

ELM AVENUE SIDEWALK TASA GRANT PROPOSAL

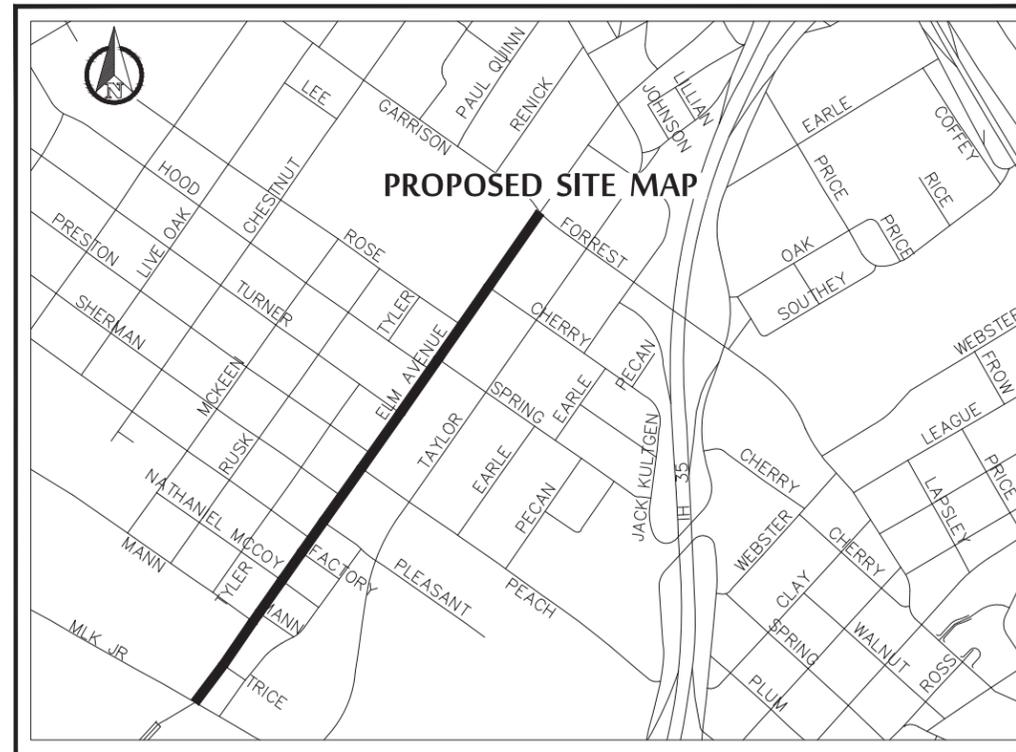


PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION

MAYOR
KYLE DEAVER

CITY COUNCIL
WILBERT AUSTIN, SR. - COUNCIL DIST. 1
ALICE RODRIGUEZ - COUNCIL DIST. 2
JOHN KINNAIRD - COUNCIL DIST. 3
DILLON MEEK - COUNCIL DIST. 4
JIM HOLMES - COUNCIL DIST. 5

CITY MANAGER
DALE A. FISSELER, P.E.



DRAWING INDEX

- 1 GENERAL NOTES
- 2 SCHEDULE OF QUANTITIES
- 3 EROSION CONTROL
- 4 SITE PLAN
- 5 DEMOLITION PLAN SHEET 1
- 6 DEMOLITION PLAN SHEET 2
- 7 DEMOLITION PLAN SHEET 3
- 8 ELM AVENUE SIDEWALK PLAN SHEET 1
- 9 ELM AVENUE SIDEWALK PLAN SHEET 2
- 10 ELM AVENUE SIDEWALK PLAN SHEET 3
- 11 CROSS SECTIONS SHEET 1
- 12 CITY OF WACO ANTIQUE LIGHT STANDARD DETAILS
- 13 TXDOT CONCRETE SIDEWALK DETAILS
- 14 TXDOT GENERAL DETAILS
- 15 TXDOT GENERAL DETAILS
- 16 TXDOT GENERAL DETAILS
- 17 TXDOT PAVEMENT MARKINGS DETAIL
- 18 TXDOT SIGN MOUNTING DETAILS
- 19 TXDOT SIGN MOUNTING DETAILS
- 20 TXDOT PEDESTRIAN DETAILS
- 21 TXDOT HANDRAIL DETAILS

PROJECT ENGINEER (COMPLETE & CORRECT)

DATE

CITY ENGINEER (RECOMMENDED FOR BIDDING)

DATE

DEPARTMENT DIRECTOR (APPROVED FOR BIDDING)

DATE

60% PLANS

MAY 2017





GENERAL NOTES

ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CITY OF WACO STANDARD SPECIFICATIONS FOR CONSTRUCTION (THE CURRENT VERSION) AND APPLICABLE CITY OF WACO MANUAL OF STANDARD DETAILS (WMSD) UNLESS OTHERWISE NOTED.

CONTRACT ADMINISTRATION
THE CONTRACT IS A WRITTEN AGREEMENT BY WHICH THE CONTRACTOR HAS COMMITTED TO COMPLETE THE SPECIFIC SCOPE OF WORK, IN COMPLIANCE WITH THE DRAWINGS, SPECIFICATIONS, SCHEDULE, AND ALL APPLICABLE LAWS, RULES AND REGULATIONS. COMPENSATION FOR SAID WORK SHALL BE MADE AS DESCRIBED IN THE AGREED UPON PROPOSAL.

ANY REQUEST FOR CHANGE TO THE DESIGN, SCHEDULE, OR PROJECT COST MUST BE MADE IN WRITING AND APPROVED PRIOR TO IMPLEMENTATION.

SUBMITTALS - THE CONTRACTOR SHALL SUBMIT, WITHIN 10 DAYS OF THE EFFECTIVE DATE OF THE NOTICE TO PROCEED:

THE NAME AND CONTACT INFORMATION OF THE PROJECT SUPERINTENDENT;

THE NAME AND CONTACT INFORMATION OF THE EMERGENCY CONTACT.

THE NAME, QUALIFICATIONS, AND CONTACT INFORMATION OF THE DESIGNATED SAFETY REPRESENTATIVE(S);

THE NAME AND CONTACT INFORMATION FOR THE DESIGNATED PROJECT MANAGER FOR THIS CONTRACT.

ENVIRONMENTAL AND SAFETY PLANS
THE CONTRACTOR SHALL SUBMIT FOR REVIEW ALL REQUIRED ENVIRONMENTAL AND SAFETY PLANS FOR THE COMPLETION OF THE WORK. THE WORK WILL NOT BE PERMITTED TO BEGIN UNTIL ALL RELATED PLANS HAVE BEEN REVIEWED BY THE APPROPRIATE PARTY (IES).

TRAFFIC CONTROL PLAN (TCP) - WHEN REQUIRED, THE CONTRACTOR IS RESPONSIBLE TO SUBMIT A TRAFFIC CONTROL PLAN FOR REVIEW. THE PLAN SHALL BE BASED UPON APPLICABLE CITY AND STATE REQUIREMENTS AND ESTABLISHED STANDARDS.

THE CONTRACTOR IS RESPONSIBLE TO MONITOR THE PLAN AS THE WORK PROGRESSES AND SUBMIT MODIFICATIONS FOR REVIEW AS NEEDED.

THE CONTRACTOR IS ALSO RESPONSIBLE TO ENSURE THE INSPECTOR IS PROVIDED A COPY OF THE SIGNED PLAN PRIOR TO BEGINNING WORK.

TRENCH SAFETY PLANS
WHEN REQUIRED BY THE WORK, THE CONTRACTOR SHALL SUBMIT A TRENCH SAFETY PLAN FOR REVIEW. THE PLAN SHALL INCLUDE THE RECOMMENDED SAFETY PROTECTION MEASURES WITH THE APPROPRIATE LOADING REQUIREMENTS. THE CONTRACTOR SHALL ENSURE THAT THE PROTECTIVE MEASURES LOCATED ON SITE AND ALL PROCEDURES ON THE PROJECT ARE IN COMPLIANCE WITH ALL ASPECTS OF THE PLAN.

THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE RULES AND REGULATIONS. ALL RELATED DOCUMENTATION WILL BE MADE AVAILABLE TO THE INSPECTOR ON A DAILY BASIS. THE CONTRACTOR SHALL PROVIDE COPIES OF ALL RELATED DOCUMENTATION TO THE OWNER UPON REQUEST.

CONFINED SPACE PLANS
WHEN REQUIRED BY THE WORK, THE CONTRACTOR SHALL SUBMIT A CONFINED SPACE PLAN FOR REVIEW.

THE CONTRACTOR SHALL ENSURE THAT ALL PROCEDURES EMPLOYED ON THE PROJECT ARE IN COMPLIANCE WITH ALL ASPECTS OF THE PLAN.

THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE RULES AND REGULATIONS. ALL RELATED DOCUMENTATION WILL BE MADE AVAILABLE TO THE INSPECTOR ON A DAILY BASIS. THE CONTRACTOR SHALL PROVIDE COPIES OF ALL RELATED DOCUMENTATION TO THE OWNER UPON REQUEST.

SANITARY SEWER PROJECTS
IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE EACH SANITARY SEWER SERVICE AFFECTED BY THE PROJECT AND REPLACE EACH WITH AN EQUAL SIZE NEW SERVICE (4" MIN.), COMPLETE WITH 2-WAY CLEANOUT UNLESS OTHERWISE SPECIFIED.

ALL SANITARY SEWER MANHOLES SHOWN TO BE ABANDONED SHALL HAVE THE RING AND COVER REMOVED AND DELIVERED TO THE CITY OF WACO STORAGE YARD AT 4TH AND COLCORD. ALL PIPES INSIDE THE MANHOLE SHALL BE PLUGGED WITH CONCRETE, THE MANHOLE BACKFILLED WITH FLOWABLE FILL, FOLLOWED BY THE APPROPRIATE SURFACE REPLACEMENT. THE TOP OF THE MANHOLE SHALL BE BROKEN DOWN TO A POINT AT LEAST 12" BELOW NATURAL GROUND OR FINISHED PAVEMENT GRADE, OR 12" BELOW LIMITS OF CONSTRUCTION.

WATER LINES
SHALL HAVE A MINIMUM COVER OF 3.5' BELOW FINISHED STREET GRADE UNLESS OTHERWISE SPECIFIED.

EXISTING FIRE HYDRANTS THAT ARE TO BE REMOVED SHALL REMAIN THE PROPERTY OF THE CITY OF WACO, AND SHALL BE DELIVERED IN WHOLE TO THE CITY OF WACO STORAGE YARD AT 4TH AND COLCORD.

UTILITIES
EXISTING UTILITIES HAVE BEEN SHOWN AS BEST AS CAN BE DETERMINED FROM UTILITY COMPANY RECORDS AND INVESTIGATION. THE UTILITY LINE LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE ONLY AND ARE FURNISHED AS A GUIDE FOR THE CONTRACTOR. THE CONTRACTOR WILL VERIFY THE LOCATION AND ELEVATION OF ALL UTILITIES BEFORE BEGINNING EXCAVATION.

GAS LINES TO BE RELOCATED OR ADJUSTED BY OTHERS. TELEPHONE LINES TO BE RELOCATED OR ADJUSTED BY OTHERS. UTILITY POLES TO BE RELOCATED BY OTHERS.

THE CONTRACTOR SHALL NOTIFY, (SEE DETAILED LIST BELOW), PRIOR TO STARTING CONSTRUCTION ON ANY STREET IN THE VICINITY OF ANY EXISTING UTILITIES SO THAT ANY ADJUSTMENTS OF EXISTING UTILITIES THAT HAVE NOT PREVIOUSLY BEEN MADE CAN BE MADE PRIOR TO CONSTRUCTION.

STORM WATER POLLUTION PREVENTION PLAN (EROSION CONTROL PLAN)
THE CONTRACTOR SHALL SUBMIT A STORM WATER POLLUTION PREVENTION PLAN (EROSION CONTROL PLAN) FOR REVIEW. THE PLAN SHALL BE BASED UPON APPLICABLE CITY, STATE, AND FEDERAL REQUIREMENTS AND ESTABLISHED STANDARDS.

THE CONTRACTOR IS RESPONSIBLE TO MONITOR THE PLAN AS THE WORK PROGRESSES AND SUBMIT MODIFICATIONS FOR REVIEW AS NEEDED.

THE CONTRACTOR IS ALSO RESPONSIBLE TO ENSURE THE INSPECTOR IS PROVIDED A COPY OF THE SIGNED PLAN PRIOR TO BEGINNING WORK.

STREET CONSTRUCTION
WHERE NEW CURB AND GUTTER IS PLACED NEXT TO EXISTING CURB AND GUTTER, THE GUTTER GRADES SHALL MATCH.

EXISTING PAVEMENT SHALL BE SAWED TO A SMOOTH STRAIGHT LINE AT THE BEGINNING AND END OF STREET CONSTRUCTION WHERE SHOWN AND AT ALL CONSTRUCTION LIMITS WHERE SHOWN.

IN THE CASE OF A STREET BEING LIME STABILIZED AND CURB & GUTTER BEING REPLACED, OR NEW CURB & GUTTER BEING CONSTRUCTED, EACH EXISTING WATER METER THAT IS NOT AT LEAST 2' BEHIND THE PROPOSED BACK OF CURB SHALL BE RELOCATED TO AT LEAST 2' BEHIND THE PROPOSED BACK OF CURB. EACH NEW WATER SERVICE IN THIS CASE SHALL BE CONSTRUCTED SUCH THAT THE METER IS AT LEAST 2' BEHIND THE PROPOSED BACK OF CURB.

INSTALLATION OF ANY PIPE WITHIN THE RIGHT-OF-WAY PROPOSED OR EXISTING STREET SHALL REQUIRE THE SAME EMBEDMENT AS FOR INSTALLATION IN STREETS.

STORM SEWER
MEASURE FOR PAYMENT FOR REINFORCED CONCRETE PIPE SHALL EXTEND ONLY TO THE INSIDE FACE OF MANHOLE WALLS AND SHALL EXCLUDE THE INSIDE MANHOLE DIMENSION.

EXISTING R.C.P. SHALL BECOME THE PROPERTY OF THE CONTRACTOR UPON REMOVAL FROM THE PROJECT.

THE APPROPRIATE CONTACT PEOPLE FOR UTILITIES ARE AS FOLLOWS:

UTILITY COMPANIES

AT&T
CALVIN PEWITT
(254) 773-8501 (O)
(254) 715-7869 (M)

MCI
FRANK WALKER
(254) 753-3442

ATMOS ENERGY
RICK SULAK
(254) 722-6566
DUSTIN CUMMINGS
(254) 715-8107

MCLEOD USA (PAETAC)
TRACY COVINGTON
(512) 934-1469

GRANDE COMMUNICATIONS
JOHNNY HUTYRA
(254) 235-2072

ONCOR ELECTRIC
MELINDA CARSON
(254) 582-1805

LEVEL 3 COMMUNICATIONS
HUGH NIELSEN
(512) 656-4763

TIME WARNER CABLE
JOHNNY TINDLE
(254) 761-3806

CITY OF WACO WATER DISTRIBUTION
DANA JOHNSTON
(254) 749-7835

CITY OF WACO SANITARY SEWER
RICHARD ZETTLER
(254) 750-8040

CITY OF WACO OPERATIONS DIVISION
FRANK BUTLER
(254) 749-8481

CITY OF WACO TRAFFIC SECTION - ELECTRICAL CONDUIT
BILLY DEHART
(254) 749-4087

ONE CALL NOTIFICATION CENTERS

LONESTAR NOTIFICATION CENTER
WEBSITE: [HTTP://WWW.OCCINC.COM/LOCATIONS/LONE_STAR.ASP](http://www.occinc.com/locations/lone_star.asp)
(800) 669-8344

TEXAS EXCAVATION SAFETY SYSTEM
WEBSITE: [HTTP://WWW.DIGRESS.ORG](http://www.digress.org)
(800) DIG-TESS OR (800) 344-8377

TEXAS ONE CALL SYSTEM
WEBSITE: [HTTP://WWW.TEXASONECALL.COM](http://www.texasonecall.com)
(800) 245-4545

UNDERGROUND PIPELINE (GAS) DAMAGE REPORTING
WEBSITE: [HTTP://WWW.RRC.STATE.TX.US/PROGRAMS/DAMAGEPREVENTION/INDEX.PHP](http://www.rrc.state.tx.us/programs/damageprevention/index.php)
OPERATIONS CENTER: (800) 460-3030 OR (800) 545-6005

**ELM AVENUE SIDEWALK
TASA GRANT PROPOSAL
GENERAL NOTES**

NO.	REVISION	DATE

**60%
PLANS**

NAME _____ DATE _____

Design: B.A.S. Approved: P.N.R.
Checked: J.R. Project Mgr.: P.N.R.
File Name: EngineeringProject.DWG

Scale	NTS	
Project No.	S1234	Sheet No.
Date	05/2017	01
Sheet	01 OF 01	



**ELM AVENUE SIDEWALK
TASA GRANT PROPOSAL
SCHEDULE OF QUANTITIES**

Work Activities	Quantity	Unit
100 PREPARING ROW	1	LS
104 REMOVING CONCRETE (Driveways)	120	SY
104 REMOVING CONCRETE (Curb & Gutter)	4,000	LF
104 REMOVING CONCRETE (Sidewalk or Ramp)	5,873	SY
104 REMOVING CONCRETE (Steps)	40	Ea
105 REMOVING STAB BASE AND ASPH PAV	15,000	SY
162 BLOCK SOD (St Augustine)	200	SY
168 VEGETATIVE WATERING	4	MG
340 D-GR HMA(METH) TY-D PG64-22	15,000	SY
416 DRILL SHAFT (RDWY ILL POLE)(30 IN)	300	LF
450 RAIL (HANDRAIL) (TY B)	500	LF
464 RC PIPE (CL III) (12 IN)	130	LF
465 INLET (COMPL) (PCO) (3FTX5FT)	13	Ea
465 INLET (COMPL) (PCO) (3FTX6FT)(MOD)	4	Ea
465 INLET (COMPL) (PCO) (3FTX5FT)(W/EXT)	10	Ea
496 REMOVE STRUCT (INLET)	21	Ea
500 MOBILIZATION	1	LS
502 BARRICADES, SIGNS AND TRAFFIC HDLG	10	MO
529 CONC CURB AND GUTTER (TY II) (REINF)	10,300	LF
530 DRIVEWAYS (CONC)(6")(REINF)	525	SY
531 CONC SIDEWALK (5")(REINF)	5,873	SY
531 CURB RAMPS (TY 1)	28	Ea
531 CURB RAMPS (TY 5)	10	Ea
531 CURB RAMPS (TY 7)	32	Ea
531 CURB RAMPS (TY 10)	10	Ea
531 CURB RAMPS (SPECIAL)	10	Ea
618 CONDT (PVC)(SCHD 40)(3")	4,000	LF
644 INS SM RD SN SUP&AM TY TWT(1) WS (P)	70	Ea
666 REFL PAV MRK TY I (W) 4" (SLD)(100MIL)	6,000	LF
666 REFL PAV MRK TY I (W) 4" (BRK)(100MIL)	2,000	LF
666 REFL PAV MRK TY I (W) 8" (SLD)(100MIL)	400	LF
666 REFL PAV MRK TY I (W) 24" (SLD)(100MIL)	100	LF
666 REFL PAV MRK TY I (Y) 4" (SLD)(100MIL)	6,000	LF
668 PREFAB PAV MRK TY C (ACC PRK) W/BRDR	10	Ea
668 PREFAB PAV MRK TY C (ARROW)(W)	4	Ea
668 PREFAB PAV MRK TY C (BIKE LN)(BOX)	20	Ea
668 PREFAB PAV MRK TY C (BIKE LN)(SHRW)	16	Ea
678 PAV SURF PREP (4")	14,165	LF
678 PAV SURF PREP (8")	400	LF
678 PAV SURF PREP (24")	100	LF
678 PAV SURF PREP (PREFAB)(LRG)	50	Ea
1122 TEMP SEDIMENT CONT FENCE INSTALL	150	LF
1122 TEMP SEDIMENT CONT FENCE (INLET)	200	LF
1122 TEMP SEDIMENT CONT FENCE REMOVE	150	LF

Work Activities	Quantity	Unit
COW-0001 RETAINING WALL (6")(REINF)	1,000	LF
COW-0002 TREE GRATES	30	Ea
COW-0003 LANDSCAPE (CHIN PISTACHE)	30	Ea
COW-0004 RELOCATE EXIST LIGHT POLES	24	Ea
COW-0005 NEW ANTIQUE LIGHT POLE	26	Ea
COW-0006 DECORATIVE BENCH	20	Ea
COW-0007 TRASH RECEPTACLE	20	Ea
COW-0008 RELOCATE EXISTING FIRE HYDRAN	8	Ea
COW-0009 ADJUST WATER METER BOX	20	Ea
COW-0010 ADJUST VALVE COVER	4	Ea
COW-0011 IRRIGATION FOR LANSCAPING	1	LS

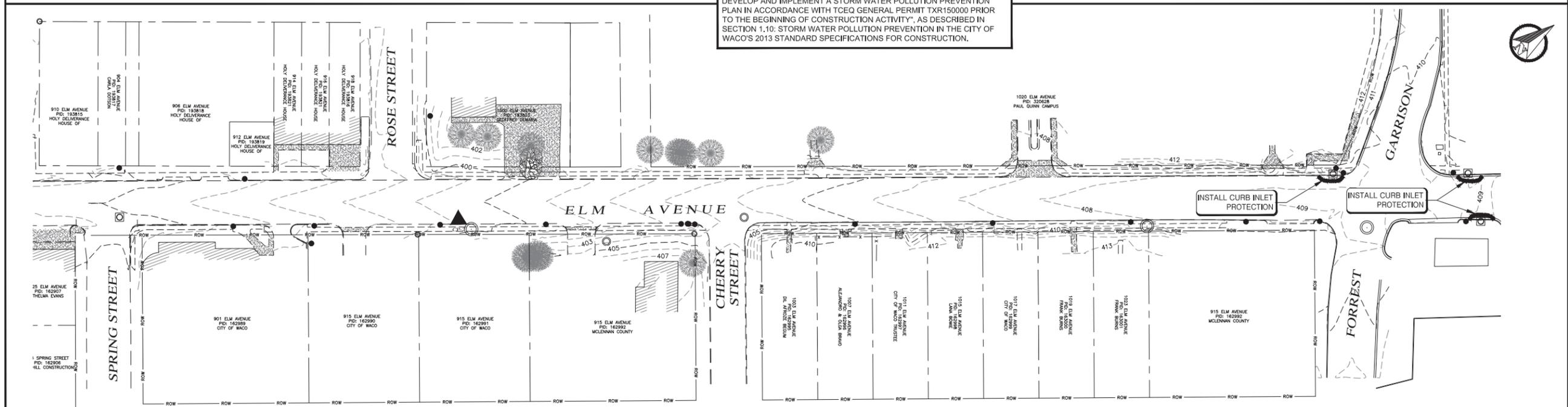
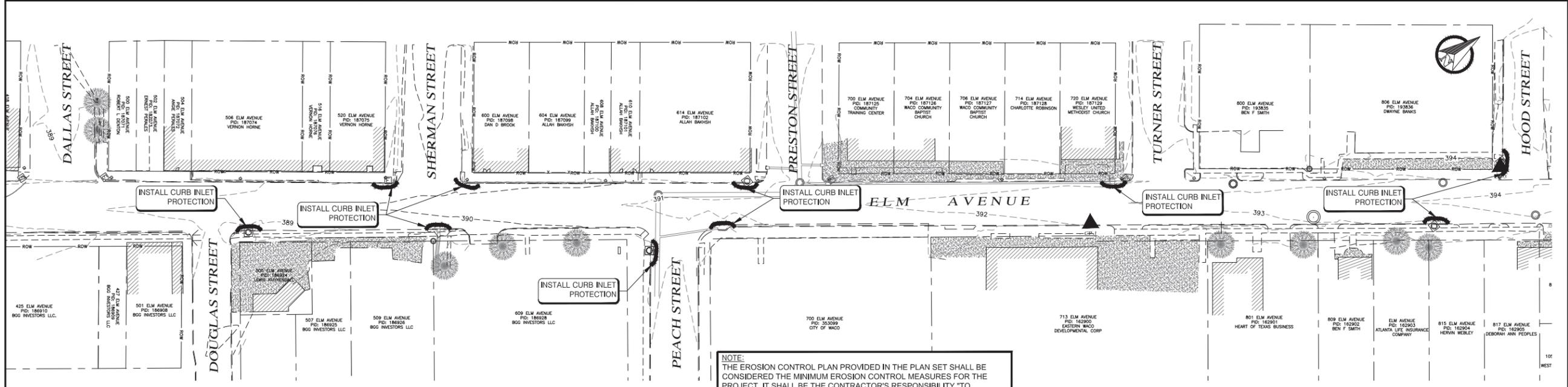
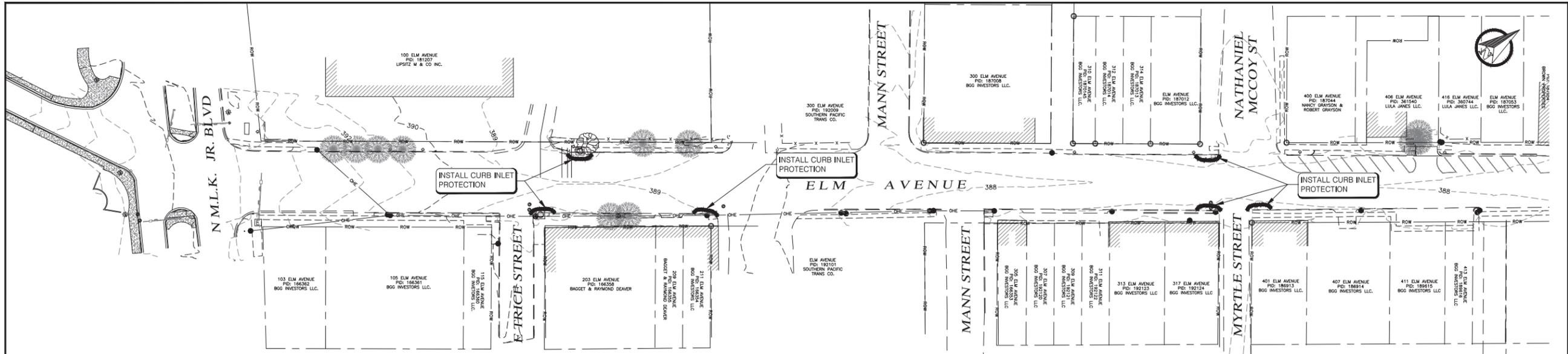
NO.	REVISION	DATE

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PLANS

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Design: B.A.S. Approved: P.N.R.
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 File Name: EngineeringProject.DWG

Scale NTS	
Project No. S1234	Sheet No. 02
Date 05/2017	OF 21
Sheet 01 OF 01	



NOTE:
 THE EROSION CONTROL PLAN PROVIDED IN THE PLAN SET SHALL BE CONSIDERED THE MINIMUM EROSION CONTROL MEASURES FOR THE PROJECT. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DEVELOP AND IMPLEMENT A STORM WATER POLLUTION PREVENTION PLAN IN ACCORDANCE WITH TCEQ GENERAL PERMIT TXR150000 PRIOR TO THE BEGINNING OF CONSTRUCTION ACTIVITY, AS DESCRIBED IN SECTION 1.10: STORM WATER POLLUTION PREVENTION IN THE CITY OF WACO'S 2013 STANDARD SPECIFICATIONS FOR CONSTRUCTION.

**ELM AVENUE SIDEWALK
 TASA GRANT PROPOSAL**
 EROSION CONTROL

NO.	REVISION	DATE

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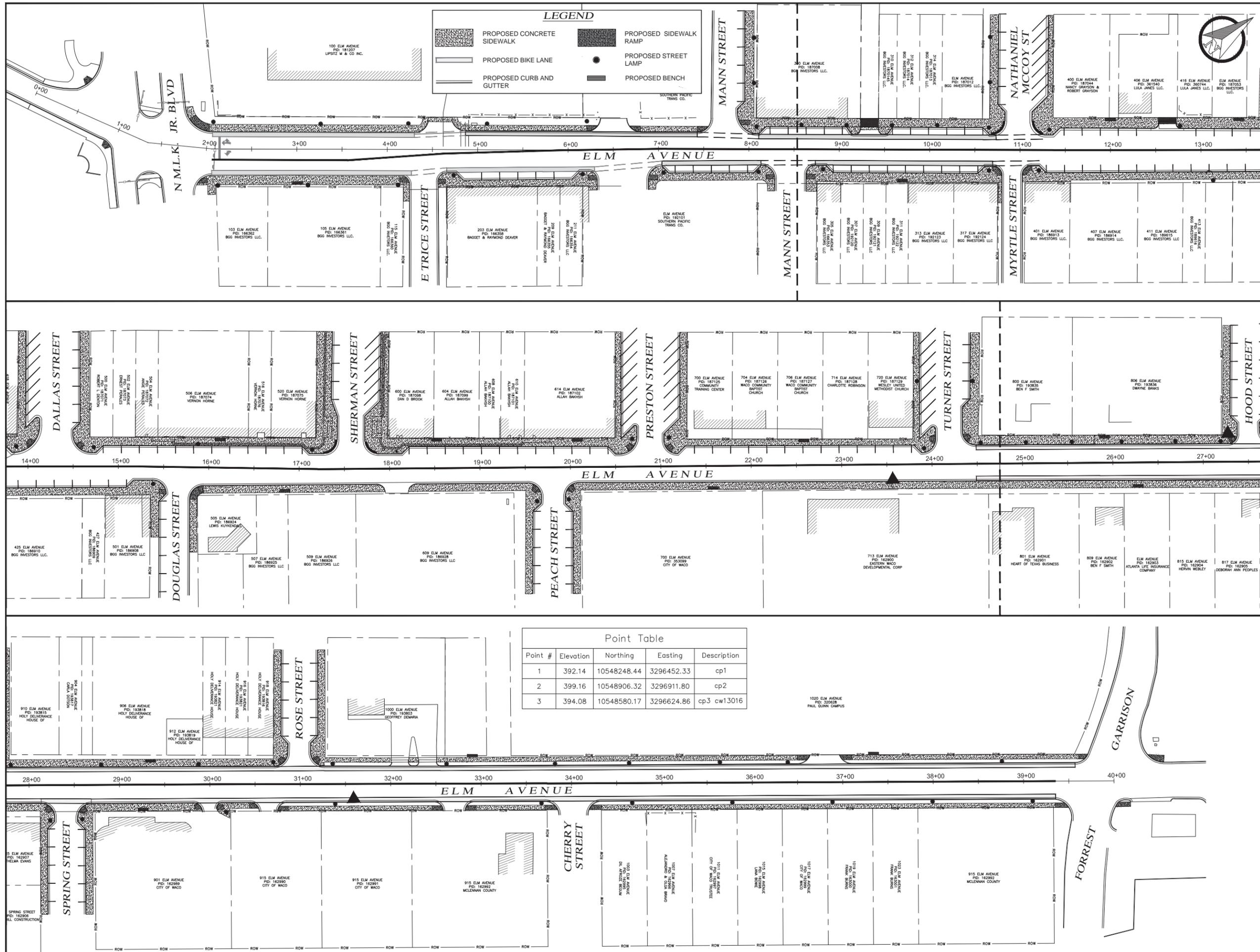
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 File Name: EngineeringProject.DWG

Scale: 1" = 50'

Project No.	S1234	Sheet No.	03
Date	05/2017		
Sheet	01 OF 01	OF 21	

**ELM AVENUE SIDEWALK
TASA GRANT PROPOSAL**
SITE PLAN



Point Table

Point #	Elevation	Northing	Easting	Description
1	392.14	10548248.44	3296452.33	cp1
2	399.16	10548906.32	3296911.80	cp2
3	394.08	10548580.17	3296624.86	cp3 cw13016

NO.	REVISION	DATE

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PLANS**

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Scale
1" = 50'

Project No. **S1234** Sheet No. **04**
Date **05/2017**
Sheet **01 OF 01** OF **21**



ELM AVENUE SIDEWALK TASA GRANT PROPOSAL DEMOLITION PLAN SHEET 1

MANN STREET

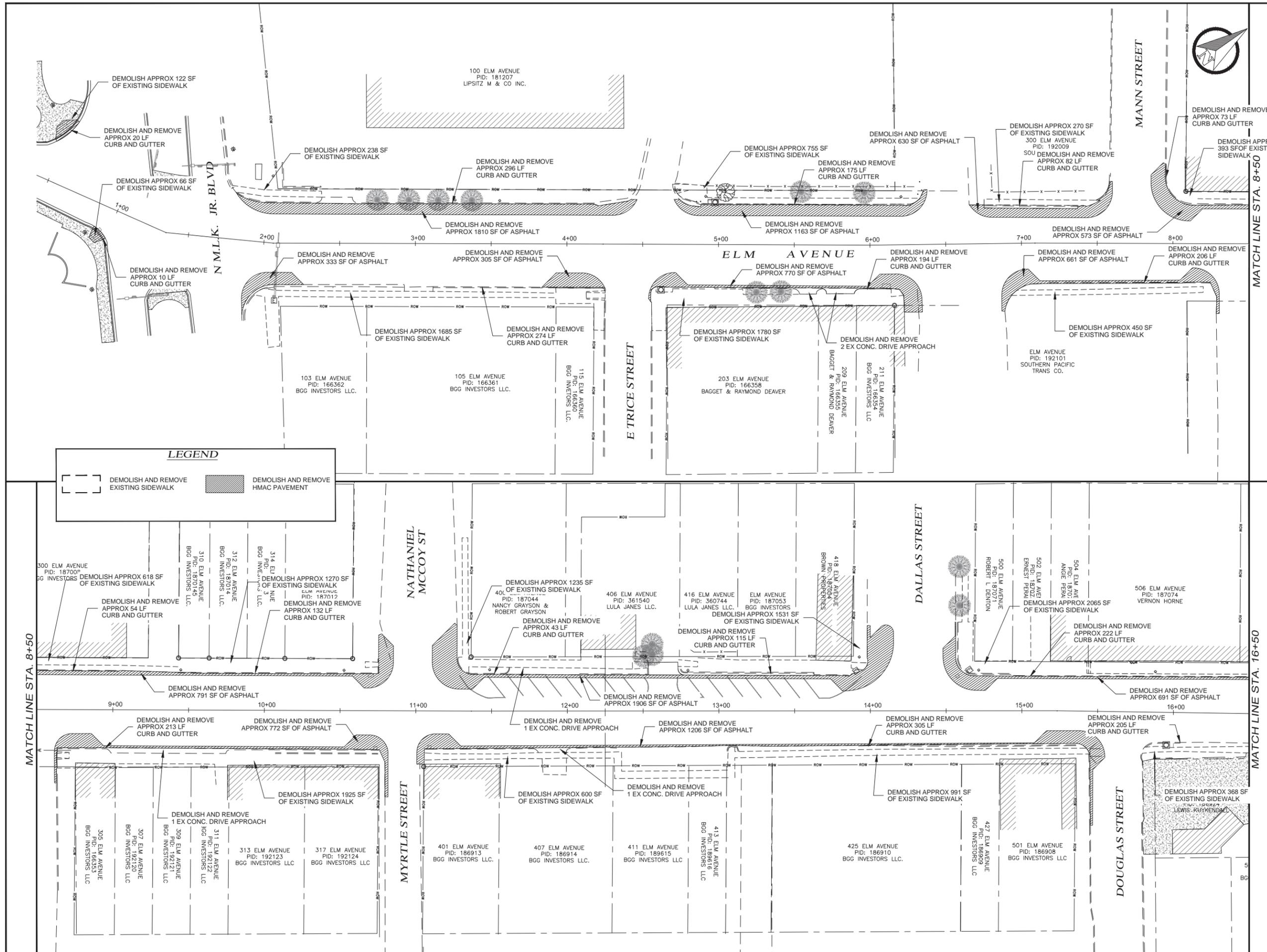
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Scale	1" = 30'	
Project No.	S1234	Sheet No.
Date	05/2017	05
Sheet	01 OF 03	OF 21





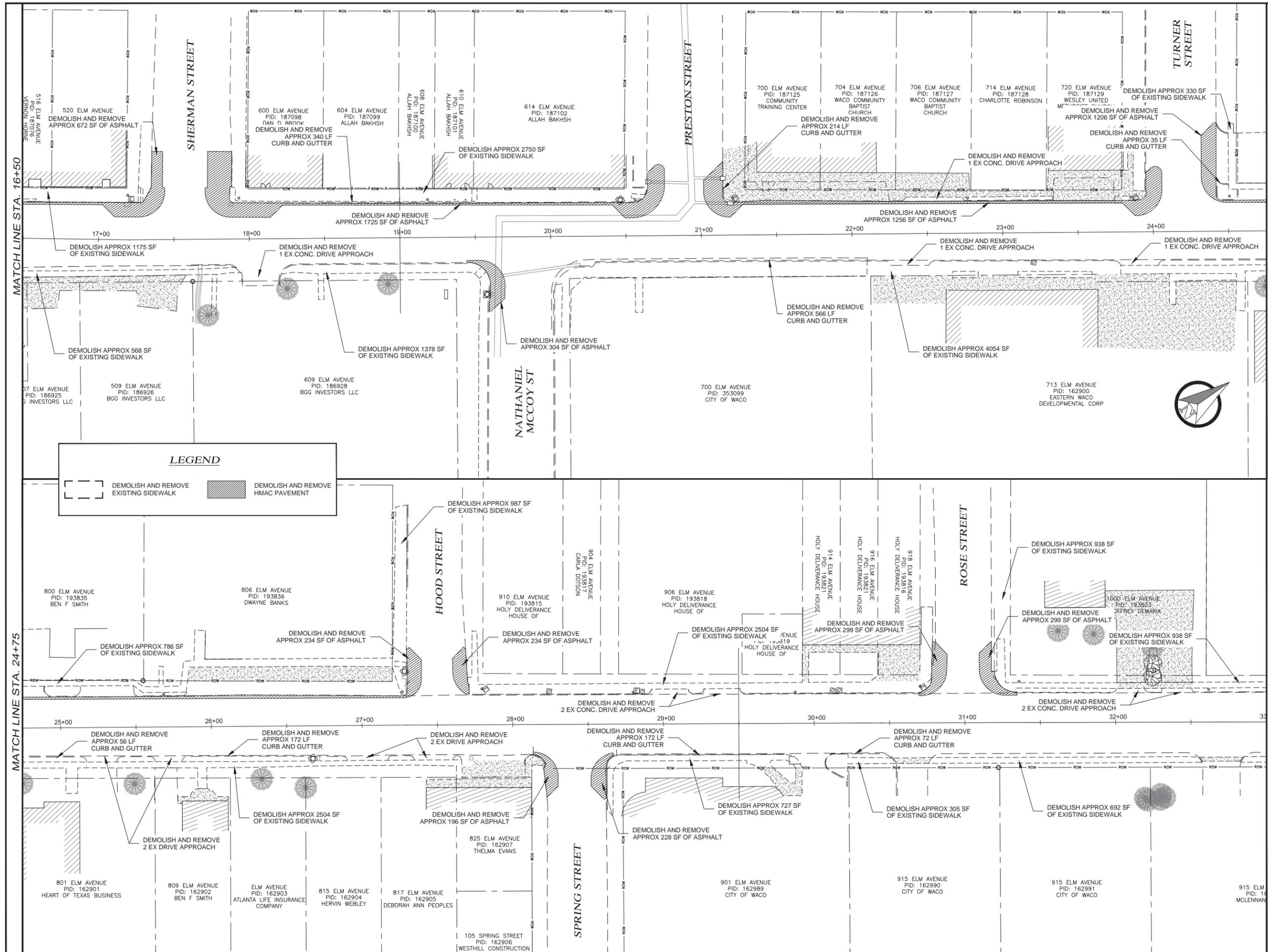
ELM AVENUE SIDEWALK TASA GRANT PROPOSAL DEMOLITION PLAN SHEET 2

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Scale	1" = 30'	
Project No.	S1234	Sheet No.
Date	05/2017	06
Sheet	02 OF 03	OF 21



MATCH LINE STA. 16+50

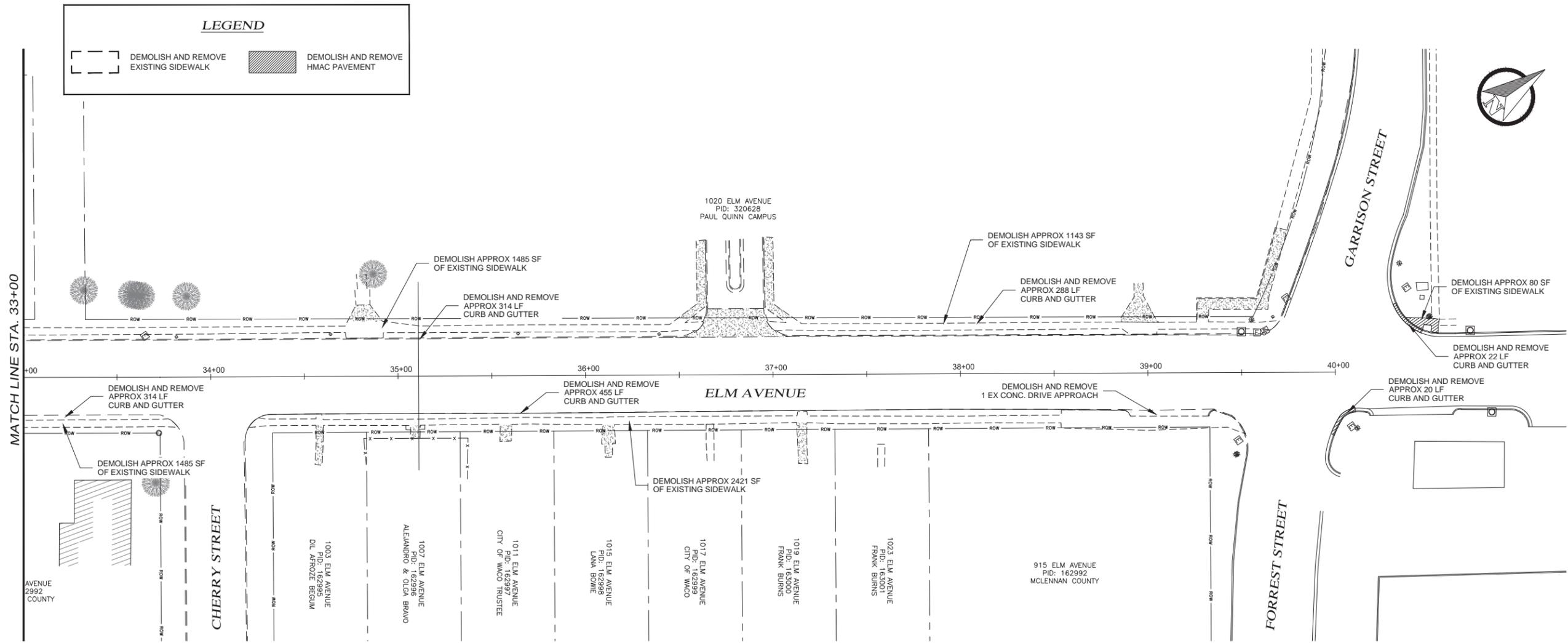
MATCH LINE STA. 24+75

MATCH LINE STA. 24+75

MATCH LINE STA. 33+00



**ELM AVENUE SIDEWALK
TASA GRANT PROPOSAL**
DEMOLITION PLAN SHEET 3



LEGEND

	DEMOLISH AND REMOVE EXISTING SIDEWALK		DEMOLISH AND REMOVE HMAC PAVEMENT
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NO.	REVISION	DATE

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PLANS**

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Scale 1" = 30'	
Project No. S1234	Sheet No. 07
Date 05/2017	07
Sheet 03 OF 03	OF 21



**ELM AVENUE SIDEWALK
TASA GRANT PROPOSAL
SIDEWALK PLAN SHEET 1**

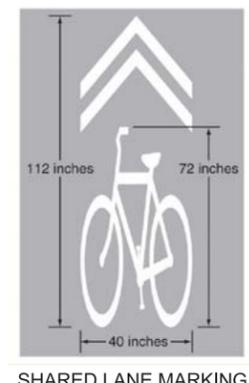
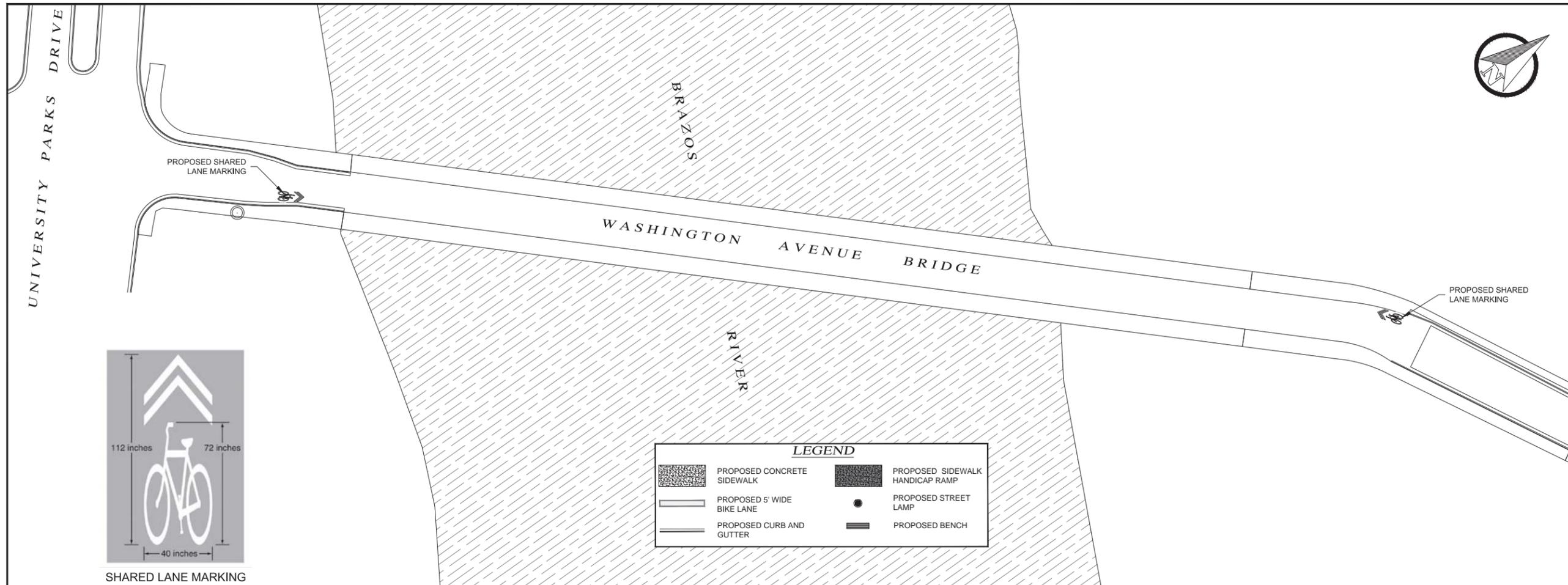
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PLANS**

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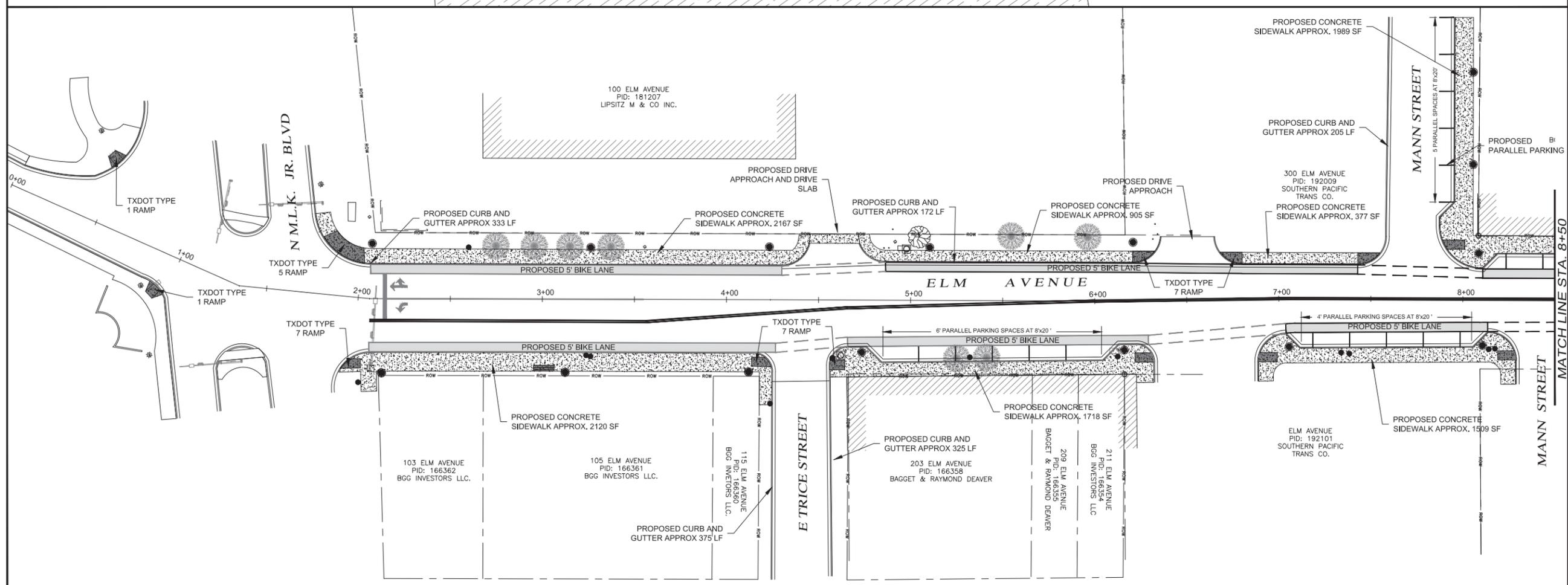
Design: B.A.S. Approved: P.N.R.
Checked: J.R. Project Mgr.: P.N.R.
File Name: Elm Street Corridor.dwg

Scale: **1" = 30'**
Project No. **S1234** Sheet No. **08**
Date **05/2017**
Sheet **01** OF **03** OF **21**



LEGEND

PROPOSED CONCRETE SIDEWALK	PROPOSED SIDEWALK HANDICAP RAMP
PROPOSED 5' WIDE BIKE LANE	PROPOSED STREET LAMP
PROPOSED CURB AND GUTTER	PROPOSED BENCH





ELM AVENUE SIDEWALK
TASA GRANT PROPOSAL
SIDEWALK PLAN SHEET 3

NO.	REVISION	DATE

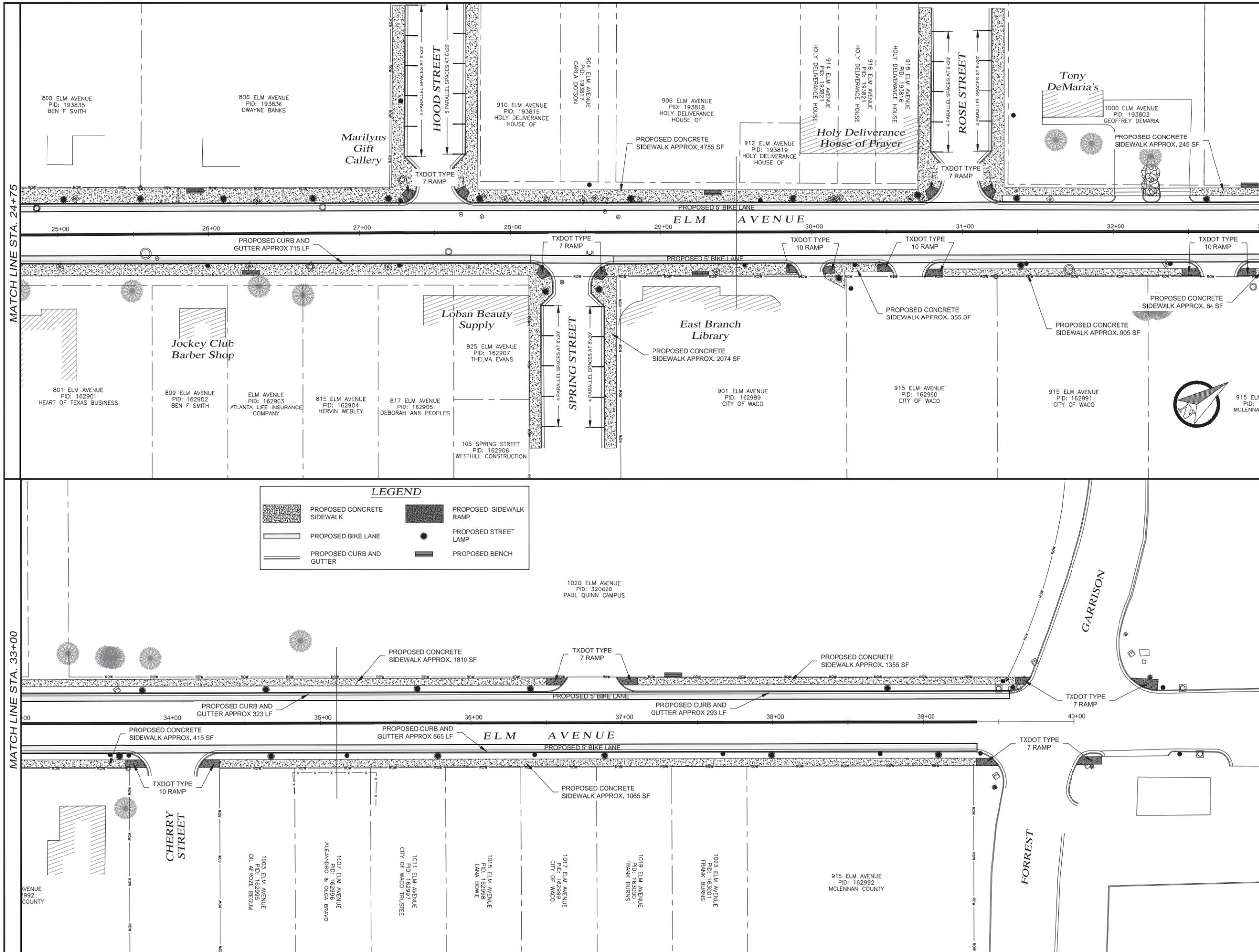
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PLANS

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Scale
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Project No. S1234
Date 05/2017
Sheet 03 OF 03

Sheet No.
10
OF 21

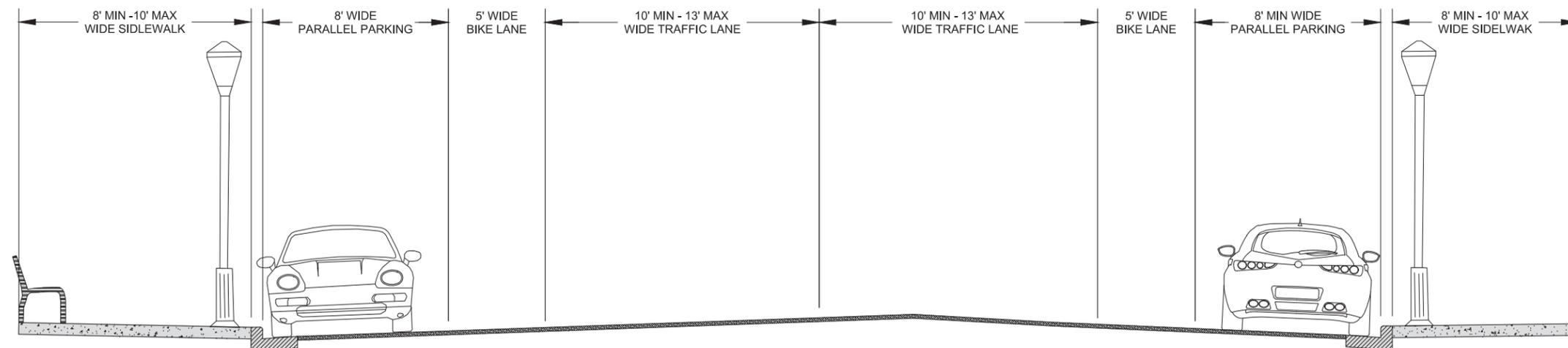


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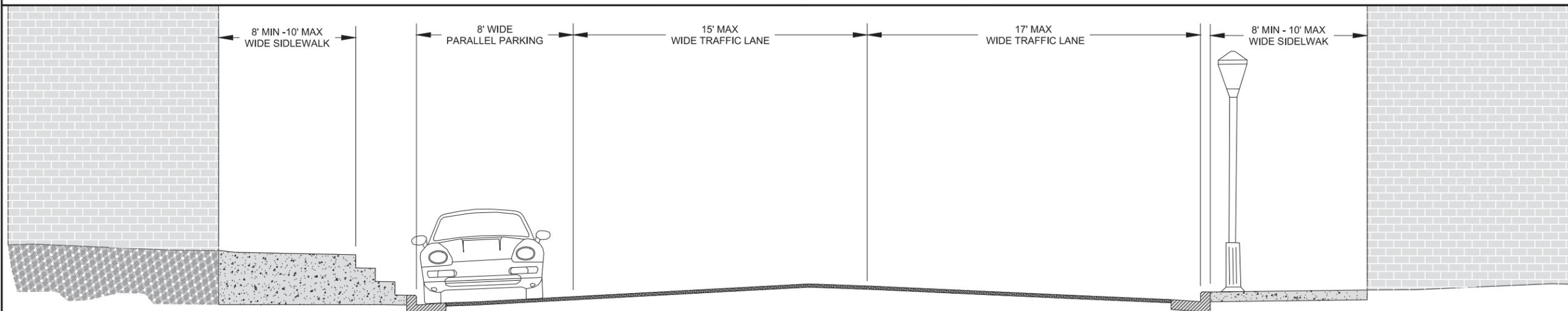
	PROPOSED CONCRETE SIDEWALK		PROPOSED SIDEWALK RAMP
	PROPOSED BIKE LANE		PROPOSED STREET LAMP
	PROPOSED CURB AND GUTTER		PROPOSED BENCH



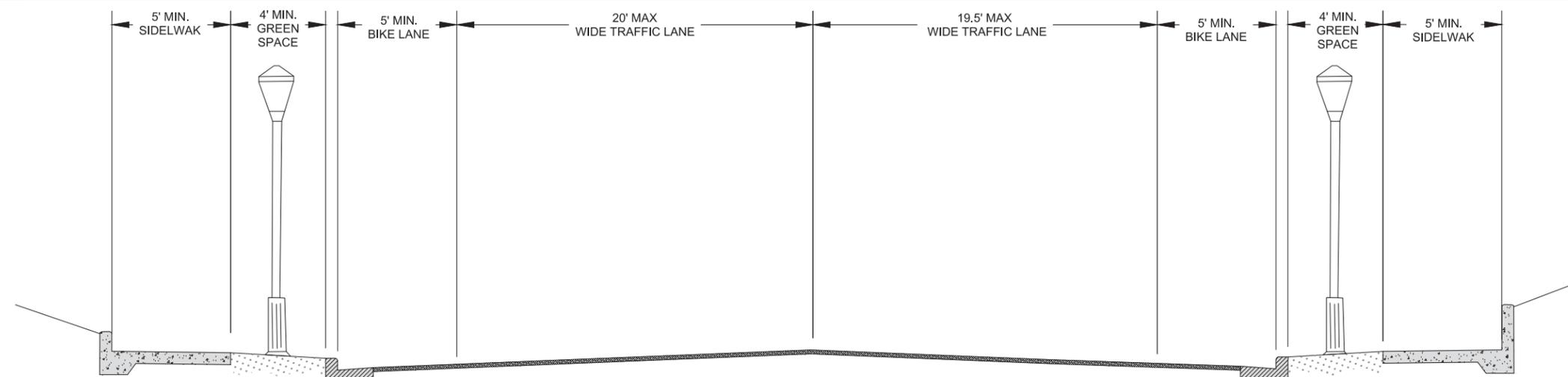
ELM AVENUE SIDEWALK
TASA GRANT PROPOSAL
TYPICAL CROSS SECTIONS



TYPICAL CROSS SECTION
STA. 8+00 - 15+40
N.T.S.



TYPICAL CROSS SECTION
STA. 15+40 - 19+75
N.T.S.



TYPICAL CROSS SECTION
STA. 34+00 - 39+50
N.T.S.

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Project No.	S1234	Sheet No.
Date	05/2017	11
Sheet	01 OF 01	OF 21

TRAFFIC CONTROL PLANS

T-1

GENERAL REQUIREMENTS

- MUST CONFORM WITH CURRENT TEXAS MUTCD STANDARD
- MUST CLEARLY DEPICT EACH CONSTRUCTION STAGE
- MUST BE COMPILED BY A LICENSED OR CERTIFIED PERSONNEL
 - TEXAS LICENSED PROFESSIONAL ENGINEER
 - IMS A CERTIFIED WORK ZONE PERSONNEL
 - TEXAS CERTIFIED WORK ZONE PERSONNEL (HW 5002)

TCP SUBMITTAL:

- THE TCP SHALL BE SUBMITTED TO THE CITY OF WACO ENGINEERING OFFICE 15 DAYS PRIOR TO THE ANTICIPATED START DATE, WITH COPY OF CURRENT CERTIFICATION.

OTHER INFORMATION

- MULTIPLE PHASES OF CONSTRUCTION WILL REQUIRE A SEPARATE TCP FOR EACH PHASE. ALL MAY BE SUBMITTED AT ONE TIME FOR ACCEPTANCE.
- EACH TCP MUST BE DEVELOPED TO ADDRESS THE SPECIFIC CONDITIONS OF THE PLANNED CONSTRUCTION WORK ZONE LOCATION.
- CITY ORDINANCE: SEC. 23-25 TRAFFIC CONTROL

LOCAL ROADS (CLASS 4)

- TCP REQUIRED FOR LANE CLOSURES EXCEEDING 4 HOURS
- TCP MAY UTILIZE TX MUTCD TYPICAL DETAILS
- NIGHT TIME CLOSURES WILL REQUIRE 7' TALL SIGNS

COLLECTORS (CLASS 3)

- TCP REQUIRED FOR ANY LANE CLOSURE
- TCP MAY UTILIZE TX MUTCD TYPICAL DETAILS, EXCEPT AS FOLLOWS
 - SITE SPECIFIC TCP REQUIRED AT SIGNALIZED INTERSECTION
 - NIGHT TIME CLOSURE WILL REQUIRE 7' TALL SIGNS AND ARROW BOARDS

MINOR ARTERIAL (CLASS 2)

- TCP REQUIRED FOR ANY LANE CLOSURE
- TCP MUST BE SITE SPECIFIC
- NIGHT TIME CLOSURE WILL REQUIRE 7' TALL SIGNS AND ARROW BOARDS

MAJOR ARTERIAL (CLASS 1)

- TCP REQUIRED FOR ANY LANE CLOSURE
- TCP MUST BE SITE SPECIFIC, AND SEALED BY A PROFESSIONAL ENGINEER
- NIGHT TIME CLOSURE WILL REQUIRE 7' TALL SIGNS AND ARROW BOARDS

NOTE: TCP'S FOR TX DOT ROADS, OR FOR PROJECTS OVERSEEN BY TX DOT MAY REQUIRE A TEXAS PROFESSIONAL ENGINEER TO STAMP. TCP'S FOR PROJECTS OCCURRING ON STATE ROADS WILL REQUIRE TXDOT APPROVAL. ACCESS TO AREA SCHOOLS, CHURCHES, AND OTHER PUBLIC BUILDINGS WILL NEED TO BE INCORPORATED INTO TCP'S.



TRAFFIC SERVICES



NO.	REVISION	DATE
1	UPDATE WITH OTHER INFORMATION SEC. 23-2 TO 23-25	06/19/2017
1	REWORK SIGN	06/05/2014

ANTIQUÉ/SHOEBOX LIGHT & ASSOC. ITEMS SPECS. (LED)

T-2

1.0 LIGHTING POLES AND FIXTURES:

THE LIGHTING POLES FURNISHED FOR MOUNTING LUMINARIES SHALL BE FREE FROM IMPERFECTIONS AND PRESENT A PLEASING APPEARANCE WHEN PLUMBED AND SECURED TO THE FOUNDATION. THE FINISHED POLE SHALL HAVE A SMOOTH UNIFORM FINISH FREE FROM PITS, SCRATCHES, BLISTERS OR OTHER DEFECTS. EACH SHOE BOX STYLE POLE SHALL HAVE A REMOVABLE POLE CAP. THE MOUNTING HEIGHT SHALL BE AS SPECIFIED PER POLE TYPE. ALL FIXTURES SHALL NOT REQUIRE INDIVIDUAL PHOTOCELLS OR PHOTOCELL SOCKETS. ALL POLES SHALL NOT HAVE FACTORY INSTALLED FUSE HOLDERS, BUT SHALL HAVE EXTERNAL FUSE HOLDERS INSTALLED AT THE BASE OF EACH POLE. ALL ANTIQUE LIGHT POLES AND FIXTURES SHALL HAVE A POWDER COAT PAINT FINISH.

ANTIQUÉ DECORATIVE POLE AND FIXTURE

MANUFACTURE: ANTIQUÉ STREET LIGHTING CO.
 POLE PART NUMBER: #P1 C17 34A DGRH
 FIXTURE PART NUMBER: #A25 W INC MOG ACT 120 DGRH
 COLOR CODE: POWDER COAT PAINT COLOR DGRH = #RAL 6012 (BLACK GREEN)
 LAMP: PRUF 35W (#211-03) (120-277 V) DAY WHITE

SHOE BOX TYPE AREA LIGHTING POLE AND FIXTURE (PARKING LOTS ONLY)

MANUFACTURE: KW POLE OR APPROVAL EQUAL
 POLE PART NUMBER: SINGLE FIXTURE #SSP30-6-7-BRZ DM10 W/2" X 12" HORIZONTAL PIPE TENON MOUNT
 FIXTURE MANUFACTURE: DURALIGHT OR APPROVED EQUAL*

FIXTURE PART NUMBER: #JXM-ST110 - LED COBRA HEAD, 120-277 VOLT
 #JXM-ST110 - LED COBRA HEAD, 480 VOLT

*FIXTURES MUST HAVE BEEN OR BE SUBMITTED TO CITY OF WACO FOR INFIELD TESTING. TESTED AND APPROVED LIGHTS LISTED IN SECTION 1.1.
 **ORIGINAL TESTER FIXTURES WERE LED ILLUMINATION 150W, 225W, CURRENT EQUIVALENT.

1.1 TESTED AND APPROVED LED FIXTURES:

250W EQUIVALENT: EOT 150W (RES:02A011S150065A) PRUF 112W (R210-011)** LEOTEK 109W (SL-250WLM3-FX)
 400W EQUIVALENT: DURALIGHT E30W (R03M-ST180) PRUF 168W (R240-011)** LEOTEK 166W (SL-400WLM3-FX) PHILLIPS HADCO EVCLAIRE 130W RWL130N

2.0 ANCHOR BOLTS:

FOUR HIGH STRENGTH 1" STEEL ANCHOR BOLTS SHALL BE FURNISHED WITH EACH POLE. ANCHOR BOLTS SHALL BE FABRICATED FROM A GOOD COMMERCIAL QUALITY HOT ROLLED CARBON STEEL BAR WITH MINIMUM YIELD STRENGTH OF 50,000 PSI. EACH ANCHOR BOLT SHALL BE THREADED AT THE TOP AND FITTED WITH DOUBLE NUTS AND WASHERS. THE OTHER END OF THE BOLT SHALL HAVE AN "L" BEND. THE ANCHOR BOLTS SHALL BE OF SUFFICIENT LENGTH AND DIAMETER TO DEVELOP THE FULL STRENGTH OF THE SHAFT. THE THREADED END OF THE BOLT SHALL BE GALVANIZED A MINIMUM LENGTH OF 8" FROM THE THREADED END WITH A MINIMUM THREADED LENGTH OF 4". ALL NECESSARY ANCHOR BOLTS AND TEMPLATES FOR SETTING ANCHOR BOLTS SHALL BE FURNISHED IMMEDIATELY AFTER AWARD OF THE CONTRACT, REGARDLESS OF DELIVERY SCHEDULES OF THE POLES. ADDITIONAL HARDWARE SHALL BE PROVIDED AND MAY BE DELIVERED WITH THE POLES.



TRAFFIC SERVICES



NO.	REVISION	DATE
1	REWORK SIGN	06/05/2014

ANTIQUÉ/SHOEBOX LIGHT & ASSOC. ITEMS SPECS. (LED)

T-2A

3.0 PHOTOELECTRIC CONTROL:

THE PHOTOELECTRIC CELLS SHALL BE TWIST PLUG IN TYPE PRECISION BRAND TO MATCH FIXTURE OR CONTACTOR VOLTAGE.

4.0 ELECTRICAL SERVICE EQUIPMENT:

ELECTRICAL SERVICE EQUIPMENT SHALL INCLUDE, BUT NOT BE LIMITED TO: METERED SERVICE/DISCONNECT OR CONTACTOR ENCLOSURE. ALL ENCLOSURES HOUSING ELECTRICAL EQUIPMENT SHALL BE RAIN-TIGHT, INCLUDE A PADLOCK HANDLE, AND DESIGNED FOR OUTDOOR INSTALLATION IN ACCORDANCE WITH NEMA STANDARDS. THE LIGHTING INSTALLATIONS SHALL COMPLY WITH THE APPLICABLE PROVISIONS OF THE NATIONAL ELECTRICAL SAFETY CODE AND NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION SPECIFICATIONS. A STANDALONE, PEDESTAL TYPE COMBINATION METERED SERVICE/DISCONNECT/CONTACTOR CONTROL PANEL SHALL BE USED. THE PEDESTAL TYPE METER SERVICE MAY BE MOUNTED TO A CONCRETE PAD, ALTHOUGH A PRE CAST POLYMER PAD BASE IS RECOMMENDED. POWER REQUIREMENTS DESIRED SHOULD BE 120/240V OR 208/120V SINGLE PHASE. IF NOT AVAILABLE, AN OPTIONAL SERVICE VOLTAGE MAY BE ACCEPTABLE IF APPROVED BY CITY STAFF. EACH SERVICE POINT SHALL INCLUDE INDIVIDUAL CIRCUIT BREAKERS AND PHOTOCELL CONTROLLED CONTACTOR(S), AND A BOA SWITCH FOR CONTROL OF THE LIGHTING CIRCUIT(S). METER SERVICES SHALL REQUIRE A NO FEE ELECTRICAL PERMIT AND BE INSPECTED BY CITY OF WACO INSPECTION SERVICES. ELECTRIC METER, APPLICATION FOR SERVICE WILL BE MADE BY CITY STAFF. THE COLOR OF THE ELECTRICAL SERVICE EQUIPMENT SHALL BE MANUFACTURERS STANDARD LIGHT OR MINT GREEN.

RECOMMENDED, ONCOR APPROVED, SERVICE PEDESTALS ARE MILBANK BRAND:
 • CP3B1110VASP 120/240V 1P 3W 100A (MAY BE 120/208V WHEN NECESSARY)
 • CP3B12510A225P 208/120V 3P 4W 100A (SPECIAL USE ONLY)
 • CP3B1141FA225P 480/277V 1P 3W 100A

RECOMMENDED SERVICE PEDESTAL BASE IS QUARTZITE BRAND:
 • PB25251212500

5.0 WIRE:

ALL ELECTRICAL WIRE SHALL BE STRANDED COPPER CONDUCTOR. EARTH GROUND SHALL BE STRANDED COPPER CONDUCTOR WITH GREEN INSULATION. ALL WIRE SHALL BE OF ADEQUATE SIZE TO ACCOMMODATE LIGHTING LOAD. ALL SPLICES SHALL BE MADE INSIDE THE POLE.

6.0 CONCRETE:

SEE STANDARD DETAIL 6-10 GENERAL CONCRETE AND REINFORCEMENT NOTES.

7.0 FOUNDATION BASE

ALL FOUNDATION BASES SHALL BE (24) TWENTY-FOUR INCHES IN DIAMETER. TOP OF BASES SHALL EXTEND (6) SIX INCHES ABOVE GRADE. TOP OF FOUNDATION SHALL HAVE A 1" CHAMFIR. STEEL REBAR SHALL BE USED TO FOR CONCRETE REINFORCEMENT THROUGHOUT THE ENTIRE BASE. ALL FOUNDATIONS SHALL HAVE A MINIMUM OF TWO (2) 2" PVC CONDUITS INSTALLED.

- FOR AREA LIGHTING POLES IN EXCESS OF (18) EIGHTEEN FEET IN HEIGHT, BASES SHALL EXTEND A MINIMUM OF (6) SIX FEET BELOW GRADE.
- FOR DECORATIVE POLES NOT TO EXCEED (18) EIGHTEEN FEET, BASES SHALL EXTEND A MINIMUM OF (3) THREE FEET BELOW GRADE.

EXCEPTION: FOR PARKING LOT INSTALLATIONS, ALL BASES SHALL BE (30) THIRTY INCHES IN DIAMETER AND EXTEND A MINIMUM OF (36) THIRTY-SIX INCHES ABOVE GRADE. BELOW GRADE SPECIFICATIONS SHALL REMAIN AS STATED ABOVE.



TRAFFIC SERVICES



NO.	REVISION	DATE
1	REWORK SIGN	06/05/2014

ANTIQUÉ/SHOEBOX LIGHT & ASSOC. ITEMS SPECS. (LED)

T-2B

8.0 FUSE HOLDERS AND FUSES:

IN-LINE FUSE HOLDERS ELASTIMOLD OR BUCHANAN, STYLE D65 (DOUBLE FUSE) WITH BUSSMAN FNM-TYPE FUSES, OF THE APPROPRIATE AMPERAGE SHALL BE INSTALLED AT THE BASE OF EACH POLE INSIDE THE HAND HOLE. FUSING IN FIXTURE SHALL NOT BE ALLOWED.

9.0 CABLE CONNECTIONS AND SPLICES:

CABLE CONNECTIONS AND SPLICES SHALL BE MADE INSIDE THE POLE WITH SPLIT BOLT CONNECTORS AND INSULATED WITH #23 3M RUBBER TAPE, OR APPROVED EQUAL THEN WRAPPED WITH #88 3M VINYL TAPE, OR APPROVED EQUAL. NO SPLICES MAY BE MADE OUTSIDE THE POLE OTHER THAN INSIDE THE SERVICE/DISCONNECT OR CONTACTOR ENCLOSURE.

10.0 GROUND RODS:

GROUND RODS SHALL BE INSTALLED IN EACH POLE FOUNDATION AND AT THE POINT OF SERVICE DISCONNECT. THE GROUND RODS SHALL BE MINIMUM 8' X 5/8" COPPER-CLAD. ALL GROUND RODS AT POLE FOUNDATIONS SHALL BE INSTALLED IN THE CONCRETE FOUNDATION AND AT AN ANGLE AS TO PENETRATE THE SOIL ON THE SIDE OF THE FOUNDATION. A MINIMUM OF 4" AND A MAXIMUM OF 6" OF GROUND ROD SHALL EXTEND ABOVE THE TOP OF THE CONCRETE FOUNDATION FINISHED GRADE. INSTALLATIONS OUTSIDE THE FOUNDATION ARE NOT ACCEPTABLE.

11.0 EQUIPMENT GROUNDING:

ALL POLES, GROUND RODS, ELECTRICAL SERVICE AND ASSOCIATED EQUIPMENT SHALL BE BONDED BY MEANS OF A COPPER GROUNDING CONDUCTOR. GROUNDING OF POLES BY MEANS OF ANCHOR BOLTS SHALL NOT BE PERMITTED. POLE GROUNDING SHALL BE ACCOMPLISHED BY MEANS OF A GROUNDING LUG, SCREW ETC. ATTACHED TO THE POLE.

12.0 GROUND (JUNCTION) BOXES:

ELECTRICAL, IN GROUND, NON-CONDUCTIVE JUNCTION BOXES WITH BOLT DOWN REMOVABLE LIDS SHALL BE UTILIZED. LIDS SHALL BE PERMANENTLY MARKED ON THE TOP "ELECTRICAL".

RECOMMENDED BOXES ARE QUARTZITE BRAND:
 #PC1212BA12 SIZE 12" X 12"
 #PC1324BA12 SIZE 13" X 24"
 #PC1730BA12 SIZE 17" X 30"

13.0 ELECTRICAL CONDUIT MINIMUM REQUIREMENTS:
 SCHEDULE 40 GRAY ELECTRICAL PVC
 2" MINIMUM FOR POLE TO POLE AND HOME RUNS
 SERVICE CONDUIT 2" PVC 24" RADIUS

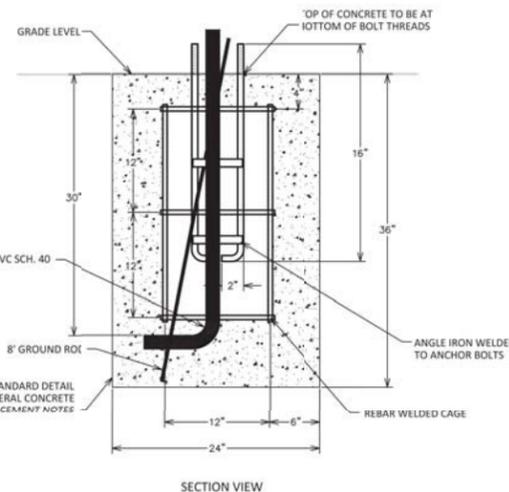


TRAFFIC SERVICES



NO.	REVISION	DATE
1	REWORK SIGN	06/05/2014

T-3



ANTIQUÉ STREET LIGHT REINFORCED FOUNDATION



TRAFFIC SERVICES



NO.	REVISION	DATE
1	REWORK SIGN	06/05/2014

PUBLIC WORKS



ENGINEERING DIVISION

ELM AVENUE SIDEWALK
 TASA GRANT PROPOSAL
 CITY OF WACO
 ANTIQUÉ LIGHT STANDARD DETAILS

NO.	REVISION	DATE

60% PLANS

NAME DATE

Design: B.A.S. Approved: P.N.R.
 Checked: J.R. Project Mgr.: P.N.R.
 File Name: EngineeringProject.DWG

Scale
 Project No. S1234 Sheet No.
 Date 05/2017
 Sheet 02 OF 03 **12** OF **21**



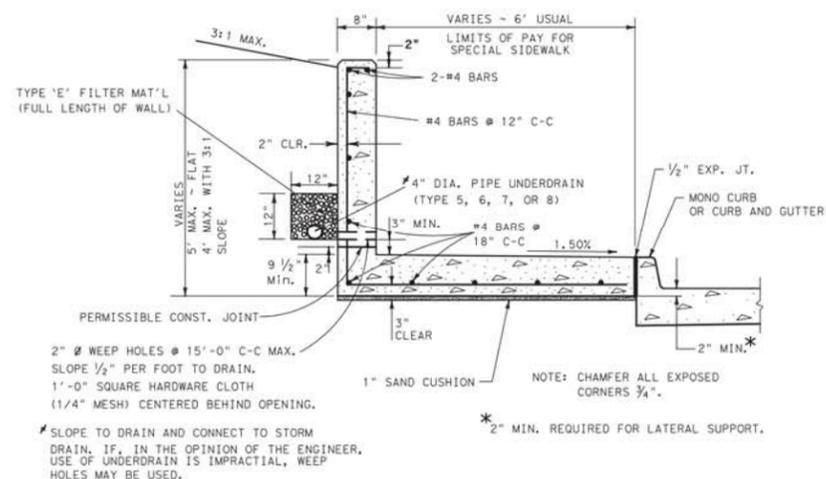
ELM AVENUE SIDEWALK
TASA GRANT PROPOSAL

TXDOT

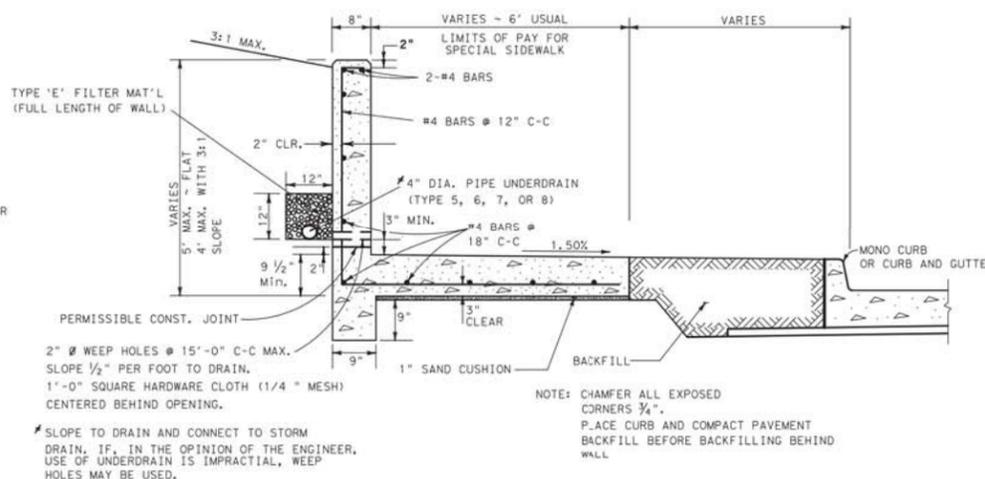
CONCRETE SIDEWALK DETAILS

DISCLAIMER: The use of this standard is governed by the Texas Engineering Practice Act. The user assumes all responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

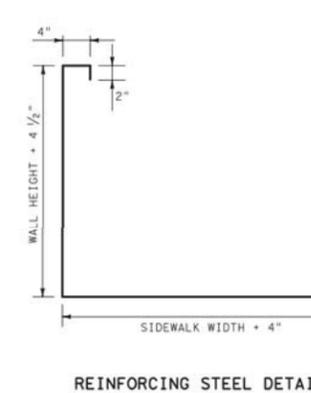
http://www.dot.state.tx.us/ftw/spec/info/standard.htm cswdfw.dgn



SIDEWALK ADJACENT TO CURB

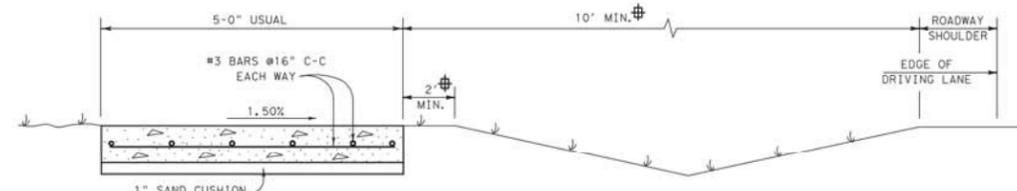


SIDEWALK REMOTE FROM CURB



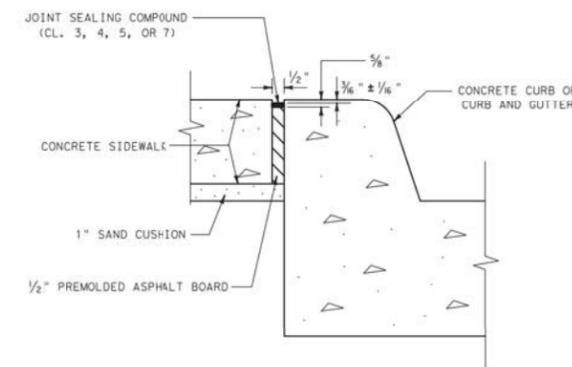
REINFORCING STEEL DETAIL

SPECIAL CONCRETE SIDEWALK w/ RETAINING WALL



CONCRETE SIDEWALK (ROADWAY W/O CURB)

⊕ SIDEWALK TO BE 10' MIN. FROM EDGE OF SHOULDER OR 2' MIN. FROM TOP OF DITCH BACK SLOPE, WHICHEVER IS GREATER (10' MIN. FROM EDGE OF SHOULDER IF NO DITCH.)



1/2" EXPANSION JOINT (SIDEWALK ADJACENT TO CURB)

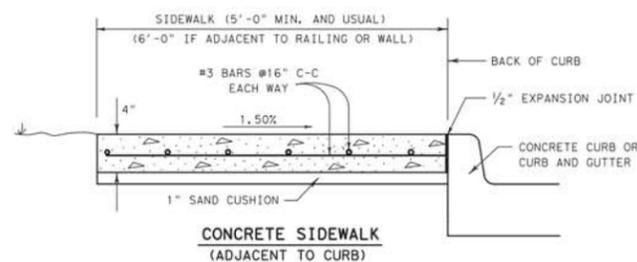
SEE PLAN SHEETS FOR LOCATIONS OF SIDEWALKS AND RETAINING WALLS.

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

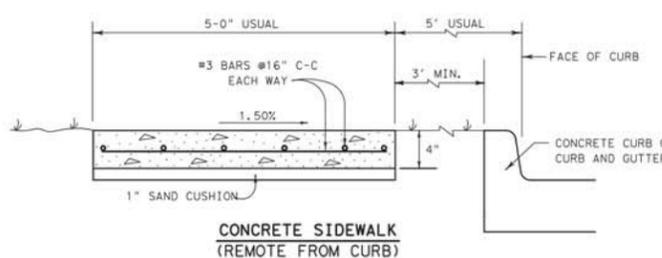
IF SIDEWALK WIDTH IS LESS THAN 5', PROVIDE 5' x 5' PASSING AREAS AT INTERVALS NOT TO EXCEED 200' SPACING.

WHERE SIDEWALK WITH RETAINING WALL IS SPECIFIED, RETAINING WALL WILL BE SUBSIDIARY TO THE ITEM, "CONCRETE SIDEWALK (SPECIAL) (RETAINING WALL)". WITH LIMITS OF PAY AS SHOWN HEREON.

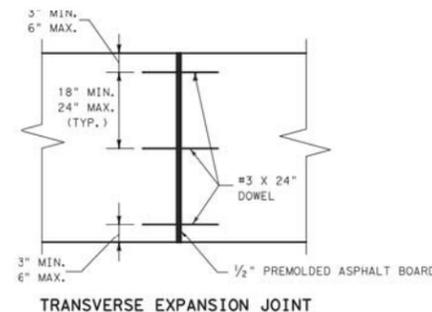
SURFACE TREATMENT OF RETAINING WALL FACE DETAILED ELSEWHERE IN THE PLANS.



CONCRETE SIDEWALK (ADJACENT TO CURB)



CONCRETE SIDEWALK (REMOTE FROM CURB)



TRANSVERSE EXPANSION JOINT

CONCRETE SIDEWALK DETAILS

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Texas Department of Transportation
FORT WORTH DISTRICT
CONCRETE SIDEWALK DETAILS
CSWD-08 (FW)

ORIGINAL DRAWING	FED. RD. DIV. NO.	PROJECT NO.	SHEET NO.
JUNE 2008	6		
REVISIONS:	STATE	DIST.	COUNTY
	TEXAS		
	CONT.	SECT.	JOB
			HIGHWAY NO.

NO.	REVISION	DATE

60% PLANS

Design: B.A.S. Approved: P.N.R.
Checked: J.R. Project Mgr.: P.N.R.
File Name: EngineeringProject.DWG

Scale
Project No. 51234 Sheet No.
Date 05/2017
Sheet 02 OF 03

13 OF 21

LEVELS DISPLAYED

1	
2	
3	
4	
5	
6	



ELM AVENUE SIDEWALK TASA GRANT PROPOSAL PEDESTRIAN FACILITIES CURB RAMPS BARRICADE AND CONSTRUCTION REQUIREMENTS GENERAL NOTE AND REQUIREMENTS

Table with 3 columns: NO., REVISION, DATE

60% PLANS

NAME DATE

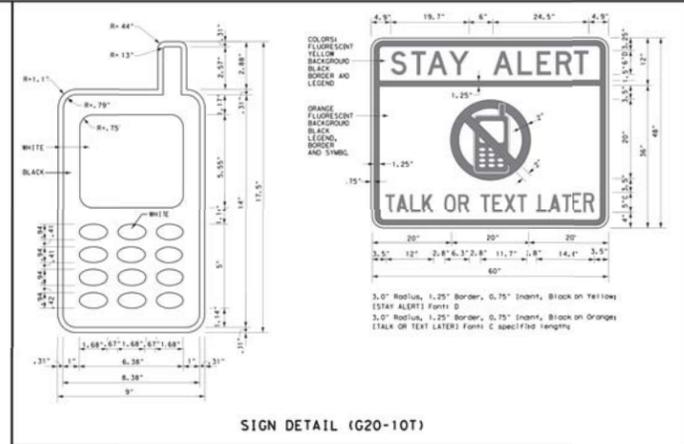
Design: B.A.S. Approved: P.N.R.

Checked: J.R. Project Mgr.: P.N.R.

File Name: EngineeringProject.DWG

Table with 3 columns: Scale, Project No. (S1234), Sheet No. (14), Date (05/2017), Sheet (01 OF 03), OF 21

BARRICADE AND CONSTRUCTION (BC) STANDARD SHEETS GENERAL NOTES:

- 1. The Barricade and Construction Standard Sheets (BC sheets) are intended to show typical examples for placement of temporary traffic control devices, construction pavement markings, and typical work zone signs. The information contained in these sheets meet or exceed the requirements shown in the Texas Manual on Uniform Traffic Control Devices (TMUTCD).
2. The development and design of the Traffic Control Plan (TCP) is the responsibility of the Engineer.
3. The Contractor may propose changes to the TCP that are signed and sealed by a licensed professional engineer for approval. The Engineer may develop, sign and seal Contractor proposed changes.
4. The Contractor is responsible for installing and maintaining the traffic control devices as shown in the plans. The Contractor may not move or change the approximate location of any device without the approval of the Engineer.
5. Geometric design of lane shifts and detours should, when possible, meet the applicable design criteria contained in manuals such as the American Association of State Highway and Transportation Officials (AASHTO), "A Policy on Geometric Design of Highways and Streets," the "Roadway Design Manual" or engineering judgment.
6. When projects about, the Engineer(s) may omit the END ROAD WORK, TRAFFIC FINES DOUBLE, and other advance warning signs if the signing would be redundant and the work areas appear continuous to the motorists. However, if the adjacent project is completed first, the Contractor shall erect the necessary warning signs as shown on these sheets, the TCP sheets or as directed by the Engineer. The BEGIN ROAD WORK NEXT X MILES sign shall be revised to show appropriate work zone distance.
7. The Engineer may require duplicate warning signs on the median side of divided highways where median width will permit and traffic volumes justify the signing.
8. All signs shall be constructed in accordance with the details found in the "Standard Highway Sign Designs for Texas," latest edition. Sign details not shown in this manual shall be shown in the plans or the engineer shall provide a detail to the Contractor before the sign is manufactured.
9. The temporary traffic control devices shown in the illustrations of the BC sheets are examples as necessary, the Engineer will determine the most appropriate traffic control devices to be used.
10. As shown on BC(2), the OBEY WARNING SIGNS STATE LAW sign, STAY ALERT OR TEXT LATER (see Sign Detail G20-10T) and the WORK ZONE TRAFFIC FINES DOUBLE sign with distance shall be erected in advance of the CSJ limits. However, the TRAFFIC FINES DOUBLE sign will not be required on projects consisting solely of mobile operation work, such as striping or milling edge line rumble strips. The BEGIN ROAD WORK NEXT X MILES, CORNER ROAD WORK, and END ROAD WORK signs shall be erected at or near the CSJ limits.
11. Except for devices required by Note 10, traffic control devices should be in place only while work is actually in progress or a definite need exists.
12. The Engineer has the final decision on the location of all traffic control devices.
13. Inactive equipment and work vehicles, including workers' private vehicles must be parked away from travel lanes. They should be as close to the right-of-way line as possible, or located behind a barrier or guardrail, or as approved by the Engineer.


Only pre-qualified products shall be used. The "Compliant Work Zone Traffic Control Devices List" (CWZCD) describes pre-qualified products and their sources and may be found on-line at the web address given below or by contacting:

Texas Department of Transportation Traffic Operations Division - 1E Phone (512) 416-3118

Table with 2 columns: THE DOCUMENTS BELOW CAN BE FOUND ON-LINE AT (http://www.txdot.gov), BARRICADE AND CONSTRUCTION GENERAL NOTES AND REQUIREMENTS BC (1) - 14

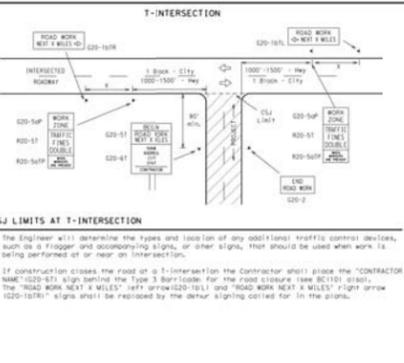
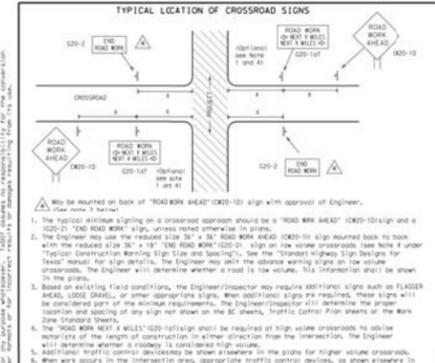


Table showing TYPICAL CONSTRUCTION WARNING SIGN SIZE AND SPACING with columns for Sign Number or Series, Conventional Road, Expressway/Freeway, Spacing, and Sign Spacing.

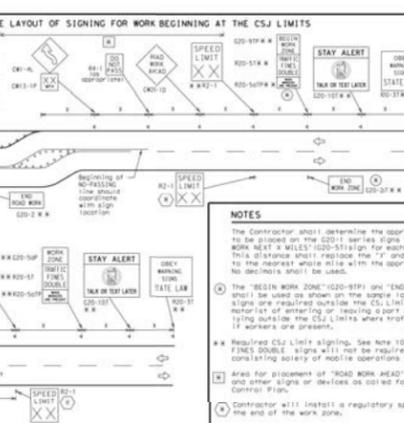
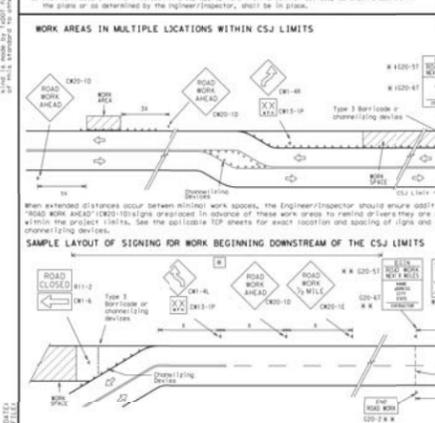
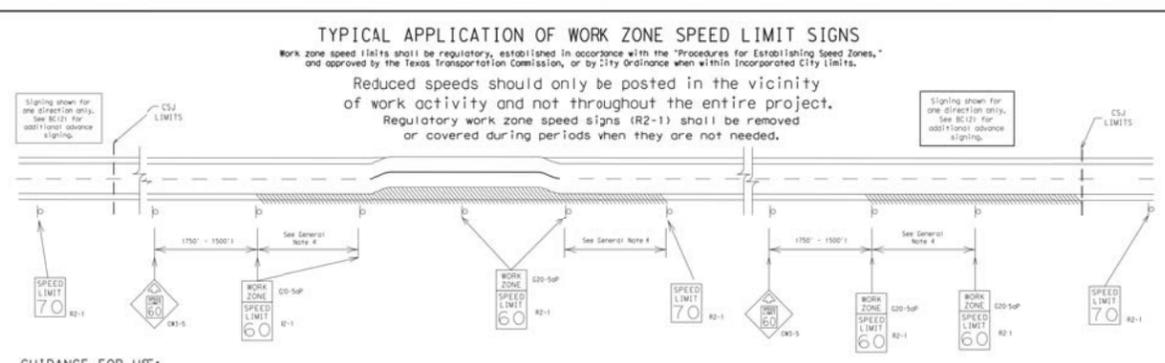


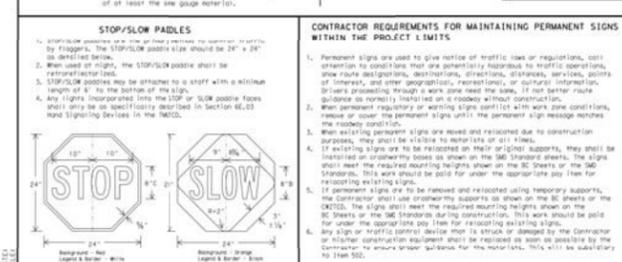
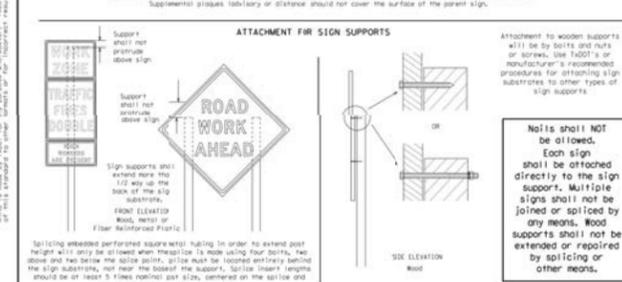
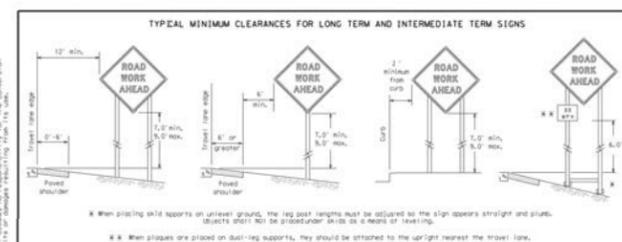
Table showing LEGEND and BARRICADE AND CONSTRUCTION PROJECT LIMIT BC (2) - 14.



GUIDANCE FOR USE: LONG/INTERMEDIATE TERM WORK ZONE SPEED LIMITS. This type of work zone speed limit should be included on the design of the traffic control plans when restricted geometrics with a lower design speed are present in the work zone and modification of the geometrics to a higher design speed is not feasible.

GENERAL NOTES: 1. Regulatory work zone speed limits should be used only for sections of construction projects where speed control is of major importance.

Table showing BARRICADE AND CONSTRUCTION WORK ZONE SPEED LIMIT BC (3) - 14.



GENERAL NOTES FOR WORK ZONE SIGNS: 1. Contractor shall install and maintain signs in a straight and true condition and/or as directed by the Engineer.

QUALITY OF WORK: The contractor shall furnish the Engineer a copy of the manufacturer's installation recommendations on the Engineer's copy of the correct procedure for sign installation.

INSTALLATION: 1. The types of sign supports, sign mounting height, sign size, and the type of sign substrates can vary based on the type of sign.

Table showing BARRICADE AND CONSTRUCTION TEMPORARY SIGN NOTES BC (4) - 14.



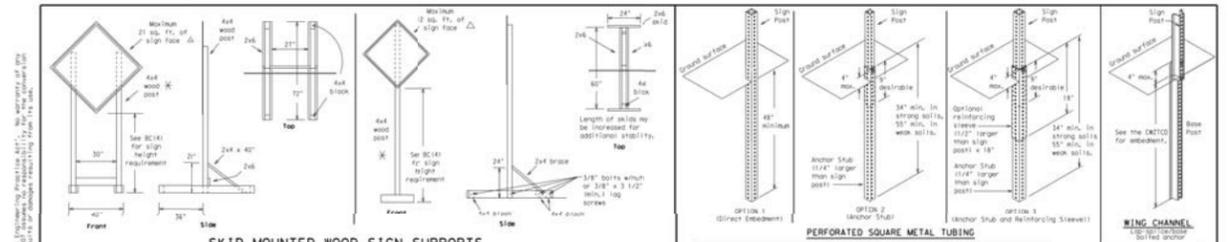
ELM AVENUE SIDEWALK TASA GRANT PROPOSAL PEDESTRIAN FACILITIES CURB RAMPS BARRICADE AND CONSTRUCTION GENERAL NOTE AND REQUIREMENTS

Table with 3 columns: NO., REVISION, DATE

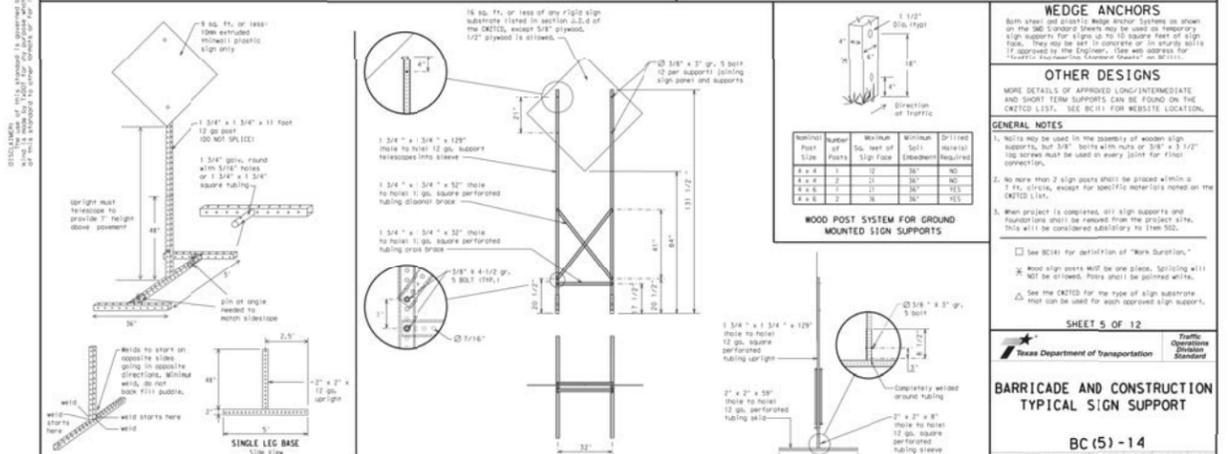
60% PLANS

Design: B.A.S. Approved: P.N.R. Checked: J.R. Project Mgr.: P.N.R. File Name: EngineeringProject.DWG

Scale, Project No. 51234, Sheet No. 15, Date 05/2017, Sheet 02 OF 03 OF 21



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



SKID MOUNTED PERFORATED SQUARE STEEL TUBING SIGN SUPPORTS

WEDGE ANCHORS

OTHER DESIGNS

GENERAL NOTES

WOOD POST SYSTEM FOR GROUND MOUNTED SIGN SUPPORTS

SHEET 5 OF 12

BARRICADE AND CONSTRUCTION TYPICAL SIGN SUPPORT BC (5) - 14

CONCRETE TRAFFIC BARRIER (CTB)



BARRIER REFLECTORS FOR CONCRETE TRAFFIC BARRIER AND ATTENUATORS

WARNING LIGHTS

WARNING LIGHTS MOUNTED ON PLASTIC DRUMS

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

TRUCK-MOUNTED ATTENUATORS

REQUIREMENTS

ATTENTION

FLASHING ARROW BOARDS

SHEET 7 OF 12

BARRICADE AND CONSTRUCTION ARROW PANEL, REFLECTORS, WARNING LIGHTS & ATTENUATOR BC (7) - 14

RECOMMENDED PHASES AND FORMATS FOR PCMS MESSAGES DURING ROADWORK ACTIVITIES

Phase 1: Condition Lists, Phase 2: Possible Component Lists

Table with columns: Road/Lane/Ramp Closure List, Other Condition List, Action to Take/Effect on Travel List, Warning List, Nighttime Notice List

APPLICATION GUIDELINES

1. The first phase for both should be detected from the... 2. A 2nd phase can be selected from the 'Action to Take/Effect on Travel'...

Wording Alternatives

1. 'ROAD CLOSED' and 'ROAD AHEAD CLOSED' should be used as appropriate... 2. 'ROAD CLOSED' and 'ROAD AHEAD CLOSED' should be used as appropriate...

FULL MATRIX PCMS SIGNS

1. When Full Matrix PCMS signs are used, the character height and legibility requirements shall be maintained as listed in the 'PORTABLE'...

SHEET 6 OF 12

BARRICADE AND CONSTRUCTION PORTABLE CHANGEABLE MESSAGE SIGN (PCMS) BC (6) - 14

GENERAL NOTES

1. For long term stationary work zones on freeways, drums shall be used as the primary channelizing device... 2. For intermediate term stationary work zones on freeways, drums shall be used as the primary channelizing device...

GENERAL DESIGN REQUIREMENTS

1. Plastic drums shall be a two-piece design the 'body' of the drum shall be the top portion and the 'base' shall be the bottom... 2. The body and base shall lock together in such a manner that the body separates from the base when subjected to a vertical impact...

RETROREFLECTIVE SHEETING

1. The sheeting used on drums shall be constructed of sheeting meeting the color and retroreflectivity requirements of Department of Transportation... 2. The sheeting shall be applied to the drum in such a manner that the drum is completely covered...

DIRECTION INDICATOR BARRICADE

1. The Direction Indicator Barricade may be used in urban, residential, and other areas where visibility is critical... 2. If used, the Direction Indicator Barricade should be used in accordance with the following requirements...

DETECTABLE PEDESTRIAN BARRICADES

1. When existing pedestrian facilities are disturbed, closed, or otherwise affected, BARRICADES shall be used to warn pedestrians... 2. The BARRICADE shall be constructed of a minimum of 2' high concrete or other material...

SHEET 8 OF 12

BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES BC (8) - 14



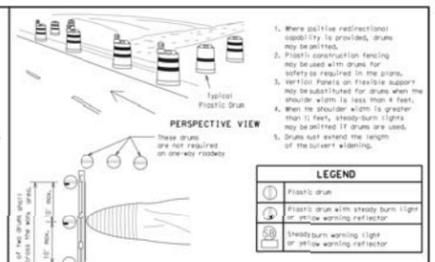
ELM AVENUE SIDEWALK TASA GRANT PROPOSAL PEDESTRIAN FACILITIES CURB RAMPS BARRICADE AND CONSTRUCTION GENERAL NOTE AND REQUIREMENTS

Table with 3 columns: NO., REVISION, DATE

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Table with 2 columns: Project No. (S1234), Sheet No. (16 OF 21)

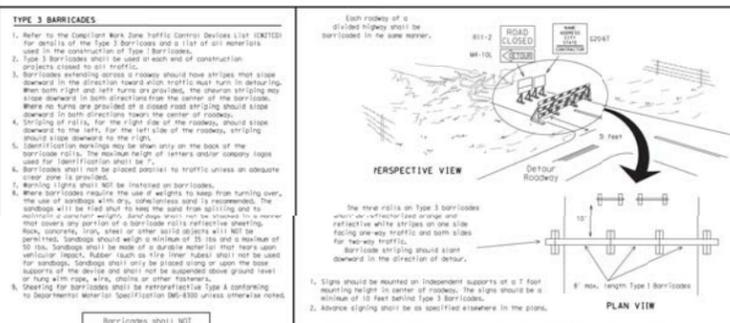


CULVERT WIDENING OR OTHER ISOLATED WORK WITHIN THE PROJECT LIMITS

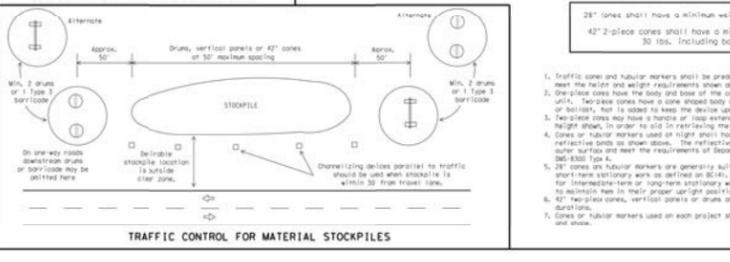
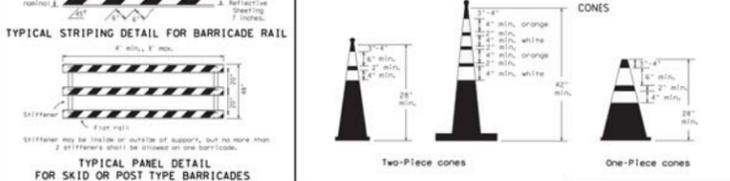


BARRICADE AND CONSTRUCTION CHANNELLING DEVICES

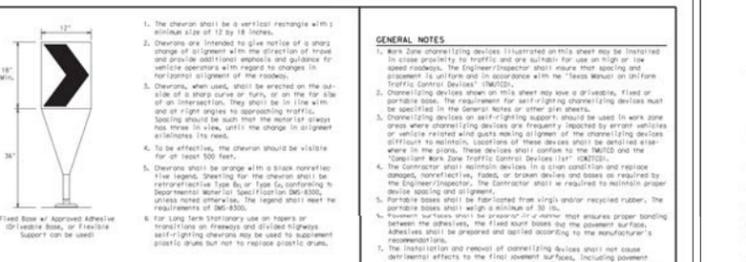
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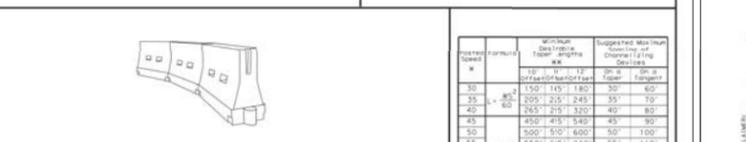
TYPE 3 BARRICADE (POST AND SKID) TYPICAL APPLICATION



TRAFFIC CONTROL FOR MATERIAL STOCKPILES



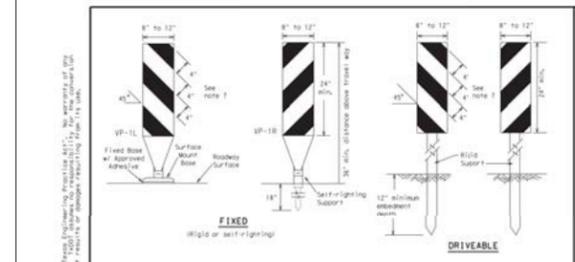
CHEVRONS



VERTICAL PANELS (VPs)



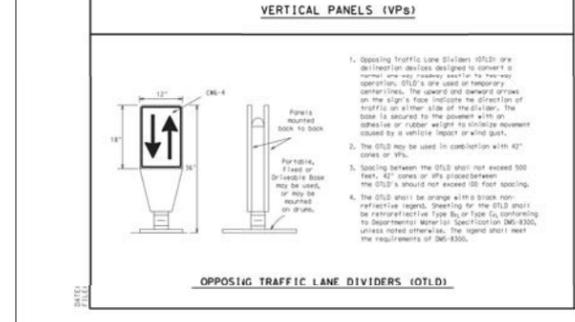
OPPOSING TRAFFIC LANE DIVIDERS (OTLD)



FIXED DRIVEABLE

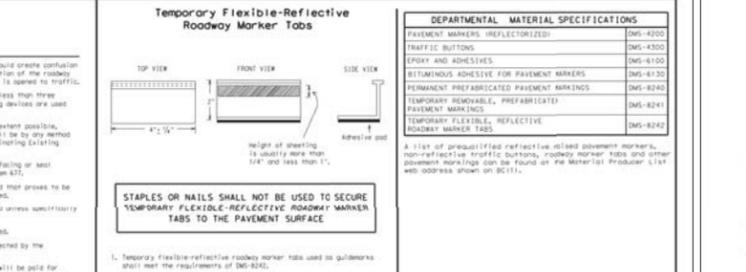


PORTABLE



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

WORK ZONE PAVEMENT MARKING. GENERAL: 1. The Contractor shall be responsible for establishing work zone and existing pavement markings...



Temporary Flexible-Reflective Roadway Marker Tabs

RAISED PAVEMENT MARKERS. 1. Raised pavement markers are to be placed according to the patterns on BC(11) - 14...

DEPARTMENTAL MATERIAL SPECIFICATIONS. PAVEMENT MARKERS (REFLECTORIZED) DMS-4200 TRAFFIC BUTTONS DMS-4300 EPDM AND ADHESIVES DMS-4100...

MAINTAINING WORK ZONE PAVEMENT MARKINGS. 1. The Contractor shall be responsible for maintaining work zone pavement markings within the work limits...

RAISED PAVEMENT MARKERS USED AS GUIDEMARKS. 1. Raised pavement markers used as guidemarks shall be from the approved product line and meet the requirements of DMS-4200...

Table with 2 columns: Description, Quantity

BARRICADE AND CONSTRUCTION PAVEMENT MARKINGS

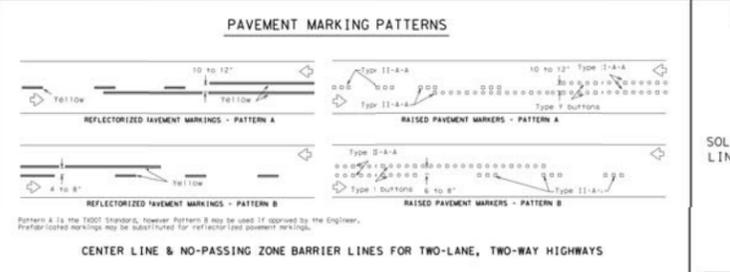
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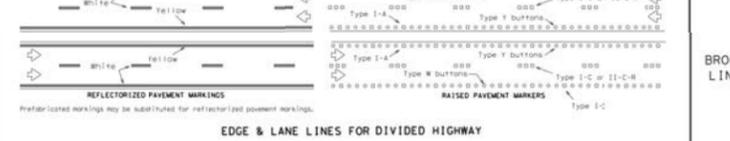
LANE & CENTER LINES FOR MULTILANE UNDIVIDED HIGHWAYS



TWO-WAY LEFT TURN LANE



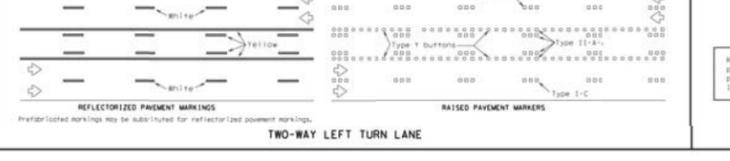
CENTER LINE & NO-PASSING ZONE BARRIER LINES FOR TWO-LANE, TWO-WAY HIGHWAYS



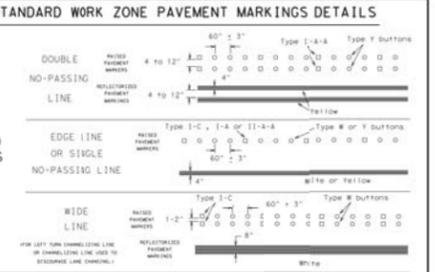
EDGE & LANE LINES FOR DIVIDED HIGHWAY



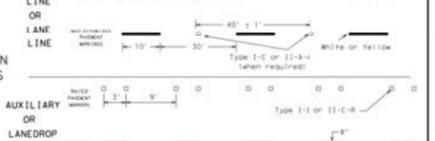
LANE & CENTER LINES FOR MULTILANE UNDIVIDED HIGHWAYS



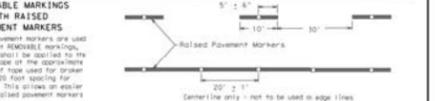
TWO-WAY LEFT TURN LANE



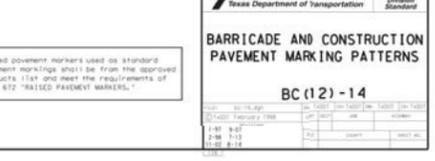
STANDARD WORK ZONE PAVEMENT MARKING DETAILS



CENTER LINE OR LANE LINE



BROKEN LINES



BARRICADE AND CONSTRUCTION PAVEMENT MARKING PATTERNS

Table with 2 columns: Description, Quantity

BARRICADE AND CONSTRUCTION PAVEMENT MARKINGS



ELM AVENUE SIDEWALK
TASA GRANT PROPOSAL
TXDOT STANDARD PAVEMENT MARKINGS

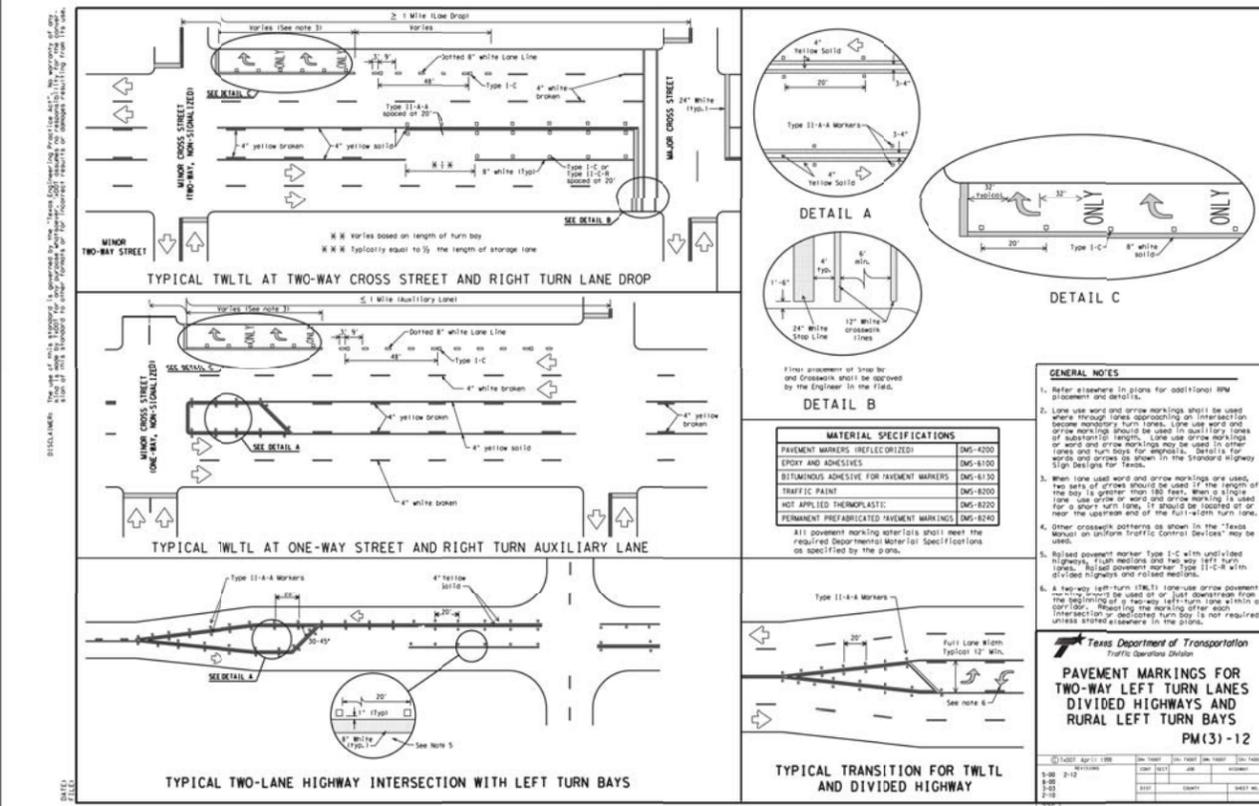
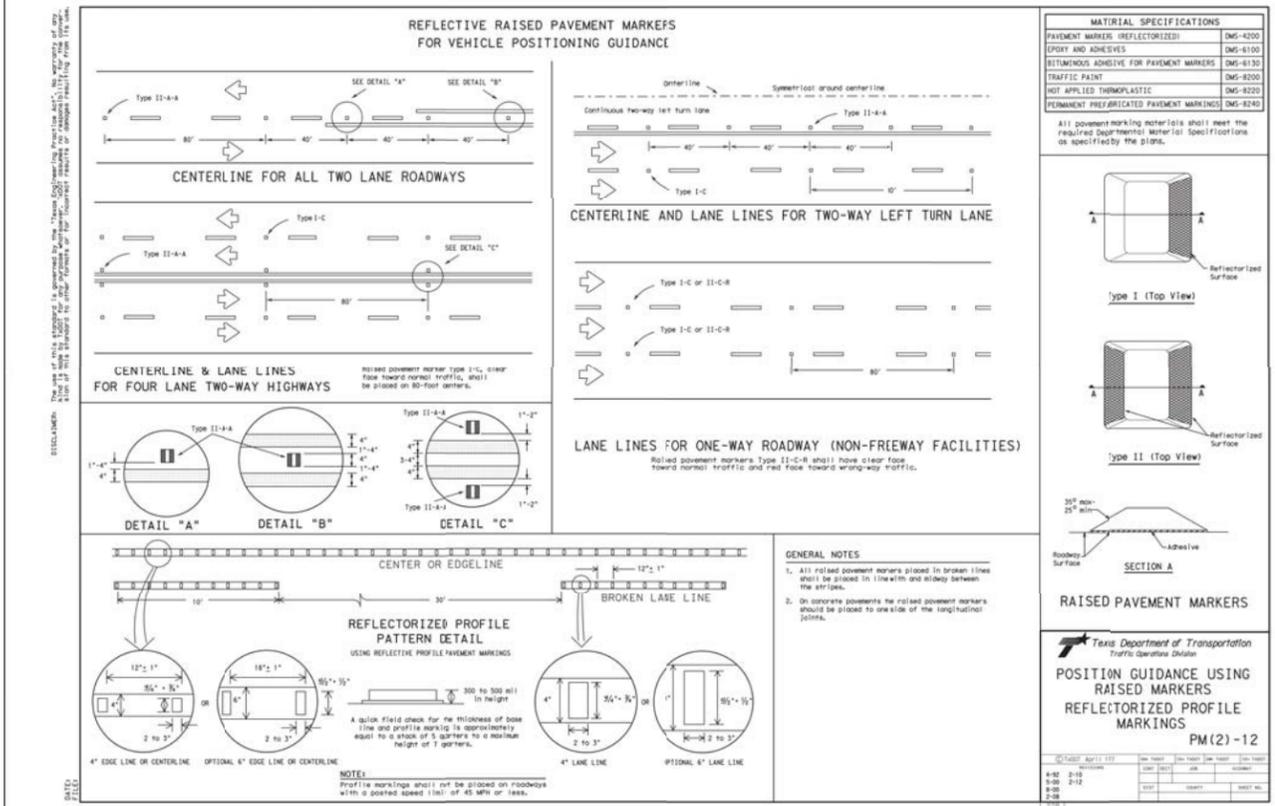
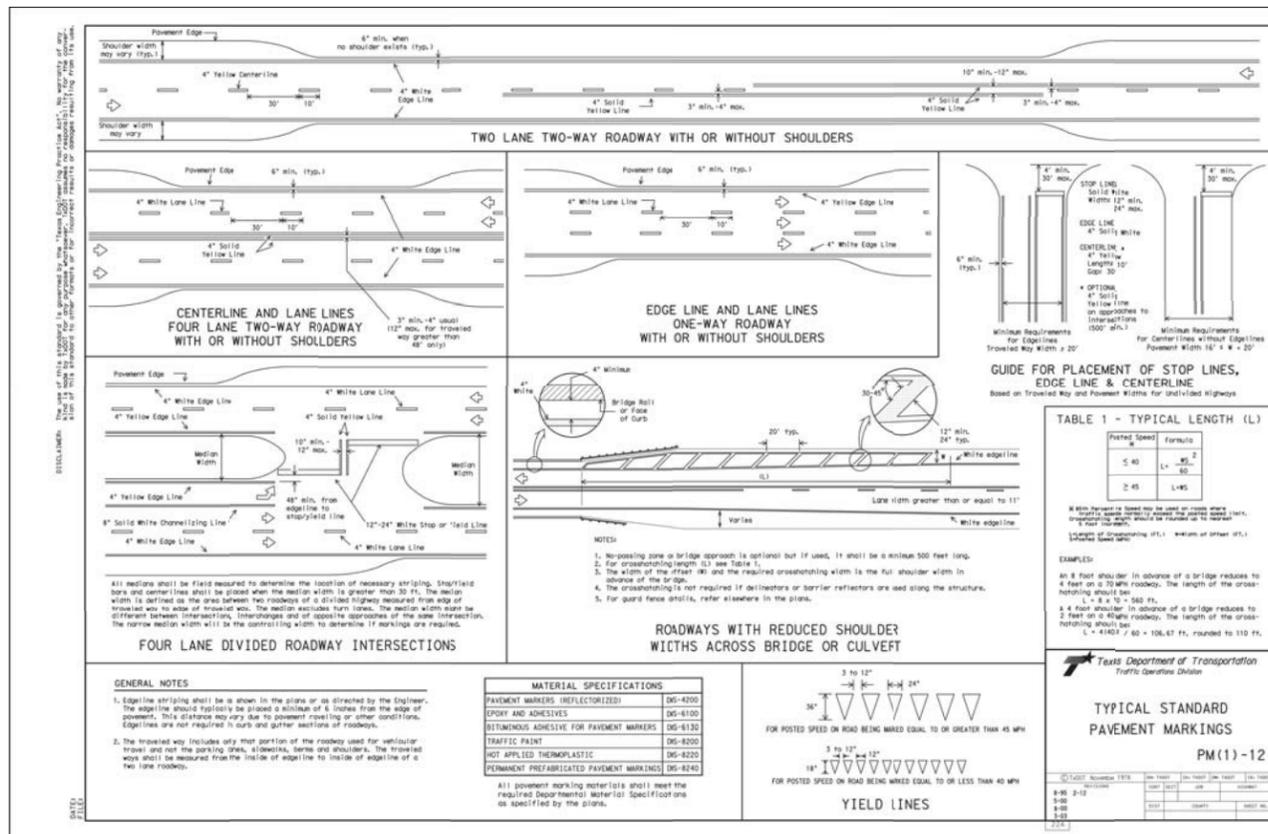
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Project No.	S1234	Sheet No.	17
Date	05/2017		
Sheet	01 OF 01		OF 21





ELM AVENUE SIDWALK
TASA GRANT PROPOSAL
TXDOT SIGN MOUNTING DETAILS SHEET 1

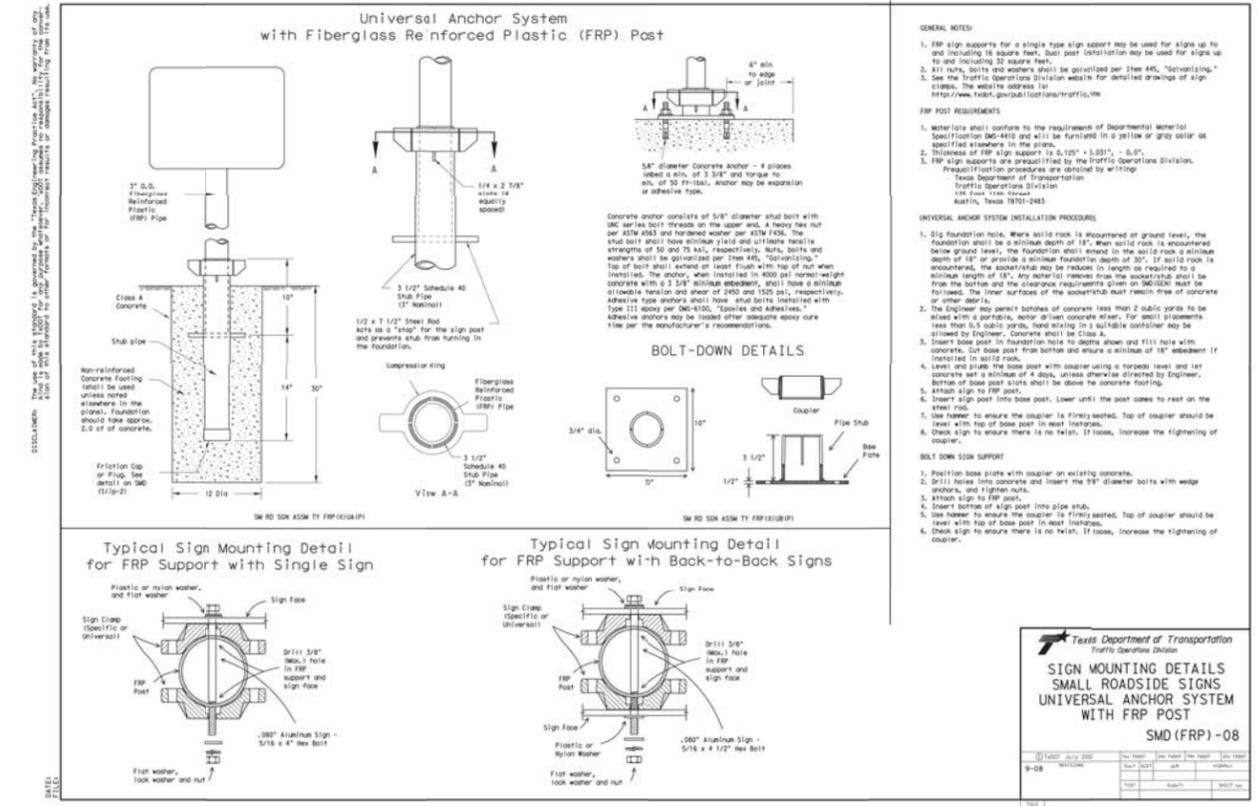
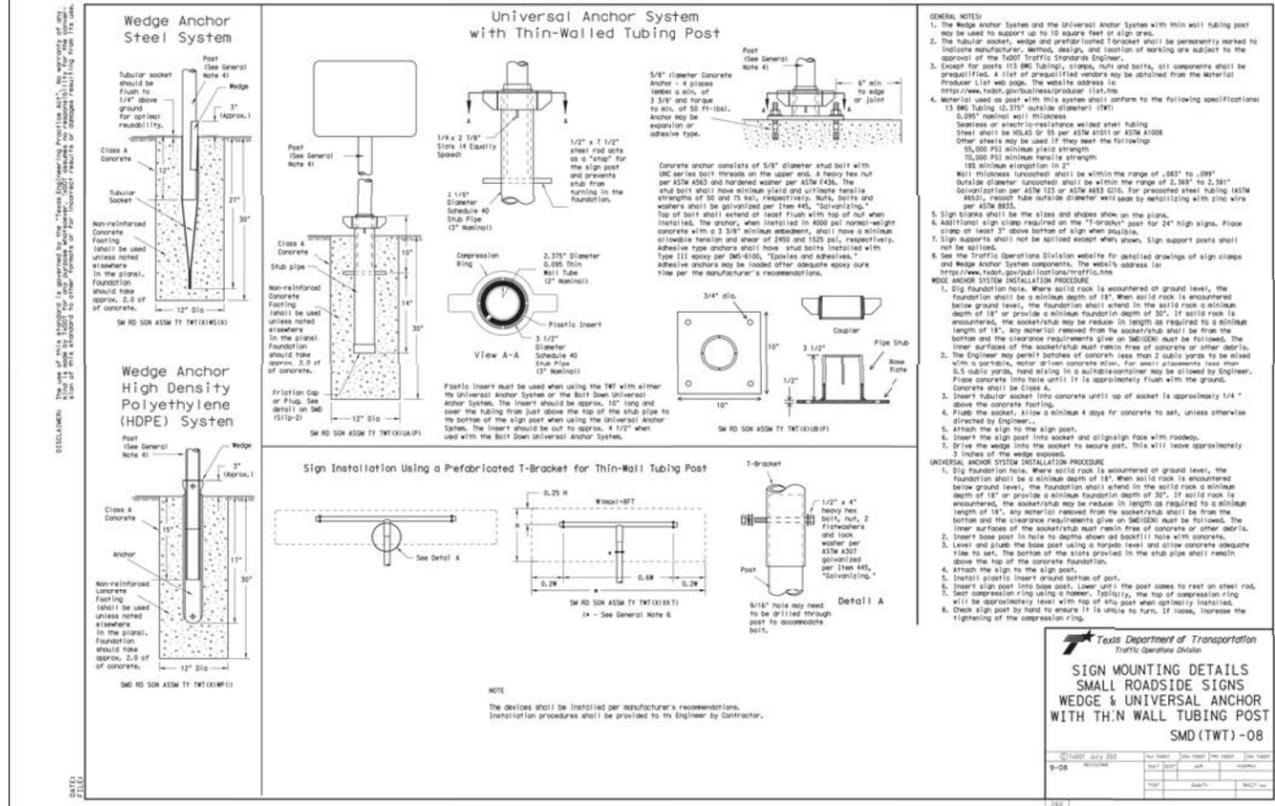
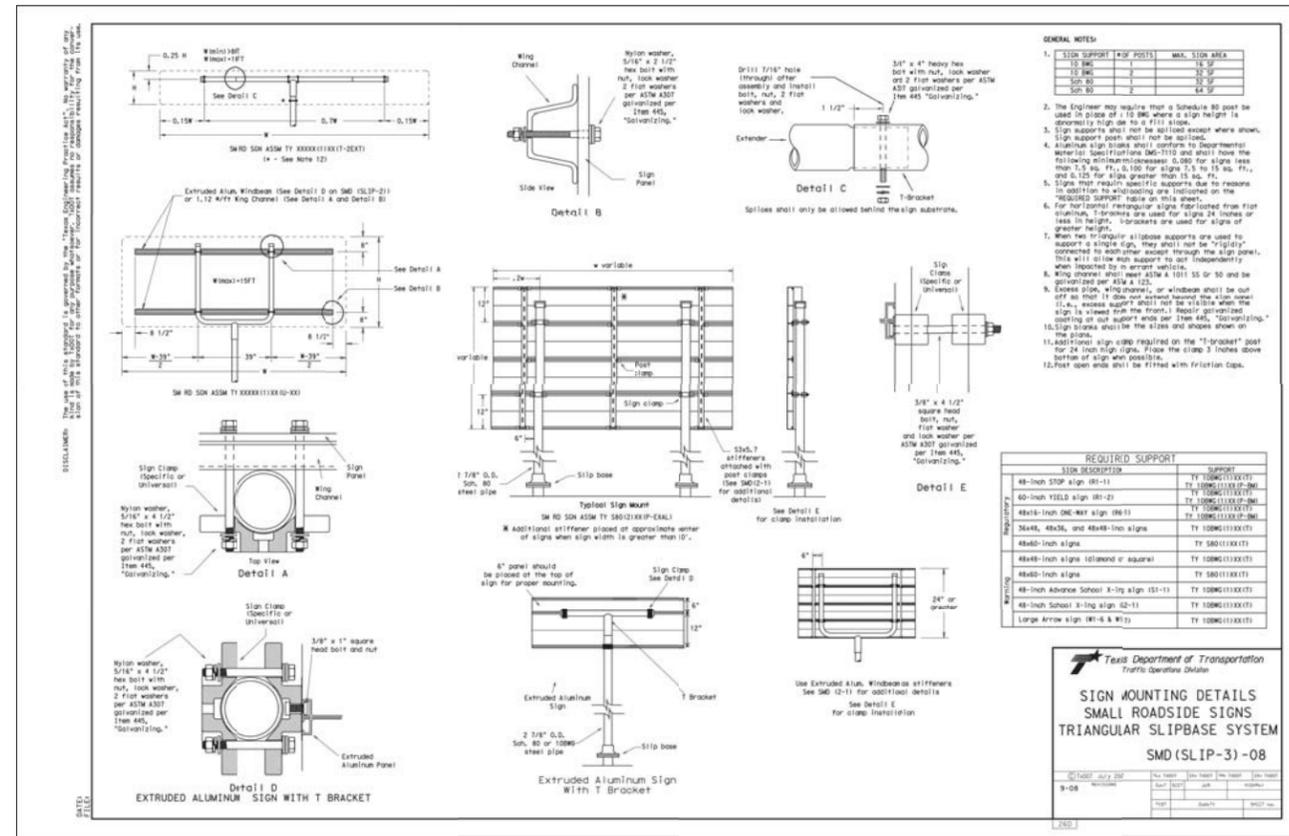
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Project No. S1234 Sheet No. _____
Date 05/2017
Sheet 02 OF 02 OF 21





ELM AVENUE SIDEWALK
TASA GRANT PROPOSAL
PEDESTRIAN FACILITIES CURB RAMPS
PED-12A

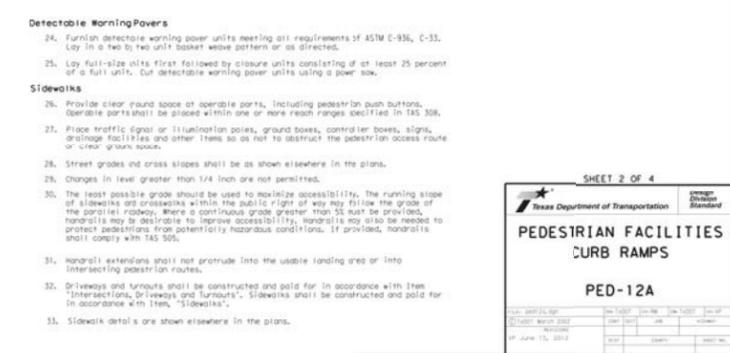
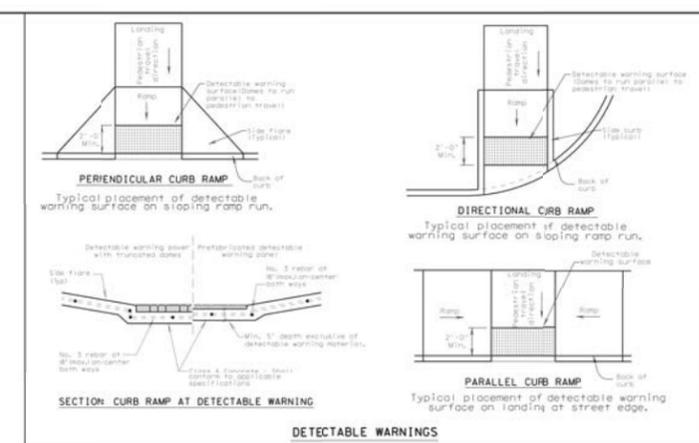
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PLANS

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Checked: J.R. Project Mgr.: P.N.R.
File Name: EngineeringProject.DWG

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Project No. S1234 Sheet No. _____
Date 05/2017
Sheet 01 OF 01 **20** OF 21



General Notes

1. Install a curb ramp or blended transition at each pedestrian street crossing.
2. All slopes shown are maximum allowable. Lesser slopes that will still drain properly should be used. Adjust curb ramp length or grade of approach sidewalk as directed.
3. The minimum sidewalk width is 5'. Where the sidewalk is adjacent to the back of curb, a 6' sidewalk width is desirable, where a 5' sidewalk cannot be provided due to site constraints, sidewalk width may be reduced to 4' for short distances. 5' x 5' posting area at intervals not to exceed 200' are required.
4. Landings shall be 5' x 5' minimum with a maximum 2% slope in any direction.
5. Manoeuvring space at the bottom of curb ramps shall be a minimum of 4' x 4' wholly contained within the crosswalk and wholly outside the parallel vehicular travel path.
6. Maximum allowable cross slope on sidewalk and curb ramp surfaces is 2%.
7. Provide flared plate when the substation circulation path crosses the curb ramp. Flared plates shall be sized at 100 mm/min, measured parallel to the curb. Returned curbs may be used only where pedestrian would not normally walk across the ramp, either because the adjacent surface is sloped, substantially obstructed, or otherwise protected.
8. Additional information on curb ramp location, design, light reflective value and feature may be found in the current edition of the Texas Accessibility Standards (TAS) and 16 TAC 16A.02.
9. To serve as a pedestrian refuge area, the median should be a minimum of 6' wide, measured from back of curbs. Medians should be designed to provide accessible passage over or through them.
10. Small channelization islands, which do not provide a minimum 5' x 5' landing at the top of curb ramps, shall be cut through level with the surface of the street.
11. Crosswalk dimensions, crosswalk markings and stop bar locations shall be as shown elsewhere in the plans. At intersections where crosswalk markings are not required, curb ramps shall be 5' x 5' minimum clearances unless otherwise directed.
12. Handrails are not required on curb ramps. Provide curb ramps wherever an accessible route crosses (penetrates) a curb.
13. Curb ramps and landings shall be constructed and paid for in accordance with Item 531 "Sidewalks".
14. Place concrete at a minimum depth of 5" for ramps, flares and landings, unless otherwise directed.
15. Provide a smooth transition where the curb ramps connect to the street.
16. Curbs shown on sheet within the limits of pavement are considered part of the curb ramp for payment, whether it is concrete curb, gutter, or combined curb and gutter.
17. Existing features that comply with TAS may remain in place unless otherwise shown on the plans.

Curbs Ramps

18. Curb ramps must contain a detectable warning surface that consists of raised truncated domes complying with Section 309 of the TAS. The surface must contrast visually with adjoining surfaces, including side flares. Furnish and install an approved non-slip surface on the ramp and on the detectable warning surface material adjacent to uncast-in-place concrete, unless specified elsewhere in the plans.
19. Detectable Warning Materials must meet TxDOT Departmental Materials Specification DM-430 and be listed on the Material Producer List. Install products in accordance with manufacturer's specifications.
20. Detectable warning surfaces must be slip resistant and not allow water to accumulate.
21. Detectable warning surfaces shall be a minimum of 24" in depth in the direction of pedestrian travel, and extend the full width of the curb ramp or landing where the pedestrian access route enters the street.
22. Detectable warning surfaces shall be located so that the edge nearest the curb line is at the back of curb. Align the rows of domes to be perpendicular to the grade break between the ramp run and the street. Detectable warning surfaces may be curved along the corner radius.
23. Shaded areas on Sheet 1 of 4 indicate the approximate location for the detectable warning surface for each curb ramp type.

Detectable Warning Pavers

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

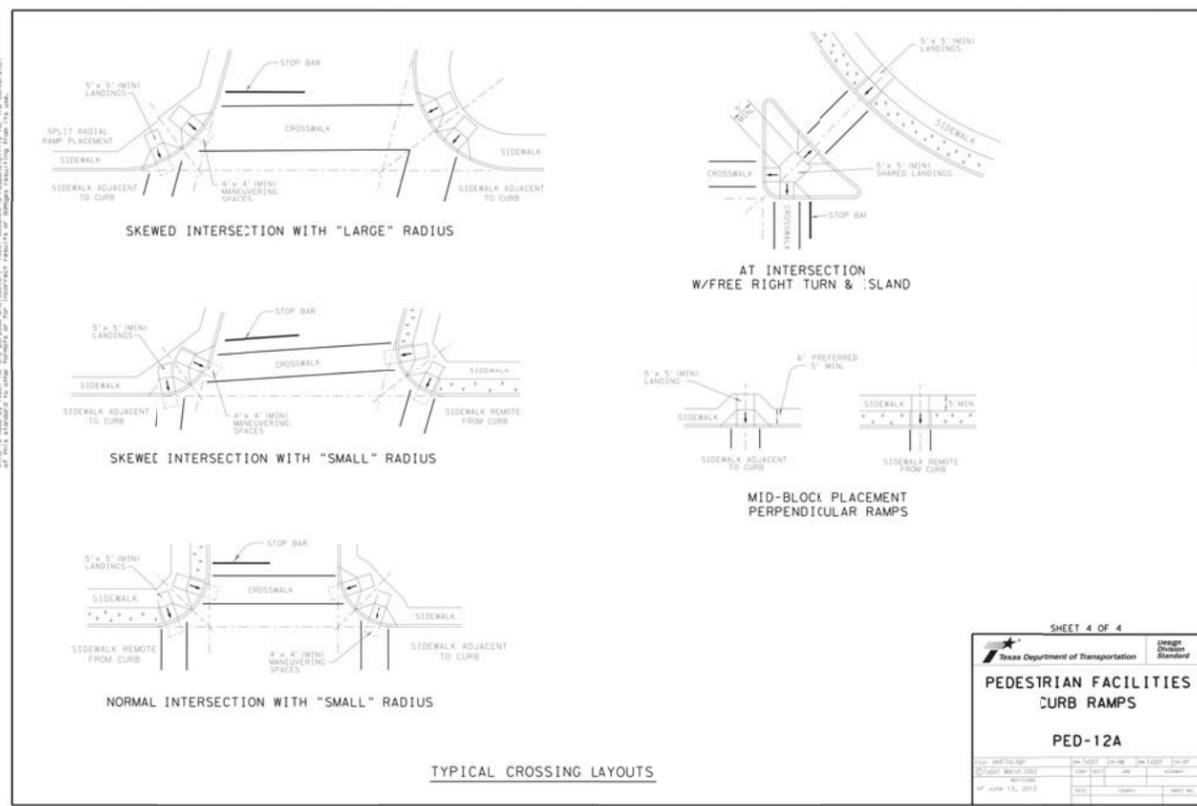
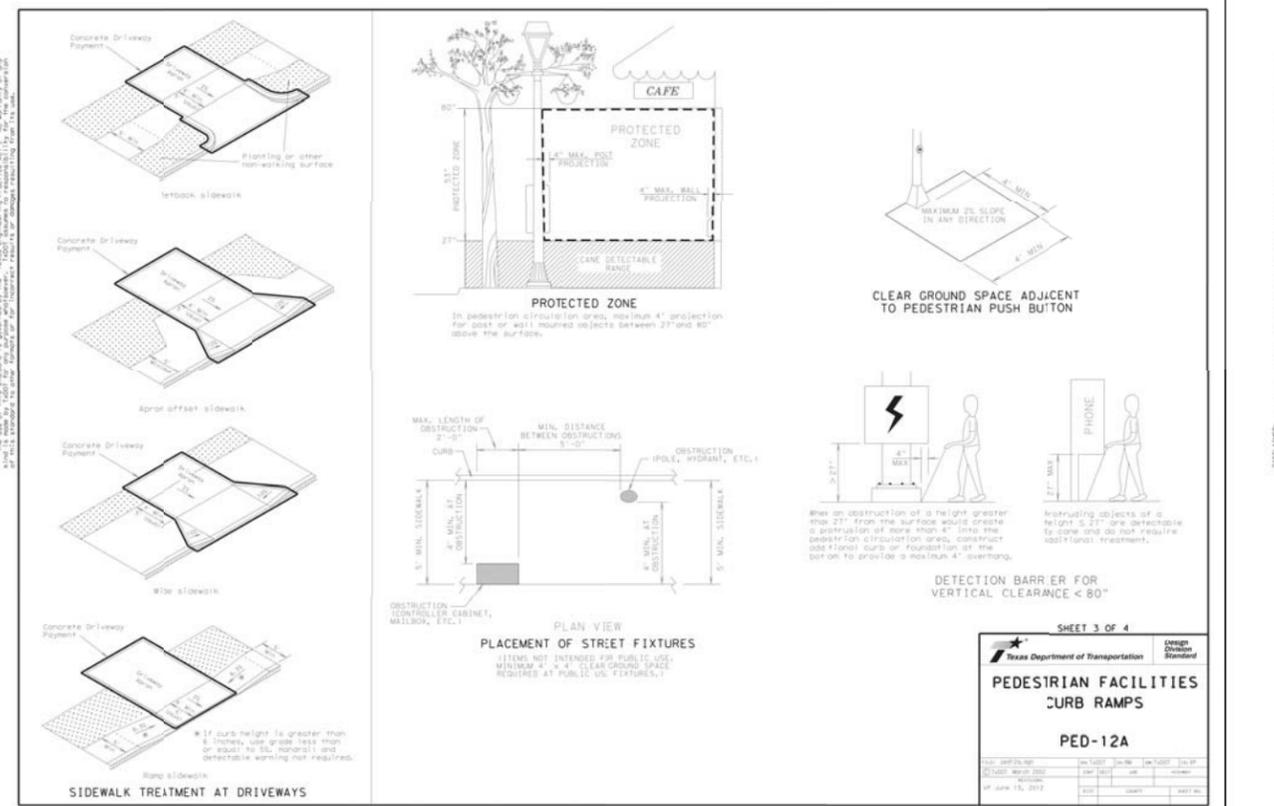
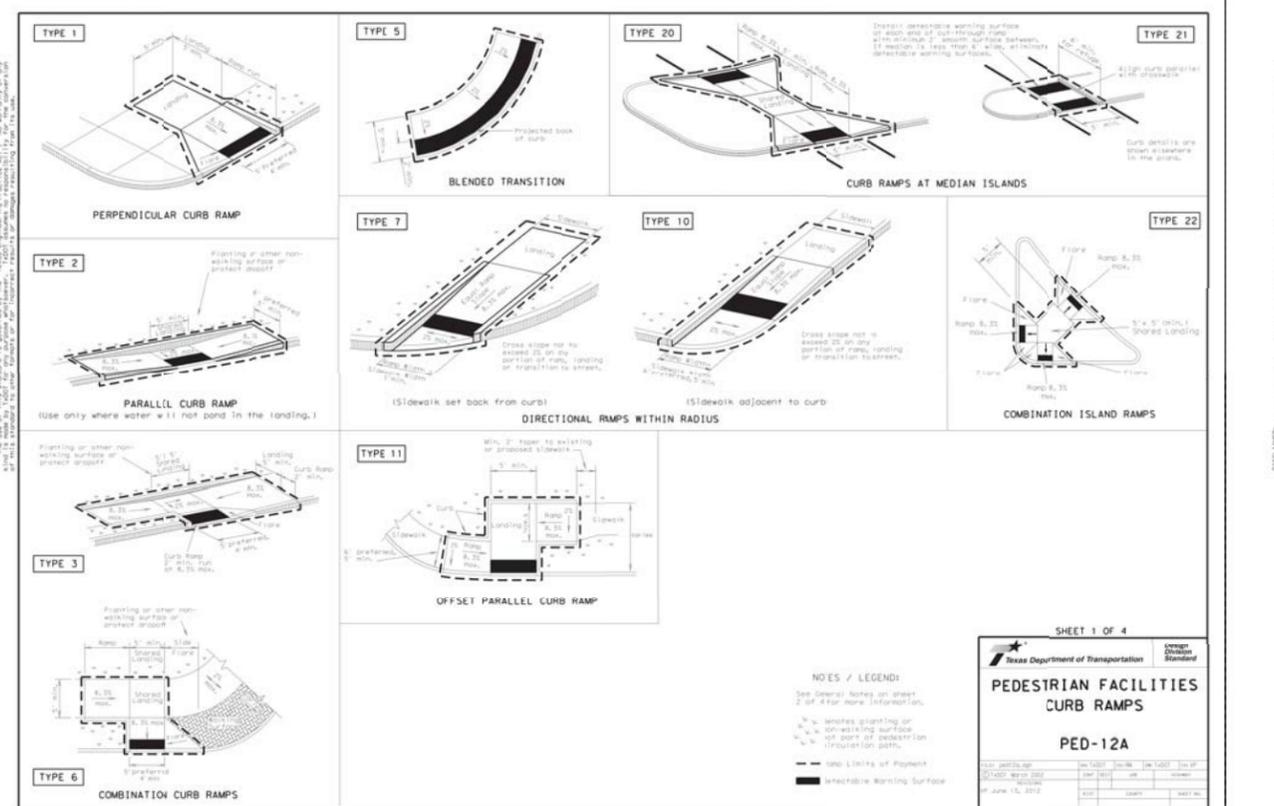
Sidewalks

26. Provide clear round space at operable parts, including pedestrian push buttons. Operable parts shall be placed within one or more reach ranges specified in TAS 308.
27. Place traffic signal or illumination poles, ground boxes, controller boxes, signal drainage facilities and other items so as not to obstruct the pedestrian access route or create ground space.
28. Street grades and cross slopes shall be as shown elsewhere in the plans.
29. Changes in level greater than 1/4 inch are not permitted.
30. The least possible grade should be used to maximize accessibility. The running slope of sidewalks and crosswalks within the public right of way may follow the grade of the parallel roadway, where a continuous grade greater than 5% must be provided, handrails may be desirable to improve accessibility. Handrails may also be needed to protect pedestrians from potentially hazardous conditions. If provided, handrails shall comply with TAS 306.
31. Handrail extensions shall not protrude into the usable landing area or into intersecting pedestrian routes.
32. Driveways and turnouts shall be constructed and paid for in accordance with Item "Intersections, Driveways and Turnouts". Sidewalks shall be constructed and paid for in accordance with Item "Sidewalks".
33. Sidewalk details are shown elsewhere in the plans.

NOES / LEGEND:

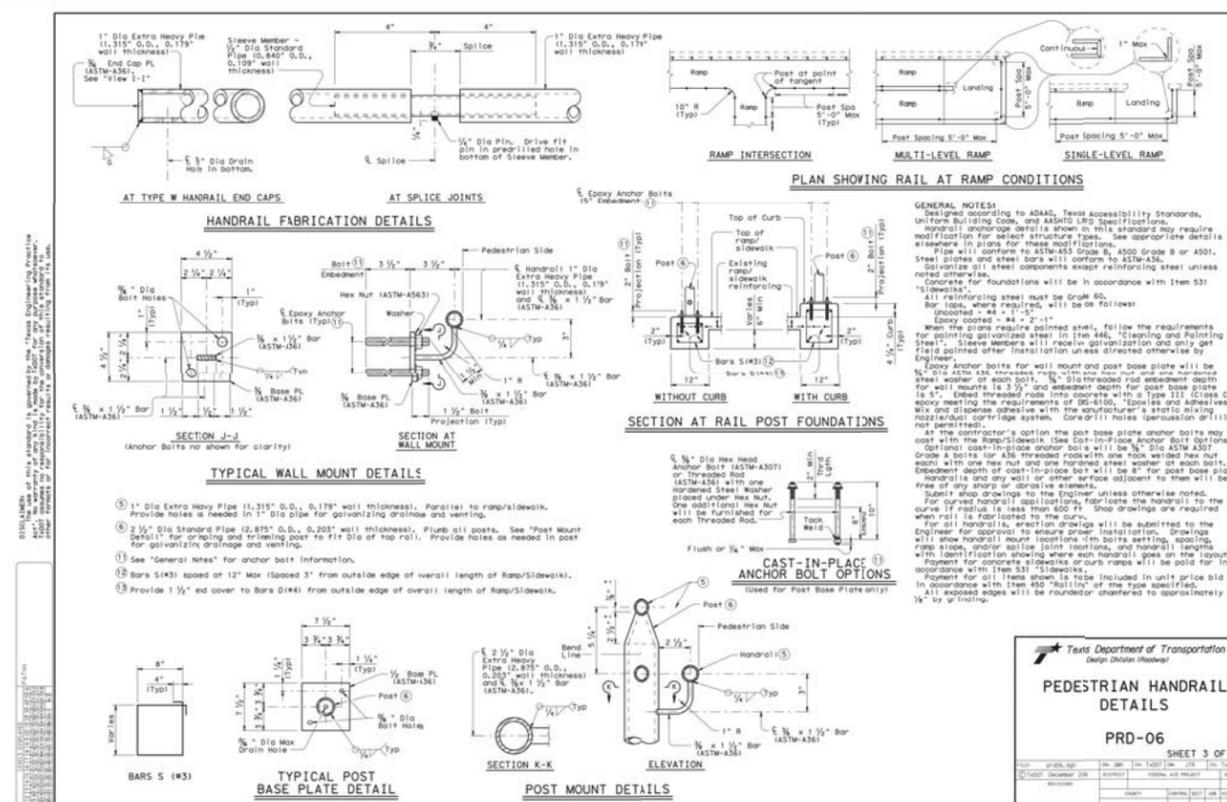
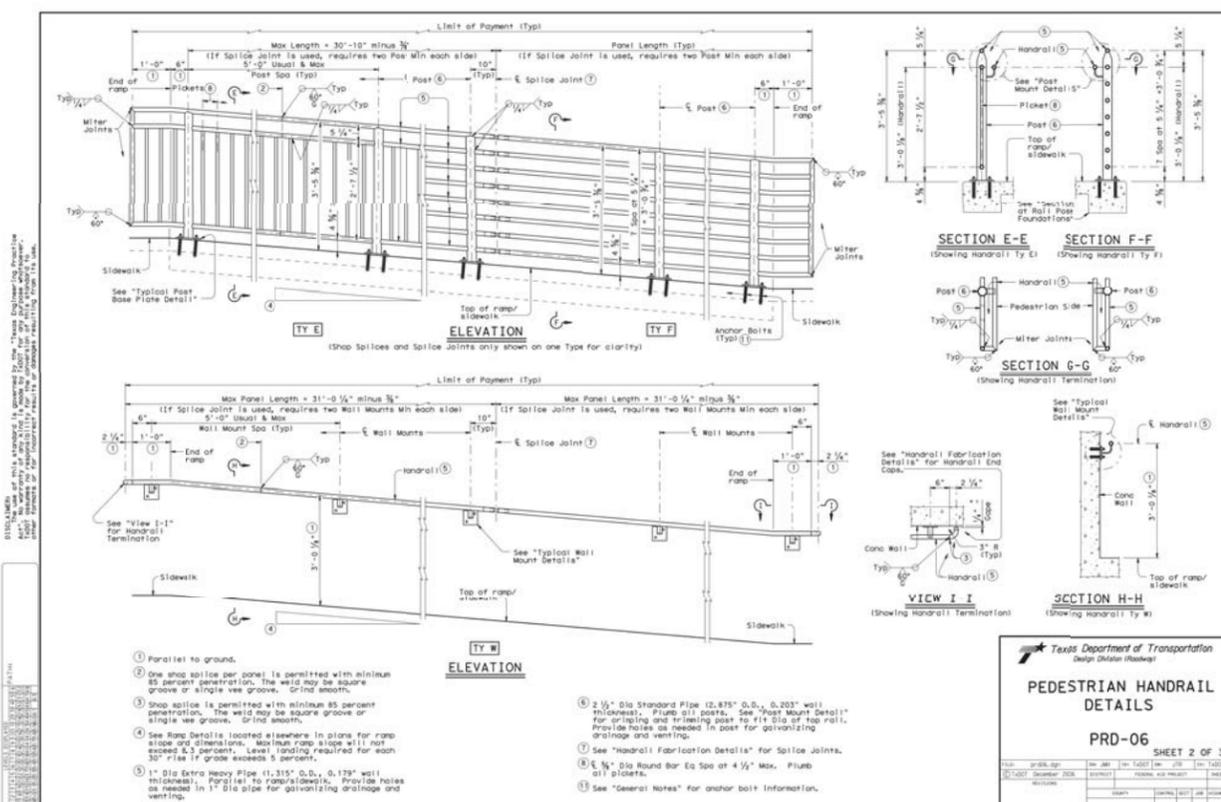
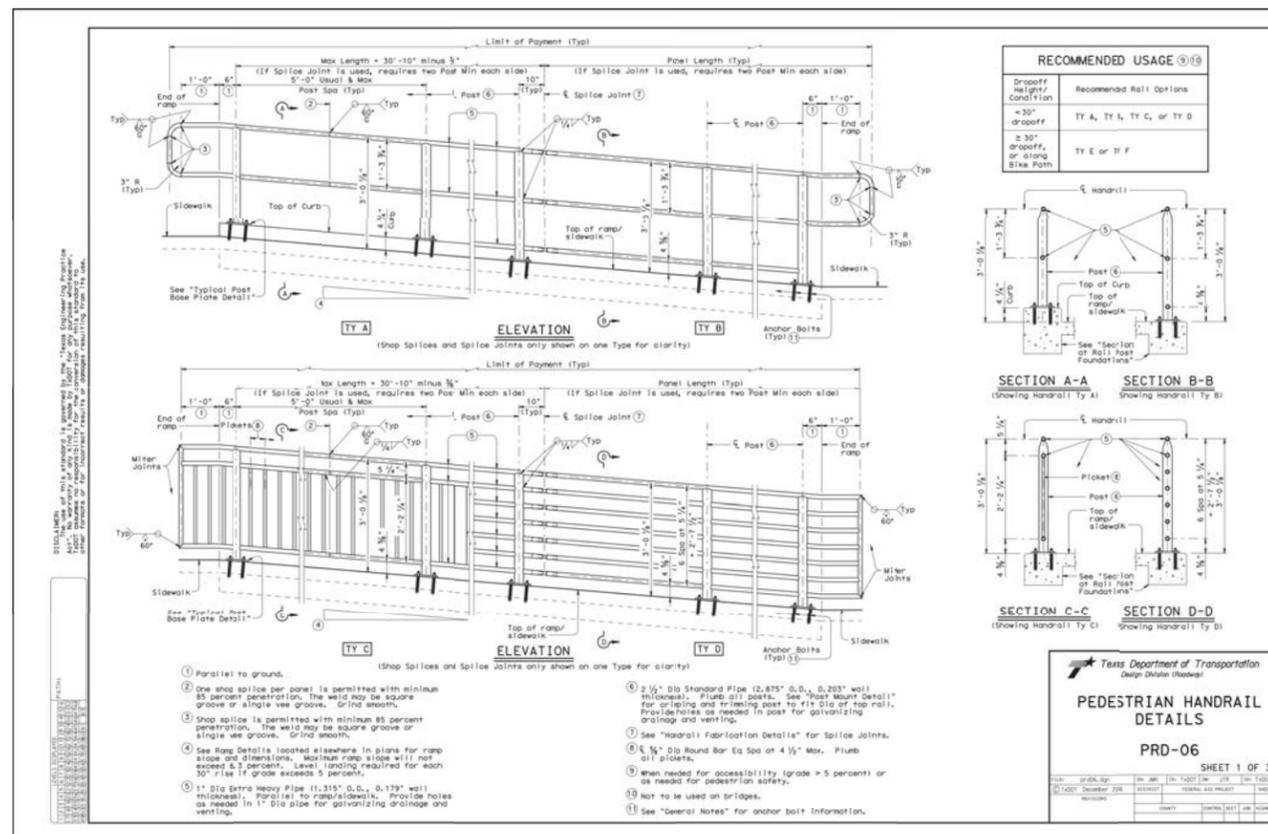
- See General Notes of sheet 2 of 4 for more information.
- shows lighting or planting or other non-walking surface or street asset
- shows existing surface or part of pedestrian circulation path
- shows Limits of Pavement
- indicates Warning Surface

SHEET 1 OF 4
Texas Department of Transportation
Design Division
PEDESTRIAN FACILITIES CURB RAMPS
PED-12A
DATE: 06/15/2012





ELM AVENUE SIDEWALK
TASA GRANT PROPOSAL
PEDESTRIAN HANDRAIL DETAILS
PRD-06



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Project No.	S1234	Sheet No.	21
Date	05/2017		
Sheet	01 OF 01		OF 21