REVISED 01/29/2020

CITY OF AUSTIN, TEXAS
AUSTIN TRANSPORTATION DEPT.

01/29/2020

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

SUB PROJECT ID: 11880.002

NOTES:

1. CONTRACTOR SHALL NOTIFY THE PUBLIC WORKS DEPARTMENT 24 HOURS PRIOR TO STARTING CONSTRUCTION OR CLEARING OPERATIONS.

2. CONTRACTOR SHALL CALL "ONE CALL" AT 811 FOR UTILITY LOCATIONS AT LEAST 48 HOURS PRIOR TO ANY WORK IN CITY EASEMENTS OR STREET RIGHT OF WAYS.

3. THIS PROJECT IS LOCATED WITHIN THE BULL/LAKE CREEK WATERSHED (CLASSIFIED AS WATER SUPPLY SUBURBAN) AND SHALL BE DEVELOPED, CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH CHAPTER 25 OF THE CODE OF THE CITY OF AUSTIN.

4. NO PORTION OF THIS SITE IS LOCATED WITHIN PARKLAND OR LAND USED FOR PARK PURPOSES. (IF SUCH LAND IS INCLUDED, DOCUMENTATION OF PARKS AND RECREATION DEPT APPROVAL IS REQUIRED AT THE TIME OF SUBMITTAL FOR GENERAL PERMIT PROGRAM APPROVAL.)

5. NO PORTION OF THIS SITE IS LOCATED WITHIN THE 100-YEAR FLOODPLAIN, PER CITY OF AUSTIN AND FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP(S) NO 48453C0235J & 48491C0610E, DATED 01/06/2016 & 09/26/2008.

6. THIS PROJECT IS WITHIN THE EDWARDS AQUIFER RECHARGE ZONE AS DEFINED BY THE CITY OF AUSTIN. THIS PROJECT IS WITHIN THE EDWARDS AQUIFER RECHARGE ZONE AS REGULATED BY THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ).

7. THERE ARE CRITICAL ENVIRONMENTAL FEATURES WITHIN 150' OF ANY PORTION OF THIS PROJECT. A FIELD INVESTIGATION HAS BEEN PERFORMED AS A PART OF THIS PROJECT.

8. THE STANDARD SHEETS INCLUDED IN THIS PLAN SET WERE PROVIDED BY THE GENERAL PERMIT PROGRAM OFFICE FOR USE ON GENERAL PERMIT PROJECTS ONLY. IF ANY MODIFICATIONS TO THE SHEETS WERE MADE, THEY ARE CLEARLY INDICATED ON THE SHEET ITSELF AND IN THE COVER SHEET INDEX.

9. ADDITIONAL TRENCH E/S CONTROL: TRIANGULAR SEDIMENT FILTER DIKE WILL BE INSTALLED ACROSS FULL WIDTH OF TRAFFIC CLOSURE AND DOWNSTREAM OF CONSTRUCTION AREA, PERPENDICULAR TO CURB. FILTER DIKE TO FOLLOW ACTIVE CONSTRUCTION. REMOVING AND RE-SETTING FILTER DIKE IS CONSIDERED SUBSIDIARY TO BARRICADES AND TRAFFIC HANDLING.

10. PROJECT SCHEDULE MUST BE APPROVED BY THE GENERAL PERMIT PROGRAM (GPP) COORDINATOR. INSTALLATION AND REMOVAL OF TEMPORARY AND PERMANENT EROSION/SEDIMENTATION CONTROLS MUST BE REFLECTED IN THE SCHEDULE, BY STATION NUMBER. GPP INSPECTOR MUST BE NOTIFIED A MINIMUM OF 48 HOURS IN ADVANCE OF TRANSITION BETWEEN PHASES.

11. APPROPRIATE EASEMENTS/APPROVALS MUST BE SECURED AND DOCUMENTED FOR PROJECT AREAS LOCATED OUTSIDE OF RIGHT OF WAYS. NO WORK SHALL BE PERFORMED WITHIN THESE AREAS UNTIL ASSOCIATED RIGHT OF ENTRY HAS BEEN SECURED. ADDITIONALLY, THIS PROJECT WILL NOT BE CONSIDERED COMPLETE UNTIL ALL RECORDED EASEMENT DOCUMENT NUMBERS HAVE BEEN OBTAINED AND SHOWN ON PLANS.

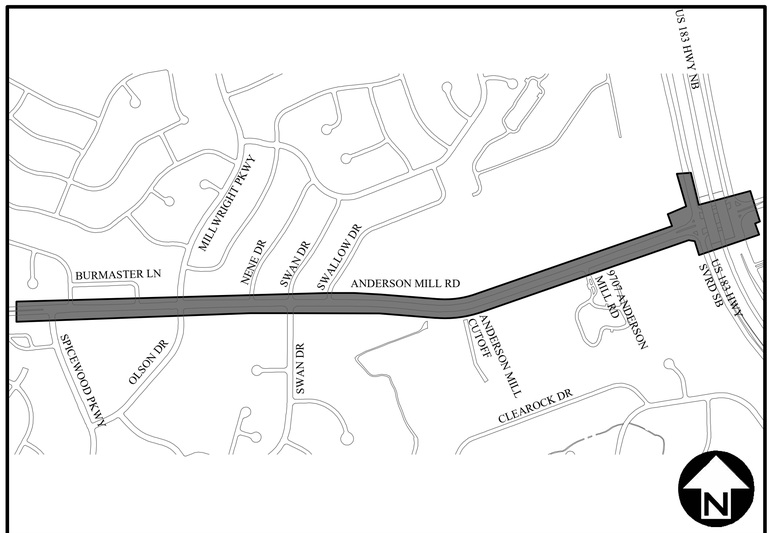
12. CONTRACTOR SHALL STAKE ALL PROPOSED SERVICE CONNECTIONS LOCATED WITHIN THE CRITICAL ROOT ZONE OF TREES 8" IN CALIPER AND LARGER AT LEAST 21 CALENDAR DAYS PRIOR TO CONSTRUCTION OF SUCH SERVICES. STAKING SHALL CONSIST OF A LATH WITH NAIL AND PAINT MARKINGS. IN CASES WHERE A STAKE CANNOT BE PLACED WITHOUT DAMAGING PROPERTY, CONTRACTOR MAY USE PAINT ONLY. ONCE STAKING IS COMPLETED, IT IS THE CONTRACTOR'S RESPONSIBILITY TO INFORM THE CITY OF AUSTIN'S CONSTRUCTION INSPECTOR WITHIN TWENTY-FOUR HOURS. THE CITY OF AUSTIN'S CONSTRUCTION INSPECTOR WILL THEN COORDINATE A FIELD REVIEW OF THE SERVICE LOCATIONS WITH THE GENERAL PERMIT PROGRAM COORDINATOR AND PROPERTY OWNERS. SERVICE LINE LOCATIONS MAY BE ADJUSTED BASED ON THE REVIEW AND WILL BE RESTAKED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CONTRACT. ALL SERVICE LINE STAKING SHALL BE MAINTAINED UNTIL THE SERVICE IS INSTALLED.

NOTES:
GENERAL PERMIT PROGRAM APPROVAL DOES NOT CONSTITUTE UTILITY ALIGNMENT/ASSIGNMENT APPROVAL.
RELEASE OF THIS APPLICATION DOES NOT CONSTITUTE A VERIFICATION OF ALL DATA, INFORMATION AND CALCULATIONS SUPPLIED BY THE APPLICANT. THE ENGINEER OF RECORD IS SOLELY RESPONSIBLE FOR THE COMPLETENESS, ACCURACY, AND ADEQUACY OF HIS/HER SUBMITTAL, WHETHER OR NOT THE APPLICATION IS REVIEWED FOR CODE COMPLIANCE BY CITY ENGINEERS.

GENERAL PERMIT PROGRAM CORRECTIONS RECORD

FOR USE BY GENERAL PERMIT OFFICE ONLY

NO	DESCRIPTION	BY	CORRECT (C) ADD (D) VOID (V) SHEET NO.'s	TOTAL # SHEETS IN CORRECTION PLAN SET	GENERAL PERMIT PROGRAM APPROVAL	APPROVAL DATE



COA GRID: G37 & F37

MAPSCO: MAP 433U & 433V

LOCATION MAP
N.T.S.

PROJECT LOCATION

UCC-170511-06-03 & UCC-200213-09-01
AULCC NUMBER

PROJECT INFORMATION:

STREET ADDRESS:
9601 - 10501 ANDERSON MILL ROAD
AUSTIN, TX 78750

CLIENT/SPONSOR:
CITY OF AUSTIN
AUSTIN TRANSPORTATION DEPARTMENT
901 S MOPAC EXPY., PLAZA 5, SUITE 300,
AUSTIN, TX 78746

CONTACT:
PAUL TERRANOVA, MBA, P.E.
PHONE: (512) 974-7163
EMAIL: Paul.Terranova@austintexas.gov

PROJECT MANAGEMENT:
CITY OF AUSTIN
PUBLIC WORKS DEPARTMENT
PROJECT MANAGEMENT DIVISION
505 BARTON SPRINGS RD., STE. 900
AUSTIN, TEXAS 78704

CONTACT:
OCTAVIO GARZA, P.E.
PHONE: (512) 974-7234
EMAIL: Octavio.Garza@austintexas.gov

SUBMITTAL PREPARED BY:

STATE OF TEXAS
XIAOQIN ZHANG, P.E.
96436
LICENSED
PROFESSIONAL ENGINEER
01/29/2020

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY XIAOQIN ZHANG, P.E. LIC. # 96436

I CERTIFY THAT THESE DRAWINGS ARE COMPLETE, ACCURATE AND ADEQUATE FOR THEIR INTENDED PURPOSES, INCLUDING CONSTRUCTION, BUT ARE NOT AUTHORIZED FOR CONSTRUCTION UNTIL FORMAL CITY APPROVAL.

ESD
ENGINEERING SERVICES DIVISION

CITY OF AUSTIN
PUBLIC WORKS DEPARTMENT
ENGINEERING SERVICES DIVISION
505 BARTON SPRINGS RD., STE. 900
AUSTIN, TEXAS 78704

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EMAIL: Xiaoqin.Zhang@austintexas.gov

APPROVED BY GENERAL PERMIT HOLDER:

FOR GENERAL PERMIT HOLDER — DATE

GP-2019-0210.ATD
ANNUAL GENERAL PERMIT NUMBER

REVIEWED BY:

AUSTIN TRANSPORTATION DEPARTMENT — DATE

WATERSHED PROTECTION DEPARTMENT — DATE

TXDOT PERMIT NUMBER — DATE

APPROVAL FOR SITE DEVELOPMENT PERMIT:

1/6/20
GENERAL PERMIT PROGRAM COORDINATOR — DATE
DEVELOPMENT SERVICES DEPARTMENT

GP-2019-0210.ATD
GENERAL PERMIT NUMBER — DATE

07-11-2019
SUBMITTAL DATE

GENERAL PERMIT PROGRAM
ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

THIVAKARAN, JOTHIKA

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NO	ID	DESCRIPTION
1	G001	COVER SHEET
2	G002	INDEX SHEET
3	G003	LEGEND SHEET
4	G004	ABBREVIATION SHEET
5	G004	GENERAL CONSTRUCTION NOTES
6	V101	OVERVIEW AND SURVEY CONTROL PLAN
7	V102	EXISTING CONDITIONS PLAN - SHEET 1 OF 8
8	V103	EXISTING CONDITIONS PLAN - SHEET 2 OF 8
9	V104	EXISTING CONDITIONS PLAN - SHEET 3 OF 8
10	V105	EXISTING CONDITIONS PLAN - SHEET 4 OF 8
11	V106	EXISTING CONDITIONS PLAN - SHEET 5 OF 8
12	V107	EXISTING CONDITIONS PLAN - SHEET 6 OF 8
13	V108	EXISTING CONDITIONS PLAN - SHEET 7 OF 8
14	V109	EXISTING CONDITIONS PLAN - SHEET 8 OF 8
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16	CE002	TREE PROTECTION AND ENVIRONMENTAL NOTES
17	CE101	EROSION & SEDIMENTATION CONTROL PLAN - SHEET 1 OF 8
18	CE102	EROSION & SEDIMENTATION CONTROL PLAN - SHEET 2 OF 8
19	CE103	EROSION & SEDIMENTATION CONTROL PLAN - SHEET 3 OF 8
20	CE104	EROSION & SEDIMENTATION CONTROL PLAN - SHEET 4 OF 8
21	CE105	EROSION & SEDIMENTATION CONTROL PLAN - SHEET 5 OF 8
22	CE106	EROSION & SEDIMENTATION CONTROL PLAN - SHEET 6 OF 8
23	CE107	EROSION & SEDIMENTATION CONTROL PLAN - SHEET 7 OF 8
24	CE108	EROSION & SEDIMENTATION CONTROL PLAN - SHEET 8 OF 8
25	CE601	TREE SURVEY SCHEDULE
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27	CD102	DEMOLITION PLAN - SHEET 2 OF 8
28	CD103	DEMOLITION PLAN - SHEET 3 OF 8
29	CD104	DEMOLITION PLAN - SHEET 4 OF 8
30	CD105	DEMOLITION PLAN - SHEET 5 OF 8
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32	CD107	DEMOLITION PLAN - SHEET 7 OF 8
33	CD108	DEMOLITION PLAN - SHEET 8 OF 8
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36	CP303	TYPICAL ROAD SECTIONS - SHEET 2 OF 2
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39	CP202	PROPOSED SITE PLAN - STA. 17+50 - 24+50
40	CP203	PROPOSED SITE PLAN - STA. 24+50 - 32+50
41	CP204	PROPOSED SITE PLAN - STA. 32+50 - 40+50
42	CP205	PROPOSED SITE PLAN - STA. 40+50 - 48+50
43	CP206	PROPOSED SITE PLAN - STA. 48+50 - 56+50
44	CP207	PROPOSED SITE PLAN - STA. 56+50 - 64+50
45	CP208	PROPOSED SITE PLAN - STA. 64+50 - END
46	CP209	PAVING PLAN - BEGIN - STA. 18+50
47	CP210	PAVING PLAN - STA. 18+50 - 26+50
48	CP211	PAVING PLAN - STA. 26+50 - 34+50
49	CP212	PAVING PLAN - STA. 34+50 - 42+50
50	CP213	PAVING PLAN - STA. 42+50 - 50+50
51	CP214	PAVING PLAN - STA. 50+50 - 58+50
52	CP215	PAVING PLAN - STA. 58+50 - END
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54	CP502	ROADWAY DETAILS - SHEET 2 OF 5
55	CP503	ROADWAY DETAILS - SHEET 3 OF 5
56	CP504	ROADWAY DETAILS - SHEET 4 OF 5
57	CP505	ROADWAY DETAILS - SHEET 5 OF 5
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59	CH102	OFF-SITE OVERALL DRAINAGE PLAN - SHEET 2 OF 2
60	CH103	ON-SITE EXISTING DRAINAGE PLAN - SHEET 1 OF 2
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68	CH203	STORM DRAIN PLAN & PROFILE SDL-A - STA. 13+50 - END
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70	CH205	STORM DRAIN PLAN & PROFILE SDL-C - BEGIN - END
71	CH206	STORM DRAIN PLAN & PROFILE SDL-D - BEGIN - END
72	CH207	STORM DRAIN PLAN & PROFILE SDL-E - BEGIN - END
73	CH208	STORM DRAIN PLAN & PROFILE SDL-F - BEGIN - END
74	CH209	STORM DRAIN PLAN & PROFILE SDL-G - BEGIN - END
75	CH210	STORM DRAIN PLAN & PROFILE SDL-M - BEGIN - END
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82	CH507	RAIN GARDEN & DITCH PLAN STA. 24+50 - 32+50
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126	CT105	TRAFFIC CONTROL PLAN - SHEET 5 OF 6
127	CT106	TRAFFIC CONTROL PLAN - SHEET 6 OF 6
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130	CT503	TRAFFIC CONTROL DETAILS - SHEET 3 OF 5
131	CT504	TRAFFIC CONTROL DETAILS - SHEET 4 OF 5
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REV NO.	BY	DATE	REVISION DESCRIPTION

STATE OF TEXAS
XIAOQIN ZHANG, P.E.
96436
LICENSED
PROFESSIONAL ENGINEER
02/05/2020

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY XIAOQIN ZHANG, P.E. LIC. # 96436

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THIWAKARAN, JOTHIKA

CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

INDEX SHEET

CITY OF AUSTIN FOUNDED 1839

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT	9/18
DESIGNED BY	JT	9/18
CHECKED BY	EZ	9/18
REVIEWED BY	ESD	9/18

ESD
ENGINEERING SERVICES DIVISION

GP-2019-0210.ATD

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EXISTING FEATURES

- CENTERLINE
- RIGHT OF WAY LINE
- PROPERTY LINE
- EASEMENT LINE
- 25Y — FLOOD HAZARD ZONE 25 YEAR
- 100Y — FLOOD HAZARD ZONE 100 YEAR
- CWQZ — CRITICAL WATER QUALITY ZONE
- WQTZ — TRANSITION WATER QUALITY ZONE
- DR — DRAINAGE EDGE
- DRAINAGE CENTERLINE
- DITCH EDGE
- TC — TIME OF CONCENTRATION
- 600 — MAJOR CONTOURS
- 599 — MINOR CONTOURS
- PAVED ROAD EDGE
- PAVED PARKING / DRIVEWAY EDGE
- GRAVEL EDGE
- CURB LINE
- BUILDING LINE
- GUARDRAIL
- HANDRAIL
- CHAINLINK FENCE
- BARBWIRE FENCE
- WOOD FENCE
- STEEL FENCE
- FENCE LINE
- STONE / ROCK WALL
- BRICK WALL
- TREE LINE
- C OH — COMMUNICATION OVERHEAD
- C UG — COMMUNCATION UNDERGROUND
- FO OH — FIBER OPTIC OVERHEAD
- FO UG — FIBER OPTIC UNDERGROUND
- TS OH — TRAFFIC SIGNAL OVERHEAD
- TS UG — TRAFFIC SIGNAL UNDERGROUND
- E OH — ELECTRIC OVERHEAD
- E UG — ELECTRIC UNDEGROUND
- CW — CHILLED WATER LINE
- CW — CHILLED WATER ABANDONED
- G — NATURAL GAS LINE
- G — NATURAL GAS ABANDONED
- R — RECLAIMED WATER LINE
- R — RECLAIMED WATER ABANDONED
- IR — IRRIGATION LINE
- IR — IRRIGATION ABANDONED
- STORM DRAIN LINE
- STORM DRAIN ABANDONED
- W — WATER LINE
- W — WATER ABANDONED
- WASTEWATER LINE
- FORCE MAIN LINE
- WASTEWATER ABANDONED
- FORCE MAIN ABANDONED

- BRASS DISK FOUND
- BRASS DISK SET
- BOLT FOUND
- BOLT SET
- BM — BENCHMARK FOUND
- BM — BENCHMARK SET
- CALCULATED POINT
- CONTROL POINT FOUND
- CONTROL POINT SET
- COTTON SPINDLE FOUND
- COTTON SPINDLE SET
- DRILL HOLE FOUND
- DRILL HOLE SET
- HUB & TACK FOUND
- HUB & TACK SET
- IRON PIPE FOUND
- IRON PIPE SET
- IRON ROD FOUND
- IRON ROD SET
- MONUMENT FOUND
- MONUMENT SET
- MAGNAIL FOUND
- MAGNAIL SET
- PROPERTY PIN FOUND
- PROPERTY PIN SET
- TBM — TEMP. BENCHMARK FOUND
- TBM — TEMP. BENCHMARK SET
- CROSS FOUND
- CROSS SET
- BIKE RACK
- BOLLARD
- BENCH
- BUS — BUS STOP
- GARBAGE CAN
- GUARDRAIL POST
- MAILBOX
- PM — PARKING METER
- POST
- SIGN
- MANHOLE UNKNOWN
- TEST PIT
- B01 — BORE HOLE
- RAILROAD SIGNAL
- SHRUB
- TREE

- STORM DRAIN AREA INLET
- DRAINAGE ARROW
- STORM DRAIN CURB INLET
- SD — STORM DRAIN CLEANOUT
- STORM DRAIN GRATE INLET
- STORM DRAIN HEADWALL
- SD — STORM DRAIN MANHOLE
- STORM DRAIN WINGWALL
- WW — WASTEWATER AR VALVE
- WW — WWTR BACKFLOW PRVN.
- WW — WASTEWATER CLEANOUT
- WW — WASTEWATER FLOW METER
- L — WWTR LIFT STATION
- WW — WASTEWATER MANHOLE
- WW — WASTEWATER METER
- WW — WWTR SRVC. CONNECTION
- WW — WASTEWATER VAULT
- WW — WASTEWATER VALVE
- W — WATER AF VALVE
- W — WATER AR VALVE AUTO
- W — WATER AR VALVE COMBO
- W — WATER AR VALVE MANUAL
- W — WATER BACKFLOW PREV.
- W — WATER BOUNDARY VALVE
- WATR / WWTR CAP
- W — WATER CHECK VLV. SINGLE
- W — WATER CHECK VLV. DOUBLE
- D — WATER DRAINAGE VALVE
- D — WATER DRAINAGE MANHOLE
- F — WATER FIRE CONNECTION
- F — WATER FIRE HYDRANT
- W — WATER FLOW METER
- W — WATER HANDHOLE
- F — WATER HYD. PRS. RLS. VLV.
- W — WATER MANHOLE
- WATR / WWTR MAT. CHANGE
- W — WATER METER
- WATER MONITOR WELL
- WATR / WWTR PLUG
- WATR / WWTR PROJ. SEP.
- W — WATER PRS. RLS. VALVE
- W — WATER PRS. SUST. VALVE
- WATR / WWTR REDUCER
- W — WATER SRVC. CONNECTION
- SO — WATER SHUTOFF VALVE
- W — WATER VAULT
- W — WATER VALVE
- W — WATER VAC. RLS. VALVE
- W — WATER WELL

- C PD — COMMUNICATION PEDESTAL
- C JB — COMM. JUNCTION BOX
- C — COMMUNICATION MANHOLE
- C — COMMUNICATION POLE
- C — COMMUNICATION VAULT
- FO — FIBER OPTIC MANHOLE
- FO JB — FIBER OPTIC JUNCTION BOX
- ELECTRIC ANCHOR
- E JB — ELECTRIC JUNCTION BOX
- ELECTRIC LIGHT POLE
- E — ELECTRIC MANHOLE
- E — ELECTRIC METER
- E — ELECTRIC POLE
- E PB — ELECTRIC PULL BOX
- E — ELECTRIC VAULT
- TR — ELECTRIC TOWER
- CW — CHILLED WATER MANHOLE
- CW — CHILLED WATER VALVE
- G — NATURAL GAS LIGHT
- G — NATURAL GAS MANHOLE
- G — NATURAL GAS METER
- G — NATURAL GAS VALVE
- G — NATURAL GAS VENT
- IC — IRRIG. CONTROL VALVE
- SC — SPRINKLER CONTROL VALVE
- SPRINKLER HEAD
- IRRIGATION HOSE BIB
- R — RECLAIMED WATER MANH.
- R — RECLAIMED WATER METER
- R — RECLAIMED WATER VALVE
- TS — TRAFFIC SIGNAL MANHOLE
- TS CB — TRAF. SIGNAL CONTROL BOX
- TS PB — TRAFFIC SIGNAL PULL BOX
- TRAF. SIGNAL / PED SIGNAL
- TRAF. SIGNAL LIGHT & SIGN.
- TRAF. SIGNAL SIGN. EXTEND.

PROPOSED FEATURES

- CENTERLINE
- RIGHT OF WAY LINE
- PROPERTY LINE
- EASEMENT LINE
- 25Y — FLOOD HAZARD ZONE 25 YEAR
- 100Y — FLOOD HAZARD ZONE 100 YEAR
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- TC — TIME OF CONCENTRATION
- 600 — MAJOR CONTOURS
- 599 — MINOR CONTOURS
- PAVED ROAD EDGE
- PAVED PARKING / DRIVEWAY EDGE
- GRAVEL EDGE
- PAVED ROAD DEMOLITION
- PAVED PARKING DEMOLITION
- CURB LINE
- CURB LINE DEMOLITION
- BUILDING LINE
- GUARDRAIL
- GUARDRAIL DEMOLITION
- HANDRAIL
- HANDRAIL DEMOLITION
- CHAINLINK FENCE
- STEEL FENCE
- FENCE DEMOLITION (GENERIC)
- STONE / ROCK WALL
- BRICK WALL
- TRAFFIC CONE LINE
- TRANSVERSE JOINT
- LONGITUDINAL JOINT
- RB — EROSION ROCK BERM
- EROSION DIVERSION DIKE
- MS — EROSION MULCH SOCK
- SF — EROSION SILT FENCE
- TFD — EROSION TRI-FILTER DIKE
- EROSION TREE PROTECTION
- LOC — LIMITS OF CONSTRUCTION
- C OH — COMMUNICATION OVERHEAD
- C UG — COMMUNCATION UNDERGROUND
- C — COMMUNICATION DEMOLITION
- TS OH — TRAFFIC SIGNAL OVERHEAD
- TS UG — TRAFFIC SIGNAL UNDERGROUND
- TS — TRAFFIC SIGNAL DEMOLITION
- E OH — ELECTRIC OVERHEAD
- E UG — ELECTRIC UNDEGROUND
- E — ELECTRIC DEMOLITION
- CW — CHILLED WATER LINE
- CW — CHILLED WATER TO ABANDON
- CW — CHILLED WATER DEMOLITION
- R — RECLAIMED WATER LINE
- R — RECLAIMED WATER TO ABANDON
- R — RECLAIMED WATER DEMOLITION

- IR — IRRIGATION LINE
- IR — IRRIGATION TO ABANDON
- IR — IRRIGATION DEMOLITION
- STORM DRAIN LINE
- STORM DRAIN TO ABANDON
- STORM DRAIN DEMOLITION
- PD — PERFORATED DRAIN
- WATER LINE
- W — WATER TO ABANDON
- W — WATER DEMOLITION
- WASTEWATER LINE
- FORCE MAIN LINE
- WASTEWATER TO ABANDON
- FORCE MAIN TO ABANDON
- WASTEWATER DEMOLITION
- FORCE MAIN DEMOLITION

- BIKE RACK
- BOLLARD
- BENCH
- BUS — BUS STOP
- GARBAGE CAN
- GUARDRAIL POST
- MAILBOX
- PM — PARKING METER
- POST
- SIGN
- SHRUB
- TREE
- WW — WASTEWATER AR VALVE
- WW — WWTR BACKFLOW PRVN.
- WW — WASTEWATER CLEANOUT
- WW — WASTEWATER FLOW METER
- L — WWTR LIFT STATION
- WW — WASTEWATER MANHOLE
- WW — WASTEWATER METER
- WW — WWTR SRVC. CONNECTION
- WW — WASTEWATER VAULT
- WW — WASTEWATER VALVE
- STORM DRAIN AREA INLET
- DRAINAGE ARROW
- STORM DRAIN CURB INLET
- SD — STORM DRAIN CLEANOUT
- STORM DRAIN GRATE INLET
- STORM DRAIN HEADWALL
- SD — STORM DRAIN MANHOLE
- STORM DRAIN WINGWALL
- R — RECLAIMED WATER MANH.
- R — RECLAIMED WATER METER
- R — RECLAIMED WATER VALVE
- W — WATER AF VALVE
- W — WATER AR VALVE AUTO
- W — WATER AR VALVE COMBO
- W — WATER AR VALVE MANUAL
- W — WATER BACKFLOW PREV.
- W — WATER BOUNDARY VALVE
- WATR / WWTR CAP
- W — WATER CHECK VLV. SINGLE
- W — WATER CHECK VLV. DOUBLE
- D — WATER DRAINAGE VALVE
- D — WATER DRAINAGE MANHOLE
- F — WATER FIRE CONNECTION
- F — WATER FIRE HYDRANT
- W — WATER FLOW METER
- W — WATER HANDHOLE
- F — WATER HYD. PRS. RLS. VLV.
- W — WATER MANHOLE
- WATR / WWTR MAT. CHANGE
- W — WATER METER
- WATER MONITOR WELL
- WATR / WWTR PLUG
- WATR / WWTR PROJ. SEP.
- W — WATER PRS. RLS. VALVE
- W — WATER PRS. SUST. VALVE
- WATR / WWTR REDUCER
- W — WATER SRVC. CONNECTION
- SO — WATER SHUTOFF VALVE
- W — WATER VAULT
- W — WATER VALVE
- W — WATER VAC. RLS. VALVE
- W — WATER WELL
- C PD — COMMUNICATION PEDESTAL
- C JB — COMM. JUNCTION BOX
- C — COMMUNICATION MANHOLE
- C — COMMUNICATION POLE
- C — COMMUNICATION VAULT
- FO — FIBER OPTIC MANHOLE
- FO JB — FIBER OPTIC JUNCTION BOX
- ELECTRIC ANCHOR
- E JB — ELECTRIC JUNCTION BOX
- ELECTRIC LIGHT POLE
- E — ELECTRIC MANHOLE
- E — ELECTRIC METER
- E — ELECTRIC POLE
- E PB — ELECTRIC PULL BOX
- E — ELECTRIC VAULT
- TR — ELECTRIC TOWER
- CW — CHILLED WATER MANHOLE
- CW — CHILLED WATER VALVE
- G — NATURAL GAS LIGHT
- G — NATURAL GAS MANHOLE
- G — NATURAL GAS METER
- G — NATURAL GAS VALVE
- G — NATURAL GAS VENT
- IC — IRRIG. CONTROL VALVE
- SC — SPRINKLER CONTROL VALVE
- SPRINKLER HEAD
- IRRIGATION HOSE BIB
- TS — TRAFFIC SIGNAL MANHOLE
- TS CB — TRAF. SIGNAL CONTROL BOX
- TS PB — TRAFFIC SIGNAL PULL BOX
- TRAF. SIGNAL / PED SIGNAL
- TRAF. SIGNAL LIGHT & SIGN.
- TRAF. SIGNAL SIGN. EXTEND.

REV NO.	BY	DATE	REVISION DESCRIPTION

STATE OF TEXAS
XIAOQIN ZHANG, P.E.
96436
LICENSED
PROFESSIONAL ENGINEER
01/29/2020

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY XIAOQIN ZHANG, P.E. LIC. # 96436

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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

LEGEND SHEET

CITY OF AUSTIN FOUNDED 1839

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/EZ	9/18
DESIGNED BY	JT/EZ	9/18
CHECKED BY	EZ/CG	9/18
REVIEWED BY	ESD	9/18

ESD
ENGINEERING SERVICES DIVISION

GP-2019-0210.ATD

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COMMONLY USED ABBREVIATIONS

#

1S	SINGLE SERVICE
2S	DOUBLE SERVICE

A

ABAN	ABANDON
ABLT	AS-BUILT
AATUR	ABANDONED ACCORDING TO UTILITY RECORDS
AC	ASBESTOS CEMENT
AC.	ACRE
ACC	ACCESSIBLE
AFV	AIR FLUSH VALVE
AGGR	AGGREGATE
ALGN	ALIGNMENT
APPD	APPROVED
APP.	APPROXIMATE
APPX	APPENDIX
AR	AS REQUIRED
ARCH	ARCHITECT
ASPH	ASPHALT
ASSY	ASSEMBLY
ATCH	ATTACHMENT
ATTN	ATTENTION
AUTO	AUTOMATIC
AUX	AUXILIARY
AV	AIR VENT
ARV	AIR RELEASE VALVE AUTO
ARVC	AIR RELEASE VALVE COMBO
ARVM	AIR RELEASE VALVE MANUAL
AW	AUSTIN WATER UTILITY

B

BGN	BEGIN (BEGINNING)
BC	BACK OF CURB
BCV	BUTTERFLY CHECK VALVE
BDNG	BEDDING
BDRY	BOUNDARY
BFV	BUTTERFLY VALVE
BFP	BACKFLOW PREVENTER
BLDG	BUILDING
BLIN	BASELINE
BLKT	BLANKET
BLT	BUILT
BLW	BELOW
BMRK	BENCHMARK
BOT	BOTTOM
BRG	BEARING
BTWN	BETWEEN
BWIR	BARBWIRE

C

C	COMMUNICATION
CATV	CABLE TELEVISION
C CONC	CAST CONCRETE
C-C	CENTER TO CENTER
CD	CONSTRUCTION DOCUMENT
CG	CURB & GUTTER
CF	CUBIC FEET
CFS	CUBIC FEET PER SECOND
CHK	CHECK POINT
CI	CAST IRON
CIP	CAPITAL IMPROVEMENT PROJECT
C.I.P.	CAST-IN-PLACE
CJ	CONTROL JOINT
CL	CENTERLINE
CLNK	CHAINLINK
CLR	CLEAR
CLS	CLASSIFICATION
CMP	CORRUGATED METAL PIPE
CNTR	CENTER
CO	CONDUIT
COCC	CONCENTRIC
COJB	COMMUNCATION JUNCTION BOX
COL	COLUMN
COA	CITY OF AUSTIN
CONC	CONCRETE
COND	CONDUIT
COMM	COMMUNICATION
COMH	COMMUNICATION MANHOLE
CONN	CONNECT
CONT	CONTINUED
COPD	COMMUNCATION PED
COORD	COORDINATE
COVR	COVER
COVT	COMMUNICATION VAULT
CPLG	COUPLING
CPP	CORRUGATED PLASTIC PIPE
CRZ	CRITICAL ROOT ZONE
CSC	CONCRETE STEEL CYLINDER
CSG	CASING
CTB	CONCRETE TRAFFIC BARRIER
CTRL	CONTROL
CUR	CURRENT
CT	CLAY TILE
CV	CONTROL VALVE
CYL	CYLINDER
CW	CHILLED WATER
CWL	CHILLED WATER LINE
CWMH	CHILLED WATER MANHOLE
CWQZ	CRITICAL WATER QUALITY ZONE
CWR	CHILLED WATER RETURN
CWS	CHILLED WATER SUPPLY
CWTR	CHILLED WATER
CWV	CHILLED WATER VALVE
CWVT	CHILLED WATER VAULT
CY	CUBIC YARD

D

D	DEPTH
DB	DUCT BANK
DD	DISABLED
DA	DRAINAGE AREA
DAT	DATUM
DEFL	DEFLECTION
DEG	DEGREE
DEMO	DEMOLITION
DEPT	DEPARTMENT
DETL	DETAIL
DETN	DETENTION
DEV	DEVELOPMENT
DI	DUCTILE IRON PIPE
DIA	DIAMETER
DIAG	DIAGRAM
DIFF	DIFFERENCE
DIMM	DIMMENSION
DIR	DIRECTION
DISC	DISCONNECT
DISCH	DISCHARGE
DIST	DISTANCE
DIV	DIVISION
DOC	DOCUMENT
DR	DRAIN
DRNG	DRAINAGE
DRV	DRIVEWAY
DSBL	DISABLE
DOBL	DOUBLE
DSGN	DESIGN
DSPL	DISPOSAL
DTCH	DETACH
DUCT	DUCT BANK
DUPL	DUPLICATE
DWG	DRAWING

E

E	EAST / ELECTRIC
E/A	ENGINEER/ARCHITECT
E/S	EROSION /SEDIMENTATION
EA.	EACH
EA	EDGE OF ASPHALT
EC	EDGE OF CONCRETE
ECC	ECCENTRIC
EFF	EFFECTIVE
EG	EDGE OF GRAVEL
EJ	EXPANSION JOINT
EL.	ELEVATION
ELEC	ELECTRIC
ELJB	ELECTRIC JUNCTION BOX
ELMH	ELECTRIC MANHOLE
ELMT	ELECTRIC METER
ELVT	ELECTRIC VAULT
ENGR	ENGINEER
ENTR	ENTRANCE
ENVIR	ENVIRONMENT
EP	EDGE OF PAVEMENT
EQ	EQUAL
EQUIV	EQUIVALENT
EROS	EROSION
ES	EDGE OF SHOULDER
ESC	EROSION AND SEDIMENTATION CONTROL
ESD	ENGINEERING SERVICES DIVISION
ESMT	EASEMENT LINE
EST	ESTIMATE
ETC	ETCETERA
EX.	EXISTING
EXC	EXCAVATE
EXP	EXPANSION
EXTN	EXTENSION

F

F-F	FACE TO FACE
FC	FACE OF CONCRETE / CURB
FDBK	FEEDBACK
FDC	FIRE DEPARTMENT CONNECTION
FDU	FUNDING DEPARTMENT UNIT
FENC	FENCE
FEAT	FEATURE
FF	FINISHED FLOOR
FIBR	FIBER OPTIC
FG	FINISH GRADE
FH	FIRE HYDRANT
FIGR	FIGURE
FL.	FLOWLINE
FLHA	FLOOD HAZARD AREA
FLRD	FLARED
FM	FORCEMAIN
FN	FENCE
FO	FIBER OPTIC
FOMH	FIBER OPTIC MANHOLE
FOVT	FIBER OPTIC VAULT
FP	FLOODPLAIN
FT	FEET
FTNG	FOOTING
FURN	FURNISH
FUTR	FUTURE
FW	FIRE WATER LINE

G

G	NATURAL GAS
GAL	GALLON
GB	GRADE BREAK
GEN	GENERAL
GPM	GALLONS PER MINUTE
GRAL	GUARDRAIL
GRLN	GRADE LINE
GRDN	GARDEN
GRND	GROUND
GS	NATURAL GAS SERVICE
GSL	NATURAL GAS LINE
GSMH	NATURAL GAS MANHOLE
GSMT	NATURAL GAS METER
GSV	NATURAL GAS VALVE
GSVT	NATURAL GAS VAULT
GV	GATE VALVE

H

HA.	HECTARE
HAZD	HAZARD
HCP	HANDICAPPED
HDTY	HEAVY DUTY
HDWL	HEADWALL
HDPE	HIGH DENSITY POLYETHYLENE
HGL	HYDRAULIC GRADE LINE
HH	HANDHOLE
HORZ	HORIZONTAL
HP	HIGH PRESSURE, HIGH POINT
HT	HEIGHT
HYDR	HYDRAULIC

I

IGCV	IRRIGATION CONTROL VALVE
IGHB	IRRIGATION HOSE BIB
IMPV	IMPERVIOUS
IN	INCHES
IP	INLET PROTECTION/IRON PIN
IR	IRRIGATION
IRRG	IRRIGATION

J

JNCT	JUNCTION

L

L	LENGTH
LBS	POUNDS
LDTY	LIGHT-DUTY
LF	LINEAR FEET
LOC	LIMIT OF CONSTRUCTION
LOG	LIP OF GUTTER
LS	LUMP SUM
LT	LEFT

M

MANH	MANHOLE
MAX.	MAXIMUM
METR	METER
MH	MANHOLE
MIN.	MINIMUM
MJ	MECHANICAL JOINT
MM	MILLIMETER
MPH	MILES PER HOUR
MS	MULCH SOCK

N

N	NORTH
N/A	NOT APPLICABLE
NE	NORTH EAST
NG	NATURAL GROUND
NGAS	NATURAL GAS
NPWR	RECLAIMED WATER
NTS	NOT TO SCALE

O

OC	ON CENTER
OH	OVERHEAD
OVHD	OVERHEAD

P

PC	POINT OF CURVATURE
P.C.	PRE-CAST
P.E.	PROFESSIONAL ENGINEER
PI	POINT OF INTERSECTION
PCC	POINT COMPOUND CURVE
PE	POLYETHYLENE
PET	PETROLEUM
PERV	PERVIOUS
PG.	PAGE
PI.	PLASTICITY INDEX
PL	PROPERTY LINE
PR.	PROPOSED
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH
PSV	PRESSURE SUSTAINING VALVE
PT	POINT OF TANGENCY
PUE	PUBLIC UTILITY EASEMENT
PVC	POLYVINYL CHLORIDE
PVMT	PAVEMENT
PWD	PUBLIC WORKS DEPARTMENT

Q

QNTY	QUANTITY

R

R	RECLAIMED WATER
RB	ROCK BERM
RCP	REINFORCED CONCRETE PIPE
RDC	REDUCER
REF	REFERENCE
ROW	RIGHT OF WAY
RR	RAILROAD
RRAP	RIP-RAP
RT	RIGHT
RWL	RECLAIMED WATER LINE
RWMH	RECLAIMED WATER MANHOLE
RWV	RECLAIMED WATER VALVE
RWVT	RECLAIMED WATER VAULT

S

S	SOUTH
SCE	STABILIZED CONSTRUCTION ENTRANCE
SD	STORM DRAIN
SDAI	STORM DRAIN AREA INLET
SDCI	STORM DRAIN CURB INLET
SDCO	STORM DRAIN CLEANOUT
SDDI	STORM DRAIN INLET
SDHW	STORM DRAIN HEAD WALL
SDR	STANDARD DIMENSION RATIO
SDL	STORM DRAIN LINE
SDVT	STORM DRAIN VAULT
SE	SOUTH EAST
SF	SQUARE FEET
SFN	SILT FENCE
SH.	SHEET
SHLN	SHRUB LINE
SL	SPRINKLER LINE
SP	SITE PLAN
SRVC	SERVICE
SSD	STOPPING SIGHT DISTANCE
STBK	STEBACK
STD	STANDARD
STRM	STORM DRAIN
SW	SOUTH WEST
SWK	SIDEWALK
SWV	SWIVEL
SY	SQUARE YARD

T

TBA	TO BE ABANDONED
TBR	TO BE REMOVED
TC	TOP OF CURB ELEVATION
TFD	TRI-FILTER DIKE
T.O.C.	TABLE OF CONTENTS
TOC	TIME OF CONCENTRATION
TRLN	TREE LINE
TRPR	TREE PROTECTION
TS	TRAFFIC SIGNAL
TSMH	TRAFFIC SIGNAL MANHOLE
TSVT	TRAFFIC SIGNAL VAULT
TV	CATV
TVMH	CATV MANHOLE
TVVT	CATV VAULT
TXDOT	TEXAS DEPARTMENT OF TRANSPORTATION
TYP	TYPICAL

U

UG	UNDERGROUND
UNDR	UNDERGROUND
UNK	UNKNOWN

V

VCP	VITRIFIED CLAY PIPE
VOL	VOLUME
VPC	VERTICAL POINT OF CURVATURE
VPI	VERTICAL POINT OF INTERSECTION
VPT	VERTICAL POINT OF TANGENCY

W

W	WATER
WATR	WATER
WAMH	WATER MANHOLE
WAHH	WATER HANDHOLE
WASC	WATER SERVICE CONNECTION
WAVT	WATER VAULT
WL	WATER LINE
WQTZ	WATER QUALITY TRANSITION ZONE
WW	WASTEWATER
WWCO	WASTEWATER CLEANOUT
WWTR	WASTEWATER
WWL	WASTEWATER LINE
WWLS	WASTEWATER LIFT STATION
WWO	WASTEWATER OVERFLOW
WWMH	WASTEWATER MANHOLE
WWSC	WASTEWATER SERVICE CONNECTION
WWVT	WASTEWATER VAULT

REV NO.	BY	DATE	REVISION DESCRIPTION
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STATE OF TEXAS
XIAOQIN ZHANG, P.E.
96436
LICENSED
PROFESSIONAL ENGINEER
01/29/2020

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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

ABBREVIATION SHEET

CITY OF AUSTIN FOUNDED 1839

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/JP	8/18
DESIGNED BY	JT/EZ	8/18
CHECKED BY	EZ/CG	8/18
REVIEWED BY	ESD	8/18

ESD
ENGINEERING SERVICES DIVISION

GP-2019-0210.ATD

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THIVAKARAN, JOTHIKA

CITY OF AUSTIN
PUBLIC WORKS DEPARTMENT
ENGINEERING SERVICES DIVISION

GENERAL CONSTRUCTION NOTES:

1. THE PROJECT MANUAL CONTAINS IMPORTANT INFORMATION THAT IS NOT REPEATED IN THE PLAN SET. THE CONTRACTOR SHALL KEEP THE PROJECT MANUAL ON SITE AND IMMEDIATELY AVAILABLE TO THOSE PERSONS PERFORMING THE WORK. UPON REQUEST, THE CONTRACTOR SHALL PRESENT THIS COPY OF THE PROJECT MANUAL TO THE CONSTRUCTION INSPECTOR, ENGINEER OR PROJECT MANAGER.

2. THE CONTRACTOR WILL NOTIFY THE OWNER'S REPRESENTATIVE FORTY-EIGHT (48) HOURS IN ADVANCE OF BEGINNING ANY CONSTRUCTION IN THE RIGHT OF WAY OR EASEMENTS.

3. CONTRACTOR AND SUB-CONTRACTORS MUST BE LICENSED BY THE CITY OF AUSTIN FOR CONDUCTING WORK WITHIN THE STREET RIGHT OF WAY, ALLEYS, OR EASEMENTS.

4. CONTRACTOR MUST OBTAIN RIGHT OF WAY EXCAVATION PERMITS, FOR EACH PROJECT LOCATION, FROM ROW MANAGEMENT DIVISION (512-974-7180) PRIOR TO COMMENCEMENT OF WORK. CONTRACTOR SHALL PROVIDE A ONE CALL CENTER CONFIRMATION NUMBER BEFORE BEING ISSUED AN EXCAVATION PERMIT.
"ONE CALL" PHONE NUMBER: 811.

5. PRE-CONSTRUCTION MEETINGS: THERE ARE TWO ENTITIES THAT HOLD PRE-CONSTRUCTION MEETINGS. THESE MEETINGS TYPICALLY DO NOT OCCUR AT THE SAME TIME. FOR PRE-CONSTRUCTION MEETING HELD BY CONSTRUCTION INSPECTION DIVISION, SEE PROJECT MANUAL SECTION 01200; FOR ENVIRONMENTAL PRE-CONSTRUCTION MEETING, SEE ENVIRONMENTAL NOTES.

6. THE CONTRACTOR SHALL NOTIFY EACH OF THE FOLLOWING ENTITIES OF THE CONSTRUCTION SCHEDULE AT LEAST TWO WEEKS IN ADVANCE OF PROPOSED CONSTRUCTION OPERATIONS AND PROVIDE PERTINENT INFORMATION ABOUT LANE CLOSURES AND DETOURS.

AUSTIN FIRE DEPARTMENT..... 512-974-0130
AUSTIN POLICE DEPARTMENT..... 512-974-5000
EMERGENCY MEDICAL SERVICES..... 512-978-0440
AUSTIN INDEPENDENT SCHOOL DISTRICT..... 512-414-9832
CAPITAL METRO TRANSIT AUTHORITY..... 512-389-7400
U.S. POSTAL SERVICE..... 512-342-1236
UNIVERSITY OF TEXAS
(Facilities Services)..... 512-471-4110
(Parking and Trans)..... 512-471-7275
(Utilities and Energy Mgmt)..... 512-471-1600
(University Police)..... 512-471-4441
(Project Mgmt & Const. Svcs)..... 512-471-3042
STATE OF TEXAS
DPS TEXAS HWY PATROL (Region 7 Austin Capitol)..... 512-463-3473

7. THE INFORMATION SHOWN ON THESE DRAWINGS INDICATING TYPE AND LOCATION OF SURFACE, SUBSURFACE, AND AERIAL UTILITIES IS NOT GUARANTEED TO BE EXACT OR COMPLETE. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE EXACT TYPE AND LOCATION OF ALL UTILITIES AFFECTED BY THE CONSTRUCTION IN ORDER TO AVOID DAMAGING THOSE UTILITIES.

8. THE CONTRACTOR SHALL COORDINATE WITH OTHER CONTRACTORS AND UTILITIES IN THE VICINITY OF THIS PROJECT. THIS INCLUDES, BUT IS NOT LIMITED TO, GAS, WATER, WASTEWATER ELECTRIC, TELEPHONE, CABLE TELEVISION, PETROLEUM PIPELINES, FIBER OPTIC, STREET, DRAINAGE, AND ANY OTHER WORK OCCURRING
IN OR NEAR THE PROJECT SITE. ONCE THE CONTRACTOR BECOMES AWARE OF A POSSIBLE CONFLICT, IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE OWNER'S REPRESENTATIVE IMMEDIATELY, BUT NO LATER THAN TWENTY-FOUR (24) HOURS AFTER DISCOVERY.

9. SHOULD THE CONTRACTOR DAMAGE A UTILITY DURING THE COURSE OF THE WORK, THE CONTRACTOR SHALL IMMEDIATELY ARRANGE FOR REPAIR AND RESTORATION OF THE DAMAGED UTILITY. THE EXPENSE FOR THESE REPAIRS WILL BE AT THE CONTRACTOR'S SOLE EXPENSE.

10. ALL EXISTING STRUCTURES, FACILITIES, AND UTILITIES DAMAGED BY CONSTRUCTION SHALL BE REMOVED AND RESTORED WITH MATERIALS EQUAL TO OR BETTER THAN THE ORIGINAL AND TO CONDITIONS EQUAL TO OR BETTER THAN THE ORIGINAL. UNLESS OTHERWISE NOTED IN THE PLANS, THIS WILL NOT BE MEASURED AND PAID FOR DIRECTLY, BUT SHALL BE AT THE CONTRACTOR'S SOLE
EXPENSE.

11. SLOPES OF ROADWAY CUTS AND EMBANKMENTS DAMAGED BY ANY OPERATION OF THE CONTRACTOR DURING THE EXECUTION OF THIS PROJECT SHALL BE REPAIRED AND RESTORED TO THE ORIGINAL PRE-CONSTRUCTION CONDITION. BACKFILL AND FILL PLACED DURING REMEDIAL GRADING SHALL BE COMPACTED TO AT LEAST 95% COMPACTION AND TO THE SATISFACTION OF THE ENGINEER AND GOVERNING AUTHORITIES.

12. GEOTECHNICAL INFORMATION IS PROVIDED IN THE PROJECT MANUAL SECTION 00220.

13. SEE PROJECT MANUAL SECTION 01300 FOR RECORD DRAWINGS INFORMATION.

AUSTIN WATER GENERAL CONSTRUCTION NOTES (11/23/2017):

1. THE CITY STANDARD CONSTRUCTION SPECIFICATIONS CURRENT AT THE TIME OF BIDDING SHALL COVER MATERIALS AND METHODS USED TO DO THIS WORK.

2. CONTRACTOR MUST OBTAIN A STREET CUT PERMIT FROM AUSTIN TRANSPORTATION DEPARTMENT, RIGHT OF WAY MANAGEMENT DIVISION BEFORE BEGINNING CONSTRUCTION WITHIN THE RIGHT-OF-WAY OF A PUBLIC STREET OR ALLEY.

3. AT LEAST 48 HOURS BEFORE BEGINNING ANY WATER AND WASTEWATER CONSTRUCTION IN PUBLIC R.O.W. OR PUBLIC EASEMENT, THE CONTRACTOR SHALL NOTIFY AUSTIN TRANSPORTATION DEPARTMENT INSPECTION OR DEVELOPMENT SERVICES DEPARTMENT (DSD) INSPECTIONS AT THE NUMBER INDICATED ON THE PLANS BY THE AW PLAN REVIEWER.

4. THE CONTRACTOR SHALL CONTACT THE AUSTIN AREA "ONE CALL" SYSTEM AT 1-800-344-8377 FOR EXISTING UTILITY LOCATIONS PRIOR TO ANY EXCAVATION IN ADVANCE OF CONSTRUCTION. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL UTILITIES TO BE EXTENDED, TIED TO, OR ALTERED, OR SUBJECT TO DAMAGE / INCONVENIENCE BY THE CONSTRUCTION OPERATIONS. THE CITY OF AUSTIN WATER AND WASTEWATER MAINTENANCE RESPONSIBILITY ENDS AT R.O.W./EASEMENT LINES.

5. NO OTHER UTILITY SERVICE / APPURTENANCES SHALL BE PLACED NEAR THE PROPERTY LINE, OR OTHER ASSIGNED LOCATION DESIGNATED FOR WATER AND WASTEWATER UTILITY SERVICE THAT WOULD INTERFERE WITH THE WATER AND WASTEWATER SERVICES.

6. THE CITY SPECIFICATION ITEM 509S WILL BE REQUIRED AS A MINIMUM TRENCH SAFETY MEASURE.

7. ALL MATERIALS TESTS ORDERED BY THE OWNER FOR QUALITY ASSURANCE PURPOSES, SHALL BE CONDUCTED BY AN INDEPENDENT LABORATORY AND FUNDED BY THE OWNER IN ACCORDANCE WITH CITY STANDARD SPECIFICATION ITEM 1804S.04.

8. PRESSURE TAPS SHALL BE ALLOWED ON A CASE BY CASE BASIS, AS DETERMINED BY THE DIRECTOR'S DESIGNEE. NORMAL PRESSURE TAPS 4 INCHES AND LARGER SHALL BE ALLOWED IN THE FOLLOWING CASES: A) A TEST SHUT OUT INDICATES AN ADEQUATE SHUTOUT TO PERFORM THE WORK IS NOT FEASIBLE B) MORE THAN 30 CUSTOMERS OR A SINGLE CRITICAL CUSTOMER (AS DEFINED BY AUSTIN WATER) WOULD BE IMPACTED BY THE SHUT OUT OR C) THE EXISTING WATER LINE WARRANTS IT.

9. THRUST RESTRAINT SHALL BE IN ACCORDANCE WITH CITY STANDARD SPECIFICATION ITEM 510.3(22) AND SPL WW 27-A AND WW 27-F.

10. FIRE HYDRANTS SHALL BE SET IN ACCORDANCE WITH CITY STANDARD SPECIFICATION ITEM 511S.4 AND SHALL BE PAINTED FLYNT ALUMINUM OR EQUAL. FIRE HYDRANTS AND ASSOCIATED VALVES, TEN (10) YEARS OR OLDER WILL BE REQUIRED TO BE REPLACED WITH A NEW FIRE HYDRANT AND APPURTENANCES.

11. WATER LINE TESTING AND STERILIZATION SHALL BE PERFORMED IN ACCORDANCE WITH CITY STANDARD SPECIFICATION ITEMS 510.3 (27)-(29). FORCE MAIN PRESSURE TESTING SHALL BE CONDUCTED AND FALL UNDER THE SPECIFICATIONS AS WATER LINES (PRESSURE PIPE) OR AT THE PRESSURES SHOWN ON THE APPROVED PLANS.

12. ALL MATERIAL USED ON THIS PROJECT MUST BE LISTED ON THE STANDARD PRODUCTS LISTING. ANY MATERIAL NOT LISTED HAS TO GO THROUGH THE REVIEW OF THE STANDARDS COMMITTEE FOR REVIEW AND APPROVAL PRIOR TO START OF PROJECT. TESTING AND EVALUATION OF PRODUCTS ARE REQUIRED BEFORE APPROVAL WILL BE GIVEN ANY CONSIDERATION.

13. WHEN WATER SERVICES ARE DAMAGED AND THE SERVICE MATERIAL IS PE, THE LINE SHALL BE REPAIRED ONLY BY HEAT FUSION WELD OR REPLACED THE FULL LENGTH WITH TYPE K COPPER MATERIAL. ANY TIME PB IS DAMAGED OR TAMPERED WITH IN ANY WAY, THE SERVICE LINE SHALL BE REPLACED FULL LENGTH WITH TYPE K COPPER MATERIAL. NOTE: FULL LENGTH IS FROM CORPORATION STOP TO METER.

14. WHEN AN EXISTING WATERLINE SHUT OUT IS NECESSARY AND POSSIBLE, THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION INSPECTOR WHO WILL THEN NOTIFY THE AUSTIN WATER DISPATCH AND THE AFFECTED CUSTOMERS A MINIMUM OF SEVENTY-TWO (72) HOURS IN ADVANCE.

15. THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION INSPECTOR SO THAT HE CAN NOTIFY THE AUSTIN WATER AT 972-0000 AT A MINIMUM OF 72 HOURS PRIOR TO RELOCATING ANY DOMESTIC OR FIRE DEMAND WATER METERS. THE CONTRACTOR SHALL CAREFULLY REMOVE ALL METERS AND METERS BOXES THAT ARE INDICATED TO BE RELOCATED OR SALVAGED. THE CONTRACTOR SHALL INSTALL THE REMOVED METER OR CITY PROVIDED METER AT THE NEW LOCATION INDICATED ON THE CONSTRUCTION PLANS.

16. WATER AND WASTE WATER SERVICES WILL NEED TO BE REPLACED UP TO THE MAIN. REPAIR COUPLINGS ARE NOT ALLOWED ON NEW INSTALLATIONS.

17. ALL MANHOLES IN UNPAVED AREAS PROVIDING DIRECT ACCESS TO A WASTEWATER LINE SHALL BE WATERTIGHT AND BEAR THE WORDING AND INSIGNIA FOR THE CITY OF AUSTIN.

18. THE CONTRACTOR SHALL VERIFY ALL VERTICAL AND HORIZONTAL LOCATIONS OF EXISTING UTILITIES PRIOR TO STARTING ON-SITE UTILITY WORK.

19. ALL WATER AND WASTEWATER MAINS SHALL BE INSTALLED IN ACCORDANCE WITH THE SEPARATION DISTANCES INDICATED IN CHAPTER 290 - DRINKING WATER STANDARDS, CHAPTER 217 - DESIGN CRITERIA FOR SEWERAGE SYSTEMS AND CHAPTER 210 - DESIGN CRITERIA FOR RECLAIMED SYSTEMS OF TCEQ RULES.

20. CONTRACTOR'S PERSONNEL THAT PERFORM BUTT FUSION AND ELECTROFUSION ON OR TO HDPE PIPE AND FITTINGS MUST HAVE CURRENT QUALIFICATION TRAINING CERTIFICATE ISSUED BY MCELROY OR COMPARABLE TRAINING PROGRAM.

21. SHOP DRAWINGS SIGNED AND SEALED BY A PROFESSIONAL STRUCTURAL ENGINEER, REGISTERED IN THE STATES OF TEXAS, SHALL BE SUBMITTED FOR AUSTIN WATER APPROVAL FOR LARGE DIAMETER PRE-CAST MANHOLES, JUNCTION BOXES, WET WELLS, AND SIMILAR STRUCTURES. THE SHOP DRAWINGS SHALL INCLUDE FLOWLINE ELEVATIONS OF ALL INCOMING AND OUTGOING PIPES, ELEVATION OF TRANSITION FROM LARGE DIAMETER SECTION TO 48" ID SECTION, TOP OF MANHOLE ELEVATION, SURROUNDING GROUND ELEVATION, AS WELL AS SPECIAL CONSTRUCTION CONSIDERATIONS THAT ARE SPECIFIED IN CONTRACT DRAWINGS.

22. VALVE STEM EXTENSIONS SHALL CONSIST OF A SINGLE PIECE OF IRON ROD OF THE REQUIRED LENGTH WITH A SOCKET ON ONE END AND NUT ON THE OTHER.

23. ALL POTABLE WATER SYSTEM COMPONENTS INSTALLED AFTER JANUARY 4, 2014, SHALL BE ESSENTIALLY "LEAD FREE" ACCORDING TO THE US SAFE DRINKING WATER ACT. EXAMPLES ARE VALVES (CORPORATION STOP, CURB STOP, AND PRESSURE REDUCING), NIPPLES, BUSHINGS, PIPE, FITTINGS, BACKFLOW PREVENTERS AND FIRE HYDRANTS. TAPPING SADDLES AND 2 INCH AND LARGER GATE VALVES ARE THE ONLY COMPONENTS EXEMPT FROM THIS REQUIREMENT. COMPONENTS THAT ARE NOT CLEARLY IDENTIFIED BY THE MANUFACTURER AS MEETING THIS REQUIREMENT EITHER BY MARKINGS ON THE COMPONENT OR ON THE PACKAGING SHALL NOT BE INSTALLED.

24. ALL FIRE HYDRANTS AND VALVES THAT ARE TO BE ABANDONED SHALL BE REMOVED, SALVAGED AND RETURNED TO AUSTIN WATER. NOTICE SHOULD BE GIVEN 48 HOURS PRIOR TO RETURN TO: PIPELINE OPERATIONS DISTRIBUTION SYSTEM MAINTENANCE, VALVES AND HYDRANT SERVICES, SUPERVISING AW PIPELINE TECHNICIAN AT 512-972-1133.

25. ALL EXISTING WATER METERS IDENTIFIED TO BE RELOCATED OR ABANDONED AT THE DEVELOPMENT, SHALL BE REMOVED FROM THE METER BOX PRIOR TO CONSTRUCTION AND GIVEN IMMEDIATELY TO THE DSD INSPECTOR.

26. THE ENGINEER SHALL CALL OUT THE SIZE, TYPE AND USE (DOMESTIC OR IRRIGATION) OF ALL EXISTING WATER METERS TO BE RELOCATED OR REPURPOSED. WATER METER NUMBERS WILL NOT BE REQUIRED TO BE PLACED ON THE PLAN SHEET. A SEPARATE AUSTIN WATER TAPS OFFICE FORM WILL BE USED TO PROVIDE RELEVANT INFORMATION FOR THE EXISTING INFORMATION ON EXISTING METERS TO RECEIVE APPROPRIATE CREDITS. THIS FORM SHALL BE DIRECTLY SUBMITTED TO AUSTIN WATER TAPS OFFICE FOR REVIEW AND PROCESSING.

27. NO CONNECTION MAY BE MADE BETWEEN THE PRIVATE PLUMBING AND AUSTIN WATER INFRASTRUCTURE UNTIL A CITY APPROVED WATER METER HAS BEEN INSTALLED.

28. ALL GRAVITY LINES SHALL BE INSTALLED DOWNSTREAM TO UPSTREAM.

29. METER BOXES AND CLEAN OUTS SHALL NOT BE LOCATED WITHIN PAVED AREAS SUCH AS DRIVEWAYS AND SIDEWALKS.

30. PROTECTED STREET STATUS IS SUBJECT TO CHANGE OVER TIME. IT IS THE OWNER'S RESPONSIBILITY TO CONFIRM THE STREET STATUS PRIOR TO CONSTRUCTION AS PROTECTED STREET STATUS WILL DIRECTLY IMPACT THE CONSTRUCTION COSTS. IR PROTECTED STREETS ARE PROPOSED TO BE DISTURBED, APPROVAL FROM THE STREET AND BRIDGE DIVISION OF THE TRANSPORTATION DEPARTMENT IS REQUIRED.

STREET AND BRIDGE SPECIAL NOTE:

ALL DAMAGE CAUSED DIRECTLY OR INDIRECTLY TO THE STREET SURFACE, SIDEWALK, DRIVEWAY, CURB & GUTTER, OR SUBSURFACE OUTSIDE OF THE PAVEMENT CUT AREA SHALL BE REGARDED AS A PART OF THE STREET CUT REPAIR. THIS INCLUDES ANY SCRAPES,GOUGES, CUTS, CRACKING, DEPRESSIONS, AND/OR ANY OTHER DAMAGE CAUSED BY THE CONTRACTOR DURING THE EXECUTION OF THE WORK. THESE REPAIR AREAS WILL BE INCLUDED IN THE TOTAL AREA OF RESTORATION. THESE AREAS SHALL BE SAW CUT IN STRAIGHT, NEAT LINES PARALLEL TO THE EXCAVATION OR UTILITY TRENCH AND TO THE NEXT EXISTING JOINT FOR SIDEWALKS AND CURB & GUTTER. ALL SUCH REPAIRS SHALL BE AT THE CONTRACTOR'S EXPENSE AND SHALL MEET ALL CITY TESTING REQUIREMENTS, STANDARDS, AND SPECIFICATIONS.

DRIVEWAY PERMIT GENERAL NOTES:

1) ANY DROP OFF TWO INCHES OR GREATER ADJACENT TO A ROADWAY UNDER TRAFFIC SHALL HAVE A 3:1 SAFETY SLOPE CONSTRUCTED AT THE END OF EACH WORK DAY.

2) THE PRIMARY CONTRACTOR IS RESPONSIBLE FOR KEEPING THE STATE ROADWAY FREE OF MUD, ROCKS, AND OTHER DEBRIS. IF THE HIGHWAY BECOMES UNSAFE FOR TRAFFIC BECAUSE OF DEBRIS FROM THE CONSTRUCTION SITE, THE CONTRACTOR MUST CLEAN THE ROADWAY IMMEDIATELY AND SUSPEND WORK IF NECESSARY.

3) ALL TIES INTO TXDOT PAVEMENT SHALL BE SAW CUT AT THE EDGE OF EXISTING PAVEMENT.

4) GENERAL CONTRACTOR TO CONTACT TXDOT MAINTENANCE (JOHN TAYLOR AT 512-930-4700) AT LEAST 48 HOURS PRIOR TO WORKING IN STATE RIGHT OF WAY.

5) GENERAL CONTRACTOR MUST PROVIDE ON-SITE PARKING DURING ALL PHASES OF CONSTRUCTION. PARKING WILL NOT BE ALLOWED WITHIN THE RIGHT OF WAY OF STATE MAINTAINED ROADWAYS.

EXCEPTIONS TABLE

NOTE #	EXPLANATION OF EXCEPTION

SEQUENCE OF CONSTRUCTION

1. SEE REMEDIAL TREE CARE NOTE (ECM P-6) .

2. HOLD PRE-CONSTRUCTION CONFERENCE.

3. TEMPORARY EROSION AND SEDIMENTATION CONTROLS ARE TO BE INSTALLED AS INDICATED ON THE APPROVED SITE PLAN OR SUBDIVISION CONSTRUCTION PLAN AND IN ACCORDANCE WITH THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) THAT IS REQUIRED TO BE POSTED ON THE SITE. INSTALL TREE PROTECTION AND INITIATE TREE MITIGATION MEASURES.

4. THE ENVIRONMENTAL PROJECT MANAGER OR SITE SUPERVISOR MUST CONTACT THE WATERSHED PROTECTION DEPARTMENT, ENVIRONMENTAL INSPECTION, AT 512-974-2278, 72 HOURS PRIOR TO THE SCHEDULED DATE OF THE REQUIRED ON-SITE PRECONSTRUCTION MEETING.

5. THE ENVIRONMENTAL PROJECT MANAGER, AND/OR SITE SUPERVISOR, AND/OR DESIGNATED RESPONSIBLE PARTY, AND THE GENERAL CONTRACTOR WILL FOLLOW THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) POSTED ON THE SITE. TEMPORARY EROSION AND SEDIMENTATION CONTROLS WILL BE REVISED, IF NEEDED, TO COMPLY WITH CITY INSPECTORS' DIRECTIVES, AND REVISED CONSTRUCTION SCHEDULE RELATIVE TO THE WATER QUALITY PLAN REQUIREMENTS AND THE EROSION PLAN.

6. ROUGH GRADE THE POND(S) AT 100% PROPOSED CAPACITY. EITHER THE PERMANENT OUTLET STRUCTURE OR A TEMPORARY OUTLET MUST BE CONSTRUCTED PRIOR TO DEVELOPMENT OF EMBANKMENT OR EXCAVATION THAT LEADS TO PONDING CONDITIONS. THE OUTLET SYSTEM MUST CONSIST OF A SUMP PIT OUTLET AND AN EMERGENCY SPILLWAY MEETING THE REQUIREMENTS OF THE DRAINAGE CRITERIA MANUAL AND/OR THE ENVIRONMENTAL CRITERIA MANUAL, AS REQUIRED. THE OUTLET SYSTEM SHALL BE PROTECTED FROM EROSION AND SHALL BE MAINTAINED THROUGHOUT THE COURSE OF CONSTRUCTION UNTIL INSTALLATION OF THE PERMANENT WATER QUALITY POND(S).

7. TEMPORARY EROSION AND SEDIMENTATION CONTROLS WILL BE INSPECTED AND MAINTAINED IN ACCORDANCE WITH THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) POSTED ON THE SITE.

8. BEGIN SITE CLEARING/CONSTRUCTION (OR DEMOLITION) ACTIVITIES.

9. PERMANENT WATER QUALITY PONDS OR CONTROLS WILL BE CLEANED OUT AND FILTER MEDIA WILL BE INSTALLED PRIOR TO/CONCURRENTLY WITH REVEGETATION OF SITE.

10. COMPLETE CONSTRUCTION AND START REVEGETATION OF THE SITE AND INSTALLATION OF LANDSCAPING.

11. UPON COMPLETION OF THE SITE CONSTRUCTION AND REVEGETATION OF A PROJECT SITE, THE DESIGN ENGINEER SHALL SUBMIT AN ENGINEER'S LETTER OF CONCURRENCE TO THE WATERSHED PROTECTION AND DEVELOPMENT REVIEW DEPARTMENT INDICATING THAT CONSTRUCTION, INCLUDING REVEGETATION, IS COMPLETE AND IN SUBSTANTIAL CONFORMITY WITH THE APPROVED PLANS. AFTER RECEIVING THIS LETTER, A FINAL INSPECTION WILL BE SCHEDULED BY THE APPROPRIATE CITY INSPECTOR.

12. UPON COMPLETION OF LANDSCAPE INSTALLATION OF A PROJECT SITE, THE LANDSCAPE ARCHITECT SHALL SUBMIT A LETTER OF CONCURRENCE TO THE WATERSHED PROTECTION AND DEVELOPMENT REVIEW DEPARTMENT INDICATING THAT THE REQUIRED LANDSCAPING IS COMPLETE AND IN SUBSTANTIAL CONFORMITY WITH THE APPROVED PLANS. AFTER RECEIVING THIS LETTER, A FINAL INSPECTION WILL BE SCHEDULED BY THE APPROPRIATE CITY INSPECTOR.

13. AFTER A FINAL INSPECTION HAS BEEN CONDUCTED BY THE CITY INSPECTOR AND WITH APPROVAL FROM THE CITY INSPECTOR, REMOVE THE TEMPORARY EROSION AND SEDIMENTATION CONTROLS AND COMPLETE ANY NECESSARY FINAL REVEGETATION RESULTING FROM REMOVAL OF THE CONTROLS. CONDUCT ANY MAINTENANCE AND REHABILITATION OF THE WATER QUALITY PONDS OR CONTROLS.

14. COMPLETE PERMANENT EROSION CONTROL AND SITE RESTORATION. REMOVE TEMPORARY EROSION/SEDIMENTATION CONTROLS AND TREE PROTECTION. RESTORE ANY AREAS DISTURBED DURING REMOVAL OF EROSION/SEDIMENTATION CONTROLS.

REV NO.	BY	DATE	REVISION DESCRIPTION

STATE OF TEXAS
XIAOQIN ZHANG, P.E.
96436
LICENSED
PROFESSIONAL ENGINEER
01/29/2020

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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

GENERAL CONSTRUCTION NOTES

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/JP	8/18
DESIGNED BY	JT/EZ	8/18
CHECKED BY	EZ/CG	8/18
REVIEWED BY	ESD	8/18

ENGINEERING SERVICES DIVISION

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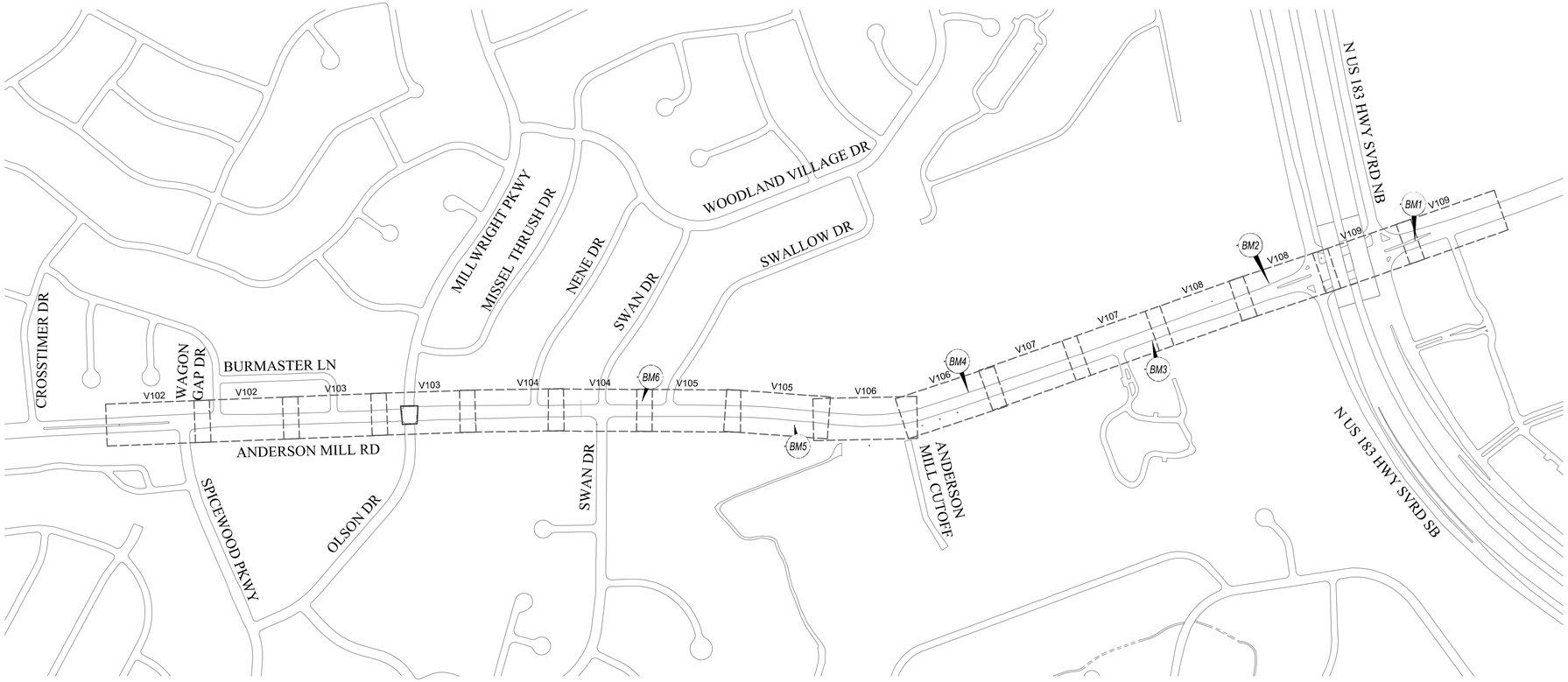
THIVAKARAN, JOTHIKA



NOTES:

THE COORDINATES SHOWN ARE BASED ON THE TEXAS STATE PLANE, CENTRAL ZONE, NAD_83(CORS2011) (EPOCH: 2010.0000) ADJUSTED TO SURFACE VALUES BY MULTIPLYING BY A SURFACE ADJUSTMENT FACTOR (SAF) OF 1.00011. SURFACE DATA IS MOVED TO GRID LOCATION AT TRV 5. GRID: N=10135372.874, E=3095254.938; SURFACE: N=10136487.765, E=3095595.416

VERTICAL BASIS: NAVD 88 (GEOID12B)

BM:1 TRIANGLE CUT IN NORTH RIM OF COMMUNICATION MANHOLE, APPROX. 45' SOUTH OF ANDERSON MILL RD. AND APPROX. 760' WEST OF SOUTHBOUND FRONTAGE U.S. 183.
ELEVATION 964.56'

BM:2 SQUARE CUT IN TOP OF CURB AT MAIN ENTRANCE TO PARKING LOT OF BETHANY UNITED METHODIST CHURCH, AND APPROX. 400' EAST OF SWALLOW DR.
ELEVATION 973.05'

BM:3 SQUARE CUT IN MIDPOINT TOP OF CURB OF ISLAND ENTRANCE TO AUTUMN LEAVES ASSISTED CENTER, 10025 ANDERSON MILL RD.
ELEVATION 995.61'

BM:4 SQUARE CUT IN NORTHEAST CORNER OF AT SOUTHEAST CORNER OF ANDERSON MILL RD. AND OLSON DR.
ELEVATION 992.15'

BM:5 SQUARE ON NORTHEAST CORNER OF TRAFFIC SIGNAL BASE, APPROX. 33' EAST OF SPICEWOOD PKWY, AND APPROX. 40' SOUTH OF ANDERSON MILL RD.
ELEVATION 995.27'

BM:6 SQUARE CUT IN NORTHEAST CORNER OF CONCRETE BASE OF WALGREEN'S SIGN, AT SOUTHEAST CORNER OF U.S.183 AND ANDERSON MILL RD.
ELEVATION 947.11'

PROJECT SURVEY CONTACT:
EDUARDO O. MENDEZ, RPLS
MWM DESIGN GROUP
AUSTIN, TX
512-992-2949
TBPE F-1416
TBAE 1452
TBPLS 10065600

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ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

OVERVIEW AND SURVEY CONTROL PLAN

CITY OF AUSTIN FOUNDED 1839

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/EZ	9/18
DESIGNED BY	JT/EZ	9/18
CHECKED BY	EZ/CG	9/18
REVIEWED BY	ESD	9/18

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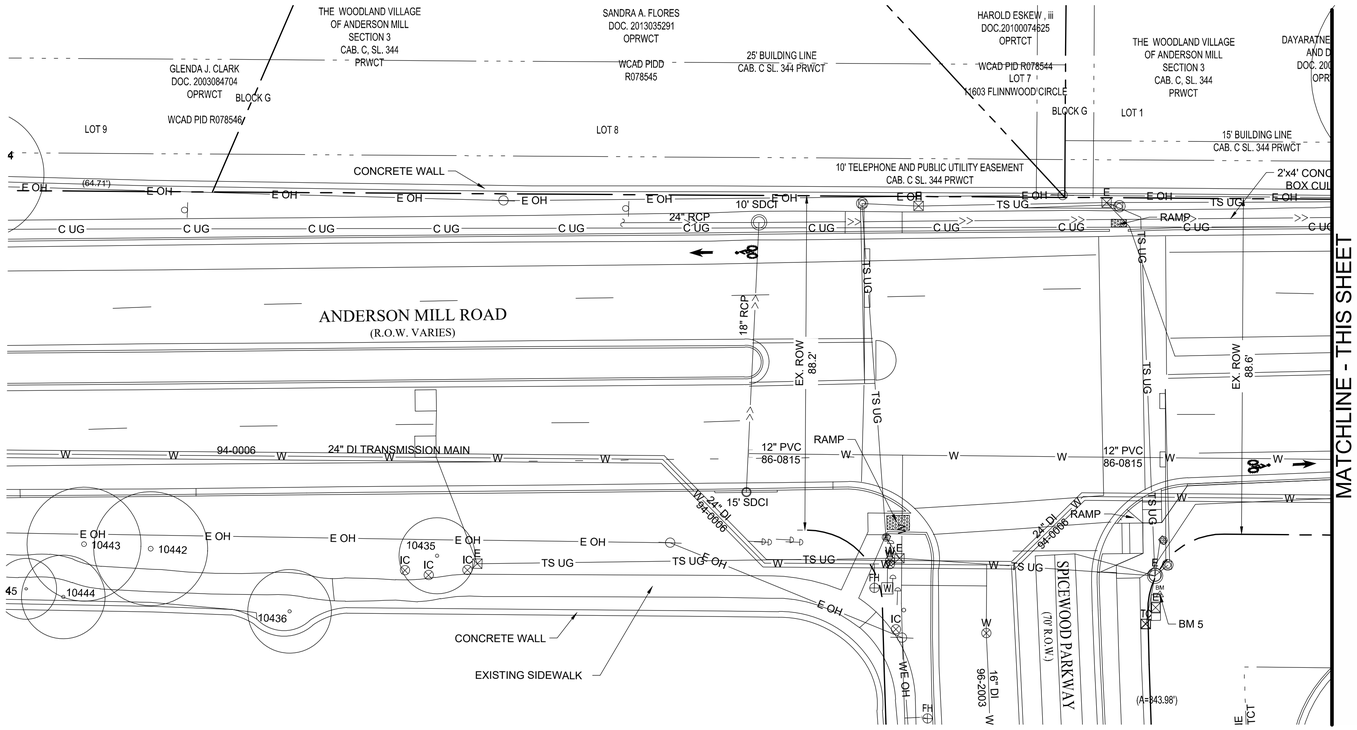

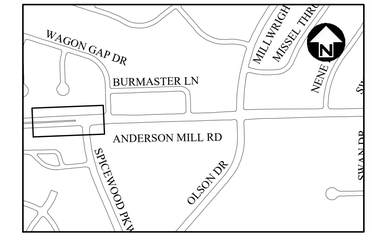

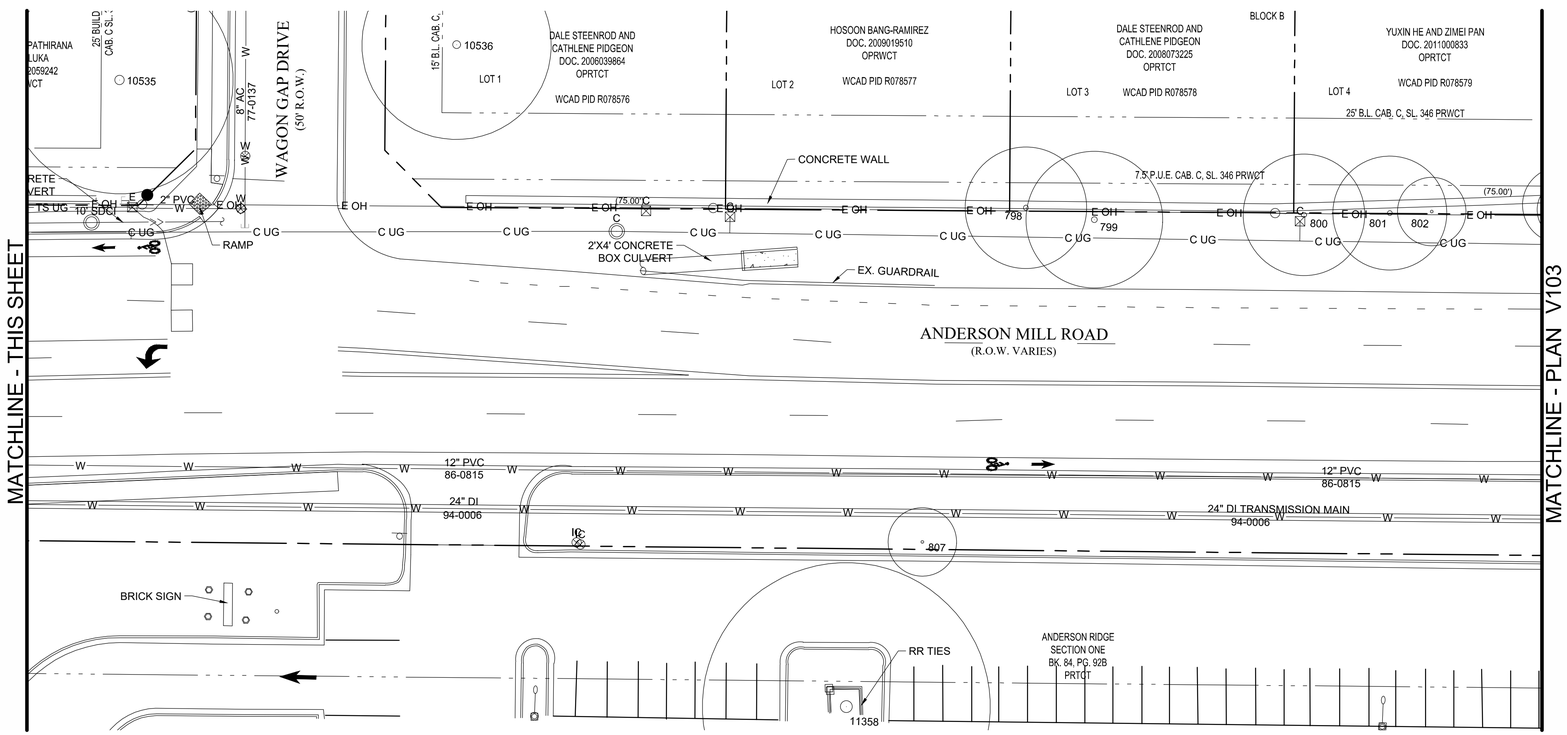

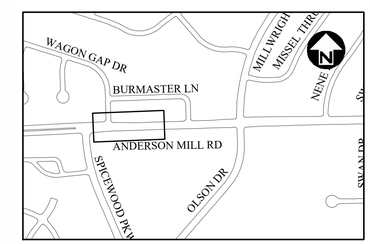

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DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

EXISTING CONDITIONS PLAN
SHEET 1 OF 8

CITY OF AUSTIN FOUNDED 1839

NOTES	NAME	DATE
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DRAWN BY	JT/EZ	9/18
DESIGNED BY	JT/EZ	9/18
CHECKED BY	EZ/CG	9/18
REVIEWED BY	ESD	9/18

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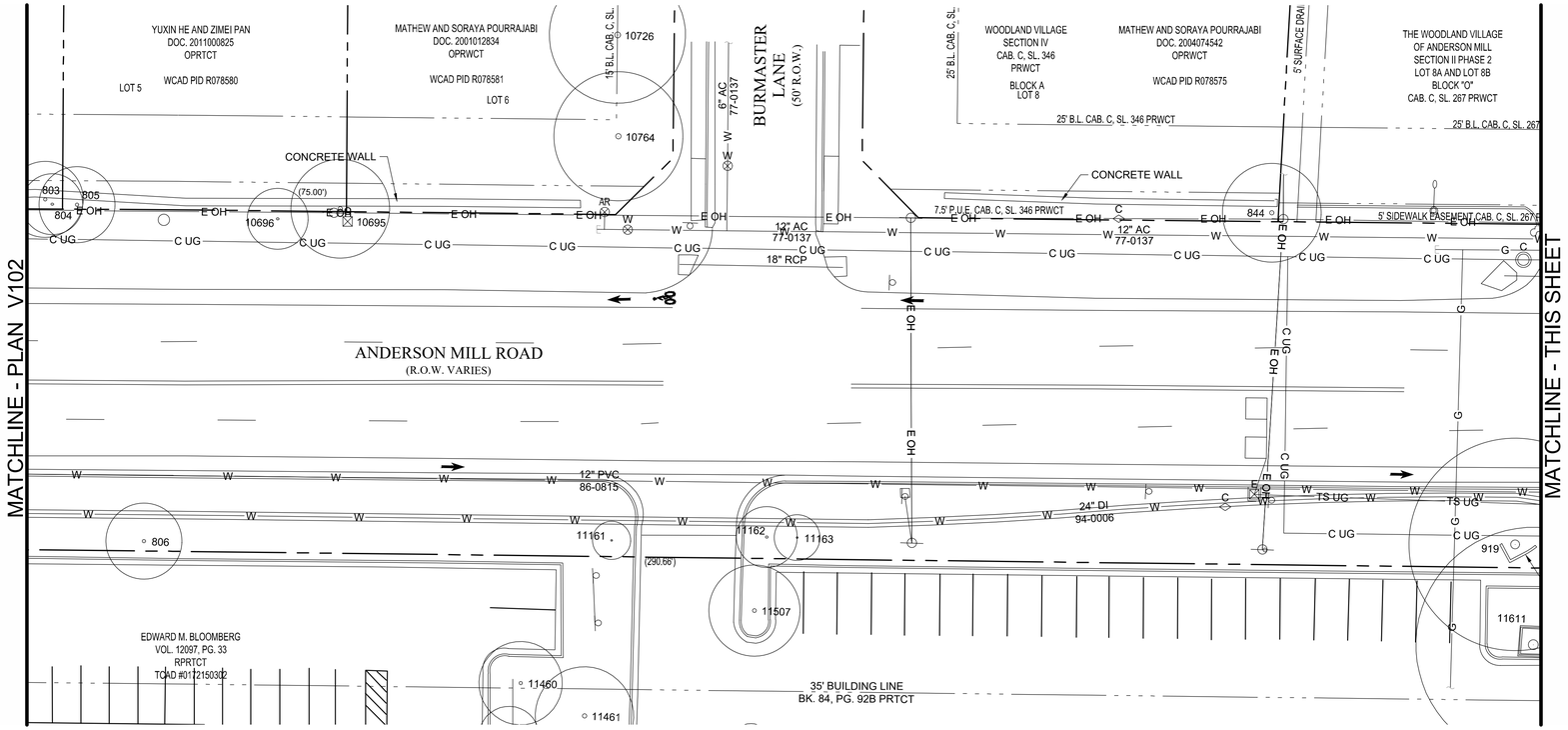

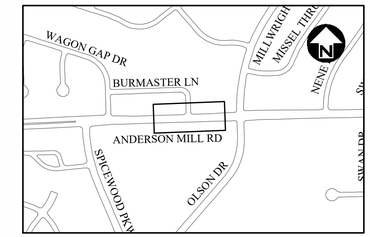

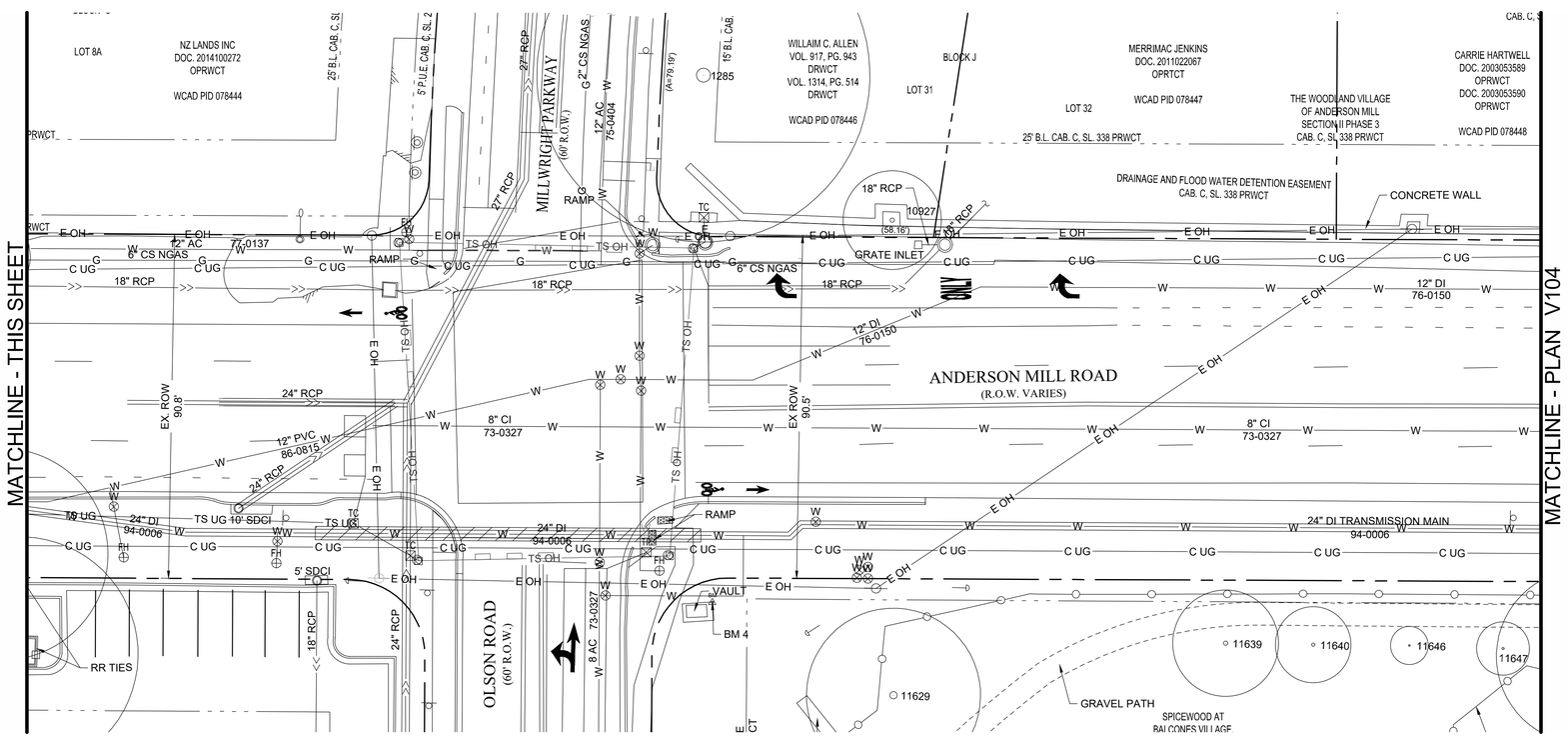

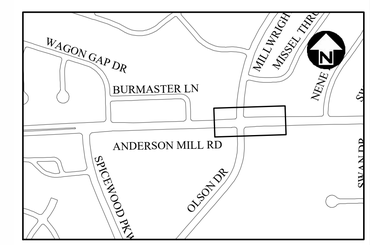

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ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

EXISTING CONDITIONS PLAN
SHEET 2 OF 8

CITY OF AUSTIN
FOUNDED 1839

NOTES	NAME	DATE
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V103 | 8 OF 142

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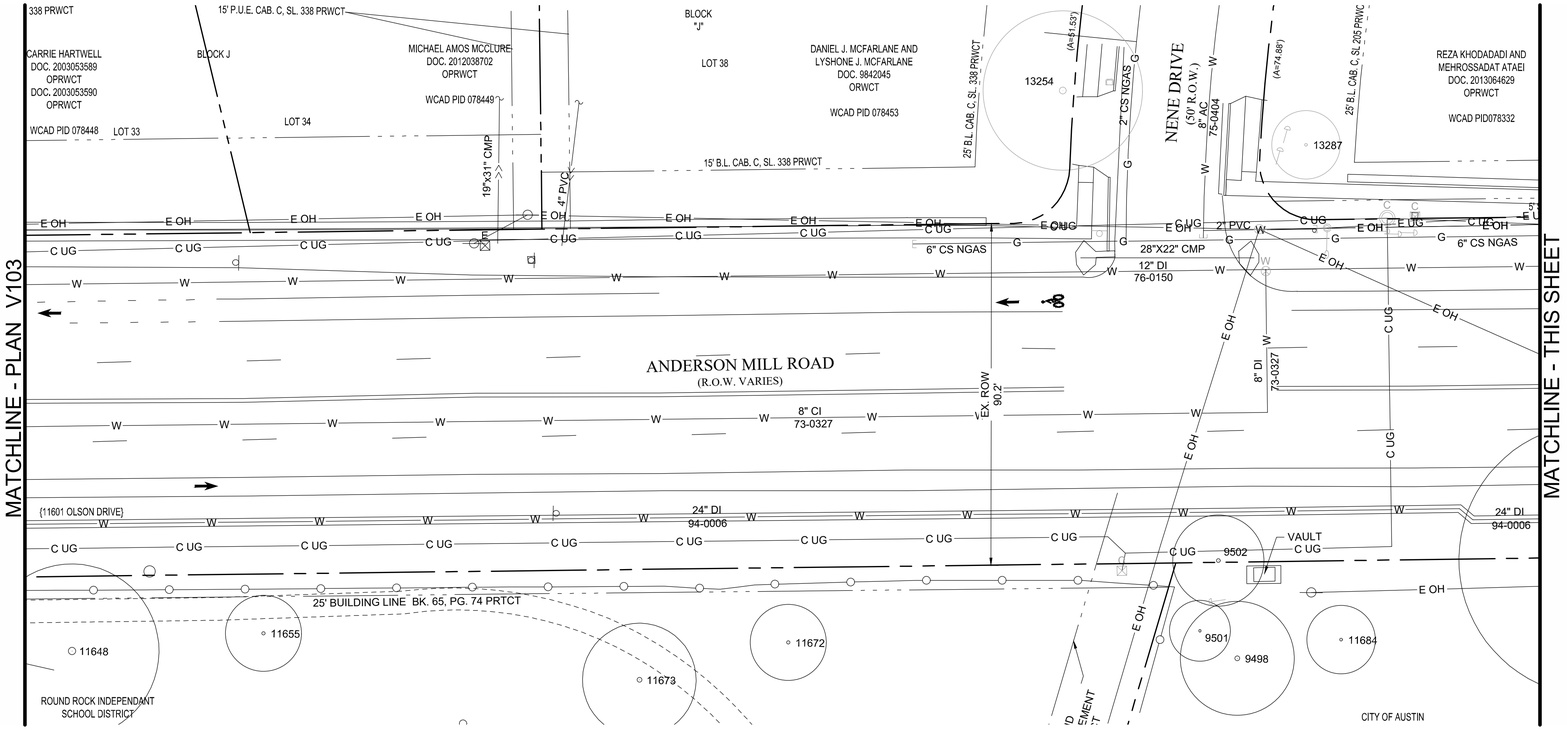

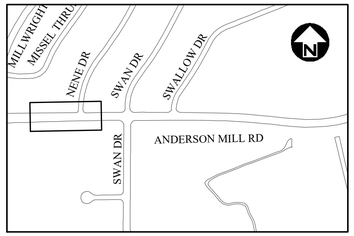

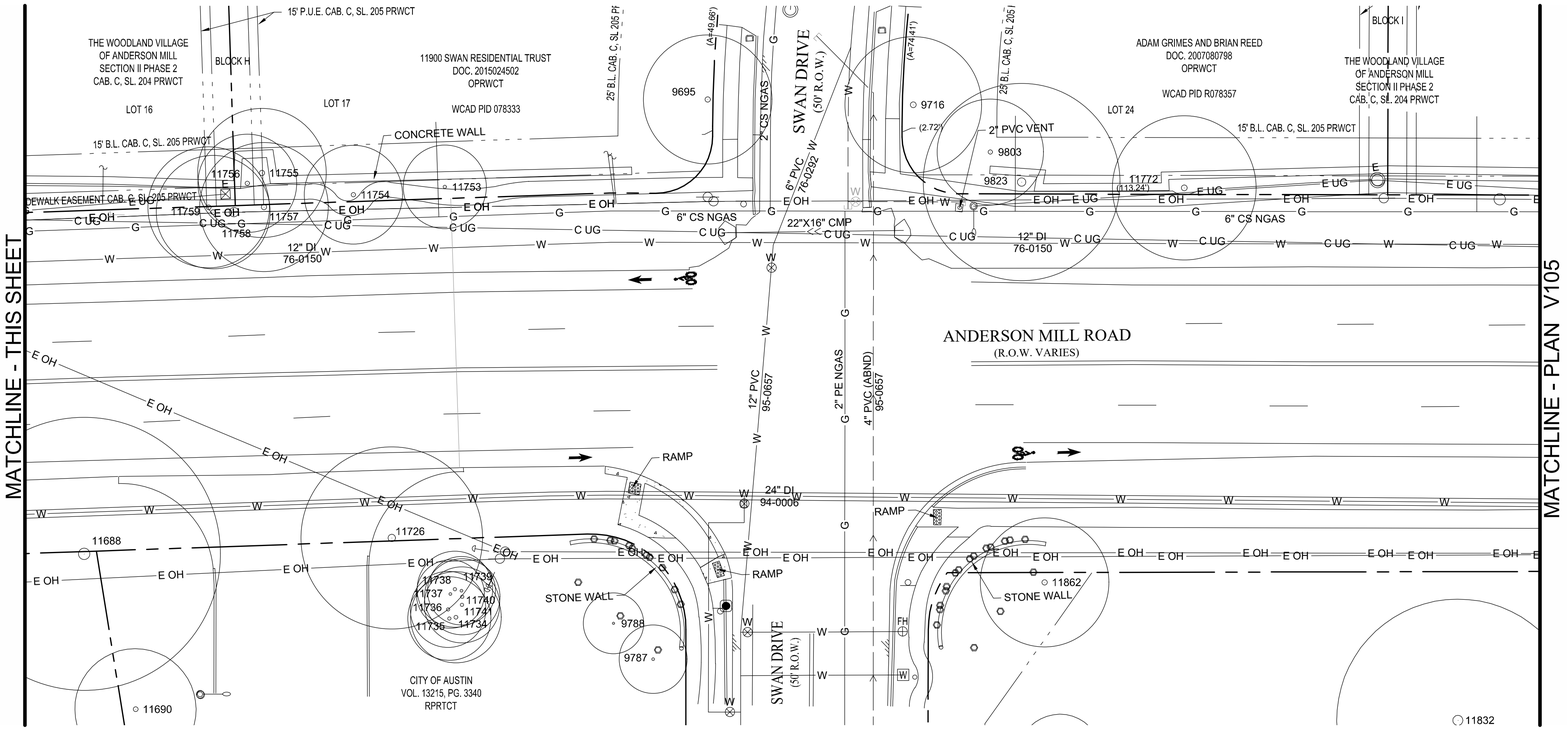

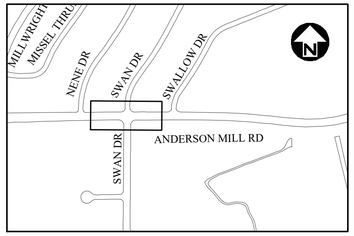

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PROFESSIONAL ENGINEER
01/29/2020

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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

EXISTING CONDITIONS PLAN
SHEET 3 OF 8

CITY OF AUSTIN
FOUNDED 1839

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/EZ	9/18
DESIGNED BY	JT/EZ	9/18
CHECKED BY	EZ/CG	9/18
REVIEWED BY	ESD	9/18

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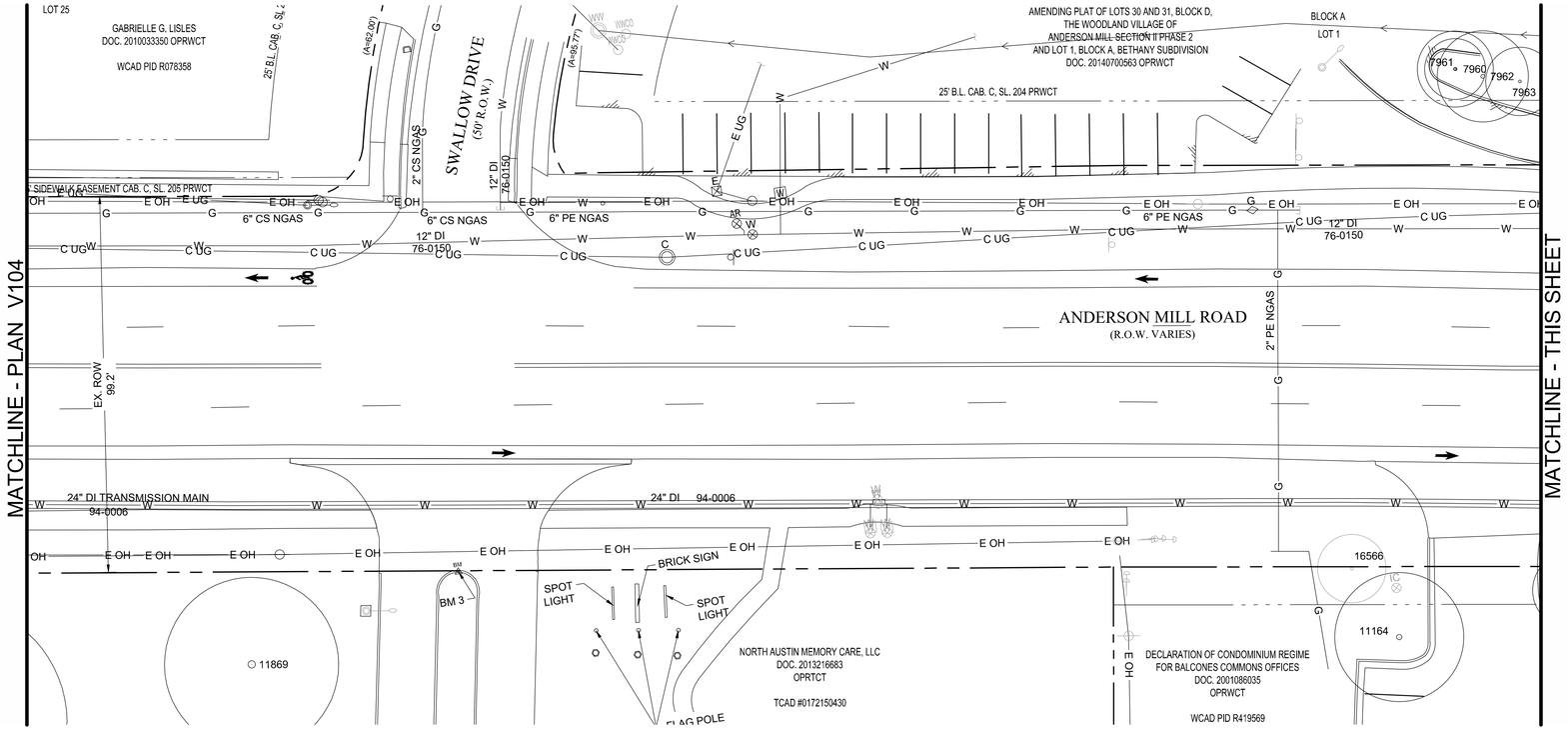

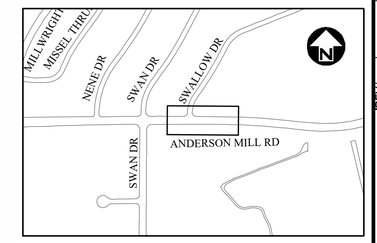

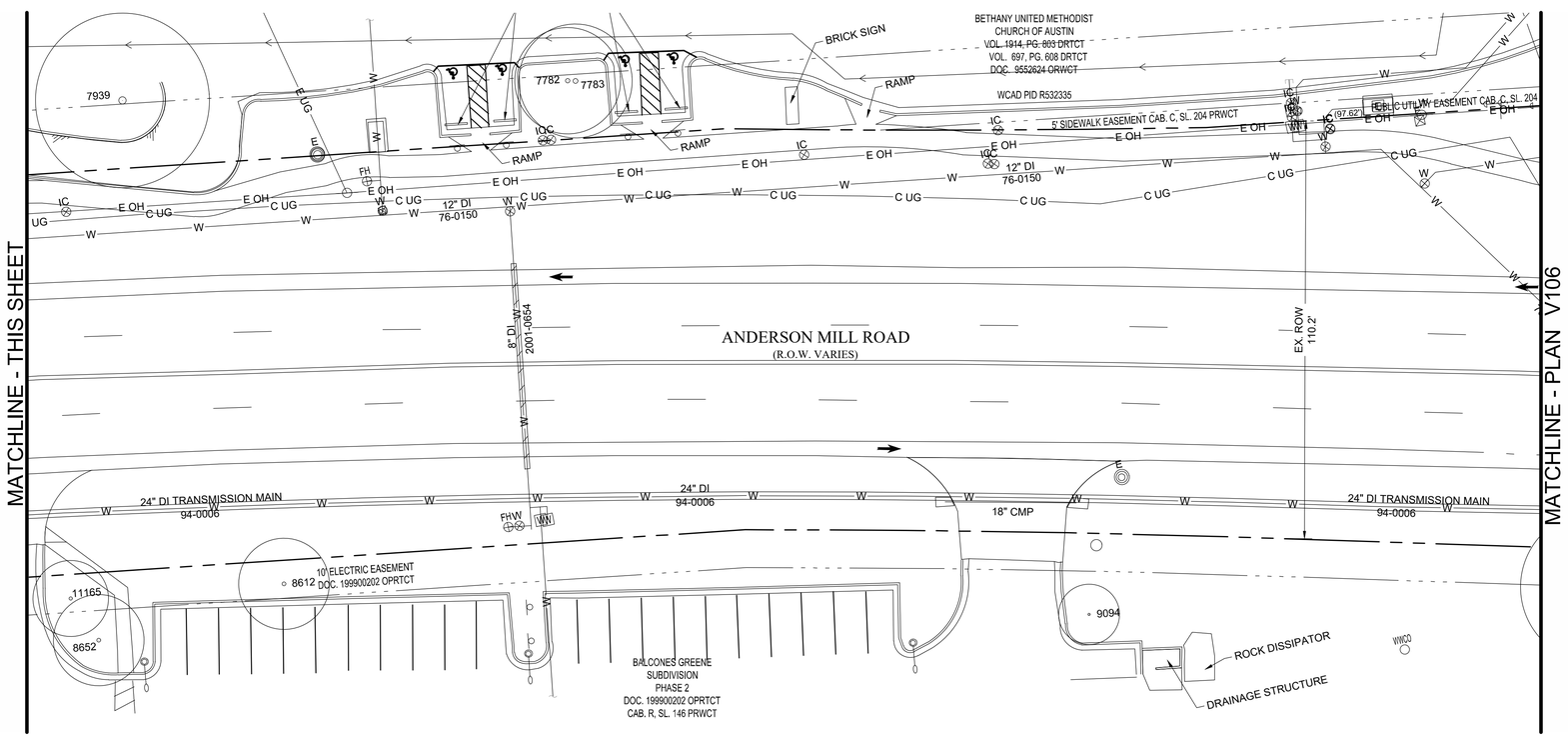

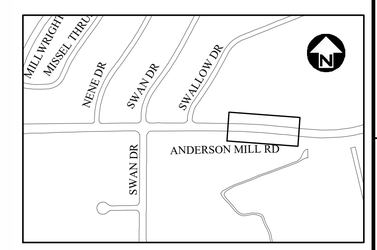

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ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

EXISTING CONDITIONS PLAN
SHEET 4 OF 8

CITY OF AUSTIN
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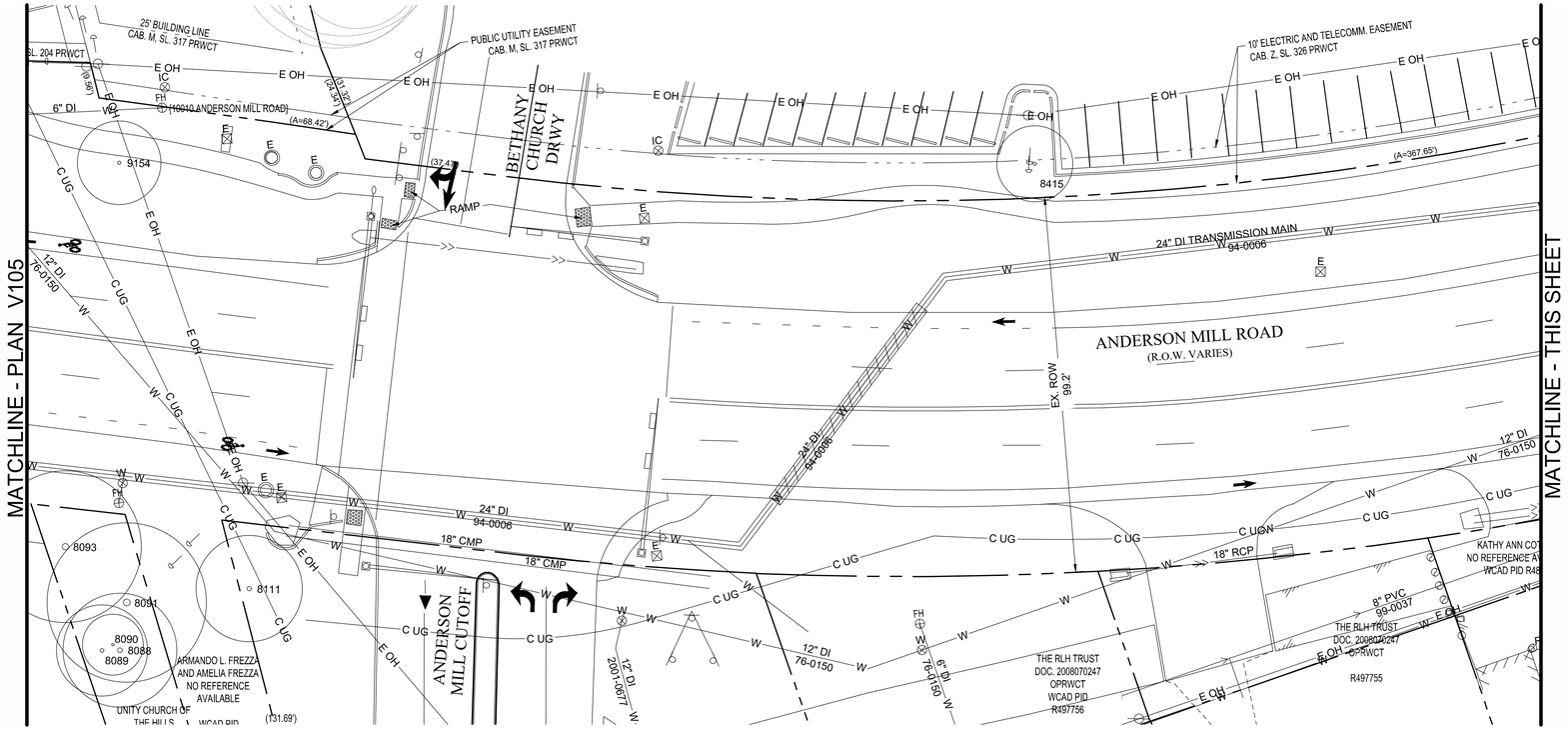

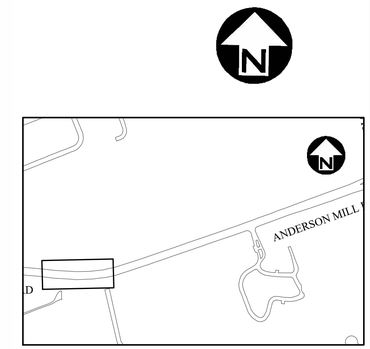

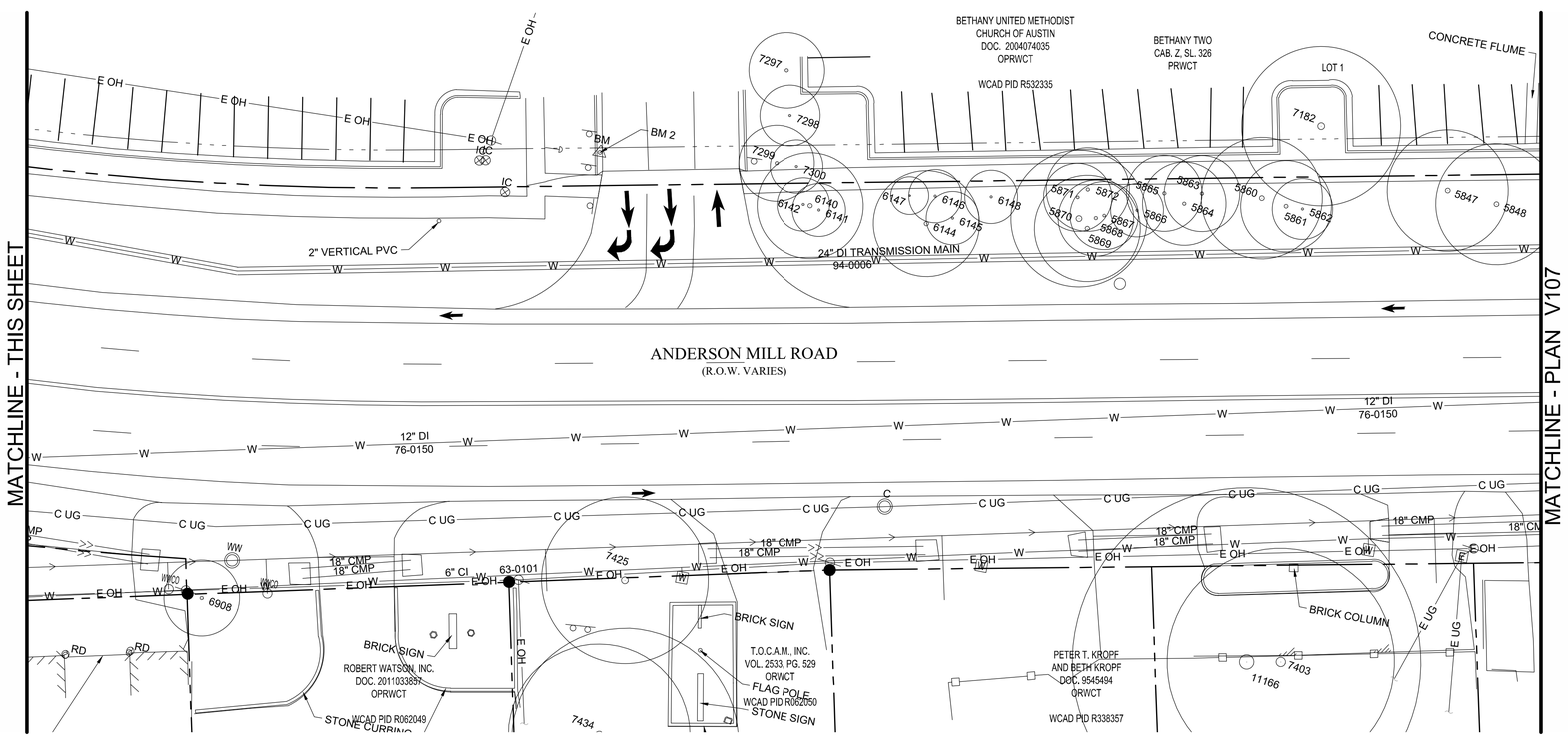

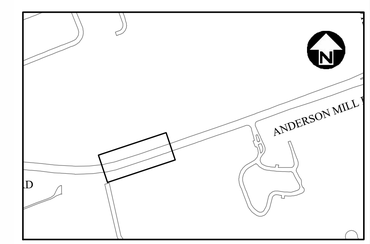

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DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

EXISTING CONDITIONS PLAN
SHEET 5 OF 8

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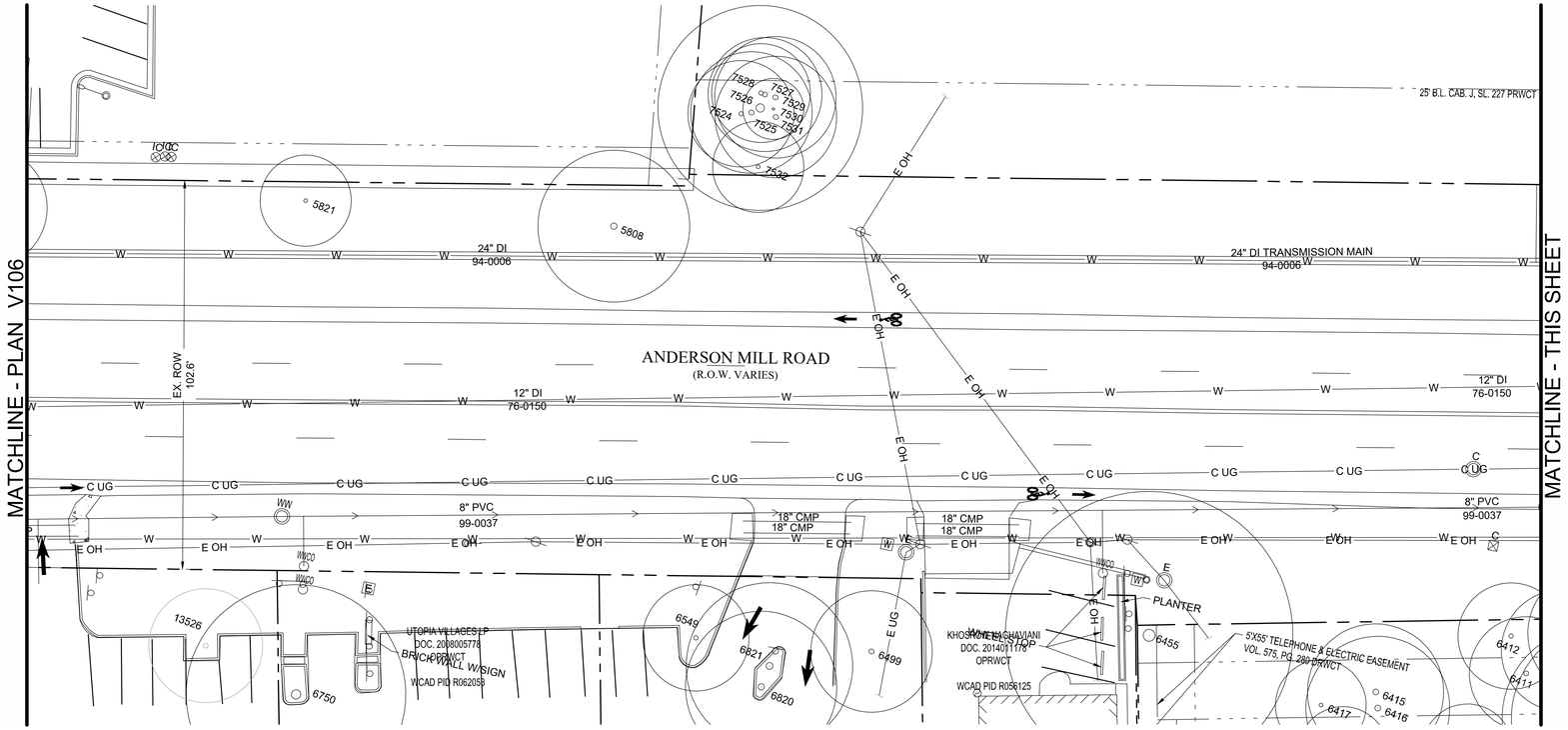

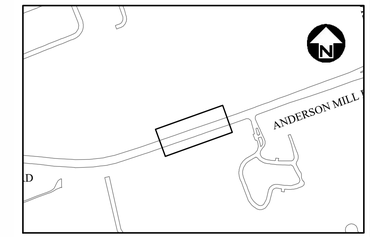

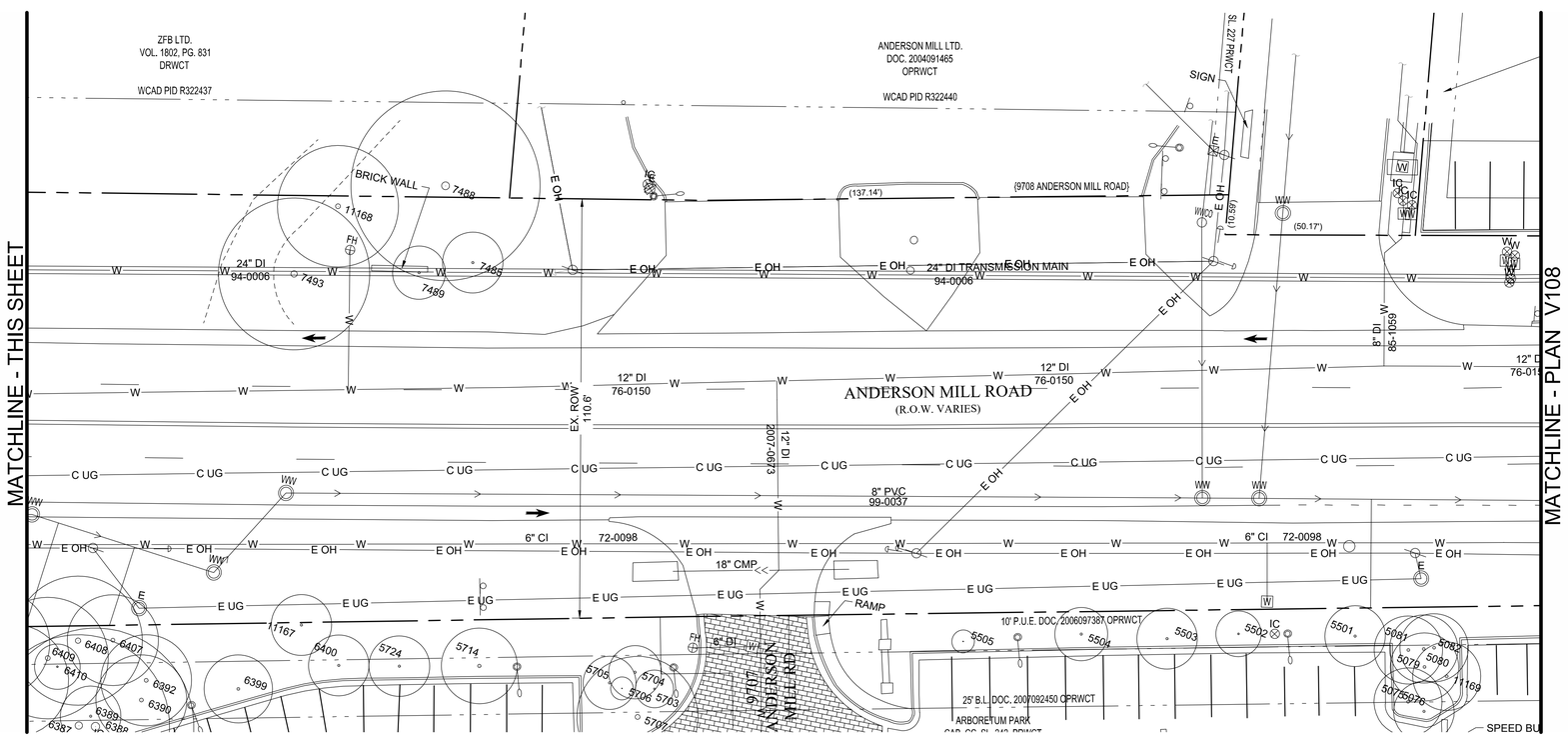

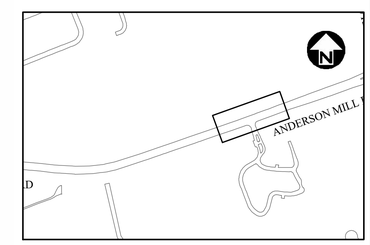

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ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

EXISTING CONDITIONS PLAN
SHEET 6 OF 8

CITY OF AUSTIN
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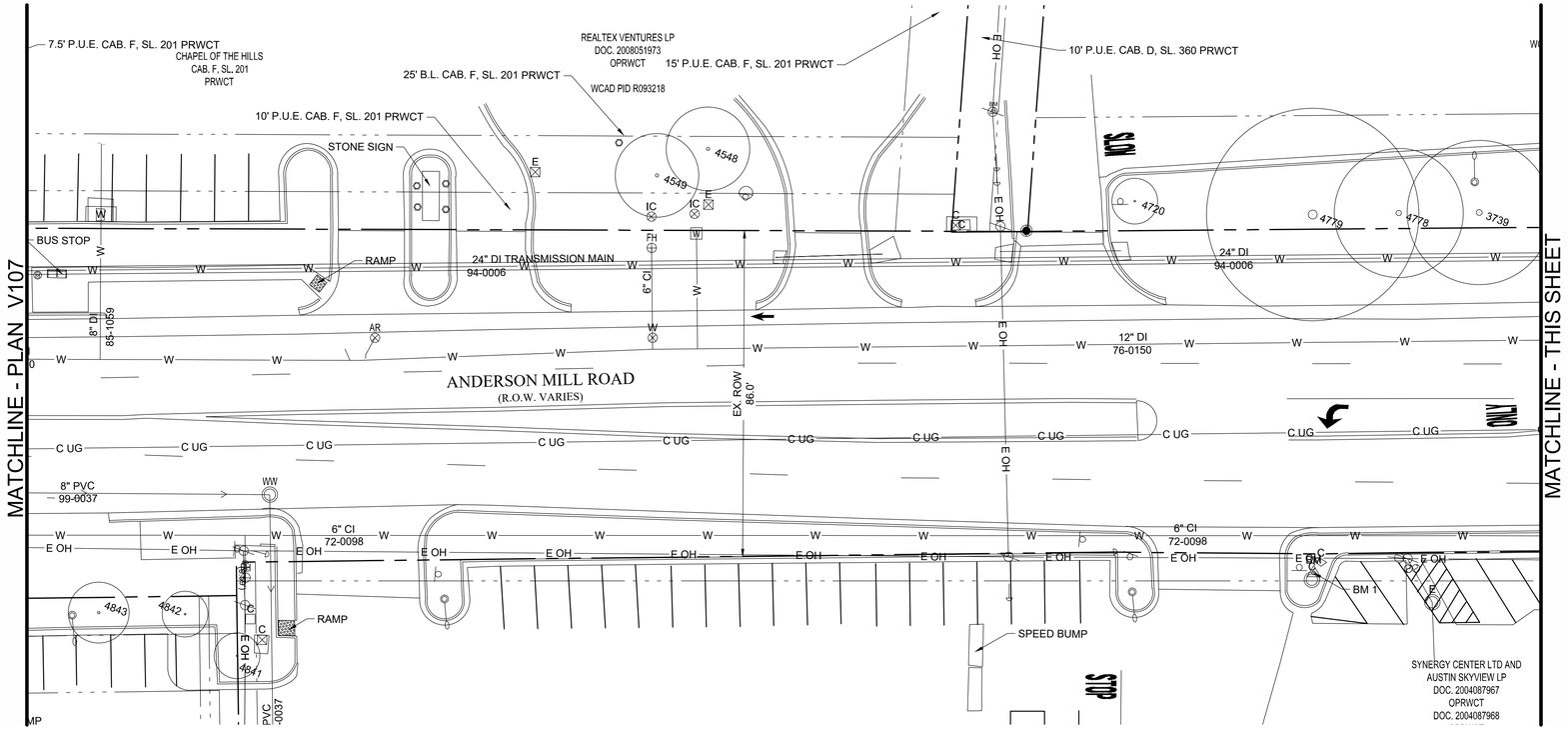

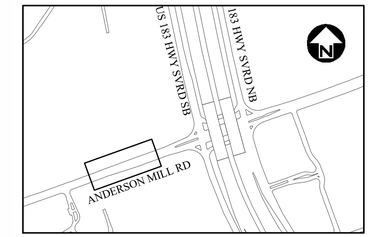

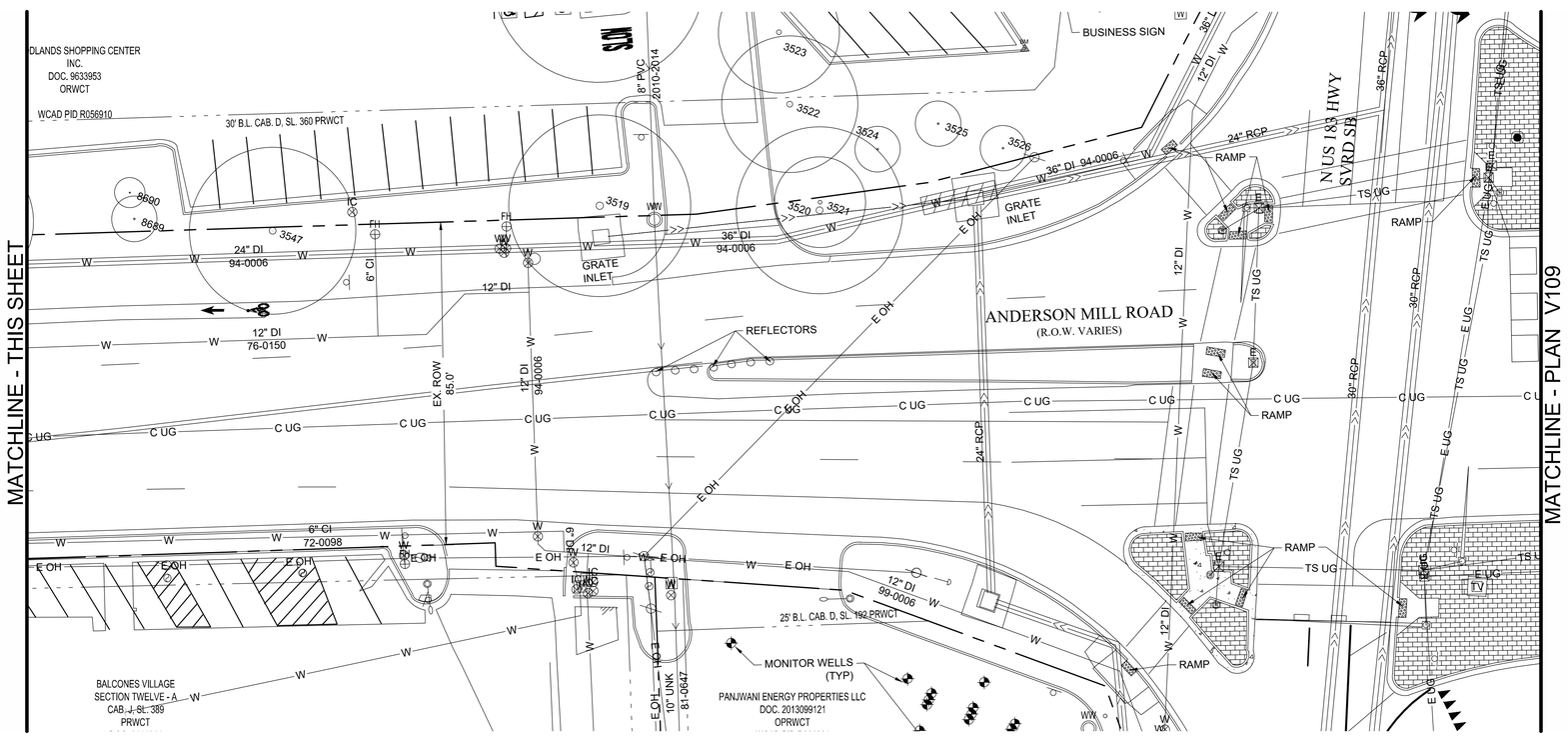

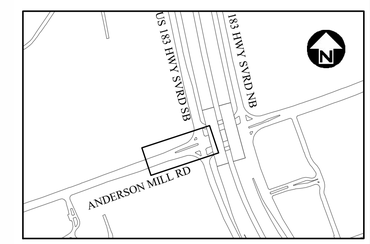

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ENGINEERING SERVICES DIVISION

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SPICEWOOD PARKWAY TO US 183

EXISTING CONDITIONS PLAN
SHEET 7 OF 8

CITY OF AUSTIN
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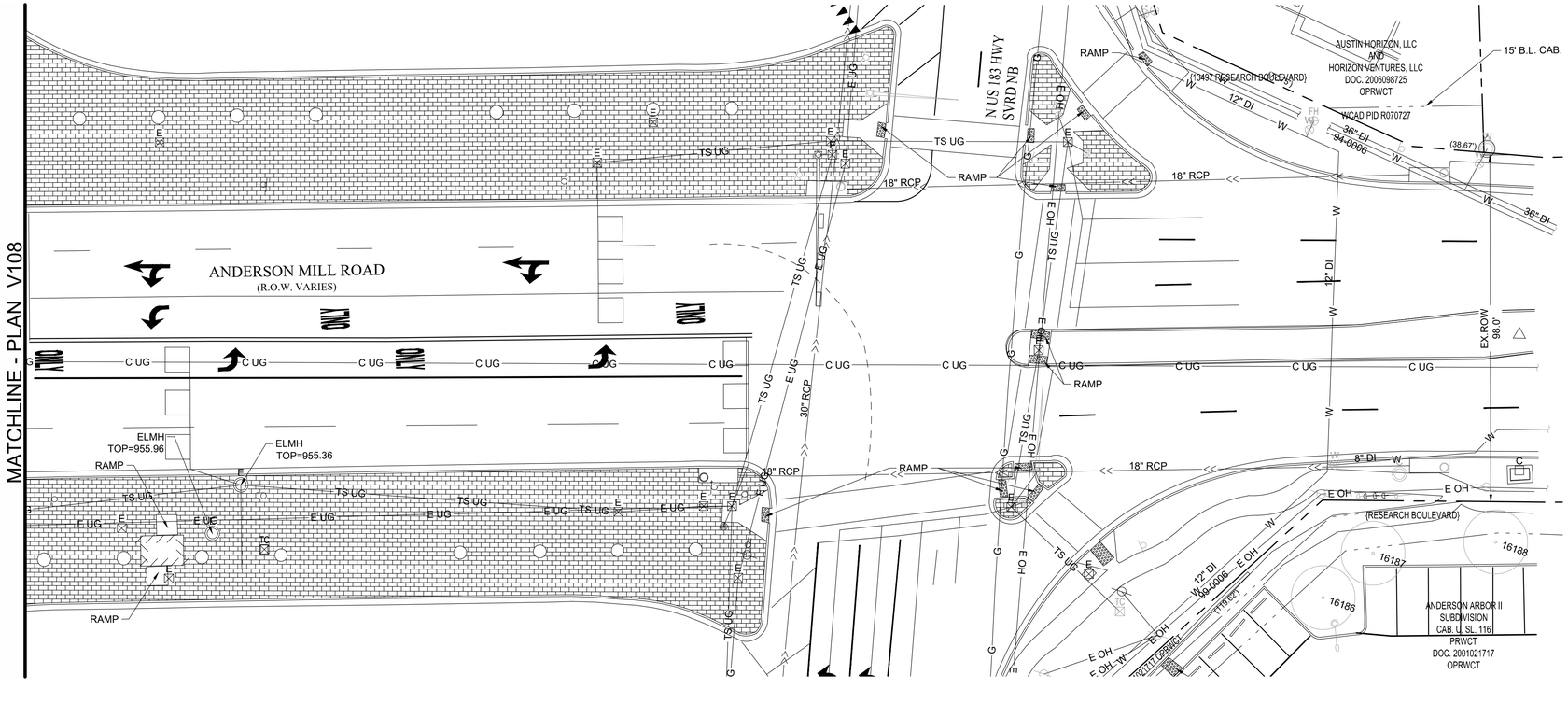

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SHEET 8 OF 8

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CITY OF AUSTIN - STANDARD NOTES
EROSION AND SEDIMENTATION CONTROL
(MODIFIED FOR USE ON GENERAL PERMIT PROJECTS)

1. THE CONTRACTOR SHALL INSTALL EROSION/SEDIMENTATION CONTROLS AND TREE/NATURAL AREA PROTECTIVE FENCING PRIOR TO ANY SITE PREPARATION WORK (CLEARING, GRUBBING, OR EXCAVATION).

2. THE PLACEMENT OF EROSION/SEDIMENTATION CONTROLS SHALL BE IN ACCORDANCE WITH THE ENVIRONMENTAL CRITERIA MANUAL AND THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN.

3. THE PLACEMENT OF TREE/NATURAL AREA PROTECTIVE FENCING SHALL BE IN ACCORDANCE WITH THE CITY OF AUSTIN STANDARD NOTES FOR TREE AND NATURAL AREA PROTECTION AND THE APPROVED GRADING/TREE AND NATURAL AREA PLAN.

4. A PRE-CONSTRUCTION CONFERENCE SHALL BE HELD ON-SITE WITH THE CONTRACTOR, DESIGN ENGINEER, PERMIT APPLICANT, AND GENERAL PERMIT PROGRAM REPRESENTATIVE AFTER INSTALLATION OF THE EROSION/SEDIMENTATION CONTROLS AND THE TREE/NATURAL AREA PROTECTION MEASURES AND PRIOR TO BEGINNING ANY SITE PREPARATION WORK. THE CONTRACTOR SHALL NOTIFY THE GENERAL PERMIT PROGRAM OFFICE AT 512/974-6330, AT LEAST 3 DAYS PRIOR TO THE MEETING DATE.

5. ANY SIGNIFICANT VARIATION IN MATERIALS OR LOCATIONS OF CONTROLS OR FENCES FROM THOSE SHOWN ON THE APPROVED PLANS MUST BE APPROVED BY THE REVIEWING ENGINEER AND THE GENERAL PERMIT PROGRAM REPRESENTATIVE.

6. THE CONTRACTOR IS REQUIRED TO INSPECT THE CONTROLS AND FENCES AT DAILY INTERVALS AND AFTER SIGNIFICANT RAINFALL EVENTS TO INSURE THAT THEY ARE FUNCTIONING PROPERLY. THE PERSON(S) RESPONSIBLE FOR MAINTENANCE OF CONTROLS AND FENCES SHALL IMMEDIATELY MAKE ANY NECESSARY REPAIRS TO DAMAGED AREAS. SILT ACCUMULATION AT CONTROLS MUST BE REMOVED WHEN THE DEPTH REACHES SIX (6) INCHES. SILT ACCUMULATION AT INLET DEVICES SHOULD BE REMOVED WHEN THE DEPTH REACHES TWO (2) INCHES.

7. PRIOR TO FINAL ACCEPTANCE BY THE CITY, HAUL ROADS AND WATERWAY CROSSINGS CONSTRUCTED FOR TEMPORARY CONTRACTOR ACCESS MUST BE REMOVED, ACCUMULATED SEDIMENT REMOVED FROM THE WATERWAY AND THE AREA RESTORED TO THE ORIGINAL GRADE AND REVEGETATED. ALL LAND CLEARING DEBRIS SHALL BE DISPOSED OF IN APPROVED SPOIL DISPOSAL SITES.

8. ALL WORK MUST STOP IF A VOID IN THE ROCK SUBSTRATE IS DISCOVERED WHICH IS ONE SQUARE FOOT OR LARGER IN TOTAL AREA, BLOWS AIR FROM WITHIN THE SUBSTRATE, AND/OR CONSISTENTLY RECEIVES WATER DURING ANY RAIN EVENT. AT THIS TIME, IT IS THE RESPONSIBILITY OF THE PROJECT MANAGER TO IMMEDIATELY CONTACT THE GENERAL PERMIT PROGRAM REPRESENTATIVE FOR FURTHER INVESTIGATION.

9. FIELD REVISIONS TO THE EROSION/SEDIMENTATION CONTROL PLAN MAY BE REQUIRED BY THE GENERAL PERMIT PROGRAM REPRESENTATIVE DURING THE COURSE OF CONSTRUCTION TO CORRECT CONTROL INADEQUACIES. ANY REVISIONS TO THE PERMITTED PLAN MUST BE APPROVED BY THE GENERAL PERMIT PROGRAM OFFICE OF THE PLANNING AND DEVELOPMENT REVIEW DEPARTMENT.

10. PERMANENT EROSION/SEDIMENTATION CONTROL: ALL DISTURBED AREAS SHALL BE RESTORED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. WHERE THE CRITERIA MANUAL AND CONTRACT DOCUMENTS DIFFER THE MOST ENVIRONMENTALLY BENEFICIAL MATERIALS/METHOD SHALL BE REQUIRED UNLESS OTHERWISE APPROVED BY THE GENERAL PERMIT PROGRAM REPRESENTATIVE.

11. DEVELOPER INFORMATION:

OWNER: AUSTIN TRANSPORTATION DEPARTMENT
COMPANY: CITY OF AUSTIN
CONTACT: PAUL TERRANOVA, MBA,P.E.
ADDRESS: 901 S MOPAC EXPY, PLAZA 5, SUITE 300, AUSTIN, TX 78746

PHONE: 512-974-7163
E-MAIL: Paul.Terranova@austintexas.gov

OWNER'S REPRESENTATIVE RESPONSIBLE FOR PLAN ALTERATIONS:
COMPANY: PUBLIC WORKS DEPARTMENT, ENGINEERING SERVICES DIVISION
CONTACT: XIAOQIN ZHANG, P.E.
ADDRESS: 505 BARTON SPRINGS ROAD, SUITE 900, AUSTIN, TEXAS 78704

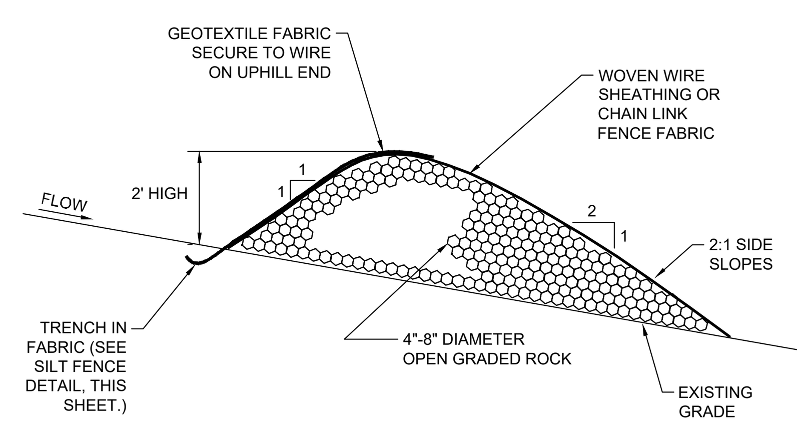
PHONE: 512-974-3562
E-MAIL: Xiaoqin.Zhang@austintexas.gov

PARTY RESPONSIBLE FOR EROSION/SEDIMENTATION CONTROL MAINTENANCE:
COMPANY: CONTRACTOR

PARTY RESPONSIBLE FOR TREE/NATURAL AREA PROTECTION MAINTENANCE:
COMPANY: CONTRACTOR

12. THE CONTRACTOR SHALL NOT DISPOSE OF SURPLUS EXCAVATED MATERIAL FROM THE SITE WITHOUT NOTIFYING THE GENERAL PERMIT PROGRAM REPRESENTATIVE, AT 974-6330, AT LEAST 48 HOURS PRIOR TO THE SPOILS REMOVAL. THIS NOTIFICATION SHALL INCLUDE THE DISPOSAL LOCATION AND A COPY OF THE PERMIT ISSUED TO RECEIVE THE MATERIAL.

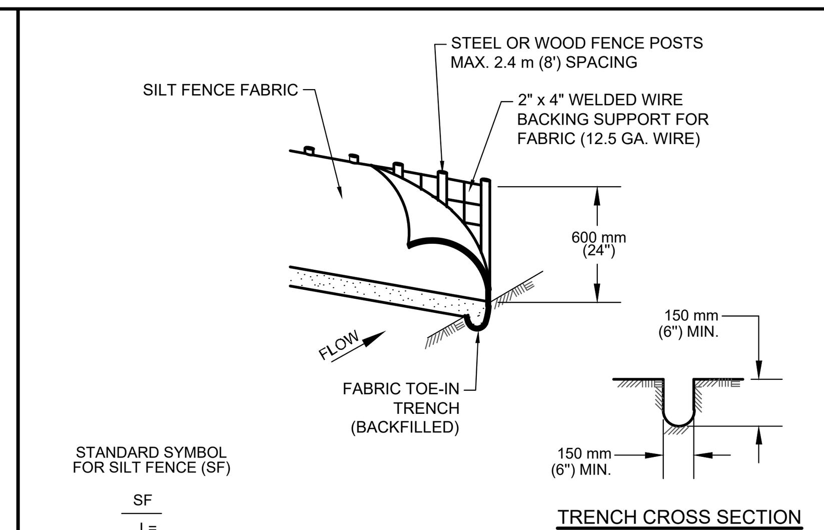
13. INLET PROTECTION SHALL BE INSTALLED IMMEDIATELY PRIOR TO STREET WORK, AND WILL BE REMOVED AS SOON AS THE GENERAL PERMIT PROGRAM REPRESENTATIVE AGREES THAT THERE IS NO POTENTIAL FOR SEDIMENTATION.



NOTES:

1. USE ONLY OPEN GRADED ROCK, 4-8 INCH DIAMETER, FOR STREAM FLOW CONDITION. USE OPEN GRADED ROCK, 3-5 INCH DIAMETER, FOR OTHER CONDITIONS.
2. ROCK BERM SHALL BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM 1 INCH OPENING AND MINIMUM WIRE DIAMETER OF 20 GAUGE.
3. ROCK BERM SHALL BE INSPECTED WEEKLY OR AFTER EACH RAIN, AND THE STONE AND/OR FABRIC CORE-WOVEN WIRE SHEATHING SHALL BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED, DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.
4. WHEN SILT REACHES A DEPTH EQUAL TO ONE-THIRD THE HEIGHT OF THE BERM OR ONE FOOT, WHICHEVER IS LESS, THE SILT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED SITE AND IN A MANNER AS TO NOT CREATE A SILTATION PROBLEM.
5. DAILY INSPECTION SHALL BE MADE ON SEVERE SERVICE ROCK BERMS; SILT SHALL BE REMOVED WHEN ACCUMULATION REACHES 6 INCHES.
6. WHEN SITE IS COMPLETELY STABILIZED, THE BERM AND ACCUMULATED SILT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED MANNER.

	FABRIC COVERED (SEVERE SERVICE) ROCK BERM	
GENERAL PERMIT PROGRAM — *N / A* APPROVED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. N / A



1. STEEL OR WOOD POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF 300 mm (12 INCHES). IF WOOD POSTS CANNOT ACHIEVE 300 mm (12 inches) DEPTH, USE STEEL POSTS.
2. THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW.
3. THE TRENCH MUST BE A MINIMUM OF 150 mm (6 inches) DEEP AND 150 mm (6 inches) WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.
4. SILT FENCE FABRIC SHOULD BE SECURELY FASTENED TO EACH STEEL OR WOOD SUPPORT POST OR TO WOVEN WIRE , WHICH IS IN TURN ATTACHED TO THE STEEL OR WOOD FENCE POST.
5. INSPECTION SHALL BE MADE WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTY AS NEEDED.
6. SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
7. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 150 mm (6 inches). THE SILT SHALL BE DISPOSED OF ON AN APPROVED SITE AND IN SUCH A MANNER THAT WILL NOT CONTRIBUTE TO ADDITIONAL SILTATION.

CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	SILT FENCE	
RECORD COPY SIGNED BY MORGAN BYARS — *09/01/2011* ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 642S-1

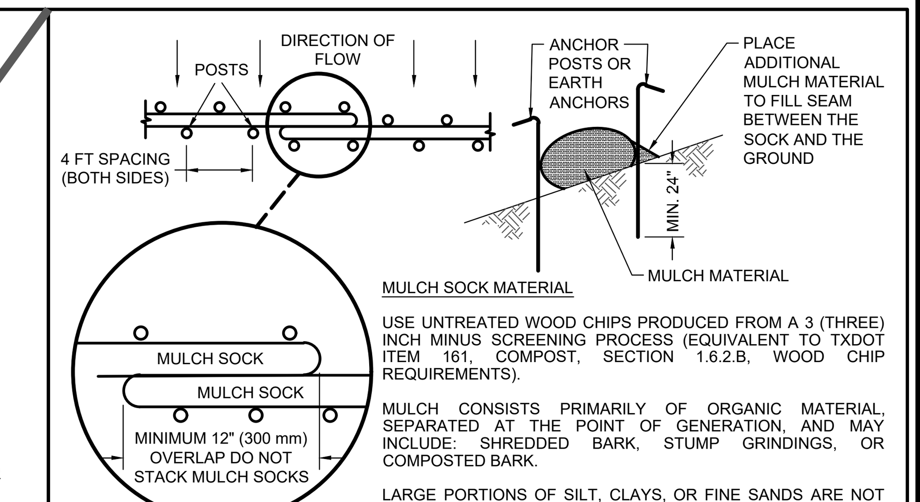
NOTES:

1. MATERIAL- THE FABRIC MUST CORRESPOND TO THE FOLLOWNG REQUIREMENTS:

PROPERTY	ASTM TEST METHOD	REQUIREMENTS
FABRIC WEIGHT	D 3776	≥ 3.0 OUNCES / SQUARE YARD
ULTRAVIOLET (UV) RADIATION STABILITY	D 4355	70% STRENGTH RETAINED MIN., AFTER 500 HOURS IN XENON ARC DEVICE
MUUEN BURST STRENGTH	D 3786	≥ 120 POUND PER SQUARE INCH
WATER FLOW RATE	D 4491	≥ 275 GALLONS / MINUTE / SQUARE FEET

2. THIS MATERIAL SHOULD HAVE A MAXIMUM EXPECTED USEFUL LIFE OF APPROXIMATELY EIGHTEEN (18) MONTHS. THE INLET PROTECTION DEVICES SHOULD BE CONSTRUCTED IN A MANNER THAT WILL FACILITATE CLEAN OUT AND DISPOSAL OF TRAPPED SEDIMENT WILE MINIMIZING INTERFERENCE WITH CONSTRUCTION ACTIVITIES. THEY SHOULD ALSO BE CONSTRUCTED SUCH THAT ANY PONDING OF STORM WATER WILL NOT CAUSE EXCESSIVE R.O.W. FLOODING (I.E.< 4 INCHES OF STANDING WATER) OR DAMAGE TO THE STRUCTURE OR ADJACENT AREAS.
3. COVERAGE -THE FABRIC / WIRE SHOULD COMPLETELY COVER THE OPENING OF THE INLET AND DEVICES SHOULD BE INSTALLED WITHOUT PROTRUDING PARTS THAT COULD BE A TRAFFIC, WORKER, OR PEDESTRIAN HAZARD. WHERE SECTIONS OF THE FABRIC OVERLAP, THEY SHALL OVERLAP AT LEAST THREE (3) INCHES.
4. THE INLET FILTER SHALL BE ATTACHED IN A WAY THAT THEY CAN EASILY BE REMOVED AND ARE NOT SECURED OR ATTACHED BY THE USE OF SAND BAGS. THE INLET FILTER MUST BE REMOMD UPON COMPLETION OF WORK. IF REMOVAL DAMAGES THE CONCRETE CURB, THE CURB MUST BE REPAIRED IMMEDIATELY.
5. DAILY INSPECTION SHALL BE MADE BY THE CONTRACTOR AND SILT ACCUMULATION MUST BE REMOVED WHEN THE DEPTH REACHES 50 MM (2 INCHES) INCHES OR ONE THIRD THE HEIGHT OF THE INLET THROAT, AND DISPOSED OF IN A MANNER WHICH WILL NOT CAUSE ADDITIONAL SILTATION.
6. CONTRACTOR SHALL MONITOR THE PERFORMANCE OF INLET PROTECTION DURING EACH RAINFALL EVENT AND IMMEDIATELY REMOVE THE INLET PROTECTIONS IF THE STORMWATER BEGINS TO OVERTOP THE CURB.
7. INLET PROTECTIONS SHALL BE REMOVED AS SOON AS THE SOURCE OF SEDIMENT HAS ACHIEVED FINAL STABILIZATION CONDITIONS.

CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	FILTER DIKE CURB INLET PROTECTION	
RECORD COPY SIGNED BY MAPI VIGIL — *10/30/09* ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 628S-2



MULCH SOCK MATERIAL

USE UNTREATED WOOD CHIPS PRODUCED FROM A 3 (THREE) INCH MINUS SCREENING PROCESS (EQUIVALENT TO TXDOT ITEM 161, COMPOST, SECTION 1.6.2.B, WOOD CHIP REQUIREMENTS).

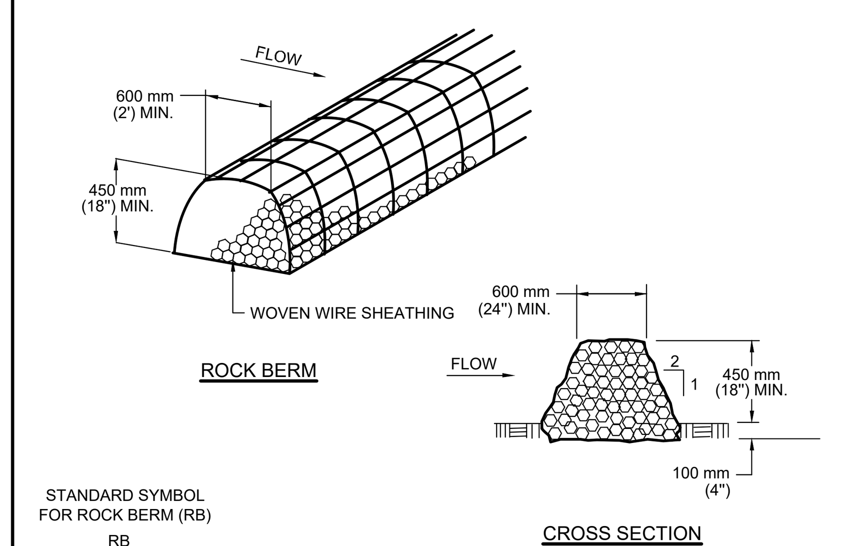
MULCH CONSISTS PRIMARILY OF ORGANIC MATERIAL, SEPARATED AT THE POINT OF GENERATION, AND MAY INCLUDE: SHREDDED BARK, STUMP GRINDINGS, OR COMPOSTED BARK.

LARGE PORTIONS OF SILT, CLAYS, OR FINE SANDS ARE NOT ACCEPTABLE IN THE MULCH.

NOTES:

1. STEEL OR WOOD POSTS WHICH SUPPORT THE MULCH SOCK SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF 600mm (24 inches). IF WOOD POSTS CANNOT ACHIEVE 600mm (24 inches) DEPTH, USE STEEL POSTS. EARTH ANCHORS ARE ALSO ACCEPTABLE.
2. THE TOE OF THE MULCH SOCK SHALL BE PLACED SO THAT THE MULCH SOCK IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. IN ORDER TO PREVENT WATER FROM FLOWING BETWEEN THE JOINTS OF ADJACENT ENDS OFMULCH SOCKS, LAP THE ENDS OF ADJACENT MULCH SOCKS A MINIMUM OF 300mm (12 inches).
3. MULCH MATERIAL MUST BE FREE OF REFUSE, PHYSICAL CONTAMINANTS, AND MATERIAL TOXIC TO PLANT GROWTH; IT IS NOT ACCEPTABLE FOR THE MULCH MATERIAL TO CONTAIN GROUND CONSTRUCTION DEBRIS, BIOSOLIDS, OR MANURE.
4. SOCK MATERIAL WILL BE 100% BIODEGRADABLE, PHOTODEGRADABLE, OR RECYCLABLE SUCH AS BURLAP, TWINE, UV PHOTOBIODEGRADABLE PLASTIC, POLYESTER, OR ANY OTHER ACCEPTABLE MATERIAL.
5. MULCH SOCKS SHOULD BE USED AT THE BASE OF SLOPES NO STEEPER THAN 2:1 AND SHOULD NOT EXCEED THE MAXIMUM SPACING CRITERIA PROVIDED IN CITY OF AUSTIN ENVIRONMENTAL CRITERIA MANUAL TABLE 1.4.5.F.1 FOR A GIVEN SLOPE CATEGORY.
6. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 150mm (6 inches). THE SILT SHALL BE DISPOSED OF ON AN APPROVED SITE AND IN SUCH A MANNER THAT WILL NOT CONTRIBUTE TO ADDITIONAL SILTATION.

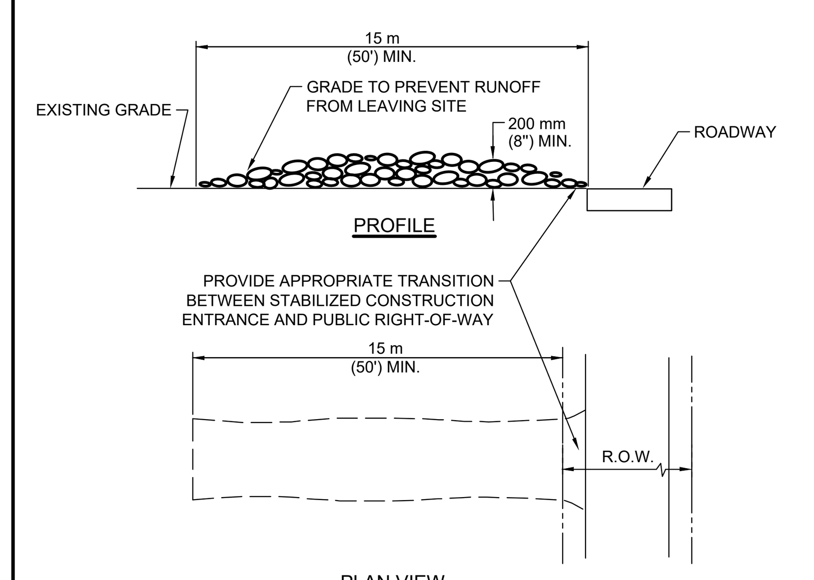
CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	MULCH SOCK	
RECORD COPY SIGNED BY MORGAN BYARS — *08/24/2010* ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 648S-1



NOTES:

1. USE ONLY OPEN GRADED ROCK 75 to 125 mm (3 to 5") DIAMETER FOR ALL CONDITIONS.
2. THE ROCK BERM SHALL BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM 25 mm (1") OPENING AND MINIMUM WIRE DIAMETER OF 12.9 mm (20 GAUGE).
3. THE ROCK BERM SHALL BE INSPECTED DAILY OR AFTER EACH RAIN, AND THE STONE AND/OR FABRIC CORE-WOVEN SHEATHING SHALL BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED, DUE TO SEDIMENT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.
4. IF SEDIMENT REACHES A DEPTH EQUAL TO ONE-THIRD THE HEIGHT OF THE BERM OR 150 mm (6"), WHICHEVER IS LESS, THE SEDIMENT SHALL BE REMOVED AND DISPOSED OF ON AN APPROVED SITE AND IN A MANNER THAT WILL NOT CREATE A SEDIMENTION PROBLEM.
5. WHEN THE SITE IS COMPLETELY STABILIZED,THE BERM AND ACCUMULATED SEDIMENT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED MANNER.

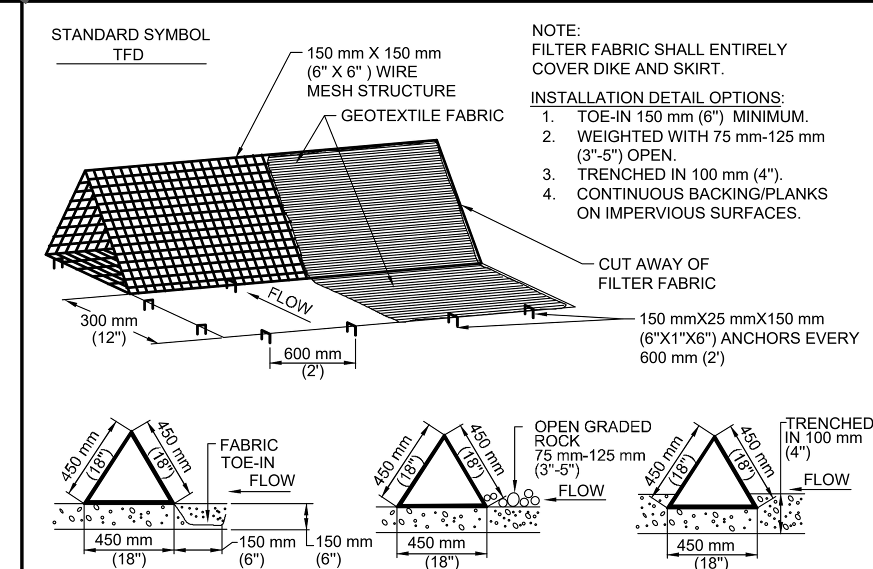
CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	ROCK BERM	
RECORD COPY SIGNED BY MORGAN BYARS — *8/24/2010* ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 639S-1



NOTES:

1. STONE SIZE: 75-125 mm (3-5") OPEN GRADED ROCK.
2. LENGTH: AS EFFECTIVE BUT NOT LESS THAN 15 m (50').
3. THICKNESS: NOT LESS THAN 200 mm (8").
4. WIDTH: NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS/EGRESS.
5. WASHING: WHEN NECESSARY, VEHICLE WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC ROADWAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE AND DRAINS INTO AN APPROVED TRAP OR SEDIMENT BASIN. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATERCOURSE USING APPROVED METHODS.
6. MAINTENANCE: THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC ROADWAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND, AS WELL AS REPAIR AND CLEAN OUT OF ANY MEASURE DEVICES USED TO TRAP SEDIMENT. ALL SEDIMENTS THAT IS SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC ROADWAY MUST BE REMOVED IMMEDIATELY.
7. DRAINAGE: ENTRANCE MUST BE PROPERLY GRADED OR INCORPORATE A DRAINAGE SWALE TO PREVENT RUNOFF FROM LEAVING THE CONSTRUCTION SITE.

CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	STABILIZED CONSTRUCTION ENTRANCE	
RECORD COPY SIGNED BY J. PATRICK MURPHY — *5/23/00* ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 641S-1

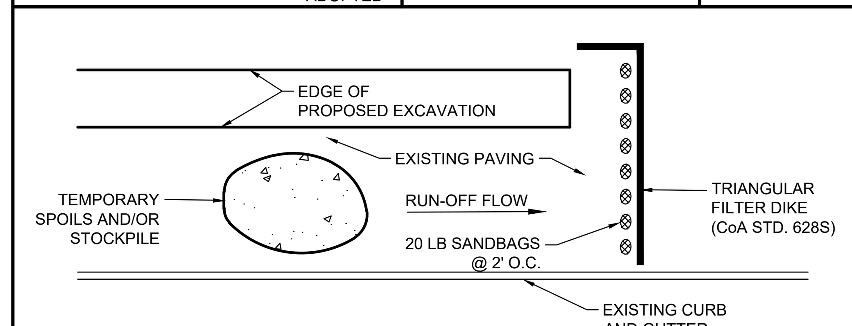


NOTE:
FILTER FABRIC SHALL ENTIRELY COVER DIKE AND SKIRT.

INSTALLATION DETAIL OPTIONS:
1. TOE-IN 150 mm (6") MINIMUM.
2. WEIGHTED WITH 75 mm-125 mm (3"-5") OPEN.
3. TRENCHED IN 100 mm (4").
4. CONTINUOUS BACKING/PLANKS ON IMPERVIOUS SURFACES.

GENERAL NOTES
1. DIKES SHALL BE PLACED IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT DIKE.
2. THE FABRIC COVER AND SKIRT SHALL BE A CONTINUOUS WRAPPING OF GEOTEXTILE. THE SKIRT SHALL BE A CONTINUOUS EXTENSION OF THE FABRIC ON THE UPSTREAM FACE.
3. THE SKIRT SHALL BE WEIGHTED WITH A CONTINUOUS LAYER OF 75-125 mm (3-5") OPEN GRADED ROCK OR TOED-IN 150 mm (6") WITH MECHANICALLY COMPACTED MATERIAL. OTHERWISE, THE ENTIRE STRUCTURE SHALL BE TRENCHED IN 100 mm (4").
4. DIKES AND SKIRT SHALL BE SECURELY ANCHORED IN PLACE USING 150 mm (6") WIRE STAPLES ON 600 mm (2') CENTERS ON BOTH EDGES AND SKIRT, OR STAKE USING 10M (3/8") DIAMETER RE-BAR WITH TEE ENDS.
5. FILTER MATERIAL SHALL BE LAPPED OVER ENDS 150 mm (6") TO COVER DIKE TO DIKE JOINTS. JOINTS SHALL BE FASTENED WITH GALVANIZED SHOAT RINGS.
6. THE DIKE STRUCTURE SHALL BE MW40-150 mmX150 mm (6 GA. 6"X6") WIRE MESH, 450 mm (18") ON A SIDE.
7. INSPECTION SHALL BE MADE WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED BY THE CONTRACTOR.
8. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 150 mm (6") AND DISPOSED OF IN A MANNER WHICH WILL NOT CAUSE ADDITIONAL SILTATION.
9. AFTER THE DEVELOPMENT SITE IS COMPLETLY STABILIZED, THE DIKES AND ANY REMAINING SILT SHALL BE REMOVED. SILT SHALL BE DISPOSED OF AS INDICATED IN GENERAL NOTE 8 ABOVE.

CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	TRIANGULAR SEDIMENT FILTER DIKE	
RECORD COPY SIGNED BY J. PATRICK MURPHY — *3/27/00* ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 628S



NOTES:
1. THE TEMPORARY SPOILS/STOCKPILE STORAGE AREA AND STAGING AREA MAY BE LOCATED DIRECTLY ADJACENT TO THE EXCAVATION AND ON THE PAVEMENT.
2. ANY SPOIL NOT INTENDED TO BE REUSED WILL BE HAULED TO AN APPROVED OR PERMITTED DISPOSAL SITE DAILY.
3. INSTALL TRIANGULAR SEDIMENT FILTER DIKE (DETAIL 628S) ACROSS FULL WIDTH OF TRAFFIC CLOSURE AND DOWNSTREAM OF CONSTRUCTION AREA, PERPENDICULAR TO CURB AND PLACED TO EFFECTIVELY CATCH AND CONTAIN SEDIMENT LADEN RUNOFF FROM THE EXCAVATED AREA. FILTER DIKE TO FOLLOW ACTIVE CONSTRUCTION. REMOVING AND RE-SETTING FILTER DIKE IS CONSIDERED SUBSIDIARY TO BARRICADES AND TRAFFIC HANDLING.

ADDITIONAL EROSION/SEDIMENTATION CONTROL FOR WORK IN PAVED AREAS FOR GENERAL PERMIT PROGRAM PROJECTS

GENERAL PERMIT OFFICE
EROSION/SEDIMENTATION CONTROL
CITY OF AUSTIN STANDARD NOTES AND DETAILS

GENERAL PERMIT PROGRAM

THIVAKARAN, JOTHIKA

NO.	BY	DATE	REVISIONS REMARKS

ENGINEERING SERVICES DIVISION

GP-2019-0210.ATD

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GENERAL PERMIT PROGRAM (GPP)
STANDARD ENVIRONMENTAL NOTES:

ADDITIONAL AREAS:

1. ANY ADDITIONAL AREAS REQUIRED FOR CONSTRUCTION OF THIS PROJECT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. CONTRACTOR MUST SECURE CITY OF AUSTIN APPROVAL OF PROPOSED ADDITIONAL AREAS PRIOR TO USE. APPROVAL OF "CORRECTION REQUEST" MUST BE SECURED FROM THE GENERAL PERMIT PROGRAM OFFICE OF THE PLANNING AND DEVELOPMENT REVIEW DEPARTMENT.

2. ALL ASSOCIATED PERMITS AND FEES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

3. IN ORDER TO SECURE APPROVAL FOR USE OF ADDITIONAL AREAS, CONTRACTOR MUST PROVIDE COMPLETE "CORRECTION REQUEST" SUBMITTAL TO GENERAL PERMIT PROGRAM OFFICE AND ALLOW A ONE WEEK COMMENT PERIOD FOR EACH REVIEW. CONTRACTOR SHOULD REQUEST INFORMATION ON THE ELEMENTS REQUIRED TO BE INCLUDED IN THE SUBMITTAL FROM THE OWNER'S REPRESENTATIVE OR THE GENERAL PERMIT PROGRAM OFFICE.

4. CONTRACTOR MUST INSTALL AND MAINTAIN EROSION/SEDIMENTATION CONTROLS AND TREE PROTECTION FOR ALL SUCH AREAS IN ACCORDANCE WITH THE CITY OF AUSTIN ENVIRONMENTAL CRITERIA MANUAL AND AS INCLUDED IN THE APPROVED SUBMITTAL OR DIRECTED IN THE FIELD BY THE GENERAL PERMIT PROGRAM REPRESENTATIVE.

5. A SIGNED COPY OF THE PLANS PERMITTED THROUGH THE GENERAL PERMIT PROGRAM MUST BE KEPT ON SITE AND ACCESSIBLE AT ALL TIMES DURING PROJECT CONSTRUCTION.

DEWATERING:

CONTRACTOR IS RESPONSIBLE FOR DEWATERING OF WORK AREA. CONTRACTOR MUST SECURE CITY OF AUSTIN APPROVAL OF PROPOSED DEWATERING PROCEDURES PRIOR TO INSTALLATION OR USE. APPROVAL MUST BE SECURED FROM THE GENERAL PERMIT PROGRAM (GPP) OFFICE OF THE PLANNING AND DEVELOPMENT REVIEW DEPARTMENT. CONTRACTOR MUST PROVIDE COMPLETE SUBMITTAL TO GPP OFFICE AND ALLOW AN ONE WEEK (MIN.) COMMENT PERIOD FOR EACH REVIEW. CONTACT THE GPP OFFICE FOR SUBMITTAL REQUIREMENTS.

FUEL STORAGE:

FUEL STORAGE IS PROHIBITED ON THIS PROJECT. ADDITIONALLY, THE CONTRACTOR IS REQUIRED TO NOTIFY THE GENERAL PERMIT PROGRAM OFFICE IMMEDIATELY FOLLOWING ANY SPILL OF FUEL OR OTHER TOXIC MATERIAL. CONTRACTOR IS REQUIRED TO FOLLOW-UP WITH WRITTEN DOCUMENTATION, INCLUDING A COMPLETE DESCRIPTION OF THE INCIDENT, MATERIAL SPILLED, AND ACTIONS TAKEN TO CONTAIN AND CLEAN-UP MATERIAL.

FUGITIVE DUST CONTROL:

ALL PROJECTS APPROVED THROUGH THE GENERAL PERMIT PROGRAM (GPP) MUST COMPLY WITH THE CODE OF THE CITY OF AUSTIN AND THE ENVIRONMENTAL CRITERIA MANUAL REQUIREMENTS TO CONTROL AIRBORNE DUST. COMPLIANCE IS REQUIRED FOR ENTIRE PROJECT SITE AS WELL AS ASSOCIATED OPERATIONS. CONTACT THE GPP OFFICE FOR RECOMMENDED CONTROL METHODS.

SPOILS STORAGE:

NO SPOILS STORAGE IS ALLOWED WITHIN A CRITICAL WATER QUALITY ZONE, A 100-YEAR FLOODPLAIN, OR ON A SLOPE WITH A GRADIENT OF MORE THAN 15 PERCENT.

E/S CONTROLS FOR BORE / RECEIVING PIT LOCATIONS:

TEMPORARY E/S CONTROLS MUST SURROUND THE ENTIRETY OF BORING OPERATIONS, INCLUDING PIT, EQUIPMENT, ETC. FOR LOCATIONS WITHIN IMPERVIOUS AREAS, TEMPORARY CONTROL WILL BE TRIANGULAR FILTER DIKE (COA STANDARD DETAIL #628S). DIKE FLAP WILL BE CONTINUOUSLY WEIGHTED DOWN THRUGH THE USE OF 1" BY 4" WOOD STRIPS NAILED TO THE PAVEMENT, EXCEPT FOR THE ACCESS POINT. PLACEMENT OF TEMPORARY E/S CONTROLS ACROSS ACCESS POINT WILL BE REQUIRED WHENEVER THE SITE IS NOT ACTIVELY USED. FOR LOCATIONS WITHIN PERVIOUS AREAS, TEMPORARY CONTROL WILL BE SILT FENCE (COA STANDARD DETAIL #642S-1) OR MULCH SOCKS (COA STANDARD DETAIL #648S-1), AS INDICATED ON APPROVED PLANS.

SOIL RETENTION BLANKET:

UNLESS OTHERWISE INDICATED IN THE PROJECT DOCUMENTS, INSTALLATION OF SOIL RETENTION BLANKET WILL BE REQUIRED FOR ALL IMPACTED SLOPES GREATER THAN 3:1 AND ALL IMPACTED AREAS WITHIN DRAINAGE CONVEYANCES. (CITY OF AUSTIN STANDARD SPECIFICATION ITEM 605S) SOIL RETENTION BLANKET SUBMITTAL MUST BE APPROVED BY PROJECT ENGINEER AND GENERAL PERMIT PROGRAM (GPP) REPRESENTATIVE PRIOR TO USE AND MUST INCLUDE PRODUCT AND INSTALLATION DETAILS PROVIDED BY MANUFACTURER. FINISH GRADING MUST BE INSPECTED AND APPROVED BY GPP INSPECTOR PRIOR TO BLANKET INSTALLATION. INSTALLATION MUST BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND MUST BE INSPECTED AND APPROVED BY GPP REPRESENTATIVE PRIOR TO ACCEPTANCE.

SOD INSTALLATION:

REVEGETATION WITHIN MANAGED TURF AREAS MUST BE ACCOMPLISHED THROUGH THE INSTALLATION OF SOLID BLOCK GRASS SOD. SOD TYPE MUST MATCH ADJACENT GRASS TYPE. QUESTIONS REGARDING SOD TYPE WILL BE RESOLVED BY THE GENERAL PROGRAM PERMIT REPRESENTATIVE. REFER TO CITY OF AUSTIN STANDARD SPECIFICATION ITEM NO. 602S: SODDING FOR EROSION CONTROL, UNLESS OTHERWISE NOTED ON THE APPROVED PLANS.

TxDOT RIGHTS-OF-WAY:

TOPSOIL (TxDOT ITEM NO. 160), SOIL RETENTION BLANKET (TxDOT ITEM NO. 169), AND REVEGETATION (TxDOT ITEM NO. 164) INSTALLED WITHIN TEXAS DEPARTMENT OF TRANSPORTATION (TxDOT) RIGHT-OF-WAY SHALL COMPLY WITH "REQUIREMENTS FOR INSTALLATION OF UTILITIES WITHIN THE STATE RIGHT-OF-WAY, AUSTIN DISTRICT".

PROJECT SEQUENCE:
(REFER TO FULL PLAN SET FOR PROJECT-SPECIFIC ADDITIONS, IF APPLICABLE.)

PRIOR TO CONSTRUCTION:

1. SECURE APPLICABLE COA PERMITS, INCLUDING APPROVAL UNDER GENERAL PERMIT PROGRAM AND RIGHT-OF-WAY EXCAVATION PERMIT.

2. NOTIFY GENERAL PERMIT PROGRAM REPRESENTATIVE PRIOR TO PLACEMENT OF E/S CONTROLS AND TREE PROTECTION FENCING. ALL PROPOSED PHASING OF CONTROLS MUST BE SUBMITTED TO AND APPROVED BY THE GENERAL PERMIT PROGRAM REPRESENTATIVE PRIOR TO THE FIELD PRE-CONSTRUCTION CONFERENCE.

3. NOTIFY COA TEMPORARY TRAFFIC CONTROL REPRESENTATIVE PRIOR TO PLACEMENT OF TEMPORARY TRAFFIC CONTROLS. ALL PROPOSED PHASING OF CONTROLS MUST BE INDICATED ON APPROVED TEMPORARY TRAFFIC CONTROL PLAN AND SEALED BY PROFESSIONAL ENGINEER.

4. PLACE TEMPORARY E/S CONTROLS AND TREE PROTECTION FENCING PRIOR TO BEGINNING ANY EXCAVATION. INSTALL C.I.P. SIGN, IF APPLICABLE.

5. HOLD ENVIRONMENTAL PRE-CONSTRUCTION CONFERENCE ON SITE WITH THE CONTRACTOR, OWNER'S REPRESENTATIVE, AND GENERAL PERMIT PROGRAM REPRESENTATIVE AFTER INSTALLATION OF E/S CONTROLS AND TREE PROTECTION FENCING AND PRIOR TO ANY TRENCHING OPERATIONS.

6. PLACE TEMPORARY TRAFFIC CONTROL DEVICES.

PROJECT CONSTRUCTION:

1. BEGIN CONSTRUCTION. NOTIFY GENERAL PERMIT PROGRAM REPRESENTATIVE A MINIMUM OF 48 HOURS IN ADVANCE OF TRANSITION BETWEEN PHASES.

2. CONTACT GENERAL PERMIT OFFICE TO SCHEDULE FIELD INSPECTION PRIOR TO BEGINNING INSTALLATION OF PERMANENT E/S CONTROLS.

3. COMPLETE RESTORATION OF ALL AREAS DISTURBED BY CONSTRUCTION ACTIVITIES FOR THIS PROJECT. (PERMANENT E/S CONTROLS)

4. REMOVE TEMPORARY TRAFFIC CONTROL DEVICES RELATED TO WORK AREAS OUTSIDE OF THE STREET.

5. HOLD ENVIRONMENTAL POST-CONSTRUCTION CONFERENCE ON SITE WITH THE CONTRACTOR, OWNER'S REPRESENTATIVE, AND GENERAL PERMIT PROGRAM REPRESENTATIVE. ALL PERMANENT E/S CONTROLS MUST BE ACCEPTED BY THE GENERAL PERMIT PROGRAM REPRESENTATIVE. PERMANENT CONTROLS SHALL CONSIST OF REVEGETATION PER DETAILS 602, 604S, AND 609S AS INDICATED ON APPROVED PLANS.

6. FOLLOWING FINAL ACCEPTANCE OF PERMANENT E/S CONTROLS BY THE GENERAL PERMIT PROGRAM REPRESENTATIVE, REMOVE TEMPORARY E/S CONTROLS. CLEAN EXISTING STORM DRAINAGE SYSTEMS AS NECESSARY DUE TO CONSTRUCTION OPERATIONS.

7. DRESS-UP AND RESTORE ANY AREAS DISTURBED BY REMOVAL OF TEMPORARY E/S CONTROLS DESCRIBED ABOVE.

REQUIRED SUBMITTALS:

SUBMITTALS REQUIRED TO BE APPROVED BY GENERAL PERMIT PROGRAM REPRESENTATIVE INCLUDE: SUBMITTALS TRIGGERED BY CITY OF AUSTIN SERIES 600 SPECIFICATIONS AND RELATED SPECIAL PROVISIONS/SPECIFICATIONS, CONSTRUCTION SCHEDULE, TREE PROTECTION, P-6 AND OTHER ROOT ZONE PROTECTION/MITIGATION MEASURES, DEWATERING PLAN, WATERING SCHEDULE FOR REVEGETATION AREAS, AND ANY VEGETATIVE REPLACEMENT PROPOSALS, IF NOT ALREADY PART OF THE PERMITTED PLAN SET.

CITY OF AUSTIN - STANDARD NOTES
TREE AND NATURAL AREA PROTECTION
(MODIFIED FOR USE ON GENERAL PERMIT PROJECTS)

1. ALL TREES AND NATURAL AREAS SHOWN ON PLAN TO BE PRESERVED SHALL BE PROTECTED DURING CONSTRUCTION WITH TEMPORARY MEASURES.

2. PROTECTIVE MEASURES SHALL BE INSTALLED ACCORDING TO CITY OF AUSTIN STANDARDS FOR TREE PROTECTION.

3. PROTECTIVE MEASURES SHALL BE INSTALLED PRIOR TO THE START OF ANY SITE PREPARATION WORK (CLEARING, GRUBBING OR GRADING), AND SHALL BE MAINTAINED THROUGHOUT ALL PHASES OF THE PROJECT.

4. EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSTALLED OR MAINTAINED IN A MANNER WHICH DOES NOT RESULT IN SOIL BUILD-UP, COMPACTION OR CUTTING OF CRITICAL ROOT ZONE WITHIN TREE DRIP LINES.

5. TREE PROTECTION SHALL COMPLETELY SURROUND THE TREES OR GROUP OF TREES AND WILL BE LOCATED AT THE OUTERMOST LIMIT OF BRANCHES (DRIP LINE). FOR NATURAL AREAS, PROTECTIVE MEASURES SHALL FOLLOW THE LIMIT OF CONSTRUCTION LINE, IN ORDER TO PREVENT THE FOLLOWING:

A. SOIL COMPACTION IN THE ROOT ZONE AREA RESULTING FROM VEHICULAR TRAFFIC OR STORAGE OF EQUIPMENT OR MATERIALS;
B. ROOT ZONE DISTURBANCES DUE TO GRADE CHANGES (GREATER THAN 6 INCHES CUT OR FILL) OR TRENCHING NOT REVIEWED AND AUTHORIZED BY THE GENERAL PERMIT PROGRAM OFFICE OF THE PLANNING AND DEVELOPMENT REVIEW DEPARTMENT;
C. WOUNDS TO EXPOSED ROOTS, TRUNK OR LIMBS BY MECHANICAL EQUIPMENT;
D. OTHER ACTIVITIES DETRIMENTAL TO TREES SUCH AS CHEMICAL STORAGE, CEMENT TRUCK CLEANING, AND FIRES.

6. EXCEPTIONS TO INSTALLING PROTECTIVE FENCES AT CRITICAL ROOT ZONES MAY BE PERMITTED IN THE FOLLOWING CASES:

A. WHERE THERE IS TO BE AN APPROVED GRADE CHANGE, IMPERMEABLE PAVING SURFACE, TREE WELL, OR OTHER SUCH SITE DEVELOPMENT, ERECT THE FENCE APPROXIMATELY 2 FEET BEYOND THE AREA DISTURBED;
B. WHERE PERMEABLE PAVING IS TO BE INSTALLED, ERECT THE FENCE AT THE OUTER LIMITS OF THE PERMEABLE PAVING AREA;
C. WHERE TREES ARE CLOSE TO PROPOSED BUILDINGS, ERECT THE FENCE NO CLOSER THAN 6 FEET TO THE BUILDING;
D. WHERE THERE ARE SEVERE SPACE CONSTRAINTS DUE TO TRACT SIZE, OR OTHER SPECIAL REQUIREMENTS, CONTACT THE GENERAL PERMIT PROGRAM OFFICE AT 974-6330 TO DISCUSS ALTERNATIVES.

SPECIAL NOTE: FOR THE PROTECTION OF NATURAL AREAS, NO EXCEPTIONS TO INSTALLING FENCES AT THE LIMIT OF CONSTRUCTION LINE WILL BE PERMITTED.

WHERE ANY OF THE ABOVE EXCEPTIONS RESULT IN A FENCE 5 FEET OR CLOSER TO A TREE TRUNK, PROTECT THE TRUNK WITH STRAPPED-ON PLANKING TO A HEIGHT OF 8 FEET (OR TO THE LIMITS OF LOWER BRANCHING) IN ADDITION TO THE REDUCED FENCING.

7. WHERE ANY OF THE ABOVE EXCEPTIONS RESULT IN AREAS OF UNPROTECTED ROOT ZONES, THOSE AREAS SHOULD BE COVERED WITH 12 INCHES OF ORGANIC MULCH TO MINIMIZE SOIL COMPACTION DURING CONSTRUCTION. FILTER FABRIC UNDERLAYMENT MAY BE REQUIRED AT DIRECTION OF GENERAL PERMIT PROGRAM REPRESENTATIVE BASED ON SITE CONDITIONS AND CONSTRUCTION ACTIVITIES. MAXIMUM FOUR (4) INCHES DEPTH MAY BE LEFT IN PLACE AFTER CONSTRUCTION WITH APPROVAL FROM THE GENERAL PERMIT PROGRAM REPRESENTATIVE.

8. ALL GRADING WITHIN PROTECTED ROOT ZONE AREAS SHALL BE DONE BY HAND OR WITH SMALL EQUIPMENT TO MINIMIZE ROOT DAMAGE. PRIOR TO GRADING, RELOCATE PROTECTIVE FENCES TO 2 FEET BEHIND THE GRADE CHANGE AREA.

9. ANY ROOTS EXPOSED BY CONSTRUCTION ACTIVITY SHALL BE PRUNED FLUSH WITH THE SOIL. BACKFILL ROOT AREAS WITH GOOD QUALITY TOP SOIL AS SOON AS POSSIBLE. IF EXPOSED ROOT AREAS ARE NOT BACKFILLED WITHIN 2 DAYS, COVER THEM WITH ORGANIC MATERIAL IN A MANNER WHICH REDUCES SOIL TEMPERATURE AND MINIMIZES WATER LOSS DUE TO EVAPORATION.

10. PRIOR TO EXCAVATION OR GRADE CUTTING WITHIN TREE DRIPLINES, MAKE A CLEAN CUT BETWEEN THE DISTURBED AND UNDISTURBED ROOT ZONES WITH A ROCK SAW OR SIMILAR EQUIPMENT TO MINIMIZE DAMAGE TO REMAINING ROOTS.

11. TREES MOST HEAVILY IMPACTED BY CONSTRUCTION ACTIVITIES SHOULD BE WATERED DEEPLY ONCE A WEEK DURING PERIODS OF HOT, DRY WEATHER. TREE CROWNS SHOULD BE SPRAYED WITH WATER PERIODICALLY TO REDUCE DUST ACCUMULATION ON THE LEAVES.

12. ANY TRENCHING REQUIRED FOR THE INSTALLATION OF LANDSCAPE IRRIGATION SHALL BE PLACED AS FAR FROM EXISTING TREE TRUNKS AS POSSIBLE.

13. NO LANDSCAPE TOPSOIL DRESSING GREATER THAN 4 INCHES SHALL BE PERMITTED WITHIN THE DRIPLINE OF TREES. NO SOIL IS PERMITTED ON THE ROOT FLARE OF ANY TREE.

14. PRUNING TO PROVIDE CLEARANCE FOR STRUCTURES, VEHICULAR TRAFFIC AND EQUIPMENT SHALL TAKE PLACE BEFORE CONSTRUCTION BEGINS. SEE NOTE FOUR (4) OF SUPPLEMENTAL TREE PROTECTION NOTES FOR ADDITIONAL REQUIREMENTS.

15. ALL FINISHED PRUNING MUST BE DONE ACCORDING TO RECOGNIZED, APPROVED STANDARDS OF THE INDUSTRY (REFERENCE THE NATIONAL ARBORIST ASSOCIATION PRUNING STANDARDS FOR SHADE TREES AVAILABLE ON REQUEST FROM THE GENERAL PERMIT PROGRAM OFFICE).

16. DEVIATIONS FROM THE ABOVE NOTES MAY BE CONSIDERED ORDINANCE VIOLATIONS IF THERE IS SUBSTANTIAL NONCOMPLIANCE OR IF A TREE SUSTAINS DAMAGE AS A RESULT.

17. TREES APPROVED FOR REMOVAL SHALL BE REMOVED IN A MANNER WHICH DOES NOT IMPACT TREES TO BE PRESERVED.

SUPPLEMENTAL TREE PROTECTION NOTES

1. ALL TREE PROTECTION MUST COMPLY WITH CITY OF AUSTIN REQUIREMENTS AS OUTLINED IN THE ENVIRONMENTAL CRITERIA MANUAL AND AS INDICATED BY STANDARD COA NOTES AND DETAILS INCLUDED WITHIN THIS DOCUMENT SET.CONTRACTOR SHALL INSTALL PROTECTION PRIOR TO PRE-CONSTRUCTION CONFERENCE, MAKE ADJUSTMENTS TO PROTECTION AS DIRECTED BY THE GPP REPRESENTATIVE, AND MAINTAIN PROTECTION UNTIL PROJECT IS COMPLETE.

2. TYPE AND LOCATION OF ALL TREE PROTECTION MUST BE APPROVED IN THE FIELD BY THE GENERAL PERMIT PROGRAM (GPP) REPRESENTATIVE PRIOR TO CONSTRUCTION.

3. WALK-THROUGH: CONTRACTOR SHALL CONDUCT WALK-THROUGH MEETING WITH GENERAL PERMIT PROGRAM REPRESENTATIVE PRIOR TO PERFORMING ANY PRUNING ACTIVITIES ON TREES IN PROJECT AREA. PURPOSE OF WALK-THROUGH WILL BE TWOFOLD. ONE PURPOSE WILL BE TO DETERMINE THE MINIMUM AMOUNT OF PRUNING NECESSARY TO ALLOW CONSTRUCTION WORK TO BE COMPLETED. SECOND PURPOSE WILL BE TO DETERMINE AREAS OF PROJECT IN WHICH EXHAUST DIVERTERS WILL BE REQUIRED ON CONSTRUCTION EQUIPMENT TO PREVENT SCORCHING OF EXISTING TREES.

4. ALL PRUNING MUST BE PERFORMED IN ACCORDANCE WITH ANSI A300 (PART 1) - 2001 AMERICAN NATIONAL STANDARD FOR TREE CARE OPERATIONS (PRUNING), OR LATEST APPROVED VERSION. THIS DOCUMENT MAY BE OBTAINED ONLINE FOR A FEE AT WWW.ANSI.ORG.

5. PRUNING SHALL BE DONE WITH CLEAN, SHARP TOOLS. TO PREVENT BARK TEARS, THE WEIGHT OF THE BRANCH SHALL BE REMOVED BEFORE MAKING FINAL PRUNING CUT.

6. ALL PRUNING SHALL PRESERVE THE NATURAL CHARACTER OF THE TREE.

7. ONLY COLLAR CUTS ARE ACCEPTABLE. NO FLUSH CUTS OR STUB CUTS WILL BE ALLOWED.

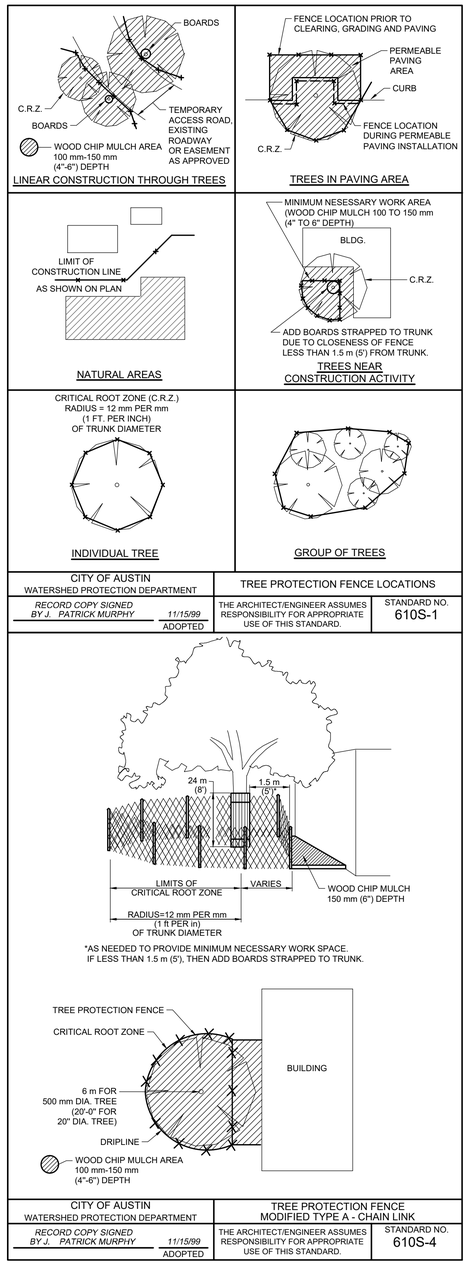
8. ALL BRANCHES THAT ARE BROKEN OR DAMAGED DURING CONSTRUCTION SHALL BE REMOVED.

9. PRUNING CUTS OR DAMAGED AREAS ON AN OAK TREE SHALL BE PAINTED WITHIN FIVE MINUTES WITH A STANDARD TREE WOUND DRESSING. TREE WOUND DRESSING SHALL BE EITHER TREEKOTE AEROSOL OR TANGLEFOOT PRUNING SEALER (OR APPROVED EQUAL). THIS ALSO APPLIES TO WOUNDS CREATED BY CONSTRUCTION VEHICLES OR EQUIPMENT. ALL PRUNING MUST BE IN ACCORDANCE WITH COA OAK WILT PREVENTION POLICY.

10. ANY TREE ROOTS THAT ARE EXPOSED, CUT, OR TORN DURING CONSTRUCTION ACTIVITY SHALL BE PRUNED FLUSH WITH THE SURROUNDING SOIL. (REFER ALSO TO NUMBER 9 OF THE TREE AND NATURAL AREA PROTECTION NOTES INCLUDED IN THIS PLAN SET.)

11. ALL TRENCHING WITHIN THE CRITICAL ROOT ZONE OF A TREE TO BE PRESERVED WILL BE SAW CUT OR EXCAVATED BY HAND, AS APPROVED BY THE GENERAL PERMIT PROGRAM ARBORIST.

12. REFER TO ENVIRONMENTAL CRITERIA MANUAL APPENDIX P-6 FOR FURTHER REMEDIAL TREE CARE REQUIREMENTS. P-6 REMEDIAL TREE CARE WILL BE COORDINATED WITH AND APPROVED BY THE GENERAL PERMIT PROGRAM ARBORIST FOR PROJECTS PERMITTED THROUGH THE GENERAL PERMIT PROGRAM.



CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT		TREE PROTECTION FENCE LOCATIONS	
RECORD COPY SIGNED *BY J. PATRICK MURPHY*	*11/15/99* ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 610S-1

*AS NEEDED TO PROVIDE MINIMUM NECESSARY WORK SPACE.
IF LESS THAN 1.5 m (5'), THEN ADD BOARDS STRAPPED TO TRUNK.

CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT		TREE PROTECTION FENCE MODIFIED TYPE A - CHAIN LINK	
RECORD COPY SIGNED *BY J. PATRICK MURPHY*	*11/15/99* ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 610S-4

GENERAL PERMIT OFFICE
TREE PROTECTION
AND ENVIRONMENTAL NOTES
CITY OF AUSTIN STANDARD NOTES AND DETAILS

PERMIT PROGRAM

GENERAL

NO.	BY	DATE	REVISIONS REMARKS

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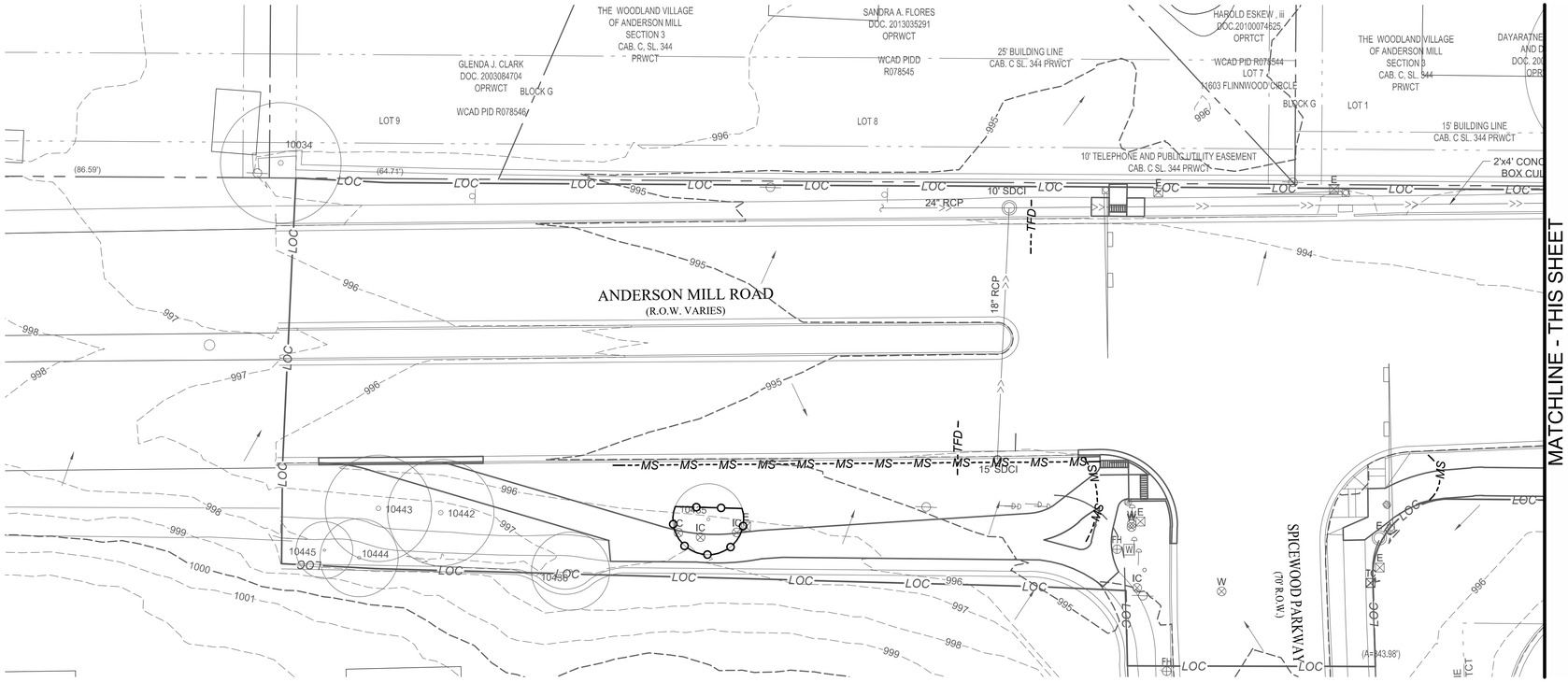

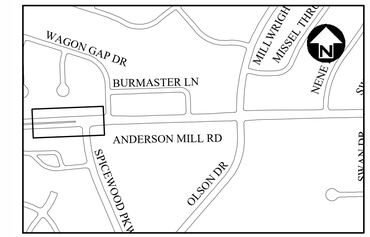

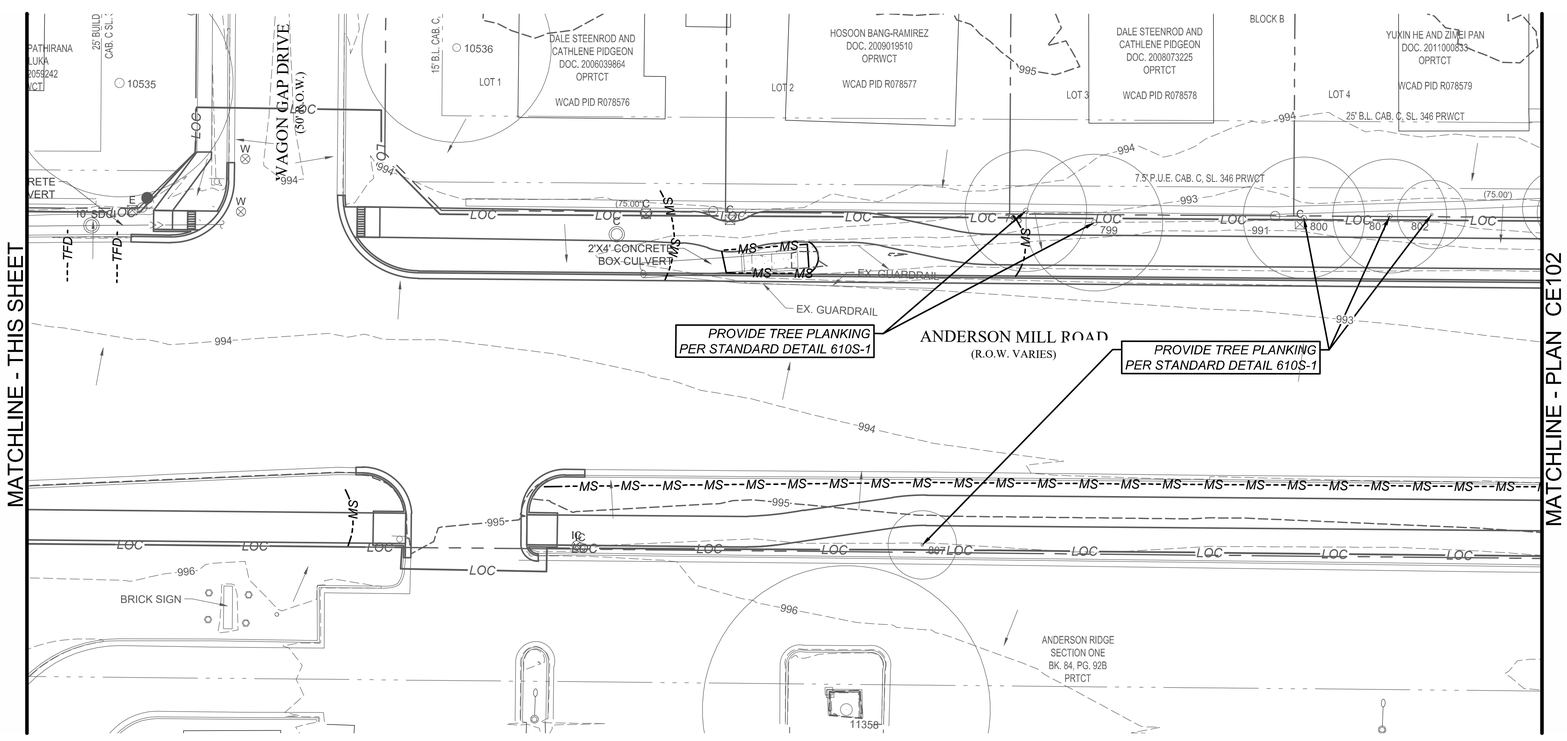

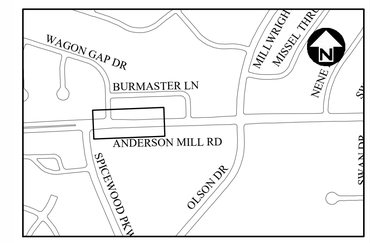

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STATE OF TEXAS
XIAOQIN ZHANG, P.E.
96436
LICENSED
PROFESSIONAL ENGINEER
01/29/2020

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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

EROSION & SEDIMENTATION CONTROL PLAN
SHEET 1 OF 8

CITY OF AUSTIN FOUNDED 1839

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REVIEWED BY	ESD	9/18

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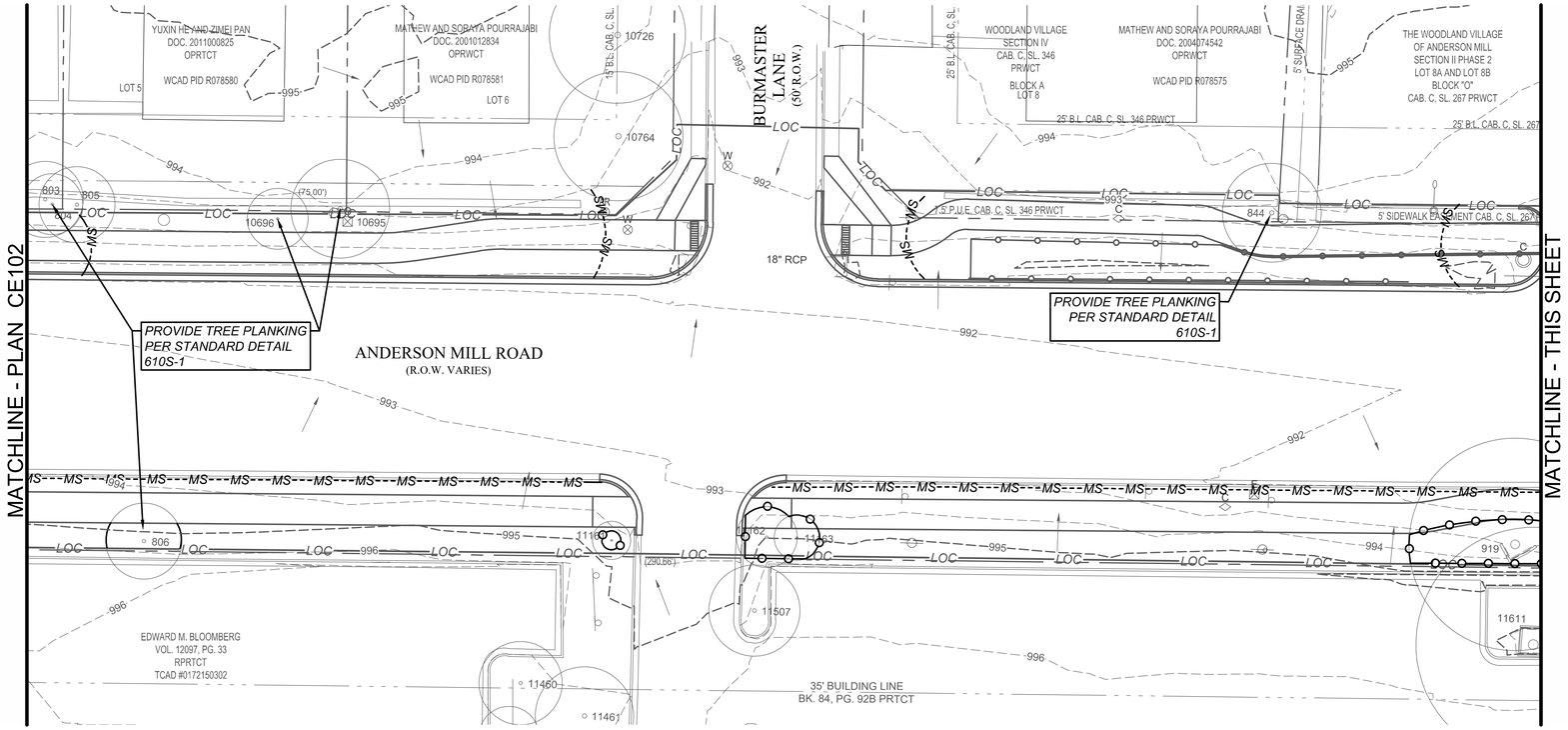

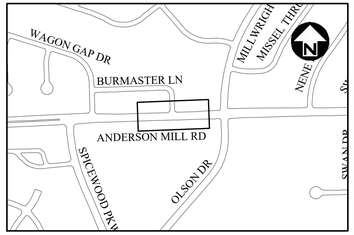

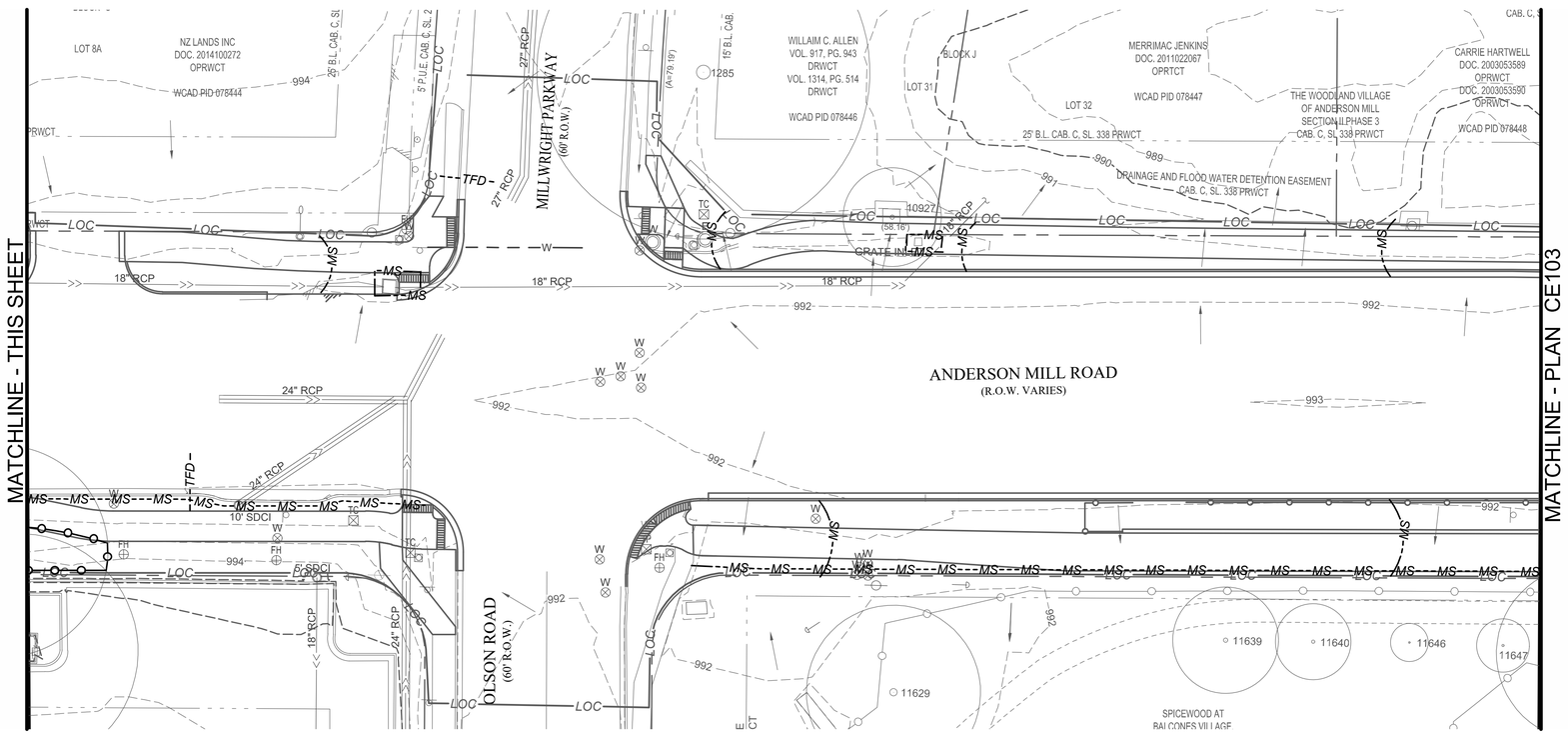

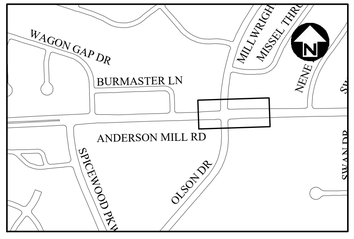

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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

EROSION & SEDIMENTATION CONTROL PLAN
SHEET 2 OF 8

CITY OF AUSTIN
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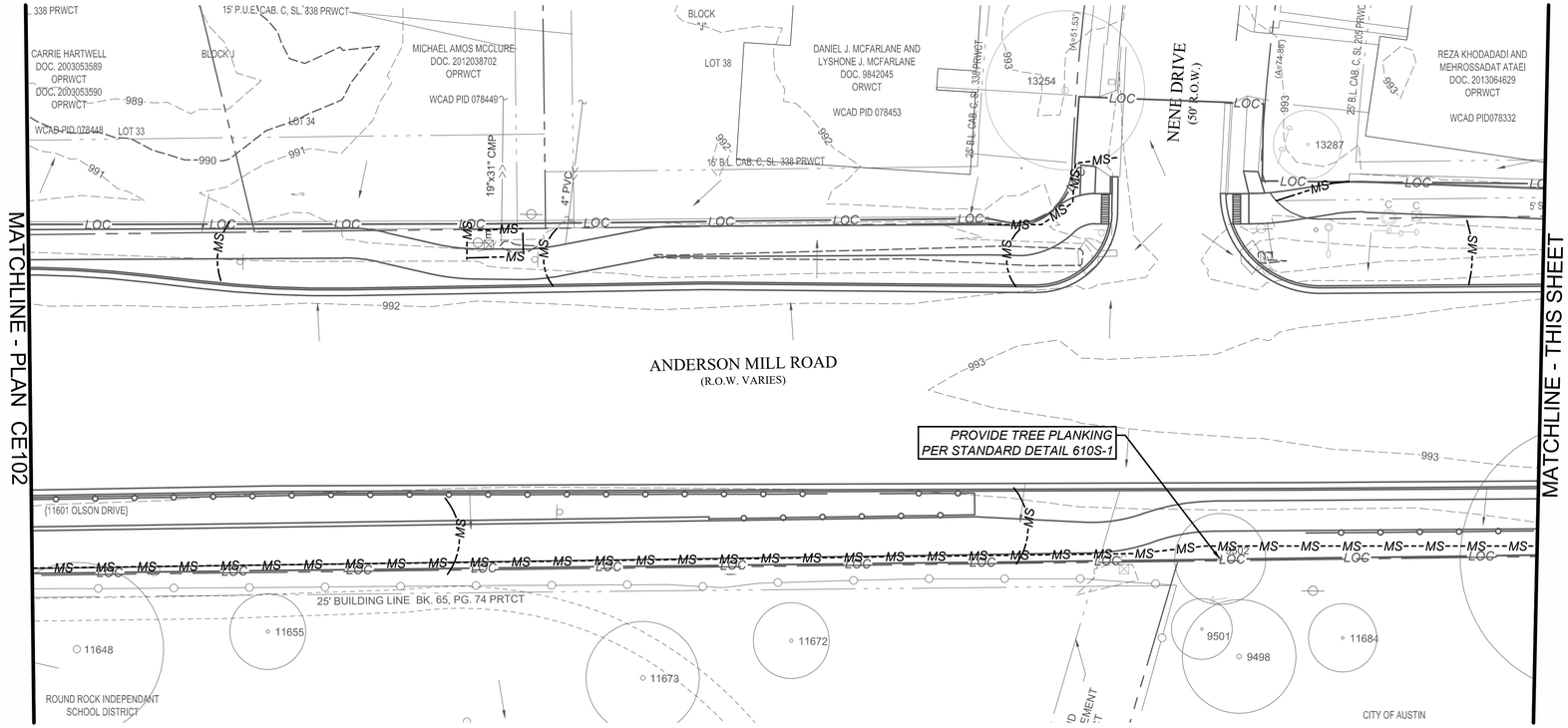

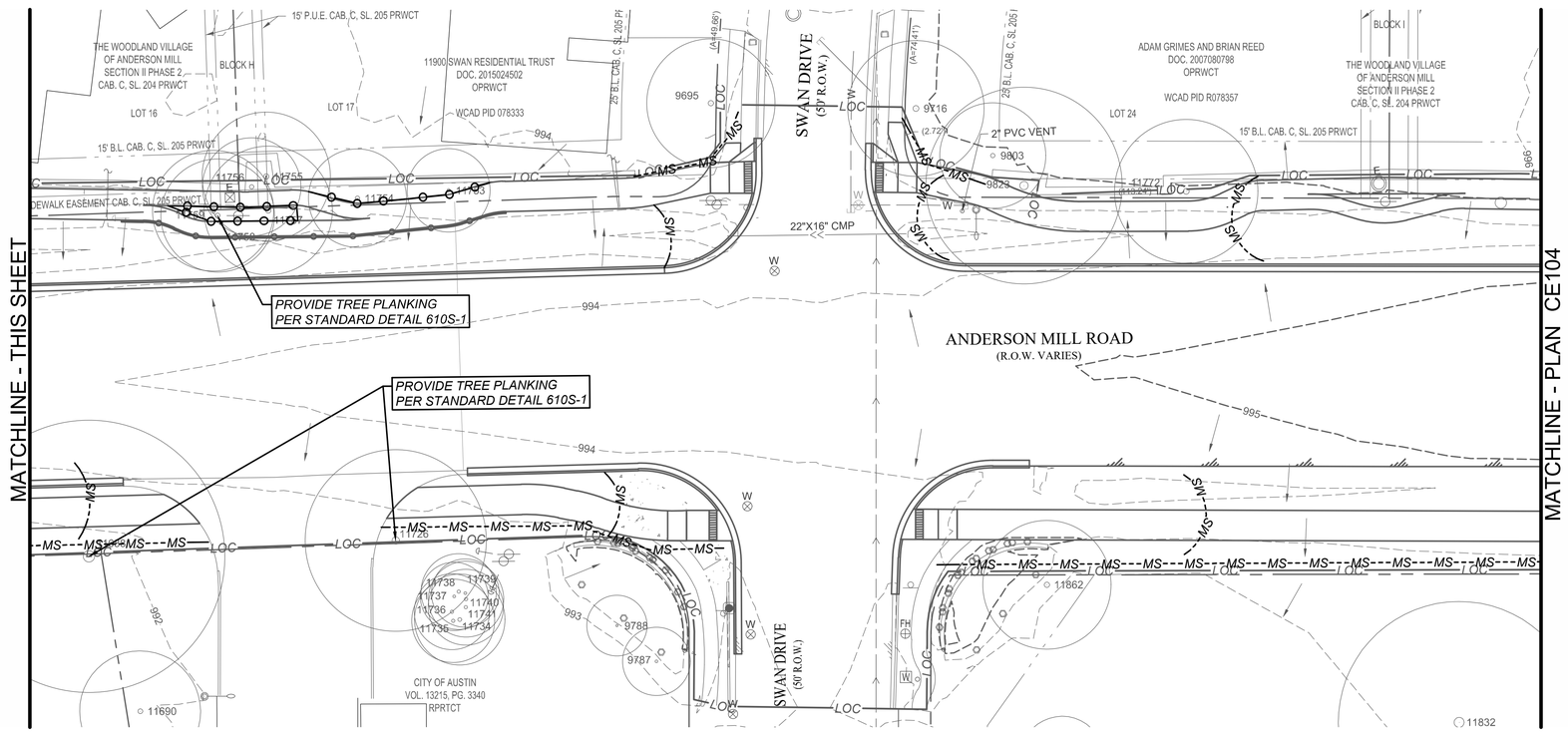

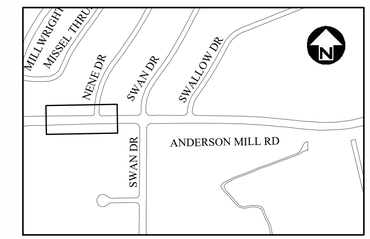

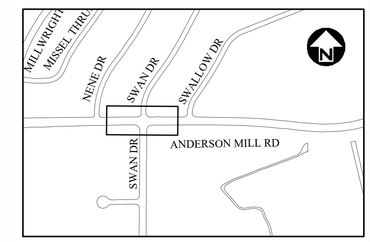

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ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

EROSION & SEDIMENTATION CONTROL PLAN
SHEET 3 OF 8

CITY OF AUSTIN
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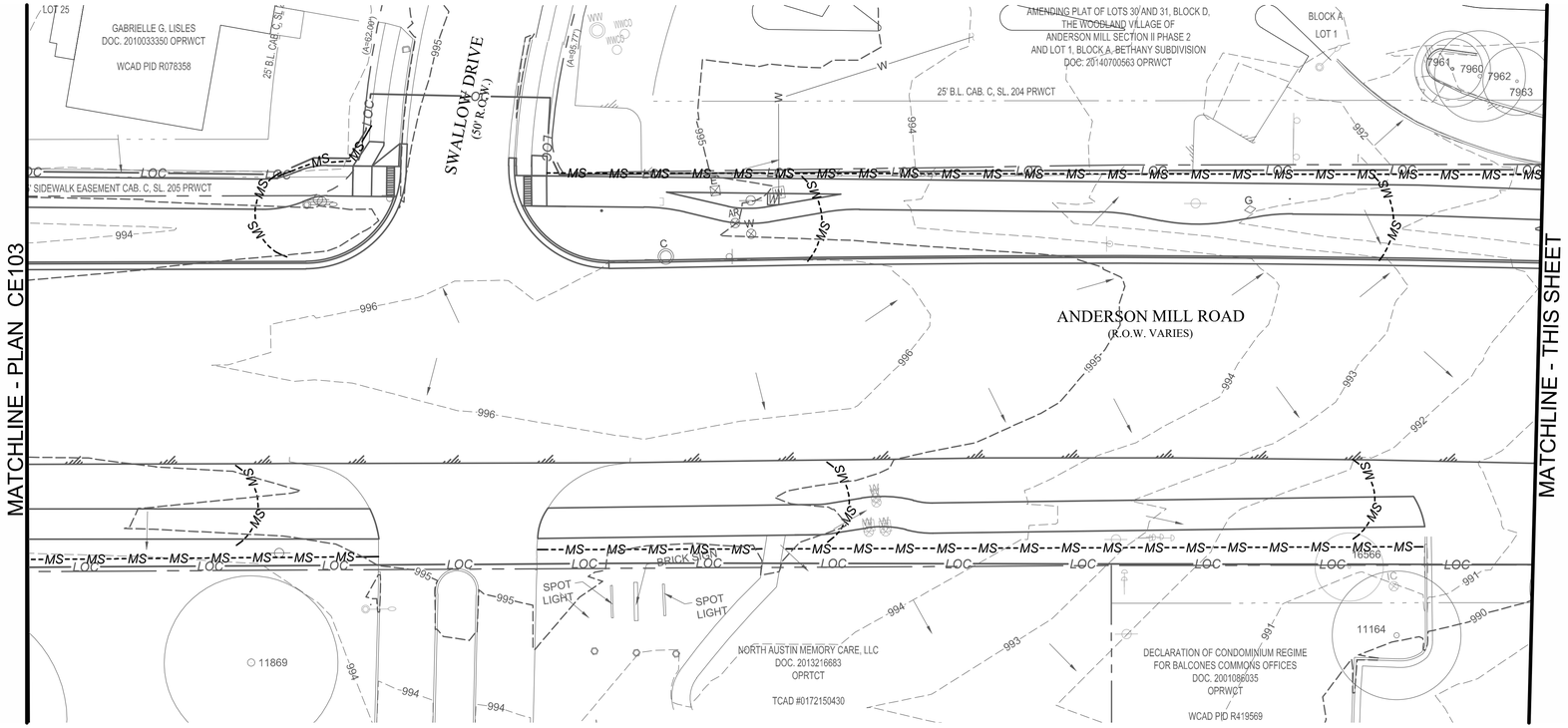

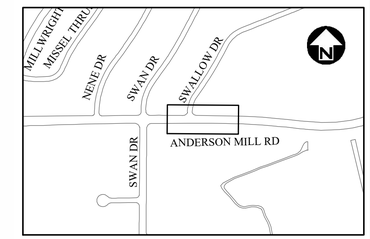

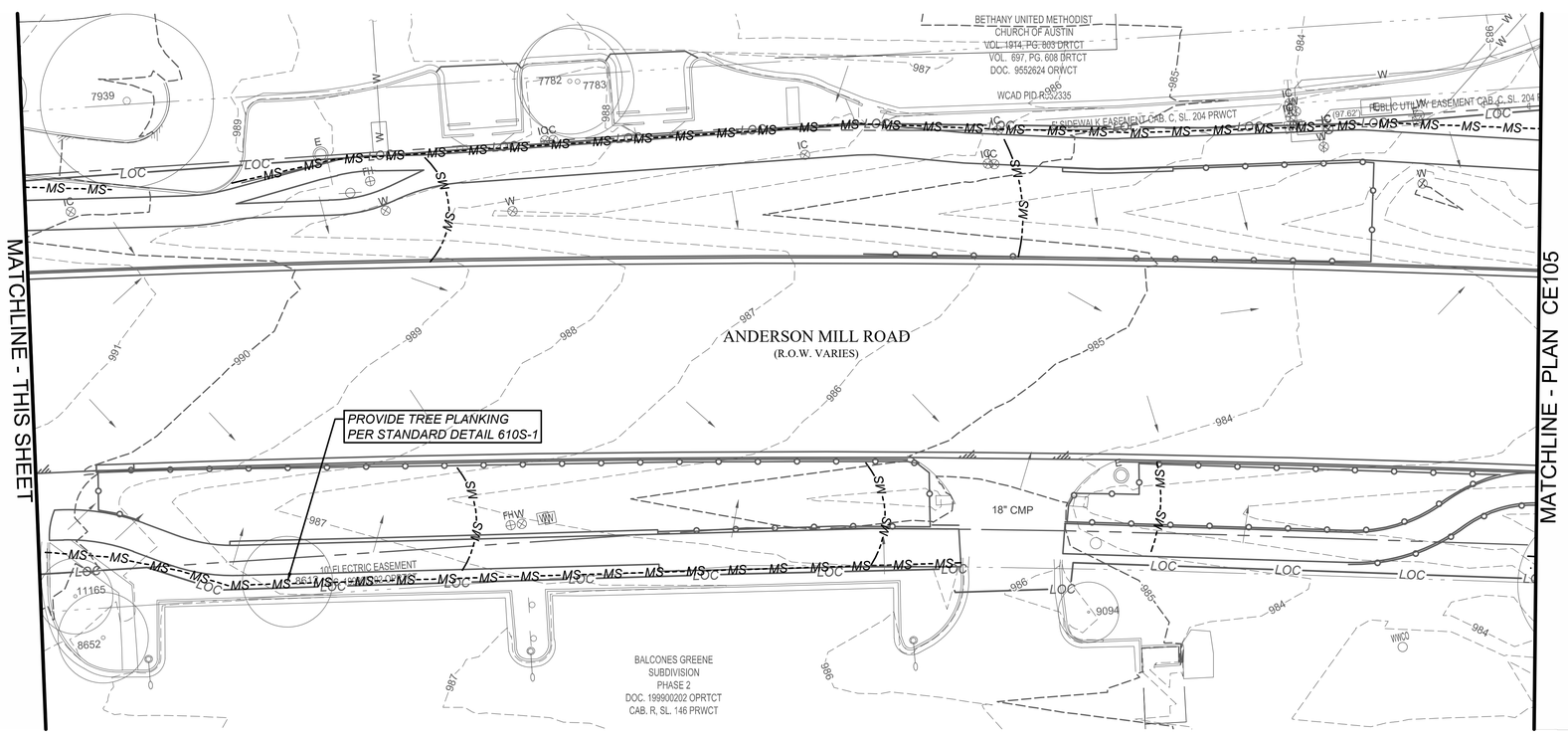

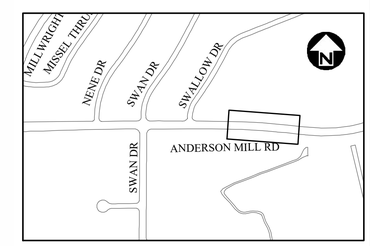

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ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

EROSION & SEDIMENTATION CONTROL PLAN
SHEET 4 OF 8

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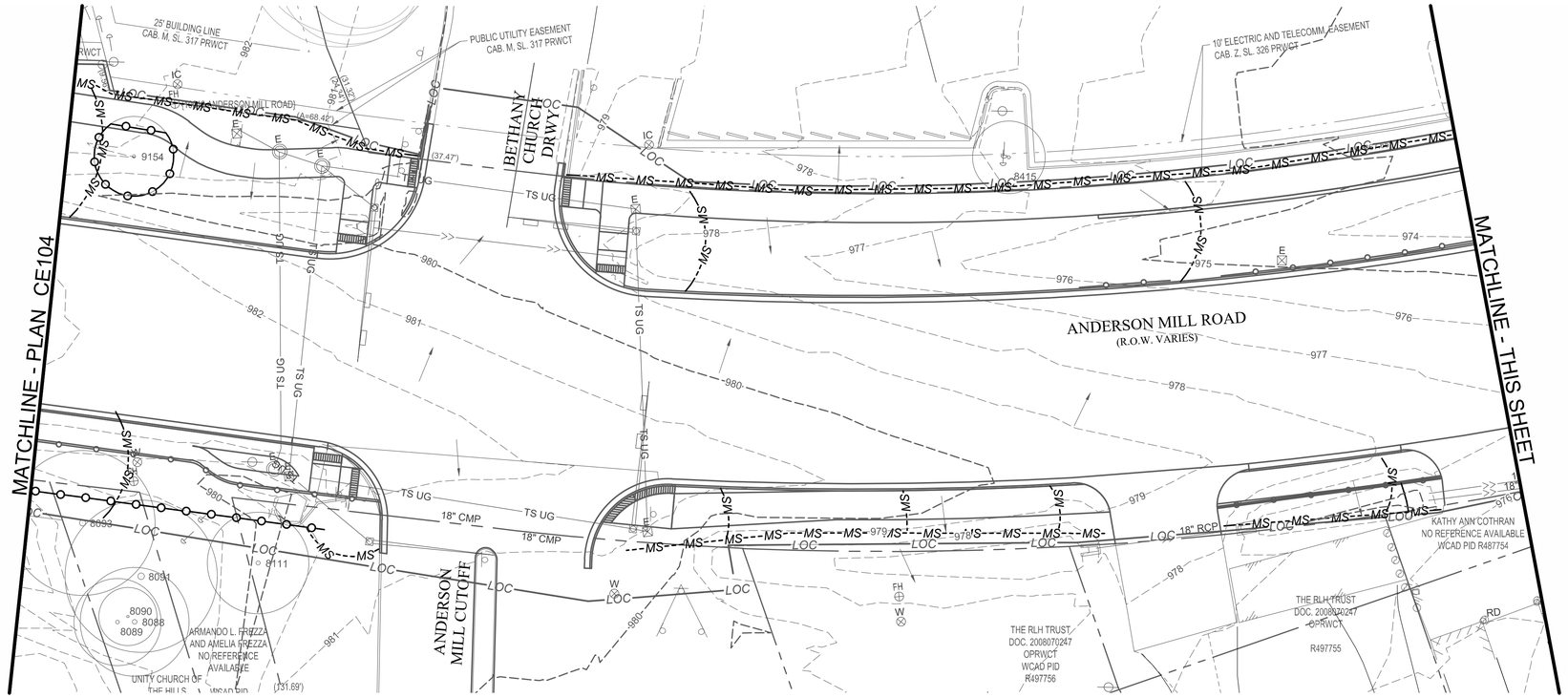

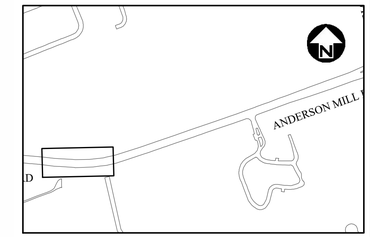

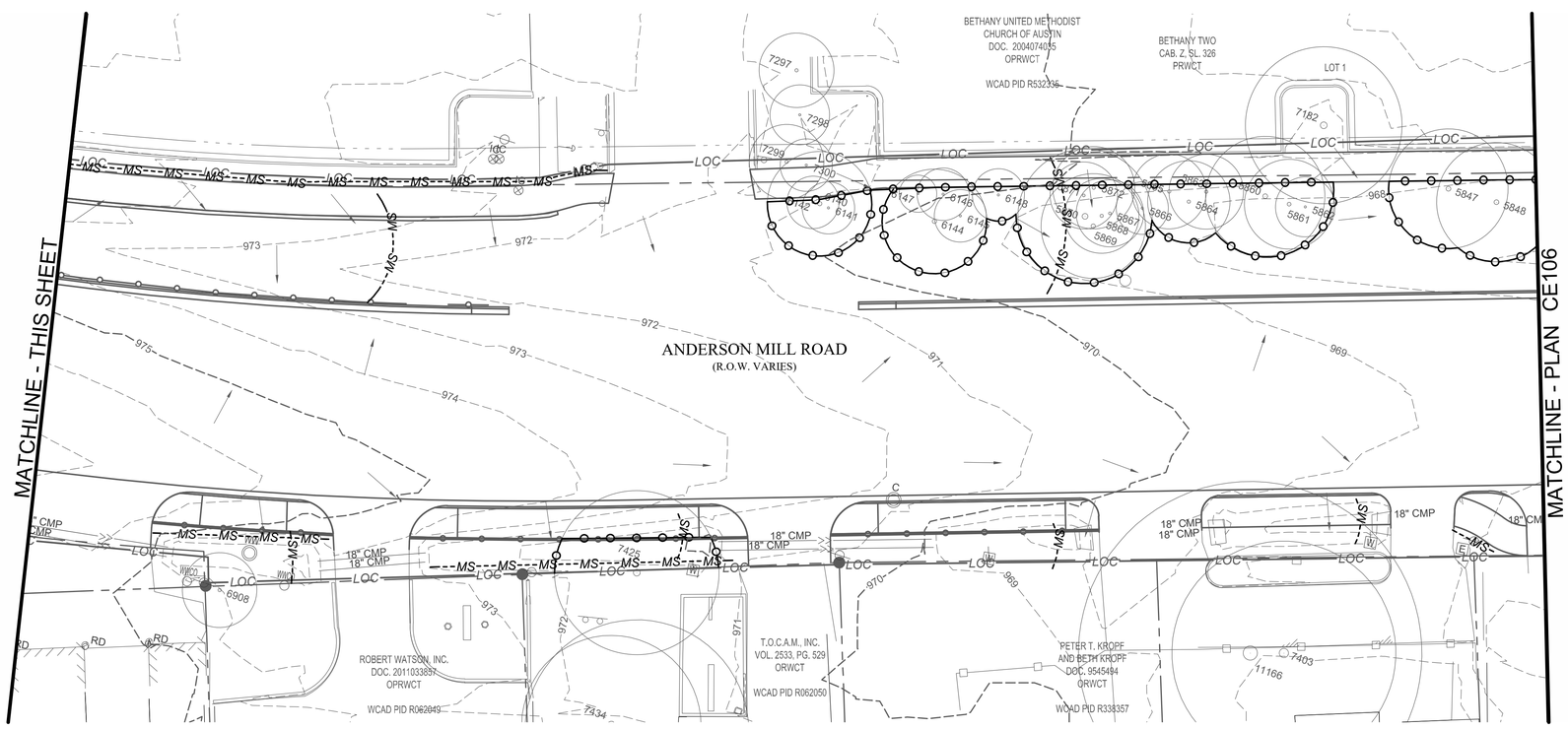

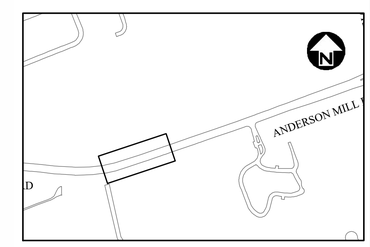

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ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

EROSION & SEDIMENTATION CONTROL PLAN
SHEET 5 OF 8

CITY OF AUSTIN
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CE105 | 21 OF 142

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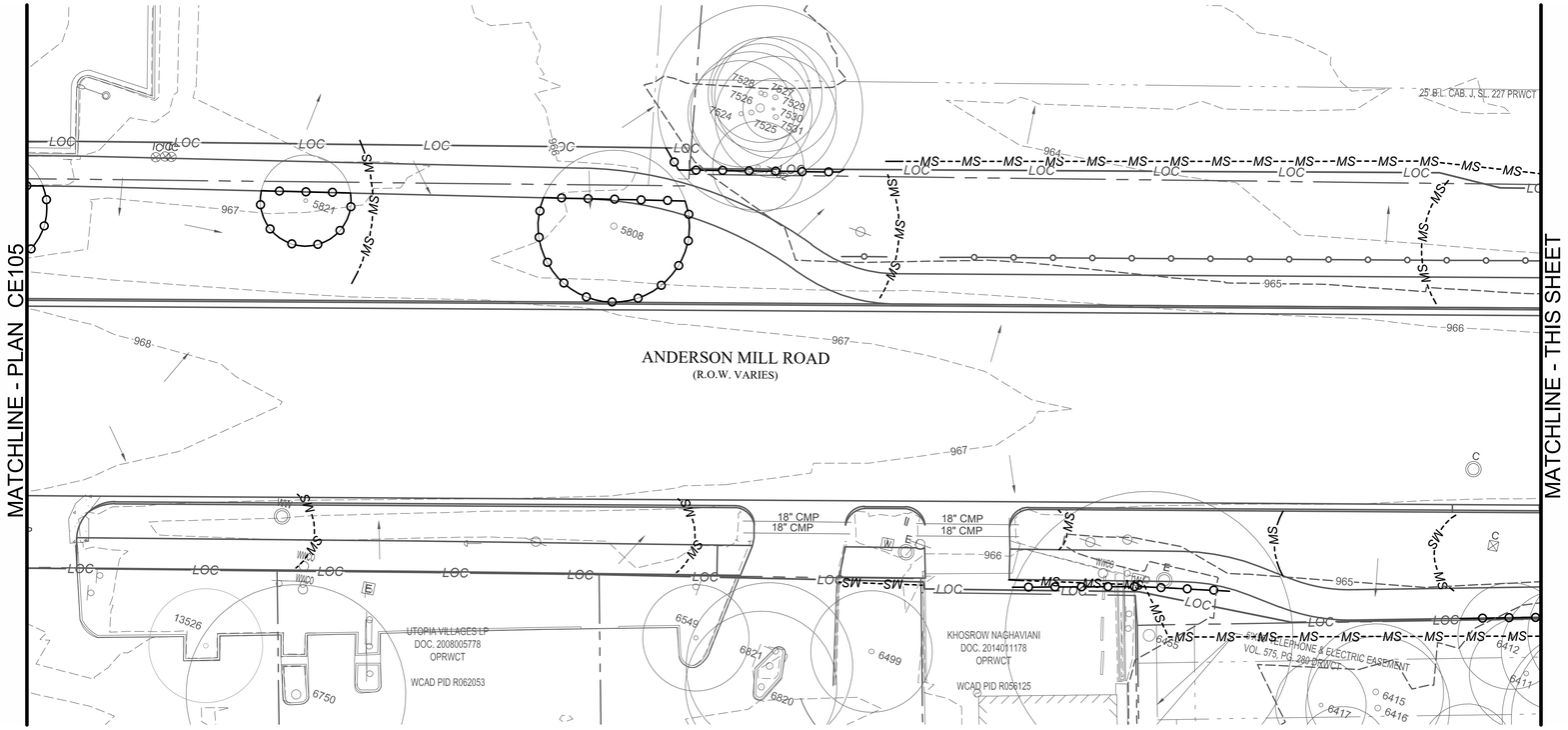

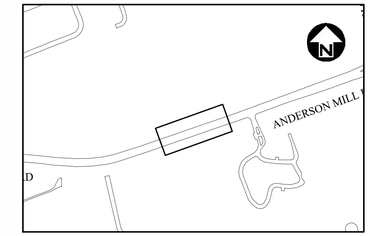

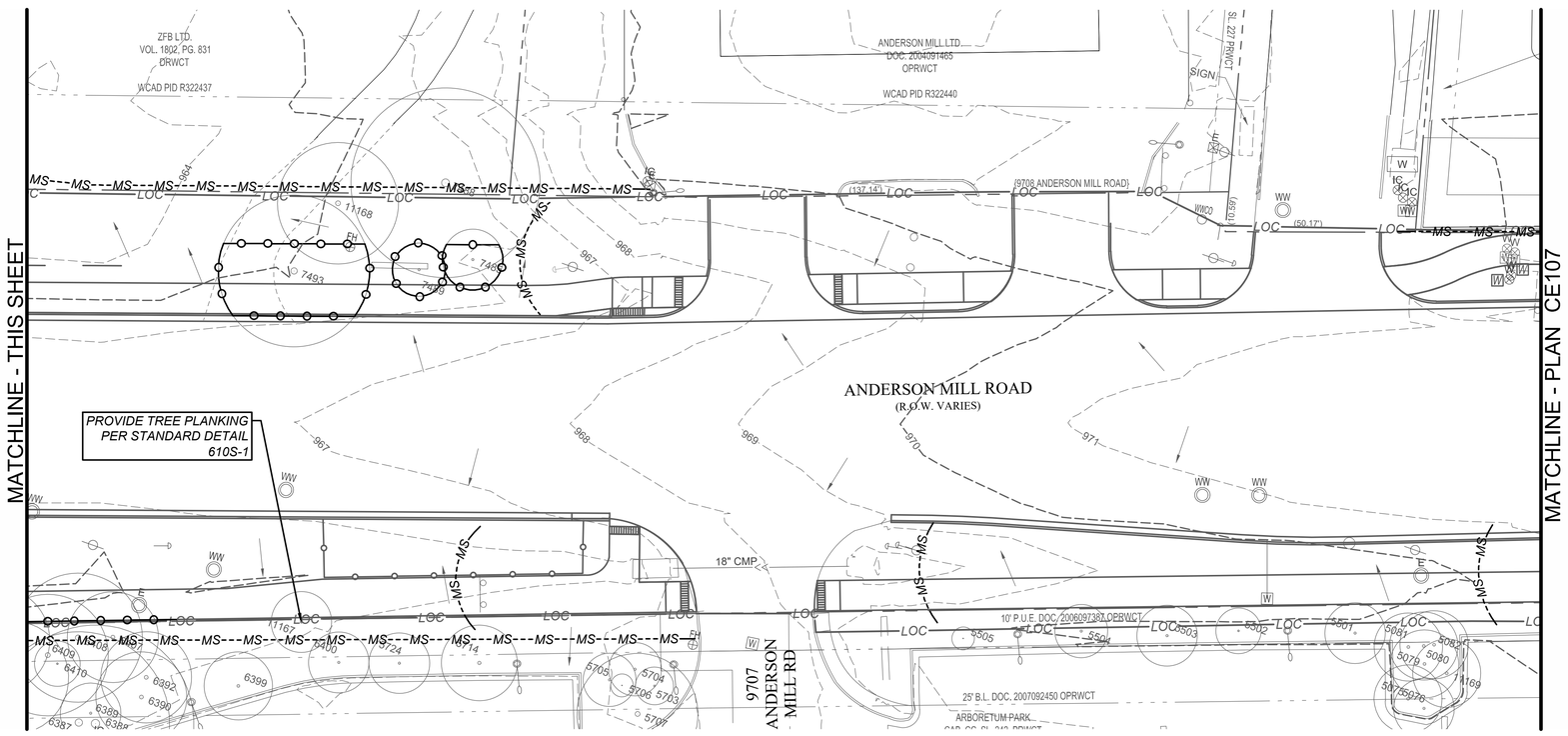

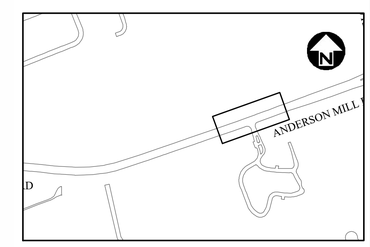

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DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

EROSION & SEDIMENTATION CONTROL PLAN
SHEET 6 OF 8

CITY OF AUSTIN
FOUNDED 1839

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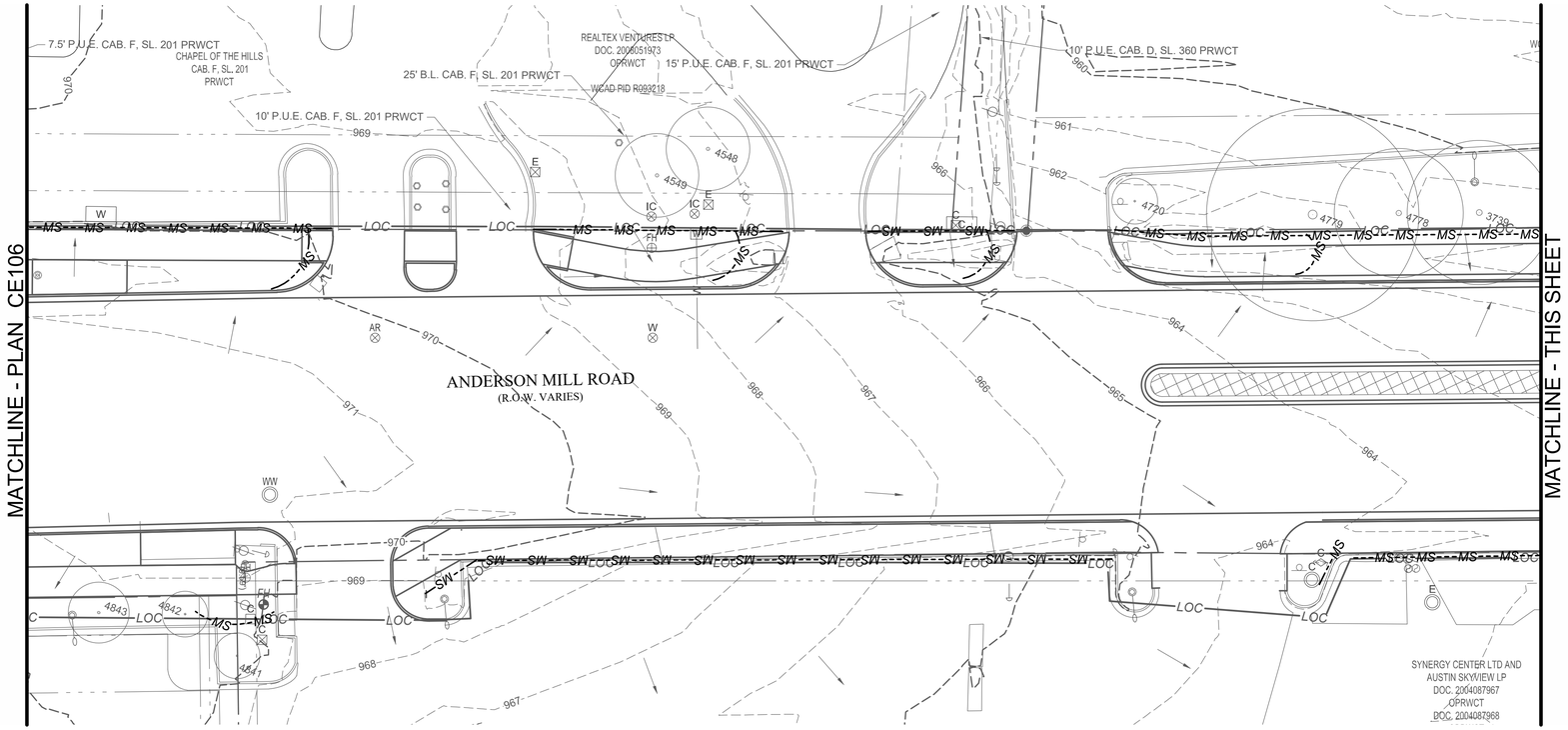

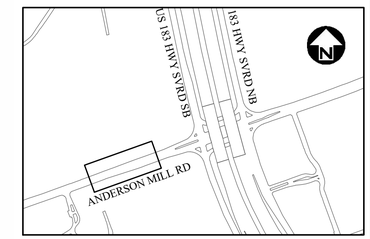

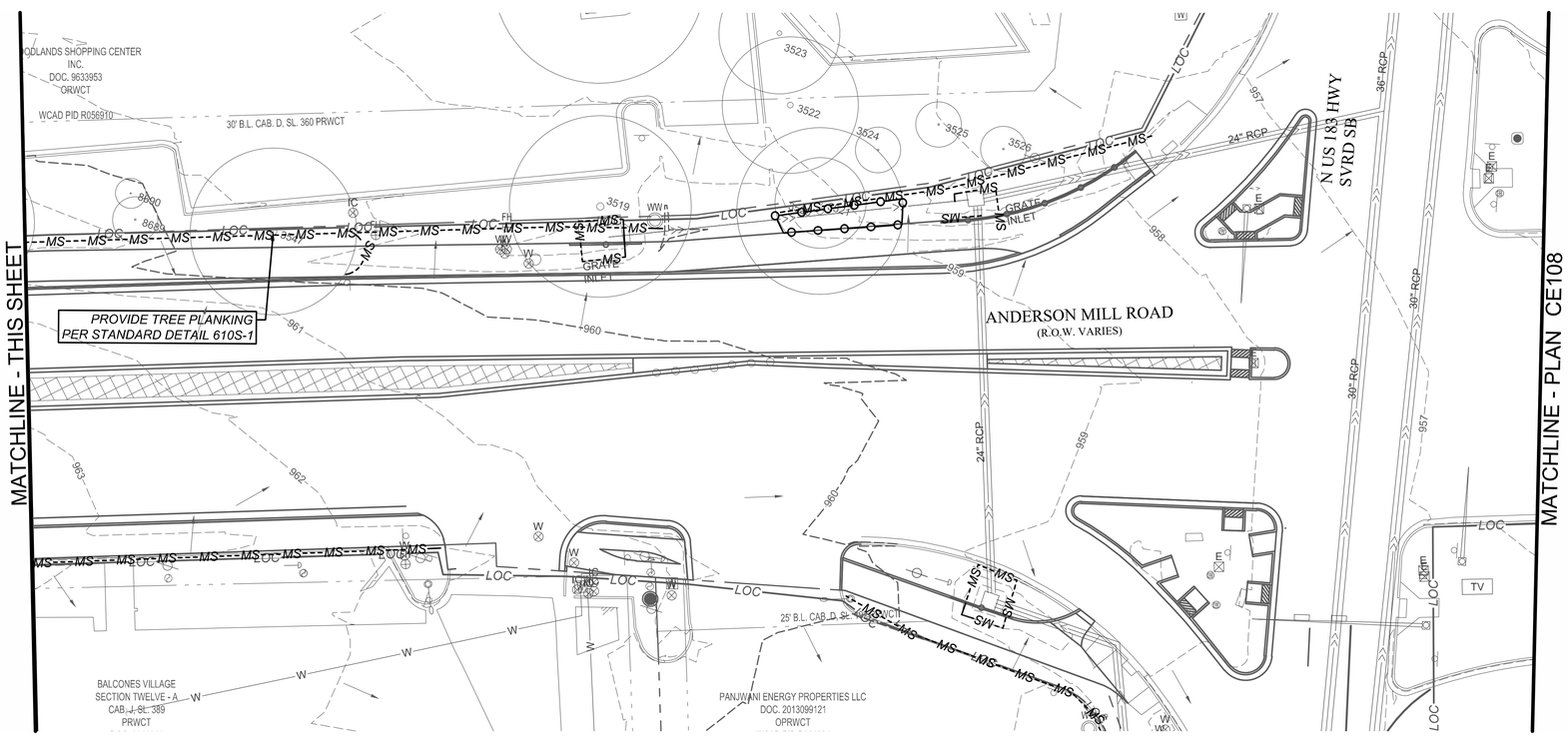

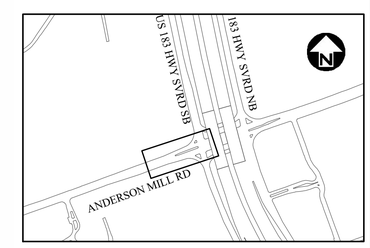

REV NO.	BY	DATE	REVISION DESCRIPTION

STATE OF TEXAS
XIAOQIN ZHANG, P.E.
96436
LICENSED
PROFESSIONAL ENGINEER
01/29/2020

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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

EROSION & SEDIMENTATION CONTROL PLAN
SHEET 7 OF 8

CITY OF AUSTIN
FOUNDED 1839

NOTES	NAME	DATE
SURVEY BY	N/A	N/A
DRAWN BY	JT/JP	9/18
DESIGNED BY	JT/EZ	9/18
CHECKED BY	EZ/CG	9/18
REVIEWED BY	ESD	9/18

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HORIZONTAL SCALE IN FEET
0 20 40
HORIZONTAL SCALE IN FEET

GP-2019-0210.ATD

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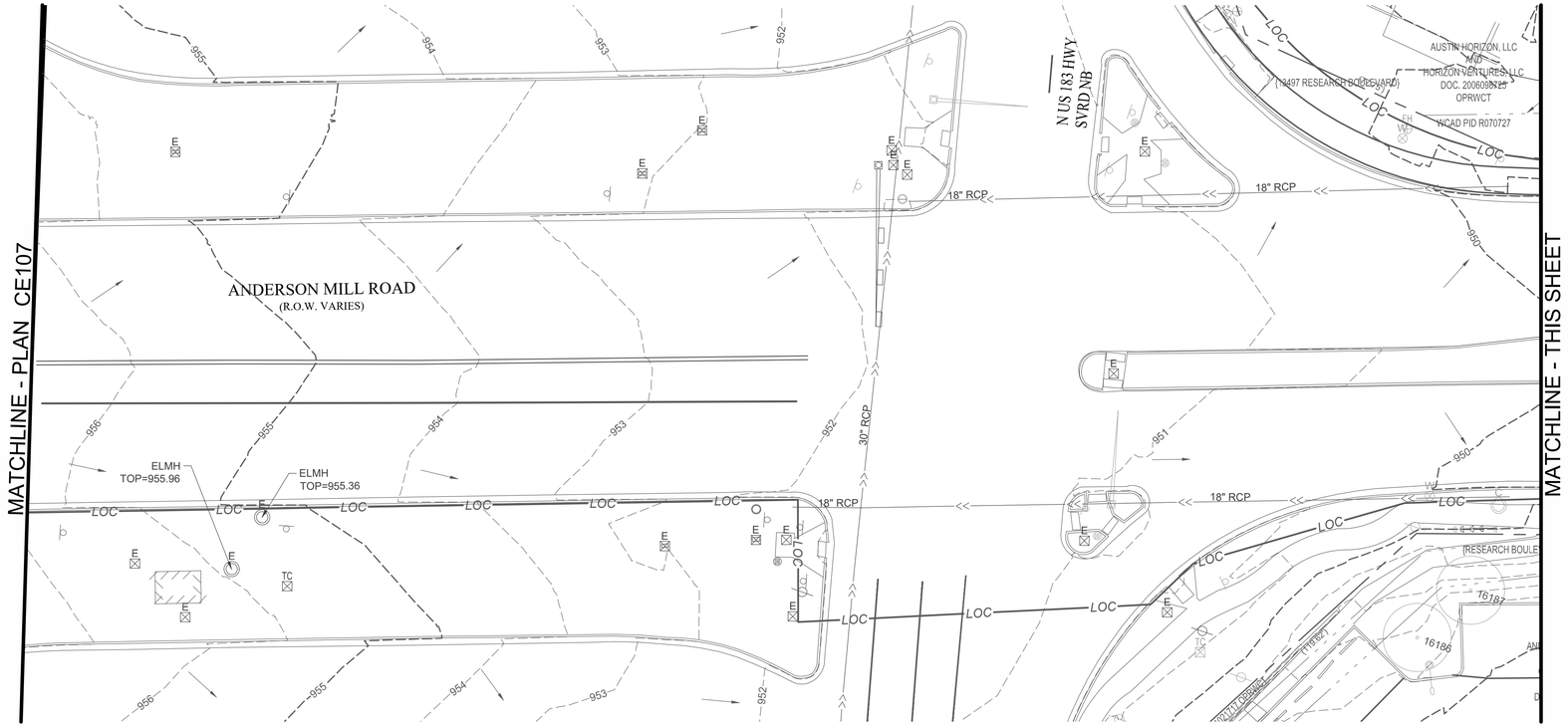
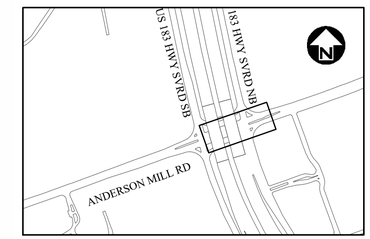
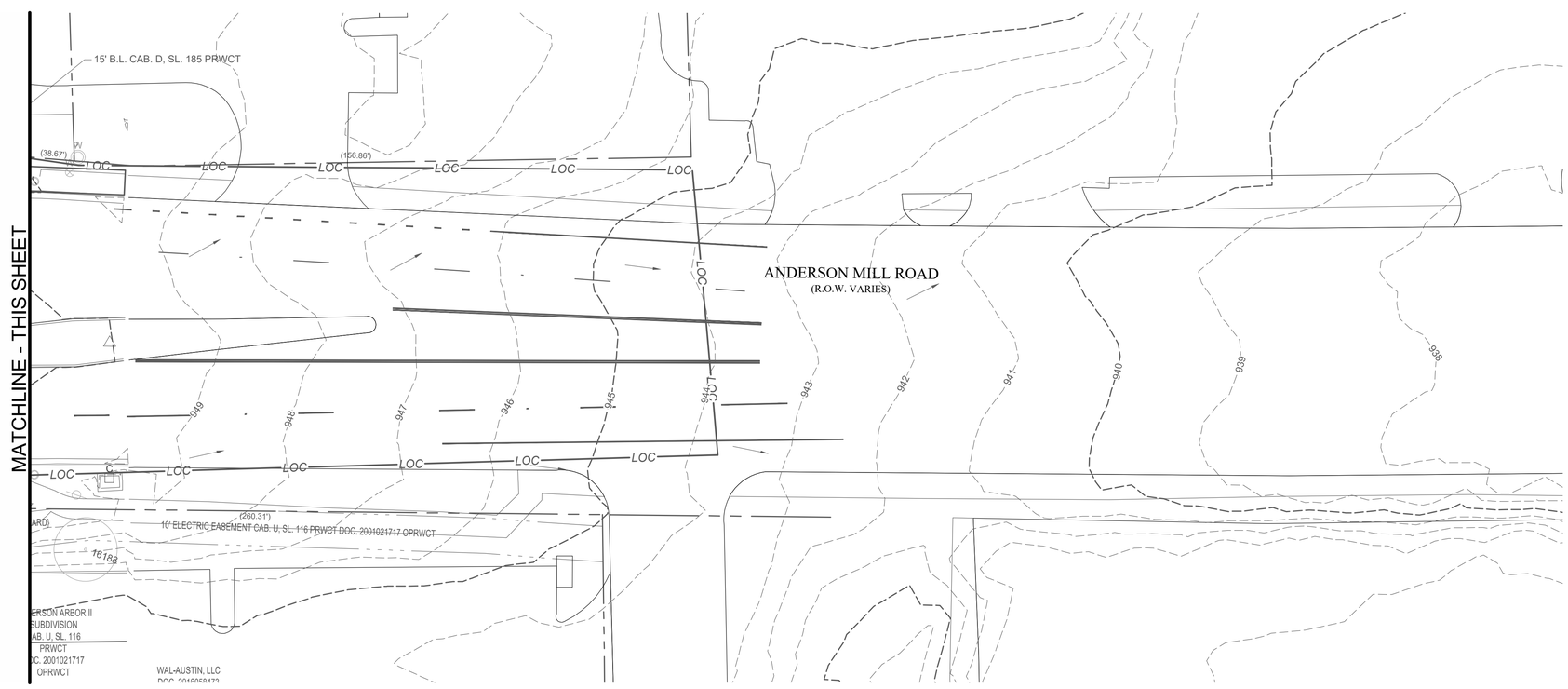
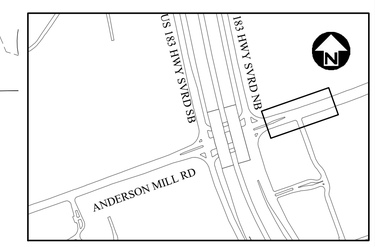
1/29/2020 9:57 AM
THIVAKARAN, JOTHIKA









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ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

EROSION & SEDIMENTATION CONTROL PLAN
SHEET 8 OF 8

CITY OF AUSTIN
FOUNDED 1839

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DESIGNED BY	JT/EZ	9/18
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1/29/2020 9:58 AM
THIVAKARAN, JOTHIKA

TREE SURVEY		
#	DESCRIPTION	
798	16" LIVE OAK	
799	18" LIVE OAK	
800	16" HACKBERRY MS 9 11	
801	15" HACKBERRY MS 7 7 8	
802	9" HACKBERRY	
803	10" HACKBERRY	
804	8" HACKBERRY	
805	10" HACKBERRY	
806	10" LIVE OAK	
807	9" LIVE OAK	
844	13" HACKBERRY	
919	28" PECAN	H
1285	44" LIVE OAK MS 16 16 28 (T356)	H
2158	24" CEDAR ELM MS 12 12 12	H
3519	24" LIVE OAK	H
3520	22" HACKBERRY MS 12 16	P
3521	12" LIVE OAK	
3522	18" GREEN ASH	
3523	16" GREEN ASH	
3524	6" CRAPE MYRTLE MS 2 3 3	
3525	6" CRAPE MYRTLE MS 3 3 3	
3526	6" CRAPE MYRTLE MS 3 3 3	
3547	22" GREEN ASH	P
3739	19" LIVE OAK	P
3880	28" GREEN ASH	P

TREE SURVEY		
#	DESCRIPTION	
3883	16" GREEN ASH	
3904	12" CRAPE MYRTLE MS 4 4 4 4 4	
3905	12" CRAPE MYRTLE MS 4 4 4 4 4	
4548	11" CRAPE MYRTLE MS 3 3 3 4 4	
4549	11" CRAPE MYRTLE MS 2 2 2 3 3	
4720	6" CRAPE MYRTLE MS 2 3 3	
4778	17" GREEN ASH	
4779	28" GREEN ASH	P
4841	6" CRAPE MYRTLE MS 3 3 3	
4842	6" CRAPE MYRTLE MS 3 3 3	
4843	8" TEXAS MULBERRY	
5075	9" LIVE OAK	
5076	8" LIVE OAK	
5079	9" LIVE OAK	
5080	9" LIVE OAK	
5081	9" LIVE OAK	
5082	9" LIVE OAK	
5501	8" CRAPE MYRTLE MS 2 2 2 3 3	
5502	6" CRAPE MYRTLE MS 3 3 3	
5503	8" TEXAS MULBERRY	
5504	7" CRAPE MYRTLE MS 2 2 3 3	
5505	3" CRAPE MYRTLE MS 2 2	
5703	5" MOUNTAIN LAUREL MS 3 3	
5704	7" MOUNTAIN LAUREL MS 3 3 4	
5705	7" CRAPE MYRTLE MS 2 3 4	

TREE SURVEY		
#	DESCRIPTION	
5706	3" MOUNTAIN LAUREL	
5707	16" LIVE OAK	
5714	10" CRAPE MYRTLE MS 4 4 4 4	
5724	8" AMERICAN ELM	
5808	20" CEDAR ELM	
5821	12" CEDAR ELM	
5847	16" LIVE OAK	
5848	16" LIVE OAK	
5860	16" JUNIPER (TAG 997)	
5861	12" LIVE OAK (TAG 998)	
5862	8" LIVE OAK (TAG 999)	
5863	10" LIVE OAK	
5864	11" LIVE OAK	
5865	10" CEDAR ELM MS 3 8 (TAG 900)	
5866	7" CEDAR ELM	
5867	9" LIVE OAK (TAG 982)	
5868	10" LIVE OAK (TAG 981)	
5869	14" LIVE OAK (TAG 979)	
5870	18" LIVE OAK MS 4 8 (TAG 980)	
5871	9" LIVE OAK (TAG 983)	
5872	11" LIVE OAK (TAG 984)	
6140	14" JUNIPER	
6141	7" LIVE OAK	
6142	7" LIVE OAK	
6144	14" LIVE OAK MS 9 9	

TREE SURVEY		
#	DESCRIPTION	
6145	7" LIVE OAK	
6146	7" LIVE OAK	
6147	5" LIVE OAK	
6148	7" GREEN ASH	
6387	24" LIVE OAK	H
6388	26" LIVE OAK MS 12 20	H
6389	8" LIVE OAK	
6390	12" LIVE OAK	
6392	12" LIVE OAK	
6399	9" CRAPE MYRTLE MS 3 3 3 3 3	
6400	8" CRAPE MYRTLE MS 4 4 4	
6407	12" LIVE OAK	
6408	17" LIVE OAK	
6409	16" LIVE OAK	
6410	6" CEDAR ELM	
6411	15" CEDAR ELM	
6412	14" CEDAR ELM	
6414	12" LIVE OAK	
6415	18" CEDAR ELM MS 12 12	
6416	19" CEDAR ELM MS 11 13	
6417	12" CEDAR ELM	
6418	12" CEDAR ELM	
6420	13" LIVE OAK	
6455	38" LIVE OAK	H
6499	16" CEDAR ELM	

TREE SURVEY		
#	DESCRIPTION	
6549	14" LIVE OAK	
6609	16" CEDAR ELM	
6610	16" CEDAR ELM	
6611	12" CEDAR ELM	
6750	29" LIVE OAK MS 18 20	H
6820	20" LIVE OAK	P
6821	22" LIVE OAK	P
6908	10" CHINABERRY	
7182	21" POST OAK MS 14 14 (TAG 813)	P
7297	10" CEDAR ELM	
7298	8" LIVE OAK	
7299	10" LIVE OAK (TAG 968)	
7300	7" LIVE OAK (TAG 967)	
7403	30" LIVE OAK	H
7425	22" LIVE OAK	P
7434	24" LIVE OAK	H
7435	30" LIVE OAK	H
7485	8" HACKBERRY	
7488	25" LIVE OAK	H
7489	7" HACKBERRY	
7493	20" CEDAR ELM	P
7524	14" LIVE OAK	
7525	16" LIVE OAK	
7526	27" LIVE OAK (TAG 423)	H
7527	15" LIVE OAK (TAG 4824)	

TREE SURVEY		
#	DESCRIPTION	
7528	13" LIVE OAK	
7529	16" LIVE OAK	
7530	8" JUNIPER	
7531	16" LIVE OAK	
7532	12" JUNIPER	
7782	14" LIVE OAK	
7783	15" LIVE OAK	
7939	23" LIVE OAK	P
7960	10" CRAPE MYRTLE MS 1 1 1 1 1	
7961	8" CRAPE MYRTLE MS 1 1 1 1 1	
7962	12" CRAPE MYRTLE MS 1 1 2 2 2	
7963	9" CRAPE MYRTLE MS 1 2 2 3 3	
8088	15" HACKBERRY	
8089	12" HACKBERRY	
8090	8" HACKBERRY	
8091	21" CHINABERRY MS 12 15	
8093	20" PECAN (TAG 606)	P
8111	14" CHINABERRY MS 3 3 4 6 6	
8415	10" CRAPE MYRTLE MS 2 2 2 2 2	
8612	12" LIVE OAK	
8652	12" CRAPE MYRTLE MS 3 4 4 4 4	
8689	6" CRAPE MYRTLE MS 4 4	
8690	4" CRAPE MYRTLE MS 2 3	
9094	8" CHINQUAPIN OAK	
9154	11" CEDAR ELM	

TREE SURVEY		
#	DESCRIPTION	
9498	15" JUNIPER MS 6 12	
9501	8" JUNIPER	
9502	12" CEDAR ELM	
9695	17" CEDAR ELM	
9716	18" LIVE OAK	
9787	9" LIVE OAK	
9788	8" LIVE OAK	
9803	14" LIVE OAK	
9823	26" LIVE OAK	H
10034	17" WHITE MULBERRY MS 10 12	
10435	10" HACKBERRY	
10436	11" CEDAR ELM	
10442	15" CHINABERRY	
10443	15" HACKBERRY MS 6 7 8	
10444	11" HACKBERRY MS 7 7	
10445	8" HACKBERRY	
10535	30" GREEN ASH	P
10536	25" LIVE OAK	H
10695	13" HACKBERRY	
10696	8" HACKBERRY MS 4 6	
10726	18" SOAPBERRY	
10764	17" GREEN ASH	
10927	13" LIVE OAK	
11161	5" CRAPE MYRTLE MS 2 2 2 2 2	
11162	8" CRAPE MYRTLE MS 3 3 3 3	

TREE SURVEY		
#	DESCRIPTION	
11163	6" CRAPE MYRTLE MS 3 2 2 1	
11164	17" CRAPE MYRTLE MS 2 2 2 3 3	
11165	10" CRAPE MYRTLE MS 2 2 3 3 3	
11166	46" LIVE OAK MS 24 34	H
11167	8" LIVE OAK	
11168	16" LIVE OAK	
11169	9" LIVE OAK	
11358	38" PECAN MS 19 28 (TAG 193)	H
11459	8" CRAPE MYRTLE MS 3 3 5	
11460	11" CRAPE MYRTLE MS 2 2 3 3 4	
11461	13" CRAPE MYRTLE MS 3 3 3 3 4	
11507	12" LIVE OAK	
11611	31" PECAN MS 13 24	H
11629	23" PECAN MS 7 12 13	P
11638	8" POST OAK	
11639	14" LIVE OAK MS 8 10	
11640	10" RED MULBERRY MS 1 2 3 4 5	
11646	5" LOBLOLLY PINE	
11647	7" BLACK WALNUT	
11648	23" LIVE OAK MS 10 11 12	P
11655	10" LIVE OAK MS 5 7	
11671	9" LIVE OAK	
11672	10" AMERICAN ELM	
11673	15" LIVE OAK	
11684	9" LIVE OAK	

TREE SURVEY		
#	DESCRIPTION	
11688	36" LIVE OAK	H
11690	16" LIVE OAK 4 7 7 7	
11726	24" POST OAK	H
11734	12" LIVE OAK	
11735	11" LIVE OAK	
11736	10" LIVE OAK	
11737	9" LIVE OAK	
11738	10" LIVE OAK	
11739	9" LIVE OAK	
11740	10" LIVE OAK	
11741	10" LIVE OAK	
11753	11" LIVE OAK	
11754	13" POST OAK	
11755	17" LIVE OAK	
11756	13" LIVE OAK	
11757	17" LIVE OAK	
11758	15" CEDAR ELM	
11759	16" POST OAK	
11772	19" LIVE OAK	P
11832	32" PECAN MS 9 9 11 11 12	H
11862	17" LIVE OAK	
11864	11" PECAN	
11869	23" PECAN 14 16	P
13254	21" POST OAK MS 13 14	P
13287	9" PECAN	

TREE SURVEY		
#	DESCRIPTION	
13512	17" LIVE OAK (TAG 952)	
13513	20" LIVE OAK (TAG 953)	P
13514	26" LIVE OAK MS 16 18 (TAG 955)	H
13515	27" LIVE OAK MS 17 18 (TAG 899)	H
13526	15" LIVE OAK	
16112	8" CEDAR ELM	
16114	8" CRAPE MYRTLE MS 2 2 2 3 3	
16115	13" CRAPE MYRTLE MS 3 3 3 4 4	
16116	24" PECAN TAG 60	H
16117	18" PECAN (TAG 61)	
16186	9" CEDAR ELM	
16187	9" TEXAS MULBERRY MS 6 6	
16188	9" CEDAR ELM	
16566	9" SOAPBERRY	

LEGEND
TREE CLASSIFICATION
P = PROTECTED
H = HERITAGE

REV NO.	BY	DATE	REVISION DESCRIPTION
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STATE OF TEXAS
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DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

TREE SURVEY SCHEDULE

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/JP	8/18
DESIGNED BY	JT/EZ	8/18
CHECKED BY	EZ/CG	8/18
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ENGINEERING SERVICES DIVISION

GP-2019-0210.ATD

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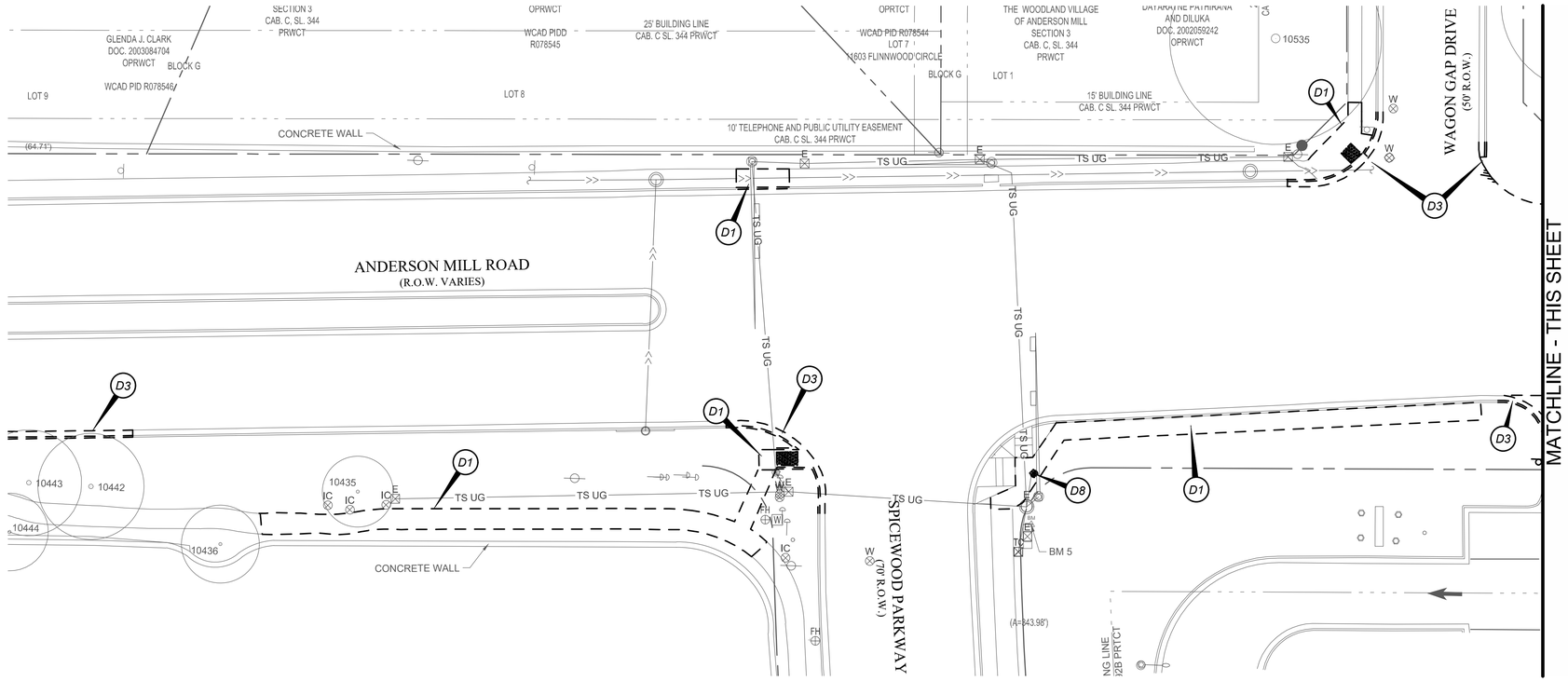
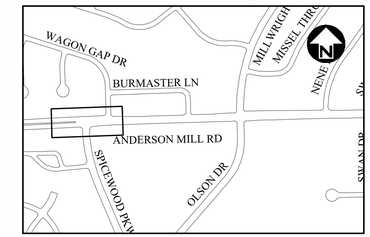
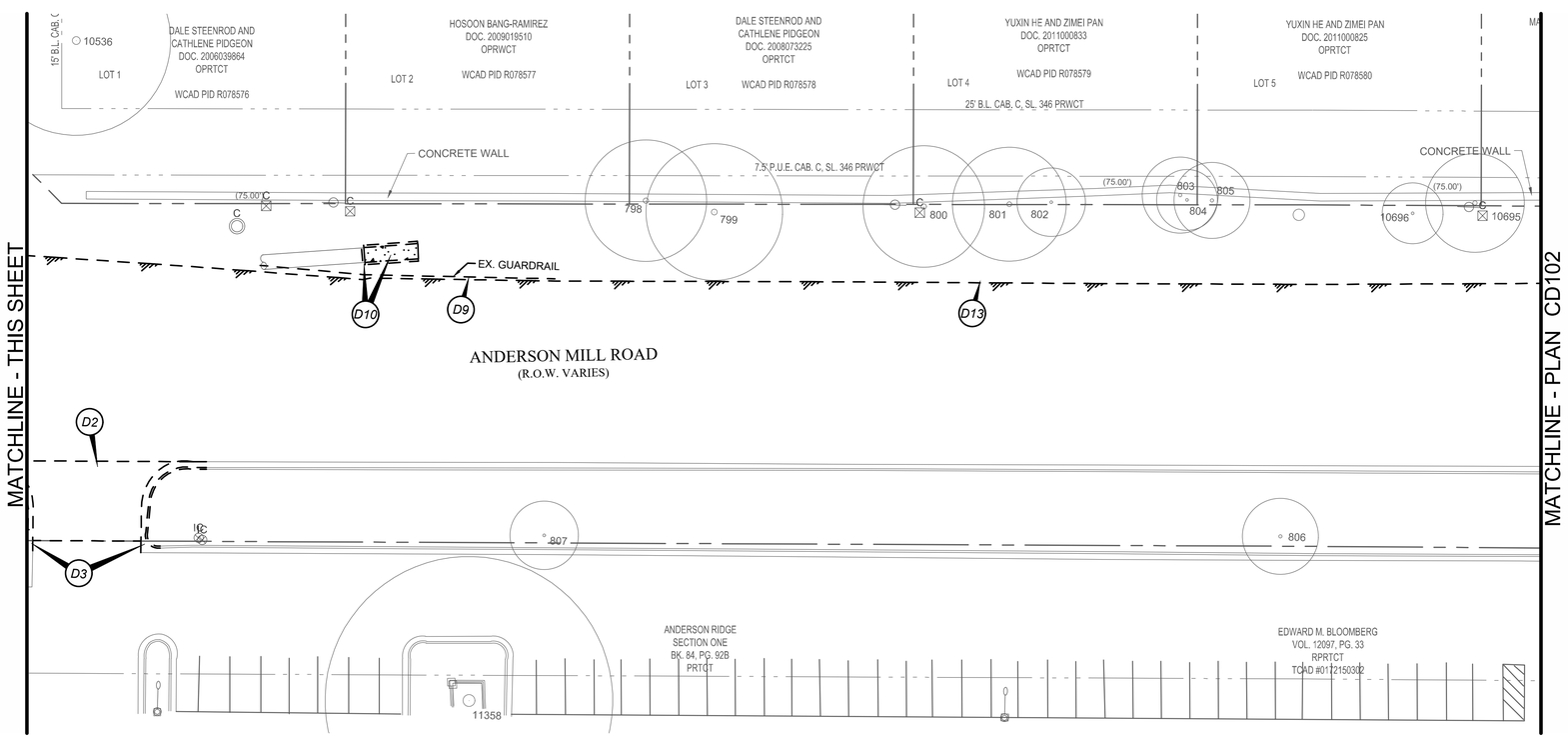
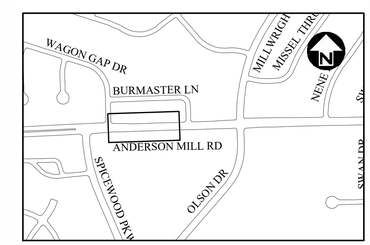
THIVAKARAN, JOTHIKA





DEMOLITION SCHEDULE	
NO	DESCRIPTION
D1	EXISTING SIDEWALK TO BE REMOVED
D2	EXISTING DRIVEWAY TO BE REMOVED
D3	EXISTING CURB AND GUTTER TO BE REMOVED
D4	EXISTING CONCRETE TO BE REMOVED
D5	EXISTING STORM PIPE TO BE REMOVED
D6	RELOCATE EXISTING SIGNS AS PER SITE PLAN
D7	DEMO EXISTING PAVEMENT MARKING
D8	DEMO EXISTING PEDESTRIAN POLE
D9	REMOVE EXISTING GUARDRAIL
D10	REMOVE HEADWALL AND CONCRETE END
D11	REMOVE EX. STORM STRUCTURE
D12	RELOCATE / ADJUST UTILITIES
D13	EXISTING EDGE OF PAVEMENT WILL BE ADJUSTED AS PER SITE PLAN & PAVING PLAN
D14	DEMO WATERLINE





NOTE:

1. ALL THE PAVEMENT MARKINGS WILL BE REMOVED OR COVERED BY PROPOSED EDGE MILLING OR OVERLAY UNLESS AS SHOWN IN THIS PLAN.
2. CONTRACTOR SHALL RESPONSIBLE TO REMOVE AND RELOCATE THE EXISTING SIGNS AS NEEDED.

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SPICEWOOD PARKWAY TO US 183

DEMOLITION PLAN
SHEET 1 OF 8

CITY OF AUSTIN
FOUNDED 1839

NOTES	NAME	DATE
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DRAWN BY	JT/JP	8/18
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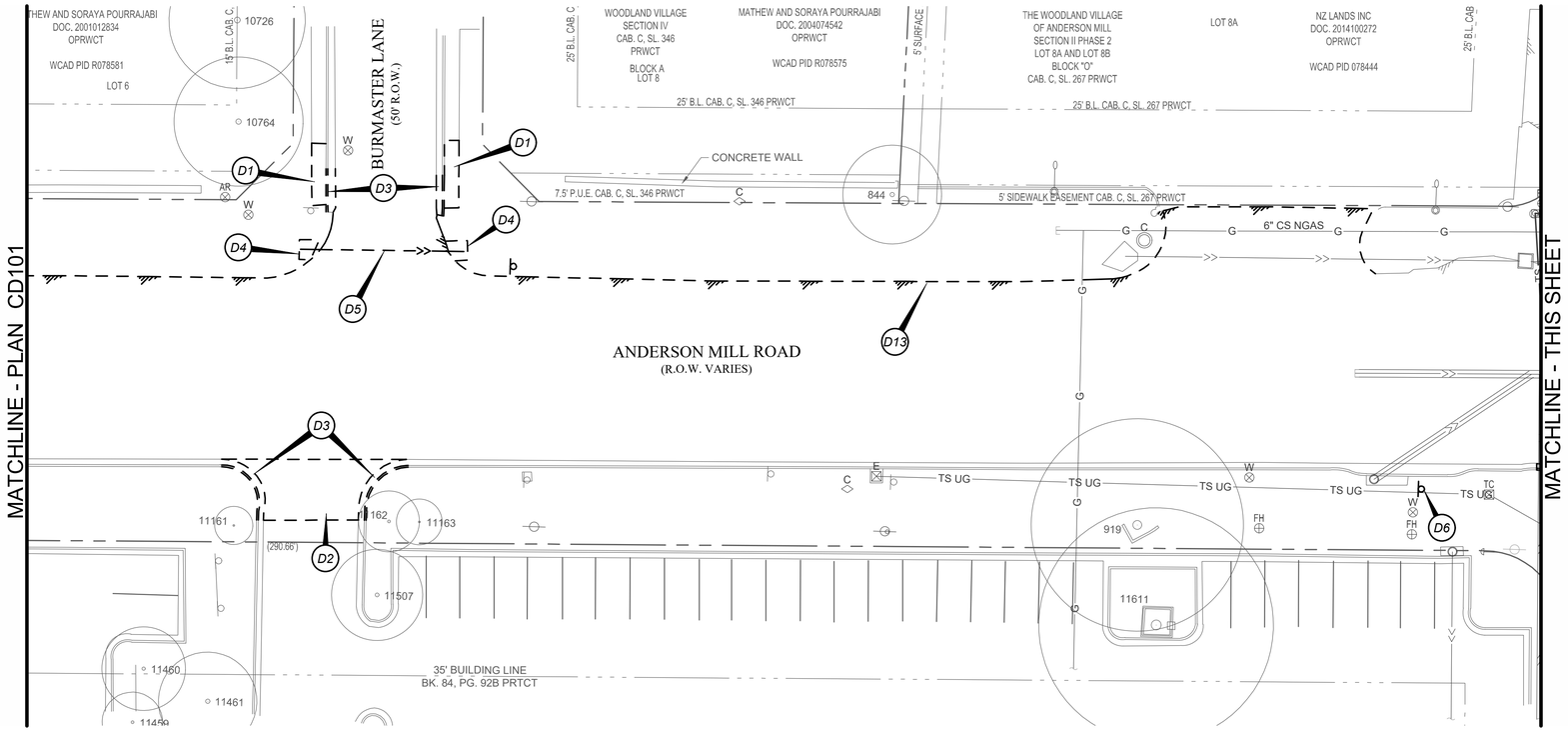

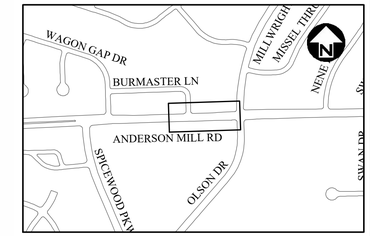

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D7	DEMO EXISTING PAVEMENT MARKING
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D10	REMOVE HEADWALL AND CONCRETE END
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D12	RELOCATE / ADJUST UTILITIES
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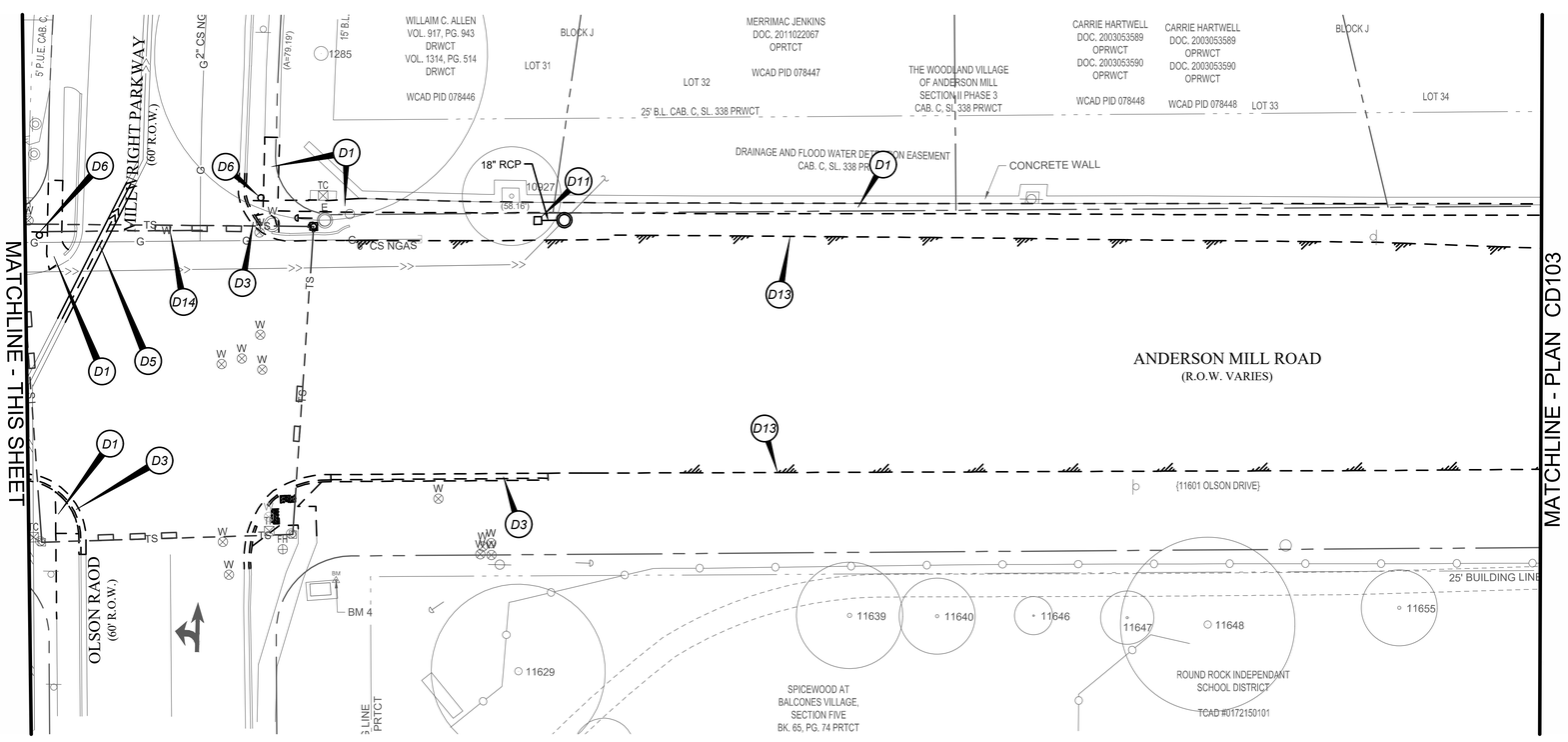
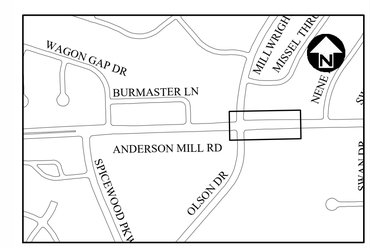
D14	DEMO WATERLINE





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LICENSED PROFESSIONAL ENGINEER
01/29/2020

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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

DEMOLITION PLAN
SHEET 2 OF 8

CITY OF AUSTIN
FOUNDED 1839

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/JP	8/18
DESIGNED BY	JT/EZ	8/18
CHECKED BY	EZ/CG	8/18
REVIEWED BY	ESD	8/18

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HORIZONTAL SCALE IN FEET

GP-2019-0210.ATD

CD102 | 27 OF 142

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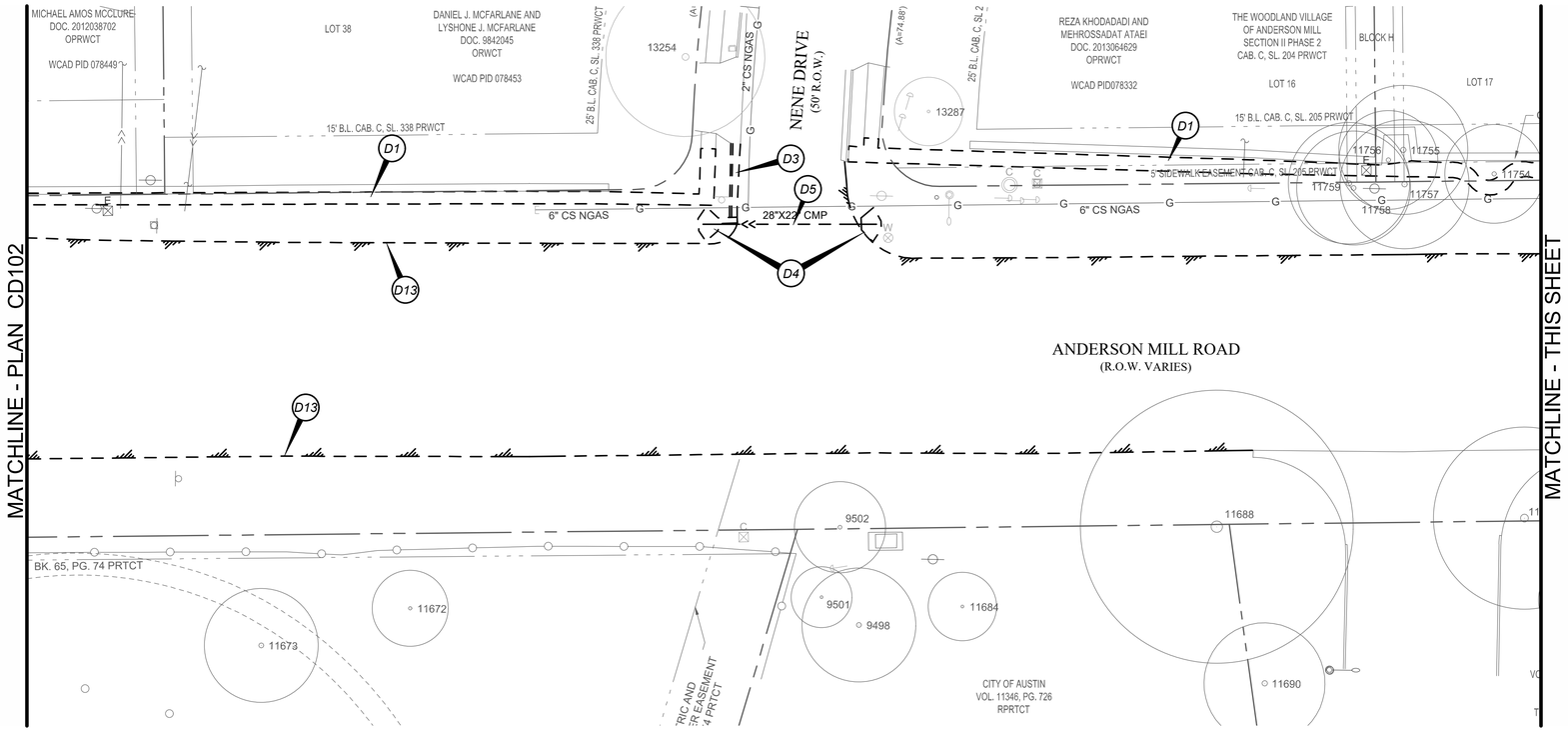
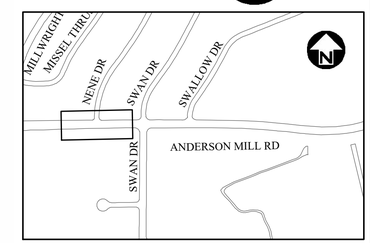
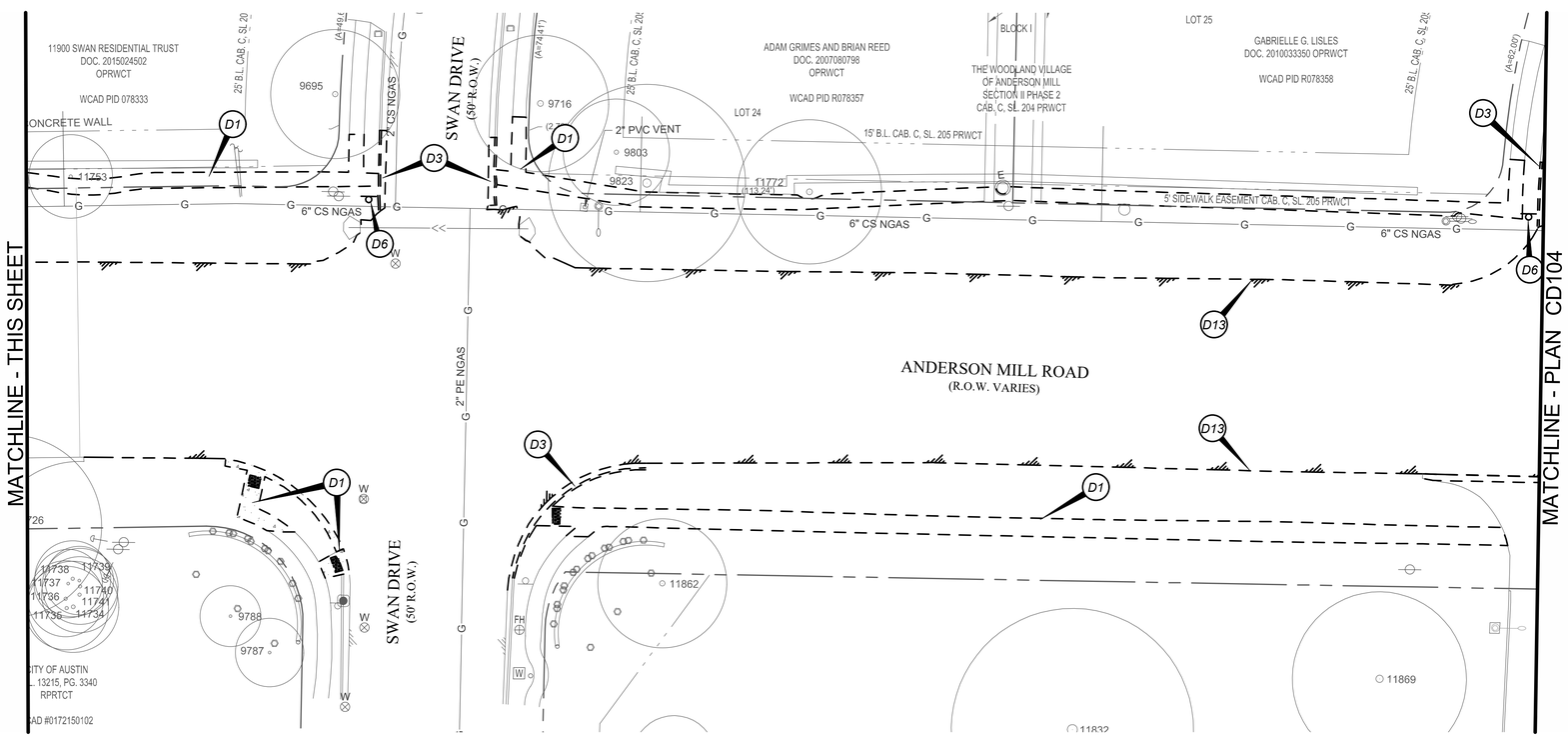
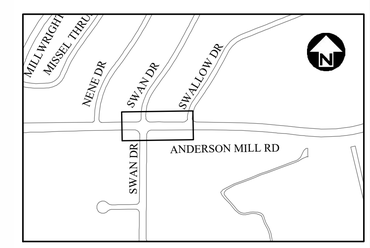
THIVAKARAN, JOTHIKA





DEMOLITION SCHEDULE	
NO	DESCRIPTION
D1	EXISTING SIDEWALK TO BE REMOVED
D2	EXISTING DRIVEWAY TO BE REMOVED
D3	EXISTING CURB AND GUTTER TO BE REMOVED
D4	EXISTING CONCRETE TO BE REMOVED
D5	EXISTING STORM PIPE TO BE REMOVED
D6	RELOCATE EXISTING SIGNS AS PER SITE PLAN
D7	DEMO EXISTING PAVEMENT MARKING
D8	DEMO EXISTING PEDESTRIAN POLE
D9	REMOVE EXISTING GUARDRAIL
D10	REMOVE HEADWALL AND CONCRETE END
D11	REMOVE EX. STORM STRUCTURE
D12	RELOCATE / ADJUST UTILITIES
D13	EXISTING EDGE OF PAVEMENT WILL BE ADJUSTED AS PER SITE PLAN & PAVING PLAN
D14	DEMO WATERLINE





NOTE:
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DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

DEMOLITION PLAN
SHEET 3 OF 8

CITY OF AUSTIN
FOUNDED 1839

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
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DESIGNED BY	JT/EZ	8/18
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HORIZONTAL SCALE IN FEET

GP-2019-0210.ATD

CD103 | 28 OF 142

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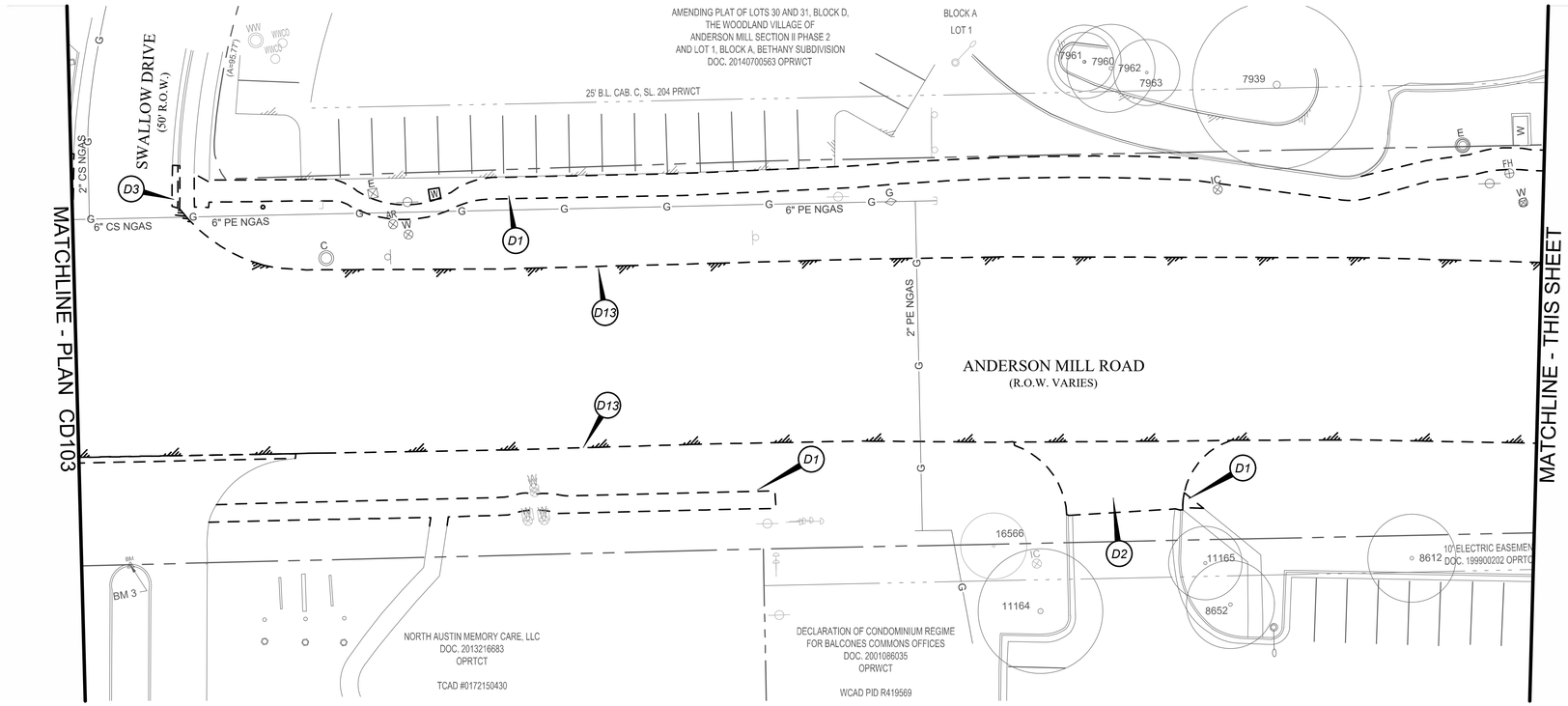

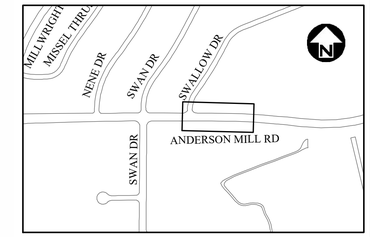

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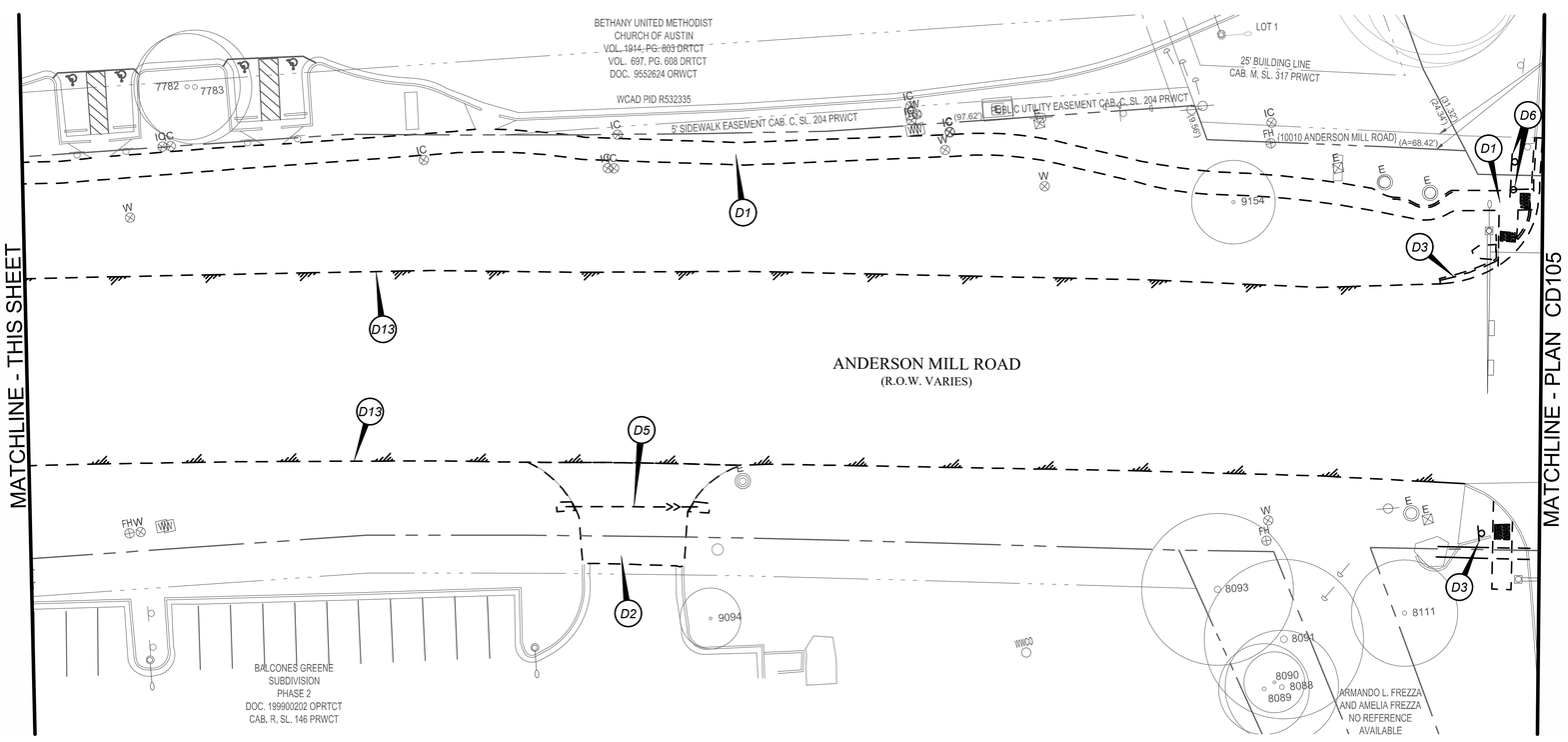
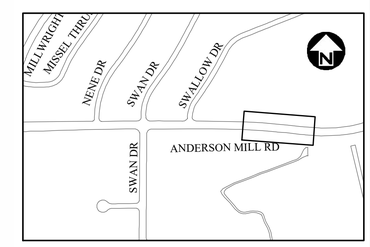
D12	RELOCATE / ADJUST UTILITIES
D13	EXISTING EDGE OF PAVEMENT WILL BE ADJUSTED AS PER SITE PLAN & PAVING PLAN
D14	DEMO WATERLINE





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DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

DEMOLITION PLAN
SHEET 4 OF 8

CITY OF AUSTIN
FOUNDED 1839

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/JP	8/18
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HORIZONTAL SCALE IN FEET

GP-2019-0210.ATD

CD104 | 29 OF 142

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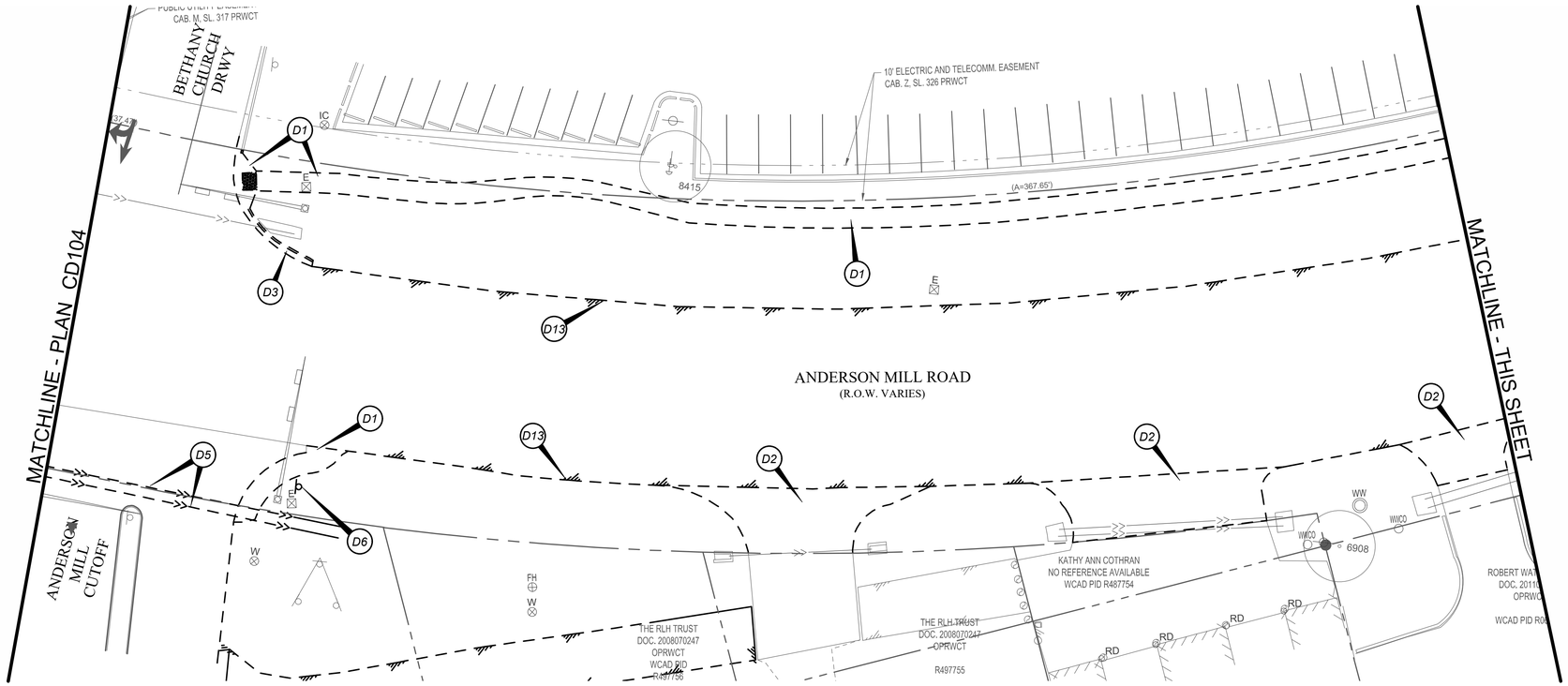

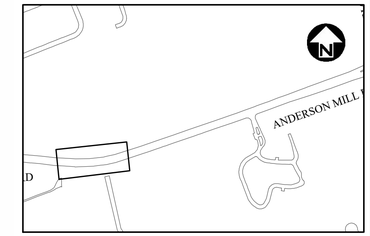

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NO	DESCRIPTION
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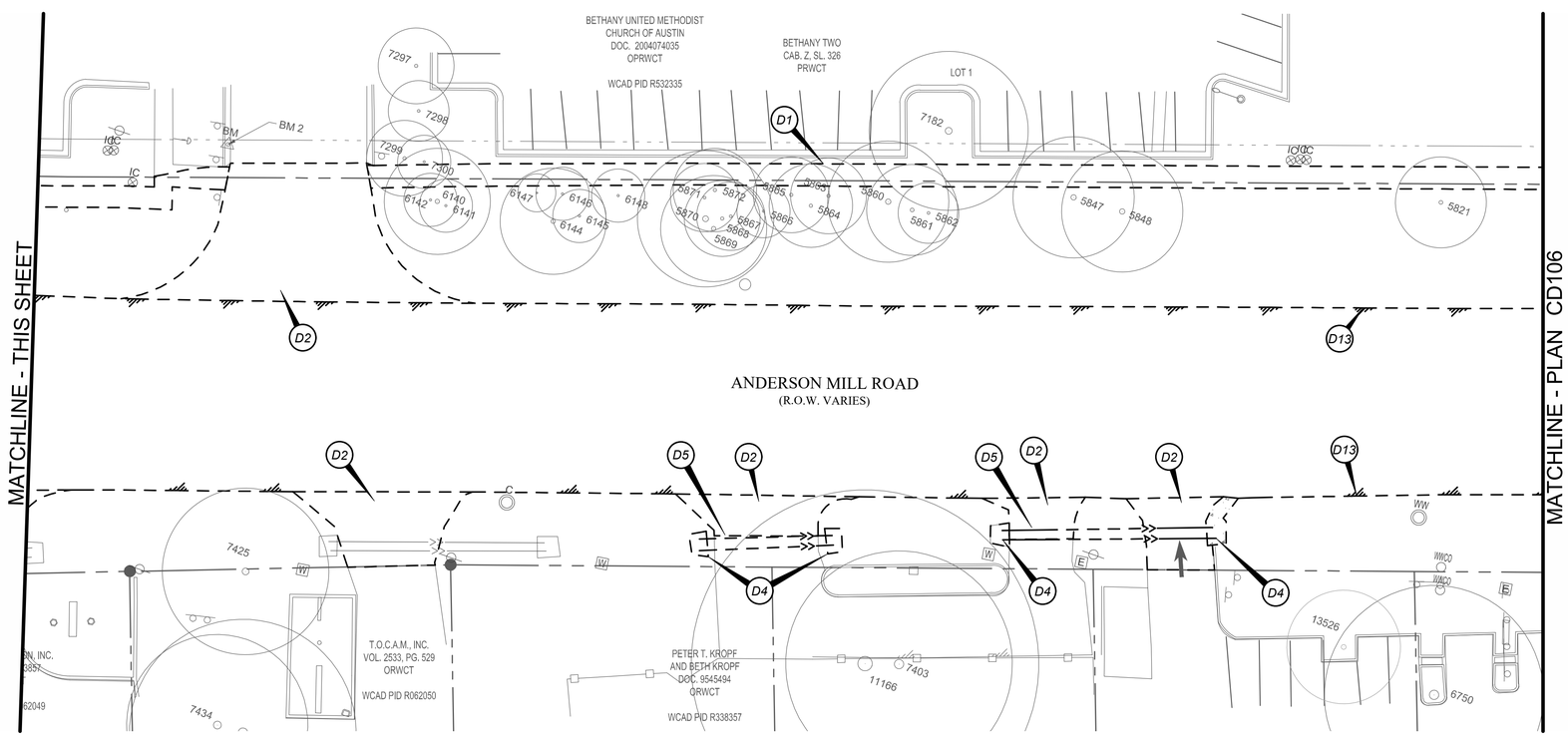
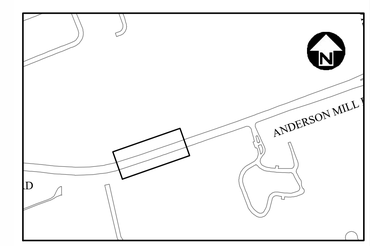
D14	DEMO WATERLINE





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DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

DEMOLITION PLAN
SHEET 5 OF 8

CITY OF AUSTIN
FOUNDED 1839

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/JP	8/18
DESIGNED BY	JT/EZ	8/18
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HORIZONTAL SCALE IN FEET

GP-2019-0210.ATD

CD105 | 30 OF 142

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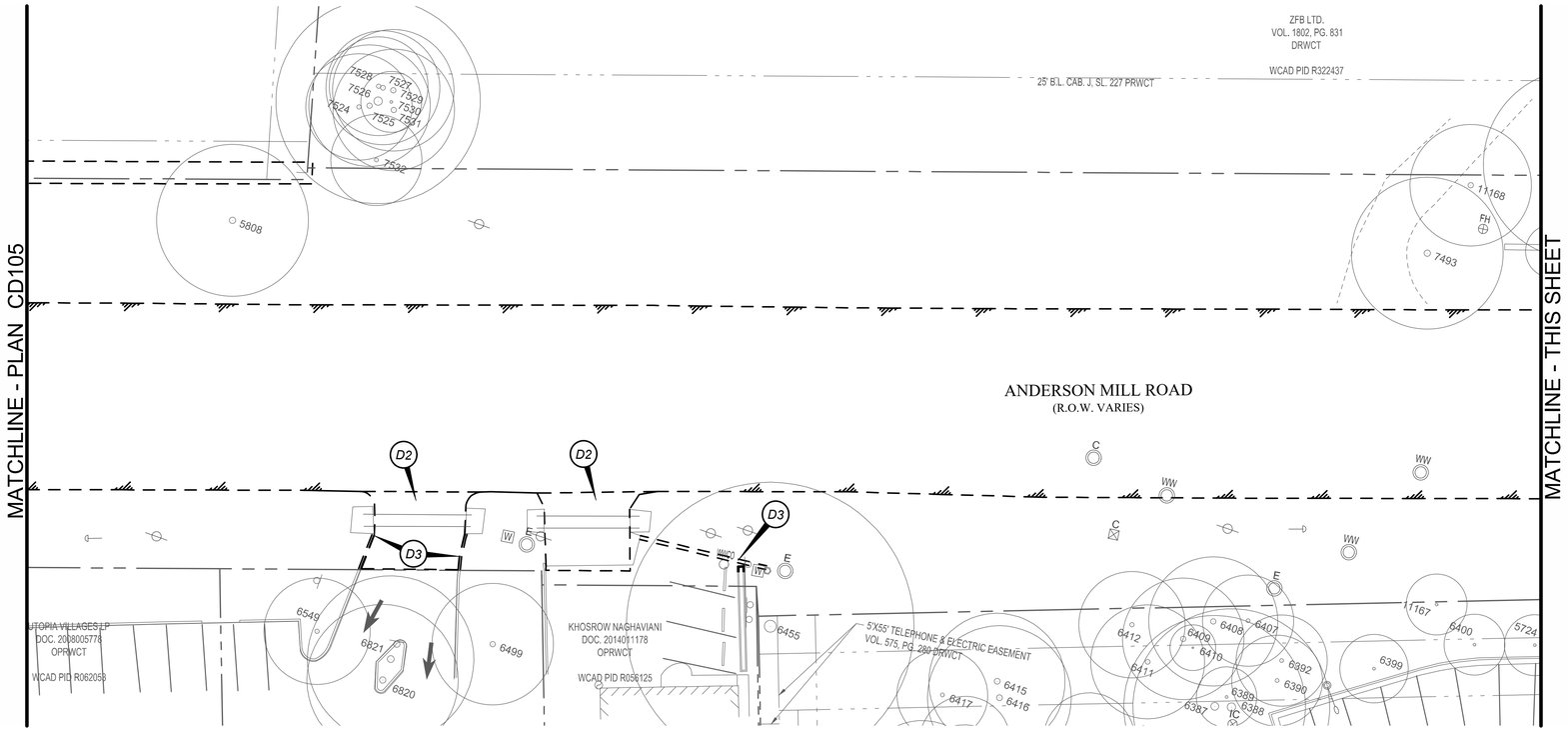

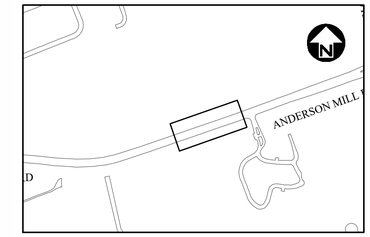

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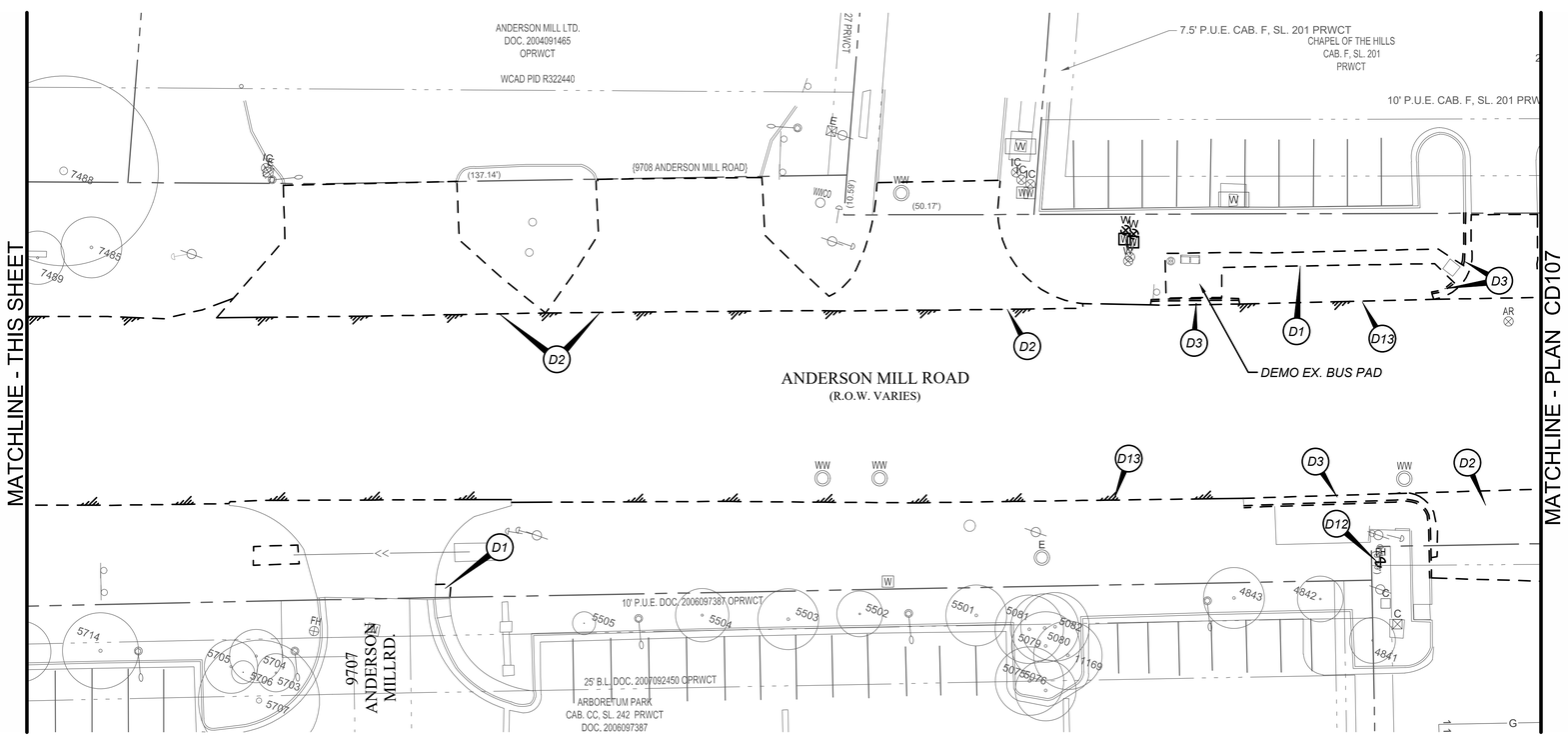

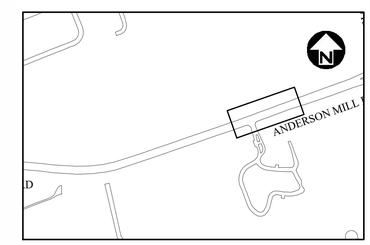

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DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

DEMOLITION PLAN
SHEET 6 OF 8

CITY OF AUSTIN
FOUNDED 1839

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/JP	8/18
DESIGNED BY	JT/EZ	8/18
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HORIZONTAL SCALE IN FEET

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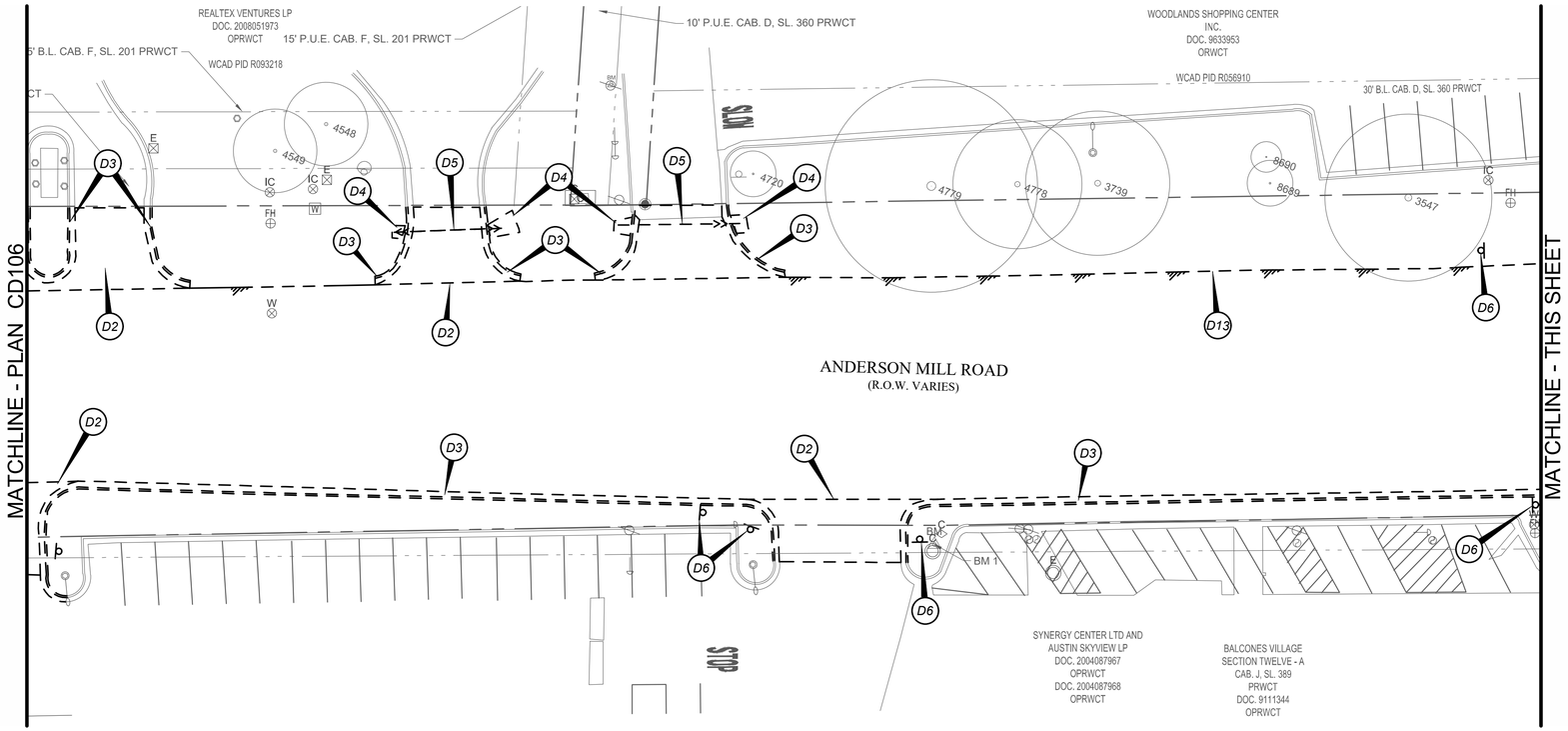

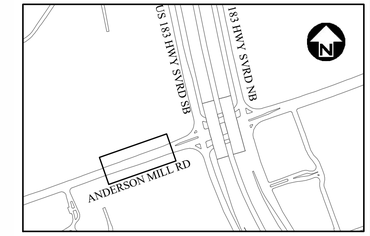

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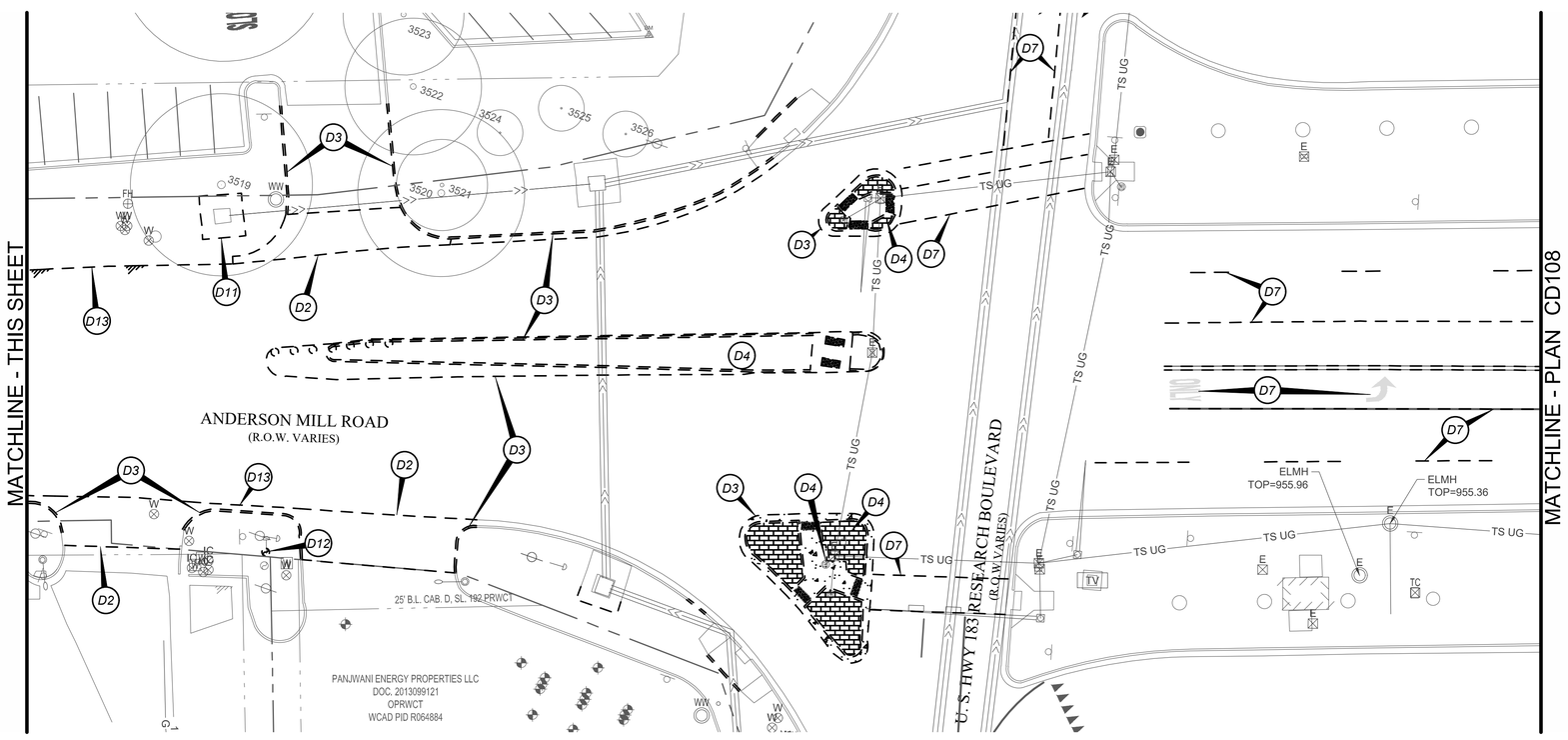

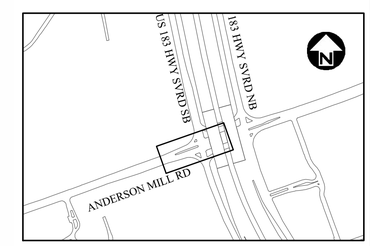

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ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

DEMOLITION PLAN
SHEET 7 OF 8

CITY OF AUSTIN
FOUNDED 1839

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
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HORIZONTAL SCALE IN FEET

GP-2019-0210.ATD

CD107 | 32 OF 142

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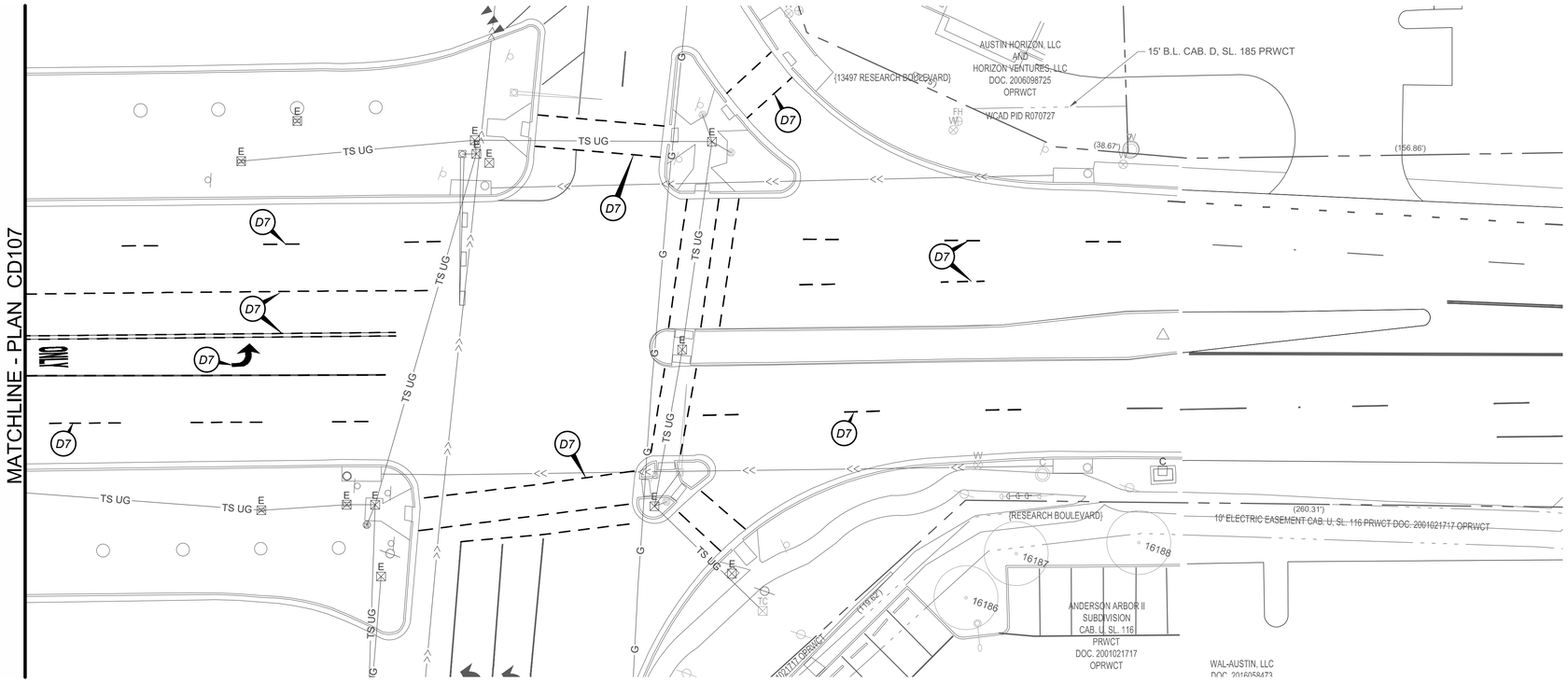

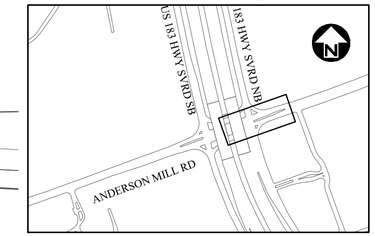

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SPICEWOOD PARKWAY TO US 183

DEMOLITION PLAN
SHEET 8 OF 8

CITY OF AUSTIN
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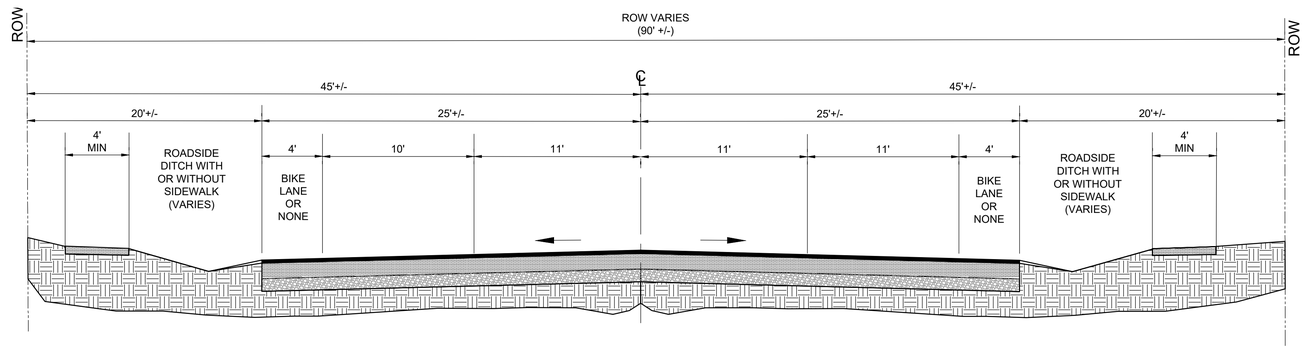

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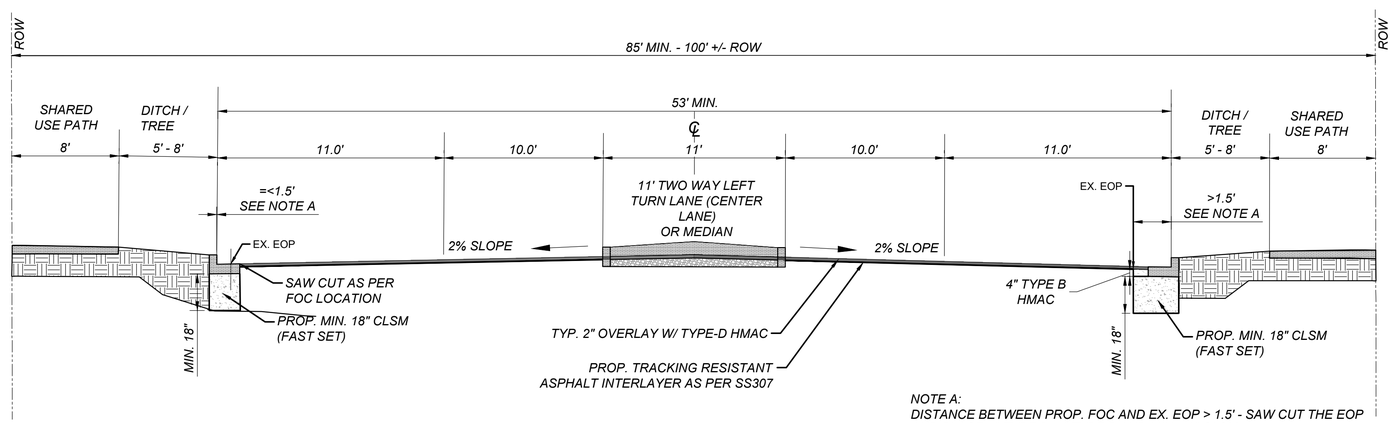

NOTE A:
DISTANCE BETWEEN PROP. FOC AND EX. EOP > 1.5' - SAW CUT THE EOP AND PLACE 2"-TYPE D, 4" TYPE B AND MIN. 18" CLSM.

DISTANCE BETWEEN PROP. FOC AND EX. EOP <= 1.5' - SAW CUT THE EOP AS PER THE FOC LOCATION AND PLACE MIN. 18" CLSM BELOW CURB AND GUTTER.

PROPOSED TYPICAL SECTION

NTS

REV NO.	BY	DATE	REVISION DESCRIPTION

STATE OF TEXAS
XIAOQIN ZHANG, P.E.
96436
LICENSED
PROFESSIONAL ENGINEER
01/29/2020

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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

GENERAL TYPICAL ROAD SECTIONS

CITY OF AUSTIN
FOUNDED 1839

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/EZ	9/18
DESIGNED BY	JT/EZ	9/18
CHECKED BY	EZ/CG	9/18
REVIEWED BY	ESD	9/18

ESD
ENGINEERING SERVICES
DIVISION

GP-2019-0210.ATD

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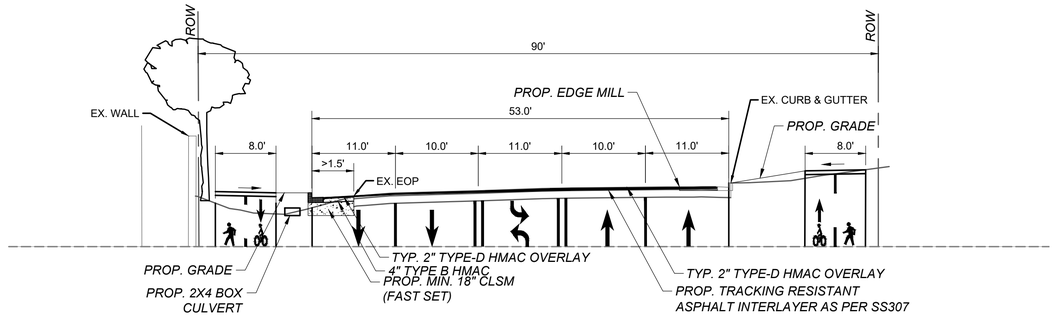
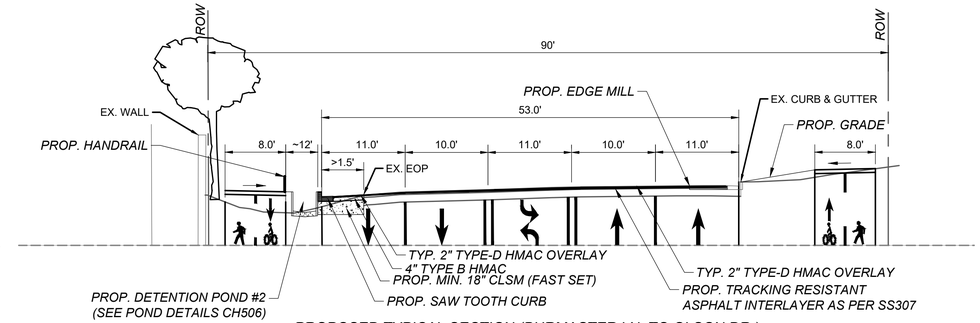
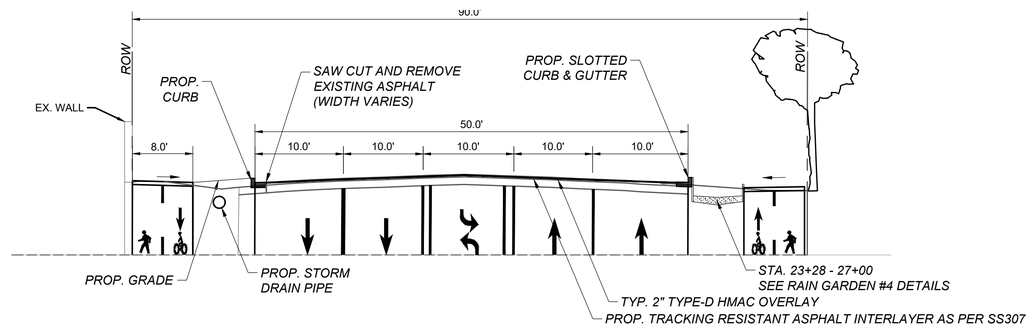
THIVAKARAN, JOTHIKA



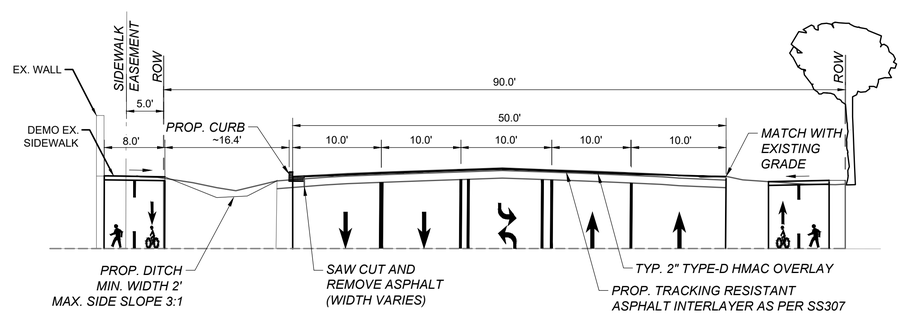
PROPOSED TYPICAL SECTION (SPICEWOOD PKWY. TO BURMASTER LN.)
NTS



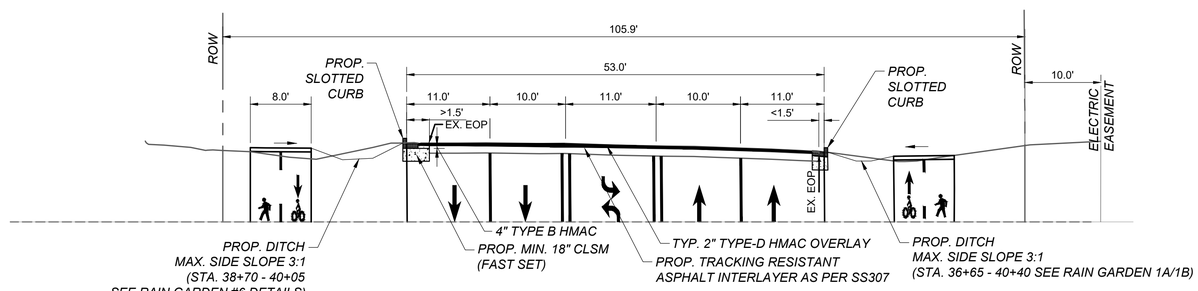
PROPOSED TYPICAL SECTION (BURMASTER LN. TO OLSON DR.)
NTS



PROPOSED TYPICAL SECTION (OLSON DR. TO NENE DR.)
NTS



PROPOSED TYPICAL SECTION (NENE DR. TO SWALLOW DR.)
NTS



PROPOSED TYPICAL SECTION (SWALLOW DR. TO ANDERSON MILL CUTOFF)
NTS

NOTE:
ALL PROP. CURB LIP-OF-GUTTER WILL BE 2" ABOVE EXISTING GRADE TO MATCH PROP. 2" TYPE-D OVERLAY.

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STATE OF TEXAS
XIAOQIN ZHANG, P.E.
96436
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PROFESSIONAL ENGINEER
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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

TYPICAL ROAD SECTIONS
SHEET 1 OF 2

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/EZ	9/18
DESIGNED BY	JT/EZ	9/18
CHECKED BY	EZ/CG	9/18
REVIEWED BY	ESD	9/18

ENGINEERING SERVICES DIVISION

GP-2019-0210.ATD

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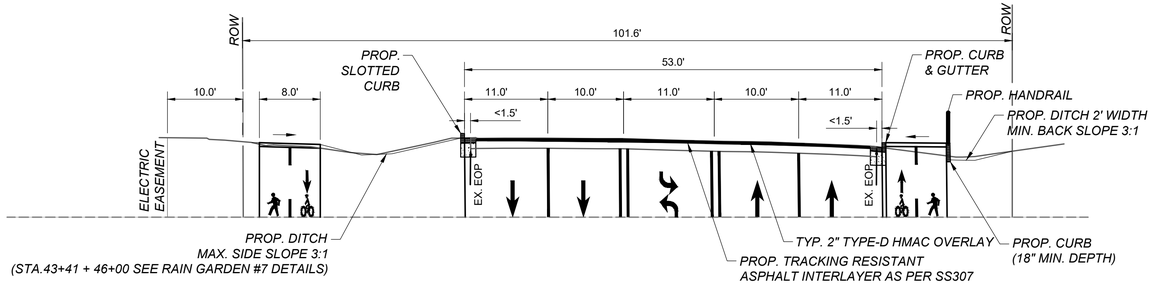
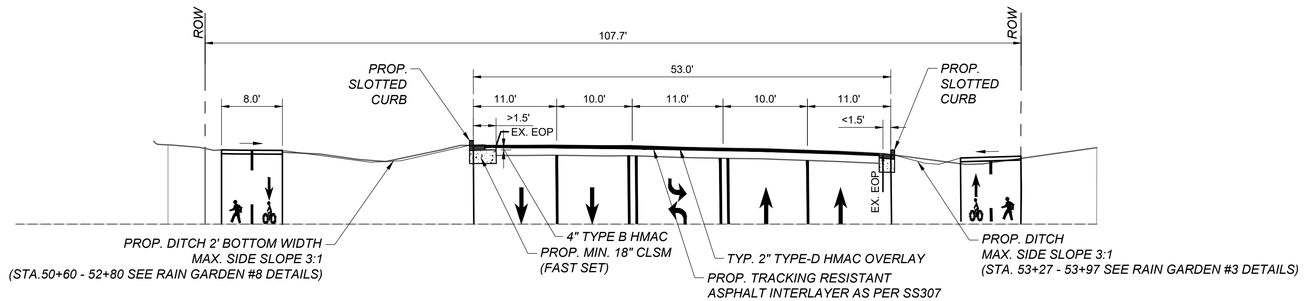
THIVAKARAN, JOTHIKA



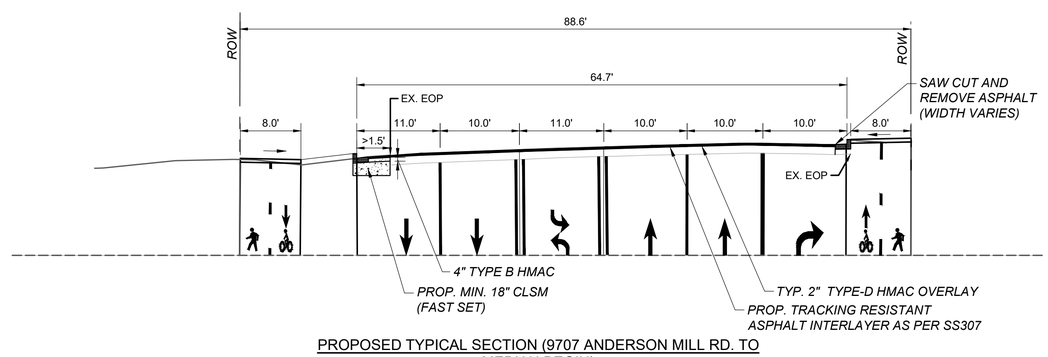
PROPOSED TYPICAL SECTION (ANDERSON MILL CUTOFF TO 9805 ANDERSON MILL RD.)

NTS

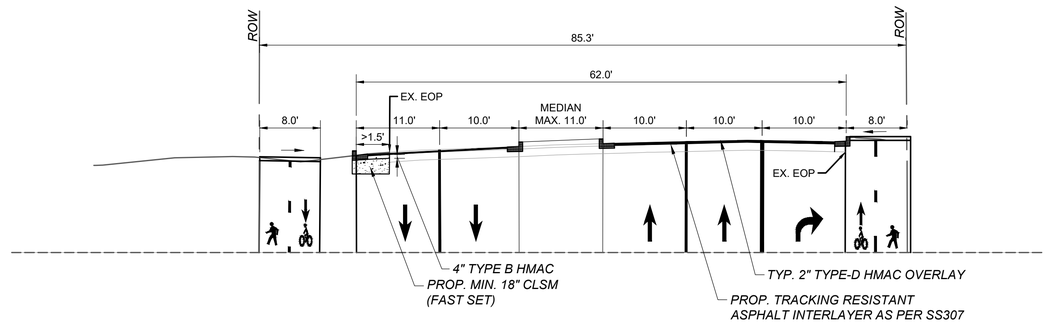


PROPOSED TYPICAL SECTION (9805 ANDERSON MILL RD. TO 9707 ANDERSON MILL RD.)

NTS



PROPOSED TYPICAL SECTION (9707 ANDERSON MILL RD. TO MEDIAN BEGIN)



PROPOSED TYPICAL SECTION (ANDERSON MILL AT US183)

NTS

NOTE:
ALL PROP. CURB LIP-OF-GUTTER WILL BE 2" ABOVE EXISTING GRADE TO MATCH PROP. 2" TYPE-D OVERLAY.

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STATE OF TEXAS
XIAOQIN ZHANG, P.E.
96436
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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

TYPICAL ROAD SECTIONS
SHEET 2 OF 2

CITY OF AUSTIN FOUNDED 1839

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/EZ	9/18
DESIGNED BY	JT/EZ	9/18
CHECKED BY	EZ/CG	9/18
REVIEWED BY	ESD	9/18

ESD
ENGINEERING SERVICES DIVISION

GP-2019-0210.ATD

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1/29/2020 10:00 AM
THIVAKARAN, JOTHIKA

REV NO.	BY	DATE	REVISION DESCRIPTION

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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

PROJECT OVERVIEW PLAN

CITY OF AUSTIN FOUNDED 1839

NOTES	NAME	DATE
SURVEY BY	N/A	N/A
DRAWN BY	JT/EZ	9/18
DESIGNED BY	JT/EZ	9/18
CHECKED BY	EZ/CG	9/18
REVIEWED BY	ESD	9/18

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HORIZONTAL SCALE IN FEET

GP-2019-0210.ATD

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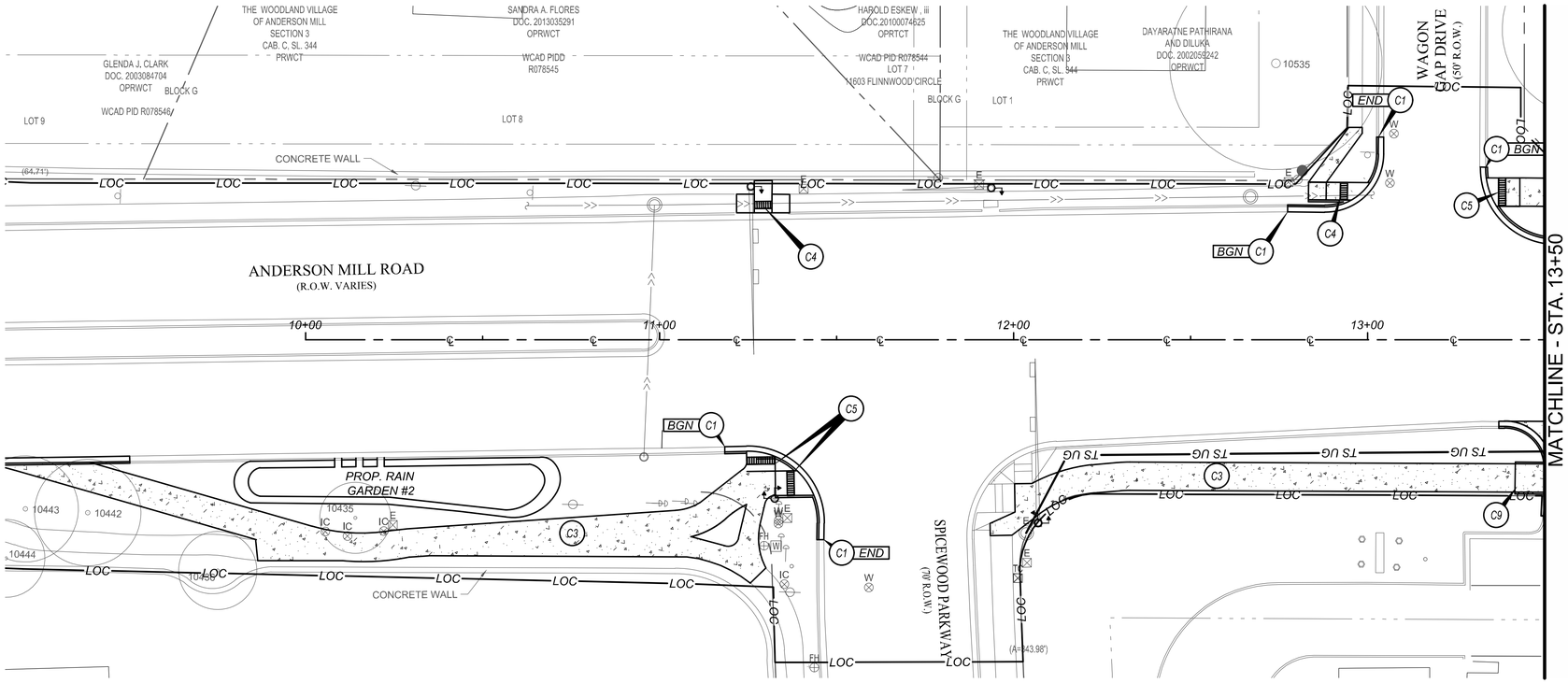
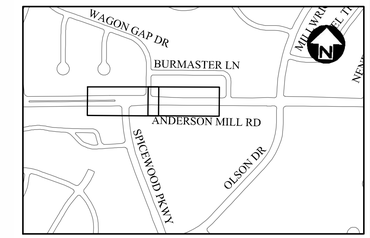
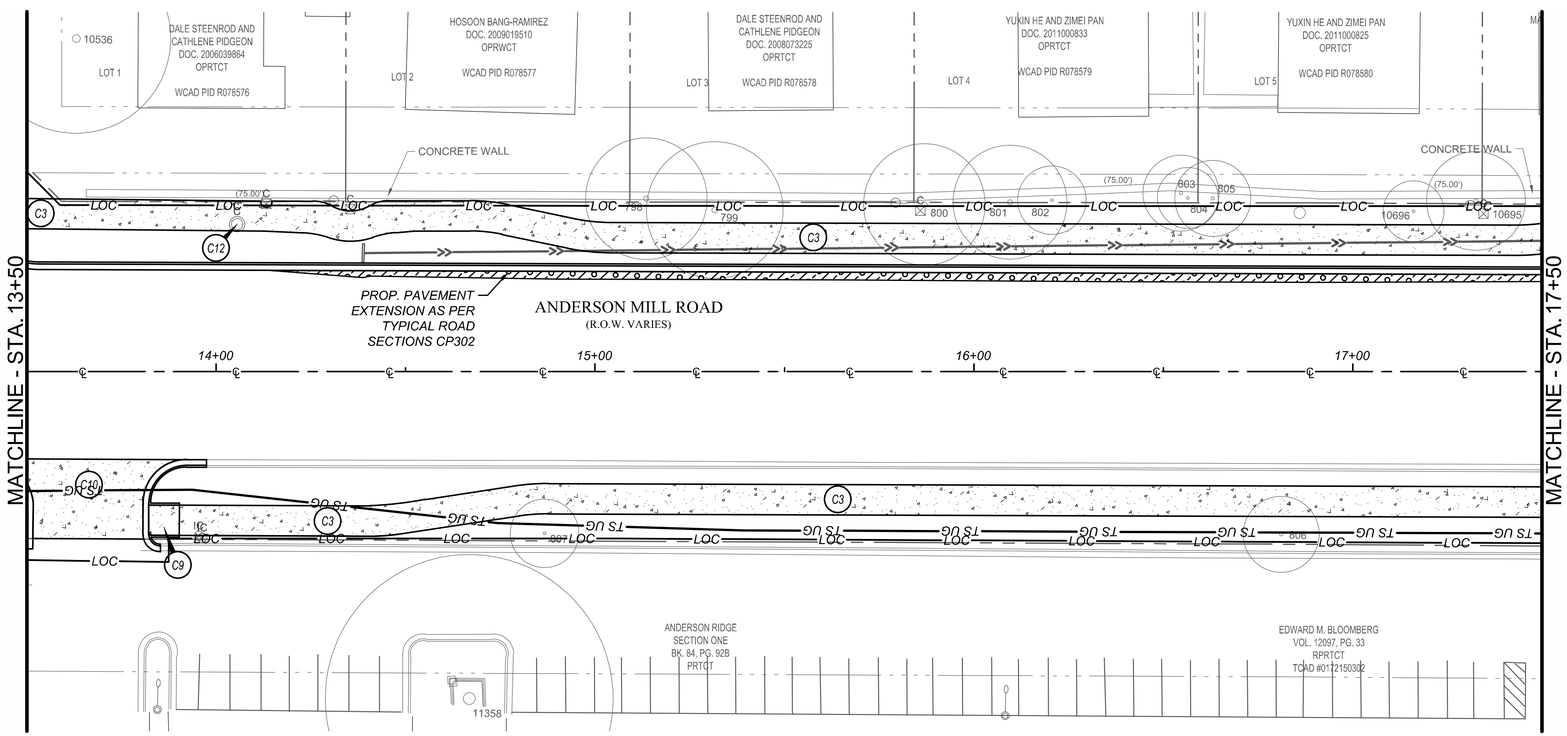
THIVAKARAN, JOTHIKA





PROPOSED IMPROVEMENTS SCHEDULE	
NO	DESCRIPTION
C1	CURB AND GUTTER (PER COA 430S-1)
C2	SAWTOOTH CURB AND GUTTER (PER CP505)
C3	8 FT WIDE SHARED USE PATH (PER COA 432S-1)
C4	CURB RAMP - 5FT WIDE (PER COA 432S-5)
C5	CURB RAMP - 8FT WIDE (PER COA 432S-5)
C6	MEDIAN (PER DETAIL SHEET CP505)
C7	EDGE MILLING
C8	SIDEWALK (PER COA 432S-1)
C9	SIDEWALK RAMP (MAX SLOPE 1:12)
C10	DRIVEWAY (PER COA 433S-2)
C11	HANDRAIL (PER COA 707-4)
C12	ADJUST UTILITIES TO FINISHED GRADE AS NEEDED
C13	RELOCATE UTILITIES
C14	CURB RAMP - BLENDED TRANSITION WITH 2% MAX CROSS SLOPE & 5% MAX RUNNING SLOPE



GENERAL NOTE:
SIDEWALK / SHARED USE PATH WITHIN THE TREE ROOT ZONE NEEDS TO BE EVALUATED BY CERTIFIED ARBORIST PRIOR TO EXCAVATION. REFER TO DETAIL ON SHEET CP505 FOR SAND BRIDGING TREE ROOTS IF DEEMED NECESSARY BY CERTIFIED ARBORIST,

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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

PROPOSED SITE PLAN
BEGIN - 17+50

NOTES	NAME	DATE
SURVEY BY	N/A	N/A
DRAWN BY	JT/JP	8/18
DESIGNED BY	JT/EZ	8/18
CHECKED BY	EZ/CG	8/18
REVIEWED BY	ESD	8/18

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HORIZONTAL SCALE IN FEET

GP-2019-0210.ATD

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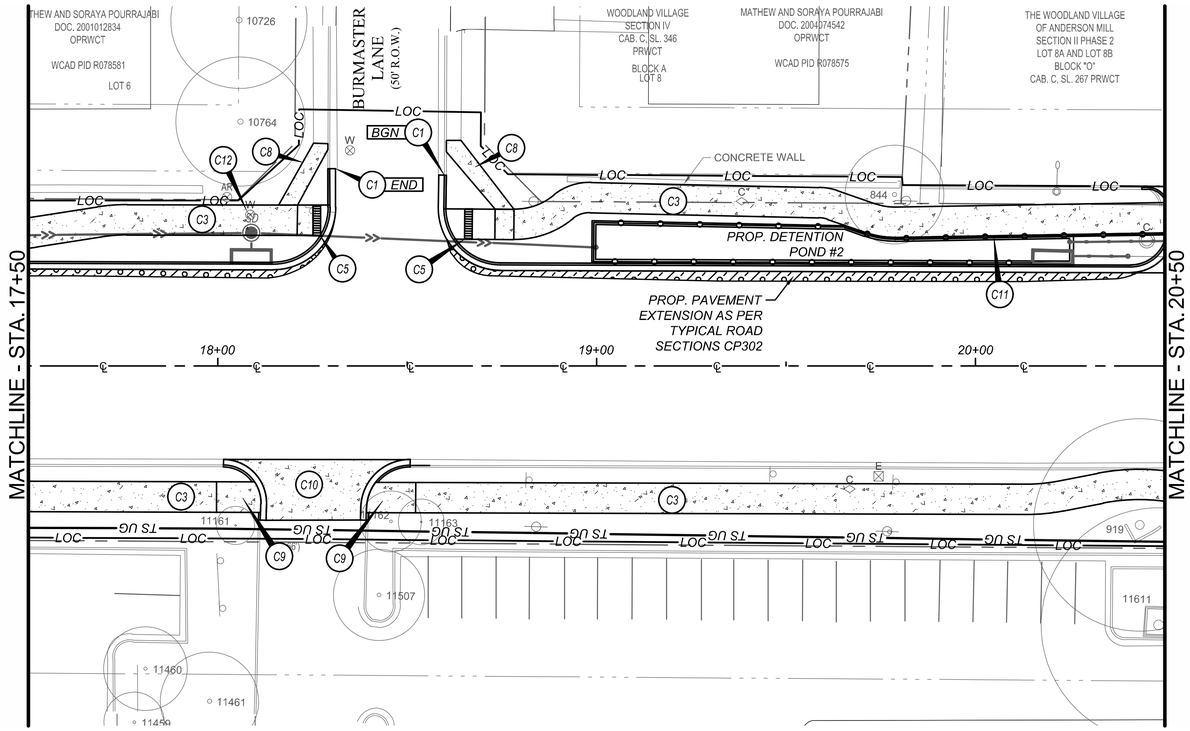
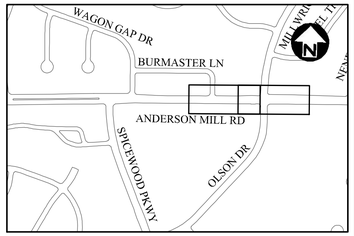
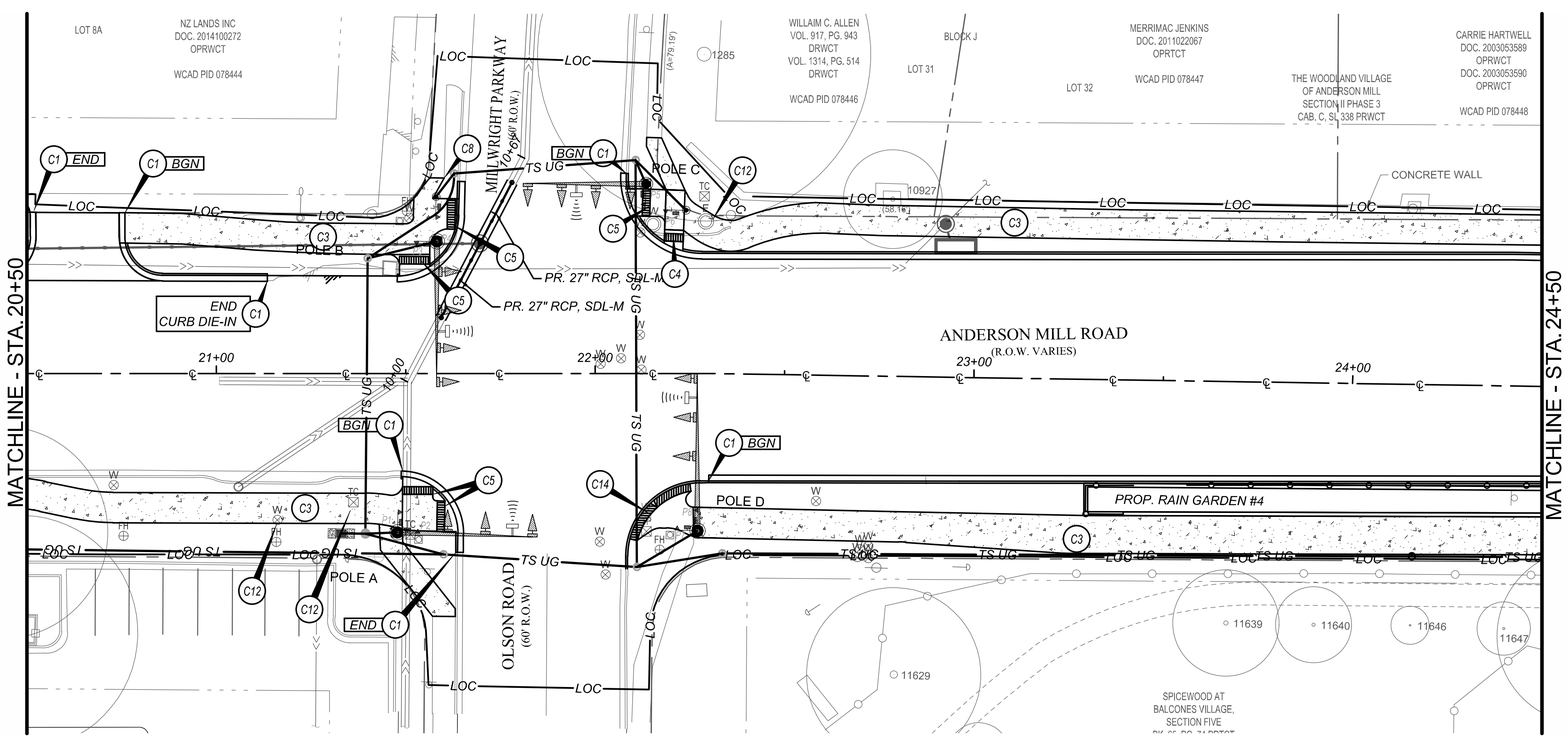
THIVAKARAN, JOTHIKA





PROPOSED IMPROVEMENTS SCHEDULE	
NO	DESCRIPTION
C1	CURB AND GUTTER (PER COA 430S-1)
C2	SAWTOOTH CURB AND GUTTER (PER CP505)
C3	8 FT WIDE SHARED USE PATH (PER COA 432S-1)
C4	CURB RAMP - 5FT WIDE (PER COA 432S-5)
C5	CURB RAMP - 8FT WIDE (PER COA 432S-5)
C6	MEDIAN (PER DETAIL SHEET CP505)
C7	EDGE MILLING
C8	SIDEWALK (PER COA 432S-1)
C9	SIDEWALK RAMP (MAX SLOPE 1:12)
C10	DRIVEWAY (PER COA 433S-2)
C11	HANDRAIL (PER COA 707-4)
C12	ADJUST UTILITIES TO FINISHED GRADE AS NEEDED
C13	RELOCATE UTILITIES
C14	CURB RAMP - BLENDED TRANSITION WITH 2% MAX CROSS SLOPE & 5% MAX RUNNING SLOPE



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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

PROPOSED SITE PLAN
STA. 17+50 - 24+50

CITY OF AUSTIN
FOUNDED 1839

NOTES	NAME	DATE
SURVEY BY	N/A	N/A
DRAWN BY	JT/JP	8/18
DESIGNED BY	JT/EZ	8/18
CHECKED BY	EZ/CG	8/18
REVIEWED BY	ESD	8/18

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HORIZONTAL SCALE IN FEET

GP-2019-0210.ATD

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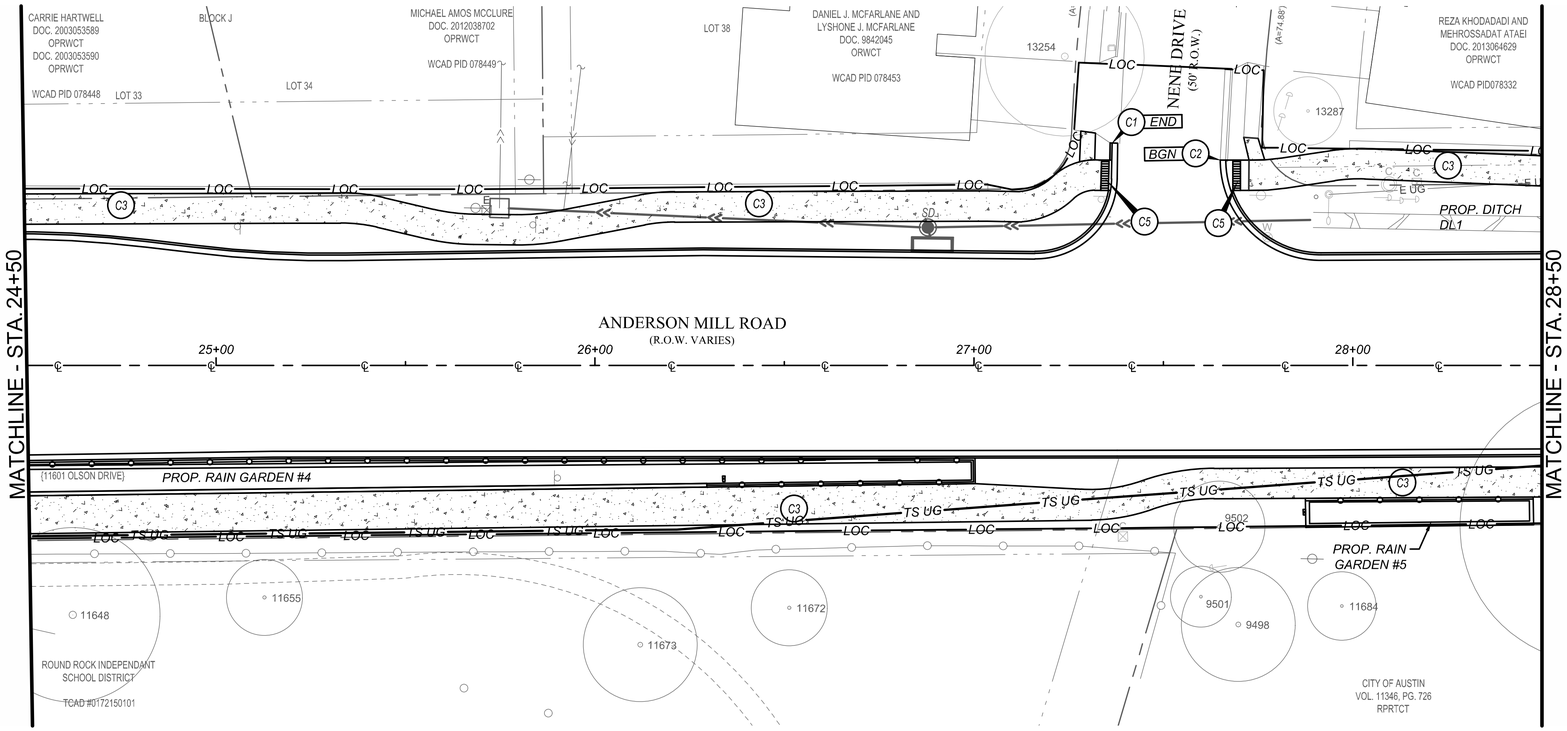
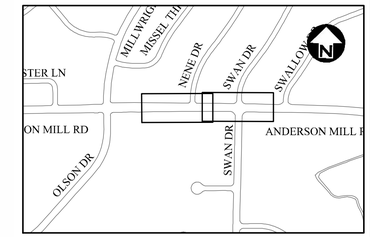
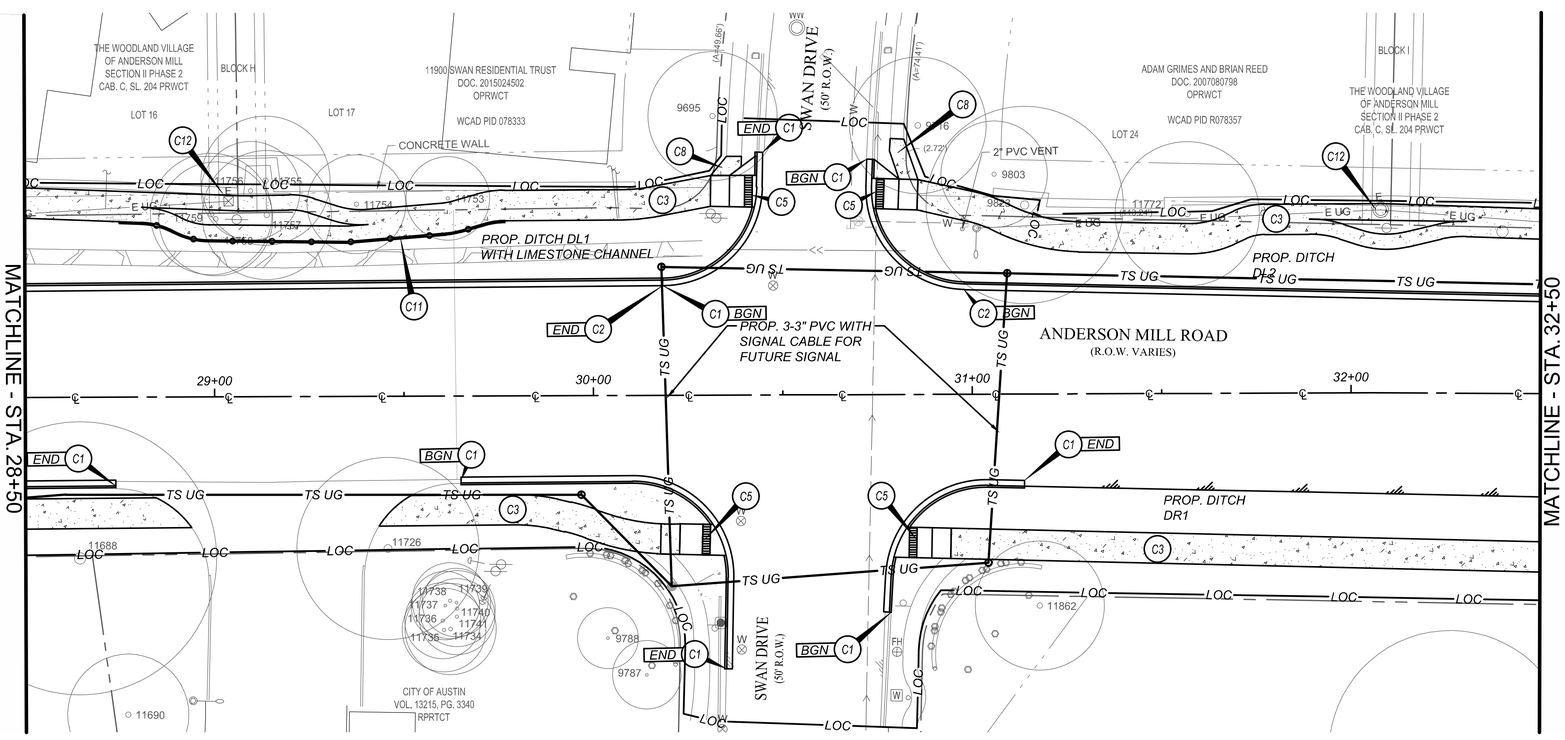
THIVAKARAN, JOTHIKA





PROPOSED IMPROVEMENTS SCHEDULE	
NO	DESCRIPTION
C1	CURB AND GUTTER (PER COA 430S-1)
C2	SAWTOOTH CURB AND GUTTER (PER CP505)
C3	8 FT WIDE SHARED USE PATH (PER COA 432S-1)
C4	CURB RAMP - 5FT WIDE (PER COA 432S-5)
C5	CURB RAMP - 8FT WIDE (PER COA 432S-5)
C6	MEDIAN (PER DETAIL SHEET CP505)
C7	EDGE MILLING
C8	SIDEWALK (PER COA 432S-1)
C9	SIDEWALK RAMP (MAX SLOPE 1:12)
C10	DRIVEWAY (PER COA 433S-2)
C11	HANDRAIL (PER COA 707-4)
C12	ADJUST UTILITIES TO FINISHED GRADE AS NEEDED
C13	RELOCATE UTILITIES
C14	CURB RAMP - BLENDED TRANSITION WITH 2% MAX CROSS SLOPE & 5% MAX RUNNING SLOPE



GENERAL NOTE:
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STATE OF TEXAS
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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

PROPOSED SITE PLAN
STA. 24+50 - 32+50

CITY OF AUSTIN
FOUNDED 1839

NOTES	NAME	DATE
SURVEY BY	N/A	N/A
DRAWN BY	JT/JP	8/18
DESIGNED BY	JT/EZ	8/18
CHECKED BY	EZ/CG	8/18
REVIEWED BY	ESD	8/18

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HORIZONTAL SCALE IN FEET

GP-2019-0210.ATD

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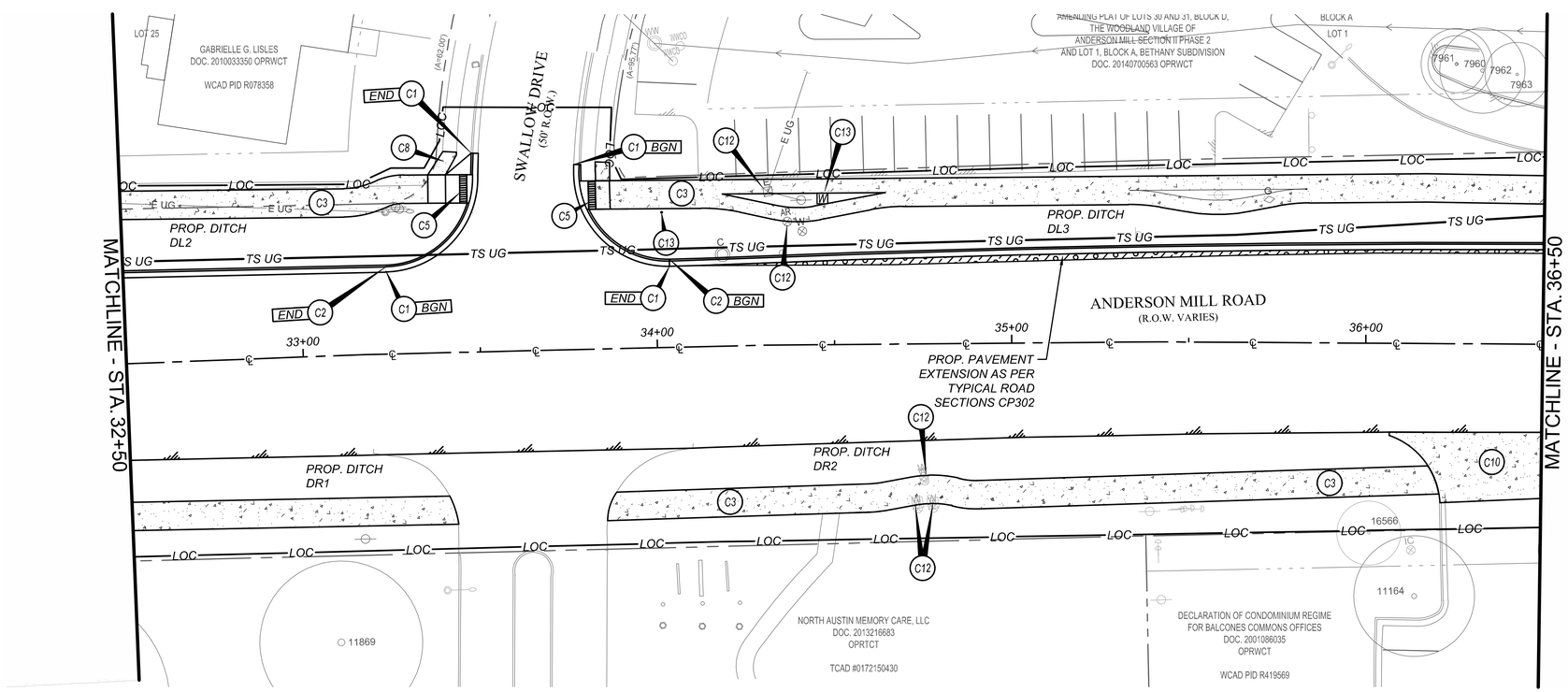
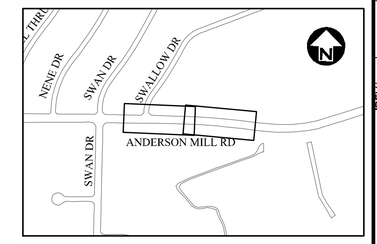
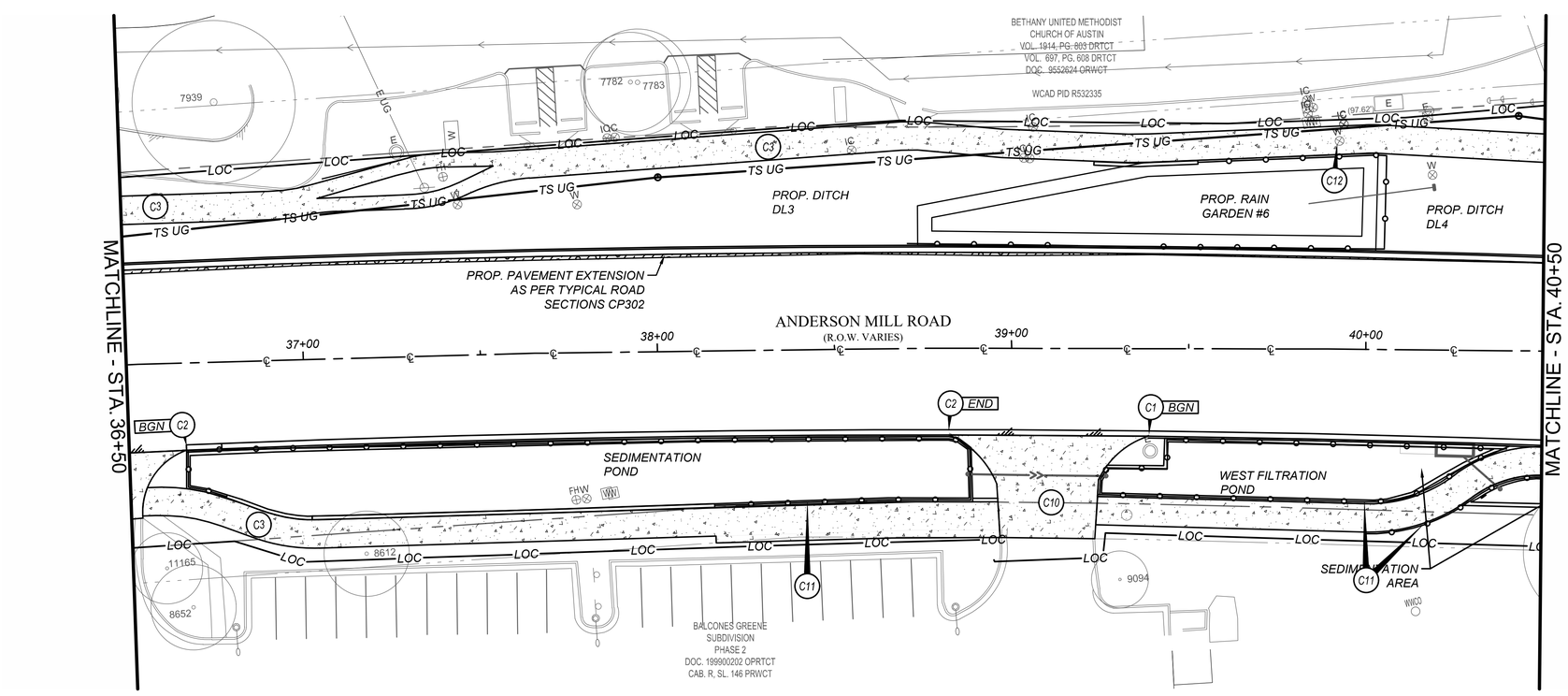
THIVAKARAN, JOTHIKA





PROPOSED IMPROVEMENTS SCHEDULE	
NO	DESCRIPTION
C1	CURB AND GUTTER (PER COA 430S-1)
C2	SAWTOOTH CURB AND GUTTER (PER CP505)
C3	8 FT WIDE SHARED USE PATH (PER COA 432S-1)
C4	CURB RAMP - 5FT WIDE (PER COA 432S-5)
C5	CURB RAMP - 8FT WIDE (PER COA 432S-5)
C6	MEDIAN (PER DETAIL SHEET CP505)
C7	EDGE MILLING
C8	SIDEWALK (PER COA 432S-1)
C9	SIDEWALK RAMP (MAX SLOPE 1:12)
C10	DRIVEWAY (PER COA 433S-2)
C11	HANDRAIL (PER COA 707-4)
C12	ADJUST UTILITIES TO FINISHED GRADE AS NEEDED
C13	RELOCATE UTILITIES
C14	CURB RAMP - BLENDED TRANSITION WITH 2% MAX CROSS SLOPE & 5% MAX RUNNING SLOPE



GENERAL NOTE:
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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

PROPOSED SITE PLAN
STA. 32+50 - 40+50

NOTES	NAME	DATE
SURVEY BY	N/A	N/A
DRAWN BY	JT/JP	8/18
DESIGNED BY	JT/EZ	8/18
CHECKED BY	EZ/CG	8/18
REVIEWED BY	ESD	8/18

0 20 40
HORIZONTAL SCALE IN FEET

GP-2019-0210.ATD

N:\TEAM\HAYD_ANDERSON_MILL_RD\DWG\PRODUCTION_FILES\DWG\ANMR-C-RD-PLAN01.DWG, CCA_PDF_22X34, COA_ESD.STB
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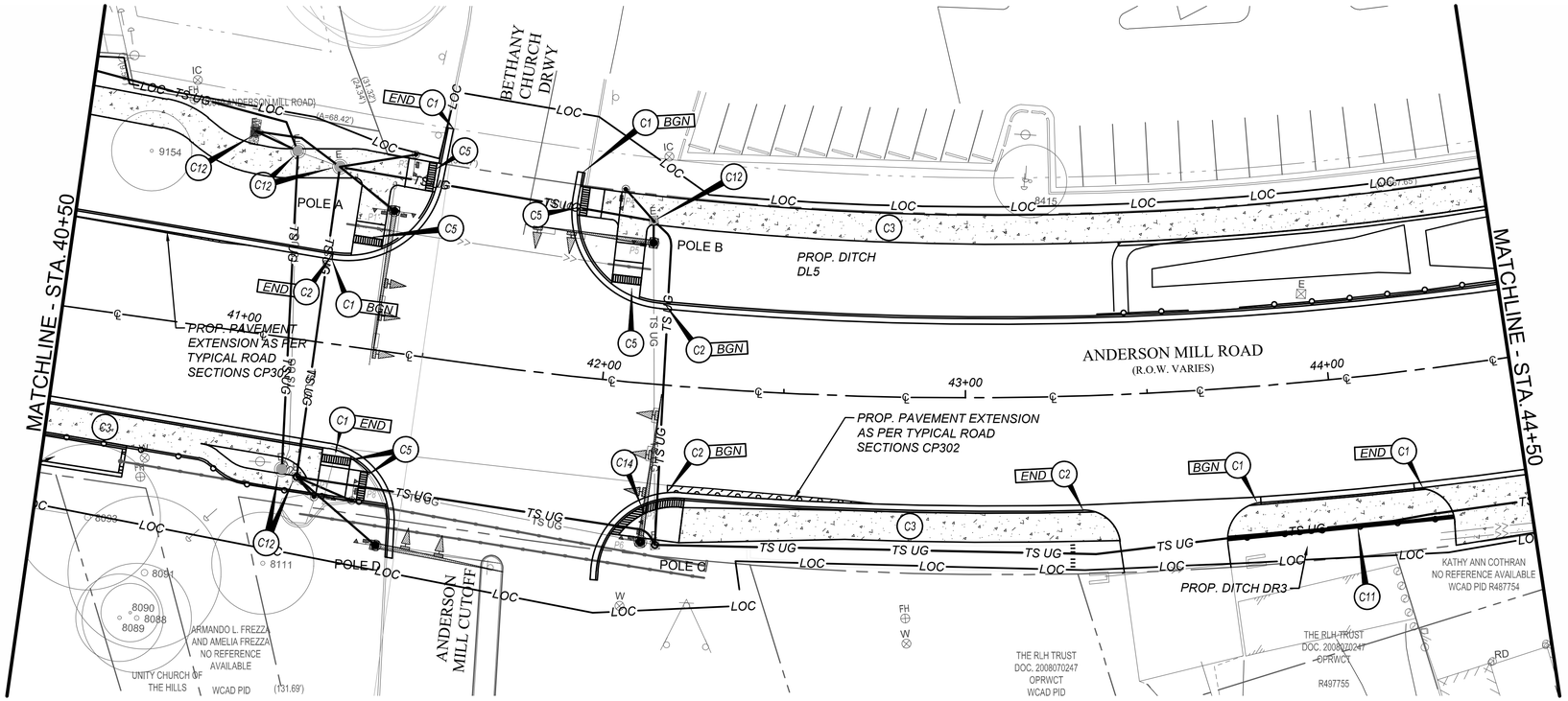
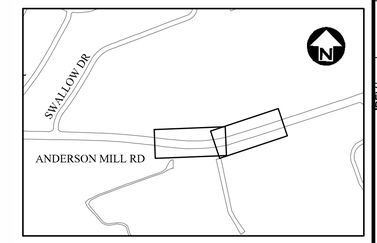
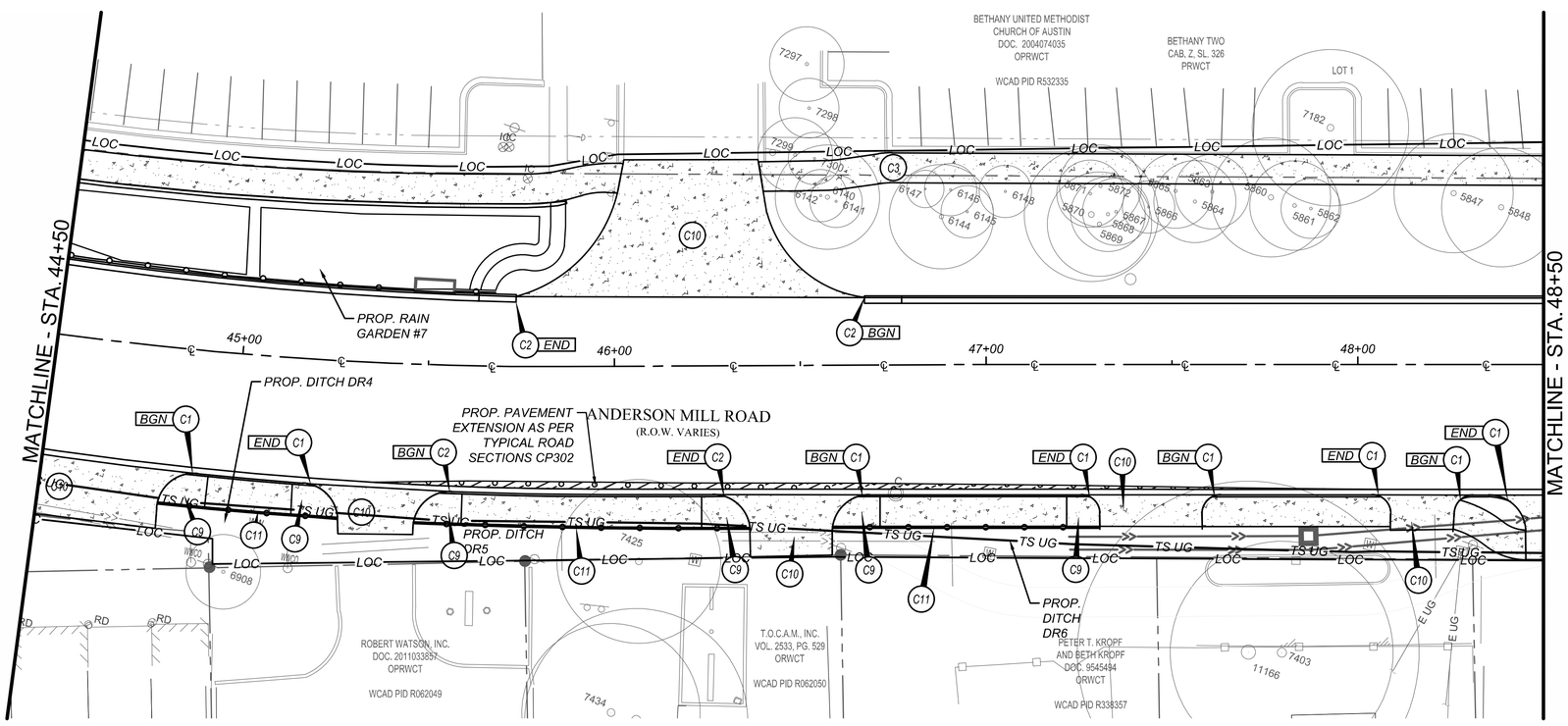
THIVAKARAN, JOTHIKA





PROPOSED IMPROVEMENTS SCHEDULE	
NO	DESCRIPTION
C1	CURB AND GUTTER (PER COA 430S-1)
C2	SAWTOOTH CURB AND GUTTER (PER CP505)
C3	8 FT WIDE SHARED USE PATH (PER COA 432S-1)
C4	CURB RAMP - 5FT WIDE (PER COA 432S-5)
C5	CURB RAMP - 8FT WIDE (PER COA 432S-5)
C6	MEDIAN (PER DETAIL SHEET CP505)
C7	EDGE MILLING
C8	SIDEWALK (PER COA 432S-1)
C9	SIDEWALK RAMP (MAX SLOPE 1:12)
C10	DRIVEWAY (PER COA 433S-2)
C11	HANDRAIL (PER COA 707-4)
C12	ADJUST UTILITIES TO FINISHED GRADE AS NEEDED
C13	RELOCATE UTILITIES
C14	CURB RAMP - BLENDED TRANSITION WITH 2% MAX CROSS SLOPE & 5% MAX RUNNING SLOPE



GENERAL NOTE:
SIDEWALK / SHARED USE PATH WITHIN THE TREE ROOT ZONE NEEDS TO BE EVALUATED BY CERTIFIED ARBORIST PRIOR TO EXCAVATION. REFER TO DETAIL ON SHEET CP505 FOR SAND BRIDGING TREE ROOTS IF DEEMED NECESSARY BY CERTIFIED ARBORIST,

REV NO.	BY	DATE	REVISION DESCRIPTION

STATE OF TEXAS
XIAOQIN ZHANG, P.E.
96436
LICENSED
PROFESSIONAL ENGINEER
01/29/2020

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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

PROPOSED SITE PLAN
STA. 40+50 - 48+50

CITY OF AUSTIN FOUNDED 1839

NOTES	NAME	DATE
SURVEY BY	N/A	N/A
DRAWN BY	JT/JP	8/18
DESIGNED BY	JT/EZ	8/18
CHECKED BY	EZ/CG	8/18
REVIEWED BY	ESD	8/18

0 20 40
HORIZONTAL SCALE IN FEET

GP-2019-0210.ATD

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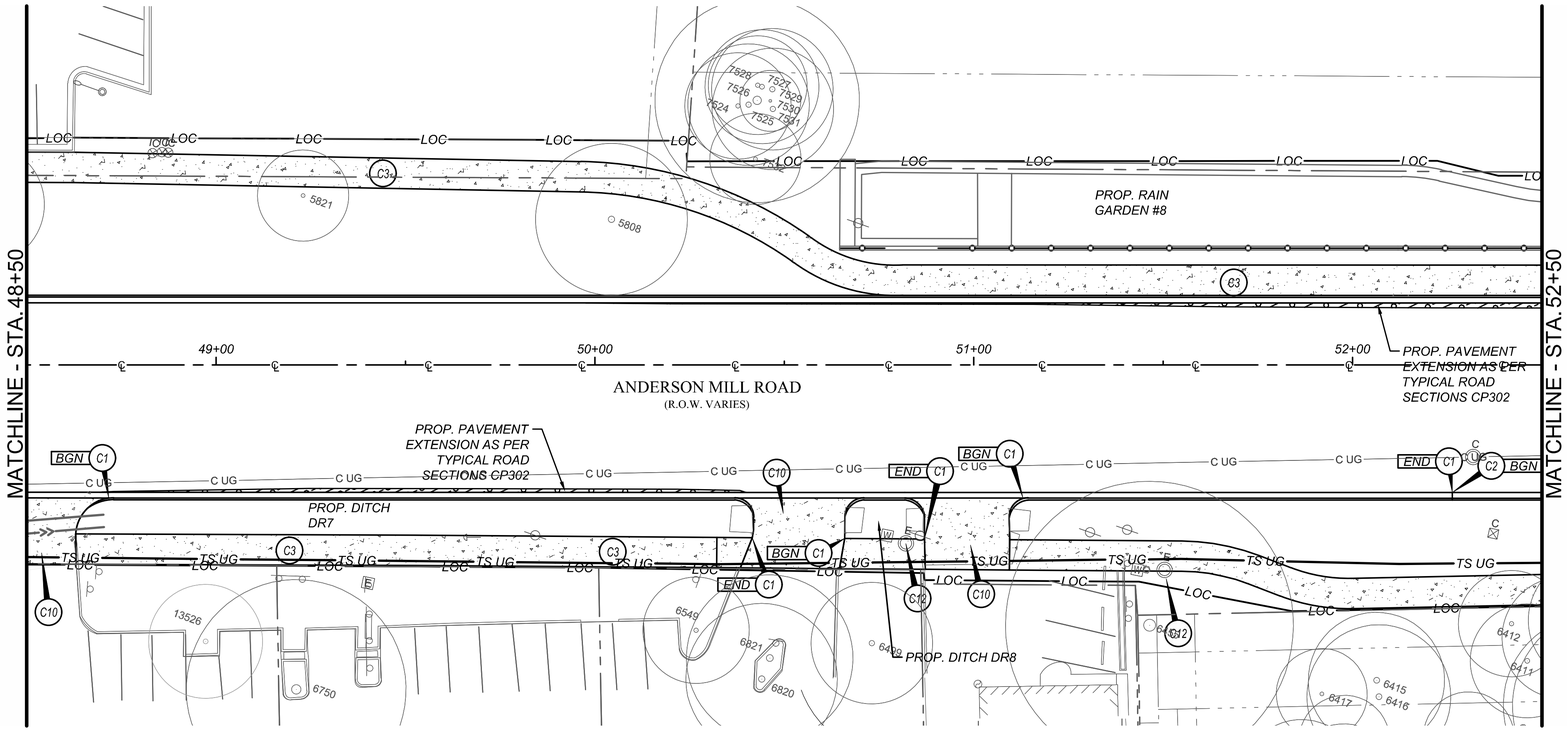
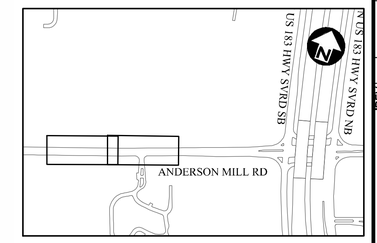
THIVAKARAN, JOTHIKA





PROPOSED IMPROVEMENTS SCHEDULE	
NO	DESCRIPTION
C1	CURB AND GUTTER (PER COA 430S-1)
C2	SAWTOOTH CURB AND GUTTER (PER CP505)
C3	8 FT WIDE SHARED USE PATH (PER COA 432S-1)
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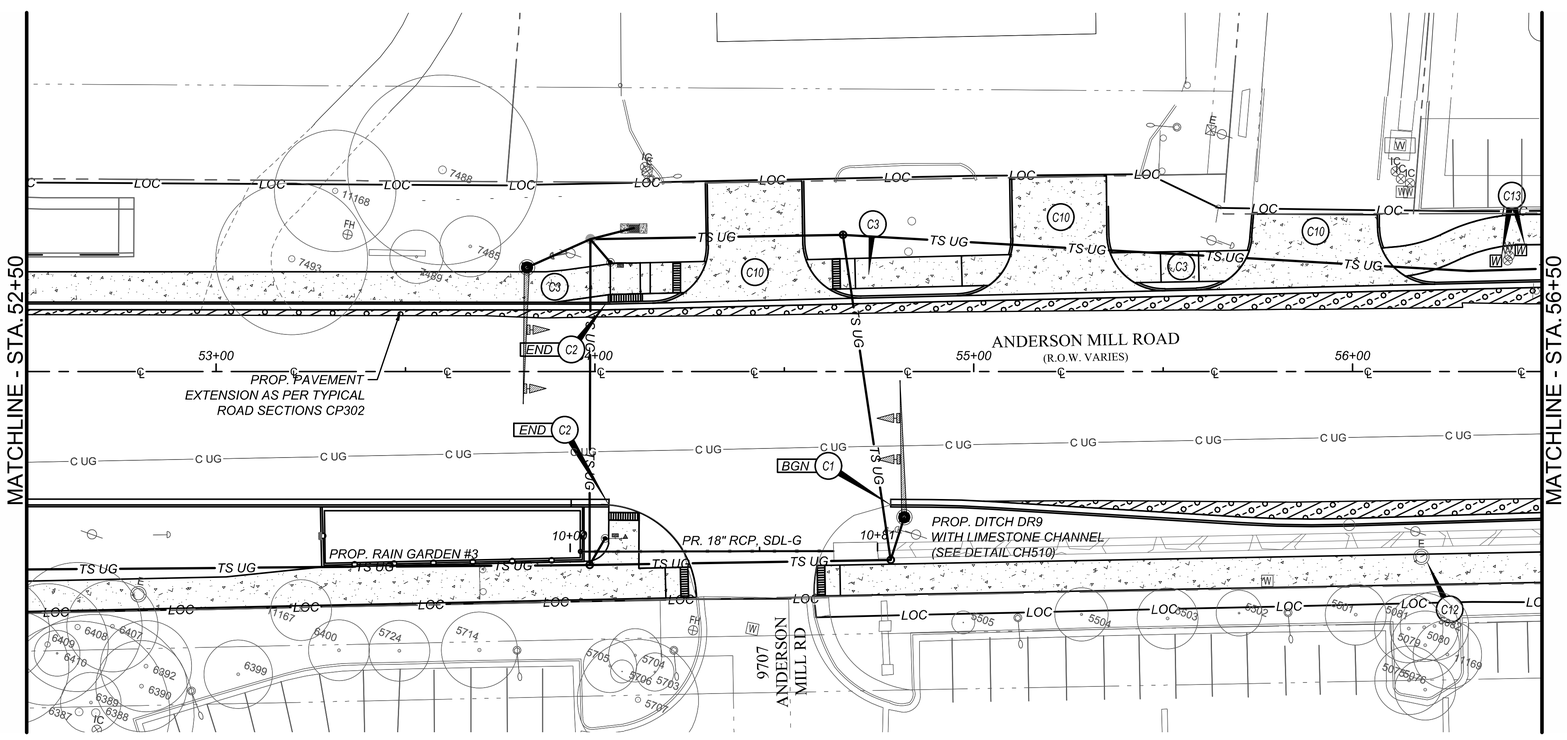
C5	CURB RAMP - 8FT WIDE (PER COA 432S-5)
C6	MEDIAN (PER DETAIL SHEET CP505)
C7	EDGE MILLING
C8	SIDEWALK (PER COA 432S-1)
C9	SIDEWALK RAMP (MAX SLOPE 1:12)
C10	DRIVEWAY (PER COA 433S-2)
C11	HANDRAIL (PER COA 707-4)
C12	ADJUST UTILITIES TO FINISHED GRADE AS NEEDED
C13	RELOCATE UTILITIES
C14	CURB RAMP - BLENDED TRANSITION WITH 2% MAX CROSS SLOPE & 5% MAX RUNNING SLOPE



GENERAL NOTE:
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STATE OF TEXAS
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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

PROPOSED SITE PLAN
STA. 48+50 - 56+50

CITY OF AUSTIN FOUNDED 1839

NOTES	NAME	DATE
SURVEY BY	N/A	N/A
DRAWN BY	JT/JP	8/18
DESIGNED BY	JT/EZ	8/18
CHECKED BY	EZ/CG	8/18
REVIEWED BY	ESD	8/18

0 20 40
HORIZONTAL SCALE IN FEET

GP-2019-0210.ATD

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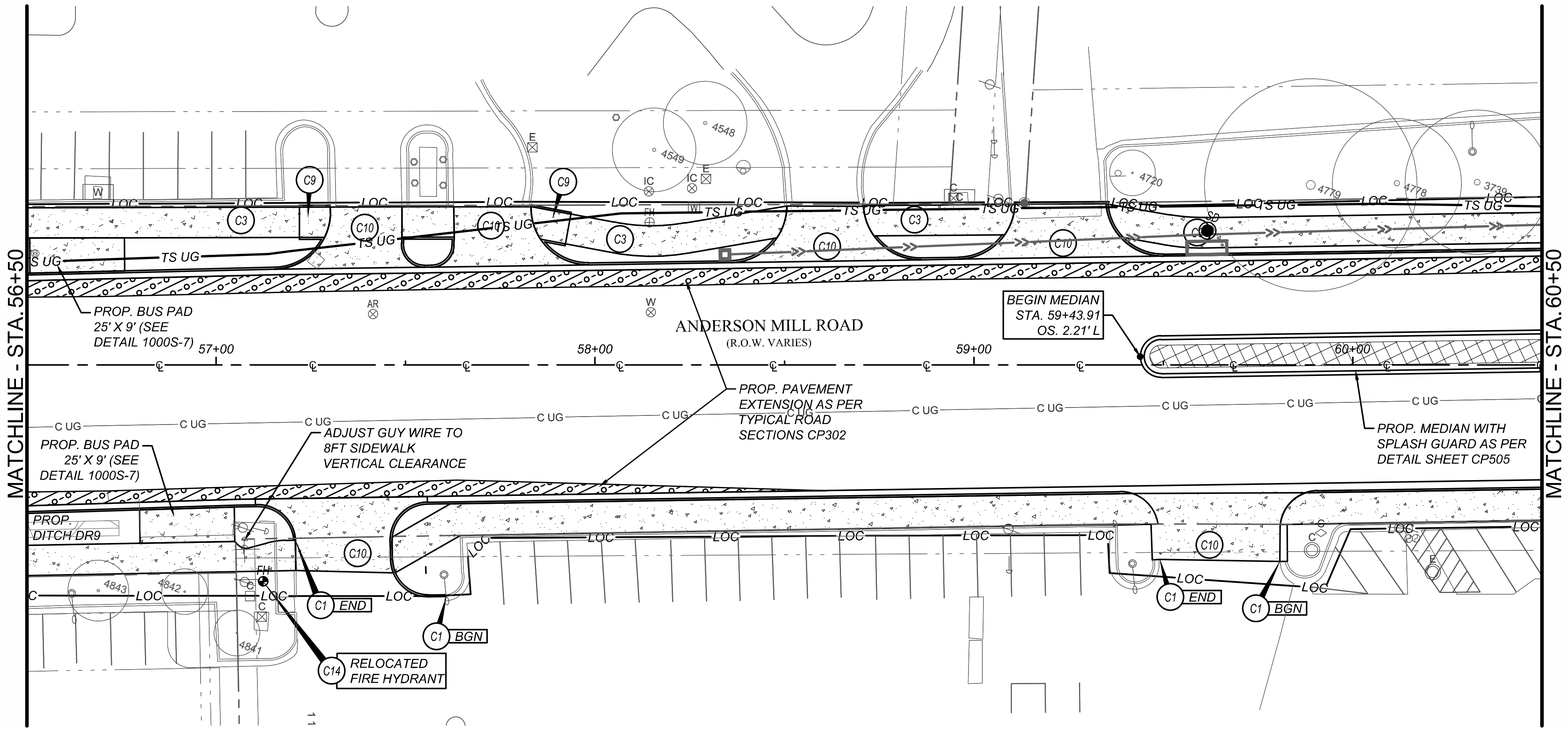
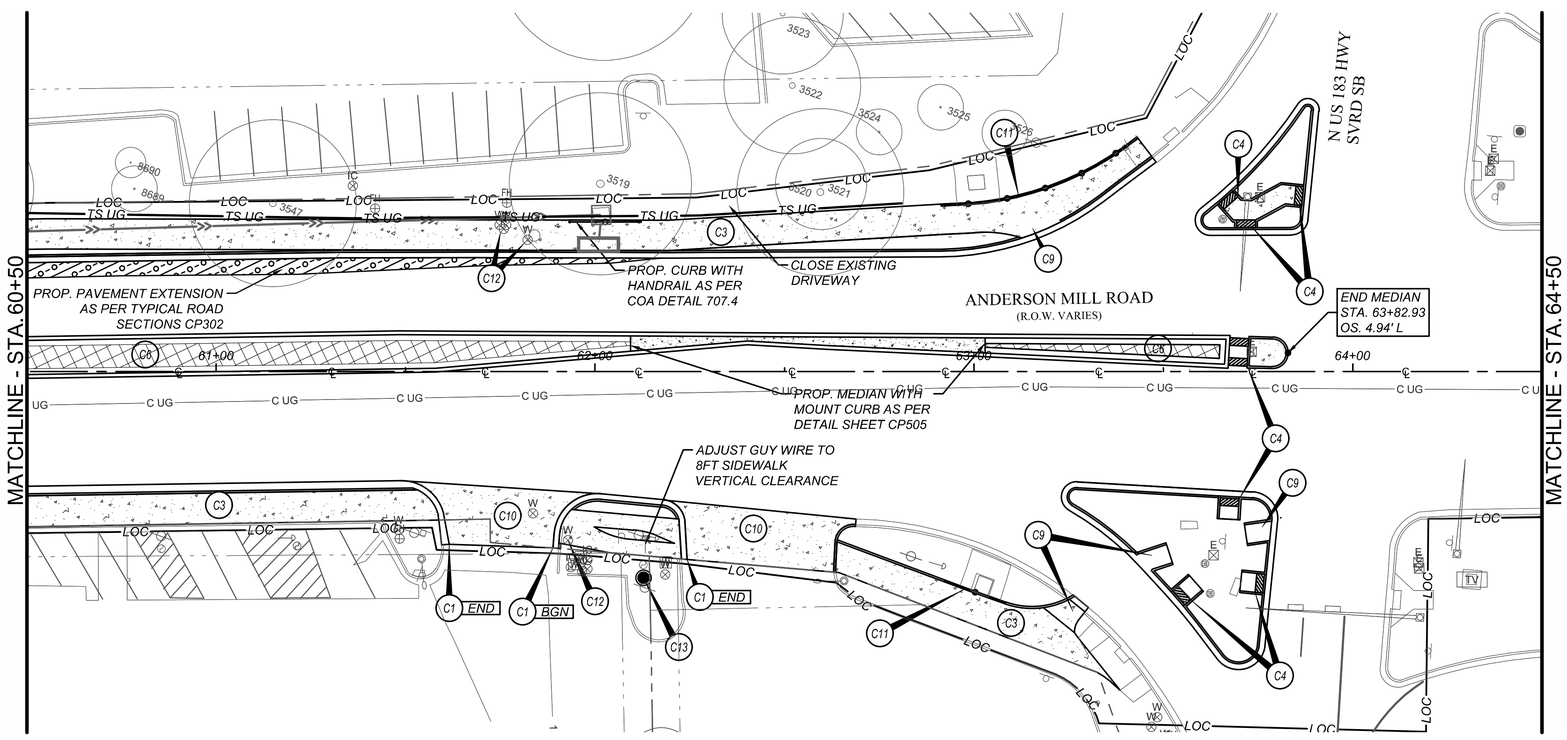
THIVAKARAN, JOTHIKA



PROPOSED IMPROVEMENTS SCHEDULE	
NO	DESCRIPTION
C1	CURB AND GUTTER (PER COA 430S-1)
C2	SAWTOOTH CURB AND GUTTER (PER CP505)
C3	8 FT WIDE SHARED USE PATH (PER COA 432S-1)
C4	CURB RAMP - 5FT WIDE (PER COA 432S-5)
C5	CURB RAMP - 8FT WIDE (PER COA 432S-5)
C6	MEDIAN (PER DETAIL SHEET CP505)
C7	EDGE MILLING
C8	SIDEWALK (PER COA 432S-1)
C9	SIDEWALK RAMP (MAX SLOPE 1:12)
C10	DRIVEWAY (PER COA 433S-2)
C11	HANDRAIL (PER COA 707-4)
C12	ADJUST UTILITIES TO FINISHED GRADE AS NEEDED
C13	RELOCATE UTILITIES
C14	CURB RAMP - BLENDED TRANSITION WITH 2% MAX CROSS SLOPE & 5% MAX RUNNING SLOPE



GENERAL NOTE:
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REV NO.	BY	DATE	REVISION DESCRIPTION

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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

PROPOSED SITE PLAN
STA. 56+50 - 64+50

CITY OF AUSTIN FOUNDED 1839

NOTES	NAME	DATE
SURVEY BY	N/A	N/A
DRAWN BY	JT/JP	8/18
DESIGNED BY	JT/EZ	8/18
CHECKED BY	EZ/CG	8/18
REVIEWED BY	ESD	8/18

0 20 40
HORIZONTAL SCALE IN FEET

GP-2019-0210.ATD

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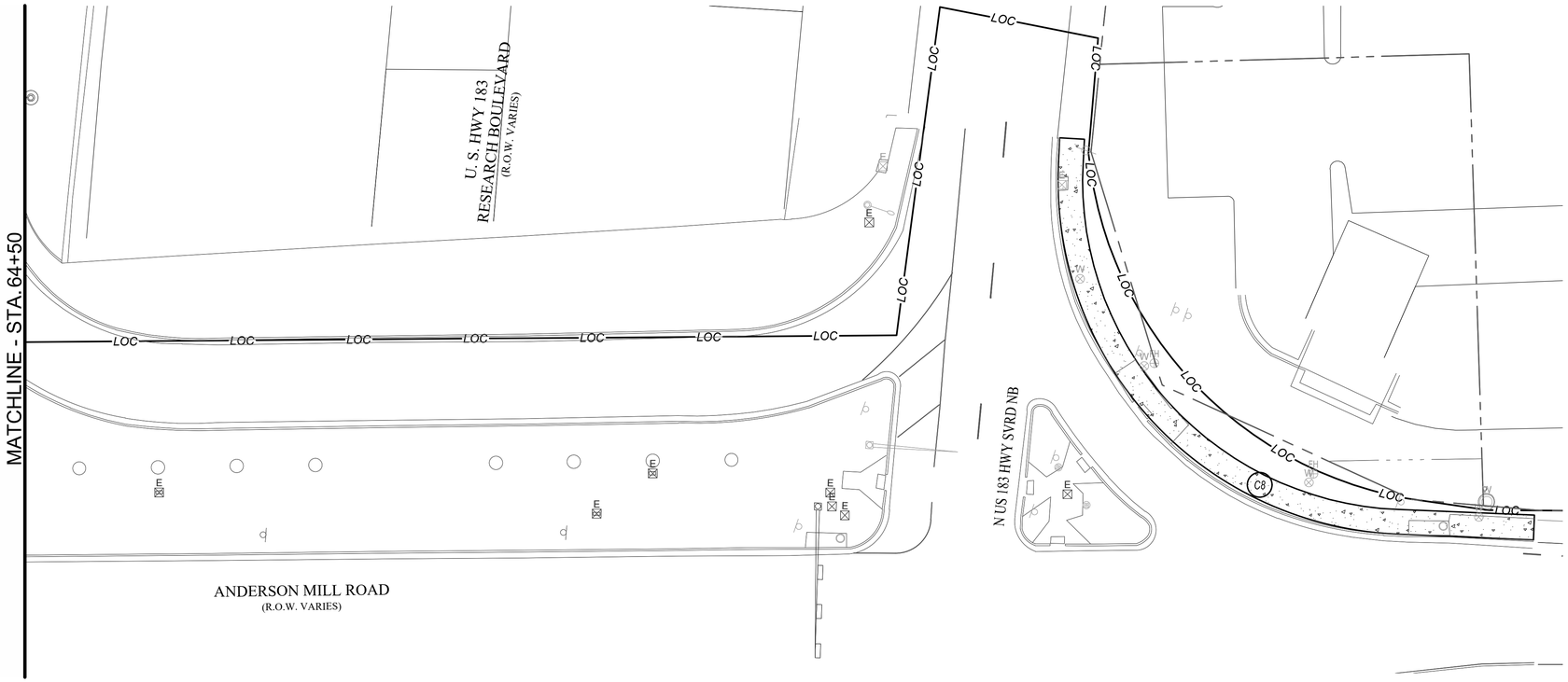
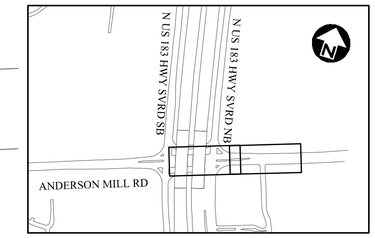
THIVAKARAN, JOTHIKA





PROPOSED IMPROVEMENTS SCHEDULE	
NO	DESCRIPTION
C1	CURB AND GUTTER (PER COA 430S-1)
C2	SAWTOOTH CURB AND GUTTER (PER CP505)
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C5	CURB RAMP - 8FT WIDE (PER COA 432S-5)
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C7	EDGE MILLING
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C11	HANDRAIL (PER COA 707-4)
C12	ADJUST UTILITIES TO FINISHED GRADE AS NEEDED
C13	RELOCATE UTILITIES
C14	CURB RAMP - BLENDED TRANSITION WITH 2% MAX CROSS SLOPE & 5% MAX RUNNING SLOPE

REV NO.	BY	DATE	REVISION DESCRIPTION

STATE OF TEXAS
XIAOQIN ZHANG, P.E.
96436
LICENSED
PROFESSIONAL ENGINEER
01/29/2020

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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

PROPOSED SITE PLAN
STA. 64+50 - END

CITY OF AUSTIN
FOUNDED 1839

NOTES	NAME	DATE
SURVEY BY	N/A	N/A
DRAWN BY	JT/JP	8/18
DESIGNED BY	JT/EZ	8/18
CHECKED BY	EZ/CG	8/18
REVIEWED BY	ESD	8/18

0 20 40
HORIZONTAL SCALE IN FEET

GP-2019-0210.ATD

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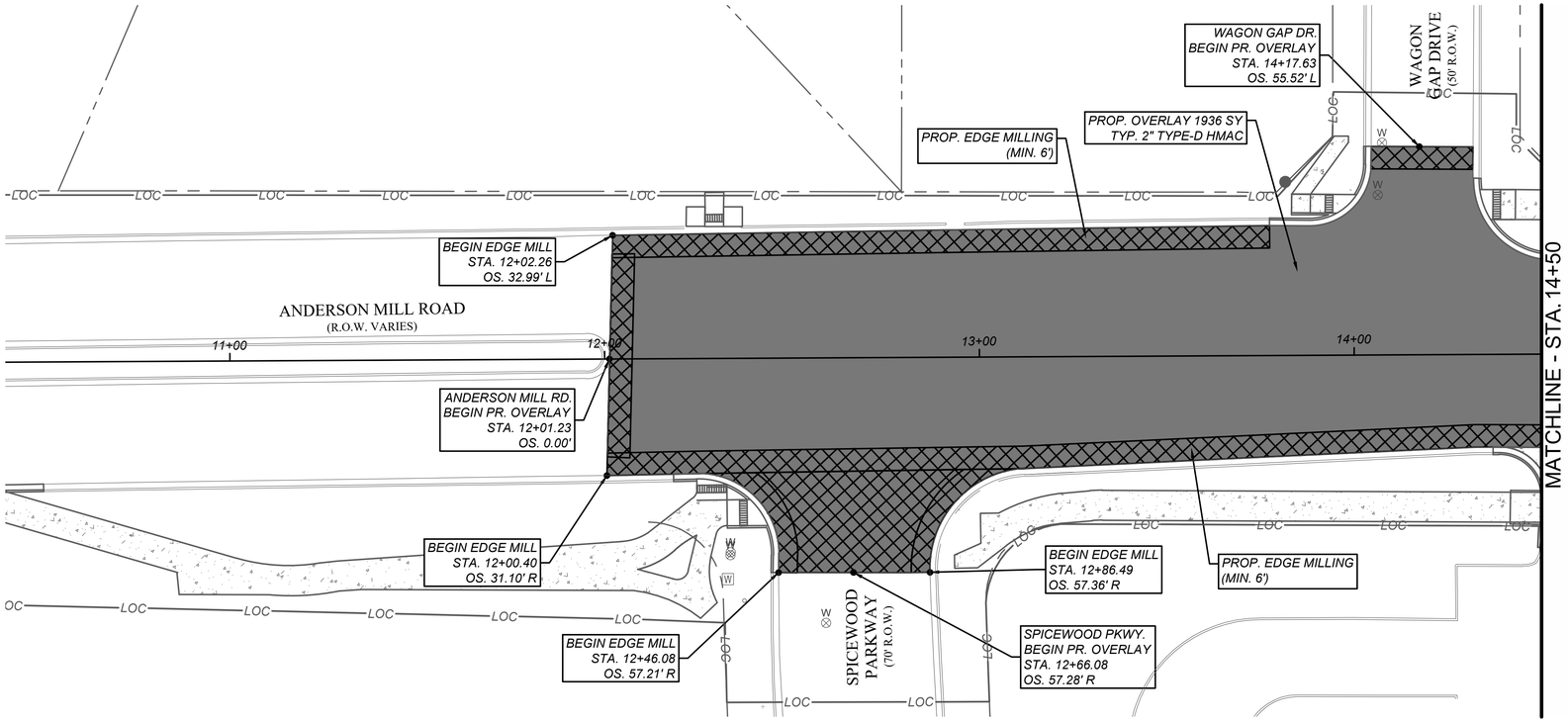
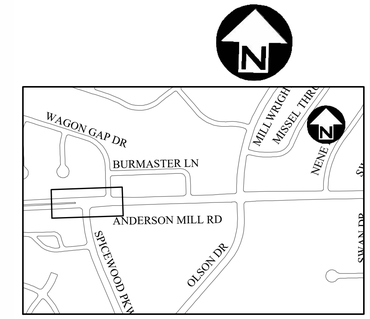
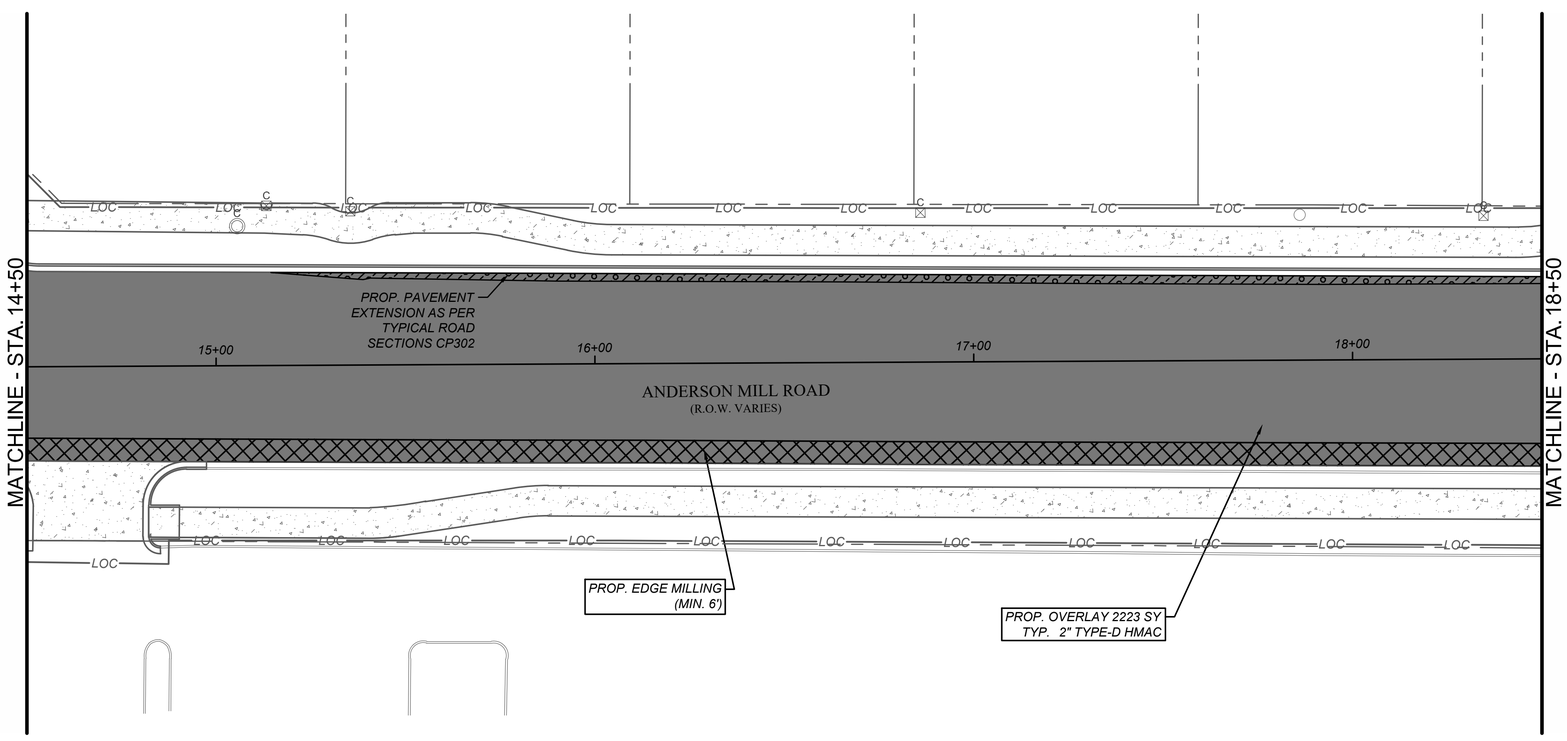
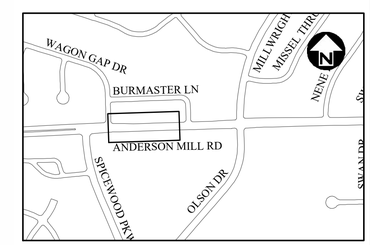
THIVAKARAN, JOTHIKA









NOTE:

1. GENERAL PAVING WITHIN THE PROJECT LIMITS WILL BE 2" TYPE D HMAC WITH BOTTOM TRACKING RESISTANT ASPHALT INTERLAYER (TRAIL) PER SS307.
2. ROADWAY WIDENING PAVEMENT SECTIONS AS PER TYPICAL SECTION SHEETS CP301-CP303.
3. ALL VALVES AND MANHOLES IN THE PAVEMENT SHOULD NOT BE PAVED OVER OR DAMAGED AND SHOULD BE ADJUSTED TO GRADE.

REV NO.	BY	DATE	REVISION DESCRIPTION

STATE OF TEXAS
XIAOQIN ZHANG, P.E.
96436
LICENSED
PROFESSIONAL ENGINEER
01/29/2020

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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

PAVING PLAN
BEGIN - STA. 14+50
END - STA. 18+50

CITY OF AUSTIN
FOUNDED 1839

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/JP	8/18
DESIGNED BY	JT/EZ	8/18
CHECKED BY	EZ/CG	8/18
REVIEWED BY	ESD	8/18

0 20 40
HORIZONTAL SCALE IN FEET

GP-2019-0210.ATD

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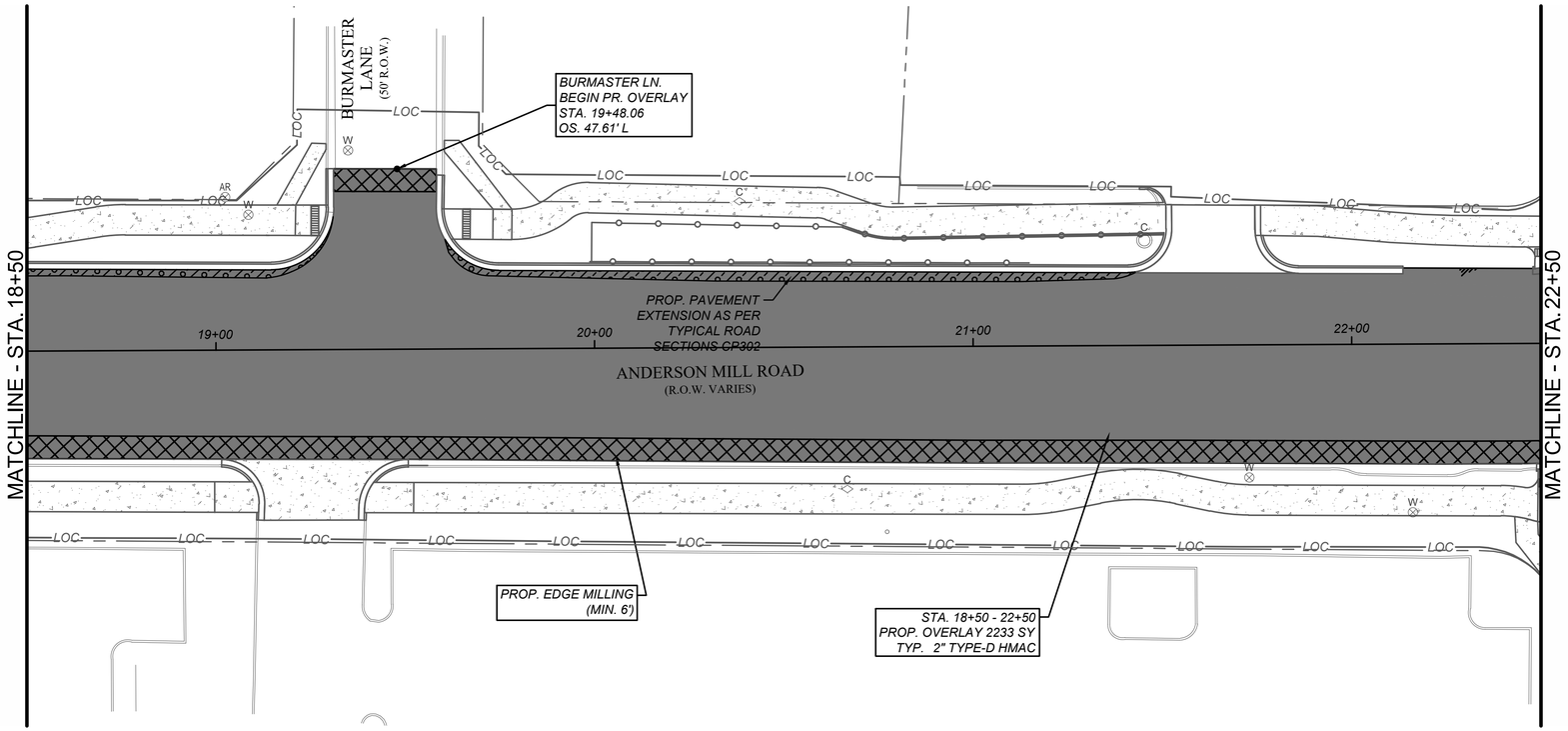
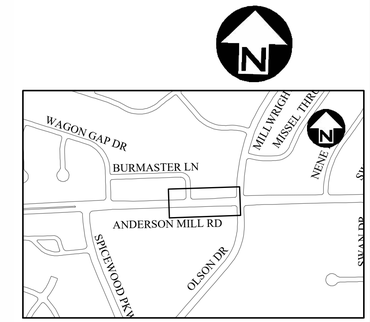
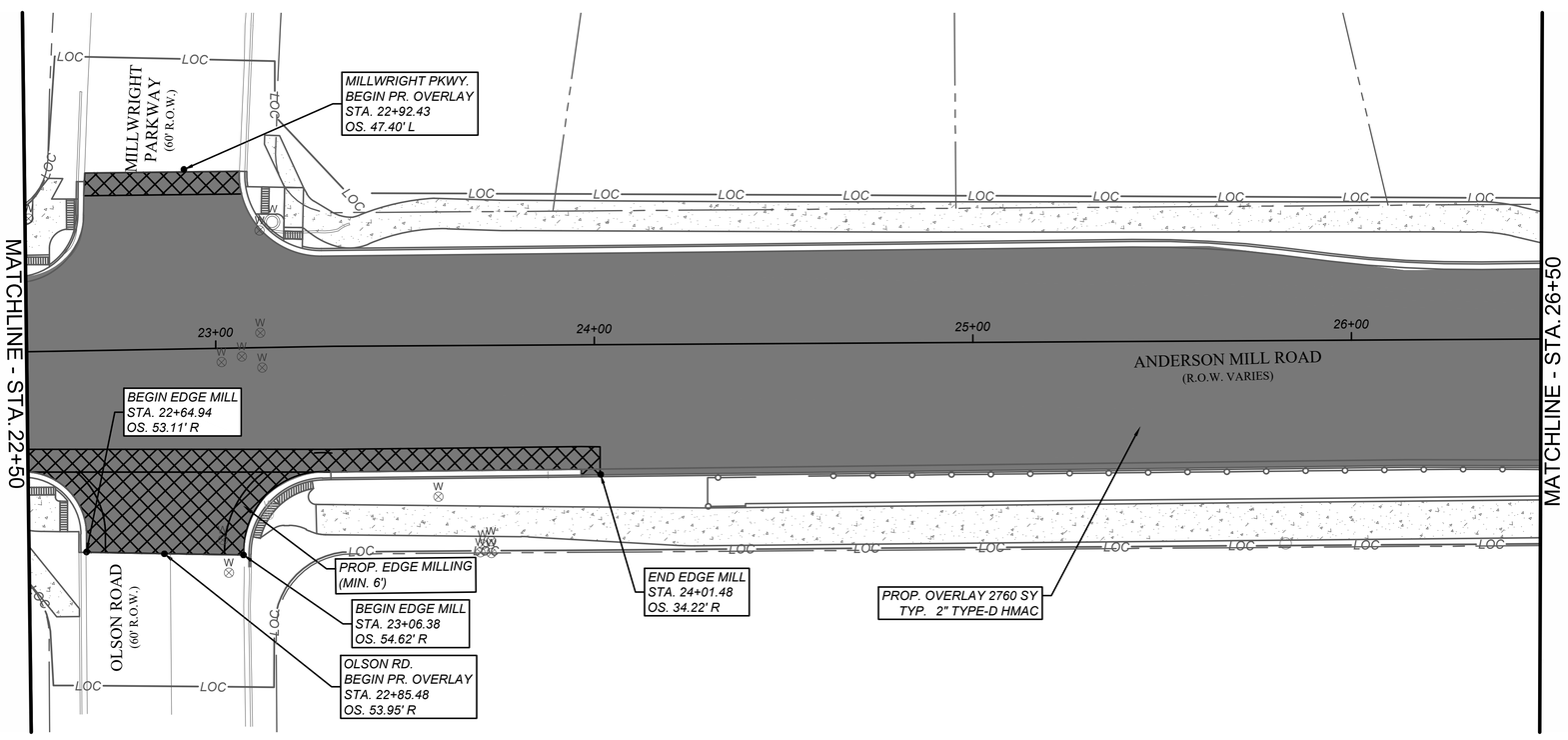
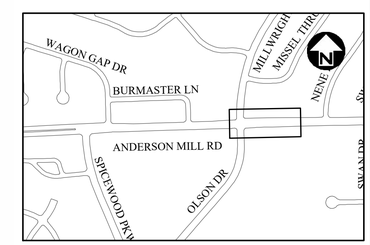
THIVAKARAN, JOTHIKA









NOTE:

1. GENERAL PAVING WITHIN THE PROJECT LIMITS WILL BE 2" TYPE D HMAC WITH BOTTOM TRACKING RESISTANT ASPHALT INTERLAYER (TRAIL) PER SS307.
2. ROADWAY WIDENING PAVEMENT SECTIONS AS PER TYPICAL SECTION SHEETS CP301-CP303.
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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

PAVING PLAN
STA. 18+50 - 26+50

CITY OF AUSTIN
FOUNDED 1839

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/JP	8/18
DESIGNED BY	JT/EZ	8/18
CHECKED BY	EZ/CG	8/18
REVIEWED BY	ESD	8/18

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HORIZONTAL SCALE IN FEET

GP-2019-0210.ATD

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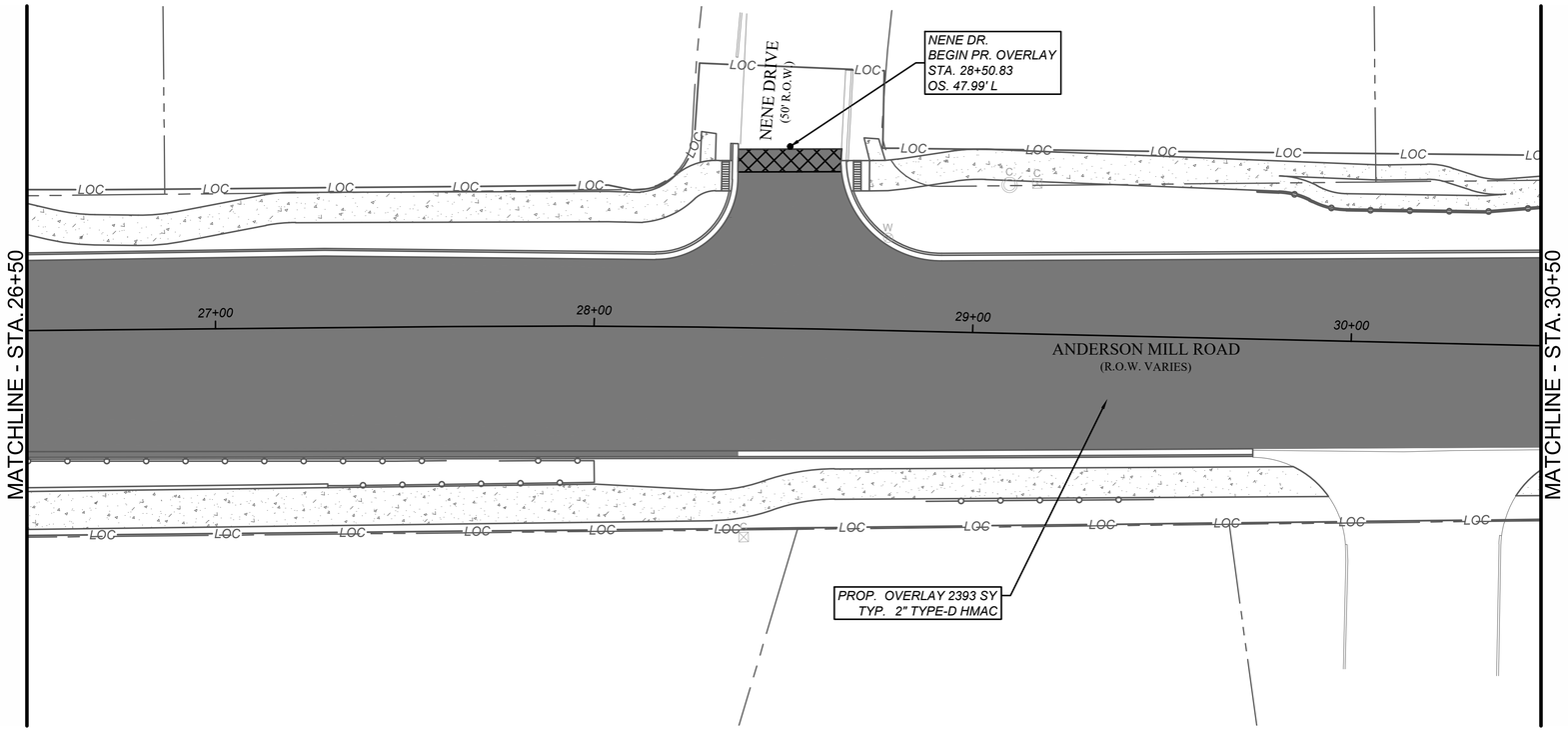
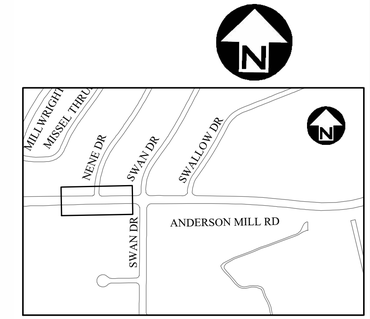
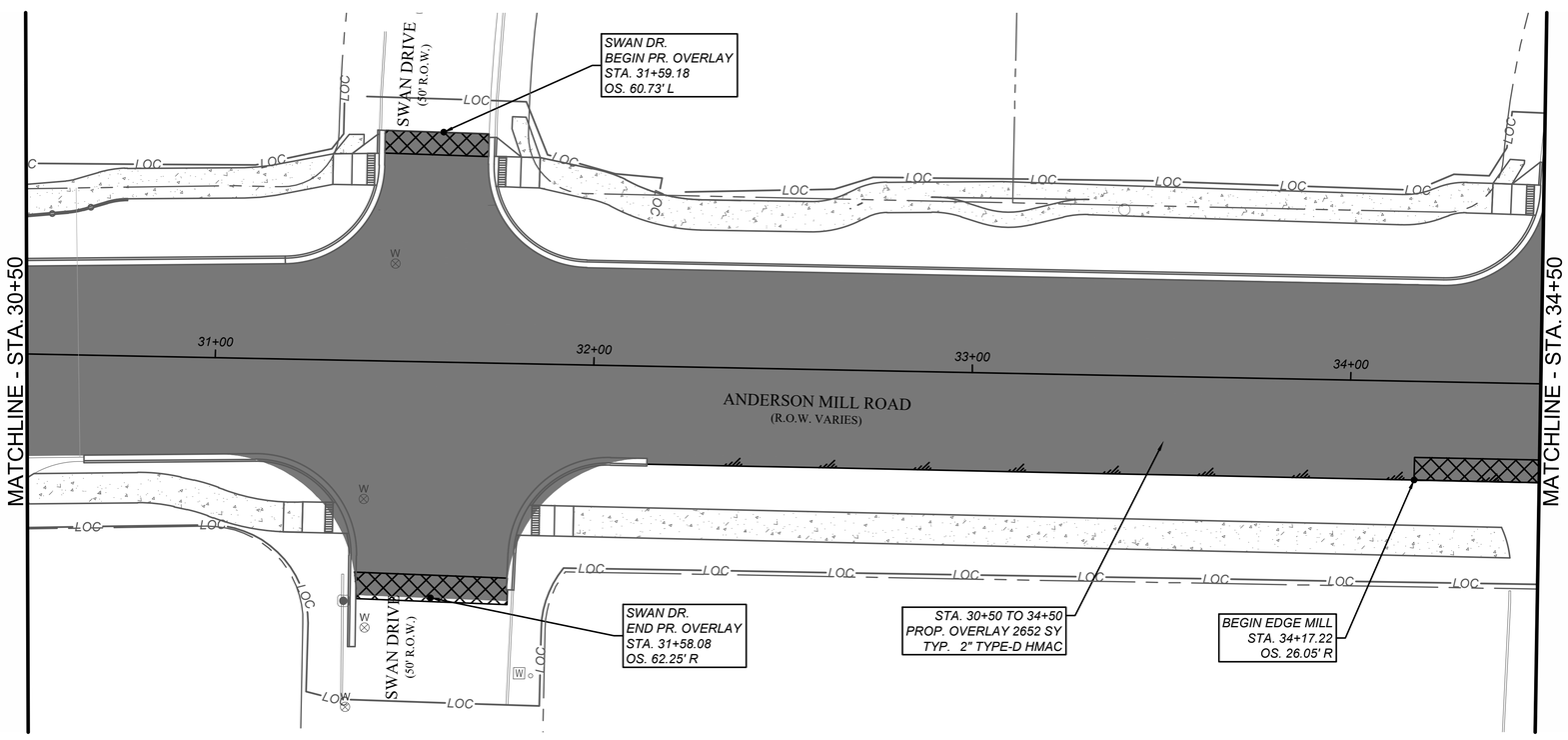
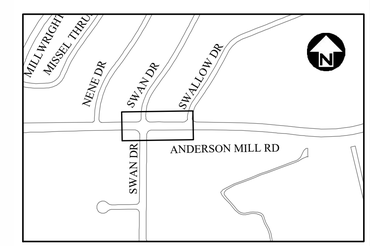
1/29/2020 10:08 AM
THIVAKARAN, VOTHIRA









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ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

PAVING PLAN
STA. 26+50 - 34+50

CITY OF AUSTIN
FOUNDED 1839

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/JP	8/18
DESIGNED BY	JT/EZ	8/18
CHECKED BY	EZ/CG	8/18
REVIEWED BY	ESD	8/18

0 20 40
HORIZONTAL SCALE IN FEET

GP-2019-0210.ATD

CP211 | 48 OF 142

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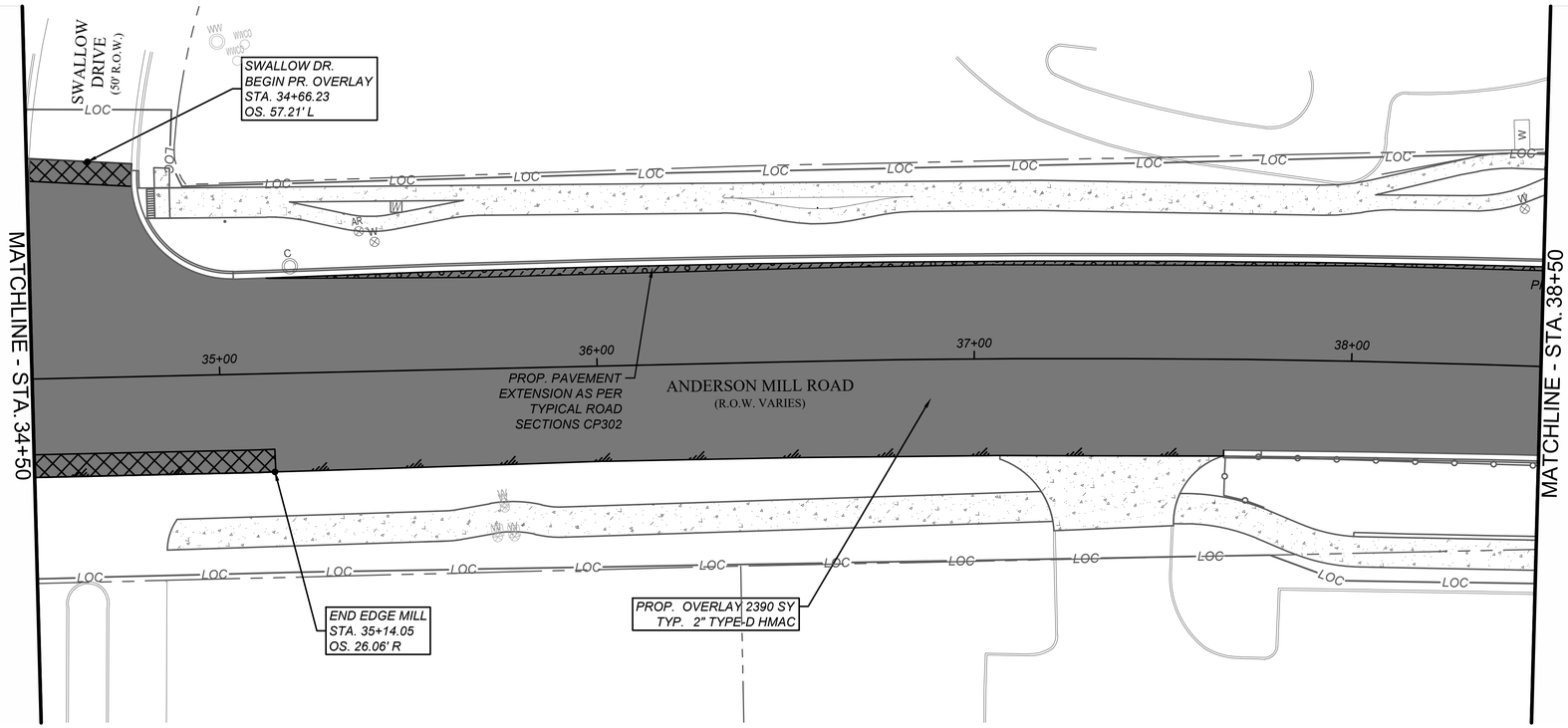
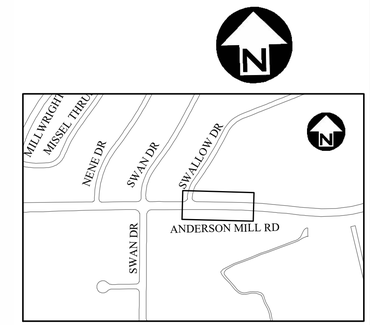
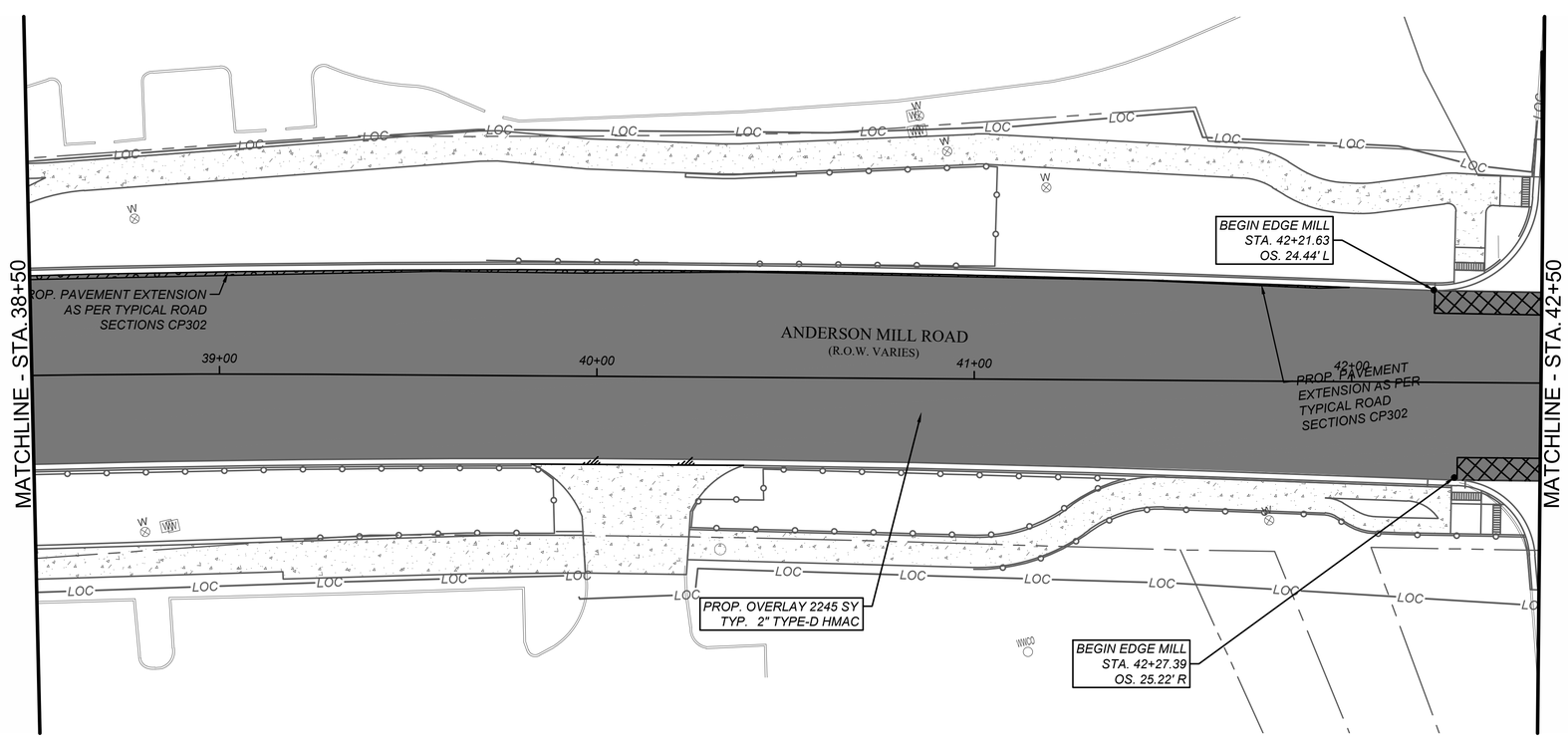
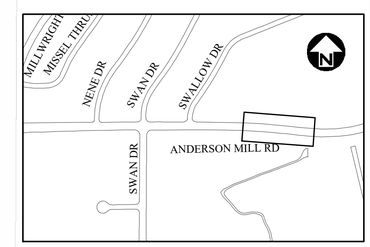
1/29/2020 10:08 AM
THIVAKARAN, JOTHIKA









NOTE:

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2. ROADWAY WIDENING PAVEMENT SECTIONS AS PER TYPICAL SECTION SHEETS CP301-CP303.
3. ALL VALVES AND MANHOLES IN THE PAVEMENT SHOULD NOT BE PAVED OVER OR DAMAGED AND SHOULD BE ADJUSTED TO GRADE.

REV NO.	BY	DATE	REVISION DESCRIPTION

STATE OF TEXAS
XIAOQIN ZHANG, P.E.
96436
LICENSED
PROFESSIONAL ENGINEER
01/29/2020

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY XIAOQIN ZHANG, P.E. LIC. # 96436

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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

PAVING PLAN
STA. 34+50 - 42+50

CITY OF AUSTIN
FOUNDED 1839

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/JP	8/18
DESIGNED BY	JT/EZ	8/18
CHECKED BY	EZ/CG	8/18
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HORIZONTAL SCALE IN FEET

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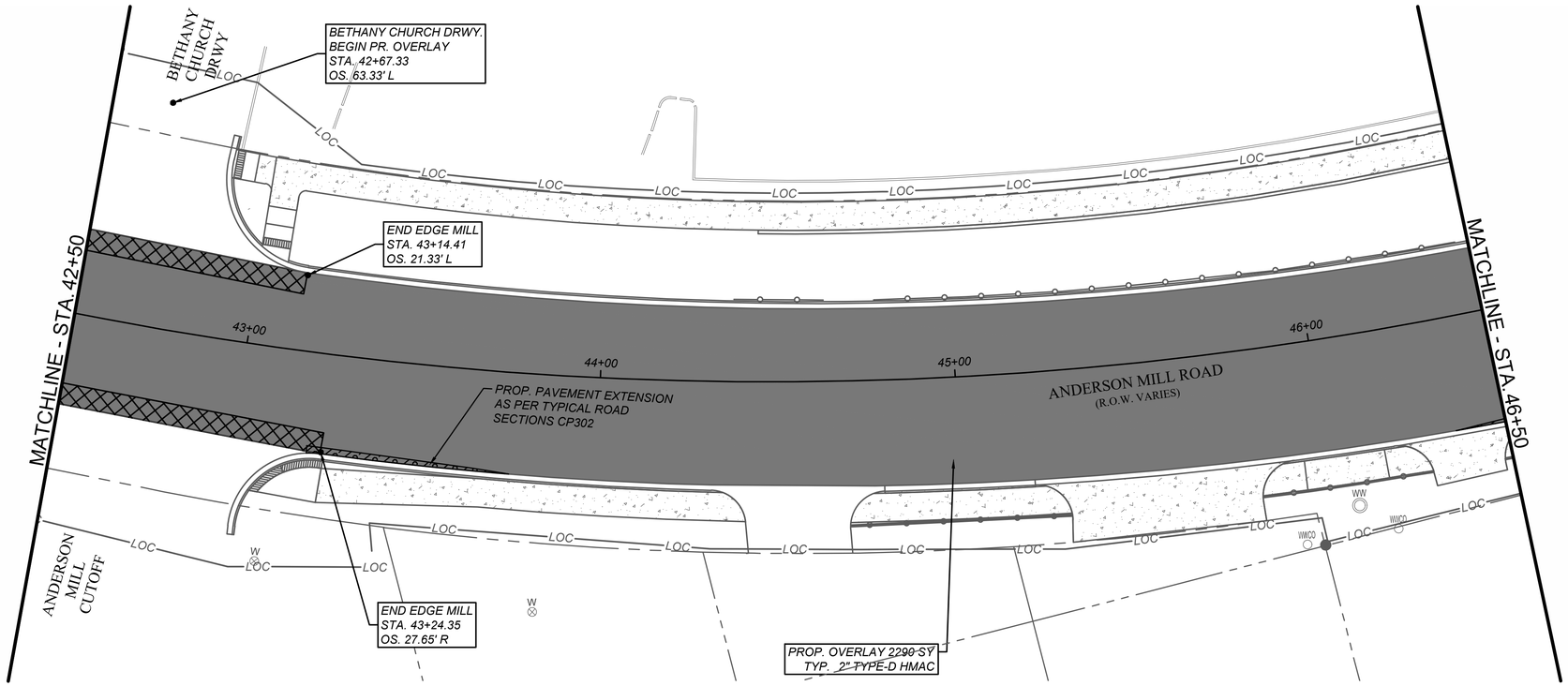
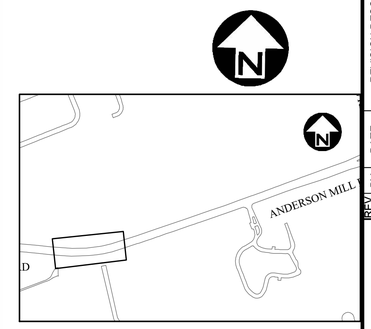
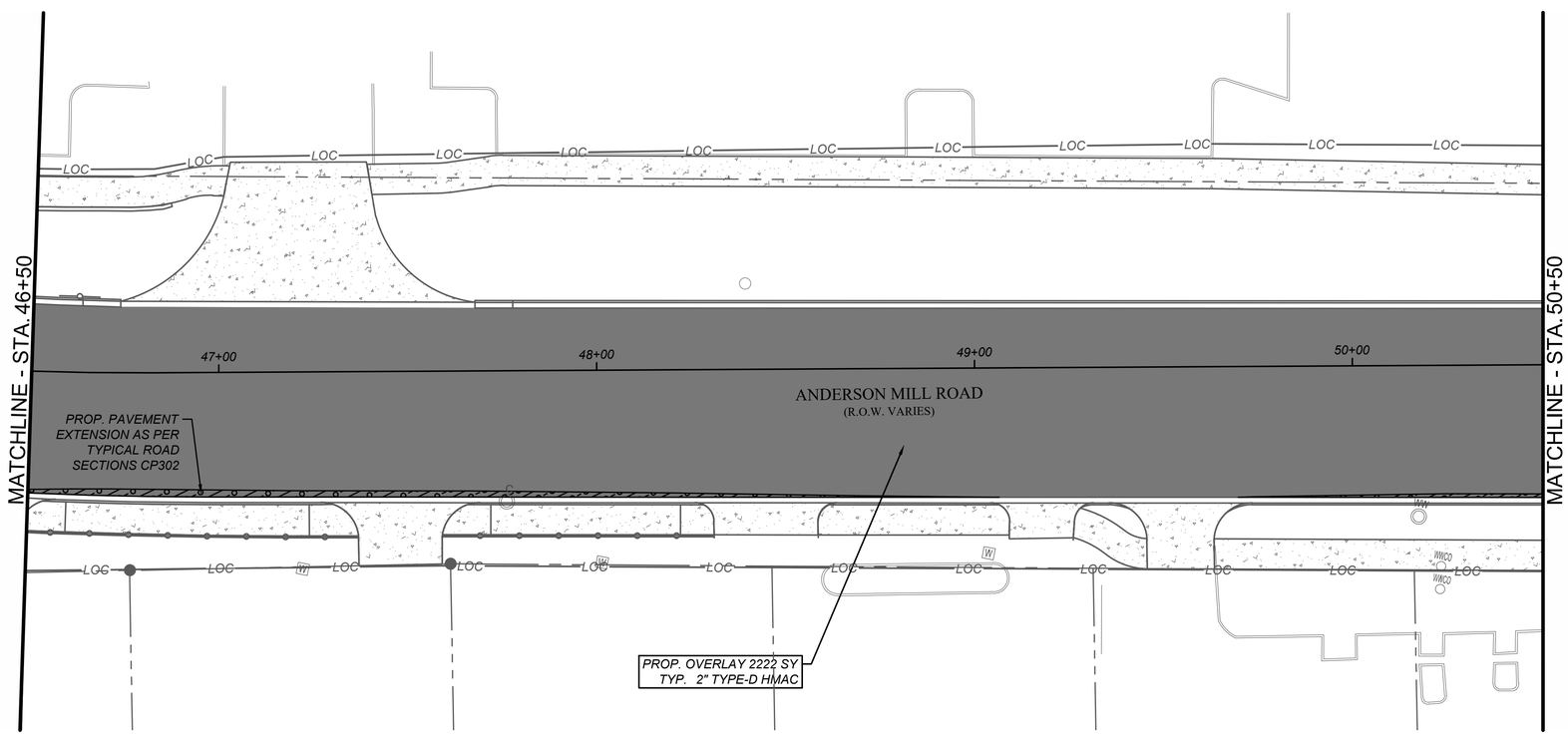
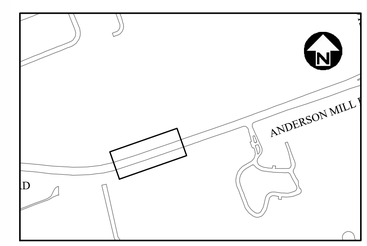
THIVAKARAN, JOTHIKA









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PAVING PLAN
STA. 42+50 - 50+50

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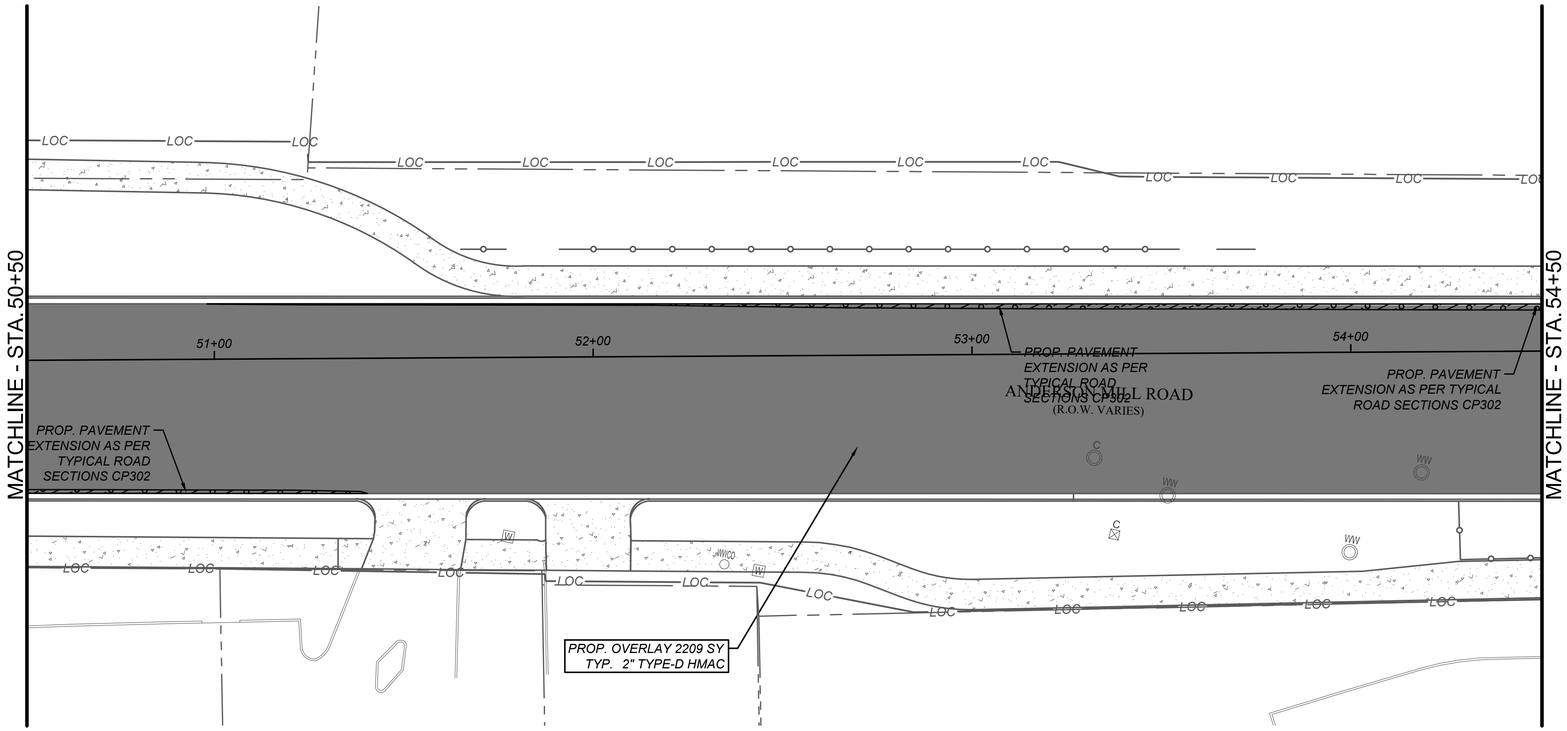

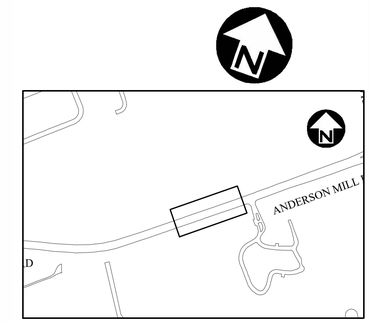

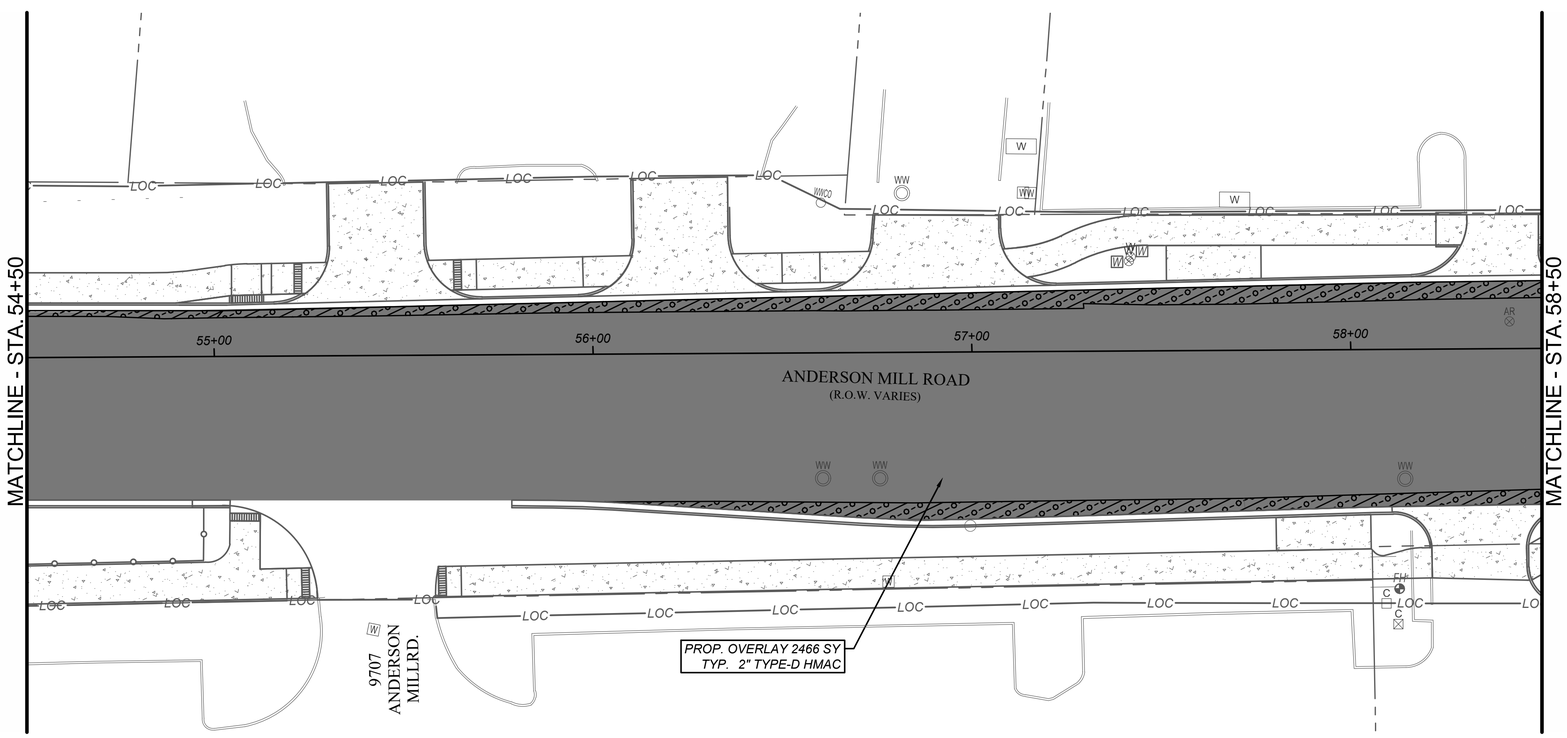

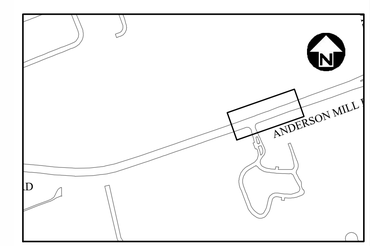

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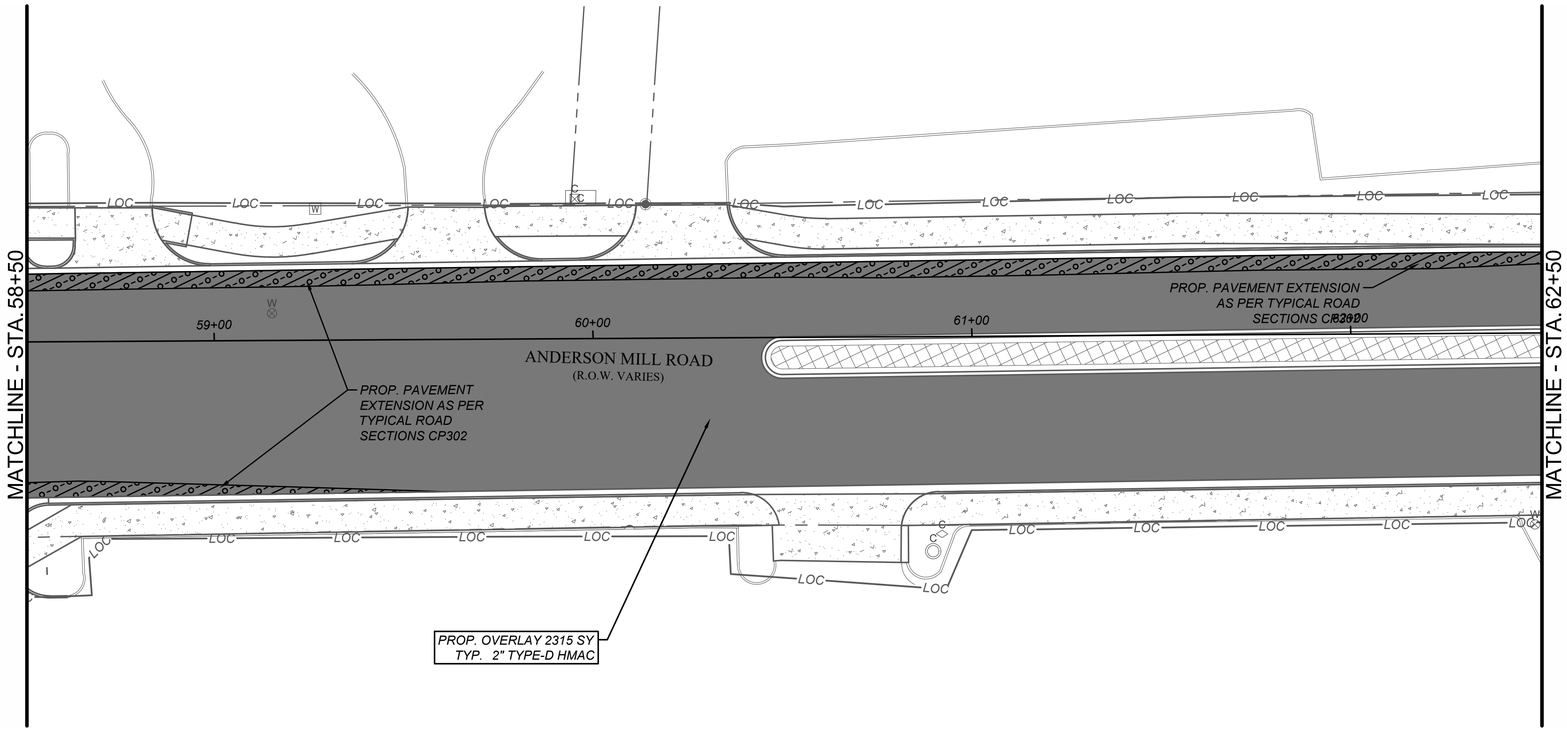

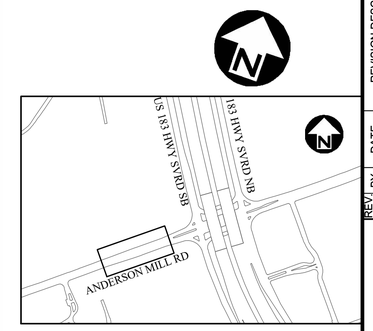

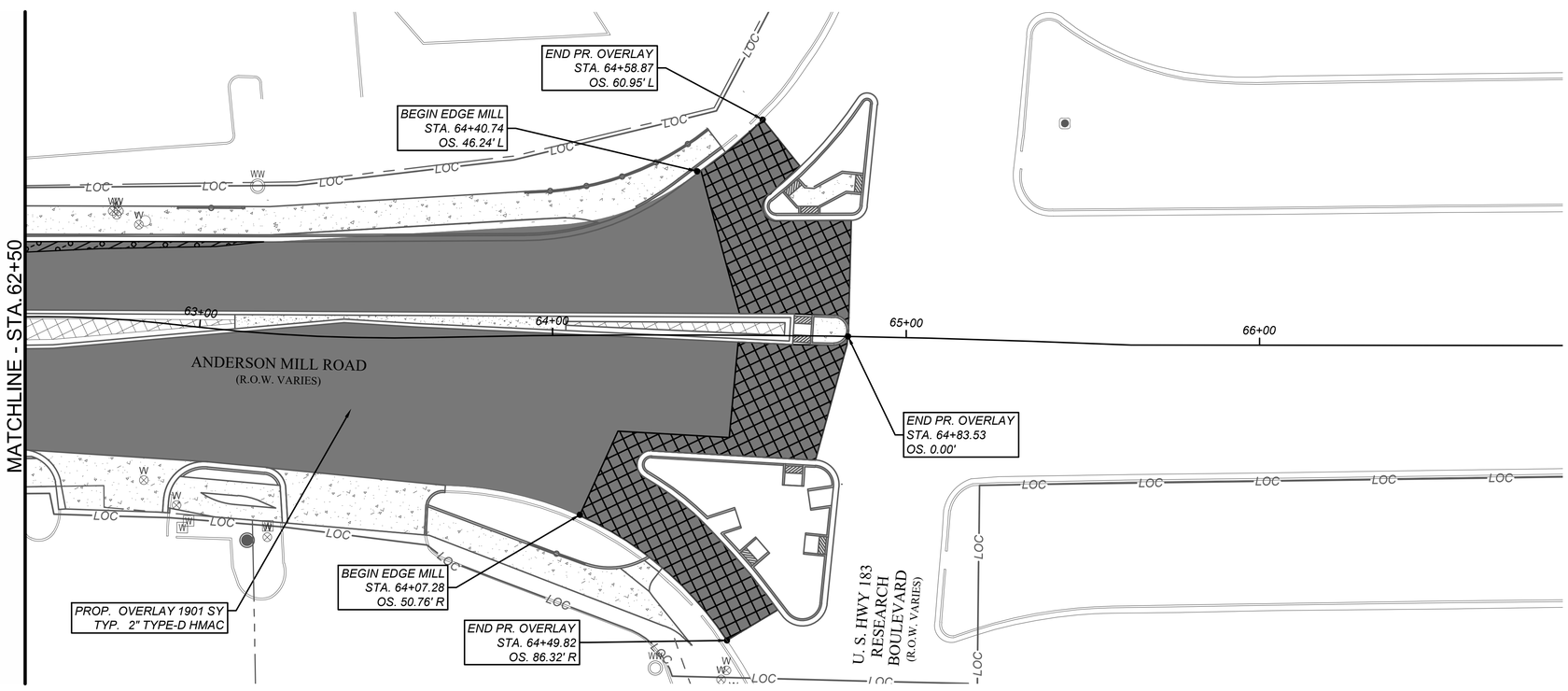

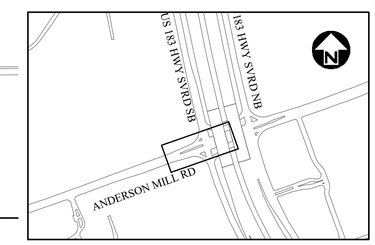

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ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

PAVING PLAN
STA. 58+50 - END

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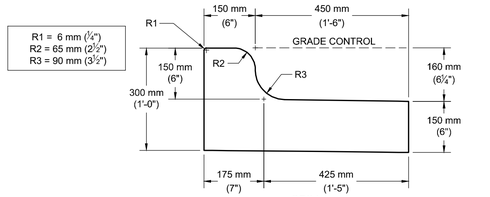

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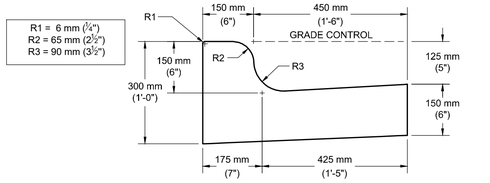
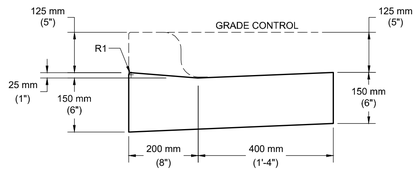
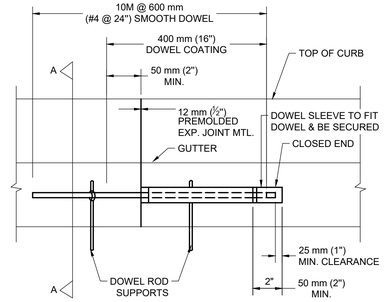


CATCH

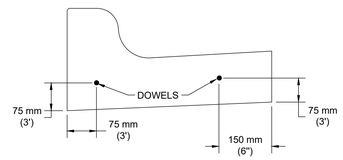


LAYDOWN CURB

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	CURB AND GUTTER SECTION	
RECORD COPY SIGNED BY LINO RIVERA 09/29/99 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 430S-1 1 OF 1



CURB EXPANSION JOINT DOWEL DETAIL



SECTION A-A

SEE STANDARD 430S-1 FOR TYPICAL CURB AND GUTTER SECTIONS.

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	CURB EXPANSION JOINT DOWEL DETAIL	
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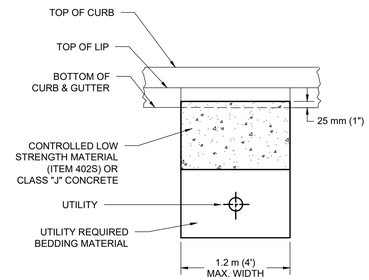
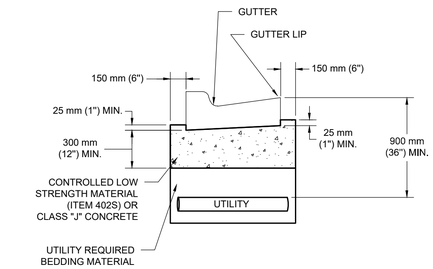
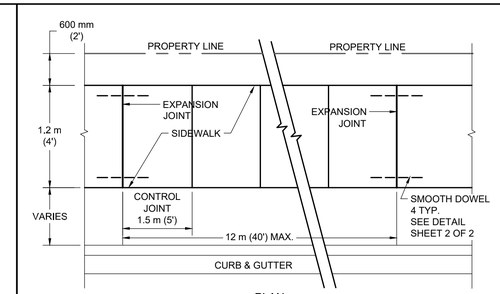
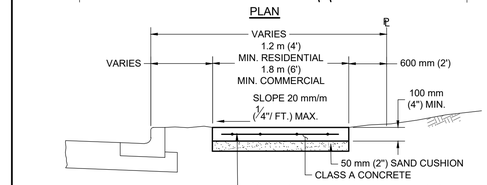




CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	CONCRETE BACKFILL UNDER CURB & GUTTER	
RECORD COPY SIGNED BY LINO RIVERA 09/29/99 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 430S-4 1 OF 1



PLAN

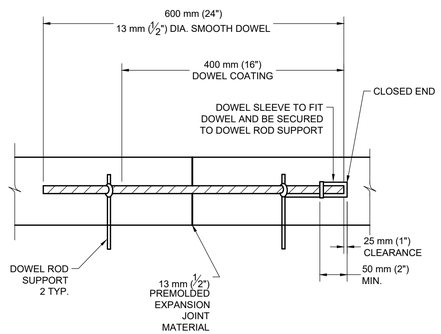


POLYPROPYLENE FIBRILLATED FIBERS, OR 150 mm X 150 mm X MW9 X MW9 (6" X 6" X W1.4 X W1.4) WELDED WIRE FABRIC OR ONE LAYER 10M (#3) BARS PLACED NOT MORE THAN 450 mm (18") C.C. BOTH DIRECTIONS.

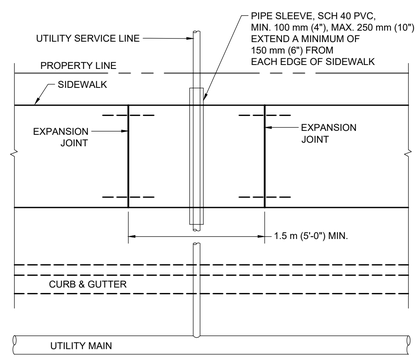
REINFORCEMENT SHALL ACCURATELY PLACED AT SLAB MID-DEPTH AND HELD FIRMLY IN PLACE BY MEANS OF BAR SUPPORTS OF ADEQUATE STRENGTH AND NUMBER THAT WILL PREVENT DISPLACEMENT AND KEEP THE STEEL AT ITS PROPER POSITION DURING THE PLACEMENT OF THE P.C. CONCRETE. IN NO INSTANCE SHALL THE STEEL BE PLACED DIRECTLY ON THE SUBGRADE OR SAND CUSHION LAYER.

SECTION

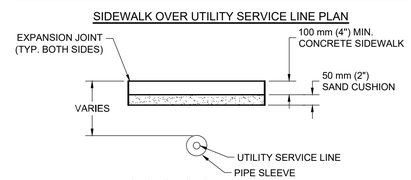
CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	SIDEWALK	
RECORD COPY SIGNED BY BILL GARDNER 03/26/08 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 432S-1 1 OF 3



DOWEL DETAIL



SIDEWALK OVER UTILITY SERVICE LINE PLAN

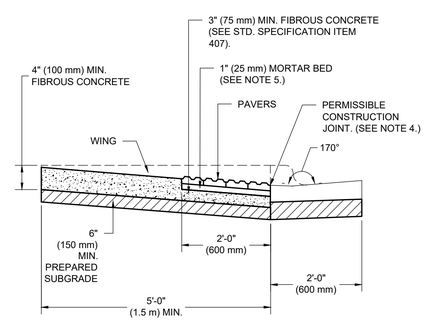


SECTION OF SIDEWALK OVER
UTILITY SERVICE LINES

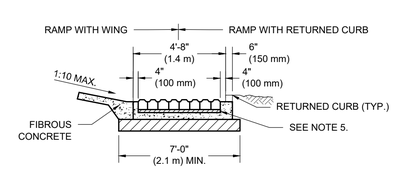
NOTES:

1. THIS STANDARD APPLIES TO THE INSTALLATION OF NEW UTILITIES OR UTILITIES BEING REPLACED BY A NEW LINE.
2. NO JOINTS IN UTILITY SERVICE PIPE TO BE LOCATED INSIDE PVC PIPE SLEEVE.

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	SIDEWALK	
RECORD COPY SIGNED BY BILL GARDNER 03/26/08 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 432S-1 3 OF 3



CROSS SECTION



FRONT END VIEW

GENERAL NOTES:

1. THIS STANDARD IS APPLICABLE FOR RAMP CONSTRUCTION ON CITY PROPERTY AND EASEMENT AREAS ONLY.
2. PAVERS ARE REQUIRED FOR ALL CURB RAMP INSTALLATIONS.
3. PAVERS WILL HAVE DETECTABLE WARNING THAT CONSISTS OF RAISED TRUNCATED DOMES WITH A DIAMETER OF 0.9" (23 mm), A NOMINAL HEIGHT OF 0.2" (5 mm) AND A NOMINAL CENTER TO CENTER SPACING OF 2.35" (60 mm) AND SHALL CONSTRAST VISUALLY WITH ADJOINING SURFACES, EITHER LIGHT-ON-DARK OR DARK-ON-LIGHT (Re: ADAAG SECTION 4.29.2). MATERIAL USED TO PROVIDE CONTRAST SHALL BE AN INTEGRAL PART OF THE WALKING SURFACE. PAVER PATTERN SHALL BE BASKET WEAVE UNLESS DIRECTED OTHERWISE BY THE ENGINEER OR DESIGNATED REPRESENTATIVE.
4. TYPICAL SIDEWALK WIDTHS AND CURB RADII ARE SHOWN FOR ILLUSTRATION ONLY. REFER TO THE TRANSPORTATION CRITERIA MANUAL FOR SIDEWALK WIDTHS, CURB RADII AND CURB BASIS.
5. THE PERMISSIBLE CONSTRUCTION JOINT BETWEEN THE PAVERS AND THE ADJOINING SURFACE SHALL BE LIMITED TO ¼" (6 mm) JOINT SIZE. GAPS LARGER THAN ¼" (6 mm) MUST BE APPROVED BY THE ENGINEER OR DESIGNATED REPRESENTATIVE. ALL JOINTS BETWEEN BRICKS AND ADJOINING SURFACE SHALL BE MORTAR FILLED UNLESS DIRECTED OTHERWISE BY THE ENGINEER OR DESIGNATED REPRESENTATIVE.
6. MORTAR SHALL CONFORM TO STD. SPECIFICATION ITEM SECTION 403S.3.5, MORTAR AND GROUT. ALL OTHER CONCRETE SHALL CONFORM TO STD. SPECIFICATION ITEM 403S, CONCRETE FOR STRUCTURES, UNLESS OTHERWISE NOTED.
7. CURB RAMPS WITH RETURNED CURB MAY ONLY BE USED WHERE PEDESTRIANS WOULD NOT NORMALLY WALK DIAGONALLY ACROSS THE RAMP.

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	DETECTABLE WARNING-PAVER (CITY PROPERTY/EASEMENTS)	
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CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	DETECTABLE WARNING-PAVER (CITY PROPERTY/EASEMENTS)	
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ROADWAY DETAILS
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ENGINEERING SERVICES
DIVISION

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CP501 | 53 OF 142

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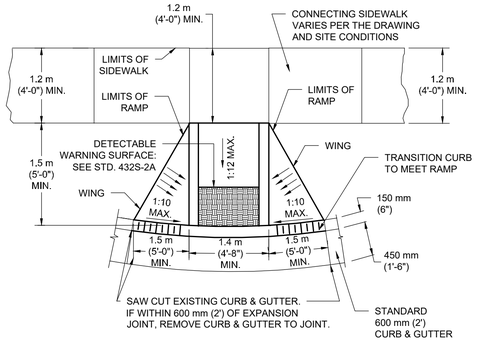
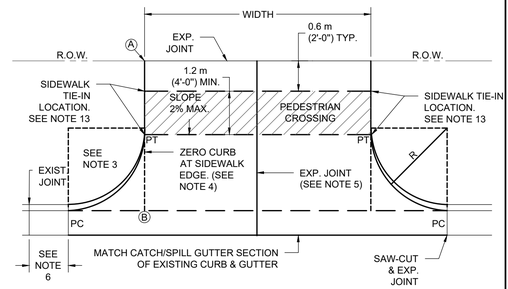
1/29/2020 10:07 AM
THIVAKARAN, JOTHIKA



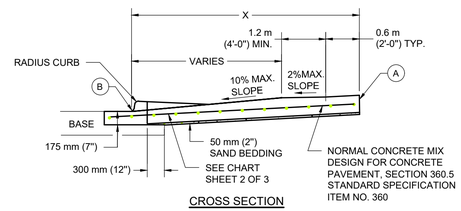
CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	TYPE 1 SIDEWALK CURB RAMP	
RECORD COPY SIGNED BY BILL GARDNER *09/14/05* ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 432S-5 1 OF 1



PLAN

NOTE: ALL DRIVEWAYS SHALL BE SLOPED TOWARDS THE STREET FROM THE R.O.W. LINE. ELEVATION OF POINT Ⓐ ABOVE POINT Ⓑ IS, TYPICALLY A MINIMUM OF 150 mm (6")

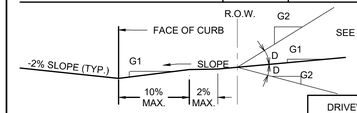
PLUS 20 mm/m ($\frac{1}{4}$" RISE/FOOT) OVER DISTANCE "X" IN METERS (FEET).



CROSS SECTION

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	TYPE II DRIVEWAY	
RECORD COPY SIGNED BY COUNG TRAN *02/24/10* ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 433S-2 1 OF 2

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 MIDDEPTH 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 MIDDEPTH OF SLAB AT NO MORE THAN 450 mm (18") O.C. BOTH DIRECTIONS



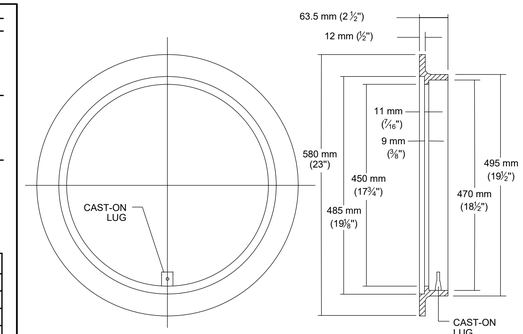
ALLOWABLE GRADES

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

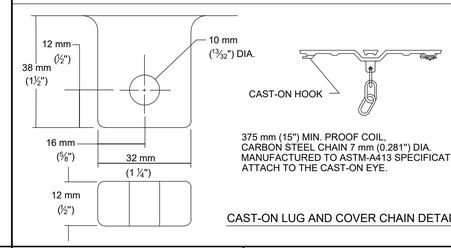
NOTES:

1. ALL TYPE II DRIVEWAYS SHALL HAVE RADIUS ENDS.
2. DRIVEWAY WIDTHS AND RADII 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".
3. THE DRIVEWAY EDGE SHALL BE SMOOTHLY TRANSITITIONED INTO THE SIDEWALK TIE-IN LOCATION BEGINNING AT THE RADIUS PC LINE.
4. "ZERO" CURB AT PT OR SIDEWALK EDGE, WHICHEVER IS ENCOUNTERED FIRST.
5. PLACE AN EXPANSION JOINT DOWN THE CENTER OF DRIVEWAY ALL DRIVEWAYS.
6. IF DIMENSION IS LESS THAN 1.5 METERS (5 FEET), REMOVE CURB AND GUTTER TO EXISTING JOINT AND POUR MONOLITHICALLY WITH DRIVEWAY.
7. IF THE BASE IS OVER-EXCAVATED WHERE THE CURB AND GUTTER WERE REMOVED, BACKFILL WITH CONCRETE MONOLITHICALLY WITH THE DRIVEWAY.
8. 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.
9. DRIVEWAY SHALL NOT BE CONSTRUCTED WITHIN THE CURB RETURN OF A STREET INTERSECTION.
10. 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 "G2 IS GREATER THAN 15%.
11. 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.
12. SEE TRANSPORTATION CRITERIA MANUAL, SECTION 5 FOR OTHER DRIVEWAY REQUIREMENTS.
13. THE SIDEWALK, REGARDLESS OF ITS LOCATION WITH RESPECT TO THE CURB OR PROPERTY LINE, SHALL BE CONNECTED TO THE DRIVEWAY AT THESE LOCATIONS.
14. 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	
RECORD COPY SIGNED BY COUNG TRAN *02/24/10* ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 433S-2 2 OF 2

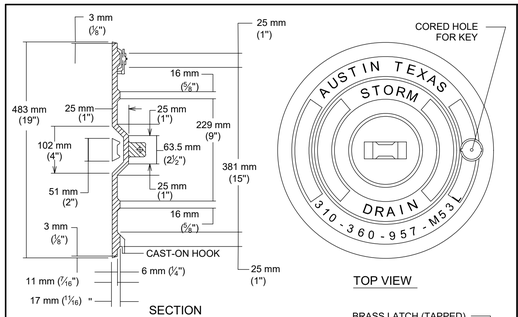


TOP VIEW SECTION

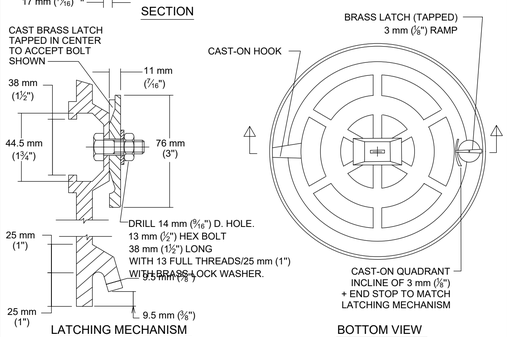


CAST-ON LUG AND COVER CHAIN DETAIL

CITY OF AUSTIN DEPARTMENT OF WATERSHED PROTECTION AND DEVELOPMENT REVIEW	457 mm (18") COVER AND FRAME	
RECORD COPY SIGNED BY GEORGE E. OSWALD 2/14/02 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 503S-1 1 OF 2

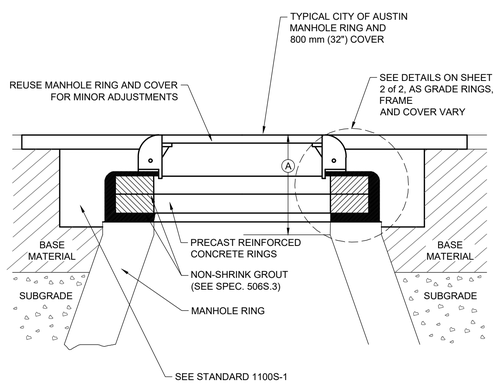


SECTION TOP VIEW



LATCHING MECHANISM BOTTOM VIEW

CITY OF AUSTIN DEPARTMENT OF WATERSHED PROTECTION AND DEVELOPMENT REVIEW	457 mm (18") COVER AND FRAME	
RECORD COPY SIGNED BY GEORGE E. OSWALD 2/14/02 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 503S-1 2 OF 2



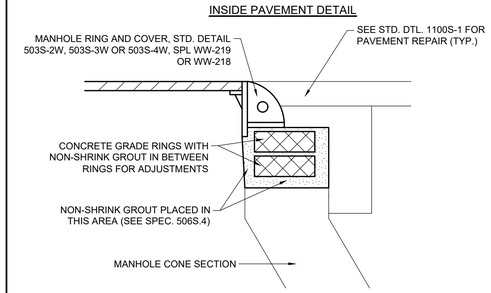
Ⓐ VERTICAL FACE = ALLOWABLE THROAT OR CHIMNEY HEIGHT
= NEW CONSTRUCTION = 525mm = (21") Max.
= EXISTING CONSTRUCTION = 675mm (27") Max.

NOTES:

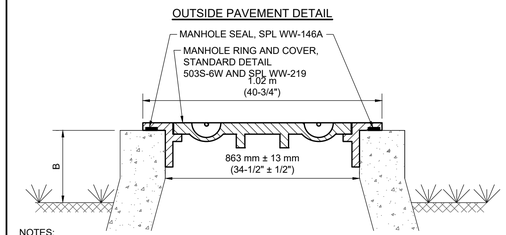
1. NON-SHRINK GROUT SHALL NOT EXCEED 25 mm (1") IN ANY DIMENSION.
2. SUB-GRADE AND BASE MATERIALS SHALL BE COMPACTED ACCORDING TO ITEMS 201S AND 210S, RESPECTIVELY, OF THE CITY OF AUSTIN STANDARD SPECIFICATIONS.
3. REFER TO STANDARD 1100S-1 FOR REPAIRS AROUND MANHOLES.
4. SEE STANDARD 506S-4A FOR HDPE RING INSTALLATION (FOR USE IN PAVED AREAS ONLY).

CITY OF AUSTIN AUSTIN WATER UTILITY	MINOR MANHOLE ADJUSTMENT & NEW MANHOLE CONSTRUCTION	
RECORD COPY SIGNED BY KATHI L FLOWERS *08/31/2011* ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 506S-4 1 OF 2

INSIDE PAVEMENT DETAIL



OUTSIDE PAVEMENT DETAIL



NOTES:

1. FOR USE IN UNPAVED AREAS ONLY.
2. WHEN USED WITHIN 100-YEAR FLOODPLAIN, SEE DTL. 506S-6 FOR ADDITIONAL M.H. REQUIREMENTS.
3. DIMENSION B=150-300 mm (6"-12") FOR M.H. LOCATED IN 100-YR FLOOD PLAN; B=50-300 mm (2"-12") FOR M.H. OUTSIDE 100-YR FLOOD PLAN.

CITY OF AUSTIN AUSTIN WATER UTILITY	MINOR MANHOLE ADJUSTMENT & NEW MANHOLE CONSTRUCTION	
RECORD COPY SIGNED BY KATHI L FLOWERS *08/31/2011* ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 506S-4 2 OF 2

REV NO.	BY	DATE	REVISION DESCRIPTION

STATE OF TEXAS
XIAOQIN ZHANG, P.E.
96436
LICENSED PROFESSIONAL ENGINEER
01/29/2020

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY XIAOQIN ZHANG, P.E. LIC. # 96436

I CERTIFY THAT THESE DRAWINGS ARE COMPLETE, ACCURATE AND ADEQUATE FOR THEIR INTENDED PURPOSES, INCLUDING CONSTRUCTION, BUT ARE NOT AUTHORIZED FOR CONSTRUCTION UNTIL FORMAL CITY APPROVAL.

CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

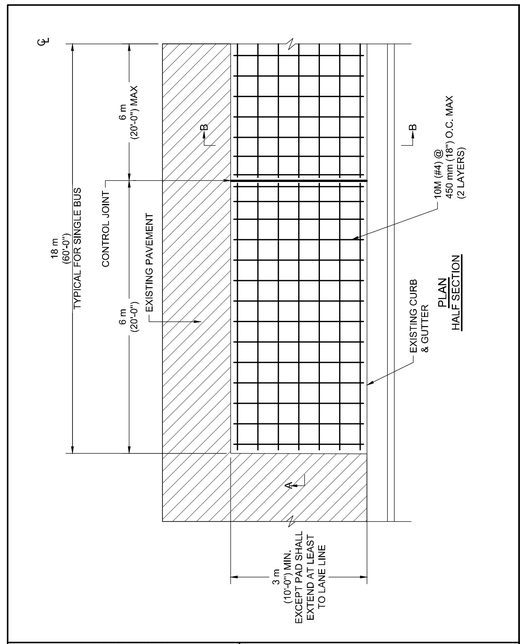
ROADWAY DETAILS
SHEET 2 OF 5

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/JP	8/18
DESIGNED BY	JT/EZ	8/18
CHECKED BY	EZ/CG	8/18
REVIEWED BY	ESD	8/18

ENGINEERING SERVICES DIVISION

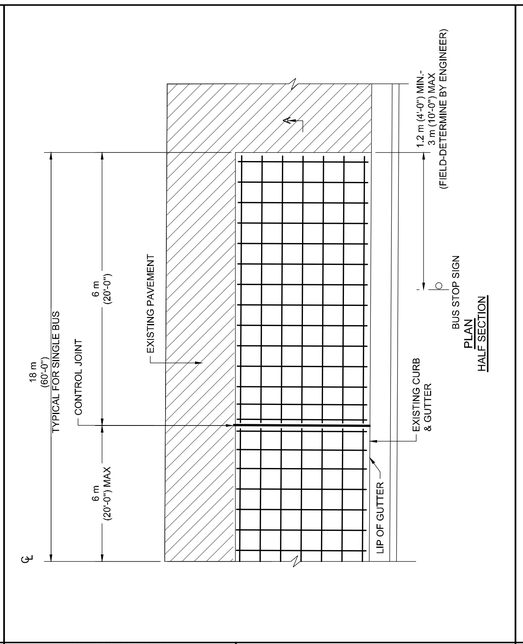
GP-2019-0210.ATD

N:\TEAMMATD_ANDERSON_MILL_RD\DWG\PRODUCTION_FILES\DWG\ANMR-C-S1-DETL.DWG, COA_PDF_22X34_COA_ESD.STB 1/29/2020 10:07 AM THIVAKARAN, JOTHIKA



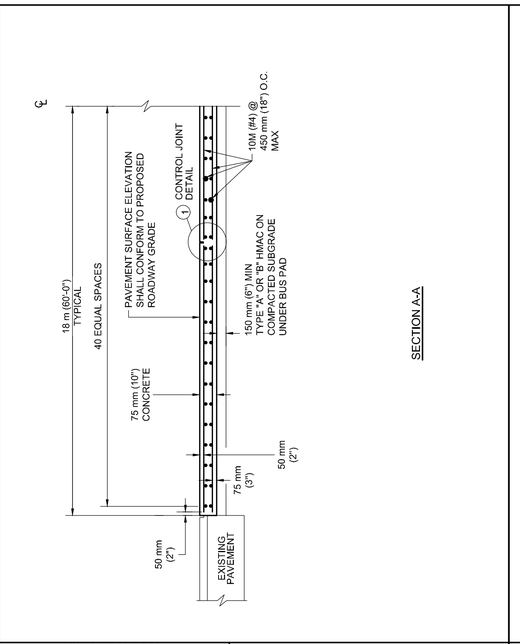
PLAN
HALF SECTION

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	BUS STOP PAVING	
RECORD COPY SIGNED BY LEON BARBA 11/17/03 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 1000S-7 1 OF 5



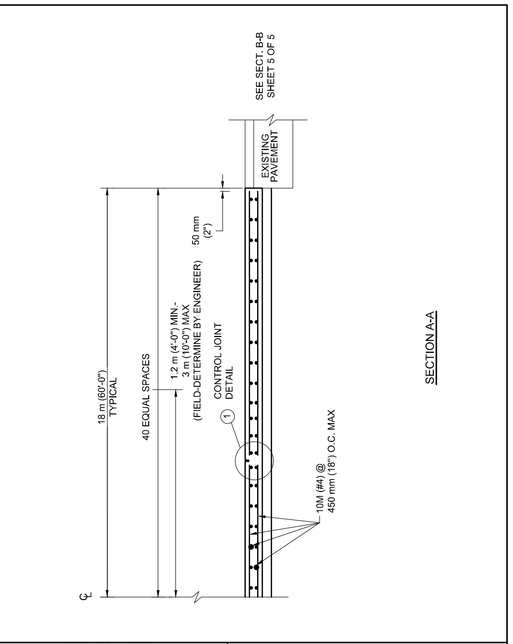
PLAN
HALF SECTION

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	BUS STOP PAVING	
RECORD COPY SIGNED BY LEON BARBA 11/17/03 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 1000S-7 2 OF 5



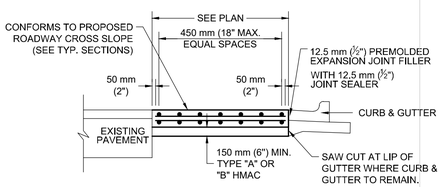
SECTION A-A

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	BUS STOP PAVING	
RECORD COPY SIGNED BY LEON BARBA 11/17/03 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 1000S-7 3 OF 5

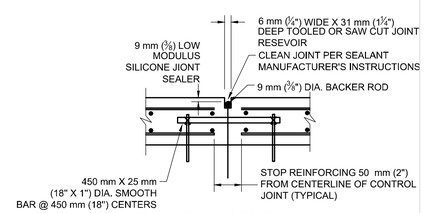


SECTION A-A

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	BUS STOP PAVING	
RECORD COPY SIGNED BY LEON BARBA 11/17/03 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 1000S-7 4 OF 5



SECTION B-B

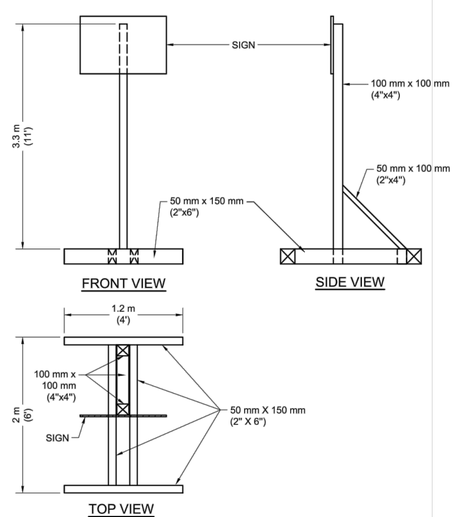


1 CONTROL JOINT DETAIL

NOTES:

1. FOR FURTHER INFORMATION REGARDING THE PLACEMENT OF CONCRETE AND REINFORCEMENT, REFER TO THE SPECIFICATION ITEM NO. 360, "CONCRETE PAVEMENT".
2. PAVEMENT GRADE AND CROSS SLOPE SHALL CONFORM TO THE PROPOSED ASPHALT ROADWAY GRADE AND CROSS SLOPE. THE RESULTING CONCRETE PAVEMENT CROSS SLOPE MAY NOT BE UNIFORM ACROSS THE WIDTH OF SLAB.
3. CONTRACTOR SHALL SAW-CUT OR USE ENGINEER APPROVED ALTERNATE METHOD (DO NOT ROUT) TO REMOVE EXISTING PAVEMENT AND BASE MATERIALS TO ACHIEVE A SMOOTH VERTICAL FACE UPON EXCAVATING BASE. CONTRACTOR SHALL SEAL POROUS SUBGRADE AND BASE WITH CEMENT GROUT PRIOR TO PLACING CONCRETE PAVEMENT.
4. NO CONSTRUCTION JOINTS SHALL BE ALLOWED UNLESS APPROVED BY THE ENGINEER OR DESIGNATED REPRESENTATIVE.
5. CONCRETE BUS PAD SHALL BE PLACED SUCH THAT THERE IS A SMOOTH INTERFACE BETWEEN THE PROPOSED ROADWAY SURFACE AND THE FINISHED BUS PAD SURFACE.
6. SURFACE OF CONCRETE BUS PAD SHALL BE A BURLAP OR ASTRO-TURF DRAG FINISH.

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	BUS STOP PAVING	
RECORD COPY SIGNED BY LEON BARBA 11/17/03 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 1000S-7 5 OF 5



NOTES:

1. ALL MATERIALS SHALL BE FURNISHED BY THE CONTRACTOR.
2. LUMBER DIMENSIONS ARE NOMINAL.
3. SIGN MUST BE IN COLOR.

MOVABLE 24" x 36" BOND PROGRAM
BUILDING PROJECT SIGN

SIGN
C.I.P. SIGN
(24"x36")

1. 9" CITY SEAL.
2. 24" X 8" AUSTIN MOTION LOGO.
3. 2" BLACK UPPER CASE LETTERS.
4. 2" BLACK UPPER CASE LETTERS..
5. 1" BLACK UPPER CASE LETTERS.
6. 1" BLACK UPPER CASE LETTERS.
7. 2" BLACK UPPER CASE LETTERS.

A COLORED BACKGROUND (239,231,223 RGB) ON PLYWOOD, NON-REFLECTIVE. PAINT REQUIREMENTS FOR BACKGROUND AND POST, BLUE TONED WHITE 93-21667 CROSS ALLEN OR EQUAL.

MOVABLE 24" x 36" BOND PROGRAM
BUILDING PROJECT SIGN

REV NO.	BY	DATE	REVISION DESCRIPTION

STATE OF TEXAS
XIAOQIN ZHANG, P.E.
96436
LICENSED
PROFESSIONAL ENGINEER
01/29/2020

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY XIAOQIN ZHANG, P.E. LIC. # 96436

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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

ROADWAY DETAILS
SHEET 3 OF 5

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/JP	8/18
DESIGNED BY	JT/EZ	8/18
CHECKED BY	EZ/CG	8/18
REVIEWED BY	ESD	8/18

ENGINEERING SERVICES DIVISION

GP-2019-0210.ATD

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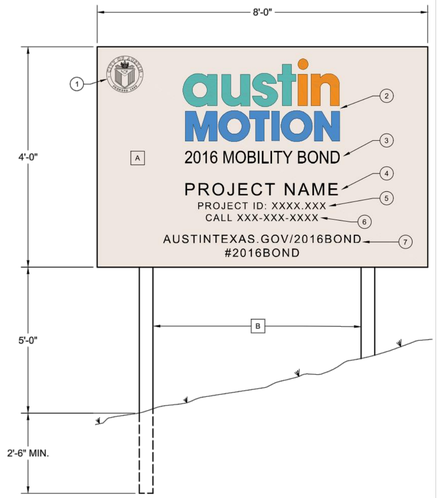
1/29/2020 10:07 AM
THIVAKARAN, JOTHIKA



NOTES:

1. ALL MATERIALS SHALL BE FURNISHED BY THE CONTRACTOR.
2. IF SIGN IS USED IN PHASED CONSTRUCTION, POSTS SHALL BE MOUNTED ON SKIDS. SEE STANDARD 804S-5, SHEET 5 OF 13.

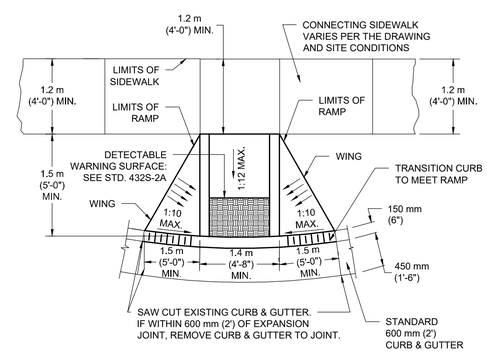
8' x 4' BOND PROGRAM BUILDING PROJECT SIGN

1. 225 mm (9") CITY SEAL.
2. 750 mm X 600 mm (72" X 24") AUSTIN MOTION LOGO.
3. 75 mm (3") BLACK UPPER CASE LETTERS.
4. 75 mm (3") BLACK UPPER CASE LETTERS..
5. 25 mm (1") BLACK UPPER CASE LETTERS.
6. 25 mm (1") BLACK UPPER CASE LETTERS.
7. 63 mm (2½") BLACK UPPER CASE LETTERS.

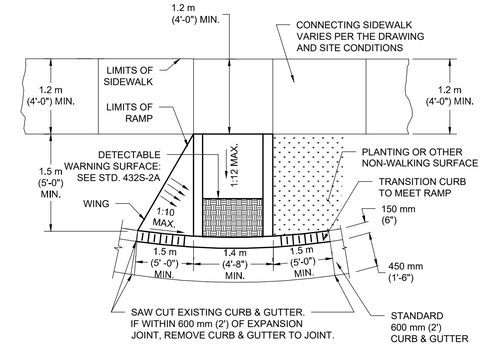
A COLORED BACKGROUND (239,231,223 RGB) ON PLYWOOD, NON-REFLECTIVE. PAINT REQUIREMENTS FOR BACKGROUND AND POST, BLUE TONED WHITE 93-21667 CROSS ALLEN OR EQUAL.

B 100 mm x 100 mm (4"x4") CLASS 6 WOOD POST PAINTED WHITE.

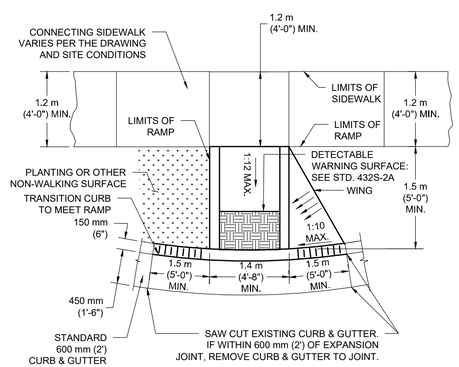
8' x 4' BOND PROGRAM BUILDING PROJECT SIGN



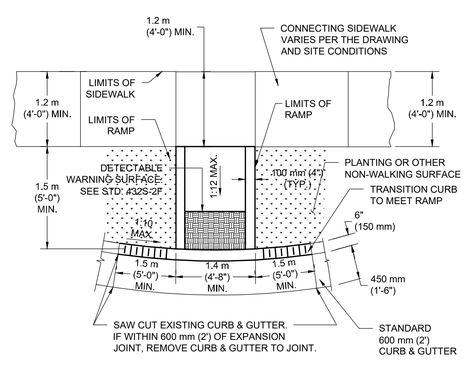
CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	TYPE 1 SIDEWALK CURB RAMP	
RECORD COPY SIGNED BY BILL GARDNER 09/14/05 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 432S-5 1 OF 1



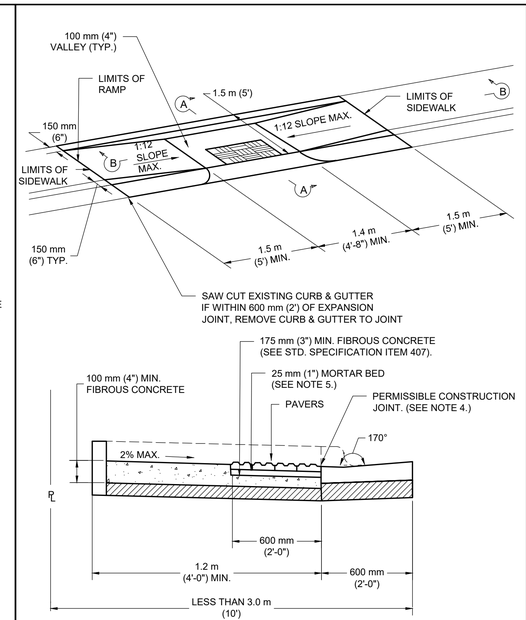
CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	TYPE 1A SIDEWALK CURB RAMP WITH LEFT FLARE	
RECORD COPY SIGNED BY BILL GARDNER 06/16/08 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 432S-5A 1 OF 2



CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	TYPE 1A SIDEWALK CURB RAMP WITH LEFT FLARE	
RECORD COPY SIGNED BY BILL GARDNER 06/16/08 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 432S-5A 2 OF 2

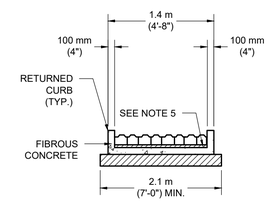


CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	TYPE 1B SIDEWALK CURB RAMP	
RECORD COPY SIGNED BY BILL GARDNER 09/14/05 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 432S-5B 1 OF 1



SECTION A-A

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	COMBINED SIDEWALK CURB RAMP WITH PAVERS WITHIN LIMITED ROW ONLY	
RECORD COPY SIGNED BY BILL GARDNER 06/21/07 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 432S-3G 1 OF 2



SECTION B-B

GENERAL NOTES:

1. THIS STANDARD IS APPLICABLE FOR RAMP CONSTRUCTION WITHIN RIGHT-OF-WAY OR EASEMENT ONLY.
2. PAVERS WILL HAVE DETECTABLE WARNING THAT CONSISTS OF RAISED TRUNCATED DOMES WITH A DIAMETER OF 23 mm (0.9"), A NOMINAL HEIGHT OF 5 mm (0.2") AND A NOMINAL CENTER TO CENTER SPACING OF 60 mm (2.35") AND SHALL CONTRAST VISUALLY WITH ADJOINING SURFACES, EITHER LIGHT-ON-DARK OR DARK-ON-LIGHT (Re: ADAAG SECTION 4.29.2). MATERIAL USED TO PROVIDE CONTRAST SHALL BE AN INTEGRAL PART OF THE WALKING SURFACE. A BASKET WEAVE PAVER PATTERN SHALL BE USED UNLESS DIRECTED BY THE ENGINEER OR DESIGNATED REPRESENTATIVE.PAVER PATTERN VARIES PER MANUFACTURER'S RECOMMENDATIONS. REFER TO STANDARD DETAIL 432S-5 FOR PAVER BASE PREPARATION DETAILS.
3. THE CURB, GUTTER AND RAMP SYSTEM SHALL BE CONFIGURED TO MAINTAIN ALL RUNOFF FROM A 25 YEAR FREQUENCY STORM WITHIN THE RIGHT-OF-WAY (DRAINAGE CRITERIA MANUAL SECTION 1.2.2.B).
4. TYPICAL SIDEWALK WIDTHS AND CURB RADII ARE SHOWN FOR ILLUSTRATION ONLY. REFER TO THE TRANSPORTATION CRITERIA MANUAL FOR SIDEWALK WIDTHS, CURB RADII AND CURB BASIC REQUIREMENTS.
5. THE PERMISSIBLE CONSTRUCTION JOINT BETWEEN THE PAVERS AND THE ADJOINING SURFACE SHALL BE LIMITED TO 6 mm (¼") JOINT SIZE. GAPS LARGER THAN 6 mm (¼") MUST BE APPROVED BY THE ENGINEER OR DESIGNATED REPRESENTATIVE. AL: JOINTS BETWEEN BRICKS AND ADJOINING SURFACE SHALL BE MORTAR FILLED UNLESS DIRECTED OTHERWISE BY THE ENGINEER OR DESIGNATED REPRESENTATIVE.
6. MORTAR SHALL CONFORM TO STD. SPECIFICATION ITEM SECTION 403S.3.5, MORTAR AND GROUT. ALL OTHER CONCRETE SHALL CONFORM TO STD. SPECIFICATION ITEM 403S, CONCRETE FOR STRUCTURES, UNLESS OTHERWISE NOTED.
7. CURB RAMPS WITH 100 mm (4") CONCRETE VALLEY MAY ONLY BE USED WHERE. PEDESTRIANS WOULD NOT NORMALLY WALK DIAGONALLY ACROSS THE RAMP.

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	COMBINED SIDEWALK CURB RAMP WITH PAVERS WITHIN LIMITED ROW ONLY	
RECORD COPY SIGNED BY BILL GARDNER 06/21/07 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 432S-3G 2 OF 2

REV NO.	BY	DATE	REVISION DESCRIPTION
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STATE OF TEXAS
XIAOQIN ZHANG, P.E.
96436
LICENSED PROFESSIONAL ENGINEER
01/29/2020

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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

ROADWAY DETAILS
SHEET 4 OF 5

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/JP	8/18
DESIGNED BY	JT/EZ	8/18
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REVIEWED BY	ESD	8/18

ENGINEERING SERVICES DIVISION

GP-2019-0210.ATD

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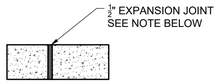
12/29/2020 10:07 AM
THIVAKARAN, JOTHIKA

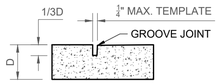
JOINT DETAIL 1A



EXPANSION JOINT

½" PROPOSED EXTRUDED EXPANSION JOINT MATERIAL TO MEET AASHTO M213
EXPANSION JOINTS SHALL BE INSTALLED WHEN ABUTTING EXISTING CONCRETE OR FIXED STRUCTURES SUCH AS INLETS AND DRIVEWAYS, SEE PLANS FOR JOINT SPACING.

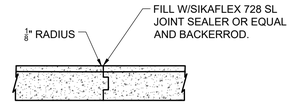
JOINT DETAIL 1B



CONTRACTION JOINT

FORM WITH TEMPLATE OR SAWCUT JOINTS, SAWCUT JOINTS, IF USED, SHALL BEGIN AS SOON AS CONCRETE IS HARDENED SUFFICIENTLY TO PERMIT SAWING WITHOUT EXCESSIVE RAVELING AND BEFORE UNCONTROLLED CRACKING OCCURS. SEE PLANS FOR JOINT SPACING.

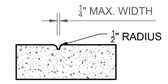
JOINT DETAIL 1C



TRANSVERSE CONSTRUCTION JOINT

PROVIDE 5.5" X 1.5" NOTCH AT COLD JOINT LOCATIONS WHERE CONCRETE STARTS TO SET UP AT END OF POURS) NO LONGITUDINAL JOINTS SHALL BE PLACED IN THE SPLASHGUARD

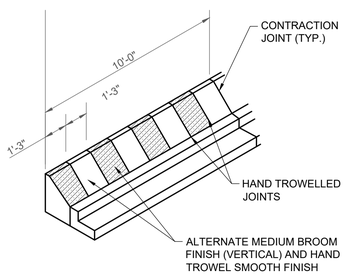
JOINT DETAIL 1D



HAND TROWELLED JOINT

HAND TROWELLED SCORING, WITH ⅛" RADIUS, SHALL BE ⅛" DEEP. BEGIN AS SOON AS CONCRETE IS HARDENED SUFFICIENTLY TO PERMIT HAND TROWELLING WITHOUT EXCESSIVE RAVELING AND BEFORE UNCONTROLLED CRACKING OCCURS. SEE PLANS FOR JOINT SPACING

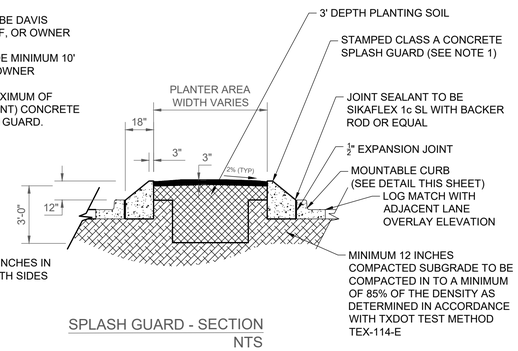
JOINT DETAILS



SPLASH GUARD SCORING

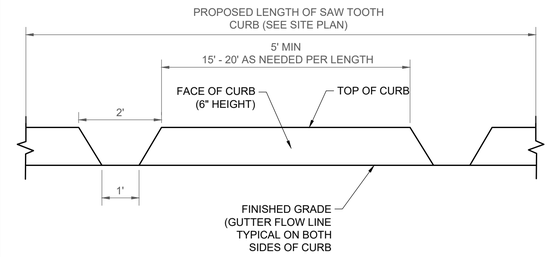
NOTES:
1. STAMPED CONCRETE TO BE DAVIS COLORS: SAN DIEGO BUFF, OR OWNER APPROVED EQUAL
2. CONTRACTOR TO PROVIDE MINIMUM 10' MOCK-UP IN PLACE FOR OWNER APPROVAL.
3. IF USED, FLYASH (20% MAXIMUM OF MINIMUM CEMENT CONTENT) CONCRETE TO BE USED FOR SPLASH GUARD.

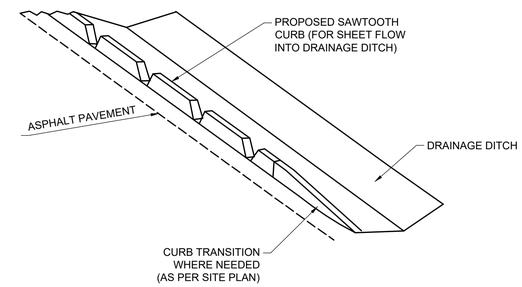
COMPACT A MINIMUM OF 12 INCHES IN BACK OF SPLASH GUARD BOTH SIDES



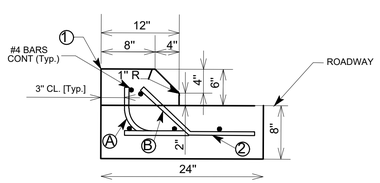
SPLASH GUARD - SECTION
NTS

SPLASH GUARD MEDIAN DETAILS



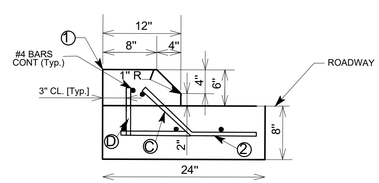


SAWTOOTH CURB DETAIL



MOUNTABLE CURB
N.T.S.

OPTION ONE



MOUNTABLE CURB
N.T.S.

OPTION TWO

A - BAR #4 @ 18" C/C

B - BAR #4 @ 18" C/C

C - BAR #4 @ 36" C/C

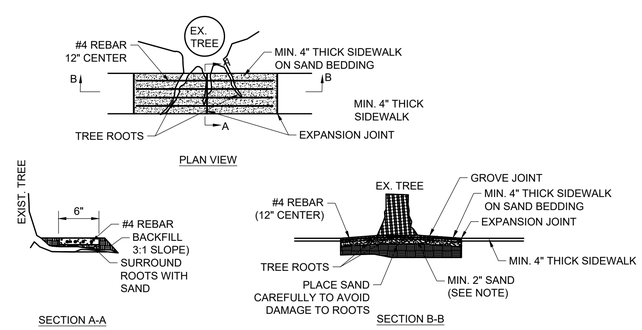
INSERTED INTO FRESH CONCRETE IMMEDIATELY AFTER SLAB STRIKE OFF OCCURS

D - BAR #4 @ 36" C/C

INSERTED INTO FRESH CONCRETE IMMEDIATELY AFTER SLAB STRIKE OFF OCCURS

NOTES:
1. FINISH WITH EDGING TOOL
2. SEE ROADWAY PAVING STANDARDS FOR DETAILS

MOUNTABLE CURB DETAIL



NOTE:
A SAND CUSHION OF A MINIMUM THICKNESS OF 2 INCHES (50MM) OVER THE ROOTS, COMPOSED OF COURSE SAND, SHALL BE SPREAD, WETTED THOROUGHLY, TAMPED AND LEVELED. THE SAND CUSHION SHALL BE MOIST AT THE TIME THE SIDEWALK CONCRETE IS PLACED.

BRIDGING TREE ROOTS DETAILS
NTS

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ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

ROADWAY DETAILS
SHEET 5 OF 5

NOTES	NAME	DATE
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ENGINEERING SERVICES DIVISION

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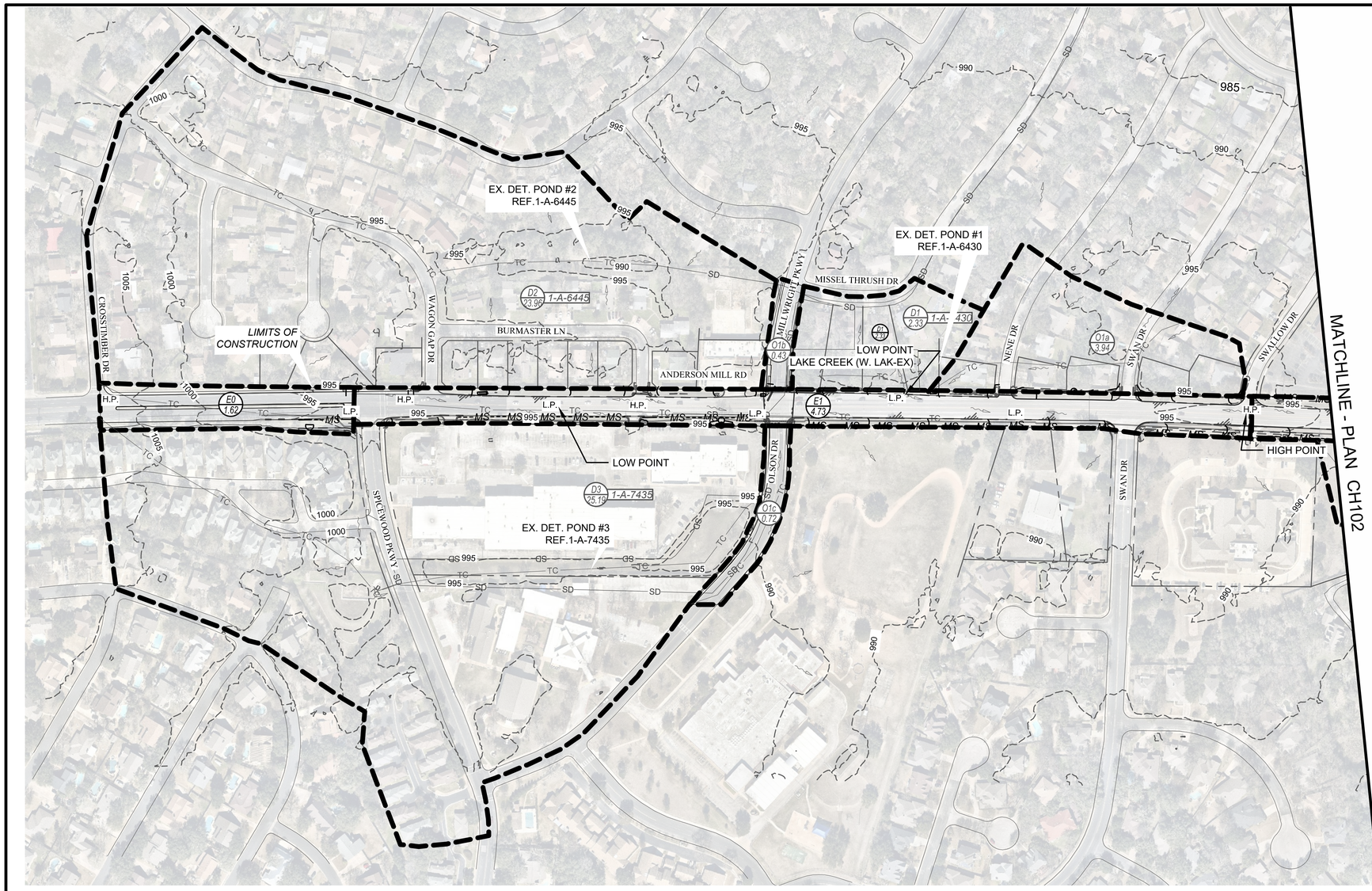

LEGEND

- O1a 3.94 — OFF-SITE CONTRIBUTING DRAINAGE AREA (ac.)
- D1 2.33 1-A-6430 — OFF-SITE NON-CONTRIBUTING DRAINAGE / BYPASS AREA FOR DET. POND (ac.) WITH AS-BUILT PLAN # FOR REFERENCE ONLY
- E1 4.73 — ON-SITE DRAINAGE AREA (ac.)
- DRAINAGE AREA BOUNDARY
- TC — TIME OF CONCENTRATION

HYDROLOGY SUMMARY (OFF-SITE DEVELOPED CONDITIONS)

Storm Event					2 Year Storm Event			10 Year Storm Event			25 Year Storm Event			100 Year Storm Event		
Drainage Basin	On-Site/Off-Site	Location	Drainage Area (acres)	Time of Concentration Tc (min)	Runoff Coefficient C2	Intensity* I2	Design Flow Q2 (cfs)	Runoff Coefficient C10	Intensity* I10	Design Flow Q10 (cfs)	Runoff Coefficient C25	Intensity* I25	Design Flow Q25 (cfs)	Runoff Coefficient C100	Intensity* I100	Design Flow Q100 (cfs)
O1a	Off-Site	Off-street	**3.94**	8.20	0.51	6.38	12.93	0.58	8.78	19.98	0.62	11.06	27.12	0.70	14.31	39.52
O1b	Off-Site	Off-street	**0.43**	5.00	0.64	7.39	2.04	0.71	10.11	3.11	0.76	12.54	4.12	0.85	15.93	5.82
O1c	Off-Site	Off-street	**0.72**	5.49	0.69	7.22	3.58	0.77	9.88	5.45	0.82	12.29	7.21	0.91	15.65	10.17
O2	Off-Site	Off-street	0.69	9.23	0.53	6.12	2.23	0.59	8.43	3.45	0.64	10.67	4.70	0.72	13.86	6.87
O3	Off-Site	Off-street	3.29	11.04	0.70	5.71	13.07	0.77	7.89	20.05	0.82	10.05	27.14	0.91	13.15	39.33
		Subtotal	**9.07**				**28.23**			**43.48**			**58.96**			**85.72**
E0	Off-Site	On-Street	1.62	5.00	0.60	7.39	7.14	0.67	10.11	10.93	0.71	12.54	14.52	0.80	15.93	20.60
		Subtotal	**1.62**				**7.14**			**10.93**			**14.52**			**20.60**

Note: Estimated ATLAS intensities for 2-, 10-, 25-, and 100-year are subject to change, currently equivalent to DCM October 2018 5-, 25-, 100- and 500-year design events.

IMPERVIOUS COVER CALCULATIONS

Drainage				Asphalt		Concrete		Grass	
Basin	Area (ac.)	Existing %IC	Area IC (sf)	Asph. % of IC	Asph. Area (sf)	Conc. % of IC	Conc. Area (sf)	Grass Percentile	Grass Area (sf)
O1a	3.94	44.50%	76,427	15.1%	25,962	29.38%	50,465	55.50%	95,333
O1b	0.43	77.08%	14,487	64.7%	12,161	12.38%	2,326	22.92%	4,308
O1c	0.72	89.75%	28,024	72.1%	22,509	17.66%	5,515	10.25%	3,202
O2	0.69	48.88%	14,667	28.1%	8,424	20.80%	6,243	51.12%	15,342
O3	3.29	89.62%	128,439	77.1%	110,563	12.47%	17,876	10.38%	14,873
	9.07		**262,044**		**179,619**		**82,425**		**133,058**
E0	1.62	71.25%	50,300	53.4%	37,713	17.83%	12,587	28.75%	20,301
	1.62		**50,300**		**37,713**		**12,587**		**20,301**

HYDROLOGY SUMMARY (OFF-SITE BYPASS FLOWS)

Designation	Area (ac.)	Off-Site/Bypass /Onsite	Off-street/On-street	Watershed	Impervious Cover (%)	Composite CN	Lag Time (min.)	$Q_{2\text{-}yr}$ (cfs)	$Q_{10\text{-}yr}$ (cfs)	$Q_{25\text{-}yr}$ (cfs)	$Q_{100\text{-}yr}$ (cfs)
D1	2.33	Bypass	Off-street	Lake Creek	0.00	82	18.34	4.8	8.5	12.2	16.8
D2	23.96	Bypass	Off-street	Lake Creek	32.10	87	8.86	75.3	125.9	174.3	236.1
D3	25.19	Bypass	Off-street	Lake Creek	44.91	88	7.27	85.6	141.4	194.7	262.8

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DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

OFF-SITE OVERALL DRAINAGE PLAN
SHEET 1 OF 2

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/JP	8/18
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HORIZONTAL SCALE IN FEET

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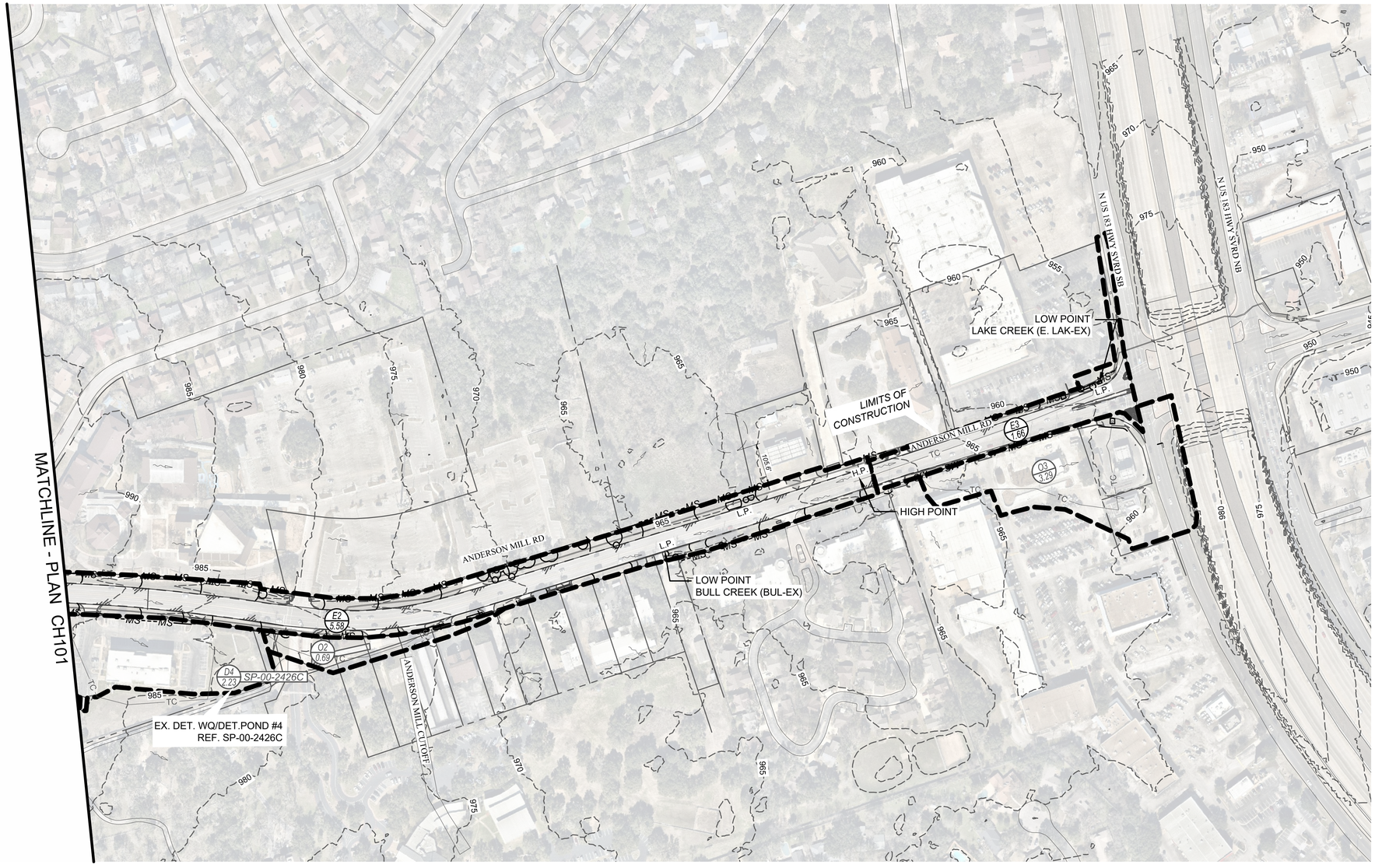

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E0	1.62	71.25%	50,300	53.4%	37,713	17.83%	12,587	28.75%	20,301
	1.62		**50,300**		**37,713**		**12,587**		**20,301**

HYDROLOGY SUMMARY (OFF-SITE BYPASS FLOW)

Designation	Area (ac.)	Off-Site/Bypass /Onsite	Off-street/On-street	Watershed	Impervious Cover (%)	Composite CN	Lag Time (min.)	$Q_{2\text{-}yr}$ (cfs)	$Q_{10\text{-}yr}$ (cfs)	$Q_{25\text{-}yr}$ (cfs)	$Q_{100\text{-}yr}$ (cfs)
D4	2.23	Bypass	Off-street	Bull Creek	54.06	89	7.60	7.7	12.6	17.3	23.2

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SPICEWOOD PARKWAY TO US 183

OFF-SITE OVERALL DRAINAGE PLAN
SHEET 2 OF 2

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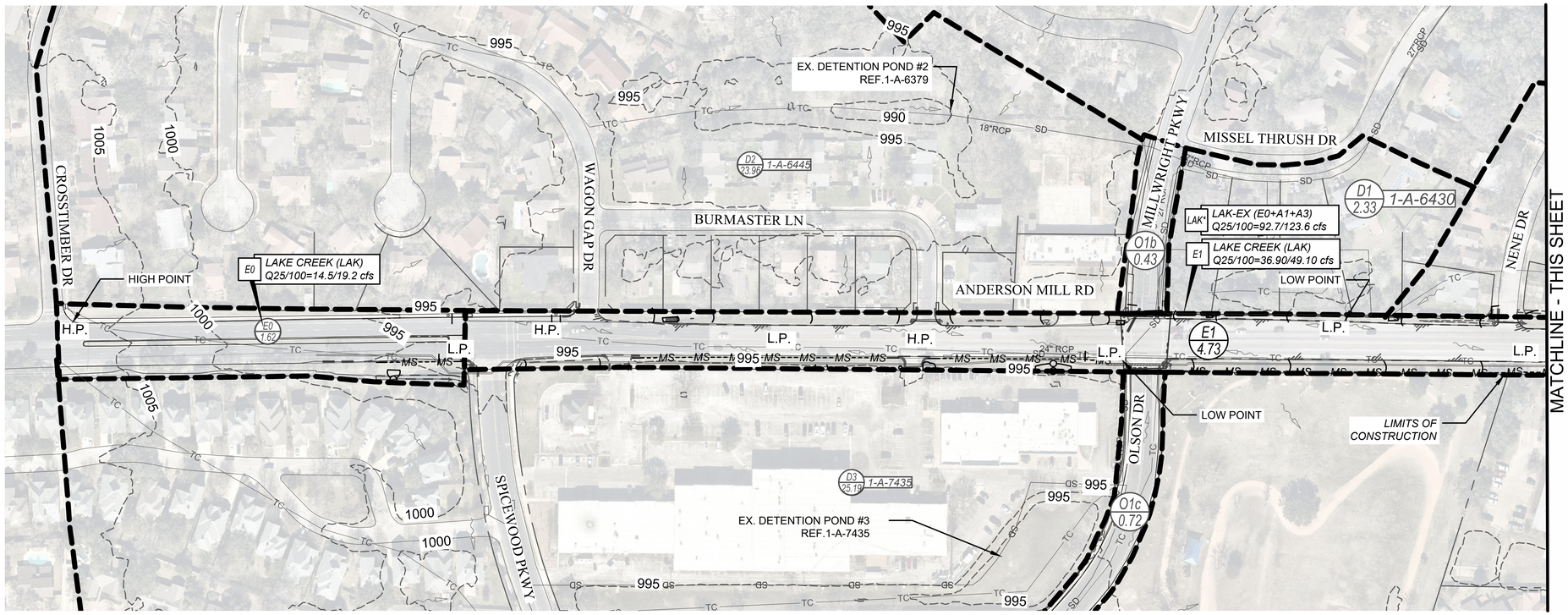
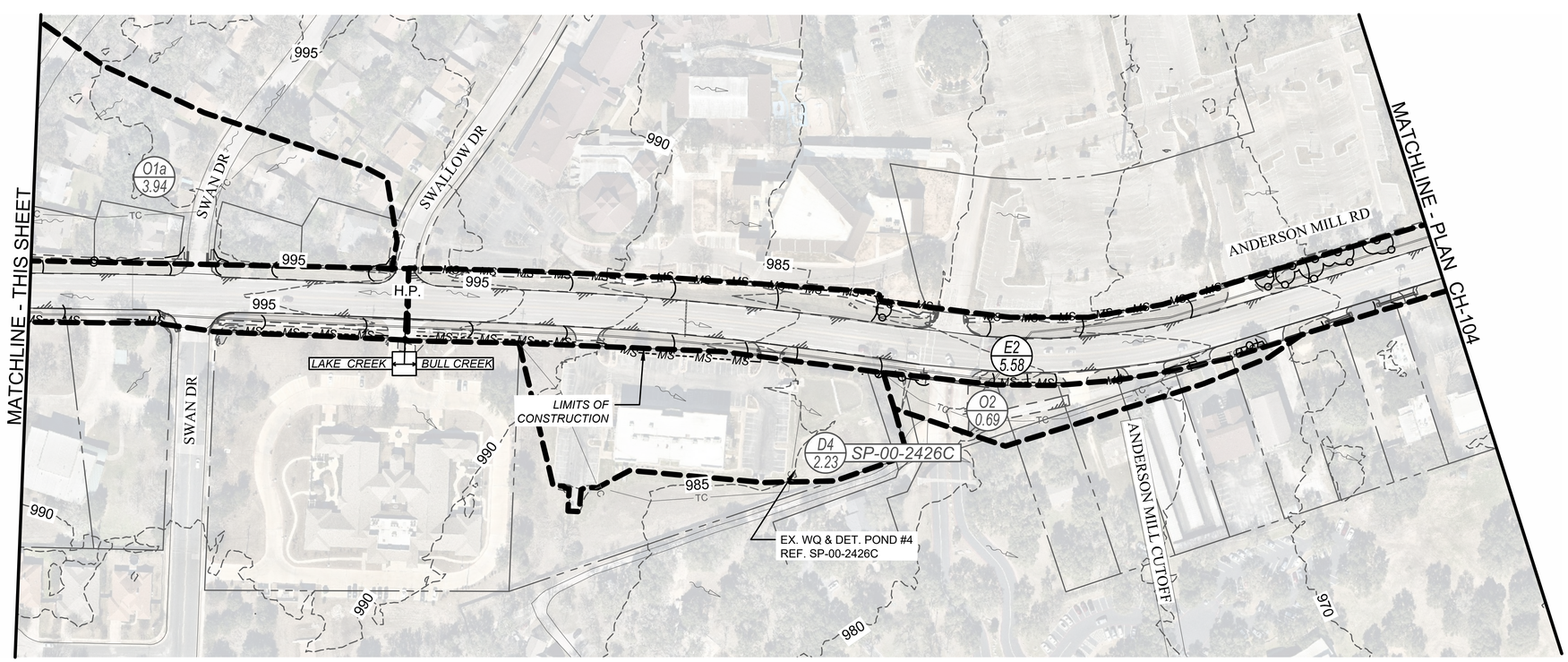
THIVAKARAN, JOTHIKA





LEGEND

E1 / 4.73	ON-SITE DRAINAGE AREA (ac.)
O1a / 3.94	OFF-SITE CONTRIBUTING DRAINAGE AREA (ac.)
D1 / 2.33 / 1-A-6430	OFF-SITE NON-CONTRIBUTING DRAINAGE / BYPASS AREA FOR DET. POND (ac.) WITH AS-BUILT PLAN # FOR REFERENCE ONLY
	DRAINAGE AREA BOUNDARY
TC	TIME OF CONCENTRATION
SD	EX. STORM DRAIN

NOTE: LAK - FOR LAKE CREEK, BUL - FOR BULL CREEK; SEE SHEET CH107 FOR HEC-HMS SUMMARY I & II.

REV NO.	BY	DATE	REVISION DESCRIPTION

STATE OF TEXAS
XIAOQIN ZHANG, P.E.
96436
LICENSED PROFESSIONAL ENGINEER
01/29/2020

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY XIAOQIN ZHANG, P.E. LIC. # 96436

I CERTIFY THAT THESE DRAWINGS ARE COMPLETE, ACCURATE AND ADEQUATE FOR THEIR INTENDED PURPOSES, INCLUDING CONSTRUCTION, BUT ARE NOT AUTHORIZED FOR CONSTRUCTION UNTIL FORMAL CITY APPROVAL.

THIVAKARAN, JOTHIKA

CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

ON-SITE EXISTING DRAINAGE PLAN
SHEET 1 OF 2

CITY OF AUSTIN
FOUNDED 1839

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/JP	8/18
DESIGNED BY	JT/EZ	8/18
CHECKED BY	EZ/CG	8/18
REVIEWED BY	ESD	8/18

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HORIZONTAL SCALE IN FEET

GP-2019-0210.ATD

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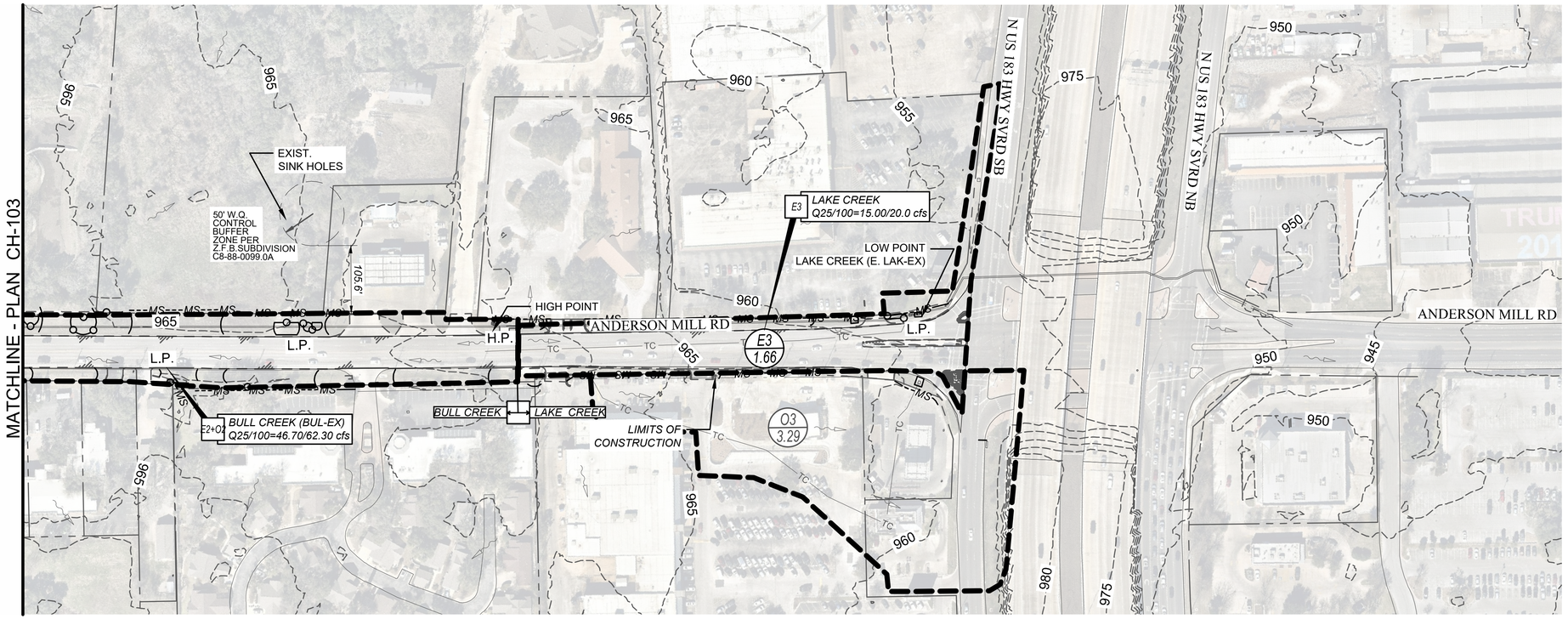

IMPERVIOUS COVER CALCULATIONS

Drainage				Asphalt		Concrete		Grass	
Basin	Area (ac.)	Existing %IC	Area IC (sf)	Asph. % of IC	Asph. Area (sf)	Conc. % of IC	Conc. Area (sf)	Grass Percentile	Grass Area (sf)
O1a	3.94	44.50%	76,427	15.1%	25,962	29.38%	50,465	55.50%	95,333
O1b	0.43	77.08%	14,487	64.7%	12,161	12.38%	2,326	22.92%	4,308
O1c	0.72	89.75%	28,024	72.1%	22,509	17.66%	5,515	10.25%	3,202
O2	0.69	48.88%	14,667	28.1%	8,424	20.80%	6,243	51.12%	15,342
O3	3.29	89.62%	128,439	77.1%	110,563	12.47%	17,876	10.38%	14,873
	9.07		**262,044**		**179,619**		**82,425**		**133,058**
E0	1.62	71.25%	50,300	53.4%	37,713	17.83%	12,587	28.75%	20,301
	1.62		**50,300**						
E1	4.73	62.69%	129,132	59.8%	123,120	2.92%	6,012	37.31%	76,855
E2	5.58	54.03%	131,435	46.9%	114,099	7.13%	17,336	45.97%	111,844
E3	1.66	70.77%	51,068	68.2%	49,192	2.60%	1,876	29.23%	21,088
	11.97		**311,635**		**286,411**		**25,224**		**209,787**

HYDROLOGY SUMMARY (EXISTING CONDITIONS)

Storm Event					2 Year Storm Event			10 Year Storm Event			25 Year Storm Event			100 Year Storm Event		
Drainage Basin	On-Site/Off-Site	Location	Drainage Area (acres)	Time of Concentration Tc (min)	Runoff Coefficient C2	Intensity* I2	Design Flow Q2 (cfs)	Runoff Coefficient C10	Intensity* I10	Design Flow Q10 (cfs)	Runoff Coefficient C25	Intensity* I25	Design Flow Q25 (cfs)	Runoff Coefficient C100	Intensity* I100	Design Flow Q100 (cfs)
O1a	Off-Site	Off-street	**3.94**	8.20	0.51	6.38	12.93	0.58	8.78	19.98	0.62	11.06	27.12	0.70	14.31	39.52
O1b	Off-Site	Off-street	**0.43**	5.00	0.64	7.39	2.04	0.71	10.11	3.11	0.76	12.54	4.12	0.85	15.93	5.82
O1c	Off-Site	Off-street	**0.72**	5.49	0.69	7.22	3.58	0.77	9.88	5.45	0.82	12.29	7.21	0.91	15.65	10.17
O2	Off-Site	Off-street	0.69	9.23	0.53	6.12	2.23	0.59	8.43	3.45	0.64	10.67	4.70	0.72	13.86	6.87
O3	Off-Site	Off-street	3.29	11.04	0.70	5.71	13.07	0.77	7.89	20.05	0.82	10.05	27.14	0.91	13.15	39.33
		Subtotal	**9.07**				**28.23**			**43.48**			**58.96**			**85.72**
E0	Off-Site	On-Street	1.62	5.00	0.60	7.39	7.14	0.67	10.11	10.93	0.71	12.54	14.52	0.80	15.93	20.60
		Subtotal	**1.62**				**7.14**			**10.93**			**14.52**			**20.60**
E1	On-Site	On-Street	4.73	13.62	0.58	5.23	14.38	0.65	7.24	22.27	0.70	9.29	30.60	0.78	12.27	45.19
E2	On-Site	On-Street	5.58	15.73	0.55	4.90	14.98	0.61	6.80	23.31	0.66	8.76	32.26	0.74	11.64	48.11
E3	On-Site	On-Street	1.66	5.54	0.61	7.20	7.31	0.68	9.85	11.18	0.73	12.26	14.87	0.82	15.62	21.12
		Subtotal	**11.97**				**36.67**			**56.76**			**77.72**			**114.41**

Note: Estimated ATLAS intensities for 2-, 10-, 25-, and 100-year are subject to change, currently equivalent to DCM October 2018 5-, 25-, 100- and 500-year design events.

LEGEND

- E1 4.73 — ON-SITE DRAINAGE AREA (ac.)
- O1a 3.94 — OFF-SITE CONTRIBUTING DRAINAGE AREA (ac.)
- D1 2.33 1-A-6430 — OFF-SITE NON-CONTRIBUTING DRAINAGE / BYPASS AREA FOR DET. POND (ac.) WITH AS-BUILT PLAN # FOR REFERENCE ONLY
- DRAINAGE AREA BOUNDARY
- TC — TIME OF CONCENTRATION
- SD — EX. STORM DRAIN

REV NO.	BY	DATE	REVISION DESCRIPTION

STATE OF TEXAS — XIAOQIN ZHANG, P.E. 96436 LICENSED PROFESSIONAL ENGINEER — 01/29/2020

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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

ON-SITE EXISTING DRAINAGE PLAN
SHEET 2 OF 2

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/JP	8/18
DESIGNED BY	JT/EZ	8/18
CHECKED BY	EZ/CG	8/18
REVIEWED BY	ESD	8/18

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HORIZONTAL SCALE IN FEET

GP-2019-0210.ATD

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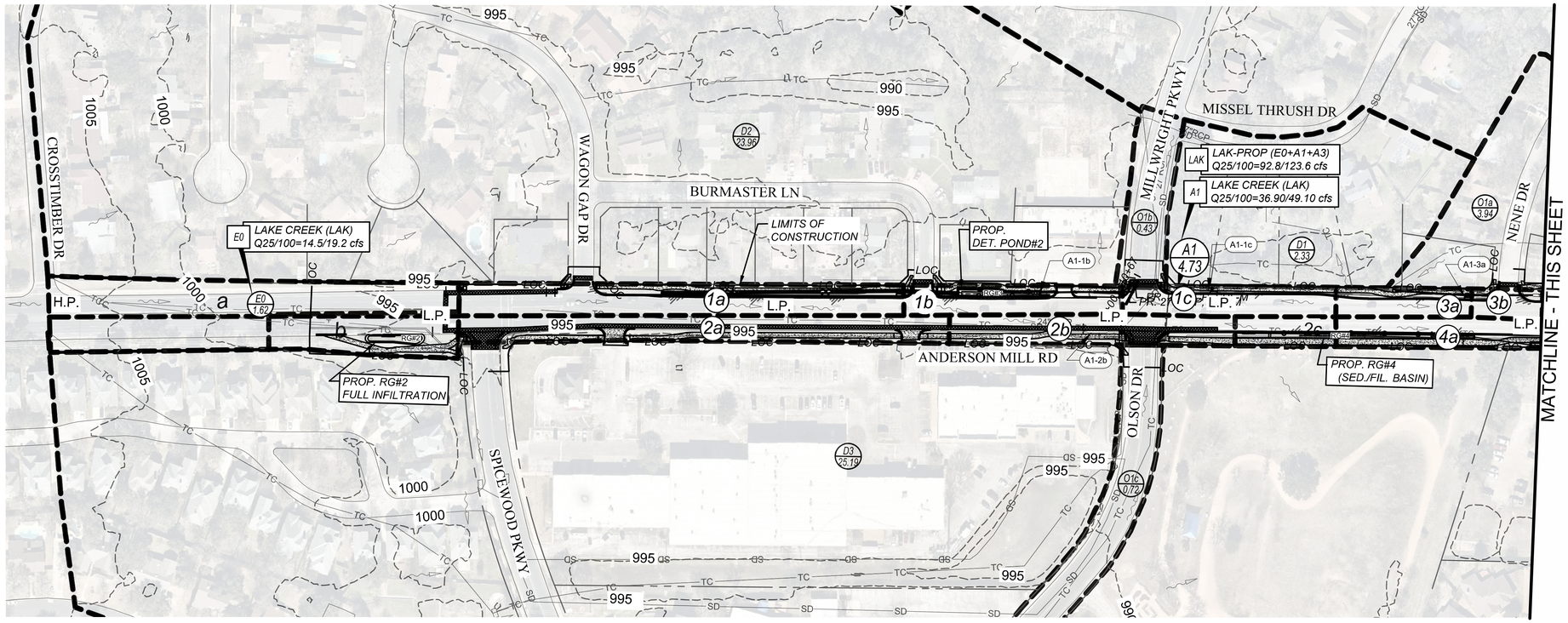
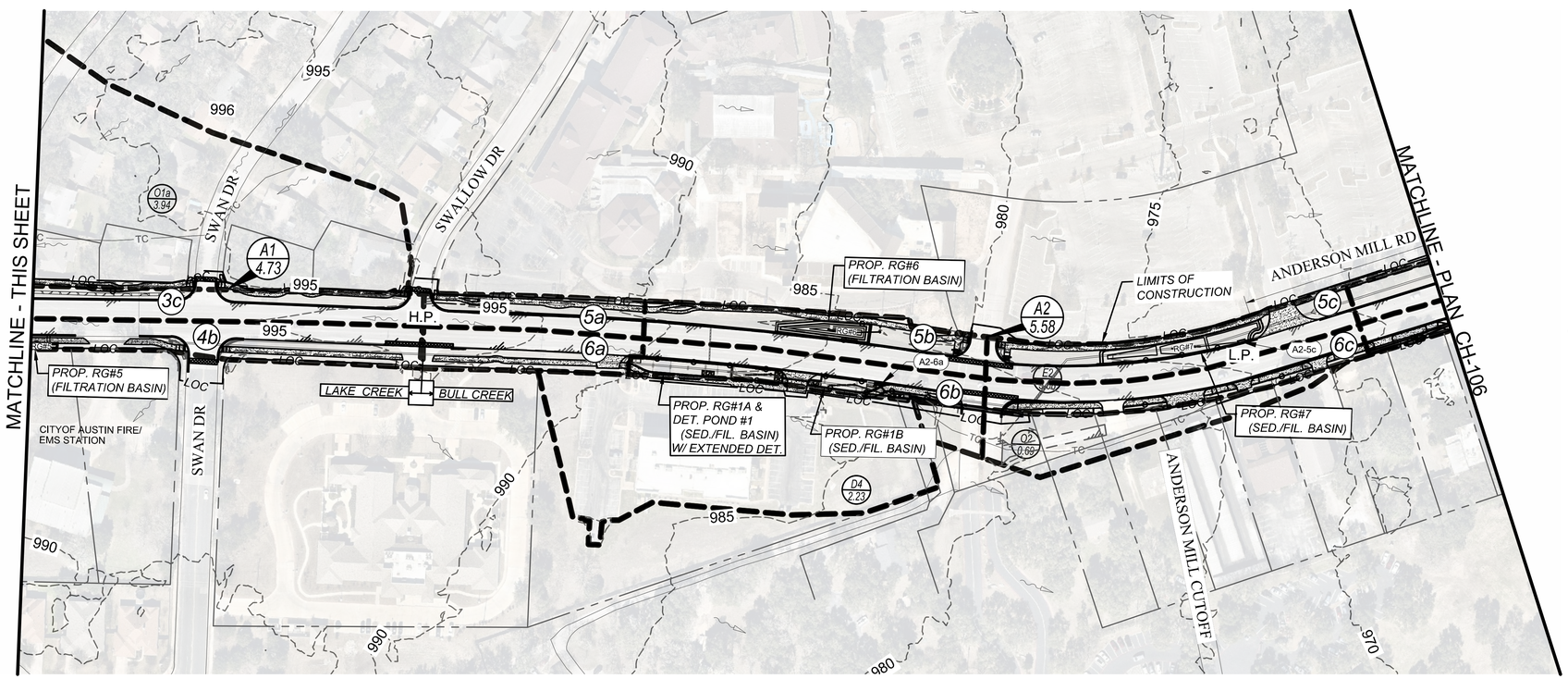
THIVAKARAN, JOTHIKA





LEGEND

A1 4.73	ON-SITE DRAINAGE AREA (ac.)
O1a 3.94 / D1 2.33	OFF-SITE/BYPASS DRAINAGE AREA (ac.)
	DRAINAGE AREA BOUNDARY
TC	TIME OF CONCENTRATION
SD	EX. STORM DRAIN
	PROP. RIGHT OF WAY
	PROP. STORM DRAIN LINE
A1-1c	INLET NUMBER

REV NO.	BY	DATE	REVISION DESCRIPTION

STATE OF TEXAS
XIAOQIN ZHANG, P.E.
96436
LICENSED
PROFESSIONAL ENGINEER
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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

REDEVELOPED OVERALL DRAINAGE AREA MAP
SHEET 1 OF 2

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/JP	8/18
DESIGNED BY	JT/EZ	8/18
CHECKED BY	EZ/CG	8/18
REVIEWED BY	ESD	8/18

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HORIZONTAL SCALE IN FEET

GP-2019-0210.ATD

THIVAKARAN, JOTHIKA
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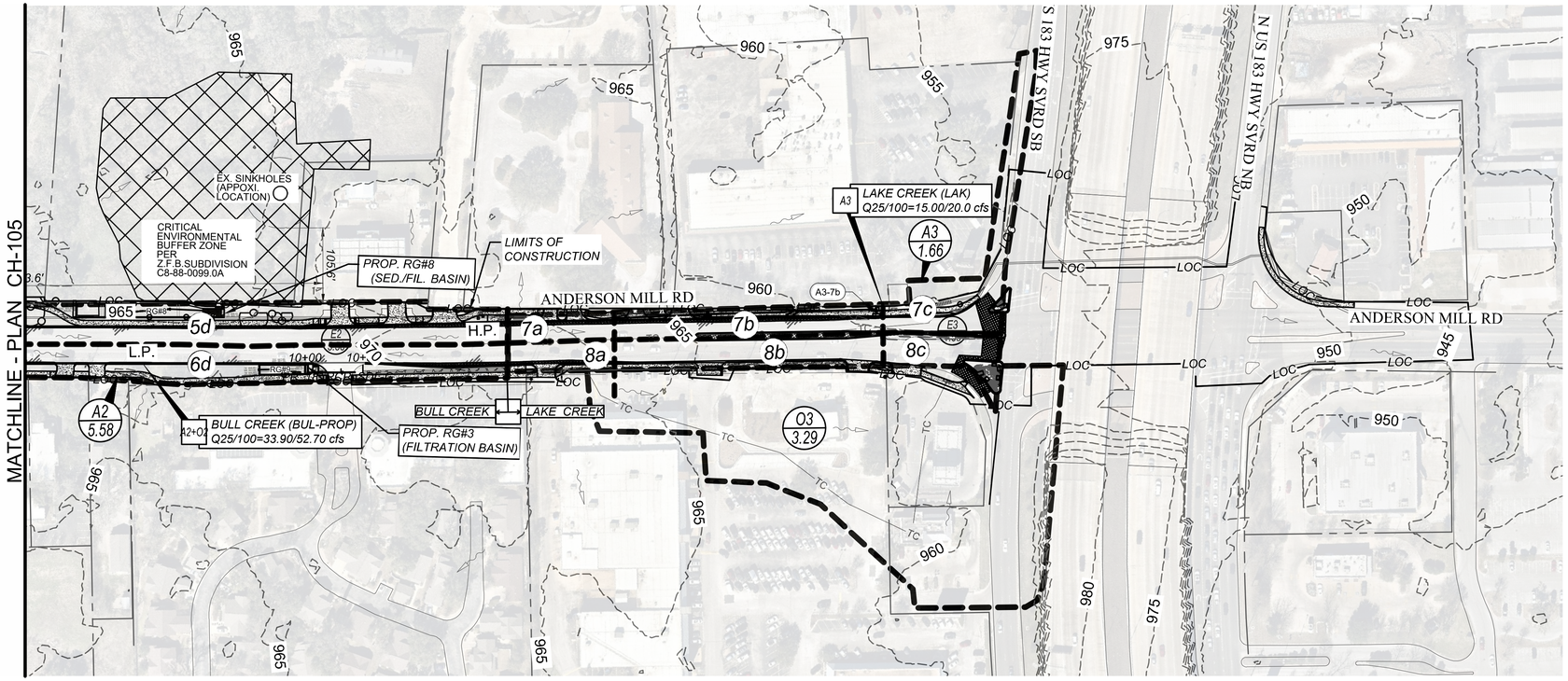

HYDROLOGY SUMMARY (REDEVELOPED CONDITIONS)

Storm Event			2 Year Storm Event			10 Year Storm Event			25 Year Storm Event			100 Year Storm Event		
Drainage Area Number	Drainage Area (acres)	Time of Concentration Tc (min)	Runoff Coefficient C2	Intensity* I2	Design Flow Q2 (cfs)	Runoff Coefficient C10	Intensity* I10	Design Flow Q10 (cfs)	Runoff Coefficient C25	Intensity* I25	Design Flow Q25 (cfs)	Runoff Coefficient C100	Intensity* I100	Design Flow Q100 (cfs)
E0-a	1.10	5.00	0.67	7.39	5.42	0.74	10.11	8.24	0.79	12.54	10.89	0.88	15.93	15.34
E0-b	0.53	5.00	0.50	7.39	1.95	0.56	10.11	3.00	0.61	12.54	4.01	0.69	15.93	5.75
Subtotal	**1.62**				**7.37**			**11.24**			**14.91**			**21.09**
A1-1a	0.77	5.00	0.67	7.39	3.81	0.74	10.11	5.80	0.79	12.54	7.66	0.88	15.93	10.79
A1-1b	0.35	5.00	0.68	7.39	1.77	0.75	10.11	2.69	0.80	12.54	3.55	0.89	15.93	5.00
A1-1c	0.34	5.00	0.72	7.39	1.84	0.80	10.11	2.79	0.85	12.54	3.67	0.94	15.93	5.15
A1-2a	0.71	5.00	0.58	7.39	3.06	0.65	10.11	4.67	0.70	12.54	6.21	0.78	15.93	8.81
A1-2b	0.48	5.00	0.66	7.39	2.33	0.74	10.11	3.55	0.79	12.54	4.69	0.87	15.93	6.61
A1-2c	0.16	5.00	0.54	7.39	0.66	0.61	10.11	1.01	0.65	12.54	1.34	0.73	15.93	1.92
A1-3a	0.22	5.00	0.66	7.39	1.05	0.74	10.11	1.60	0.78	12.54	2.12	0.87	15.93	2.99
A1-3b	0.11	5.00	0.70	7.39	0.59	0.78	10.11	0.90	0.83	12.54	1.19	0.92	15.93	1.67
A1-3c	0.59	5.00	0.67	7.39	2.95	0.75	10.11	4.49	0.79	12.54	5.93	0.88	15.93	8.35
A1-4a	0.34	5.00	0.62	7.39	1.54	0.69	10.11	2.36	0.73	12.54	3.12	0.82	15.93	4.42
A1-4b	0.65	5.00	0.62	7.39	2.96	0.69	10.11	4.51	0.74	12.54	5.98	0.82	15.93	8.46
Subtotal	**4.73**				**22.56**			**34.36**			**45.47**		**175.18**	**64.16**
A2-5a	0.36	5.00	0.60	7.39	1.60	0.67	10.11	2.45	0.72	12.54	3.25	0.80	15.93	4.60
A2-5b	0.68	5.00	0.58	7.39	2.88	0.64	10.11	4.41	0.69	12.54	5.86	0.77	15.93	8.33
A2-5c	0.68	5.00	0.57	7.39	2.86	0.64	10.11	4.38	0.69	12.54	5.82	0.77	15.93	8.27
A2-5d	1.26	5.00	0.53	7.39	4.99	0.60	10.11	7.66	0.65	12.54	10.22	0.73	15.93	14.59
A2-6a	0.40	5.00	0.62	7.39	1.84	0.69	10.11	2.80	0.74	12.54	3.72	0.82	15.93	5.26
A2-6b	0.67	5.00	0.62	7.39	3.05	0.69	10.11	4.65	0.74	12.54	6.16	0.82	15.93	8.72
A2-6c	0.58	5.00	0.71	7.39	3.02	0.78	10.11	4.59	0.83	12.54	6.05	0.92	15.93	8.50
A2-6d	0.96	5.00	0.67	7.39	4.78	0.75	10.11	7.28	0.80	12.54	9.61	0.88	15.93	13.53
Subtotal	**5.58**				**25.03**			**38.22**			**50.69**			**71.79**
A3-7a	0.13	5.00	0.73	7.39	0.72	0.81	10.11	1.09	0.86	12.54	1.43	0.95	15.93	2.01
A3-7b	0.35	5.00	0.64	7.39	1.66	0.71	10.11	2.53	0.76	12.54	3.34	0.84	15.93	4.72
A3-7c	0.47	5.00	0.64	7.39	2.19	0.71	10.11	3.33	0.76	12.54	4.41	0.84	15.93	6.22
A3-8a	0.14	5.00	0.71	7.39	0.76	0.79	10.11	1.15	0.84	12.54	1.52	0.93	15.93	2.13
A3-8b	0.39	5.00	0.70	7.39	1.99	0.77	10.11	3.02	0.82	12.54	3.98	0.91	15.93	5.59
A3-8c	0.18	5.00	0.71	7.39	0.94	0.79	10.11	1.42	0.84	12.54	1.87	0.93	15.93	2.63
Subtotal	**1.66**				**8.24**			**12.53**			**16.55**			**23.30**

NOTES: A1, A2, A3 boundaries are the same as existing E1, E2 & E3. drainage areas.
Estimated ATLAS intensities for 2-, 10-, 25-, and 100-year are subject to change, currently equivalent to DCM October 2018 5-, 25-, 100- and 500-year design events.

WATER QUALITY MPERVIOUS COVER SUMMARY

TOTAL SITE AREA	521,422	s.f.
EXIST. IMPERVIOUS COVER	311,635	s.f.
IMPERVIOUS COVER TO REMAIN	303,216	s.f.
NEW PROPOSED IMPERVIOUS COVER*	13,140	s.f.
REDEVELOPED IMPERVIOUS COVER	9,736	s.f.
TOTAL PROPOSED IMPERVIOUS COVER	316,356	s.f.
EXIST. IMPERVIOUS COVER PERCENTAGE	59.77	%
PROPOSED IMPERVIOUS COVER PERCENTAGE	60.67	%
IMPERVIOUS COVER CHANGE PERCENTAGE	0.91	%

NOTE: Impervious Cover to remain is for maintenance (Mill & Overlay).
All rain gardens are mainly sized to treat new impervious cover 13,140 s.f. and redeveloped impervious cover 9,736 s.f.

IMPERVIOUS COVER CHANGE SUMMARY

TOTAL SITE AREA	521,422	s.f.
EXIST. IMPERVIOUS COVER	311,635	s.f.
EXIST. IMPERVIOUS COVER PERCENTAGE	59.77	%
NEW PROPOSED IMPERVIOUS COVER*	13,140	s.f.
EXIST. IMPERVIOUS COVER REMOVAL	-8,419	s.f.
NET IMPERVIOUS COVER CHANGE	4,721	s.f.
IMPERVIOUS COVER CHANGE PERCENTAGE	0.91	%

LEGEND

- A3 1.66 — ON-SITE DRAINAGE AREA (ac.)
- O3 3.29 — OFF-SITE/BYPASS DRAINAGE AREA (ac.)
- DRAINAGE AREA BOUNDARY
- TC — TIME OF CONCENTRATION
- PROP. RIGHT OF WAY
- PROP. STORM DRAIN LINE
- A3-7b — INLET NUMBER

REV. NO.	BY	DATE	REVISION DESCRIPTION

STATE OF TEXAS
XIAOQIN ZHANG, P.E.
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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

REDEVELOPED OVERALL DRAINAGE MAP
SHEET 2 OF 2

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/JP	8/18
DESIGNED BY	JT/EZ	8/18
CHECKED BY	EZ/CG	8/18
REVIEWED BY	ESD	8/18

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HORIZONTAL SCALE IN FEET

GP-2019-0210.ATD

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THIWAKARAN, JOTHIKA

HEC-HMS SUMMARY (OFF-SITE BYPASS FLOWS)

Designation	Area (ac.)	Off-Site/Bypass/ Onsite	Off-street/On-street	Watershed	Impervious Cover (%)	Composite CN	Lag Time (min.)	$Q_{2\text{-}yr}$ (cfs)	$Q_{10\text{-}yr}$ (cfs)	$Q_{25\text{-}yr}$ (cfs)	$Q_{100\text{-}yr}$ (cfs)
D1	2.33	Bypass	Off-street	Lake Creek	0.00	82	18.34	4.8	8.6	12.2	16.8
D2	23.96	Bypass	Off-street	Lake Creek	32.10	87	8.86	75.4	126.1	174.6	236.4
D3	25.19	Bypass	Off-street	Lake Creek	44.91	88	7.27	85.7	141.6	194.9	263.1
Designation	Area (ac.)	Off-Site/Bypass/ Onsite	Off-street/On-street	Watershed	Impervious Cover (%)	Composite CN	Lag Time (min.)	$Q_{2\text{-}yr}$ (cfs)	$Q_{10\text{-}yr}$ (cfs)	$Q_{25\text{-}yr}$ (cfs)	$Q_{100\text{-}yr}$ (cfs)
D4	2.23	Bypass	Off-street	Bull Creek	54.06	89	7.60	7.7	12.6	17.3	23.3

DETENTION VOLUME TABLE (Bull/Lake Creek Watershe)

Watershed	Design Storm	Detention Volume Required (c.f.)	Detention Volume Provided (c.f.)
Lake Creek	2-Year	1,057	536
Bull Creek	2-Year	815	881
Lake Creek	10-Year	1,873	843
Bull Creek	10-Year	1,440	1,440
Lake Creek	25-Year	2,640	938
Bull Creek	25-Year	2,032	2,070
Lake Creek	100-Year	3,997	2,713
Bull Creek	100-Year	3,087	3,138

HEC-HMS SUMMARY I

Designation	Area (ac.)	Off-Street (On-Street Anderson Mill Rd.)	Off-site/On-site	Impervious Cover (%)	Composite CN	Lag Time (min.)	$Q_{2\text{-}yr}$ (cfs)	$Q_{10\text{-}yr}$ (cfs)	$Q_{25\text{-}yr}$ (cfs)	$Q_{100\text{-}yr}$ (cfs)
EXISTING DEVELOPED CONDITIONS (Lake Creek)										
O1a	3.94	Off-Street	Off-site	44.50	88	4.92	15.70	24.90	33.90	45.30
O1b	0.47	Off-Street	Off-site	77.08	91	3.50	2.00	3.00	4.10	5.40
O1c	0.72	Off-Street	Off-site	89.75	93	3.10	3.10	4.80	6.40	8.50
O3	3.29	Off-Street	Off-site	89.62	92	6.62	13.20	20.30	27.10	35.90
Subtotal	**8.42**									
E0	**1.62**	On-Street	Off-site	71.25	91	3.50	7.00	10.80	14.50	19.20
E1	**4.73**	On-Street	On-site	62.69	89	8.17	17.40	27.40	36.90	49.10
E3	1.66	On-Street	On-site	70.77	90	3.50	7.20	11.20	15.00	20.00
LAK-EX	**16.43**	Off-Street	**Off-site & On-site**	-	-	-	**43.70**	**68.70**	**92.70**	**123.50**
EXISTING DEVELOPED CONDITIONS (Bull Creek)										
E2	5.58	On-Street	On-site	54.03	88	9.44	19.30	30.50	41.30	55.20
O2	0.69	Off-Street	Off-site	48.88	87	5.54	2.70	4.30	5.90	7.90
BUL-EX	**6.27**	On-Street	**Off-site & On-site**	-	-	-	**21.70**	**34.40**	**46.70**	**62.30**
REDEVELOPED CONDITIONS (Lake Creek)										
O1a	3.94	Off-Street	Off-site	44.50	88	4.92	15.70	24.90	33.80	45.30
O1b	0.47	Off-Street	Off-site	77.08	91	3.50	2.00	2.00	4.10	5.40
O1c	0.72	Off-Street	Off-site	89.75	93	3.50	3.10	4.80	6.40	8.50
O3	3.29	Off-Street	Off-site	89.62	92	6.62	13.20	20.20	27.10	35.90
Subtotal	**8.42**									
E0	**1.62**	On-Street	Off-site	71.25	91	3.50	7.00	10.80	14.50	19.20
A1	**4.73**	On-Street	On-site	63.50	89	8.17	17.50	27.40	36.90	49.10
A3	**1.66**	On-Street	On-site	68.72	90	3.5	7.20	11.20	15.00	20.00
LAK-PROP	**16.43**	Off-Street	**Off-site & On-site**	-	-	-	**43.70**	**68.70**	**92.80**	**123.60**
REDEVELOPED CONDITIONS (Bull Creek)										
A2	**5.58**	On-Street	On-site	56.36	88	9.44	19.40	30.60	41.40	55.20
BP-DET		Off-Street	On-site	-	-	-	12.30	23.80	33.90	52.70
O2	0.69	Off-Street	On-site	48.88	87	5.54	2.70	4.30	5.90	7.90
BUL-PROP	**6.27**	On-Street	**Off-site & On-site**	-	-	-	**12.30**	**23.80**	**33.90**	**52.70**

HYDROLOGY SUMMARY (REDEVELOPED CONDITIONS)

Storm Event			2 Year Storm Event			10 Year Storm Event			25 Year Storm Event			100 Year Storm Event		
Drainage Area Number	Drainage Area (acres)	Time of Concentration Tc (min)	Runoff Coefficient C2	Intensity* I2	Design Flow Q2 (cfs)	Runoff Coefficient C10	Intensity* I10	Design Flow Q10 (cfs)	Runoff Coefficient C25	Intensity* I25	Design Flow Q25 (cfs)	Runoff Coefficient C100	Intensity* I100	Design Flow Q100 (cfs)
O1a	3.94	8.20	0.51	6.38	12.93	0.58	8.78	19.98	0.62	11.06	27.12	0.70	14.31	39.52
O1b	0.43	5.00	0.64	7.39	2.04	0.71	10.11	3.11	0.76	12.54	4.12	0.85	15.93	5.82
O1c	0.72	5.49	0.69	7.22	3.58	0.77	9.88	5.45	0.82	12.29	7.21	0.91	15.65	10.17
O2	0.69	9.23	0.53	6.12	2.23	0.59	8.43	3.45	0.64	10.67	4.70	0.72	13.86	6.87
O3	3.29	11.04	0.70	5.71	13.07	0.77	7.89	20.05	0.82	10.05	27.14	0.91	13.15	39.33
Subtotal	**9.07**				**33.86**			**52.04**			**70.30**			**101.71**
E0	1.62	5.00	0.62	7.39	7.41	0.69	10.11	11.31	0.74	12.54	14.99	0.82	15.93	21.20
Subtotal	**1.62**													
A1	4.73	13.62	0.58	5.23	14.46	0.65	7.24	22.40	0.70	9.29	30.76	0.78	12.27	45.42
A2	5.58	15.73	0.56	4.90	15.24	0.62	6.80	23.71	0.67	8.76	32.78	0.75	11.64	48.83
A3	1.66	5.54	0.61	7.20	7.22	0.68	9.85	11.04	0.72	12.26	14.69	0.81	15.62	20.88
Subtotal	**11.97**				**36.92**			**57.14**			**78.23**			**115.12**

NOTE: Estimated ATLAS intensities for 2-, 10-, 25-, and 100-year are subject to change, currently equivalent to DCM October 2018 5-, 25-, 100- and 500-year design events.

HEC-HMS SUMMARY II

Watershed	Area (ac.)	Conditions	Designation	$Q_{2\text{-}yr}$ (cfs)	$Q_{10\text{-}yr}$ (cfs)	$Q_{25\text{-}yr}$ (cfs)	$Q_{100\text{-}yr}$ (cfs)
Lake Creek	16.43	Existing	LAK-EX	43.70	68.70	92.70	123.60
	16.43	Redeveloped	LAK-PROP	43.70	68.70	92.80	123.60
Bull Creek	6.27	Existing	BUL-EX	21.70	48.90	46.70	62.30
	6.27	Redeveloped	BUL-PROP	12.30	23.80	33.90	52.70
Total	**22.70**	**Existing**	COM-ALL	**242.6**	**397.1**	**545.0**	**734.1**
	22.70	**Redeveloped**	COM-ALL	**238.9**	**389.1**	**536.0**	**725.7**

CURB INLET IN-SUMP CALCULATIONS

25 YEAR STORM

INLET NUMBER	DRAINAGE AREA NUMBER	Street Name		Inlet Type	Clogging Factor (%)	Q_{25} (cfs)	Q_{25} Upstream Inlet	Inlet Upstream	Total Q_{25} (cfs)	Inlet Opening (ft)	Curb Depression (inches)	Street Width (FOC-FOC)	Curb Hight (in.)	Flow Depth at Inlet (ft.)	Ponded Width (ft.)
Prop. A1-1b	A1-1b	Anderson Mill Road	On-Site	Modified Curb Inlet Type G-1R	10	3.55	0.00	-	3.55	6.00	4.00	51.50	6.00	0.27	5.85
Prop. A1-1c	A1-1c	Anderson Mill Road	On-Site	Type S-1	10	3.67	0.00	-	3.67	10.00	4.00	51.50	6.00	0.19	3.92
EX. A1-2b	A1-2b	Anderson Mill Road	On-Site	Type S-1	10	6.21	0.00	-	6.21	10.00	4.00	51.50	6.00	0.28	6.10
Prop. A1-3a	A1- 3a, 3b, 3c	Anderson Mill Road	On-Site	Type S-1	10	9.24	0.00	-	9.24	15.00	4.00	51.90	6.00	0.28	6.07
Prop. A2-5c	A2-5c	Anderson Mill Road	On-Site	Modified Curb Inlet Type G-1R	10	5.82	0.00	-	5.82	6.00	4.00	51.90	6.00	0.40	Over Curb

100 YEAR STORM

Prop. A1-1b	A1-1b	Anderson Mill Road	On-Site	Modified Curb Inlet Type G-1R	10	5.00	0.00	-	5.00	6.00	4.00	51.50	6.00	0.35	Over Curb
Prop. A1-1c	A1-1c	Anderson Mill Road	On-Site	Type S-1	10	20.94	0.00	-	20.94	10.00	4.00	51.50	6.00	0.71	Over Curb
EX. A1-2b	A1-2b	Anderson Mill Road	On-Site	Type S-1	10	8.81	0.00	-	8.81	10.00	4.00	51.50	6.00	0.37	Over Curb
Prop. A1-3a	A1- 3a, 3b, 3c	Anderson Mill Road	On-Site	Type S-1	10	13.01	0.00	-	13.01	15.00	4.00	51.90	6.00	0.36	Over Curb
Prop. A2-5c	A2-5c	Anderson Mill Road	On-Site	Modified Curb Inlet Type G-1R	10	8.27	0.00	-	8.27	6.00	4.00	51.90	6.00	0.52	Over Curb

CURB INLET ON-GRADE CALCULATIONS

25 YEAR STORM

Inlet Number	Drainage Area	Street Name	Curb Opening/Inlet Type	Clogging Factor (%)	Flow Q_{25} (cfs)	Upstream Inlet	Flow from Upstream Inlet	Total Flow Q_{25} (cfs)	Curb Opening/ Inlet Length (feet)	Slope (ft/ft)	Street Width (FOC-FOC) (ft)	Curb Height (inches)	Curb Depression (inches)	Flow Depth y_0 (feet)	a/y_0 (feet)	Ponded Width (PW) (feet)	Clear Width ((FOC-FOC)/2-PW) (feet)	Allowed Min. Clear Width (feet)	Qa/La DCM Figue 5-10	La (ft)	L/La	Q/Qa DCM Figue 4-11	Q_{25} Intercepted	Q_{25} Passed (cfs)
A2-6a	A2-6a	Anderson Mill Road	Modified Curb Inlet Type G-1R	0.00	3.72	-	0.00	3.72	6	0.0177	53	6	4.00	0.32	1.05	7.00	18.00	11.00	0.61	6.07	0.99	0.99	3.69	0.02
A3-7b (-1 & -2)	A3-7a,7b & 7c	Anderson Mill Road	Type G-1R	10.00	9.18	-	0.00	9.18	20	0.0219	65	6	4.00	0.42	0.79	10.34	14.66	11.00	0.72	12.79	1.56	1.00	9.18	0.00

100 YEAR STORM

A2-6a	A2-6a	Anderson Mill Road	Modified Curb Inlet Type G-1R	0.00	5.26	-	0.00	5.26	6	0.0177	53	6	4.00	0.36	0.93	8.14	16.86	11.00	0.65	8.04	0.75	0.84	4.42	0.84
A3-7b (-1 & -2)	A3-7a,7b & 7c	Anderson Mill Road	Type G-1R	10.00	12.95	-	0.00	12.95	10	0.0219	65	6	4.00	0.48	0.70	12.09	12.91	11.00	0.78	16.69	0.60	0.74	9.63	3.32

REV NO.	BY	DATE	REVISION DESCRIPTION

STATE OF TEXAS
XIAOQIN ZHANG, P.E.
96436
LICENSED PROFESSIONAL ENGINEER
01/29/2020

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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

STORM DRAIN AND INLET CALCULATIONS

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/JP	8/18
DESIGNED BY	JT/EZ	8/18
CHECKED BY	EZ/CG	8/18
REVIEWED BY	ESD	8/18

N.T.S.

GP-2019-0210.ATD

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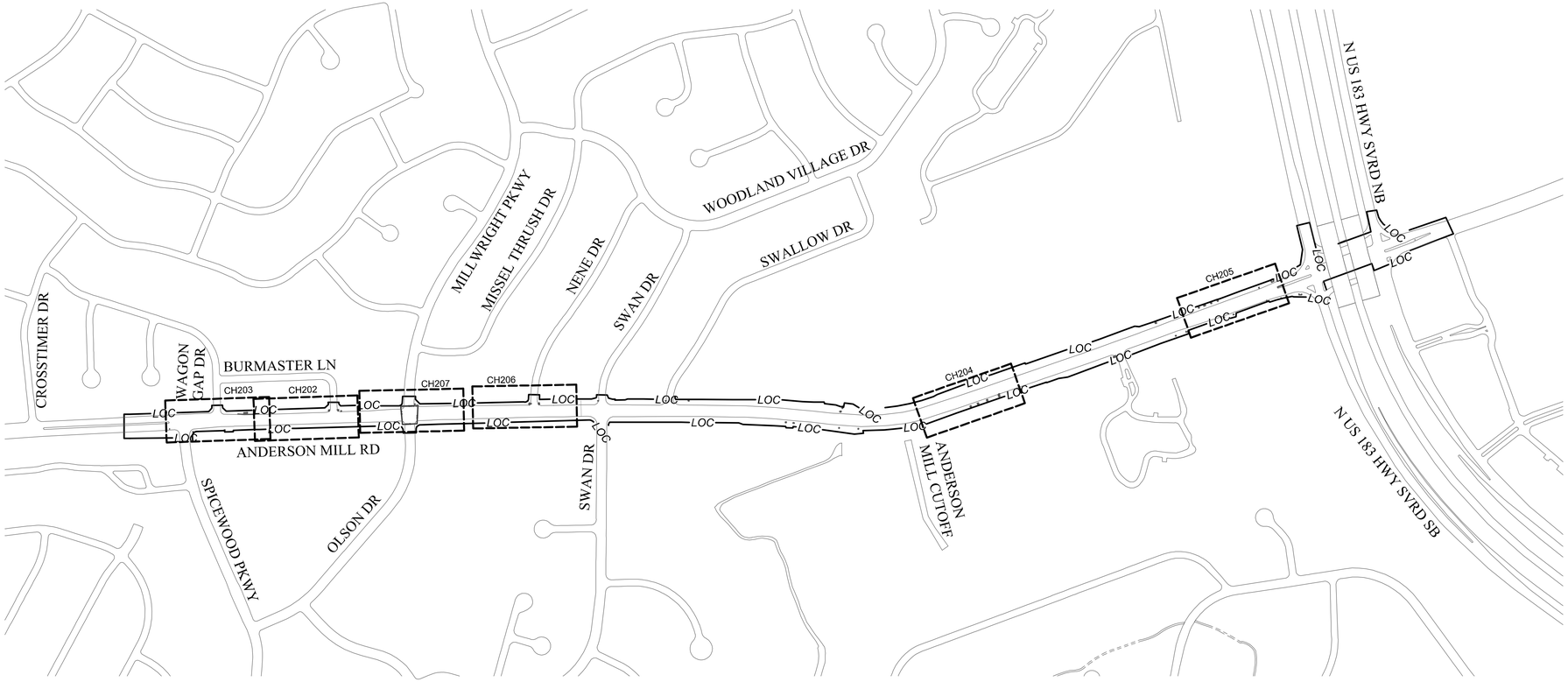

NOTE:
STORM DRAIN DESIGN IS PENDING ON WPD CCTV INFORMATION.
CURRENT DESIGN MATCH WITH EXISTING DRAINAGE FLOW LINE.

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DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

STORM DRAIN
OVERVIEW PLAN

CITY OF AUSTIN FOUNDED 1839

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/JP	8/18
DESIGNED BY	JT/EZ	8/18
CHECKED BY	EZ/CG	8/18
REVIEWED BY	ESD	8/18

0 300 600
HORIZONTAL SCALE IN FEET

GP-2019-0210.ATD

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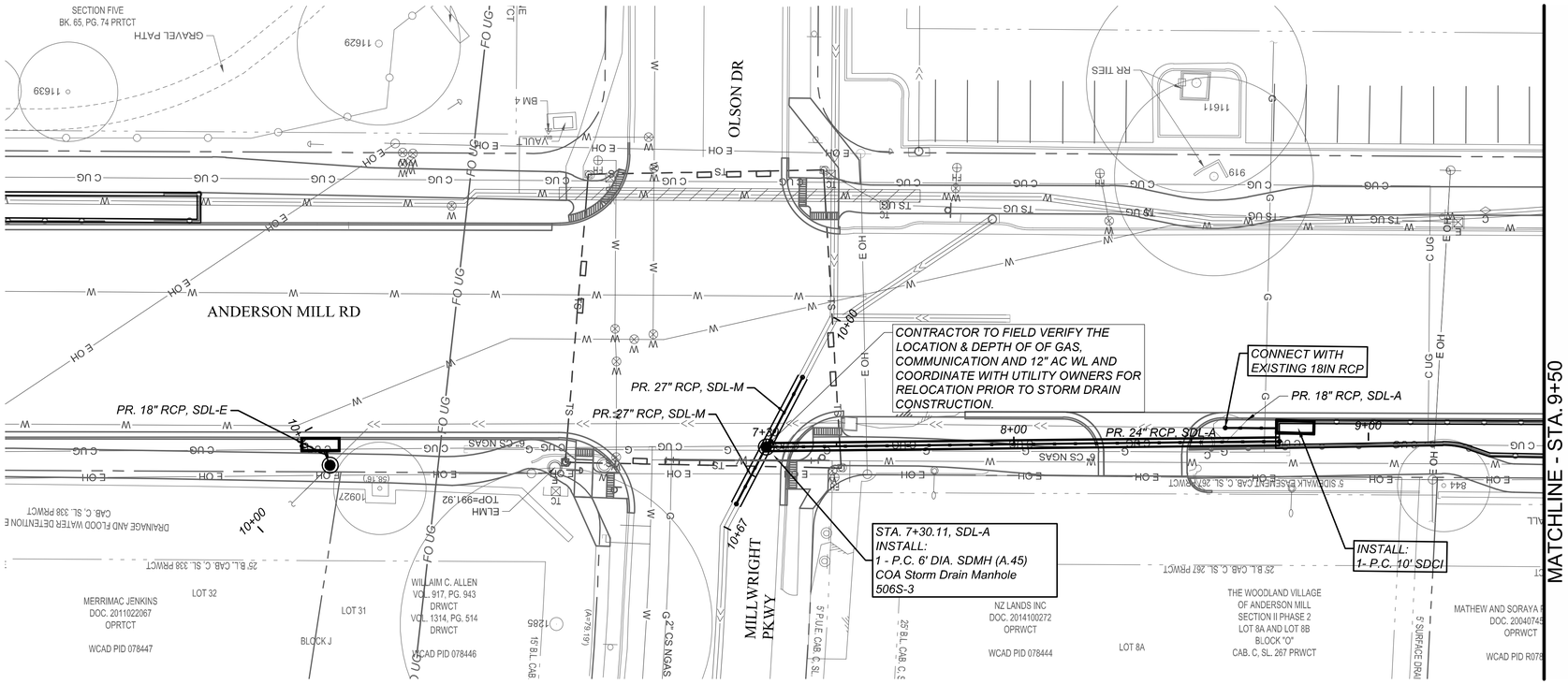

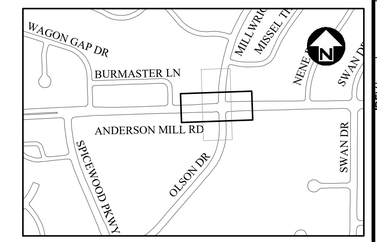

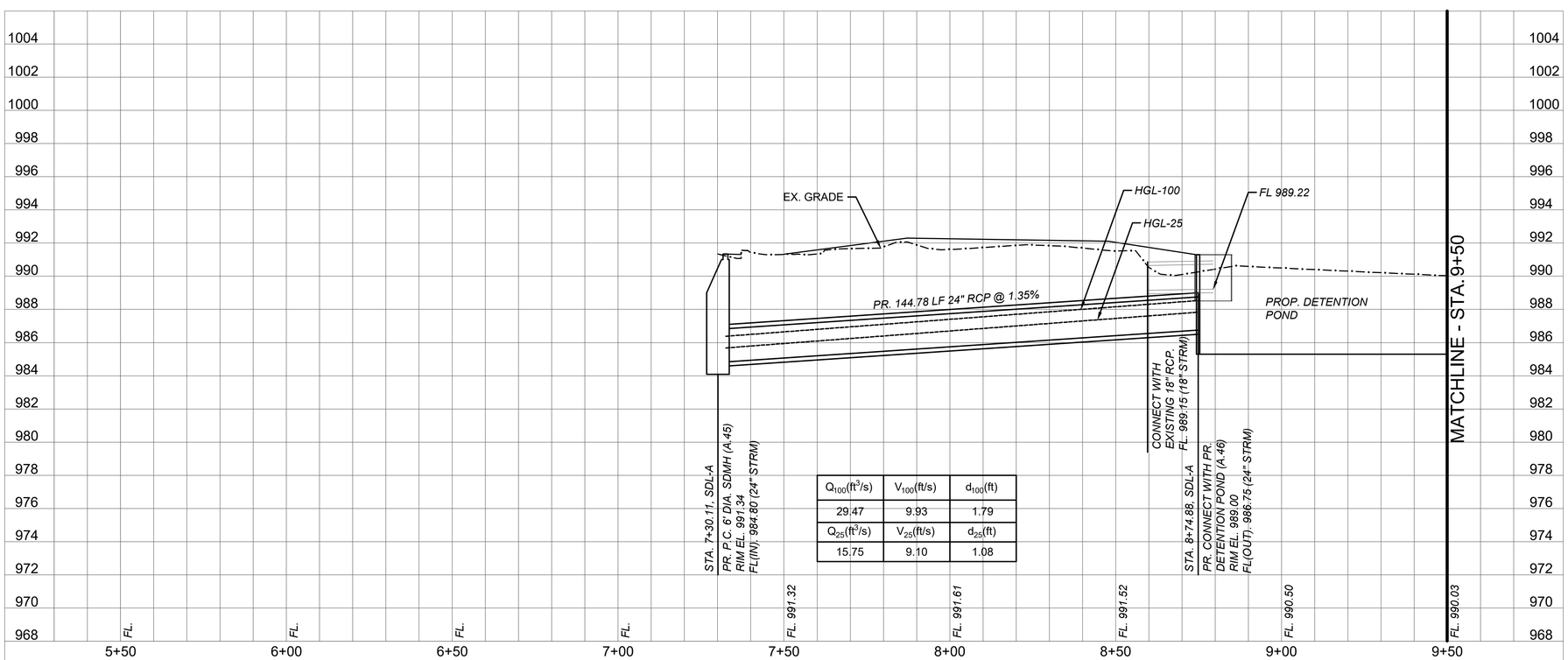

Q_{100}(ft³/s)	V_{100}(ft/s)	d_{100}(ft)
29.47	9.93	1.79
Q_{25}(ft³/s)	V_{25}(ft/s)	d_{25}(ft)
15.75	9.10	1.08

NOTE:
1. CONTRACTOR NEED TO FIELD VERIFY THE EXISTING GAS LINE ELEVATION.
2. CONFLICTING GAS LINE NEED TO BE RELOCATED.

REV. NO.	BY	DATE	REVISION DESCRIPTION
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STATE OF TEXAS
XIAOQIN ZHANG, P.E.
96436
LICENSED
PROFESSIONAL ENGINEER
02/10/2020

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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

STORM DRAIN PLAN & PROFILE SDL-A
BEGIN - STA. 9+50

CITY OF AUSTIN
FOUNDED 1839

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/JP	8/18
DESIGNED BY	JT/EZ	8/18
CHECKED BY	EZ/CG	8/18
REVIEWED BY	ESD	8/18

0 20 40
HORIZONTAL SCALE IN FEET
0 4 8
VERTICAL SCALE IN FEET

GP-2019-0210.ATD

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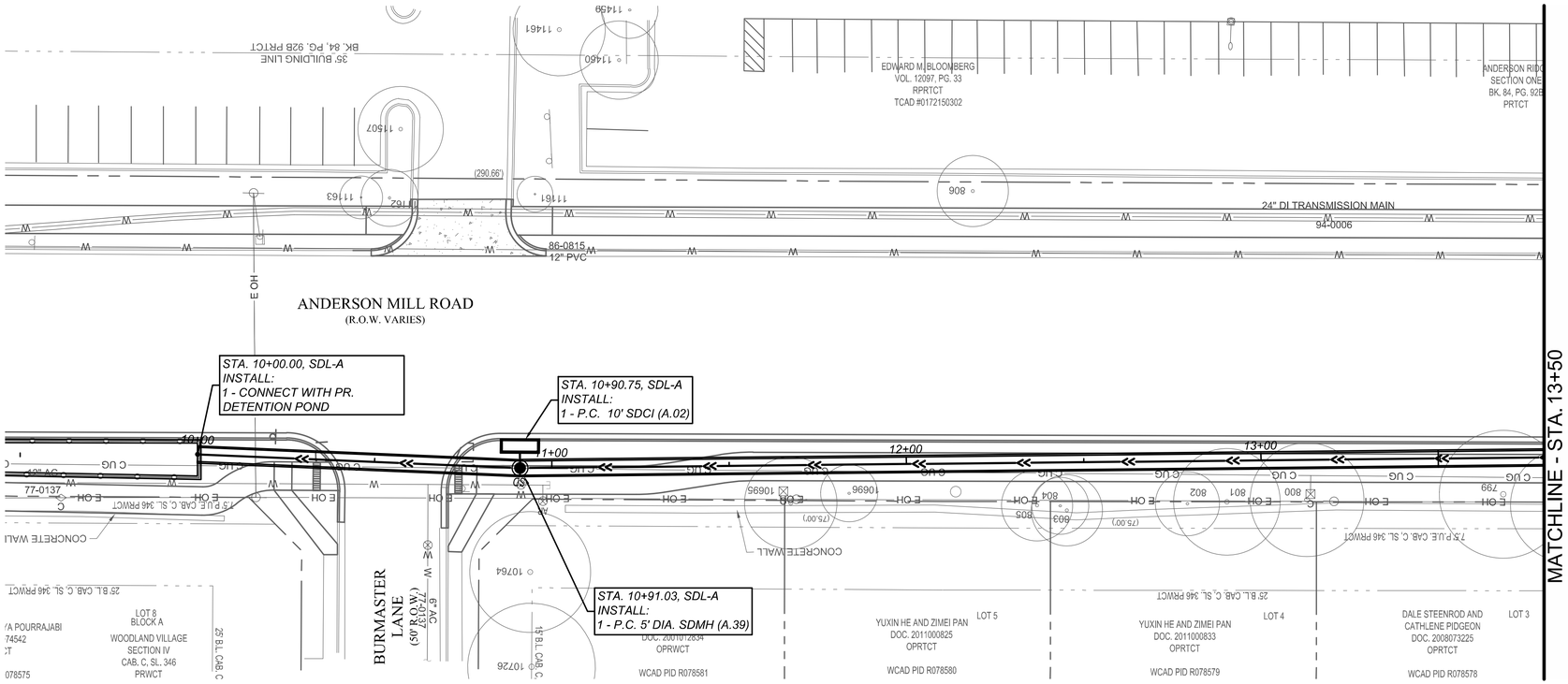

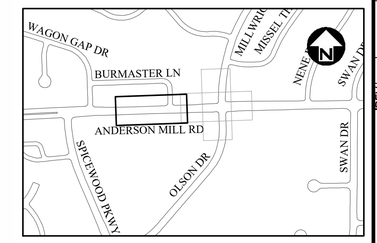

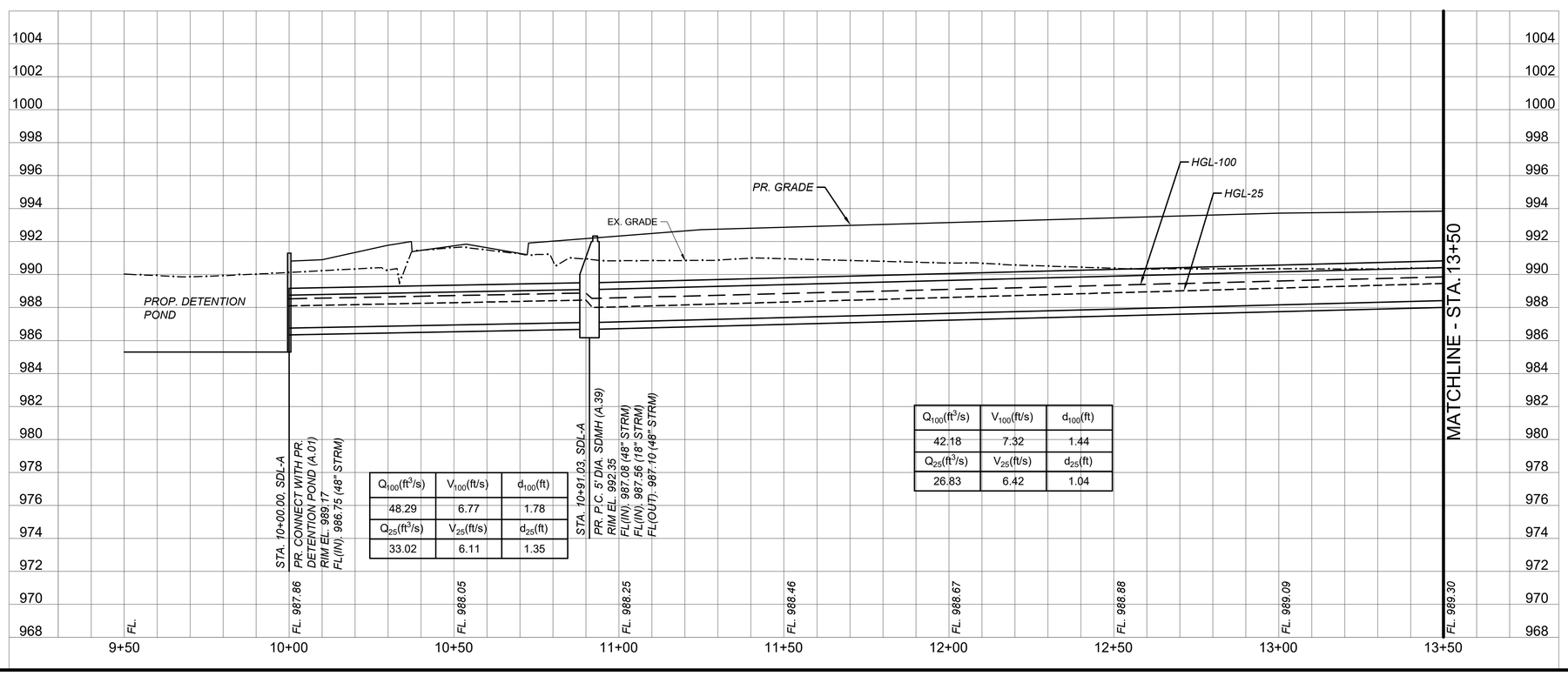

Q_{100}(ft³/s)	V_{100}(ft/s)	d_{100}(ft)
48.29	6.77	1.78
Q_{25}(ft³/s)	V_{25}(ft/s)	d_{25}(ft)
33.02	6.11	1.35

Q_{100}(ft³/s)	V_{100}(ft/s)	d_{100}(ft)
42.18	7.32	1.44
Q_{25}(ft³/s)	V_{25}(ft/s)	d_{25}(ft)
26.83	6.42	1.04

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ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

STORM DRAIN PLAN & PROFILE
SDL-A - STA. 9+50 - STA. 13+50

CITY OF AUSTIN
FOUNDED 1839

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT	8/18
DESIGNED BY	JT/EZ	8/18
CHECKED BY	EZ/CG	8/18
REVIEWED BY	ESD	8/18

0 20 40
HORIZONTAL SCALE IN FEET
0 4 8
VERTICAL SCALE IN FEET

GP-2019-0210.ATD

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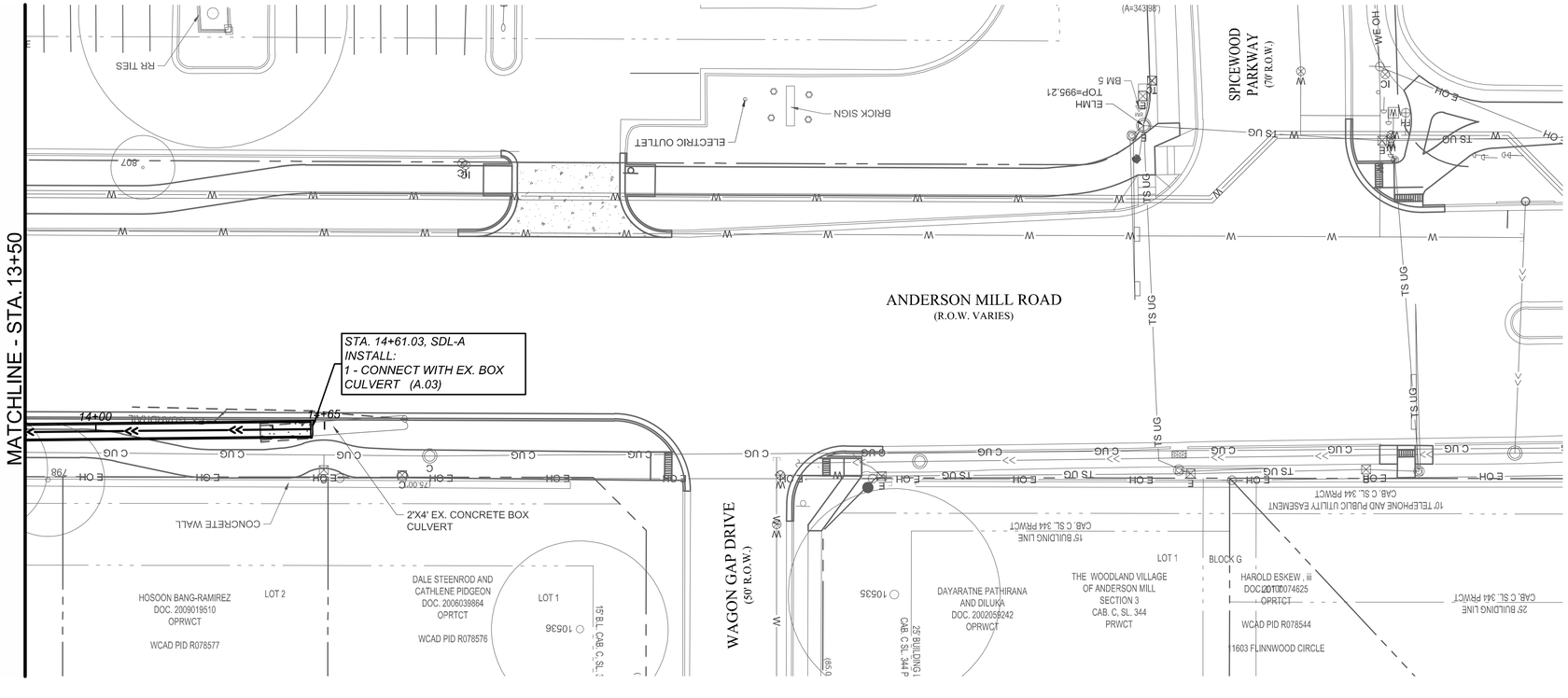

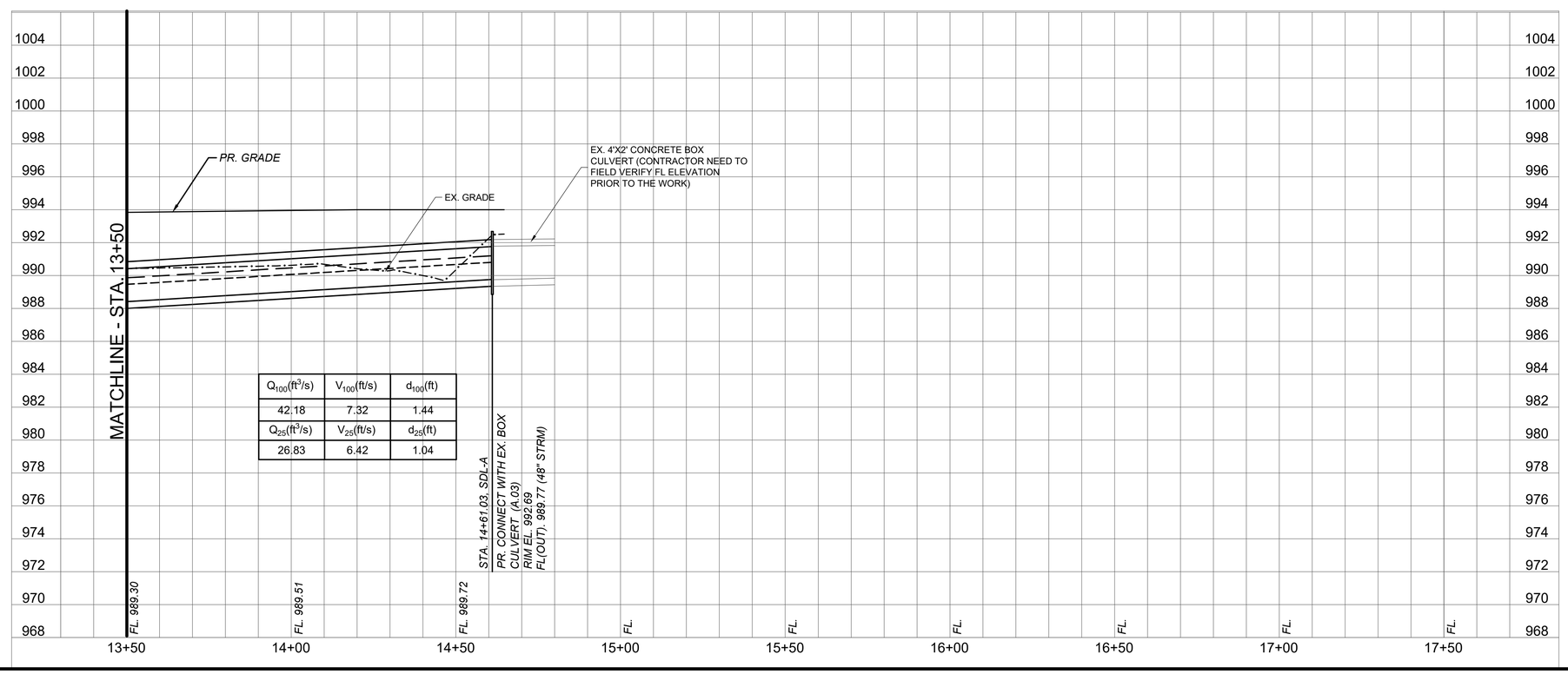

Q_{100}(ft³/s)	V_{100}(ft/s)	d_{100}(ft)
42.18	7.32	1.44
Q_{25}(ft³/s)	V_{25}(ft/s)	d_{25}(ft)
26.83	6.42	1.04

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ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

STORM DRAIN PLAN & PROFILE
SDL-A - STA. 13+50 - END

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT	8/18
DESIGNED BY	JT/EZ	8/18
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REVIEWED BY	ESD	8/18

0 20 40
HORIZONTAL SCALE IN FEET
0 4 8
VERTICAL SCALE IN FEET

GP-2019-0210.ATD

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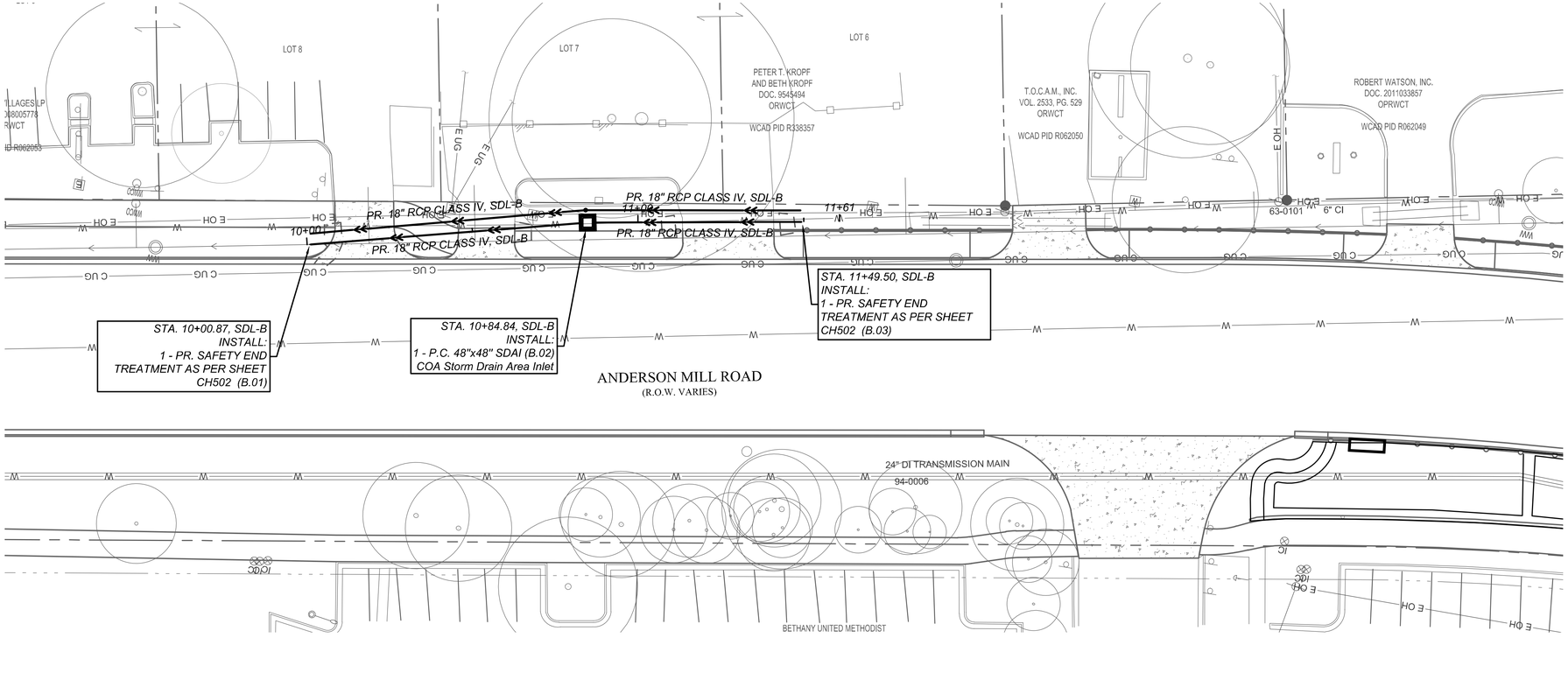

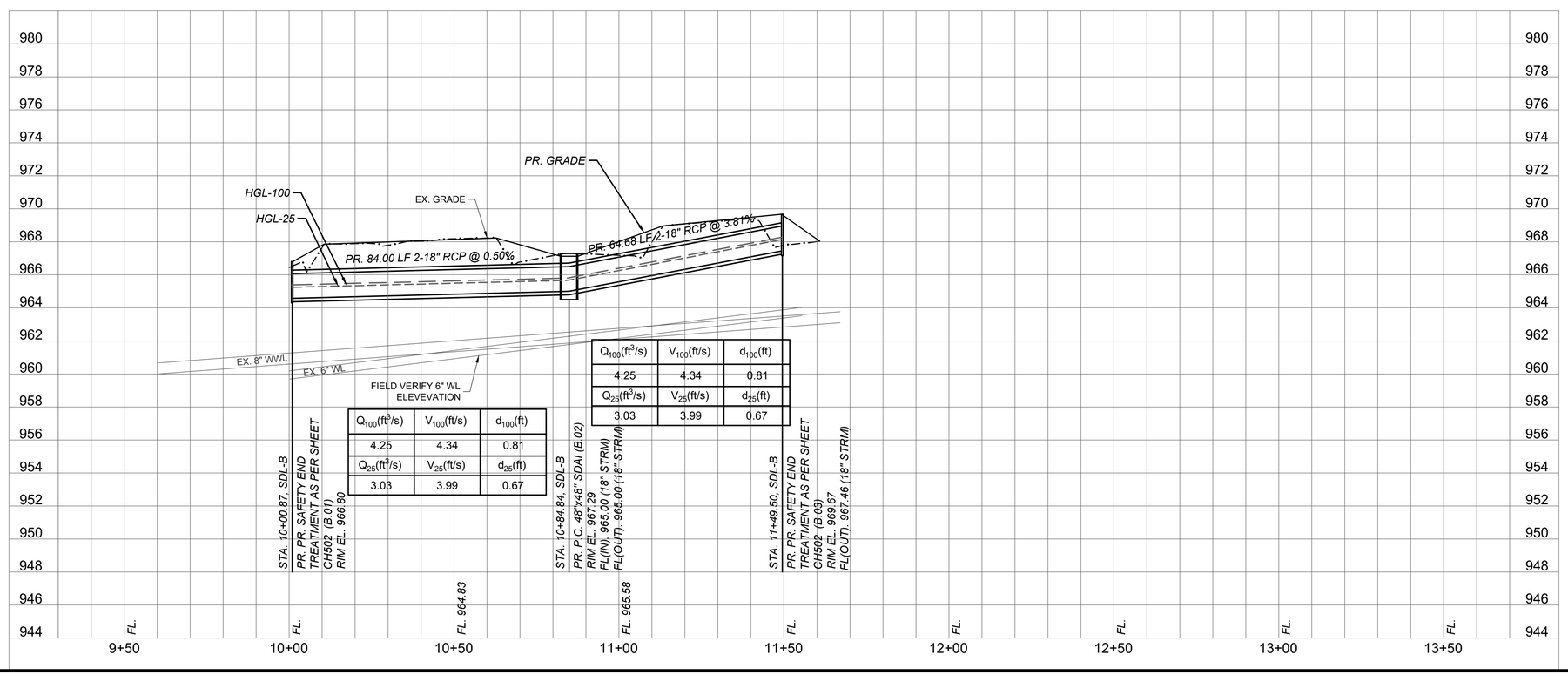

Q_{100}(ft³/s)	V_{100}(ft/s)	d_{100}(ft)
4.25	4.34	0.81
Q_{25}(ft³/s)	V_{25}(ft/s)	d_{25}(ft)
3.03	3.99	0.67

Q_{100}(ft³/s)	V_{100}(ft/s)	d_{100}(ft)
4.25	4.34	0.81
Q_{25}(ft³/s)	V_{25}(ft/s)	d_{25}(ft)
3.03	3.99	0.67

REV. NO.	BY	DATE	REVISION DESCRIPTION

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ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

STORM DRAIN PLAN & PROFILE
SDL-B - BEGIN - END

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT	8/18
DESIGNED BY	JT/EZ	8/18
CHECKED BY	EZ/CG	8/18
REVIEWED BY	ESD	8/18

0 20 40
HORIZONTAL SCALE IN FEET
0 4 8
VERTICAL SCALE IN FEET

GP-2019-0210.ATD

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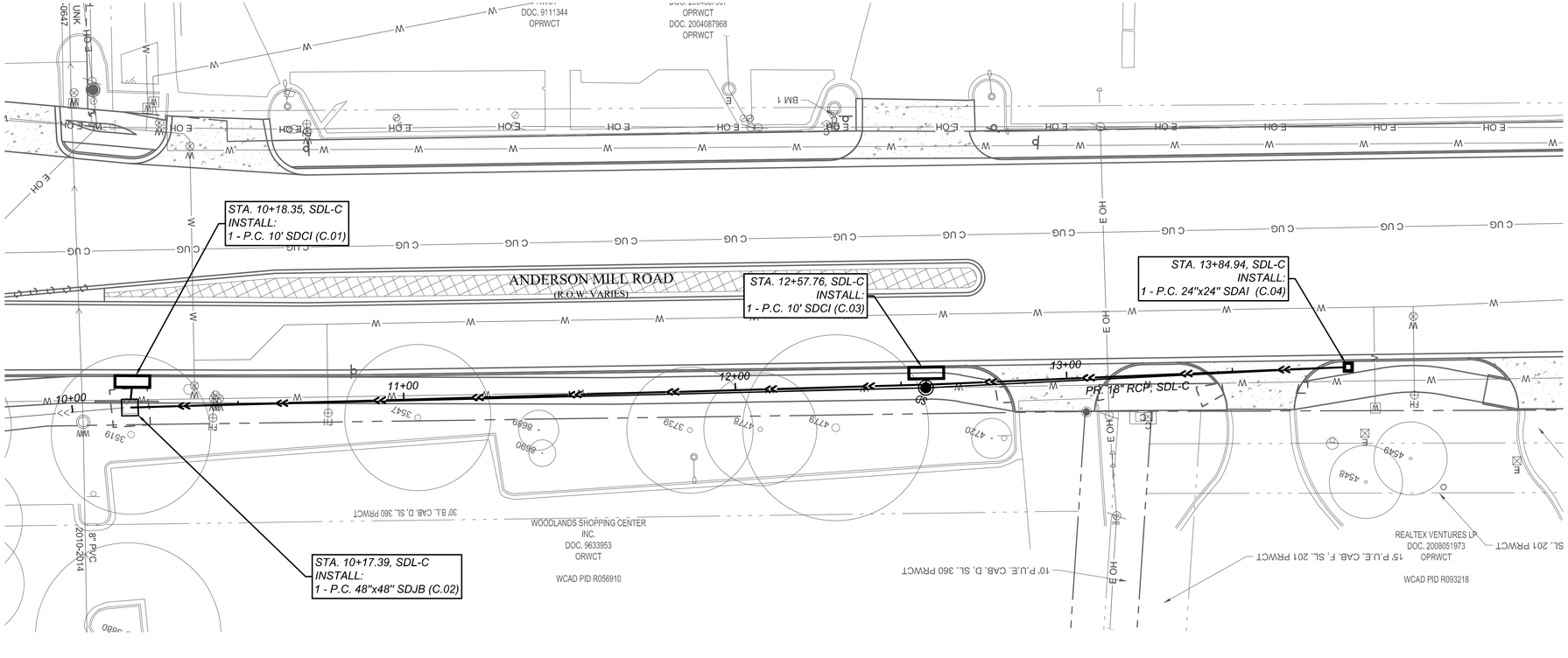
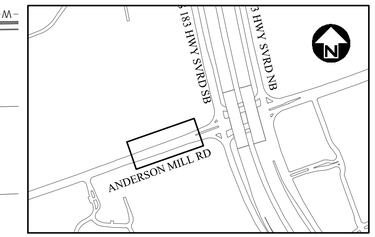
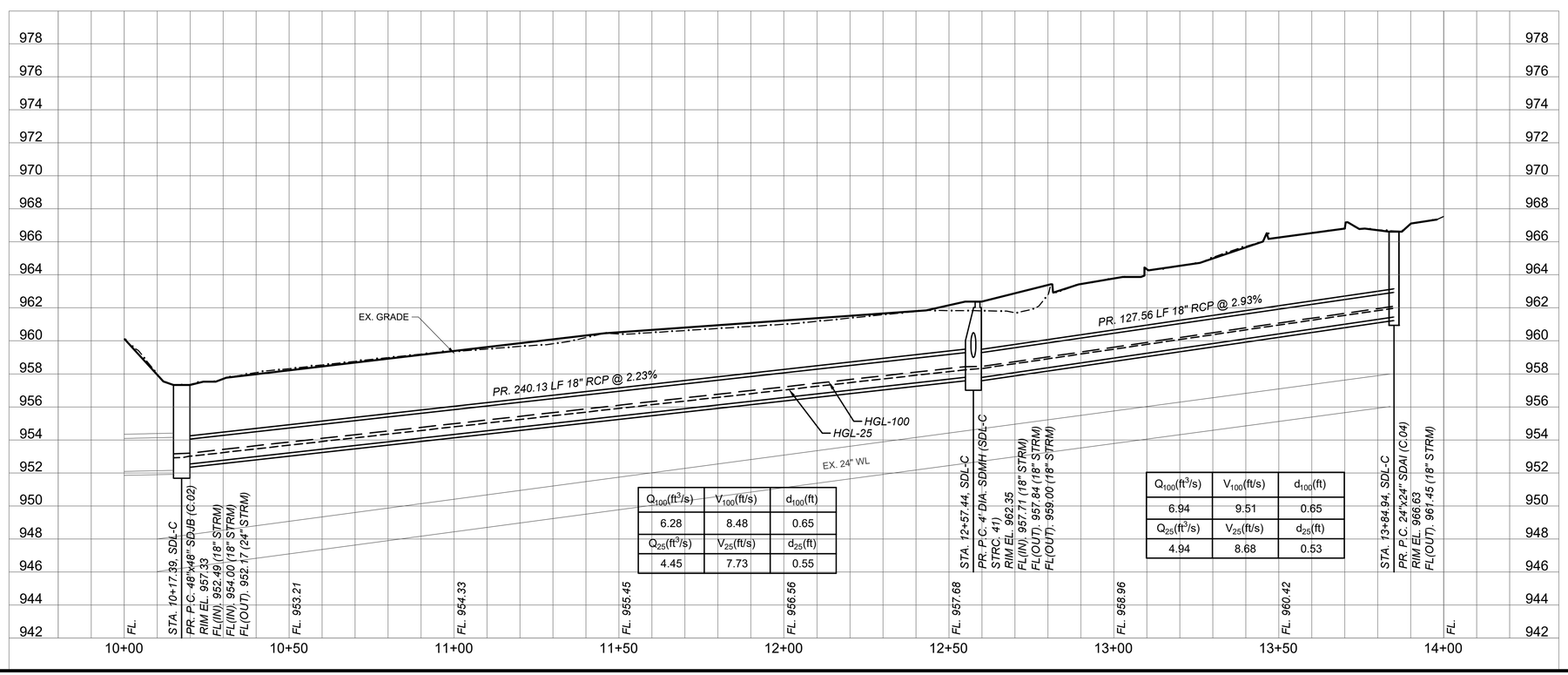
THIVAKARAN, JOTHIKA







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4.45	7.73	0.55

Q_{100}(ft³/s)	V_{100}(ft/s)	d_{100}(ft)
6.94	9.51	0.65
Q_{25}(ft³/s)	V_{25}(ft/s)	d_{25}(ft)
4.94	8.68	0.53

REV. NO.	BY	DATE	REVISION DESCRIPTION

STATE OF TEXAS
XIAOQIN ZHANG, P.E.
96436
LICENSED
PROFESSIONAL ENGINEER
01/29/2020

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY XIAOQIN ZHANG, P.E. LIC. # 96436

I CERTIFY THAT THESE DRAWINGS ARE COMPLETE, ACCURATE AND ADEQUATE FOR THEIR INTENDED PURPOSES, INCLUDING CONSTRUCTION, BUT ARE NOT AUTHORIZED FOR CONSTRUCTION UNTIL FORMAL CITY APPROVAL.

CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

STORM DRAIN PLAN & PROFILE
SDL-C - BEGIN - END

CITY OF AUSTIN
FOUNDED 1839

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT	8/18
DESIGNED BY	JT/EZ	8/18
CHECKED BY	EZ/CG	8/18
REVIEWED BY	ESD	8/18

0 20 40
HORIZONTAL SCALE IN FEET
0 4 8
VERTICAL SCALE IN FEET

GP-2019-0210.ATD

CH205 | 70 OF 142

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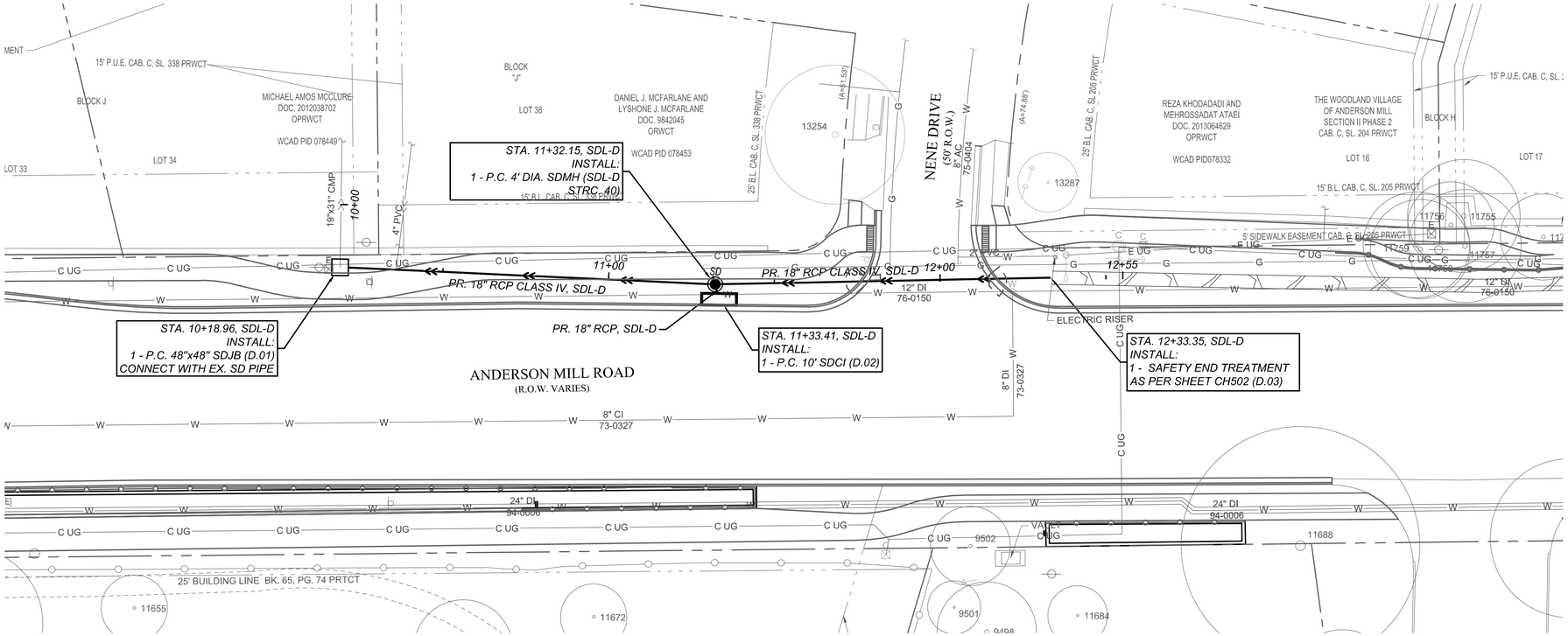

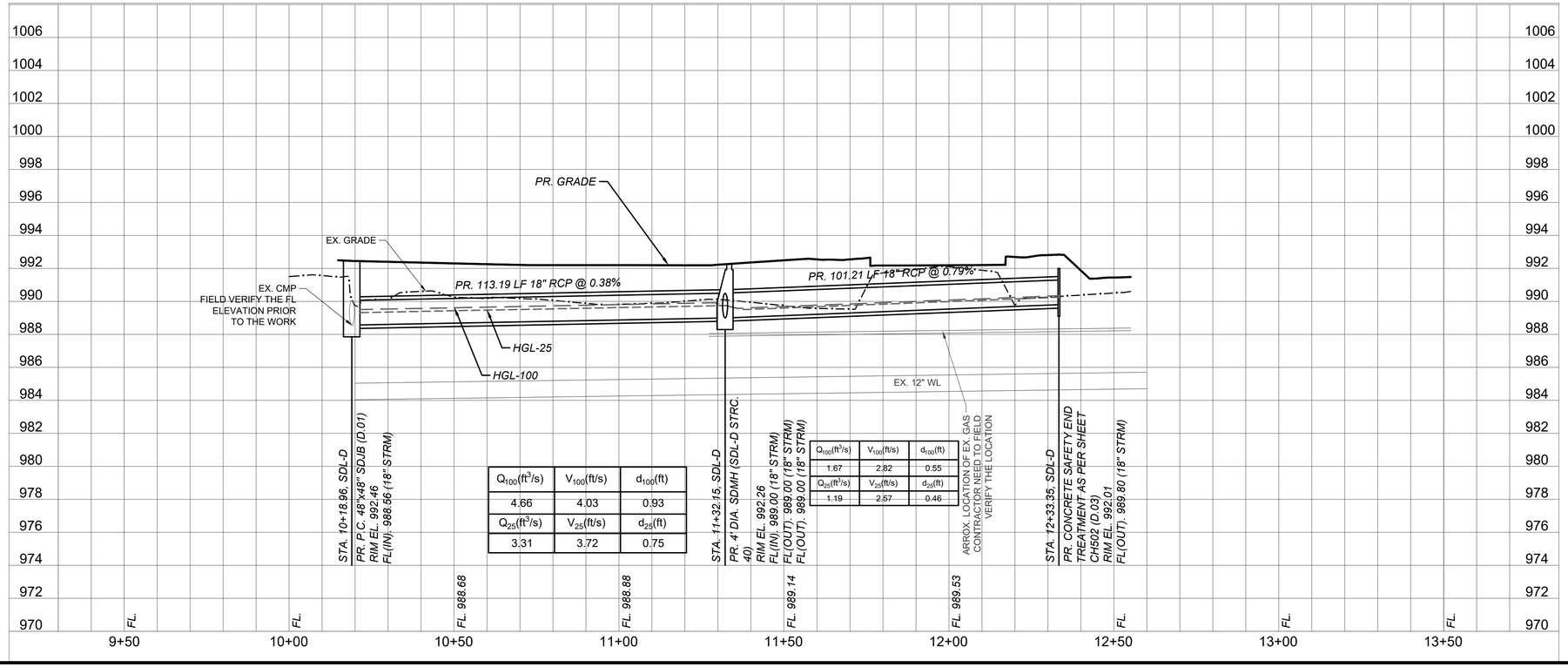

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3.31	3.72	0.75

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1.67	2.82	0.55
Q_{25}(ft³/s)	V_{25}(ft/s)	d_{25}(ft)
1.19	2.57	0.46

REV. NO.	BY	DATE	REVISION DESCRIPTION

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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

STORM DRAIN PLAN & PROFILE
SDL-D - BEGIN - END

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT	8/18
DESIGNED BY	JT/EZ	8/18
CHECKED BY	EZ/CG	8/18
REVIEWED BY	ESD	8/18

0 20 40
HORIZONTAL SCALE IN FEET
0 4 8
VERTICAL SCALE IN FEET

GP-2019-0210.ATD

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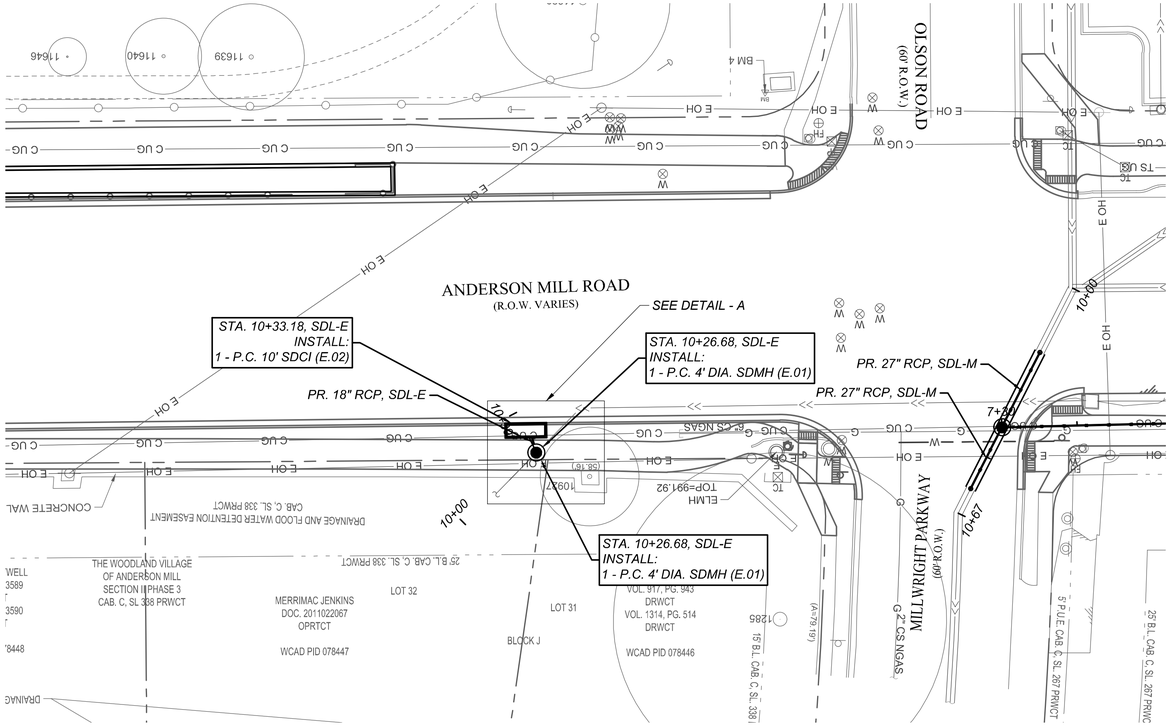
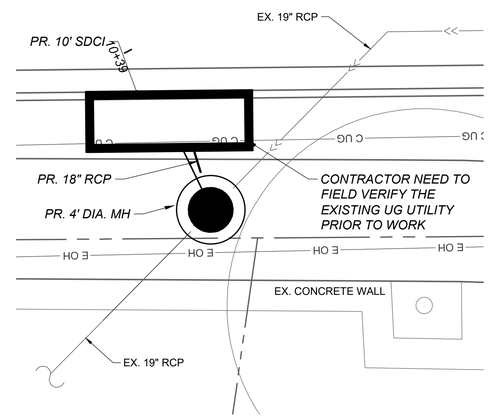
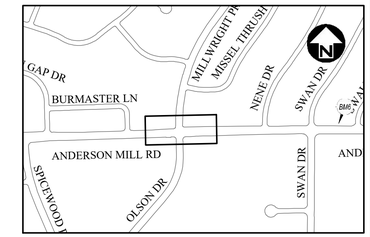
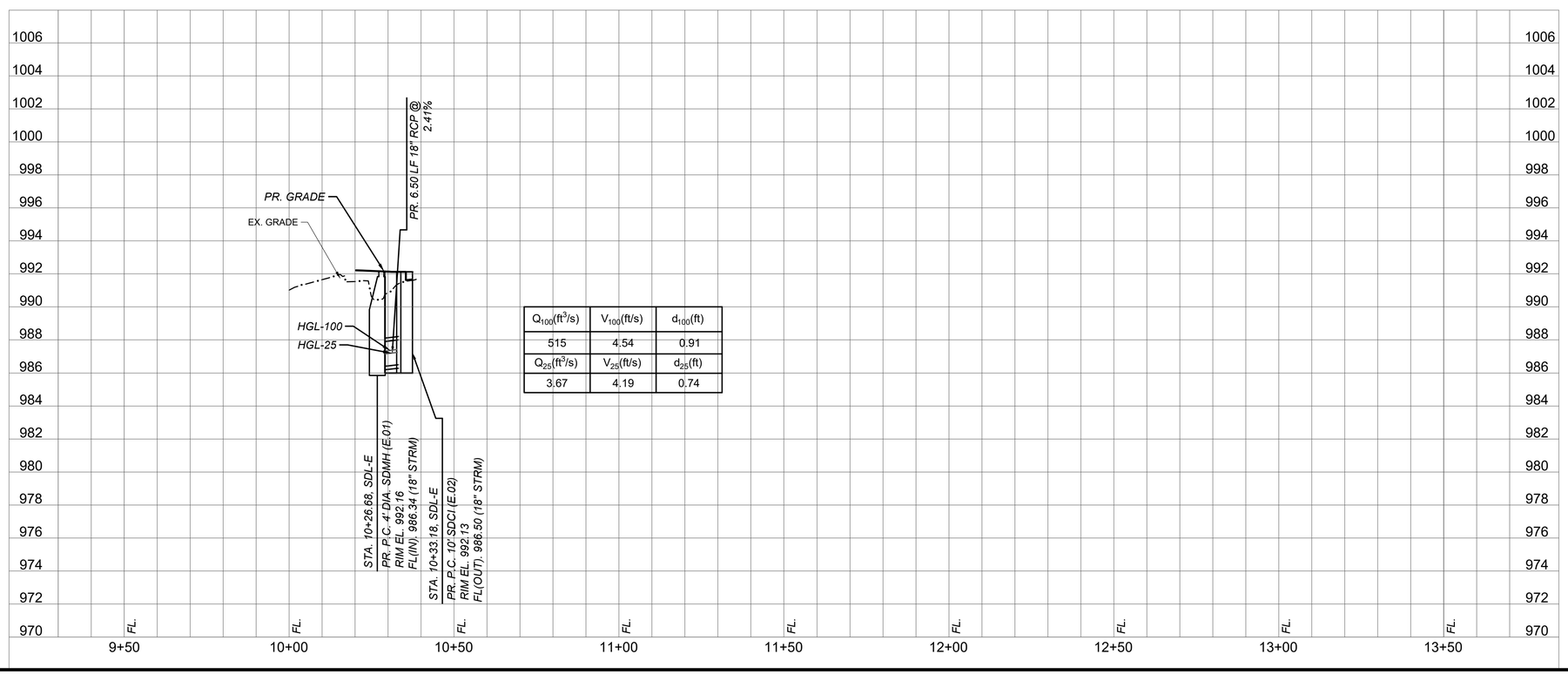
THIVAKARAN, JOTHIKA





DETAIL - A





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Q_{25}(ft³/s)	V_{25}(ft/s)	d_{25}(ft)
3.67	4.19	0.74

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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

STORM DRAIN PLAN & PROFILE
SDL-E - BEGIN - END

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT	8/18
DESIGNED BY	JT/EZ	8/18
CHECKED BY	EZ/CG	8/18
REVIEWED BY	ESD	8/18

0 20 40
HORIZONTAL SCALE IN FEET
0 4 8
VERTICAL SCALE IN FEET

GP-2019-0210.ATD

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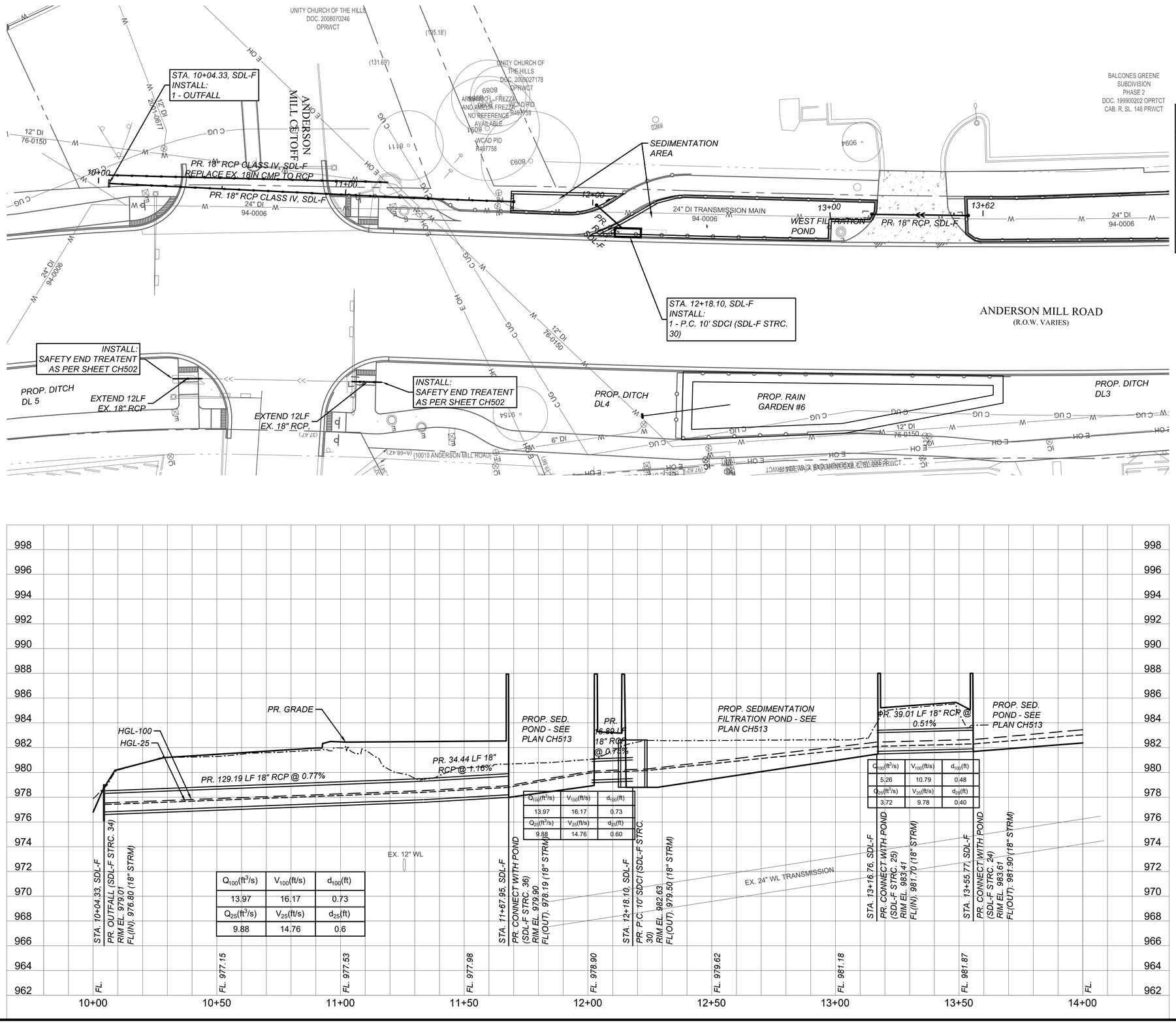
THIVAKARAN, JOTHIKA



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9.88	14.76	0.60

Q_{100}(ft³/s)	V_{100}(ft/s)	d_{100}(ft)
13.97	16.17	0.73
Q_{25}(ft³/s)	V_{25}(ft/s)	d_{25}(ft)
9.88	14.76	0.6

Q_{100}(ft³/s)	V_{100}(ft/s)	d_{100}(ft)
5.26	10.79	0.48
Q_{25}(ft³/s)	V_{25}(ft/s)	d_{25}(ft)
3.72	9.78	0.40

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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

STORM DRAIN PLAN & PROFILE
SDL-F - BEGIN - END

CITY OF AUSTIN
FOUNDED 1839

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT	8/18
DESIGNED BY	JT/EZ	8/18
CHECKED BY	EZ/CG	8/18
REVIEWED BY	ESD	8/18

0 20 40
HORIZONTAL SCALE IN FEET
0 4 8
VERTICAL SCALE IN FEET

GP-2019-0210.ATD

CH208 | 73 OF 142

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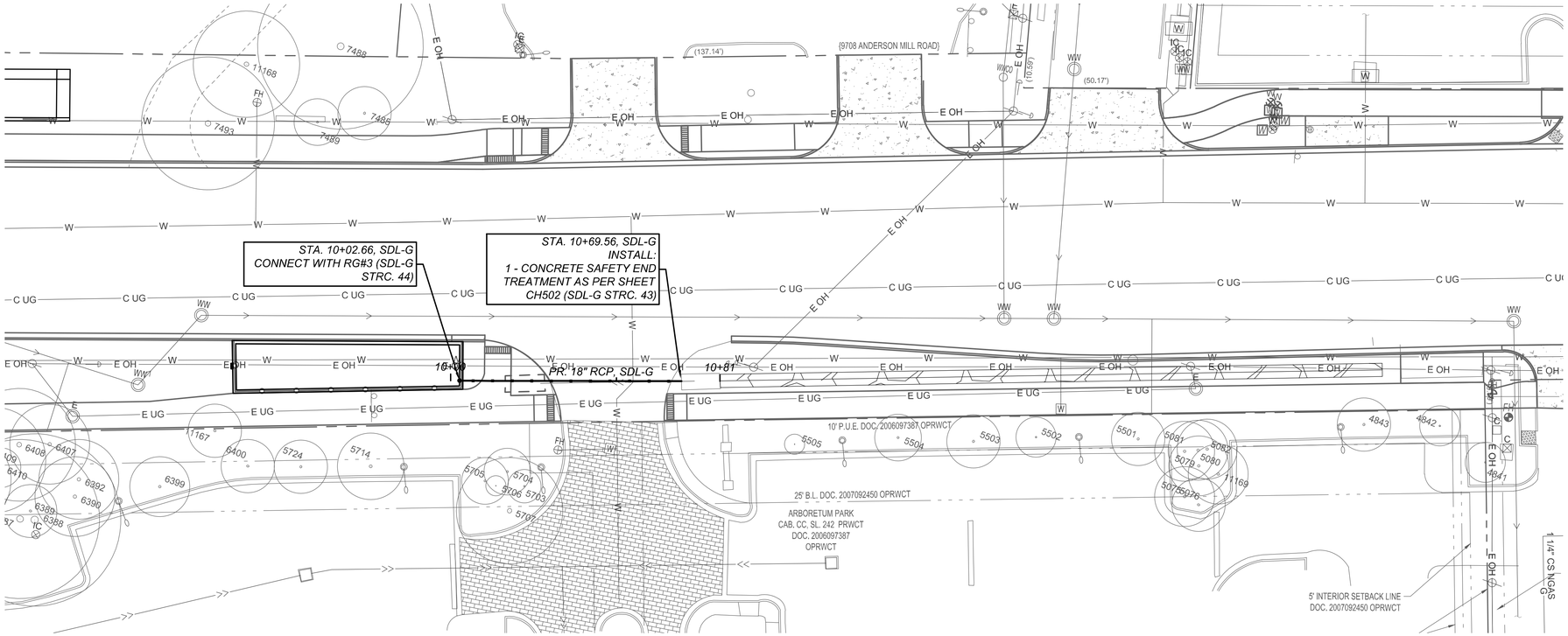
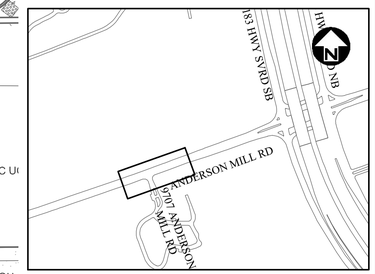
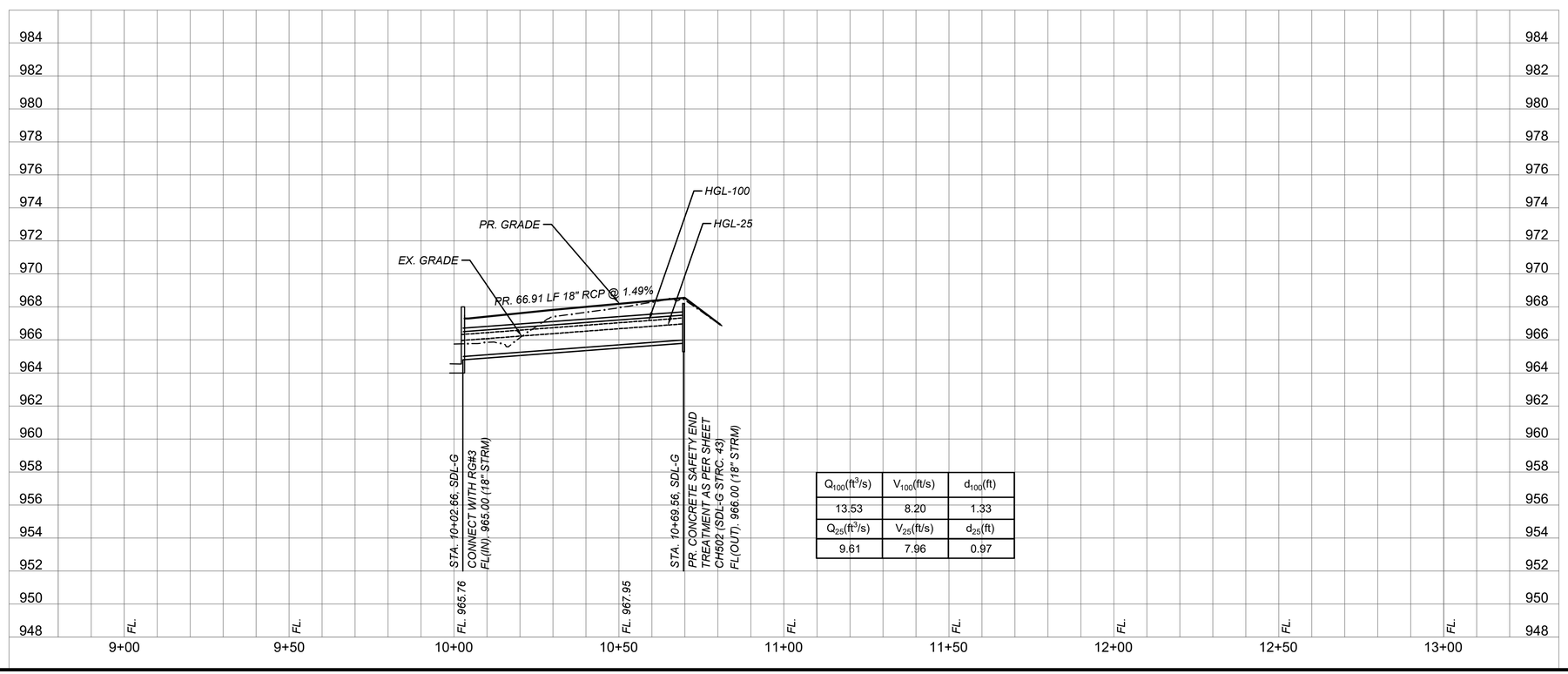
THIVAKARAN, JOTHIKA







Q_{100}(ft^3/s)	V_{100}(ft/s)	d_{100}(ft)
13.53	8.20	1.33
Q_{25}(ft^3/s)	V_{25}(ft/s)	d_{25}(ft)
9.61	7.96	0.97

REV. NO.	BY	DATE	REVISION DESCRIPTION

STATE OF TEXAS
XIAOQIN ZHANG, P.E.
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LICENSED
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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

STORM DRAIN PLAN & PROFILE
SDL-G - BEGIN - END

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/JP	8/18
DESIGNED BY	JT/EZ	8/18
CHECKED BY	EZ/CG	8/18
REVIEWED BY	ESD	8/18

0 20 40
HORIZONTAL SCALE IN FEET
0 4 8
VERTICAL SCALE IN FEET

GP-2019-0210.ATD

CH209 | 74 OF 142

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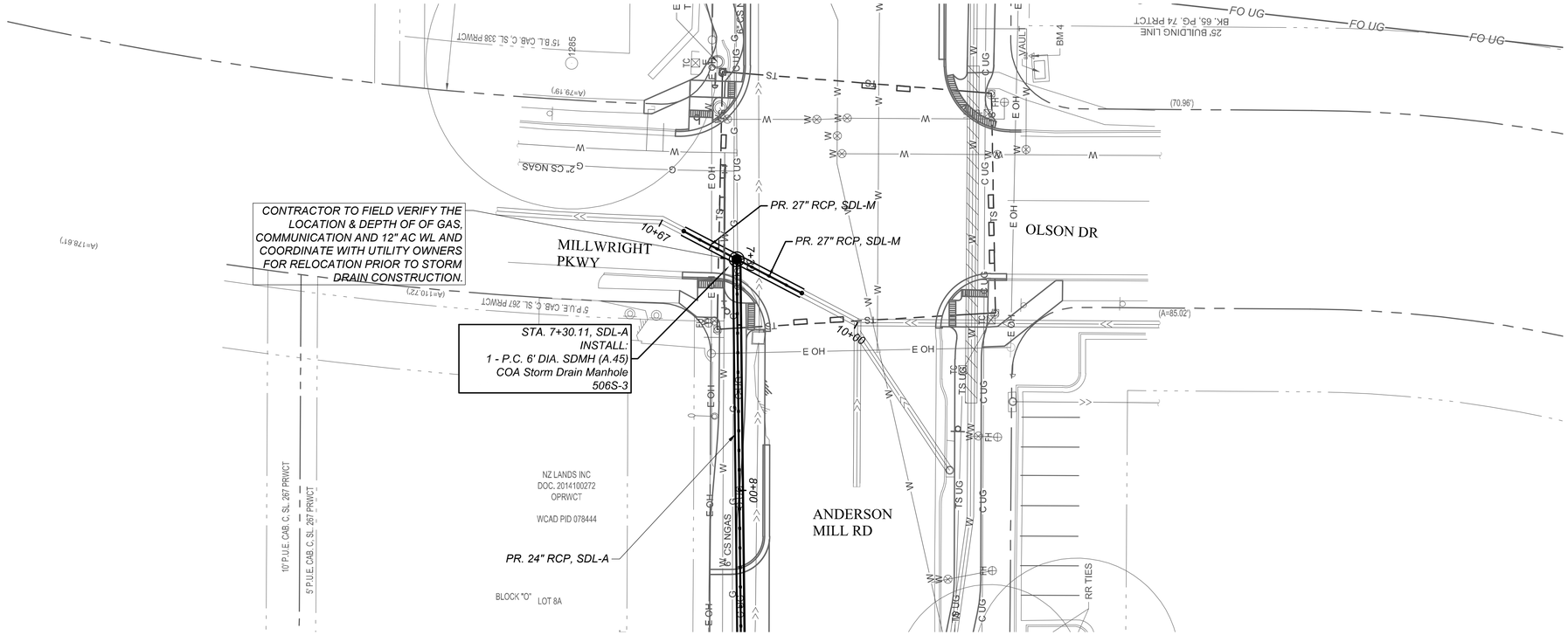
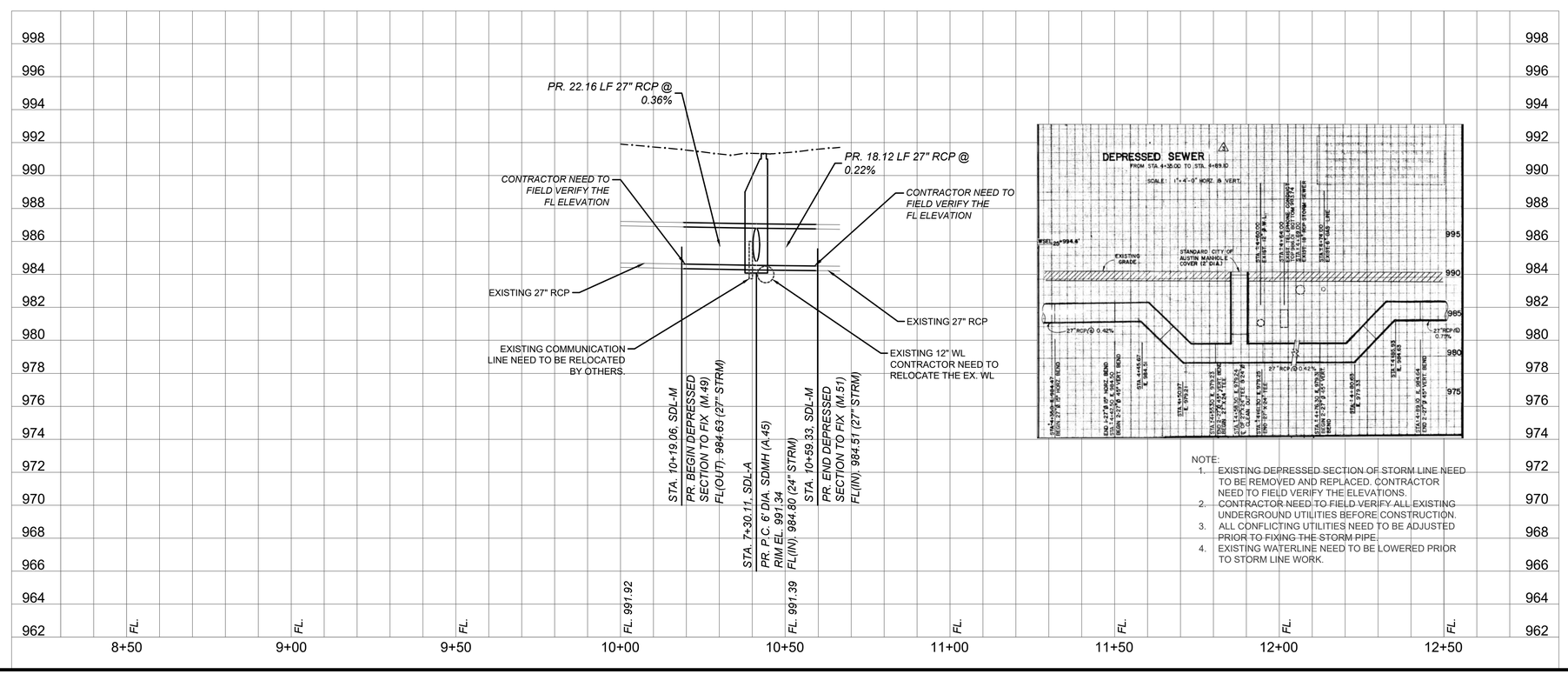
THIVAKARAN, JOTHIKA





NOTE:
1. EXISTING DEPRESSED SECTION OF STORM LINE NEED TO BE REMOVED AND REPLACED. CONTRACTOR NEED TO FIELD VERIFY THE ELEVATIONS.
2. CONTRACTOR NEED TO FIELD VERIFY ALL EXISTING UNDERGROUND UTILITIES BEFORE CONSTRUCTION.
3. ALL CONFLICTING UTILITIES NEED TO BE ADJUSTED PRIOR TO FIXING THE STORM PIPE.
4. EXISTING WATERLINE NEED TO BE LOWERED PRIOR TO STORM LINE WORK.

REV NO.	BY	DATE	REVISION DESCRIPTION

STATE OF TEXAS
XIAOQIN ZHANG, P.E.
96436
LICENSED
PROFESSIONAL ENGINEER
02/10/2020

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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

STORM DRAIN PLAN & PROFILE SDL-M
BEGIN - END

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/JP	8/18
DESIGNED BY	JT/EZ	8/18
CHECKED BY	EZ/CG	8/18
REVIEWED BY	ESD	8/18

0 20 40
HORIZONTAL SCALE IN FEET
0 4 8
VERTICAL SCALE IN FEET

GP-2019-0210.ATD

CH210 | 75 OF 142

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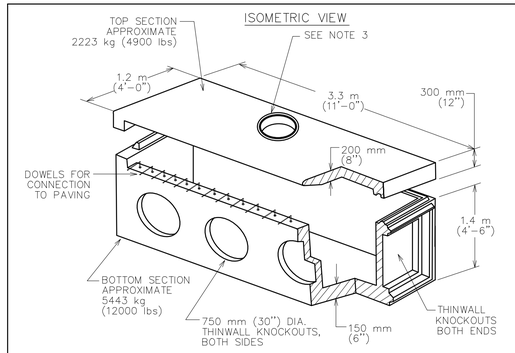
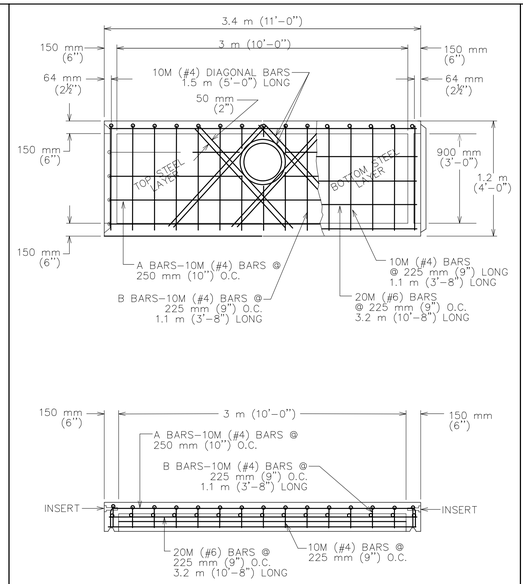
THIVAKARAN, JOTHIKA

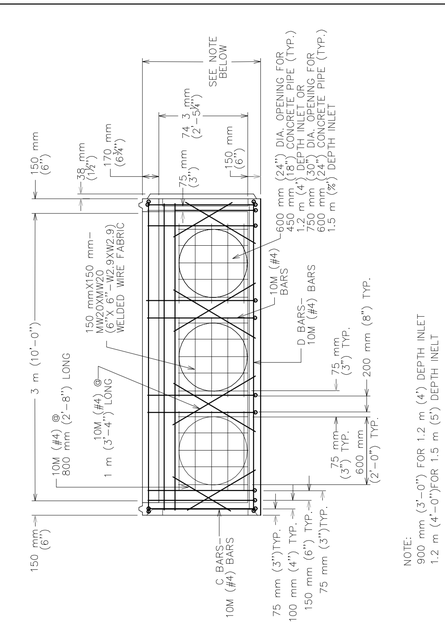


NOTES:
1. ALL CONCRETE SHALL BE CLASS "A" AS PER ITEM 403S.
2. ALL REINFORCING STEEL SHALL BE GRADE 60
3. MANHOLE FRAME AND COVER SHALL BE IN ACCORDANCE WITH CITY OF AUSTIN STANDARD 503S-1.
4. DIMENSIONS RELATING TO REINFORCING STEEL ARE TO CENTERS OF BARS.
5. IN AREAS OF CONFLICT BETWEEN REINFORCING STEEL, PIPES AND MANHOLE FRAME, THE REINFORCEMENT SHALL BE BENT OR ADJUSTED TO CLEAR AS DIRECTED BY THE ENGINEER.
6. PAYMENT FOR INLET AT THE CONTRACT PRICE SHALL INCLUDE THE TRANSITION CURB, IN ACCORDANCE WITH CITY OF AUSTIN STANDARD INLET DESIGN.
7. INVERT OF INLET SHALL BE SLOPED 1:20 WITH FILL CONCRETE BY CONTRACTOR, SHAPED AS "V" SECTION
8. THE INLET AS DESIGNED EXCEEDS THE REQUIREMENTS OF ASTM C478.
9. THIS STANDARD COMPLIES WITH THE CITY OF AUSTIN STANDARD SPECIFICATIONS ITEM NO. 508S.
10. FOR INLET CONNECTION VARIATIONS FOR MAKING A 6 m (20'-0") CURB INLET FROM STANDARD 3 m (10'-0") INLETS, SEE DALWORTH CURB INLET CONNECTION DETAIL SHEET DQ-86-103.

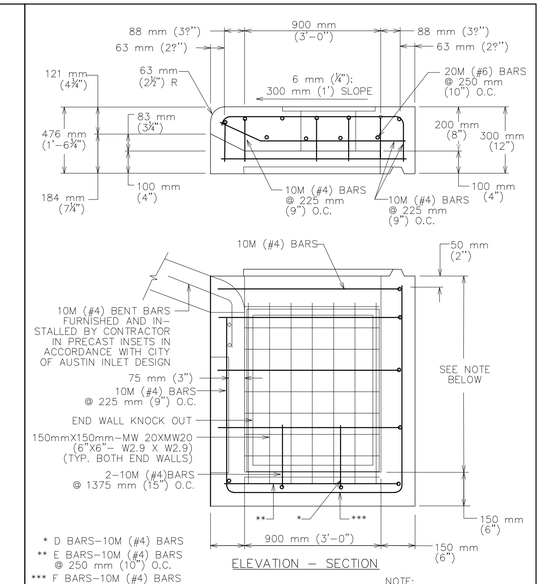
CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	CURB INLET 3 m (10') PRECAST TYPE 1 OR TYPE 1-R	STANDARD NO.
RECORD COPY SIGNED BY BILL GARDNER 12/09/08 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	508S-4 1 OF 5



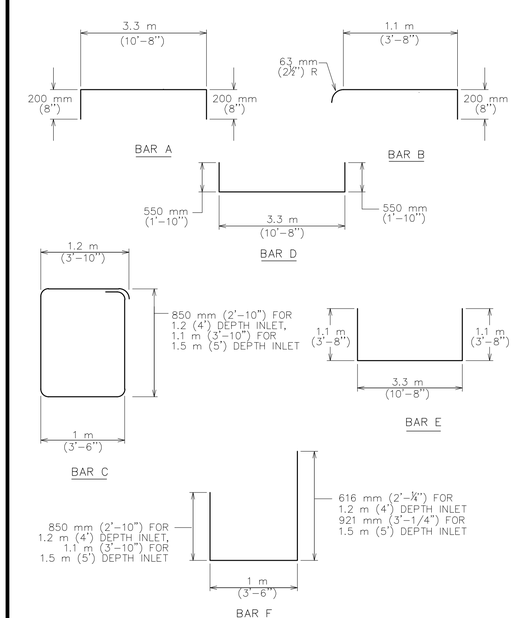
CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	CURB INLET 3 m (10') PRECAST TYPE 1 OR TYPE 1-R	STANDARD NO.
RECORD COPY SIGNED BY BILL GARDNER 12/09/08 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	508S-4 2 OF 5



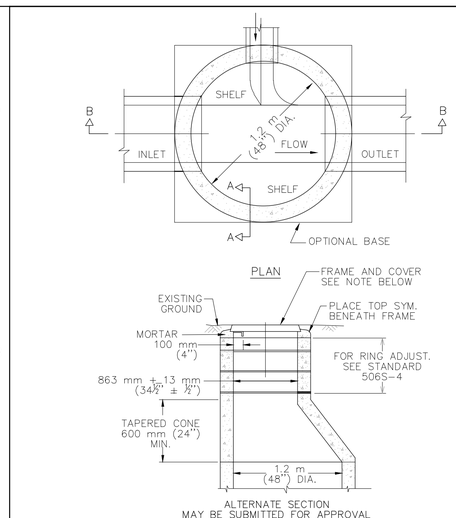
CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	CURB INLET 3 m (10') PRECAST TYPE 1 OR TYPE 1-R	STANDARD NO.
RECORD COPY SIGNED BY BILL GARDNER 12/09/08 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	508S-4 3 OF 5



CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	CURB INLET 3 m (10') PRECAST TYPE 1 OR TYPE 1-R	STANDARD NO.
RECORD COPY SIGNED BY BILL GARDNER 12/09/08 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	508S-4 4 OF 5



CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	CURB INLET 3 m (10') PRECAST TYPE 1 OR TYPE 1-R	STANDARD NO.
RECORD COPY SIGNED BY BILL GARDNER 12/09/08 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	508S-4 5 OF 5

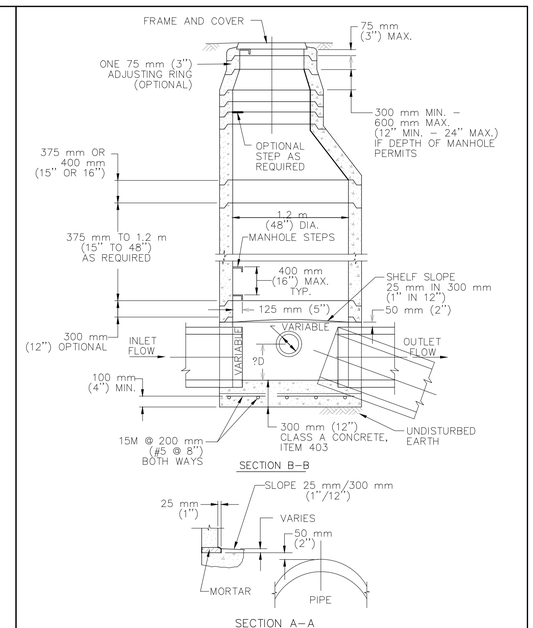


NOTE:
USE 800 mm (32") FRAME AND COVER.

MINIMUM MANHOLE DIA.	MINIMUM PIPE SIZE
1.2 m (4')	450 TO 600 mm (18 TO 24")
1.5 m (5')	750 mm TO 1.1 m (30 TO 42")
1.8 m (6')	1.2 TO 1.4 m (48 TO 54")
2.1 m (7')	1.5 TO 1.7 m (60 TO 66")

SIZE TO BE USED IS DEPENDENT ON DRAIN ANGLES.

CITY OF AUSTIN DEPARTMENT OF WATERSHED PROTECTION AND DEVELOPMENT REVIEW	PRE-CAST CONCRETE STORM DRAIN MANHOLE	STANDARD NO.
RECORD COPY SIGNED BY GEORGE E. OSWALD 2/14/02 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	506S-3 1 OF 2



CITY OF AUSTIN DEPARTMENT OF WATERSHED PROTECTION AND DEVELOPMENT REVIEW	PRE-CAST CONCRETE STORM DRAIN MANHOLE	STANDARD NO.
RECORD COPY SIGNED BY GEORGE E. OSWALD 2/14/02 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	506S-3 2 OF 2

REV NO.	BY	DATE	REVISION DESCRIPTION
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STATE OF TEXAS
XIAOQIN ZHANG, P.E.
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01/29/2020

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ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

STORM DRAIN DETAILS
SHEET 1 OF 3

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT	8/18
DESIGNED BY	JT/EZ	8/18
CHECKED BY	EZ/CG	8/18
REVIEWED BY	ESD	8/18

ENGINEERING SERVICES DIVISION

GP-2019-0210.ATD

CH501 | 76 OF 142

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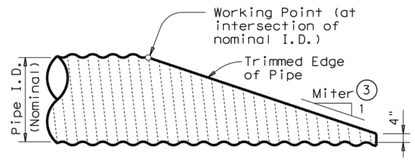
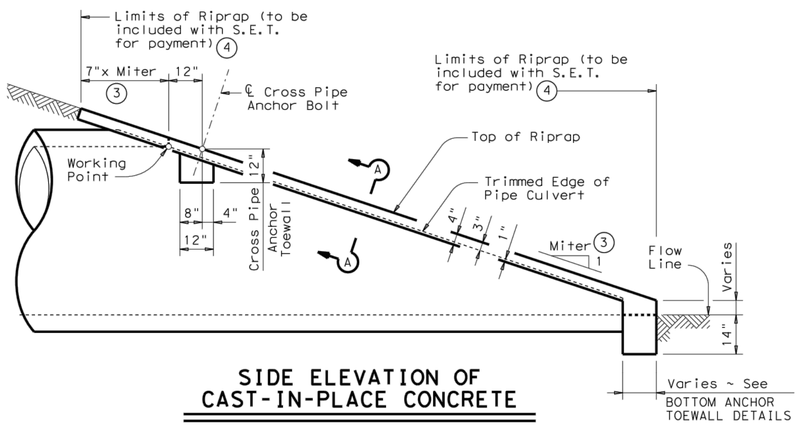
THIVAKARAN, JOTHIKA



NOTE: All Pipe Runners, calculations, and dimensions are based on the pipe culverts mitered as shown in this detail. Alternate styles of mitered ends will require that appropriate adjustments be made to the values presented on this standard.

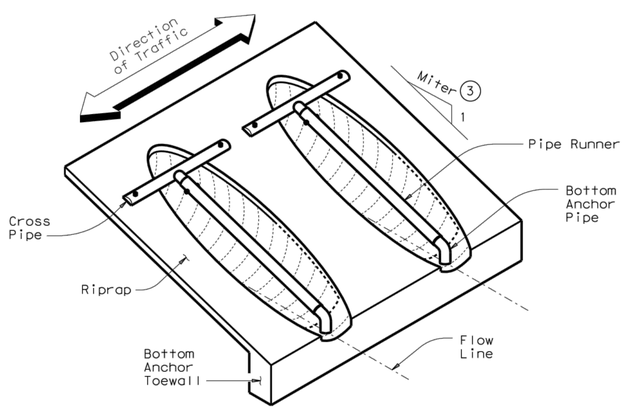
SIDE ELEVATION OF TYPICAL PIPE CULVERT MITER

(Showing Corrugated Metal Pipe Culvert. Details of Concrete Pipe Culvert are similar.)



SIDE ELEVATION OF CAST-IN-PLACE CONCRETE

(Showing Concrete Pipe Culvert. Details of Corrugated Metal Pipe Culvert are similar. Pipe Runners not shown for clarity)



ISOMETRIC VIEW OF TYPICAL INSTALLATION

(Showing installation with no skew.)

CROSS PIPE LENGTHS & PIPE RUNNER LENGTHS (1)(2)

Nominal Culvert I.D.	Pipe Culvert Spa ~ G	Cross Pipe Length	Pipe Runner Length											
			3:1 Side Slope				4:1 Side Slope				6:1 Side Slope			
			0° Skew	15° Skew	30° Skew	45° Skew	0° Skew	15° Skew	30° Skew	45° Skew	0° Skew	15° Skew	30° Skew	45° Skew
24"	1'- 7"	3'- 5"	N/A	N/A	N/A	5'-10"	N/A	N/A	N/A	8'- 1"	N/A	N/A	N/A	12'- 9"
27"	1'- 8"	3'- 8"	N/A	N/A	5'- 5"	6'-11"	N/A	N/A	7'- 7"	9'- 7"	N/A	N/A	11'-11"	14'-11"
30"	1'-10"	3'-11"	N/A	N/A	6'- 4"	8'- 0"	N/A	N/A	8'- 9"	11'- 0"	N/A	N/A	13'- 8"	17'- 0"
33"	1'-11"	4'- 2"	6'- 2"	6'- 5"	7'- 3"	9'- 1"	8'- 6"	8'-10"	10'- 0"	12'- 5"	13'- 3"	13'- 9"	15'- 5"	19'- 2"
36"	2'- 1"	4'- 5"	6'-11"	7'- 3"	8'- 2"	10'- 2"	9'- 6"	9'-11"	11'- 2"	13'-10"	14'- 9"	15'- 3"	17'- 2"	21'- 3"
42"	2'- 4"	4'-11"	8'- 6"	8'-10"	9'-11"	12'- 4"	11'- 7"	12'- 0"	13'- 6"	16'- 8"	17'- 9"	18'- 5"	20'- 8"	25'- 7"
48"	2'- 7"	5'- 5"	10'- 1"	10'- 5"	11'- 9"	N/A	13'- 7"	14'- 2"	15'-10"	N/A	20'- 9"	21'- 6"	24'- 2"	N/A
54"	3'- 0"	5'-11"	11'- 8"	12'- 1"	N/A	N/A	15'- 8"	16'- 3"	N/A	N/A	23'-10"	24'- 8"	N/A	N/A
60"	3'- 3"	6'- 5"	13'- 3"	N/A	N/A	N/A	17'- 9"	N/A	N/A	N/A	26'-10"	N/A	N/A	N/A

TYPICAL PIPE CULVERT MITERS (3)

Side Slope	0° Skew	15° Skew	30° Skew	45° Skew
3:1	3:1	3.106:1	3.464:1	4.243:1
4:1	4:1	4.141:1	4.619:1	5.657:1
6:1	6:1	6.212:1	6.928:1	8.485:1

CONDITIONS WHERE PIPE RUNNERS ARE NOT REQUIRED (2)

Nominal Culvert I.D.	Single Pipe Culvert	Multiple Pipe Culverts
12" thru 21"	Skews thru 45°	Skews thru 45°
24"	Skews thru 45°	Skews thru 30°
27"	Skews thru 30°	Skews thru 15°
30"	Skews thru 15°	Skews thru 15°
33"	Skews thru 15°	Always required
36"	Normal (No Skew)	Always required
42" to 60"	Always required	Always required

STANDARD PIPE SIZES & MAX PIPE RUNNER LENGTHS (1)

Pipe Size	Pipe O.D.	Pipe I.D.	Max Pipe Runner Length
2" STD	2.375"	2.067"	N/A
3" STD	3.500"	3.068"	10'- 0"
4" STD	4.500"	4.026"	19'- 8"
5" STD	5.563"	5.047"	34'- 2"

ESTIMATED CONCRETE RIPRAP QUANTITIES (CY) (5)

Nominal Culvert I.D.	3:1 Side Slope				4:1 Side Slope				6:1 Side Slope			
	0° Skew	15° Skew	30° Skew	45° Skew	0° Skew	15° Skew	30° Skew	45° Skew	0° Skew	15° Skew	30° Skew	45° Skew
12"	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.6	0.7	0.7	0.7	0.8
15"	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.8	0.9
18"	0.5	0.5	0.6	0.6	0.6	0.7	0.7	0.8	0.8	0.8	0.9	1.0
21"	0.6	0.6	0.6	0.7	0.7	0.7	0.8	0.9	0.9	0.9	1.0	1.2
24"	0.6	0.7	0.7	0.8	0.8	0.8	0.8	1.0	1.0	1.0	1.1	1.3
27"	0.7	0.7	0.8	0.9	0.8	0.9	0.9	1.1	1.1	1.1	1.2	1.4
30"	0.8	0.8	0.8	0.9	0.9	0.9	1.0	1.2	1.2	1.2	1.3	1.6
33"	0.8	0.8	0.9	1.0	1.0	1.0	1.1	1.3	1.3	1.4	1.5	1.7
36"	0.9	0.9	0.9	1.1	1.1	1.1	1.2	1.4	1.4	1.5	1.6	1.8
42"	1.0	1.0	1.1	1.3	1.2	1.3	1.3	1.6	1.6	1.7	1.8	2.1
48"	1.1	1.1	1.2	N/A	1.4	1.4	1.5	N/A	1.9	1.9	2.1	N/A
54"	1.3	1.3	N/A	N/A	1.6	1.6	N/A	N/A	2.1	2.1	N/A	N/A
60"	1.4	N/A	N/A	N/A	1.7	N/A	N/A	N/A	2.3	N/A	N/A	N/A

(1) Size of Pipe Runner shall be as shown in the tables. Cross Pipe shall be the same size as the Pipe Runner. Cross Pipe Stub Out and Bottom Anchor Pipe shall be the next smaller size pipe as shown in the STANDARD PIPE SIZES table.

(2) This standard allows for the placement of only one pipe runner across each culvert pipe opening. In order to limit the clear opening to be traversed by an errant vehicle, the following conditions must be met:

For 60" culvert pipes, the skew must not exceed 0°.
For 54" culvert pipes, the skew must not exceed 15°.
For 48" culvert pipes, the skew must not exceed 30°.
For all culvert pipe sizes 42" and less, the skew must not exceed 45°.

If the above conditions cannot be met, the designer should consider using a safety end treatment with flared wings. For further information, refer to the TxDOT "Roadway Design Manual".

(3) Miter = Slope of Mitered Pipe Culvert End

(4) Riprap placed beyond the limits shown will be paid as Concrete Riprap in accordance with Item 432, "Riprap".

(5) Quantities shown are for one end of one reinforced Concrete Pipe Culvert. For multiple Pipe Culverts or for Corrugated Metal Pipe Culverts, quantities will need to be adjusted. Riprap quantities are for Contractor's information only.

SHEET 1 OF 2

Texas Department of Transportation — Bridge Division Standard

SAFETY END TREATMENT

FOR 12" DIA TO 60" DIA
PIPE CULVERTS
TYPE II ~ CROSS DRAINAGE

SETP-CD

FILE: setpcdse.dgn	DN: GAF	CK: CAT	DW: JRP	CK: GAF
©TxDOT February 2010	CONT	SECT	JOB	HIGHWAY
REVISIONS				
11-10: Add note for synthetic fibers.	DIST		COUNTY	SHEET NO.

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STATE OF TEXAS — XIAOQIN ZHANG, P.E. — 96436 — LICENSED PROFESSIONAL ENGINEER — 01/29/2020

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY XIAOQIN ZHANG, P.E. LIC. # 96436

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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

STORM DRAIN DETAILS
SHEET 2 OF 3

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/JP	8/18
DESIGNED BY	JT/EZ	8/18
CHECKED BY	EZ/CG	8/18
REVIEWED BY	ESD	8/18

ENGINEERING SERVICES DIVISION

GP-2019-0210.ATD

CH502 | 77 OF 142

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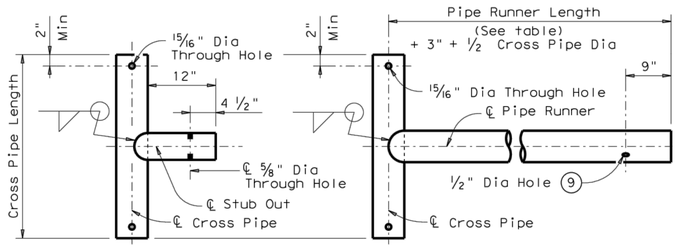
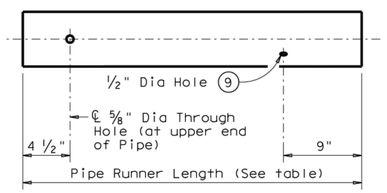
THIVAKARAN, JOTHIKA



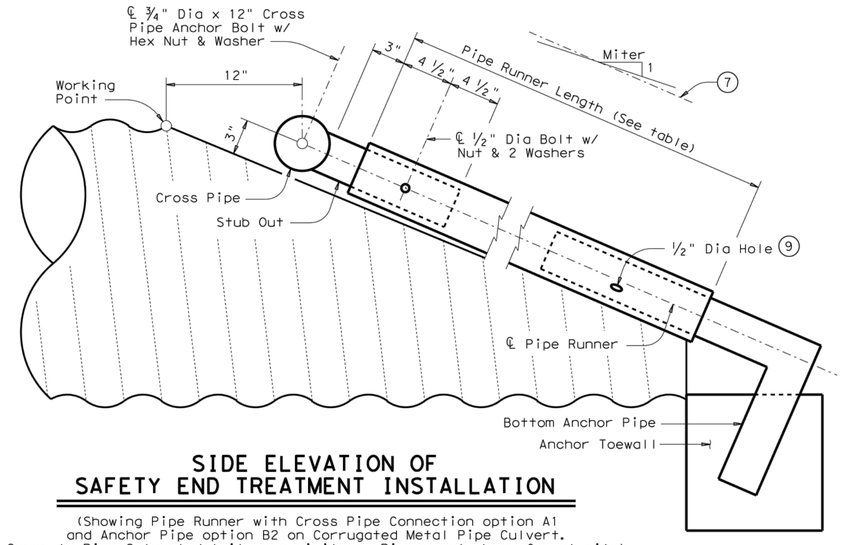
OPTION A1 OPTION A2

CROSS PIPE AND CONNECTIONS DETAILS



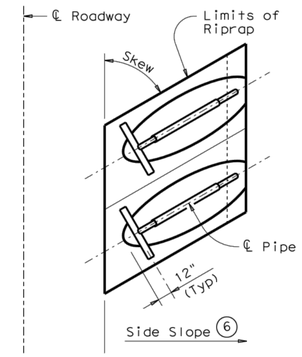
NOTE: The separate Pipe Runner shown is required when Cross Pipe Connection Option A1 is used.

PIPE RUNNER DETAILS

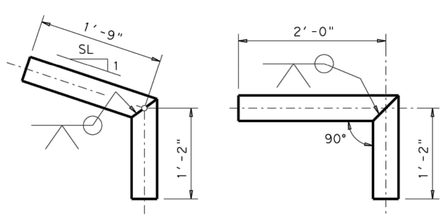


SIDE ELEVATION OF SAFETY END TREATMENT INSTALLATION

(Showing Pipe Runner with Cross Pipe Connection option A1 and Anchor Pipe option B2 on Corrugated Metal Pipe Culvert. Concrete Pipe Culvert details are similar. Riprap not shown for clarity)

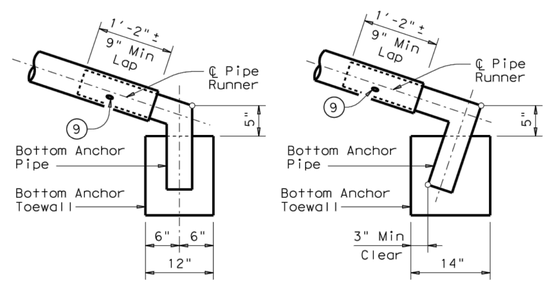


PLAN OF SKEWED INSTALLATION



OPTION B1 OPTION B2

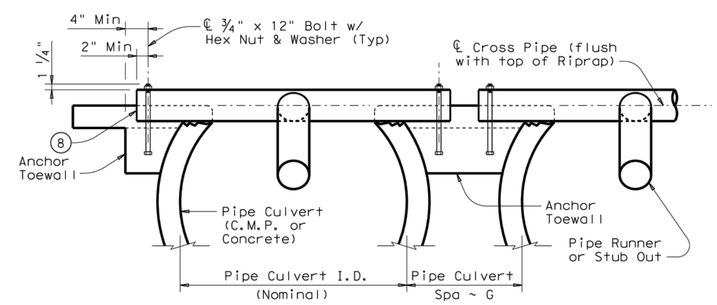
BOTTOM ANCHOR PIPE DETAILS (10)



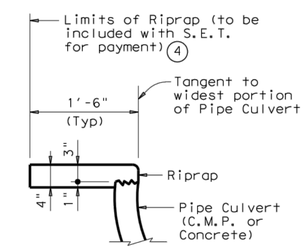
OPTION B1 OPTION B2

BOTTOM ANCHOR TOEWALL DETAILS

(Culvert & Riprap not shown for clarity)



SHOWING CROSS PIPE & ANCHOR TOEWALL



SHOWING TYPICAL PIPE CULVERT & RIPRAP

SECTION A-A

(4) Riprap placed beyond the limits shown will be paid as Concrete Riprap in accordance with Item 432, "Riprap".

(6) Recommended values of side slope are 3:1, 4:1, & 6:1. All quantities, calculations, and dimensions shown herein are based on these recommended values. Slope of 3:1 or flatter is required for vehicle safety.

(7) Note that actual slope of Pipe Runner may vary slightly from Side Slope of Riprap and trimmed Culvert Pipe edge.

(8) Care shall be taken to ensure that Riprap concrete does not flow into the Cross Pipe so as to permit disassembly of the bolted connection to allow cleanout access.

(9) After installation, the 1/2" hole shall be inspected to ensure that the lap of the Pipe Runner with the Bottom Anchor Pipe is adequate.

(10) At fabricator's option, a heat bend to a smooth 5" radius or a manufactured elbow (of the same material as the Runner) may be substituted for the mitered and welded joint in the Bottom Anchor Pipe.

GENERAL NOTES:

Pipe Runners are designed for a traversing load of 1,800 pounds at yield as recommended by Research Report 280-1, "Safety Treatment of Roadside Cross-Drainage Structures", Texas Transportation Institute, March 1981.

The Safety End Treatments shown herein are intended for use in those installations where out of control vehicles are likely to traverse the openings approximately perpendicular to the Pipe Runners.

Riprap and all necessary inverts shall be Concrete Riprap conforming to the requirements of Item 432, "Riprap".

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

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

Pipe Runners, Cross Pipes, and Anchor Pipes shall conform to the requirements of ASTM A53 (Type E or S, Grade B), ASTM A500 (Grade B), or API 5LX52.

Bolts and nuts shall conform to ASTM A307.

All steel components, except concrete reinforcing, shall be galvanized after fabrication. Galvanizing damaged during transport or construction shall be repaired in accordance with the specifications.

SHEET 2 OF 2

Texas Department of Transportation — Bridge Division Standard

SAFETY END TREATMENT

FOR 12" DIA TO 60" DIA PIPE CULVERTS TYPE II ~ CROSS DRAINAGE

SETP-CD

FILE: setpcdse.dgn	DN: GAF	CK: CAT	DW: JRP	CK: GAF
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REVISIONS				
11-10: Add note for synthetic fibers.	DIST		COUNTY	SHEET NO.

REV NO.	BY	DATE	REVISION DESCRIPTION
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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

STORM DRAIN DETAILS
SHEET 3 OF 3

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/JP	8/18
DESIGNED BY	JT/EZ	8/18
CHECKED BY	EZ/CG	8/18
REVIEWED BY	ESD	8/18

ENGINEERING SERVICES DIVISION

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PROPOSED DITCH TABLE

DITCH	SIDE	BEGIN STA.	END STA.	LENGTH (FT)	BEGIN EX. ELE	BEGIN PROP. ELE	END EX. ELE	END PROP. ELE	EX. DITCH SLOPE	PR. DITCH SLOPE	PR. DITCH SLOPE	MIN. FORE SLOPE	MIN. BACK SLOPE	MIN. CHANNEL BOTTOM WIDTH (FT)	TYPE (LS-LIMESTONE G-GRASS)	Q100 (cfs)	MAX. d100 (in)
DL1	LT	27+93.55	30+28.83	235.28	989.8	989.8	991.42	991.42	0.0069	0.0069	0.69%	1:3	1:3	2.00	LS	8.35	6.1
DL2	LT	30+84.34	33+16.76	232.42	991.45	991.4	994.45	994.47	0.0129	0.0132	1.32%	1:5	1:3	2.00	G	8.35	7.4
DL3	LT	34+04.60	38+70.69	466.09	995.26	995.26	985.41	985.41	(0.0211)	(0.0211)	-2.11%	1:3	1:20	1.00	G	4.60	5.3
DL4	LT	40+05.75	41+19.18	113.43	981.25	981.25	977.57	977.57	(0.0324)	(0.0324)	-3.24%	1:3	1:5	2.00	G	8.33	6
DL5	LT	42+10.83	43+41.81	130.98	976.71	976.71	975.39	975.39	(0.0101)	(0.0101)	-1.01%	1:4	1:5	2.00	G	8.33	7.7
DR1	RT	31+09.25	33+22.65	213.4	994.15	994.15	995.08	995.08	0.0044	0.0044	0.44%	1:4	1:4	3	G	8.46	9.6
DR2	RT	33+98.42	35+98.72	200.3	995.72	995.72	991.7	991.7	(0.0201)	(0.0201)	-2.01%	1:4	1:5	3	G	5.26	5.2
DR3	RT	43+78.94	44+22.20	43.26	975.72	975.72	974.42	974.42	(0.0301)	(0.0301)	-3.01%	WALL	1:4	2	G	8.50	7.1
DR4	RT	44+88.10	45+21.14	33.04	972.33	972.33	971.54	971.54	(0.0239)	(0.0239)	-2.39%	WALL	1:4	4	G	8.72	7.7
DR5	RT	45+54.40	46+25.89	71.49	971.14	971.14	969.52	969.52	(0.0227)	(0.0227)	-2.27%	WALL	1:3	2	G	8.50	8.1
DR6	RT	46+89.32	47+20.63	31.31	968.11	968.11	967.34	967.34	(0.0246)	(0.0246)	-2.46%	WALL	1:4	2	G	8.50	7.9
DR7	RT	48+71.35	50+35.68	164.33	965.92	965.92	965.19	965.19	(0.0044)	(0.0044)	-0.44%	1:3	1:6	1	G	8.50	9.4
DR8	RT	50+70.83	50+82.20	11.37	965.14	965.14	964.78	964.78	(0.0317)	(0.0317)	-3.17%	1:3	1:4	2	G	8.50	6.2
DR9	RT	54+74.65	56+71.74	197.09	966.47	966.47	971.14	971.14	0.0237	0.0237	2.37%	1:3	1:3	1	LS	13.53	4.5

SUMMARY OF RAIN GARDENS WATER QUALITY/DETENTION POND

Pond No.	Watershed	Location	Station	Retaining Wall Thickness	Retaining Wall with Concrete Form Liner	Retaining Wall with Textured Concrete Blocks	Pedestrian Hand Rail (PHR) or Removable PHR	Basin	Total Drainage Area	WQ/Drainage Area IC%	Q100	Total WQV Req'd	WQV Provided	Ponded Depth	SubTotal WQV
				(in.)	Yes/No	Yes/No	Yes/No		(ac.)	(%)	(cfs)	(c.f.)	(c.f.)	(ft)	(c.f.)
Total WQV Required															
	Lake /Bull Creek	RGs 1-9 & BP#1	10+50 to 54+00		SHT. CH 521	SHT. CH 518	CH518 & CH522	A1, A2, A3	0.53	100.00	8.04	2,897	-	-	-
Total WQV Provided															
RG#1A with Extended (DP#1)	Bull Creek	United Church Drive	36+50 to 40+50	6" & 10"	No	Yes	Yes	1/2 (A2-6b)	0.34	3.19	4.36	1604.5	1,604.5	1.00	1,605
RG#1B w/ Det. Outfall #1	Bull Creek	United Church Drive	36+50 to 40+50	10"	Yes	No	Yes	1/2 (A2-6b)	0.33	3.19	4.36	1604.5	830.9	1.00	2,435
RG #2	Lake Creek	EB - Spicewood Pkwy.	10+50 (S)	n/a (Berm)	No	No	No	E0-b	0.53	42.56	5.75	1,384	693	1.00	3,128
RG #3	Bull Creek	SW of AMR Cutoff	54+00 (S)	6" & 10"	No	No	Yes	A2-6d	0.96	4.28	13.53	1,744	312	0.85	3,441
RG #4	Lake Creek	SE - Olson Dr.	25+00 to 27+00 (S)	10"	No	Yes	Yes	A1-4a	0.40	74.00	6.33	1,510	860	0.50	4,300
RG #5	Lake Creek	COA EMS	28+00 (S)	6" & 10"	No	Yes	Yes	A1-4b	0.60	80.00	8.46	2,396	355	0.75	5,010
RG #6	Bull Creek	NW of BMC	38+00 to 40+00 (N)	10"	No	Yes	Yes	A1-5b	0.30	55.00	8.33	926	442	1.00	4,655
RG #7	Bull Creek	NE of BMC	42+00 to 48+00 (N)	10"	No	Yes	Yes	A2-5c	0.80	60.00	8.27	2,614	1,413	1.00	6,068
RG #8	Bull Creek	NE BMC near CEF	49+00 to 52+00 (N)	10"	No	No	Yes	A2-5d	1.40	54.00	14.59	4,269	2,448	1.00	8,516
Detention Pond															
DET Pond (DP #2)	Lake Creek	WB- Burmaster Ln	19+25 (N)	10"	Yes	No	Yes	A1-1b	0.35	4.77	58.93	-	-	-	-

NOTES:
1) RG#1A&1B ALSO PROVIDE EXTENDED DETENTION AND OUTFALL (REFER TO THIS SHEET FOR EXTENDED DET. VOLUME AND SHEET CH513 FOR CROSS SECTION);
2) RGs #4–#8 FOR WATER QUALITY CREDIT, REFER TO L101–L107 SHEETS FOR RAIN GARDEN LANDSCAPE PLANS AND L601 SHEET FOR WATER QUALITY PLANT QUANTITIES.

RG#1A EXTENDED DETENTION VOLUME

Stage (ft msl)	Area (sf)	Storage (cf)
985.00	797	482
986.00	1691	1,726
987.00	2108	3,626
988.05	2725	6,163

DET. POND #2 VOLUME

Stage (ft msl)	Area (sf)	Storage (cf)
986.70	229	0
987.00	381	91
988.00	406	485
989.00	866	1,121
990.00	866	1,987
990.35	999	2,313
990.50	999	2,463
990.75	**999**	**2,713**

REV NO.	BY	DATE	REVISION DESCRIPTION
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STATE OF TEXAS
XIAOQIN ZHANG, P.E.
96436
LICENSED
PROFESSIONAL ENGINEER
01/29/2020

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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

PROPOSED DITCH & RAIN GARDEN
WATER QUALITY AND DETENTION SUMMARY TABLE

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/JP	8/18
DESIGNED BY	JT/EZ	8/18
CHECKED BY	EZ/CG	8/18
REVIEWED BY	ESD	8/18

0 20 40
HORIZONTAL SCALE IN FEET

GP-2019-0210.ATD

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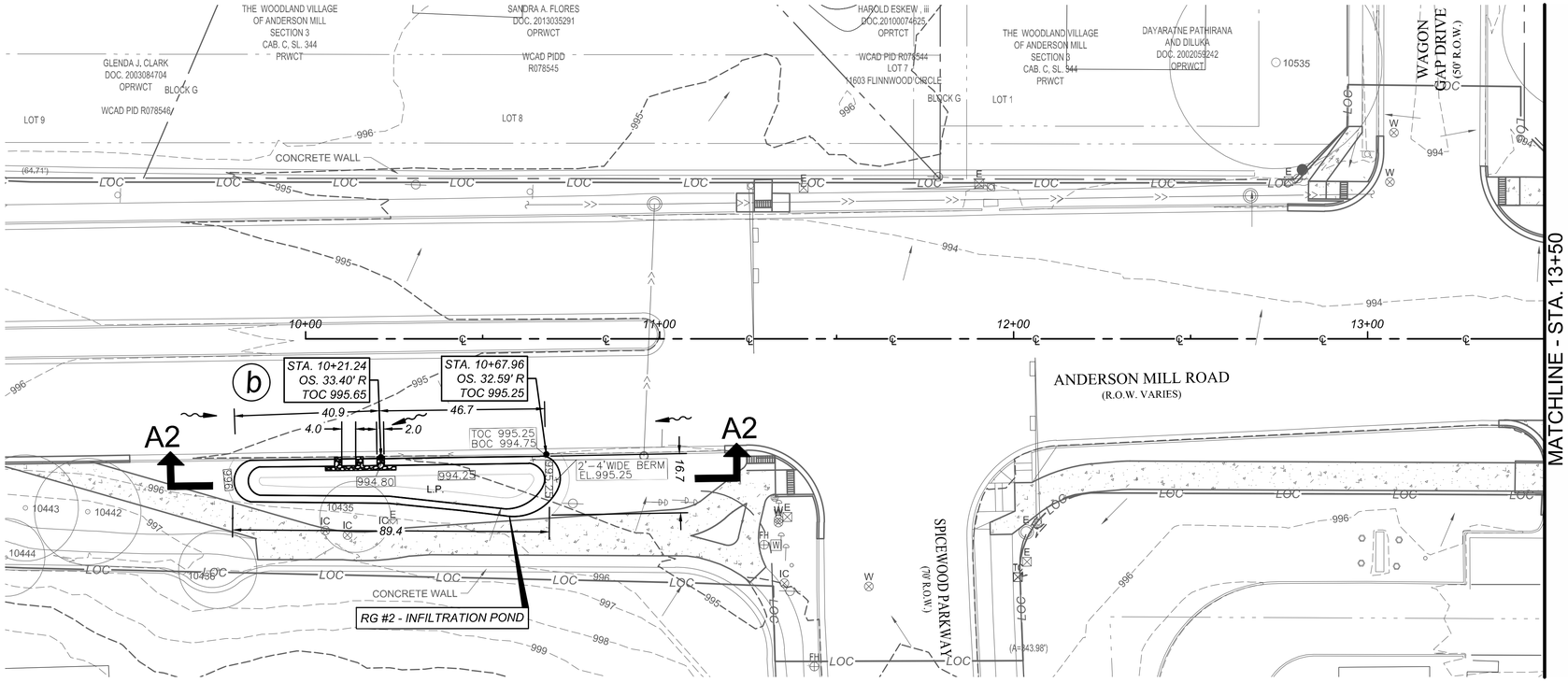
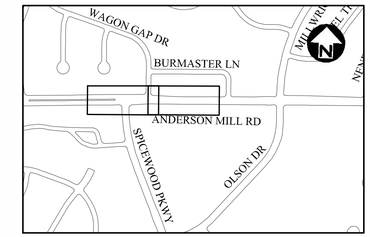
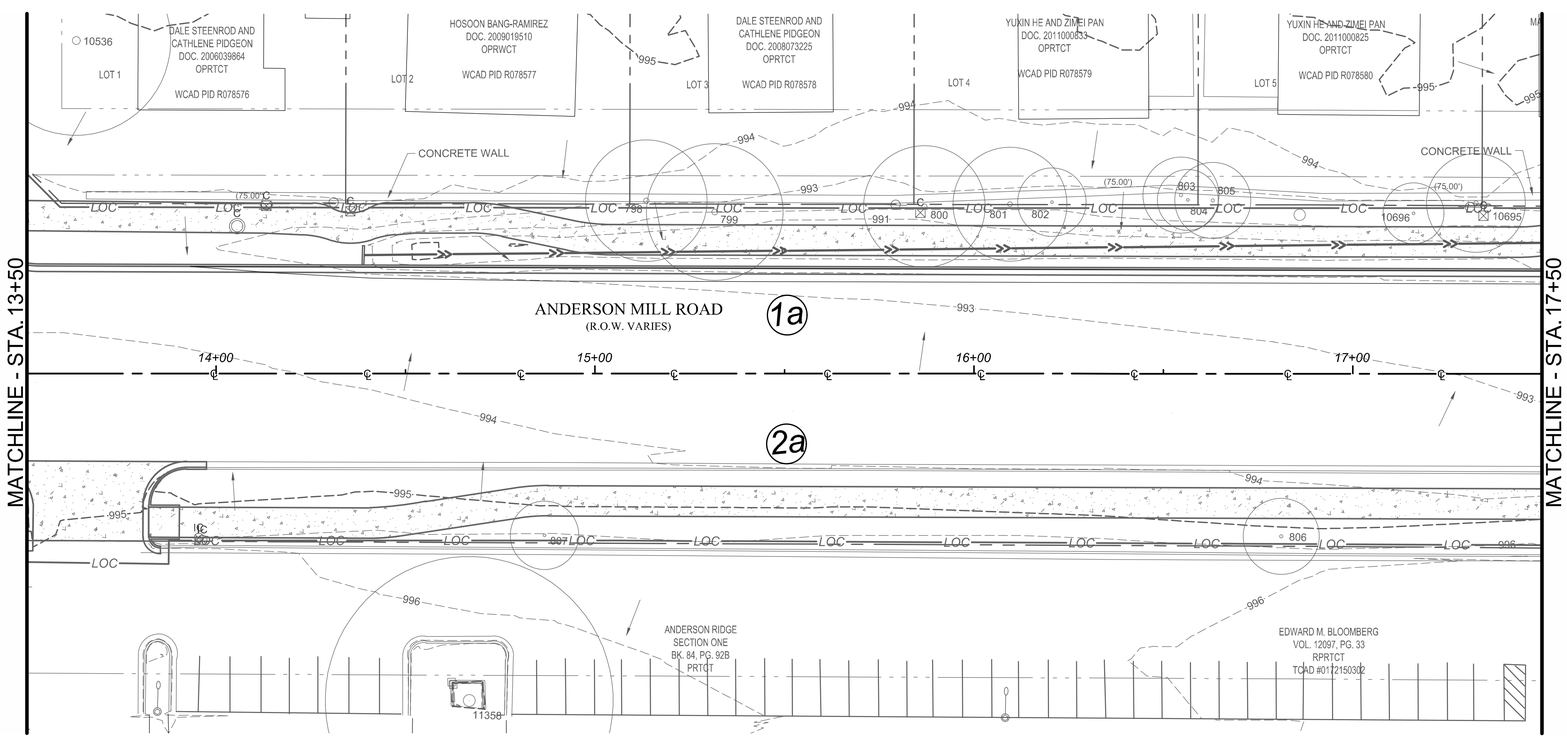
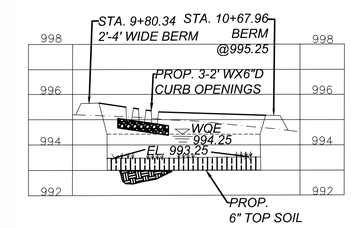
ZHANG, XIAOQIN









RG#2 SECTION A2–A2
N.T.S.

LEGEND

- EXISTING ROW LINE
- EXIST. GRADE
- PROP. PAVEMENT CENTERLINE
- (b) PROP. CONTRIBUTING DRAINAGE AREA
- PROP. 6" PERF. PVC
- PROP. DRAIN FLOW

REV. NO.	BY	DATE	REVISION DESCRIPTION

STATE OF TEXAS
XIAOQIN ZHANG, P.E.
96436
LICENSED PROFESSIONAL ENGINEER
01/29/2020

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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

RAIN GARDEN & DITCH PLAN
BEGIN - 17+50

CITY OF AUSTIN FOUNDED 1839

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/JP	8/18
DESIGNED BY	JT/EZ	8/18
CHECKED BY	EZ/CG	8/18
REVIEWED BY	ESD	8/18

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HORIZONTAL SCALE IN FEET

GP-2019-0210.ATD

CH505 | 80 OF 142

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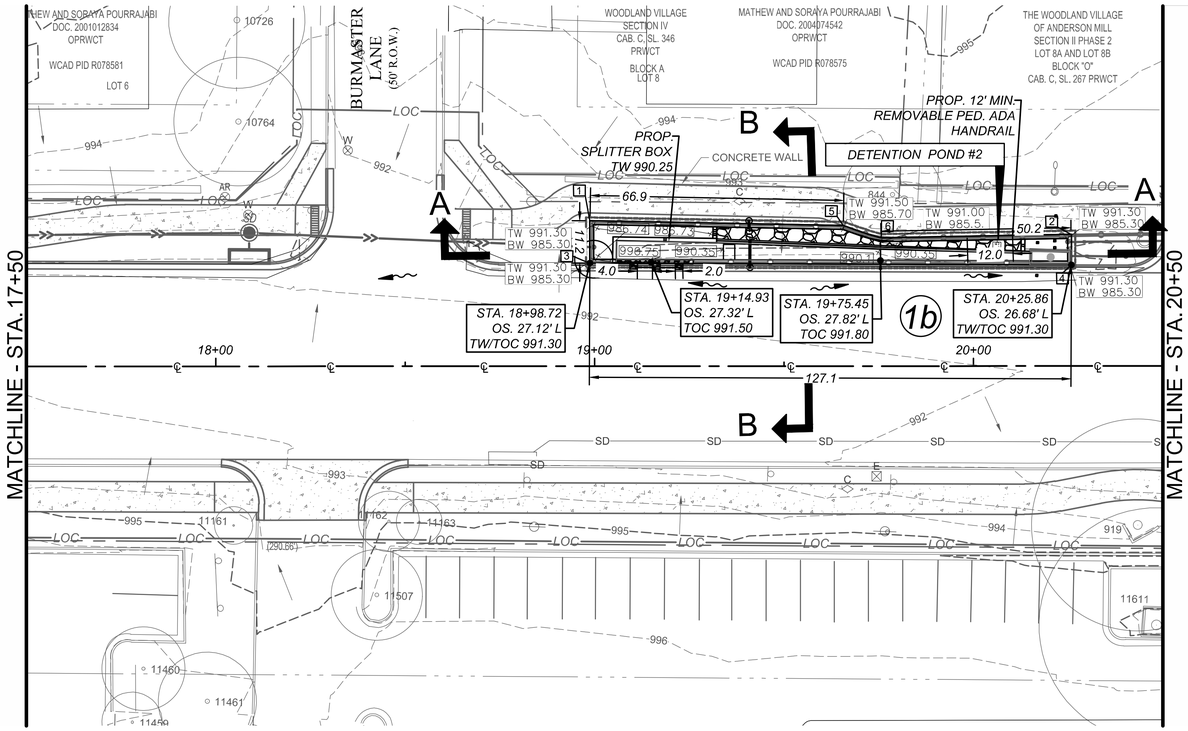
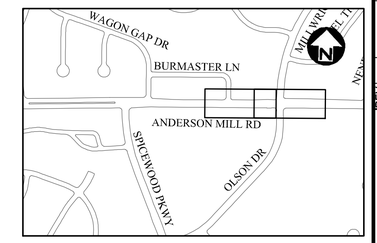
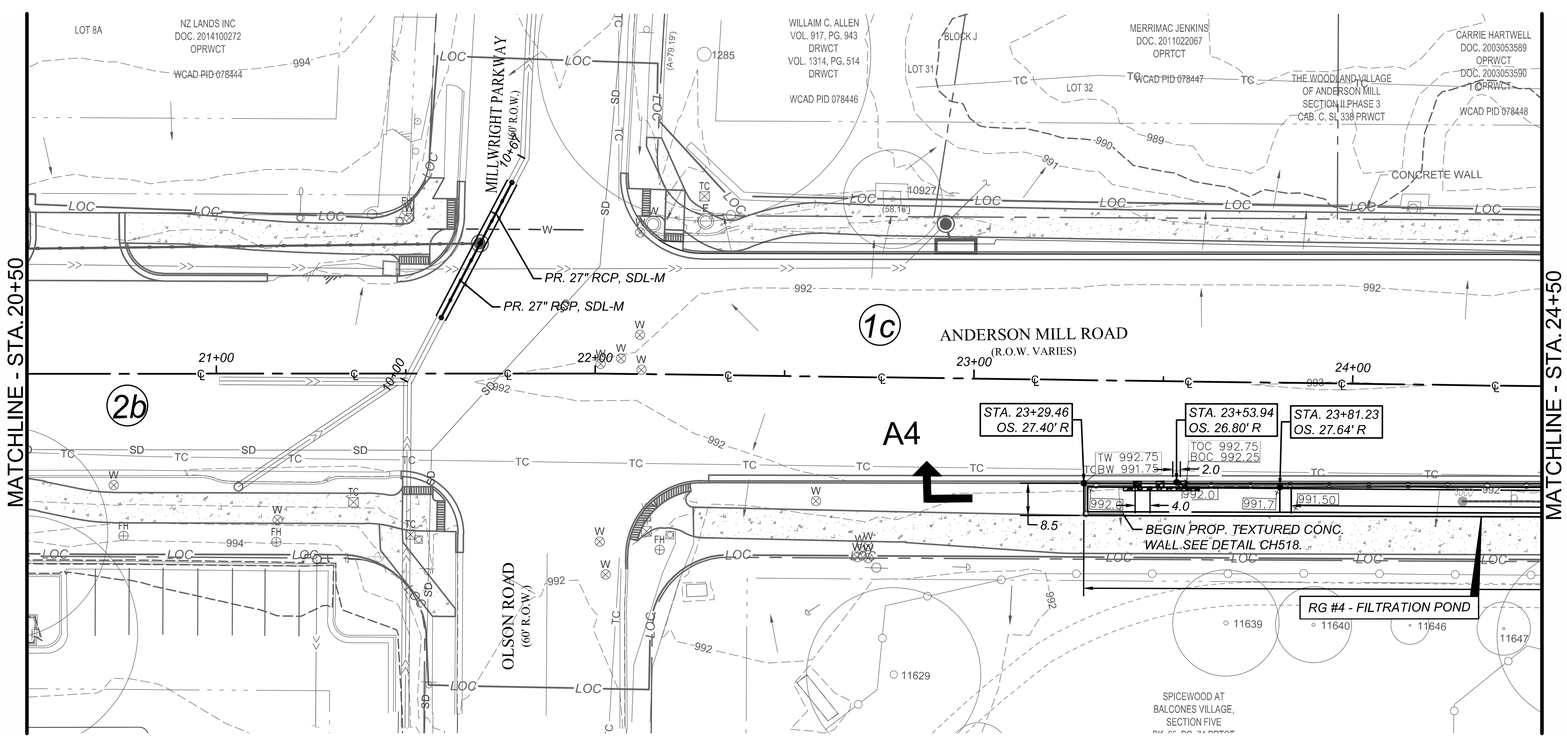
THIVAKARAN, JOTHIKA





NOTE:
1. REFER TO SHEET CH515 FOR DETENTION POND CROSS SECTIONS.
2. A MINIMUM OF 12 FT MIN. REMOVABLE PEDESTRIAN ADA RAILING IS NEEDED FOR RAIN GARDEN OR DETENTION POND MAINTENANCE PER SPECIAL SPEC SP480S.



DET. POND #2 COORDINATES

PT#	N./E.
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2	N.10,135,451.3722 E. 3,093,351.6540
3	N. 10,135,439.4695 E. 3,093,224.8528
4	N. 10,135,443.3504 E. 3,093,351.9340
5	N. 10,135,451.6588 E. 3,093,291.3795
6	N. 10,135,448.7727 E. 3,093,301.4516

NOTES:
1) POND EL. - BOTTOM OF SPLITTER BOX OR TOP OF 6" SOIL PER SP601S;
2) PIPE FLOW LINES REFER TO SHEET CH515.

LEGEND

- EXISTING ROW LINE
- EXIST. GRADE
- PROP. PAVEMENT CENTERLINE
- (b) PROP. CONTRIBUTING DRAINAGE AREA
- PROP. 6" PERF. PVC
- PROP. DRAIN FLOW

REV NO.	BY	DATE	REVISION DESCRIPTION

STATE OF TEXAS
XIAOQIN ZHANG, P.E.
96436
LICENSED PROFESSIONAL ENGINEER
02/10/2020

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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

RAIN GARDEN & DITCH PLAN
STA. 17+50 - 24+50

CITY OF AUSTIN FOUNDED 1839

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/JP	8/18
DESIGNED BY	JT/EZ	8/18
CHECKED BY	EZ/CG	8/18
REVIEWED BY	ESD	8/18

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HORIZONTAL SCALE IN FEET

GP-2019-0210.ATD

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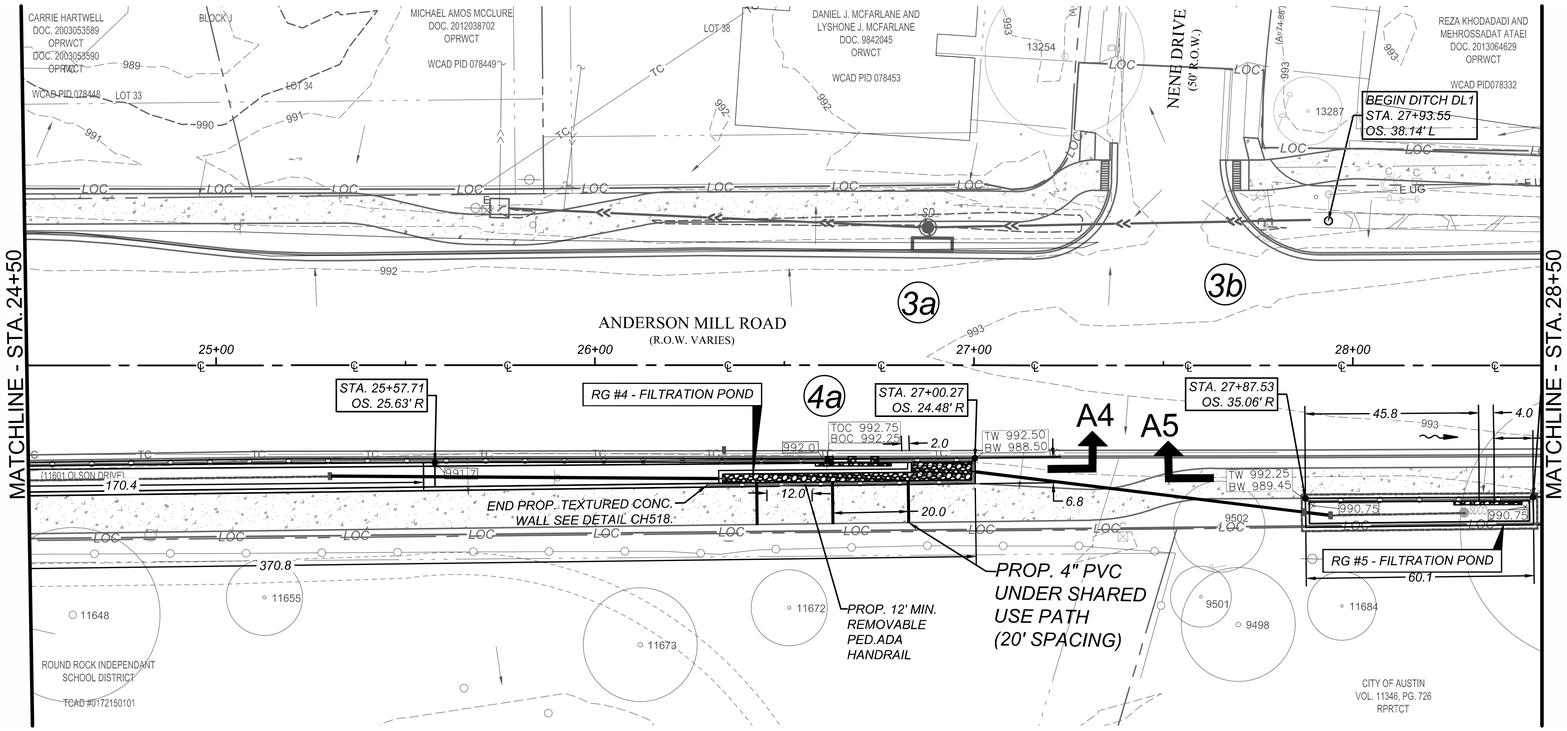
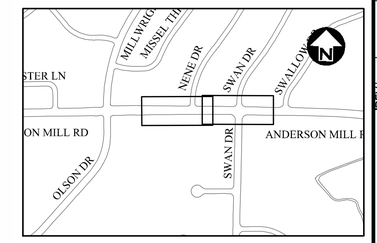
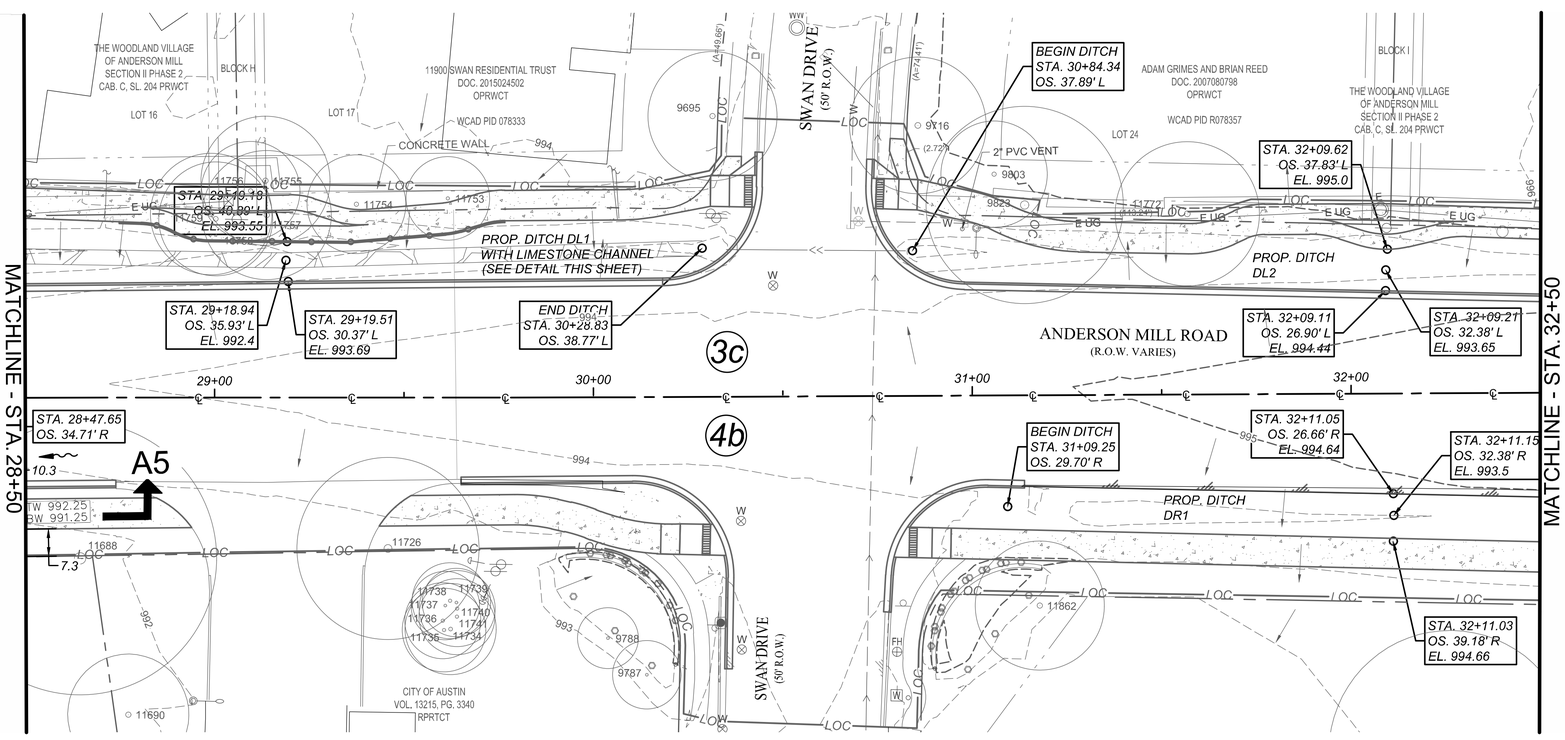
ZHANG, XIAOQIN

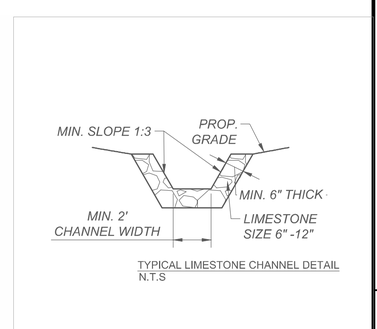




NOTE:

1. REFER TO SHEETS CH513 & CH514 FOR RAIN GARDEN CROSS SECTIONS IF NOT INCLUDED IN PLAN VIEW.
2. A MINIMUM OF 12 FT MIN. REMOVABLE PEDESTRIAN ADA RAILING IS NEEDED FOR RAIN GARDEN OR DETENTION POND MAINTENANCE. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR REVIEW ON REMOVABLE HANDRAIL AS DIRECTED BY THE ENGINEER OR FIELD INSPECTOR.





TYPICAL LIMESTONE CHANNEL DETAIL
N.T.S

LEGEND

- EXISTING ROW LINE
- EXIST. GRADE
- PROP. PAVEMENT CENTERLINE
- (b) PROP. CONTRIBUTING DRAINAGE AREA
- PROP. 6" PERF. PVC
- PROP. DRAIN FLOW

REV. NO.	BY	DATE	REVISION DESCRIPTION

STATE OF TEXAS
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DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

RAIN GARDEN & DITCH PLAN
STA. 24+50 - 32+50

CITY OF AUSTIN
FOUNDED 1839

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/JP	8/18
DESIGNED BY	JT/EZ	8/18
CHECKED BY	EZ/CG	8/18
REVIEWED BY	ESD	8/18

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HORIZONTAL SCALE IN FEET

GP-2019-0210.ATD

CH507 | 82 OF 142

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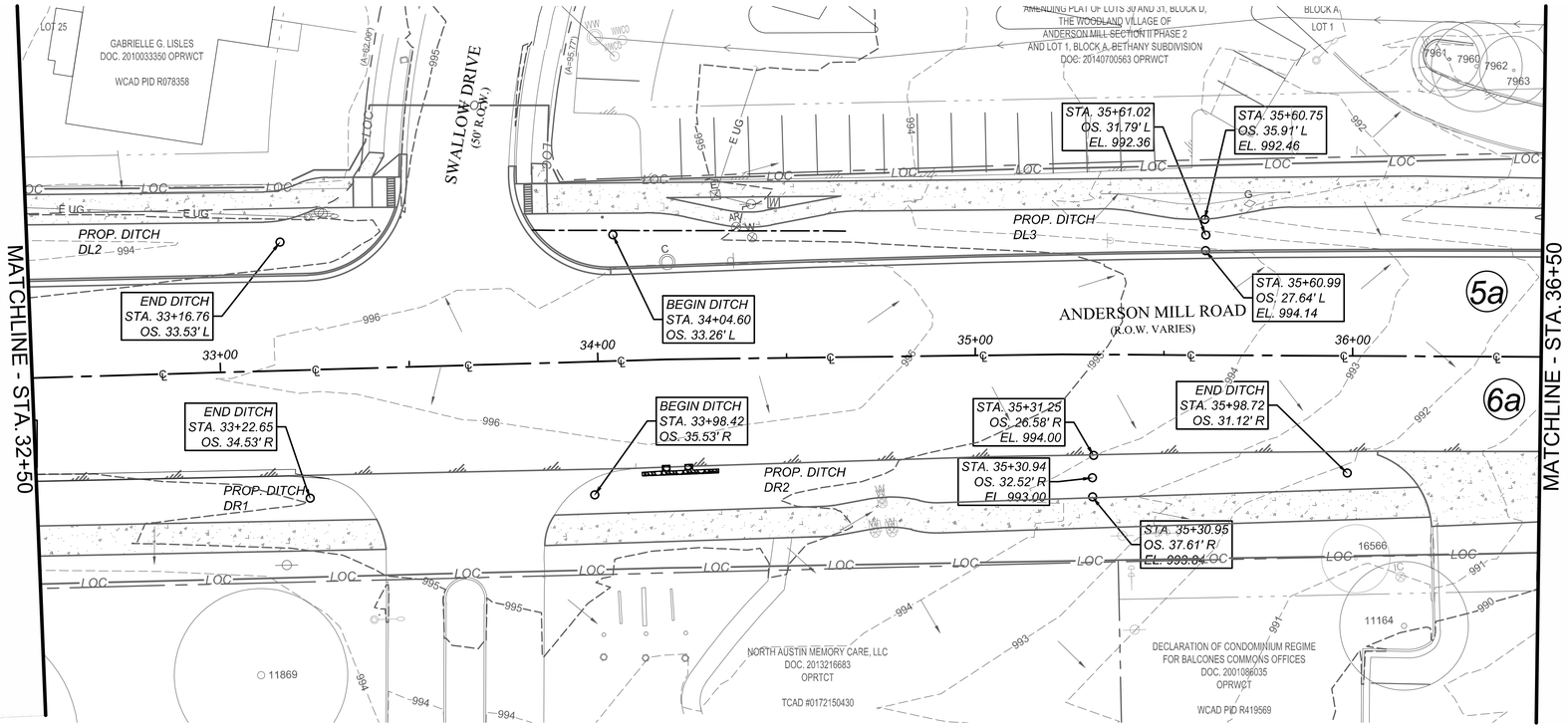
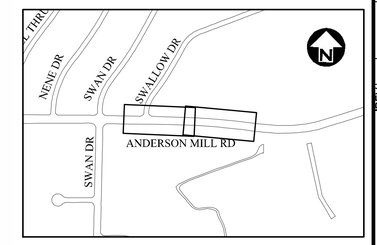
THIVAKARAN, JOTHIKA





NOTE:

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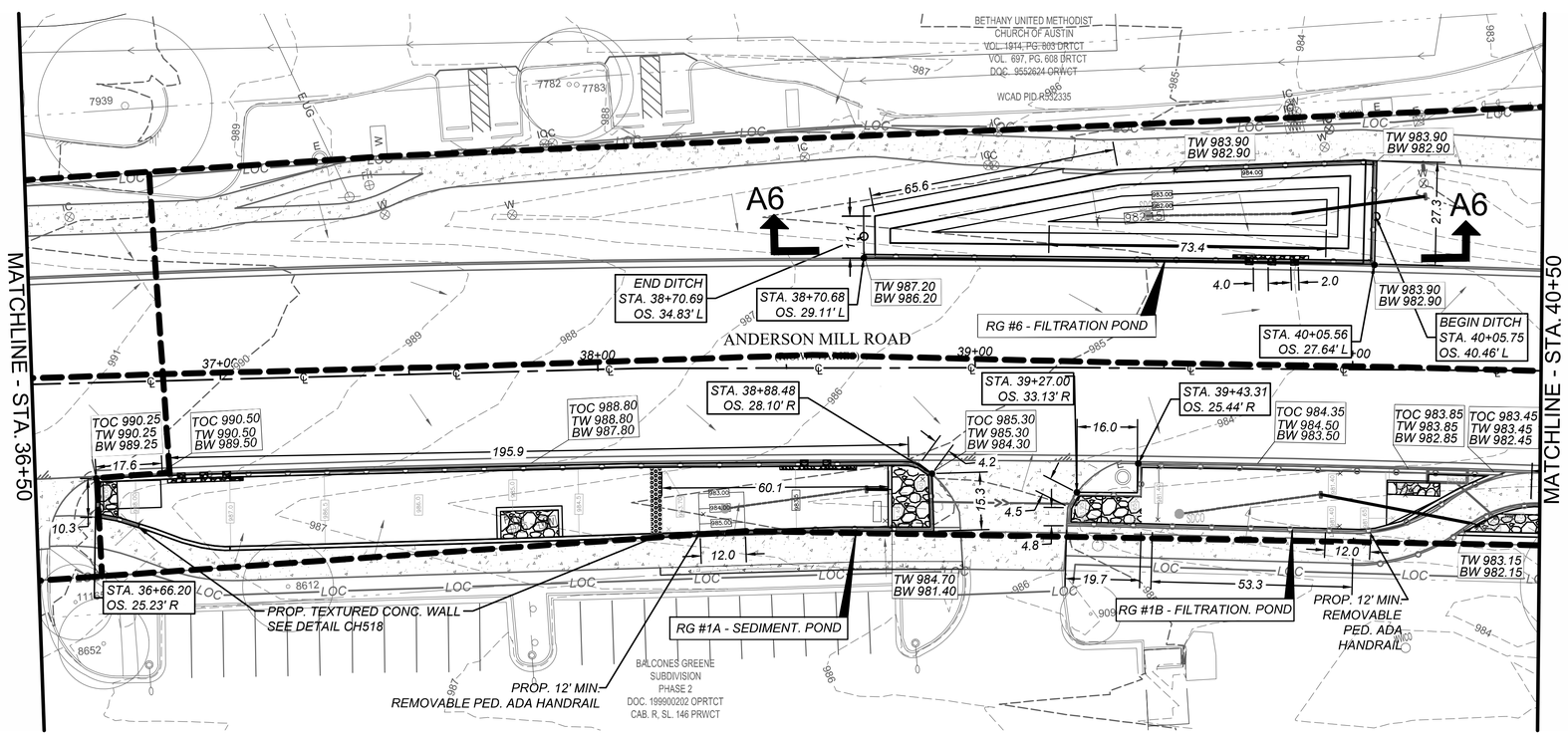

LEGEND

- EXISTING ROW LINE
- EXIST. GRADE
- PROP. PAVEMENT CENTERLINE
- (b) PROP. CONTRIBUTING DRAINAGE AREA
- PROP. 6" PERF. PVC
- PROP. DRAIN FLOW

REV NO.	BY	DATE	REVISION DESCRIPTION

STATE OF TEXAS
XIAOQIN ZHANG, P.E.
96436
LICENSED
PROFESSIONAL ENGINEER
01/29/2020

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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

RAIN GARDEN & DITCH PLAN
STA. 32+50 - 40+50

CITY OF AUSTIN
FOUNDED 1839

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/JP	8/18
DESIGNED BY	JT/EZ	8/18
CHECKED BY	EZ/CG	8/18
REVIEWED BY	ESD	8/18

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HORIZONTAL SCALE IN FEET

GP-2019-0210.ATD

CH508 | 83 OF 142

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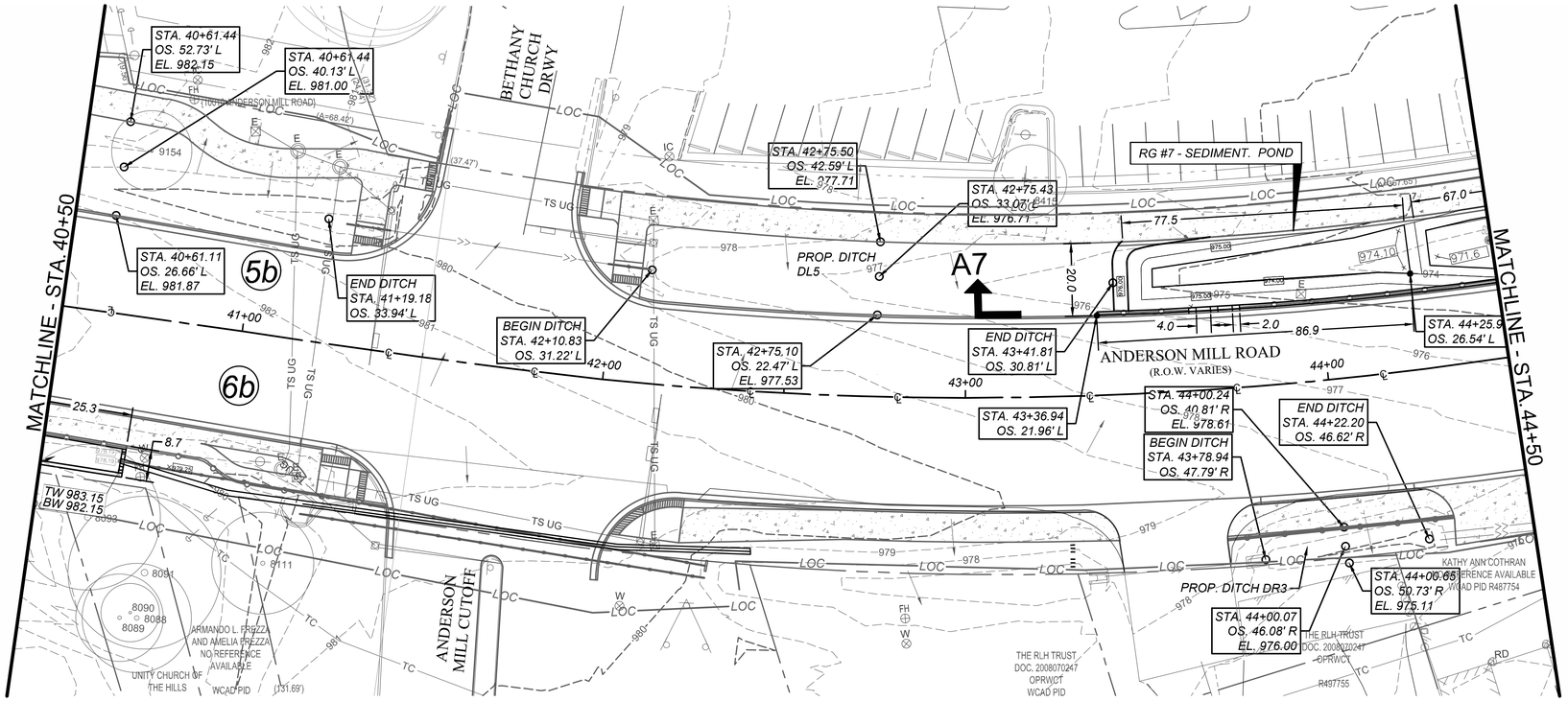
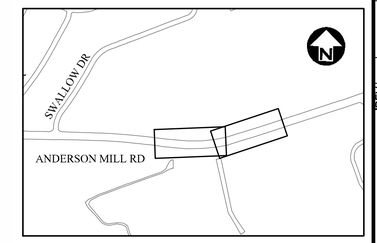
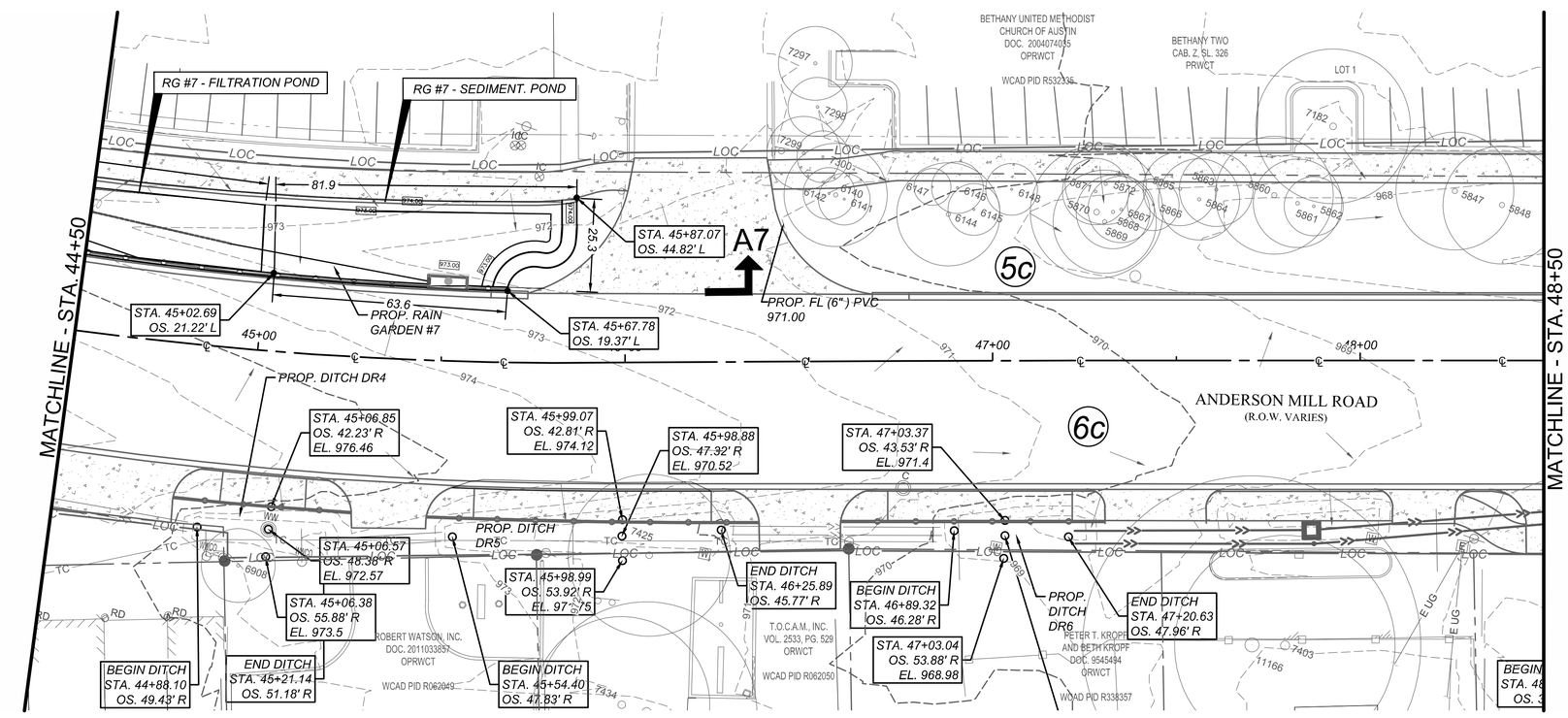
THIVAKARAN, JOTHIKA





NOTE:
1. REFER TO SHEETS CH513 & CH514 FOR RAIN GARDEN CROSS SECTIONS IF NOT INCLUDED IN PLAN VIEW.
2. A MINIMUM OF 12 FT MIN. REMOVABLE PEDESTRIAN ADA RAILING IS NEEDED FOR RAIN GARDEN OR DETENTION POND MAINTENANCE. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR REVIEW ON REMOVABLE HANDRAIL AS DIRECTED BY THE ENGINEER OR FIELD INSPECTOR.



LEGEND

	EXISTING ROW LINE
	EXIST. GRADE
	PROP. PAVEMENT CENTERLINE
(b)	PROP. CONTRIBUTING DRAINAGE AREA
	PROP. 6" PERF. PVC
	PROP. DRAIN FLOW

0 20 40
HORIZONTAL SCALE IN FEET

GP-2019-0210.ATD

REV NO.	BY	DATE	REVISION DESCRIPTION

STATE OF TEXAS
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96436
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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

RAIN GARDEN & DITCH PLAN
STA. 40+50 - 48+50

CITY OF AUSTIN FOUNDED 1839

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/JP	8/18
DESIGNED BY	JT/EZ	8/18
CHECKED BY	EZ/CG	8/18
REVIEWED BY	ESD	8/18

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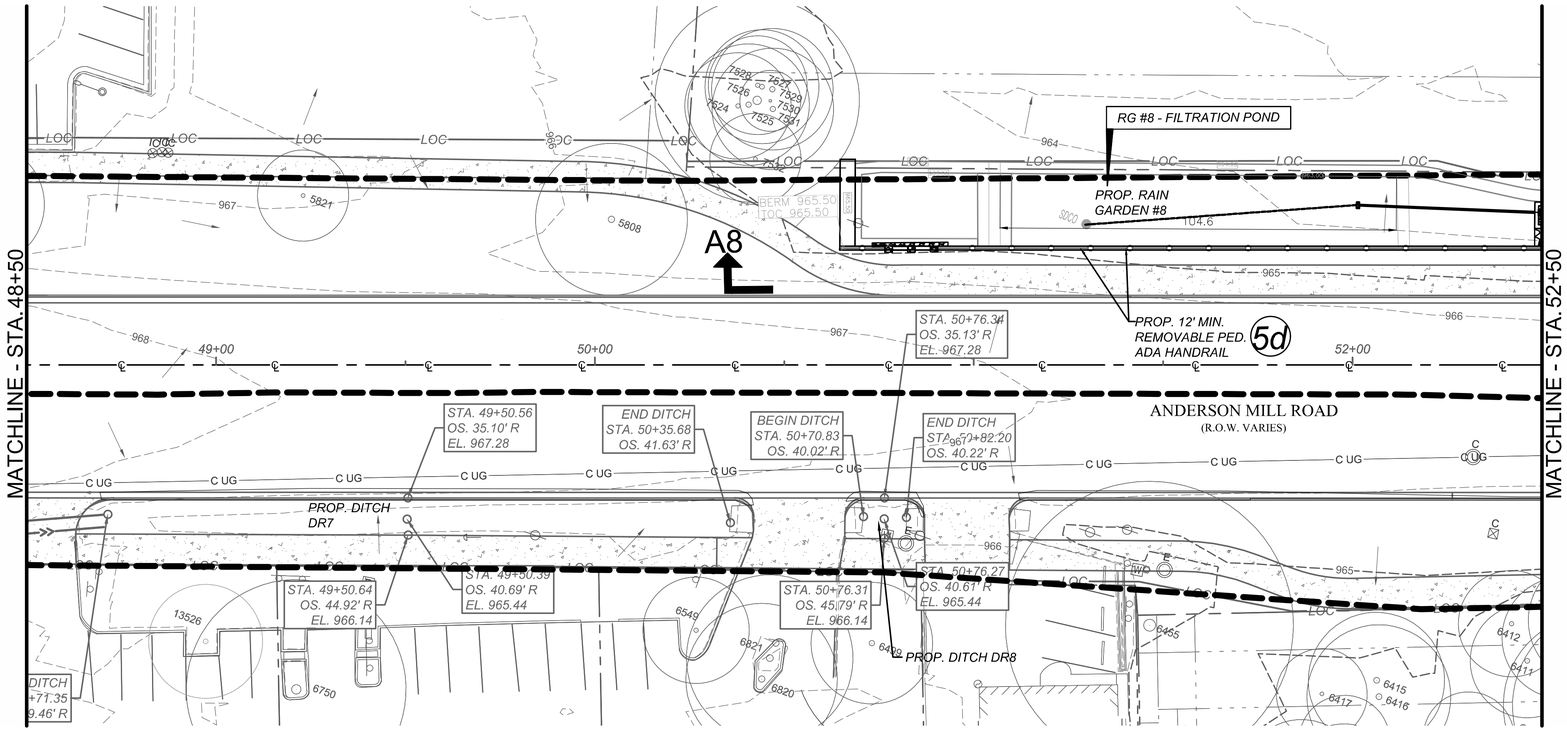
THIVAKARAN, JOTHIKA



RG#2 COORDINATES

PT#	N./E.
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3	N. 10,135,651.5528 E. 3,096,621.5377
4	N. 10,135,675.8814 E. 3,096,686.4162

NOTE:
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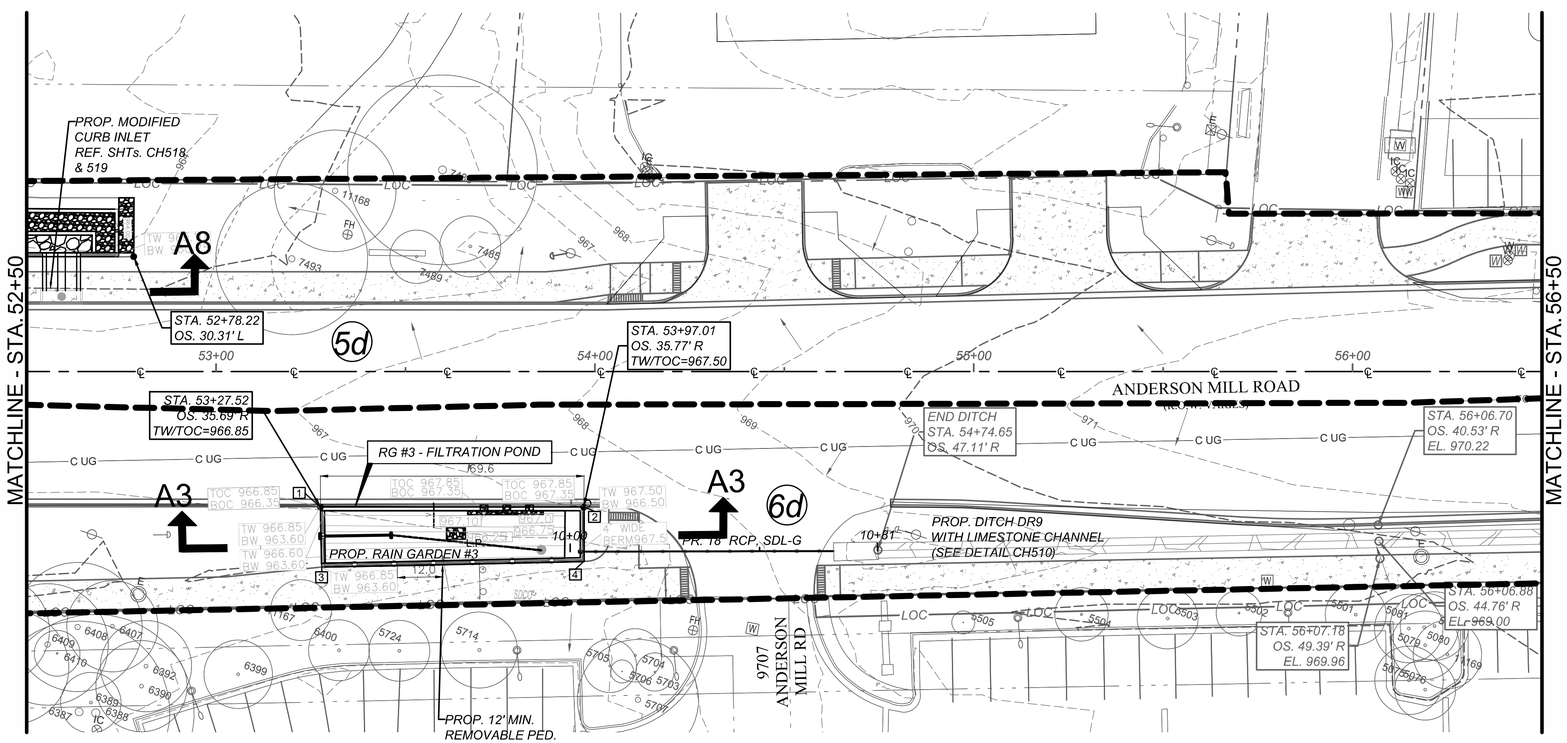
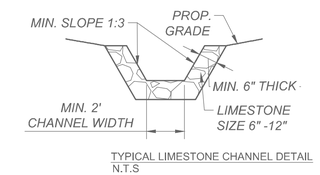
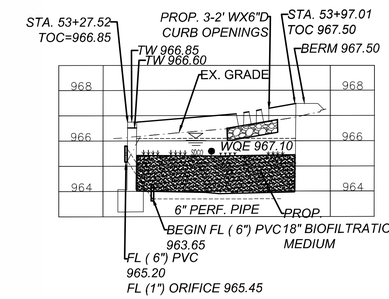
2. A MINIMUM OF 12 FT MIN. REMOVABLE PEDESTRIAN ADA RAILING IS NEEDED FOR RAIN GARDEN OR DETENTION POND MAINTENANCE. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR REVIEW ON REMOVABLE HANDRAIL AS DIRECTED BY THE ENGINEER OR FIELD INSPECTOR.





TYPICAL LIMESTONE CHANNEL DETAIL
N.T.S



RG#3 SECTION A3–A3
N.T.S.

LEGEND

	EXISTING ROW LINE
	EXIST. GRADE
	PROP. PAVEMENT CENTERLINE
5d	PROP. CONTRIBUTING DRAINAGE AREA
	PROP. 6" PVC
PD	PROP. 6" PERF. PVC
	PROP. DRAIN FLOW

REV NO.	BY	DATE	REVISION DESCRIPTION

STATE OF TEXAS
XIAOQIN ZHANG, P.E.
96436
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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

RAIN GARDEN & DITCH PLAN
STA. 48+50 - 56+50

CITY OF AUSTIN FOUNDED 1839

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/JP	8/18
DESIGNED BY	JT/EZ	8/18
CHECKED BY	EZ/CG	8/18
REVIEWED BY	ESD	8/18

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HORIZONTAL SCALE IN FEET

GP-2019-0210.ATD

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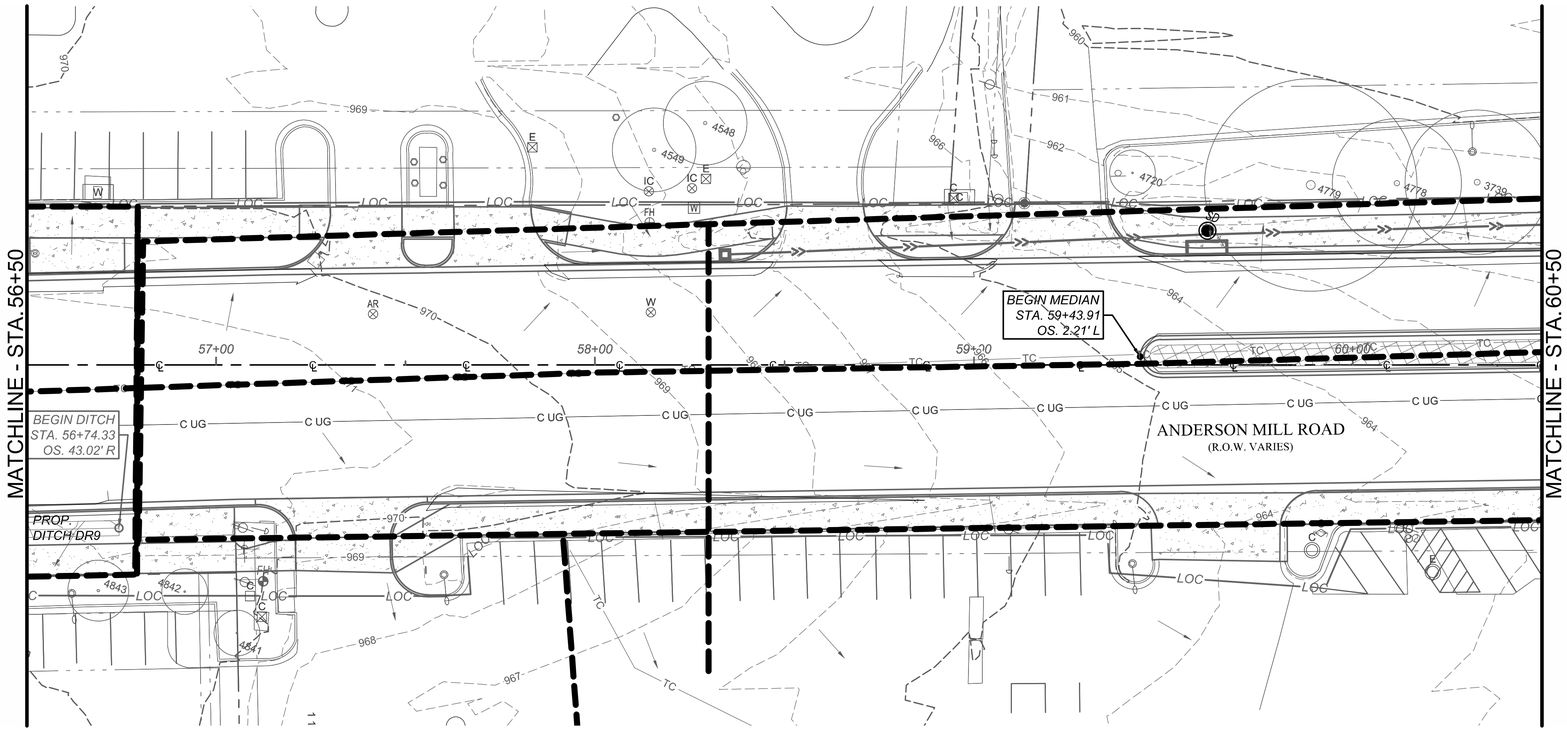
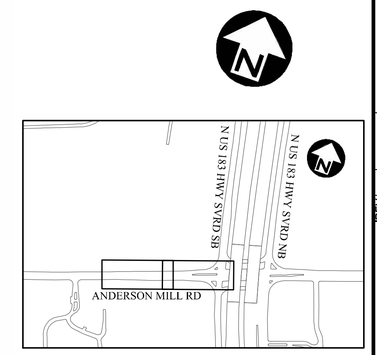
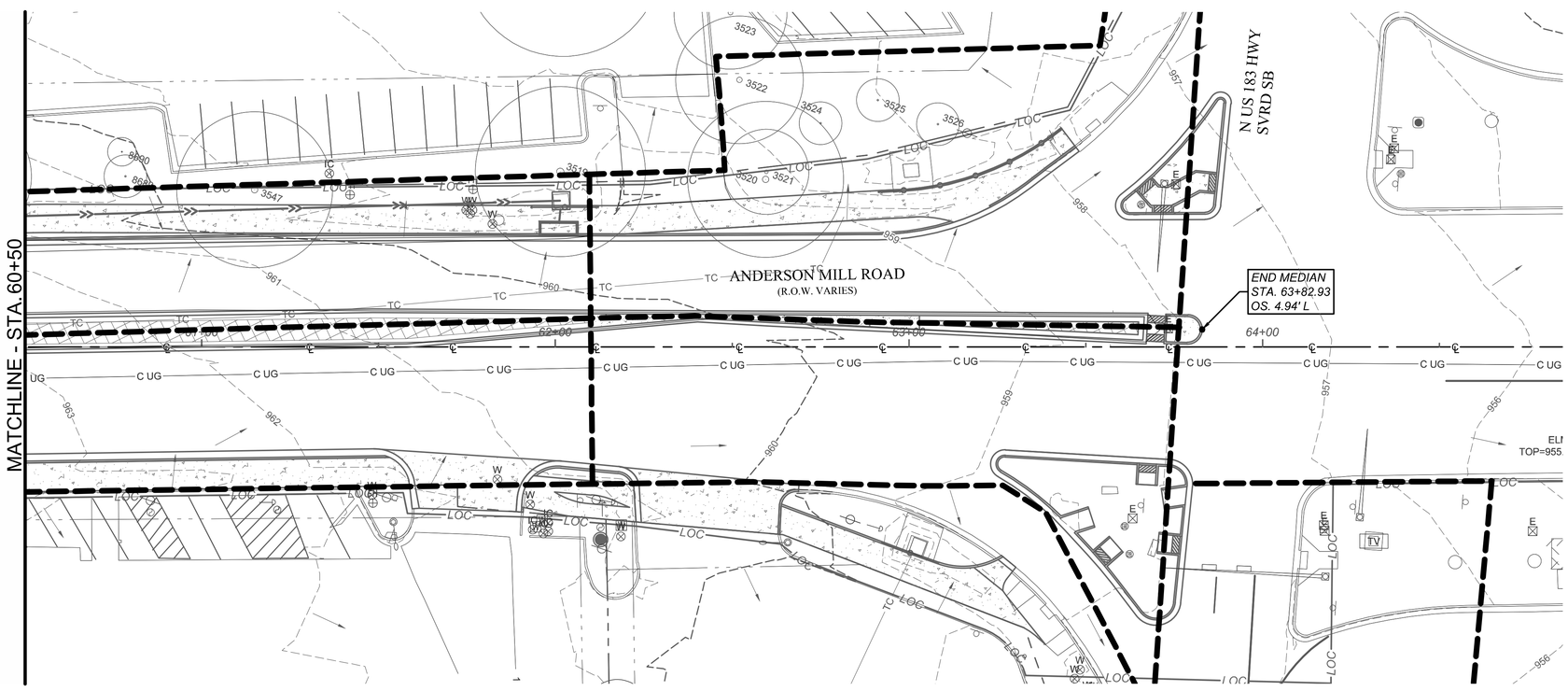
THIVAKARAN, JOTHIKA







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PROFESSIONAL ENGINEER
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ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

DITCH PLAN
STA. 56+50 - END

CITY OF AUSTIN
FOUNDED 1839

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/JP	8/18
DESIGNED BY	JT/EZ	8/18
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REVIEWED BY	ESD	8/18

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HORIZONTAL SCALE IN FEET

GP-2019-0210.ATD

CH511 | 86 OF 142

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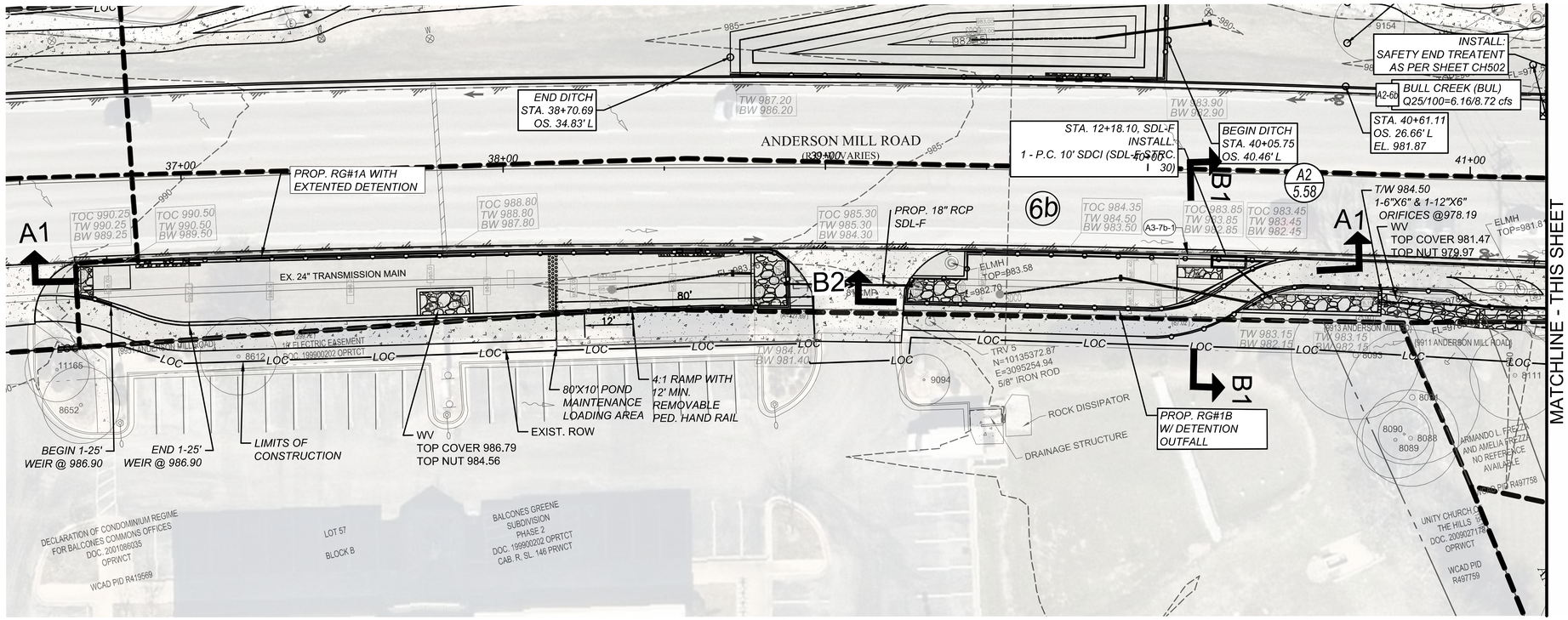

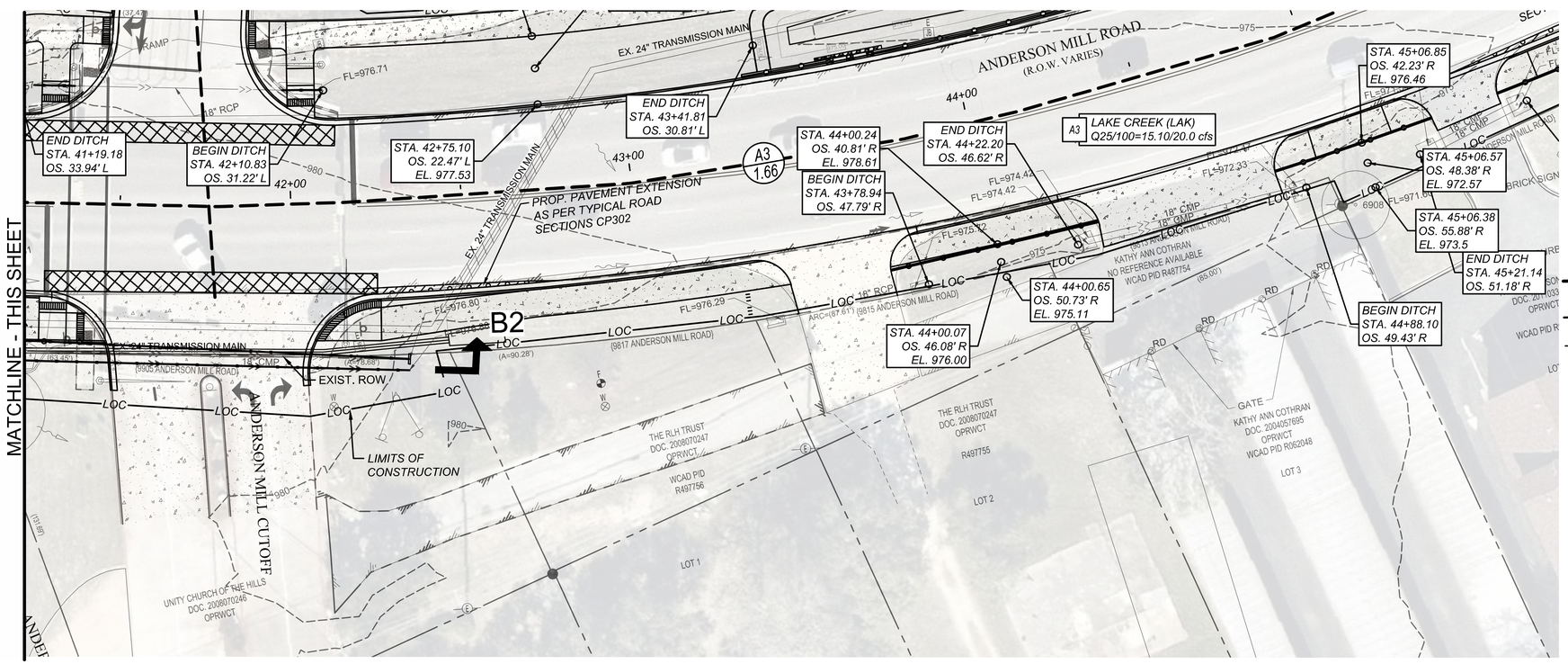

LEGEND

6b	PROP. CONTRIBUTING DRAINAGE AREA
A3-7b-1	INLET NUMBER
	DRAINAGE AREA BOUNDARY
	PROP. STORM DRAIN LINE
	PROP. 6" PERF. PVC

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DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

PROPOSED WATER QUALITY & DETENTION POND
RG#1A AND RG#1B

CITY OF AUSTIN
FOUNDED 1839

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
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DESIGNED BY	JT/EZ	8/18
CHECKED BY	EZ/CG	8/18
REVIEWED BY	ESD	8/18

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HORIZONTAL SCALE IN FEET

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CH512 | 87 OF 142

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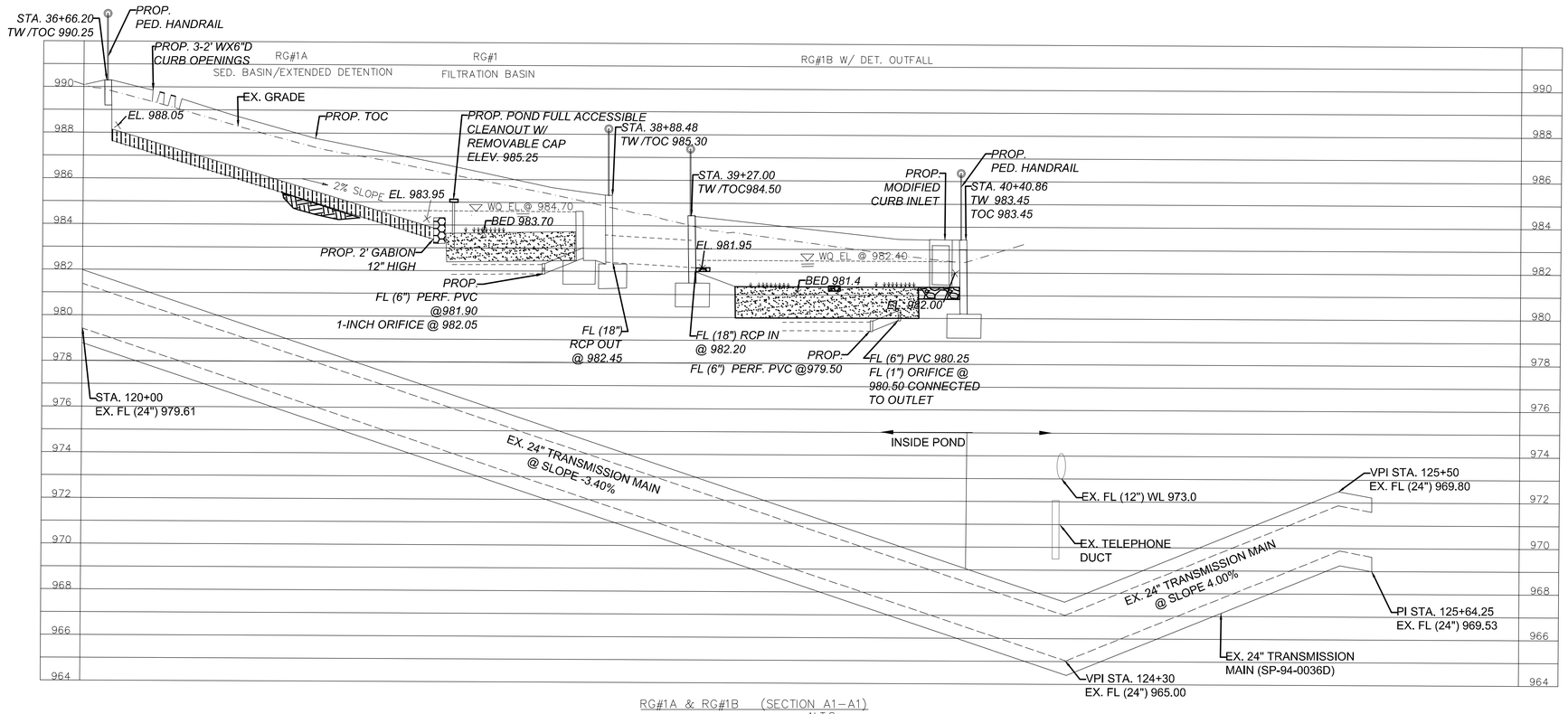


RG#1A & RG#1B (SECTION A1–A1)
N.T.S

RG#1A/#1B CALCULATIONS

FOR DEVELOPMENT PERMITS

RG #1A&1B (Drainage Area "A2-6b", Bull Creek Watershed)					
DRAINAGE AREA DATA		Required		Provided	
Drainage Area to Control (DA≤1.0 acre)		0.34	ac.		
Drainage Area Impervious Cover		100.00	%		
Capture Depth (CD)		1.30	in.		
Water Quality Volume (CD*DA*3630)	Total Required	1,604.5	cf.	1,604.5	c.f.*
	RG#1A	1,604	c.f.	1,604.5	c.f.
	RG#1B	1,604	c.f.	830.9	c.f.
WATER QUALITY CONTROL CALCULATIONS					
The Water quality control is to be **RAIN GARDEN**					
25 year Peak Flow Rate to Control (Q25)		6.16	cfs		
100 year Peak Flow Rate to Control (Q100)		8.72	cfs		
Filtration Pond Area (Af)	RG#1A	743	sf.	896	s.f.
(Af>=WQV/(H+0.24*L)	RG#1B	1,180	sf.	1,000	s.f.
Depth of Filtration Media (L≥1.5)		1.50	ft.		
Effective Porosity Water Quality Volume (WQV_{ne}=0.24*A_f*L)	RG#1A			267	c.f.
	RG#1B			425	c.f.
Ponded Water qulity Volume (WQV_{ponded} = WQV-WQV_{ne})	RG#1A			1,337	c.f.
	RG#1B			1,180	c.f.
		(≥20% of WQ Pond Area)			
Rain Garden Pond Drawdown Time		≥48	hr.	48	hr.
Underdrain Orifice Size (diameter)				1.0	in.
Underdrain Orifice Size (area)				0.785	sq.in.
Water Quality Elevation (WQE)	RG#1A			984.70	ft. msl.
Water Quality Elevation (WQE)	RG#1B			982.40	ft. msl.
Elevation of Splitter/Overflow Weir		≥WQE	ft.msl.	984.70	ft. msl.
Length of Water Quality Weir	RG#1A & RG#1B		25.0	16.0	ft.
Required Head to Pass Q25	RG#1A & RG#1B		0.19	0.25	ft.
Required Head to Pass Q_{100}	RG#1A & RG#1B	≤0.5 ft.	0.24	0.32	ft.
Pond Freeboard Provided to Pass Q_{100}	RG#1A & RG#1B	≥0.25 ft	0.25	0.25	ft.

RG#1A&1B SEDIMENTATION BASIN VOLUME

RG#1A	Stage (ft msl)	Area (sf)	Storage (cf)
	982.90	0	0
	983.70	155	62
	984.00	155	108
	984.50	155	186
	984.70	**644**	**266**
Extended Det.	985.00	797	482
	986.00	1691	1,726
	987.00	2108	3,626
	988.05	2725	6,163

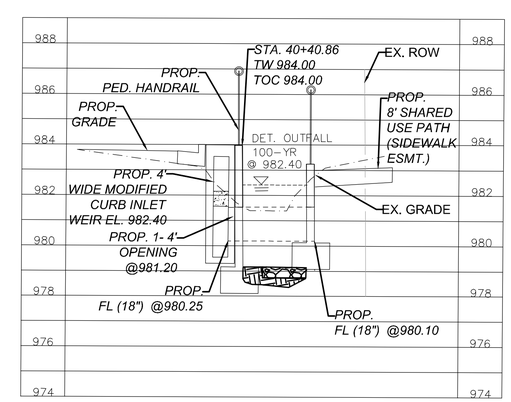
NOTE: RG#1A WQV PROVIDED IS 2,066 c.f., 1,604.5 c.f. is provided for water quality credit calculation purpose.

RG#1B	Stage (ft msl)	Area (sf)	Storage (cf)
	981.00	0	0
	981.40	160	32
	981.95	286	155
	982.00	286	169
	982.40	**286**	**283**

RG#1A&1B FILTRATION BASIN VOLUME

RG#1A	Stage (ft msl)	Area (sf)	Storage (cf)
	982.90	1000	0
	983.70	1,000	800
	984.00	1,000	1,100
	984.50	1,000	1,600
	984.70	**1,000**	**1,800**

RG#1B	Stage (ft msl)	Area (sf)	Storage (cf)
	981.00	70	0
	981.40	195	53
	981.95	319	194
	982.00	746	221
	982.40	**887**	**548**



DET. POND #1 (SECTION B1 TO B1)
N.T.S

NOTE: REFER TO SHEET CH518 FOR RAIN GARDEN CROSS SECTIONS ALONG SHARED USE PATH.

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ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

PROPOSED WATER QUALITY POND
BIOFILTRATION POND AND RG#1 CROSS SECTIONS

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/JP	8/18
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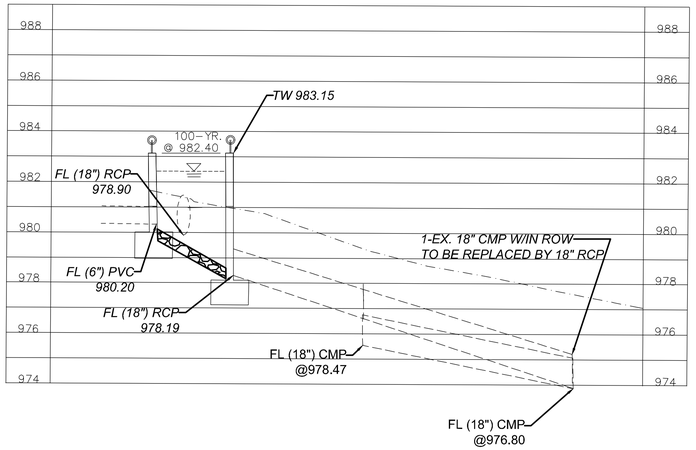
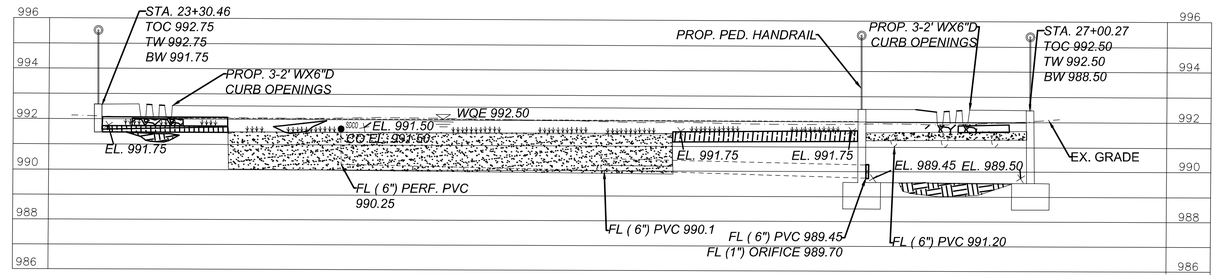
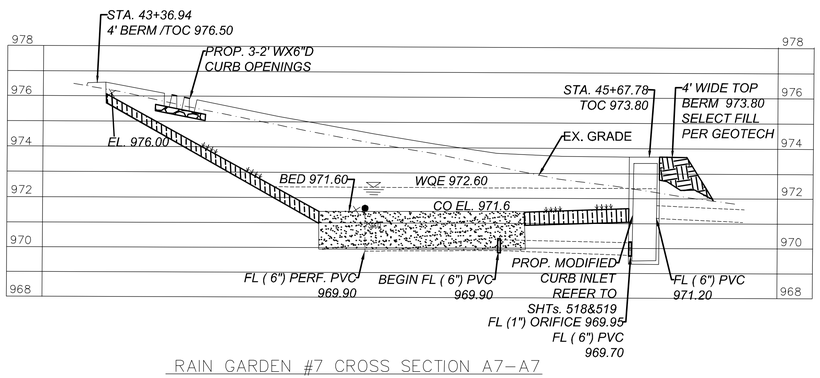


RG#1B EXTENDED DETENTION POND #1 OUTFALL CROSS SECTION B2–B2
N.T.S



RAIN GARDEN #4 CROSS SECTION A4–A4
N.T.S



RAIN GARDEN #7 CROSS SECTION A7–A7
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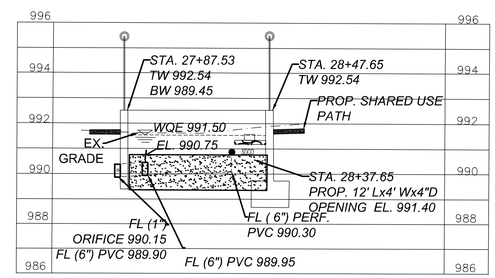

RAIN GARDEN #5 CROSS SECTION A5–A5
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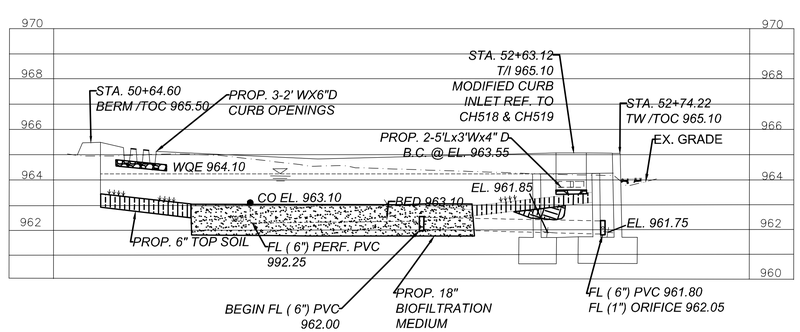
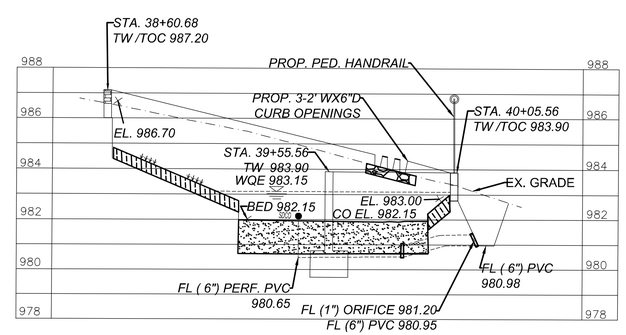


RAIN GARDEN #8 CROSS SECTION A8–A8
N.T.S



RAIN GARDEN #6 CROSS SECTION A6–A6
N.T.S

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THIWAKARN, JOTHIKA

CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

PROPOSED RAIN GARDEN & DETENTION POND
CROSS SECTIONS

CITY OF AUSTIN
FOUNDED 1839

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
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DESIGNED BY	JT/EZ	8/18
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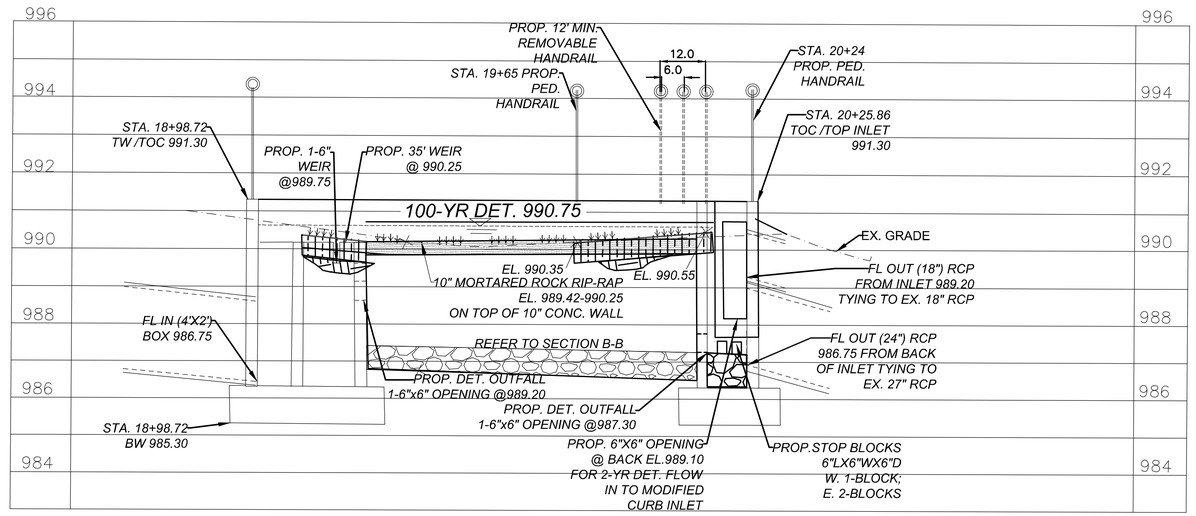
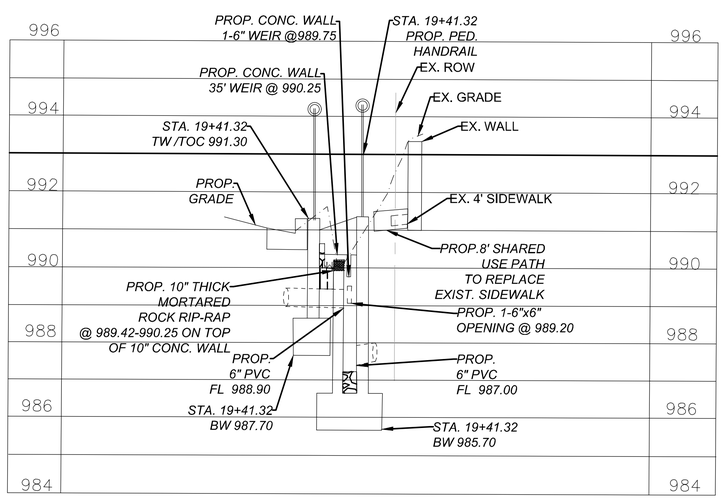


DETENTION POND #2 CROSS SECTION A–A
N.T.S



DETENTION POND #2 CROSS SECTION B–B
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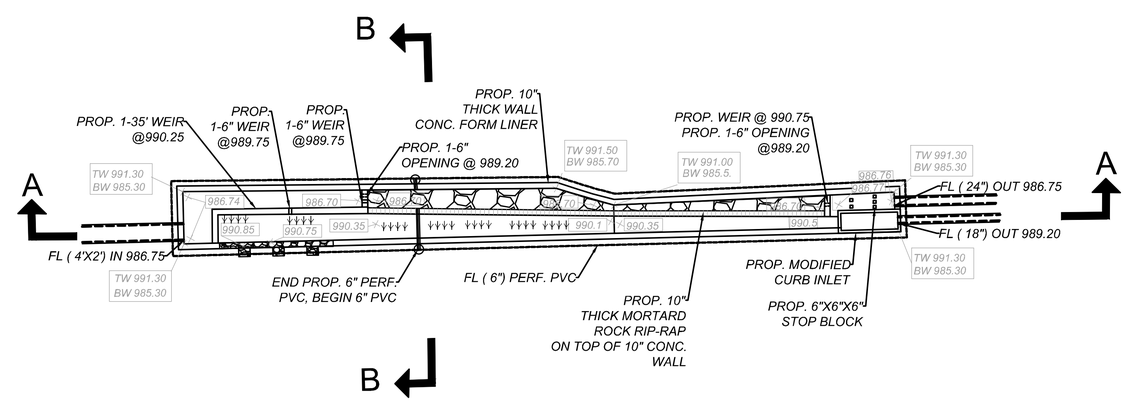

DETENTION POND #2 RETAINING WALL PLAN VIEW
N.T.S

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96436
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02/10/2020

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SPICEWOOD PARKWAY TO US 183

PROPOSED DETENTION POND #2
CROSS SECTIONS

CITY OF AUSTIN FOUNDED 1839

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RG#3 FILTRATION POND

APPENDIX R-11
RAIN GARDEN CALCULATIONS
FOR DEVELOPMENT PERMITS

Rain Garden #3 (Drainage Area "A2-6d", Bull Creek Watershed)

DRAINAGE AREA DATA					
Drainage Area to Control (DA - Maximum 2.0 Ac.)		0.96	ac.		
Drainage Area Percent Impervious Cover		4.28	%		
Capture Depth (CD)		0.50	in.		
WATER QUALITY CONTROL CALCULATIONS		Required		Provided	
Water Quality Volume (CD*DA*3630)		1,744	cf.	**312**	cf
100 year Peak Flow Rate to Control (Q100)		13.53	cfs		
Filtration Pond Area (A_f)		1,283	sf.	887	s.f.
Depth of Ponding	Maximum	1.00	ft.	1.00	ft
Depth of Filtration Media (L)	Minimum	1.50	ft.	1.50	ft
Effective Porosity Water Quality Volume (WQV_{ne}=0.24*A_f*L)				462	cf.
Ponded Water qulity Volume (WQV_{ponded} = WQV-WQV_{ne})				1,283	cf.
			Total WQV	**1,744**	cf.
Water Quality Elevation (WQE)				966.10	ft. msl.
Elevation of Splitter/Overflow Weir		Minimum WQE	ft.msl.	966.10	ft. msl.
Length of Splitter Weir				6.0	ft.
Required Head to Pass Q_{100}	Minimum	0.5	ft.	0.83	ft.
Pond Freeboard Provided to Pass Q_{100}	Minimum	0.25	ft.	0.25	ft.
FOR FILTRATION RAIN GARDENS					
Rain Garden Pond Drawdown Time		≥48	hr.	48	hr.
Underdrain Orifice Size (diameter)				1.0	in.
Underdrain Orifice Size (area)				0.785	sq.in.

RG#2 INFILTRATION BASIN VOLUME

Stage (ft msl)	Area (sf)	Storage (cf)
993.25	0	0
993.50	792	99
994.00	792	495
994.25	**792**	**693**

RG#3 FILTRATION BASIN VOLUME

Stage (ft msl)	Area (sf)	Storage (cf)
965.25	70	0
965.50	195	33
965.75	319	97
966.00	746	231
966.10	**887**	**312**

RG#2 INFILTRATION POND

APPENDIX R-11
RAIN GARDEN CALCULATIONS
FOR DEVELOPMENT PERMITS

Rain Garden #2 (Drainage Area "E0-b", Lake Creek Watershed)

DRAINAGE AREA DATA					
Drainage Area to Control (DA - Maximum 2.0 Ac.)		0.53	ac.		
Drainage Area Percent Impervious Cover		42.56	%		
Capture Depth (CD)		0.73	in.		
WATER QUALITY CONTROL CALCULATIONS		Required		Provided	
Water Quality Volume (CD*DA*3630)		1,384	cf.	693	cf
100 year Peak Flow Rate to Control (Q100)		5.75	cfs		
Filtration Pond Area (A_f)		1,018	sf.	792	s.f.
Depth of Ponding	Maximum	1.00	ft.	1.00	ft
Depth of Filtration Media (L)	Minimum	1.50	ft.	1.50	ft
Effective Porosity Water Quality Volume (WQV_{ne}=0.24*A_f*L)				366	cf.
Ponded Water qulity Volume (WQV_{ponded} = WQV-WQV_{ne})				1,018	cf.
			Total WQV	1,384	cf.
Water Quality Elevation (WQE)				994.25	ft. msl.
Elevation of Splitter/Overflow Weir		Minimum WQE	ft.msl.	994.25	ft. msl.
Length of Splitter Weir				6.0	ft.
Required Head to Pass Q_{100}	Minimum	0.5	ft.	0.50	ft.
Pond Freeboard Provided to Pass Q_{100}	Minimum	0.25	ft.	0.25	ft.

RG#5 FILTRATION POND

APPENDIX R-11
RAIN GARDEN CALCULATIONS
FOR DEVELOPMENT PERMITS
Rain Garden 5 (Drainage area A1-4b)

DRAINAGE AREA DATA

Drainage Area to Control (DA - MAX 2.0 Acre)		0.6	ac.
Drainage Area Impervious Cover		80.0	%
Capture Depth (CD)		1.1	in.

WATER QUALITY CONTROL CALCULATIONS

		Required		Provided	
Water Quality Volume (CD*DA*3630)		**2396**	cf.	**355**	cf
The Water quality control is to be RAIN GARDEN					
100 year Peak Flow Rate to Control (Q100)		8.46	cfs		
Filtration Pond Area (Af=WQV/(H+0.24*L)		1762	sf.	**320**	sf.
Depth of Ponding (D - MAX 1.0 ft)		1.0	ft.	**0.8**	
Depth of Filtration Media (L>1.5)		1.5	ft.	**1.5**	ft.
Effective Porosity Water Quality Volume (WQVne=0.24*Af*L)				**115**	cf.
Ponded Water quality Volume (WQV ponded = WQV-WQVne)				**240**	cf.
Total WQV:				**355**	cf.
Water Quality Elevation (WQE)				**991.5**	ft. msl.
Elevation of Splitter/Overflow Weir		>WQE	ft.msl.	**na**	ft. msl.
FOR FILTRATION RAIN GARDENS:					
Rain Garden Pond Drawdown Time		> 48	hr.	**48**	hr.
Underdrain Orifice Size (diameter)				**0.5**	in.
Underdrain Orifice Size (area)				**0.2**	sq.in.

RG#4 FILTRATION BASIN VOLUME

Stage (ft msl)	Area (sf)	Storage (cf)
989.6	0	0
990	0	0
991	0	0
991.5	677	287
992	677	860

RG#5 FILTRATION BASIN VOLUME

Stage (ft msl)	Area (sf)	Storage (cf)
990.75	320	0
991	320	80
991.25	320	160
991.4	320	287
991.5	320	355

RG#4 FILTRATION POND

APPENDIX R-11
RAIN GARDEN CALCULATIONS
FOR DEVELOPMENT PERMITS
Rain Garden 4 (Drainage area A1-4a)

DRAINAGE AREA DATA

Drainage Area to Control (DA - MAX 2.0 Acre)		**0.40**	ac.
Drainage Area Impervious Cover		**74.0**	%
Capture Depth (CD)		**1.04**	in.

WATER QUALITY CONTROL CALCULATIONS

		Required		Provided	
Water Quality Volume (CD*DA*3630)		**1510**	**cf.**	**860**	cf
The Water quality control is to be RAIN GARDEN					
100 year Peak Flow Rate to Control (Q100)		6.33	cfs		
Filtration Pond Area (Af=WQV/(H+0.24*L)		1110	sf.	**677**	sf.
Depth of Ponding (D - MAX 1.0 ft)		1.00	ft.	**0.50**	
Depth of Filtration Media (L>1.5)		1.50	ft.	**1.50**	ft.
Effective Porosity Water Quality Volume (WQVne=0.24*Af*L)				**244**	cf.
Ponded Water quality Volume (WQV ponded = WQV-WQVne)				**616**	cf.
Total WQV:				**860**	cf.
Water Quality Elevation (WQE)				**992.00**	ft. msl.
Elevation of Splitter/Overflow Weir		>WQE	ft.msl.	**na**	ft. msl.
FOR FILTRATION RAIN GARDENS:					
Rain Garden Pond Drawdown Time		≥ 48	hr.	**48**	hr.
Underdrain Orifice Size (diameter)				**0.5**	in.
Underdrain Orifice Size (area)				**0.2**	sq.in.

REV. NO.	BY	DATE	REVISION DESCRIPTION
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STATE OF TEXAS
XIAOQIN ZHANG, P.E.
96436
LICENSED
PROFESSIONAL ENGINEER
01/29/2020

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY XIAOQIN ZHANG, P.E. LIC. # 96436

I CERTIFY THAT THESE DRAWINGS ARE COMPLETE, ACCURATE AND ADEQUATE FOR THEIR INTENDED PURPOSES, INCLUDING CONSTRUCTION, BUT ARE NOT AUTHORIZED FOR CONSTRUCTION UNTIL FORMAL CITY APPROVAL.

CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

PROPOSED RG#2 TO RG#5 CALCULATIONS
INFILTRATION & FILTRATION PONDS

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/JP	8/18
DESIGNED BY	JT/EZ	8/18
CHECKED BY	EZ/CG	8/18
REVIEWED BY	ESD	8/18

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HORIZONTAL SCALE IN FEET

GP-2019-0210.ATD

CH516 | 91 OF 142

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THIVAKARAN, JOTHIKA

RG#7 FILTRATION POND

APPENDIX R-11
RAIN GARDEN CALCULATIONS
FOR DEVELOPMENT PERMITS
Rain Garden 7 (Drainage area A2-5c)

DRAINAGE AREA DATA

Drainage Area to Control (DA - MAX 2.0 Acre)	0.8	ac.
Drainage Area Impervious Cover	60	%
Capture Depth (CD)	0.9	in.

WATER QUALITY CONTROL CALCULATIONS	Required		Provided	
Water Quality Volume (CD*DA*3630)	**2614**	cf.	**1413**	cf
The Water quality control is to be RAIN GARDEN				
100 year Peak Flow Rate to Control (Q100)	8.27	cfs		
Filtration Pond Area (Af=WQV/(H+0.24*L)	1921.8	sf.	**1039**	sf.
Depth of Ponding (D - MAX 1.0 ft)	1	ft.	**1**	
Depth of Filtration Media (L>1.5)	1.5	ft.	**1.5**	ft.
Effective Porosity Water Quality Volume (WQVne=0.24*Af*L)			**374**	cf.
Ponded Water quality Volume (WQV ponded = WQV-WQVne)			**1039**	cf.
Total WQV:			**1413**	cf.
Water Quality Elevation (WQE)			**972.6**	ft. msl.
Elevation of Splitter/Overflow Weir	>WQE	ft.msl.	**na**	ft. msl.
FOR FILTRATION RAIN GARDENS:				
Rain Garden Pond Drawdown Time	> 48	hr.	**48**	hr.
Underdrain Orifice Size (diameter)			**0.7**	in.
Underdrain Orifice Size (area)			**0.4**	sq.in.

RG#6 FILTRATION BASIN VOLUME

Stage (ft msl)	Area (sf)	Storage (cf)
982.15	325	0
982.2	324	16
982.5	325	114
983	325	287
983.15	325	442

RG#7 FILTRATION BASIN VOLUME

Stage (ft msl)	Area (sf)	Storage (cf)
971.6	1039	0
972	1039	416
972.25	1039	675
972.5	1039	935
972.6	1039	1413

RG#8 FILTRATION BASIN VOLUME

Stage (ft msl)	Area (sf)	Storage (cf)
963.1	1800	0
963.25	1980	283
963.5	2178	803
963.8	2396	1489
964.1	2635	2448

RG#6 FILTRATION POND

APPENDIX R-11
RAIN GARDEN CALCULATIONS
FOR DEVELOPMENT PERMITS
Rain Garden 6 (Drainage area A2-5b)

DRAINAGE AREA DATA

Drainage Area to Control (DA - MAX 2.0 Acre)	0.3	ac.
Drainage Area Impervious Cover	55	%
Capture Depth (CD)	0.85	in.

WATER QUALITY CONTROL CALCULATIONS	Required		Provided	
Water Quality Volume (CD*DA*3630)	**926**	cf.	**442**	cf
The Water quality control is to be RAIN GARDEN				
100 year Peak Flow Rate to Control (Q100)	8.3	cfs		
Filtration Pond Area (Af=WQV/(H+0.24*L)	681	sf.	**325**	sf.
Depth of Ponding (D - MAX 1.0 ft)	1.0	ft.	**1.0**	
Depth of Filtration Media (L>1.5)	1.5	ft.	**1.5**	ft.
Effective Porosity Water Quality Volume (WQVne=0.24*Af*L)			**117**	cf.
Ponded Water quality Volume (WQV ponded = WQV-WQVne)			**325**	cf.
Total WQV:			**442**	cf.
Water Quality Elevation (WQE)			**983.15**	ft. msl.
Elevation of Splitter/Overflow Weir	>WQE	ft.msl.	**na**	ft. msl.
FOR FILTRATION RAIN GARDENS:				
Rain Garden Pond Drawdown Time	> 48	hr.	**48**	hr.
Underdrain Orifice Size (diameter)			**0.5**	in.
Underdrain Orifice Size (area)			**0.2**	sq.in.

RG#8 FILTRATION POND

APPENDIX R-11
RAIN GARDEN CALCULATIONS
FOR DEVELOPMENT PERMITS
Rain Garden 8 (Drainage area A2-5d)

DRAINAGE AREA DATA

Drainage Area to Control (DA - MAX 2.0 Acre)	1.4	ac.
Drainage Area Impervious Cover	54	%
Capture Depth (CD)	0.84	in.

WATER QUALITY CONTROL CALCULATIONS	Required		Provided	
Water Quality Volume (CD*DA*3630)	**4269**	cf.	**2448**	cf
The Water quality control is to be RAIN GARDEN				
100 year Peak Flow Rate to Control (Q100)	8.3	cfs		
Filtration Pond Area (Af=WQV/(H+0.24*L)	3138.9	sf.	**1800**	sf.
Depth of Ponding (D - MAX 1.0 ft)	1.00	ft.	**1.0**	
Depth of Filtration Media (L>1.5)	1.50	ft.	**1.50**	ft.
Effective Porosity Water Quality Volume (WQVne=0.24*Af*L)			**648**	cf.
Ponded Water quality Volume (WQV ponded = WQV-WQVne)			**1800**	cf.
Total WQV:			**2448**	cf.
Water Quality Elevation (WQE)			**964.10**	ft. msl.
Elevation of Splitter/Overflow Weir	>WQE	ft.msl.	**na**	ft. msl.
FOR FILTRATION RAIN GARDENS:				
Rain Garden Pond Drawdown Time	> 48	hr.	**48**	hr.
Underdrain Orifice Size (diameter)			**0.9**	in.
Underdrain Orifice Size (area)			**0.6**	sq.in.

REV NO.	BY	DATE	REVISION DESCRIPTION
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STATE OF TEXAS
XIAOQIN ZHANG, P.E.
96436
LICENSED
PROFESSIONAL ENGINEER
01/29/2020

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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

PROPOSED RG#6 TO RG#8 CALCULATIONS
FILTRATION PONDS

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/JP	8/18
DESIGNED BY	JT/EZ	8/18
CHECKED BY	EZ/CG	8/18
REVIEWED BY	ESD	8/18

N.T.S.

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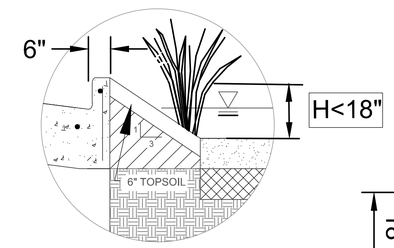
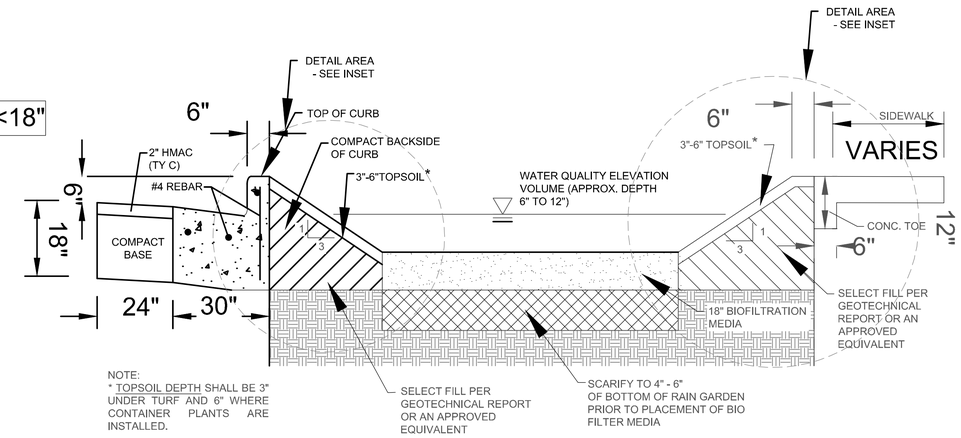
THIVAKARAN, JOTHIKA





NOTE:
* TOPSOIL DEPTH SHALL BE 3" UNDER TURF AND 6" WHERE CONTAINER PLANTS ARE INSTALLED.

TYPICAL RAIN GARDEN WITH 6" CURB (660-1)

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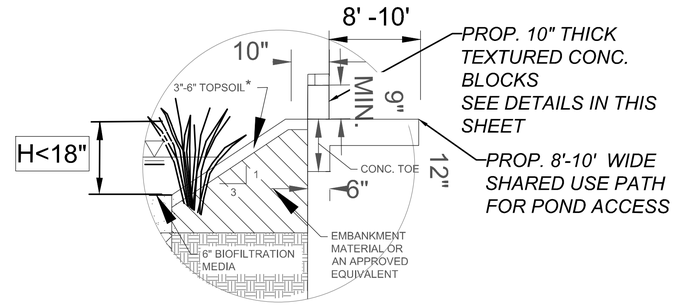

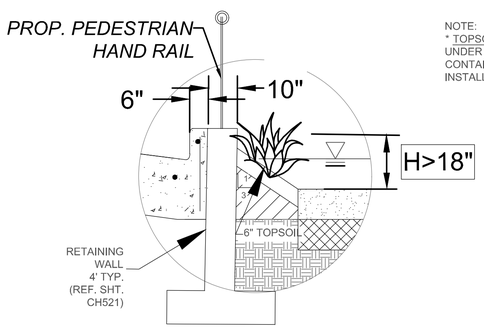

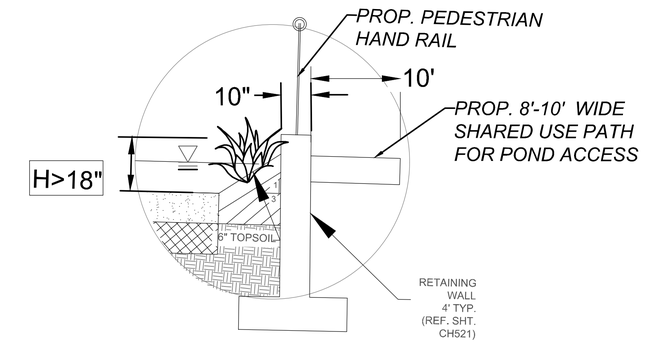

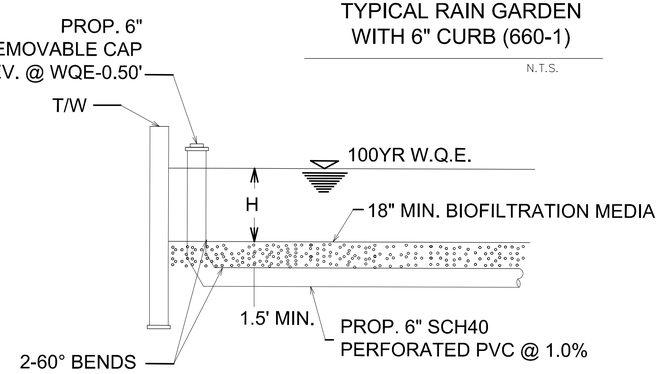

FULL ACCESSIBLE CLEANOUT DETAIL

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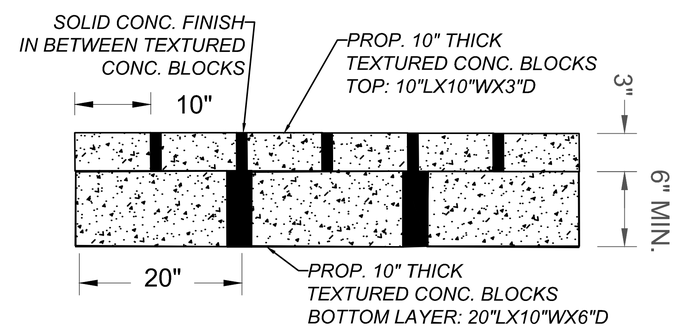

TEXTURED CONCRETE BLOCKS DETAIL

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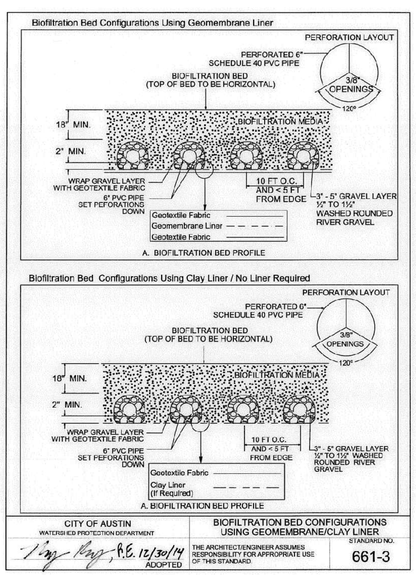
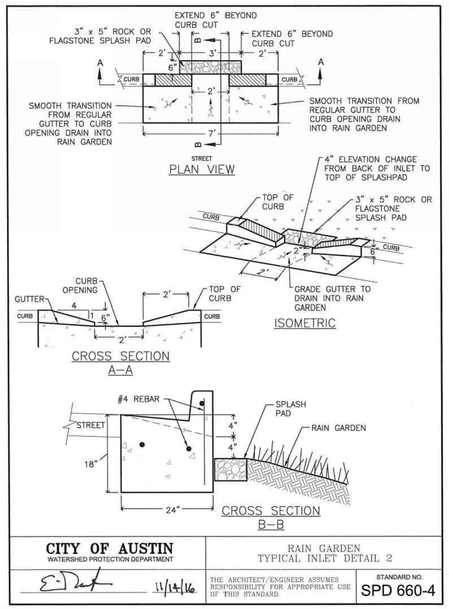


CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	BIOFILTRATION BED CONFIGURATIONS USING GEOMEMBRANE/CLAY LINER	STANDARD NO.
ADOPTED 12/30/14	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	661-3



CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	RAIN GARDEN TYPICAL INLET DETAIL 2	STANDARD NO.
11/14/16	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	SPD 660-4

NOTES:

a) HIGH FLOW FILTER FABRIC(STANDARD SPECIFICATION 620S) IS REQUIRED FOR RAINGARDEN BIO-FILTRATION BED CONFIGURATIONS.

b) A MINIMUM OF 12 FT MIN. REMOVABLE PEDESTRIAN ADA RAILING IS NEEDED FOR RAIN GARDEN OR DETENTION POND MAINTENANCE. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR REVIEW ON REMOVABLE HANDRAIL AS DIRECTED BY THE ENGINEER OR FIELD INSPECTOR.

c) TEXTURED CONCRETE BLOCKS CAN BE LIGHT BROWN AND GRAY COMBINED COLORS OR EQUIVALENT APPROVAL BY THE DESIGN ENGINEER.

d) IN SPD 660-4, 3"x5" ROCK OR FLAGSTONE SPLASH PAD IS LISTED AS PAY ITEM SP608S-GM IN 300U.

REV. NO.	BY	DATE	REVISION DESCRIPTION
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STATE OF TEXAS
XIAOQIN ZHANG, P.E.
96436
LICENSED PROFESSIONAL ENGINEER
02/05/2020

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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

PROPOSED WATER QUALITY POND
RAIN GARDEN DETAILS

CITY OF AUSTIN FOUNDED 1839

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/JP	8/18
DESIGNED BY	JT/EZ	8/18
CHECKED BY	EZ/CG	8/18
REVIEWED BY	ESD	8/18

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HORIZONTAL SCALE IN FEET

GP-2019-0210.ATD

CH518 | 93 OF 142

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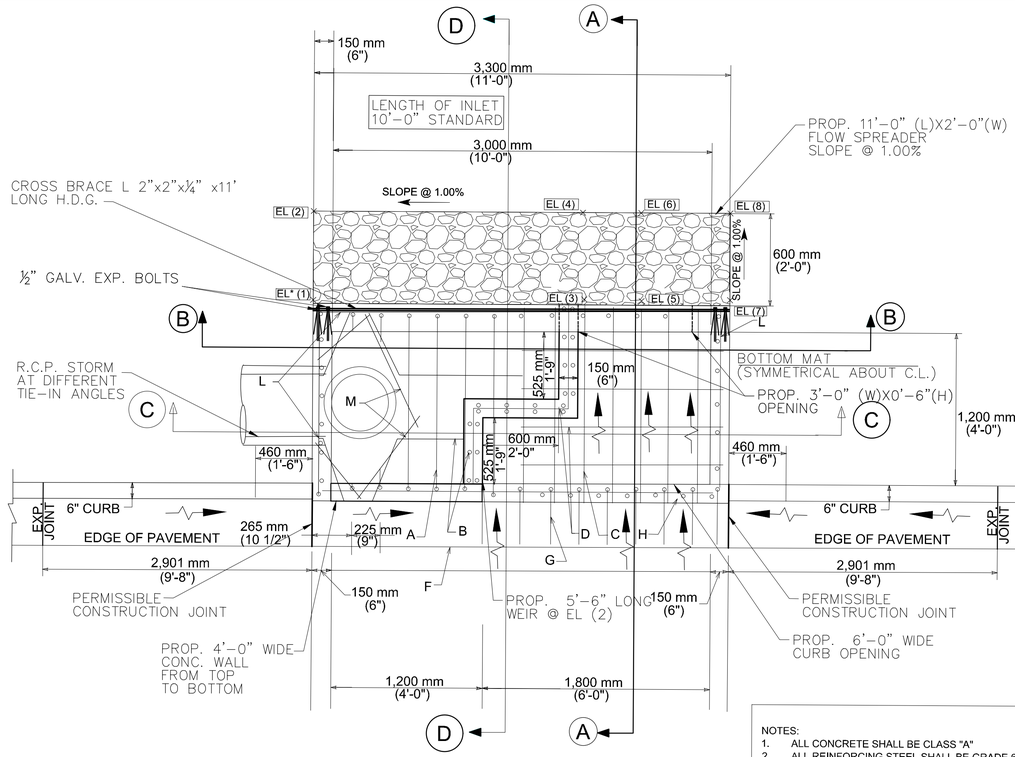
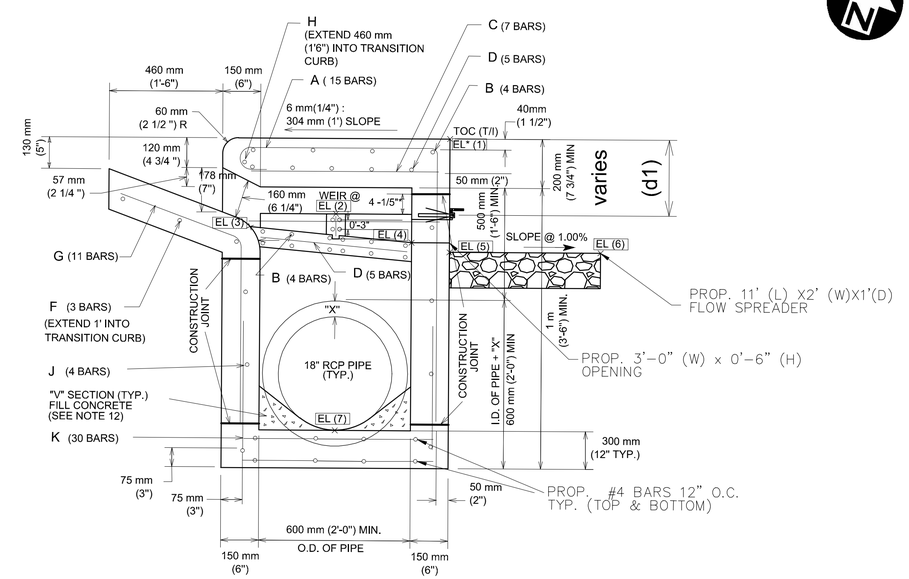
ZHANG, XIAOQIN



PLAN VIEW
N.T.S.



ELEVATION - SECTION A-A
N.T.S.

FLOW SPREADER KEY ELEVATION TABLE (PLAN VIEW)

POND DESCRIPTION	EL (1)	EL (2)	EL (3)	EL (4)	EL (5)	EL (6)	EL (7)	EL (8)
RG#1B	989.80	989.78	989.87	989.85	980.90	989.88	989.92	989.90
DET. POND #2	986.77	986.77	986.77	986.77	986.76	986.76	986.76	986.76
RG #7	970.82	970.80	970.89	970.87	971.10	970.90	970.94	970.92
RG #8	963.07	963.05	963.10	963.07	963.30	963.28	963.32	963.30

CURB INLET KEY ELEVATION AND CRITICAL DIMENSION TABLE (SECTION A-A)

POND DESCRIPTION	TOC (T/I) EL (1)	WEIR EL (2)	EL (3)	EL (4)	EL (5)	EL (6)	PIPE /B.C. F.L.EL (7)	DIM.* (d1) ft
RG#1B	983.45	982.40	982.20	982.15	980.90	989.88	980.25	1.05'
DET. POND #2	991.30	990.25	990.00	989.95	989.75	989.73	989.20	1.05'
RG #7	973.80	972.60	972.00	971.95	971.10	970.90	971.50	1.20'
RG #8	965.15	964.10	963.60	963.55	963.30	963.28	963.70	1.05'

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.
4. VERTICAL STEEL MAY BE SPLICED (380 mm or 15" MIN. LAP) IN THE LOWER ONE-HALF OF ALL INLET WALLS.
5. 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.
6. 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 OVER.
7. CHAMFER ALL EXPOSED EDGES 20 mm (3/4 ").
8. MANHOLE FRAME AND COVER SHALL BE IN ACCORDANCE WITH CITY OF AUSTIN STANDARD 503S-1.
9. 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.
10. 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 NEAT EXCAVATION LINES THE WALL THICKNESS SHALL NOT EXCEED 10 INCHES.
11. PAYMENT FOR INLET AT THE CONTRACT PRICE SHALL INCLUDE THE TRANSITION CURB.
12. INVERT OF INLET SHALL BE SLOPED 1:20 WITH FILL CONCRETE, SHAPED AS "V" SECTION
13. NO SPLICING OF REINFORCING STEEL SHALL BE PERMITTED UNLESS OTHERWISE NOTED ON THE PLANS OR PERMITTED IN WRITING BY THE ENGINEER.
14. FOR EXPANSION JOINT DOWEL AND DOWEL LOCATION DETAILS REFER STD. 430S-3.

SPECIAL NOTES:

1) THE TOTAL WEIR LENGTH PROVIDED FROM THE MODIFIED CURB INLET IS 11'-6" LONG INCLUDING A 5.5' PROPOSED WEIR AND A 6-FOOT WIDE OPENING AT THE BACK OF THE CURB INLET AT WATER QUALITY ELEVATION (WQE).

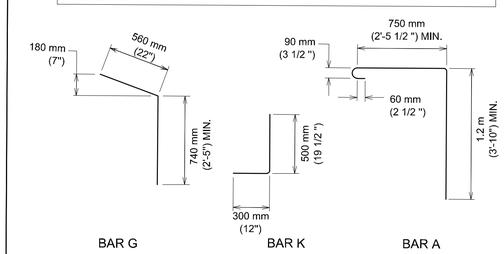
2) A MAXIMUM HEADWATER OF 0.35' (4-1/5") IS ASSUMED FOR A 25-YEAR DESIGN STORM EVENT.

3) RG#8 CURB INLET BACK FLOW OPENINGS ARE 2-5'LX3'WX4'D (REFER TO SHT. CH114).

TABLE OF QUANTITIES
FOR 18" OUTLET PIPE
REINFORCING STEEL QUANTITIES

BARS	SIZE	SPACING	NUMBER	LENGTH	WEIGHT
A	4	230mm (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



CURB INLET REBAR DETAIL

MODIFIED CURB INLET (TYPE G-1R) DETAIL SHEET 1

REV NO.	BY	DATE	REVISION DESCRIPTION

STATE OF TEXAS
XIAOQIN ZHANG, P.E.
96436
LICENSED PROFESSIONAL ENGINEER
01/29/2020

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THWAKARAN, JOTHIKA

CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

WATER QUALITY AND DETENTION POND
MODIFIED CURB INLET DETAILS SHEET 1

CITY OF AUSTIN FOUNDED 1839

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/JP	8/18
DESIGNED BY	JT/EZ	8/18
CHECKED BY	EZ/CG	8/18
REVIEWED BY	ESD	8/18

N.T.S.

GP-2019-0210.ATD

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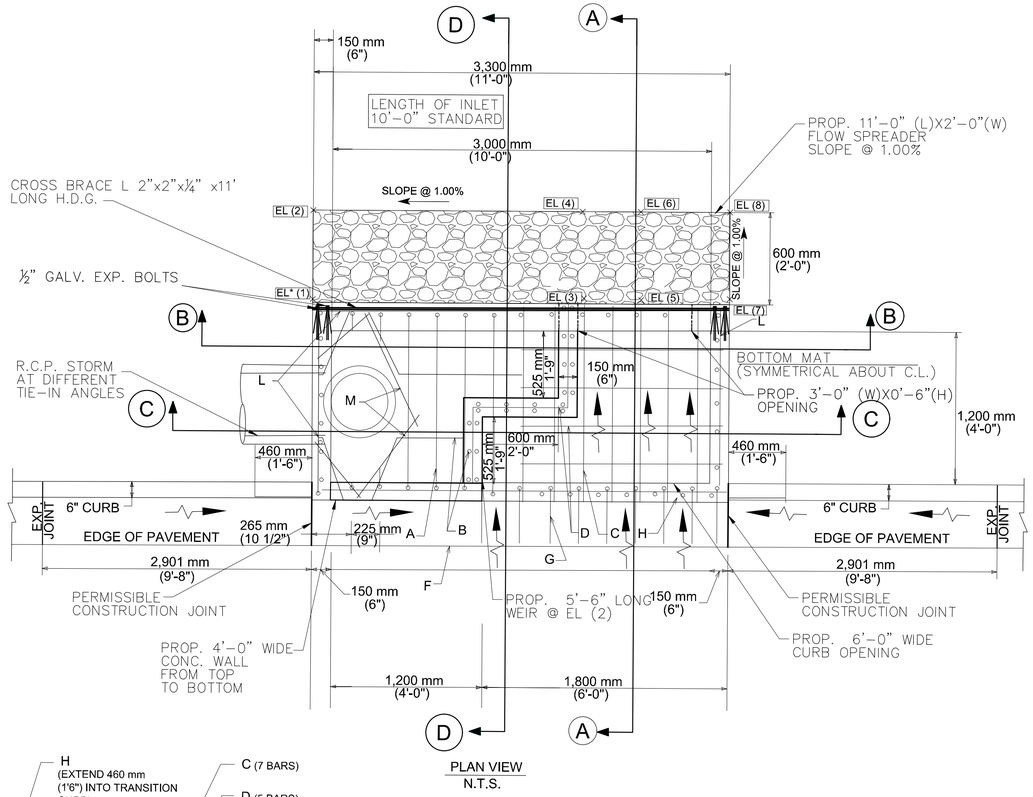
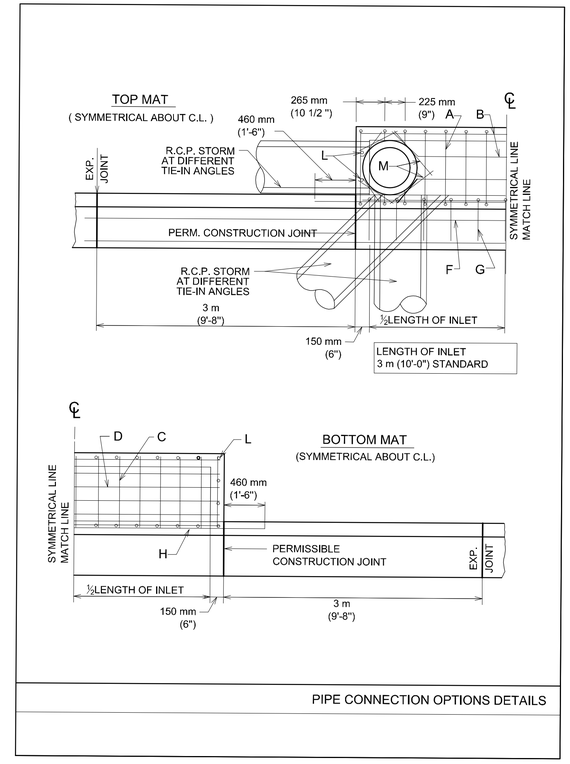
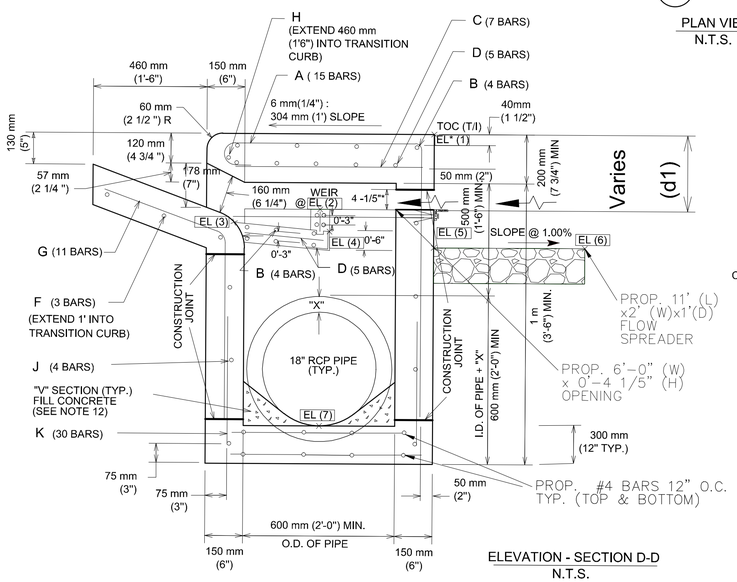


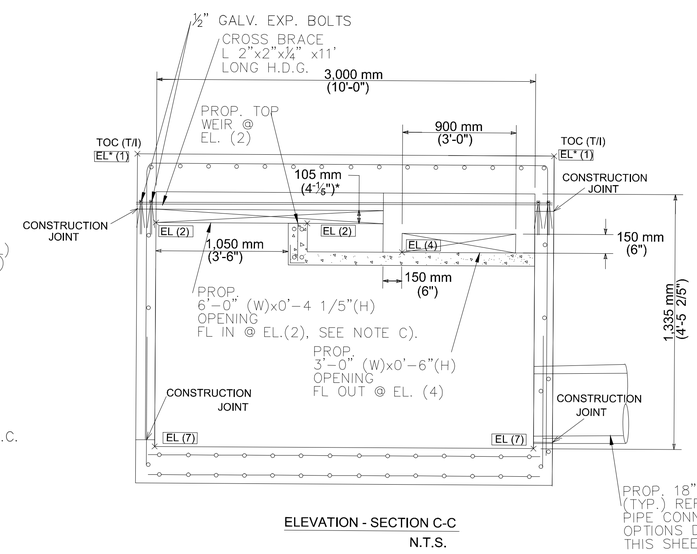
PLAN VIEW
N.T.S.



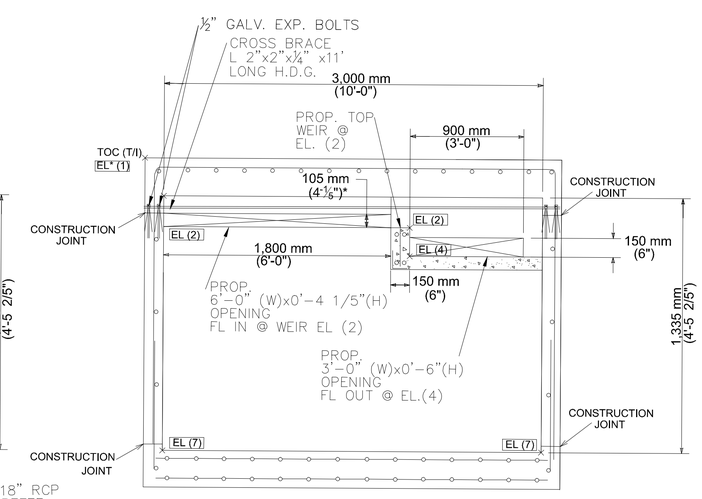
PIPE CONNECTION OPTIONS DETAILS



ELEVATION - SECTION D-D
N.T.S.



ELEVATION - SECTION C-C
N.T.S.



ELEVATION - SECTION B-B
N.T.S.

CURB INLET KEY ELEVATION AND CRITICAL DIMENSION TABLE (SECTION D-D)

POND DESCRIPTION	TOC (T/I) EL (1)	WEIR EL (2)	EL (3)	EL (4)	EL (5)	EL (6)	PIPE /B.C. F.L.EL (7)	DIM.* (d1) ft
RG#1B	983.45	982.40	982.20	982.15	980.90	989.88	980.25	1.05'
DET. POND #2	991.30	990.25	990.00	989.95	989.75	989.73	989.20	1.05'
RG #7	973.80	972.60	972.00	971.95	971.10	970.90	971.50	1.20'
RG #8	965.15	964.10	963.60	963.55	963.30	963.28	963.55	1.05'

NOTES:
a) EL (1) REFERS TO TOP OF CURB OR TOP OF INLET ELEVATION
b) CRITICAL DIMENSION (d1) IS MEASURED FROM TOC OR T/I TO THE PROPOSED WEIR ELEVATION;
c) RG#8 PROP. WEIR AT THE CENTER OF THE CURB INLET WITH 2-5'LX3'WX4" D BACK OPENINGS AT SAME FLOW ELEVATION.

MODIFIED CURB INLET (TYPE G-1R) DETAIL SHEET 2

REV NO.	BY	DATE	REVISION DESCRIPTION

STATE OF TEXAS
XIAOQIN ZHANG, P.E.
96436
LICENSED PROFESSIONAL ENGINEER
01/29/2020

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THIWAKARAN, JOTHIKA

CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

WATER QUALITY POND
MODIFIED CURB INLET DETAIL SHEET 2

CITY OF AUSTIN FOUNDED 1839

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/JP	8/18
DESIGNED BY	JT/EZ	8/18
CHECKED BY	EZ/CG	8/18
REVIEWED BY	ESD	8/18

N.T.S.

GP-2019-0210.ATD

CH520 | 95 OF 142

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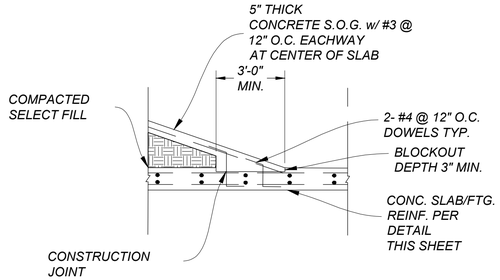
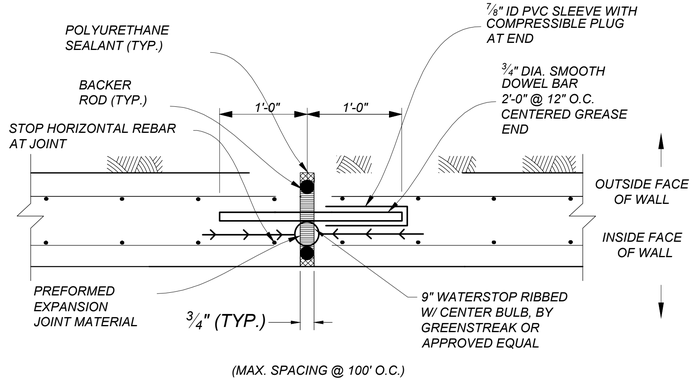
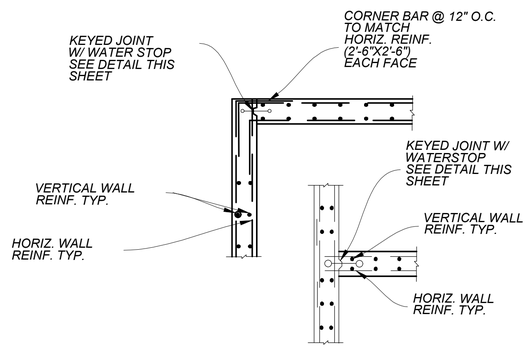


FOUNDATION SECTION AT ACCESS RAMP
N.T.S.

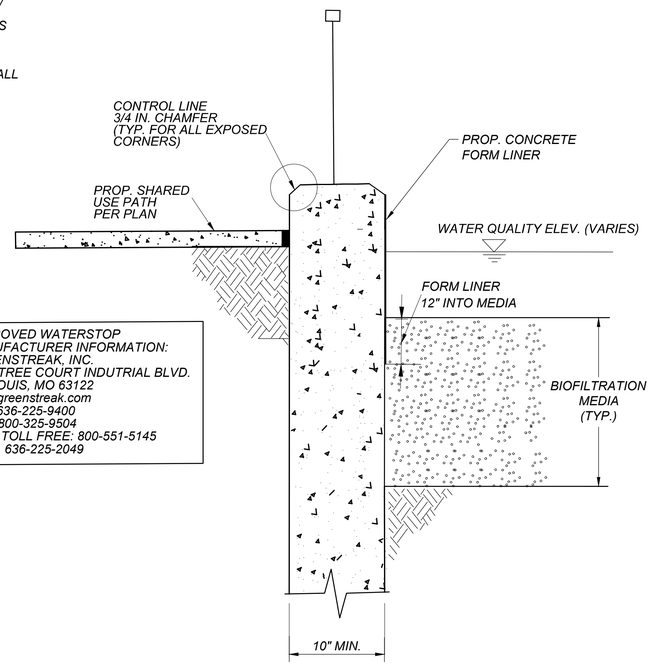


(MAX. SPACING @ 100' O.C.)

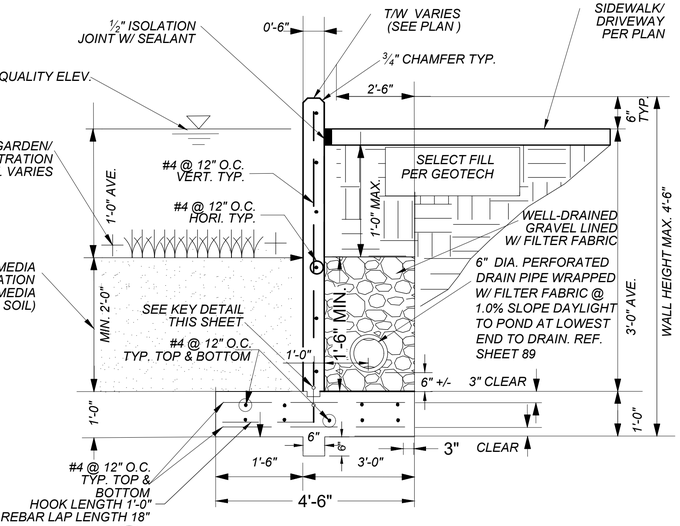
EXPANSION JOINT AT WALL
N.T.S.



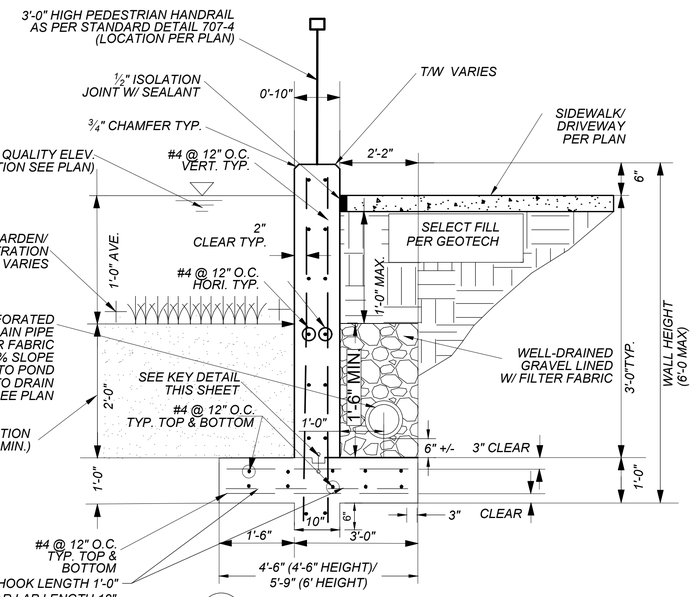
CORNER DETAILS
N.T.S.



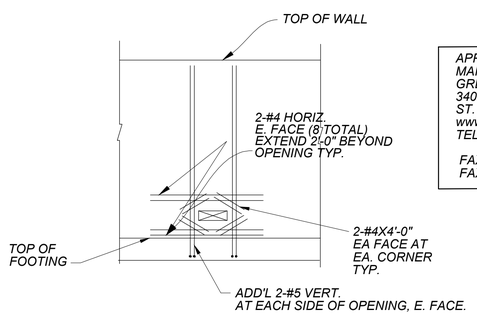
CONCRETE FORM LINER DETAIL
(RAIN GARDEN RETAINING WALL FOR WALL HEIGHT > 2.0 FT) N.T.S.



1 RETAINING WALL DETAIL (HEIGHT 4'-6"TYP.)
(6" WALL WITHOUT PEDESTRIAN HANDRAIL) N.T.S.

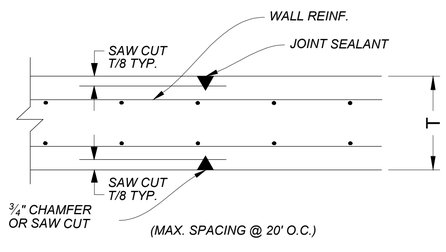


2 RETAINING WALL (HEIGHT 4'-6" TYP.)
(10" WALL WITH PEDESTRIAN HANDRAIL) N.T.S

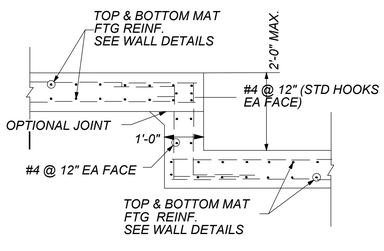


APPROVED WATERSTOP
MANUFACTURER INFORMATION:
GREENSTREAK, INC.
3400 TREE COURT INDUTRIAL BLVD.
ST. LOUIS, MO 63122
www.greenstreak.com
TEL. 636-225-9400
800-325-9504
FAX: TOLL FREE: 800-551-5145
FAX: 636-225-2049

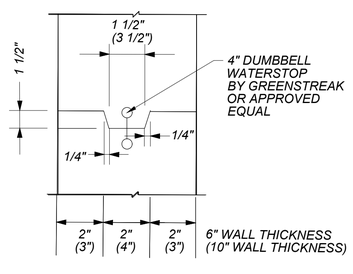
ADD'L REBAR AT 6"X6" OPENING
N.T.S.



CONTRACTION JOINT
N.T.S.



FOOTING STEP TYP. DETAIL
N.T.S.



KEY DETAIL
N.T.S.

STRUCTURAL NOTES:

1. Provide normal weight concrete having the following minimum 28 day compresive strengths and general characteristics:

Usage	Min. 28 day compressive strength
All	4,000 PSI - COA Class S concrete

2. Minimum concrete 28 day compressive strength shall be based on historical performance data from the selected transit mix concrete supplier and approved by the engineer.
3. It shall be the responsibility of the concrete supplier to select the proper type of portland cement (including quantities), aggregates (including quantities) and water cement ratio to produce the required minimum 28 day compressive strengths.
4. Reinforcing steel shall be new deformed billet steel conforming to A.S.T. M. A-615, Grade 60.
5. Reinforcing bars shall be detailed in accordance with the A.C.I. Detailing Manual. Provide bar supports and spacers as required.
6. The following minium concrete cover shall be provided for reinforcement:
   A. Concrete footing ..... 3" Clear
   B. Wall ..... 2" Clear

NOTE:

RETAINING WALL RECOMMENDATIONS FROM HOLT ENGINEERING:
WALL FOOTING BE SEATED MIN. 12" INTO UNDISTURBED DARK BROWN FAT CLAY AT MIN. DEPTH OF 24" BELOW POND BOTTOM.

ALLOWABLE BEARING: 2,000 PSF
FRICTION FACTOR: 0.3
KEY MAY BE USED: 12" BELOW FOOTING;
ALLOWABLE LATERAL BEARING: 250 PSF;
EQUIVALENT FLUID PRESSURE: 100 PCF.

FACTOR OF SAFETY

	OVERTURNING	SLIDING	MAX BEARING PRESSURE
	>2	>1.5	2000
WALL WITHOUT HANDRAIL	2.70	1.57	1185
WALL WITH HANDRAIL	2.73	1.58	1201
6' WALL	2.55	1.62	1609

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THIWAKARAN, JOTHIKA

CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

WATER QUALITY AND DETENTION POND
RETAINING WALL DETAILS

CITY OF AUSTIN FOUNDED 1839

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/JP	8/18
DESIGNED BY	JT/EZ	8/18
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N.T.S.

GP-2019-0210.ATD

CH521 96 OF 142

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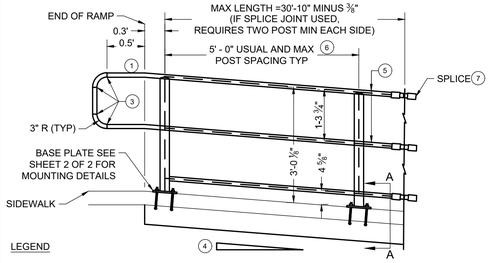
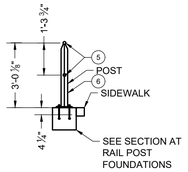


LEGEND

1. PARALLEL TO THE GROUND.
2. SHOP SPLICE IS PERMITTED WITH MINIMUM 85 PERCENT PENETRATION. THE WELD MAY BE SQUARE GROOVE OR SINGLE VEE GROOVE. GRIND SMOOTH.
3. SEE RAMP DETAIL LOCATED ELSEWHERE IN DRAWINGS FOR RAMP SLOPE AND DIMENSIONS. MAXIMUM RAMP SLOPE WILL NOT EXCEED 8.3 PERCENT. LEVEL LANDING REQUIRED FOR EACH 30" RISE IF GRADE EXCEEDS 5 PERCENT.
4. 1" DIA EXTRA HEAVY PIPE (1.315" O.D. , 0.179" WALL THICKNESS). PARALLEL TO RAMP/ SIDEWALK. PROVIDE HOLES AS NEEDED IN 1" DIA PIPE FOR GALVANIZING DRAINAGE AND VENTING.
5. 2 ½" DIA STANDARD PIPE (2.875" O.D. , 0.202" WALL THICKNESS). PLUMB ALL POSTS. SEE POST MOUNT DETAIL FOR CRIMPING AND TRIMMING POST TO FIT DIA OF TOP RAIL. PROVIDE HOLES AS NEEDED IN POST FOR GALVANIZING DRAINAGE AND VENTING.
6. SEE HANDRAIL FABRICATION DETAILS FOR SPLICE JOINTS.
7. CENTER LINE ⅝" DIA ROUND BAR EQ SPACES AT 4 ½" MAX. PLUMB ALL PICKETS.

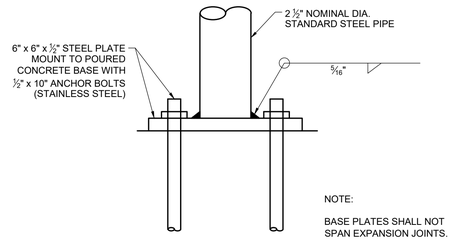
NOTE:
IF SPLICE JOINT IS USED,
REQUIRES TWO POST
MINIMUM EACH SIDE



SECTION A-A

NOTES:

- WHEN NEEDED FOR ACCESSIBILITY (GRADE >5 PERCENT) OR AS NEEDED FOR PEDESTRIAN SAFETY.
- NOT TO BE USED ON BRIDGES
- ONE SHOP SPLICE PER PANEL IS PERMITTED WITH MINIMUM 85 PERCENT PENETRATION. THE WELD MAY BE SQUARE GROOVE OR SINGLE VEE GROOVE. GRIND SMOOTH.



NOTE:

BASE PLATES SHALL NOT
SPAN EXPANSION JOINTS.

BASE PLATE DETAIL

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	PEDESTRIAN ADA HANDRAIL ON CURB - OPTION 3		CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	PEDESTRIAN ADA HANDRAIL ON CURB - OPTION 3	
RECORD COPY SIGNED BY KERI JUAREZ *01/04/11* ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 707-4 1 OF 2	*RECORD COPY SIGNED BY KERI JUAREZ* *01/04/11* ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 707-4 2 OF 2

REV NO.	BY	DATE	REVISION DESCRIPTION
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STATE OF TEXAS
XIAOQIN ZHANG, P.E.
96436
LICENSED
PROFESSIONAL ENGINEER
01/29/2020

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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

PROPOSED RAIN GARDEN AND DETENTION PONDS
HANDRAIL DETAILS

CITY OF AUSTIN
FOUNDED 1839

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/JP	8/18
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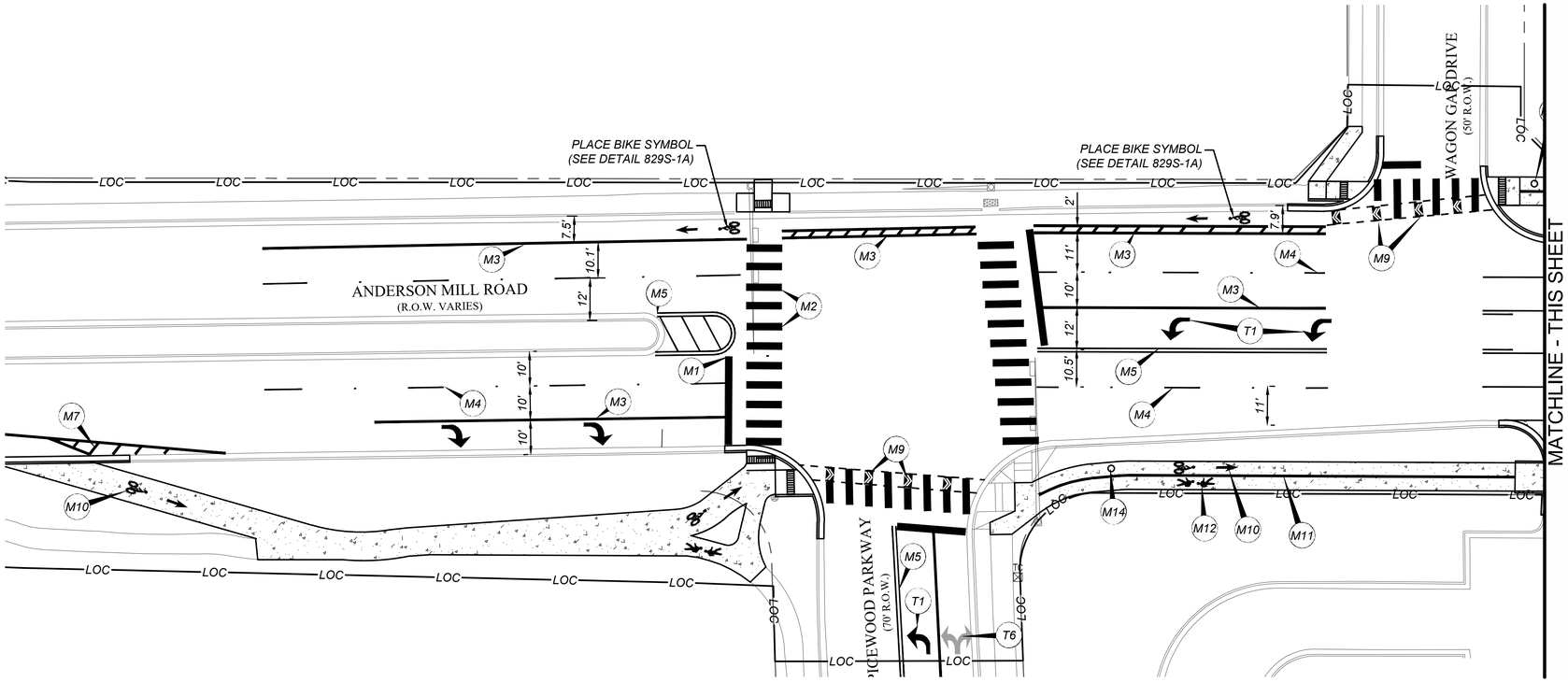
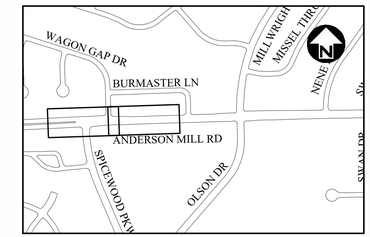
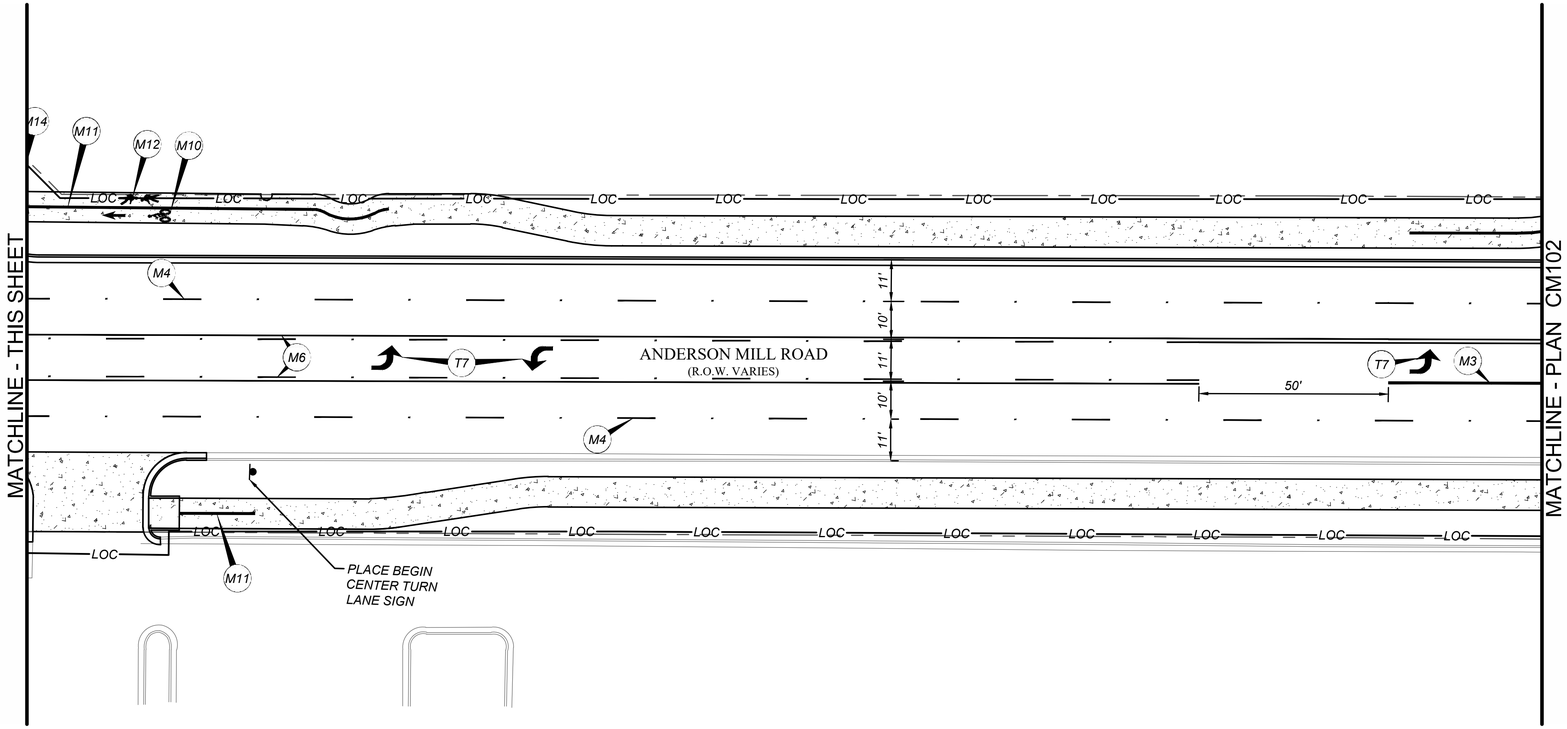
THIVAKARAN, JOTHIKA





PAVEMENT MARKING SCHEDULE - 1	
NO	DESCRIPTION
M1	24" SINGLE SOLID - WHITE (STOP BAR)
M2	24" SINGLE SOLID - WHITE (CONTINENTAL CROSSWALK), 10' WIDE (PER DETAIL ATD-S01)
M3	8" SINGLE SOLID - WHITE
M4	4" SINGLE BROKEN - WHITE (LANE MARKER)
M5	4" DOUBLE SOLID - YELLOW (CENTER LANE)
M6	4" SOLID & 4" SINGLE BROKEN - YELLOW (CENTER TURN LANE)
M7	8" SINGLE SOLID - WHITE (CROSSHATCH)
M8	"ONLY" WORD - WHITE
M9	GREEN THERMO BACKED CHEVRON - BIKE LANE CROSSING
M10	BIKE SYMBOL - WHITE SYMBOL ON BLACK
M11	4" SOLID WHITE PAINT OVER 8" SOLID BLACK PAINT
M12	PEDESTRIAN SYMBOL - WHITE SYMBOL ON BLACK
M13	DOTTED 8" SOLID LANE LINE - WHITE
M14	MOBILITY BOND MEDALLIONS BY ATD



NOTE:
1. A BLUE TYPE II B-B REFLECTORIZED PAVEMENT MARKER, CONFORMING TO STANDARD SPECIFICATION ITEM NO. 863S, SHALL BE PLACED 2 TO 3 FEET OFFSET FROM THE CENTERLINE OF PAVED STREETS, ON THE SIDE OF AND IN LINE WITH, ALL FIRE HYDRANTS.

PAVEMENT MARKING SCHEDULE - 2	
NO	DESCRIPTION
T1	LEFT TURN ARROW - WHITE
T2	RIGHT TURN ARROW - WHITE
T3	LEFT & RIGHT TURN ARROW - WHITE
T4	THROUGH ARROW - WHITE
T5	THROUGH & RIGHT TURN ARROW - WHITE
T6	THROUGH, LEFT & RIGHT ARROW - WHITE
T7	TWO WAY LEFT TURN ARROW - WHITE

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ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

PAVEMENT MARKING & SIGNING PLAN
SHEET 1 OF 8

CITY OF AUSTIN
FOUNDED 1839

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/EZ	9/18
DESIGNED BY	JT/EZ	9/18
CHECKED BY	EZ/CG	9/18
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HORIZONTAL SCALE IN FEET

GP-2019-0210.ATD

CM101 | 98 OF 142

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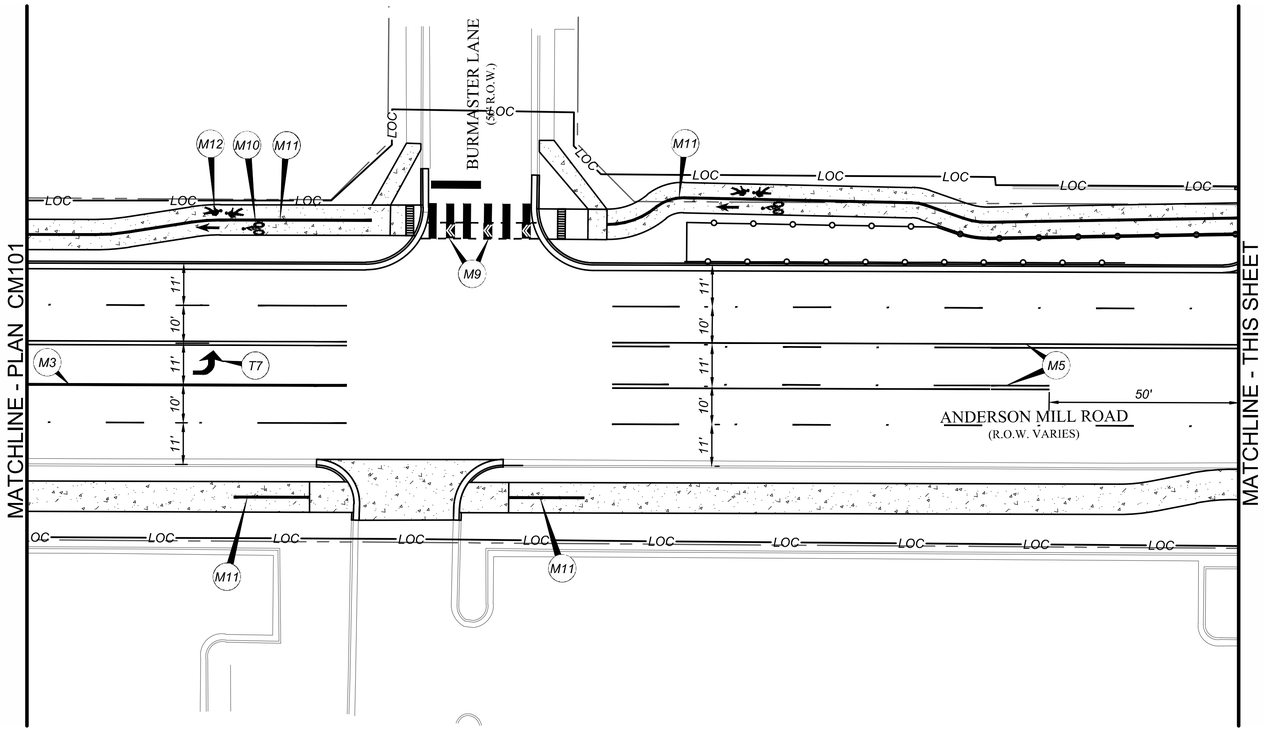
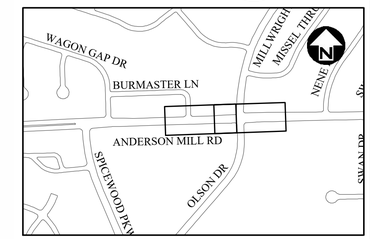
THIVAKARAN, JOTHIKA





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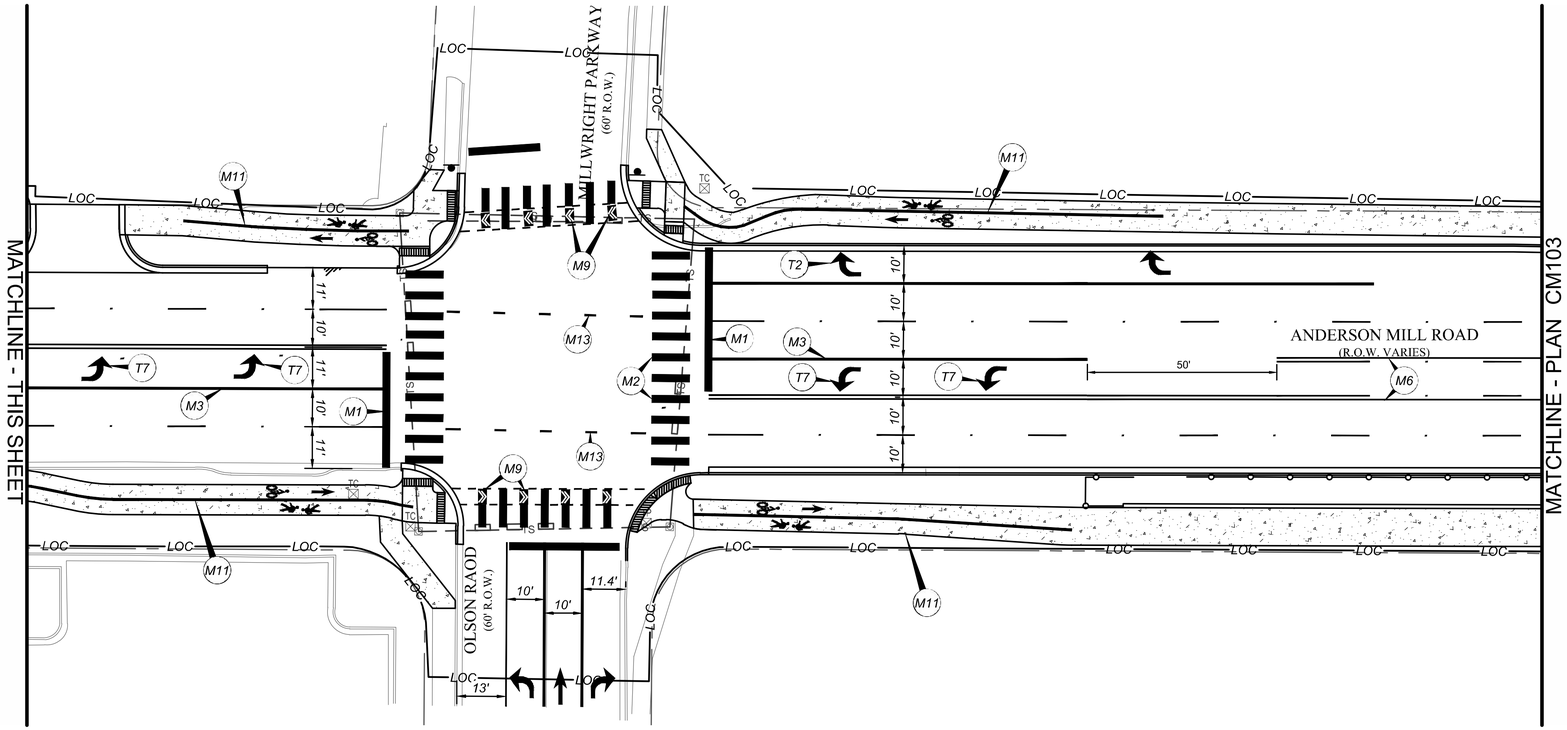

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T3	LEFT & RIGHT TURN ARROW - WHITE
T4	THROUGH ARROW - WHITE
T5	THROUGH & RIGHT TURN ARROW - WHITE
T6	THROUGH, LEFT & RIGHT ARROW - WHITE
T7	TWO WAY LEFT TURN ARROW - WHITE

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ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

PAVEMENT MARKING & SIGNING PLAN
SHEET 2 OF 8

CITY OF AUSTIN
FOUNDED 1839

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0 20 40
HORIZONTAL SCALE IN FEET

GP-2019-0210.ATD

CM102 | 99 OF 142

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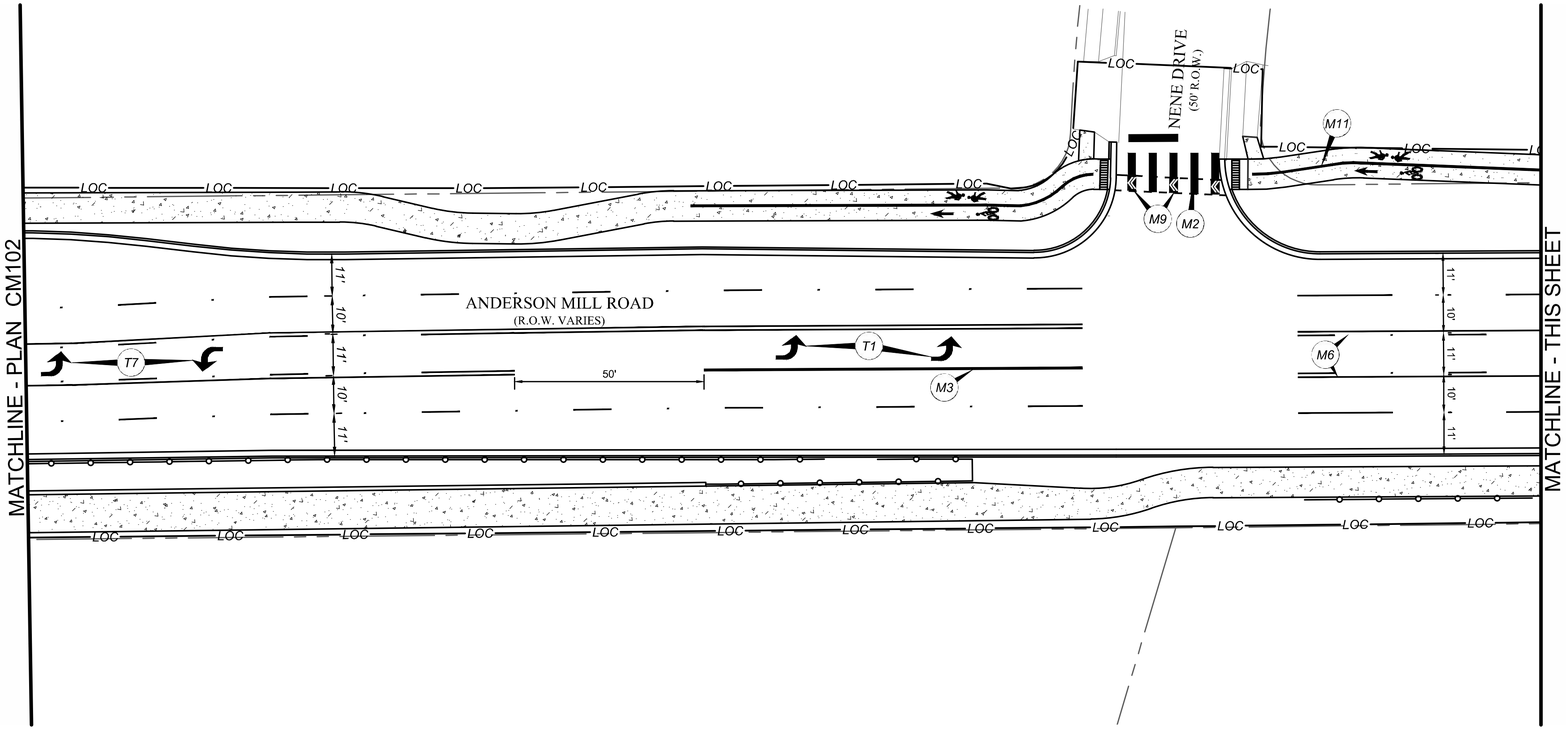
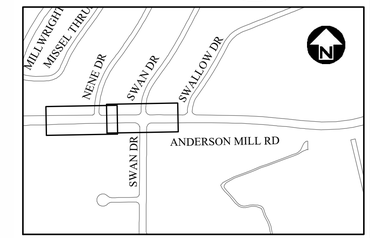
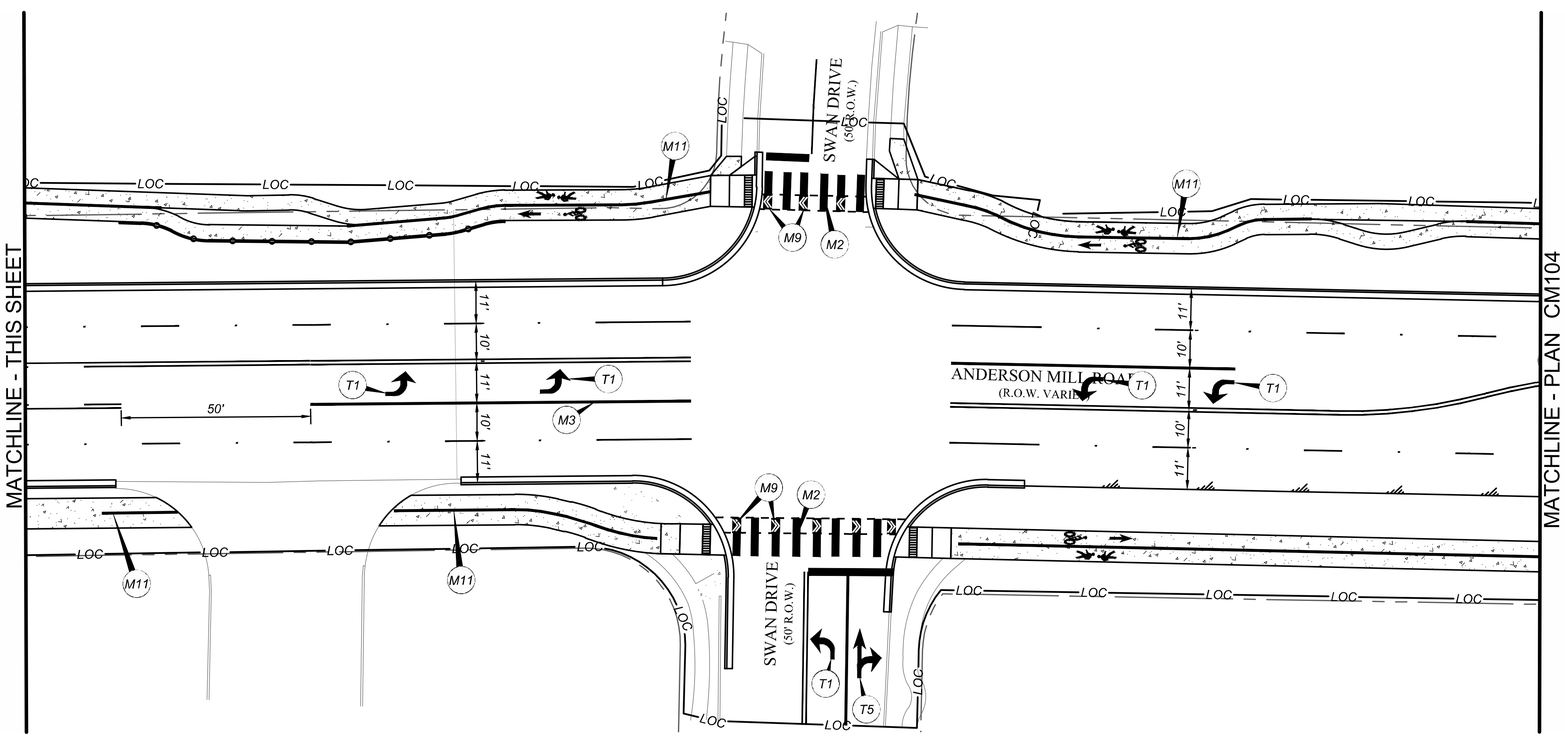
THIVAKARAN, JOTHIKA





PAVEMENT MARKING SCHEDULE - 1	
NO	DESCRIPTION
M1	24" SINGLE SOLID - WHITE (STOP BAR)
M2	24" SINGLE SOLID - WHITE (CONTINENTAL CROSSWALK), 10' WIDE (PER DETAIL ATD-S01)
M3	8" SINGLE SOLID - WHITE
M4	4" SINGLE BROKEN - WHITE (LANE MARKER)
M5	4" DOUBLE SOLID - YELLOW (CENTER LANE)
M6	4" SOLID & 4" SINGLE BROKEN - YELLOW (CENTER TURN LANE)
M7	8" SINGLE SOLID - WHITE (CROSSHATCH)
M8	"ONLY" WORD - WHITE
M9	GREEN THERMO BACKED CHEVRON - BIKE LANE CROSSING
M10	BIKE SYMBOL - WHITE SYMBOL ON BLACK
M11	4" SOLID WHITE PAINT OVER 8" SOLID BLACK PAINT
M12	PEDESTRIAN SYMBOL - WHITE SYMBOL ON BLACK
M13	DOTTED 8" SOLID LANE LINE - WHITE
M14	MOBILITY BOND MEDALLIONS BY ATD



NOTE:
1. A BLUE TYPE II B-B REFLECTORIZED PAVEMENT MARKER, CONFORMING TO STANDARD SPECIFICATION ITEM NO. 863S, SHALL BE PLACED 2 TO 3 FEET OFFSET FROM THE CENTERLINE OF PAVED STREETS, ON THE SIDE OF AND IN LINE WITH, ALL FIRE HYDRANTS.

PAVEMENT MARKING SCHEDULE - 2	
NO	DESCRIPTION
T1	LEFT TURN ARROW - WHITE
T2	RIGHT TURN ARROW - WHITE
T3	LEFT & RIGHT TURN ARROW - WHITE
T4	THROUGH ARROW - WHITE
T5	THROUGH & RIGHT TURN ARROW - WHITE
T6	THROUGH, LEFT & RIGHT ARROW - WHITE
T7	TWO WAY LEFT TURN ARROW - WHITE

REV NO.	BY	DATE	REVISION DESCRIPTION

STATE OF TEXAS
XIAOQIN ZHANG, P.E.
96436
LICENSED
PROFESSIONAL ENGINEER
01/29/2020

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY XIAOQIN ZHANG, P.E. LIC. # 96436

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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

PAVEMENT MARKING & SIGNING PLAN
SHEET 3 OF 8

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/EZ	9/18
DESIGNED BY	JT/EZ	9/18
CHECKED BY	EZ/CG	9/18
REVIEWED BY	ESD	9/18

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HORIZONTAL SCALE IN FEET

GP-2019-0210.ATD

CM103 | 100 OF 142

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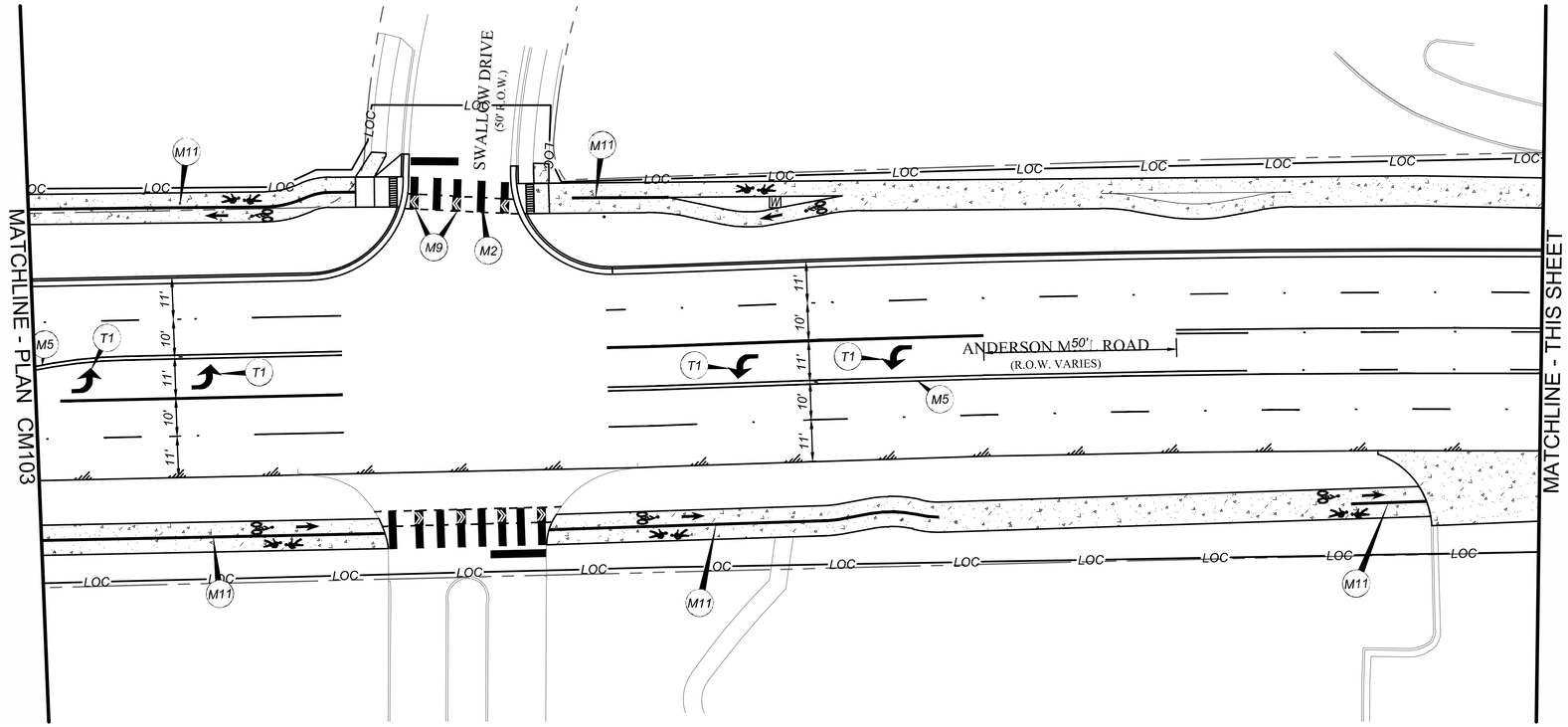
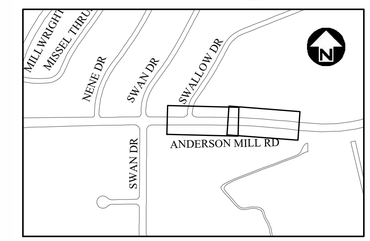
THIVAKARAN, JOTHIKA





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M5	4" DOUBLE SOLID - YELLOW (CENTER LANE)
M6	4" SOLID & 4" SINGLE BROKEN - YELLOW (CENTER TURN LANE)
M7	8" SINGLE SOLID - WHITE (CROSSHATCH)
M8	"ONLY" WORD - WHITE
M9	GREEN THERMO BACKED CHEVRON - BIKE LANE CROSSING
M10	BIKE SYMBOL - WHITE SYMBOL ON BLACK
M11	4" SOLID WHITE PAINT OVER 8" SOLID BLACK PAINT
M12	PEDESTRIAN SYMBOL - WHITE SYMBOL ON BLACK
M13	DOTTED 8" SOLID LANE LINE - WHITE
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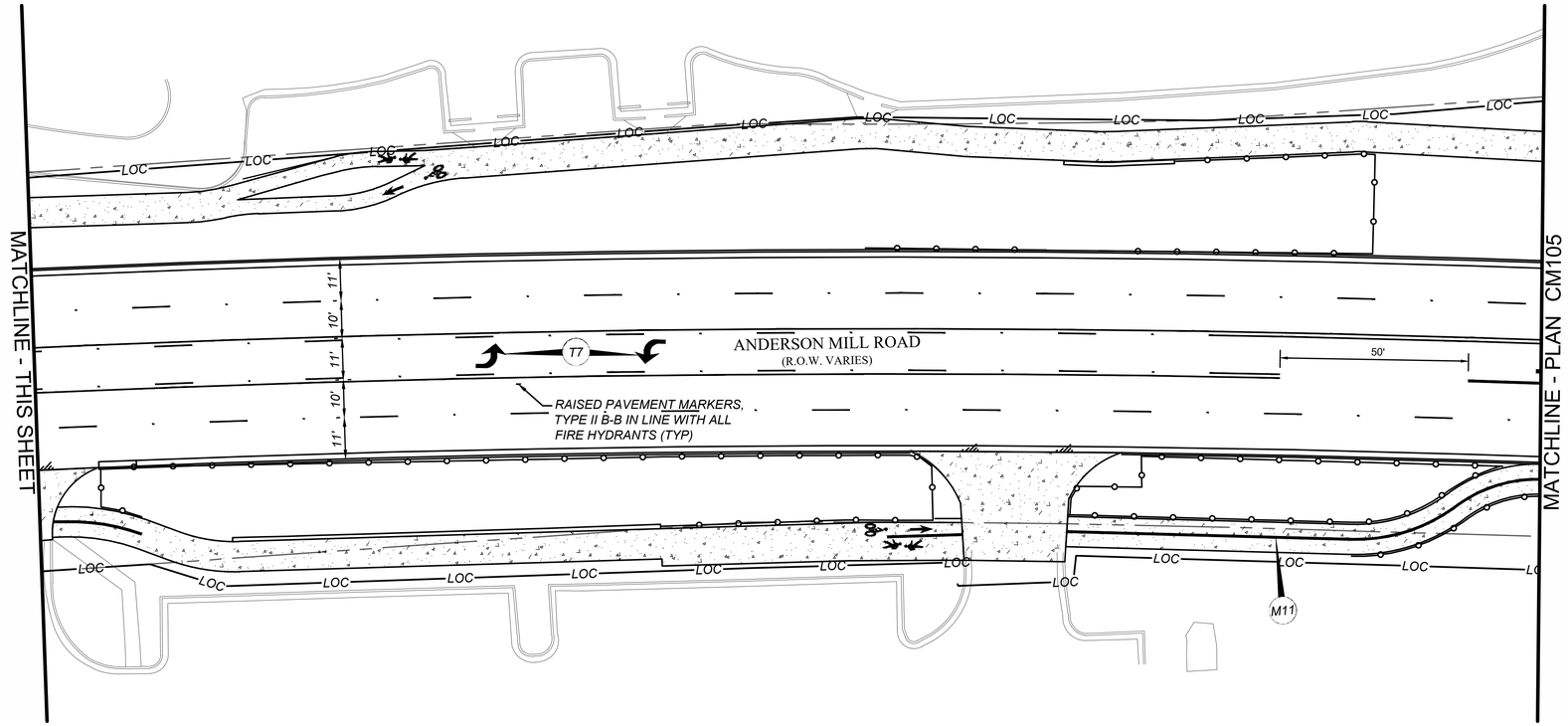

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PAVEMENT MARKING SCHEDULE - 2	
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T4	THROUGH ARROW - WHITE
T5	THROUGH & RIGHT TURN ARROW - WHITE
T6	THROUGH, LEFT & RIGHT ARROW - WHITE
T7	TWO WAY LEFT TURN ARROW - WHITE

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STATE OF TEXAS
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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

PAVEMENT MARKING & SIGNING PLAN
SHEET 4 OF 8

CITY OF AUSTIN
FOUNDED 1839

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/EZ	9/18
DESIGNED BY	JT/EZ	9/18
CHECKED BY	EZ/CG	9/18
REVIEWED BY	ESD	9/18

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HORIZONTAL SCALE IN FEET

GP-2019-0210.ATD

CM104 | 101 OF 142

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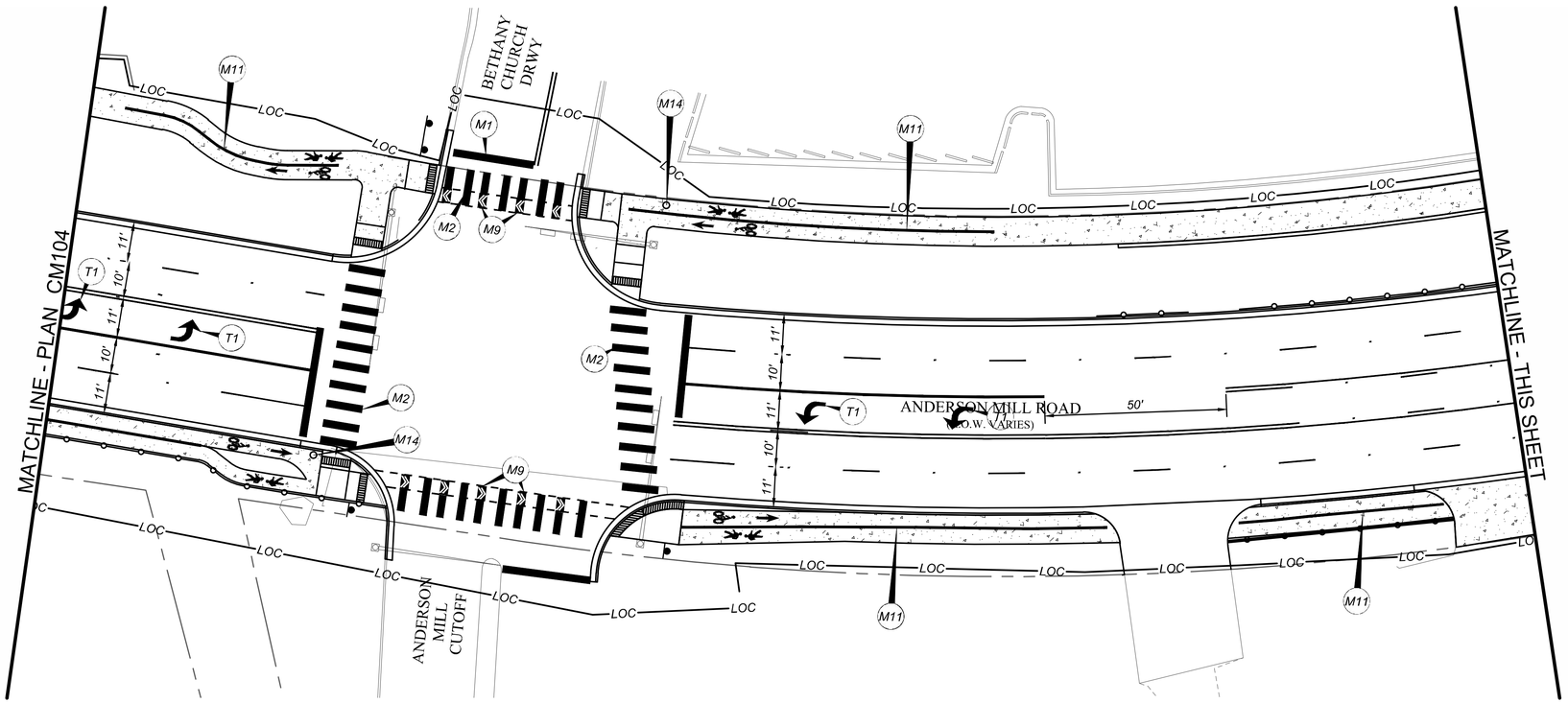
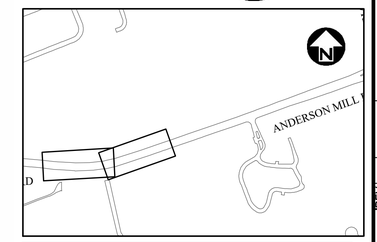
THIVAKARAN, JOTHIKA





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NO	DESCRIPTION
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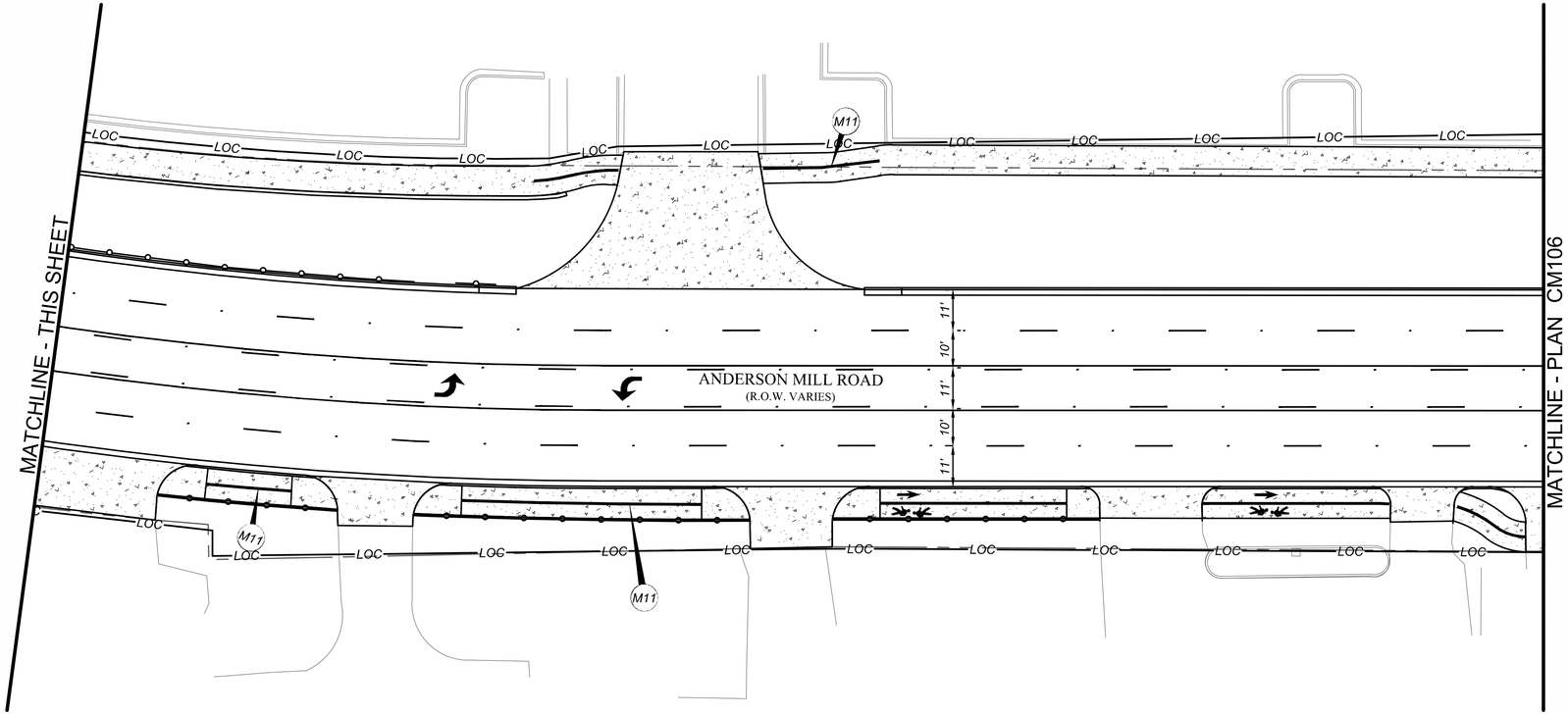
M14	MOBILITY BOND MEDALLIONS BY ATD



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PAVEMENT MARKING SCHEDULE - 2	
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REV NO.	BY	DATE	REVISION DESCRIPTION

STATE OF TEXAS
XIAOQIN ZHANG, P.E.
96436
LICENSED
PROFESSIONAL ENGINEER
01/29/2020

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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

PAVEMENT MARKING & SIGNING PLAN
SHEET 5 OF 8

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/EZ	9/18
DESIGNED BY	JT/EZ	9/18
CHECKED BY	EZ/CG	9/18
REVIEWED BY	ESD	9/18

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HORIZONTAL SCALE IN FEET

GP-2019-0210.ATD

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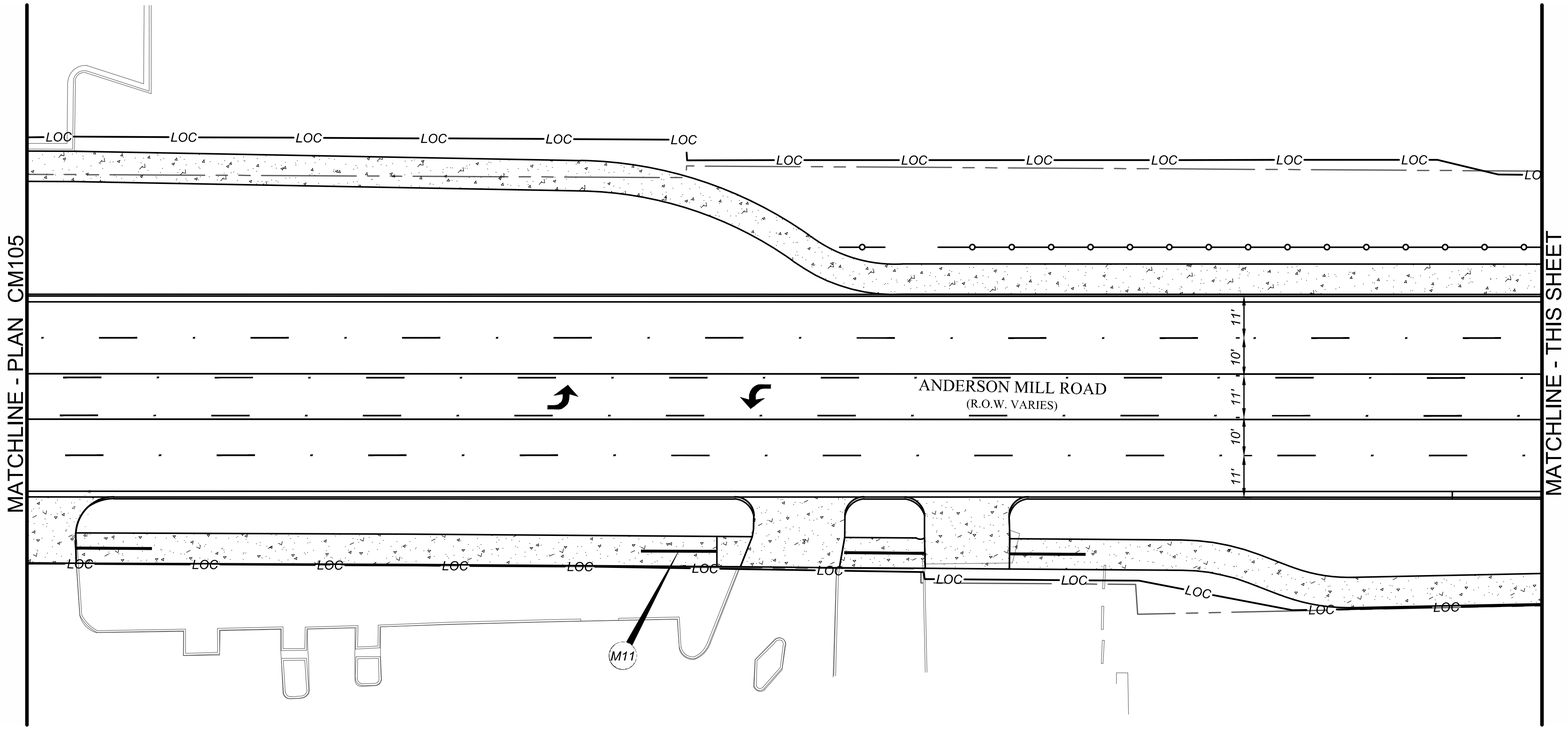
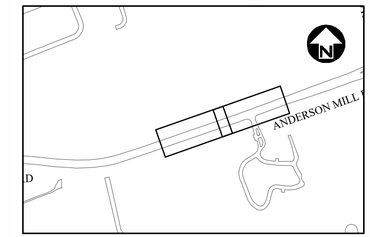
THIVAKARAN, JOTHIKA





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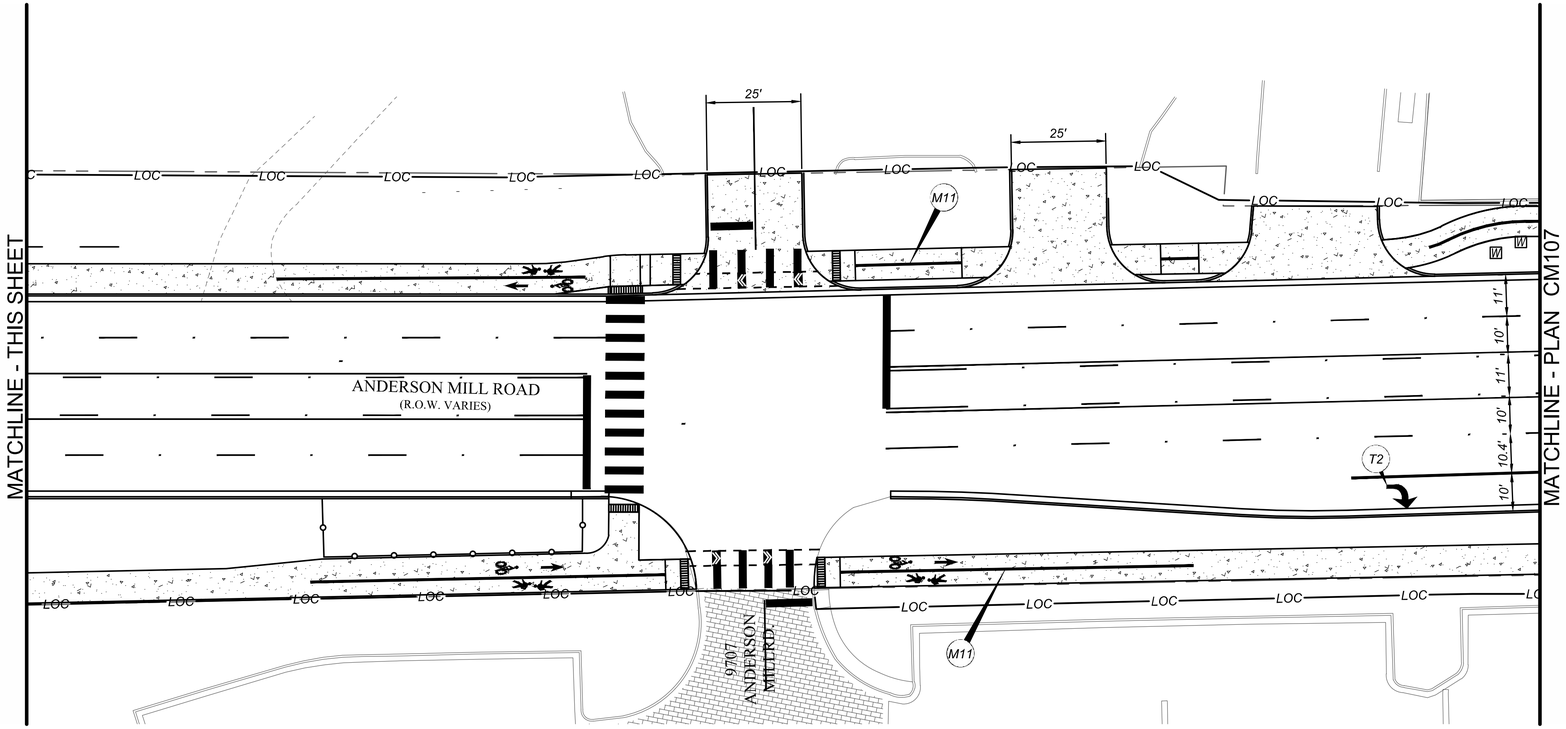

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REV NO.	BY	DATE	REVISION DESCRIPTION

STATE OF TEXAS
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96436
LICENSED
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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

PAVEMENT MARKING & SIGNING PLAN
SHEET 6 OF 8

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/EZ	9/18
DESIGNED BY	JT/EZ	9/18
CHECKED BY	EZ/CG	9/18
REVIEWED BY	ESD	9/18

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HORIZONTAL SCALE IN FEET

GP-2019-0210.ATD

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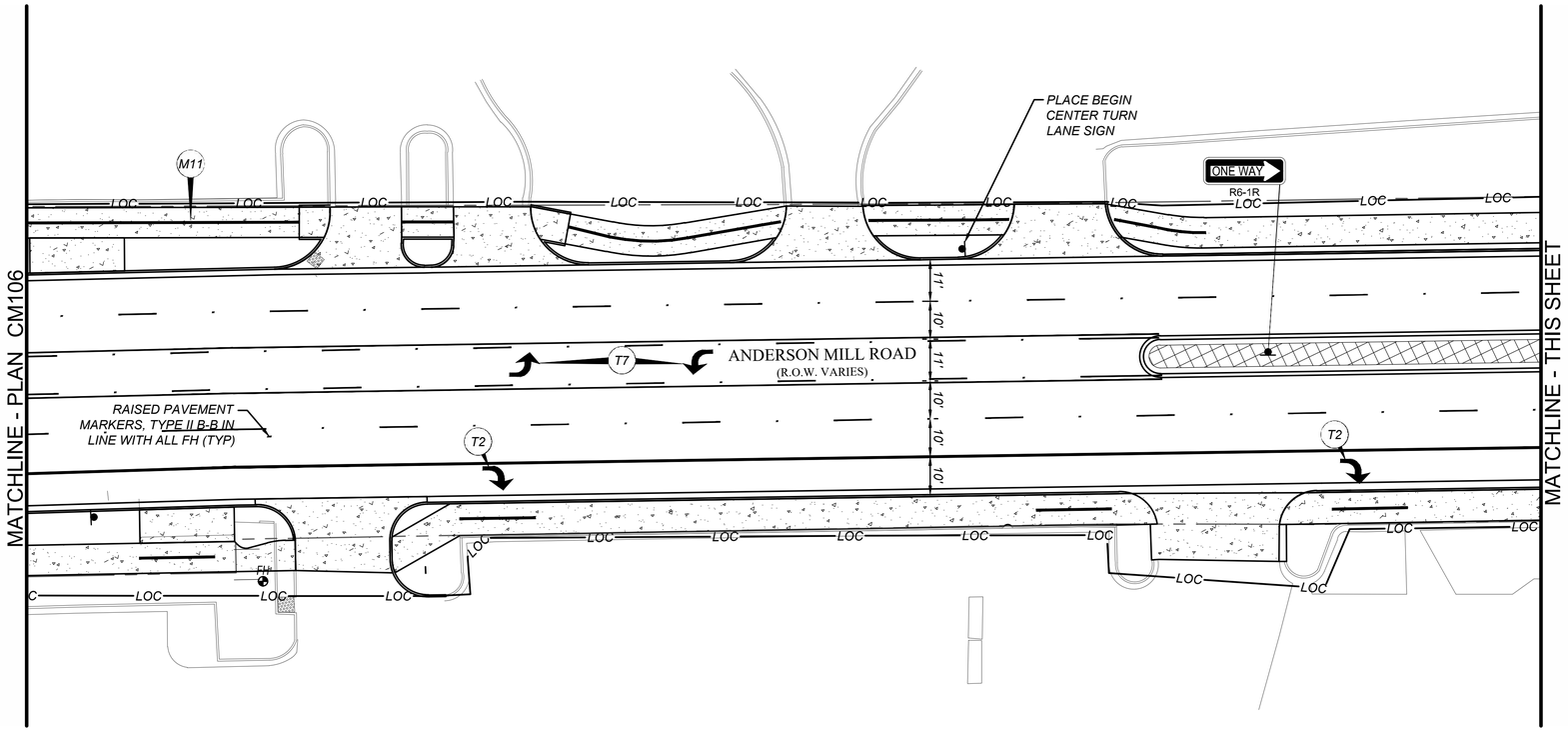
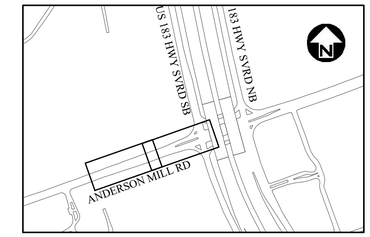
THIVAKARAN, JOTHIKA





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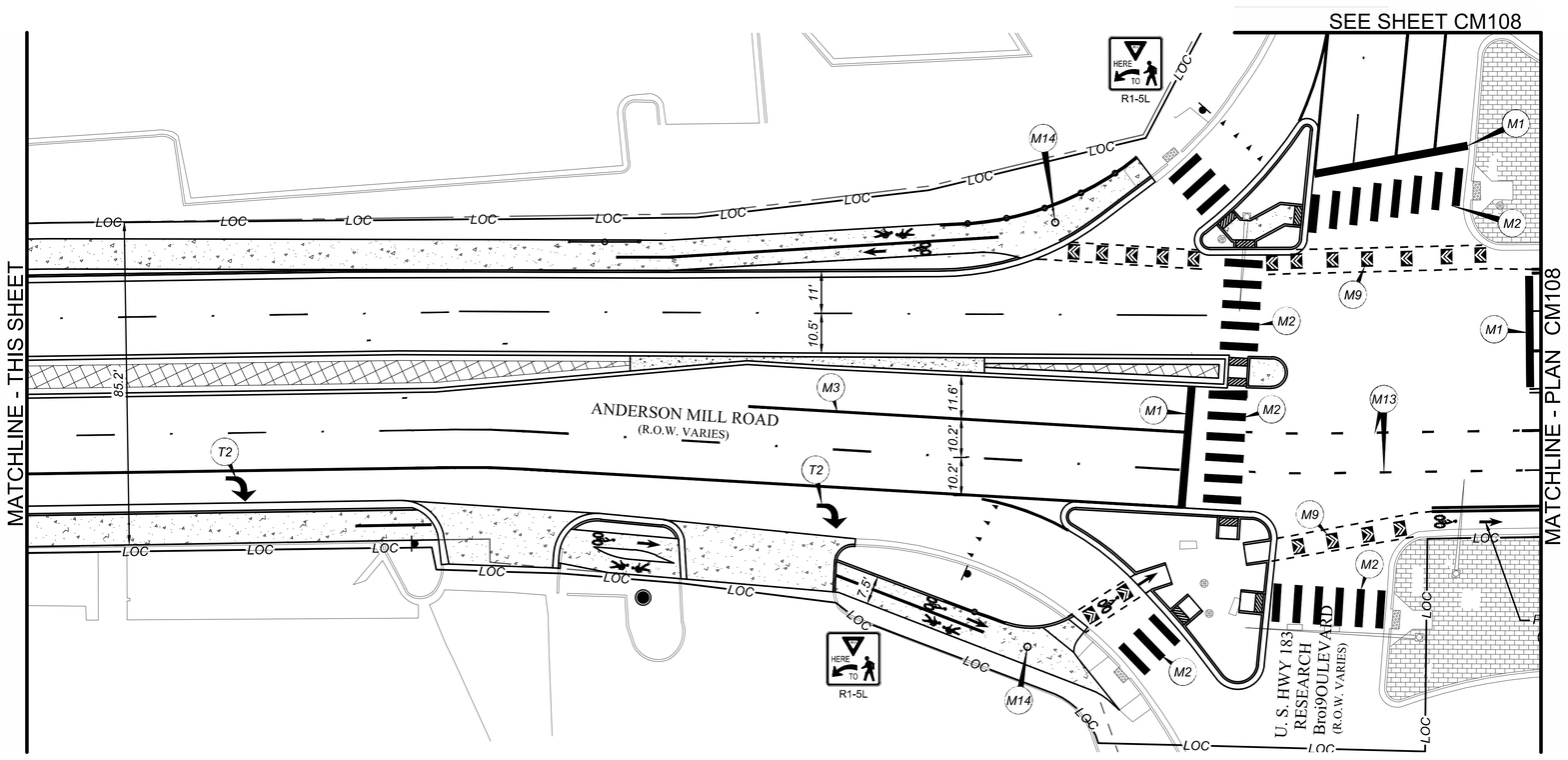

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REV NO.	BY	DATE	REVISION DESCRIPTION

STATE OF TEXAS
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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

PAVEMENT MARKING & SIGNING PLAN
SHEET 7 OF 8

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/EZ	9/18
DESIGNED BY	JT/EZ	9/18
CHECKED BY	EZ/CG	9/18
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HORIZONTAL SCALE IN FEET

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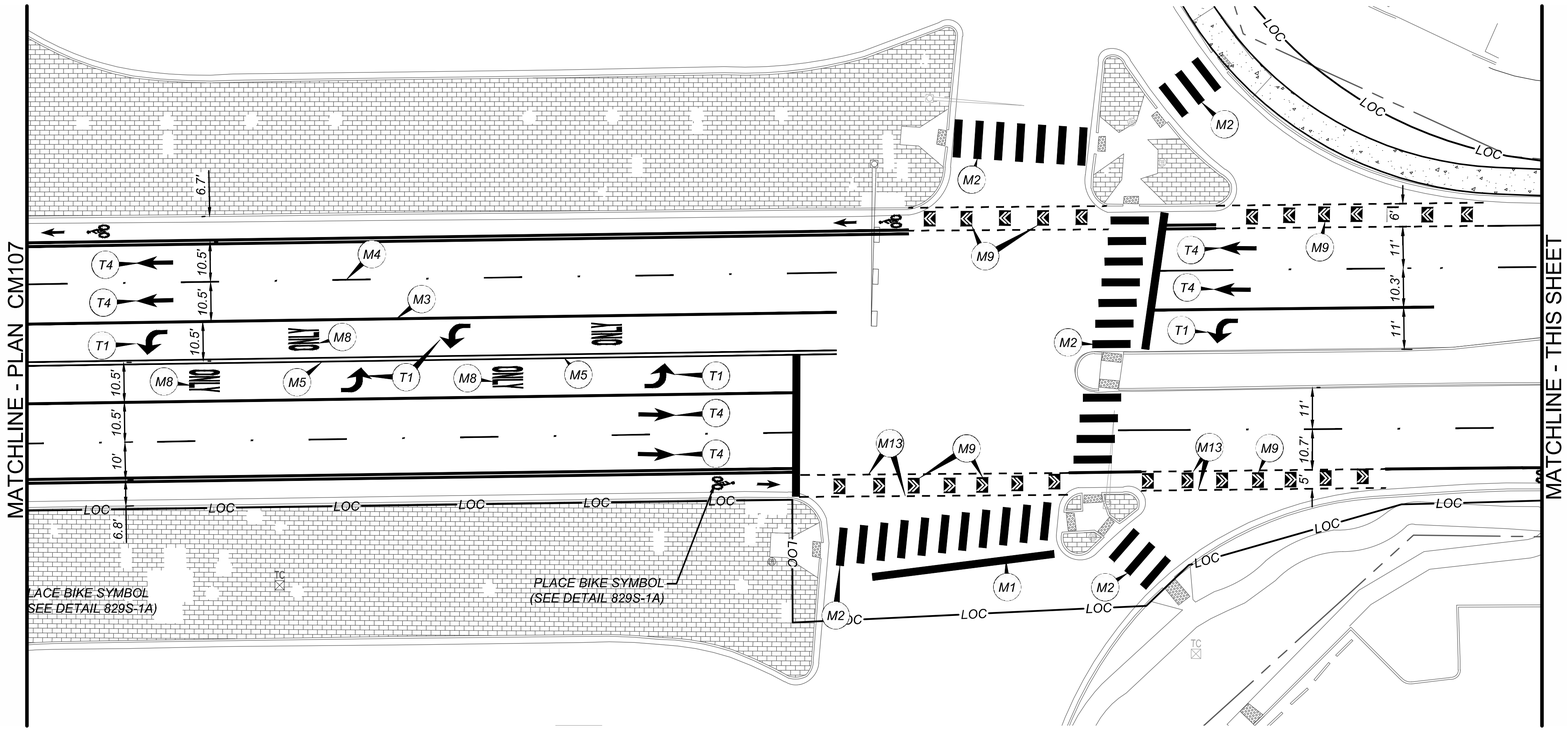

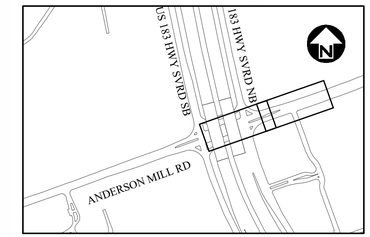

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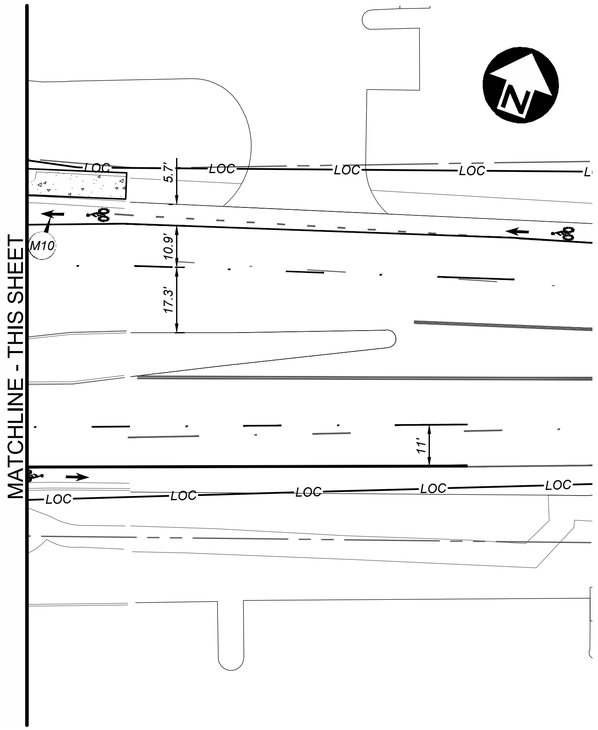

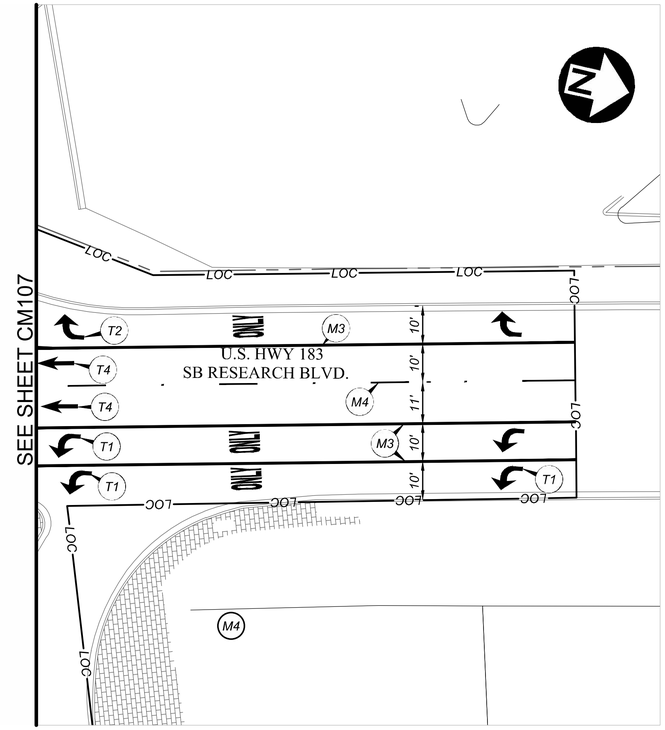

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ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

PAVEMENT MARKING & SIGNING PLAN
SHEET 8 OF 8

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/EZ	9/18
DESIGNED BY	JT/EZ	9/18
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HORIZONTAL SCALE IN FEET

GP-2019-0210.ATD

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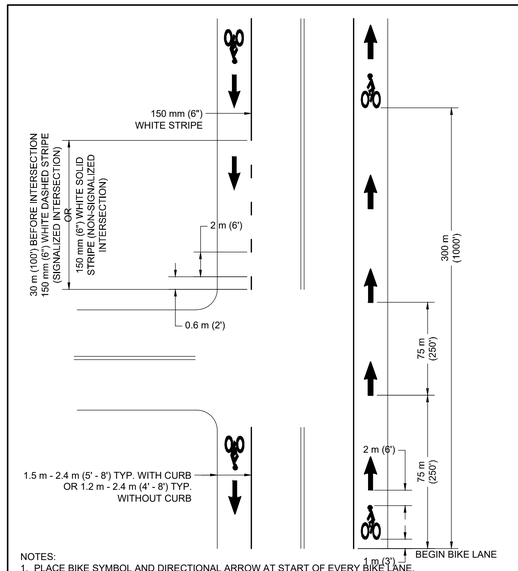
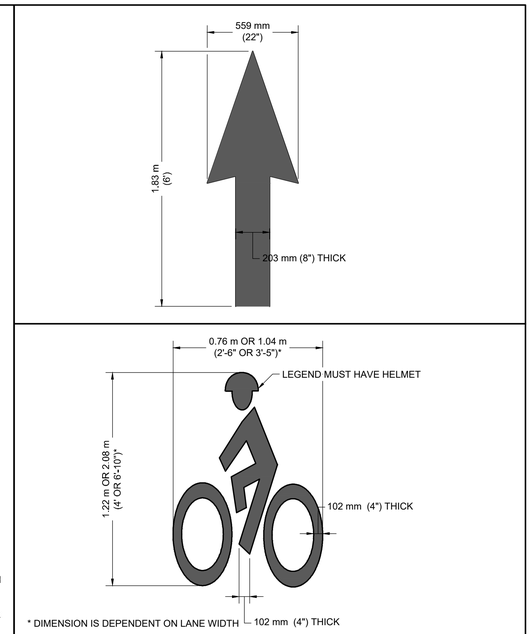


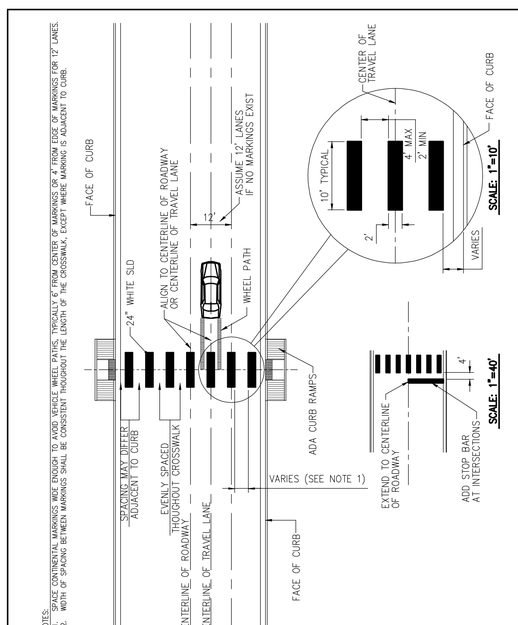
NOTES:
1. PLACE BIKE SYMBOL AND DIRECTIONAL ARROW AT START OF EVERY BIKE LANE.
2. PLACE BIKE SYMBOL AND DIRECTIONAL ARROW EVERY 300 m (1000') AND AFTER EACH INTERSECTION
3. PLACE DIRECTIONAL ARROW AT 75 m (250') INTERVALS BETWEEN BIKE SYMBOL/ARROW GROUPS.
4. LANE WIDTHS ARE MEASURED FROM CENTER OF BIKE LANE STRIPE TO THE FACE OF CURB OR EDGE OF PAVEMENT AT THE SHOULDER FOR A ROAD WITHOUT A CURB



* DIMENSION IS DEPENDENT ON LANE WIDTH

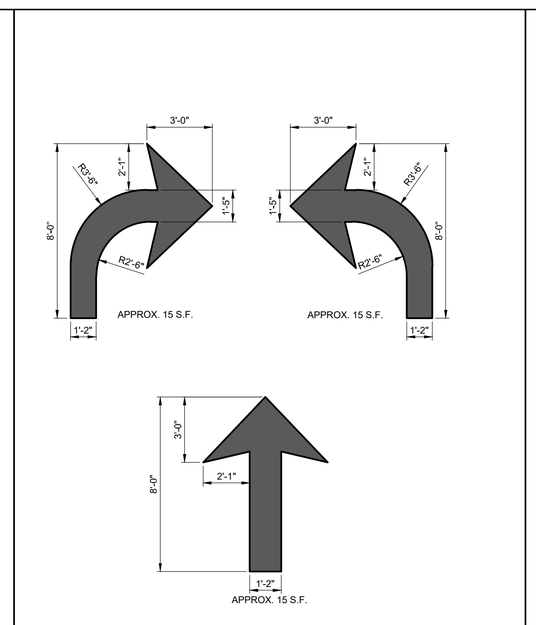
CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	BICYCLE LANE MARKINGS	
RECORD COPY SIGNED BY CUONG TRAN *09/26/12* ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 829S-1A 1 OF 2

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	BICYCLE LANE MARKINGS	
RECORD COPY SIGNED BY CUONG TRAN *09/26/12* ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 829S-1A 2 OF 2

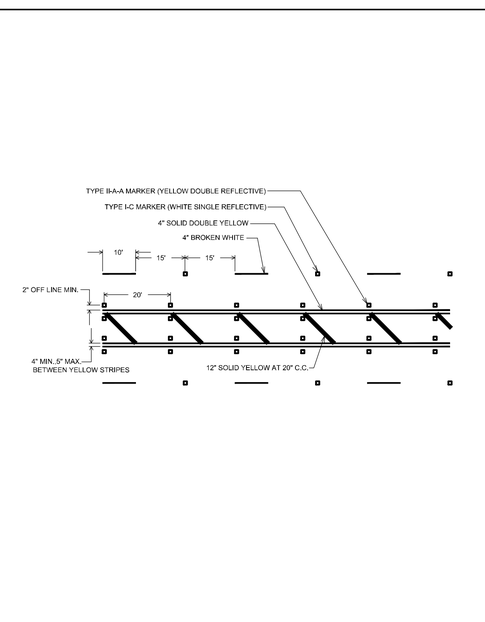


NOTES:
1. SPACE CONTINENTAL MARKINGS WIDE ENOUGH TO AVOID VEHICLE WHEEL PATHS, TYPICALLY 6' FROM CENTER OF MARKINGS OR 4' FROM EDGE OF MARKINGS FOR 12' LANES.
2. WIDTH OF SPACING BETWEEN MARKINGS SHALL BE CONSISTANT THROUGHOUT THE LENGTH OF THE CROSSWALK, EXCEPT WHERE MARKING IS ADJACENT TO CURB.

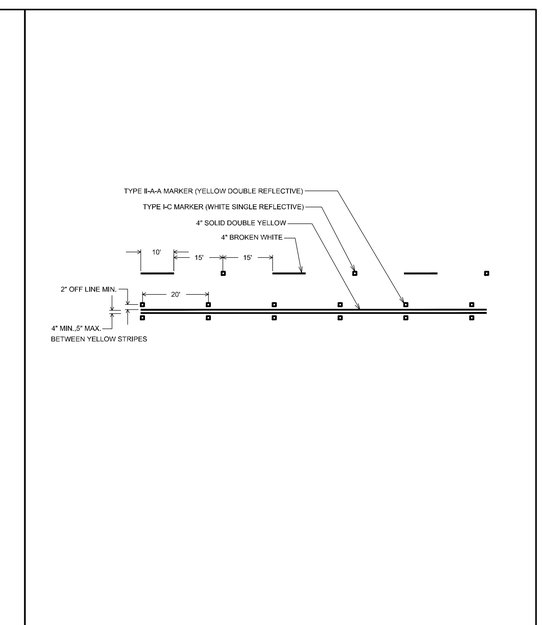
	CONTINENTAL CROSSWALKS	
		ATD-S01 1 OF 1



	TYPICAL ARROW MARKINGS	
		ATD-S05 1 OF 1



	TYPICAL PAVEMENT MARKINGS WITH RAISED MARKERS (TYPE 1)	
		ATD-S08 1 OF 1



	TYPICAL PAVEMENT MARKINGS WITH RAISED MARKERS (TYPE 2)	
		ATD-S09 1 OF 1

REV. NO.	BY	DATE	REVISION DESCRIPTION

STATE OF TEXAS
XIAOQIN ZHANG, P.E.
96436
LICENSED
PROFESSIONAL ENGINEER
01/29/2020

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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

PAVEMENT MARKING & SIGNAGE DETAILS
SHEET 1 OF 3

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/JP	8/18
DESIGNED BY	JT/EZ	8/18
CHECKED BY	EZ/CG	8/18
REVIEWED BY	ESD	8/18

ENGINEERING SERVICES
D I V I S I O N

GP-2019-0210.ATD

CM501 106 OF 142

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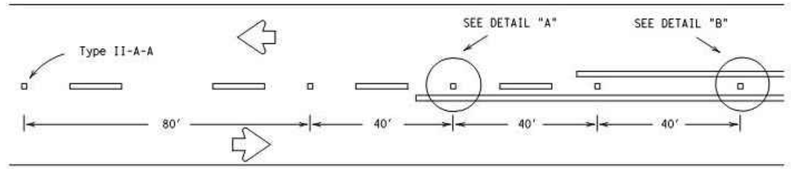
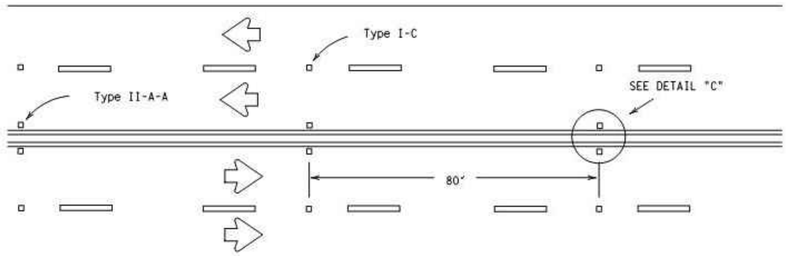
REFLECTIVE RAISED PAVEMENT MARKERS FOR VEHICLE POSITIONING GUIDANCE

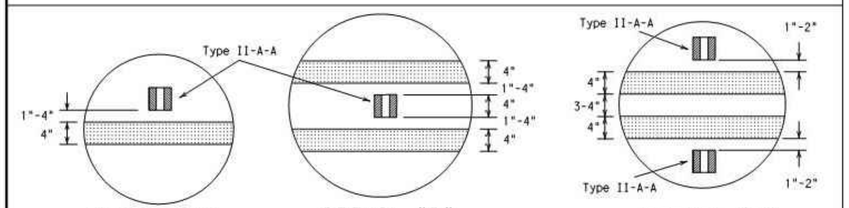


CENTERLINE FOR ALL TWO LANE ROADWAYS

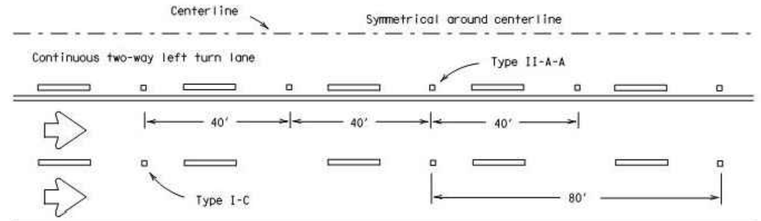


CENTERLINE & LANE LINES FOR FOUR LANE TWO-WAY HIGHWAYS

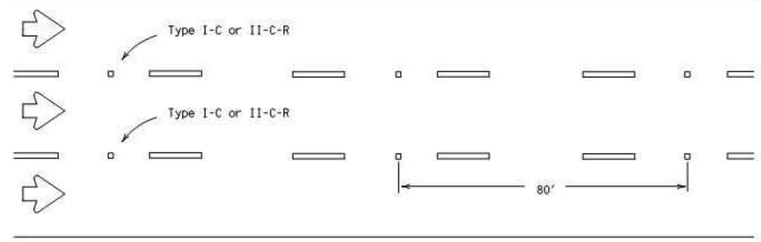
Raised pavement marker Type I-C, clear face toward normal traffic, shall be placed on 80-foot centers.



DETAIL "A" DETAIL "B" DETAIL "C"



CENTERLINE AND LANE LINES FOR TWO-WAY LEFT TURN LANE

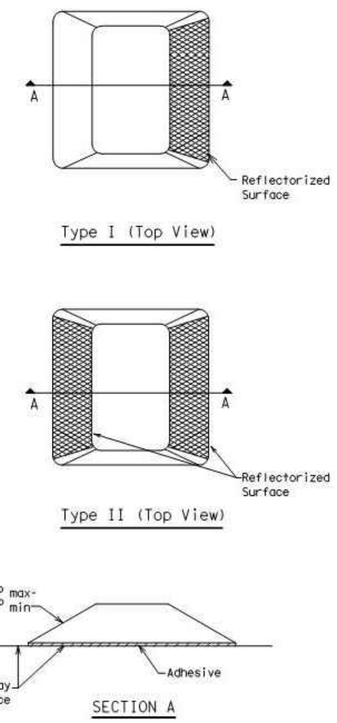


LANE LINES FOR ONE-WAY ROADWAY (NON-FREEWAY FACILITIES)

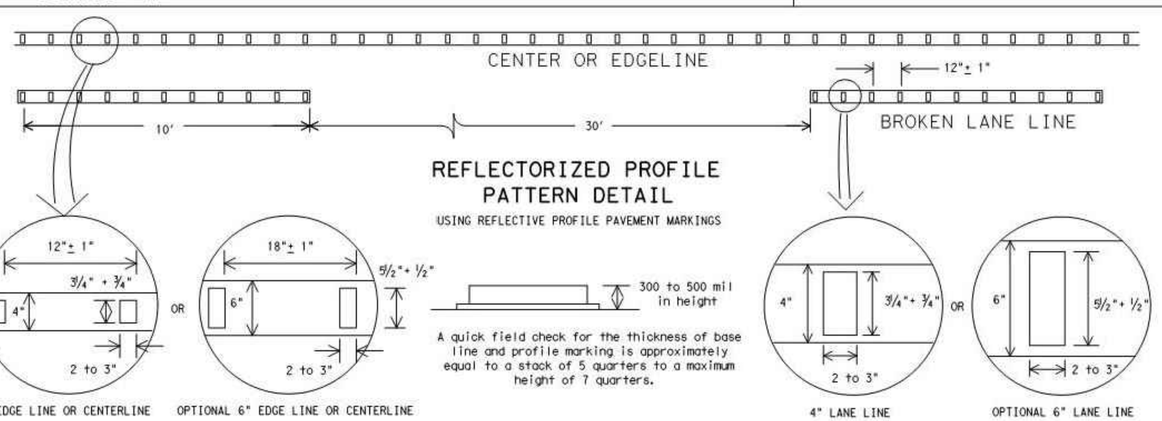
Raised pavement markers Type II-C-R shall have clear face toward normal traffic and red face toward wrong-way traffic.

MATERIAL SPECIFICATIONS	
PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
TRAFFIC PAINT	DMS-8200
HOT APPLIED THERMOPLASTIC	DMS-8220
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240

All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.



RAISED PAVEMENT MARKERS



REFLECTORIZED PROFILE PATTERN DETAIL

USING REFLECTIVE PROFILE PAVEMENT MARKINGS

A quick field check for the thickness of base line and profile marking is approximately equal to a stack of 5 quarters to a maximum height of 7 quarters.

4" EDGE LINE OR CENTERLINE OPTIONAL 6" EDGE LINE OR CENTERLINE 4" LANE LINE OPTIONAL 6" LANE LINE

NOTE:
Profile markings shall not be placed on roadways with a posted speed limit of 45 MPH or less.

GENERAL NOTES

1. All raised pavement markers placed in broken lines shall be placed in line with and midway between the stripes.
2. On concrete pavements the raised pavement markers should be placed to one side of the longitudinal joints.

Texas Department of Transportation
Traffic Operations Division

POSITION GUIDANCE USING RAISED MARKERS
REFLECTORIZED PROFILE MARKINGS

PM(2)-12

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REVISIONS	
4-92	2-10
5-00	2-12
8-00	
2-08	

228

DN: TXDOT	CK: TXDOT	DW: TXDOT	CK: TXDOT
CONT	SECT	JOB	HIGHWAY
DIST	COUNTY		SHEET NO.

DATE:
FILE:

REV NO.	BY	DATE	REVISION DESCRIPTION

STATE OF TEXAS
XIAOQIN ZHANG, P.E.
96436
LICENSED
PROFESSIONAL ENGINEER
01/29/2020

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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

PAVEMENT MARKING & SIGNAGE DETAILS
SHEET 2 OF 3

CITY OF AUSTIN FOUNDED 1839

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/JP	8/18
DESIGNED BY	JT/EZ	8/18
CHECKED BY	EZ/CG	8/18
REVIEWED BY	ESD	8/18

ESD
ENGINEERING SERVICES DIVISION

GP-2019-0210.ATD

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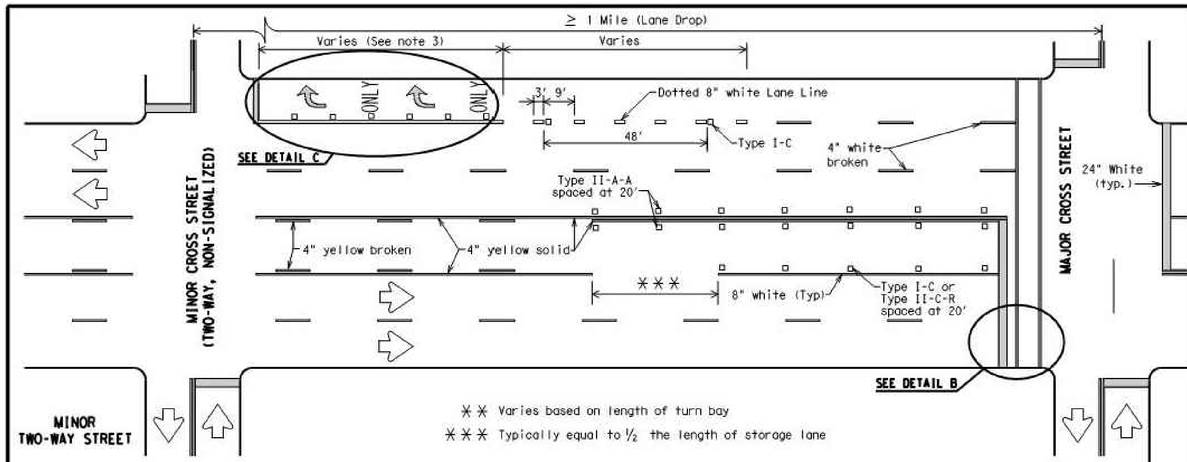
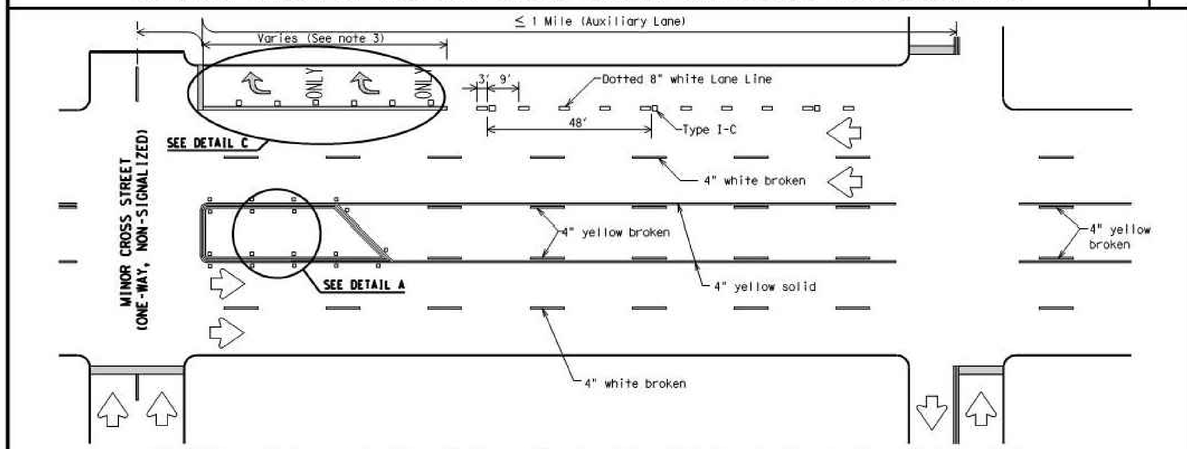
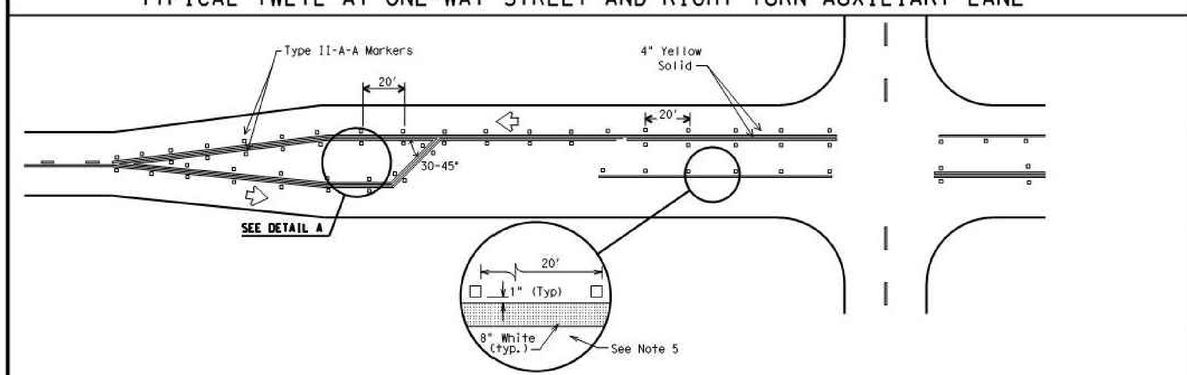


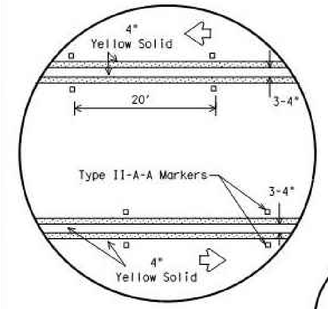
TYPICAL TWLTL AT TWO-WAY CROSS STREET AND RIGHT TURN LANE DROP



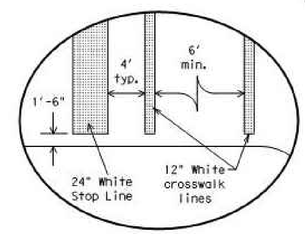
TYPICAL TWLTL AT ONE-WAY STREET AND RIGHT TURN AUXILIARY LANE



TYPICAL TWO-LANE HIGHWAY INTERSECTION WITH LEFT TURN BAYS

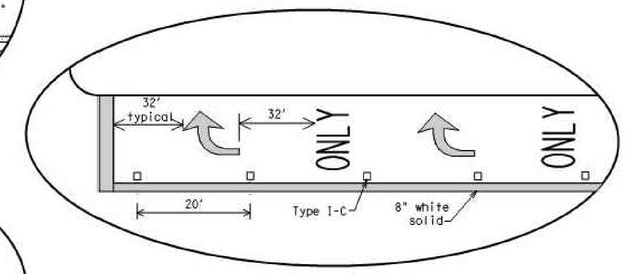


DETAIL A



Final placement of Stop Bar and Crosswalk shall be approved by the Engineer in the field.

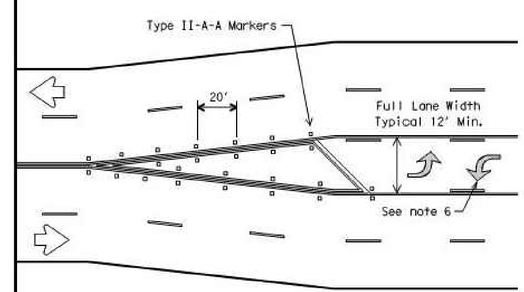
DETAIL B



DETAIL C

MATERIAL SPECIFICATIONS	
PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
TRAFFIC PAINT	DMS-8200
HOT APPLIED THERMOPLASTIC	DMS-8220
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240

All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.



TYPICAL TRANSITION FOR TWLTL AND DIVIDED HIGHWAY

GENERAL NOTES

1. Refer elsewhere in plans for additional RPM placement and details.
2. Lane use word and arrow markings shall be used where through lanes approaching an intersection become mandatory turn lanes. Lane use word and arrow markings should be used in auxiliary lanes of substantial length. Lane use arrow markings or word and arrow markings may be used in other lanes and turn bays for emphasis. Details for words and arrows as shown in the Standard Highway Sign Designs for Texas.
3. When lane used word and arrow markings are used, two sets of arrows should be used if the length of the bay is greater than 180 feet. When a single lane use arrow or word and arrow marking is used for a short turn lane, it should be located at or near the upstream end of the full-width turn lane.
4. Other crosswalk patterns as shown in the "Texas Manual on Uniform Traffic Control Devices" may be used.
5. Raised pavement marker Type I-C with undivided highways, flush medians and two way left turn lanes. Raised pavement marker Type II-C-R with divided highways and raised medians.
6. A two-way left-turn (TWLT) lane-use arrow pavement marking should be used at or just downstream from the beginning of a two-way left-turn lane within a corridor. Repeating the marking after each intersection or dedicated turn bay is not required unless stated elsewhere in the plans.

Texas Department of Transportation
Traffic Operations Division

PAVEMENT MARKINGS FOR TWO-WAY LEFT TURN LANES DIVIDED HIGHWAYS AND RURAL LEFT TURN BAYS

PM(3)-12

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REVISIONS
5-00 2-12
8-00
3-03
2-10

DN: TXDOT	CK: TXDOT	DW: TXDOT	CK: TXDOT
CONT	SECT	JOB	HIGHWAY
DIST	COUNTY		SHEET NO.

22C

REV NO.	BY	DATE	REVISION DESCRIPTION

STATE OF TEXAS
XIAOQIN ZHANG, P.E.
96436
LICENSED PROFESSIONAL ENGINEER
01/29/2020

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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

PAVEMENT MARKING & SIGNAGE DETAILS
SHEET 3 OF 3

CITY OF AUSTIN FOUNDED 1839

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/JP	8/18
DESIGNED BY	JT/EZ	8/18
CHECKED BY	EZ/CG	8/18
REVIEWED BY	ESD	8/18

ESD
ENGINEERING SERVICES DIVISION

GP-2019-0210.ATD

DATE:
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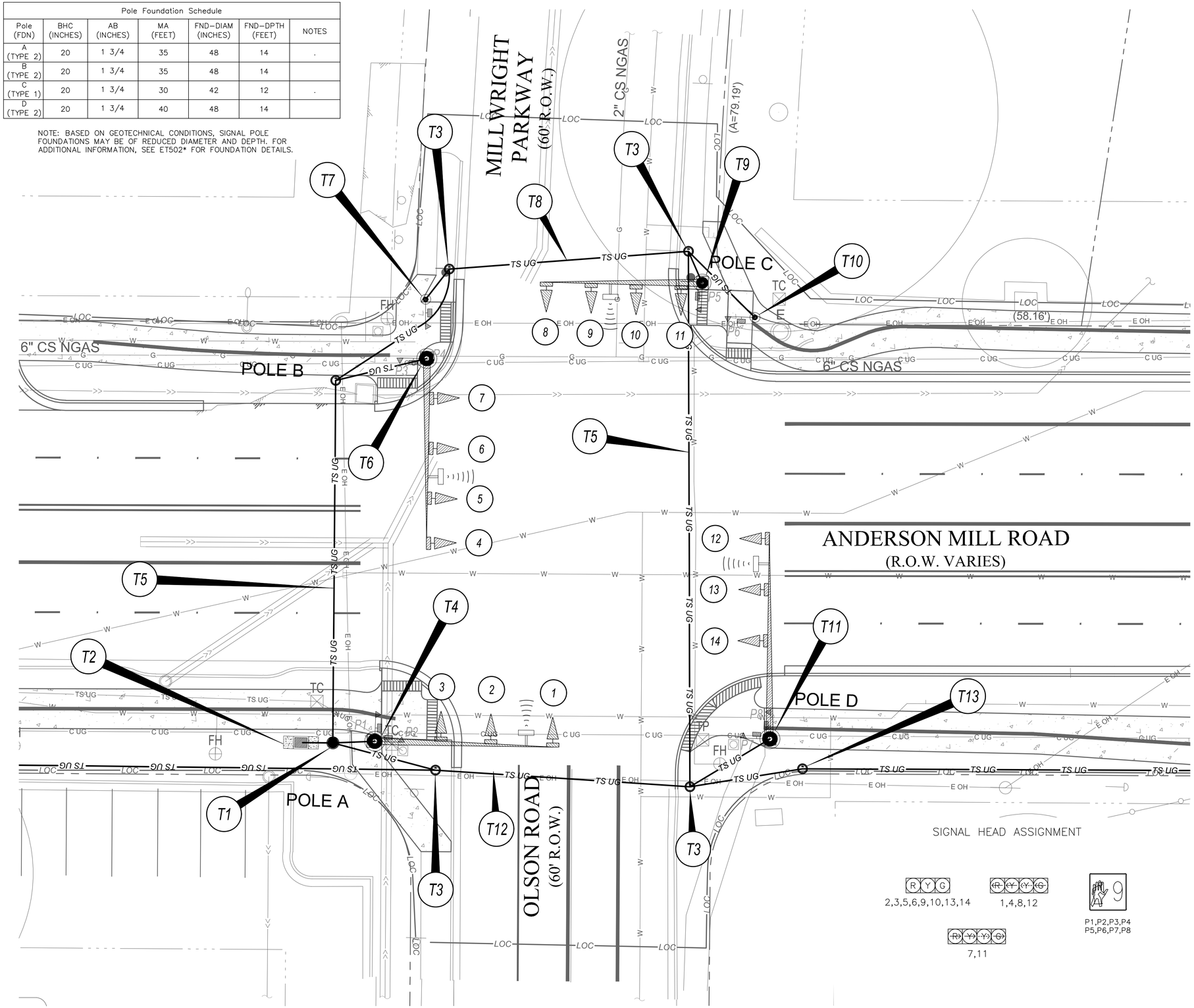
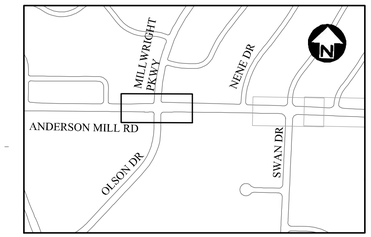
Pole Foundation Schedule						
Pole (FDN)	BHC (INCHES)	AB (INCHES)	MA (FEET)	FND-DIAM (INCHES)	FND-DPTH (FEET)	NOTES
A (TYPE 2)	20	1 3/4	35	48	14	.
B (TYPE 2)	20	1 3/4	35	48	14	
C (TYPE 1)	20	1 3/4	30	42	12	.
D (TYPE 2)	20	1 3/4	40	48	14	

NOTE: BASED ON GEOTECHNICAL CONDITIONS, SIGNAL POLE FOUNDATIONS MAY BE OF REDUCED DIAMETER AND DEPTH. FOR ADDITIONAL INFORMATION, SEE ET502* FOR FOUNDATION DETAILS.





PROPOSED IMPROVEMENTS SCHEDULE	
NO	DESCRIPTION
T1	INSTALL TYPE 'C' PULL BOX.
T2	INSTALL CONTROLLER FOUNDATION AND CABINET WITH 4-4" CONDUIT TO PULL BOX AND 2-2" CONDUIT TO AE PULL BOX.
T3	INSTALL TYPE 'B' PULL BOX.
T4	INSTALL 48" SIGNAL FOUNDATION WITH 3-3" CONDUIT TO PULL BOX. INSTALL TYPE 2 POLE WITH 35' MAST ARM AS POLE A. INSTALL HEADS 1, 2, & 3, RADAR DETECTION DEVICE AND STREET NAME SIGN ON MAST ARM. INSTALL PED SIGNALS 1 AND 2 AND APS PUSH BUTTONS ON POLE SHAFT.
T5	INSTALL 3-3" CONDUIT CROSSING ANDERSON MILL ROAD.
T6	INSTALL 48" SIGNAL FOUNDATION WITH 3-3" CONDUIT TO PULL BOX. INSTALL TYPE 2 POLE WITH 35' MAST ARM AS POLE B. INSTALL HEADS 4, 5, 6,& 7, RADAR DETECTION DEVICE AND STREET NAME SIGN ON MAST ARM. INSTALL PED SIGNAL 3 AND APS PUSH BUTTON ON POLE SHAFT.
T7	INSTALL PEDESTRIAN FOUNDATION AND 4" PIPE POLE WITH 1-4" CONDUIT TO PULL BOX. INSTALL PED SIGNAL 4 AND APS PUSH BUTTON ON POLE SHAFT.
T8	INSTALL 3-3" CONDUIT CROSSING MILLWRIGHT PARKWAY.
T9	INSTALL 42" SIGNAL FOUNDATION WITH 3-3" CONDUIT TO PULL BOX. INSTALL TYPE 1 POLE WITH 30' MAST ARM AS POLE C. INSTALL HEADS 8, 9, 10,& 11, RADAR DETECTION DEVICE AND STREET NAME SIGN ON MAST ARM. INSTALL PED SIGNAL 5 AND APS PUSH BUTTON ON POLE SHAFT.
T10	INSTALL PEDESTRIAN FOUNDATION AND 4" PIPE POLE WITH 1-4" CONDUIT TO PULL BOX. INSTALL PED SIGNAL 6 AND APS PUSH BUTTON ON POLE SHAFT.
T11	INSTALL 48" SIGNAL FOUNDATION WITH 3-3" CONDUIT TO PULL BOX. INSTALL TYPE 2 POLE WITH 40' MAST ARM AS POLE D. INSTALL HEADS 12, 13, & 14, RADAR DETECTION DEVICE AND STREET NAME SIGN ON MAST ARM. INSTALL PED SIGNALS 7 AND 8 AND APS PUSH BUTTONS ON POLE SHAFT.
T12	INSTALL 3-3"CONDUIT CROSSING OLSON ROAD.
T13	INSTALL TYPE 'B' PULL BOX WITH 1-3" CONDUIT (FOR INTERCONNECT) TO PULL BOX.

NOTE:
1. CONTRACTOR TO COORDINATE WITH COA - SIGNAL OPERATIONS PRIOR TO ANY TRAFFIC SIGNAL INSTALLATIONS / CONNECTIONS.
2. CONTRACTOR NEED TO FIELD VERIFY EXISTING UTILITIES LOCATIONS PRIOR TO THE WORK.

REV NO.	BY	DATE	REVISION DESCRIPTION

1-6-20

STATE OF TEXAS
SCOTT A. FELDMAN
81938
LICENSED PROFESSIONAL ENGINEER

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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

TRAFFIC SIGNALING PLAN
MILLWRIGHT PARKWAY

CITY OF AUSTIN
FOUNDED 1839

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/EZ	8/18
DESIGNED BY	SF	8/18
CHECKED BY	EZ/CG	8/18
REVIEWED BY	ESD	8/18

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HORIZONTAL SCALE IN FEET

GP-2019-0210.ATD

ET101 | 109 OF 142

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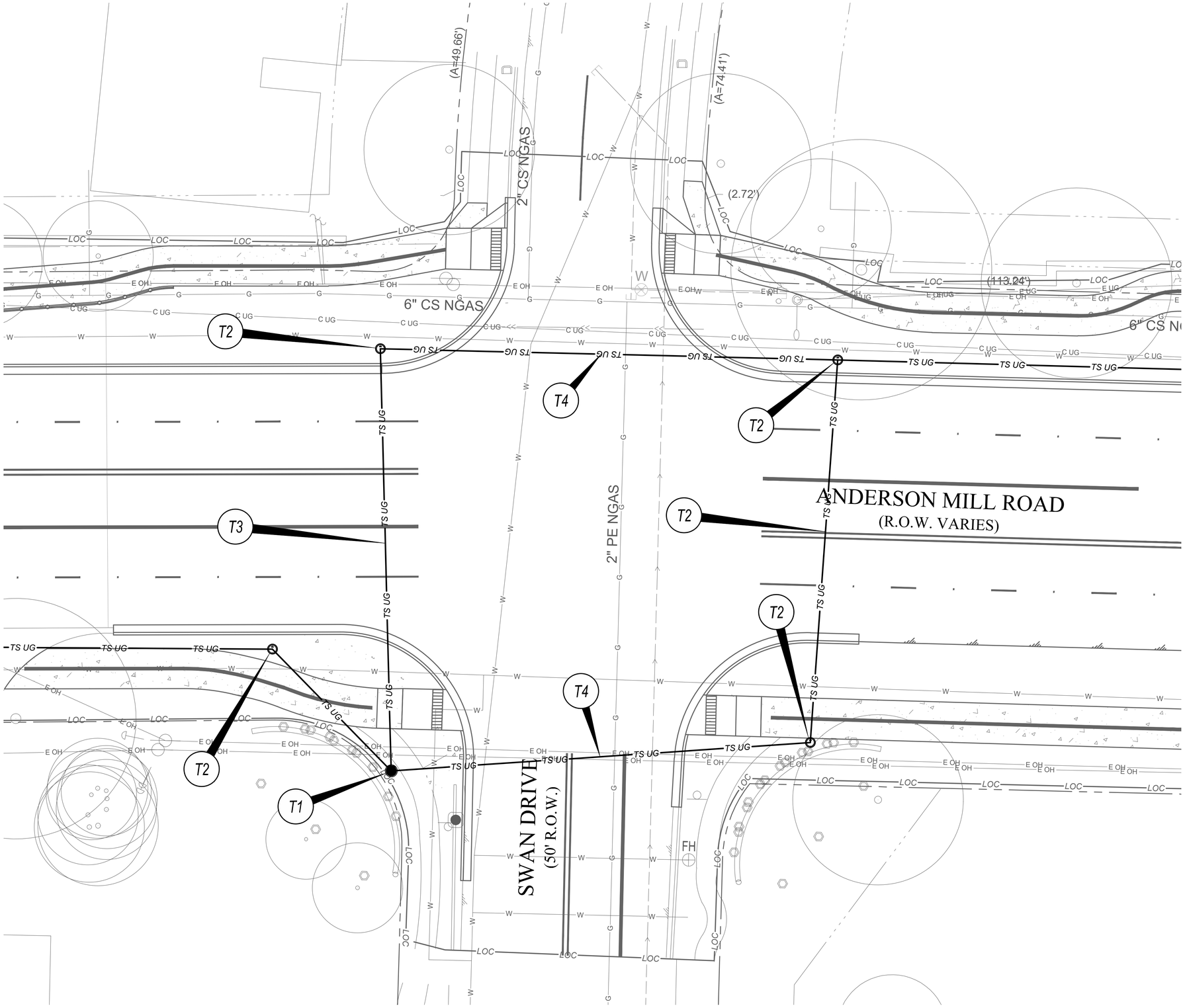
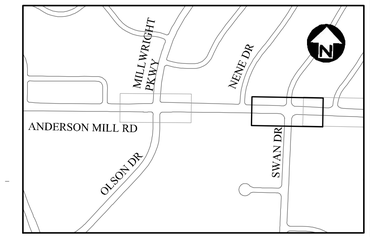
THIVAKARAN, JOTHIKA





PROPOSED IMPROVEMENTS SCHEDULE	
NO	DESCRIPTION
T1	INSTALL TYPE 'B' PULL BOX
T2	INSTALL 3-3" CONDUIT CROSSING ANDERSON MILL ROAD.
T3	INSTALL 3-3" CONDUIT CROSSING SWAN DRIVE.
T4	INSTALL 1-3" CONDUIT (FOR INTERCONNECT).

NOTE:
1. CONTRACTOR TO COORDINATE WITH COA - SIGNAL OPERATIONS PRIOR TO ANY TRAFFIC SIGNAL INSTALLATIONS / CONNECTIONS.
2. CONTRACTOR NEED TO FIELD VERIFY EXISTING UTILITIES LOCATIONS PRIOR TO THE WORK.

REV NO.	BY	DATE	REVISION DESCRIPTION

1-6-20

STATE OF TEXAS
SCOTT A. FELDMAN
81938
REGISTERED PROFESSIONAL ENGINEER

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY SCOTT A. FELDMAN, P.E. LIC. #81938

I CERTIFY THAT THESE DRAWINGS ARE COMPLETE, ACCURATE AND ADEQUATE FOR THEIR INTENDED PURPOSES, INCLUDING CONSTRUCTION, BUT ARE NOT AUTHORIZED FOR CONSTRUCTION UNTIL FORMAL CITY APPROVAL.

CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

TRAFFIC SIGNALING PLAN
SWAN DRIVE

CITY OF AUSTIN FOUNDED 1839

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/EZ	8/18
DESIGNED BY	SF	8/18
CHECKED BY	EZ/CG	8/18
REVIEWED BY	ESD	8/18

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HORIZONTAL SCALE IN FEET

GP-2019-0210.ATD

ET102 | 110 OF 142

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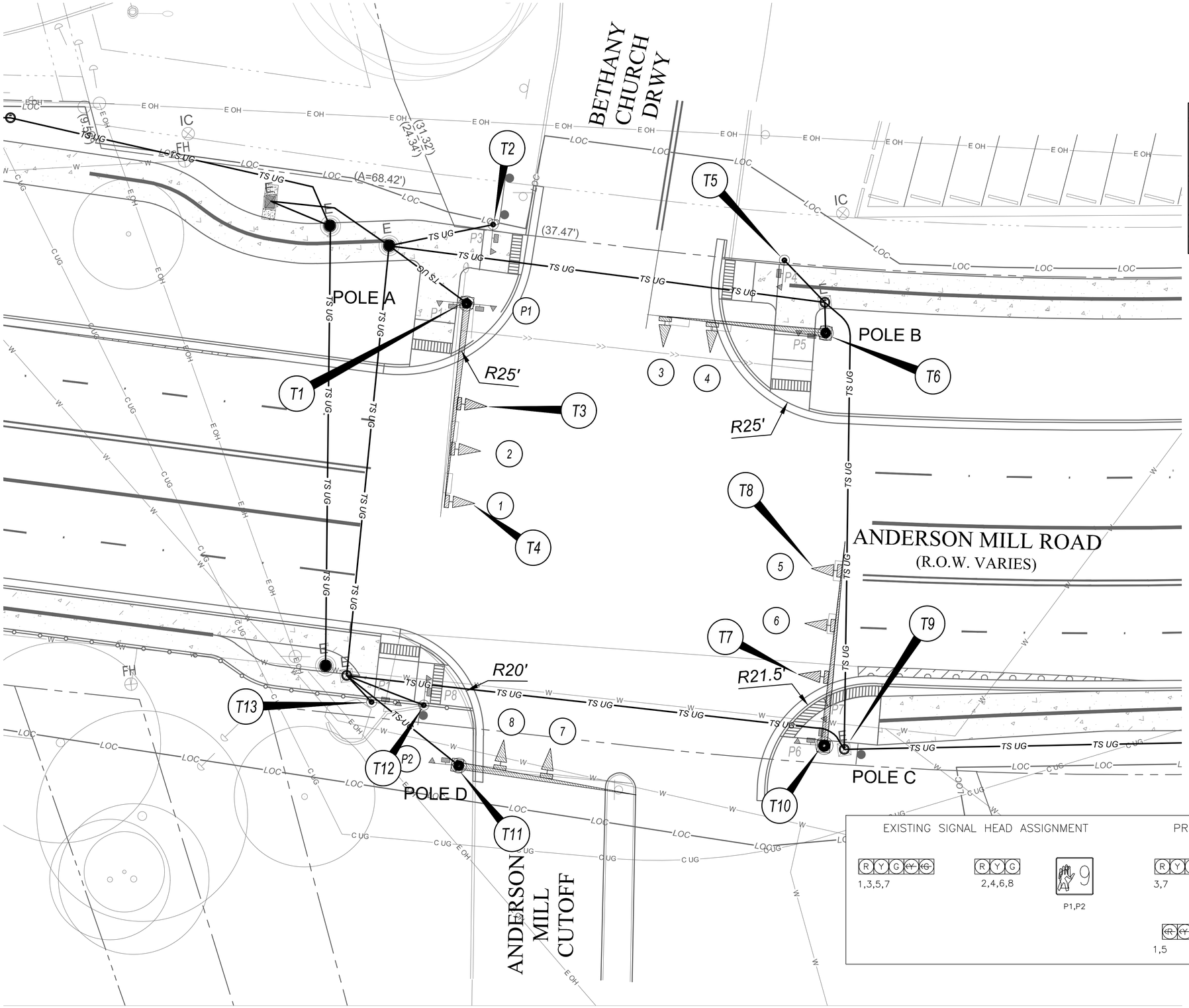
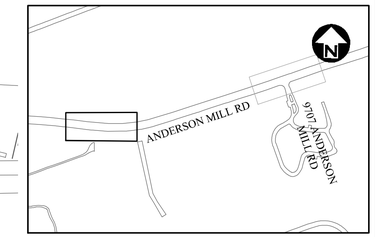
THIVAKARAN, JOTHIKA
ESD.STB





PROPOSED IMPROVEMENTS SCHEDULE	
NO	DESCRIPTION
T1	REMOVE EXISTING PED PUSH BUTTON AND INSTALL APS PUSH BUTTON.
T2	INSTALL PEDESTRIAN POLE FOUNDATION WITH 1-4" CONDUIT TO PULL BOX. INSTALL PED SIGNAL 3 AND APS PUSH BUTTON ON POLE SHAFT.
T3	INSTALL 3-SECTION SIGNAL HEAD 9 (ALIGNED OVER CENTER OF TRAVEL LANE).
T4	REPLACE 5-SECTION SIGNAL HEAD 1 WITH 4-SECTION FLASHING YELLOW ARROW HEAD.
T5	INSTALL PEDESTRIAN POLE FOUNDATION WITH 1-4" CONDUIT TO PULL BOX. INSTALL PED SIGNAL 4 AND APS PUSH BUTTON ON POLE SHAFT.
T6	REMOVE 'NO PED' SIGN. INSTALL PED SIGNAL 5 AND APS PUSH BUTTON ON POLE SHAFT.
T7	INSTALL 3-SECTION SIGNAL HEAD 10 (ALIGNED OVER CENTER OF TRAVEL LANE).
T8	REPLACE 5-SECTION SIGNAL HEAD 5 WITH 4-SECTION FLASHING YELLOW ARROW HEAD.
T9	ADJUST EXISTING PULL BOX TO FINISHED GRADE ADJACENT TO NEW SHARED USE PATH.
T10	REMOVE EXISTING 'NO PED' SIGN. INSTALL PED SIGNALS 6 AND 7 AND APS PUSH BUTTONS ON POLE SHAFT.
T11	REMOVE EXISTING PED SIGNAL 2 AND PED PUSH BUTTON.
T12	INSTALL PEDESTRIAN POLE FOUNDATION WITH 1-4" CONDUIT TO PULL BOX. INSTALL PED SIGNAL 8 AND APS PUSH BUTTON ON POLE SHAFT.
T13	INSTALL PEDESTRIAN POLE FOUNDATION WITH 1-4" CONDUIT TO PULL BOX. INSTALL PED SIGNAL 2 AND APS PUSH BUTTON ON POLE SHAFT.
T14	INSTALL 1-3" CONDUIT (FOR INTERCONNECT).

NOTE:
1. CONTRACTOR TO COORDINATE WITH COA - SIGNAL OPERATIONS PRIOR TO ANY TRAFFIC SIGNAL INSTALLATIONS / CONNECTIONS.
2. CONTRACTOR NEED TO FIELD VERIFY EXISTING UTILITIES LOCATIONS PRIOR TO THE WORK. .

EXISTING SIGNAL HEAD ASSIGNMENT

R Y G (Y) (G) — 1,3,5,7

R Y G — 2,4,6,8

9 — P1,P2

PROPOSED SIGNAL HEAD ASSIGNMENT

R Y G (Y) (G) — 3,7

R Y G — 2,4,6,8,9,10

9 — P1,P2,P3,P4 P5,P6,P7,P8

(R) (Y) (Y) (G) — 1,5

REV NO.	BY	DATE	REVISION DESCRIPTION

1-6-20

STATE OF TEXAS
SCOTT A. FELDMAN
81938
REGISTERED PROFESSIONAL ENGINEER

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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

TRAFFIC SIGNALING PLAN
ANDERSON MILL CUTOFF

CITY OF AUSTIN FOUNDED 1839

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/EZ	8/18
DESIGNED BY	SF	8/18
CHECKED BY	EZ/CG	8/18
REVIEWED BY	ESD	8/18

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HORIZONTAL SCALE IN FEET

GP-2019-0210.ATD

ET103 | 111 OF 142

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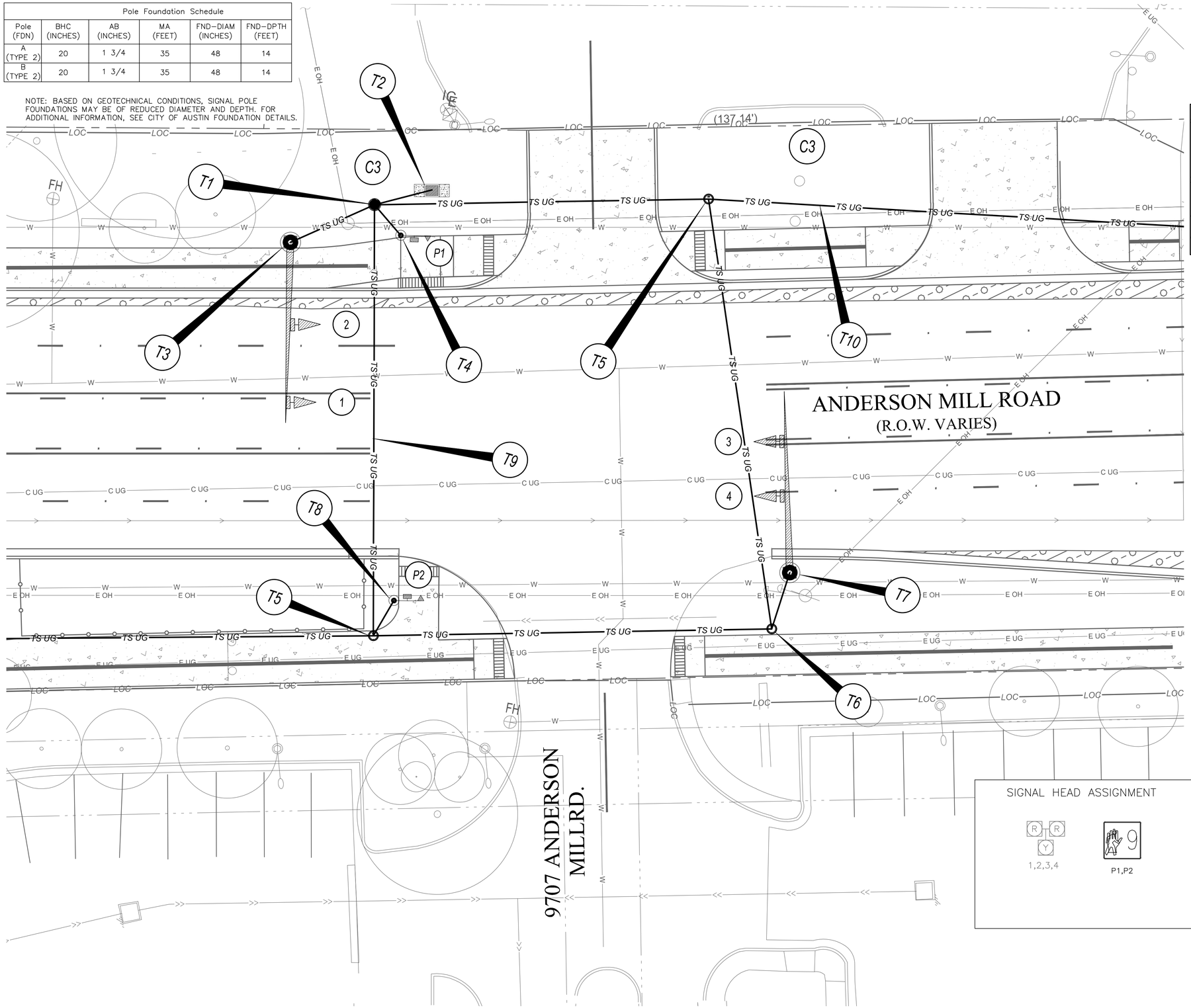
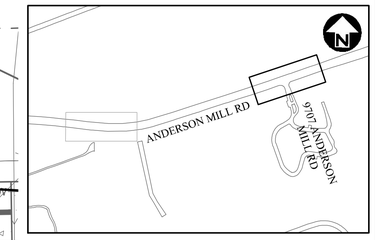
12/29/2020 10:28 AM
THIVAKARAN, JOTHIKA

Pole Foundation Schedule					
Pole (FDN)	BHC (INCHES)	AB (INCHES)	MA (FEET)	FND-DIAM (INCHES)	FND-DPTH (FEET)
A (TYPE 2)	20	1 3/4	35	48	14
B (TYPE 2)	20	1 3/4	35	48	14

NOTE: BASED ON GEOTECHNICAL CONDITIONS, SIGNAL POLE FOUNDATIONS MAY BE OF REDUCED DIAMETER AND DEPTH. FOR ADDITIONAL INFORMATION, SEE CITY OF AUSTIN FOUNDATION DETAILS.





PROPOSED IMPROVEMENTS SCHEDULE	
NO	DESCRIPTION
T1	INSTALL TYPE 'C' PULL BOX.
T2	INSTALL TRAFFIC SIGNAL CONTROLLER FOUNDATION WITH 4-4" CONDUIT TO PULL BOX.
T3	INSTALL TYPE 2 FOUNDATION. INSTALL TYPE 2 POLE WITH 35' MAST ARM AS POLE A. INSTALL PHB HEADS 1 AND 2 AND PHB SIGN ON MAST ARM. INSTALL PED SIGNAL 1 AND APS PUSH BUTTON ON POLE SHAFT.
T4	INSTALL PEDESTRIAN POLE FOUNDATION WITH 1-4" CONDUIT TO PULL BOX. INSTALL PED SIGNAL 1 AND APS PUSH BUTTON ON PED POLE.
T5	INSTALL TYPE B PULL BOX WITH 3-3" CONDUIT CROSSING DRIVEWAY.
T6	INSTALL TYPE B PULL BOX WITH 3-3" CONDUIT CROSSING ANDERSON MILL ROAD.
T7	INSTALL TYPE 2 FOUNDATION WITH 3-3" CONDUIT TO PULL BOX. INSTALL TYPE 2 POLE WITH 35' MAST ARM AS POLE B. INSTALL PHB HEADS 3 AND 4 AND PHB SIGN ON MAST ARM.
T8	INSTALL PEDESTRIAN POLE FOUNDATION WITH 1-4" CONDUIT TO PULL BOX. INSTALL PED SIGNAL 8 AND APS PUSH BUTTON ON PED POLE.
T9	INSTALL 3-3" CONDUIT CROSSING ANDERSON MILL ROAD.
T10	INSTALL 1-3" CONDUIT (FOR INTERCONNECT).

NOTE:
1. CURB RAMP DETAILS FOR PHB ARE SHOWN ON SHEET CP207.
2. CONTRACTOR TO COORDINATE WITH COA - SIGNAL OPERATIONS PRIOR TO ANY TRAFFIC SIGNAL INSTALLATIONS / CONNECTIONS.
3. CONTRACTOR NEED TO FIELD VERIFY EXISTING UTILITIES LOCATIONS PRIOR TO THE WORK.

REV. NO.	BY	DATE	REVISION DESCRIPTION

1-6-20

STATE OF TEXAS
SCOTT A. FELDMAN
81938
LICENSED PROFESSIONAL ENGINEER

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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

TRAFFIC SIGNALING PLAN
9707 ANDERSON MILL RD

CITY OF AUSTIN FOUNDED 1839

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/EZ	8/18
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ET104 | 112 OF 142

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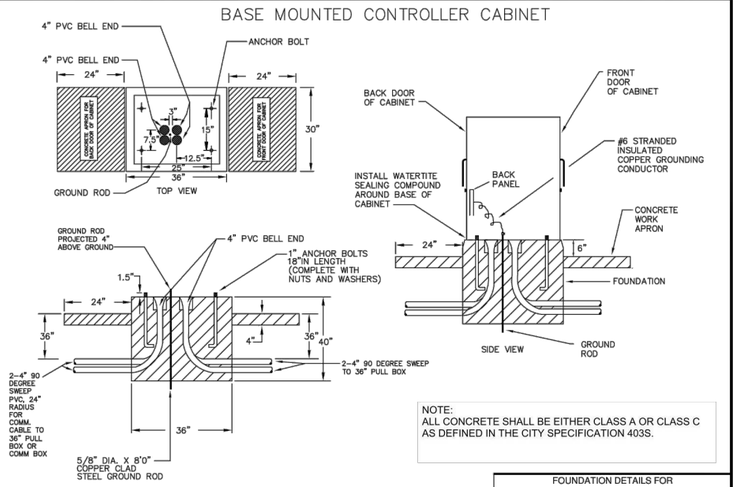
THIVAKARAN, JOTHIKA

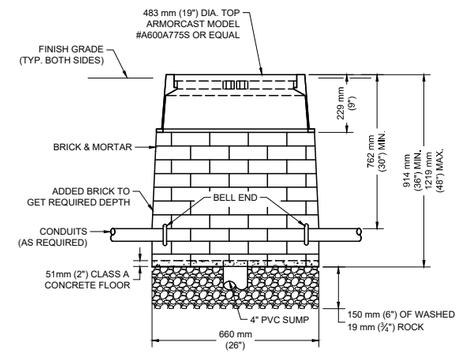
BASE MOUNTED CONTROLLER CABINET



NOTE:
ALL CONCRETE SHALL BE EITHER CLASS A OR CLASS C AS DEFINED IN THE CITY SPECIFICATION 403S.

FOUNDATION DETAILS FOR BASE MOUNTED CONTROLLER CABINET

SPECIAL DETAIL #1

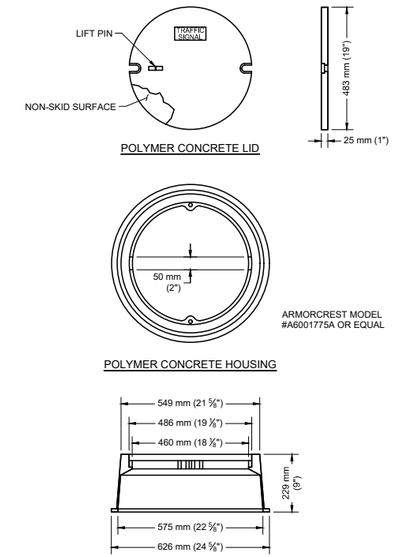


SIDE VIEW

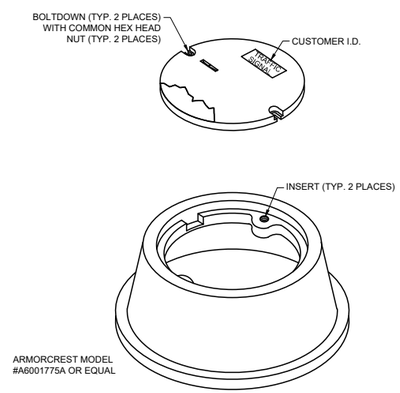
NOTES:

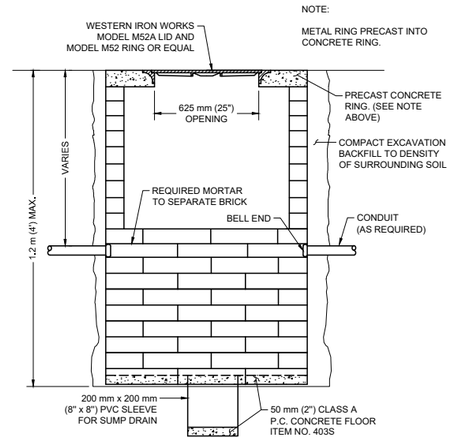
1. CONDUIT SHOULD ENTER PULL BOX BETWEEN SEPARATE BRICK LAYERS.
2. WHEN PULL BOX IS PLACED IN A SIDEWALK, THE LID SHALL BE FLUSH WITH THE SIDEWALK SURFACE.
3. WHEN A PULL BOX IS PLACED IN A NATURAL GROUND SURFACE, THE LID SHALL BE RAISED 13 mm (½") ABOVE GRADE.

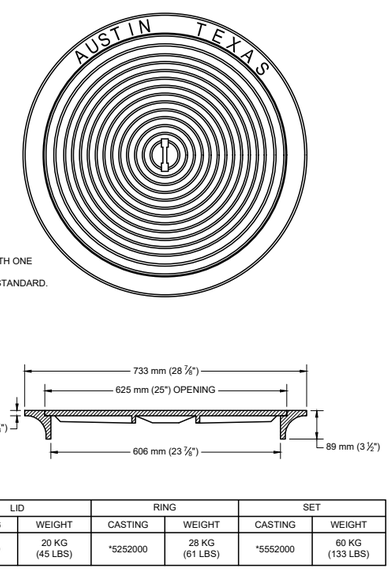
CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS		TYPE B PULL BOX	
RECORD COPY SIGNED BY LEON BARBA	11/17/03 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 834S-3 1 OF 1



CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS		RING AND LID FOR USE WITH TYPE B PULL BOX	
RECORD COPY SIGNED BY LEON BARBA	11/17/03 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 834S-4 1 OF 2





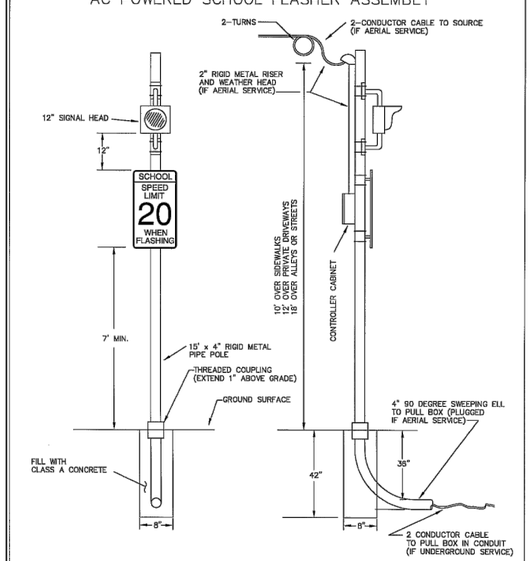


LID		RING		SET	
CASTING	WEIGHT	CASTING	WEIGHT	CASTING	WEIGHT
*5152510	20 KG (45 LBS)	*5252000	28 KG (61 LBS)	*5552000	60 KG (133 LBS)

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS		TYPE C PULL BOX WITH LIGHT WEIGHT COVER	
RECORD COPY SIGNED BY BILL GARDNER	03/13/06 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 834S-5 1 OF 1

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS		RING AND LID FOR TYPE C PULL BOX	
RECORD COPY SIGNED BY LEON BARBA	9/17/01 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 834S-6 1 OF 1

AC POWERED SCHOOL FLASHER ASSEMBLY



STATE OF TEXAS
BRIAN W. CRAIG
89248
LICENSED PROFESSIONAL ENGINEER
2-5-20

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION	
SPECIAL DETAIL No. 11 AC POWERED SCHOOL FLASHER ASSEMBLY	
DATE: 11-2-00	FILE NO.: 11.dwg
DRAWN BY: LRA/JDD/NJM	SCALE: NONE

REV NO.	BY	DATE	REVISION DESCRIPTION

STATE OF TEXAS
SCOTT A. FELDMAN
81938
REGISTERED PROFESSIONAL ENGINEER
2/5/20

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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

TRAFFIC SIGNAL DETAILS
SHEET 1 OF 7

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/JP	8/18
DESIGNED BY	JT/EZ	8/18
CHECKED BY	EZ/CG	8/18
REVIEWED BY	ESD	8/18

ENGINEERING SERVICES DIVISION

GP-2019-0210.ATD

ET501 | 113 OF 142

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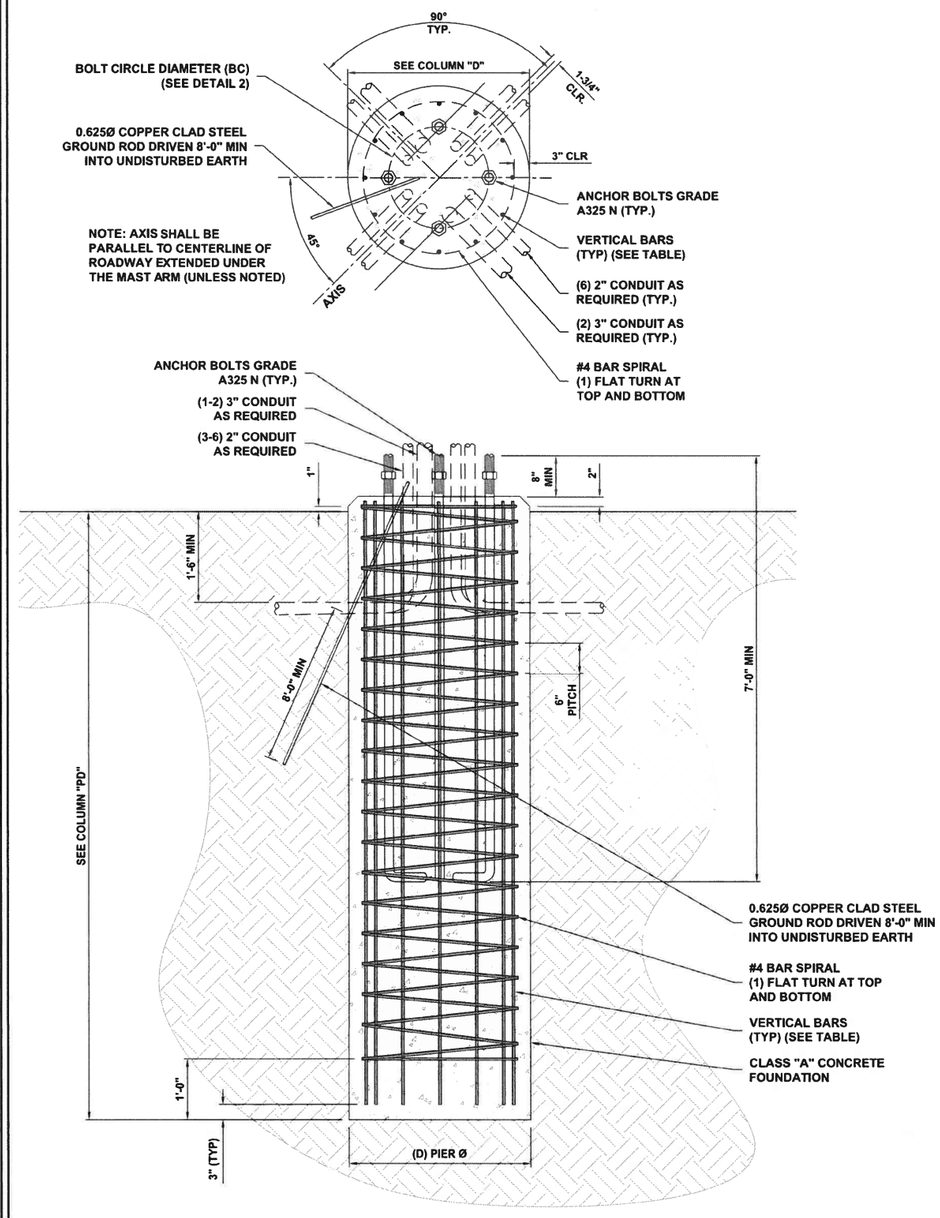
THIWARAN, JOTHIKA



TRAFFIC SIGNAL POLE FOUNDATION DETAILS

GENERAL STRUCTURAL NOTES:

1. DESIGN INFORMATION AND GENERAL REQUIREMENTS

1.1 CODES
- a. DESIGN CONFORMS TO UNIFORM BUILDING CODE, LATEST EDITION
- b. TIA-222-G, STRUCTURAL STANDARD FOR ANTENNA SUPPORTING STRUCTURES AND ANTENNAS WITH EXCEPTION OF LOCAL CODE REQUIREMENTS FOR FROST DEPTH.
- c. REFERENCE CITY OF AUSTIN SPECS FOR CONCRETE STRUCTURES 403S, 406S & 420S

1.2 DESIGN CRITERIA
- a. LIMESTONE ROCK:
  - BEARING PRESSURE: 6000 PSF
  - LATERAL BEARING PRESSURE: 400 PSF
  - SKIN FRICTION: 1500 PSF
- b. SILTY CLAY:
  - BEARING PRESSURE: 2000 PSF
  - LATERAL BEARING PRESSURE: 150 PSF
  - SKIN FRICTION: 500 PSF

1.3 MISCELLANEOUS
- a. CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS AND EXISTING CONDITIONS PRIOR TO PROCEEDING WITH THE WORK.
- b. LOCATION OF ALL UNDERGROUND UTILITIES SHALL BE VERIFIED BEFORE ANY EXCAVATION IS STARTED.

FOUNDATION NOTES
- a. EXCAVATIONS SHALL BE FREE OF ALL WATER AND LOOSE MATERIALS.
- b. POLE FOUNDATIONS SHALL BE POURED WITHIN 8 HRS OF SOIL DISTURBANCE.
- c. IF NECESSARY, REINFORCEMENT MAY BE SPLICED BUT SHALL BE LAPPED A MINIMUM OF 40 BAR DIAMETERS.
- d. CONCRETE SHALL BE TYPE 1 PER ASTM C150.
- e. FINE AND COURSE AGGREGATE SHALL MEET THE CRITERIA OF ASTM C33-78. MAX SIZE ALLOWABLE: 1-1/2".
- f. WATER SHALL BE CLEAR, POTABLE AND FREE OF ALL HARMFUL SUBSTANCES.
- g. BEFORE PLACING CONCRETE, ALL FOREIGN MATERIAL SHALL BE REMOVED FROM THE EXCAVATION.
- h. STEEL REINFORCEMENT SHALL BE FREE OF RUST, SCALE OR OTHER COATINGS THAT WOULD REDUCE OR DESTROY BOND. REINFORCEMENT LEFT EXPOSED FOR FUTURE BONDING SHALL BE CLEANED OF CONCRETE PASTE PRIOR TO COVERING WITH CONCRETE.

2.2 GEOTECHNICAL
- a. THE FOUNDATIONS SHALL NOT BEAR ON ORGANIC SOILS, VOIDS, DELETERIOUS SOILS, CONDUITS, LOOSE SOILS OR FULLY SATURATED SOILS. IF ANY OF THESE OR OTHER COMPROMISED SOIL CONDITIONS ARE PRESENT DURING CONSTRUCTION, IT SHOULD BE BROUGHT TO THE ATTENTION OF THE ENGINEER OF RECORD IMMEDIATELY.

CONCRETE FORMWORK
- a. CONCRETE CONSTRUCTION SHALL CONFORM TO "SPECIFICATIONS FOR STRUCTURAL CONCRETE" ACI 301-10.
- b. FORMWORK SHALL CONFORM TO "SPECIFICATIONS FOR STRUCTURAL CONCRETE" ACI 301-10.
- c. ANY FORMS UTILIZED TO CAST THE FOUNDATION SHALL BE FULLY REMOVED PRIOR TO PLACING FLOWABLE FILL, AND PRIOR TO PLACING THE POLE ATOP THE FOUNDATION.

EQUIPMENT VOLUME TABLE

POLE TYPE	SOIL TYPE	ANCHOR BOLT Ø (IN)	(BW) BASE PLATE WIDTH (IN)	(BC) BOLT CIRCLE Ø (IN)	(D) PIER Ø (IN)	(PD) PIER DEPTH (FT)	VERTICAL BARS QUANTITY	VERTICAL BARS SIZE
0	LIMESTONE	1-3/4	21.0	20.0	36	10	12	#6
1		1-3/4	16.75	15.0	30	8	8	#6
2		1-3/4	21.0	20.0	36	10	12	#6
3		2	21.0	20.0	36	10	12	#6
0	SILTY CLAY	1-3/4	21.0	20.0	48	14	16	#6
1		1-3/4	16.75	15.0	42	12	14	#6
2		1-3/4	21.0	20.0	48	14	16	#6
3		2	21.0	20.0	48	14	16	#6

POLE TYPE	SOIL TYPE	ANCHOR BOLT Ø (IN)	(BW) BASE PLATE WIDTH (IN)	(BC) BOLT CIRCLE Ø (IN)	(D) PIER Ø (IN)	(PD) PIER DEPTH (FT)	VERTICAL BARS QUANTITY	VERTICAL BARS SIZE
1W	LIMESTONE	1-3/4	21.0	20.0	30	10	8	#6
2W		1-3/4	21.0	20.0	36	11	12	#6
3W		2	22.0	21.0	36	13	12	#6
1W	SILTY CLAY	1-3/4	21.0	20.0	42	16	15	#6
2W		1-3/4	21.0	20.0	48	17	15	#7
3W		2	22.0	21.0	48	18	15	#7

POLE TYPE	SOIL TYPE	ANCHOR BOLT Ø (IN)	(BW) BASE PLATE WIDTH (IN)	(BC) BOLT CIRCLE Ø (IN)	(D) PIER Ø (IN)	(PD) PIER DEPTH (FT)	VERTICAL BARS QUANTITY	VERTICAL BARS SIZE
1W-S	LIMESTONE	1-3/4	21.0	20.0	30	10	8	#6
2W-S		1-3/4	21.0	20.0	36	11	12	#6
3W-S		2	22.0	21.0	36	13	12	#6
1W-S	SILTY CLAY	1-3/4	21.0	20.0	42	16	15	#6
2W-S		1-3/4	21.0	20.0	48	17	15	#7
3W-S		2	22.0	21.0	48	18	15	#7

ANCHOR BOLT SPECS

DIAMTER	LENGTH	HOOK	THREAD LENGTH	MIN YIELD & COLOR
2.00"	84.00"	6.00"	12.00"	55 KSI YELLOW

NOTE:
TO USE THE LIMESTONE ROCK SOIL CLASS, THE LIMESTONE STRATA MUST EXTEND THE FULL DEPTH OF PIER UP TO A MAXIMUM OF 2'-0" BELOW FINISH GRADE. OTHERWISE, SILTY CLAY SOIL CLASS MUST BE USED.

AeroSolutions LLC
Optimizing Your Wireless Infrastructure
5555 CENTRAL AVENUE #100
BOULDER, COLORADO 80301
PH: (720) 304-6882
FAX: (720) 304-6883

AERO PROJECT #:

DRAWING TITLE:
TRAFFIC SIGNAL POLE FOUNDATION DESIGN

DRAWING SHEET:
C-1

SHEET NUMBER:
1 OF 1

JURISDICTION:
CITY OF AUSTIN, TX

STATE OF TEXAS
MIKKO P AHOLA
80990
REGISTERED PROFESSIONAL ENGINEER
2/5/20

MIKKO P. AHOLA, P.E.
TEXAS PROFESSIONAL ENGINEER
LICENSE #80990 (EXP. 10/31/2019)

REV. NO.	BY	DATE	REVISION DESCRIPTION

STATE OF TEXAS
SCOTT A. FELDMAN
81938
REGISTERED PROFESSIONAL ENGINEER
2/5/20

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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

TRAFFIC SIGNAL DETAILS
SHEET 2 OF 7

CITY OF AUSTIN
FOUNDED 1839

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/JP	8/18
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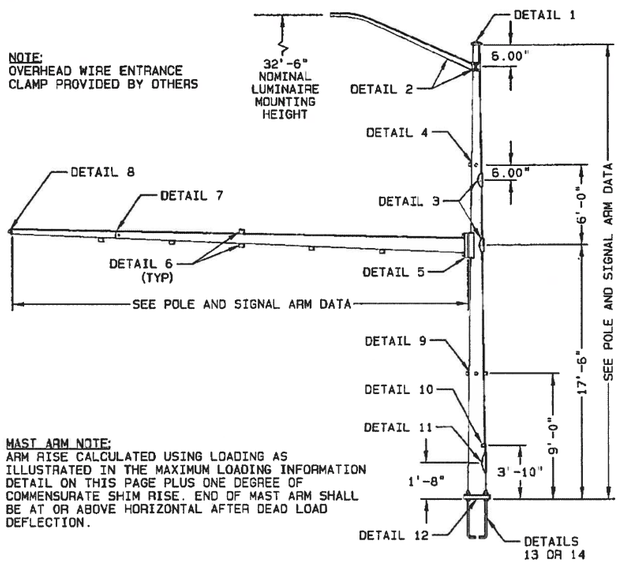
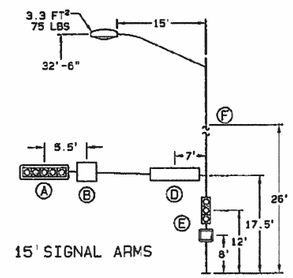
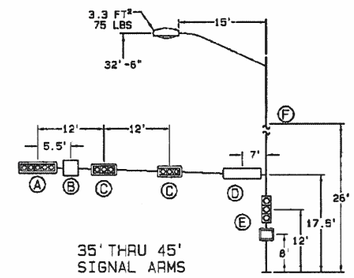
TRIVIKARAN, JOTHIKA

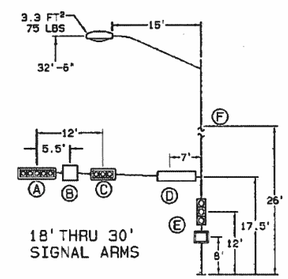




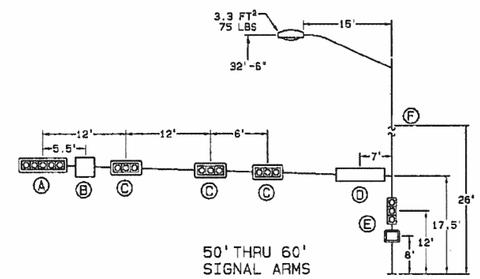
15' SIGNAL ARMS



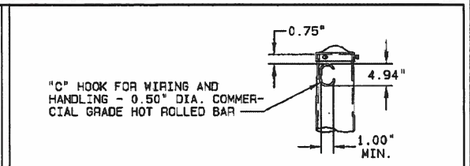
35' THRU 45' SIGNAL ARMS



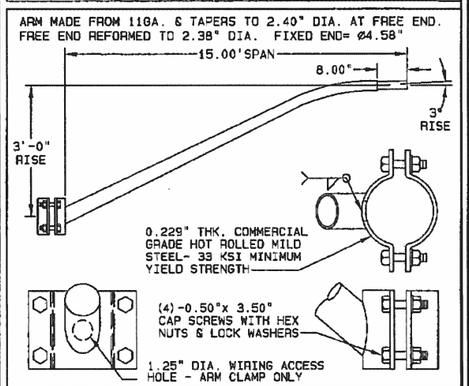
18' THRU 30' SIGNAL ARMS



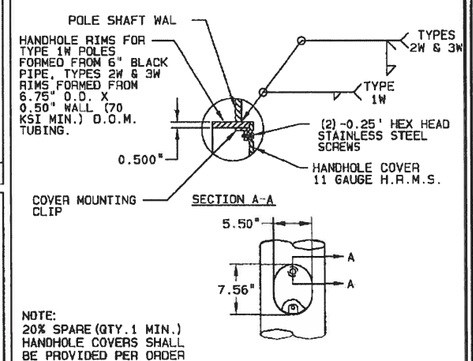
50' THRU 60' SIGNAL ARMS



DETAIL 1 | POLE TOP



DETAIL 2 | LUMINAIRE ARM & ATTACHMENT



DETAIL 3 | HANDHOLE

MATERIAL DATA

COMPONENT	ASTM DESIGNATION	MIN. YIELD (KSI)	COMPONENT	ASTM DESIGNATION	MIN. YIELD (KSI)
POLE SHAFTS (TYPE 1)	A595 GR.A	55	LUM.ARM CONN. BOLTS	A325	
POLE SHAFTS (TYPE 2&3)	A572 GR.65	65	ANCHOR BOLTS	F1554 GR.55	55
MAST ARM SHAFTS	A595 GR.A	55	GALVANIZING	A123	
LUMINAIRE ARM SHAFT	A595 GR.A	55	GALVANIZING-HARDWARE	HOT DIP ZINC	
BASE PLATES	A36	36			
ARM ATTACHMENTS	A36	36			
MAST ARM CONN. BOLTS	A325				

DESIGN CRITERIA:

1994 AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS.

WIND VELOCITY:

80 MPH ISOTACH.

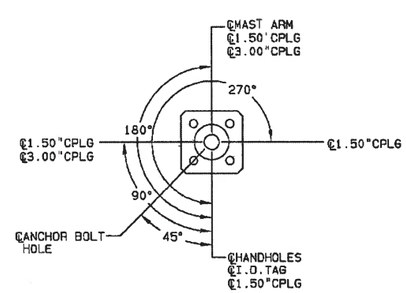
DEVICE	DESCRIPTION	PROJ.AREA (SQ.FT.)	WEIGHT (LBS.)
(A)	12"-5 SEC. SIGNAL W/BACKPLATES	15.00	85
(B)	36" X 36" DIRECTIONAL SIGN	9.00	27
(C)	12"-3 SEC. SIGNAL W/BACKPLATES	9.00	53
(D)	26" X 84" STREET NAME SIGN	15.00	36
(E)	PEDESTRIAN SIGNAL HEADS	8.00	80
(F)	OVERHEAD WIRE ENTRANCE	64.00	200

MAX. LOADING INFORMATION

POLE AND SIGNAL ARM DATA

POLE TYPE	POLE TUBE				SIGNAL ARM TUBE				SIGNAL ARM COUPLING LOCATIONS & ORIENTATIONS (*OPTIONAL SIGNAL SPACING)					
	BASE DIA. (IN)	TOP DIA. (IN)	LENGTH (FT)	GAUGE OR THK. (IN)	ARM SPAN (FT)	FIXED END DIA. (IN)	FREE END DIA. (IN)	GAUGE OR THICK (IN)	COUPLING DISTANCE FROM END OF ARM. / ANGLES CW. FROM TOP OF SIMPLEX AS VIEWED FROM SMALL END OF MAST ARM.					
1W	12.50	8.30	30.00	3	15.00	6.00	3.90	7						7.5'/ 0°
					18.00	6.00	3.48	7	12'/180°					9'/ 0°
					20.00	6.00	3.20	7	12'/180°					10'/ 0°
					25.00	7.00	3.50	7	12'/180°					12.5'/ 0°
					30.00	8.00	3.80	7	12'/180°					15'/ 0°
2W	13.50	9.30	30.00	0.2188	35.00	9.00	4.10	7	12'/180°		24'/180°			17.5'/ 0°
					40.00	10.00	4.40	7	12'/180°	*18'/180°	24'/180°	*30'/180°		20'/ 0°
					45.00	10.50	4.20	7	12'/180°	*18'/180°	24'/180°	*30'/180°		22.5'/ 0°
3W	16.00	11.80	30.00	0.2188	50.00	12.00	5.00	7	12'/180°	*18'/180°	24'/180°	*30'/180°	36'/180°	25'/ 0°
					55.00	13.00	5.53	DET.7	12'/180°	*18'/180°	24'/180°	*30'/180°	36'/180°	27.5'/ 0°
					60.00	13.00	4.83	DET.7	12'/180°	*18'/180°	24'/180°	*30'/180°	36'/180°	30'/ 0°

ALL ANGLES MEASURED CLOCKWISE FROM LOWER HANDHOLE AS VIEWED FROM SMALL END OF POLE



RADIAL INDEX

REV	DRAWN BY-DATE	CHECK BY-DATE	DESCRIPTION
D	AC19 07/30/13	AC19 07/30/13	LOC.BASE HH/TOP HH'S TO BE THE SAME
—	DJT 05/08/01		— — — — — — — — — — — — — — — — — — — —

TITLE CITY OF AUSTIN, TX.
MASTARM TRAFFIC STRUCTURES

Special Detail #12

VALMONT INDUSTRIES, INC. RESERVES THE RIGHT TO INSTALL VARIOUS, ENGINEER APPROVED, MATERIAL HANGING ACCOMMODATIONS TO FACILITATE THE MANUFACTURING PROCESS.

valmont
Valley, NE 68064
(402) 359-2201

PAGE NUMBER: 1 OF 2
DRAWING NUMBER: DB00591
REV: D

REV NO.	BY	DATE	REVISION DESCRIPTION

STATE OF TEXAS
SCOTT A. FELDMAN
81938
REGISTERED PROFESSIONAL ENGINEER
2/5/20

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY SCOTT A. FELDMAN, P.E. LIC. #81938

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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

TRAFFIC SIGNAL DETAILS
SHEET 3 OF 7

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/JP	8/18
DESIGNED BY	JT/EZ	8/18
CHECKED BY	EZ/CG	8/18
REVIEWED BY	ESD	8/18

ENGINEERING SERVICES DIVISION

GP-2019-0210.ATD

ET503 | 115 OF 142

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2/5/2020 8:47 AM
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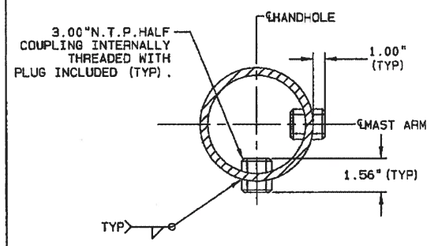
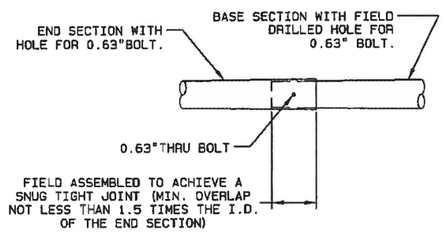
STATE OF TEXAS
BARRY N. SLADEK
91283
LICENSED PROFESSIONAL ENGINEER
7/31/13

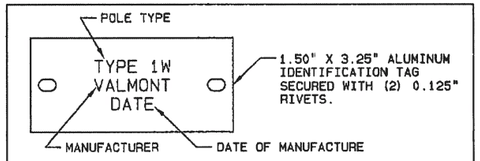


DETAIL 4 — 3.00"POLE COUPLINGS

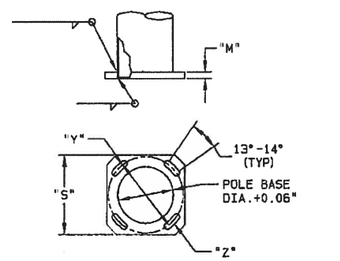


ARM LENGTH	BASE SECTION		END SECTION	
	LENGTH	GAUGE	LENGTH	GAUGE
55'-0"	50'-0"	7	6'-11"	11
60'-0"	50'-0"	5	11'-11"	11

DETAIL 7 — SIGNAL ARM SLIP JOINT

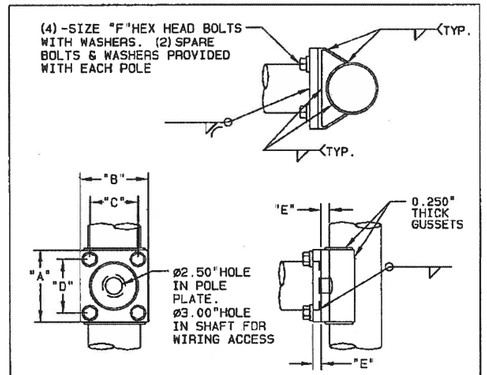


DETAIL 10 — POLE I.D. TAG



POLE TYPE	SQUARE "Y" (IN)	BOLT CIRCLE "Y" (IN)	THK. "M" (IN)	SLOT "Z" (IN)
1W & 2W	21.00	20.00	1.75	2.00 x 4.38
3W	22.00	21.00	1.75	2.25 x 4.88

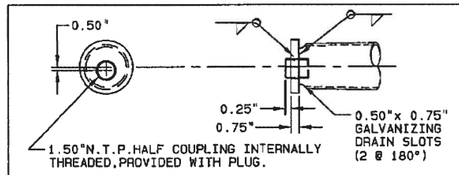
DETAIL 12 — POLE BASE



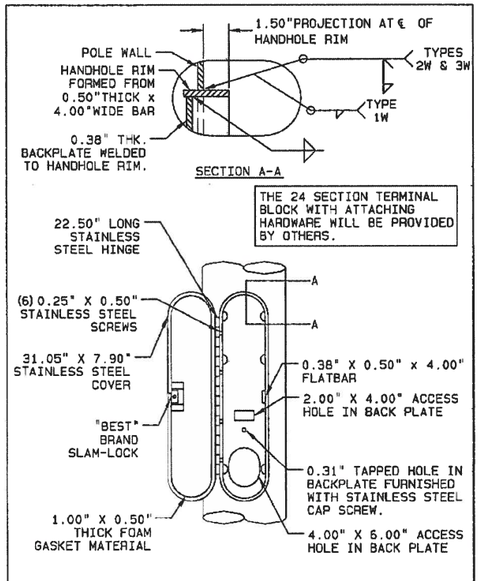
DETAIL 5 — SIGNAL ARM ATTACHMENT

SIGNAL ARM ATTACHMENT DATA

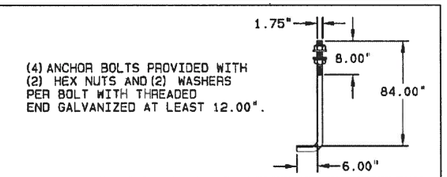
POLE TYPE	"A" (IN)	"B" (IN)	"C" (IN)	"D" (IN)	"E" (IN)	"F" (IN)
1W	18.00	11.25	6.50	14.00	2.00	1.25"-7UNC X 4.25"LG
2W	18.00	18.00	14.75	14.75	2.00	1.25"-7UNC X 4.25"LG
3W	19.25	19.25	16.00	16.00	2.00	1.25"-7UNC X 4.25"LG



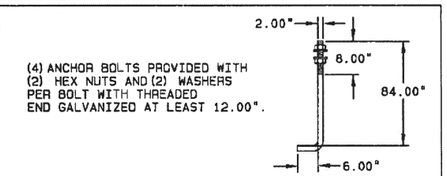
DETAIL 8 — SIGNAL ARM END BRACKET



DETAIL 11 — BASE HANDHOLE

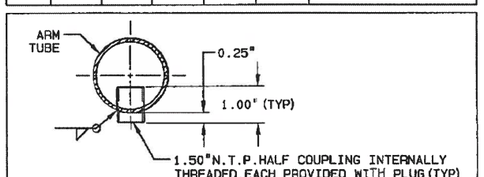


DETAIL 13 — ANCHOR BOLTS (TYPES W1 & 2W)



DETAIL 14 — ANCHOR BOLTS (TYPE 3W)

DETAIL 9 — 1.50"POLE COUPLINGS



DETAIL 6 — 1.50"SIGNAL ARM COUPLINGS

STATE OF TEXAS
BARRY N. SLADEK
91283
LICENSED PROFESSIONAL ENGINEER
7/31/13

TITLE CITY OF AUSTIN, TX.
MASTARM TRAFFIC STRUCTURES

VALMONT INDUSTRIES, INC. RESERVES THE RIGHT TO INSTALL VARIOUS, ENGINEER APPROVED, MATERIAL HANGING ACCOMMODATIONS TO FACILITATE THE MANUFACTURING PROCESS.

valmont
Valley, NE 68064
(402) 359-2201

PAGE NUMBER: 2 OF 2
DRAWING NUMBER DB00591 REV D

REV NO.	BY	DATE	REVISION DESCRIPTION

STATE OF TEXAS
SCOTT A. FELDMAN
81938
REGISTERED PROFESSIONAL ENGINEER
2/5/20

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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

TRAFFIC SIGNAL DETAILS
SHEET 4 OF 7

CITY OF AUSTIN FOUNDED 1839

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/JP	8/18
DESIGNED BY	JT/EZ	8/18
CHECKED BY	EZ/CG	8/18
REVIEWED BY	ESD	8/18

ESD
ENGINEERING SERVICES DIVISION

GP-2019-0210.ATD

ET504 116 OF 142

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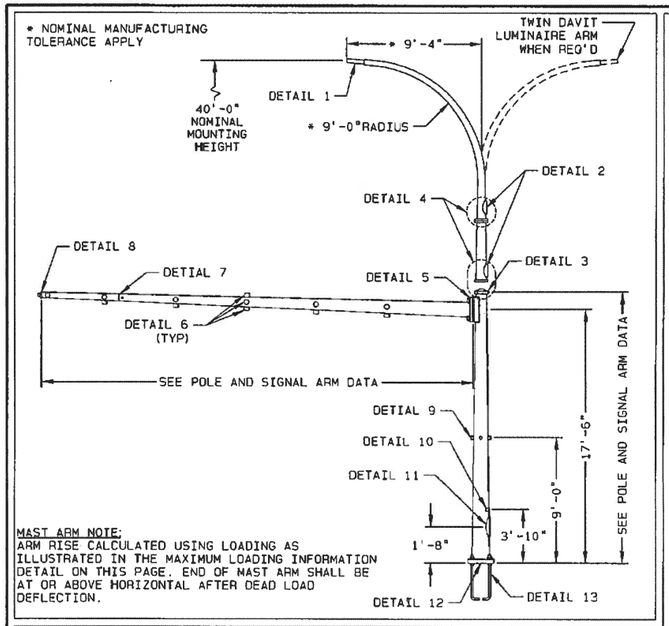
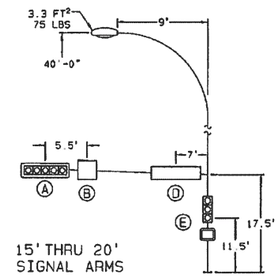
THIVAKARAN, JOTHIKA

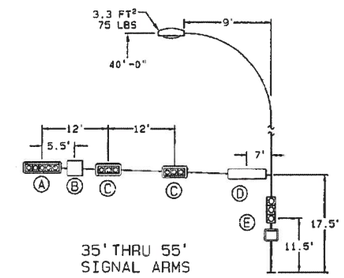


MATERIAL DATA

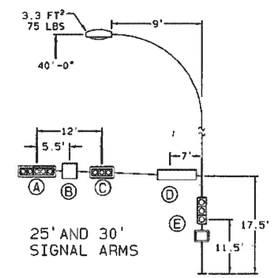
COMPONENT	ASTM DESIGNATION	MIN. YIELD (KSI)	COMPONENT	ASTM DESIGNATION	MIN. YIELD (KSI)
POLE SHAFTS (TYPE 1&2)	A595 GR.A	55	LUM. ARM CONN. BOLTS	A325	
POLE SHAFTS (TYPE 3)	A572 GR.65	65	ANCHOR BOLTS	F1554 GR.55	55
MAST ARM SHAFTS	A595 GR.A	55	GALVANIZING	A123	
LUMINAIRE ARM SHAFT	A595 GR.A	55	GALVANIZING-HARDWARE	HOT DIP ZINC	
BASE PLATES (TYPE 1&2)	A36	36			
BASE PLATES (TYPE 3)	A572 GR.42	42			
ARM ATTACHMENTS	A36	36			
MAST ARM CONN. BOLTS	A325				



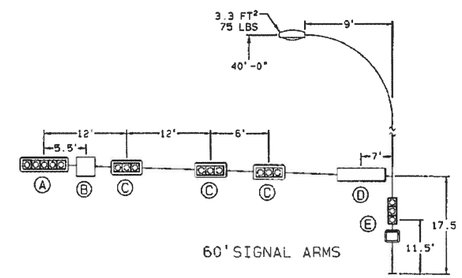
15' THRU 20' SIGNAL ARMS



35' THRU 55' SIGNAL ARMS



25' AND 30' SIGNAL ARMS



60' SIGNAL ARMS

DESIGN CRITERIA:

1994 AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS.

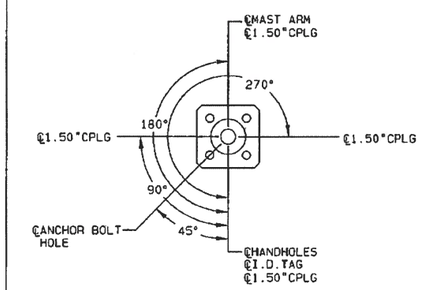
WIND VELOCITY:

80 MPH ISOTACH.

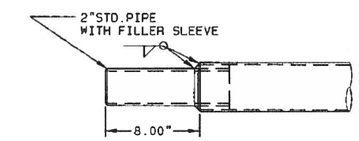
DEVICE	DESCRIPTION	PROJ. AREA (SQ.FT.)	WEIGHT (LBS)
(A)	12"-5 SEC. SIGNAL W/BACKPLATES	13.33	83
(B)	36" X 36" DIRECTIONAL SIGN	9.00	27
(C)	12"-3 SEC. SIGNAL W/BACKPLATES	8.67	53
(D)	18" X 84" STREET NAME SIGN	10.50	27
(E)	12"-3 SEC. SIGNAL & PED SIGNALS	9.50	135

MAX. LOADING INFORMATION

ALL ANGLES MEASURED CLOCKWISE FROM LOWER HANDHOLE AS VIEWED FROM SMALL END OF POLE

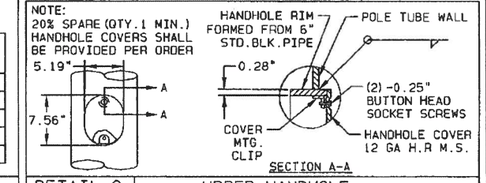


RADIAL INDEX



DETAIL 1 | DAVIT ARM END TENON

NOTE:
20% SPARE (QTY.1 MIN.) HANDHOLE COVERS SHALL BE PROVIDED PER ORDER



DETAIL 2 | UPPER HANDHOLE

POLE AND SIGNAL ARM DATA

POLE TYPE	POLE TUBE				SIGNAL ARM TUBE				SIGNAL ARM COUPLING LOCATIONS & ORIENTATIONS						
	BASE DIA. (IN)	TOP DIA. (IN)	LENGTH (FT)	GAUGE OR THK. (IN)	ARM SPAN (FT)	FIXED END DIA. (IN)	FREE END DIA. (IN)	GAUGE OR THICK (IN)	1.50" COUPLING DISTANCE FROM SMALL END OF ARM. / ANGLES CW. FROM TOP OF SIMPLEX AS VIEWED FROM SMALL END OF MAST ARM.						
1	11.00	8.41	18.50	3	15.00	6.00	3.90	7	0.25'/90°						7.5'/ 0°
					18.00	6.00	3.48	7	0.25'/90°	12'/90&180°					9'/ 0°
					20.00	6.00	3.20	7	0.25'/90°	12'/90&180°					10'/ 0°
					25.00	7.00	3.50	7	0.25'/90°	12'/90&180°					12.5'/ 0°
					30.00	8.00	3.80	7	0.25'/90°	12'/90&180°		24'/90&180°			15'/ 0°
2	13.00	10.41	18.50	3	35.00	9.00	4.10	7	0.25'/90°	12'/90&180°		24'/90&180°			17.5'/ 0°
					40.00	10.00	4.40	7	0.25'/90°	12'/90&180°	18'/90&180°	24'/90&180°	30'/90&180°		20'/ 0°
					45.00	10.50	4.20	7	0.25'/90°	12'/90&180°	18'/90&180°	24'/90&180°	30'/90&180°		22.5'/ 0°
3	15.00	12.41	18.50	0.2188	50.00	12.00	5.00	7	0.25'/90°	12'/90&180°	18'/90&180°	24'/90&180°			25'/ 0°
					55.00	13.00	5.53	DET.7	0.25'/90°	12'/90&180°	18'/90&180°	24'/90&180°	30'/90&180°		27.5'/ 0°
					60.00	13.00	4.83	DET.7	0.25'/90°	12'/90&180°	18'/90&180°	24'/90&180°	30'/90&180°	36'/90&180°	30'/ 0°

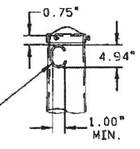
DAVIT LUMINAIRE ARM

FIXED END DIA. (IN)	FREE END DIA. (IN)	GAUGE OR THICK (IN)	LENGTH (FT)	RISE (FT)
6.15	3.87	11	16.31	11.50

POLE EXTENSION

FIXED END DIA (IN)	FREE END DIA. (IN)	GAUGE OR THICK (IN)	LENGTH (FT)	RISE (FT)
7.55	6.15	11	10.00	10.00

CAP PROVIDED WITH EACH POLE AND USED ONLY WHEN POLE EXTENSION IS NOT REQUIRED



"C" HOOK FOR WIRING AND HANDLING - 0.50" DIA. COMMERCIAL GRADE HOT ROLLED BAR

DETAIL 3 | POLE TOP

Special Detail #13

STATE OF TEXAS
BARRY N. SLADEK
91283
LICENSED PROFESSIONAL ENGINEER
8/8/13

REV	DRAWN BY-DATE	CHECK BY-DATE	DESCRIPTION
B	AC19 08/02/13	BDS 08/05/13	A.CAD TEM./-BS.CVAV-CPLBS03'-6"/-SIG. BRKTS/+1.5CPLG/H.H./ATT.BLTS
A	REM 04/22/99		ADDED RISE NOTE/REMOVED SHIM
—	BEG 12/16/95		— — — — — — — — — — — — — — — — — — — —

TITLE CITY OF AUSTIN, TX.
MASTARM & DAVIT EXTENSION TRAFFIC STRUCTURES

VALMONT INDUSTRIES, INC. RESERVES THE RIGHT TO INSTALL VARIOUS, ENGINEER APPROVED, MATERIAL HANGING ACCOMMODATIONS TO FACILITATE THE MANUFACTURING PROCESS.

valmont
Valley, NE 68064
(402) 359-2201

PAGE NUMBER: 1 OF 3
DRAWING NUMBER DB00410 REV B

REV NO.	BY	DATE	REVISION DESCRIPTION

STATE OF TEXAS
SCOTT A. FELDMAN
81938
REGISTERED PROFESSIONAL ENGINEER
2/5/20

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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

TRAFFIC SIGNAL DETAILS
SHEET 5 OF 7

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/JP	8/18
DESIGNED BY	JT/EZ	8/18
CHECKED BY	EZ/CG	8/18
REVIEWED BY	ESD	8/18

ENGINEERING SERVICES DIVISION

GP-2019-0210.ATD

ET505 | 117 OF 142

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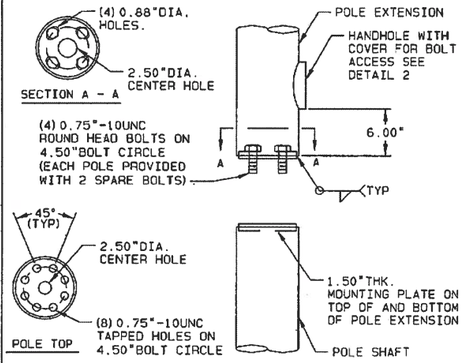
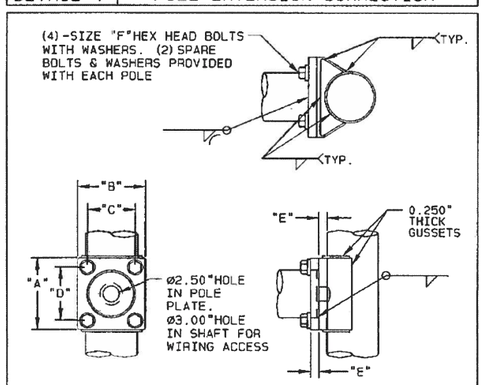
2/5/2020 8:47 AM
THIVAGARAN, JOTHIRA



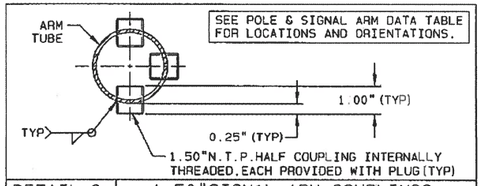
DETAIL 4 | POLE EXTENSION CONNECTION



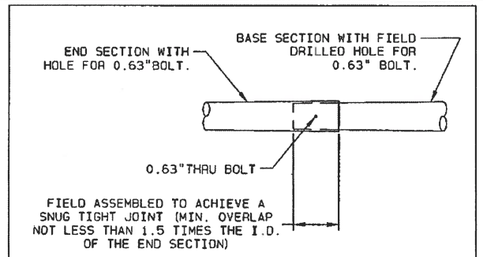
DETAIL 5 | SIGNAL ARM ATTACHMENT

SIGNAL ARM ATTACHMENT DATA

POLE TYPE	"A" (IN)	"B" (IN)	"C" (IN)	"D" (IN)	"E" (IN)	"F" (IN)
1	18.00	9.75	6.50	14.00	2.00	1.25"-7UNC X 4.25"LG
2	18.00	18.00	14.75	14.75	2.00	1.25"-7UNC X 4.25"LG
3	19.25	19.25	16.00	16.00	2.00	1.25"-7UNC X 4.25"LG

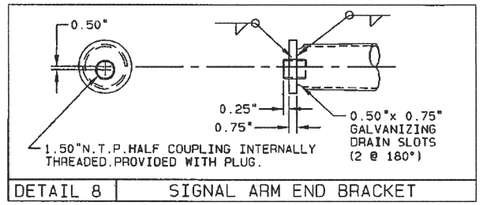


DETAIL 6 | 1.50"SIGNAL ARM COUPLINGS

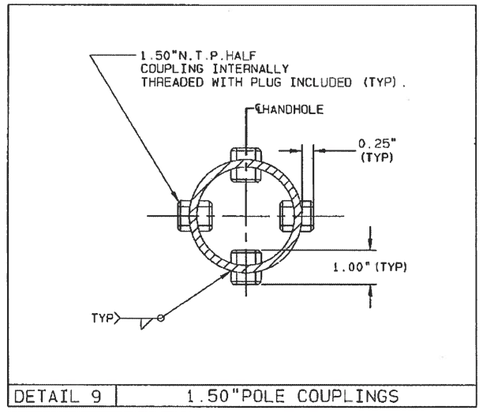


ARM LENGTH	BASE SECTION		END SECTION	
	LENGTH	GAUGE	LENGTH	GAUGE
55'-0"	50'-0"	7	6'-11"	11
60'-0"	50'-0"	5	11'-11"	11

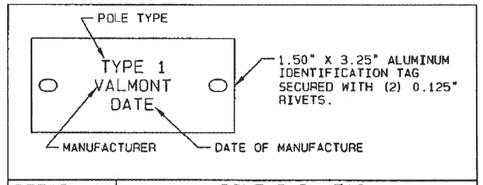
DETAIL 7 | SIGNAL ARM SLIP JOINT



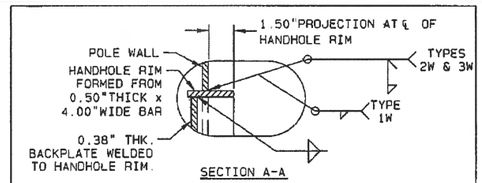
DETAIL 8 | SIGNAL ARM END BRACKET

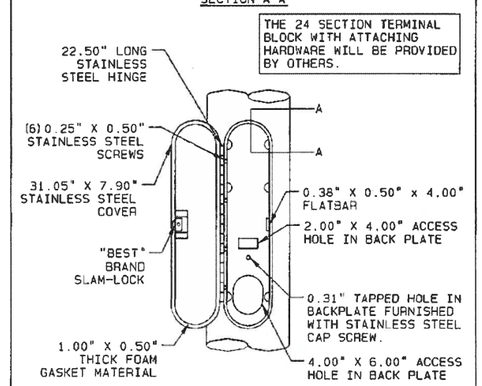


DETAIL 9 | 1.50"POLE COUPLINGS

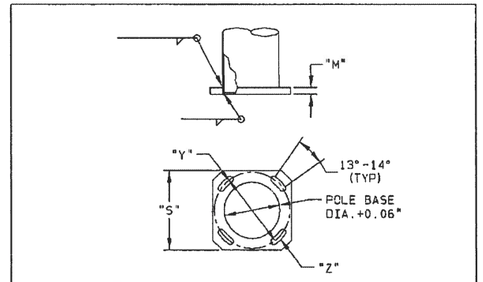


DETAIL 10 | POLE I.D. TAG



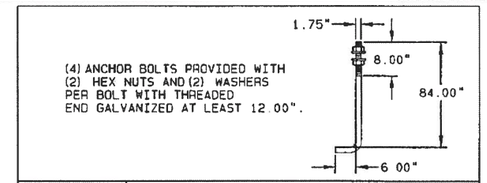


DETAIL 11 | BASE HANDHOLE



POLE TYPE	SQUARE "S" (IN)	BOLT CIRCLE "Y" (IN)	THK. "M" (IN)	SLOT "Z" (IN)
1	16.75	15.00	1.75	2.00 x 3.75
2 & 3	21.00	20.00	1.75	2.00 x 3.75

DETAIL 12 | POLE BASE



DETAIL 13 | ANCHOR BOLTS

STATE OF TEXAS
BARRY N. SLADEK
91283
LICENSED PROFESSIONAL ENGINEER
8/8/13

TITLE CITY OF AUSTIN, TX.
MASTARM & DAVIT EXTENSION TRAFFIC STRUCTURES

VALMONT INDUSTRIES, INC. RESERVES THE RIGHT TO INSTALL VARIOUS, ENGINEER APPROVED, MATERIAL HANGING ACCOMMODATIONS TO FACILITATE THE MANUFACTURING PROCESS.

valmont
Valley, NE 68064
(402) 359-2201

PAGE NUMBER: 2 OF 3
DRAWING NUMBER DB00410 REV B

REV NO.	BY	DATE	REVISION DESCRIPTION

STATE OF TEXAS
SCOTT A. FELDMAN
81938
REGISTERED PROFESSIONAL ENGINEER
2/5/20

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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

TRAFFIC SIGNAL DETAILS
SHEET 6 OF 7

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NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/JP	8/18
DESIGNED BY	JT/EZ	8/18
CHECKED BY	EZ/CG	8/18
REVIEWED BY	ESD	8/18

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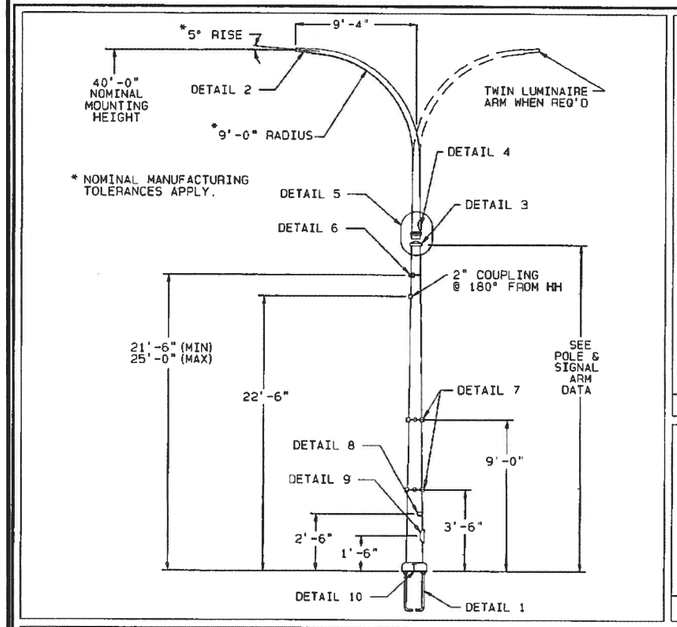
ENGINEERING SERVICES DIVISION

GP-2019-0210.ATD

THIVAGARAN, JOTHIKA

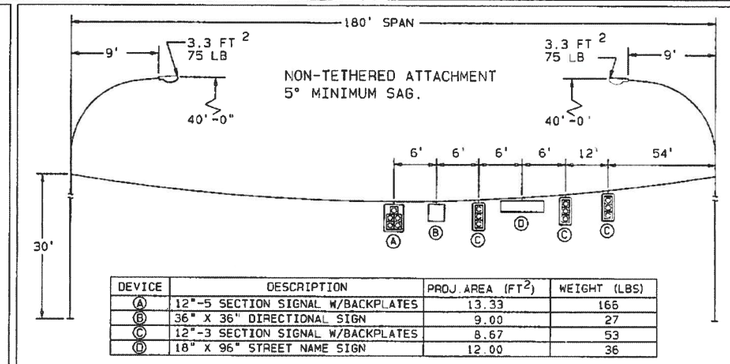


POLE AND ARM DATA TABLE

POLE TUBE					LUMINAIRE ARM TYPE 2					
POLE TYPE	BASE DIA. (IN)	TOP DIA. (IN)	LENGTH (FT)	GAUGE OR THICK (IN)	SGL. LUM. ARM QTY.	TWIN LUM. ARM QTY.	FIXED END DIA. (IN)	FREE END DIA. (IN)	GAUGE OR THICK (IN)	RISE (FT)
0	14.00	9.73	30.50	0.25	2	1	6.15	3.87	11	11.50

MATERIAL DATA

COMPONENT	ASTM DESIGNATION	MIN. YIELD (KSI)
POLE SHAFTS (TYPE 0)	A572 GR.65	65
BASEPLATES (TYPE 0)	A36	36
LUMINAIRE ARM SHAFTS	A595 GR. A	55
LUMINAIRE ARM CONN. BOLTS	A325	
ANCHOR BOLTS	F1554 GR.55	55
GALVANIZING	A123 & A153	

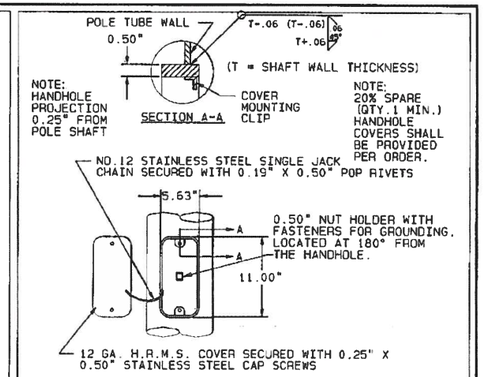


DEVICE	DESCRIPTION	PROJ. AREA (FT^2)	WEIGHT (LBS)
A	12"-5 SECTION SIGNAL W/BACKPLATES	13.33	166
B	36" X 36" DIRECTIONAL SIGN	9.00	27
C	12"-3 SECTION SIGNAL W/BACKPLATES	8.67	53
D	18" X 96" STREET NAME SIGN	12.00	36

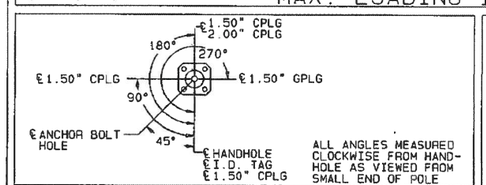
DESIGN CRITERIA:
1994 AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS.

WIND VELOCITY:
80 MPH ISOTACH.

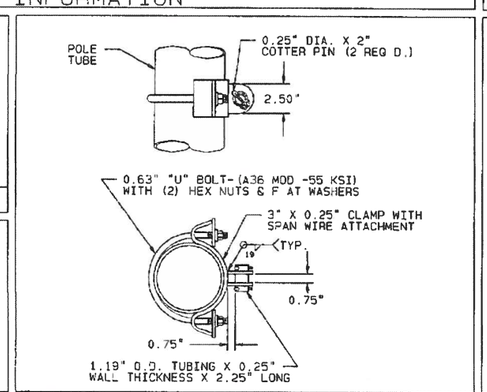
MAX. LOADING INFORMATION



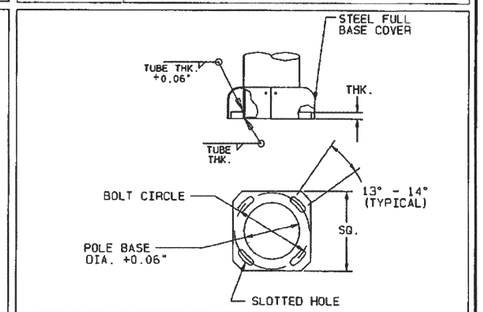
DETAIL 9 | HANDHOLE POLE TYPE 0



RADIAL INDEX

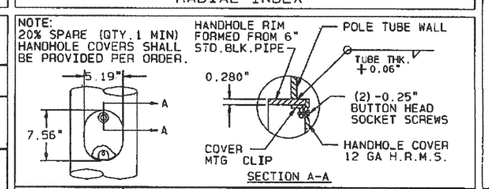


DETAIL 6 | SPAN WIRE CLAMP

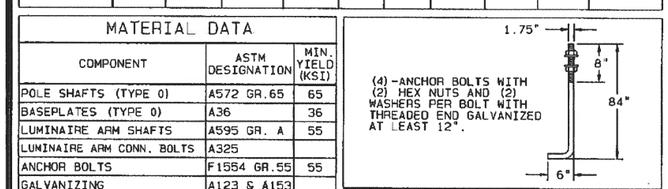


POLE TYPE	BOLT CIRCLE	SQUARE	THICK	SLOT
0	20.00"	21.00"	1.75"	2.00" X 4.38"

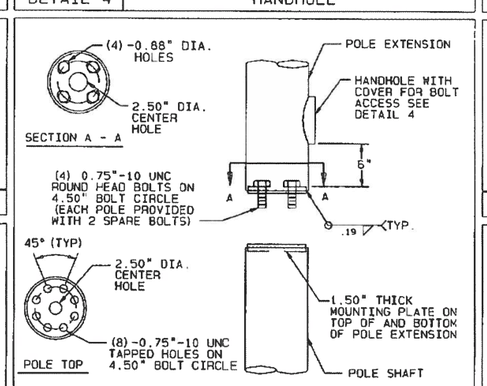
DETAIL 10 | POLE BASE



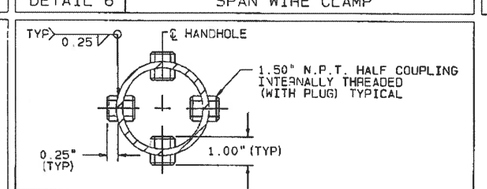
DETAIL 4 | HANDHOLE



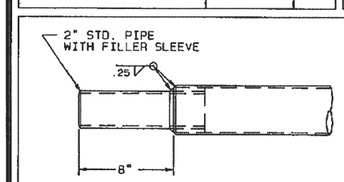
DETAIL 1 | ANCHOR BOLT



DETAIL 5 | POLE EXTENSION CONNECTION



DETAIL 7 | COUPLINGS

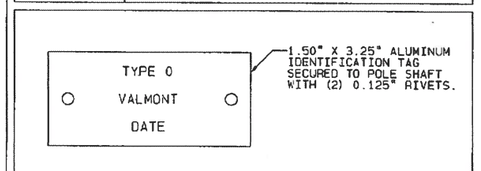


DETAIL 2 | DAVIT ARM END TENON

CAST POLE TOP CAP HELD IN PLACE WITH 3 PLATED SET SCREWS.

CAP PROVIDED WITH EACH POLE AND USED ONLY WHEN POLE EXTENSION IS NOT REQUIRED.

DETAIL 3 | POLE TOP



DETAIL 8 | I.D. TAG

STATE OF TEXAS
BARRY N. SLADEK
91283
LICENSED
PROFESSIONAL ENGINEER
8/8/13

TITLE CITY OF AUSTIN, TX.
SPAN WIRE TRAFFIC STRUCTURES

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valmont
Valley, NE 68064
(402) 359-2201

PAGE NUMBER: 3 OF 3
DRAWING NUMBER DB00410 REV B

REV NO.	BY	DATE	REVISION DESCRIPTION

SCOTT A. FELDMAN 81938 REGISTERED PROFESSIONAL ENGINEER
2/5/20
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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

TRAFFIC SIGNAL DETAILS
SHEET 7 OF 7

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/JP	8/18
DESIGNED BY	JT/EZ	8/18
CHECKED BY	EZ/CG	8/18
REVIEWED BY	ESD	8/18

ENGINEERING SERVICES DIVISION

GP-2019-0210.ATD

ET507 | 119 OF 142

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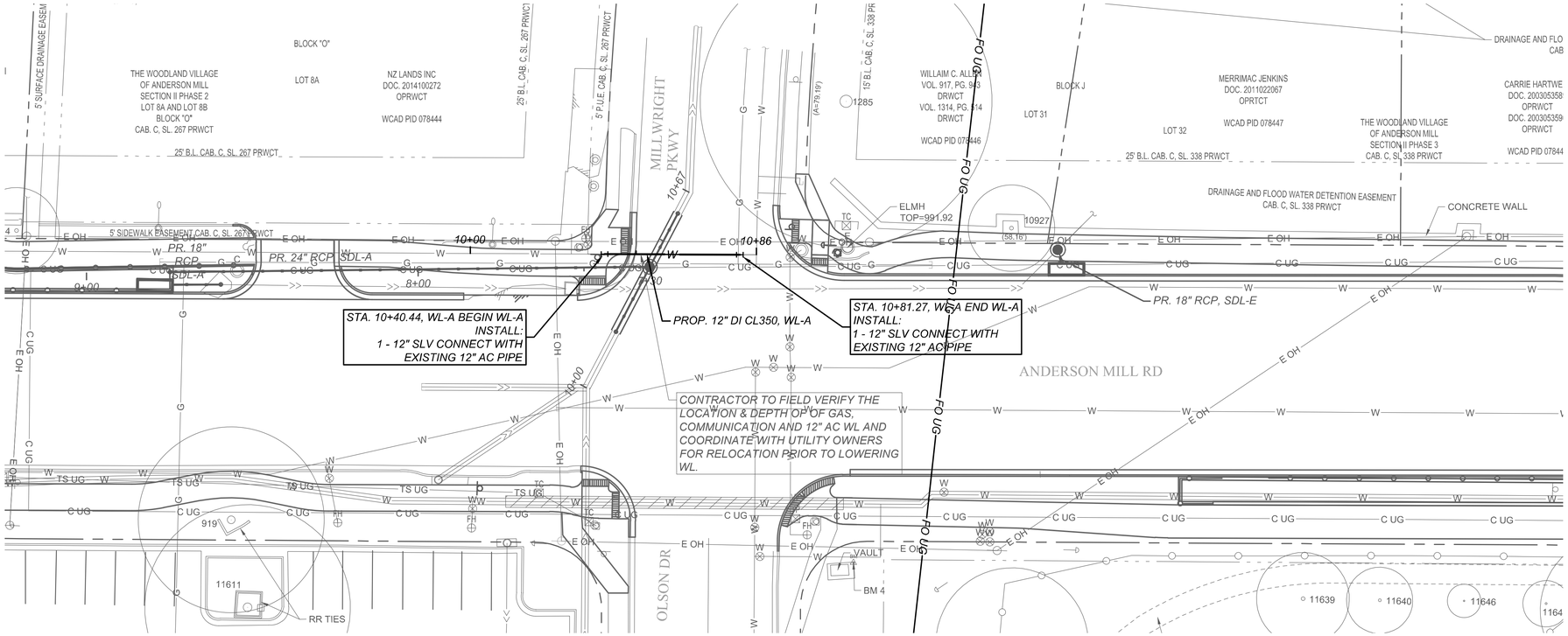
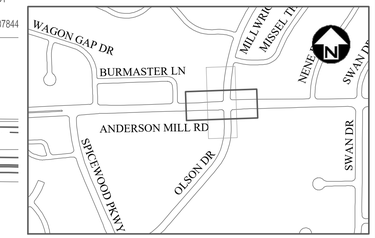
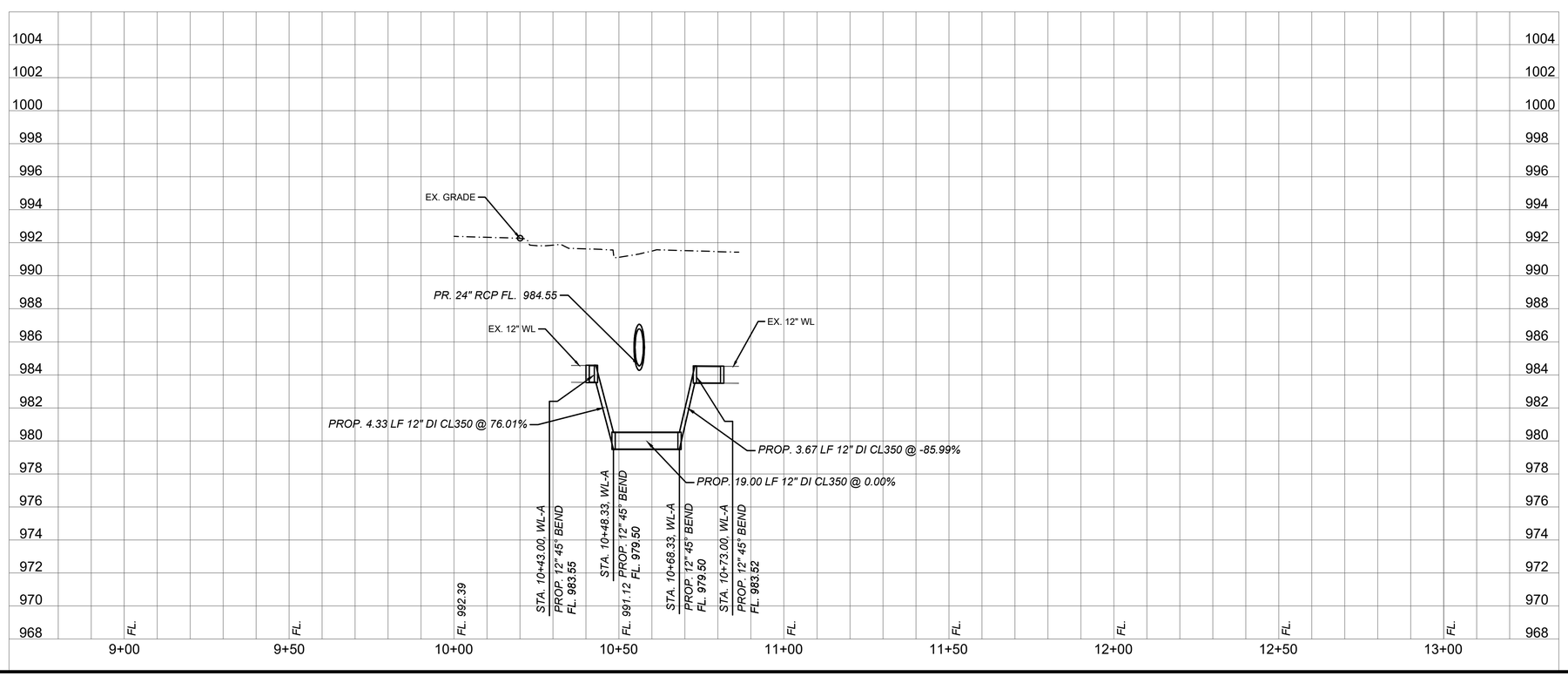
THIVAGARAN, JOTHIKA







NOTE:
1. CONTRACTOR NEED TO FIELD VERIFY THE EXISTING UTILITIES ELEVATION.
2. CONFLICTING GAS LINE AND COMMUNICATION LINE NEED TO BE RELOCATED BY OTHERS.

REV. NO.	BY	DATE	REVISION DESCRIPTION

STATE OF TEXAS
XIAOQIN ZHANG, P.E.
96436
LICENSED
PROFESSIONAL ENGINEER
01/29/2020

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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

WATER PLAN & PROFILE
MILLWRIGHT

CITY OF AUSTIN FOUNDED 1839

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/JP	8/18
DESIGNED BY	JT/EZ	8/18
CHECKED BY	EZ/CG	8/18
REVIEWED BY	ESD	8/18

0 20 40
HORIZONTAL SCALE IN FEET
0 4 8
VERTICAL SCALE IN FEET

GP-2019-0210.ATD

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BARRICADING SUMMARY TABLE

STREETS

STREET	CLASSIFICATION	PROTECTION	STREET FROM	STREET TO	PLANNED IMPROVEMENTS	TRAFFIC CONTROL PLAN SHEET / DETAIL	ALLOWED BARRICADING HOURS	DURATION (*)	COMMENTS
ANDERSON MILL ROAD (EB)	ARTERIAL	N/A	CROSSTIMBER DRIVE	SWANDRIVE	DRIVEWAYS, CURB & GUTTER, DRAINAGE & SHARE USE PATH IMPROVEMENTS	CT101	MON - FRI:10:00 AM TO 2:30 PM; WEEKENDS:7AM - 7PM		SCHOOL ZONE
ANDERSON MILL ROAD (EB)	ARTERIAL	N/A	SWAN DRIVE	9725 ANDERSON MILL RD	DRIVEWAYS, CURB & GUTTER, DRAINAGE & SHARE USE PATH IMPROVEMENTS	CT102	MON - FRI:10:00 AM TO 3:00 PM; WEEKENDS:7AM - 7PM		
ANDERSON MILL ROAD (EB)	ARTERIAL	N/A	9725 ANDERSON MILL RD	US - 183	DRIVEWAYS, CURB & GUTTER, DRAINAGE & SHARE USE PATH IMPROVEMENTS	CT103	MON - FRI:10:00 AM TO 3:00 PM; WEEKENDS:7AM - 7PM		
ANDERSON MILL ROAD (MEDIAN & WB)	ARTERIAL	N/A	US - 183	9707 ANDERSON MILL RD	MEDIAN, DRIVEWAYS, CURB & GUTTER, DRAINAGE & SHARE USE PATH IMPROVEMENTS	CT104	MON - SUN: 8:00 PM TO 5:00 AM		TXDOT ROW (SEE NOTE IN SHEET CT104)
ANDERSON MILL ROAD (WB)	ARTERIAL	N/A	9707 ANDERSON MILL RD	SWALLOW DR	DRIVEWAYS, CURB & GUTTER, DRAINAGE & SHARE USE PATH IMPROVEMENTS	CT105	MON - FRI:10:00 AM TO 3:00 PM; WEEKENDS:7AM - 7PM		
ANDERSON MILL ROAD (WB)	ARTERIAL	N/A	SWALLOW DRIVE	SPICEWOOD PKWY	DRIVEWAYS, CURB & GUTTER, DRAINAGE & SHARE USE PATH IMPROVEMENTS	CT106	MON - FRI:10:00 AM TO 2:30 PM; WEEKENDS:7AM - 7PM		SCHOOL ZONE

(*) PRIOR TO APPROVAL OF ROW PERMIT CONTRACTOR SHALL COMPLETE THE DURATION COLUMN OF THIS TABLE BASED UPON THE PROJECT SEQUENCING REQUIREMENTS AND PROPOSED MEANS AND METHODS FOR CONSTRUCTING THE PROJECT.

INTERSECTIONS

STREET INTERSECTION	PLANNED IMPROVEMENTS	TRAFFIC CONTROL PLAN SHEET / DETAIL	ALLOWED BARRICADING HOURS	DURATION (*)	COMMENTS
ANDERSON MILL ROAD WITH SPICEWOOD PARKWAY, BURMASTER LANE & WAGON GAP DRIVE & OLSON DRIVE	CURB RAMPS & DRAINAGE IMPROVEMENTS	CT101	MON - FRI:10:00 AM TO 3:00 PM; WEEKENDS:7AM - 7PM		
ANDERSON MILL ROAD & SWAN DRIVE,	CURB RAMPS & DRAINAGE IMPROVEMENTS	CT102	MON - FRI:10:00 AM TO 3:00 PM; WEEKENDS:7AM - 7PM		
EAST BOUND ON ANDERSON MILL ROAD & US 183 HIGHWAY	CURB RAMPS & DRAINAGE IMPROVEMENTS	CT103	MON - FRI:10:00 AM TO 3:00 PM; WEEKENDS:7AM - 7PM		
US 183 HIGHWAY & WEST BOUND ON ANDERSON MILL ROAD	CURB RAMPS & DRAINAGE IMPROVEMENTS	CT104	MON - FRI:10:00 AM TO 3:00 PM; WEEKENDS:7AM - 7PM		
ANDERSON MILL ROAD WITH SWALLOW DRIVE & SWAN DRIVE	CURB RAMPS & DRAINAGE IMPROVEMENTS	CT105	MON - FRI:10:00 AM TO 3:00 PM; WEEKENDS:7AM - 7PM		
ANDERSON MILL ROAD WITH SWAN DRIVE, NENE DRIVE, MILLWRIGHT PARKWAY, BURMASTER LANE & WAGON GAP DRIVE	CURB RAMPS & DRAINAGE IMPROVEMENTS	CT106	MON - FRI:10:00 AM TO 2:30 PM; WEEKENDS:7AM - 7PM		SCHOOL ZONE

(*) PRIOR TO APPROVAL OF ROW PERMIT CONTRACTOR SHALL COMPLETE THE DURATION COLUMN OF THIS TABLE BASED UPON THE PROJECT SEQUENCING REQUIREMENTS AND PROPOSED MEANS AND METHODS FOR CONSTRUCTING THE PROJECT.

RIGHT OF WAY MANAGEMENT STANDARD NOTES

1. FOR RIGHT OF WAY VIOLATIONS INCLUDING BUT NOT LIMITED TO WORKING WITHOUT A PERMIT OR AN EXPIRED PERMIT WITHIN THE CITY OF AUSTIN ROW AN INVESTIGATION FEE WILL BE ASSESSED FOR EACH OFFENSE UNTIL THE VIOLATION IS CORRECTED. FOLLOWING IS THE INVESTIGATION FEE SCHEDULE FOR VIOLATIONS OF PUBLIC SAFETY:

A. NO OR EXPIRED PERMIT = EQUAL TO THE COST OF THE PERMIT
B. VIOLATION OF PERMIT CONDITIONS, RESTRICTION LIMITS, TIMES AND LOCATIONS ON ROW PERMIT = $250
C. IMPROPER ADVANCE WARNING SIGN = $250
D. IMPROPER USE OF DEVICE = $250
E. FAILURE TO CORRECT DEFICIENCY = $500
F. RESTRICTING TRAFFIC DURING PEAK HOURS = EQUAL TO THE COST OF THE PERMIT
G. MULTIPLE VIOLATIONS = UP TO A 4 DAY SUSPENSION OF WORK

2. CONTRACTORS AND THEIR SUBCONTRACTORS MUST BE LICENSED BY THE CITY OF AUSTIN FOR CONDUCTING WORK WITHIN THE RIGHT OF WAY.

3. CONTRACTOR MUST OBTAIN RIGHT OF WAY EXCAVATION PERMITS FROM RIGHT OF WAY MANAGEMENT DIVISION, FOR EACH STREET PRIOR TO COMMENCEMENT OF WORK. PLEASE CALL (512) 974-1150 FOR ADDITIONAL INFORMATION REGARDING PERMITTING PROCESS AND THE MOST CURRENT RIGHT OF WAY PERMITTING FEE SCHEDULE.

4. FOR WORK AT SIGNALIZED INTERSECTIONS CONTRACTOR MUST DIAL 311 OR (512) 974-2000 TO INITIATE A CITIZENS SERVICE REQUEST (CSR) FOR THE TRAFFIC SIGNALS GROUP; TO COORDINATE AND GAIN APPROVAL A MINIMUM OF 1 WEEK PRIOR TO CHANGE OF PROJECT LOCATION OR PHASE.

5. CONTRACTOR SHALL HAVE AN APPROVED RIGHT OF WAY PERMIT ON SITE AT ALL TIMES WHEN WORKING IN THE ROW.

6. CONTRACTOR MUST DIAL 311 OR (512) 974-2000 TO INITIATE A CITIZENS SERVICE REQUEST (CSR) FOR RIGHT OF WAY MANAGEMENT A MINIMUM OF 1 WEEK PRIOR TO START OF WORK.

7. CONTRACTOR MUST PROVIDE TRAINING CERTIFICATION OF COMPETENT PERSON THAT WILL BE RESPONSIBLE FOR THE TRAFFIC CONTROL PLACEMENT, TO RIGHT OF WAY INSPECTOR, PRIOR TO START OF WORK.

8. STORAGE OF EQUIPMENT AND/OR MATERIAL WITHIN THE ROW.

A. STORAGE OF EQUIPMENT IN THE ROW IS PERMISSIBLE ONLY WITHIN THE CURRENT LIMITS OF LONG-TERM OR INTERMEDIATE-TERM CLOSURES AND SHALL BE LIMITED TO THE EQUIPMENT REQUIRED FOR THE CURRENT WORK ACTIVITY. THIS EQUIPMENT SHALL BE PROTECTED BEHIND BARRICADES.

B. STORAGE OF MATERIAL IN THE ROW IS PERMISSIBLE ONLY WITHIN THE CURRENT LIMITS OF LONG-TERM OR INTERMEDIATE-TERM CLOSURES AND SHALL BE LIMITED TO NO MORE THAN THE MATERIAL REQUIRED FOR THREE DAYS OF PRODUCTION. THIS MATERIAL SHALL BE PROTECTED BEHIND WATER-FILLED BARRIER.

C. EQUIPMENT OR MATERIAL STORED IN THE ROW SHALL NOT CREATE A VISUAL BARRIER TO TRAFFIC.

9. NO MORE THAN ONE WORK ZONE LOCATION MAY BE SET AT ONE TIME.

10. PEAK HOURS FOR ARTERIAL AND COLLECTOR STREETS ARE 6AM TO 9AM AND 4PM TO 6 PM, MONDAY THROUGH FRIDAY. NO DISRUPTION OR REDUCTION OF ACTIVE ROADWAY OR PEDESTRIAN ROUTE CAPACITY SHALL OCCUR DURING THESE TIMES, UNLESS ALLOWED BY TRAFFIC CONTROL PLAN.

11. EXCAVATIONS SHALL BE BACKFILLED OR PLATED WHEN REQUIRED TO OPEN IMPACTED TRAFFIC LANES. FOR EXCAVATIONS EXCEEDING A TRANSVERSE WIDTH OF 5 FEET, THE CONTRACTOR SHALL PROVIDE AN ENGINEERED PLATING PLAN TO THE OWNER'S REPRESENTATIVE FOR REVIEW BY RIGHT OF WAY MANAGEMENT DIVISION. PER 804S-4, 5 OF 9.

12. EXISTING SIDEWALKS AND BEATEN PATHS SHALL BE MAINTAINED AS ADA COMPLIANT THROUGHOUT THE PROJECT DURATION WITH THE EXCEPTION OF FINAL FLATWORK AND UTILITY TIE-INS. ANY WORK OVERHEAD WITHIN 25 FEET OF EXISTING PEDESTRIAN PATHWAYS WILL REQUIRE PEDESTRIAN COVERED WALKWAYS. SIDEWALK CLOSURES FOR MAJOR SIDEWALK IMPROVEMENTS HAVE A 14-DAY MAXIMUM PERIOD AND SHALL BE COMPLETED IN PHASES AS TO NOT CLOSE MORE THAN ONE BLOCK AT A TIME.

13. "ROAD WORK AHEAD" AND "CONSTRUCTION ENTRANCE AHEAD" SIGNS MUST BE PLACED AT ALL APPROACHES TO STABILIZED CONSTRUCTION ENTRANCE. SEE THE CITY OF AUSTIN STANDARD DETAILS FOR SIGN SPACING.

14. DRIVEWAYS SHALL NOT BE CLOSED FOR MORE THAN 3 CONSECUTIVE CALENDAR DAYS.

15. ADA COMPLIANCE SHALL BE MAINTAINED THROUGH STABILIZED CONSTRUCTION ENTRANCE.

16. BARRIER SHALL BE PLACED WITHIN GUIDELINES SET FORTH BY THE TMUTCD CRASH TESTING REQUIREMENTS (NCHRP REPORT 350) FOR THAT PARTICULAR BARRIER USED. ANY MODIFICATIONS TO THAT TESTING APPLICATION SHALL BE APPROVED BY THE ENGINEER OF RECORD.

17. FOR OVERNIGHT PROTECTION OF WORK ZONES WITHIN THE ROW, REFER TO CITY OF AUSTIN STANDARD 804S-4 SERIES DETAILS.

18. ALL TEMPORARY PAVING SHALL CONFORM TO CITY OF AUSTIN STANDARD DETAIL 1100S-4.

19. INITIAL AND PHASE CHANGE TRAFFIC CONTROL CHANGES SHALL BE INSTALLED ON THE WEEKENDS.

20. THE NAME AND TELEPHONE NUMBER OF THE CONTRACTOR OR SUPPLIER SHALL BE SHOWN ON THE NON-REFLECTIVE SURFACE OF ALL CHANNELIZING DEVICES IN ACCORDANCE WITH THE CITY OF AUSTIN STANDARD 800 SERIES DETAILS.

EXCEPTIONS TABLE

NOTE #	EXPLANATION OF EXCEPTION

STREET PROTECTION & CLASSIFICATION:

STREET PROTECTION AND CLASSIFICATION ARE BASED ON PUBLIC WORKS PROTECTION STREETS LIST DATED JANUARY 3, 2019.

NOTES FOR CONTRACTOR:

1. CONTRACTOR TO MAINTAIN ACCESS TO ALL RESIDENT'S DRIVEWAYS DURING CONSTRUCTION.

2. ONE WEEK PRIOR TO CONSTRUCTION, PUBLIC OUTREACH IS REQUIRED AND CONTRACTOR TO CALL THE 311 SYSTEM.

3. EXISTING SIDEWALKS SHALL REMAIN ACCESSIBLE AT ALL TIMES. IF NEEDED, A CONSTRUCTION FENCE SHALL BE PLACED FOR PEDESTRIAN SAFETY.

4. CONTRACTOR MAY USE COA STANDARD DETAIL 804S-1,SHEET 9 OF 9 FOR SIGN SPACING.

MESSAGE BOARD TO READ AS FOLLOWS:

"UTILITY _ " "STARTING" "FOLLOW _ _"
"WORK _ _ _ _" "# # / # # _ _ _" "DETOUR _ _"

(# - THE MONTH AND DAY IN TWO DIGIT NUMBERS)

(MESSAGE BOARD ADVISES OF CONSTRUCTION PLACED A WEEK PRIOR TO CONSTRUCTION, INSTALL NOT TO BLOCK SIDEWALK)

5. CONTRACTOR MUST COVER CONFLICTING SIGNAGE

CAPITAL METRO BUS STOP COORDINATION:

1. FOR ANY CONSTRUCTION THAT WILL POTENTIALLY IMPACT BUS ROUTES OR BUS STOPS FOR THE CAPITAL METRO SERVICE AREA, CONTACT MARK A. HERRERA (512) 369-6548 OR MARK.HERRERA@CAPMETRO.ORG AT LEAST 48 HOURS PRIOR TO TRAFFIC CONTROL SET UP.

SPECIAL PEDESTRIAN ACCOMMODATION NOTES:

1. PEDESTRIAN TRAFFIC MUST BE MAINTAINED. SIDEWALK CLOSURES USING COA SD 804S-1, 4 ARE ACCEPTABLE ONLY IN SITUATIONS WHERE PEDESTRIANS CAN BE DETOURED AROUND THE CLOSURE WITHIN ONE BLOCK, AND/OR WITHIN A DISTANCE LESS THAN OR EQUAL TO 1000 LF. PEDESTRIAN STREET CROSSINGS CAN BE MADE AT DESIGNATED CROSSWALKS ONLY. IF SIDEWALK CLOSURE IS NECESSARY TO ACCOMMODATE WORK WITHOUT AN ACCEPTABLE PEDESTRIAN DETOUR ROUTE, CONTRACTOR IS RESPONSIBLE TO PROVIDE COMPETENT/TRAINED PERSONNEL TO ASSIST PEDESTRIANS IN TRAVERSING THROUGH THE WORK ZONE SAFELY. THE PREFERRED SIDEWALK DIVERSION DIRECTION IS BETWEEN THE WORK ACTIVITY AND ROW/PROPERTY LINE, PROVIDED THIS IS WITH ASSISTANCE OF COMPETENT CONTRACTOR PERSONNEL. SHOULD CERTAIN SITE FEATURES PREVENT SIDEWALK DIVERSION BEHIND THE WORK ZONE, PEDESTRIANS MAY BE DIVERTED UNTO PRIVATE PROPERTY ONLY WITH PREVIOUS AFFECTED PROPERTY OWNER PERMISSION, OR INTO A PRE-APPROVED TRAFFIC LANE CLOSURE, WITH AN APPROVED PEDESTRIAN PROTECTION PLAN. IN EVERY CASE, A PEDESTRIAN TRAVERSING THROUGH A WORK ZONE EITHER ON EXISTING SIDEWALK OR BEATEN PATH, OR DIVERTED THROUGH A WORK ZONE MUST BE ASSISTED BY CONTRACTOR'S COMPETENT/TRAINED PERSONNEL. SAFETY OF PEDESTRIANS IN WORK ZONES IS CONTRACTOR'S RESPONSIBILITY. IF CONTRACTOR OBSERVED ANY SAFETY CONCERNS, THEY SHOULD CEASE WORK ACTIVITY, RESTORE PEDESTRIAN TRAFFIC, AND CONTACT COA ROW MANAGEMENT AND THE ENGINEER IMMEDIATELY.

REV NO.	BY	DATE	REVISION DESCRIPTION

STATE OF TEXAS
XIAOQIN ZHANG, P.E.
96436
LICENSED
PROFESSIONAL ENGINEER
01/29/2020

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY XIAOQIN ZHANG, P.E. LIC. # 96436

I CERTIFY THAT THESE DRAWINGS ARE COMPLETE, ACCURATE AND ADEQUATE FOR THEIR INTENDED PURPOSES, INCLUDING CONSTRUCTION, BUT ARE NOT AUTHORIZED FOR CONSTRUCTION UNTIL FORMAL CITY APPROVAL.

CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

TRAFFIC CONTROL NOTES

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/JP	8/18
DESIGNED BY	JT/EZ	8/18
CHECKED BY	EZ/CG	8/18
REVIEWED BY	ESD	8/18

ESD
ENGINEERING SERVICES DIVISION

GP-2019-0210.ATD

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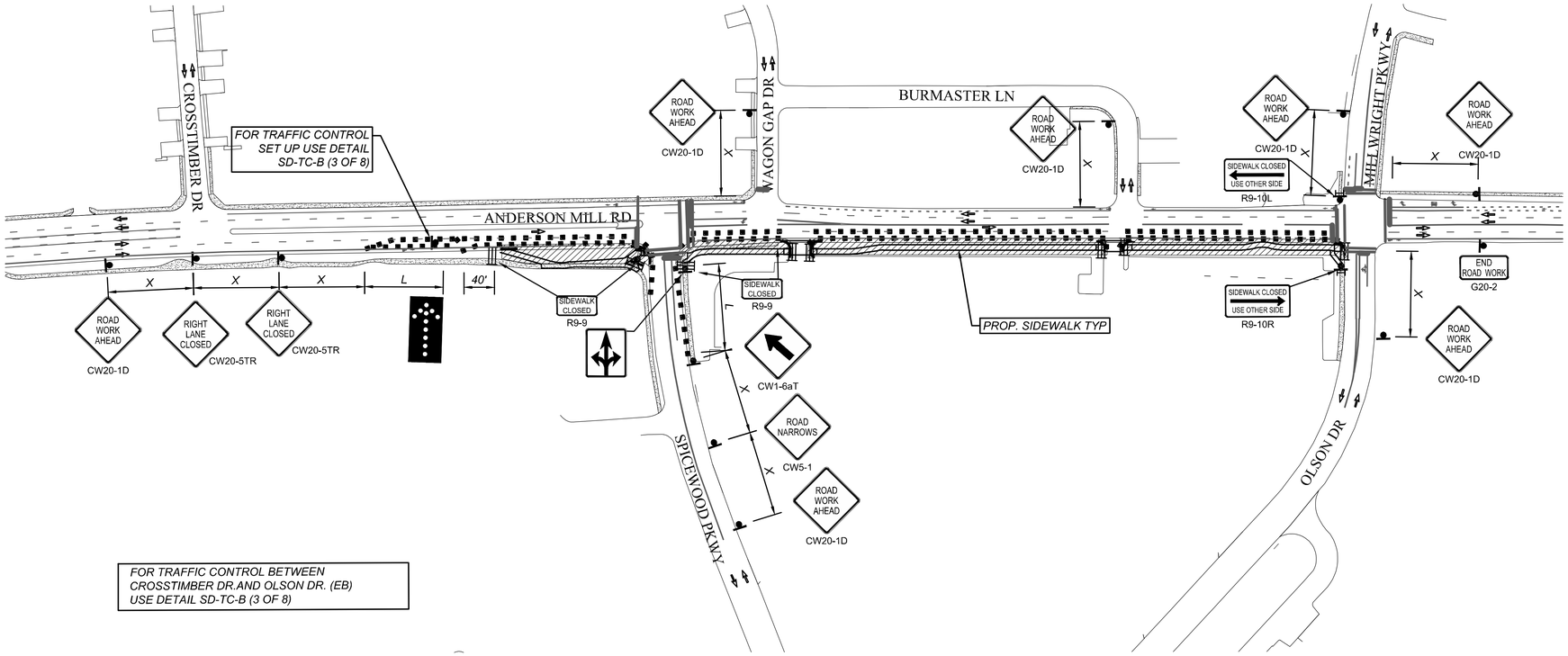

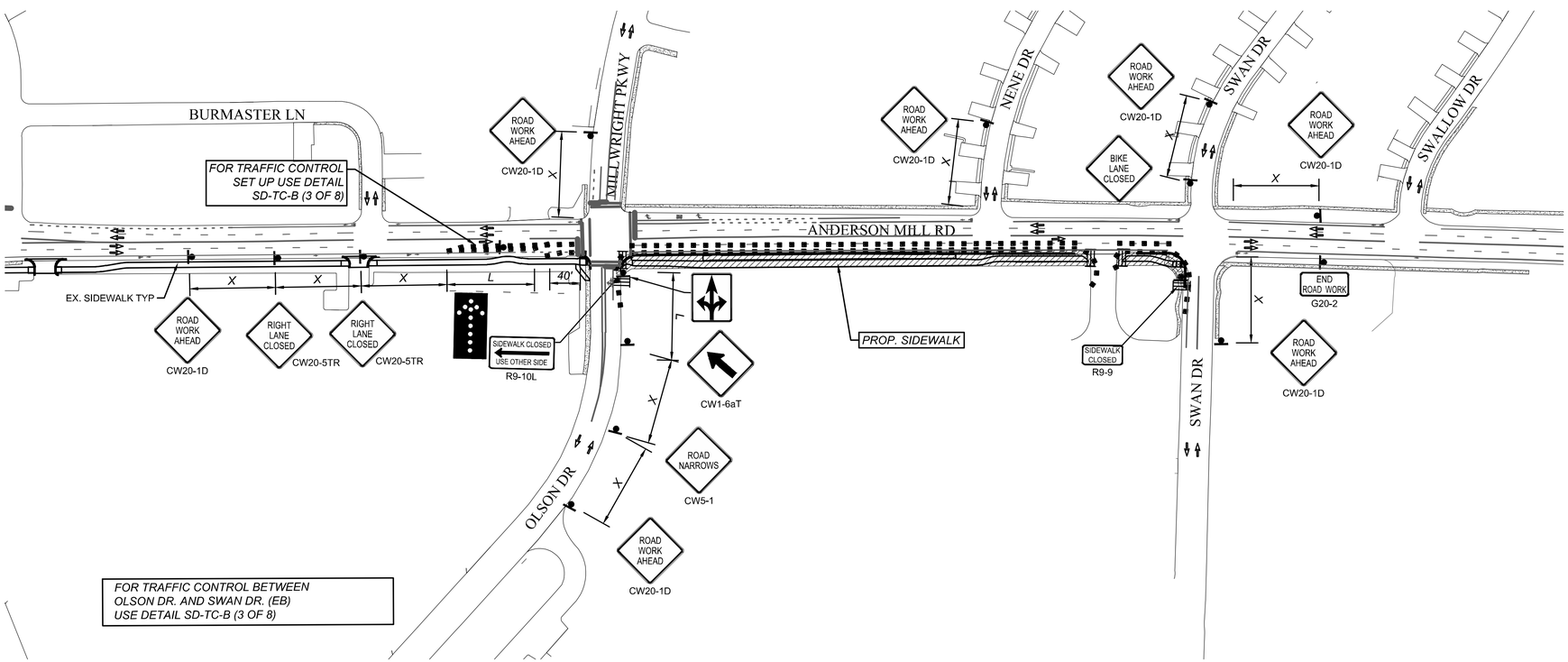

NOTE:
1. FOR BIKE LANE CHANNELIZING USE SD-TC-B
2. CONTRACTOR MUST COVER CONFLICTING SIGNAGE

LEGEND

- CONSTRUCTION AREA
- DRUMS OR 42" CONES @ 15' C-C
- WATER FILLED BARRIER
- X — TEMPORARY TRAFFIC SPACING
- TYPE I BARRICADE
- TYPE III BARRICADE
- FLAGGER
- TEMPORARY TRAFFIC SIGN
- TRAFFIC FLOW DEPICTION
- TEMPORARY PAVEMENT MARKING
- MESSAGE BOARD
- ARROW BOARD

SEE COA STANDARD DETAIL 804S-1 SERIES FOR MORE DETAILS

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DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

TRAFFIC CONTROL PLAN
SHEET 1 OF 6

CITY OF AUSTIN FOUNDED 1839

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/JP	8/18
DESIGNED BY	JT/EZ	8/18
CHECKED BY	EZ/CG	8/18
REVIEWED BY	ESD	8/18

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HORIZONTAL SCALE IN FEET

GP-2019-0210.ATD

CT101 | 122 OF 142

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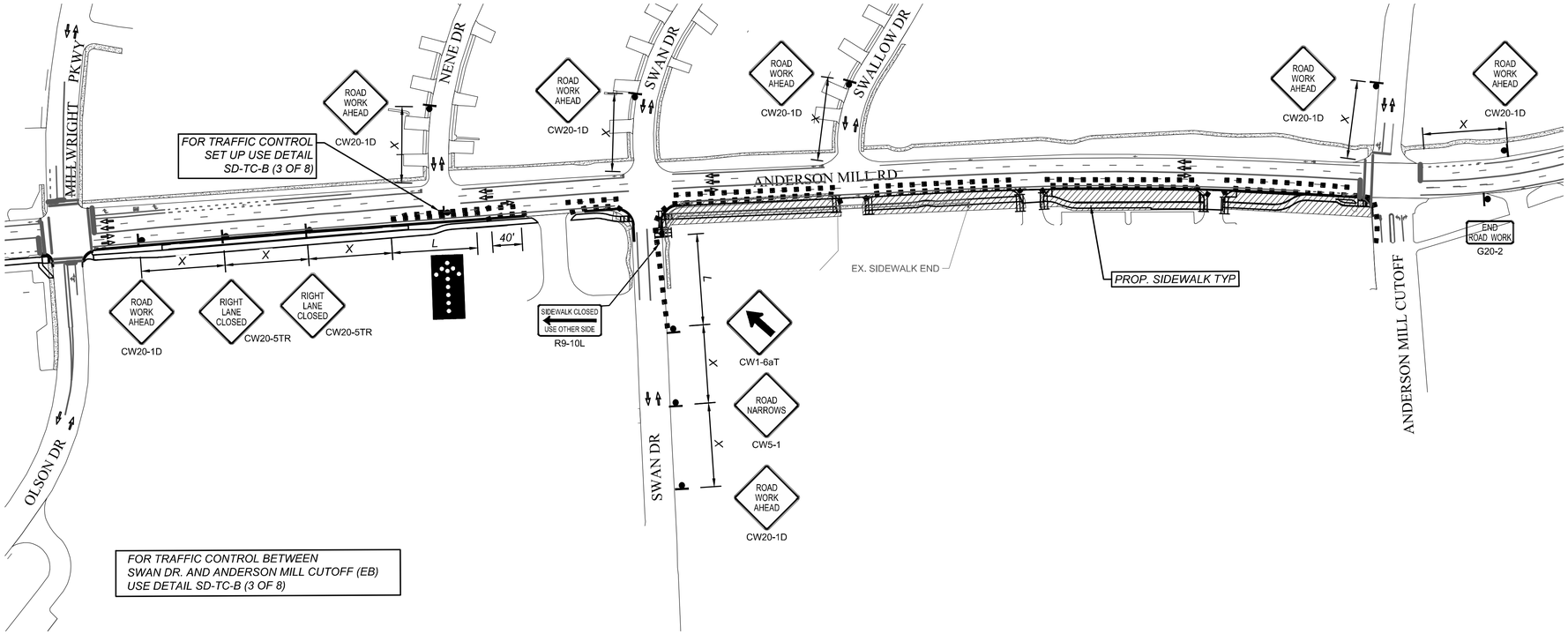

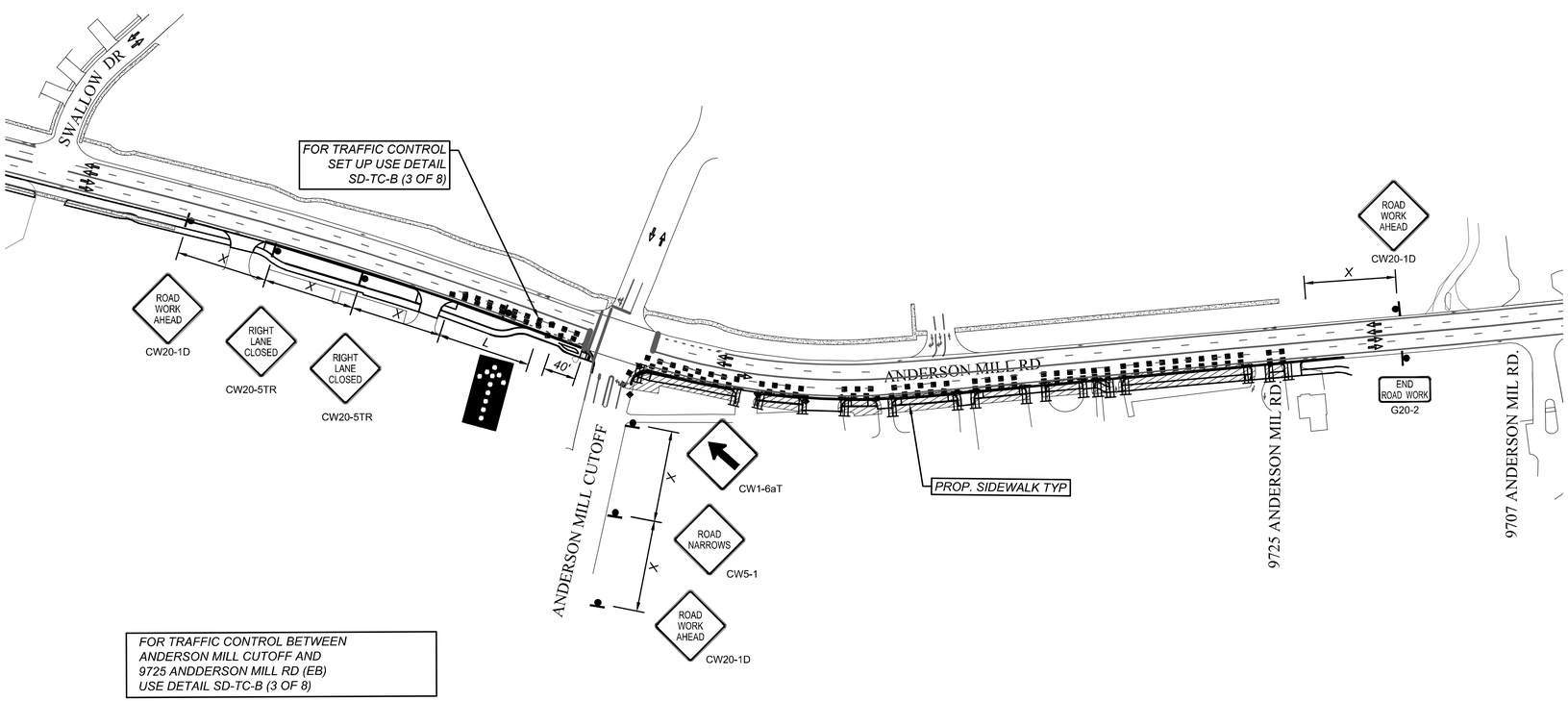

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LEGEND

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- MESSAGE BOARD
- ARROW BOARD

SEE COA STANDARD DETAIL 804S-1 SERIES FOR MORE DETAILS

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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

TRAFFIC CONTROL PLAN
SHEET 2 OF 6

CITY OF AUSTIN
FOUNDED 1839

NOTES	NAME	DATE
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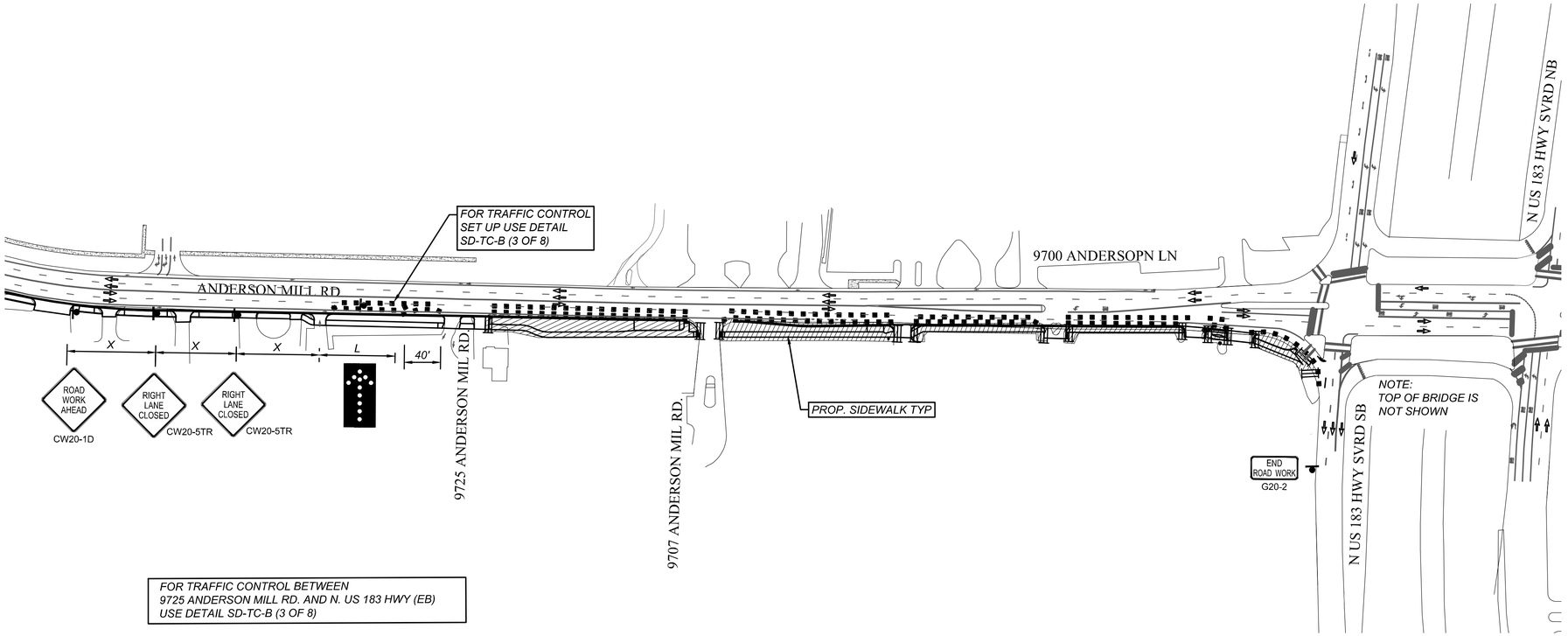

FOR TRAFFIC CONTROL BETWEEN
9725 ANDERSON MILL RD. AND N. US 183 HWY (EB)
USE DETAIL SD-TC-B (3 OF 8)

NOTE:
1. FOR BIKE LANE CHANNELIZING USE SD-TC-B
2. CONTRACTOR MUST COVER CONFLICTING SIGNAGE
3. LANES CLOSURES WILL NOT BE ALLOWED IF PAVEMENT IS WET OR ICY.

LEGEND

- CONSTRUCTION AREA
- DRUMS OR 42" CONES @ 15' C-C
- WATER FILLED BARRIER
- X — TEMPORARY TRAFFIC SPACING
- TYPE I BARRICADE
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- FLAGGER
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- ARROW BOARD

SEE COA STANDARD DETAIL 804S-1 SERIES FOR MORE DETAILS

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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

TRAFFIC CONTROL PLAN
SHEET 3 OF 6

CITY OF AUSTIN
FOUNDED 1839

NOTES	NAME	DATE
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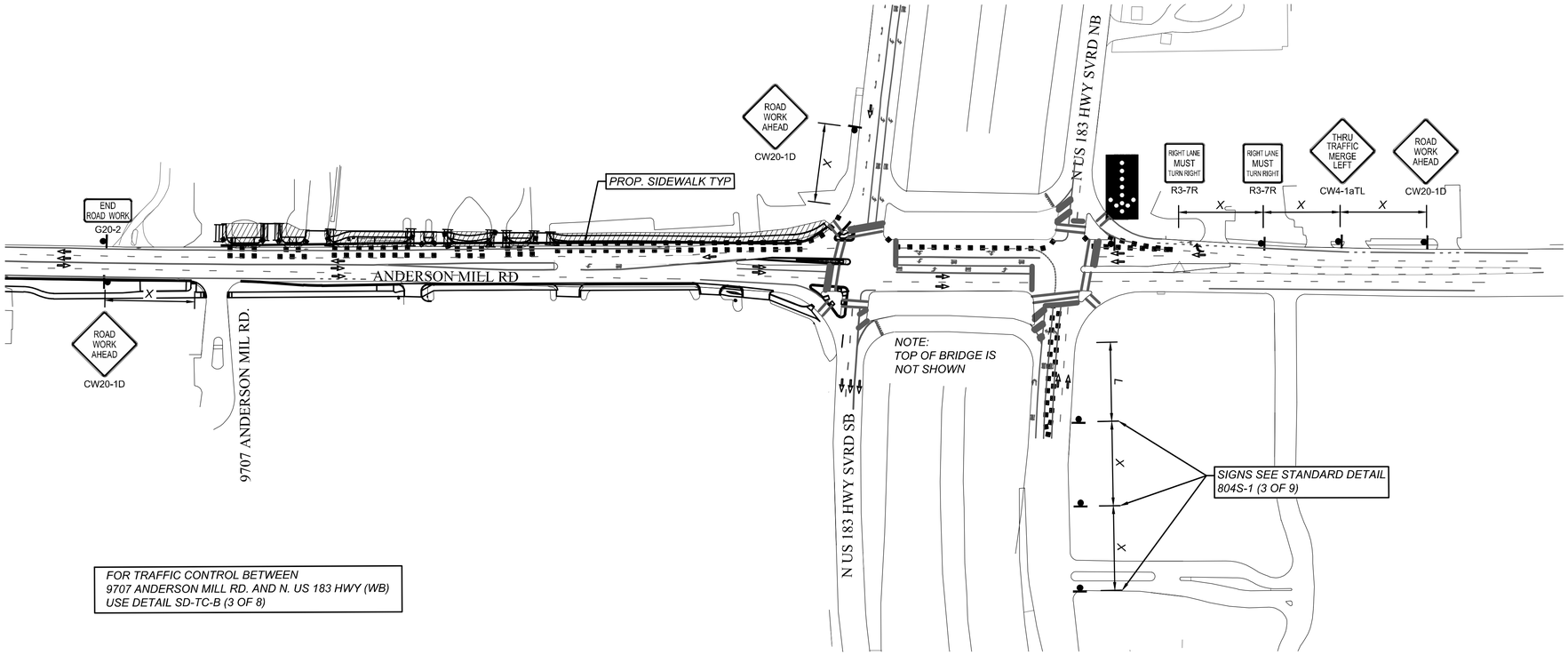
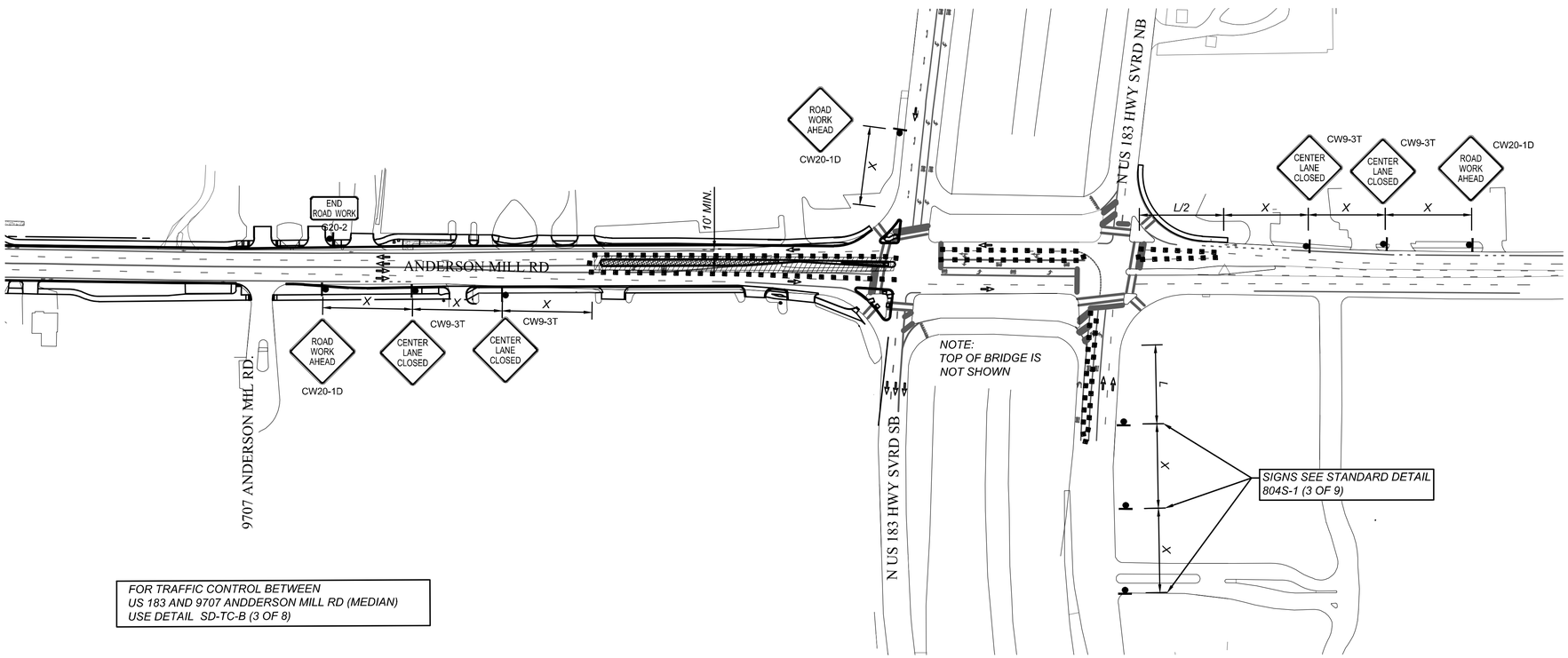


FOR TRAFFIC CONTROL BETWEEN
9707 ANDERSON MILL RD. AND N. US 183 HWY (WB)
USE DETAIL SD-TC-B (3 OF 8)

NOTE:
1. FOR BIKE LANE CHANNELIZING USE SD-TC-B
2. CONTRACTOR MUST COVER CONFLICTING SIGNAGE
3. FOR TxDOT ROW, NO DAYTIME LANE CLOSURES WILL BE ALLOWED, UNLESS OTHERWISE DIRECTED BY THE TxDOT AREA ENGINEER. NIGHTTIME LANE CLOSURES WILL ONLY BE ALLOWED 8:00 PM TO 5:00 AM.
4. LANES CLOSURES WILL NOT BE ALLOWED IF PAVEMENT IS WET OR ICY.



FOR TRAFFIC CONTROL BETWEEN
US 183 AND 9707 ANDDERSON MILL RD (MEDIAN)
USE DETAIL SD-TC-B (3 OF 8)

LEGEND

- CONSTRUCTION AREA
- DRUMS OR 42" CONES @ 15' C-C
- WATER FILLED BARRIER
- X — TEMPORARY TRAFFIC SPACING
- TYPE I BARRICADE
- TYPE III BARRICADE
- FLAGGER
- TEMPORARY TRAFFIC SIGN
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- TEMPORARY PAVEMENT MARKING
- MESSAGE BOARD
- ARROW BOARD

SEE COA STANDARD DETAIL 804S-1 SERIES FOR MORE DETAILS

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STATE OF TEXAS
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96436
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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

TRAFFIC CONTROL PLAN
SHEET 4 OF 6

CITY OF AUSTIN
FOUNDED 1839

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
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DESIGNED BY	JT/EZ	8/18
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REVIEWED BY	ESD	8/18

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HORIZONTAL SCALE IN FEET

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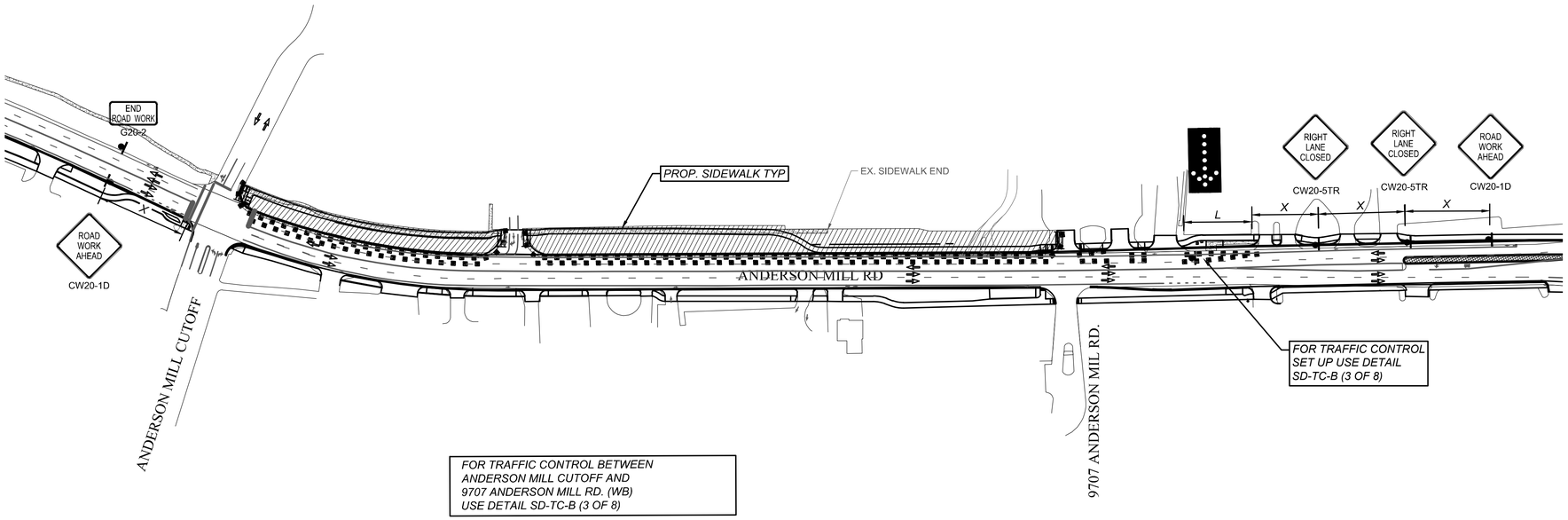

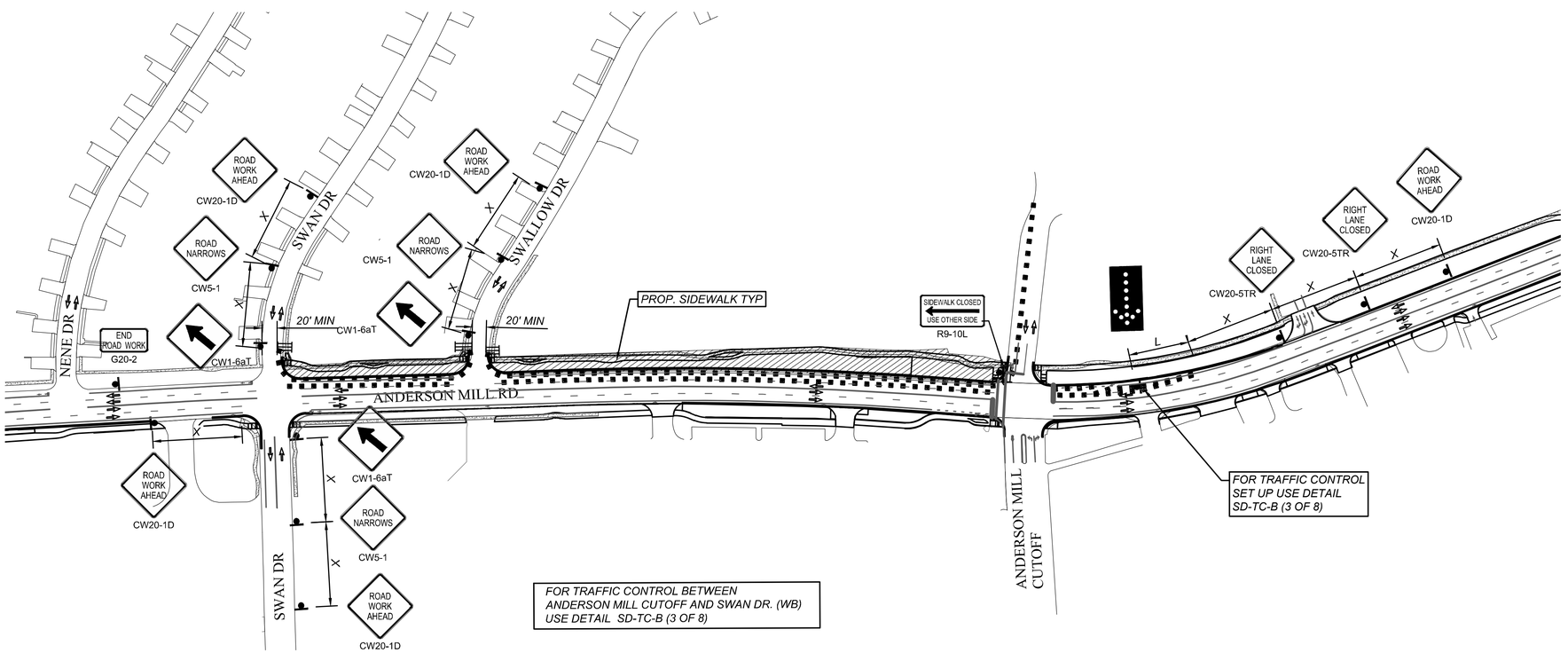

NOTE:
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LEGEND

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SEE COA STANDARD DETAIL 804S-1 SERIES FOR MORE DETAILS

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ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

TRAFFIC CONTROL PLAN
SHEET 5 OF 6

CITY OF AUSTIN
FOUNDED 1839

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HORIZONTAL SCALE IN FEET

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CT105 | 126 OF 142

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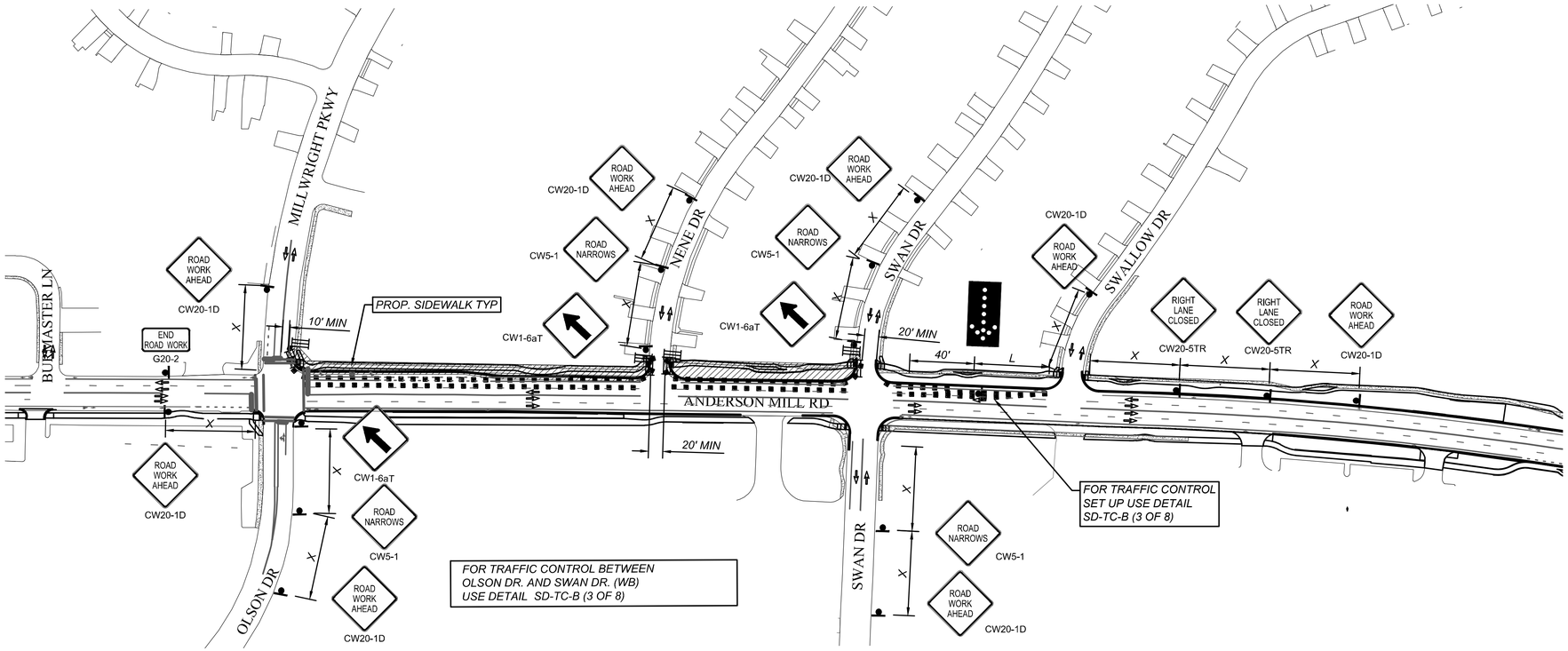

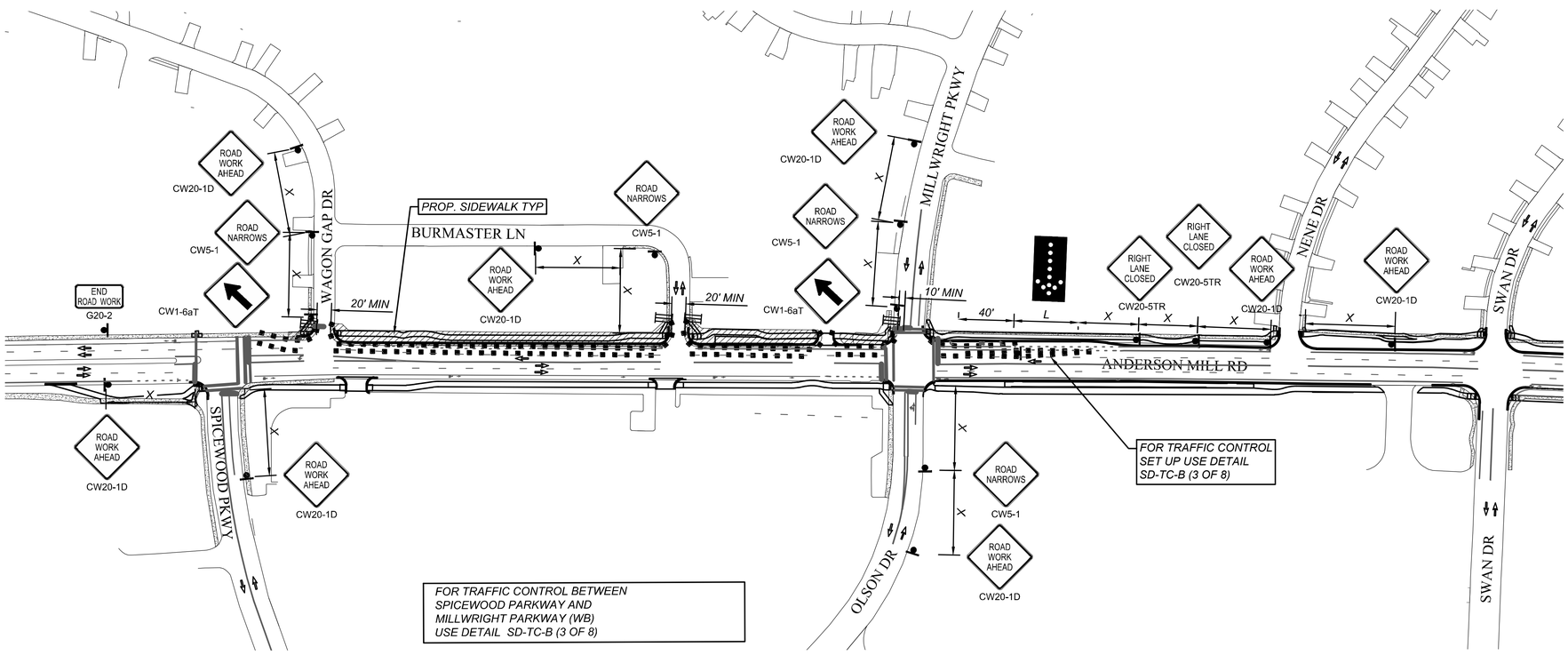

NOTE:
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01/29/2020

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I CERTIFY THAT THESE DRAWINGS ARE COMPLETE, ACCURATE AND ADEQUATE FOR THEIR INTENDED PURPOSES, INCLUDING CONSTRUCTION, BUT ARE NOT AUTHORIZED FOR CONSTRUCTION UNTIL FORMAL CITY APPROVAL.

CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

TRAFFIC CONTROL PLAN
SHEET 6 OF 6

CITY OF AUSTIN FOUNDED 1839

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/JP	8/18
DESIGNED BY	JT/EZ	8/18
CHECKED BY	EZ/CG	8/18
REVIEWED BY	ESD	8/18

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HORIZONTAL SCALE IN FEET

GP-2019-0210.ATD

CT106 | 127 OF 142

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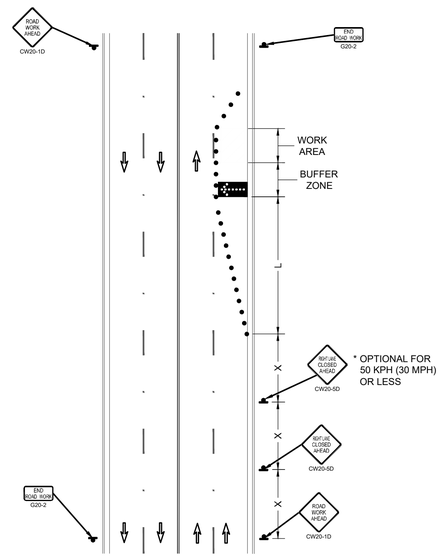
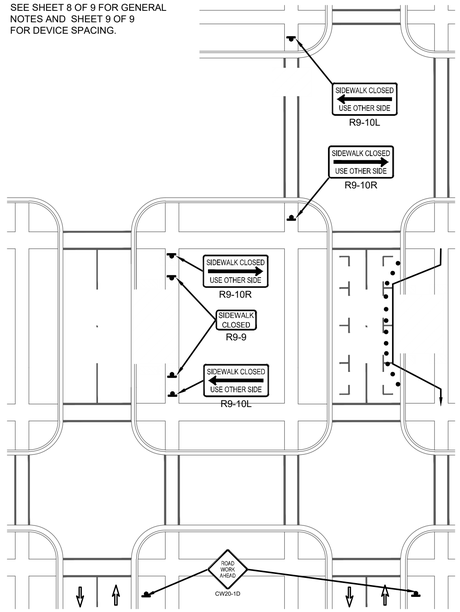


SEE SHEET 8 OF 9 FOR GENERAL NOTES AND SHEET 9 OF 9 FOR DEVICE SPACING.

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	ARTERIAL ONE LANE CLOSURE	
RECORD COPY SIGNED BY KERI JUAREZ 01/04/11 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 804S-1 1 OF 9

SEE SHEET 8 OF 9 FOR GENERAL NOTES AND SHEET 9 OF 9 FOR DEVICE SPACING.



CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	BYPASS WALKWAY, SIDEWALK AND CROSSWALK CLOSURES	
RECORD COPY SIGNED BY KERI JUAREZ 01/04/11 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 804S-1 4 OF 9

1. ALL SETUPS SHALL BE IN ACCORDANCE WITH THE CURRENT ADDITION OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND THE CITY OF AUSTIN TRANSPORTATION CRITERIA MANUAL.
2. TO DETERMINE APPROPRIATE DEVICES AND SIGN SIZES TO BE USED, REFER TO STANDARD 804S-5. SHEETS 5, 6 AND 7 OF 13.
3. FOR INTERMEDIATE-TERM SITUATIONS, WHEN IT IS NOT FEASIBLE TO REMOVE AND RESTORE PAVEMENT MARKINGS, THE CHANNELIZATION MUST BE MADE DOMINANT BY USING A VERY CLOSE DEVICE SPACING. THIS IS ESPECIALLY IMPORTANT IN LOCATIONS OF CONFLICTING INFORMATION, SUCH AS WHERE TRAFFIC IS DIRECTED OVER A DOUBLE YELLOW CENTERLINE. IN SUCH LOCATIONS, A MAXIMUM CHANNELIZING DEVICE SPACING OF 3 m (10') IS REQUIRED.
4. FOR LONG TERM STATIONARY WORK, ALL CONFLICTING PAVEMENT MARKINGS MUST BE REMOVED AND CENTERLINE STRIPING PROVIDED WHERE TWO WAY TRAFFIC IS IN ADJACENT LANES.
5. FOR TEMPORARY PAVEMENT MARKING REQUIREMENTS SEE STANDARD 804S-3.
6. FOR ONE-WAY AND MULTI-LANE ROADWAYS THE "LANE BLOCKED" SIGN MAY BE USED IN LIEU OF THE "LANE CLOSED AHEAD" SIGN. THE NUMBER OF DIGITS ON THE SIGN SHALL NOT BE GREATER THAN THE NUMBER OF LANES PRESENT ON THE ROADWAY. THE "X" SHALL BE PLACED UNDER THE NUMBER OF LANE(S) BLOCKED.
7. FOR FLAGGING OPERATION REQUIREMENTS SEE STANDARD 804S-2.
8. CONTRACTOR SHALL PROVIDE SIDEWALK CLOSURES, CROSSWALK CLOSURES OR WALKWAY BYPASS WHEREVER PEDESTRIAN MOVEMENTS ARE AFFECTED BY CONSTRUCTION ACTIVITIES. ALL SIDEWALKS AND CROSSWALKS SHALL BE ACCESSIBLE WHEN CONTRACTOR IS NOT WORKING UNLESS APPROVED BY THE TRANSPORTATION DIVISION.
9. FOR EXCAVATION PROTECTION AND SAFETY FENCE REQUIREMENTS SEE STANDARD 804S-4.
10. THE USE OF ARROW DISPLAYS ARE REQUIRED ON ALL LANE CLOSURES. THE CONTRACTOR SHALL PROVIDE ONE (1) STAND-BY UNIT IN GOOD WORKING CONDITION AT THE JOB SITE, READY FOR USE IF THE OPERATION REQUIRES 24-HOUR A DAY LANE CLOSURE SET-UPS.

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	GENERAL NOTES	
RECORD COPY SIGNED BY KERI JUAREZ 01/04/11 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 804S-1 8 OF 9

Typical Transition Lengths and Suggested Maximum Spacing of Devices

			MINIMUM DESIRABLE TAPER LENGTHS (L) METERS (FEET)			SUGGESTED MAX DEVICE SPACING		SUGGESTED SIGN SPACING METERS (FEET)
SPEED KPH	POSTED SPEED MPH	FORMULA	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)	'X" DIMENSION
50	30	$L=\frac{WS}{60}$	45 (150)	50 (165)	55 (180)	9 (30)	15-20 (50-65)	40 (120)
55	35		65 (205)	70 (225)	75 (245)	10 (35)	20--25 (65-80)	50 (160)
65	40		80 (265)	90 (295)	100 (320)	12 (40)	25-30 (80-100)	75 (240)
70	45		135 (450)	150 (495)	165 (540)	13 (45)	25-30 (80-100)	100 (320)
80	50	L=WS	150 (500)	165 (550)	180 (600)	15 (50)	30-35 (100-110)	120 (400)
90	55		165 (550)	185 (605)	200 (660)	16 (55)	35-40 (110-130)	150 (500)
95	60		180 (600)	200 (660)	220 (720)	18 (60)	40-45 (130-150)	180 (600)
105	65		195 (650)	215 (715)	235 (780)	19(65)	45-50 (150-165)	210 (700)
115	70		215 (770)	235 (770)	255 (840)	21 (70)	50-55 (165-180)	240 (800)

LEGEND
- Channelizing devices
- Trailer mounted flashing arrow board
- Flagger

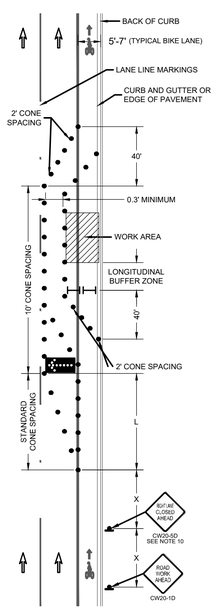
CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	DEVICE SPACING	
RECORD COPY SIGNED BY KERI JUAREZ 01/04/11 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 804S-1 9 OF 9

1. FOR DAYTIME WORK, THE FLAGGER SHALL WEAR AN APPROVED BRIGHTLY COLORED VEST. FOR NIGHTTIME WORK, THE VEST SHALL BE RETROFLECTIVE. THE RETRO-REFLECTIVE MATERIAL SHALL BE ORANGE, YELLOW, WHITE, SILVER, STRONG YELLOW-GREEN OR A FLOURESCENT VERSION OF THESE COLORS AND SHALL BE VISIBLE AT A MINIMUM DISTANCE OF 305 m (1,000').
2. FOR LOW-VOLUME APPLICATIONS, A SINGLE FLAGGER MAY BE ADEQUATE. WHERE ONE FLAGGER CAN BE USED, SUCH AS FOR SHORT WORK AREAS ON STRAIGHT ROADWAYS, THE FLAGGER MUST BE VISIBLE TO APPROACHING TRAFFIC FROM BOTH DIRECTIONS.
3. FLAGGERS SHALL USE ONLY STOP/SLOW PADDLE TO DIRECT TRAFFIC UNLESS WORKING IN A SIGNALIZED INTERSECTION WHERE DRIVERS MAY BE CONFUSED BY THE SIGN PADDLE. HAND SIGNAL MAY BE USED IN THESE SITUATIONS.
4. FLAGGERS SHALL ENSURE THAT ALL REQUIRED SIGNING IS IN PLACE PRIOR TO BEGINNING FLAGGING OPERATIONS.
5. FLAGGERS SHALL NOT PERFORM WORK THAT IS NOT RELATED TO FLAGGING WHILE ON DUTY.
6. FLAGGERS MAY CARRY AIR HORNS OR WHISTLES TO WARN WORKERS OF AN EMERGENCY CONDITION.
7. FLAGGERS SHALL BE REQUIRED TO USE TWO-WAY RADIOS WHEN OUT OF CLEAR VIEW OF EACH OTHER.
8. FLOODLIGHTS SHOULD BE PROVIDED TO MARK FLAGGER STATIONS AT NIGHT AS NEEDED.

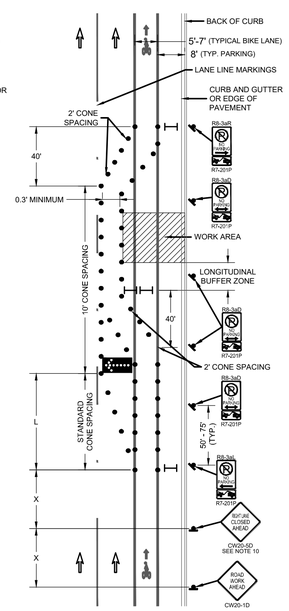
TAPER LENGTHS

SPEED (KPH)	SPEED (MPH)	LENGTH (METERS)	LENGTH (FEET)
30	20	11	35
40	25	17	55
50	30	26	85
55	35	36	120
65	40	51	170
70	45	66	220
80	50	84	280
90	55	101	335
95	60	125	415
105	65	146	485

*POSTED SPEED



BIKE LANE ADJACENT TO CURB



BIKE LANE ADJACENT TO PARKING LANE

BIKE LANE CHANNELIZING;
40 MPH OR GREATER

DEFINITIONS:
BICYCLE LANE: A PORTION OF A ROADWAY THAT HAS BEEN DESIGNATED BY SIGNS AND PAVEMENT MARKINGS FOR PREFERENTIAL OR EXCLUSIVE USE BY BICYCLES.

STANDARD:
1. A BIKE LANE SHALL BE CHANNELIZED ANYTIME WORK ACTIVITY ENCROACHES INTO A PORTION OF, OR BLOCKS A BICYCLE LANE ON, A ONE OR TWO WAY MULTI-LANE ROADWAY WITH A POSTED SPEED LIMIT GREATER THAN 35MPH.
2. A CHANNELIZED BIKE LANE SHALL MAINTAIN A 5 FOOT MINIMUM CLEAR TRAVEL PATH FOR BICYCLE TRAFFIC.
3. WHERE THE MINIMUM 5 FOOT TRAVEL PATH CANNOT BE ACHIEVED, OTHER ACCOMMODATIONS SHALL BE DEVELOPED FOR BICYCLE TRAFFIC.

GUIDANCE:
4. SHARED BICYCLE AND VEHICULAR TRAFFIC LANES SHOULD NOT BE ESTABLISHED ON ROADWAYS WITH A POSTED SPEED LIMIT ABOVE 35 MPH.

STANDARD:
5. WHERE PARKING IS NOT SPECIFICALLY PROHIBITED, A NO PARKING/TOW AWAY ZONE SHALL BE ESTABLISHED. THE "CLOSED" NO PARKING/TOW AWAY ZONE SHALL BEGIN AT THE FIRST CHANNELIZING DEVICE ON THE APPROACH, AND END AT THE LAST CHANNELIZING DEVICE IN THE TERMINATION AREA. THIS NO PARKING/TOW AWAY ZONE SHALL UTILIZE THE SYMBOLIC VERSION OF THE R7-1(P COVERED BY A CIRCLE AND SLASH) SIGNS WITH APPROPRIATE ARROWS (SEE NOTE 7) AND R7-201P TOW AWAY PLAQUES.

GUIDANCE:
6. WHEN USED, A MINIMUM OF THREE (3) NO PARKING SIGNS SHOULD BE USED TO ESTABLISH THE NO PARKING ZONE WITH A MINIMUM SPACING OF 50 FEET AND MAXIMUM 75 FEET SPACING.
7. SINCE THE PARKING RESTRICTION APPLIES TO A LIMITED AREA, THE LIMITS OF THE RESTRICTION SHOULD BE SHOWN BY ARROWS ON THE SIGNS. AT THE END OF THE PARKING ZONE, A SINGLE HEADED ARROW POINTING IN THE DIRECTION OF THE RESTRICTION SHOULD BE USED. FOR INTERMEDIATE SIGNS, THERE SHOULD BE A DOUBLE HEADED ARROW POINTING BOTH WAYS.
8. WHEN NO PARKING/TOW AWAY SIGNS ARE USED TO INDICATE THE EXTENT OF THE RESTRICTED PARKING ZONE, THE SIGNS SHOULD BE SET AT AN ANGLE OF NOT LESS THAN 30 DEGREES OR MORE THAN 45 DEGREES WITH THE LINE OF TRAFFIC FLOW IN ORDER TO BE VISIBLE TO APPROACHING TRAFFIC.
9. WHEN USED, THE NO PARKING ZONE SHOULD BE ESTABLISHED 48 HOURS PRIOR TO THE SCHEDULED WORK AND REMAIN IN PLACE THROUGH THE EXPECTED PROJECT DURATION.

STANDARD:
10. SEE 804S-1, 9 OF 9 FOR TRAFFIC LANE TRANSITION LENGTH L.
11. AN ADDITIONAL "RIGHT LANE CLOSED AHEAD" (CW20-5DR) SHALL BE USED ON ROADWAYS WITH POSTED SPEED LIMIT ABOVE 35 MPH.
12. SIGN VERTICAL MOUNTING HEIGHT AND LATERAL PLACEMENT SHALL BE AS SPECIFIED IN 804S-5, 6 & 7 OF 13.
13. WARNING SIGN SIZE SHALL BE AS SHOWN FOR CONVENTIONAL ROADS IN 804S-5, 6 & 7 OF 13.
14. A TYPE-I BARRICADE SHALL BE SET AT THE END OF THE BIKE LANE TRANSITION AREA TO PHYSICALLY CLOSE THE BIKE LANE TO PREVENT BICYCLIST'S ENTRY INTO THE WORK ZONE.
15. THIS TRAFFIC CONTROL DETAIL SHALL NOT BE USED ON LONG-TERM STATIONARY WORK THAT OCCUPIES A LOCATION MORE THAN 3 DAYS.

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	FLAGGER SETUP FOR 2 LANE ROADWAY			BIKE LANE CHANNELIZING 40 MPH OR ABOVE			BIKE LANE CHANNELIZING 40 MPH OR ABOVE	
RECORD COPY SIGNED BY BILL GARDNER 03/13/06 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 804S-2 3 OF 8			SD-TC-B 3 OF 8			SD-TC-B 4 OF 8

REV NO.	BY	DATE	REVISION DESCRIPTION

STATE OF TEXAS
XIAOQIN ZHANG, P.E.
96436
LICENSED
PROFESSIONAL ENGINEER
01/29/2020

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY XIAOQIN ZHANG, P.E. LIC. # 96436

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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

TRAFFIC CONTROL DETAILS
SHEET 1 OF 5

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/JP	8/18
DESIGNED BY	JT/EZ	8/18
CHECKED BY	EZ/CG	8/18
REVIEWED BY	ESD	8/18

ENGINEERING SERVICES DIVISION

GP-2019-0210.ATD

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Typical Transition Lengths and Suggested Maximum Spacing of Devices

			MINIMUM DESIRABLE TAPER LENGTHS (L) METERS (FEET)			SUGGESTED MAX DEVICE SPACING		SUGGESTED SIGN SPACING METERS (FEET)
SPEED KPH	POSTED SPEED MPH	FORMULA	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)	"X" Dimension
50	30	$L=\frac{WS}{60}$	45 (150)	50 (165)	55 (180)	9 (30)	15-20 (50-65)	40 (120)
55	35		65 (205)	70 (225)	75 (245)	10 (35)	20--25 (65-80)	50 (160)
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115	70		215 (770)	235 (770)	255 (840)	21 (70)	50-55 (165-180)	240 (800)

LEGEND

- Channelizing devices
- Flagger
- Trailer mounted flashing arrow board

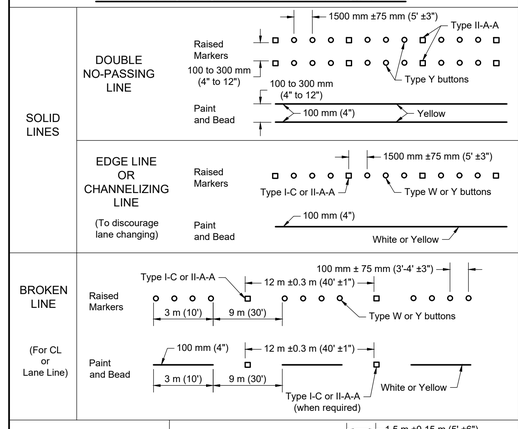
TRAFFIC DETOUR NOTES:

1. "STREET CLOSED" AND "STREET CLOSED TO THRU TRAFFIC" MAY BE USED IN PLACE OF "ROAD CLOSED" AND "ROAD CLOSED TO THRU TRAFFIC".
2. THE USE OF A STREET SIGN NAME NAME MOUNTED WITH THE M4-9 DETOUR SIGN** IS REQUIRED. THE STREET NAME PLATE SHOULD BE PLACED ABOVE THE DETOUR SIGN. THE PLATE MAY HAVE EITHER A WHITE-ON-GREEN OR A BLACK-ON-ORANGE LEGEND.
3. ADDITIONAL "DO NOT ENTER SIGNS" MAY BE DESIRABLE AT INTERSECTIONS WITH INTERVENING STREETS.
4. A M4-9 DETOUR SIGN** WITH AN ADVANCE TURN ARROW MAY BE USED IN ADVANCE OF A TURN. ON MULTI-LANE STREETS, SUCH SIGNS SHOULD BE USED.
5. M4-9 DETOUR SIGNS** MAY BE LOCATED ON THE FAR SIDE OF INTERSECTIONS.

** TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	TYPICAL LENGTHS & SPACING OF DEVICES, LEGEND AND GENERAL NOTES	STANDARD NO.
RECORD COPY SIGNED BY BILL GARDNER 03/13/06 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	804S-2 8 OF 8

STANDARD WORK ZONE PAVEMENT MARKINGS DETAIL

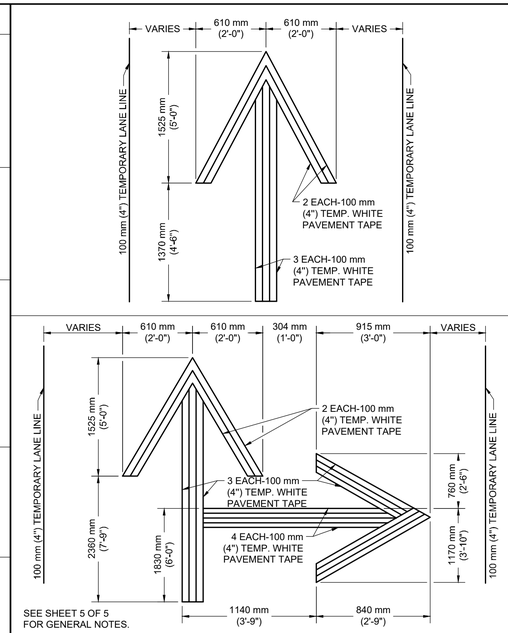


SEE SHEET 5 OF 5 FOR GENERAL NOTES.

NOTE:

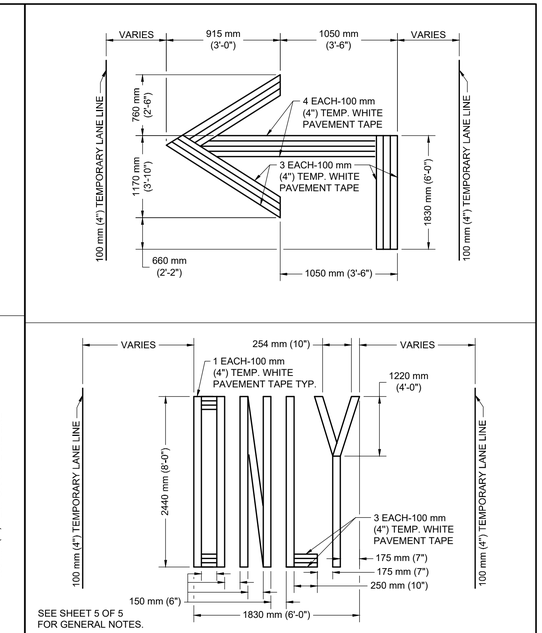
IF RAISED PAVEMENT MARKERS ARE USED TO SUPPLEMENT REMOVABLE MARKINGS, THE MARKERS SHALL BE APPLIED TO THE TOP OF THE TAPE AT THE APPROXIMATE MID-LENGTH OF TAPE BROKEN LINES AND AT APPROXIMATE 6 m (20') SPACING FOR SOLID LINES. THIS ALLOWS AN EASIER REMOVAL OF RAISED MARKERS AND TAPE.

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	TEMPORARY TRAFFIC CONTROL PAVEMENT MARKINGS	STANDARD NO.
RECORD COPY SIGNED BY BILL GARDNER 03/13/06 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	804S-3 1 OF 5



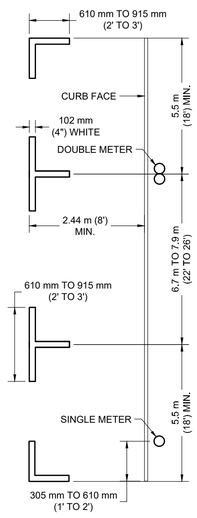
SEE SHEET 5 OF 5 FOR GENERAL NOTES.

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	TEMPORARY REMOVABLE TAPE, ARROWS AND LEGENDS	STANDARD NO.
RECORD COPY SIGNED BY BILL GARDNER 03/13/06 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	804S-3 2 OF 5

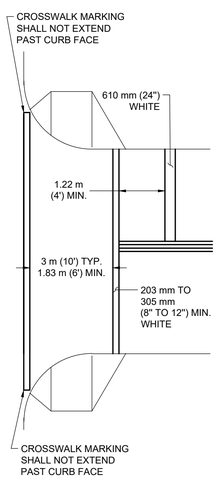


SEE SHEET 5 OF 5 FOR GENERAL NOTES.

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	TEMPORARY REMOVABLE TAPE, ARROWS AND LEGENDS	STANDARD NO.
RECORD COPY SIGNED BY BILL GARDNER 03/13/06 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	804S-3 3 OF 5



PARKING STALLS



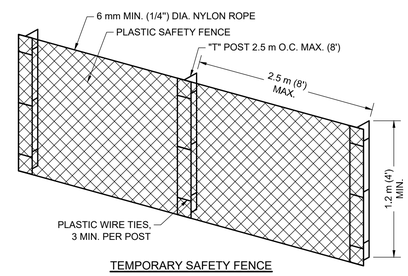
CROSSWALK AND STOPBARS

SEE SHEET 5 OF 5 FOR GENERAL NOTES.

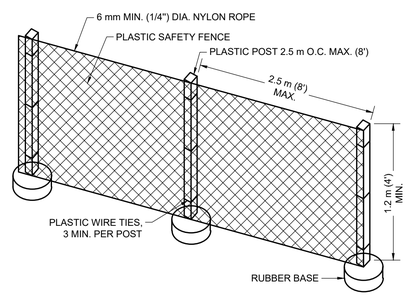
CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	PARKING STALLS, CROSSWALK AND STOP BARS	STANDARD NO.
RECORD COPY SIGNED BY BILL GARDNER 03/13/06 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	804S-3 4 OF 5

1. ALL PAVEMENT MARKINGS USED SHALL CONFORM TO THE CURRENT EDITION OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD) AND THE CITY OF AUSTIN TRANSPORTATION CRITERIA MANUAL.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL TEMPORARY AND EXISTING PAVEMENT MARKINGS ON ALL ROADWAYS WITHIN THE CONSTRUCTION LIMITS AND ON ANY ROADWAY OUTSIDE THE CONSTRUCTION LIMITS THAT REQUIRES THE REROUTING OF TRAFFIC FOR HIS WORK.
3. ALL ROADWAYS TO BE OPENED TO TRAFFIC SHALL HAVE TEMPORARY OR STANDARD PAVEMENT MARKINGS INSTALLED AS SHOWN IN THE DRAWINGS, AT THE END OF EACH DAY'S OPERATION.
4. MARKINGS SHALL PROVIDE A VISIBLE REFERENCE FOR A MINIMUM DISTANCE OF 91.5 m (300') DURING NORMAL DAYLIGHT HOURS AND 49 m (160') WHEN ILLUMINATED BY AUTOMOBILE LOW-BEAM HEADLIGHTS AT NIGHT, UNLESS SIGHT DISTANCE IS RESTRICTED BY ROADWAY GEOMETRICS.
5. ALL TEMPORARY REMOVABLE PAVEMENT MARKINGS SHALL BE SUPPLEMENTED WITH RAISED PAVEMENT MARKERS.
6. TEMPORARY REMOVABLE PAVEMENT MARKING TAPE IS THE PREFERRED PAVEMENT MARKING; HOWEVER, THE CONTRACTOR MAY, WITH APPROVAL OF THE ENGINEER OR DESIGNATED REPRESENTATIVE, USE RAISED PAVEMENT MARKINGS, PAINT AND BEADS OR THERMOPLASTIC IF THE ROADWAY IS TO BE COMPLETELY RESURFACED.
7. PAVEMENT MARKINGS THAT ARE NO LONGER APPLICABLE AND WHICH MAY CREATE CONFUSION OR DIRECT A MOTORIST TOWARD OR INTO THE CLOSED PORTION OF THE ROADWAY, SHALL BE REMOVED OR OBLITERATED BEFORE THE ROADWAY IS OPENED TO TRAFFIC. THE ABOVE DOES NOT APPLY TO SHORT-DURATION, SHORT TERM STATIONARY OR INTERMEDIATE TERM STATIONARY WORK.
8. REMOVAL OR OBLITERATION OF PAVEMENT MARKINGS INCLUDES CENTERLINES, CHANNELIZING LINES, LANE LINES, EDGE LINES, WORDS, ARROWS, SYMBOLS AND RAISED PAVEMENT MARKINGS.
9. PAVEMENT MARKINGS SHALL BE REMOVED OR OBLITERATED TO THE FULLEST EXTENT POSSIBLE, SO AS NOT TO LEAVE A DISCERNIBLE MARK. GRINDING OF PAVEMENT MARKINGS WILL ONLY BE ALLOWED ON PAVEMENT THAT IS TO BE COMPLETELY REPLACED.
10. TEMPORARY FLEXIBLE-REFLECTIVE TABS MAY BE USED FOR TEMPORARY PAVEMENT MARKINGS ON NEW PAVEMENT, PROVIDED THEY ARE PLACED ON 1.5 m (5') CENTERS.
11. THE CONTRACTOR SHALL PLACE TEMPORARY FLEXIBLE-REFLECTIVE TABS IMMEDIATELY AFTER THE FINAL HMAC OVERLAY AS EACH LANE IS COMPLETED AND READY FOR TRAFFIC. NO DIRECT PAYMENT WILL BE MADE FOR THIS OPERATION, BUT WILL BE CONSIDERED SUBSIDIARY TO THE OTHER BID ITEMS. FINAL STRIPING SHOULD BE COMPLETED WITHIN FOURTEEN (14) DAYS OF THE FINAL PAVING.

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	GENERAL NOTES	STANDARD NO.
RECORD COPY SIGNED BY BILL GARDNER 03/13/06 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	804S-3 5 OF 5



TEMPORARY SAFETY FENCE



PORTABLE SAFETY FENCE

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

1. SAFETY FENCE SHALL BE USED TO PROTECT ALL EXCAVATIONS IN THE RIGHT-OF-WAY.
2. SAFETY FENCES SHALL BE USED TO SEPARATE CONSTRUCTION ACTIVITIES FROM PEDESTRIAN.
3. ALL SAFETY FENCING SHALL BE PLASTIC, 1,200 mm (48") MINIMUM HEIGHT AND ORANGE IN COLOR.
4. 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.
5. SAFETY FENCE USED TO SEPARATE SIDEWALKS FROM CONSTRUCTION ACTIVITIES SHALL HAVE MINIMUM ENCROACHMENT TO THE SIDEWALK.
6. AS A MINIMUM, SAFETY FENCING IS REQUIRED IN AREAS ADJACENT TO EXCAVATIONS GREATER THAN OR EQUAL TO 150 mm (6").
7. SAFETY FENCING SHALL BE PAID FOR UNDER ITEM 803S, "BARRICADES, SIGNS AND TRAFFIC HANDLING", PAY ITEM NO. 803S-SF.
8. 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.
RECORD COPY SIGNED BY SAM ANGOORI 04/03/09 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	804S-4 2 OF 9

REV NO.	BY	DATE	REVISION DESCRIPTION

STATE OF TEXAS
XIAOQIN ZHANG, P.E.
96436
LICENSED PROFESSIONAL ENGINEER
01/29/2020

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY XIAOQIN ZHANG, P.E. LIC. # 96436

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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

TRAFFIC CONTROL DETAILS
SHEET 2 OF 5

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/JP	8/18
DESIGNED BY	JT/EZ	8/18
CHECKED BY	EZ/CG	8/18
REVIEWED BY	ESD	8/18

ESD
ENGINEERING SERVICES DIVISION

GP-2019-0210.ATD

CT502 | 129 OF 142

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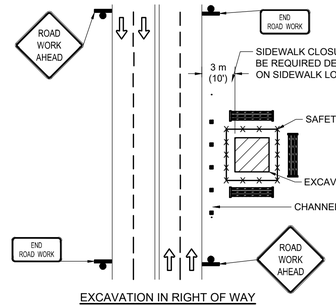
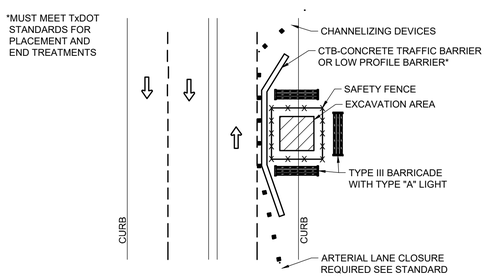
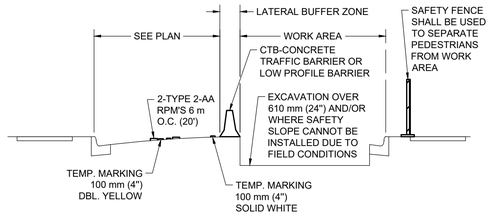


EXCAVATION IN RIGHT OF WAY

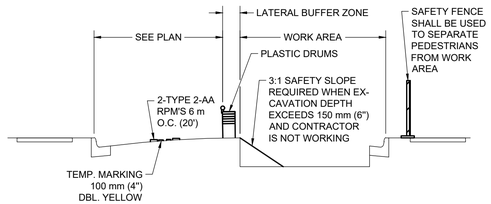


EXCAVATION IN ROADWAY

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	LARGE EXCAVATION	
RECORD COPY SIGNED BY SAM ANGOORI 04/03/09 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 804S-4 3 OF 9

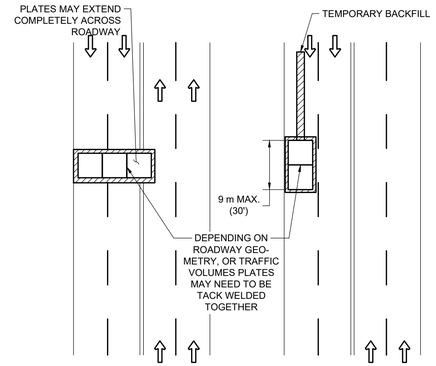


POSITIVE BARRIERS
TYPICAL CROSS SECTION



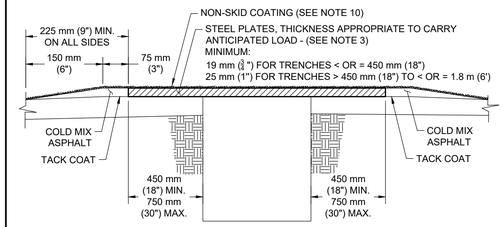
SAFETY SLOPE
TYPICAL CROSS SECTION

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



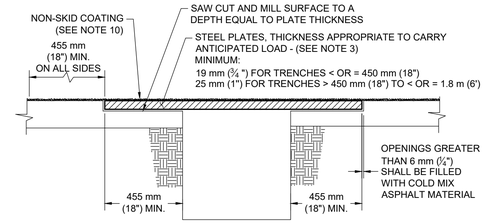
LATERAL PLATING LONGITUDINAL PLATING

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	STEEL PLATING	
RECORD COPY SIGNED BY SAM ANGOORI 04/03/09 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 804S-4 5 OF 9



TYPICAL CROSS SECTION

CASE I- LOW TRAFFIC VOLUME/LIMITED IN-SERVICE TIME



TYPICAL CROSS SECTION

CASE II- EXTENDED IN-SERVICE PLATING AND/OR HEAVILY-TRAFFICKED ROADS/STREETS

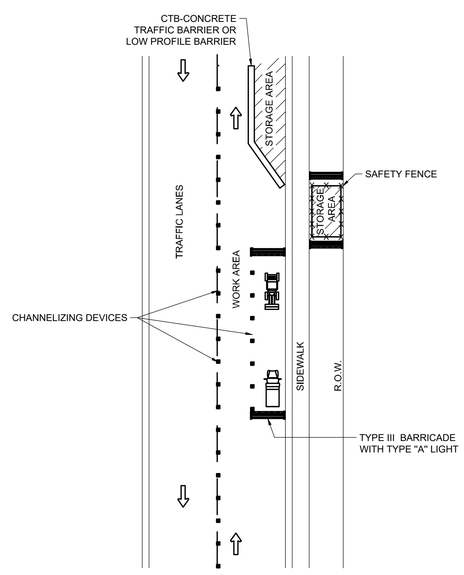
(HMAC PAVEMENTS ONLY)

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	STEEL PLATING	
RECORD COPY SIGNED BY SAM ANGOORI 04/03/09 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 804S-4 6 OF 9

NOTES:

1. WHERE TRAFFIC MUST CROSS TRENCHES, THE CONTRACTOR SHALL PROVIDE SUITABLE BRIDGES.
2. THE USE OF STEEL PLATES SHALL BE APPROVED BY THE RIGHT OF WAY MANAGEMENT DIVISION OF WATERSHED PROTECTION AND DEVELOPMENT DEPARTMENT PRIOR TO INITIATION OF CONSTRUCTION.
3. THE THICKNESS OF PLATES FOR TRENCH WIDTHS EXCEEDING 1.8 m (6') SHALL BE ESTABLISHED IN AN ANALYSIS COMPLETED BY A LICENSED PROFESSIONAL ENGINEER, REGISTERED IN THE STATE OF TEXAS. THE ANALYSIS SHALL BE BASED ON HS-20 TRAFFIC LOADING WITH A MAXIMUM PLATE DEFLECTION OF 50 mm (½") WHEN EXPERIENCING SAID LOADING. FOR SITUATIONS WHERE MULTIPLE LAYERS OF PLATES (OR STACKED PLATES) ARE TO BE EMPLOYED, THE SEAMS (IE. THE INTER-FACE BETWEEN PLACED SIDE-BY-SIDE) OF THE UPPER LAYER SHALL BE PLACED PERPENDICULAR TO THE SEAMS OF THE UNDERLYING PLATES.
4. WHEN APPROVED, THE TYPE OF PLATE INSTALLATION SHALL BE BASED ON THE ANTICIPATED LENGTH OF TIME THE PLATE WILL BE IN SERVICE:
   CASE I: A CASE I INSTALLATION SHALL APPLY FOR NO LONGER THAN A 2 WEEK PERIOD.
   CASE II: A CASE II INSTALLATION SHALL APPLY FOR NO LONGER THAN 2 WEEK PERIOD.
5. THE TOPSIDE OF THE STEEL PLATE SHALL BE FLAT AND FREE OF ANY CLIPS, CHAINS, ATTACHMENTS, WELDMENTS OR SURFACE IRREGULARITIES.
6. PLATES WITH A PERMANENT DISPLACEMENT (I.E. DISPLACEMENT ANYWHERE ON THE SURFACE OF THE PLATE WITH RESPECT TO A PLANE FORMED BY THE OUTSIDE EDGES) THAT EXCEEDS 12 mm (½") SHALL NOT BE USED FOR PLATING PURPOSES. PLATES THAT DEVELOP A PERMANENT DISPLACEMENT EXCEEDING 12 mm (½") DURING SERVICE SHALL BE REMOVED AND REPLACED.
7. THE PLATES SHALL BE PROVIDED WITH APPROPRIATE NUMBER OF KEYHOLE SLOTS OR CIRCULAR HOLES FOR HANDLING, LIFTING, INSTALLATION AND REMOVAL PURPOSES.
8. THE CONTRACTOR SHOULD AVOID USING A LONG SERIES OF PLATES THAT RUN PARALLEL TO VEHICULAR TRAFFIC WHEELS PATHS.
9. ADDITIONAL METHODS OF SECURING PLATES MAY BE REQUIRED DEPENDING ON FIELD CONDITIONS.
10. FOR PLATES 1.8 M (6') OR GREATER IN DIRECTION OF TRAFFIC, A NON-SKID COATING SHOULD BE APPLIED TO THE ENTIRE SURFACE AREA OF ALL PLATES, AS WELL AS ADJACENT AREAS. THE NON-SKID COATING SHALL BE TCA (TEXTURED COATING OF AMERICA, INC.) STRATA-GRIP DECK COATING SYSTEM; SLIPFIX, INC. SPS (SLIP PROTECTION SURFACE) OR AN EQUIVALENT PRODUCT APPROVED BY THE ENGINEER OR DESIGNATED REPRESENTATIVE.

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	STEEL PLATING	
RECORD COPY SIGNED BY SAM ANGOORI 04/03/09 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 804S-4 7 OF 9



CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	MATERIAL AND EQUIPMENT STORAGE	
RECORD COPY SIGNED BY SAM ANGOORI 04/03/09 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 804S-4 8 OF 9

1. STORAGE OF EQUIPMENT AND MATERIALS SHALL BE RESTRICTED TO LOCATIONS WHERE DRIVER SIGHT DISTANCES TO TRAFFIC, PEDESTRIANS, BUSINESSES AND SIDE STREET INTERSECTIONS ARE NOT OBSTRUCTED OR WHERE AN UNSIGHTLY APPEARANCE. AS DETERMINED BY THE ENGINEER, WILL NOT EXIST.
2. EQUIPMENT MUST BE PARKED AS FAR AWAY FROM THE TRAVELWAYS AS PRACTICAL.
3. TOTAL AREA USED FOR EQUIPMENT STORAGE SHALL BE KEPT TO A MINIMUM.
4. ALL MATERIALS STORED IN THE RIGHT-OF-WAY MUST BE MAINTAINED IN A NEAT AND ORGANIZED MANNER.
5. MATERIALS STORED MAY NOT BE MORE THAN 915 mm (36") IN HEIGHT.
6. ALL MATERIALS STORED MUST BE USED WITHIN THREE (3) DAYS.

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	MATERIAL AND EQUIPMENT STORAGE	
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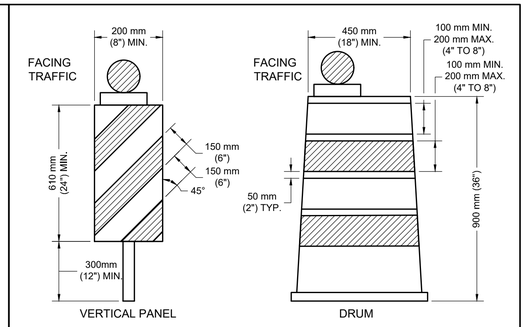
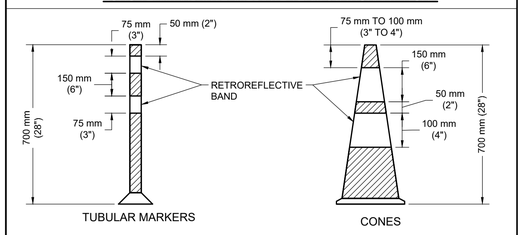


LONG TERM AND INTERMEDIATE TERM STATIONARY WORK



SHORT TERM AND SHORT DURATION WORK

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	CHANNELIZING DEVICES	
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 1 OF 13

REV NO.	BY	DATE	REVISION DESCRIPTION

STATE OF TEXAS
XIAOQIN ZHANG, P.E.
96436
LICENSED PROFESSIONAL ENGINEER
01/29/2020

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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

TRAFFIC CONTROL DETAILS
SHEET 3 OF 5

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/JP	8/18
DESIGNED BY	JT/EZ	8/18
CHECKED BY	EZ/CG	8/18
REVIEWED BY	ESD	8/18

ENGINEERING SERVICES DIVISION

GP-2019-0210.ATD

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THIVAKARAN, JOTHIKA

CHANNELIZING DEVICES:

1. 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.
2. THE RETRO-REFLECTIVE MATERIAL USED ON CHANNELIZING DEVICES SHALL HAVE A SMOOTH, SEALED OUTER SURFACE.
3. 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.
4. 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 RETRO-REFLECTIVITY 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 RETRO-REFLECTIVE OR EQUIPPED WITH LIGHTING DEVICES FOR MAXIMUM VISIBILITY. RETRO-REFLECTION OF CONES SHALL BE PROVIDED BY A WHITE BOND 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 RETRO-REFLECTIVE 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.

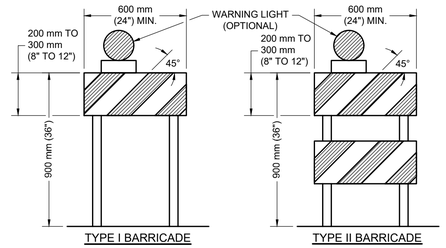
VERTICAL PANELS:

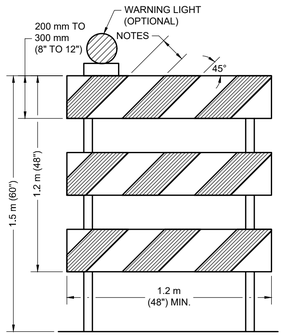
VERTICAL PANELS SHALL BE 200 TO 300 mm (8 TO 12") WIDE AND AT LEAST 600 mm (24") IN HEIGHT. THEY SHALL HAVE ORANGE AND WHITE STRIPES, AND BE RETRO-REFLECTIVE. PANEL STRIPE WIDTHS SHALL BE 150 mm (6") EXCEPT WHERE PANEL HEIGHTS ARE LESS THAN 900 mm (36"), WHEN 100 mm (4") STRIPES MAY BE USED. IF USED FOR TWO-WAY TRAFFIC, BACK-TO-BACK PANELS SHALL BE USED.

DRUMS:

1. 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 RETRO-REFLECTIVE 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.
2. 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	
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 2 OF 13





TYPE III BARRICADE

NOTES:

1. NOMINAL LUMBER DIMENSIONS ARE SATISFACTORY FOR BARRICADE RAIL WIDTH DIMENSIONS.
2. RAIL STRIPE WIDTHS SHALL BE 150 mm (6") EXCEPT WHERE RAIL LENGTHS ARE LESS THAN 900 mm (36"), THEN 100 mm (4") WIDE STRIPES MAY BE USED.
3. THE SIDE OF BARRICADES FACING TRAFFIC SHALL HAVE RETRO-REFLECTIVE RAIL FACES.

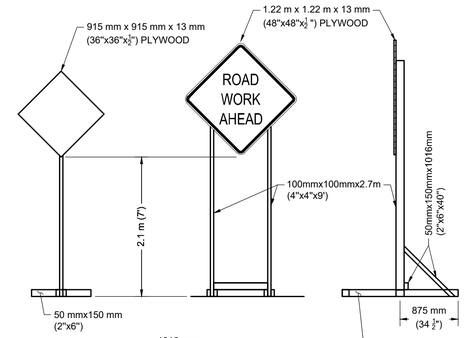
SEE STANDARD 804S-5 SHEET 12 OF 13 AND SHEET 13 OF 13 FOR GENERAL NOTES AND DEVICE SPACING.

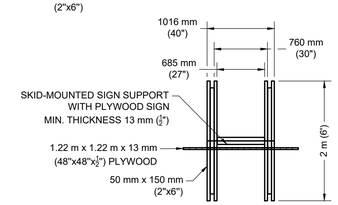
CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	BARRICADES	
RECORD COPY SIGNED BY SAM ANGOORI 01/04/10 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 804S-5 3 OF 13

BARRICADES:

1. BARRICADES SHALL BE OF THREE TYPES: TYPE I, TYPE II OR TYPE III.
2. STRIPES ON BARRICADE RAILS SHALL BE ALTERNATING ORANGE AND WHITE RETRO-REFLECTIVE 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.
3. 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 DOWN-WARD 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.
4. 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 UN-STRIPED HORIZONTAL PANELS NECESSARY TO PROVIDE STABILITY.
5. 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.
6. ON HIGH-SPEED EXPRESSWAYS OR IN OTHER SITUATION WHERE BARRICADES MAY BE SUSCEPTIBLE TO OVER TURING 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	
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 4 OF 13



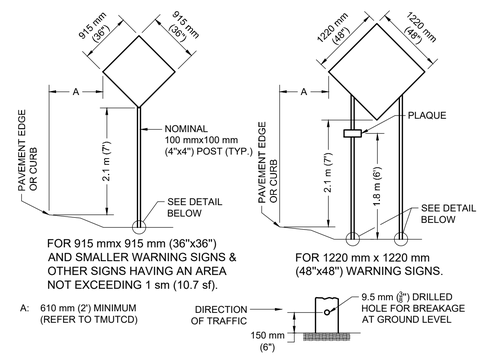


(LONG TERM AND INTERMEDIATE-TERM STATIONARY WORK)

TEMPORARY SIGN SUPPORT

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	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 5 OF 13

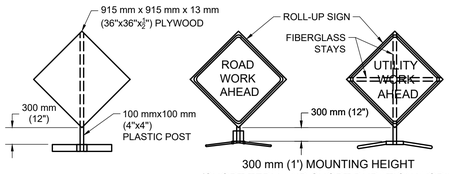


FOR 915 mmx 915 mm (36"x36") AND SMALLER WARNING SIGNS & OTHER SIGNS HAVING AN AREA NOT EXCEEDING 1 sm (10.7 sf).

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

A: 610 mm (2') MINIMUM (REFER TO TMUTCD)

WOOD POST SIGN SUPPORT USED AS FIXED SIGN SUPPORTS



300 mm (1') MOUNTING HEIGHT
(SHORT TERM AND SHORT DURATION WORK)

PORTABLE SIGN SUPPORT

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	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 NIGHT. ALL SIGNS USED AT NIGHT SHALL BE EITHER RETRO-REFLECTIVE, 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 LEGEND.
3. SIGNS SHOULD BE LOCATED ON THE RIGHT-HAND SIDE OF THE ROADWAY. WHEN SPECIAL EMPHASIS IS NEEDED, SIGNS MAY BE PLACE ON BOTH THE LEFT AND RIGHT SIDES OF ROADWAY. 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 O.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.

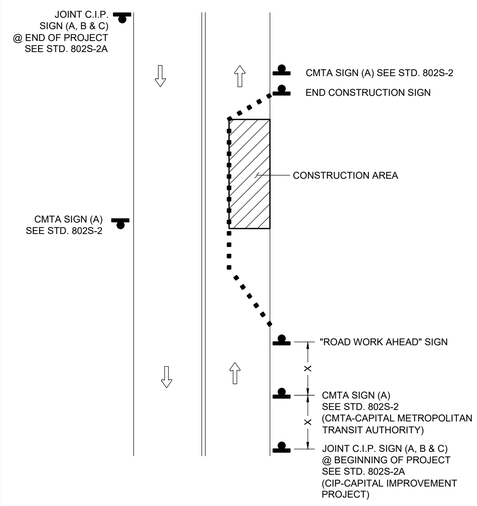
TABLE VI-3 TYPICAL CONSTRUCTION WARNING SIGN SIZE AND SPACING

Roadway Classification	Posted Speed	Sign Spacing *	Long-term Stationary Or Intermediate-term Stationary Approaching Warning Signs CW20 Series And CW22-1 Sign		Short-term Stationary Or Short Duration Approach Warning Signs CW22 Series		Other Warning Signs
			Standard	Minimum 4	Standard	Minimum 4	Standard
Conven.	KPH (MPH)	meter (feet)	mm (inches)	mm (inches)	mm (inches)	mm (inches)	mm (inches)
	50 (30)	40 (120)	1220x1220 (48x48)	915x915 (36x36)			
	55 (35)	50 (160)			915x915 (36x36)		915x915 (36x36)
	65 (40)	75 (240)					
	70 (45)	100 (320)		Use Std. Size		Use Std. Size	
	80 (50)	120 (400)					
	90 (55)	150 (500) 2					
	100 (60)	180 (600) 2			1220x1220 (48x48)		1220x1220 (48x48)
	105 (65)	210 (700) 2					
	115 (70)	240 (800) 2					
Exp. or Fwy	**	** 3			***	***	***

* MINIMUM DISTANCE FROM WORK TO FIRST ADVANCE WARNING SIGN AND/OR DISTANCE BETWEEN EACH ADDITIONAL SIGN.
** FOR TYPICAL SIGN SPACING 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 (½ 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

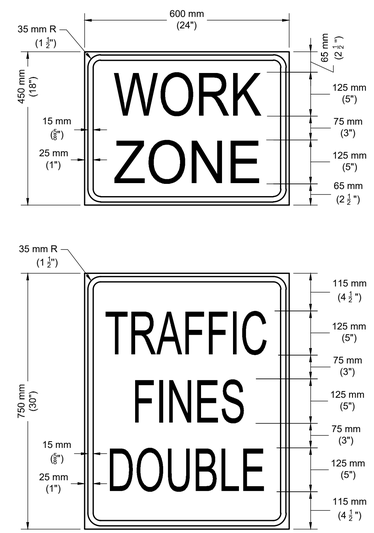


NOTES:

1. OTHER REQUIRED SIGNS NOT SHOWN FOR CLARITY.
2. "X" DISTANCES SAME AS STANDARD TABLE SHOWN ON SHEET 13 OF 13.

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	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 8 OF 13



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

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	TYPICAL CMTA/C.I.P. SIGN LOCATIONS	
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 9 OF 13

REV NO.	BY	DATE	REVISION DESCRIPTION

STATE OF TEXAS
XIAOQIN ZHANG, P.E.
96436
LICENSED
PROFESSIONAL ENGINEER
01/29/2020

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY XIAOQIN ZHANG, P.E. LIC. # 96436

I CERTIFY THAT THESE DRAWINGS ARE COMPLETE, ACCURATE AND ADEQUATE FOR THEIR INTENDED PURPOSES, INCLUDING CONSTRUCTION, BUT ARE NOT AUTHORIZED FOR CONSTRUCTION UNTIL FORMAL CITY APPROVAL.

CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

TRAFFIC CONTROL DETAILS
SHEET 4 OF 5

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/JP	8/18
DESIGNED BY	JT/EZ	8/18
CHECKED BY	EZ/CG	8/18
REVIEWED BY	ESD	8/18

ENGINEERING SERVICES DIVISION

GP-2019-0210.ATD

CT504 | 131 OF 142

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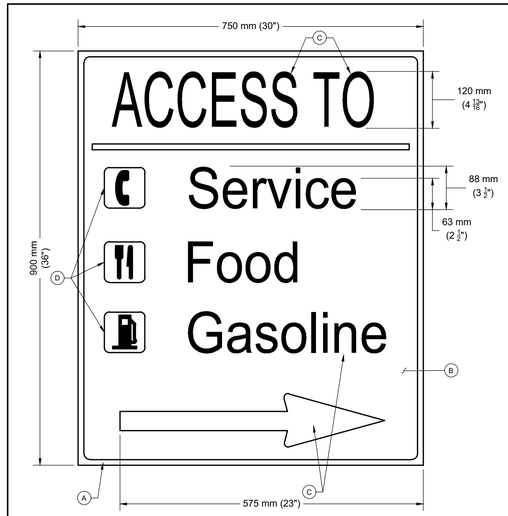
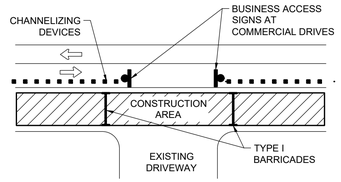


A. 50 mm (2") WHITE RETRO-REFLECTIVE BORDER
B. BLUE RETRO-REFLECTIVE BACKGROUND
C. WHITE RETRO-REFLECTIVE ARROW AND LETTERS
D. WHITE RETRO-REFELCTIVE BUSINESS LOGO

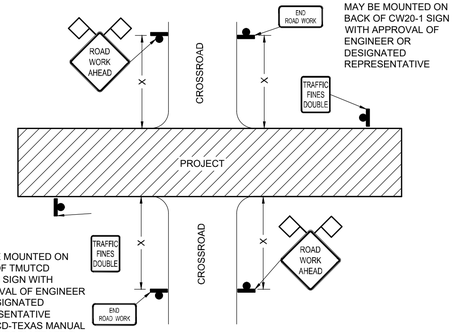
NOTES:

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



DRIVEWAY ACCESS BARRICADE DETAIL



MAY BE MOUNTED ON BACK OF CW20-1 SIGN WITH APPROVAL OF ENGINEER OR DESIGNATED REPRESENTATIVE

MAY BE MOUNTED ON BACK OF TMUTCD CW20-1 SIGN WITH APPROVAL OF ENGINEER OR DESIGNATED REPRESENTATIVE (TMUTCD-TEXAS MANUAL FOR UNIFORM TRAFFIC CONTROL DEVICES)

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	SPECIAL WORK ZONE SIGNS	STANDARD NO. 804S-5 11 OF 13
RECORD COPY SIGNED BY SAM ANGOORI 01/04/10 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	

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 UNDER SEALING, 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 6PM 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	SIGNING AND BARRICADING CROSSROAD & DRIVEWAY	STANDARD NO. 804S-5 12 OF 13
RECORD COPY SIGNED BY SAM ANGOORI 01/04/10 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	

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

			Minimum Desirable Taper Lengths (L) Meters (Feet)			Suggested Max. Device Spacing		Suggested Sign Spacing Meters (Feet)
Speed KMPH	Posted Speed MPH	Formula	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)	"X" Dimension
50	30	$L=\frac{WS^2}{60}$	45 (150)	50 (165)	55 (180)	9 (30)	15-20 (50-65)	40 (120)
55	35		65 (205)	70 (225)	75 (245)	10 (35)	20-25 (65-80)	50 (160)
65	40		80 (265)	90 (295)	100 (320)	12 (40)	25-30 (80-100)	75 (240)
70	45	L=WS	135 (450)	150 (495)	165 (540)	13 (45)	25-30 (80-100)	100 (320)
80	50		150 (500)	165 (550)	180 (600)	15 (50)	30-35 (100-110)	120 (400)
90	55		165 (550)	185 (605)	200 (660)	16 (55)	35-40 (110-130)	150 (500)
95	60		180 (600)	200 (660)	220 (720)	18 (60)	40-45 (130-150)	180 (600)
105	65		195 (650)	215 (715)	235 (780)	19 (65)	45-50 (150-165)	210 (700)
115	70		215 (700)	235 (770)	255 (840)	21 (70)	50-55 (165-180)	240 (800)

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

REV NO.	BY	DATE	REVISION DESCRIPTION

STATE OF TEXAS
XIAOQIN ZHANG, P.E.
96436
LICENSED
PROFESSIONAL ENGINEER
01/29/2020

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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

TRAFFIC CONTROL DETAILS
SHEET 5 OF 5

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/JP	8/18
DESIGNED BY	JT/EZ	8/18
CHECKED BY	EZ/CG	8/18
REVIEWED BY	ESD	8/18

ENGINEERING SERVICES DIVISION

GP-2019-0210.ATD

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LANDSCAPE PLANTING NOTES

GENERAL

1. INFORMATION PROVIDED ON THIS PLAN IS GENERAL IN NATURE. DIMENSIONS, LOCATIONS, AND AREAS ARE APPROXIMATE AND SHOULD BE FIELD VERIFIED BEFORE INSTALLATION.
2. INSTALLED QUANTITIES OF PLANT MATERIALS MAY VARY FROM THOSE SHOWN ON THE PLAN AND SHOULD BE FIELD DETERMINED ACCORDING TO APPROPRIATE PLANT SPACING AND FIELD CONDITIONS. DISCREPANCIES BETWEEN THE FIELD CONDITIONS AND THE PLAN WHICH LIMIT THE CONTRACTOR SHOULD BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT OR PROJECT LANDSCAPE REPRESENTATIVE BEFORE INSTALLATION OF THE AREA IN QUESTION IS COMPLETE.
3. SUBSTITUTION OF PLANT SPECIES, SIZES, OR OTHER SPECIFIED MATERIALS WILL NOT BE ALLOWED WITHOUT PRIOR APPROVAL BY THE LANDSCAPE ARCHITECT OR PROJECT LANDSCAPE REPRESENTATIVE.
4. ALL PLANT MATERIAL MUST CONFORM TO THE GUIDELINES ESTABLISHED BY THE CURRENT AMERICAN STANDARD FOR NURSERY STOCK, PUBLISHED BY THE AMERICAN HORTICULTURE INDUSTRY ASSOCIATION OR EQUIVALENT.
5. ALL PLANT MATERIAL MUST BE APPROVED BY THE LANDSCAPE ARCHITECT OR PROJECT LANDSCAPE REPRESENTATIVE PRIOR TO PLANTING.
6. INSTALLATION OF ALL LANDSCAPING MUST BE COORDINATED WITH THE INSTALLATION OF RELATED IRRIGATION, SITE WORK, AND GRADING.
7. EXISTING TREES TO BE SAVED MUST BE PROTECTED BEFORE CONSTRUCTION BEGINS. SEE "TREE PROTECTION AND ENVIRONMENTAL NOTES" SHEET FOR TREE PROTECTION LOCATIONS AND TREE PROTECTION DETAILS. NO EQUIPMENT OR MATERIALS SHALL BE STORED OR OPERATED WITHIN THE FENCED AREAS.
8. LANDSCAPE ARCHITECT OR PROJECT LANDSCAPE REPRESENTATIVE CAN BE CONTACTED AT 512.974.7006.

TREES - SPECIAL CONSTRUCTION TECHNIQUES

9. BEFORE EXCAVATION WITHIN TREE DRIP LINES OR THE REMOVAL OF TREES NEXT TO OTHER TREES THAT ARE TO REMAIN, MAKE A CLEAN CUT BETWEEN THE DISTURBED AND UNDISTURBED ROOT ZONES WITH A ROCK SAW OR SIMILAR EQUIPMENT TO MINIMIZE ROOT DAMAGE.
10. CRITICAL ROOT ZONE AREAS THAT CANNOT BE PROTECTED DURING CONSTRUCTION WITH FENCING AND WHERE HEAVY VEHICULAR TRAFFIC IS ANTICIPATED MUST BE COVERED WITH A MINIMUM OF 12 INCHES OF ORGANIC MULCH TO MINIMIZE SOIL COMPACTION. IN AREAS WITH HIGH SOIL PLASTICITY, PLACE GEOTEXTILE FABRIC (PER STANDARD SPEC. 620S) UNDER THE MULCH TO PREVENT EXCESSIVE MIXING OF THE SOIL AND MULCH. ADDITIONAL MATERIALS SUCH AS PLYWOOD MAY BE REQUIRED BY THE CITY ARBORIST TO MINIMIZE ROOT IMPACTS FROM HEAVY EQUIPMENT. ONCE THE PROJECT IS COMPLETE, SUPPLEMENTAL ROOT-PROTECTION MATERIALS SHOULD BE REMOVED AND MULCH COVER REDUCED FROM 12 TO 3 INCHES DEEP.
11. PERFORM ALL GRADING WITHIN CRITICAL ROOT ZONE AREAS BY HAND OR WITH SMALL EQUIPMENT TO MINIMIZE ROOT DAMAGE.
12. WATER ALL TREES IMPACTED BY CONSTRUCTION ACTIVITIES DEEPLY ONCE A WEEK DURING PERIOD OF HOT, DRY WEATHER. SPRAY TREE CROWNS WITH WATER PERIODICALLY TO REDUCE DUST ACCUMULATION ON THE LEAVES.
13. WHEN INSTALLING CONCRETE ADJACENT TO THE ROOT ZONE OF A TREE, USE A PLASTIC VAPOR BARRIER BEHIND THE CONCRETE TO PROHIBIT LEACHING OF LIME INTO THE SOIL.

TREES - FERTILIZER

14. HUMATE/NUTRIENT SOLUTIONS WITH MYCORRHIZAE COMPONENTS OR SOIL INJECTION AT RECOMMENDED RATES ARE TO BE USED WHEN APPROPRIATE. CONSTRUCTION WHICH WILL BE COMPLETED IN LESS THAN 90 DAYS MAY USE MATERIAL AT HALF THE RECOMMENDED RATES. ALTERNATIVE ORGANIC FERTILIZER MATERIALS ARE ACCEPTABLE WHEN APPROVED BY THE CITY ARBORIST.

TREES - TREE PROTECTION SIGNAGE

15. A LAMINATED SIGN (MIN. SIZE 11 x 17 INCHES) SHALL BE POSTED ON EACH TREE PROTECTIVE DEVICE AND AT LEAST EVERY 100 LINEAR FEET ON PROTECTIVE FENCING, IDENTIFYING THE FOLLOWING: TREE & ROOT PROTECTION ZONE, PER CITY OF AUSTIN CODE (CHAPTER 25-8, SUBCHAPTER B, ARTICLE 1). TREE PROTECTION AND SIGNAGE IS TO REMAIN IN PLACE FOR THE ENTIRETY OF THE CONSTRUCTION. FOR SIGN EXAMPLE, SEE DETAIL SHEET L501.

SEQUENCE OF TREE CARE NOTES

1. ANALYSIS (SOIL, FOLIAR, PRUNING, NUTRIENT, ETC.) AND REVIEW OF EACH TREE IMPACTED BY CONSTRUCTION BY CERTIFIED ARBORIST.
2. COORDINATE RECOMMENDATIONS WITH GENERAL PERMIT OFFICE. COORDINATE ALL PRECONSTRUCTION ACTIVITIES (INCLUDING PRUNING) WITH GENERAL PERMIT OFFICE.
3. PRUNE TREES AND APPLY PRECONSTRUCTION NUTRIENTS
4. INSTALL TREE PROTECTION (FENCING, BOARDING, ETC.)
5. MONITOR CONDITION OF TREES DURING CONSTRUCTION. COORDINATE ANY RECOMMENDATIONS AND IMPLEMENTATION FOR TREE CARE WITH GENERAL PERMIT OFFICE DURING CONSTRUCTION PERIOD (E.G. WATER, ADDITIONAL PRUNING, NUTRIENTS, TREE PROTECTION).
6. FOLLOWING CONSTRUCTION, AERATE TREES WITH AIR INJECTION
   - 6.1. SUPERSONIC NOZZLE, 90 PSIG, 150 SCFM, OR APPROVED EQUIVALENT
   - 6.2. AERATE SOIL TO 6 INCH DEPTH OR GREATER AS RECOMMENDED BY CERTIFIED ARBORIST
   - 6.3. REMOVE SOIL AND REPLACE WITH MULCH TO A DEPTH OF 3 INCHES
   - 6.4. PROTECT AERATED SOIL AND MULCH UNTIL FINAL ACCEPTANCE. DO NOT ALLOW COMPACTION OF AERATED AREAS OR MULCH
7. APPLY POSTCONSTRUCTION FERTILIZATION
8. REMOVE TREE PROTECTION
9. FOR ANY QUESTIONS: LANDSCAPE ARCHITECT OR PROJECT LANDSCAPE REPRESENTATIVE CAN BE CONTACTED AT 512.974.7006.

NOTE: ALL TREE CARE INCLUDING PRUNING, AERATION, AND FERTILIZATION MUST BE COMPLETED BY A CERTIFIED ARBORIST.

TO PREVENT OAK WILT TRANSMISSION, AVOID PRUNING LIVE AND RED OAKS FEB 1 - JUNE 30. ALWAYS PAINT FRESH WOUNDS ON OAKS WITH WOUND DRESSING OR LATEX PAINT IMMEDIATELY AFTER PRUNING.

APPENDIX O: LANDSCAPE IRRIGATION NOTES

SITE DEVELOPMENT PERMIT - IRRIGATION NOTES

AUTOMATIC IRRIGATION SYSTEMS SHALL COMPLY WITH TCEQ CHAPTER 344, AS WELL AS THE FOLLOWING REQUIREMENTS:

1. THESE REQUIREMENTS SHALL BE NOTED ON THE SITE DEVELOPMENT PERMIT AND SHALL BE IMPLEMENTED AS PART OF THE LANDSCAPE INSPECTION:
   - 1.1. THE SYSTEM MUST PROVIDE A MOISTURE LEVEL ADEQUATE TO SUSTAIN GROWTH OF THE PLANTS MATERIALS;
   - 1.2. THE SYSTEM DOES NOT INCLUDE SPRAY IRRIGATION ON AREAS LESS THAN TEN (10) FEET WIDE (SUCH AS MERIDIANS, BUFFER STRIPS, AND PARKING LOT ISLANDS);
   - 1.3. CIRCUIT REMOTE CONTROL VALVES HAVE ADJUSTABLE FLOW CONTROLS;
   - 1.4. SERVICEABLE IN-HEAD CHECK VALVES AREA ADJACENT TO PAVED AREAS WHERE ELEVATION DIFFERENCES MAY CAUSE LOW HEAD DRAINAGE;
   - 1.5. A MASTER VALVE INSTALLED ON THE DISCHARGE SIDE OF THE BACKFLOW PREVENTER;
   - 1.6. ABOVE-GROUND IRRIGATION EMISSION DEVICES ARE SET BACK AT LEAST SIX (6) INCHES FROM IMPERVIOUS SURFACES;
   - 1.7. AN AUTOMATIC RAIN SHUT-OFF DEVICE SHUTS OFF THE IRRIGATION SYSTEM AUTOMATICALLY AFTER MORE THAN A ONE-HALF INCH ($\frac{1}{2}$") RAINFALL; AND
   - 1.8. NEWLY PLANTED TREES SHALL HAVE PERMANENT IRRIGATION CONSISTING OF DRIP OR BUBBLERS.
2. THE IRRIGATION INSTALLER SHALL DEVELOP AND PROVIDE AN AS-BUILT DESIGN PLAN TO THE CITY AT THE TIME THE FINAL IRRIGATION INSPECTION IS PERFORMED;
   - 2.1. UNLESS FISCAL SECURITY IS PROVIDED TO THE CITY FOR THE INSTALLATION OF THE SYSTEM, IT MUST BE OPERATIONAL AT THE TIME OF THE FINAL LANDSCAPE INSPECTION.
3. THE IRRIGATION INSTALLER SHALL ALSO PROVIDE EXHIBITS TO BE PERMANENTLY INSTALLED INSIDE OR ATTACHED TO THE IRRIGATION CONTROLLER, INCLUDING:
   - 3.1. A LAMINATED COPY OF THE WATER BUDGET CONTAINING ZONE NUMBERS, PRECIPITATION RATE, GALLONS PER MINUTE AND THE LOCATION OF THE ISOLATION VALVE; AND AN AS BUILT PLAN.
4. THE IRRIGATION INSTALLER SHALL PROVIDE A REPORT TO THE CITY ON A FORM PROVIDED BY AUSTIN WATER CERTIFYING COMPLIANCE WITH SUBSECTION 1. WHEN THE FINAL PLUMBING INSPECTION IS PERFORMED BY THE CITY.

SOURCE: RULE NO. R161-17.09, 5-16-2017; RULE NO. R61-18.01, 3-2-2018.

APPENDIX P-6: REMEDIAL TREE CARE NOTES AERATION AND SUPPLEMENTAL NUTRIENT REQUIREMENTS FOR TREES WITHIN CONSTRUCTION ZONES

AS A COMPONENT OF AN EFFECTIVE REMEDIAL TREE CARE PROGRAM PER ENVIRONMENTAL CRITERIA MANUAL SECTION 3.5.4, PRESERVED TREES WITHIN THE LIMITS OF CONSTRUCTION MAY REQUIRE SOIL AERATION AND SUPPLEMENTAL NUTRIENTS. SOIL AND/OR FOLIAR ANALYSIS SHOULD BE USED TO DETERMINE THE NEED FOR SUPPLEMENTAL NUTRIENTS. THE CITY ARBORIST MAY REQUIRE THESE ANALYSES AS PART OF A COMPREHENSIVE TREE CARE PLAN. SOIL PH SHALL BE CONSIDERED WHEN DETERMINING THE FERTILIZATION COMPOSITION AS SOIL PH INFLUENCES THE TREE'S ABILITY TO UPTAKE NUTRIENTS FROM THE SOIL. IF ANALYSES INDICATE THE NEED FOR SUPPLEMENTAL NUTRIENTS, THEN HUMATE/NUTRIENT SOLUTIONS WITH MYCORRHIZAE COMPONENTS ARE HIGHLY RECOMMENDED. IN ADDITION, SOIL ANALYSIS MAY BE NEEDED TO DETERMINE IF ORGANIC MATERIAL OR BENEFICIAL MICROORGANISMS ARE NEEDED TO IMPROVE SOIL HEALTH. MATERIALS AND METHODS ARE TO BE APPROVED BY THE CITY ARBORIST (512-974-2755) PRIOR TO APPLICATION. THE OWNER OR GENERAL CONTRACTOR SHALL SELECT A FERTILIZATION CONTRACTOR AND ENSURE COORDINATION WITH THE CITY ARBORIST.

PRE-CONSTRUCTION TREATMENT SHOULD BE APPLIED IN THE APPROPRIATE SEASON, IDEALLY THE SEASON PRECEDING THE PROPOSED CONSTRUCTION. MINIMALLY, AREAS TO BE TREATED INCLUDE THE ENTIRE CRITICAL ROOT ZONE OF TREES AS DEPICTED ON THE CITY APPROVED PLANS. TREATMENT SHOULD INCLUDE, BUT NOT BE LIMITED TO, FERTILIZATION, SOIL TREATMENT, MULCHING, AND PROPER PRUNING.

POST-CONSTRUCTION TREATMENT SHOULD OCCUR DURING FINAL REVEGETATION OR AS DETERMINED BY A QUALIFIED ARBORIST AFTER CONSTRUCTION. CONSTRUCTION ACTIVITIES OFTEN RESULT IN A REDUCTION IN SOIL MACRO AND MICRO PORES AND AN INCREASE IN SOIL BULK DENSITY. TO AMELIORATE THE DEGRADED SOIL CONDITIONS, AERATION VIA WATER AND/OR AIR INJECTED INTO THE SOIL IS NEEDED OR BY OTHER METHODS AS APPROVED BY THE CITY ARBORIST. THE PROPOSED NUTRIENT MIX SPECIFICATIONS AND SOIL AND/OR FOLIAR ANALYSIS RESULTS NEED TO BE PROVIDED TO AND APPROVED BY THE CITY ARBORIST PRIOR TO APPLICATION (FAX # 512-974-3010 OR CITYARBORIST@AUSTINTEXAS.GOV). CONSTRUCTION WHICH WILL BE COMPLETED IN LESS THAN 90 DAYS MAY USE MATERIALS AT ½ RECOMMENDED RATES. ALTERNATIVE ORGANIC FERTILIZER MATERIALS ARE ACCEPTABLE WHEN APPROVED BY THE CITY ARBORIST. WITHIN 7 DAYS AFTER FERTILIZATION IS PERFORMED, THE CONTRACTOR SHALL PROVIDE DOCUMENTATION OF THE WORK PERFORMED TO THE CITY ARBORIST, DEVELOPMENT SERVICES DEPARTMENT. P.O. BOX 1088, AUSTIN, TX 78767. THIS NOTE SHOULD BE REFERENCED AS ITEM #1 IN THE SEQUENCE OF CONSTRUCTION.

ECM 3.5.4 D. SPECIAL CONSTRUCTION TECHNIQUES

IN CONJUNCTION WITH REMEDIAL CARE, MITIGATION FOR TREES REMOVED MAY INCLUDE SPECIAL CONSTRUCTION TECHNIQUES NOT NORMALLY REQUIRED IN STANDARD SPECIFICATIONS. SOME OF THESE TECHNIQUES INCLUDE THE FOLLOWING:

1. PRIOR TO EXCAVATION WITHIN TREE DRIPLINES OR THE REMOVAL OF TREES ADJACENT TO OTHER TREES THAT ARE TO REMAIN, MAKE A CLEAN CUT BETWEEN THE DISTURBED AND UNDISTURBED ROOT ZONES WITH A ROCK SAW OR SIMILAR EQUIPMENT TO MINIMIZE ROOT DAMAGE.
2. IN CRITICAL ROOT ZONE AREAS THAT CANNOT BE PROTECTED DURING CONSTRUCTION WITH FENCING AND WHERE HEAVY VEHICULAR TRAFFIC IS ANTICIPATED, COVER THOSE AREAS WITH A MINIMUM OF 12 INCHES OF ORGANIC MULCH TO MINIMIZE SOIL COMPACTION. IN AREAS WITH HIGH SOIL PLASTICITY GEOTEXTILE FABRIC, PER STANDARD SPECIFICATION 620S, SHOULD BE PLACED UNDER THE MULCH TO PREVENT EXCESSIVE MIXING OF THE SOIL AND MULCH. ADDITIONALLY, MATERIAL SUCH AS PLYWOOD AND METAL SHEETS COULD BE REQUIRED BY THE CITY ARBORIST TO MINIMIZE ROOT IMPACTS FROM HEAVY EQUIPMENT. ONCE THE PROJECT IS COMPLETED, ALL MATERIALS SHOULD BE REMOVED, AND THE MULCH SHOULD BE REDUCED TO A DEPTH OF 3 INCHES.
3. PERFORM ALL GRADING WITHIN CRITICAL ROOT ZONE AREAS BY HAND OR WITH SMALL EQUIPMENT TO MINIMIZE ROOT DAMAGE.
4. WATER ALL TREES MOST HEAVILY IMPACTED BY CONSTRUCTION ACTIVITIES DEEPLY ONCE A WEEK DURING PERIODS OF HOT, DRY WEATHER. SPRAY TREE CROWNS WITH WATER PERIODICALLY TO REDUCE DUST ACCUMULATION ON THE LEAVES.
5. WHEN INSTALLING CONCRETE ADJACENT TO THE ROOT ZONE OF A TREE, USE A PLASTIC VAPOR BARRIER BEHIND THE CONCRETE TO PROHIBIT LEACHING OF LIME INTO THE SOIL.

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REGISTERED LANDSCAPE ARCHITECT SUSAN C. KENZLE STATE OF TEXAS

12/18/2019

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY SUSAN KENZLE, RLA
L/C. # 0211 6

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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

LANDSCAPE AND IRRIGATION NOTES

CITY OF AUSTIN FOUNDED 1839

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DRAWN BY	JT/KG	8/18
DESIGNED BY	KG	8/18
CHECKED BY	EZ/CG	8/18
REVIEWED BY	ESD	8/18

ESD
ENGINEERING SERVICES DIVISION

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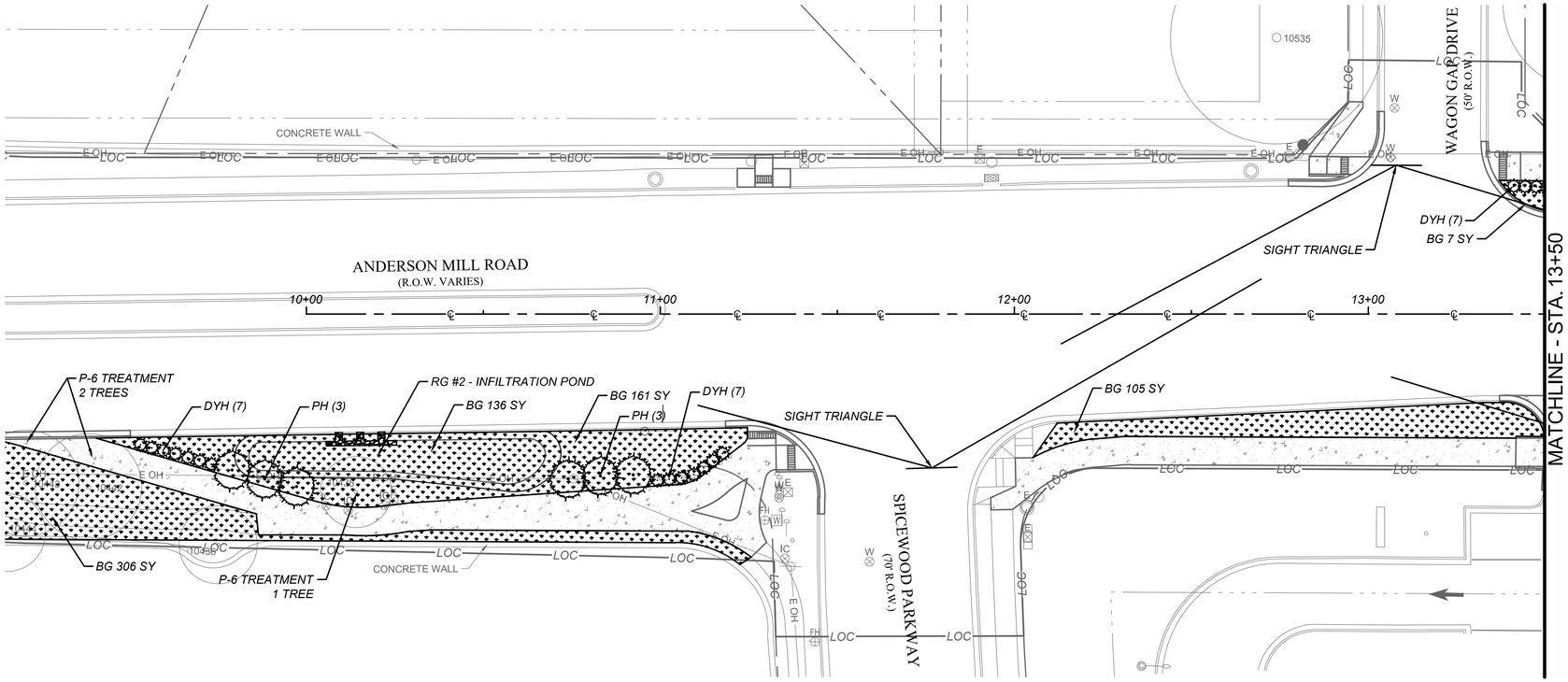

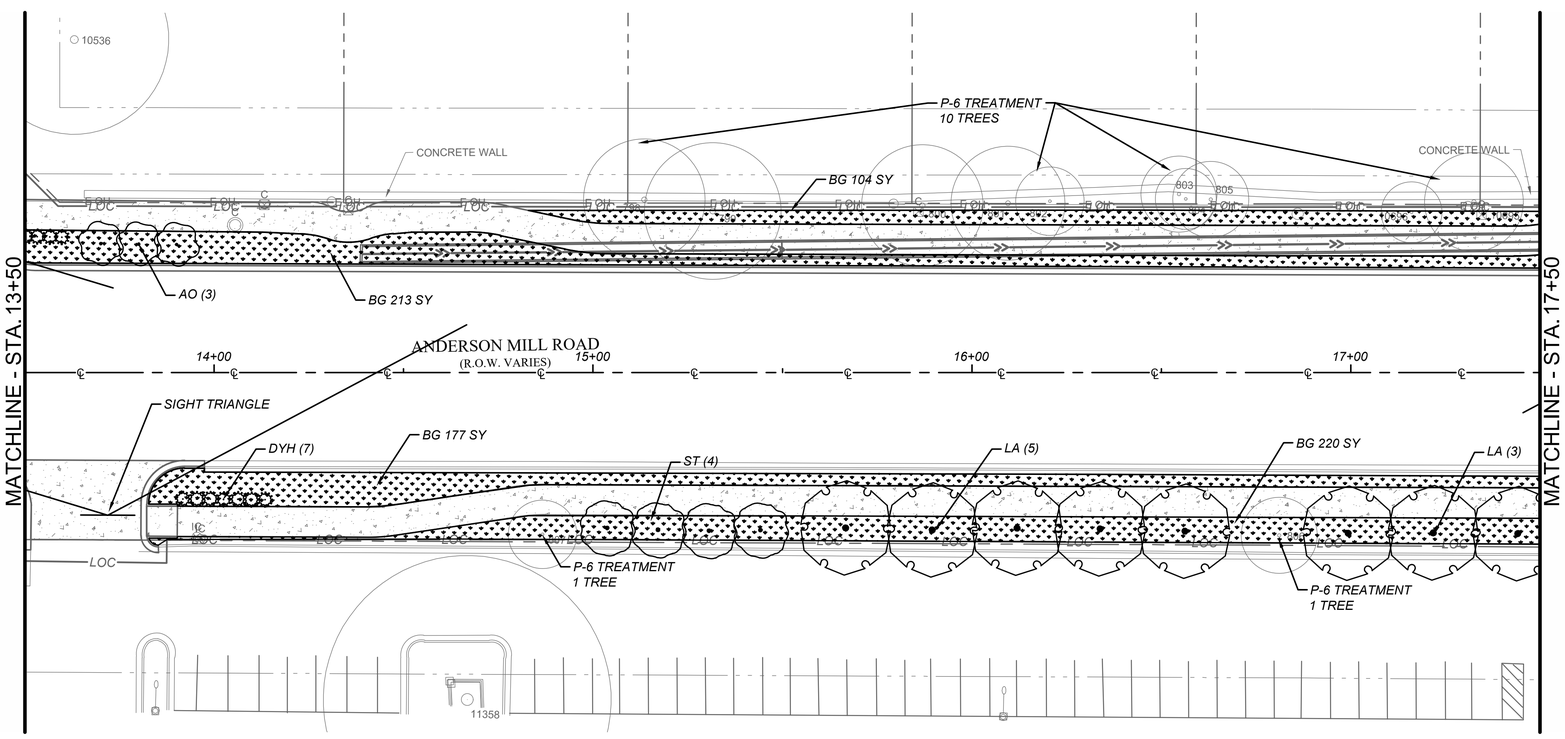

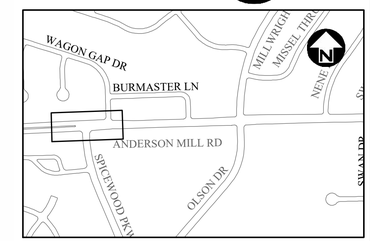

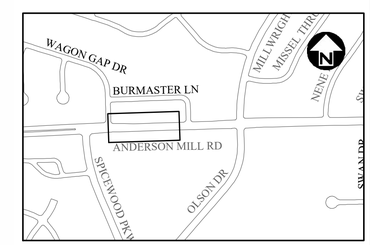

NOTE: HARDWOOD MULCH RING FOR ALL NEW TREES.
SEE DETAIL L501

PLANT KEY	
ABBREVIATION	COMMON NAME
AO	ANACACHO ORCHID
BG	BERMUDA GRASS
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CE	CEDAR ELM
DYH	DWARF YAUPON HOLLY
GM	GULF MUHLY
LA	LACEY OAK
LO	LIVE OAK
MP	MEXICAN PLUM
PH	POISSON HOLLY
RY	RED YOCCA
SP	SILVER PONY FOOT
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TL	TRAILING LANTANA
ZE	ZEXMENIA

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REGISTERED LANDSCAPE ARCHITECT
SUSAN C. KENZLE
0211
STATE OF TEXAS

12/18/2019
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DEPARTMENT OF PUBLIC WORKS
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ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

LANDSCAPE PLAN
BEGIN - STA. 17+50

CITY OF AUSTIN
FOUNDED 1839

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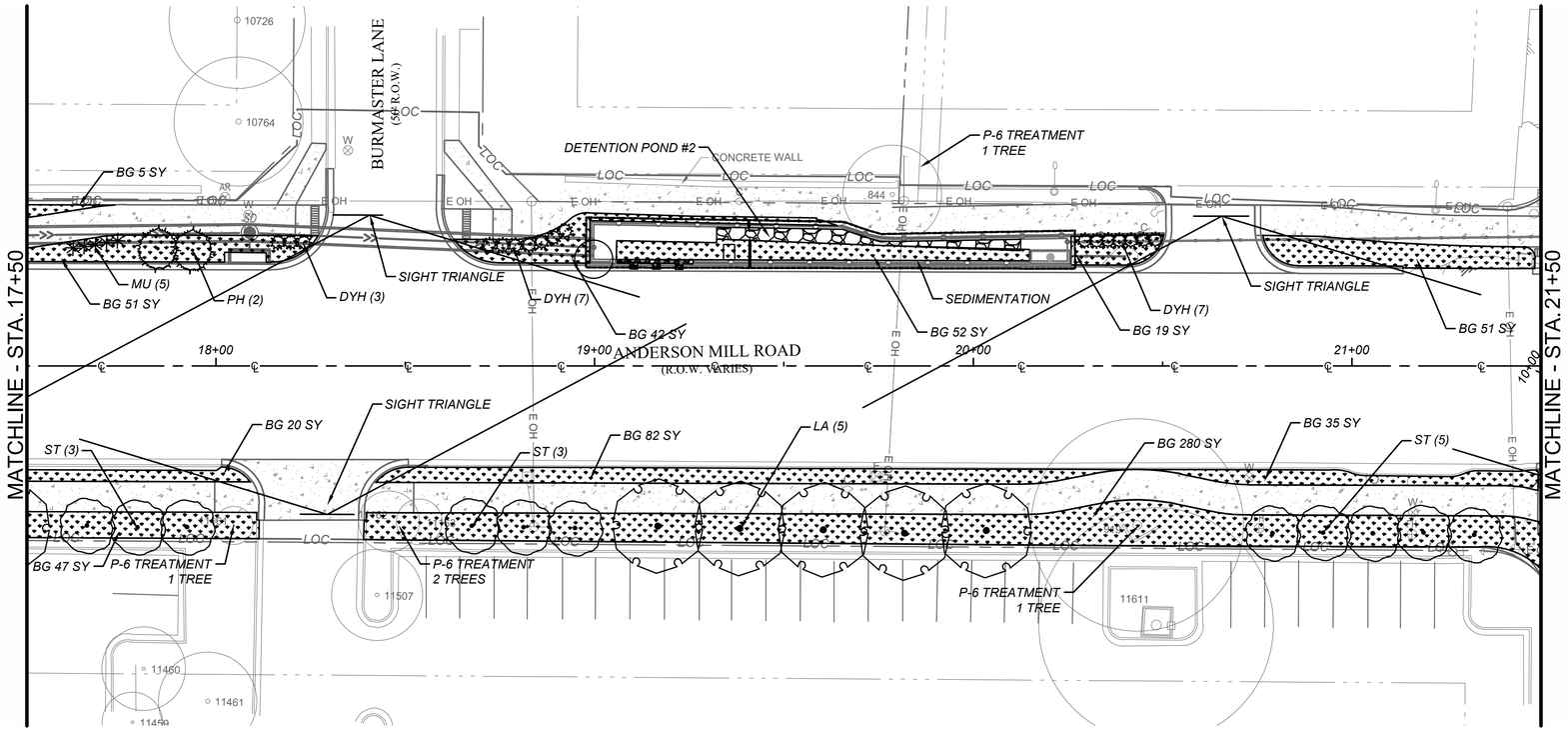

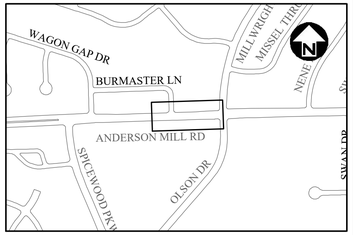

WATER QUALITY PLANT SCHEME BLOCKS	
SCHEME SYMBOL	PLANTS
	BLUE GRAMA GRASS (ST) GOLDENROD (STH) FALL ASTER (FL) CLOVER FERN (GC)
	TEXAS SIDEOATS (ST) BUSH SUNFLOWER (STH) LOBELIA CARDINALIS (FL) FROGFRUIT (GC)
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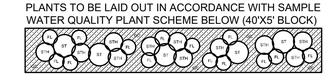
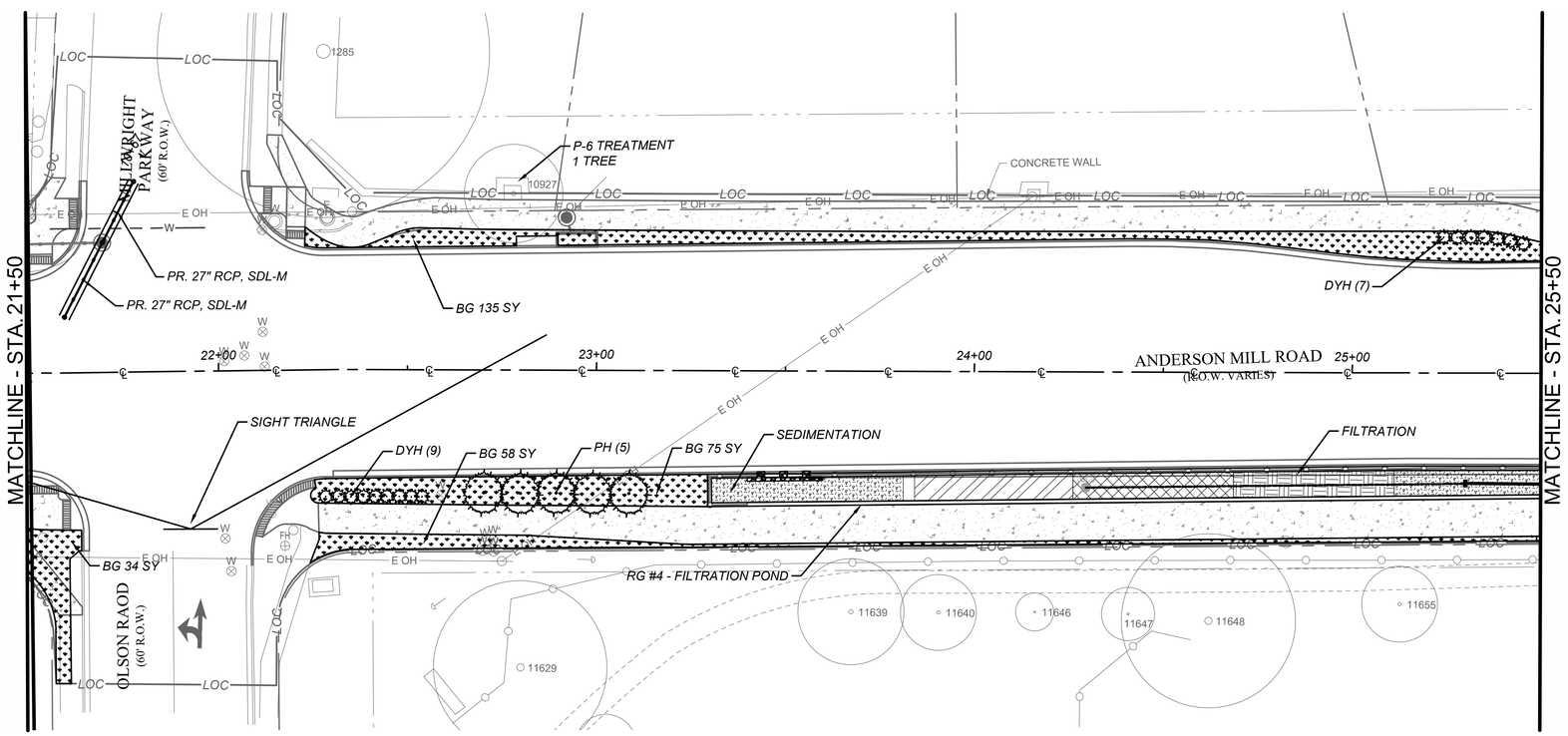
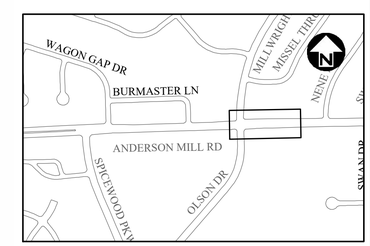
SEE WATER QUALITY PLANT QUANTITIES L601
PLANTS TO BE LAID OUT IN ACCORDANCE WITH SAMPLE WATER QUALITY PLANT SCHEME BELOW (40'X5' BLOCK)







NOTE: HARDWOOD MULCH RING FOR ALL NEW TREES.
SEE DETAIL L501

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REGISTERED LANDSCAPE ARCHITECT
SUSAN C. KENZLE
STATE OF TEXAS

12/18/2019

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LIC. # 0211G

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CITY OF AUSTIN, TEXAS
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ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

LANDSCAPE PLAN
STA. 17+50 - 25+50

CITY OF AUSTIN
FOUNDED 1839

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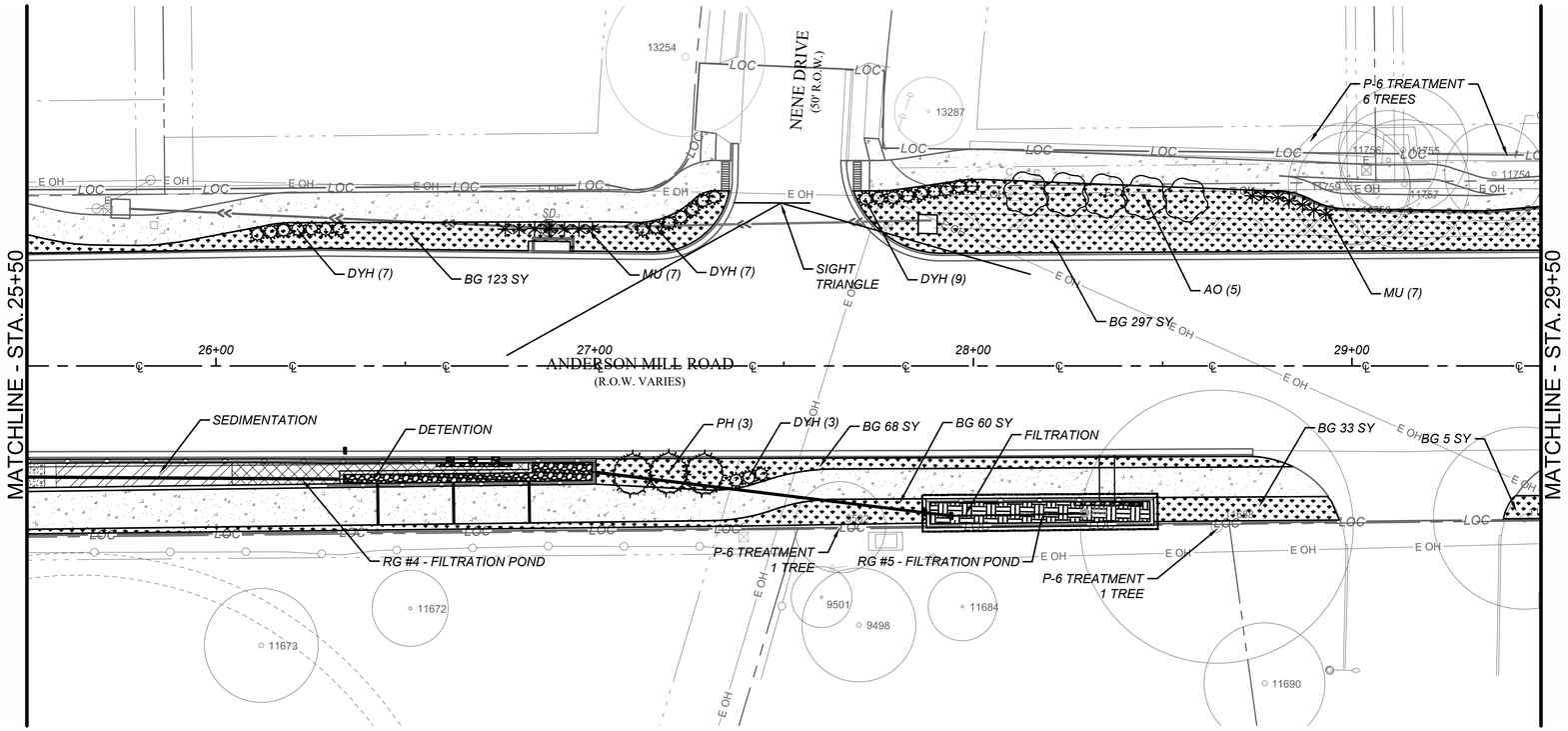

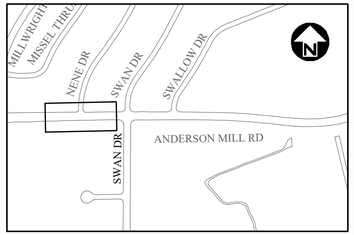

WATER QUALITY PLANT SCHEME BLOCKS

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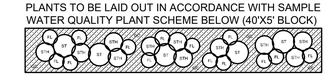

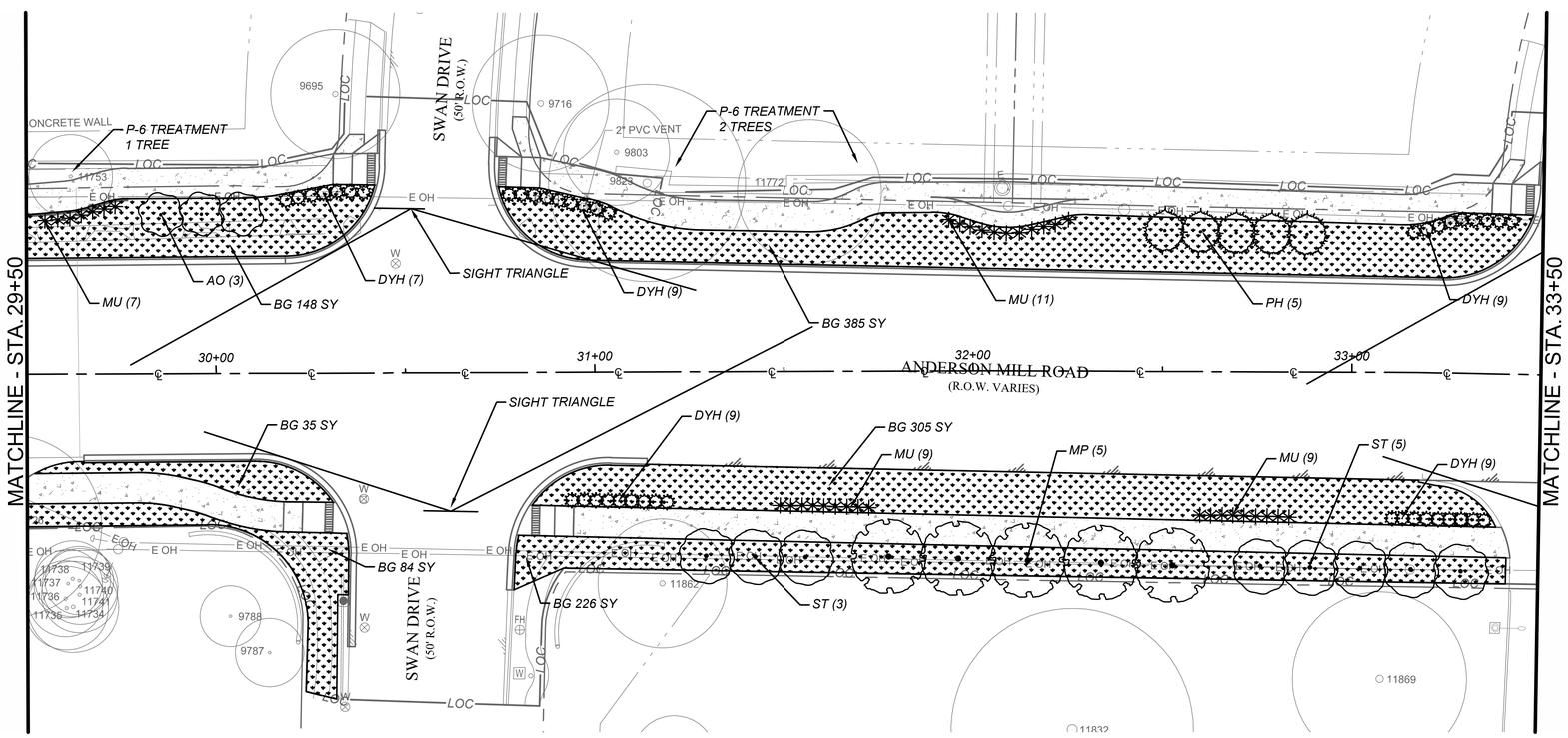

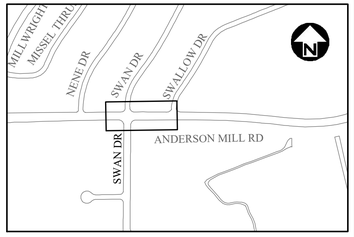

NOTE: HARDWOOD MULCH RING FOR ALL NEW TREES.
SEE DETAIL L501

PLANT KEY

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ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

LANDSCAPE PLAN
STA. 25+50 - 33+50

CITY OF AUSTIN FOUNDED 1839

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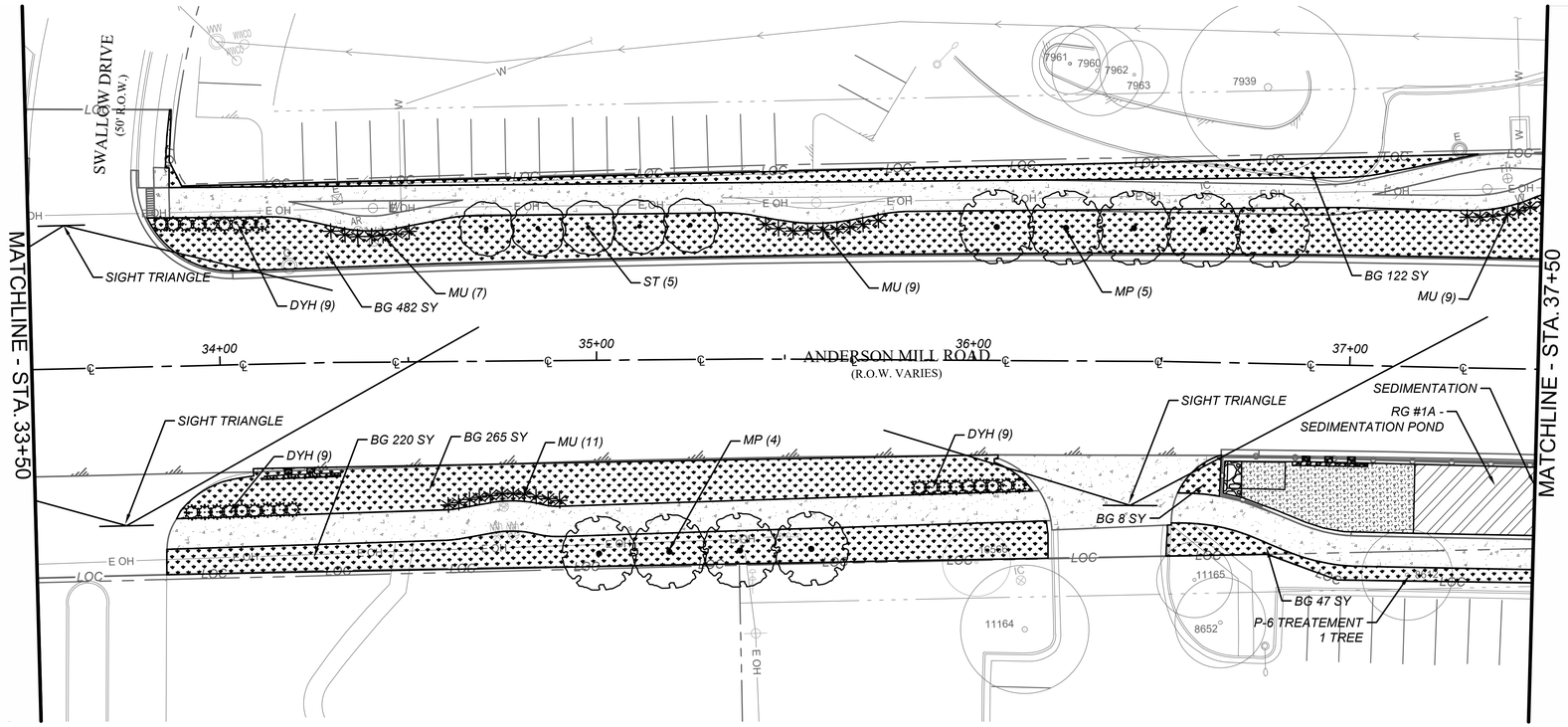

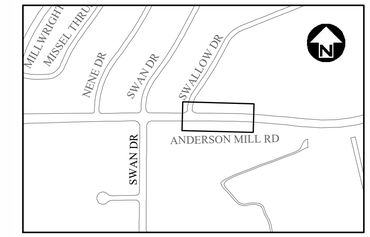

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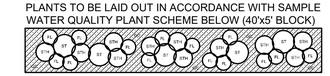

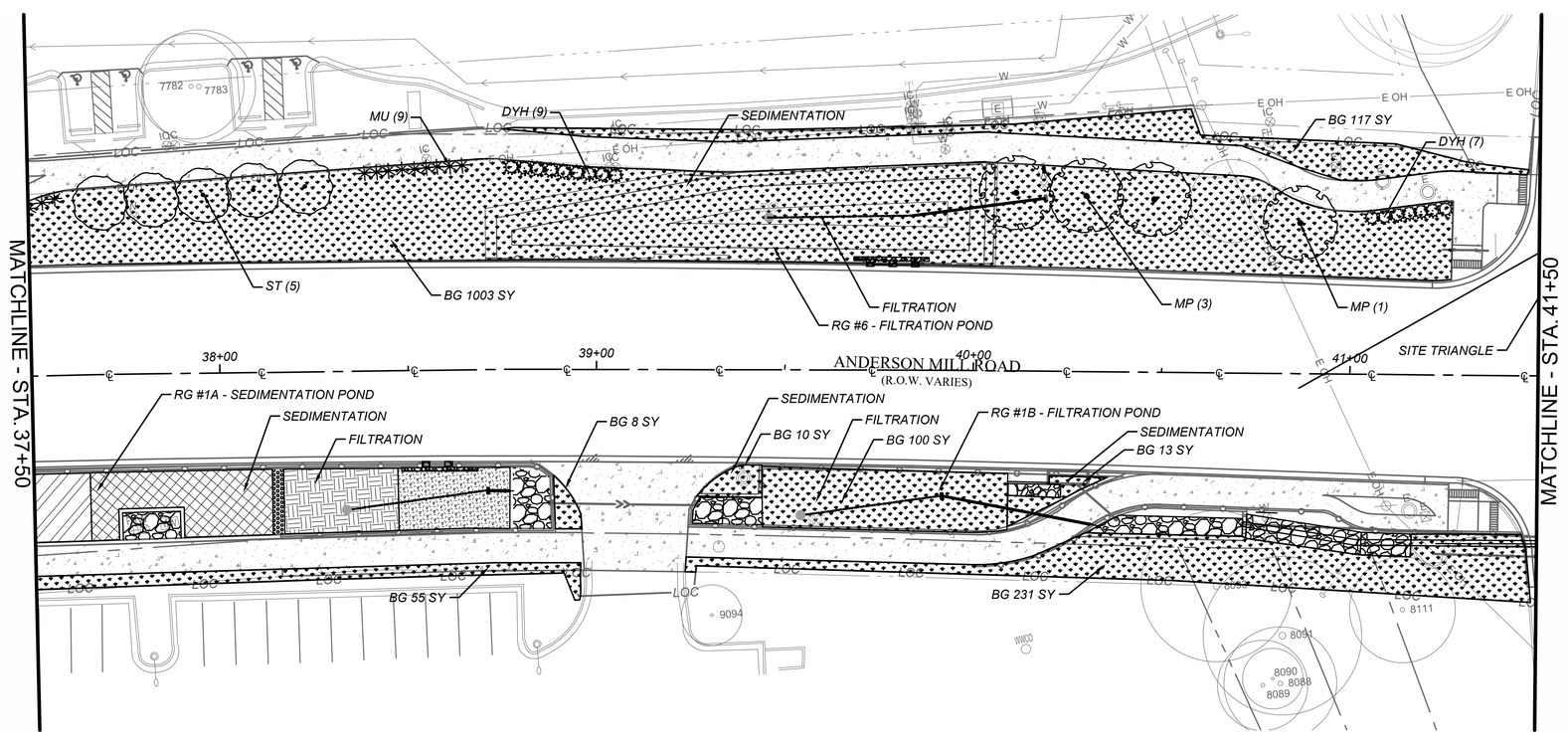

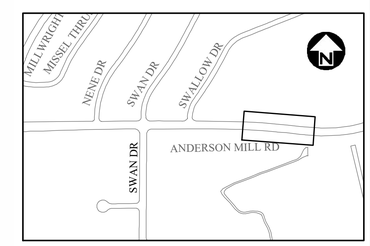

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RY	RED YUCCA
SP	SILVER PONY FOOT
ST	SMOKE TREE
TL	TRAILING LANTANA
ZE	ZIEXMENIA

THE TEXAS BOARD OF ARCHITECTURAL EXAMINERS HAS JURISDICTION OVER COMPLAINTS REGARDING THE PROFESSIONAL PRACTICES OF PERSON REGISTERED AS LANDSCAPE ARCHITECTS IN TEXAS.

REV NO.	BY	DATE	REVISION DESCRIPTION

REGISTERED LANDSCAPE ARCHITECT
SUSAN C. KENZLE
02116
STATE OF TEXAS

12/18/2019

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY SUSAN KENZLE, RLA
LIC. # 02116

I CERTIFY THAT THESE DRAWINGS ARE COMPLETE, ACCURATE AND ADEQUATE FOR THEIR INTENDED PURPOSES, INCLUDING CONSTRUCTION, BUT ARE NOT AUTHORIZED FOR CONSTRUCTION UNTIL FORMAL CITY APPROVAL.

CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

LANDSCAPE PLAN
STA. 33+50 - 41+50

CITY OF AUSTIN
FOUNDED 1839

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/KG	8/18
DESIGNED BY	KG	8/18
CHECKED BY	EZ/CG	8/18
REVIEWED BY	ESD	8/18

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HORIZONTAL SCALE IN FEET

GP-2019-0210.ATD

L104 137 OF 142

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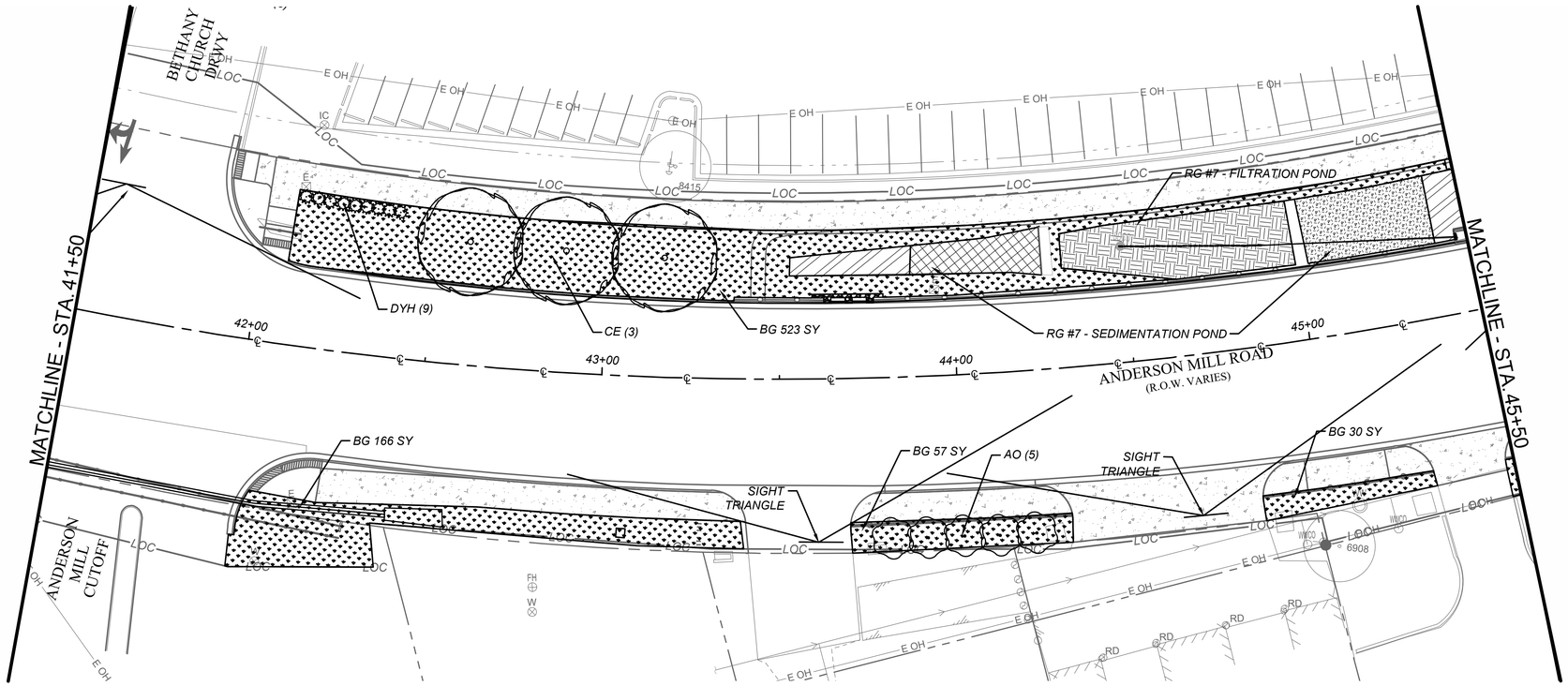
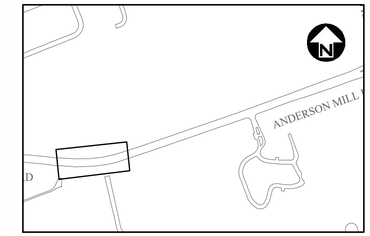
THIVAKARAN, JOTHIKA

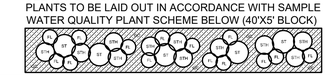


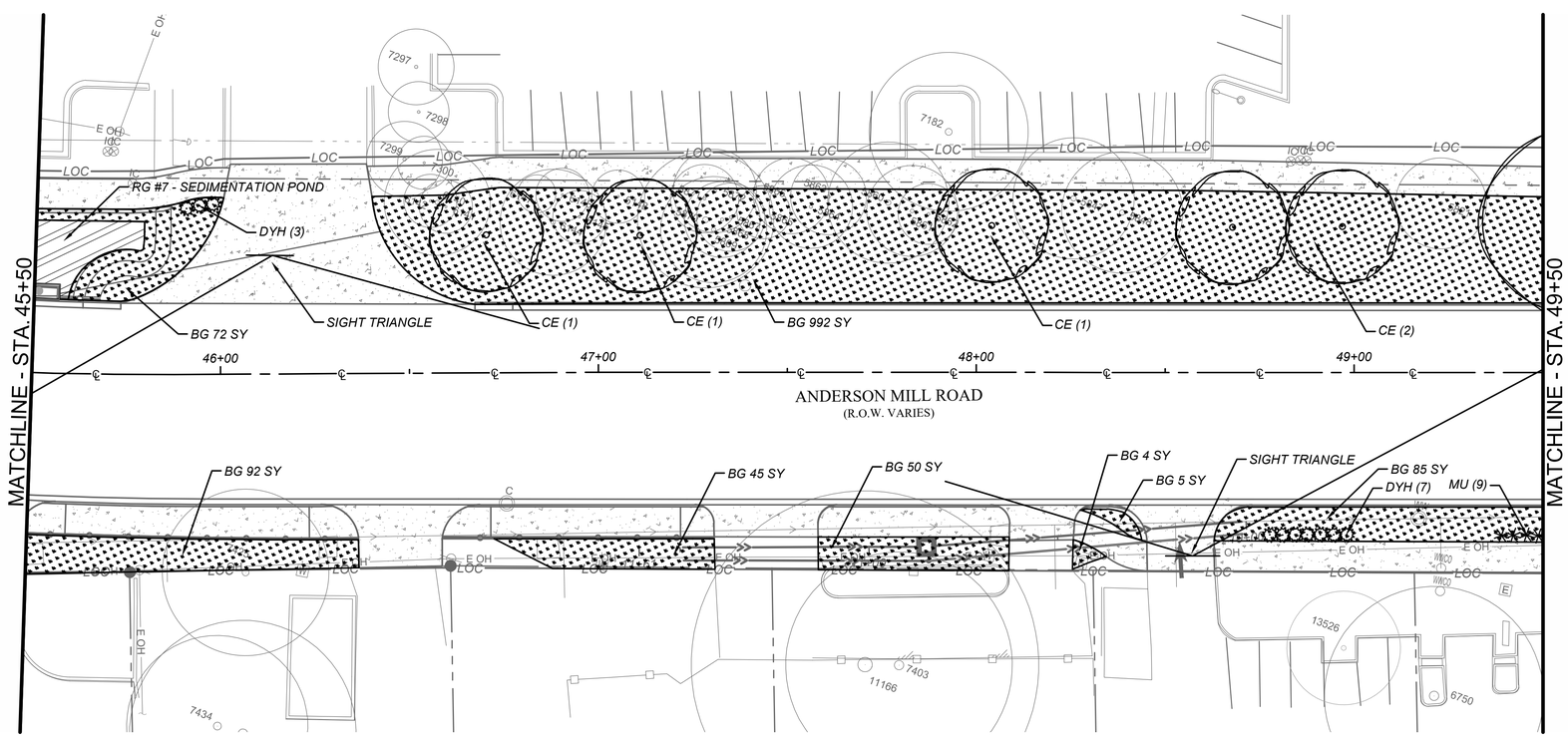


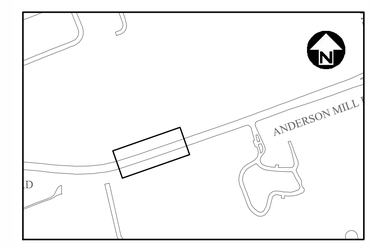
WATER QUALITY PLANT SCHEME BLOCKS

SCHEME SYMBOL	PLANTS
	BLUE GRAMA GRASS (ST) GOLDENROD (STH) FALL ASTER (FL) CLOVER FERN (GC)
	TEXAS SIDEOATS (ST) BUSH SUNFLOWER (STH) LOBELIA CARDINALIS (FL) FROGFRUIT (GC)
	CHEROKEE SEDGE (ST) OBEDIENT PLANT (STH) COREOPSIS LANCEOLATA (FL) SPIDERWORT (GC)
	BUSHY BLUESTEM (ST) TROPICAL SAGE (STH) CHILE PEQUIN (FL) HORSEHERB (GC)

WATER QUALITY PLANT SCHEME BLOCKS INCLUDE THE FOLLOWING PERCENTAGES/CATEGORIES:
STRUCTURAL (ST) - 15%
SEASONAL THEME (STH) - 40%
FILLER (FL) - 10%
GROUND COVER (GC) - 35%
SEE WATER QUALITY PLANT QUANTITIES L601
PLANTS TO BE LAID OUT IN ACCORDANCE WITH SAMPLE WATER QUALITY PLANT SCHEME BELOW (40'X5' BLOCK)







NOTE: HARDWOOD MULCH RING FOR ALL NEW TREES.
SEE DETAIL L501

PLANT KEY

ABBREVIATION	COMMON NAME
AO	ANACACHO ORCHID
BG	BERMUDA GRASS
MU	BIG MUHLY
CE	CEDAR ELM
DYH	DWARF YAUPON HOLLY
GM	GULF MUHLY
LA	LACEY OAK
LO	LIVE OAK
MP	MEXICAN PLUM
PH	POISSON HOLLY
RY	RED YUCCA
SP	SILVER PONY FOOT
ST	SMOKE TREE
TL	TRAILING LANTANA
ZE	ZIEXMENIA

THE TEXAS BOARD OF ARCHITECTURAL EXAMINERS HAS JURISDICTION OVER COMPLAINTS REGARDING THE PROFESSIONAL PRACTICES OF PERSON REGISTERED AS LANDSCAPE ARCHITECTS IN TEXAS.

REV NO.	BY	DATE	REVISION DESCRIPTION

REGISTERED LANDSCAPE ARCHITECT
SUSAN C. KENZLE
0211
STATE OF TEXAS

12/18/2019

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY SUSAN KENZLE, RLA
LIC. # 02116

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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

LANDSCAPE PLAN
STA. 41+50 - 49+50

CITY OF AUSTIN
FOUNDED 1839

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REVIEWED BY	ESD	8/18

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GP-2019-0210.ATD

L105 | 138 OF 142

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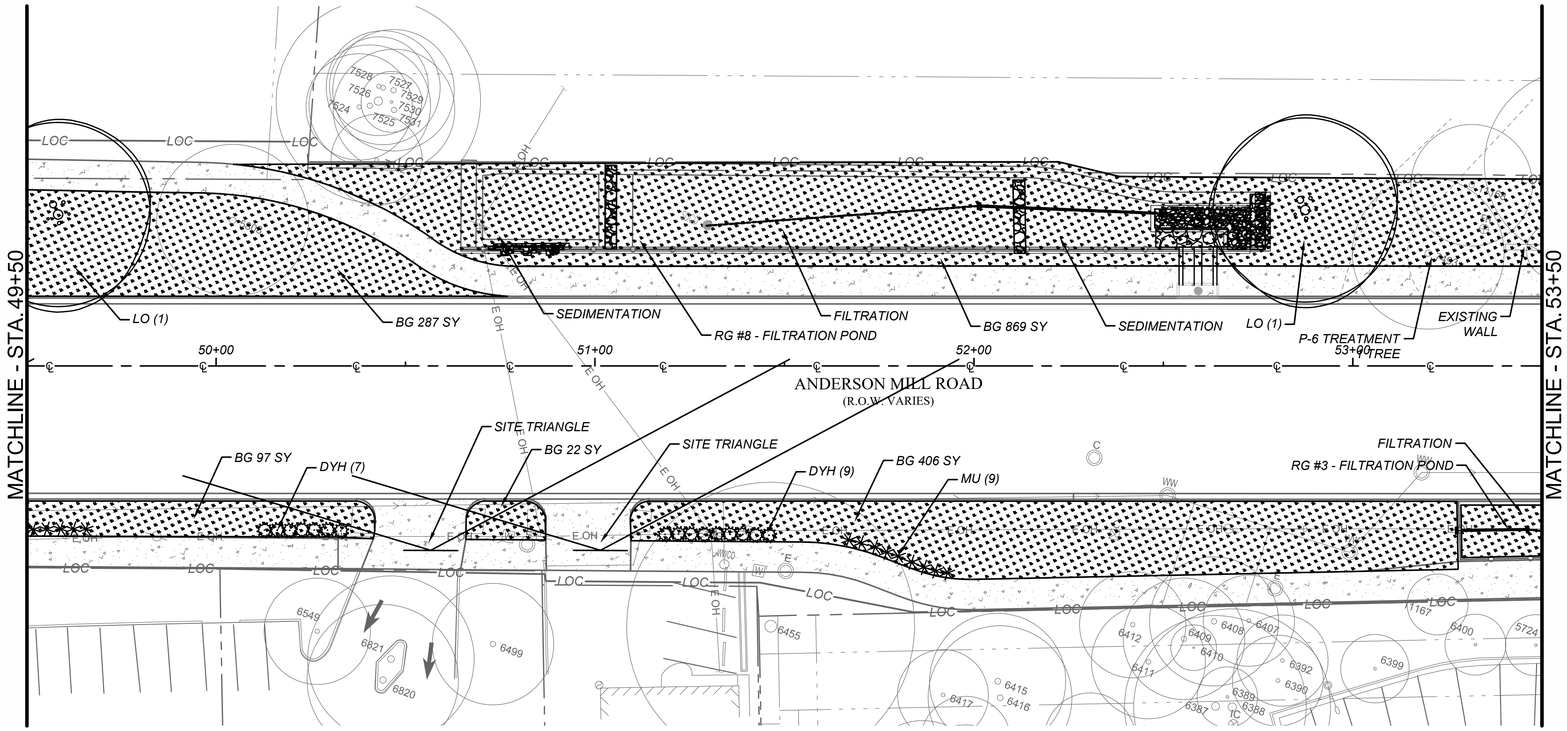
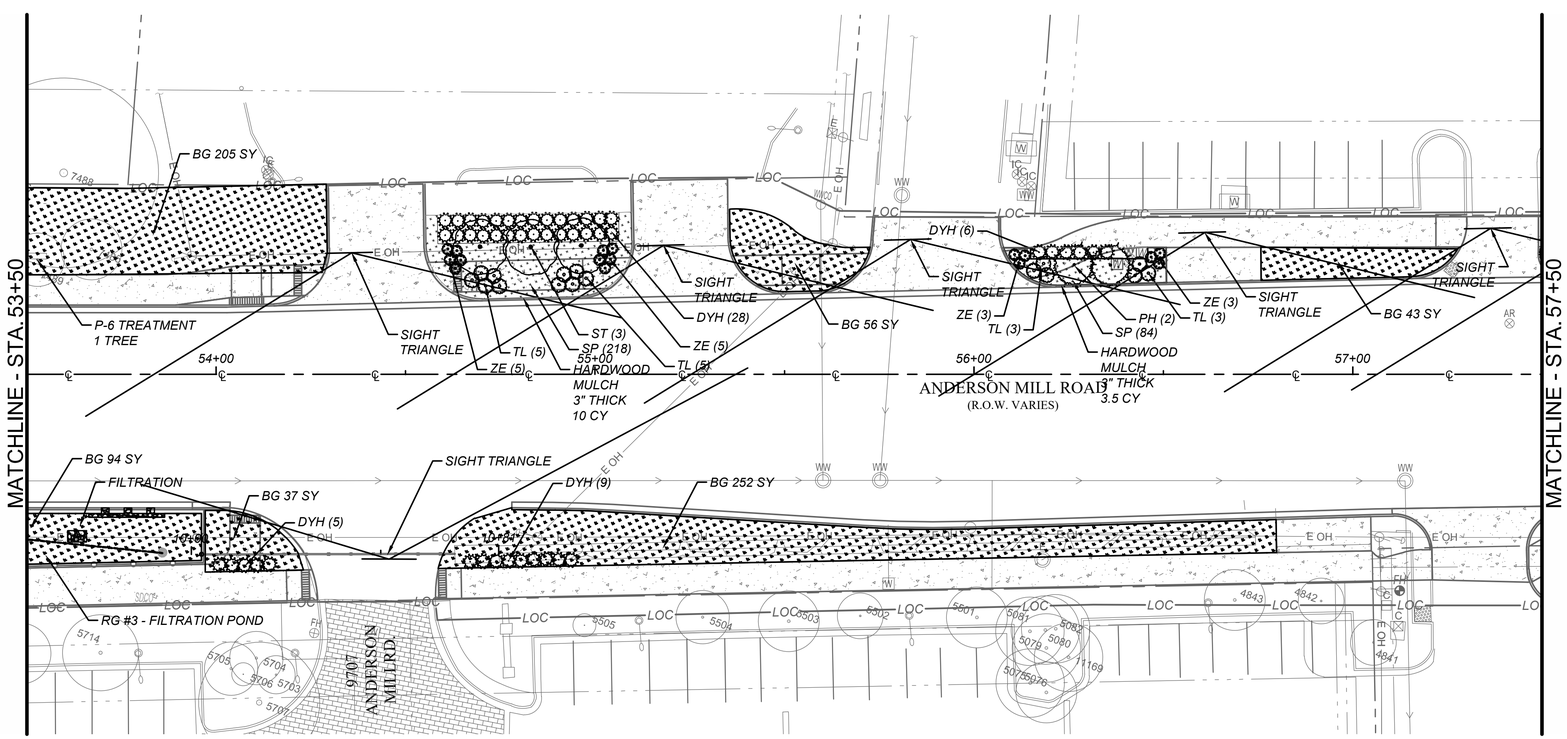
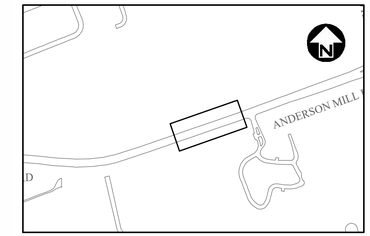
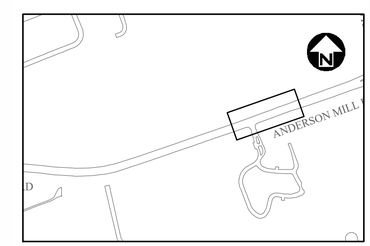
THIVAKARAN, JOTHIKA









NOTE: HARDWOOD MULCH RING FOR ALL NEW TREES.
SEE DETAIL L501

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THE TEXAS BOARD OF ARCHITECTURAL EXAMINERS HAS JURISDICTION OVER COMPLAINTS REGARDING THE PROFESSIONAL PRACTICES OF PERSON REGISTERED AS LANDSCAPE ARCHITECTS IN TEXAS.

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REGISTERED LANDSCAPE ARCHITECT SUSAN C. KENZLE STATE OF TEXAS

12/18/2019
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LIC. # 02116

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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

LANDSCAPE PLAN
STA. 49+50 - 57+50

CITY OF AUSTIN FOUNDED 1839

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L106 | 139 OF 142

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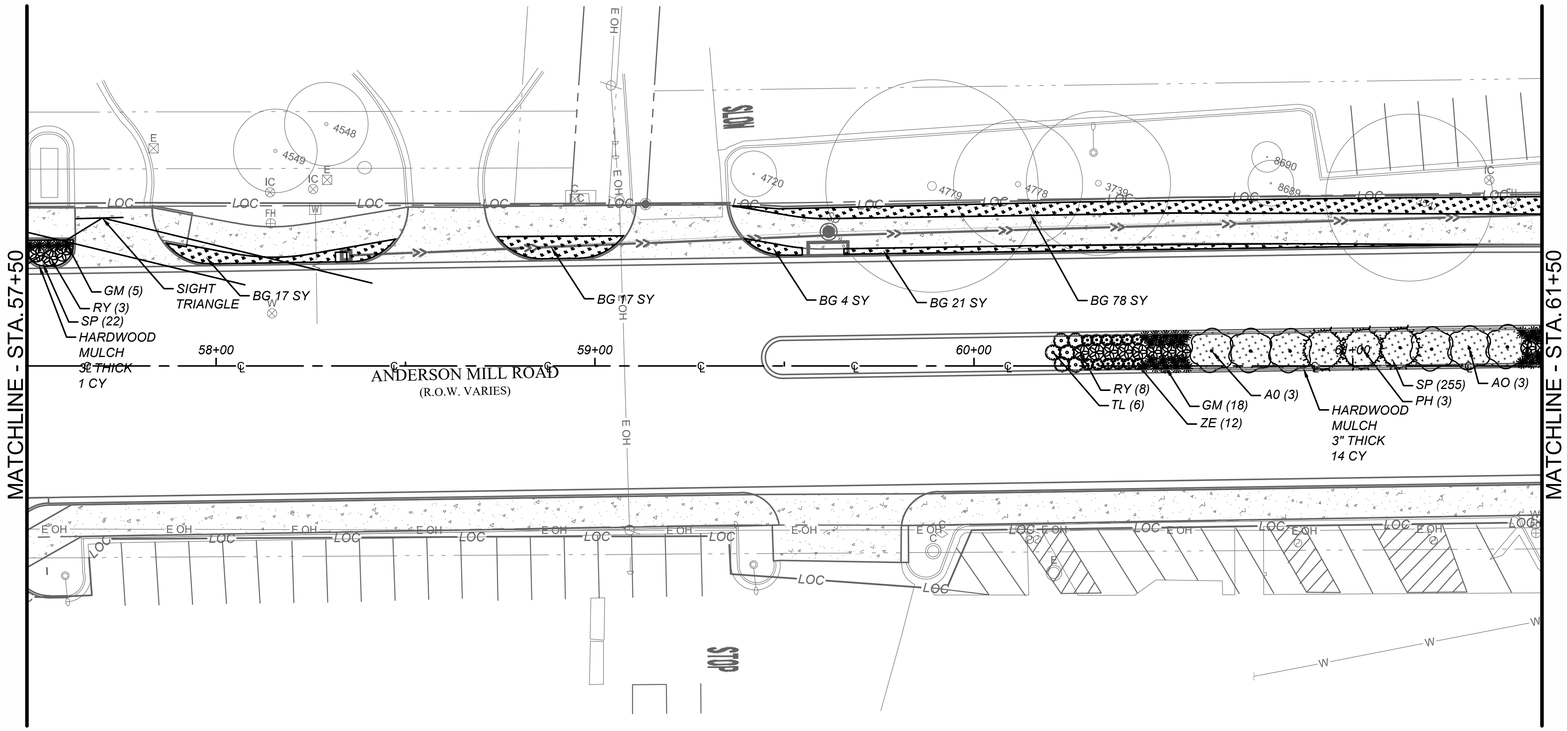
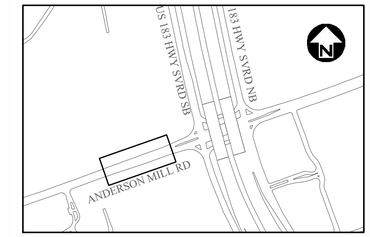
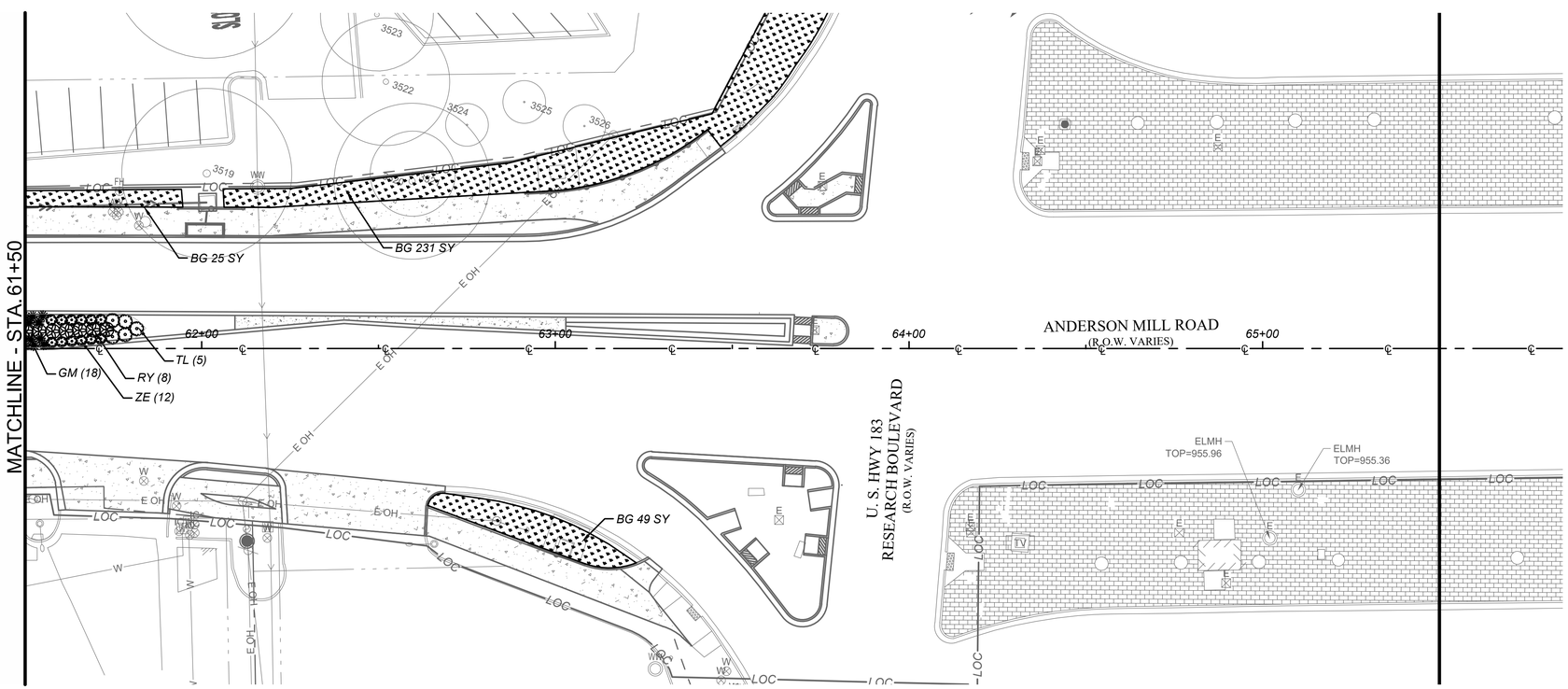
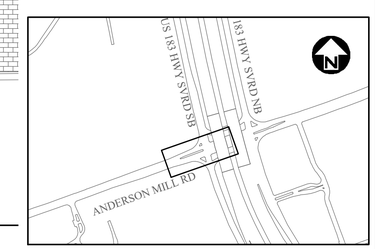
THIVAKARAN, JOTHIKA









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REGISTERED LANDSCAPE ARCHITECT SUSAN C. KENZLE STATE OF TEXAS

12/18/2019

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LIC. # 0211 6

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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

LANDSCAPE PLAN
STA. 57+50 - END

CITY OF AUSTIN FOUNDED 1839

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HORIZONTAL SCALE IN FEET

GP-2019-0210.ATD

L107 | 140 OF 142

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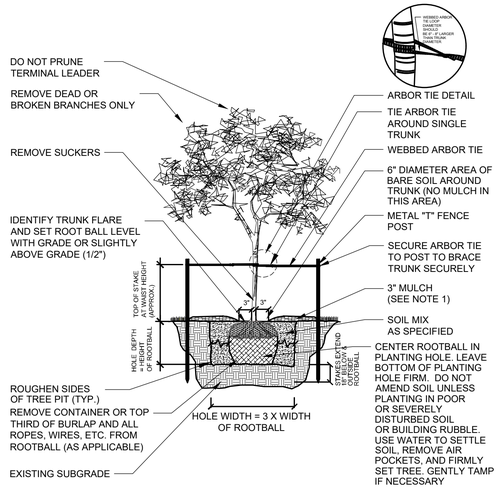
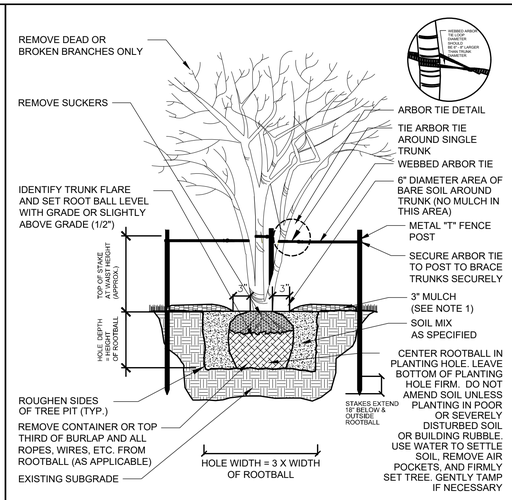


NOTES:
1. DO NOT PLACE MULCH IN CONTACT WITH PLANT TRUNK.
2. REMOVE NURSERY-APPLIED TREE WRAP, TAPE, OR STRING FROM TREE TRUNK AND CROWN. REMOVE ANY TAGS OR LABELS.
3. STAKING OF TREES SHALL ONLY BE PERMITTED WHERE SITE OR TREE CONDITIONS ARE SUCH THAT THE TREES ARE ANTICIPATED TO BE UNSTABLE.
4. POST AND TIES TO BE INSTALLED WITHOUT HARMING THE TREE (E.G. NON-BINDING STRAPS, POSTS SET OUTSIDE THE ROOTBALL) AND MUST BE REMOVED AFTER ONE YEAR.
5. SEE ANSI A300 (PART 1) FOR INFORMATION REGARDING PRUNING.
6. SEE ANSI Z60.1 FOR NURSERY STOCK STANDARDS.

TREE PLANTING - SINGLE TRUNK | SD-1



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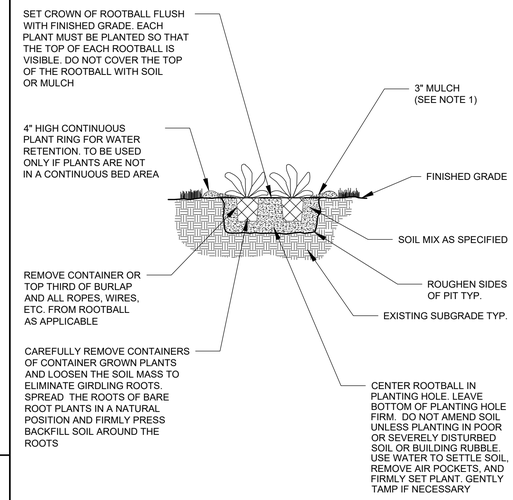
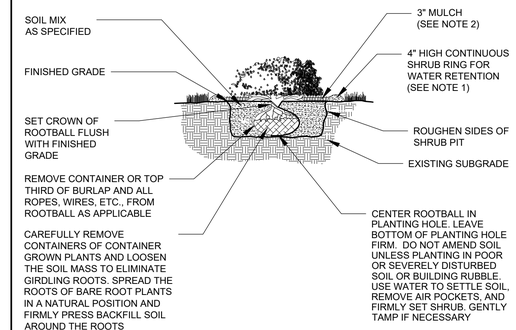
TREE PLANTING - MULTI TRUNK | SD-2



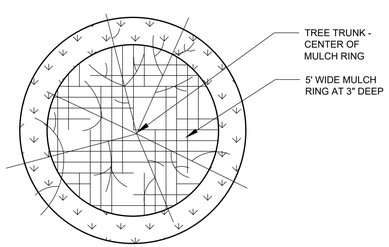
NOTES:
1. DO NOT PLACE MULCH IN CONTACT WITH PLANT TRUNK.
2. SEE ANSI Z60.1 FOR NURSERY STOCK STANDARDS.

PERENNIAL / GROUND COVER PLANTING | SD-4



NOTES:
1. SHRUB RING FOR WATER RETENTION TO BE USED ONLY IF SHRUB IS NOT IN A CONTINUOUS BED AREA.
2. DO NOT PLACE MULCH IN CONTACT WITH PLANT TRUNK.
3. SEE ANSI Z60.1 FOR NURSERY STOCK STANDARDS.

SHRUB PLANTING | SD-3



NOTES:
1. USE MULCH AS SPECIFIED.
2. 5' WIDE MULCH RING FOR ALL NEW TREES.
3. MULCH MUST BE 3" DEEP.
4. MULCH TO BE EQUALLY DISTRIBUTED AROUND THE TREE WITH NO AREA LEFT EXPOSED OR THINNER THAN 3" DEEP.
5. DO NOT ALLOW MULCH TO PILE UP AGAINST TREE TRUNK.

TREE MULCH DETAIL | SD-8

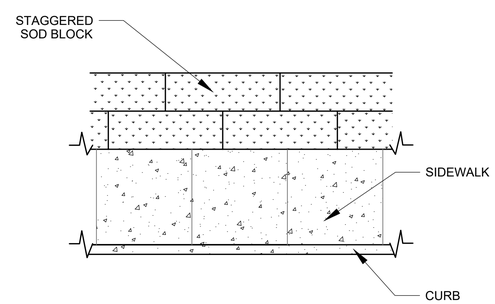
TREE & ROOT PROTECTION ZONE

Per City of Austin code (Chapter 25-8, Subchapter B, Article 1) this protective device is to remain in place for the entirety of the development project and illegal removal is subject to fines and work suspensions. Additional information can be obtained at the: City Arborist (512-974-1876) web site (http://www.ci.austin.tx.us/trees).

Zona de Protección del Árbol y las Raicesel dispositivo protector debe quedarse en el lugar para la totalidad del proyecto de la construcción. Para información adicional, contacta la Arborista Municipal (512) 974-1876 o http://www.ci.austin.tx.us/trees/trees_spanish.htm.

NOTES:
1. A LAMINATED SIGN (MIN. SIZE 11"X17") SHALL BE POSTED ON EACH TREE PROTECTIVE DEVICE AND AT LEAST EVERY 100 LINEAR FEET ON PROTECTIVE FENCING.
2. SIGN MUST IDENTIFY THE FOLLOWING:
   2.1. TREE & ROOT PROTECTION ZONE
   2.2. PER CITY OF AUSTIN CODE (CHAPTER 25-8, SUBCHAPTER B, ARTICLE 1)
3. TREE PROTECTION AND SIGNAGE IS TO REMAIN IN PLACE FOR THE ENTIRETY OF THE PROJECT.
4. SEE SIGN EXAMPLE ABOVE.

TREE PROTECTION SIGNAGE | SD-6



NOTES:
1. CONDUCT SOIL PREPARATION PER INSTRUCTIONS FROM LANDSCAPE ARCHITECT.
2. BEFORE INSTALLATION, LIGHTLY RAKE AREA TO BE SODDED AND REMOVE ANY CONSTRUCTION DEBRIS AND LARGE ROCKS.
3. LAY THE FIRST LINE OF SOD ALONG A STRAIGHT LINE OR EDGE (E.G. WALL, SIDEWALK, DRIVEWAY). ON SLOPES, START AT THE BOTTOM AND LAY THE SOD PERPENDICULAR TO THE SLOPE.
4. STAGGER THE SOD PIECES IN THE ADJACENT ROWS IN 'BRICKWORK' FASHION. PUSH THE PIECES TOGETHER TIGHTLY AS THEY SHRINK WHEN DRYING, BUT DO NOT OVERLAY THE PIECES.
5. ROLL SOD WITH HEAVY HAND ROLLER AFTER IT'S LAID TO ENSURE GOOD CONTACT BETWEEN SOD AND OIL.
6. WATER SOD THOROUGHLY IMMEDIATELY AFTER INSTALLATION.
7. KEEP TRAFFIC OFF SOD UNTIL IT IS WELL ESTABLISHED.
8. PEG SOD ON SLOPES EXCEEDING 3:1 AND AREAS SUBJECT TO FLOWS WHERE SOD MAY BE DISPLACED DURING STORM EVENTS BEFORE IT GETS ESTABLISHED. EACH PIECE OF SOD SHOULD BE PEGGED AT THE ENDS OF STRIPS AND IN THE CENTER, OR EVERY 3-4 FEET IF THE STRIPS ARE LONG, WITH 8" SOD STAPLES (NO. 11 GAUGE).

INSTALL ALL PALLETS OF SOD ON THE SAME DAY THEY ARE DELIVERED. DO NOT LEAVE SOD ON PALLETS OVERNIGHT OR LONGER WITHOUT ENSURING IT REMAINS MOIST.

TURF SOD INSTALLATION | SD-13

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REGISTERED LANDSCAPE ARCHITECT SUSAN C. KENZLE 02116 STATE OF TEXAS

12/18/2019
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ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

LANDSCAPE DETAILS

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ENGINEERING SERVICES DIVISION

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12/18/2019 1:28 PM
THIVAKARAN, JOTHIKA

PLANT SCHEDULE

PLANT SYMBOL	ABBREVIATION	COMMON NAME	BOTANICAL NAME	SIZE	SPACING	QUANTITY	COMMENTS
	AO	ANACACHO ORCHID	*Bauhinia lunarioides*	45 GAL	12' O.C.	22	MULTI-TRUNK
	MU	BIG MUHLY	*Muhlenbergia lindheimeri*	5 GAL	3' O.C.	118	
	CE	CEDAR ELM	*Ulmus crassifolia*	3"	30' O.C.	8	SINGLE TRUNK
	DYH	DWARF YAUPON HOLLY	*Ilex vomitoria 'Nana'*	5 GAL	4' O.C.	256	
	GM	GULF MUHLY	*Muhlenbergia capillaris*	1 GAL	2' O.C.	41	
	LA	LACEY OAK	*Quercus laceyi*	2"	25' O.C.	13	SINGLE TRUNK
	LO	LIVE OAK	*Quercus virginiana*	3"	25' O.C.	2	SINGLE TRUNK
	MP	MEXICAN PLUM	*Prunus mexicana*	2"	20' O.C.	18	SINGLE TRUNK
	PH	POSSUMHAW HOLLY	*Ilex decidua*	45 GAL	12' O.C.	26	MULTI-TRUNK
	RY	RED YUCCA	*Hesperaloe parviflora*	1 GAL	4' O.C.	19	
	ST	SMOKE TREE	*Cotinus obovatus*	20 GAL	15' O.C.	36	MULTI-TRUNK
	TL	TRAILING LANTANA	*Lantana montevidensis*	1 GAL	4' O.C.	27	
	ZE	ZEXMENIA	*Wedelia texana*	1 GAL	3' O.C.	40	
	BG	BERMUDA GRASS	*Cynodon dactylon 'Celebration'*	SOD	100% COVERAGE	11,796 SY	PER PLAN
	SP	SILVER PONY FOOT	Dichondra argentea	1 GAL	2' O.C.	579	TRIANGULAR PLANTING PATTERN
	ST	BLUE GRAMA GRASS	*Bouteloua gracilis*	1 GAL	MIN 1.5' O.C.	62	RAIN GARDEN PLANTS
	STH	BUSH SUNFLOWER	*Encelia californica*	1 GAL	MIN 2.5' O.C.	121	RAIN GARDEN PLANTS
	ST	BUSHY BLUESTEM	*Andropogon glomeratus*	1 GAL	MIN 1.5' O.C.	54	RAIN GARDEN PLANTS
	ST	CHEROKEE SEDGE	*Carex cherokeensis*	1 GAL	MIN 1.5' O.C.	40	RAIN GARDEN PLANTS
	FL	CHILE PEQUIN	*Capsicum annuum*	1 GAL	MIN 2' O.C.	153	RAIN GARDEN PLANTS
	GC	CLOVER FERN	*Marsilea macropoda*	1 GAL	MIN 1' O.C.	435	RAIN GARDEN PLANTS
	FL	COREOPSIS LANCELEAF	*Coreopsis lanceolata*	1 GAL	MIN 2' O.C.	110	RAIN GARDEN PLANTS
	FL	FALL ASTER	*Symphyotrichum oblongifolium*	1 GAL	MIN 2' O.C.	173	RAIN GARDEN PLANTS
	GC	FROGFRUIT	*Phyla nodiflora*	1 GAL	MIN 1' O.C.	381	RAIN GARDEN PLANTS
	STH	GOLDENROD	*Solidago altissima*	1 GAL	MIN 2' O.C.	137	RAIN GARDEN PLANTS
	GC	HORSEHERB	*Calyptocarpus vialis*	1 GAL	MIN 1' O.C.	384	RAIN GARDEN PLANTS
	FL	LOBELIA CARDINALIS	*Lobelia cardinalis*	1 GAL	MIN 2' O.C.	155	RAIN GARDEN PLANTS
	STH	FALL OBEDIENT PLANT	*Physostegia virginiana*	1 GAL	MIN 2.5' O.C.	87	RAIN GARDEN PLANTS
	GC	SPIDERWORT	*Tradescantia spp.*	1 GAL	MIN 1' O.C.	274	RAIN GARDEN PLANTS
	ST	TEXAS SIDEOATS	*Bouteloua curtipendula*	1 GAL	MIN 1.5' O.C.	54	RAIN GARDEN PLANTS
	STH	TROPICAL SAGE	*Salvia coccinea*	1 GAL	MIN 2.5' O.C.	121	RAIN GARDEN PLANTS

WATER QUALITY PLANT QUANTITIES

POND	PLANTS REQUIREMENT	PLANTS PROVIDED	SIZE	QUANTITY	1 GAL EQUIVALENT	SPACING
RAIN GARDEN #1A - SEDIMENTATION	2598 SF X 0.10 = 259.8 PLANTS	PERENNIAL	1 GAL	742	742	PER SAMPLE SCHEME BLOCK
RAIN GARDEN #1A - FILTRATION	1000 SF X 0.20 = 200 PLANTS	PERENNIAL	1 GAL	324	324	PER SAMPLE SCHEME BLOCK
RAIN GARDEN #1B - SEDIMENTATION	160 SF X 0.10 = 16 PLANTS	SOD	SQUARE	18 SY	30	PER PLAN
RAIN GARDEN #1B - FILTRATION	896 SF X 0.20 = 179.2 PLANTS	SOD	SQUARE	99 SY	167	PER PLAN
DETENTION POND #2 - SEDIMENTATION	453 SF X 0.10 = 45.3 PLANTS	SOD	SQUARE	50 SY	84	PER PLAN
DETENTION POND #2 - FILTRATION	N/A	N/A	N/A	N/A	N/A	N/A
RAIN GARDEN #2 - INFILTRATION	792 SF X 0.10 = 79.2 PLANTS	SOD	SQUARE	136 SY	230	PER PLAN
RAIN GARDEN #3 - SEDIMENTATION	N/A	N/A	N/A	N/A	N/A	N/A
RAIN GARDEN #3 - FILTRATION	887 SF X 0.20 = 177.4 PLANTS	SOD	SQUARE	99 SY	167	PER PLAN
RAIN GARDEN #4 - SEDIMENTATION	820 SF X 0.10 = 82 PLANTS	PERENNIAL	1 GAL	267	267	PER SAMPLE SCHEME BLOCK
RAIN GARDEN #4 - FILTRATION	1146 SF X 0.20 = 229.2 PLANTS	PERENNIAL	1 GAL	372	372	PER SAMPLE SCHEME BLOCK
RAIN GARDEN #5 - SEDIMENTATION	N/A	N/A	N/A	N/A	N/A	N/A
RAIN GARDEN #5 - FILTRATION	320 SF X 0.20 = 64 PLANTS	PERENNIAL	1 GAL	96	96	PER SAMPLE SCHEME BLOCK
RAIN GARDEN #6 - SEDIMENTATION	285 SF X 0.10 = 28.5 PLANTS	SOD	SQUARE	32 SY	54	PER PLAN
RAIN GARDEN #6 - FILTRATION	325 SF X 0.20 = 65 PLANTS	SOD	SQUARE	36 SY	61	PER PLAN
RAIN GARDEN #7 - SEDIMENTATION	1820 SF X 0.10 = 182 PLANTS	PERENNIAL	1 GAL	593	593	PER SAMPLE SCHEME BLOCK
RAIN GARDEN #7 - FILTRATION	1039 SF X 0.20 = 207.8 PLANTS	PERENNIAL	1 GAL	339	339	PER SAMPLE SCHEME BLOCK
RAIN GARDEN #8 - SEDIMENTATION	1418 SF X 0.10 = 141.8 PLANTS	SOD	SQUARE	158 SY	267	PER PLAN
RAIN GARDEN #8 - FILTRATION	1900 SF X 0.20 = 380 PLANTS	SOD	SQUARE	211 SY	356	PER PLAN

MATERIAL QUANTITIES

MATERIAL	MEASUREMENT	LOCATION	DEPTH
TOPSOIL MIX (SP601S)	4538 CY	ALL NEW PLANTINGS & SOD AREAS	6" DEEP
HARDWOOD MULCH (SP608S)	1500 CY	ALL NEW PLANTINGS	3 " DEEP
GRAVEL MULCH (SP608S)	72 SY	BIOFILTRATION PONDS AND RAIN GARDENS	3" DEEP
TREE STAKING	125 TREES	ALL NEW TREES PER DETAIL ON SHEET L501	

P-6 TREATMENT / POST-CONSTRUCTION PRUNING TREE LIST

#	DESCRIPTION
798	16" LIVE OAK
799	18" LIVE OAK
800	16" HACKBERRY
801	15" HACKBERRY
802	9" HACKBERRY
803	10" HACKBERRY
804	8" HACKBERRY
805	10" HACKBERRY
806	10" LIVE OAK
807	9" LIVE OAK
919	28" PECAN
7489	7" HACKBERRY
7493	20" CEDAR ELM
8612	12" LIVE OAK
9502	12" CEDAR ELM
9823	26" LIVE OAK
10435	10" HACKBERRY
10444	11" HACKBERRY
10445	8" HACKBERRY
10695	13" HACKBERRY
10696	8" HACKBERRY
10927	13" LIVE OAK
11161	5" CRAPE MYRTLE
11162	8" CRAPE MYRTLE
11163	6" CRAPE MYRTLE
11688	36" LIVE OAK
11753	11" LIVE OAK
11754	13" POST OAK
11755	17" LIVE OAK
11756	13" LIVE OAK
11757	17" LIVE OAK
11758	15" CEDAR ELM
11759	16" POST OAK
11772	19" LIVE OAK

THE TEXAS BOARD OF ARCHITECTURAL EXAMINERS HAS JURISDICTION OVER COMPLAINTS REGARDING THE PROFESSIONAL PRACTICES OF PERSON REGISTERED AS LANDSCAPE ARCHITECTS IN TEXAS.

REV NO.	BY	DATE	REVISION DESCRIPTION

REGISTERED LANDSCAPE ARCHITECT SUSAN C. KENZIE 02116 OF TEXAS

12/18/2019

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY SUSAN KENZIE, RLA
LIC. # 02116

I CERTIFY THAT THESE DRAWINGS ARE COMPLETE, ACCURATE AND ADEQUATE FOR THEIR INTENDED PURPOSES, INCLUDING CONSTRUCTION, BUT ARE NOT AUTHORIZED FOR CONSTRUCTION UNTIL FORMAL CITY APPROVAL.

CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

ANDERSON MILL ROAD REGIONAL MOBILITY IMPROVEMENTS
SPICEWOOD PARKWAY TO US 183

LANDSCAPE
PLANT SCHEDULE AND QUANTITIES

CITY OF AUSTIN FOUNDED 1839

NOTES	NAME	DATE
SURVEY BY	MWM	10/17
DRAWN BY	JT/KG	8/18
DESIGNED BY	KG	8/18
CHECKED BY	EZ/CG	8/18
REVIEWED BY	ESD	8/18

ESD
ENGINEERING SERVICES DIVISION

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