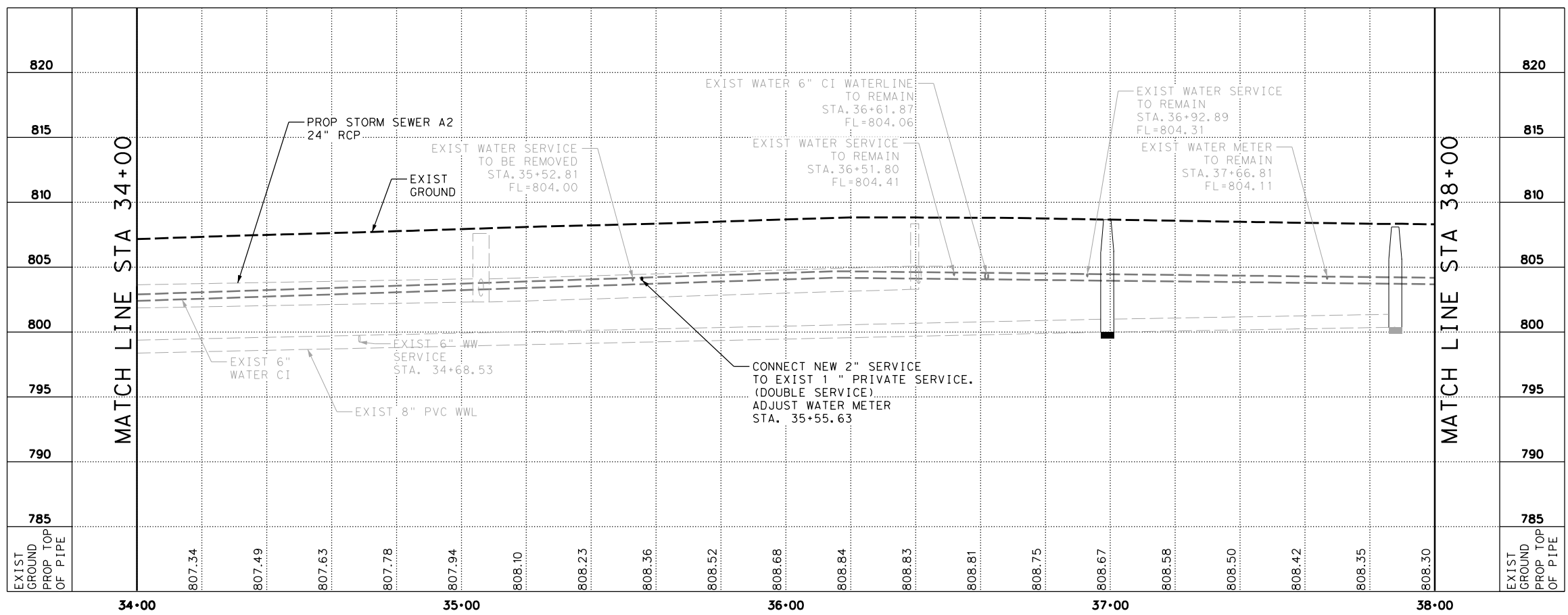


LEGEND

EXIST ROW	---
EXIST WATER MAIN	W 6" PVC
EXIST FIRE HYDRANT	FH
EXIST WATER VALVE	⊗
EXIST WATER METER	⊕
PROP WATER MAIN	W - 6"
PROP WATER VALVE	●
PROP WATER METER	⊙
PROP FIRE HYDRANT	⊕
CEF LOCATION	▲
CEF SETBACK MITIGATION AREA	[Hatched Box]

- NOTES**
- 1 ALL PROPOSED WATER MAIN PIPE SHALL BE PVC C900 DR-14.
 - 2 ALL WATER SERVICES SHALL BE INSTALLED ACCORDING TO CITY OF AUSTIN STANDARD 520-AW-01B.
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OAKCLAIRE DRIVE WATER LINE A



REVISIONS

NO.	DATE	BY	REMARKS

SHEET INFORMATION

DATE	5/31/2024
SHEET	1 OF 1



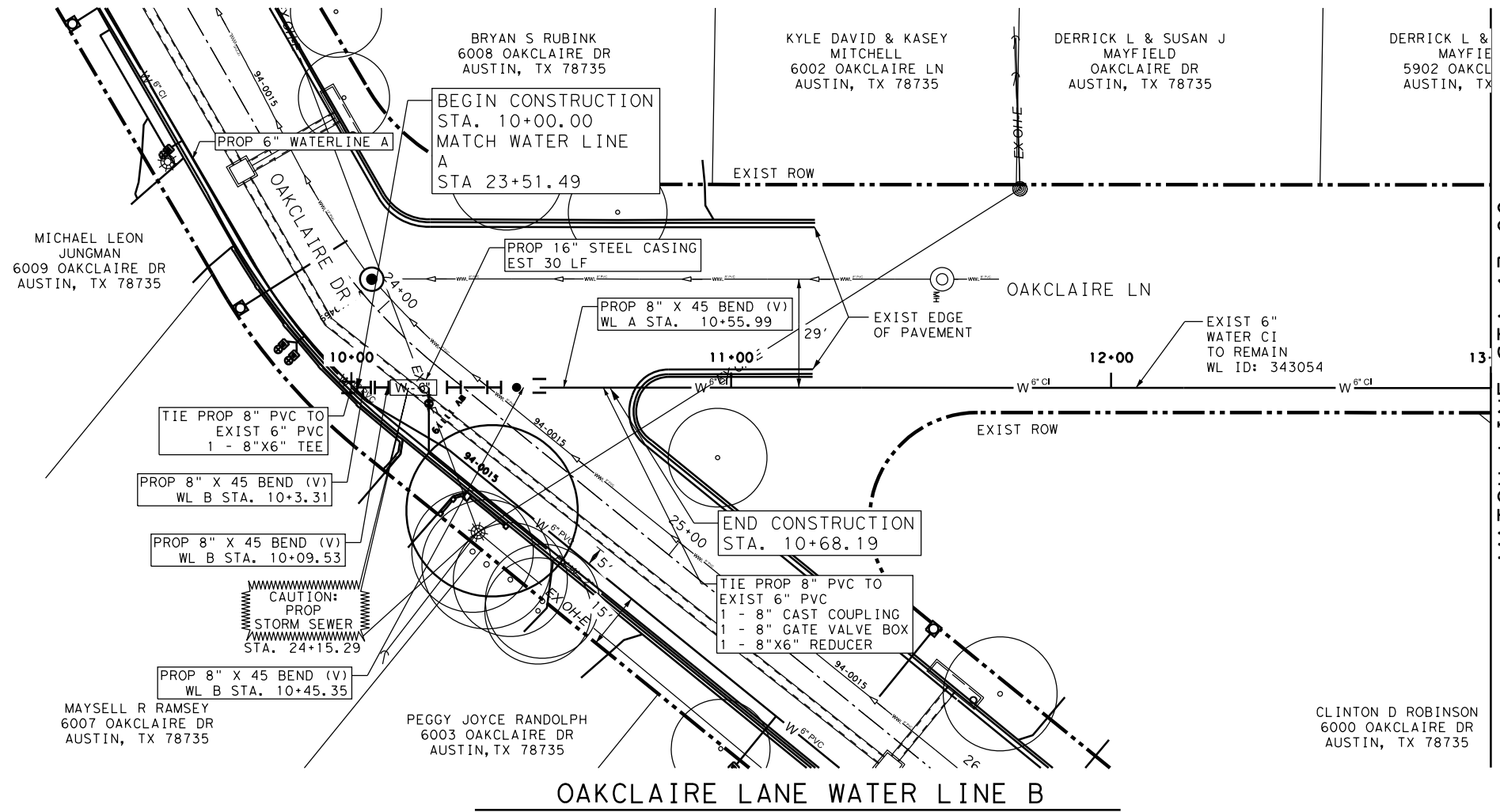
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 5/31/2024

CITY OF AUSTIN
 BARTON CREEK OAK PARK
 FLOOD RISK REDUCTION PROJECT
 OAKCLAIRE DRIVE
 WATERLINE B

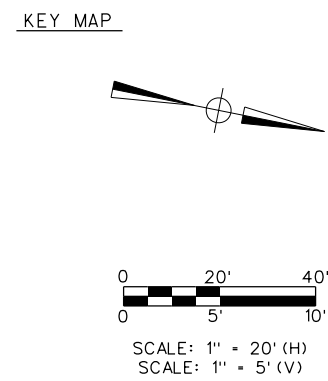
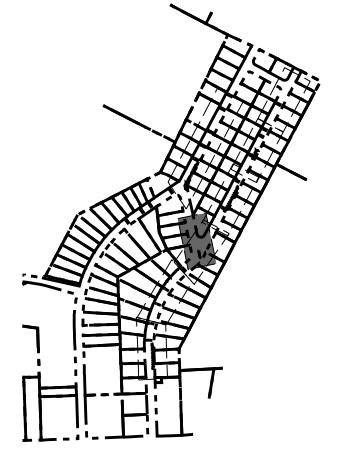
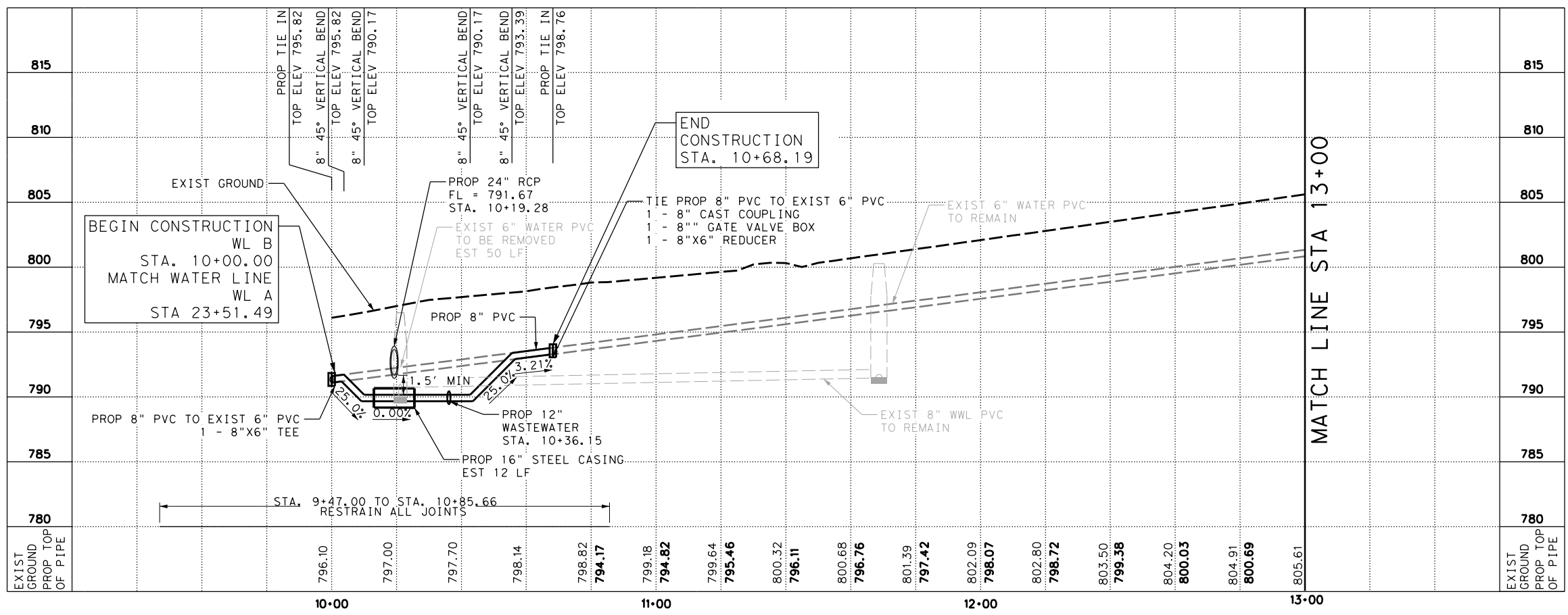
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EXIST ROW	---
EXIST WATER MAIN	W 6" PVC
EXIST FIRE HYDRANT	FH
EXIST WATER VALVE	⊗
EXIST WATER METER	⊞
PROP WATER MAIN	W - 6"
PROP WATER VALVE	●
PROP WATER METER	⊞
PROP FIRE HYDRANT	⊞
CEF LOCATION	▲
CEF SETBACK MITIGATION AREA	[Hatched Box]

- NOTES**
- 1 ALL PROPOSED WATER MAIN PIPE SHALL BE PVC C900 DR-14.
 - 2 ALL WATER SERVICES SHALL BE INSTALLED ACCORDING TO CITY OF AUSTIN STANDARD 520-AW-01B.
 - 3 ALL FIRE HYDRANT LEAD LINES SHALL BE 6" DUCTILE IRON CLASS 350. THE CONTRACTOR SHALL REFER TO CITY OF AUSTIN STANDARD 511-AW-02 FOR FIRE HYDRANT DETAILS AND CONSTRUCTION METHODS.
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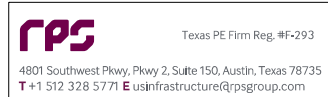


OAKCLAIRE LANE WATER LINE B



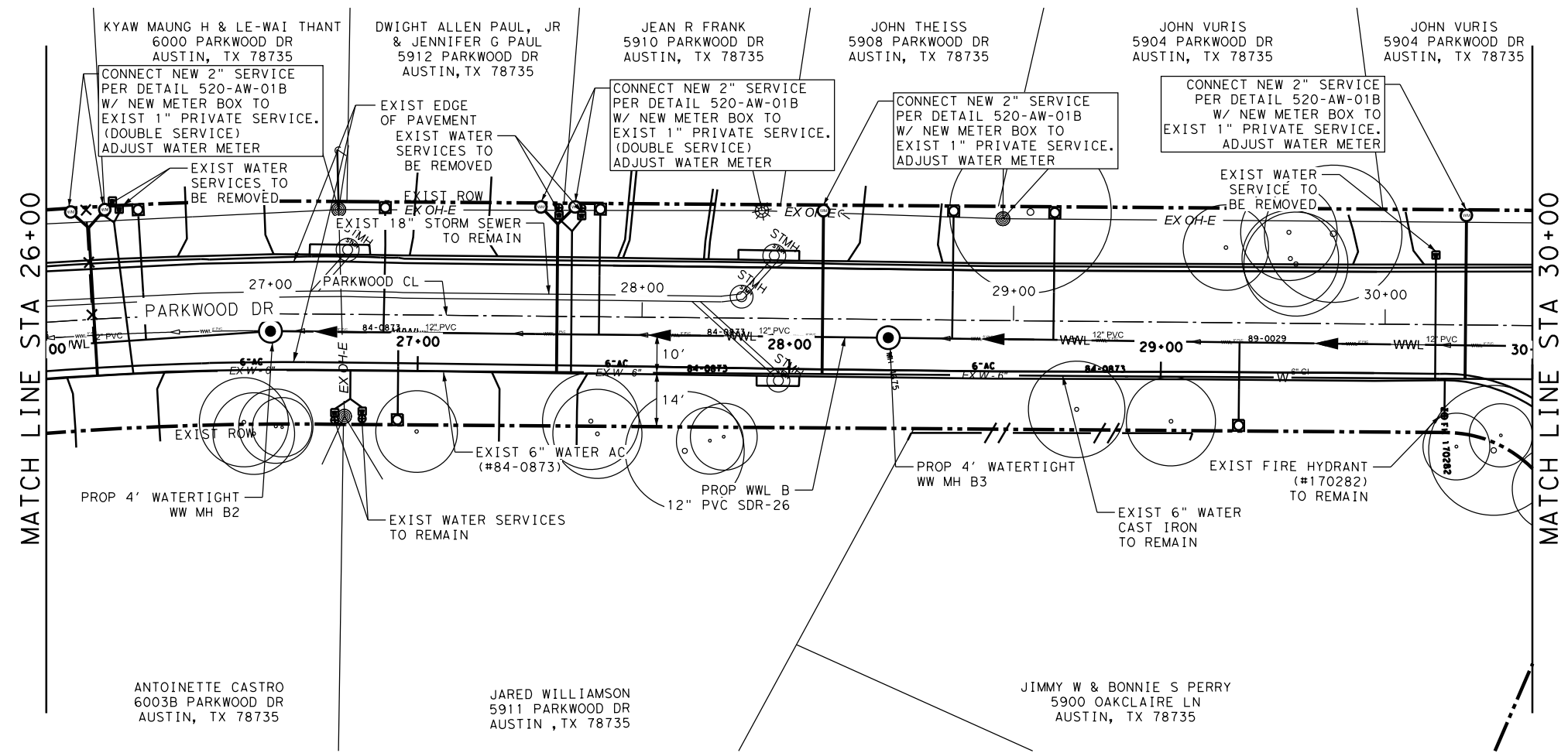
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SHEET INFORMATION
 DATE 5/31/2024
 SHEET 1 OF 1

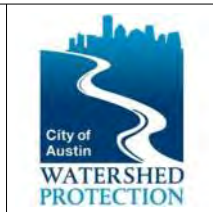
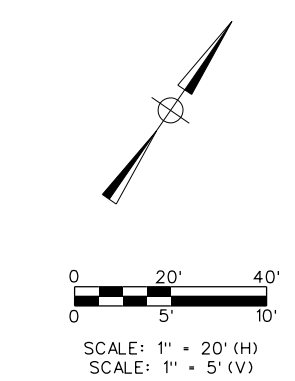
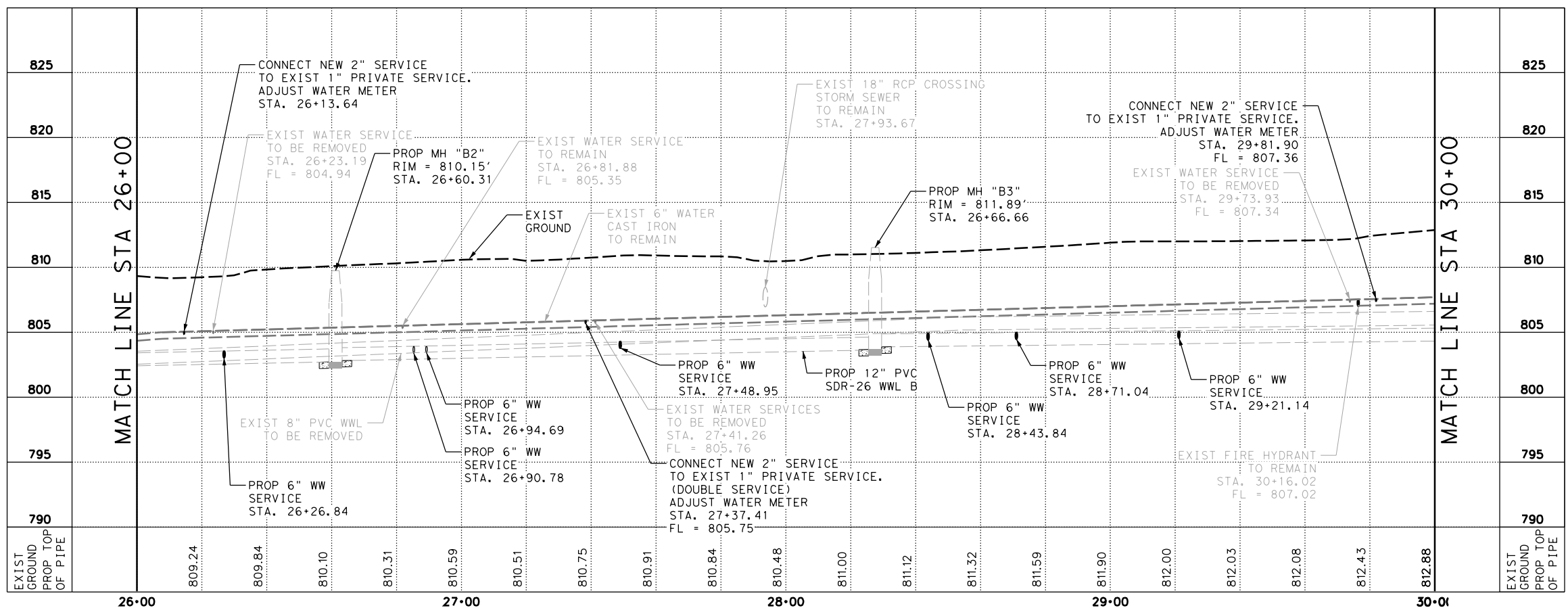


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PARKWOOD DRIVE WATER LINE D "W-D"

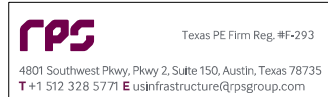


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 5/31/2024

CITY OF AUSTIN
BARTON CREEK OAK PARK
FLOOD RISK REDUCTION PROJECT
PARKWOOD DRIVE
WATERLINE D "W-D"
STA. 26+00 TO STA. 30+00

NO.	DATE	BY	REVISIONS

SHEET INFORMATION
 DATE: 5/31/2024
 SHEET: 1 OF 1





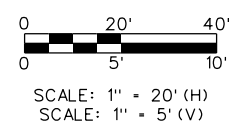
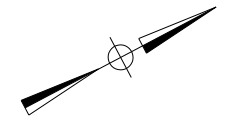
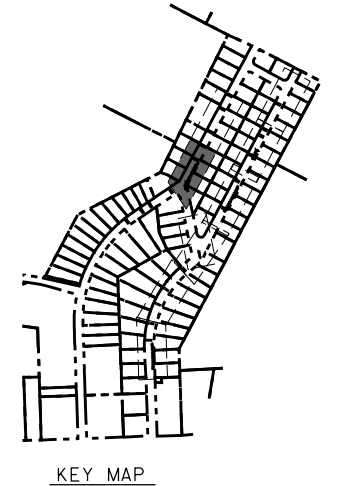
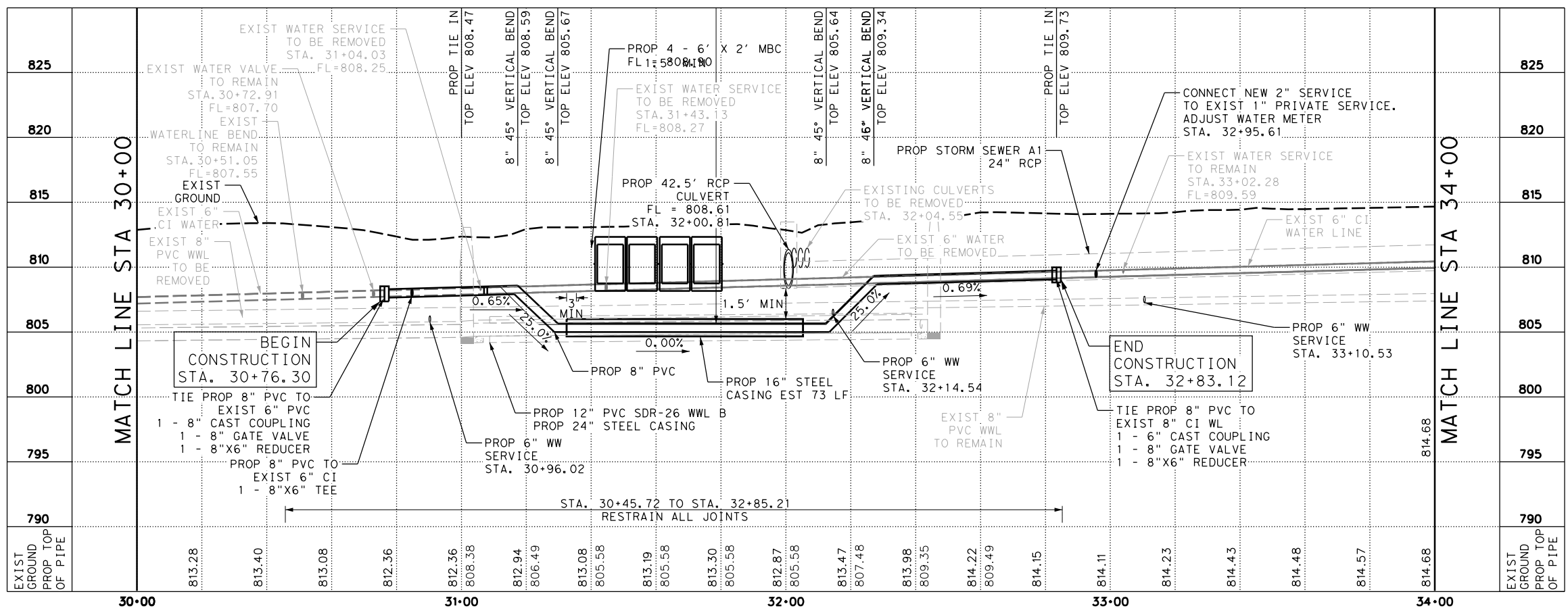
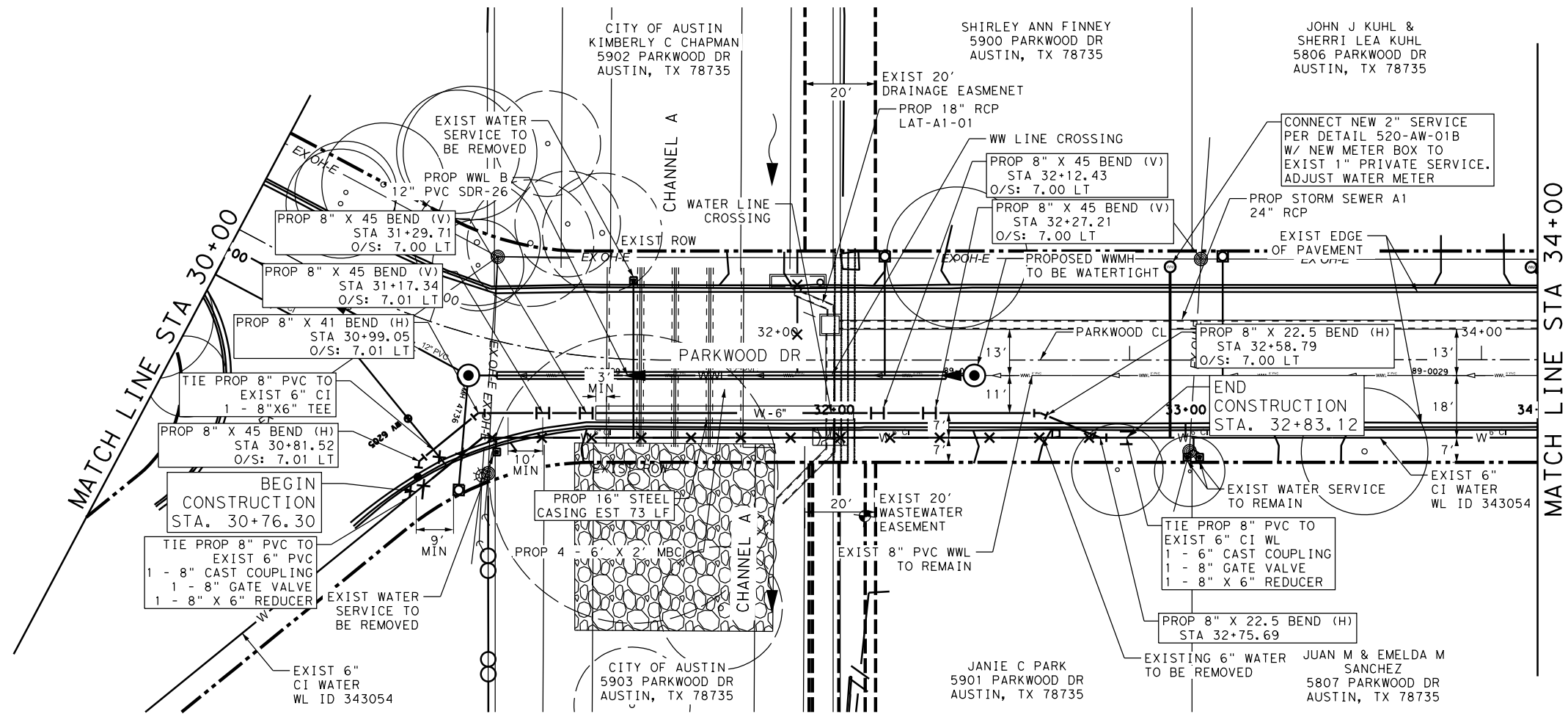
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CITY OF AUSTIN
 BARTON CREEK OAK PARK
 FLOOD RISK REDUCTION PROJECT
 PARKWOOD DRIVE
 WATERLINE D
 STA. 30+00 TO STA. 34+00

LEGEND

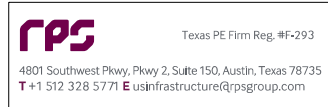
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EXIST FIRE HYDRANT	FH
EXIST WATER VALVE	⊗
EXIST WATER METER	⊞
PROP WATER MAIN	W-6"
PROP WATER VALVE	●
PROP WATER METER	⊞
PROP FIRE HYDRANT	⊞
CEF LOCATION	▲
CEF SETBACK MITIGATION AREA	[Hatched Box]

- NOTES**
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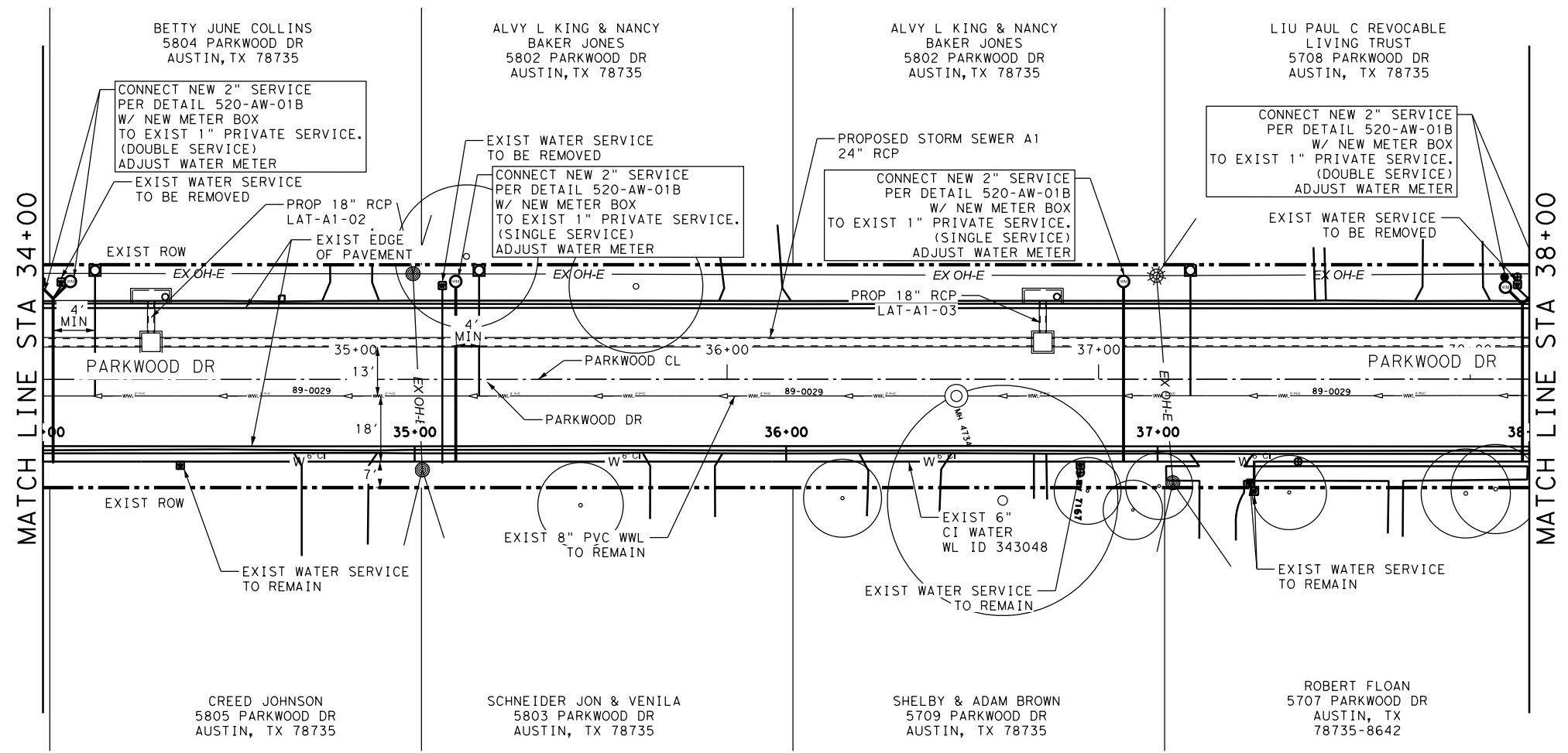
NO.	BY	DATE	REVISIONS

SHEET INFORMATION
 DATE 5/31/2024
 SHEET 1 OF 1



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PARKWOOD DRIVE WATER LINE D

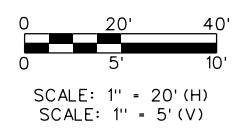
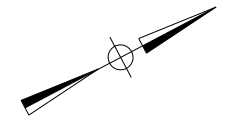
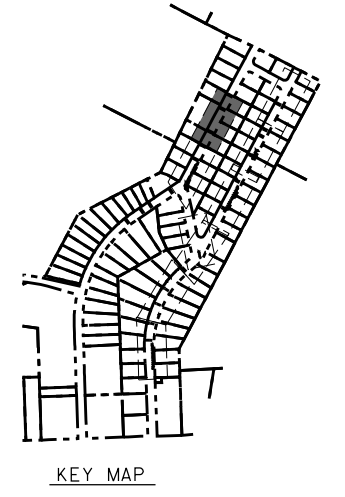
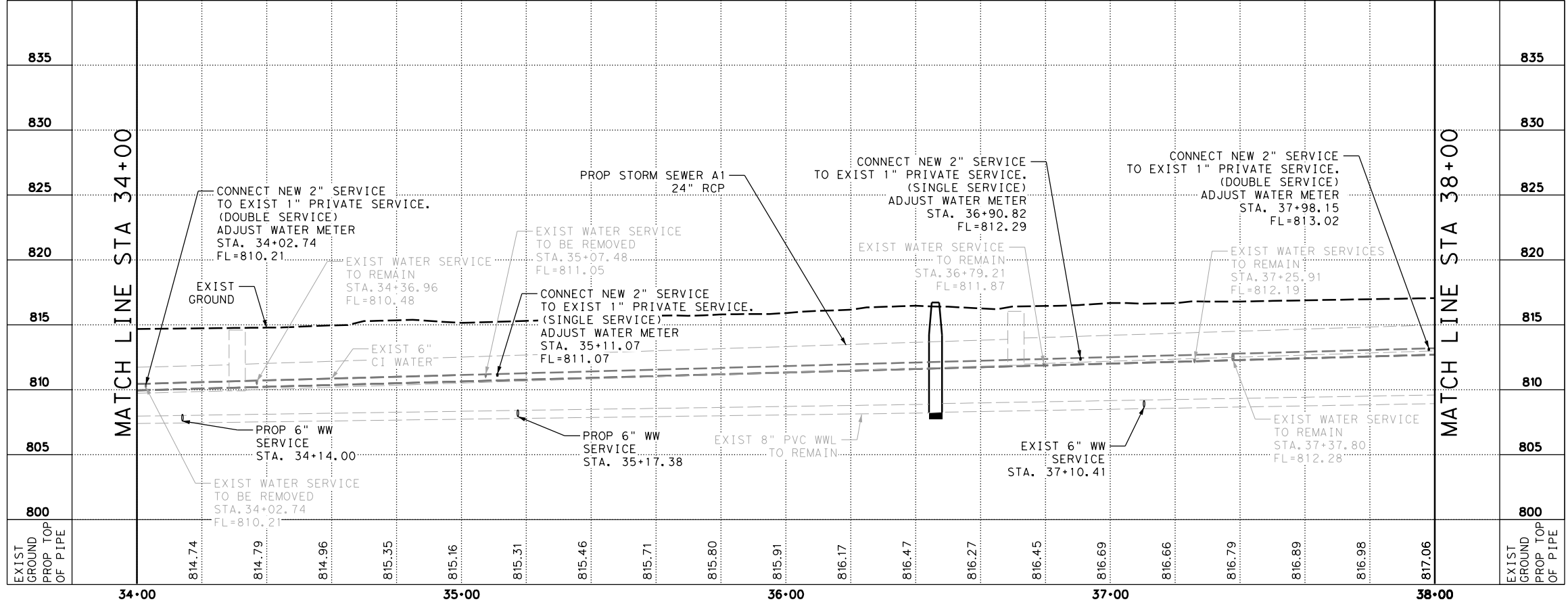
LEGEND

- EXIST ROW
- EXIST WATER MAIN
- EXIST FIRE HYDRANT
- EXIST WATER VALVE
- EXIST WATER METER
- PROP WATER MAIN
- PROP WATER VALVE
- PROP WATER METER
- PROP FIRE HYDRANT
- CEF LOCATION
- CEF SETBACK MITIGATION AREA

- NOTES**
- 1 ALL PROPOSED WATER MAIN PIPE SHALL BE PVC C900 DR-14.
 - 2 ALL WATER SERVICES SHALL BE INSTALLED ACCORDING TO CITY OF AUSTIN STANDARD 520-AW-01B.
 - 3 ALL FIRE HYDRANT LEAD LINES SHALL BE 6" DUCTILE IRON CLASS 350. THE CONTRACTOR SHALL REFER TO CITY OF AUSTIN STANDARD 511-AW-02 FOR FIRE HYDRANT DETAILS AND CONSTRUCTION METHODS.
 - 4 THE UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE AND FOR INFORMATION ONLY. CONTRACTOR IS RESPONSIBLE FOR LOCATING AND PROTECTING EXISTING WATER SERVICE RELAYS, WASTEWATER LATERALS, AND OTHER EXISTING UTILITIES DURING CONSTRUCTION. ANY REPAIRS OR TEMPORARY CONNECTIONS REQUIRED TO MAINTAIN SERVICE SHALL BE SUBSIDIARY TO PAY ITEM 510 PIPE.

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 5/31/2024

CITY OF AUSTIN
BARTON CREEK OAK PARK
FLOOD RISK REDUCTION PROJECT
PARKWOOD DRIVE
WATERLINE D
STA. 34+00 TO STA. 38+00

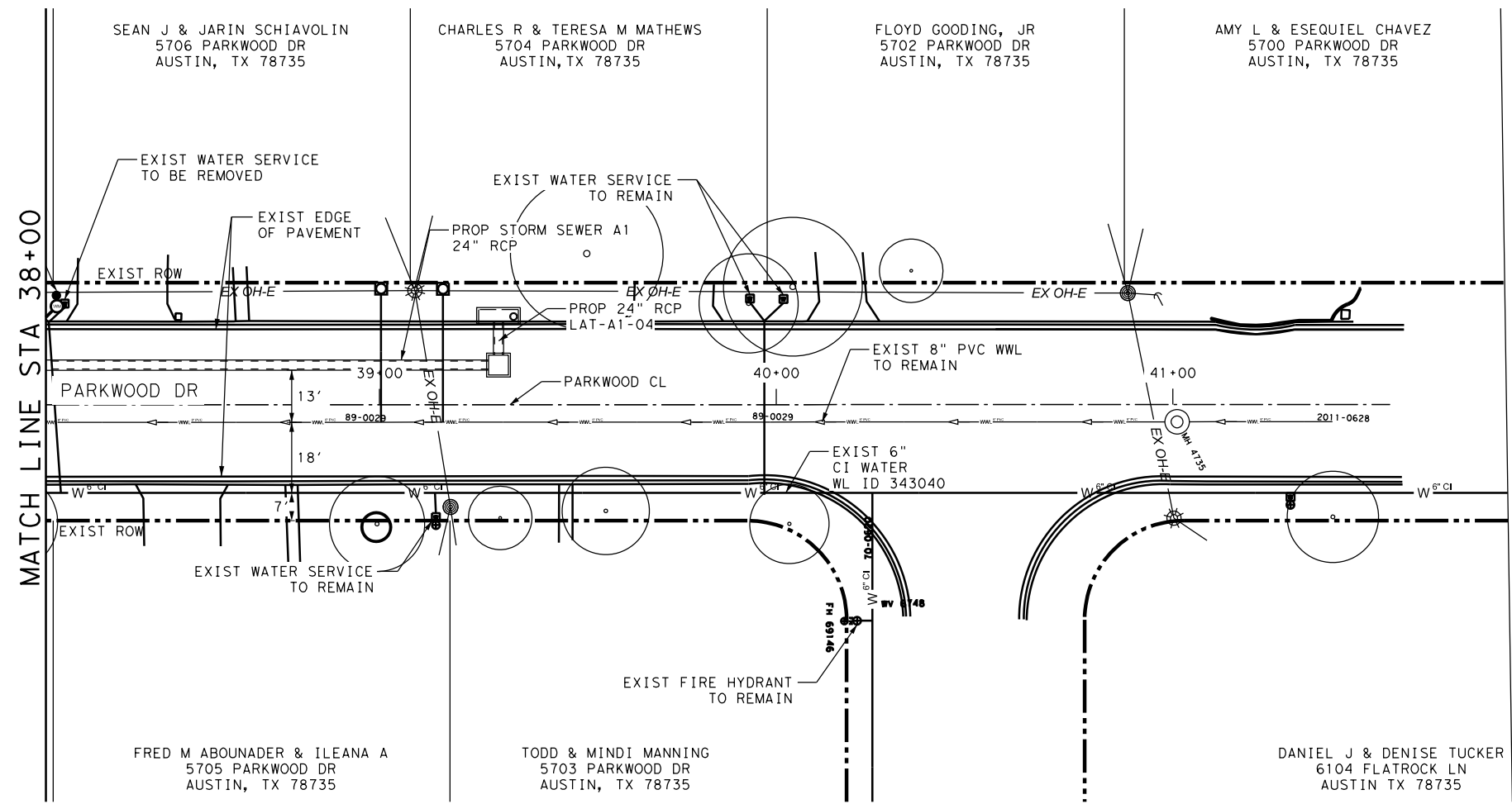


NO.	DATE	BY	REVISIONS

SHEET INFORMATION
 DATE 5/31/2024
 SHEET 1 OF 1

Texas PE Firm Reg. #F-293
 4801 Southwest Pkwy, Pkwy 2, Suite 150, Austin, Texas 78735
 T +1 512 328 5771 E usinfr@rpsgroup.com

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PARKWOOD DRIVE WATER LINE D "W-D"

LEGEND

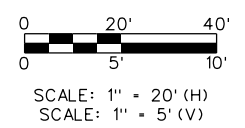
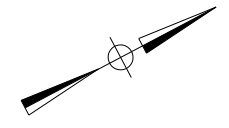
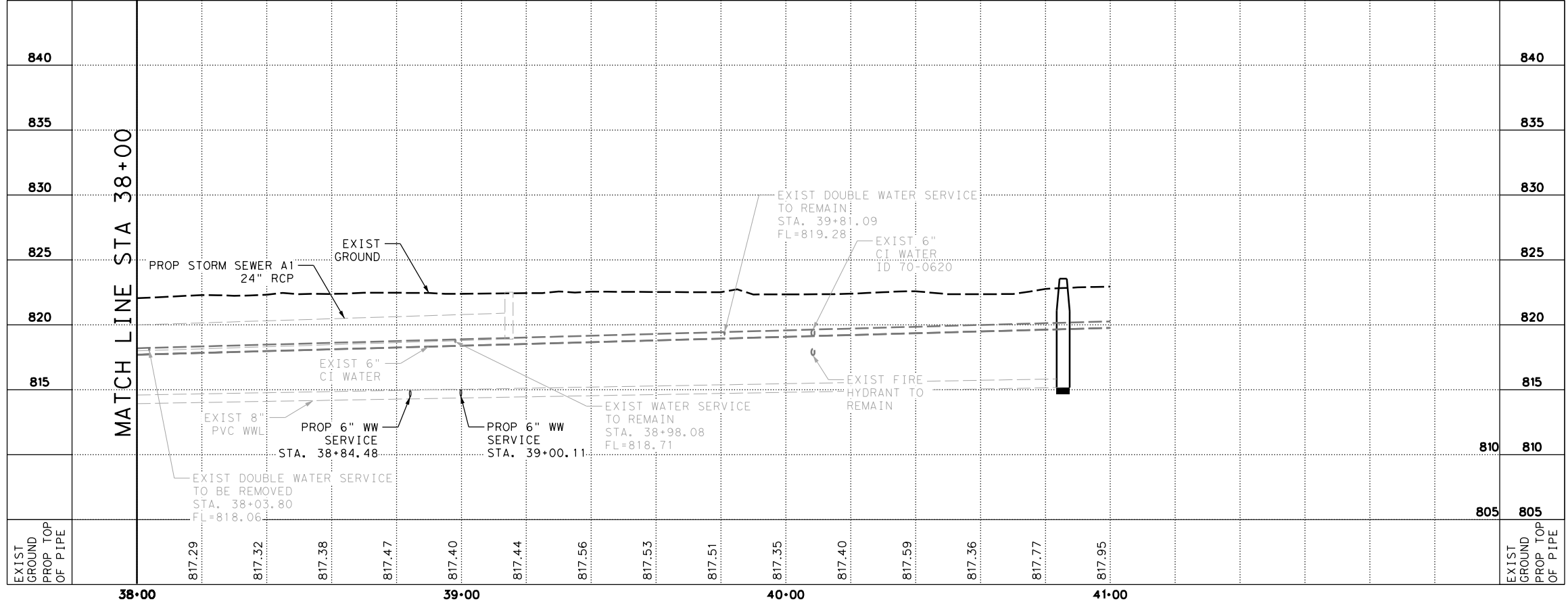
EXIST ROW	-----
EXIST WATER MAIN	W 6" PVC
EXIST FIRE HYDRANT	FH ⊕
EXIST WATER VALVE	⊗
EXIST WATER METER	⊞
PROP WATER MAIN	W - 6" -----
PROP WATER VALVE	●
PROP WATER METER	⊞
PROP FIRE HYDRANT	⊕
CEF LOCATION	▲
CEF SETBACK MITIGATION AREA	▨

- NOTES**
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 - 2 ALL WATER SERVICES SHALL BE INSTALLED ACCORDING TO CITY OF AUSTIN STANDARD 520-AW-01B.
 - 3 ALL FIRE HYDRANT LEAD LINES SHALL BE 6" DUCTILE IRON CLASS 350. THE CONTRACTOR SHALL REFER TO CITY OF AUSTIN STANDARD 511-AW-02 FOR FIRE HYDRANT DETAILS AND CONSTRUCTION METHODS.
 - 4 THE UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE AND FOR INFORMATION ONLY. CONTRACTOR IS RESPONSIBLE FOR LOCATING AND PROTECTING EXISTING WATER SERVICE RELAYS, WASTEWATER LATERALS, AND OTHER EXISTING UTILITIES DURING CONSTRUCTION. ANY REPAIRS OR TEMPORARY CONNECTIONS REQUIRED TO MAINTAIN SERVICE SHALL BE SUBSIDIARY TO PAY ITEM 510 PIPE.



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5/31/2024

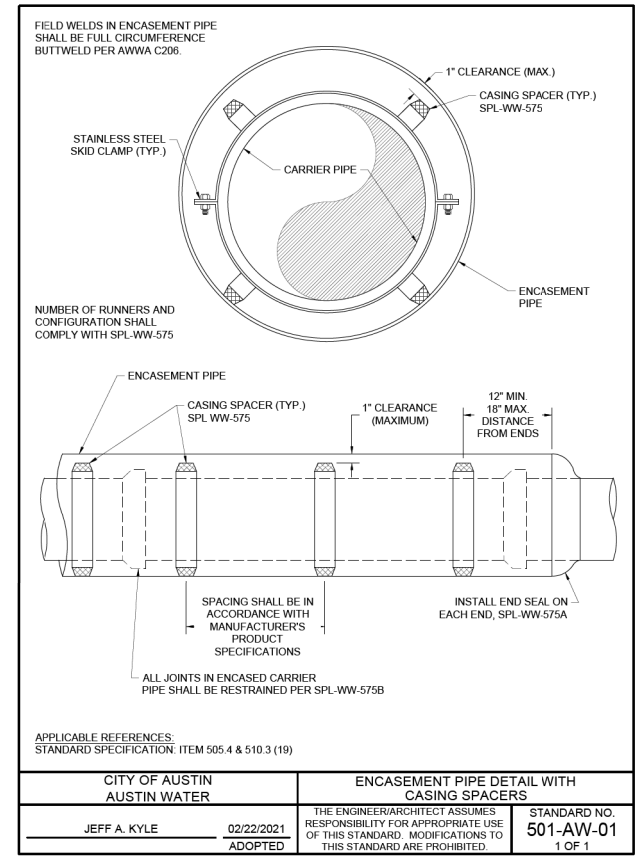
**CITY OF AUSTIN
BARTON CREEK OAK PARK
FLOOD RISK REDUCTION PROJECT
PARKWOOD DRIVE
WATERLINE D "W-D"
STA. 38+00 TO END**



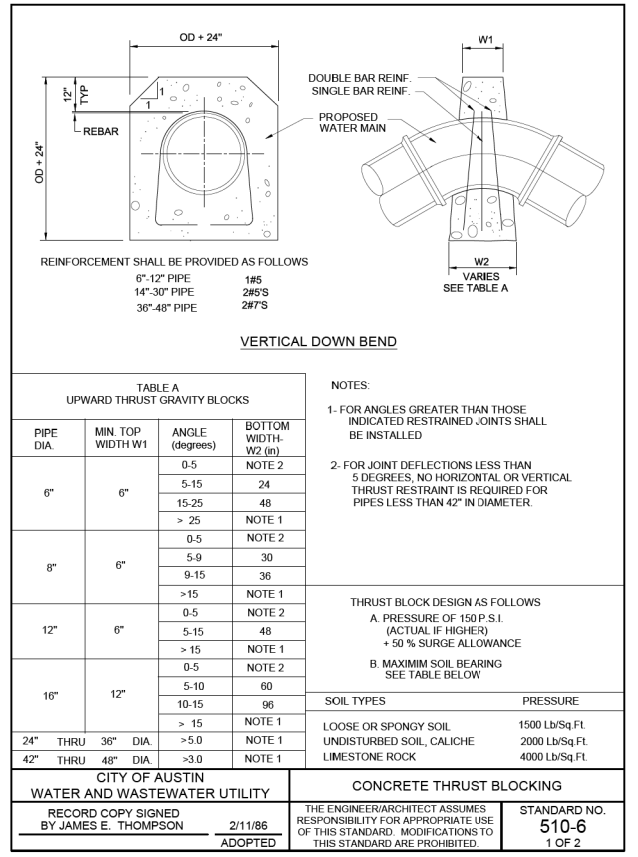
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SHEET INFORMATION
DATE 5/31/2024
SHEET 1 OF 1
125

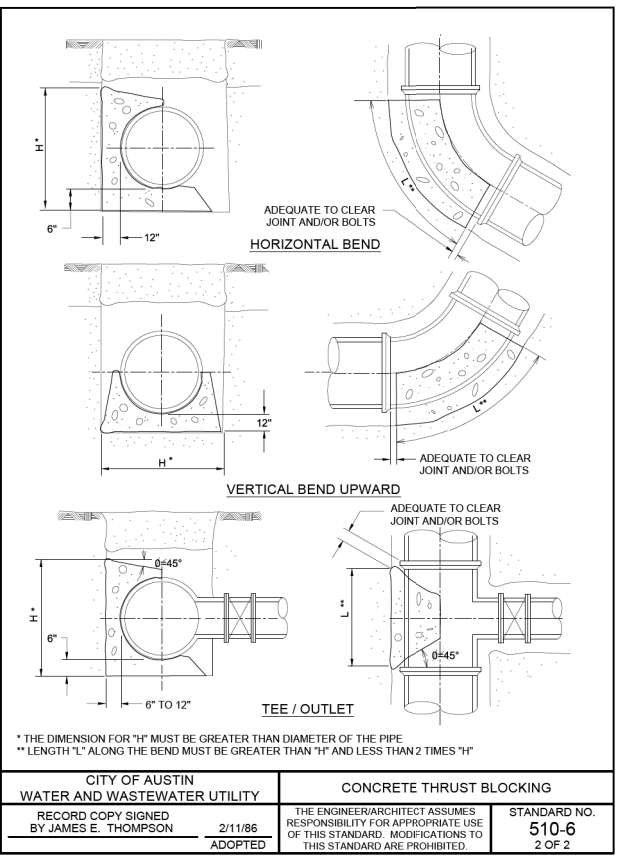
rps Texas PE Firm Reg. #F-293
4801 Southwest Pkwy, Pkwy 2, Suite 150, Austin, Texas 78735
T +1 512 328 5771 E usinfrastructure@rpsgroup.com



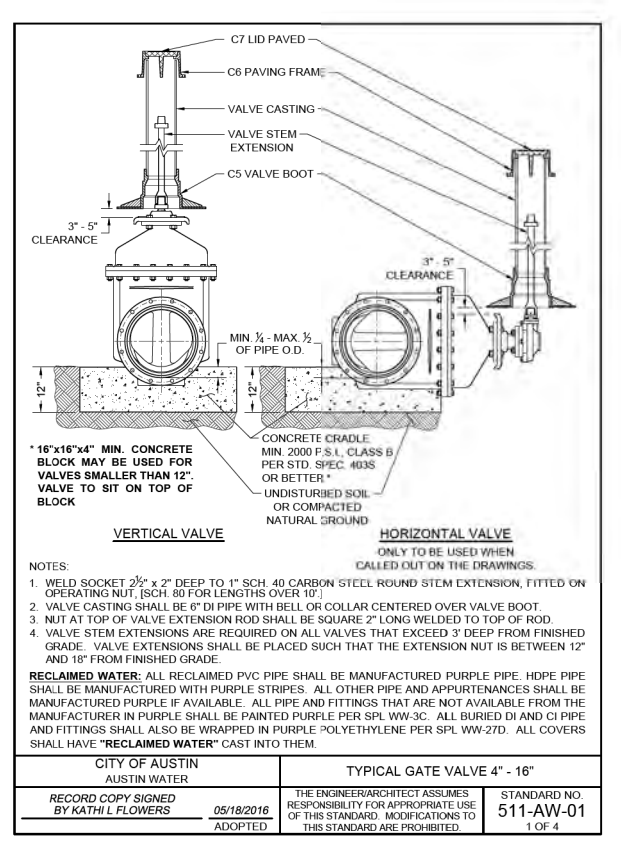
CITY OF AUSTIN AUSTIN WATER	ENCASUREMENT PIPE DETAIL WITH CASING SPACERS	STANDARD NO. 501-AW-01 1 OF 1
RECORD COPY SIGNED BY JEFF A. KYLE	02/22/2021 ADOPTED	THE ENGINEER/ARCHITECT ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. MODIFICATIONS TO THIS STANDARD ARE PROHIBITED.



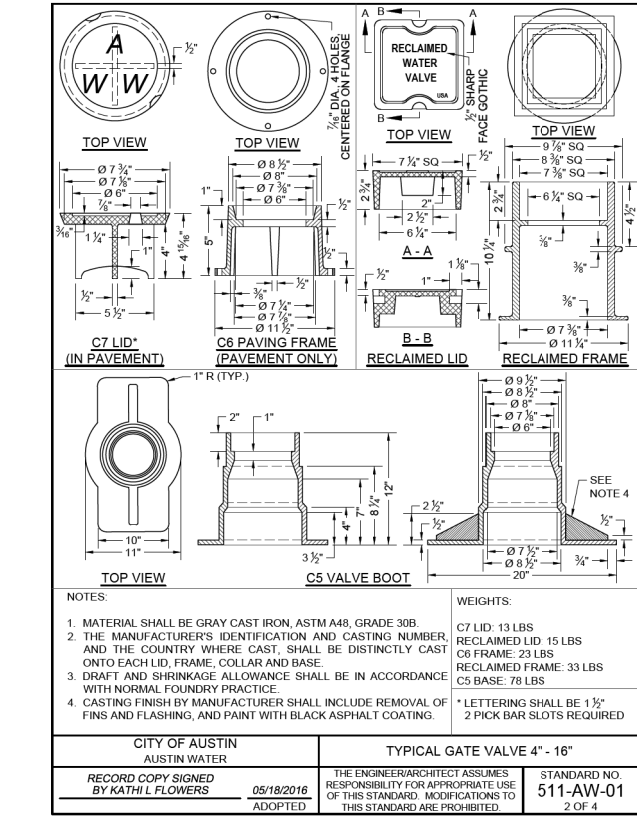
CITY OF AUSTIN WATER AND WASTEWATER UTILITY	CONCRETE THRUST BLOCKING	STANDARD NO. 510-6 1 OF 2
RECORD COPY SIGNED BY JAMES E. THOMPSON	2/11/86 ADOPTED	THE ENGINEER/ARCHITECT ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. MODIFICATIONS TO THIS STANDARD ARE PROHIBITED.



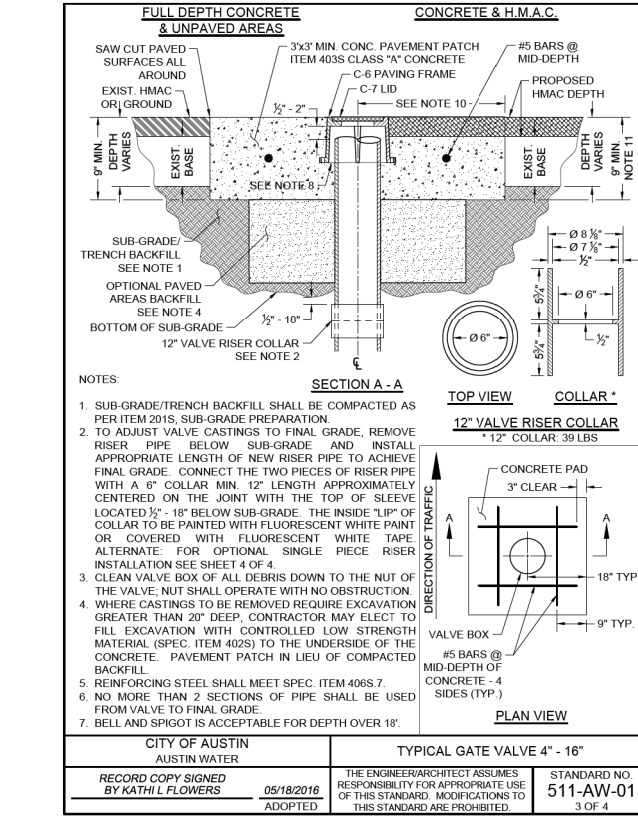
CITY OF AUSTIN WATER AND WASTEWATER UTILITY	CONCRETE THRUST BLOCKING	STANDARD NO. 510-6 2 OF 2
RECORD COPY SIGNED BY JAMES E. THOMPSON	2/11/86 ADOPTED	THE ENGINEER/ARCHITECT ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. MODIFICATIONS TO THIS STANDARD ARE PROHIBITED.



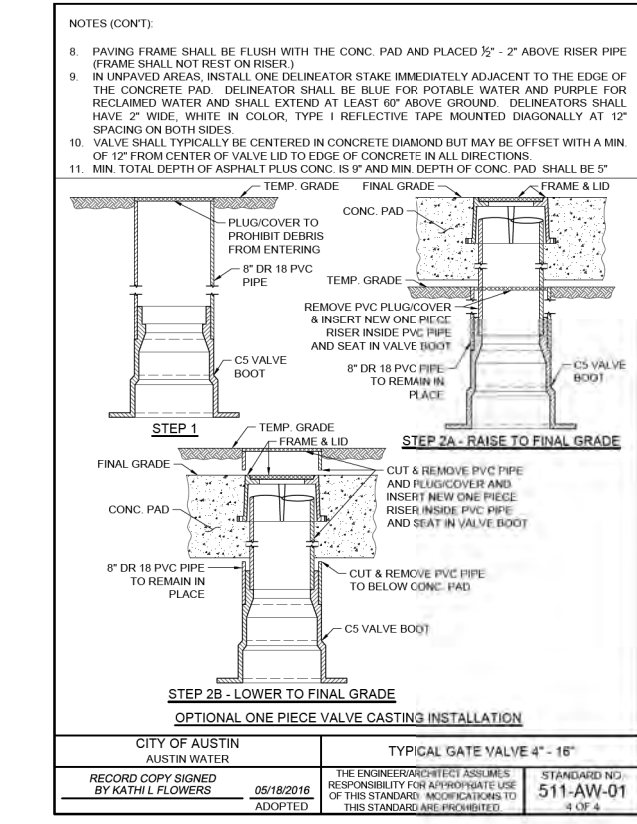
CITY OF AUSTIN AUSTIN WATER	TYPICAL GATE VALVE 4" - 16"	STANDARD NO. 511-AW-01 1 OF 4
RECORD COPY SIGNED BY KATHI L. FLOWERS	05/18/2016 ADOPTED	THE ENGINEER/ARCHITECT ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. MODIFICATIONS TO THIS STANDARD ARE PROHIBITED.



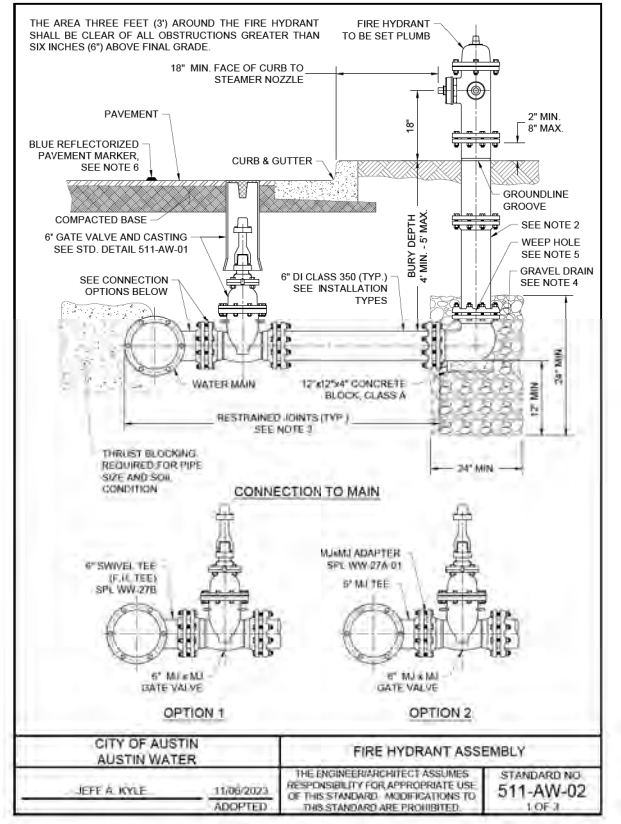
CITY OF AUSTIN AUSTIN WATER	TYPICAL GATE VALVE 4" - 16"	STANDARD NO. 511-AW-01 2 OF 4
RECORD COPY SIGNED BY KATHI L. FLOWERS	05/18/2016 ADOPTED	THE ENGINEER/ARCHITECT ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. MODIFICATIONS TO THIS STANDARD ARE PROHIBITED.



CITY OF AUSTIN AUSTIN WATER	TYPICAL GATE VALVE 4" - 16"	STANDARD NO. 511-AW-01 3 OF 4
RECORD COPY SIGNED BY KATHI L. FLOWERS	05/18/2016 ADOPTED	THE ENGINEER/ARCHITECT ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. MODIFICATIONS TO THIS STANDARD ARE PROHIBITED.



CITY OF AUSTIN AUSTIN WATER	TYPICAL GATE VALVE 4" - 16"	STANDARD NO. 511-AW-01 4 OF 4
RECORD COPY SIGNED BY KATHI L. FLOWERS	05/18/2016 ADOPTED	THE ENGINEER/ARCHITECT ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. MODIFICATIONS TO THIS STANDARD ARE PROHIBITED.



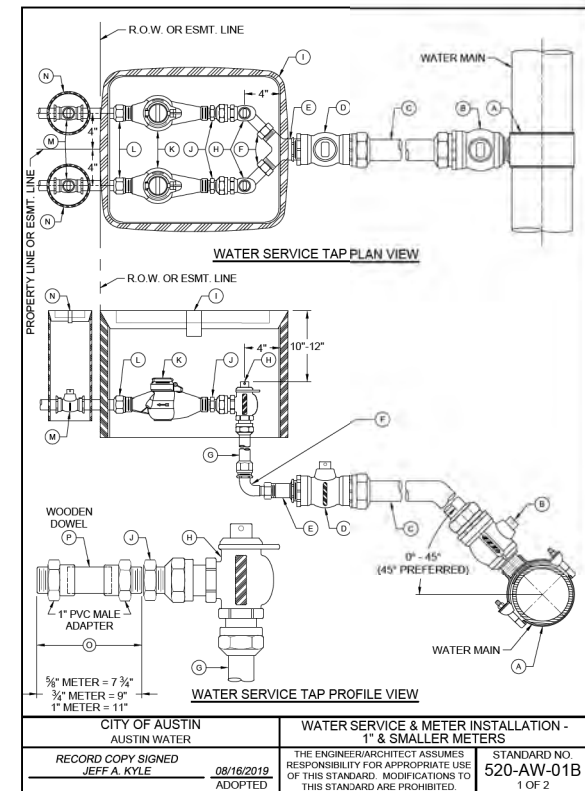
CITY OF AUSTIN AUSTIN WATER	FIRE HYDRANT ASSEMBLY	STANDARD NO. 511-AW-02 1 OF 3
RECORD COPY SIGNED BY JEFF A. KYLE	11/06/2023 ADOPTED	THE ENGINEER/ARCHITECT ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. MODIFICATIONS TO THIS STANDARD ARE PROHIBITED.

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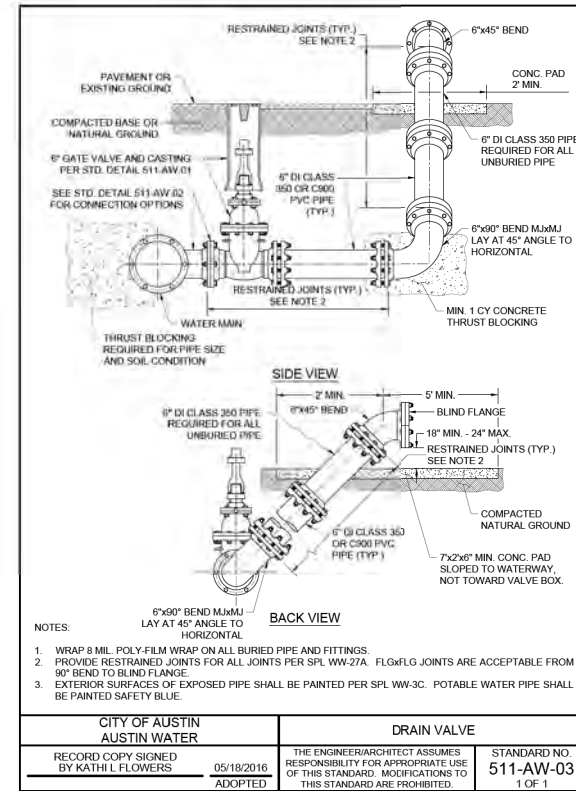
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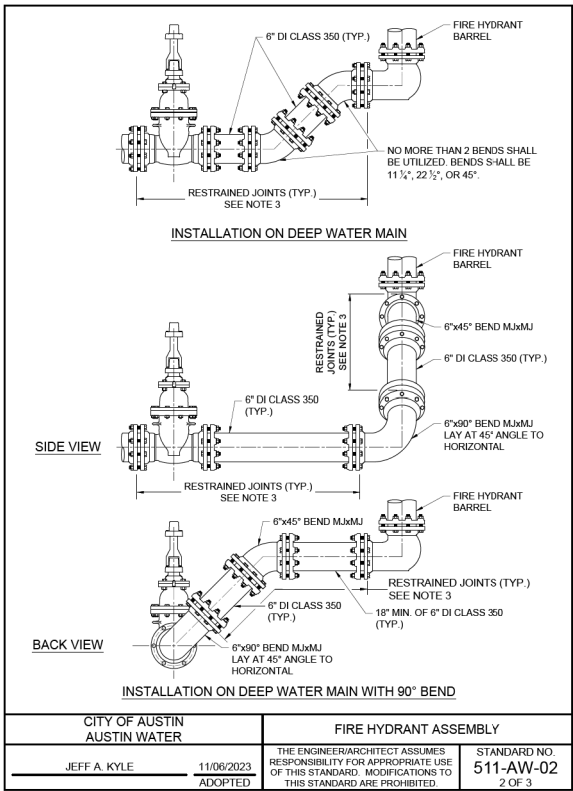
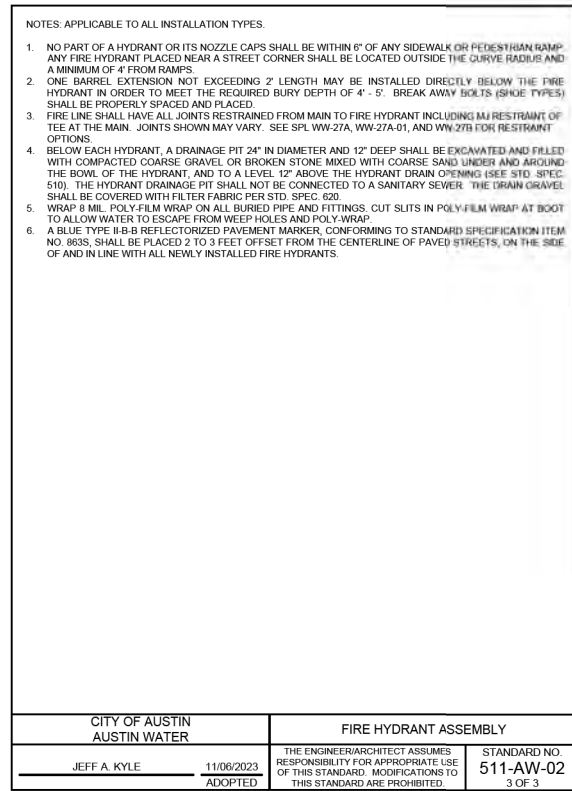
SHEET INFORMATION
DATE 5/31/2024
SHEET 1 OF 1



CITY OF AUSTIN AUSTIN WATER	RECORD COPY SIGNED BY	DATE	ADOPTED	THE ENGINEER/ARCHITECT ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. MODIFICATIONS TO THIS STANDARD ARE PROHIBITED.	STANDARD NO.
CITY OF AUSTIN AUSTIN WATER	JEFF A. KYLE	08/16/2019	ADOPTED	THE ENGINEER/ARCHITECT ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. MODIFICATIONS TO THIS STANDARD ARE PROHIBITED.	520-AW-01B 1 OF 2



CITY OF AUSTIN AUSTIN WATER	RECORD COPY SIGNED BY	DATE	ADOPTED	THE ENGINEER/ARCHITECT ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. MODIFICATIONS TO THIS STANDARD ARE PROHIBITED.	STANDARD NO.
CITY OF AUSTIN AUSTIN WATER	KATHI L FLOWERS	05/18/2016	ADOPTED	THE ENGINEER/ARCHITECT ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. MODIFICATIONS TO THIS STANDARD ARE PROHIBITED.	511-AW-03 1 OF 1



MATERIALS LIST:

- A. 2" SERVICE CLAMP, SPL WW-264
- B. 2" CORPORATION STOP, SPL WW-68
- C. 2" HDPE WATER SERVICE TUBING, SPL WW-65
- D. 2" BALL VALVE, SPL WW-68
- E. SINGLE SERVICE: 2" MIP X 1" COPPER FLARE FITTING, SPL WW-68 OR DOUBLE SERVICE: 2" MIP X 1" COPPER FLARE WYE, SPL WW-68
- F. 1" SWIVEL NUT X 1" COMPRESSION 90° BEND, SPL WW-68
- G. 1" HDPE WATER SERVICE TUBING, SPL WW-65
- H. 1" ANGLE METER STOP, SPL WW-68
- I. METER BOX AND LID, SPL WW-145A, FOR DUAL 1" METERS: USE TWO SINGLE METER BOXES

MATERIALS TO BE INSTALLED BY PLUMBER:

- J. BRASS METER BUSHING - SIZE AS NEEDED TO CONNECT ANGLE METER STOP TO METER
- K. WATER METER PURCHASED FROM AUSTIN WATER
- L. BRASS WATER METER COUPLING MALE (IPT X SWIVEL COUPLING NUT: 3/8" AND 1/2" METERS: 8 1/2" LONG X 1/2" DIA. 1" METERS: 8 1/2" LONG X 1" DIA.)
- M. PROPERTY OWNER'S CUT OFF VALVE, SPL WW-276
- N. PROPERTY OWNER'S CUT OFF VALVE BOX AND LID
- O. TEMPORARY METER SPACER (REQUIRED TO ASSURE METER WILL FIT APPROPRIATELY)
- P. 1" WOODEN DOWEL (SHOW ADDRESS ON DOWEL USING WATERPROOF MARKER)

NOTES:

- SERVICE CLAMP SHALL BE WRAPPED COMPLETELY WITH 8 MIL. POLYETHYLENE FILM, SPL WW-27D.
- BRANCH CONNECTIONS AND ALL ANGLE METER STOPS MUST BE INSTALLED PRIOR TO ANY METER INSTALLATION.
- TOP OF METER BOXES SHOULD BE 4" ABOVE GROUND.
- PIPING AND TUBING IN STREET RIGHT-OF-WAY SHALL BE BEDDED IN GRANULAR MATERIALS AS REQUIRED BY SECTION 510.3 (14) OF THE CITY OF AUSTIN STANDARD SPECIFICATIONS, BACKFILL ABOVE GRANULAR BEDDING AS REQUIRED BY SECTION 510.3 (25).
- METER BOX MUST BE BEHIND CURB NEXT TO PROPERTY LINE OR EASEMENT AND OUT OF VEHICULAR TRAFFIC AREA AND SIDEWALK.
- BALL VALVE "D" SHALL NOT BE LOCATED UNDER SIDEWALK, CURB, OR PAVEMENT, AND NOT BE LOCATED MORE THAN 36" BELOW FINAL GRADE.
- METER SIZES TO BE SHOWN ON PLANS.
- METER BOX CUT OUTS SHALL NOT EXCEED TWO TIMES THE PIPE DIAMETER.
- INSTALL METALLIC TRACER TAPE, SPL WW-597, MINIMUM 1" ABOVE TUBING FROM SERVICE CLAMP "A" TO BALL VALVE "D".
- TUBING SHALL BE PLACED IN A STRAIGHT ALIGNMENT AND ALLOWED TO RELAX AND "SNAKE" LOOSELY IN THE TRENCH. TUBING BEHIND CURB AND GUTTER SHALL BE INSTALLED WITH A MINIMUM 2" DEPTH OF COVER.
- 1" TUBING, WHEN BENT, SHALL HAVE A RADIUS NO SMALLER THAN 3'. 2" TUBING, WHEN BENT, SHALL HAVE A RADIUS NO SMALLER THAN 5'. BRASS FITTINGS SHALL NOT BE CONNECTED TO A BENT SECTION OF TUBING.
- SOLID, TUBULAR STAINLESS STEEL INSERT STIFFENERS FOR HDPE TUBING SHALL BE USED AT ALL COMPRESSION FITTINGS. INSERT STIFFENERS SHALL BE FROM THE SAME MANUFACTURER AS THE COMPRESSION FITTING USED.
- FOR RECLAIMED WATER SERVICES AND METERS, ALL RECLAIMED TUBING SHALL BE MANUFACTURED SOLID PURPLE, SPL WW-65A. ALL APPURTENANCES SHALL BE MANUFACTURED PURPLE IF AVAILABLE. ALL FITTINGS THAT ARE NOT AVAILABLE FROM THE MANUFACTURER IN PURPLE SHALL BE PAINTED PURPLE PER SPL WW-3C. ALL METER BOX LIDS SHALL BE PURPLE AND HAVE "RECLAIMED WATER" CAST INTO THEM, SPL WW-145A.

CITY OF AUSTIN AUSTIN WATER	RECORD COPY SIGNED BY	DATE	ADOPTED	THE ENGINEER/ARCHITECT ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. MODIFICATIONS TO THIS STANDARD ARE PROHIBITED.	STANDARD NO.
CITY OF AUSTIN AUSTIN WATER	JEFF A. KYLE	08/16/2019	ADOPTED	THE ENGINEER/ARCHITECT ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. MODIFICATIONS TO THIS STANDARD ARE PROHIBITED.	520-AW-01B 2 OF 2

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BARRICADING SUMMARY TABLE

STREETS

Table with 10 columns: STREET, CLASSIFICATION, PROTECTION, STREET FROM, STREET TO, PLANNED IMPROVEMENTS, TRAFFIC CONTROL PLAN SHEET / DETAIL, ALLOWED BARRICADING HOURS, DURATION, COMMENTS.

INTERSECTIONS

Table with 6 columns: STREET INTERSECTION, PLANNED IMPROVEMENTS, TRAFFIC CONTROL PLAN SHEET / DETAIL, ALLOWED BARRICADING HOURS, DURATION, COMMENTS.

TRAFFIC CONTROL NARRATIVE

PHASE I: TRAFFIC CONTROL FOR PHASE I INVOLVES CLOSING OAKCLAIRE DRIVE FROM US 290 TO OAKCLAIRE LANE SO THAT STORM SEWER LINES AND GAINES TRIBUTARY (EAST) CULVERTS CAN BE CONSTRUCTED AS WELL AS WATER AND WASTEWATER RELOCATIONS/IMPROVEMENTS. USE ADVANCED WARNING SIGNS ON ALL APPROACHES AND PROVIDE ACCESS TO ADJACENT BUSINESSES AND SINGLE FAMILY RESIDENCES.

DETOUR ROUTES: TRAFFIC ON OAKCLAIRE DRIVE WILL BE DETOURED VIA US290 WB FRONTAGE ROAD, PARKWOOD DRIVE, AND OAKCLAIRE LANE.

WORK HOURS: 9 AM TO 4 PM MONDAY THROUGH FRIDAY, 7 AM TO 6 PM SATURDAY AND SUNDAY.

PHASE II: TRAFFIC CONTROL FOR PHASE II INVOLVES CLOSING THE INTERSECTION OF OAKCLAIRE DRIVE AND OAKCLAIRE LANE SO THAT WASTEWATER AND STORM DRAIN LINES CAN BE CONSTRUCTED. USE ADVANCED WARNING SIGNS ON ALL APPROACHES AND PROVIDE ACCESS TO ADJACENT SINGLE FAMILY RESIDENCES.

DETOUR ROUTES: TRAFFIC ON OAKCLAIRE DRIVE WILL BE DETOURED VIA US290 WB FRONTAGE ROAD, PARKWOOD DRIVE, AND FLATROCK LANE. NO DETOURS ARE NECESSARY FOR OAKCLAIRE LANE DUE TO ITS SHORT LENGTH AND RESIDENTIAL NATURE.

WORK HOURS: 9 AM TO 4 PM MONDAY THROUGH FRIDAY, 7 AM TO 6 PM SATURDAY AND SUNDAY.

PHASE III: TRAFFIC CONTROL FOR PHASE III INVOLVES CLOSING OAKCLAIRE DRIVE FROM OAKCLAIRE LANE TO FLATROCK LANE SO THAT WASTEWATER, STORM DRAIN LINES, AND NORTH TRIBUTARY (EAST) CULVERTS CAN BE CONSTRUCTED. USE ADVANCED WARNING SIGNS ON ALL APPROACHES AND PROVIDE ACCESS TO ADJACENT BUSINESSES AND SINGLE FAMILY RESIDENCES.

DETOUR ROUTES: TRAFFIC ON OAKCLAIRE DRIVE WILL BE DETOURED VIA FLATROCK LANE, PARKWOOD DRIVE AND OAKCLAIRE LANE.

WORK HOURS: 9 AM TO 4 PM MONDAY THROUGH FRIDAY, 7 AM TO 6 PM SATURDAY AND SUNDAY.

PHASE IV: TRAFFIC CONTROL FOR PHASE IV INVOLVES CLOSING PARKWOOD DRIVE FROM US 290 TO SCHOOL ROAD SO THAT WASTEWATER LINES AND STORM DRAINING CULVERTS AT GAINES TRIBUTARY (WEST) CAN BE CONSTRUCTED. USE ADVANCED WARNING SIGNS ON ALL APPROACHES AND PROVIDE ACCESS TO LOCAL BUSINESSES AND CHURCH.

DETOUR ROUTES: TRAFFIC ON US290 WB FRONTAGE ROAD THAT NEEDS ACCESS TO PARKWOOD DRIVE WILL BE DETOURED VIA OAKCLAIRE DRIVE AND OAKCLAIRE LANE. TRAFFIC HEADING SOUTH ON PARKWOOD DRIVE WILL DETOURED VIA OAKCLAIRE LANE AND OAKCLAIRE DRIVE OR SCHOOL ROAD AND PATTON RANCH ROAD.

WORK HOURS: 9 AM TO 4 PM MONDAY THROUGH FRIDAY, 7 AM TO 6 PM SATURDAY AND SUNDAY.

PHASE V: TRAFFIC CONTROL FOR PHASE V INVOLVES CLOSING THE INTERSECTION OF PARKWOOD DRIVE AND SCHOOL ROAD SO THAT STORM DRAIN AND WASTEWATER LINES CAN BE CONSTRUCTED. USE ADVANCED WARNING SIGNS ON ALL APPROACHES AND PROVIDE ACCESS TO ADJACENT SINGLE FAMILY RESIDENCE. USE ORANGE SAFETY FENCING TO DELINEATE PATH FOR PEDESTRIAN TRAFFIC THROUGH THE CLOSURE, IF REQUIRED.

DETOUR ROUTES: TRAFFIC ON US290 WB FRONTAGE ROAD THAT NEEDS ACCESS TO PARKWOOD DRIVE WILL BE DETOURED VIA OAKCLAIRE DRIVE AND OAKCLAIRE LANE. TRAFFIC HEADING SOUTH ON PARKWOOD DRIVE WILL DETOURED VIA OAKCLAIRE LANE AND OAKCLAIRE DRIVE. TRAFFIC HEADING WEST ON SCHOOL ROAD WILL BE DETOURED VIA PATTON RANCH ROAD, US290 EB FRONTAGE ROAD, US290 EB FRONTAGE ROAD, U-TURN AT OLD FREDERICKSBURG ROAD AND US290 WB FRONTAGE ROAD.

WORK HOURS: 9 AM TO 4 PM MONDAY THROUGH FRIDAY, 7 AM TO 6 PM SATURDAY AND SUNDAY.

PHASE VI: TRAFFIC CONTROL FOR PHASE VI INVOLVES CLOSING SCHOOL ROAD WEST OF PARKWOOD DRIVE SO THAT STORM DRAIN LINES CAN BE CONSTRUCTED. USE ADVANCED WARNING SIGNS ON ALL APPROACHES. USE ORANGE SAFETY FENCING TO DELINEATE PATH FOR PEDESTRIAN TRAFFIC THROUGH THE CLOSURE, IF REQUIRED FOR SCHOOL ACCESS.

DETOUR ROUTES: TRAFFIC NEEDING TO TURN WEST ONTO SCHOOL ROAD WILL BE DETOURED VIA PARKWOOD DRIVE, US290 WB FRONTAGE ROAD AND PATTON RANCH ROAD. TRAFFIC NEEDING TO ACCESS PARKWOOD BY HEADING EAST ON SCHOOL ROAD WILL BE DETOURED VIA PATTON RANCH ROAD, US290 EB FRONTAGE ROAD, U-TURN AT OLD FREDERICKSBURG ROAD AND US290 WB FRONTAGE ROAD.

WORK HOURS: 9 AM TO 4 PM MONDAY THROUGH FRIDAY, 7 AM TO 6 PM SATURDAY AND SUNDAY.

PHASE VII: TRAFFIC CONTROL FOR PHASE VII INVOLVES CLOSING PARKWOOD DRIVE FROM OAKCLAIRE LANE TO SCHOOL LANE SO THAT WASTEWATER LINES CAN BE CONSTRUCTED. USE ADVANCED WARNING SIGNS ON ALL APPROACHES AND PROVIDE ACCESS TO ADJACENT SINGLE FAMILY RESIDENCES.

DETOUR ROUTES: TRAFFIC HEADING SOUTH ON PARKWOOD DRIVE WILL BE DETOURED VIA OAKCLAIRE LANE, OAKCLAIRE DRIVE, AND US 290 WB FRONTAGE ROAD. TRAFFIC HEADING NORTH ON PARKWOOD DRIVE FROM SCHOOL DRIVE WILL BE DETOURED VIA SB PARKWOOD DRIVE, US 290 WB FRONTAGE ROAD, U-TURN, US 290 EB FRONTAGE ROAD, U-TURN AT OLD FREDERICKSBURG, AND US 290 WB FRONTAGE ROAD.

PHASE VIII: TRAFFIC CONTROL FOR PHASE VIII INCLUDES CLOSING INTERSECTION OF PARKWOOD DRIVE AND OAKCLAIRE LANE SO THAT WASTEWATER LINES CAN BE CONSTRUCTED. USE ADVANCED WARNING SIGNS ON ALL APPROACHES AND PROVIDE ACCESS TO ADJACENT SINGLE FAMILY RESIDENCES.

DETOUR ROUTES: TRAFFIC HEADING NORTH ON PARKWOOD DRIVE FROM SCHOOL DRIVE WILL BE DETOURED VIA SB PARKWOOD DRIVE, US 290 WB FRONTAGE ROAD, U-TURN, US 290 EB FRONTAGE ROAD, U-TURN AT OLD FREDERICKSBURG, AND US 290 WB FRONTAGE ROAD. SINGLE FAMILY RESIDENCE WILL BE DETOURED VIA OAKCLAIRE DRIVE.

WORK HOURS: 9 AM TO 4 PM MONDAY THROUGH FRIDAY, 7 AM TO 6 PM SATURDAY AND SUNDAY.

PHASE IX: TRAFFIC CONTROL FOR PHASE IX INVOLVES CLOSING PARKWOOD DRIVE FROM OAKCLAIRE LANE TO FLATROCK LANE SO THAT WASTEWATER LINES, STORM SEWER LINES, AND NORTH TRIBUTARY (WEST) CULVERTS CAN BE CONSTRUCTED. USE ADVANCED WARNING SIGNS ON ALL APPROACHES AND PROVIDE ACCESS TO ADJACENT SINGLE FAMILY RESIDENCES.

DETOUR ROUTES: TRAFFIC WILL BE DETOURED VIA FLATROCK LANE, OAKCLAIRE DRIVE AND OAKCLAIRE LANE.

WORK HOURS: 9 AM TO 4 PM MONDAY THROUGH FRIDAY, 7 AM TO 6 PM SATURDAY AND SUNDAY.

SPEED LIMITS:

SPEED LIMIT FOR PATTON RANCH ROAD, PARKWOOD DRIVE, OAKCLAIRE DRIVE, OAKCLAIRE LANE, SCHOOL ROAD AND FLATROCK LANE IS 30 MPH. SPEED LIMIT FOR US290 FRONTAGE ROADS IS 45 MPH.

DRIVEWAY NOTE:

PROVIDE ACCESS TO BUSINESSES, WESTERN HILLS CHURCH OF CHRIST, AND RESIDENCES AT ALL TIMES. COORDINATE WITH ADJACENT PROPERTY OWNERS/TENANTS WHEN TEMPORARY CLOSURES ARE REQUIRED.

SIDEWALK NOTE:

THERE ARE NO SIDEWALKS IN THIS AREA WITH THE EXCEPTION OF SOUTH SIDE OF SCHOOL ROAD. CONTRACTOR MAY BE REQUIRED TO PROVIDE SAFE PASSAGE THROUGH THE WORK ZONE FOR PEDESTRIANS AND CYCLISTS USING ORANGE PLASTIC SAFETY FENCING PER COA STANDARD DETAIL 8045-4 (1 OF 9).

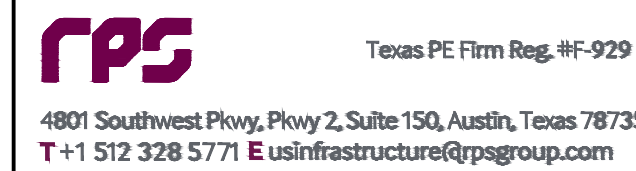
STANDARD DETAILS

CONTRACTOR SHALL USE CITY OF AUSTIN STANDARD DETAILS IN COA RIGHT OF WAY AND TXDOT STANDARD DETAILS IN TXDOT ROW.

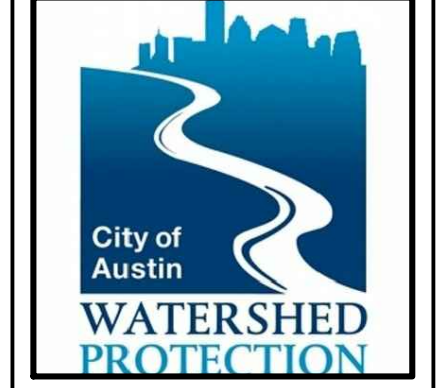
RIGHT OF WAY MANAGEMENT STANDARD NOTES FOR TRAFFIC CONTROL PLANS

- 1. CONTRACTOR SHALL HAVE AN APPROVED RIGHT OF WAY (ROW) PERMIT AND TRAFFIC CONTROL PLAN (TCP) IN ELECTRONIC OR PAPER FORMATS ON SITE AT ALL TIMES WHEN WORKING IN THE ROW.
2. CONTRACTOR SHALL PROVIDE NOTIFICATION, AS PER THE LATEST MOBILITY GUIDELINES (MG-04).
3. UNLESS OTHERWISE APPROVED BY THE ROW DIVISION OF AUSTIN TRANSPORTATION DEPARTMENT (ATD): A.) ONLY ONE PHASE OF A TCP MAY BE SET AT ANY ONE TIME, AND B.) INITIAL SETUP AND PHASE CHANGES OF LONG-TERM WORK ZONES SHALL BE INSTALLED ON WEEKENDS.
4. ONCE TRAFFIC CONTROL HAS BEEN SET, THE AUTHORIZED AND COMPETENT REPRESENTATIVE FROM THE PROJECT TEAM/BARRICADE COMPANY WILL COMPLETE AND UPLOAD THE "CONTRACTOR'S SELF-INSPECTION CHECKLIST" FORM.
5. FOR ROW VIOLATIONS, AN INVESTIGATION FEE WILL BE ASSESSED FOR EACH OFFENSE UNTIL THE VIOLATION IS CORRECTED.
6. EXCAVATIONS SHALL BE BACKFILLED OR PLATED WHEN REQUIRED TO OPEN TO TRAFFIC. TEMPORARY PAVING SHALL BE DONE ACCORDING TO CITY OF AUSTIN (COA) STANDARD DETAIL 11005-4 (FOR HMAC OR PCC PAVEMENTS).
7. PEDESTRIAN ROUTES IN AND AROUND THE WORK ZONE, INCLUDING CONSTRUCTION ENTRANCES, TEMPORARY WALKING PATHS, BYPASSES, COVERED WALKWAYS, AND DETOURS THROUGHOUT THE PROJECT, MUST REMAIN ACCESSIBLE AND SHALL INCLUDE ACCESSIBILITY FEATURES CONSISTENT WITH THE FEATURES PRESENT IN THE EXISTING PEDESTRIAN FACILITY.
8. ALL APPLICABLE SAFEGUARDS SHALL BE IN PLACE PER CHAPTER 33 OF THE INTERNATIONAL BUILDING CODE, TO INCLUDE PEDESTRIAN PROTECTIONS PER SECTION 3306.
9. "CONSTRUCTION ENTRANCE AHEAD" SIGNS MUST BE PLACED AT ALL APPROACHES TO CONSTRUCTION ENTRANCES, UNLESS OTHERWISE SHOWN ON THE APPROVED TCP.
10. EXISTING DRIVEWAYS SHALL NOT BE CLOSED EXCEPT WITH ADVANCE NOTICE TO THE AFFECTED BUSINESSES/RESIDENCES AND APPROVAL FROM THE ROW DIVISION OF ATD.
11. ALL TRAFFIC CONTROL DEVICES INCLUDING PROTECTIVE BARRIERS MUST BE CRASHWORTHY AND INSTALLED ACCORDING TO THE MANUFACTURER'S GUIDELINES. CRASHWORTHINESS SHALL BE DETERMINED PER MASH TESTING REQUIREMENTS.
12. OVERNIGHT PROTECTION OF WORK ZONES AND STORAGE OF MATERIAL/EQUIPMENT SHALL BE ACCORDING TO COA STANDARD DETAIL 8045-4.
13. THE NAME OF THE BARRICADE CONTRACTOR SHALL BE SHOWN ON THE NON-REFLECTIVE SURFACE OF ALL TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH COA STANDARD DETAIL 8045-5.
14. THE CITY'S TRAFFIC ENGINEER OR INSPECTOR MAY MAKE OR REQUIRE FIELD ADJUSTMENTS TO ADDRESS ISSUES OF SAFETY AND MOBILITY.
15. IF EXISTING CAPITAL METRO BUS STOPS ARE WITHIN THE TEMPORARY TRAFFIC CONTROL OR DETOUR AREA, THE CONTRACTOR SHALL CONTACT CAPITAL METRO (LAURIE MICHEL AT 512-621-5713 (MOBILE)/ 512-369-7701 (WORK), LAURIE.MICHEL@CAPMETRO.ORG), OR "SERVICE.IMPACTS@CAPMETRO.ORG, TWO (2) WEEKS PRIOR TO SETTING UP THE TRAFFIC CONTROL DEVICES IN ORDER TO COORDINATE POTENTIAL BUS-STOP RELOCATION OR ANY OTHER RELATED ISSUES.
16. IF EXISTING SIGNALIZED INTERSECTIONS ARE WITHIN THE TEMPORARY TRAFFIC CONTROL AREA, THE CONTRACTOR SHALL CONTACT ATD - SIGNALS DIVISION AT (512) 974-4075, ONE WEEK PRIOR TO SETTING TRAFFIC CONTROL DEVICES.
17. THE RIGHT OF WAY SHALL BE RETURNED TO FULL USE AT THE END OF THE APPROVED WORK HOURS.
18. CONTRACTORS SHALL ADHERE TO ALL ROW SPECIAL EVENT ACTIVITY RESTRICTIONS, AS PER THE LATEST MOBILITY GUIDELINES (MG-08). PROJECTS THAT ARE ROUTED THROUGH THE DAPCZ PROCESS ARE REQUIRED TO COORDINATE WITH THE OFFICE OF SPECIAL EVENTS (512-974-1000 OR TRANSPORTATION.SPECIALEVENTS@AUSTINTEXAS.GOV), IN CONJUNCTION WITH THE ROW DIVISION OF ATD. VISIT CITY STAGE FOR SCHEDULED EVENTS FOR ALL OF AUSTIN.
19. PURSUANT TO CITY CODE 9-2-3, ROW WORK MUST NOT MAKE NOISE AUDIBLE TO AN ADJACENT BUSINESS OR RESIDENCE BETWEEN 10:30PM AND 7:00AM OR OPERATE A MACHINE THAT SEPARATES, GATHERS, GRADES, LOADS, OR UNLOADS SAND, ROCK, OR GRAVEL WITHIN 600 FEET OF A RESIDENCE, CHURCH, HOSPITAL, HOTEL, OR MOTEL BETWEEN 7:00PM AND 6:00AM, EXCEPT FOR INSTALLATION OF CONCRETE AUTHORIZED BY A SEPARATE NON-PEAK HOUR CONCRETE POUR PERMIT ISSUED UNDER CITY CODE SECTION 9-2-21.

REVISED 10/1/2021



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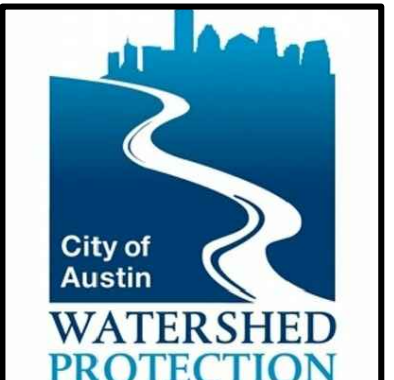
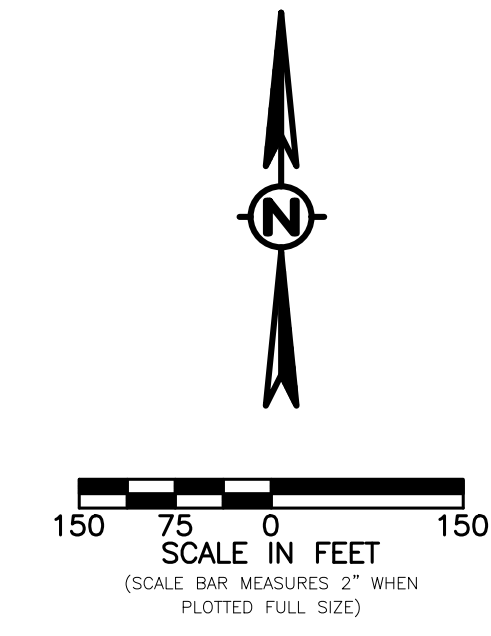
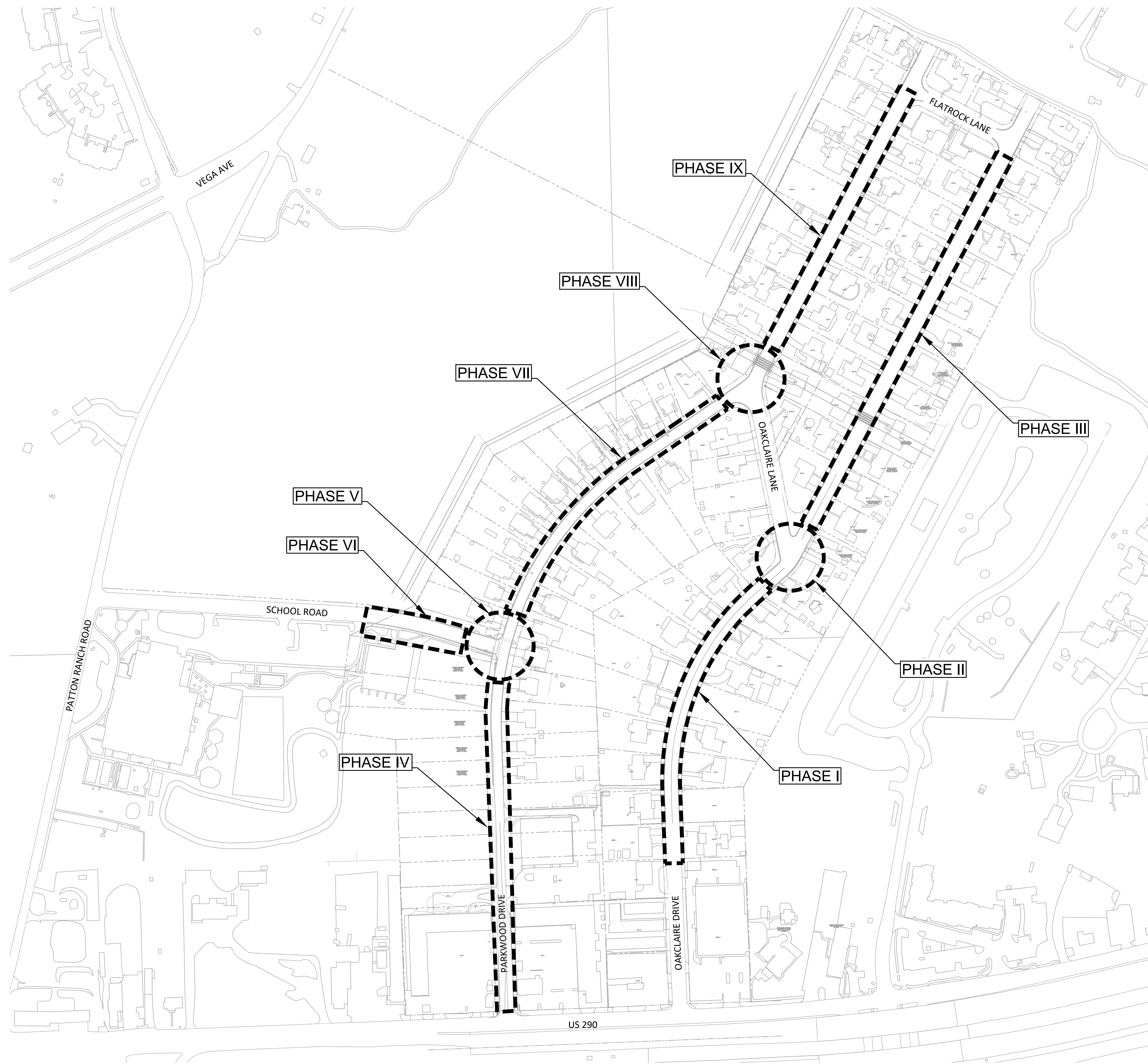
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SITE DEVELOPMENT PERMIT OFFICE
BARTON CREEK OAK PARK
FLOOD RISK REDUCTION PROJECT
TRAFFIC CONTROL NOTES

Table with columns: NO., BY, DATE, REVISIONS, REMARKS.

SHEET INFORMATION
DATE SEPT. 19, 2022
SHEET 124 OF 141

CADD FILE: \\CAS-DATASERVER\WATER\ACTIVE PROJECTS\COA WATERSHED ENGINEERING FLOOD HAZARD MITIGATION RL 2015\RPS\BARTON CREEK OAK PARK_3.0 WORK PRODUCTS\3.6 CAD\7841TCP00 PLOTTED: 9/19/2022 4:18:04 PM BY: FRANK DE LUNA CTB FILE: CAS.CTB



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**SITE DEVELOPMENT PERMIT OFFICE
BARTON CREEK OAK PARK
FLOOD RISK REDUCTION PROJECT
OVERALL TRAFFIC CONTROL PLAN**

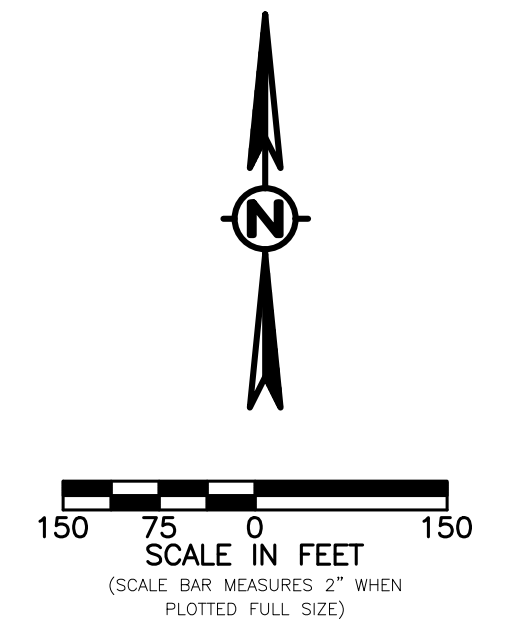
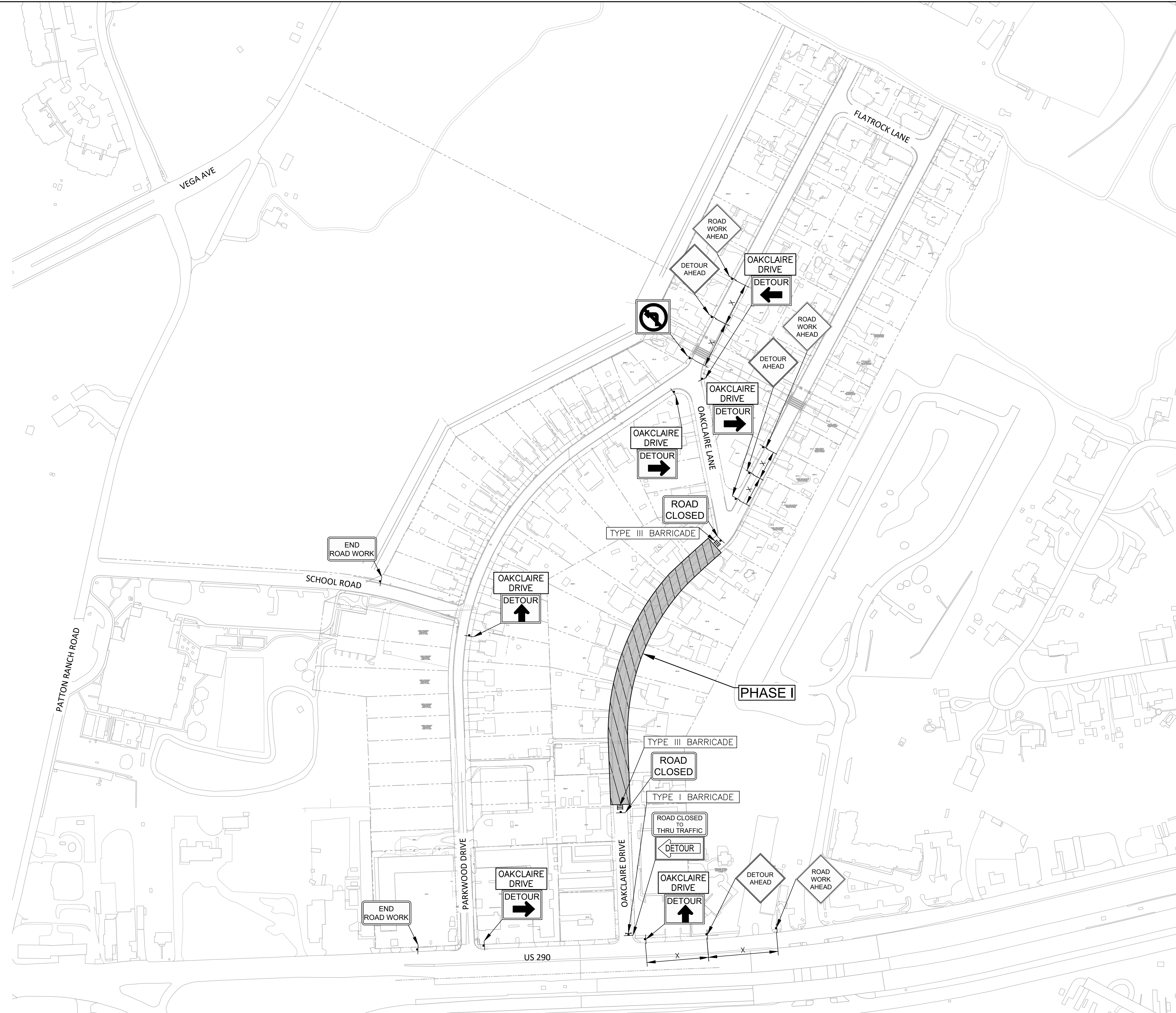
NO.	BY	DATE	REVISIONS	REMARKS

CAS CONSULTING & SERVICES, INC.
 7906 Cameron Road | Austin, TX 78754 | Tel: 512.336.5372
 Main: 512.836.2388 | Fax: 512.836.4515

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 DATE SEPT. 19, 2022
 SHEET 125 OF 141

CADD FILE: \\CAS-DATASERVER\WATER\ACTIVE PROJECTS\COA WATERSHED ENGINEERING FLOOD HAZARD MITIGATION RL 2015\RPS\BARTON CREEK OAK PARK_3.0 WORK PRODUCTS\3.6 CAD\7841TCP01 PLOTTED: 9/19/2022 4:18:21 PM BY: FRANK DE LUNA CTB FILE: CAS.CTB

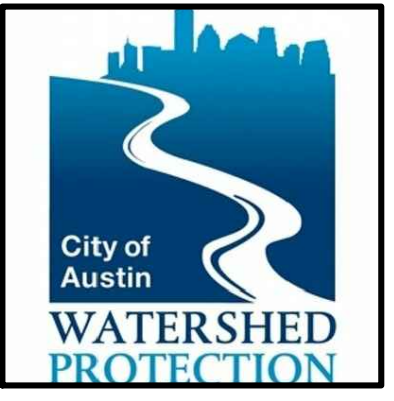


LEGEND

	WORK ZONE
	TYPE I BARRICADE
	TYPE III BARRICADE

NOTES:

1. CONTRACTOR SHALL PROVIDE ACCESS TO DRIVEWAYS AT ALL TIMES.



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**SITE DEVELOPMENT PERMIT OFFICE
BARTON CREEK OAK PARK
FLOOD RISK REDUCTION PROJECT
TRAFFIC CONTROL PLAN - PHASE I**

NO.	DATE	BY	REVISIONS	REMARKS

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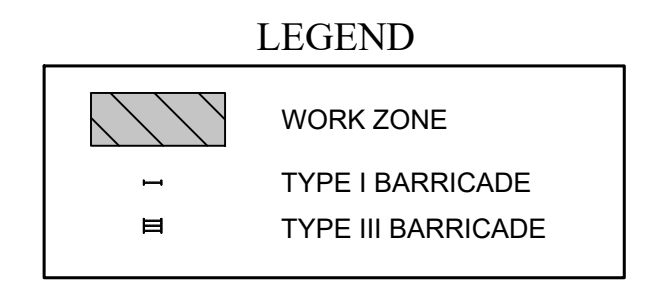
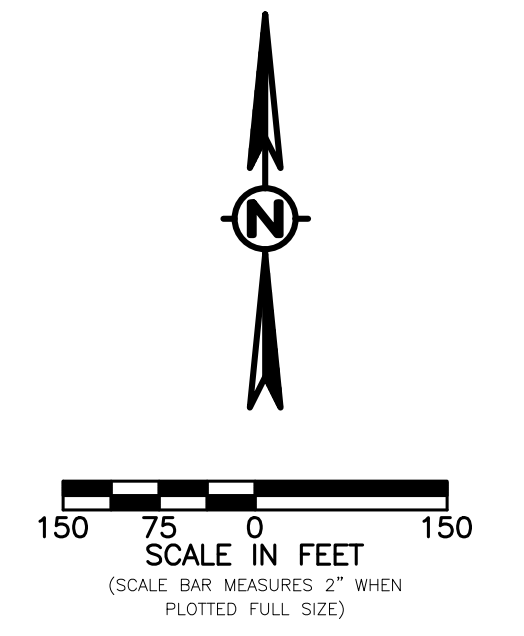
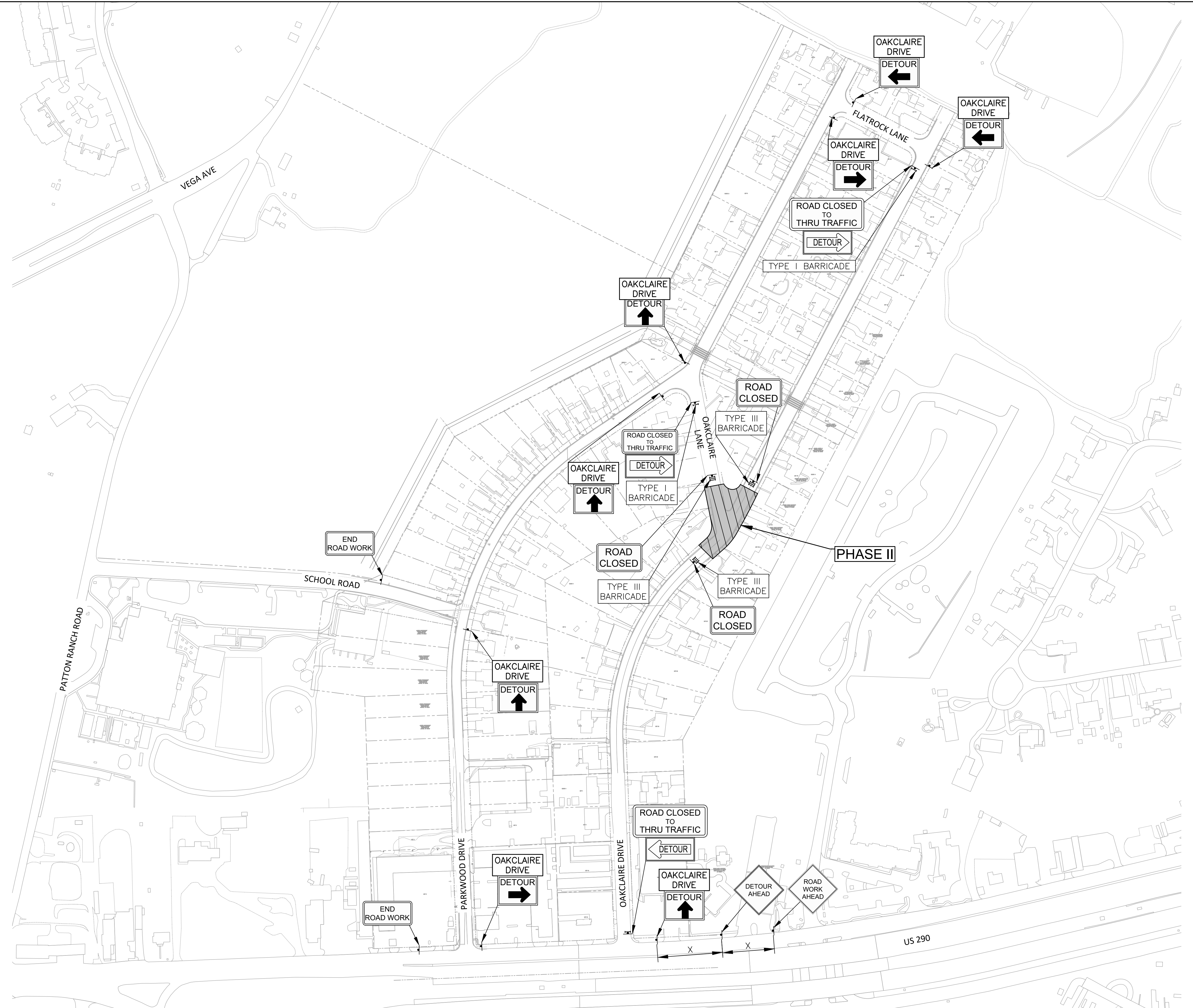
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SHEET INFORMATION

DATE SEPT. 19, 2022

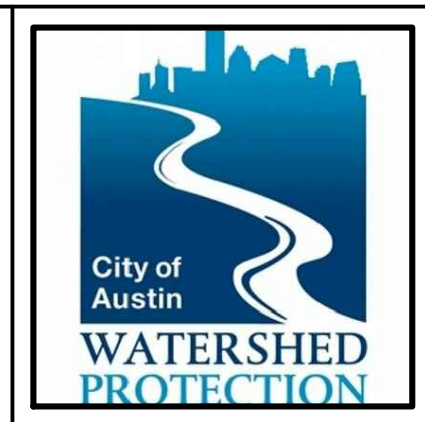
SHEET 126 OF 141

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NOTES:

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**SITE DEVELOPMENT PERMIT OFFICE
BARTON CREEK OAK PARK
FLOOD RISK REDUCTION PROJECT
TRAFFIC CONTROL PLAN - PHASE II**

NO.	BY	DATE	REVISIONS	REMARKS

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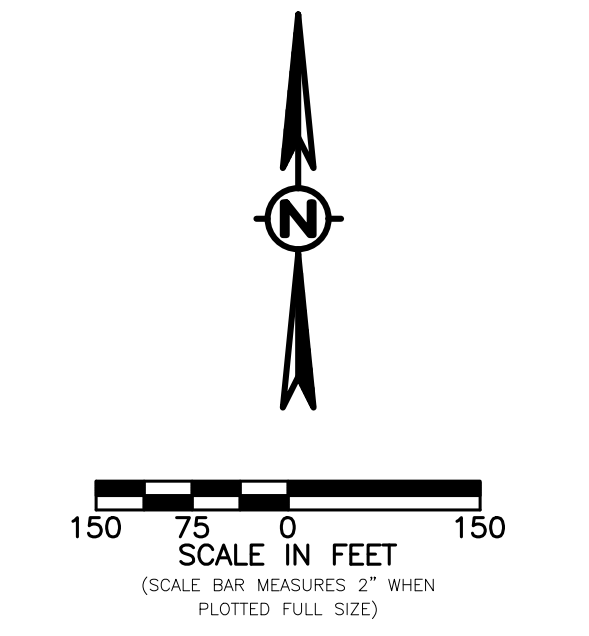
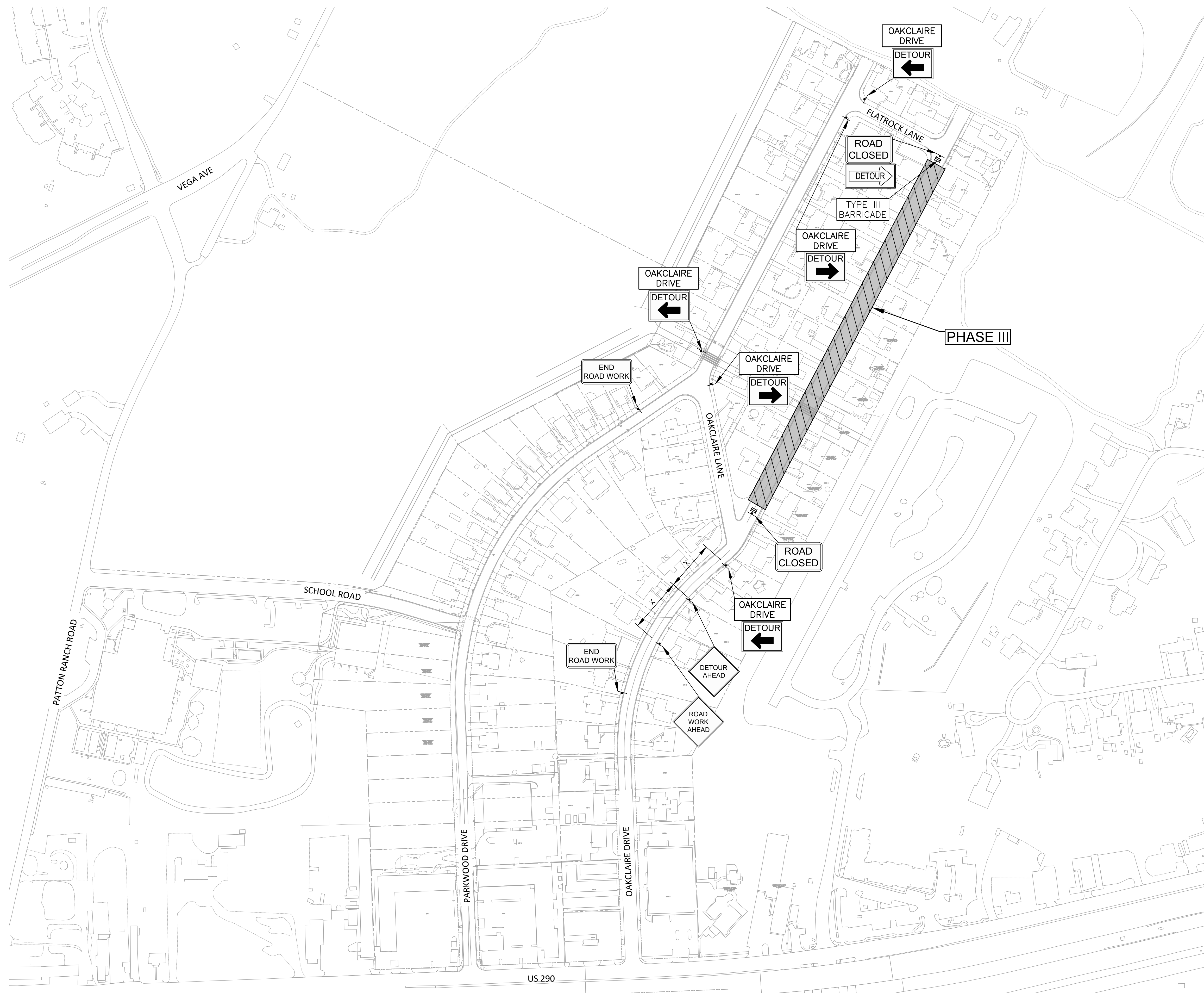
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DATE SEPT. 19, 2022

SHEET 127 OF 141

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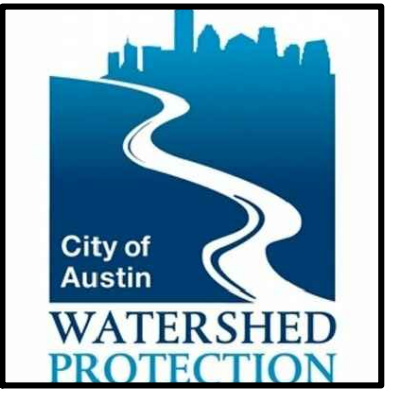


LEGEND

	WORK ZONE
	TYPE I BARRICADE
	TYPE III BARRICADE

NOTES:

- CONTRACTOR SHALL PROVIDE ACCESS TO DRIVEWAYS AT ALL TIMES.



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**SITE DEVELOPMENT PERMIT OFFICE
BARTON CREEK OAK PARK
FLOOD RISK REDUCTION PROJECT
TRAFFIC CONTROL PLAN - PHASE III**

NO.	BY	DATE	REVISIONS	REMARKS

CAS CONSULTING & SERVICES, INC.
7906 Cameron Road | Austin, TX 78754 | Tel: 512.7435972
Main: 512.836.2388 | Fax: 512.836.4515

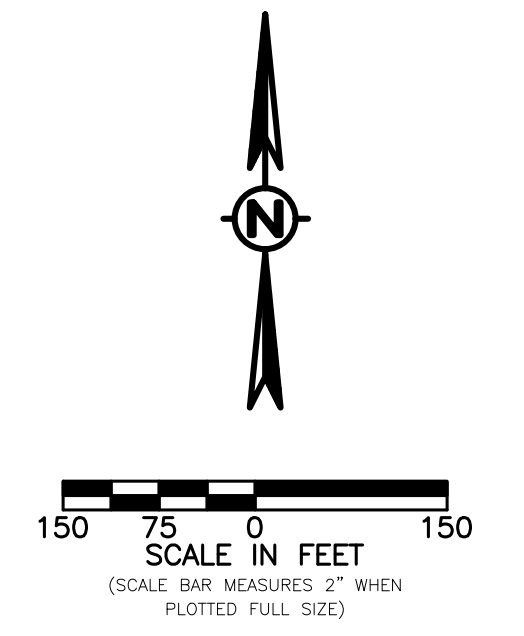
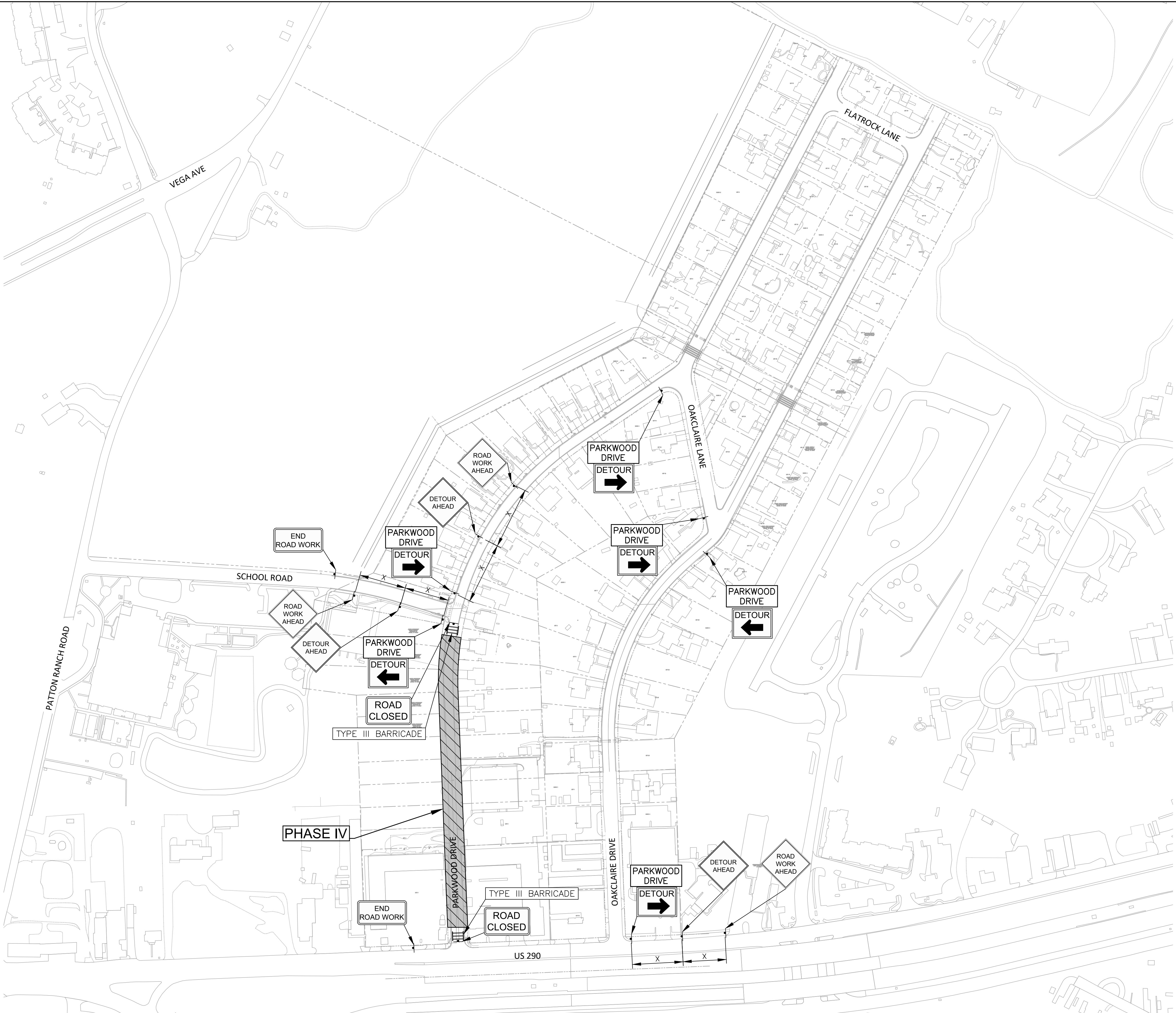
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SHEET 128 OF 141

CADD FILE: \\CAS-DATASERVER\WATER\ACTIVE PROJECTS\COA WATERSHED ENGINEERING FLOOD HAZARD MITIGATION RL 2015\RPS\BARTON CREEK OAK PARK\3.0 WORK PRODUCTS\3.6 CAD\7841TCP04 PLOTTED: 9/19/2022 4:19:05 PM BY: FRANK DE LUNA CTB FILE: CAS.CTB

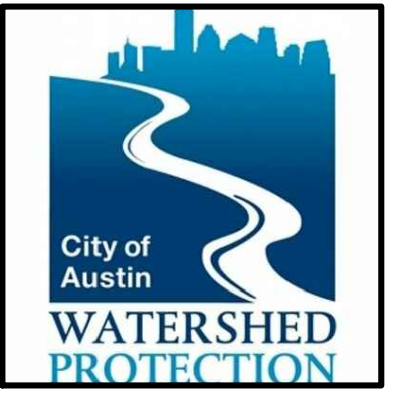


LEGEND

	WORK ZONE
	TYPE I BARRICADE
	TYPE III BARRICADE

NOTES:

- CONTRACTOR SHALL PROVIDE ACCESS TO DRIVEWAYS AT ALL TIMES.



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**SITE DEVELOPMENT PERMIT OFFICE
BARTON CREEK OAK PARK
FLOOD RISK REDUCTION PROJECT
TRAFFIC CONTROL PLAN - PHASE IV**

NO.	DATE	REVISIONS	REMARKS

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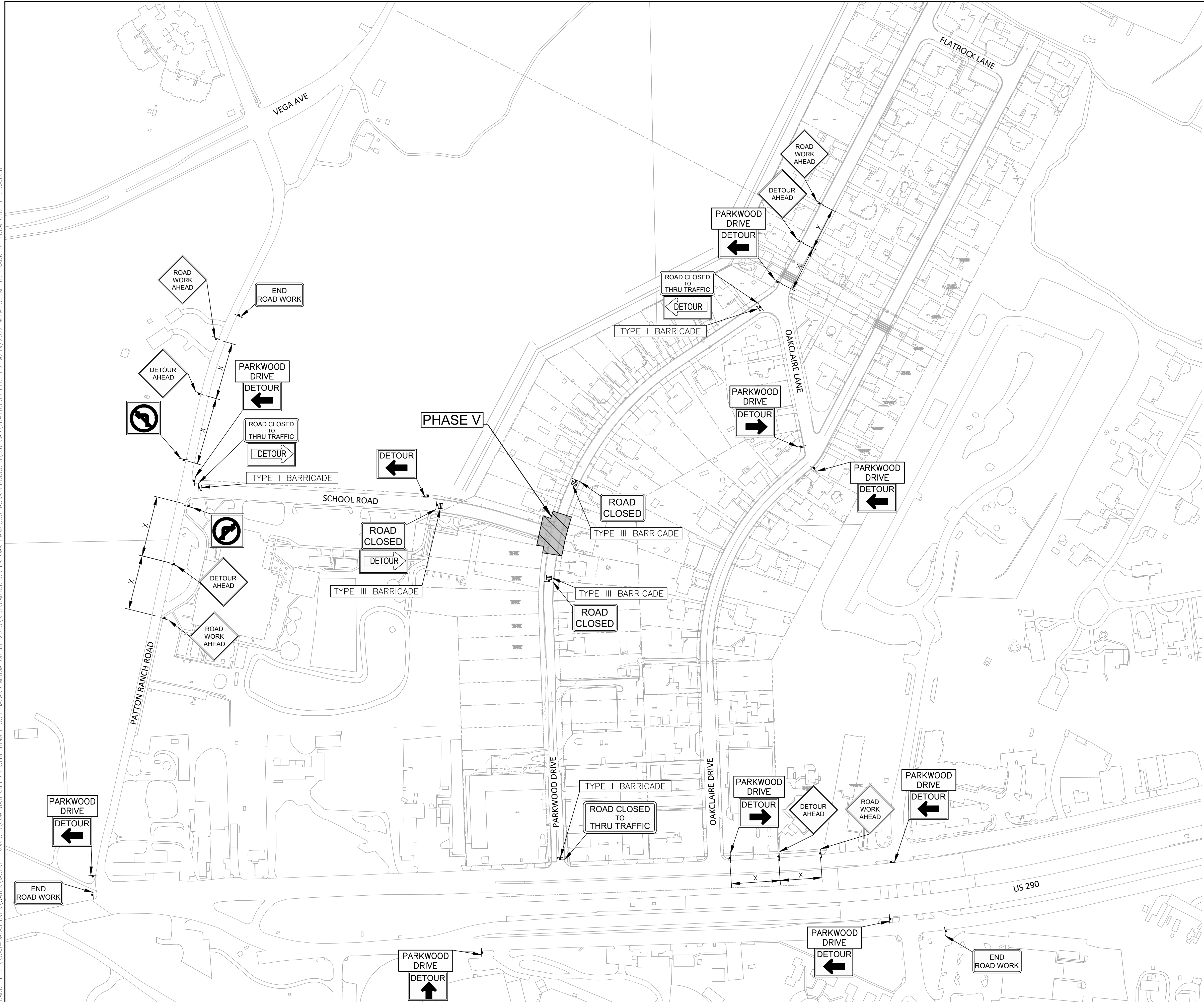
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SHEET 129 OF 141

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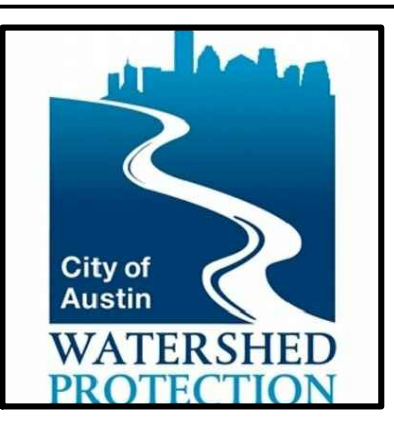
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SCALE IN FEET
(SCALE BAR MEASURES 2" WHEN PLOTTED FULL SIZE)

LEGEND

	WORK ZONE
	TYPE I BARRICADE
	TYPE III BARRICADE

NOTES:

- CONTRACTOR SHALL PROVIDE ACCESS TO DRIVEWAYS AT ALL TIMES.



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**SITE DEVELOPMENT PERMIT OFFICE
BARTON CREEK OAK PARK
FLOOD RISK REDUCTION PROJECT
TRAFFIC CONTROL PLAN - PHASE V**

NO.	DATE	REVISIONS	REMARKS

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7906 Cameron Road | Austin, TX 78754 | Tel: 512.743.5572
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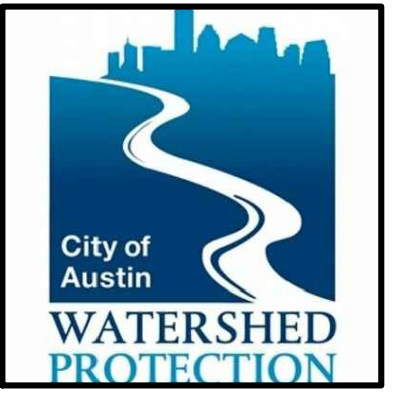
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DATE SEPT. 19, 2022

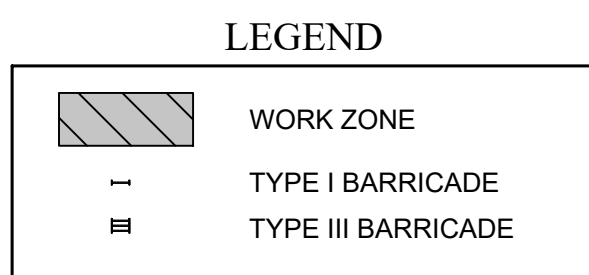
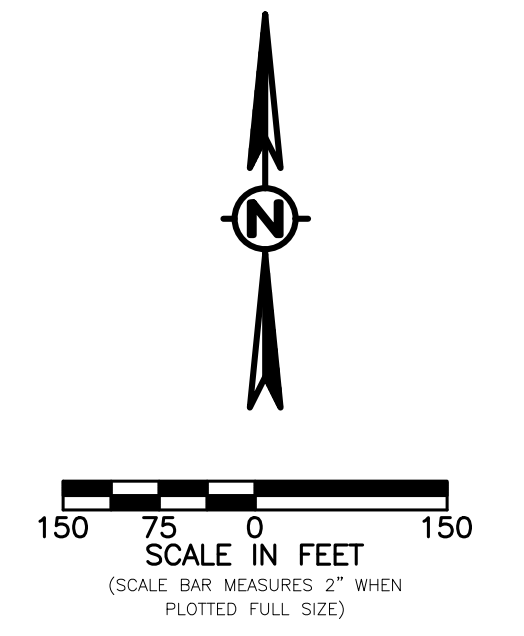
SHEET 130 OF 141

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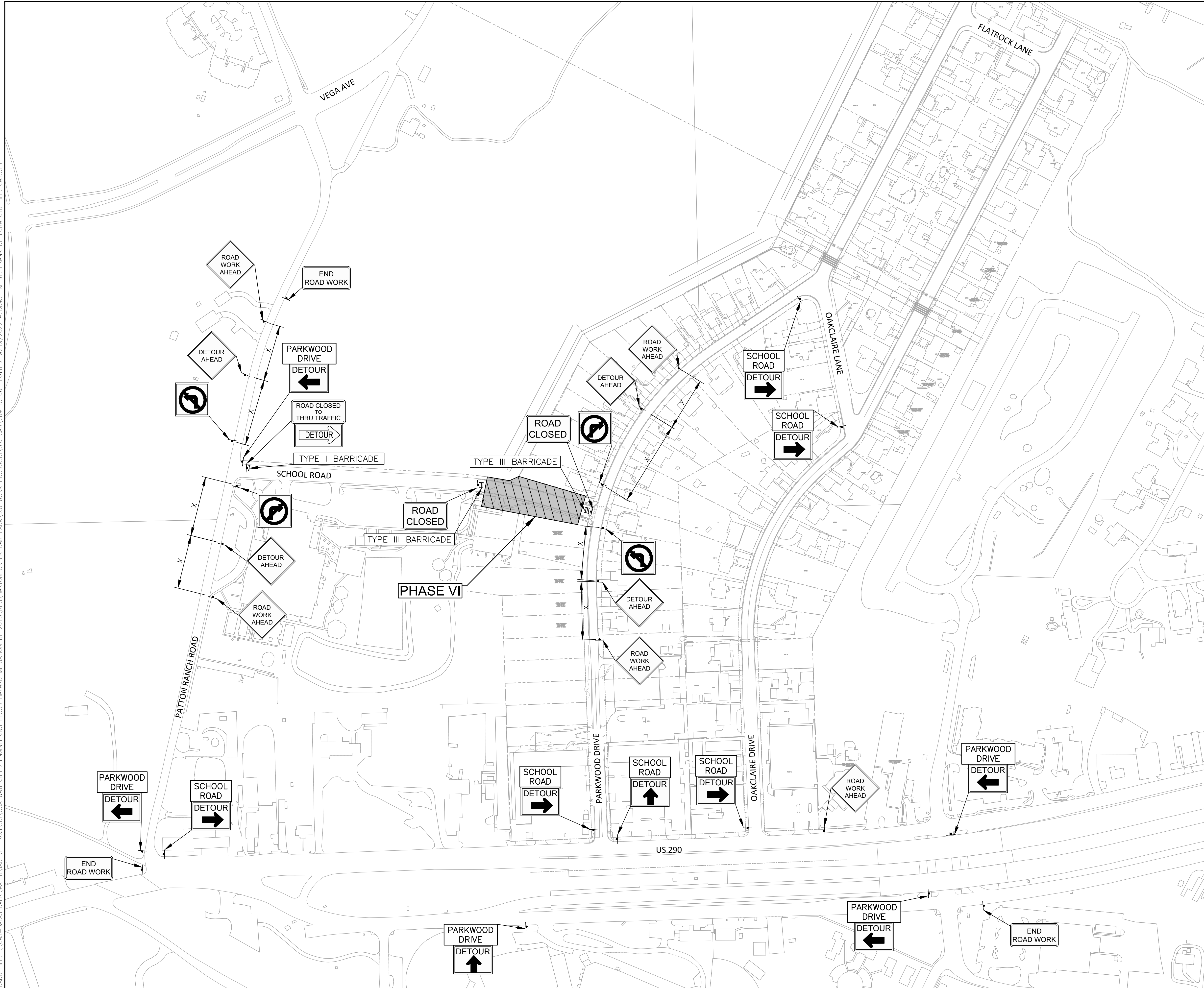


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**SITE DEVELOPMENT PERMIT OFFICE
BARTON CREEK OAK PARK
FLOOD RISK REDUCTION PROJECT
TRAFFIC CONTROL PLAN - PHASE VI**



- NOTES:**
- CONTRACTOR SHALL PROVIDE ACCESS TO DRIVEWAYS AT ALL TIMES.



NO.	DATE	REVISIONS	REMARKS

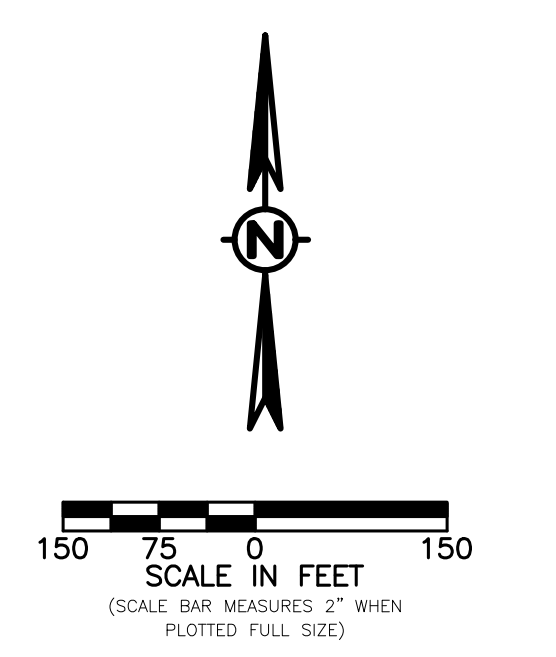
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SHEET INFORMATION

DATE	SEPT. 19, 2022
SHEET	131 OF 141

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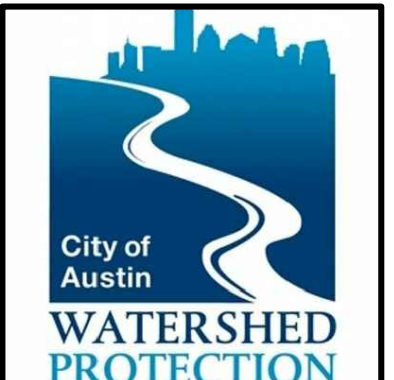


LEGEND

	WORK ZONE
	TYPE I BARRICADE
	TYPE III BARRICADE

NOTES:

- CONTRACTOR SHALL PROVIDE ACCESS TO DRIVEWAYS AT ALL TIMES.



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**SITE DEVELOPMENT PERMIT OFFICE
BARTON CREEK OAK PARK
FLOOD RISK REDUCTION PROJECT
TRAFFIC CONTROL PLAN - PHASE VII**

NO.	DATE	REVISIONS	REMARKS

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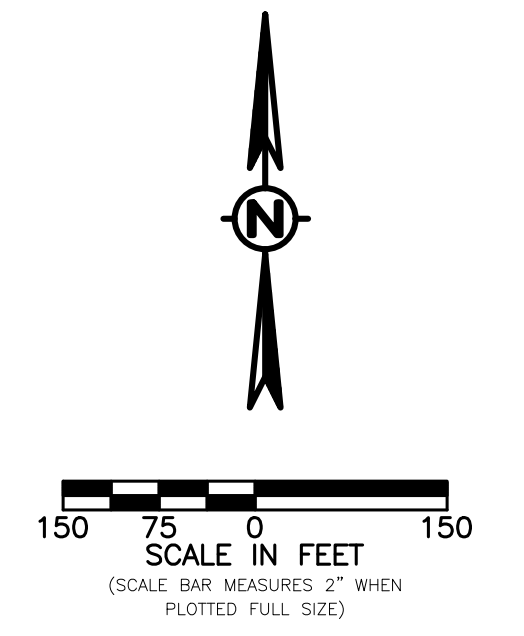
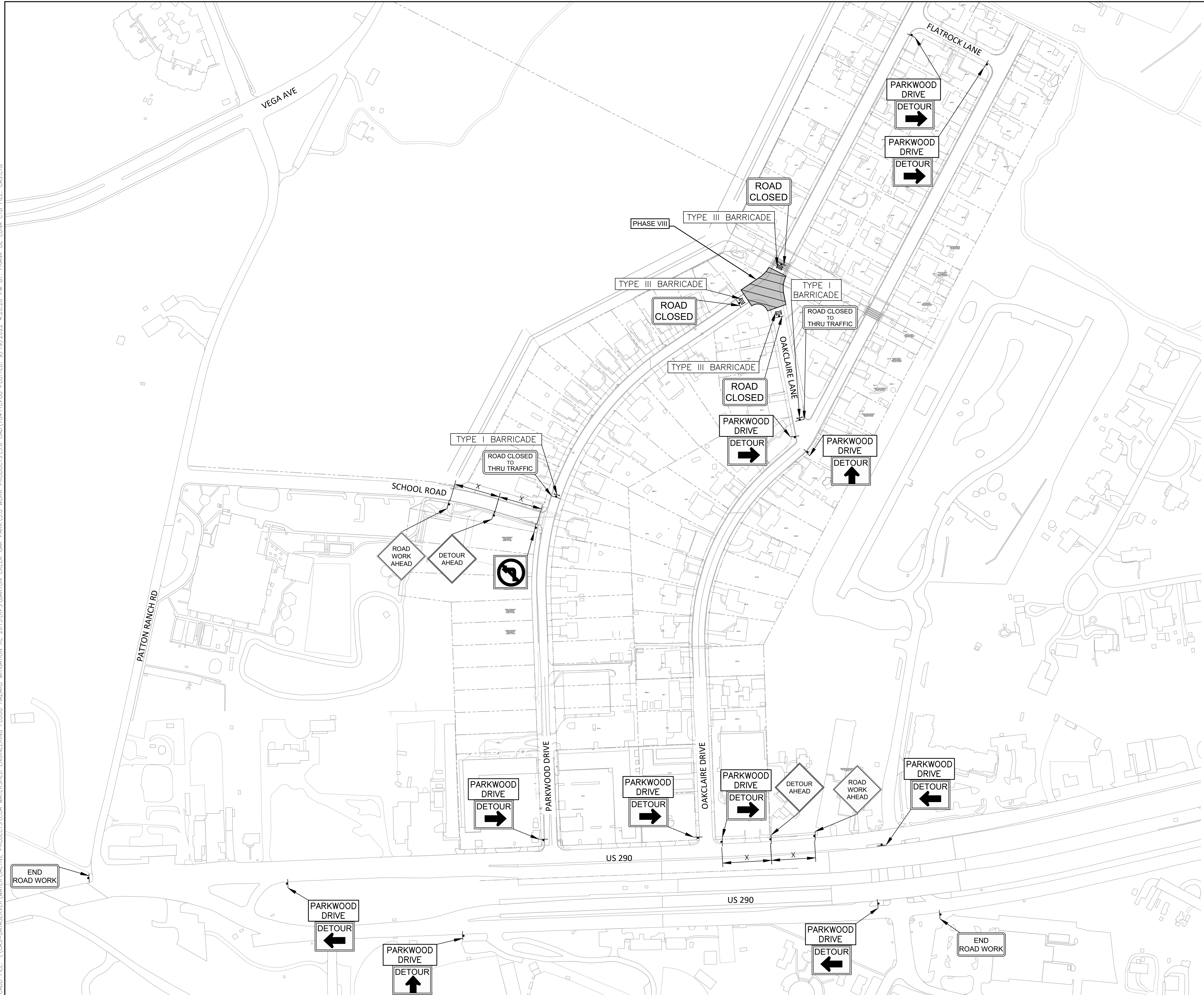
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SHEET INFORMATION

DATE SEPT. 19, 2022

SHEET 132 OF 141

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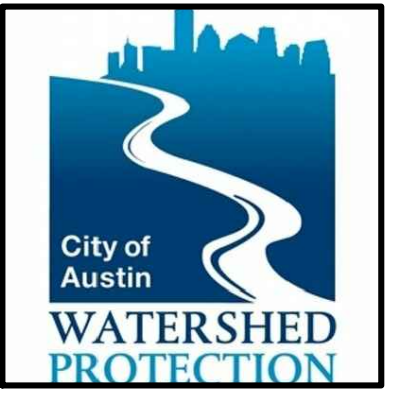


LEGEND

	WORK ZONE
	TYPE I BARRICADE
	TYPE III BARRICADE

NOTES:

- CONTRACTOR SHALL PROVIDE ACCESS TO DRIVEWAYS AT ALL TIMES.



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**SITE DEVELOPMENT PERMIT OFFICE
BARTON CREEK OAK PARK
FLOOD RISK REDUCTION PROJECT
TRAFFIC CONTROL PLAN - PHASE VIII**

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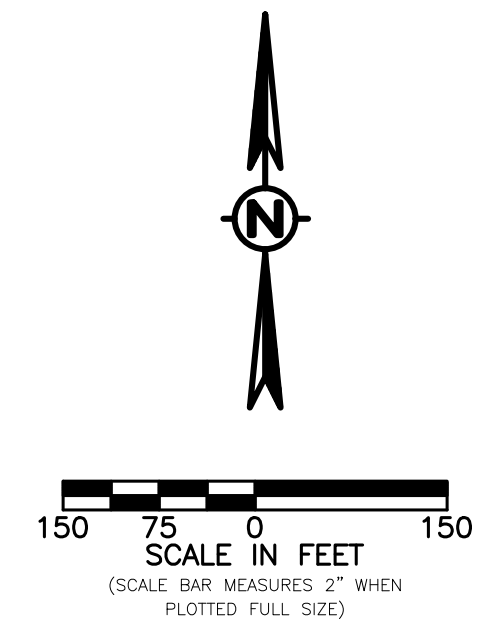
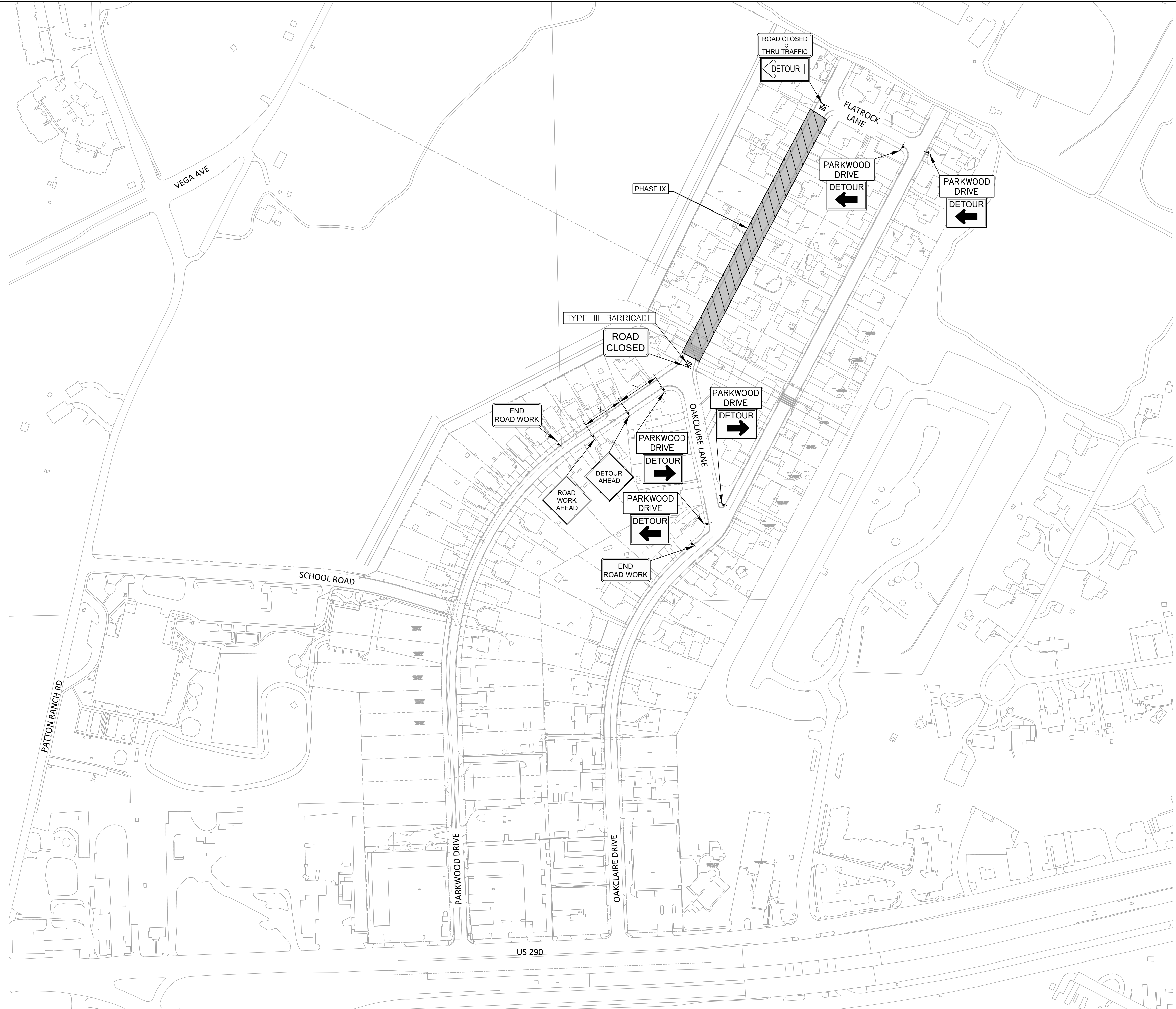
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SHEET INFORMATION

DATE SEPT. 19, 2022

SHEET 133 OF 141

CADD FILE: \\CAS-DATASERVER\WATER\ACTIVE PROJECTS\COA WATERSHED ENGINEERING FLOOD HAZARD MITIGATION RL 2015\RPS\BARTON CREEK_OAK PARK_3.0 WORK PRODUCTS\3.6 CAD\7841TCP09 PLOTTED: 9/19/2022 4:20:38 PM BY: FRANK DE LUNA CTB FILE: CAS.CTB

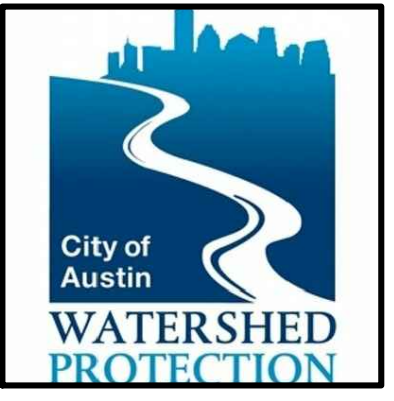


LEGEND

	WORK ZONE
	TYPE I BARRICADE
	TYPE III BARRICADE

NOTES:

- CONTRACTOR SHALL PROVIDE ACCESS TO DRIVEWAYS AT ALL TIMES.



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**SITE DEVELOPMENT PERMIT OFFICE
BARTON CREEK OAK PARK
FLOOD RISK REDUCTION PROJECT
TRAFFIC CONTROL PLAN - PHASE IX**

NO.	DATE	BY	REVISIONS	REMARKS

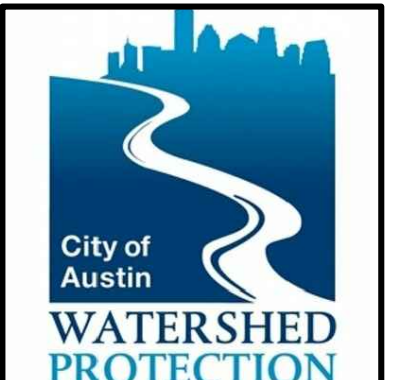
CAS CONSULTING & SERVICES, INC.
7906 Cameron Road | Austin, TX 78754 | Tel: 512.336.2388 | Fax: 512.836.4515

Texas PE Firm Reg. #F-929
4801 Southwest Pkwy, Pkwy 2, Suite 150, Austin, Texas 78735
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SHEET INFORMATION

DATE SEPT. 19, 2022

SHEET 134 OF 141

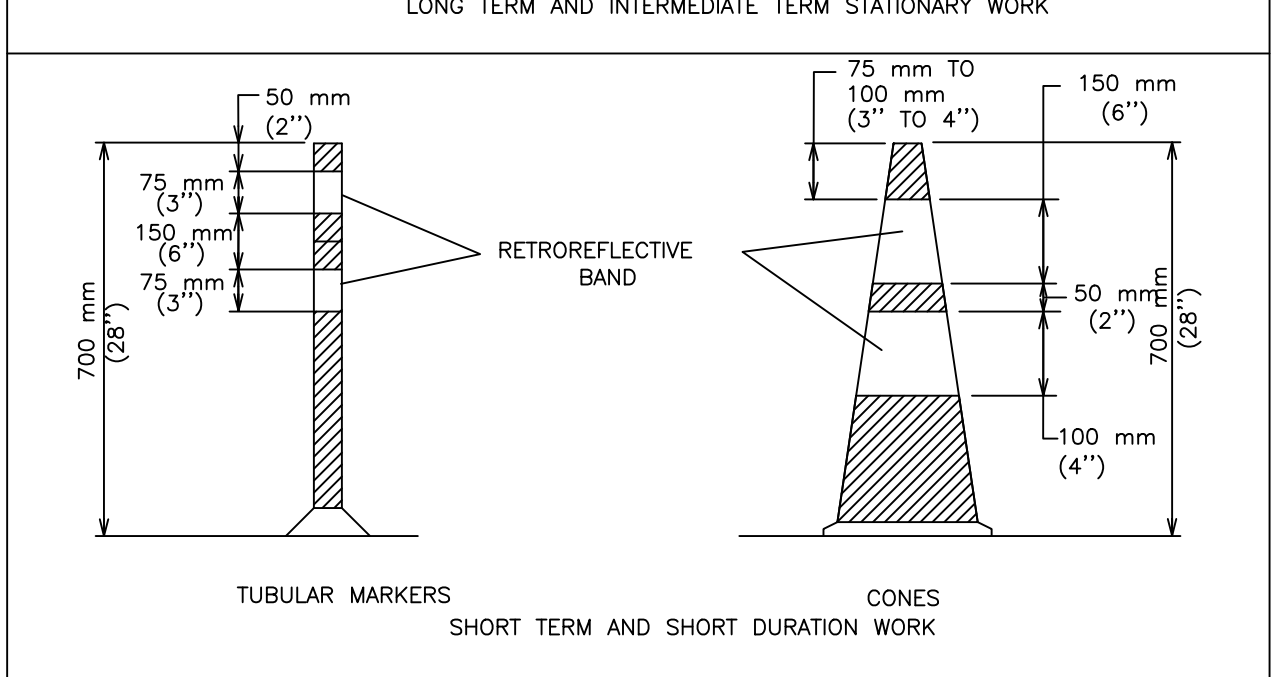
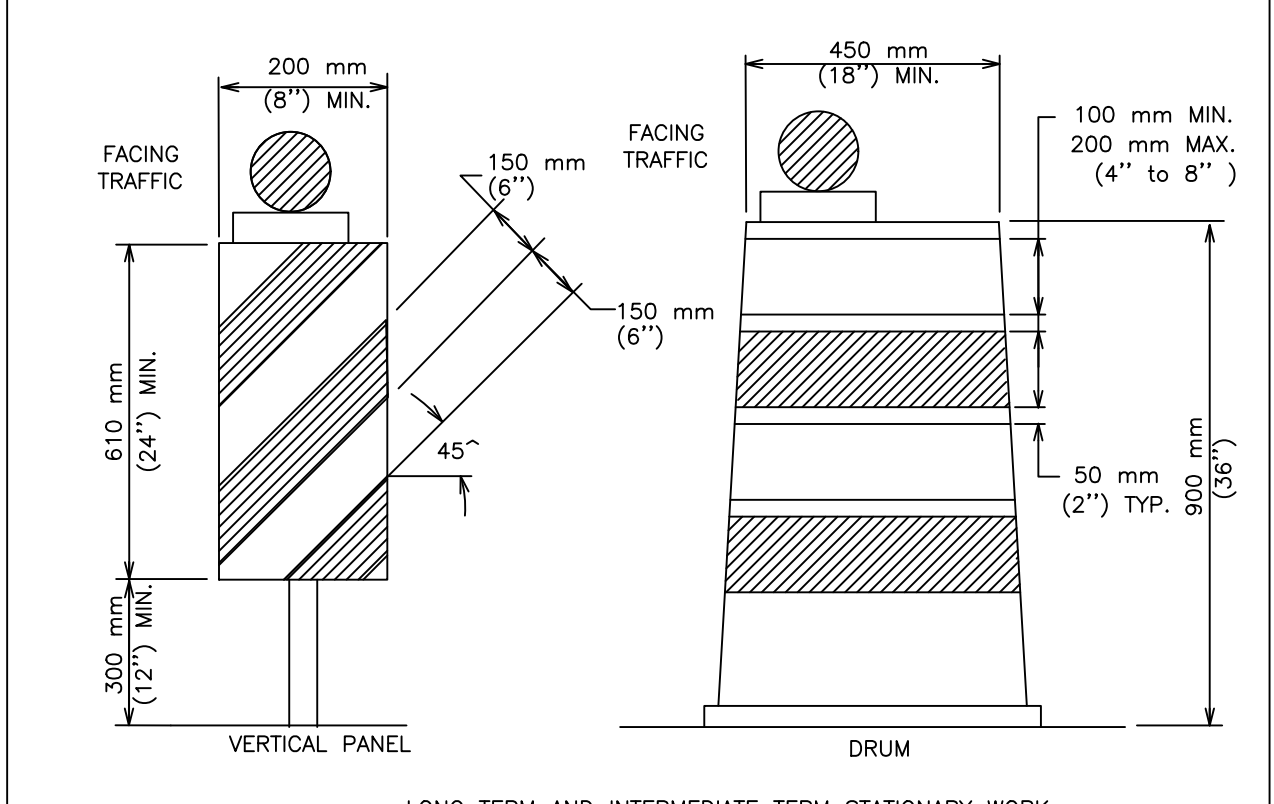


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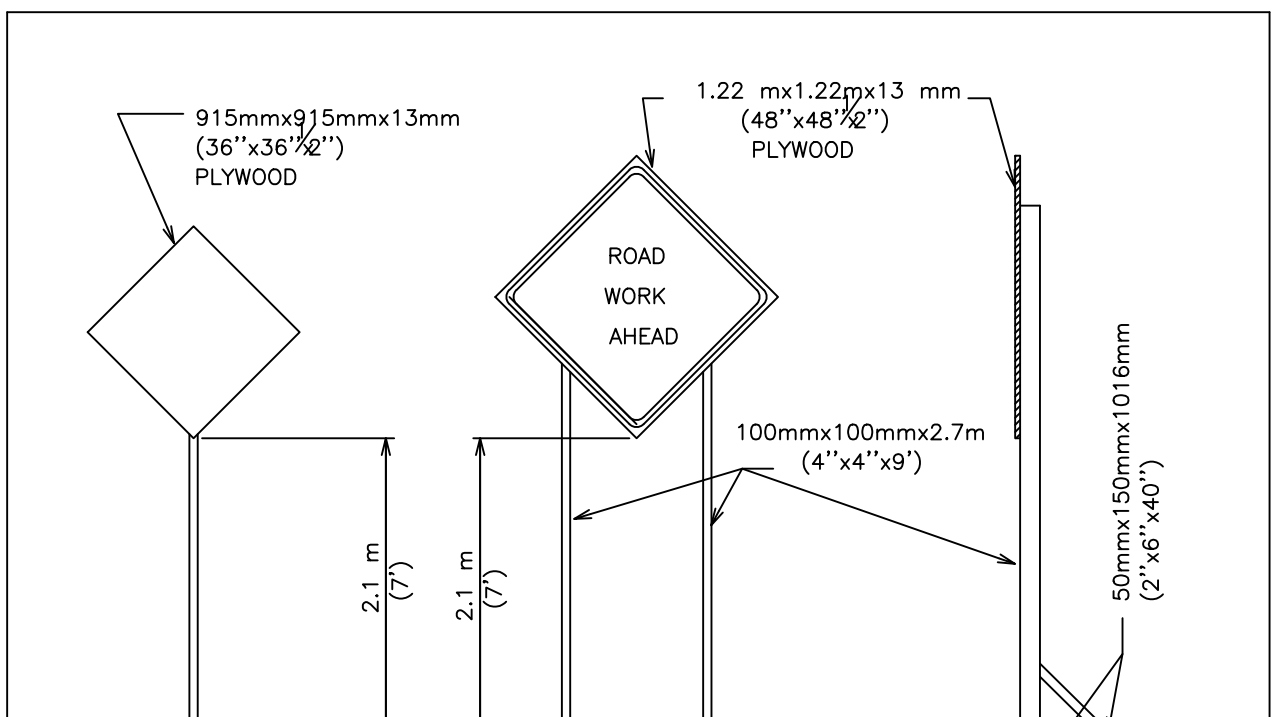
SITE DEVELOPMENT PERMIT OFFICE
 BARTON CREEK OAK PARK
 FLOOD RISK REDUCTION PROJECT
 TRAFFIC CONTROL DETAILS

NO.	DATE	REVISIONS	REMARKS

SHEET INFORMATION
 DATE SEPT. 19, 2022
 SHEET 135 OF 141



CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	CHANNELIZING DEVICES	STANDARD NO. 804S-5
RECORD COPY SIGNED BY SAM ANGOORI	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	1 OF 13
01/04/10 ADOPTED		



CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	TRAFFIC CONTROL SIGNS	STANDARD NO. 804S-5
RECORD COPY SIGNED BY SAM ANGOORI	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	5 OF 13
01/04/10 ADOPTED		



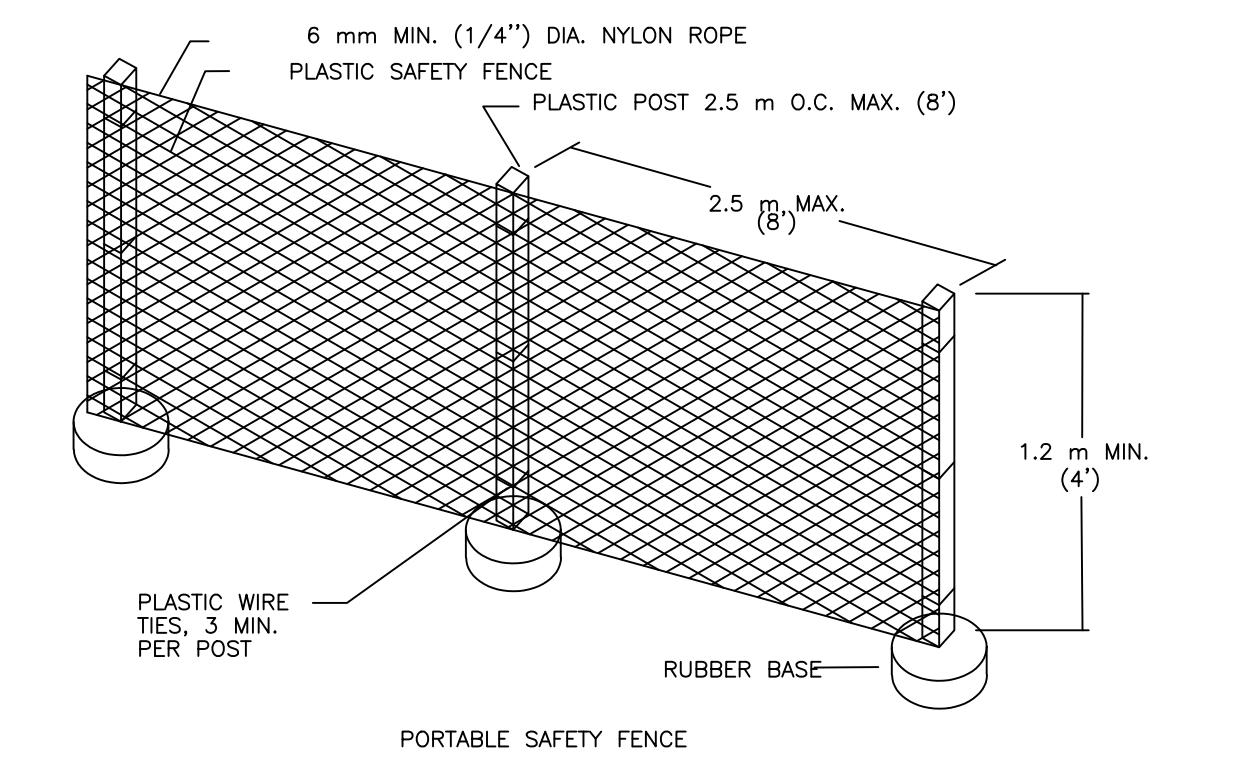
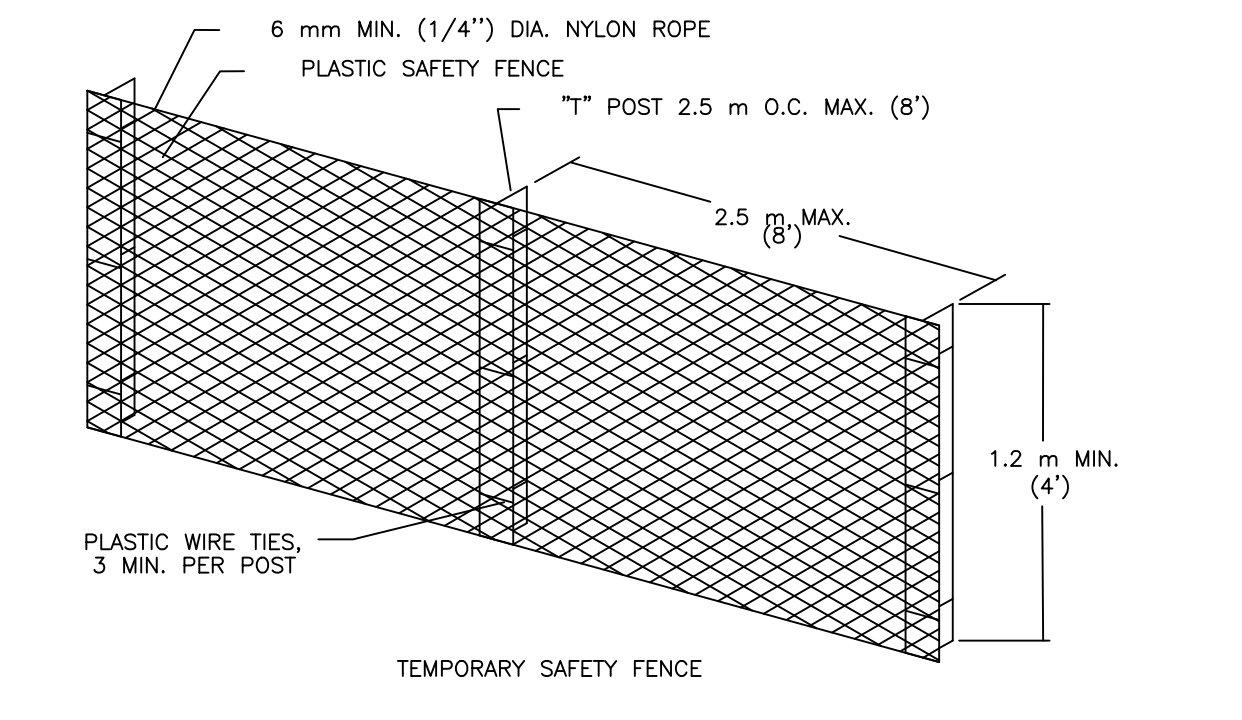
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- SAFETY FENCE SHALL BE USED TO PROTECT ALL EXCAVATIONS IN THE RIGHT-OF-WAY.
- SAFETY FENCES SHALL BE USED TO SEPARATE CONSTRUCTION ACTIVITIES FROM PEDESTRIAN.
- ALL SAFETY FENCING SHALL BE PLASTIC, 1,200 mm (48") MINIMUM HEIGHT AND ORANGE IN COLOR.
- SAFETY FENCE USED WITHIN THE ROADWAY SHALL BE REFLECTORIZED WITH A MINIMUM OF TWO (2) STRIPS OF RETROREFLECTIVE MATERIAL, A MINIMUM OF 25 mm (1") WIDE, THE LENGTH OF THE FENCE OR DELINEATED BY CHANNELIZING DEVICES.
- SAFETY FENCE USED TO SEPARATE SIDEWALKS FROM CONSTRUCTION ACTIVITIES SHALL HAVE MINIMUM ENCROACHMENT TO THE SIDEWALK.
- AS A MINIMUM, SAFETY FENCING IS REQUIRED IN AREAS ADJACENT TO EXCAVATIONS GREATER THAN OR EQUAL TO 150 mm (6").
- SAFETY FENCING SHALL BE PAID FOR UNDER ITEM 803S, "BARRICADES, SIGNS AND TRAFFIC HANDLING", PAY ITEM NO. 803S-SF.
- PORTABLE SAFETY FENCE MOUNTS SHALL BE APPROVED BY THE TRANSPORTATION DIVISION PRIOR TO CONSTRUCTION.

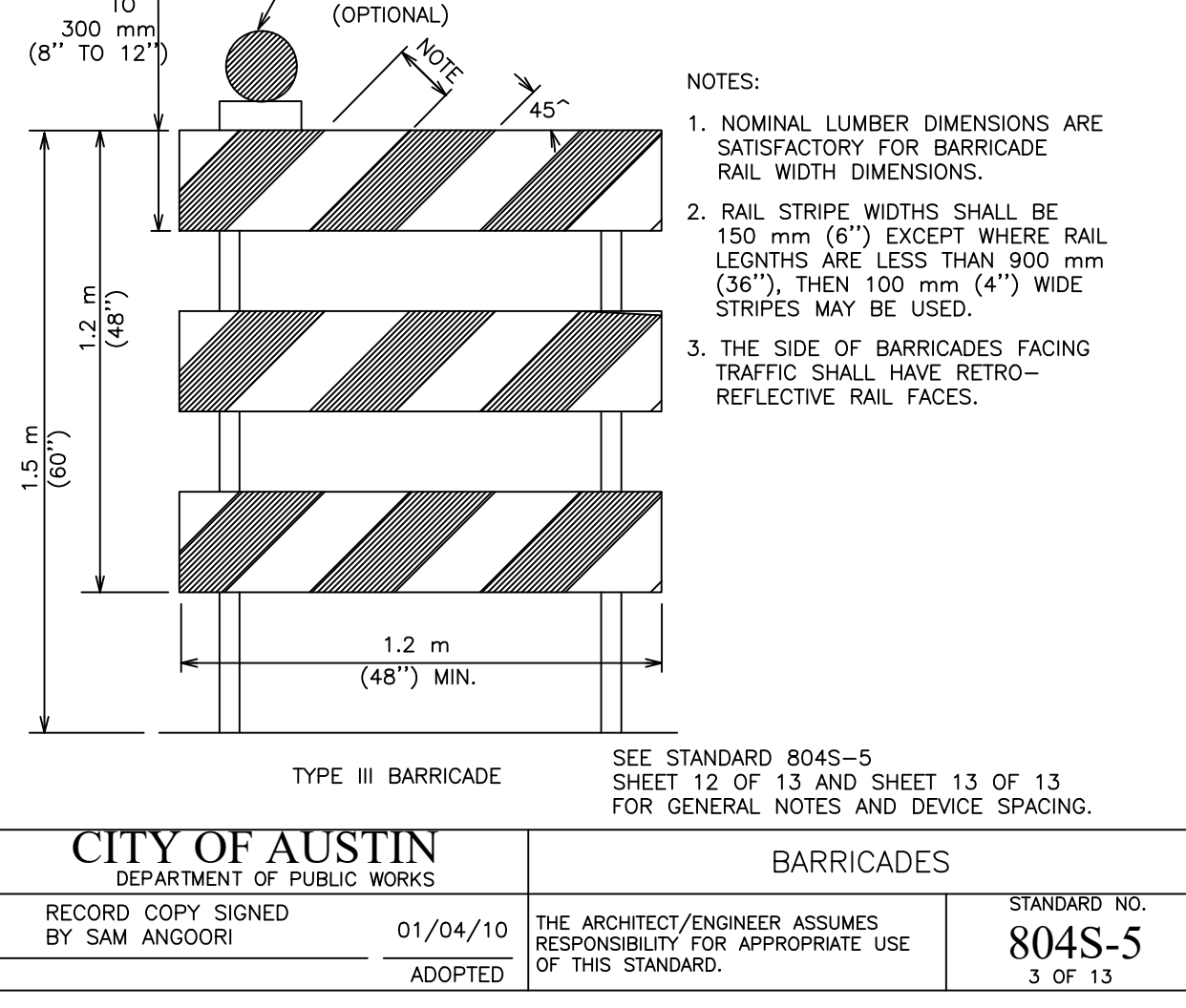
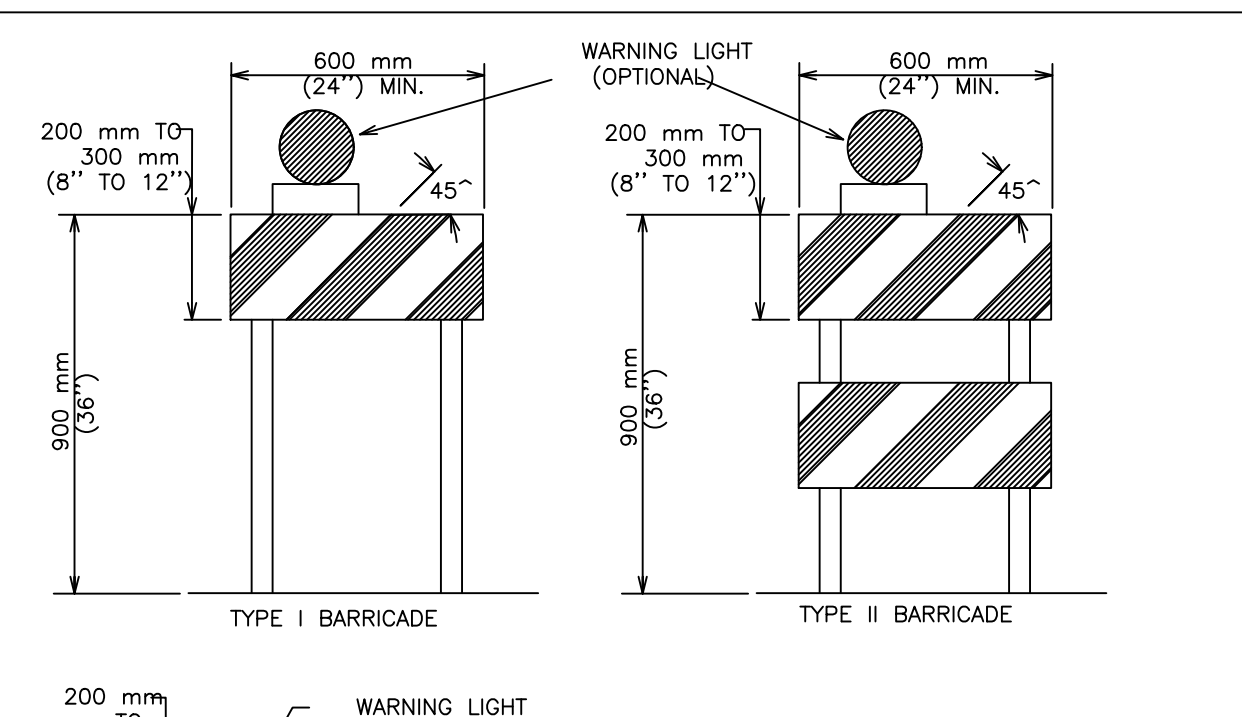
CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	SAFETY FENCE	STANDARD NO. 804S-4
RECORD COPY SIGNED BY SAM ANGOORI	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	2 OF 9
04/03/09 ADOPTED		

- BARRICADES**
- BARRICADES SHALL BE OF THREE TYPES: TYPE I, TYPE II OR TYPE III.
 - STRIPES ON BARRICADE RAILS SHALL BE ALTERNATING ORANGE AND WHITE RETROREFLECTIVE STRIPES (SLOPING DOWNWARD AT AN ANGLE OF 45 DEGREES IN THE DIRECTION TRAFFIC IS TO PASS). THE STRIPES SHALL BE 150 mm (6") WIDE, EXCEPT WHERE RAIL LENGTHS ARE LESS THAN 900 mm (36"), WHEN 100 mm (4") WIDE STRIPES MAY BE USED.
 - WHERE A BARRICADE EXTENDS ENTIRELY ACROSS A ROADWAY, THE SURFACE STRIPES SHOULD SLOPE DOWNWARD IN THE DIRECTION TOWARD WHICH TRAFFIC MUST TURN, WHERE BOTH RIGHT AND LEFT TURNS ARE PROVIDED, THE STRIPES MAY SLOPE DOWNWARD IN BOTH DIRECTIONS FROM THE CENTER OF THE BARRICADE OR BARRICADES. WHERE NO TURNS ARE INTENDED, THE STRIPES SHOULD SLOPE DOWNWARD TOWARD THE CENTER OF THE BARRICADE OR BARRICADES.
 - BARRICADE RAILS SHOULD BE SUPPORTED IN A MANNER THAT WILL ALLOW THEM TO BE SEEN BY THE MOTORIST AND PROVIDE A STABLE SUPPORT NOT EASILY BLOWN OVER BY THE WIND OR TRAFFIC. FOR TYPE I BARRICADES, THE SUPPORT MAY INCLUDE OTHER UNSTRIPED HORIZONTAL PANELS NECESSARY TO PROVIDE STABILITY.
 - BARRICADES ARE LOCATED ADJACENT TO TRAFFIC AND ARE THEREFORE SUBJECT TO IMPACT WITH ERRANT VEHICLES. BECAUSE OF THEIR VULNERABLE POSITION AND THE HAZARD THEY COULD CREATE, THEY SHOULD BE CONSTRUCTED OF LIGHTWEIGHT MATERIALS AND HAVE NO RIGID STAY BRACING FOR A-FRAME DESIGNS. ALL BARRICADE SYSTEMS SHOULD BE CRASHWORTHY.
 - ON HIGH-SPEED EXPRESSWAYS OR IN OTHER SITUATION WHERE BARRICADES MAY BE SUSCEPTIBLE TO OVERTURNING IN THE WIND, SANDBAGS SHOULD BE USED FOR BALLASTING. SANDBAGS MAY BE PLACED ON PARTS OF THE FRAME OR STAYS TO PROVIDE THE REQUIRED BALLAST BUT SHALL NOT BE PLACED ON TOP OF ANY STRIPED RAIL. BARRICADES SHALL NOT BE BALLASTED BY HEAVY OBJECTS SUCH AS ROCKS OR CHUNKS OF CONCRETE.

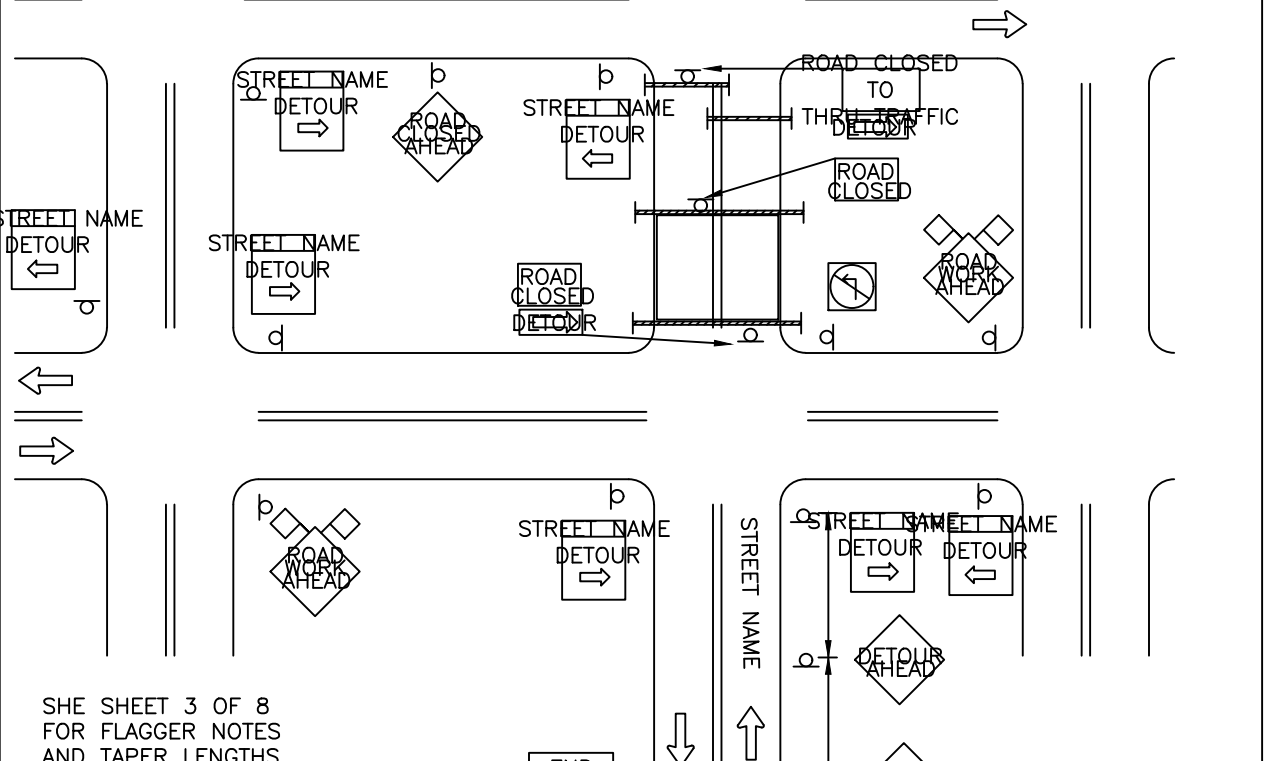
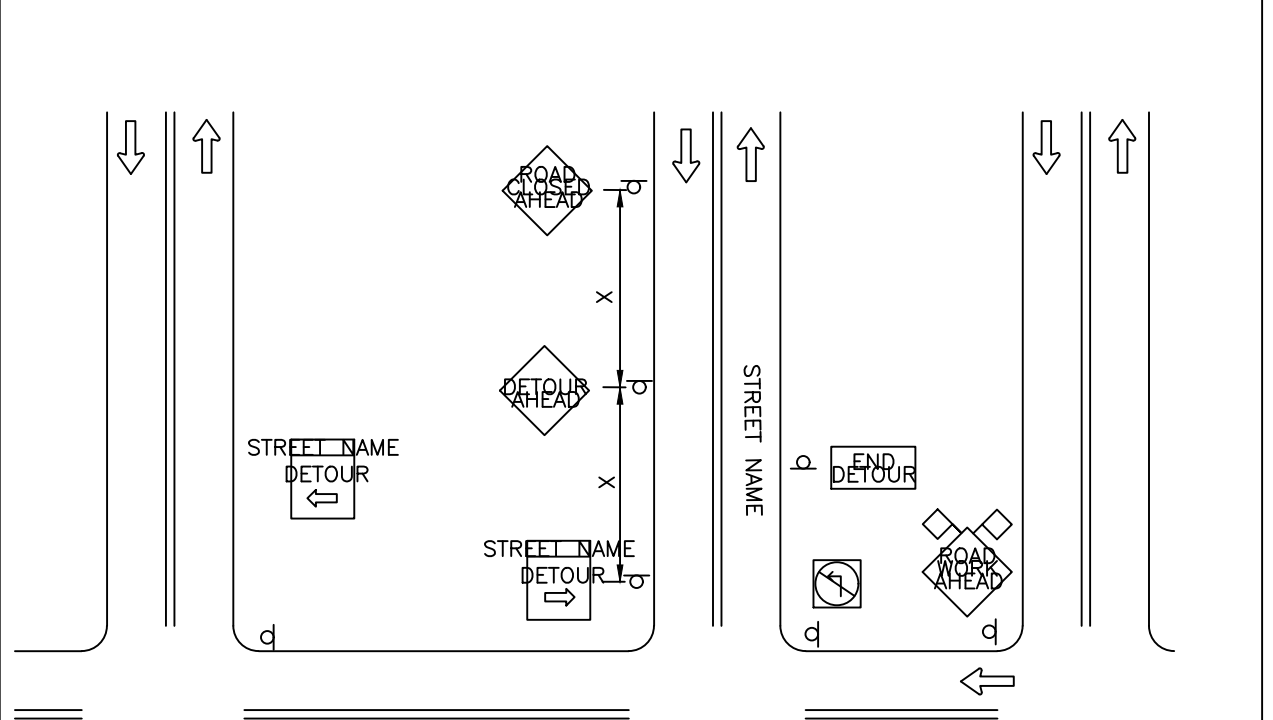
CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	BARRICADES	STANDARD NO. 804S-5
RECORD COPY SIGNED BY SAM ANGOORI	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	4 OF 13
01/04/10 ADOPTED		



CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	SAFETY FENCE	STANDARD NO. 804S-4
RECORD COPY SIGNED BY SAM ANGOORI	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	1 OF 9
04/03/09 ADOPTED		



CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	BARRICADES	STANDARD NO. 804S-5
RECORD COPY SIGNED BY SAM ANGOORI	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	3 OF 13
01/04/10 ADOPTED		

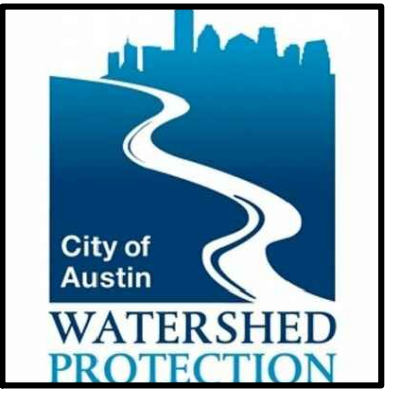


CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	STREET DETOUR BOTH DIRECTIONS	STANDARD NO. 804S-2
RECORD COPY SIGNED BY BILL GARDNER	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	6 OF 8
03/13/06 ADOPTED		

- CHANNELIZING DEVICES**
- ALL CHANNELIZING DEVICES SHALL HAVE WARNING LIGHTS OR LARGE REFLECTORS WHEN USED AT NIGHT. FLASHING WARNING LIGHTS MAY BE PLACED ON CHANNELIZING DEVICES USED SINGULARLY OR IN GROUPS TO MARK A SPOT CONDITION. WARNING LIGHTS ON CHANNELIZING DEVICES USED IN A SERIES SHALL BE STEADY-BURN. CHANNELIZING DEVICES IN TAPERS AT NIGHT SHALL HAVE TYPE C WARNING LIGHTS.
 - THE RETROREFLECTIVE MATERIAL USED ON CHANNELIZING DEVICES SHALL HAVE A SMOOTH, SEALED OUTER SURFACE.
 - THE NAME AND TELEPHONE NUMBER OF THE AGENCY, CONTRACTOR OR SUPPLIER SHALL BE SHOWN ON THE NON-RETROREFLECTIVE SURFACE OF ALL CHANNELIZING DEVICES. THE LETTERS AND NUMBERS SHALL BE A NON-RETROREFLECTIVE COLOR AND NOT OVER 50 mm (2") IN HEIGHT.
 - PARTICULAR ATTENTION SHOULD BE GIVEN TO ASSURE THAT CHANNELIZING DEVICES ARE MAINTAINED AND KEPT CLEAN, VISIBLE AND PROPERLY POSITIONED AT ALL TIMES. DEVICES SHALL BE REPLACED THAT ARE DAMAGED AND HAVE LOST A SIGNIFICANT AMOUNT OF THEIR RETROREFLECTIVITY AND EFFECTIVENESS.
- CONES**
- CONES SHALL PREDOMINANTLY BE ORANGE, FLUORESCENT RED-ORANGE, OR FLUORESCENT YELLOW-ORANGE IN COLOR, NOT LESS THAN 70 mm (28") IN HEIGHT, AND SHALL BE MADE OF A MATERIAL THAT CAN BE STRUCK WITHOUT DAMAGING VEHICLES ON IMPACT. FOR NIGHT TIME USE, CONES SHALL BE RETROREFLECTIVE OR EQUIPPED WITH LIGHTING DEVICES FOR MAXIMUM VISIBILITY. RETROREFLECTION OF CONES SHALL BE PROVIDED BY A WHITE BAND 150 mm (6") WIDE, NO MORE THAN 75 TO 100 mm (3 TO 4") FROM THE TOP OF THE CONE, AND AN ADDITIONAL 100 mm (4") WHITE BAND A MINIMUM OF 50 mm (2") BELOW THE 150 mm (6") BAND. TRAFFIC CONES ARE NORMALLY USED FOR SHORT-TERM STATIONARY AND SHORT DURATION WORK. HOWEVER, CONES MAY BE USED FOR INTERMEDIATE-TERM STATIONARY WORK AT NIGHT, IF THE SITE IS CONTINUOUSLY MANNED.
- TUBULAR MARKERS**
- TUBULAR MARKERS SHALL PREDOMINANTLY BE ORANGE IN COLOR, NOT LESS THAN 700 mm (28") IN HEIGHT, A MINIMUM 50 mm (2") WIDE WHEN FACING TRAFFIC AND MADE OF A MATERIAL THAT CAN BE STRUCK WITHOUT DAMAGING VEHICLES. FOR NIGHT TIME USE, TUBULAR MARKERS SHALL BE RETROREFLECTIVE PROVIDED BY TWO (2) 75 mm (3") WIDE WHITE BANDS PLACED A MAXIMUM OF 50 mm (2") FROM THE TOP, WITH A MAXIMUM OF 150 mm (6") BETWEEN BANDS. TUBULAR MARKERS ARE NORMALLY USED FOR SHORT-TERM STATIONARY AND SHORT DURATION WORK. HOWEVER, TUBULAR MARKERS MAY BE USED FOR INTERMEDIATE-TERM STATIONARY WORK AT NIGHT, IF THE SITE IS CONTINUOUSLY MANNED.
- VERTICAL PANELS**
- VERTICAL PANELS SHALL BE 200 TO 300 mm (8 TO 12") WIDE AND AT LEAST 600 mm (24") IN HEIGHT. THEY SHALL HAVE ORANGE AND WHITE STRIPES, AND BE RETROREFLECTIVE. PANEL STRIPE WIDTHS SHALL BE 150 mm (6") EXCEPT WHERE PANEL HEIGHTS ARE LESS THAN 900 mm (36"), WHEN 100 mm (4") STRIPES MAY BE USED. IF USED FOR TWO-WAY TRAFFIC, BACK-TO-BACK PANELS SHALL BE USED.
- DRUMS**
- DRUMS USED FOR TRAFFIC WARNING OR CHANNELIZATION SHALL BE CONSTRUCTED OF LIGHT-WEIGHT FLEXIBLE AND DEFORMABLE MATERIALS AND BE A MINIMUM OF 900 mm (36") IN HEIGHT, AND HAVE AT LEAST 450 mm (18") MINIMUM WIDTH, REGARDLESS OF ORIENTATION. STEEL DRUMS SHALL NOT BE USED. THE MARKINGS ON DRUMS SHALL BE HORIZONTAL, CIRCUMFERENTIAL, ALTERNATING ORANGE AND WHITE RETROREFLECTIVE STRIPES 100 TO 200 mm (4 TO 8") WIDE. EACH DRUM SHALL HAVE A MINIMUM OF TWO (2) ORANGE AND TWO (2) WHITE STRIPES. ANY NON-RETROREFLECTIVE SPACES BETWEEN THE HORIZONTAL ORANGE AND WHITE STRIPES SHALL NOT EXCEED 50 mm (2") WIDE. DRUMS SHALL HAVE CLOSED TOPS THAT WILL NOT ALLOW COLLECTION OF ROADWORK OR OTHER DEBRIS.
 - DRUMS SHOULD NOT BE WEIGHTED WITH SAND, WATER OR ANY MATERIAL TO AN EXTENT THAT WOULD MAKE THE HAZARDOUS TO MOTORISTS, PEDESTRIANS OR WORKERS. WHEN THEY ARE USED IN REGIONS SUSCEPTIBLE TO FREEZING, THEY SHOULD HAVE DRAINAGE HOLES IN THE BOTTOM SO WATER WILL NOT ACCUMULATE AND FREEZE, CAUSING A HAZARD IF STRUCK BY A MOTORIST. BALLAST SHALL NOT BE PLACED ON TOP OF THE DRUM.

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	CHANNELIZING DEVICES	STANDARD NO. 804S-5
RECORD COPY SIGNED BY SAM ANGOORI	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	2 OF 13
01/04/10 ADOPTED		

CADD FILE: \\CAS-DATASERVER\WATER\ACTIVE PROJECTS\COA WATERSHED ENGINEERING FLOOD HAZARD MITIGATION RL 2015\RFPS\BARTON CREEK OAK PARK\3.0 WORK PRODUCTS\3.6 CAD\7841TCP10 PLOTTED: 9/19/2022 4:20:47 PM BY: FRANK DE LUNA CTB FILE: CAS.CTB



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SITE DEVELOPMENT PERMIT OFFICE
BARTON CREEK OAK PARK
FLOOD RISK REDUCTION PROJECT
TRAFFIC CONTROL DETAILS

FOR 915 mm x 915 mm (36"x36") AND SMALLER WARNING SIGNS & OTHER SIGNS HAVING AN AREA NOT EXCEEDING 1 sm (10.7 sf).

FOR 1220 mm x 1220 mm (48"x48") WARNING SIGNS.

WOOD POST SIGN SUPPORT USED AS FIXED SIGN SUPPORTS

ROLL-UP SIGN
FIBERGLASS STAYS
UTILITY WORK AHEAD

PORTABLE SIGN SUPPORT

CITY OF AUSTIN
DEPARTMENT OF PUBLIC WORKS

TRAFFIC CONTROL SIGNS

RECORD COPY SIGNED BY SAM ANGOORI 01/04/10 ADOPTED

THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.

STANDARD NO. 804S-5 6 OF 13

1. WARNING SIGNS SHALL BE ORANGE, FLUORESCENT RED-ORANGE OR FLUORESCENT YELLOW-ORANGE IN COLOR. THE FLUORESCENT VERSIONS OF ORANGE PROVIDE HIGHER CONSPICUITY THAN STANDARD ORANGE, ESPECIALLY DURING TWILIGHT. ALL SIGNS USED AT NIGHT SHALL BE EITHER RETROREFLECTIVE, WITH A MATERIAL THAT HAS A SMOOTH, SEALED OUTER SURFACE, OR ILLUMINATED TO SHOW SIMILAR SHAPE AND COLOR BOTH DAY AND NIGHT. SIGN ILLUMINATION MAY BE EITHER INTERNAL OR EXTERNAL. ROADWAY LIGHTING DOES NOT MEET THE REQUIREMENTS FOR SIGN ILLUMINATION.

2. TYPE A FLASHING WARNING LIGHTS MAY BE USED IN CONJUNCTION WITH SIGNS AT NIGHT. STANDARD ORANGE FLAGS MAY BE USED FOR DAY TIME OPERATIONS. HOWEVER, NEITHER LIGHTS NOR FLAGS MAY BLOCK THE SIGN.

3. SIGNS SHOULD BE LOCATED ON THE RIGHT-HAND SIDE OF THE ROADWAY. WHEN SPECIAL EMPHASIS IS NEEDED, SIGNS MAY BE PLACED ON BOTH THE LEFT AND RIGHT SIDES OF ROADWAYS. SIGNS SHALL BE PLACED ON BOTH THE LEFT AND RIGHT SIDES OF ONE-WAY OR DIVIDED ROADWAYS. SIGNS USED FOR LONG-TERM STATIONARY AND INTERMEDIATE-TERM STATIONARY WORK SHALL BE MOUNTED AT A HEIGHT OF AT LEAST 2.1 m (7'), MEASURED FROM THE BOTTOM OF THE SIGN. THE HEIGHT TO THE BOTTOM OF A SECONDARY SIGN MOUNTED BELOW ANOTHER SIGN MAY BE 0.3 m (1') LESS THAN THE APPROPRIATE HEIGHT ABOVE.

4. SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR SHORT-TERM, SHORT DURATION, MOBILE CONDITIONS AND EMERGENCIES. SIGNS MOUNTED ON PORTABLE SUPPORTS SHALL BE AT A HEIGHT OF AT LEAST 0.3 m (1'), MEASURED FROM THE BOTTOM OF THE SIGN.

5. ALL SIGN SYSTEMS SHOULD BE CRASHWORTHY. NO SIGN MOUNTS SHALL BLOCK OR IMPEDE SIDEWALKS UNLESS NO OTHER OPTION IS AVAILABLE. ONLY SANDBAGS SHOULD BE USED FOR BALLASTING SIGN MOUNTS.

TABLE VI-3 TYPICAL CONSTRUCTION WARNING SIGN SIZE AND SPACING

Roadway Classification	Posted Speed (KPH (MPH))	Sign Spacing (meter (feet))	Long-term Stationary Or Intermediate-term Stationary Approaching Warning Sign CW22 Series And CW22-1 Sign		Short-term Stationary Or Short Duration Approaching Warning Signs CW22 Series		Other Warning Signs
			Standard	Minimum	Standard	Minimum	
Conven.	50 (30)	40 (120)	1220x1220 (48x48)	915x915 (36x36)	915x915 (36x36)	915x915 (36x36)	915x915 (36x36)
	65 (40)	75 (240)					
	70 (45)	100 (320)					
	80 (50)	120 (400)					
	90 (55)	150 (500)					
	100 (60)	180 (600)			1220x1220 (48x48)		1220x1220 (48x48)
	105 (65)	210 (700)					
	115 (70)	240 (800)					
Exp. of way	**	** 3					

* MINIMUM DISTANCE FROM WORK TO 1st ADVANCE WARNING SIGN AND/OR DISTANCE BETWEEN EACH ADDITIONAL SIGN.
** FOR TYPICAL SIGN SPACINGS ON EXPRESSWAYS AND FREEWAYS, REFER TO THE CURRENT ADDITION OF TMUTCD.
*** SMALLER SIGN SIZES MAY BE USED WHERE SIGN DESIGNS HAVE NOT BEEN INCLUDED IN THE "STANDARD HIGHWAY SIGNS DESIGN MANUAL".

1. SPECIAL OR LARGER SIZE SIGNS MAY BE USED AS NECESSARY.
2. DISTANCE BETWEEN SIGNS SHOULD BE INCREASED AS REQUIRED TO HAVE 450 m (1500') OR MORE ADVANCE WARNING.
3. DISTANCE BETWEEN SIGNS SHOULD BE INCREASED AS REQUIRED TO HAVE A 0.8 km (1/2 MILE) OR MORE ADVANCE WARNING.
4. FOR USE ONLY ON SECONDARY ROADS OR CITY STREETS WHERE SPEEDS ARE LOW.

CITY OF AUSTIN
DEPARTMENT OF PUBLIC WORKS

TRAFFIC CONTROL SIGNS

RECORD COPY SIGNED BY SAM ANGOORI 01/04/10 ADOPTED

THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.

STANDARD NO. 804S-5 7 OF 13

SEE STANDARD DETAIL 804S-5 SHEET 5 OF 13 FOR SKID-MOUNTED SIGN SUPPORT.

CITY OF AUSTIN
DEPARTMENT OF PUBLIC WORKS

SPECIAL WORK ZONE SIGNS

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THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.

STANDARD NO. 804S-5 9 OF 13

NOTES:
1. CONTRACTORS CAN MAKE BUSINESS NAMES REMOVABLE/CHANGEABLE AS AN OPTION.
2. BUSINESS LOGO ARE OPTIONAL. IF USED LETTERING MUST BE MINIMIZED.

CITY OF AUSTIN
DEPARTMENT OF PUBLIC WORKS

SPECIAL WORK ZONE SIGNS

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THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.

STANDARD NO. 804S-5 10 OF 13

DRIVEWAY ACCESS BARRICADE DETAIL

CROSSROAD SIGNING AND BARRICADING

SEE STANDARD 804S-5 SHEET 12 OF 13 AND SHEET 13 OF 13 FOR GENERAL NOTES AND DEVICE SPACING.

CITY OF AUSTIN
DEPARTMENT OF PUBLIC WORKS

SIGNING AND BARRICADING CROSSROAD & DRIVEWAY

RECORD COPY SIGNED BY SAM ANGOORI 01/04/10 ADOPTED

THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.

STANDARD NO. 804S-5 11 OF 13

1. ALL TRAFFIC CONTROL DEVICES, SIGNS, BARRICADES AND WARNING SIGNS SHALL BE FURNISHED, PLACED, CONSTRUCTED AND MAINTAINED IN THE APPROPRIATE TYPES AND SIZES AND FLAGGER OPERATIONS EXECUTED IN ACCORDANCE WITH THE CURRENT EDITION OF THE TEXAS MANUAL ON UNIFORM CONTROL DEVICES (TMUTCD), THE CITY OF AUSTIN STANDARD SPECIFICATIONS SERIES 800 AND THE CITY OF AUSTIN TRANSPORTATION CRITERIA MANUAL, OR AS DIRECTED BY THE ENGINEER OR DESIGNATED REPRESENTATIVE. IF A CONFLICT ARISES THEN THE CITY OF AUSTIN TRANSPORTATION CRITERIA MANUAL SHALL CONTROL UNLESS OTHERWISE INSTRUCTED BY THE ENGINEER OR DESIGNATED REPRESENTATIVE.

2. THE CONTRACTOR SHALL NOTIFY THE TRANSPORTATION DIVISION OF THE DEPARTMENT OF PUBLIC WORKS AT 974-7024 NO LATER THAN THE MONDAY OF THE WEEK DURING WHICH THE CONTRACTOR INTENDS TO SET UP BARRICADES TO START CONSTRUCTION.

3. PROPOSED CONSTRUCTION TRAFFIC MOVEMENTS MAY REQUIRE EXISTING SIGNAL HEADS TO BE RELOCATED. THE CITY OF AUSTIN WILL REVIEW SIGNAL HEAD LOCATIONS DURING CONSTRUCTION AND PERFORM THE REQUIRED ADJUSTMENTS. THE CONTRACTOR SHALL CONTACT THE TRANSPORTATION DIVISION OF THE DEPARTMENT OF PUBLIC WORKS AT 974-7024, THREE (3) DAYS PRIOR TO PLACEMENT ANY TRAFFIC CONTROLS WHICH MAY REQUIRE SIGNAL HEAD ADJUSTMENTS/RELOCATION.

4. THE CONTRACTOR SHALL PROVIDE ONE (1) FULL-TIME OFF-DUTY, UNIFORMED AUSTIN POLICE DEPARTMENT CERTIFIED PEACE OFFICER AND ONE (1) VEHICLE OF THE TYPE APPROVED BY THE ENGINEER OR DESIGNATED REPRESENTATIVE FOR TEMPORARY LANE CLOSURES WHEN UNDERSEALING, MILLING, PAVING AND WHEN WORKING IN INTERSECTIONS AS PART OF THE TRAFFIC CONTROL OPERATIONS. THE PEACE OFFICER SHALL BE ABLE TO SHOW PROOF OF CERTIFICATION BY THE TEXAS COMMISSION ON LAW ENFORCEMENT OFFICER STANDARDS.

5. THE CONTRACTOR SHALL NOTIFY ALL OTHER GOVERNMENTAL AGENCIES WHOSE RIGHTS-OF-WAY ARE AFFECTED BY HIS WORK ACTIVITIES. THE CONTRACTOR SHALL PROVIDE ANY ADDITIONAL TRAFFIC CONTROL DEVICES THAT THEY MAY NEED.

6. THE CONTRACTOR SHALL MAINTAIN ONE (1) DUST-FREE LANE OF TRAFFIC IN EACH DIRECTION AT ALL TIMES, UNLESS OTHERWISE NOTED IN THE DRAWINGS OR APPROVED THE ENGINEER OR DESIGNATED REPRESENTATIVE.

7. THERE SHALL BE A MINIMUM OF THREE (3) METERS (10 FEET) CLEAR WIDTH FOR EACH LANE OF TRAFFIC IN CHANNELIZED AREAS, UNLESS OTHERWISE NOTED ON THE DRAWINGS OR APPROVED BY THE ENGINEER OR DESIGNATED REPRESENTATIVE.

8. THE CONTRACTOR SHALL MAINTAIN DRIVEWAY ACCESS AT ALL TIMES. IF ACCESS CANNOT BE MAINTAINED, THE CONTRACTOR WITH THE APPROVAL OF THE ENGINEER OR DESIGNATED REPRESENTATIVE SHALL PROVIDE AT LEAST 24 HOUR WRITTEN NOTICE OF LIMITED ACCESS TO AFFECTED PROPERTY OWNERS. THE CONTRACTOR SHALL PROVIDE BUSINESS ACCESS SIGNS AS NEEDED TO INFORM DRIVERS OF THE LOCATIONS OF ALL DRIVEWAYS.

9. TEMPORARY LANE CLOSURES IN THE CENTRAL BUSINESS DISTRICT (CBD) OR ON ARTERIAL STREETS SHALL NOT BE PERMITTED DURING THE HOURS OF 7 AM TO 9 AM AND 4 PM TO 6 PM MONDAY THROUGH FRIDAY UNLESS PRIOR APPROVAL HAS BEEN OBTAINED FROM THE TRANSPORTATION DIVISION.

10. TRAFFIC CONTROL SHOWN ON STANDARD DETAILS IS TYPICAL. ADDITIONAL SIGNING AND/OR BARRICADING, AS WELL AS TEMPORARY PAVEMENT MARKINGS AND OBLITERATION/RESTORATION OF EXISTING PAVEMENT MARKINGS, MAY BE REQUIRED DEPENDING ON FIELD CONDITIONS. FIELD ADJUSTMENTS TO TRAFFIC CONTROLS WILL NOT BE PAID FOR DIRECTLY, BUT WILL BE CONSIDERED SUBSIDIARY TO ITEM NO. 803S BARRICADES, SIGNS AND TRAFFIC HANDLING.

11. THE CONTRACTOR SHALL DESIGNATE A COMPETENT PERSON FOR TRAFFIC CONTROL. THE COMPETENT PERSON SHALL MAKE INSPECTIONS OF THE TRAFFIC CONTROL DEVICES AT LEAST TWO (2) TIMES A DAY (ONCE AT THE BEGINNING OF THE DAY AND ONCE AT THE END OF THE DAY), INCLUDING NON-WORKING DAYS, ENSURING THAT ALL DEVICES ARE IN THEIR PROPER PLACE AND ARE IN WORKING ORDER.

12. ALL DEVICES SHALL BE MADE USING MATERIALS LISTED ON THE TxDOT APPROVED PRODUCTS LIST.

CITY OF AUSTIN
DEPARTMENT OF PUBLIC WORKS

GENERAL TRAFFIC CONTROL NOTES

RECORD COPY SIGNED BY SAM ANGOORI 01/04/10 ADOPTED

THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.

STANDARD NO. 804S-5 12 OF 13

13. ALL PERSONS WORKING WITHIN THE RIGHT-OF-WAY SHALL WEAR A BRIGHTLY COLORED SAFETY VEST. FOR NIGHTTIME WORK THE VEST SHALL BE RETROREFLECTIVE.

14. WHEN AN INTERSECTION IS CLOSED FOR CONSTRUCTION, THE CONTRACTOR SHALL PROCEED WITH CONSTRUCTION IN SUCH A MANNER THAT THE CLOSURE TIME IS MINIMIZED.

15. THE CONTRACTOR SHALL NOTIFY THE CAPITAL METRO DISPATCHER AT 385-4295 ONE (1) WEEK PRIOR TO LANE CLOSURES ADJACENT TO BUS STOPS.

DURATION OF WORK

WORK DURATION IS A MAJOR FACTOR IN DETERMINING THE NUMBER AND TYPES OF DEVICES USED IN TEMPORARY TRAFFIC ZONES. THE FIVE (5) CATEGORIES OF WORK DURATION AND THEIR TIME AT A LOCATION ARE AS FOLLOWS:

- LONG-TERM STATIONARY-WORK THAT OCCUPIES A LOCATION FOR MORE THAN 3 DAYS.
- INTERMEDIATE-TERM STATIONARY-WORK THAT OCCUPIES A LOCATION FROM OVERNIGHT TO 3 DAYS.
- SHORT-TERM STATIONARY-DAYTIME WORK THAT OCCUPIES A LOCATION FROM 1 TO 12 HOURS.
- SHORT-DURATION WORK THAT OCCUPIES A LOCATION UP TO 1 HOUR.
- MOBILE-WORK THAT MOVES INTERMITTENTLY OR CONTINUOUSLY.

Typical Transition Lengths and Suggested Maximum Spacing of Devices

Posted Speed (KPH (MPH))	Formula	Minimum Desirable Taper Lengths (L) Meters (Feet)			Suggested Max. Device Spacing		Suggested Sign Spacing Meters (Feet)
		3.0(10) Offset Meters (feet)	3.3(11) Offset Meters (feet)	3.6(12) Offset Meters (feet)	On a taper Meters (feet)	On a tangent Meters (feet)	
50 (30)	L=WS/2 60	45 (150)	50 (165)	55 (180)	9 (30)	15-20 (60-75)	40 (120)
55 (35)		65 (205)	70 (225)	75 (245)	10 (35)	25-25 (70-90)	50 (160)
65 (40)		80 (265)	90 (295)	100 (320)	12 (40)	25-30 (80-100)	75 (240)
70 (45)	L=WS	135 (450)	145 (495)	165 (540)	13 (45)	25-30 (90-110)	100 (320)
80 (50)		150 (500)	165 (550)	180 (600)	15 (50)	30-35 (100-125)	120 (400)
90 (55)		165 (550)	185 (605)	200 (660)	16 (55)	35-40 (110-140)	150 (500)
100 (60)	L=WS	180 (600)	200 (660)	220 (720)	18 (60)	40-45 (120-150)	180 (600)
105 (65)		195 (650)	215 (715)	235 (780)	19 (65)	40-50 (130-165)	210 (700)
115 (70)		215 (700)	235 (770)	255 (840)	21 (70)	45-55 (140-175)	240 (800)

CITY OF AUSTIN
DEPARTMENT OF PUBLIC WORKS

GENERAL TRAFFIC CONTROL NOTES

RECORD COPY SIGNED BY SAM ANGOORI 01/04/10 ADOPTED

THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.

STANDARD NO. 804S-5 13 OF 13

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DATE SEPT. 19, 2022

SHEET 136 OF 141

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BARRICADE AND CONSTRUCTION (BC) STANDARD SHEETS GENERAL NOTES:

- 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).
- The development and design of the Traffic Control Plan (TCP) is the responsibility of the Engineer.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- Traffic control devices should be in place only while work is actually in progress or a definite need exists.
- The Engineer has the final decision on the location of all traffic control devices.
- 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:



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

COMPLIANT WORKZONE TRAFFIC CONTROL DEVICES

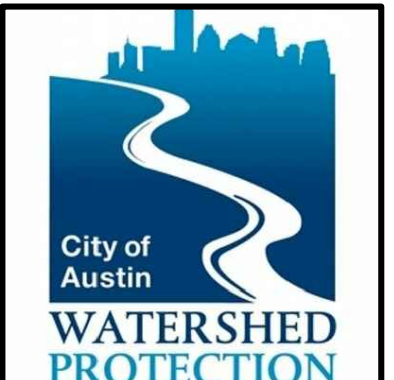
- Only pre-qualified products shall be used. The "Compliant Work Zone Traffic Control Devices List" (CWZTCD) describes pre-qualified products and their sources.
- Work zone traffic control devices shall be compliant with the Manual for Assessing safety Hardware (MASH).

<p>THE DOCUMENTS BELOW CAN BE FOUND ON-LINE AT http://www.txdot.gov</p>
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

SHEET 1 OF 12

			
<p>BARRICADE AND CONSTRUCTION GENERAL NOTES AND REQUIREMENTS</p> <p>BC (1) - 21</p>			
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4-03 7-13	DIST	COUNTY	SHEET NO.
9-07 8-14			
5-10 5-21			
95			

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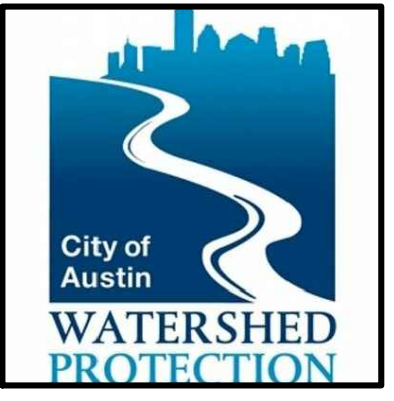


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SITE DEVELOPMENT PERMIT OFFICE
 BARTON CREEK OAK PARK
 FLOOD RISK REDUCTION PROJECT
 TRAFFIC CONTROL TX DOT DETAILS

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 SHEET 137 OF 141



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 BARTON CREEK OAK PARK
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 TRAFFIC CONTROL TX DOT DETAILS

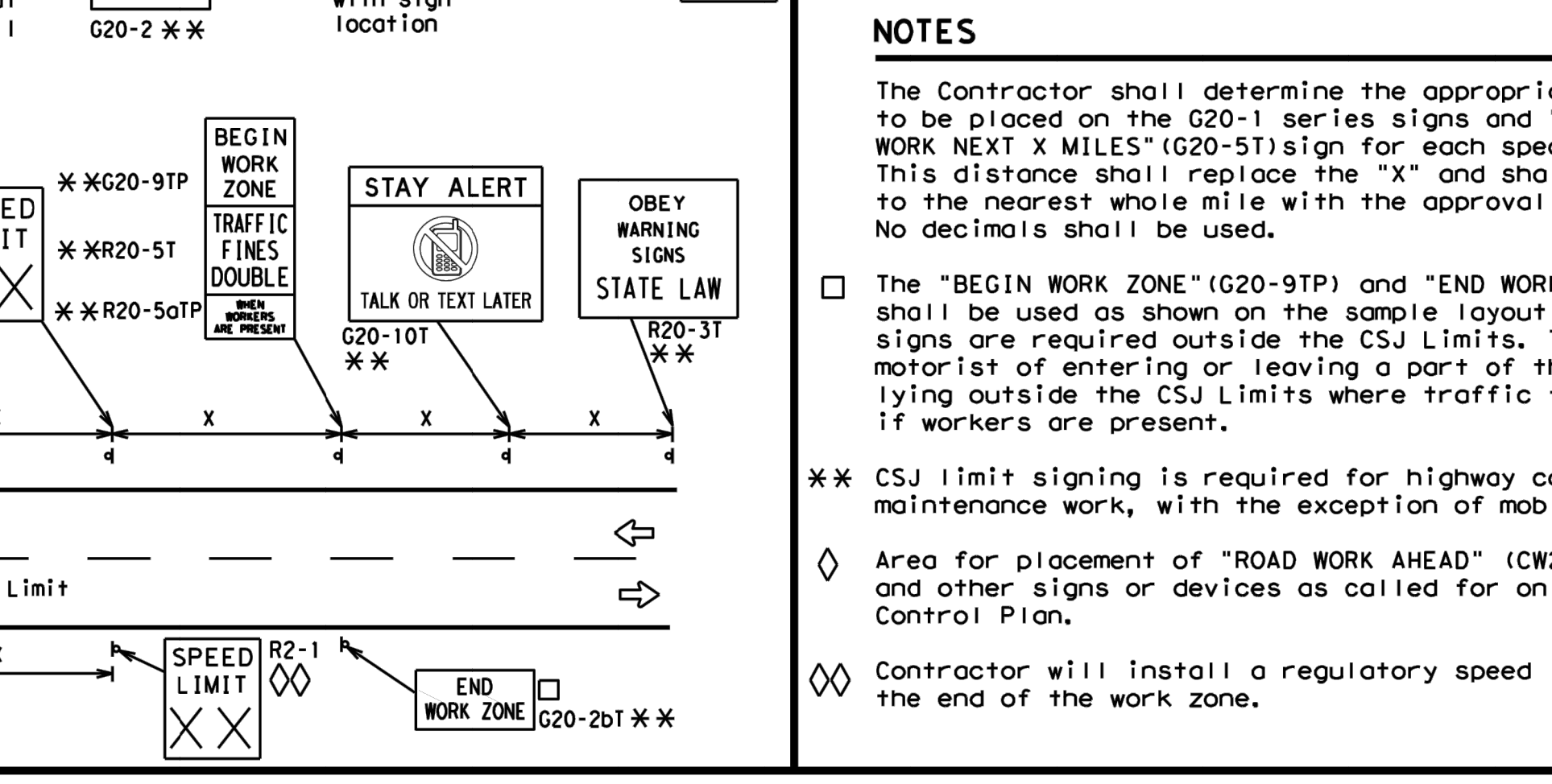
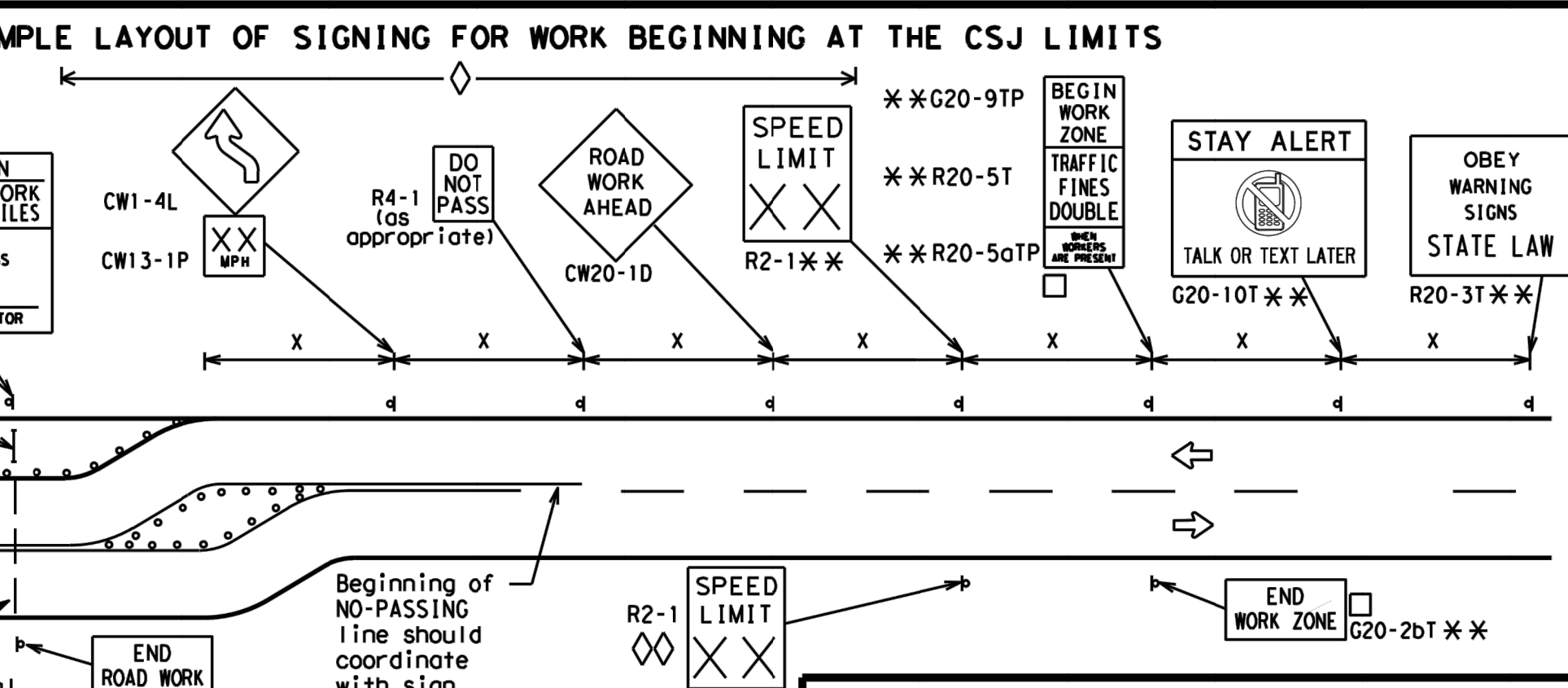
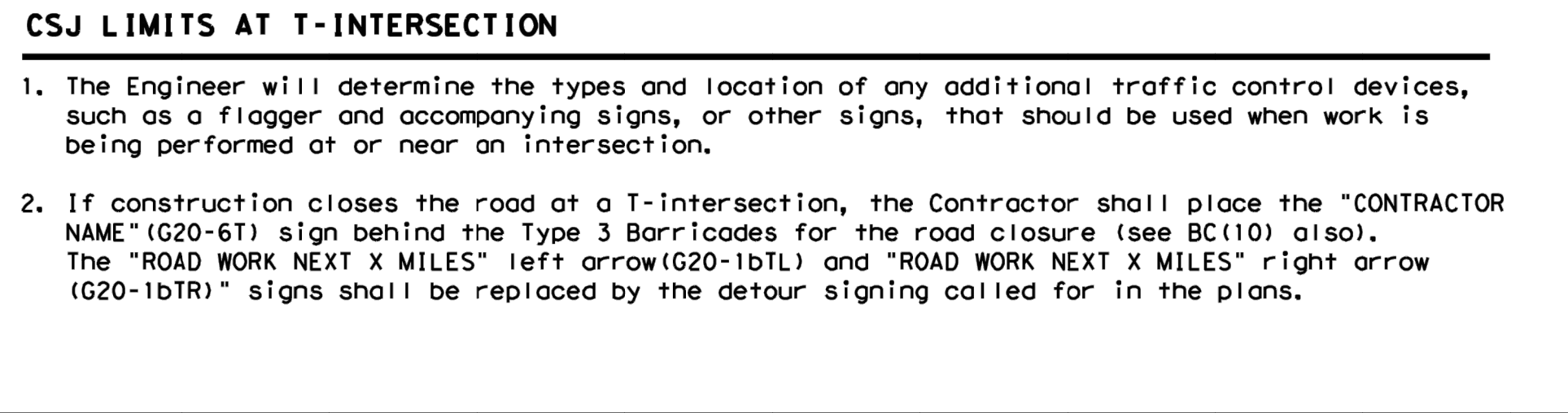
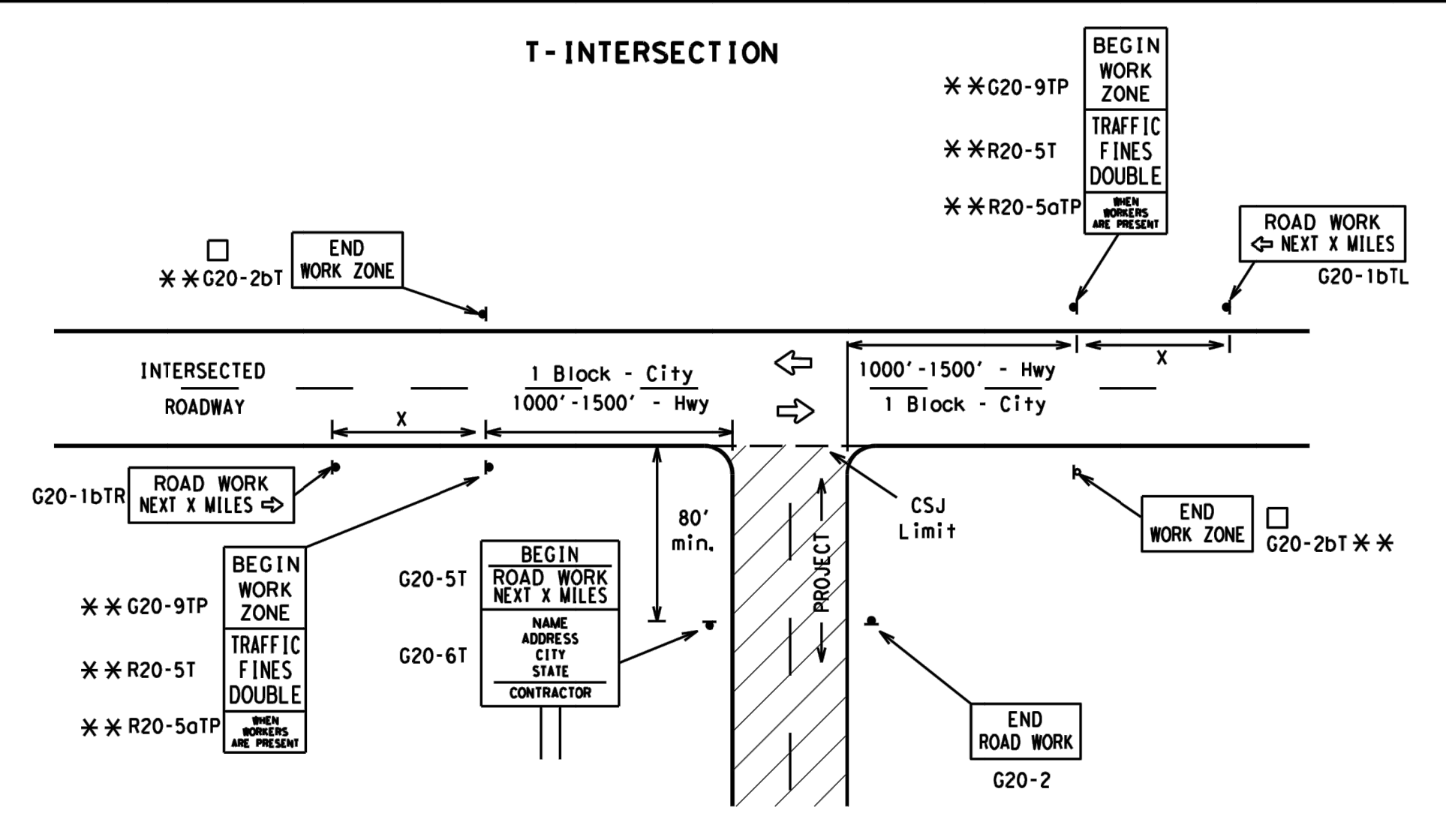
NO.	DATE	BY	REVISIONS	REMARKS

SHEET INFORMATION
 DATE SEPT. 19, 2022
 SHEET 138 OF 141

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)

- 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.
- 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.
- 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.
- 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.
- Additional traffic control devices may be shown elsewhere in the plans for higher volume crossroads.
- 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.



LEGEND

—	Type 3 Barricade
○ ○ ○	Channelizing Devices
—	Sign
x	See Typical Construction Warning Sign Size and Spacing chart or the TMUTCD for sign spacing requirements.

SHEET 2 OF 12

BARRICADE AND CONSTRUCTION PROJECT LIMIT

BC (2) - 21

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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.

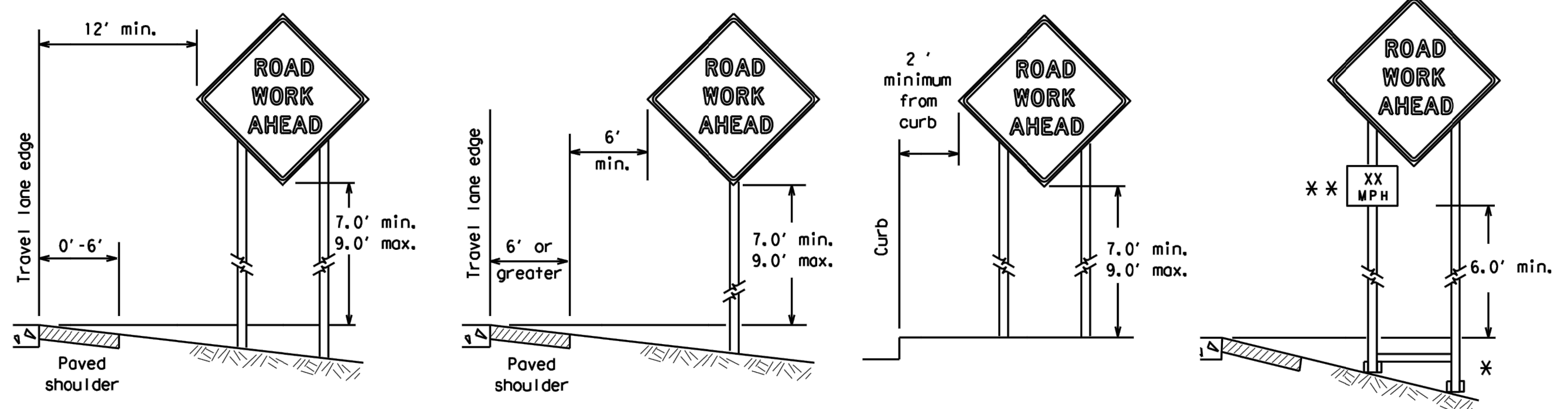
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CADD FILE: \\CAS-DATASERVER\WATER\ACTIVE PROJECTS\COA WATERSHED ENGINEERING FLOOD HAZARD MITIGATION RL 2015\RPS\BARTON CREEK OAK PARK\3.0 WORK PRODUCTS\3.6 CADD\7841TCP13 PLOTTED: 9/19/2022 4:21:15 PM BY: FRANK DE LUNA CTB FILE: CAS.CTB

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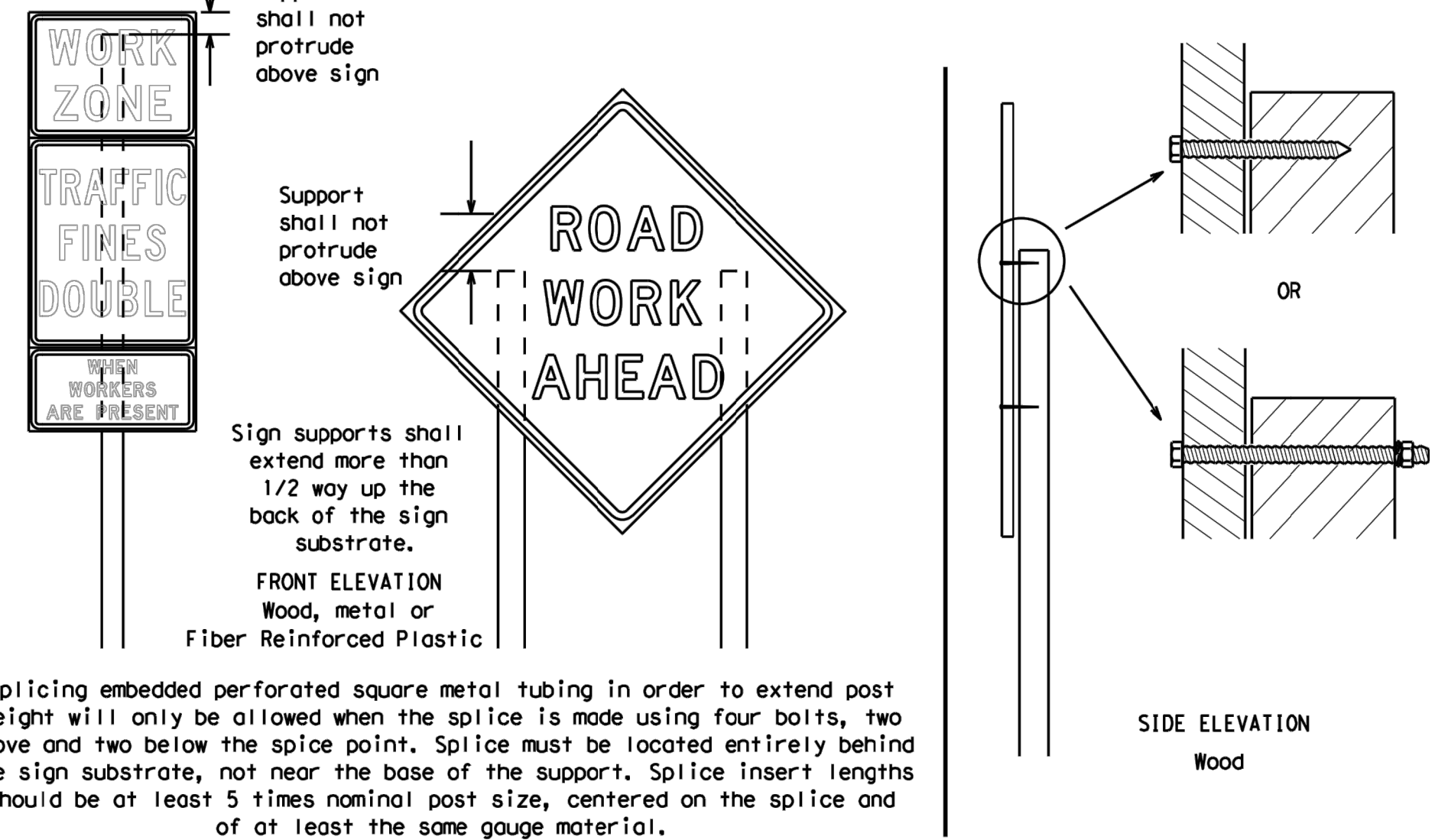
TYPICAL MINIMUM CLEARANCES FOR LONG TERM AND INTERMEDIATE TERM SIGNS



* 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.

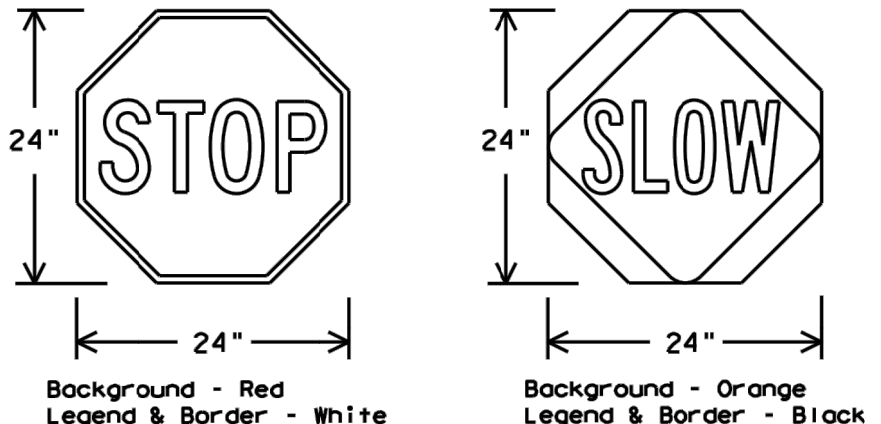
ATTACHMENT FOR SIGN SUPPORTS



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 splice 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

- STOP/SLOW paddles are the primary method to control traffic by flaggers. The STOP/SLOW paddle size should be 24" x 24".
- STOP/SLOW paddles shall be retroreflectorized when used at night.
- STOP/SLOW paddles may be attached to a staff with a minimum length of 6' to the bottom of the sign.
- 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

- 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.
- 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.
- When existing permanent signs are moved and relocated due to construction purposes, they shall be visible to motorists at all times.
- 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.
- 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.
- 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

- Contractor shall install and maintain signs in a straight and plumb condition and/or as directed by the Engineer.
- Wooden sign posts shall be painted white.
- Barricades shall NOT be used as sign supports.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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)

- 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.
 - Long-term stationary - work that occupies a location more than 3 days.
 - 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.
 - Short-term stationary - daytime work that occupies a location for more than 1 hour in a single daylight period.
 - Short, duration - work that occupies a location up to 1 hour.
 - Mobile - work that moves continuously or intermittently (stopping for up to approximately 15 minutes.)

SIGN MOUNTING HEIGHT

- 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.
- 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.
- Long-Term/Intermediate-term Signs may be used in lieu of Short-term/Short Duration signing.
- 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.
- 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

- 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

- 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.
- "Mesh" type materials are NOT an approved sign substrate, regardless of the tightness of the weave.
- 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

- 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).
- White sheeting, meeting the requirements of DMS-8300 Type A, shall be used for signs with a white background.
- 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

- 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

- When sign messages may be confusing or do not apply, the signs shall be removed or completely covered.
- 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.
- 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.
- 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 shall NOT be used to cover signs.
- Duct tape or other adhesive material shall NOT be affixed to a sign face.
- Signs and anchor stubs shall be removed and holes backfilled upon completion of work.

SIGN SUPPORT WEIGHTS

- Where sign supports require the use of weights to keep from turning over, the use of sandbags with dry, cohesionless sand should be used.
- The sandbags will be tied shut to keep the sand from spilling and to maintain a constant weight.
- Rock, concrete, iron, steel or other solid objects shall not be permitted for use as sign support weights.
- 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.
- 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.
- 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.
- Sandbags shall NOT be placed under the skid and shall not be used to level sign supports placed on slopes.

FLAGS ON SIGNS

- 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.

SHEET 4 OF 12

Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION TEMPORARY SIGN NOTES

BC (4) - 21

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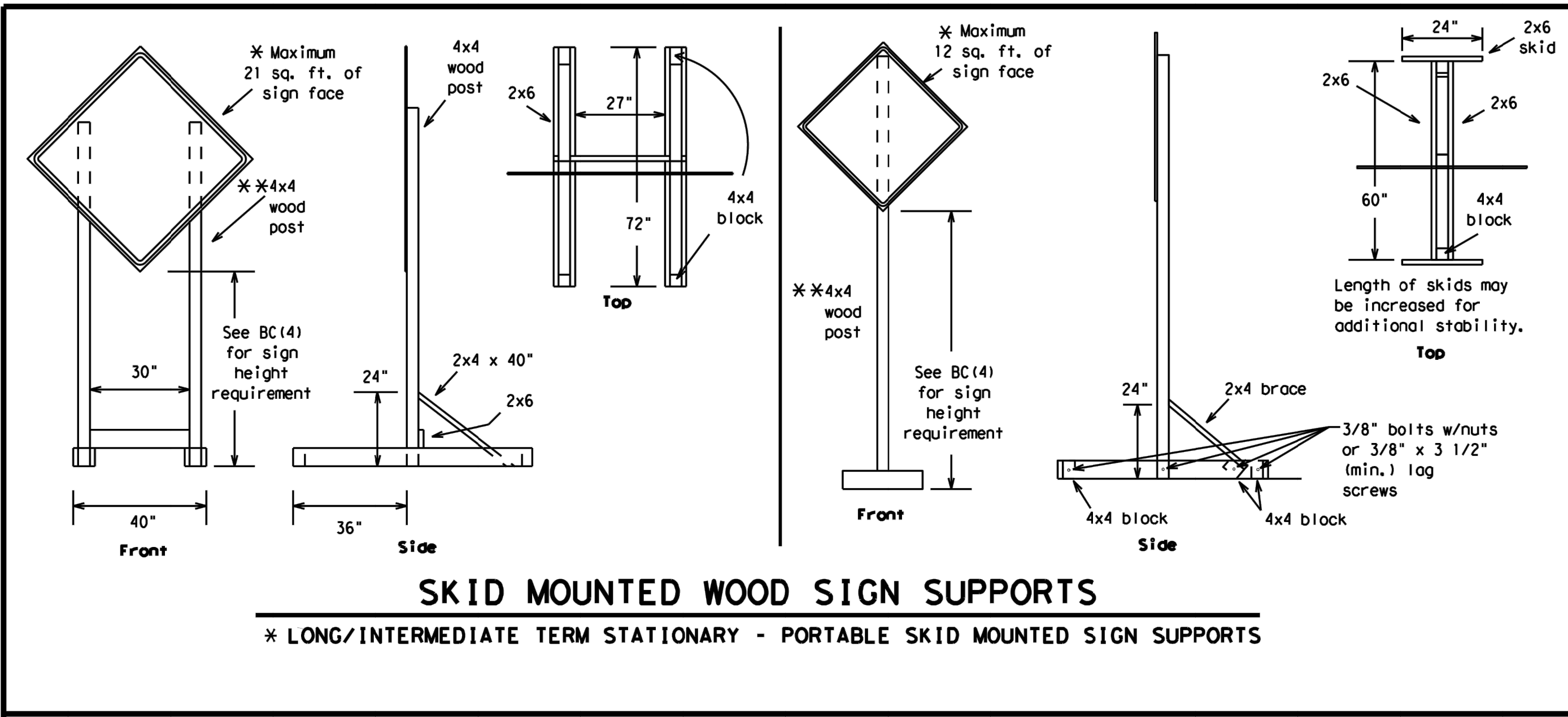
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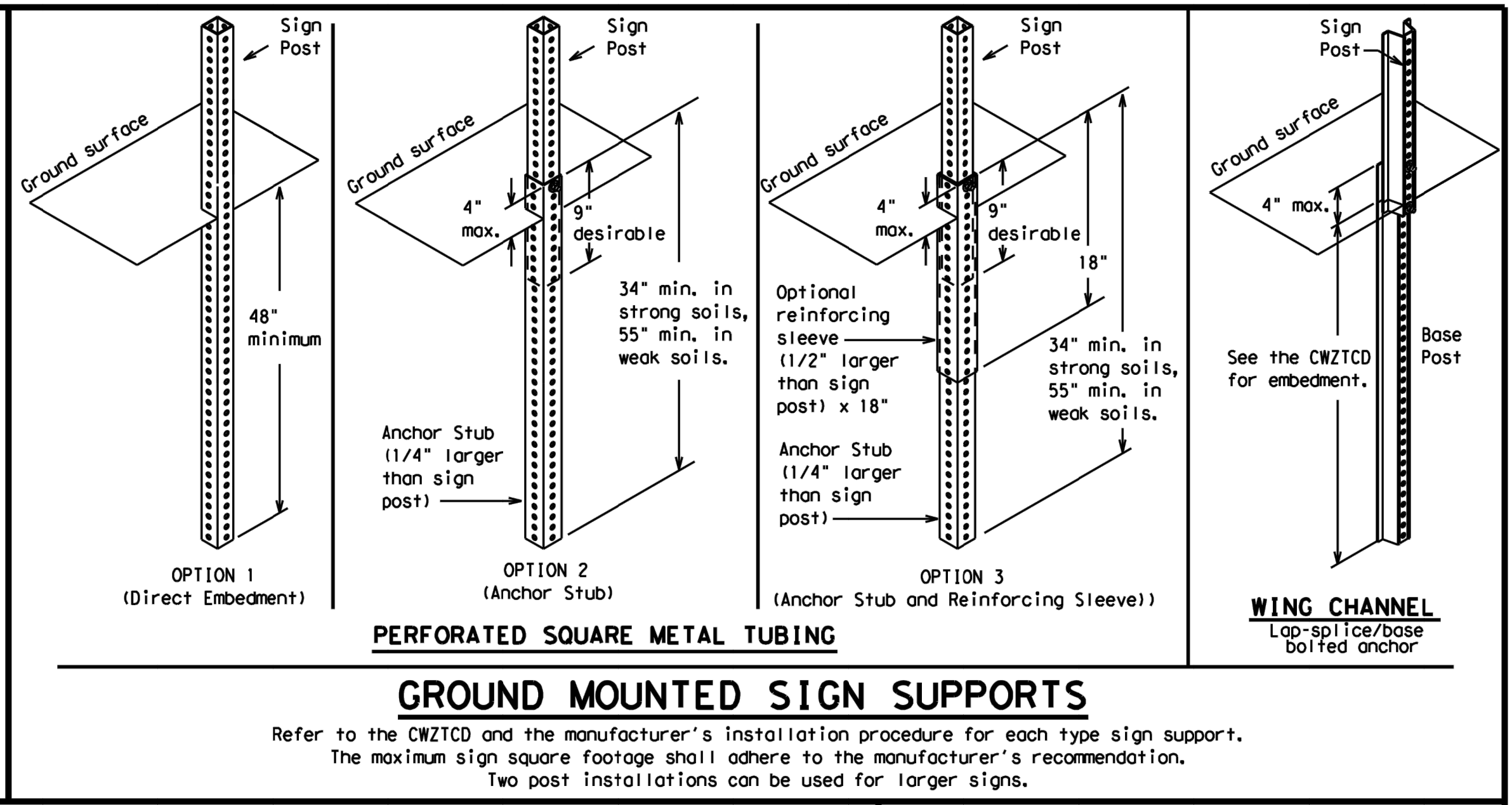
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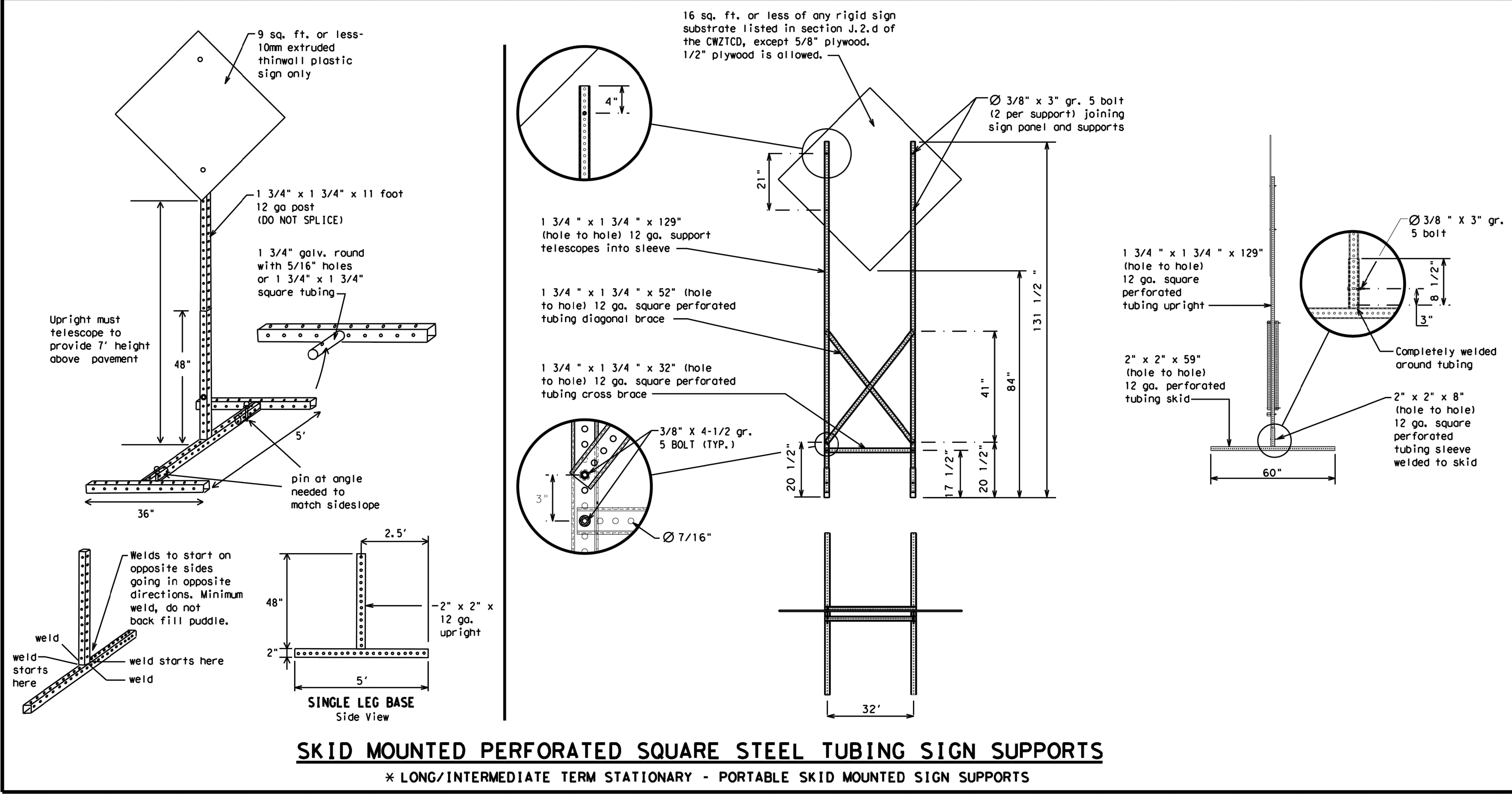
SKID MOUNTED WOOD SIGN SUPPORTS

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



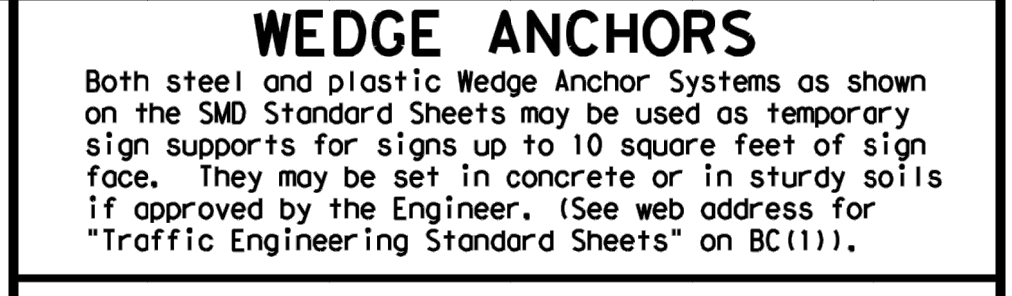
GROUND MOUNTED SIGN SUPPORTS

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



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

- 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.
 - No more than 2 sign posts shall be placed within a 7 ft. circle, except for specific materials noted on the CWZTCD List.
 - 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.

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BARRICADE AND CONSTRUCTION TYPICAL SIGN SUPPORT

BC (5) - 21

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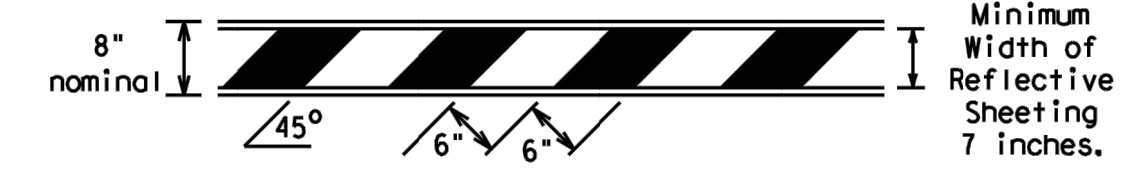
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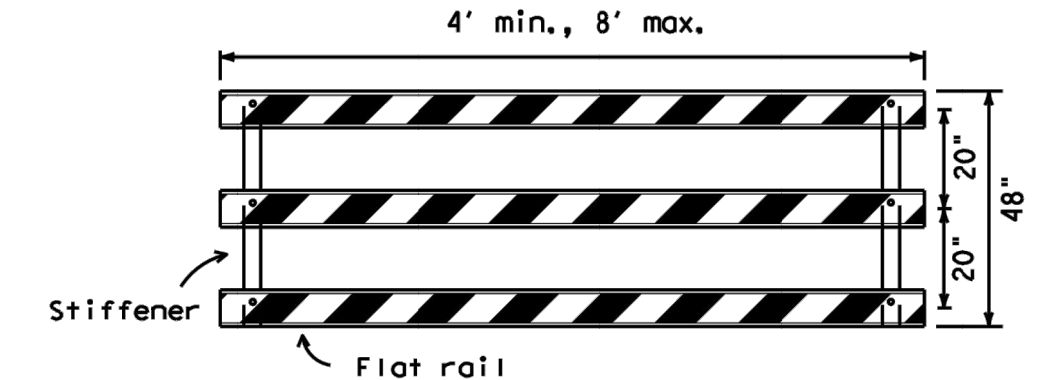
TYPE 3 BARRICADES

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 rail's 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.

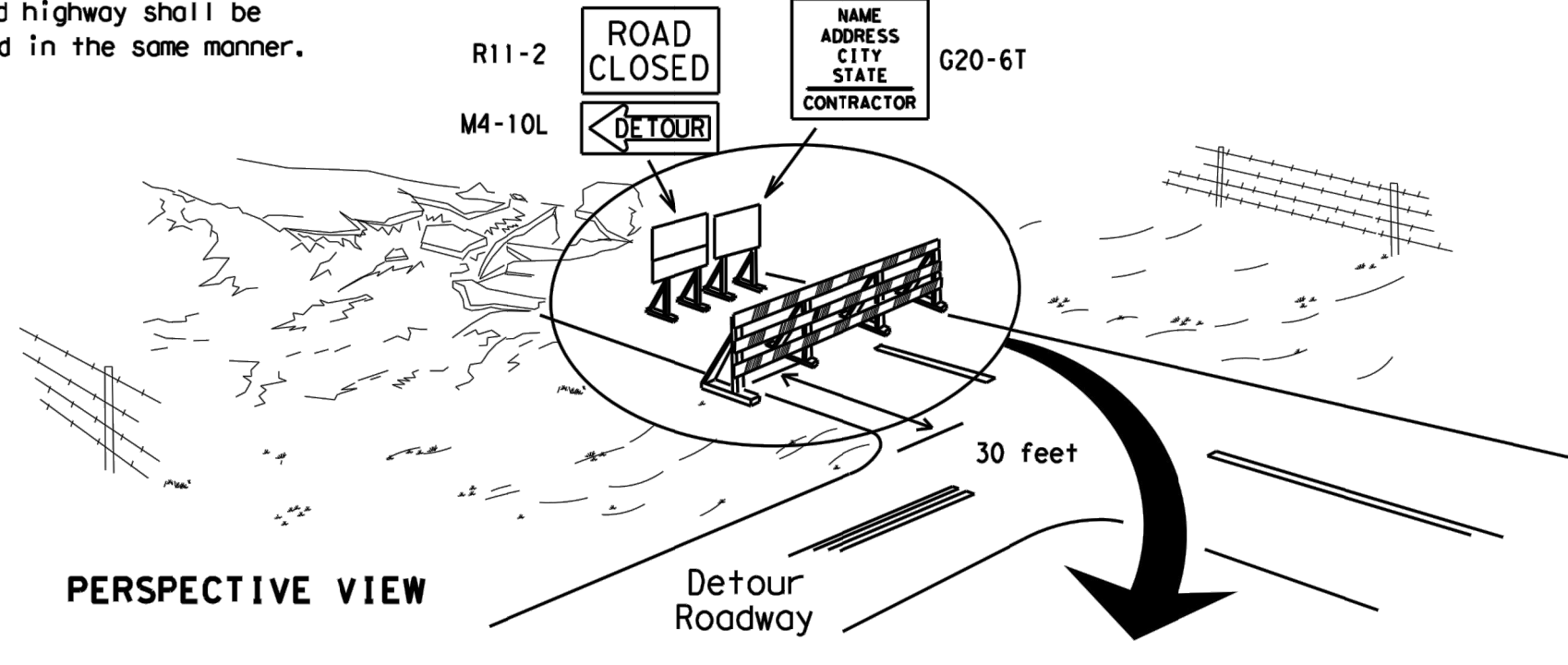


TYPICAL STRIPING DETAIL FOR BARRICADE RAIL



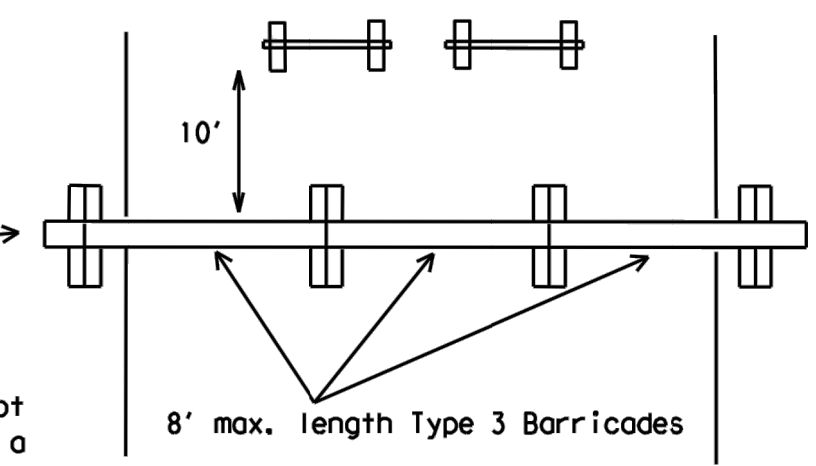
TYPICAL PANEL DETAIL FOR SKID OR POST TYPE BARRICADES

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



PERSPECTIVE VIEW

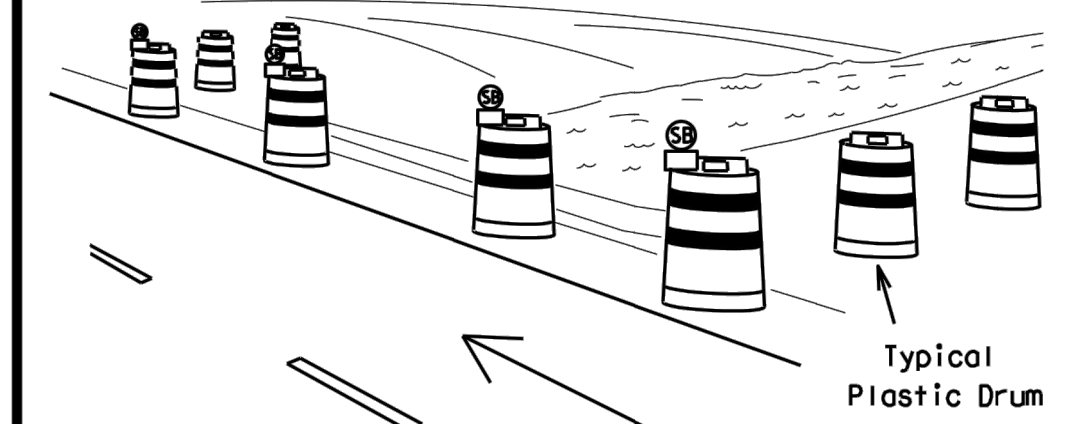
The three rails on Type 3 barricades shall be reflectorized orange and reflective white stripes on one side facing one-way traffic and both sides for two-way traffic. Barricade striping should slant downward in the direction of detour.



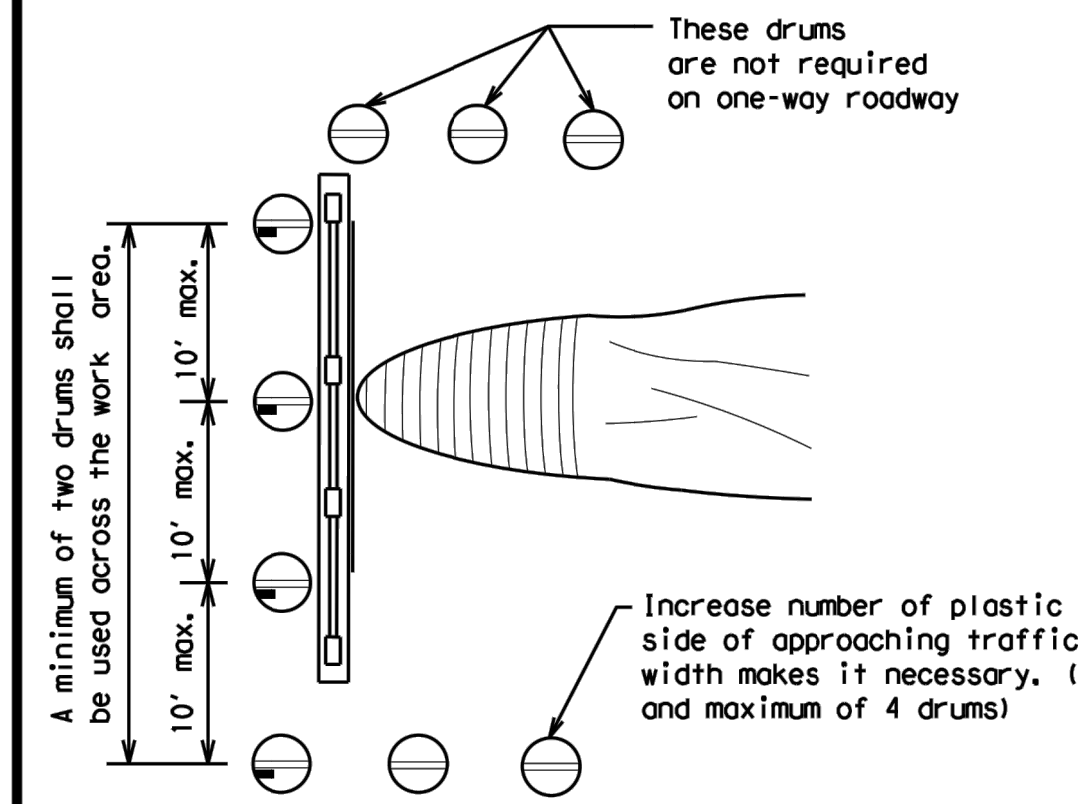
PLAN VIEW

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

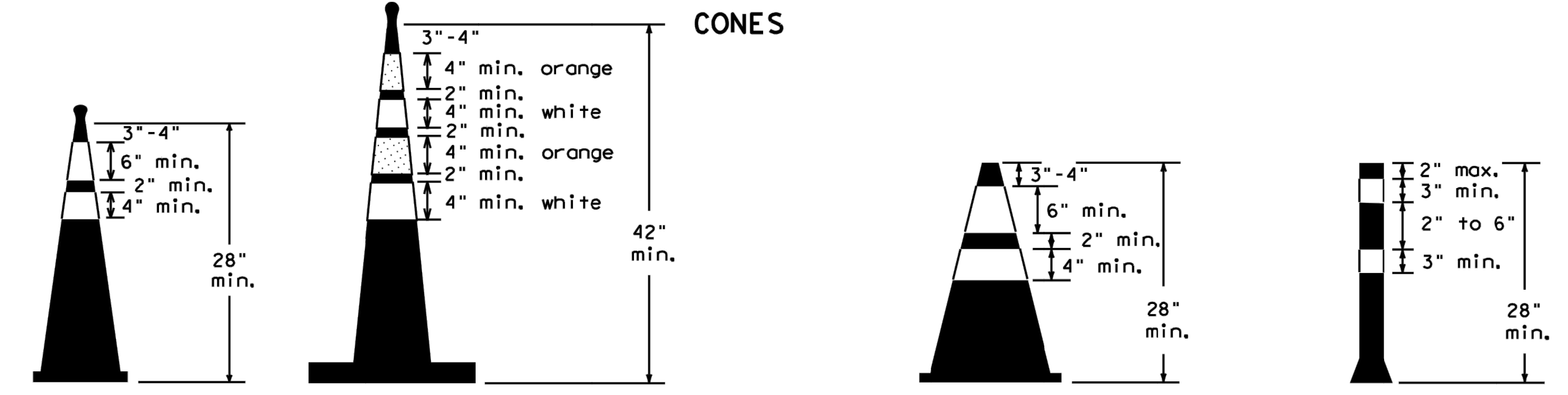


PLAN VIEW

1. Where positive redirection 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
	Steady burn warning light or yellow warning reflector

CULVERT WIDENING OR OTHER ISOLATED WORK WITHIN THE PROJECT LIMITS



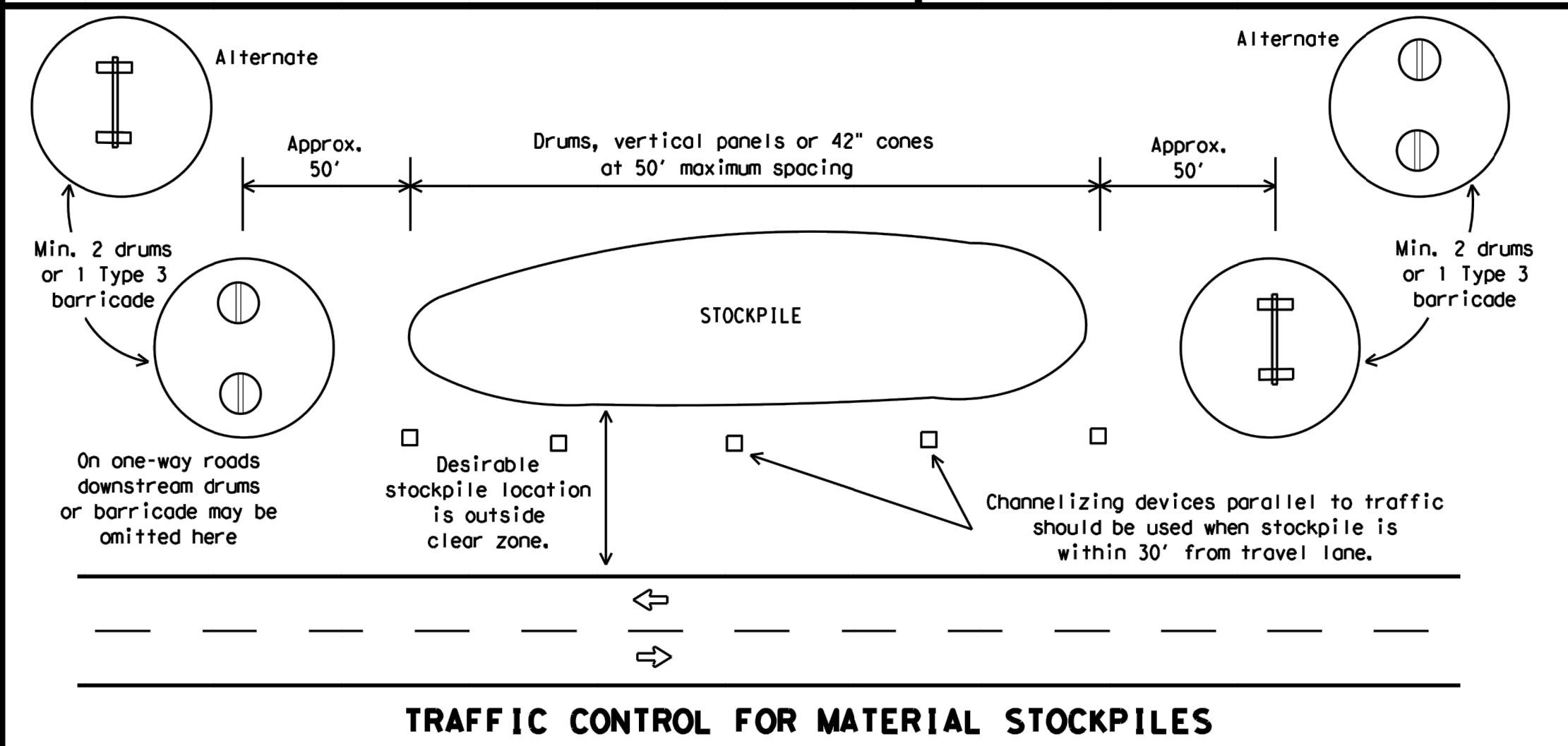
Two-Piece cones

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

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Texas Department of Transportation Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES

BC (10) - 21

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DATE SEPT. 19, 2022
SHEET 141 OF 141

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