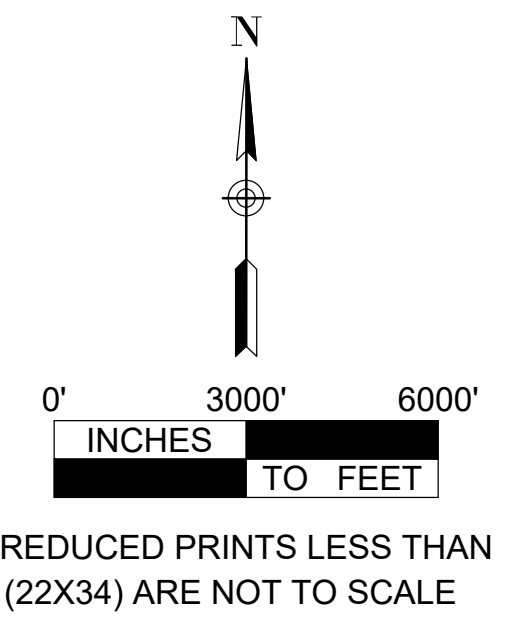
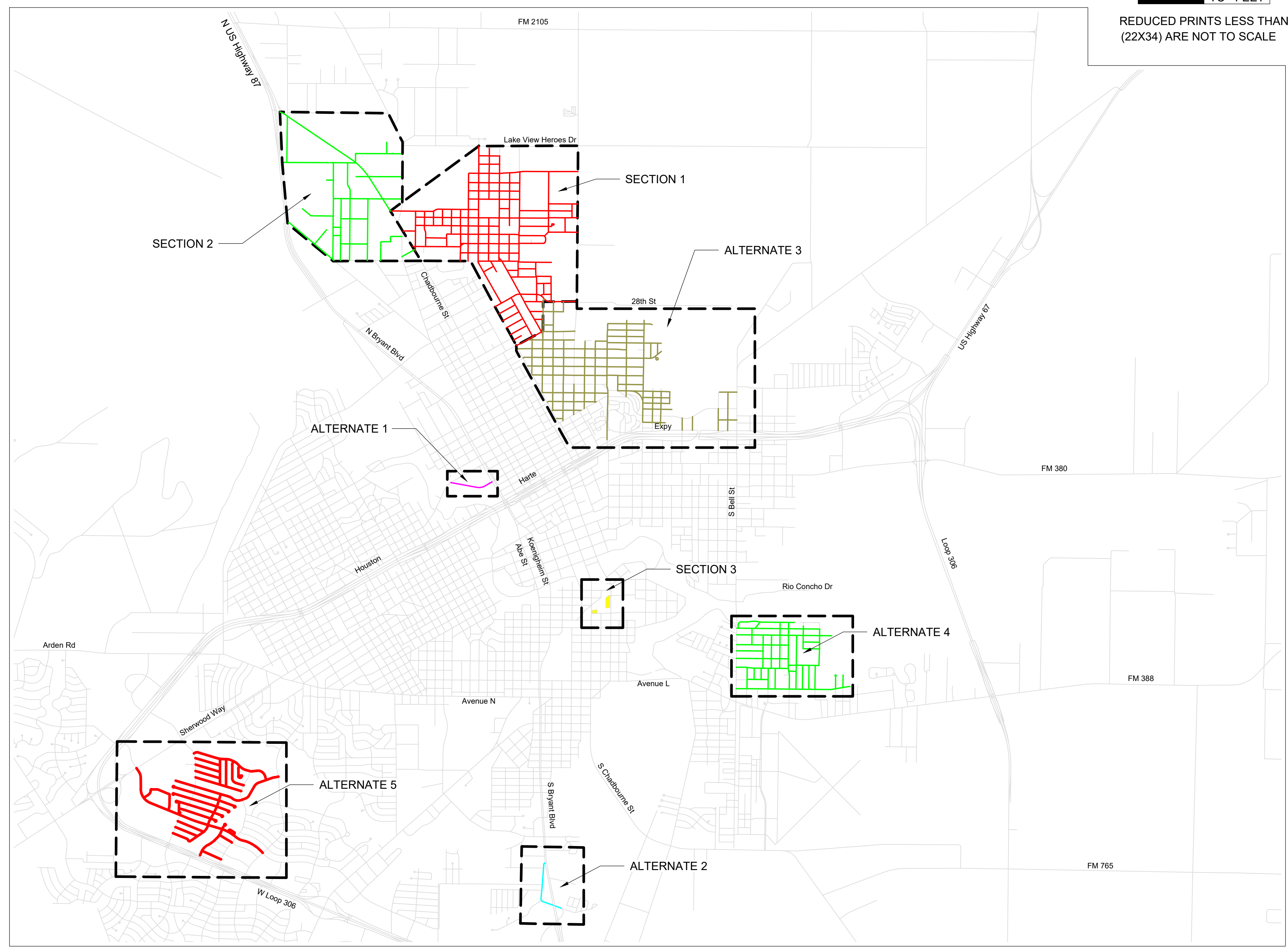


CITY OF SAN ANGELO, TEXAS  
 TOM GREEN COUNTY, TEXAS  
 PROJECT NO. 2019-3-593  
 PLANS OF PROPOSED  
 2020 SEALCOAT CONSTRUCTION  
 "FINAL SUBMITTAL"  
 MARCH 2020

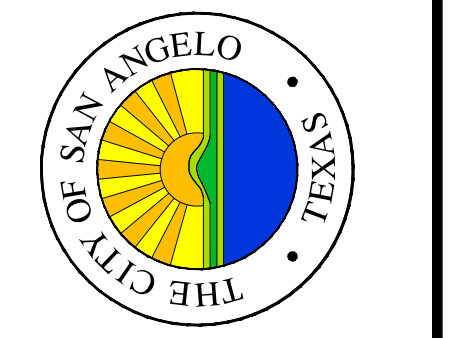


#	SHEET	DESCRIPTION
1.	C-000	COVER SHEET
2.	C-001	GENERAL NOTES
3.	C-002	STRIPING DETAILS 1
4.	C-003	STRIPING DETAILS 2
5.	C-004	STRIPING DETAILS 3
6.	C-005	ESTIMATED QUANTITIES
7.	C-400	2020 SEALCOAT PLAN SECTION 1
8.	C-401	2020 SEALCOAT PLAN SECTION 2
9.	C-402	2020 SEALCOAT PLAN SECTION 3
10.	C-403	2020 ALTERNATE 1
11.	C-404	2020 ALTERNATE 2
12.	C-405	2020 ALTERNATE 3
13.	C-406	2018 SEC.3 ALTERNATE 4
14.	C-407	2019 ALTERNATE 5



CITY MANAGER: DANIEL VALENZUELA  
 MAYOR: BRENDA GUNTER  
 COUNCIL MEMBERS:  
 SMD1 – TOMMY HIEBERT      SMD4 – LUCY GONZALES  
 SMD2 – TOM THOMPSON      SMD5 – LANE CARTER  
 SMD3 – HARRY THOMAS      SMD6 – BILLIE DEWITT  
 PUBLIC WORKS DEPARTMENT  
 ENGINEERING SERVICES DIVISION  
 CITY ENGINEER: LANCE OVERSTREET, P.E.

CITY OF SAN ANGELO  
 ENGINEERING SERVICES  
 CITY HALL ANNEX  
 301 W. BEAUREGARD AVE.  
 SAN ANGELO, TX. 76903  
 (325)657-4201  
 www.cosa.tx.us



DATE	DESCRIPTION	NO

The Seal appearing on this document and proposed by Riley L. Overstreet, P.E. 121782 on March 10, 2020

ES-02-20	COVER	2020 SEALCOAT CONSTRUCTION	PROJECT NO: 2019-3-593	DESIGN BY: MG	DRAWN BY: MT
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SCALE: 1"=3000'	DATE: 3/10/20	ARCHIVE NO: R-1956	SHEET NO. C-000
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**6. GENERAL NOTES**

THE GENERAL NOTES LISTED HEREIN ARE GROUPED BY GENERAL CATEGORY OF WORK, BUT ARE APPLICABLE TO ALL ITEMS OF WORK FOR THE ENTIRE PROJECT.

AS REFERRED TO HEREIN, THE CITY REFERS TO THE CITY OF SAN ANGELO, THE ENGINEER, AND/OR ANY OF THEIR DESIGNATED REPRESENTATIVES.

THE TOTAL BID SUBMITTED SHALL BE THE TOTAL COMPENSATION PROVIDED TO THE CONTRACTOR FOR THE WORK TO BE PERFORMED IN THIS CONTRACT. ANY WORK PROVIDED FOR HEREIN AND NOT PAID FOR DIRECTLY SHALL BE CONSIDERED SUBSIDIARY TO THE VARIOUS BID ITEMS OF THE CONTRACT AND NO DIRECT PAYMENT SHALL BE MADE.

THE CONTRACTOR SHALL BE REQUIRED TO MAINTAIN ALL AREAS THROUGHOUT THE DURATION OF THE PROJECT. ALL REQUIRED MAINTENANCE OF THE COMPLETED WORK SHALL BE THE CONTRACTOR'S RESPONSIBILITY AND SHALL BE CONSIDERED A PART OF THIS CONTRACT AND AT THE CONTRACTOR'S EXPENSE UNTIL FINAL ACCEPTANCE BY THE CITY.

THE CONTRACTOR SHALL SUBMIT IN WRITING FOR APPROVAL THE PROCEDURE TO BE USED FOR HANDLING PUBLIC CLAIMS AND COMPLAINTS INCLUDING THE TIME FRAME IN WHICH THE CONTRACTOR IS REQUIRED TO RESPOND TO COMPLAINTS.

PRIOR TO BEGINNING WORK, THE CONTRACTOR SHALL SUPPLY A TOLL FREE NUMBER OF THE INSURANCE COMPANY OR CONTRACTOR'S PERSON RESPONSIBLE FOR PROCESSING COMPLAINTS AND CLAIMS.

SIGNS, MARKINGS, DELINEATORS AND SIGNALS CONFORM TO DETAILS SHOWN ON THE PLANS, THE TMUTCD, THE COMPLIANT WORK ZONE TRAFFIC CONTROL DEVICE LIST (CWZTCDL), THE TXDOT'S STANDARD SHEETS, "STANDARD HIGHWAY SIGN DESIGNS FOR TEXAS" AND "SIGN CREW FIELD BOOK." THESE PUBLICATIONS ARE AVAILABLE FROM TXDOT'S TRAFFIC OPERATIONS DIVISION.

LOCATE THE PROJECT BULLETIN BOARD AT AN APPROVED LOCATION WITHIN THE PROJECT LIMITS SUCH AS AT A FIELD OFFICE, STAGING AREA, OR STOCKPILE, AND MAKE ACCESSIBLE TO THE PUBLIC AT ALL TIMES. DO NOT REMOVE THE BULLETIN BOARD FROM THE PROJECT UNTIL APPROVED. IF A CONSTRUCTION SITE NOTICE IS REQUIRED FOR THE PROJECT, POST A COPY AT EACH GEOGRAPHICALLY SEPARATED WORK LOCATION.

ALL MOTOR VEHICLE EQUIPMENT HAVING AN OBSTRUCTED VIEW TO THE REAR SHALL HAVE A REVERSE SIGNAL ALARM AUDIBLE ABOVE THE SURROUNDING NOISE LEVEL.

**INSTRUCTIONS TO BIDDERS**

FOR QUESTIONS CALL:

MITCHELL GATLIN, E.I.T.  
301 W. BEAUREGARD AVE.  
SAN ANGELO, TEXAS 76903  
(325) 657-4201  
mitchell.gatlin@cosatx.us

**6.1. CONTRACT TIME, PROSECUTION, AND PROGRESS**

THE SEALCOAT SEASON SHALL BE FROM MAY 15 TO AUGUST 30 OF THE PROJECT YEAR TO COMPLETE PAVING OPERATIONS.

THE DATES OF PAVING OPERATIONS AND DATES OF FULL PROJECT COMPLETION MAY DIFFER. THE CONTRACTOR SHALL HAVE FROM MAY 15 TO AUGUST 30 TO COMPLETE PAVING OPERATIONS AND NINETY (90) CALENDAR DAYS TO COMPLETE THE PROJECT. PROJECT TASKS OTHER THAN PAVING OPERATIONS MAY BE COMPLETED AFTER AUGUST 30. FOR EACH CALENDAR DAY PAVING OPERATIONS REMAIN INCOMPLETE AFTER AUGUST 30 AND/OR EACH CALENDAR DAY OTHER PROJECT TASKS REMAIN INCOMPLETE AFTER NINETY (90) CALENDAR DAYS, AN AMOUNT OF ONE THOUSAND FIFTY DOLLARS AND ZERO CENTS (\$1,050.00) PER CALENDAR DAY SHALL BE ASSESSED AND DEDUCTED FROM THE MONIES DUE OR TO BECOME DUE THE CONTRACTOR, NOT AS A PENALTY, BUT AS LIQUIDATED DAMAGES. WORK ON SUNDAYS AND THE ELEVEN LEGAL HOLIDAYS: NEW YEAR'S DAY, MARTIN LUTHER KING DAY, GOOD FRIDAY, MEMORIAL DAY, INDEPENDENCE DAY, LABOR DAY, VETERAN'S DAY, THANKSGIVING DAY AND DAY AFTER, CHRISTMAS EVE AND CHRISTMAS DAY.

THE CONTRACTOR SHALL NOT CONDUCT ANY OPERATIONS OR PERFORM ANY WORK PERTAINING TO THE PROJECT BEFORE SUNRISE AND THIRTY (30) MINUTES BEFORE SUNSET OR AFTER.

DO NOT APPLY ASPHALT LATER THAN ONE (1) HOUR BEFORE SUNSET UNLESS OTHERWISE APPROVED.

THE CONTRACTOR SHALL NOTIFY THE ENGINEER AT LEASE FORTY-EIGHT (48) HOURS PRIOR TO COMMENCEMENT OF WORK.

**6.2. MEASUREMENT**

THE CONTRACTOR SHALL PROVIDE THE CITY WITH THE CALIBRATION TEST RESULTS FROM THE DISTRIBUTOR MACHINE PRIOR TO COMMENCEMENT OF WORK.

ASPHALT MATERIAL WILL BE MEASURED AT THE APPLIED TEMPERATURE BY STRAPPING THE TANK BEFORE AND AFTER ROAD APPLICATION AND DETERMINING THE NET VOLUME IN GALLONS USED, AS DIRECTED, IN THE ACCEPTED SURFACE TREATMENT.

AGGREGATE WILL BE MEASURED BY THE CUBIC YARD IN THE TRUCKS APPLIED ON THE ROAD. THE ENGINEER MAY REQUIRE LOADED AGGREGATE TO BE STRUCK OFF FOR ACCURATE MEASUREMENT. UNLESS OTHERWISE AUTHORIZED, USE TRUCKS OF UNIFORM CAPACITY TO DELIVER THE AGGREGATE. PROVIDE DOCUMENTATION SHOWING MEASUREMENTS AND CALCULATION IN CUBIC YARDS. CLEARLY MARK THE CALIBRATED LEVEL.

**6.3. PAYMENT**

THE CITY WILL PAY THE CONTRACTOR MONTHLY BASED UPON THE WORK PERFORMED THE PREVIOUS MONTH. THE AMOUNT DUE THE CONTRACTOR FOR THAT MONTH WILL BE NEGOTIATED BETWEEN THE CONTRACTOR AND THE CITY. IN THE EVENT OF A DISPUTE, THE CITY'S ESTIMATE SHALL BE FINAL. FROM THE AMOUNT DUE EACH MONTH, THE CITY WILL RETAIN FIVE PERCENT (5%) UNTIL SATISFACTORY COMPLETION OF THE ENTIRE WORK. THE FIVE PERCENT (5%) RETAINAGE WILL BE PAID TO THE CONTRACTOR AS A FINAL PAYMENT, THIRTY (30) DAYS AFTER ALL WORK HAS BEEN COMPLETED AND ACCEPTED BY THE CITY ENGINEER.

WITH PRIOR APPROVAL OF THE CITY, PAYMENT WILL BE MADE FOR MATERIAL ON HAND, PROVIDED THE MATERIAL IS STORED ON THE PROJECT OR AT AN APPROVED LOCATION IN A MANNER ACCEPTABLE TO THE CITY. PAYMENT WILL BE MADE WITH THE NEXT MONTHLY ESTIMATE PAYMENT, PROVIDED THE CONTRACTOR PRESENTS A TRUE AND VALID PAID RECEIPT ACCEPTABLE TO THE CITY FOR THE MATERIAL.

**6.4. QUANTITIES**

THE CONTRACTOR SHALL SATISFY HIMSELF THAT ALL QUANTITIES OF MATERIAL AND WORK, WHETHER PAID FOR DIRECTLY OR CONSIDERED SUBSIDIARY TO THE WORK, ARE ADEQUATE FOR COMPLETION OF THE WORK PRIOR TO BID SUBMITTAL. THE CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH THE LOCATION AND THE WORK TO BE PERFORMED UNDER THIS CONTRACT. THE CONTRACTOR SHALL VERIFY BOTH THE QUANTITIES OF MATERIALS AND WORK IN THE PLANS AND IN THE BIDDING DOCUMENTS. SUBMITTAL OF A BID SHALL BE CONSIDERED PROOF THAT THE CONTRACTOR HAS COMPLIED WITH THIS ITEM AND ALL ITEMS CONTAINED HEREIN. ANY DISCREPANCIES FOUND IN THE CONSTRUCTION PLANS AND/OR CONSTRUCTION SPECIFICATIONS SHALL BE CALLED TO THE ATTENTION OF THE ENGINEER PRIOR TO BID SUBMITTAL.

THE CONTRACTOR SHALL PERFORM A QUANTITY CALCULATION FROM THE CONSTRUCTION PLANS TO VERIFY THOSE QUANTITIES ARE IN AGREEMENT WITH THOSE CONTAINED IN THE BID ESTIMATE. QUANTITY DISAGREEMENT SHALL NOT BE A BASIS FOR A DISPUTE OR CLAIM BEFORE, DURING, OR AFTER CONSTRUCTION.

**6.5. SURFACE TREATMENTS**

ALL MATERIALS SHALL BE OF THE TYPE(S) AND GRADE(S) SHOWN AND SHALL CONFORM TO THE PERTINENT MATERIAL REQUIREMENTS OF THE FOLLOWING ITEMS AS REFERENCED IN THE TXDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MAINTENANCE OF HIGHWAYS, STREETS, AND BRIDGES, LATEST REVISION.

ALL SURFACE TREATMENTS SHALL CONFORM TO TXDOT ITEM 316, "SURFACE TREATMENTS."

ASPHALTS SHALL CONFORM TO TXDOT ITEM 300, "ASPHALTS, OILS, AND EMULSIONS."

AGGREGATES SHALL CONFORM TO TXDOT ITEM 302, "AGGREGATE FOR SURFACE TREATMENTS."

THE CONTRACTOR SHALL PREPARE WORK AREAS BY REMOVING ALL VEGETATION FROM THE PAVEMENT SURFACE, REMOVING EXISTING RAISED PAVEMENT MARKERS, AND ANY OTHER DEBRIS ON THE PAVEMENT SURFACE. THE CONTRACTOR SHALL SWEEP THE PAVEMENT SURFACE NO SOONER THAN 3 DAYS BEFORE SEALCOATING TO REMOVE DIRT, DUST, OR OTHER DELETERIOUS MATTER. ALL MATERIAL SHALL BE REMOVED FROM THE SITE COMPLETELY AND SHALL NOT BE PLACED, EVEN TEMPORARILY, ON CURBS, YARDS, RIGHT-OF-WAYS OR OTHER AREAS. THIS WORK WILL NOT BE PAID FOR DIRECTLY, BUT SHALL BE SUBSIDIARY TO THE VARIOUS BID ITEMS OF THE CONTRACT. ALL MATERIALS REMOVED FROM THE PROJECT ARE THE PROPERTY OF THE CONTRACTOR.

THE CONTRACTOR SHALL PROTECT EXISTING MANHOLES AND VALVE BOXES BY PLACING PAPER WITH AGGREGATE AND A TEMPORARY RAISED PAVEMENT MARKER TO MARK THE LOCATION OF THE MANHOLE OR VALVE BOX FOR REMOVAL OF PAPER AFTER SEALCOATING OPERATIONS. THIS WORK WILL NOT BE PAID FOR DIRECTLY, BUT SHALL BE SUBSIDIARY TO THE VARIOUS BID ITEMS OF THE CONTRACT.

COVER OR PROTECT THE FOLLOWING, AS APPLICABLE: RAILINGS, BRIDGE JOINTS, UTILITY COVERS, RAILROAD CROSSINGS, AND EXPOSED CONCRETE SUCH AS CURBS, BRIDGE APPROACH SLABS, BRIDGE DECKS, SIDEWALKS AND CONCRETE PAVEMENT.

DO NOT PLACE WET AGGREGATE.

USE MEDIUM PNEUMATIC ROLLERS THAT MEET THE REQUIREMENTS OF ITEM 201, "ROLLING." IF TRAP ROCK AGGREGATE IS USED, THE ENGINEER MAY REQUIRE STEEL WHEEL ROLLERS.

PROVIDE A MINIMUM OF FOUR ROLLERS.

IF THE ENGINEER SEES A PROBLEM WITH UNEVEN APPLICATION RATES FROM THE ASPHALT NOZZLES, THE TRAVERSE DISTRIBUTION TEST, TEX-922-K, PART III MAY BE PERFORMED AND WITNESSED BY THE ENGINEER.

FURNISH SIMILAR COLOR AGGREGATE FROM A COMMON SOURCE FOR INDIVIDUAL ROADWAYS.

THE CONTRACTOR SHALL STOCKPILE MATERIALS AT THE LOCATION SHOWN ON THE PLANS OR AS APPROVED BY THE ENGINEER. LOCATE STOCKPILE SITE A MINIMUM OF 30 FEET FROM THE ROADWAY UNLESS OTHERWISE AUTHORIZED. PLACE STOCKPILES IN A MANNER THAT WILL NOT INTERFERE WITH TRAFFIC OR SIGHT DISTANCE. KEEP STOCKPILE CLEAR OF DEBRIS AND VEGETATIVE GROWTH. THE CONTRACTOR SHALL REMOVE ANY REMAINING AGGREGATE FROM STOCKPILE LOCATIONS WITHIN 30 DAYS OF FINAL ACCEPTANCE OF THE PROJECT. ANY AGGREGATE LEFT PAST 30 DAYS WILL BECOME CITY PROPERTY.

THE ASPHALT RATE SHALL VARY BETWEEN 0.38 - 0.40 GAL/SY, WITH A ROCK RATE OF 110 SY/CY BUT MAY VARY AS DIRECTED BY THE ENGINEER.

FURNISH AGGREGATE FROM THE SAME SOURCE UNLESS OTHERWISE APPROVED.

ALL LOCATIONS ARE A SINGLE COURSE APPLICATION UNLESS OTHERWISE NOTED.

PAPER OR OTHER APPROVED MATERIAL SHALL BE USED TO PREVENT OVERLAPPING OF TRAVERSE JOINTS.

THE CONTRACTOR SHALL MAINTAIN THE SURFACE UNTIL THE WORK IS ACCEPTED BY THE CITY. LACK OF UNIFORMITY, SUCH AS SPOTS WHERE COVERAGE IS NOT COMPLETE, SHALL BE CORRECTED BY HAND SPOTTING OR OTHER APPROVED METHOD. ALL FAT OR BLEEDING SURFACES SHALL BE COVERED WITH APPROVED MATERIAL IN SUCH A MANNER THAT THE ASPHALTIC MATERIAL WILL NOT ADHERE TO OR BE PICKED UP BY THE TIRES OF VEHICLES. UPON NOTIFICATION, THE CONTRACTOR SHALL MAKE REPAIRS WITHIN 10 DAYS. THESE REPAIRS INCLUDE, BUT ARE NOT LIMITED TO PATCHES AND REPAIR OF BLEEDING AREAS. IF THESE CORRECTIONS ARE NOT COMPLETED IN THAT TIME, ALL OTHER WORK WILL CEASE, BUT TIME CHARGES WILL CONTINUE AS DIRECTED.

**6.6. STREET SWEEPING**

THE CONTRACTOR SHALL SWEEP PAVED AREAS ONE WEEK AND AGAIN ONE MONTH AFTER PAVING. THE CONTRACTOR SHALL REMOVE EXCESS OR LOOSE AGGREGATE FROM PAVED AREAS, DRIVEWAYS, SIDEWALKS, CURBS, AND RESIDENTIAL YARDS ACCEPTABLE TO THE ENGINEER. STREET SWEEPING OPERATIONS SHALL NOT IN ANY WAY ADVERSELY AFFECT THE FINISHED PAVED SURFACE AND WILL NOT BE PAID FOR DIRECTLY BUT WILL BE SUBSIDIARY TO ITEM 316.

**6.7. TRAFFIC CONTROL PLAN**

THE CONTRACTOR SHALL MAINTAIN TEMPORARY TRAFFIC CONTROL MEASURES THROUGHOUT THE PROJECT THAT ARE CONSTANTLY IN FULL COMPLIANCE WITH THE CURRENT VERSION OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).

THE CONTRACTOR SHALL USE THE PROVIDED TRAFFIC CONTROL PLANS OR PROVIDE A MUTCD COMPLIANT ENGINEERED TRAFFIC CONTROL PLAN TO THE CITY AND BE APPROVED BY THE CITY BEFORE ANY WORK COMMENCES.

ALL STREET SEGMENTS AND INTERSECTING STREETS SHALL HAVE PROJECT BARRICADES IN COMPLIANCE WITH TXDOT'S LATEST VERSION OF "BARRICADE AND CONSTRUCTION GENERAL NOTES AND REQUIREMENTS" IN PLACE BEFORE WORK BEGINS. THE CONTRACTOR SHALL UTILIZE TXDOT'S LATEST STANDARD TRAFFIC CONTROL PLAN SHEETS DURING PAVING OPERATIONS.

THE CITY MAY ORDER ALL WORK STOPPED IF THE CONTRACTOR FAILS TO COMPLY WITH THE TRAFFIC CONTROL PLAN.

THE CONTRACTOR SHALL MAINTAIN TWO-WAY TRAFFIC AT ALL TIMES DURING CONSTRUCTION. WHEN PAVING OPERATIONS REQUIRE A LANE CLOSURE THE CONTRACTOR SHALL PROVIDE CONES, VERTICAL PANELS, DRUMS, SIGNS, FLAGGERS, AND FLASHING ARROW PANELS TO ROUTE TRAFFIC. IF TWO-WAY TRAFFIC OPERATIONS ARE NOT PRACTICAL, THE CONTRACTOR SHALL UTILIZE A PILOT CAR OPERATION.

FLAGGERS ARE REQUIRED AT ALL INTERSECTIONS.

PROVIDE FLAGGERS AT SUCH TIMES AND LOCATIONS AS DIRECTED TO ENSURE THE SAFE PASSAGE OF TRAFFIC THROUGH CONSTRUCTION AREAS. WHEN FLAGGERS ARE USED TO CONTROL TRAFFIC, FURNISH AND INSTALL SIGNS CW200-7 "FLAGGER SYMBOL", CW20-7aD "FLAGGER AHEAD", AND CW3-4 "BE PREPARED TO STOP". FLAGGERS SHALL USE 24 INCH STOP/SLOW PADDLES.

REMOVE TYPE III BARRICADES AND PLASTIC DRUMS UPON DEPLETION OF A STOCKPILE. AT CONTRACTOR'S OPTION, PLACE THESE ITEMS IN AN AREA AWAY FROM TRAFFIC AT LEASE THIRTY (30) FEET.

OMIT ADVANCE WARNING SIGNS, FURNISH, AND INSTALL REDUCED SIZE SIGNS CW20-1 "ROAD WORK AHEAD" MOUNTED BACK TO BACK WITH REDUCED SIZE SIGNS G20-2 "END ROAD WORK" SIGNS AT INTERSECTING CITY STREETS.

THE CONTRACTOR SHALL FOLLOW TXDOT'S MOBILE OPERATIONS STANDARD TRAFFIC CONTROL PLAN SHEETS FOR REMOVING EXISTING RAISED PAVEMENT MARKERS PLACING WORK ZONE PAVEMENT MARKERS, REMOVING WORK ZONE PAVEMENT MARKERS, STRIPING OPERATIONS, AND PLACING RAISED PAVEMENT MARKERS.

THE CONTRACTOR SHALL MAKE EVERY EFFORT TO ALLOW PROPERTY OWNERS AND BUSINESSES ACCESS AT ALL TIMES.

THE CONTRACTOR SHALL NOTIFY ALL ADJACENT PROPERTY OWNERS AND BUSINESSES OF LANE CLOSURES, STREET CLOSURES, AND OF A PROPOSED CONSTRUCTION SCHEDULE AT LEAST SEVEN (7) DAYS BEFORE ANY PAVING OPERATIONS BEGIN.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING SAFE ACCESS FOR THE DELIVERY OF MAIL BY THE U.S. POSTAL SERVICE.

THE CONTRACTOR SHALL INSPECT AND CORRECT TRAFFIC CONTROL DEFICIENCIES EACH DAY THROUGHOUT THE DURATION OF THE CONTRACT.

THE CONTRACTOR SHALL PROVIDE THE CONTRACT INFORMATION OF AT LEAST ONE EMPLOYEE ON CALL NIGHTS AND WEEKENDS (OR ANY OTHER TIME THAT WORK IS NOT IN PROGRESS) FOR MAINTENANCE OF SIGNS AND TRAFFIC CONTROL DEVICES.

**6.8. WORK ZONE PAVEMENT MARKINGS**

ALL PAVEMENT MARKINGS SHALL CONFORM TO TXDOT ITEM 662, "WORK ZONE PAVEMENT MARKINGS."

USE TEMPORARY FLEXIBLE-REFLECTIVE ROADWAY MARKER TABS TO DELINEATE STOP BARS, CROSSWALKS, SYMBOLS, OR WORDS.

USE THE TEMPORARY FLEXIBLE-REFLECTIVE ROADWAY MARKER TAB CONFIGURATION SHOWN ON STANDARD SHEET TCP(7-1) FOR CONVENTIONAL ROADWAYS.

THE CONTRACTOR WILL BE RESPONSIBLE FOR THE REMOVAL OF THE TEMPORARY FLEXIBLE-REFLECTIVE ROADWAY MARKERS ONCE THE THERMOPLASTIC STRIPING HAS BEEN COMPLETED.

PAYMENT FOR WORK ZONE PAVEMENT MARKINGS SHALL BE SUBSIDIARY.

**6.9. CONSTRUCTION INSPECTIONS**

CONSTRUCTION INSPECTION SHALL BE AT THE DISCRETION OF THE CITY WITHIN THE REQUIREMENTS OF THE CITY. THE CONTRACTOR SHALL KEEP THE ENTIRE PROJECT SITE ACCESSIBLE TO THE CITY AND ANY OTHER GOVERNMENTAL ENTITY THAT MAY EXERCISE REGULATORY CONTROL OF THE PROJECT OR ANY PORTION OF THE WORK.

**6.10. PROTECTION OF WORK**

THE CONTRACTOR SHALL PROTECT ALL AREAS, WHETHER WITHIN OR OUTSIDE OF THE ACTUAL LIMITS OF CONSTRUCTION. THE CONTRACTOR SHALL RESTORE ALL DISTURBED AREAS TO A CONDITION AS GOOD AS, OR BETTER THAN, THAT PRESENT PRIOR TO THE CONSTRUCTION. THE CITY SHALL BE THE SOLE JUDGE AS TO THE ACCEPTABILITY OF THE RESTORATION.

CONSTRUCTION VEHICLES AND EQUIPMENT SHALL BE LIMITED TO THE AREAS TO WHICH WORK IS TO BE PERFORMED. ANY AREAS OUTSIDE OF THE WORK AREA THAT HAS EXPERIENCED DAMAGE (SUCH AS TREES, OR LOSS OF VEGETATIVE COVER) FROM THE CONSTRUCTION, STORAGE OF EQUIPMENT AND/OR MATERIALS, OR ANY OTHER PROCESS ASSOCIATED WITH CONSTRUCTION, SHALL BE REPAIRED BY THE CONTRACTOR AT HIS SOLE EXPENSE TO THE SATISFACTION OF THE CITY.

ANY DAMAGE CREATED BY ANY EQUIPMENT OR ANY OTHER MEANS ON THE PROJECT OR ON ADJACENT PROPERTIES AND/OR STREETS AND ROADS SHALL BE REPAIRED TO THE CITY'S SATISFACTION AT THE CONTRACTOR'S SOLE EXPENSE.

THE CONTRACTOR SHALL NOT CUT OR TRIM TREES WITHOUT CONSENT OF THE CITY.

**6.11. THERMOPLASTIC PAVEMENT STRIPING AND RAISED PAVEMENT MARKERS**

ALL MATERIALS SHALL BE OF THE TYPE(S) AND WIDTH(S) SHOWN AND SHALL CONFORM TO THE PERTINENT MATERIAL REQUIREMENTS OF THE FOLLOWING ITEMS AS REFERENCED IN THE TXDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MAINTENANCE OF HIGHWAYS, STREETS, AND BRIDGES, LATEST REVISION.

ALL PAVEMENT MARKINGS SHALL CONFORM TO TXDOT ITEM 666, "REFLECTORIZED PAVEMENT MARKINGS."

ALL PREFABRICATED MARKINGS SHALL CONFORM TO TXDOT ITEM 668, "PREFABRICATED PAVEMENT MARKINGS."

ALL RAISED PAVEMENT MARKERS SHALL CONFORM TO TXDOT ITEM 672, "RAISED PAVEMENT MARKERS."

THE FINAL LONGITUDINAL STRIPING SHALL BE 120 MIL (0.120") THICK HOT-SPRAYED THERMOPLASTIC PLACED OVER THE TEMPORARY STRIPING, IF TEMPORARY STRIPING IS USED, OR TO FOLLOW THE TEMPORARY REFLECTIVE-FLEXIBLE ROADWAY TABS 14 TO 30 CALENDAR DAYS AFTER THE COMPLETION OF THE FINAL PAVEMENT SURFACING, OR AS DIRECTED BY THE PROJECT ENGINEER. ALL OTHER PAVEMENT MARKINGS SHALL BE APPLIED AT THE SAME TIME. TEMPORARY STRIPING SHALL BE WATER BASED PAINT.

ALL FINAL TRANSVERSE PAVEMENT MARKINGS SHALL BE 120 MIL (0.120") THICK HOT-SPRAYED THERMOPLASTIC. ALL PAVEMENT ARROWS AND OTHER SYMBOLS SHALL BE PREFABRICATED THERMOPLASTIC APPLICATIONS UNLESS OTHERWISE APPROVED BY THE PROJECT ENGINEER.

PRIOR TO THE INSTALLATION OF THE FINAL PAVEMENT SURFACE, THE CONTRACTOR MUST REMOVE/OBLITERATE ALL EXISTING RAISED PAVEMENT MARKINGS (RPMS) IN THE WORK AREA IN ACCORDANCE WITH THE CITY OF SAN ANGELO STANDARDS AND SPECIFICATIONS ITEMS 900 AND 901. ALL MECHANICAL REMOVAL METHODS AND SEALING OF PAVEMENT MARKINGS ON CONCRETE SURFACES SHALL BE SUBSIDIARY TO THE PLACEMENT OF PAVEMENT MARKINGS AND MARKERS.

ALL RAISED PAVEMENT MARKERS (RPMS) SHALL BE INSTALLED SO THAT THE REFLECTIVE FACE OF EACH MARKER IS FACING THE DIRECTION OF TRAFFIC AND IS PERPENDICULAR TO THE DIRECTION OF TRAFFIC FLOW. TYPE C PAVEMENT MARKERS SHALL BE INSTALLED SO THAT THE CLEAR FACE OF EACH MARKER IS FACING THE APPROACHING TRAFFIC AND PERPENDICULAR TO THE DIRECTION OF TRAFFIC. ALL PAVEMENT MARKERS SHALL BE INSTALLED IN ACCORDANCE TO TXDOT STANDARD SHEETS PM (1) - 12, PM (2) - 12, AND PM (3) - 12.

**6.12. STORM WATER POLLUTION PREVENTION PLAN**

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) AND COMPLYING WITH THE REQUIREMENTS THEREOF FOR THE PROJECT.

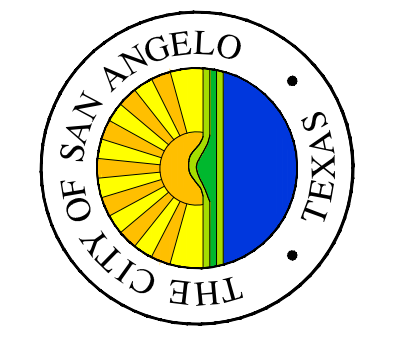

THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING EROSION AND SEDIMENT CONTROL BMPs TO PREVENT SEDIMENT FROM REACHING PAVED AREAS, STORM SEWERS SYSTEMS, DRAINAGE COURSES, AND ADJACENT PROPERTIES. IN THE EVENT THE PREVENTION MEASURES ARE NOT EFFECTIVE, THE CONTRACTOR SHALL REMOVE ALL DEBRIS, SILT OR MUD AND RESTORE THE RIGHT-OF-WAY OR ORIGINAL PROPERTIES TO A CONDITION AS GOOD AS, OR BETTER THAN, THAT PRESENT PRIOR.

**6.13. MATERIALS TESTING**

THE CONTRACTOR SHALL PROVIDE TEST REPORTS SHOWING THAT ALL AGGREGATE MEETS THE REQUIREMENTS OF TXDOT ITEM 302, "AGGREGATE FOR SURFACE TREATMENTS" AND ITEM 300, "ASPHALT, OILS, AND EMULSIONS."

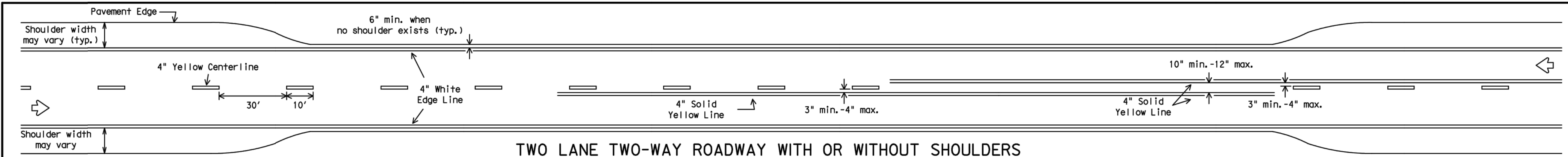
THE CONTRACTOR SHALL PROVIDE A MANIFEST FOR EACH ASPHALT LOAD DELIVERED TO THE PROJECT.

THE CITY MAY PERFORM ADDITIONAL TESTING FOR QUALITY CONTROL.

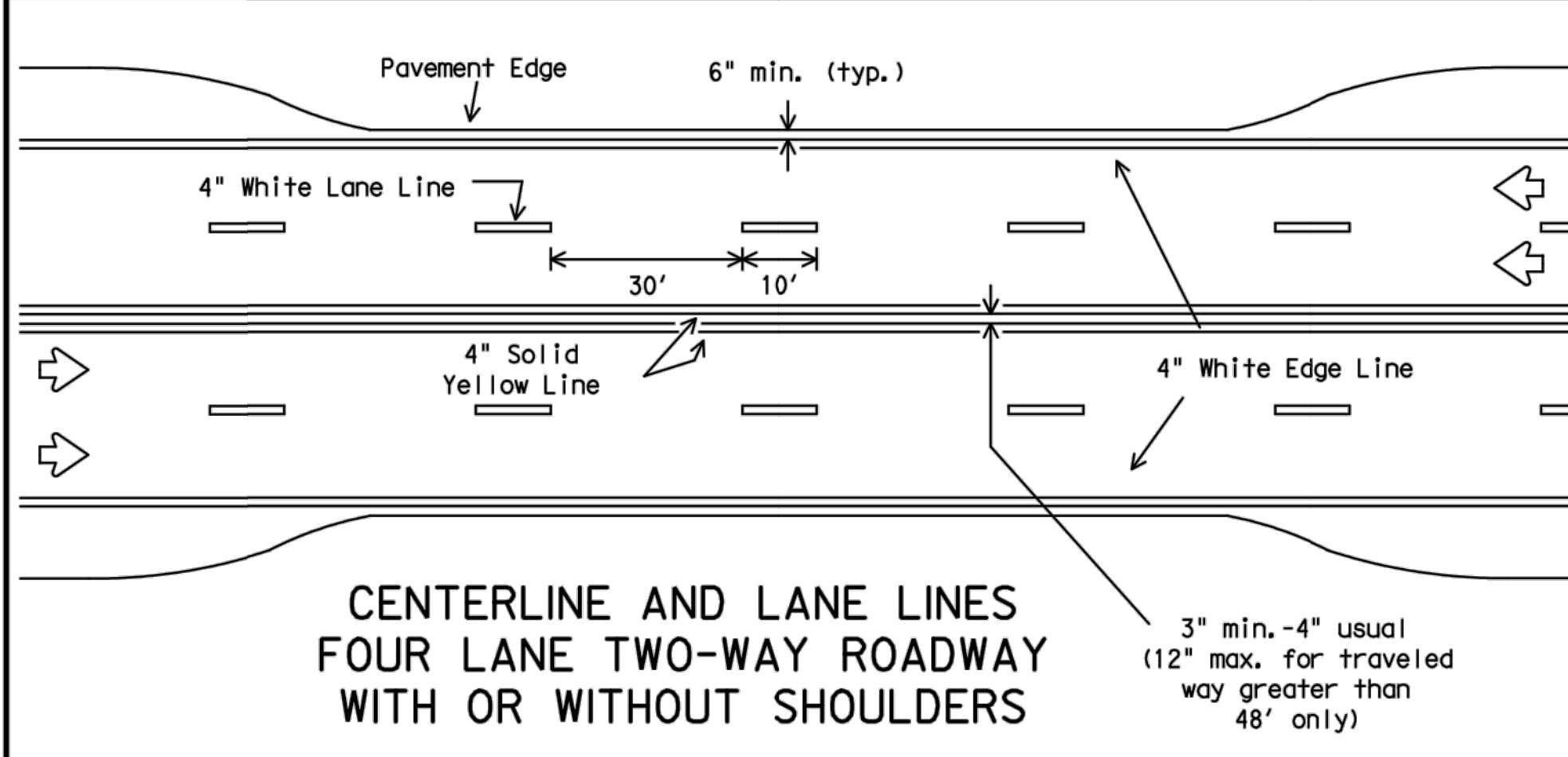
		CITY OF SAN ANGELO ENGINEERING SERVICES CITY HALL ANNEX 301 W. BEAUREGARD AVE. SAN ANGELO, TX. 76903 (325)657-4201 www.cosatx.us	
DATE		DESCRIPTION	
NO			
The Seal appearing on this document is authorized by Riley L. Overstreet, P.E. 121782 on March 10, 2020. 			
ES-02-20		GENERAL NOTES	
SCALE: N.T.S.		2020 SEALCOAT CONSTRUCTION	
DATE: 3/10/20	ARCHIVE NO: R-1956-1	PROJECT NO: 2019-3-593	DRAWN BY: MT
SHEET NO: C-001			
DESIGN BY: MG			

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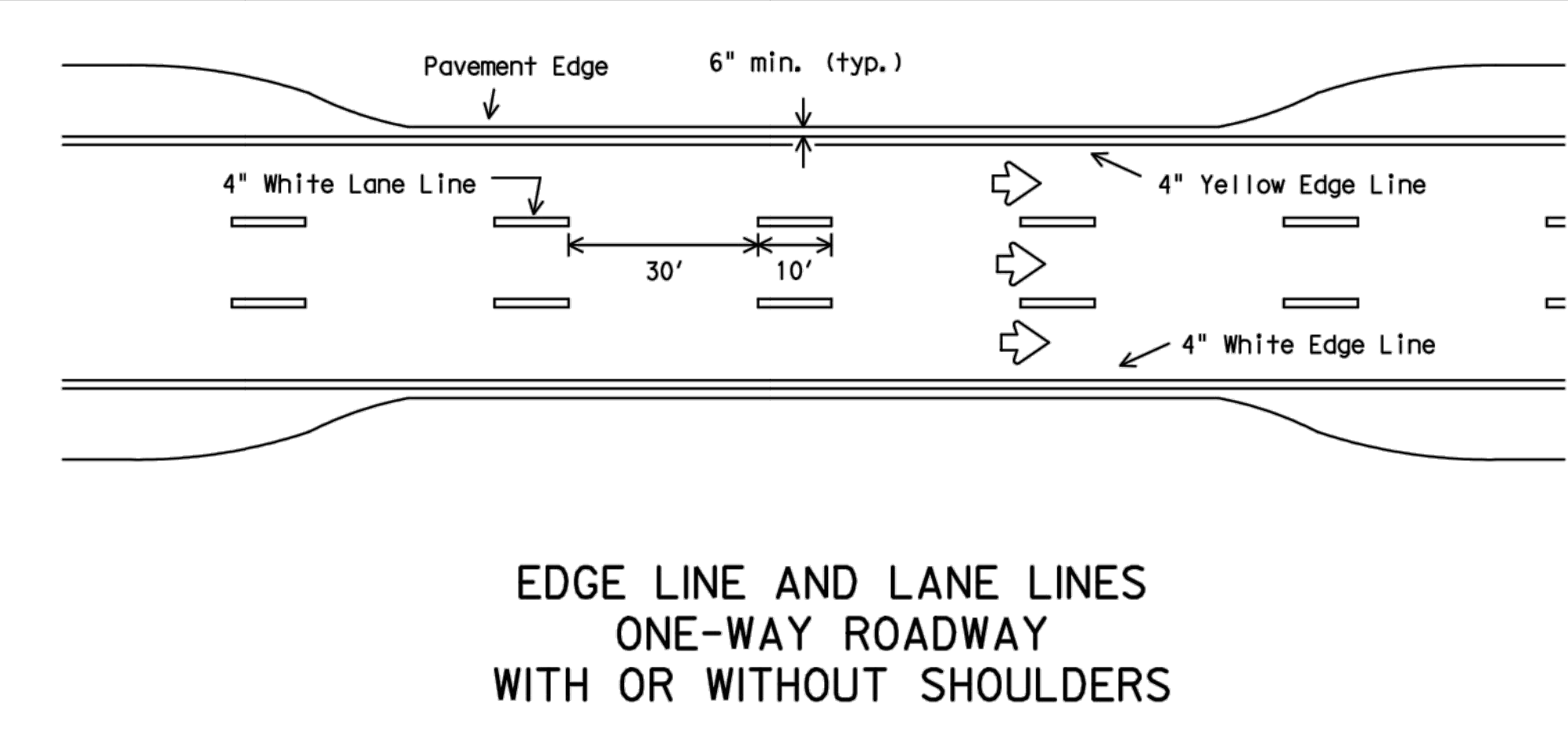
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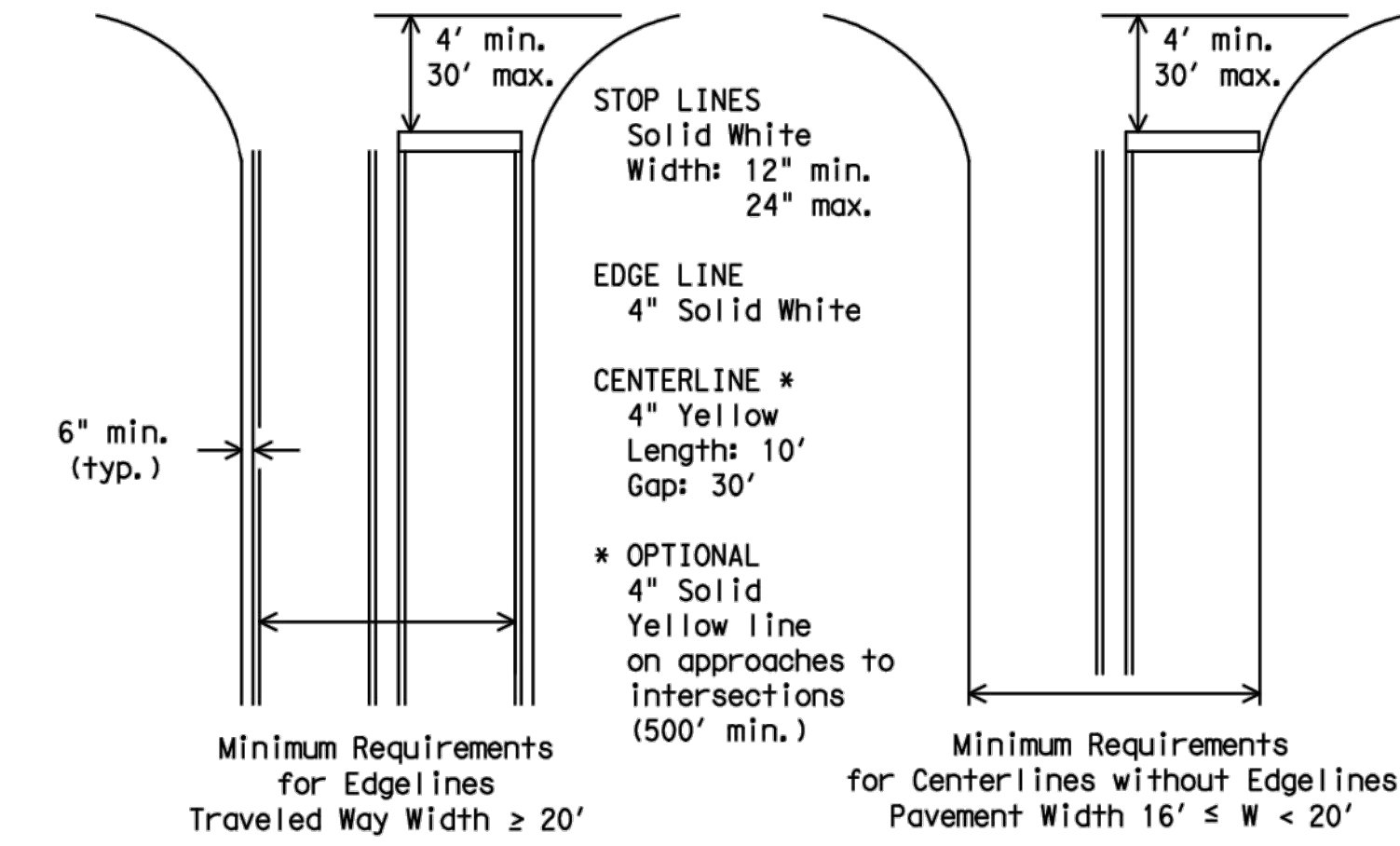
TWO LANE TWO-WAY ROADWAY WITH OR WITHOUT SHOULDERS



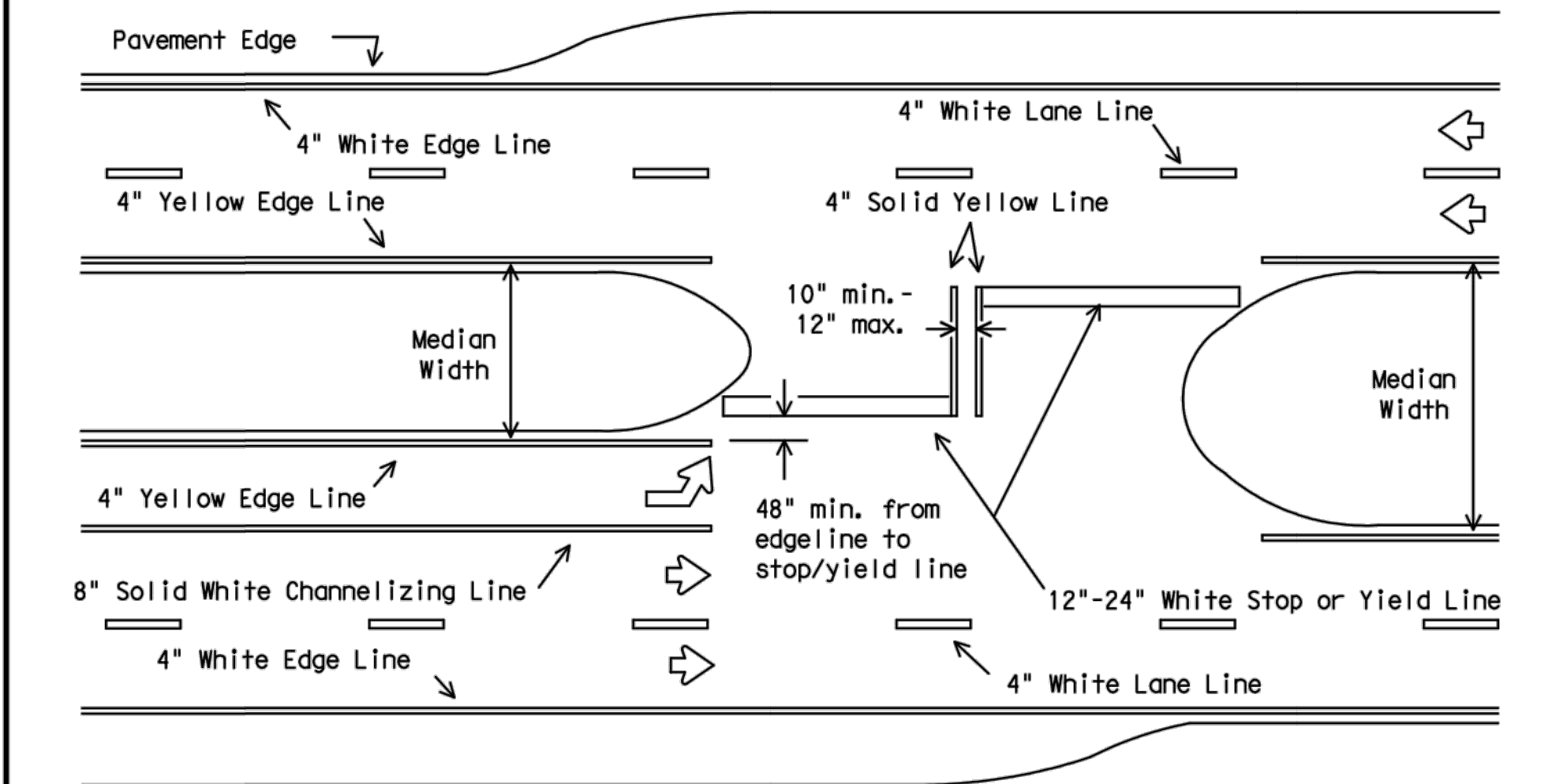
CENTERLINE AND LANE LINES  
FOUR LANE TWO-WAY ROADWAY  
WITH OR WITHOUT SHOULDERS



EDGE LINE AND LANE LINES  
ONE-WAY ROADWAY  
WITH OR WITHOUT SHOULDERS

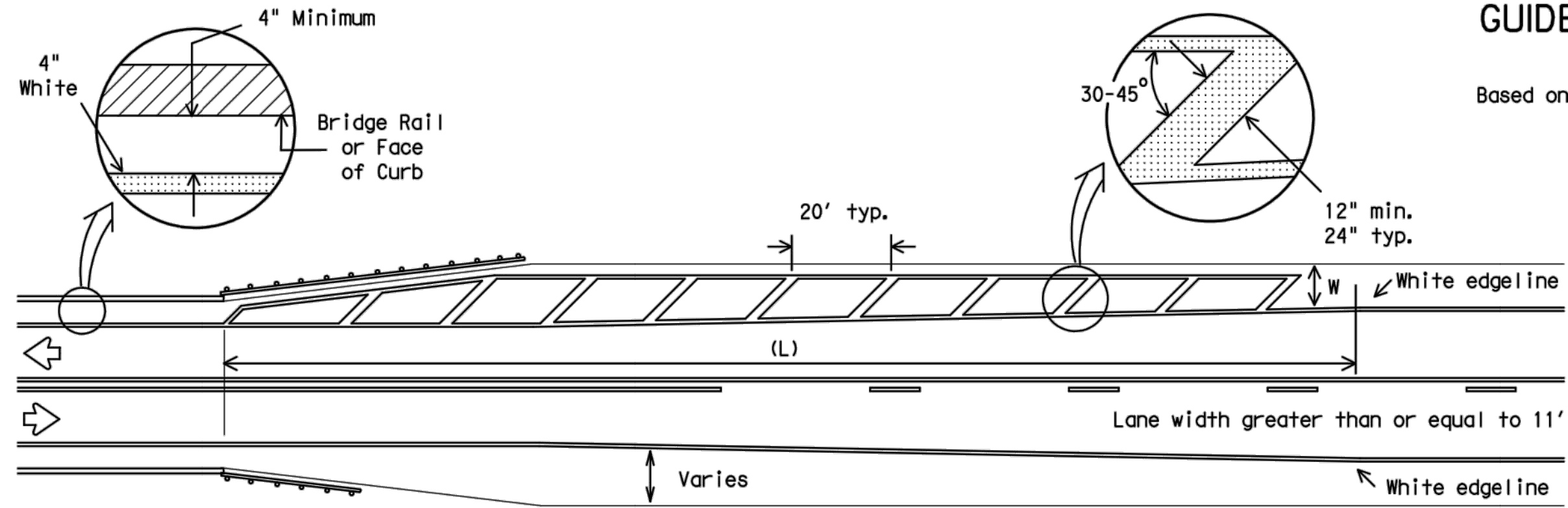


GUIDE FOR PLACEMENT OF STOP LINES,  
EDGE LINE & CENTERLINE  
Based on Traveled Way and Pavement Widths for Undivided Highways



FOUR LANE DIVIDED ROADWAY INTERSECTIONS

All medians shall be field measured to determine the location of necessary striping. Stop/Yield bars and centerlines shall be placed when the median width is greater than 30 ft. The median width is defined as the area between two roadways of a divided highway measured from edge of traveled way to edge of traveled way. The median excludes turn lanes. The median width might be different between intersections, interchanges and of opposite approaches of the same intersection. The narrow median width will be the controlling width to determine if markings are required.



ROADWAYS WITH REDUCED SHOULDER  
WIDTHS ACROSS BRIDGE OR CULVERT

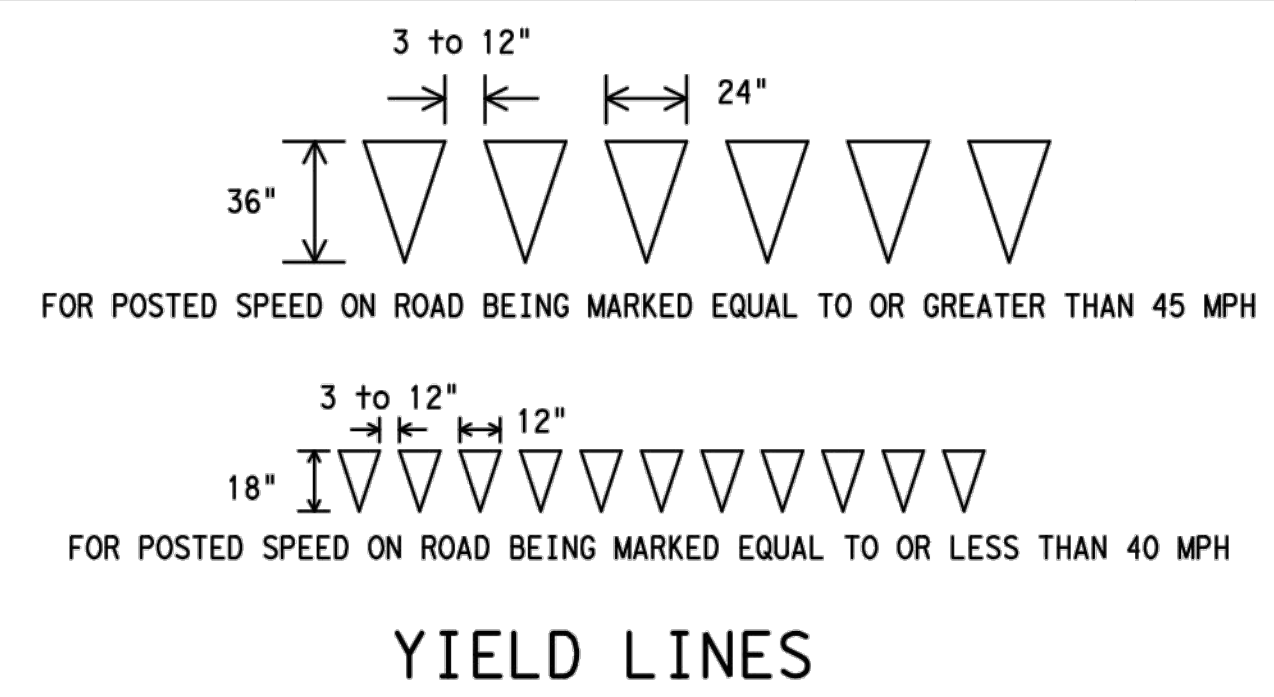
- NOTES:
- No-passing zone on bridge approach is optional but if used, it shall be a minimum 500 feet long.
  - For crosshatching length (L) see Table 1.
  - The width of the offset (W) and the required crosshatching width is the full shoulder width in advance of the bridge.
  - The crosshatching is not required if delineators or barrier reflectors are used along the structure.
  - For guard fence details, refer elsewhere in the plans.

GENERAL NOTES

- Edgeline striping shall be as shown in the plans or as directed by the Engineer. The edgeline should typically be placed a minimum of 6 inches from the edge of pavement. This distance may vary due to pavement raveling or other conditions. Edgelines are not required in curb and gutter sections of roadways.
- The traveled way includes only that portion of the roadway used for vehicular travel and not the parking lanes, sidewalks, berms and shoulders. The traveled way shall be measured from the inside of edgeline to inside of edgeline of a two lane roadway.

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

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



YIELD LINES

TABLE 1 - TYPICAL LENGTH (L)

Posted Speed *	Formula
≤ 40	$L = \frac{WS^2}{60}$
≥ 45	$L = WS$

\* 85th Percentile Speed may be used on roads where traffic speeds normally exceed the posted speed limit. Crosshatching length should be rounded up to nearest 5 foot increment.  
L=Length of Crosshatching (FT.) W=Width of Offset (FT.) S=Posted Speed (MPH)

EXAMPLES:

An 8 foot shoulder in advance of a bridge reduces to 4 feet on a 70 MPH roadway. The length of the crosshatching should be:  
 $L = 8 \times 70 = 560$  ft.  
A 4 foot shoulder in advance of a bridge reduces to 2 feet on a 40 MPH roadway. The length of the crosshatching should be:  
 $L = 4(40)^2 / 60 = 106.67$  ft, rounded to 110 ft.

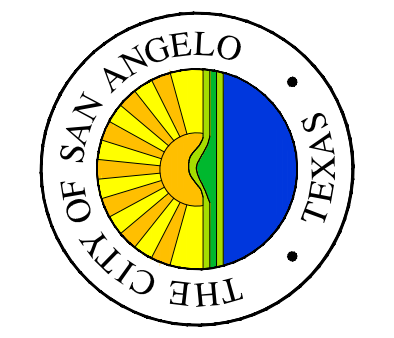


TYPICAL STANDARD  
PAVEMENT MARKINGS

PM(1)-12

© TxDOT November 1978	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
REVISIONS	CONT	SECT	JOB	HIGHWAY
8-95 2-12				
5-00				
8-00				
3-03				
22A				

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DATE	DESCRIPTION	NO.

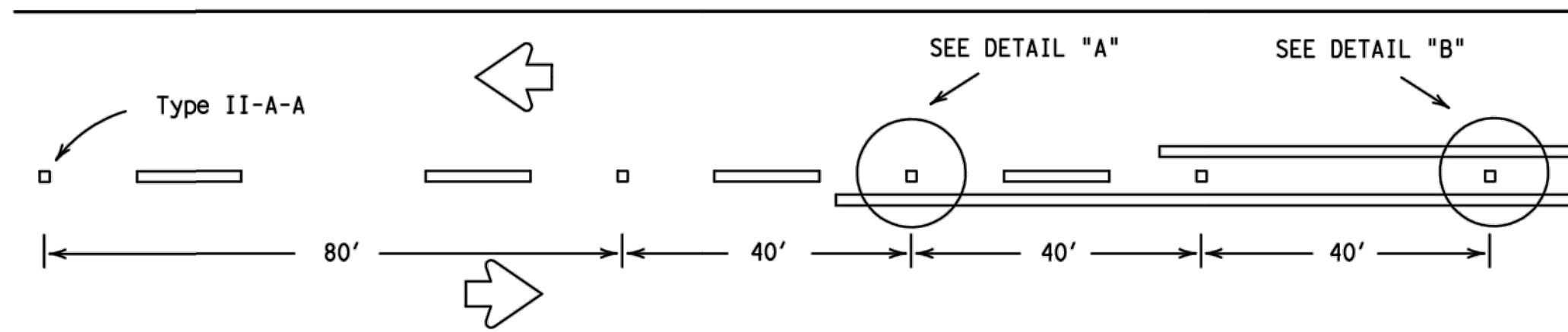
The Seal appearing on this document is authorized by Ricky L. Overstreet, P.E. 121782 on March 10, 2020.  
Ricky L. Overstreet  
Professional Engineer  
No. 121782  
State of Texas  
Professional Seal

ES-02-20  
DETAILS  
2020 SEALCOAT CONSTRUCTION  
PROJECT NO: 2019-3-593  
DESIGN BY: MG  
DRAWN BY: MT

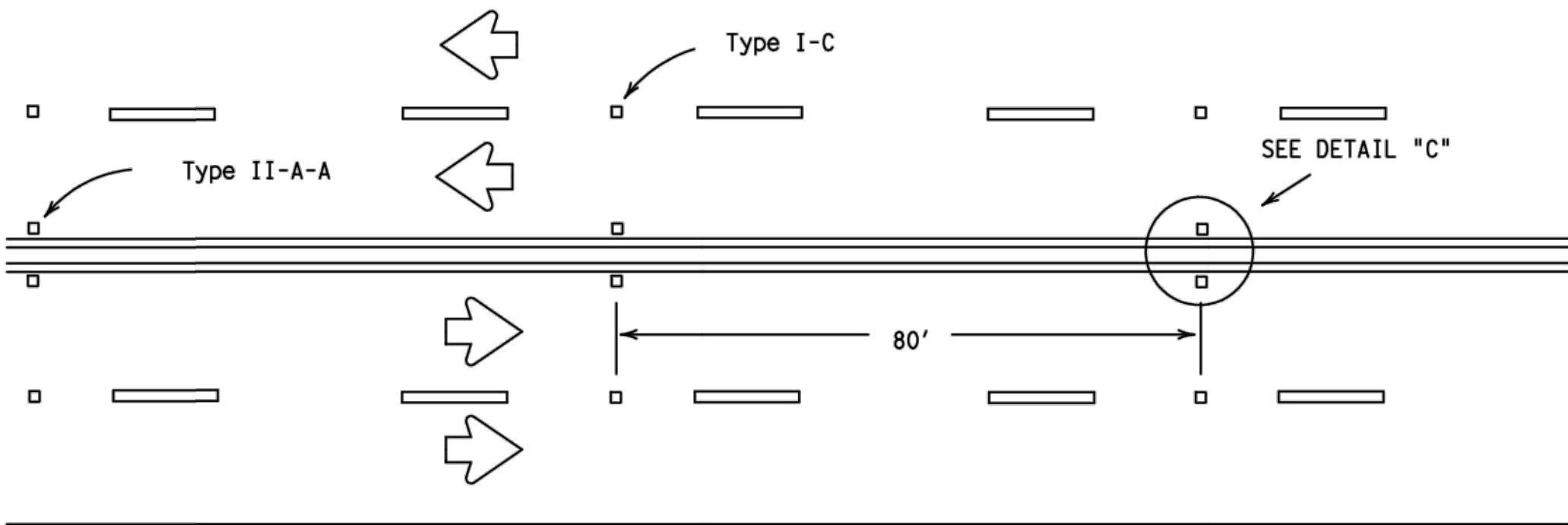
N.T.S.  
DATE: 3/10/20  
ARCHIVE NO: R-1956-2  
SHEET NO. C-002

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## REFLECTIVE RAISED PAVEMENT MARKERS FOR VEHICLE POSITIONING GUIDANCE

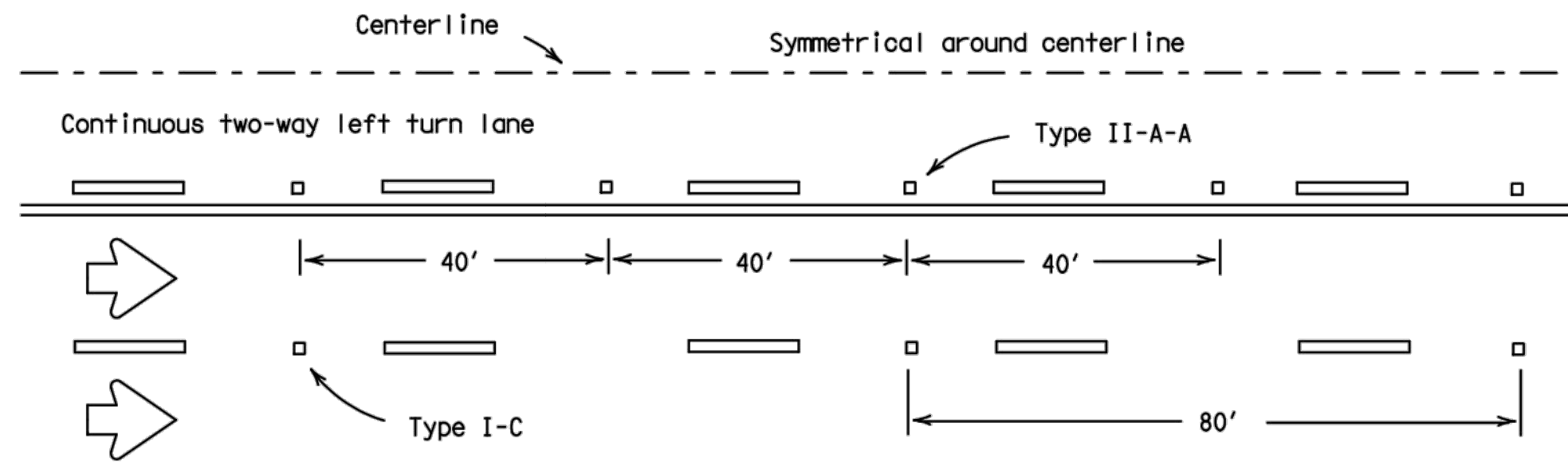


CENTERLINE FOR ALL TWO LANE ROADWAYS

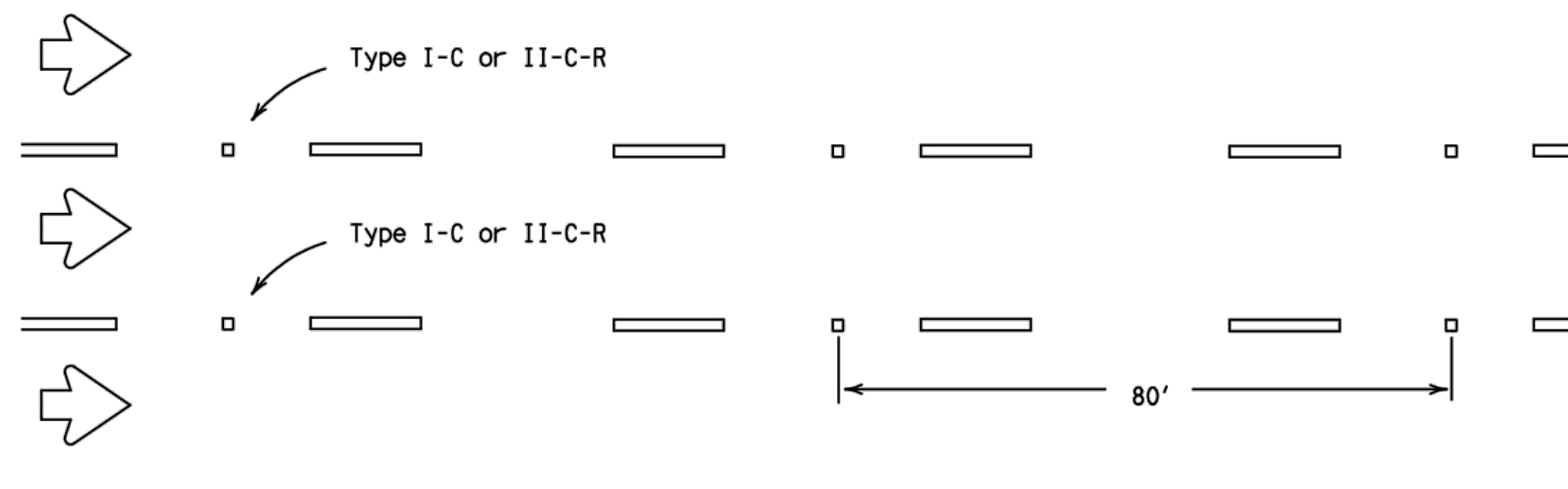


CENTERLINE & LANE LINES FOR FOUR LANE TWO-WAY HIGHWAYS

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

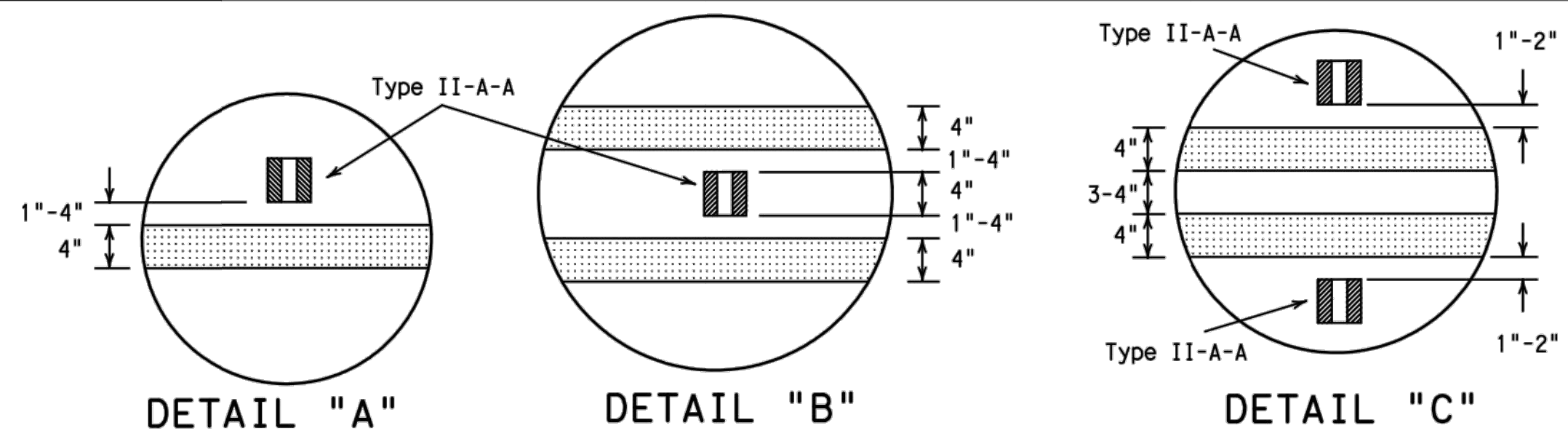


CENTERLINE AND LANE LINES FOR TWO-WAY LEFT TURN LANE



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

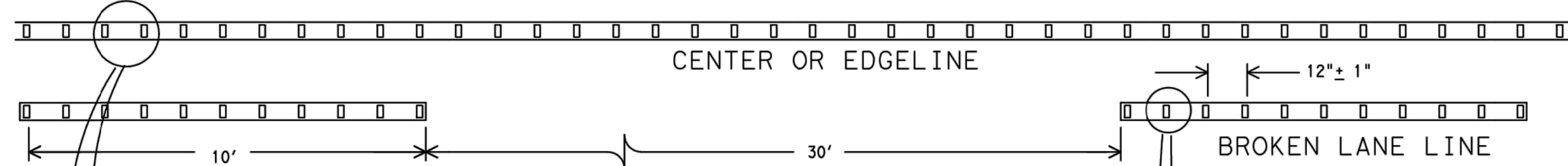
Raised pavement markers Type II-C-R shall have clear face toward normal traffic and red face toward wrong-way traffic.



DETAIL "A"

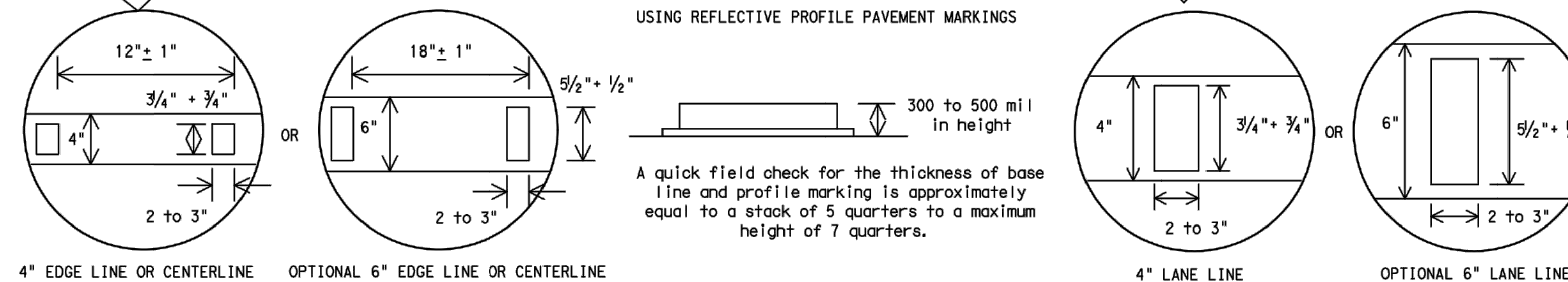
DETAIL "B"

DETAIL "C"



REFLECTORIZED PROFILE PATTERN DETAIL

USING REFLECTORIZED PROFILE PAVEMENT MARKINGS



4" EDGE LINE OR CENTERLINE

OPTIONAL 6" EDGE LINE OR CENTERLINE

4" LANE LINE

OPTIONAL 6" LANE LINE

**NOTE:**

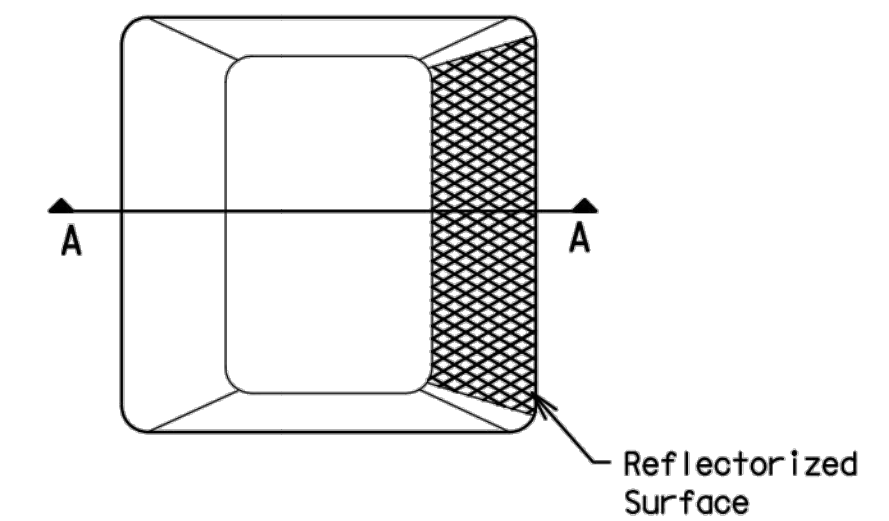
Profile markings shall not be placed on roadways with a posted speed limit of 45 MPH or less.

**GENERAL NOTES**

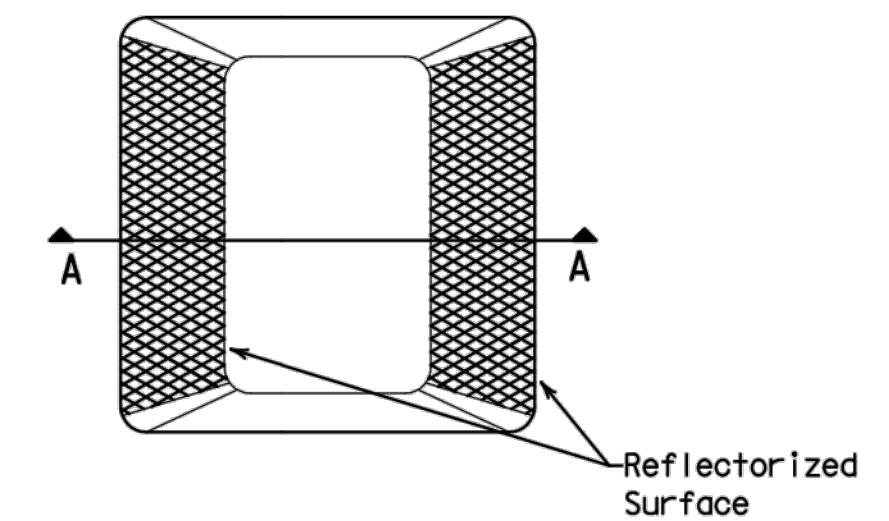
- All raised pavement markers placed in broken lines shall be placed in line with and midway between the stripes.
- On concrete pavements the raised pavement markers should be placed to one side of the longitudinal joints.

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

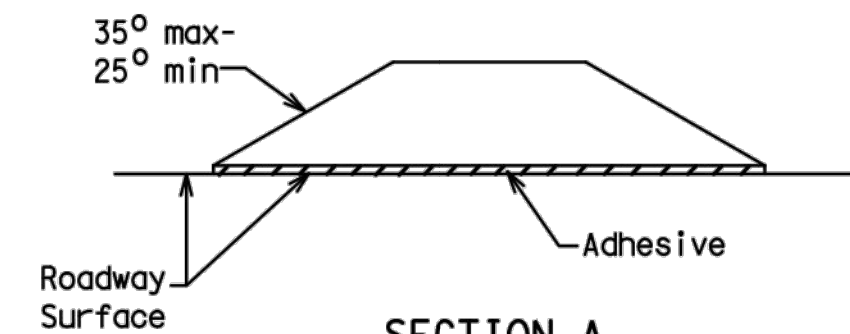
All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.



Type I (Top View)



Type II (Top View)



SECTION A

### RAISED PAVEMENT MARKERS

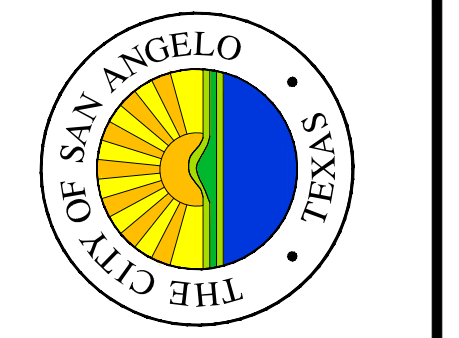
Texas Department of Transportation  
Traffic Operations Division

### POSITION GUIDANCE USING RAISED MARKERS REFLECTORIZED PROFILE MARKINGS

PM(2)-12

REVISIONS		DN: TXDOT	CK: TXDOT	DW: TXDOT	CK: TXDOT
NO.	DATE	CONT.	SECT.	JOB	HIGHWAY
4-92	2-10				
5-00	2-12				
8-00					
2-08					

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CITY HALL ANNEX  
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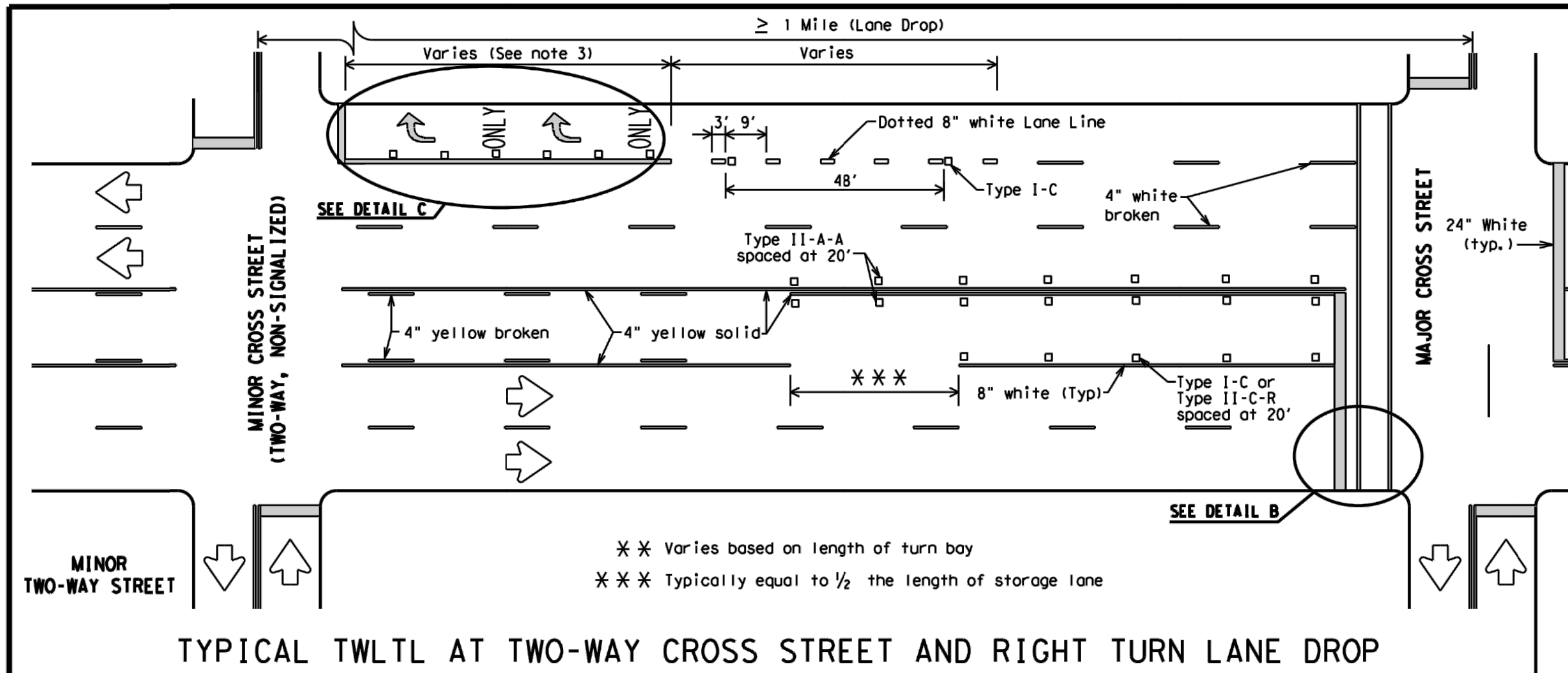
DATE	DESCRIPTION	NO.

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Riley L. Overstreet

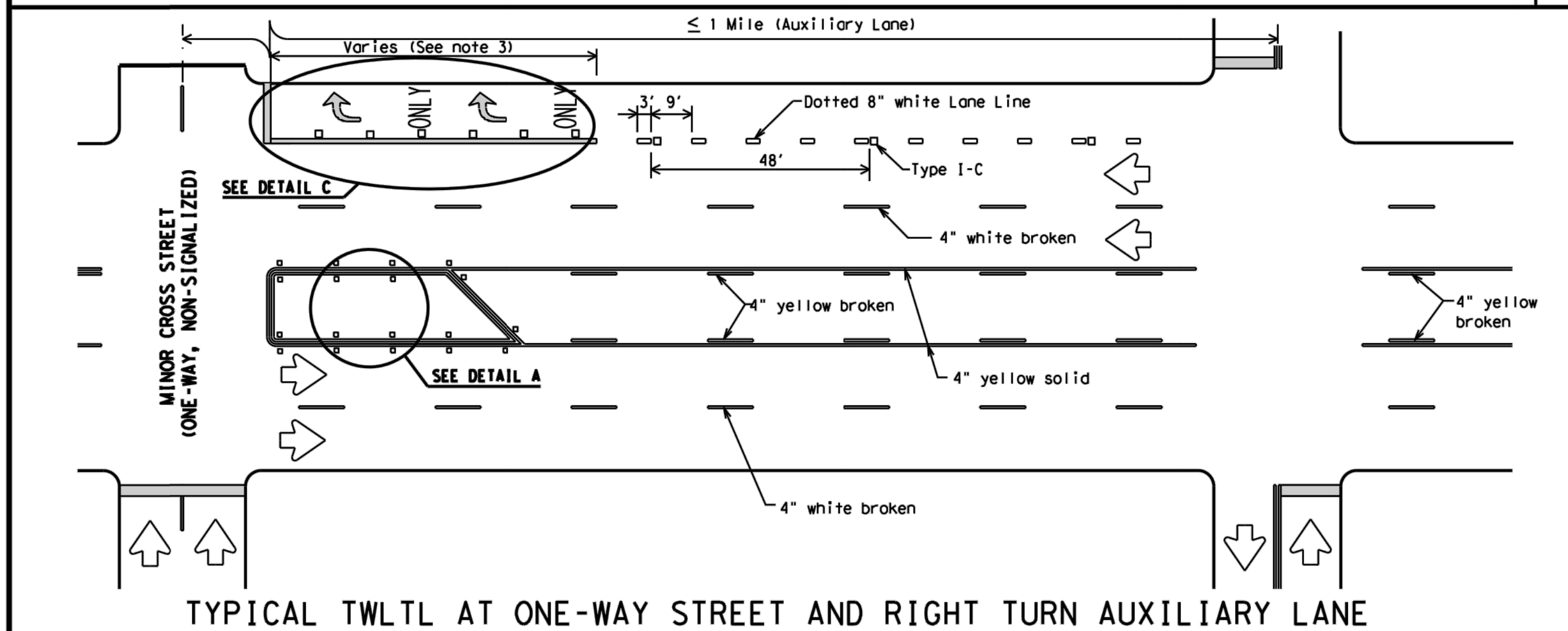
ES-02-20  
DETAILS  
2020 SEALCOAT CONSTRUCTION  
PROJECT NO: 2019-3-593  
DESIGN BY: MG  
DRAWN BY: MT

N.T.S.  
DATE: 3/10/20  
ARCHIVE NO: R-1956-3  
SHEET NO: C-003

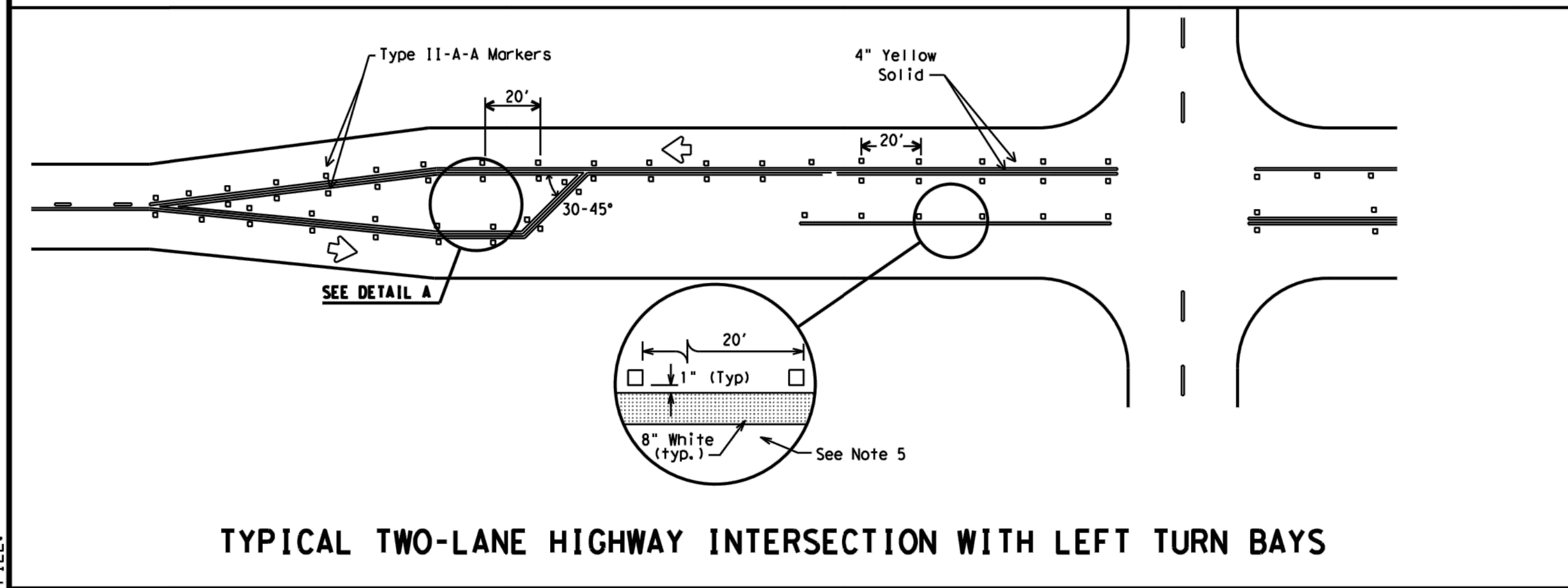
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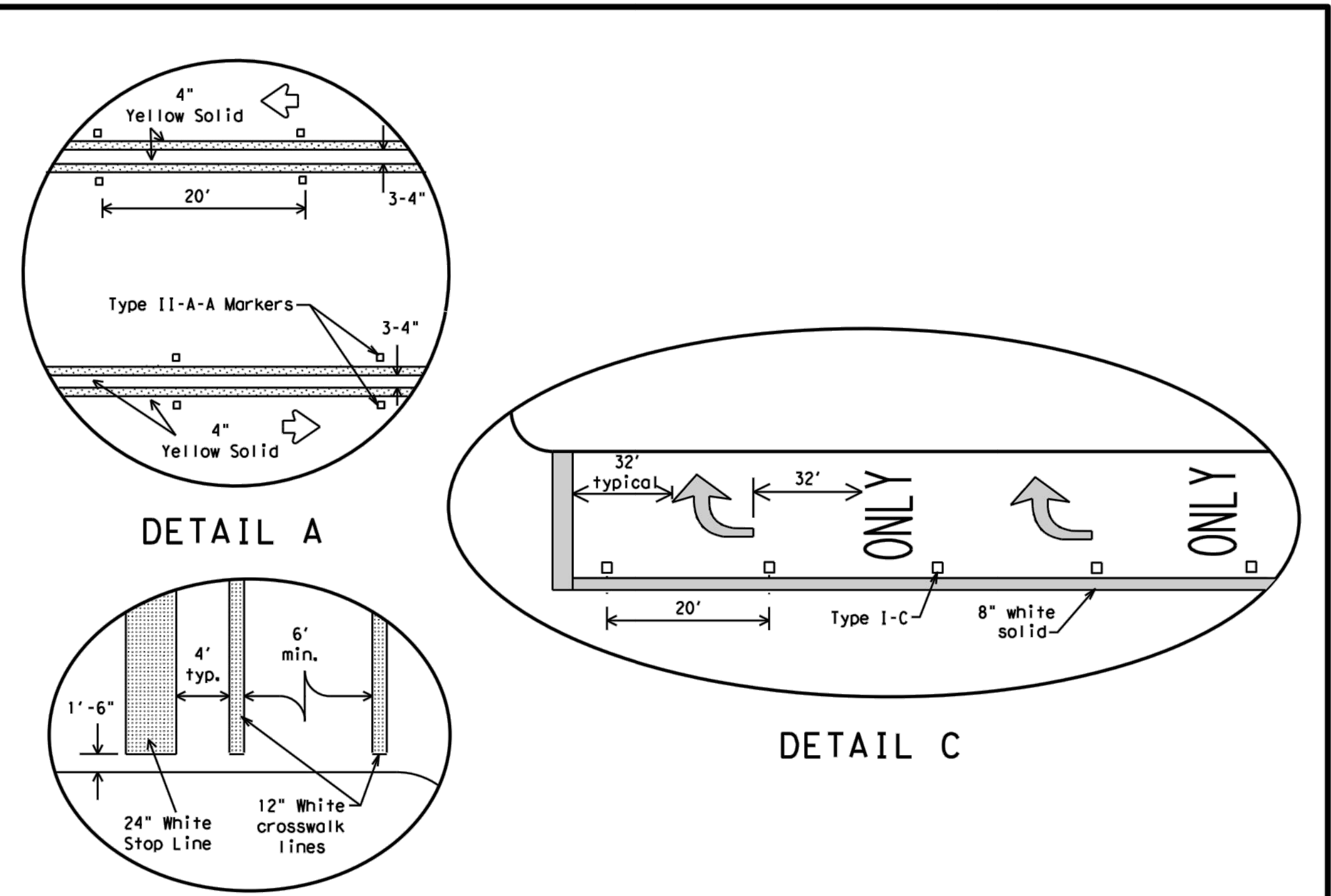
TYPICAL TWLTL AT TWO-WAY CROSS STREET AND RIGHT TURN LANE DROP



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



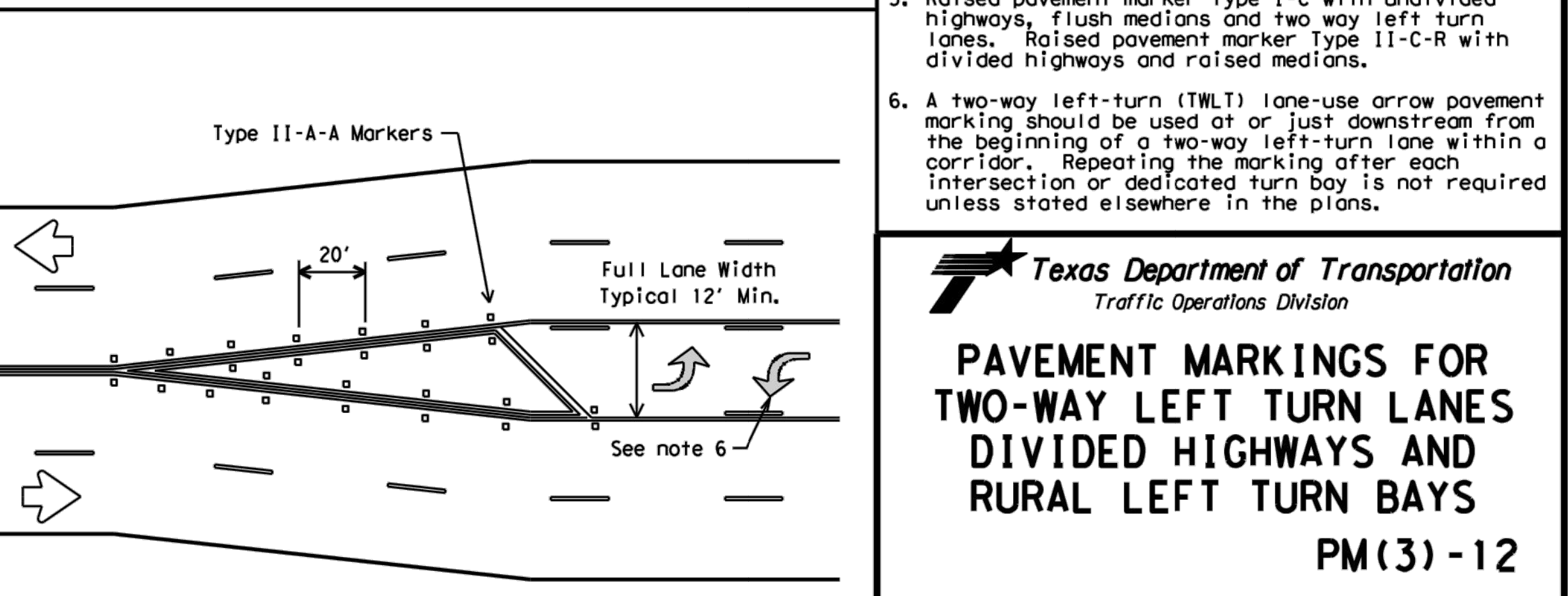
TYPICAL TWO-LANE HIGHWAY INTERSECTION WITH LEFT TURN BAYS



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

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

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



TYPICAL TRANSITION FOR TWLTL AND DIVIDED HIGHWAY

- GENERAL NOTES**
- Refer elsewhere in plans for additional RPM placement and details.
  - Lane use word and arrow markings shall be used where through lanes approaching an intersection become mandatory turning 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.
  - 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.
  - Other crosswalk patterns as shown in the "Texas Manual on Uniform Traffic Control Devices" may be used.
  - 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.
  - A two-way left-turn (TWLTL) 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

© TxDOT April 1998	DN: TxDOT	CK: TxDOT	DR: TxDOT	CR: TxDOT
5-00	2-12	CONT	SECT	JOB
8-00				HIGHWAY
3-03		DIST	COUNTY	SHEET NO.
2-10				

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THE CITY OF SAN ANGELO TEXAS

NO	DESCRIPTION	DATE

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Professional Engineer  
Ricky L. Overstreet  
121782

ES-02-20

DATE: 3/10/20

ARCHIVE NO: R-1956-4

SHEET NO. C-004

DETAILS

2020 SEALCOAT CONSTRUCTION

PROJECT NO: 2019-3-593

DESIGN BY: MG

DRAWN BY: MT

## Base Bid General Quantities

ITEM	CODE	DESCRIPTION	UNITS	EST. QTY.
0500	6001	MOBILIZATION(10%)	LS	1
0316	6126	AGGR(TY-PB GR-4 SAC-A)	CY	5,803
0316	6048	ASPH (AC-20-5TR)	GAL	255,336
0667	6006	REFL PAV MRK TY I (W) 4" (SLD) (100MIL)	LF	5,445
0666	6123	REFL PAV MRK TY I (Y) 4" (BRK) (100MIL)	LF	5,670
0666	6123	REFL PAV MRK TY I (Y) 4" (SLD) (100MIL)	LF	37,070
0666	6042	REFL PAV MRK TY I (W) 12" (SLD) (100MIL)	LF	480
0666	6048	REFL PAV MRK TY I (W) 24" (SLD) (100MIL)	LF	721
0672	6007	REFL PAV MRKR TY I-C	EA	1,500
0672	6013	REFL PAV MRKR TY II-A-A	EA	3,000
0502	6025	BARRICADES, SIGNS, AND TRAFFIC HANDLING	MO	3
	N/A	TOWING	EA	30

### Stopbars (BASE BID)

- Amarillo St.
  - o 18 LF 12" Stopbar @ E. 40<sup>th</sup> St. Intersection
- Blum St.
  - o 18 LF 24" Stopbar @ E. 28<sup>th</sup> St. Intersection
- Bowie St.
  - o 20 LF 24" Stopbar @ E. 29<sup>th</sup> St. Intersection (North Leg)
  - o 18 LF 24" Stopbar @ E. 29<sup>th</sup> St. Intersection (South Leg)
  - o 19 LF 24" Stopbar @ E. 42<sup>nd</sup> St. Intersection (North Leg)
  - o 19 LF 24" Stopbar @ E. 42<sup>nd</sup> St. Intersection (South Leg)
- Coliseum Dr.
  - o 25 LF 12" Stopbar @ W. 43<sup>rd</sup> St. Intersection
  - o 33 LF 24" Stopbar @ N. Chadbourne St. Intersection
- Crockett St.
  - o 13 LF 24" Stopbar @ E. 40<sup>th</sup> St. Intersection (North Leg)
  - o 13 LF 24" Stopbar @ E. 40<sup>th</sup> St. Intersection (South Leg)
- E. 28<sup>th</sup> St.
  - o 15 LF 24" Stopbar @ Armstrong St. Intersection
- E. 29<sup>th</sup> St.
  - o 25 LF 24" Stopbar @ Bowie St. Intersection (East Leg)
  - o 25 LF 24" Stopbar @ Bowie St. Intersection (West Leg)
- E. 35<sup>th</sup> St.
  - o 13 LF 12" Stopbar @ Marx St. Intersection (East Leg)
  - o 12 LF 12" Stopbar @ Marx St. Intersection (West Leg)
- E. 39<sup>th</sup> St.
  - o 17 LF 24" Stopbar @ N. Chadbourne St. Intersection
  - o 16 LF 12" Stopbar @ Goliad St. Intersection
  - o 17 LF 12" Stopbar @ Bowie St. Intersection (West Leg)
  - o 16 LF 12" Stopbar @ Coliseum Dr. Intersection (East Leg)
  - o 16 LF 12" Stopbar @ Coliseum Dr. Intersection (West Leg)
- E. 40<sup>th</sup> St.
  - o 16 LF 24" Stopbar @ Armstrong St. Intersection
  - o 18 LF 12" Stopbar @ Amarillo St. Intersection
  - o 18 LF 12" Stopbar @ Goliad St. Intersection (East Leg)
  - o 18 LF 12" Stopbar @ Goliad St. Intersection (West Leg)
  - o 20 LF 12" Stopbar @ Crockett St. Intersection (East Leg)
  - o 24 LF 12" Stopbar @ Crockett St. Intersection (West Leg)
- E. 42<sup>nd</sup> St.
  - o 14 LF 24" Stopbar @ Armstrong St. Intersection
  - o 19 LF 24" Stopbar @ Bowie St. Intersection (East Leg)
  - o 19 LF 24" Stopbar @ Bowie St. Intersection (West Leg)
  - o 17 LF 24" Stopbar @ Coliseum Dr. Intersection
- E. 44<sup>th</sup> St.
  - o 13 LF 24" Stopbar @ Armstrong St. Intersection
- E. 47<sup>th</sup> St.
  - o 12 LF 24" Stopbar @ Armstrong St. Intersection
  - o 17 LF 12" Stopbar @ Travis St. Intersection (East Leg)
  - o 17 LF 12" Stopbar @ Travis St. Intersection (West Leg)

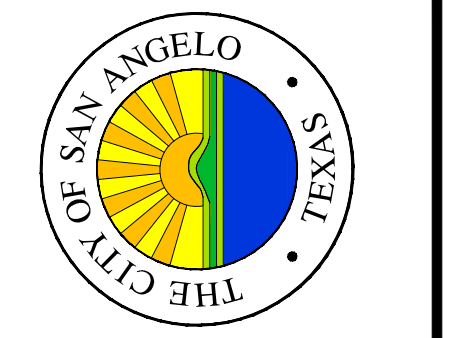
### Stopbars (BASE BID) Continued

- E. 48<sup>th</sup> St.
  - o 13 LF 12" Stopbar @ Travis St. Intersection
- E. 49<sup>th</sup> St.
  - o 15 LF 12" Stopbar @ Travis St. Intersection
- Goliad St.
  - o 14 LF 12" Stopbar @ E. 39<sup>th</sup> St. Intersection (East Leg)
  - o 14 LF 12" Stopbar @ E. 39<sup>th</sup> St. Intersection (West Leg)
- Guthrie St.
  - o 15 LF 24" Stopbar @ N. Chadbourne St. Intersection
- LBJ Dr.
  - o 18 LF 24" Stopbar @ E. 29<sup>th</sup> St. Intersection
- Marx St.
  - o 19 LF 24" Stopbar @ E. 29<sup>th</sup> St. Intersection (North Leg)
  - o 17 LF 24" Stopbar @ E. 29<sup>th</sup> St. Intersection (South Leg)
  - o 15 LF 24" Stopbar @ E. 29<sup>th</sup> St. Intersection (SouthEast Leg)
  - o 14 LF 12" Stopbar @ E. 35<sup>th</sup> St. Intersection (North Leg)
  - o 16 LF 12" Stopbar @ E. 35<sup>th</sup> St. Intersection (South Leg)
- Oaklawn Blvd.
  - o 17 LF 24" Stopbar @ E. 29<sup>th</sup> St. Intersection
- Pecan St.
  - o 14 LF 24" Stopbar @ E. 29<sup>th</sup> St. Intersection
- Travis St.
  - o 16 LF 24" Stopbar @ LakeView Heroes Intersection (South Leg)
  - o 18 LF 24" Stopbar @ E. 29<sup>th</sup> St. Intersection
  - o 17 LF 12" Stopbar @ E. 37<sup>th</sup> St. Intersection (North Leg)
  - o 20 LF 12" Stopbar @ E. 37<sup>th</sup> St. Intersection (South Leg)
- W. 40<sup>th</sup> St.
  - o 18 LF 24" Stopbar @ N. Chadbourne St. Intersection
- W. 43<sup>rd</sup> St.
  - o 17 LF 24" Stopbar @ N. Chadbourne St. Intersection
  - o 17 LF 24" Stopbar @ Grape Creek Rd. Intersection (East Leg)
  - o 17 LF 24" Stopbar @ Grape Creek Rd. Intersection (West Leg)
  - o 18 LF 24" Stopbar @ E. 28<sup>th</sup> St. Intersection
- W. 44<sup>th</sup> St.
  - o 12 LF 24" Stopbar @ Grape Creek Rd. Intersection
  - o 16 LF 24" Stopbar @ N. Chadbourne St. Intersection (East Leg)
  - o 12 LF 24" Stopbar @ N. Chadbourne St. Intersection (West Leg)
- W. 47<sup>th</sup> St.
  - o 12 LF 24" Stopbar @ Grape Creek Rd. Intersection
  - o 19 LF 24" Stopbar @ N. Chadbourne St. Intersection (East Leg)
  - o 22 LF 24" Stopbar @ N. Chadbourne St. Intersection (West Leg)
- W. 48<sup>th</sup> St.
  - o 19 LF 24" Stopbar @ N. Chadbourne St. Intersection

### Stopbars (ALTERNATE 3)

- Bradford St.
  - o 19 LF 24" Stopbar @ E. 22<sup>nd</sup> St. Intersection (North Leg)
  - o 19 LF 24" Stopbar @ E. 22<sup>nd</sup> St. Intersection (South Leg)
- E. 22<sup>nd</sup> St.
  - o 15 LF 24" Stopbar @ Bradford St. Intersection (East Leg)
  - o 15 LF 24" Stopbar @ Bradford St. Intersection (West Leg)
  - o 18 LF 24" Stopbar @ Pecan St. Intersection (West Leg)
  - o 15 LF 24" Stopbar @ Poe St. Intersection (West Leg)
- E. 25<sup>th</sup> St.
  - o 13 LF 24" Stopbar @ Marx St. Intersection (East Leg)
  - o 13 LF 24" Stopbar @ Marx St. Intersection (West Leg)
- Marx St.
  - o 16 LF 24" Stopbar @ E. 25<sup>th</sup> St. Intersection (South Leg)
  - o 18 LF 24" Stopbar @ E. 19<sup>th</sup> St. Intersection (North Leg)

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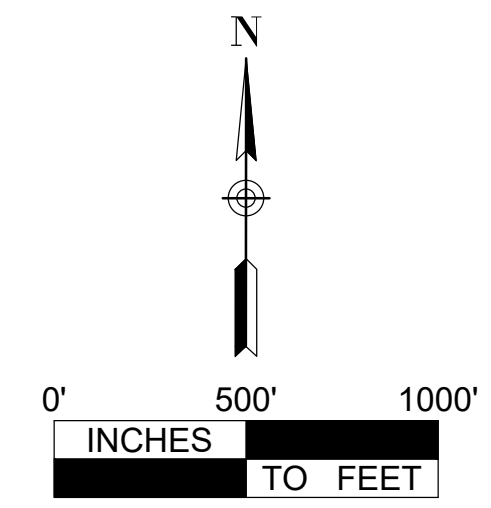


DATE	DESCRIPTION	NO

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*Ricky L. Overstreet*

ES-02-20  
**ESTIMATED QUANTITIES**  
2020 SEALCOAT CONSTRUCTION  
PROJECT NO: 2019-3-593  
DESIGN BY: MG  
DRAWN BY: MT

SCALE: N.T.S.  
DATE: 3/10/20  
ARCHIVE NO: R-1956-5  
SHEET NO. C-005

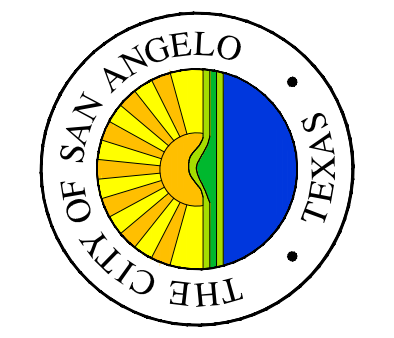


REDUCED PRINTS LESS THAN  
(22X34) ARE NOT TO SCALE

### Quantities for Section 1 2020

ITEM	CODE	DESCRIPTION	UNITS	EST. QTY.
	0316 6126	AGGR(TY-PB GR-4 SAC-A)	CY	4,338
	0316 6048	ASPH (AC-20-5TR)	GAL	190,885
	0666 6123	REFL PAV MRK TY I (Y) 4" (BRK) (100MIL)	LF	3,080
	0666 6123	REFL PAV MRK TY I (Y) 4" (SLD) (100MIL)	LF	24,740
	0666 6042	REFL PAV MRK TY I (W) 12" (SLD) (100MIL)	LF	480
	0666 6048	REFL PAV MRK TY I (W) 24" (SLD) (100MIL)	LF	348

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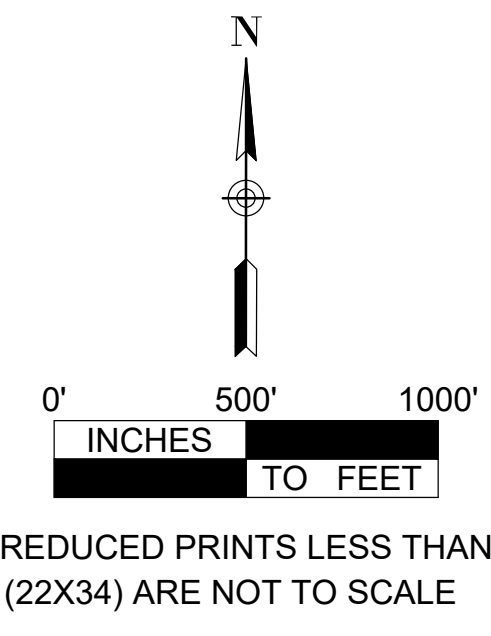
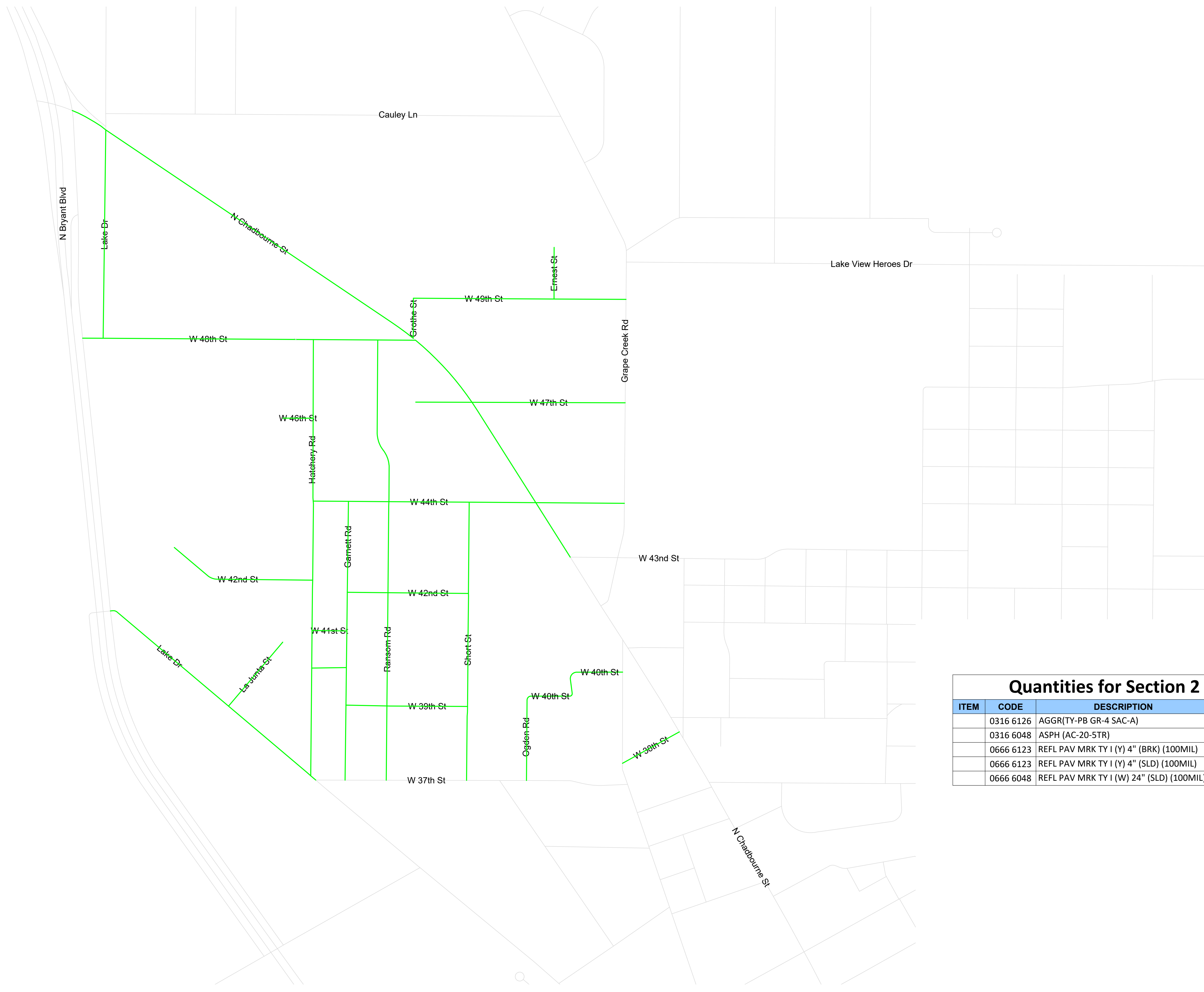


NO	DESCRIPTION	DATE

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ES-02-20	SECTION 1	2020 SEALCOAT CONSTRUCTION	PROJECT NO: 2019-3-593	DESIGN BY: MG	DRAWN BY: MT
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SCALE: 1"=500'	DATE: 3/10/20	ARCHIVE NO: R-1956-6	SHEET NO: C-400
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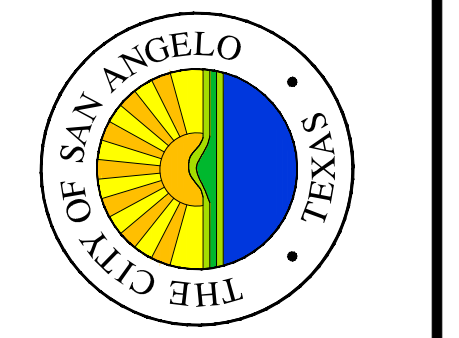


REDUCED PRINTS LESS THAN  
(22X34) ARE NOT TO SCALE

### Quantities for Section 2 2020

ITEM	CODE	DESCRIPTION	UNITS	EST. QTY.
	0316 6126	AGGR(TY-PB GR-4 SAC-A)	CY	1,382
	0316 6048	ASPH (AC-20-5TR)	GAL	60,821
	0666 6123	REFL PAV MRK TY I (Y) 4" (BRK) (100MIL)	LF	2,590
	0666 6123	REFL PAV MRK TY I (Y) 4" (SLD) (100MIL)	LF	5,535
	0666 6048	REFL PAV MRK TY I (W) 24" (SLD) (100MIL)	LF	94

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NO	DESCRIPTION	DATE

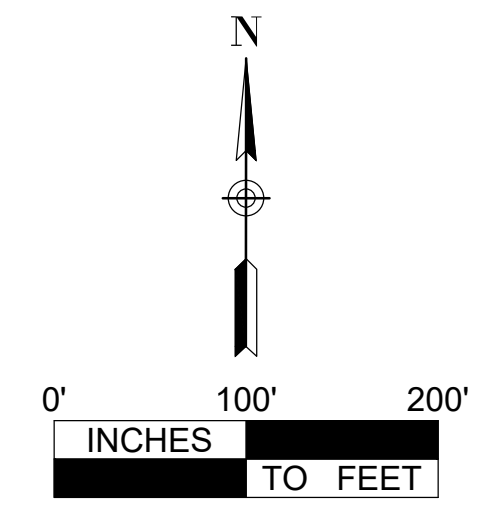
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ES-02-20  
SECTION 2  
2020 SEALCOAT CONSTRUCTION  
PROJECT NO: 2019-3-593  
DESIGN BY: MG  
DRAWN BY: MT

SCALE: 1"=500'  
DATE: 3/10/20  
ARCHIVE NO: R-1956-7  
SHEET NO. C-401



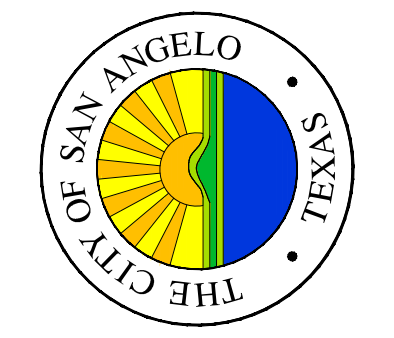


REDUCED PRINTS LESS THAN  
(22X34) ARE NOT TO SCALE

**Quantities for Section 3 2020**

ITEM	CODE	DESCRIPTION	UNITS	EST. QTY.
2	0316 6126	AGGR(TY-PB GR-4 SAC-A)	CY	82
3	0316 6048	ASPH (AC-20-5TR)	GAL	3,630
4	0666 6006	REFL PAV MRK TY I (W) 4" (SLD) (100MIL)	LF	5,445

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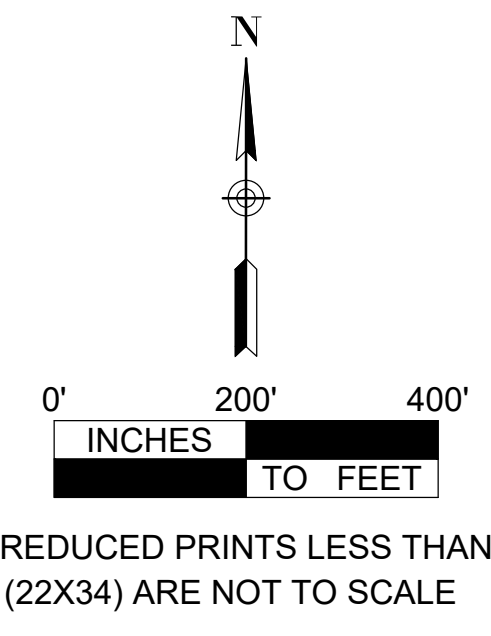
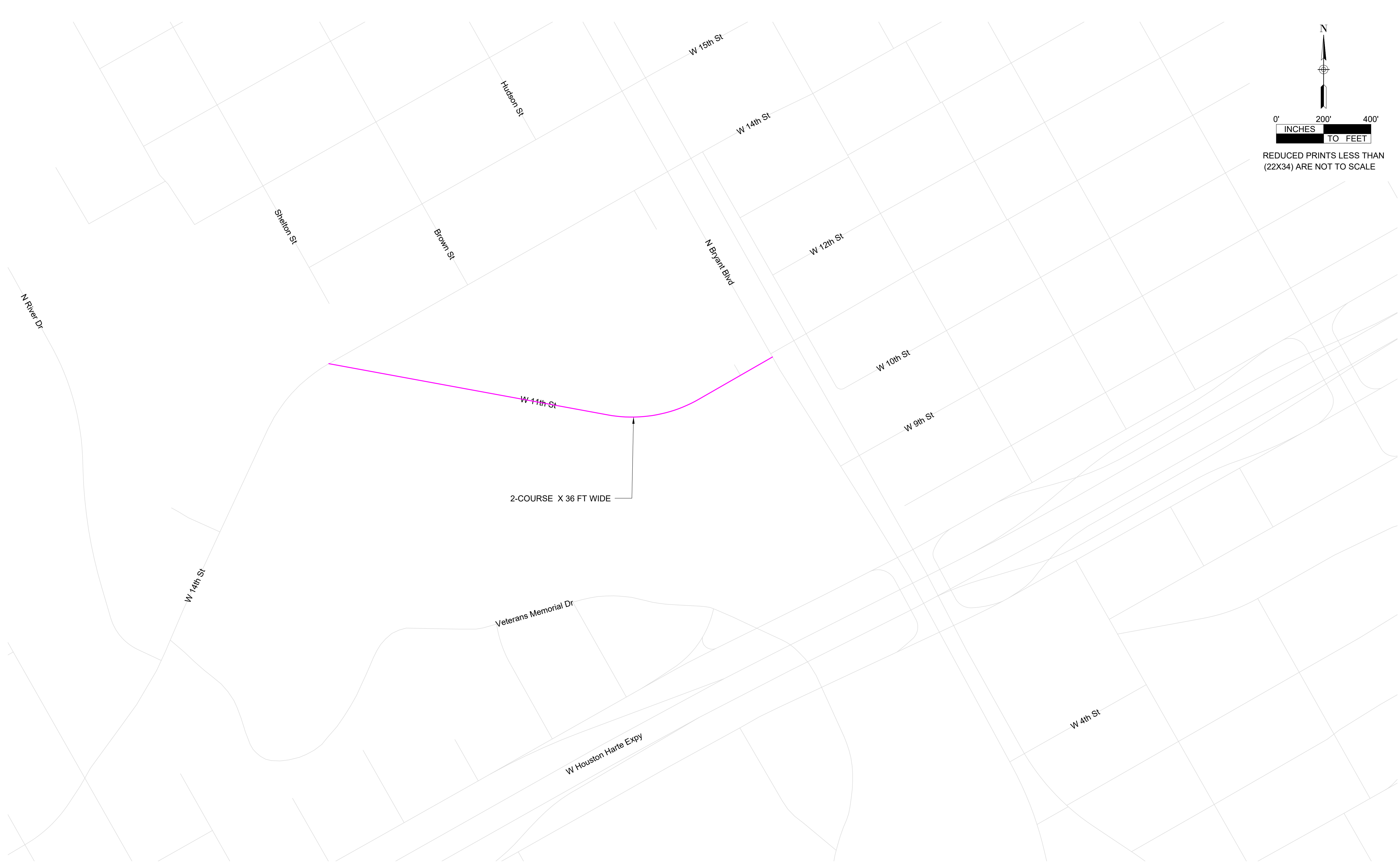
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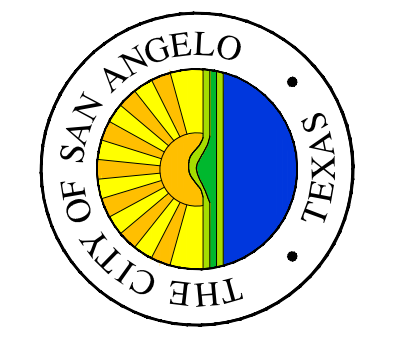
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ES-02-20  
SECTION 3  
2020 SEALCOAT CONSTRUCTION  
PROJECT NO: 2019-3-593  
DESIGN BY: MG  
DRAWN BY: MT

SCALE: 1"=100'  
DATE: 3/10/20  
ARCHIVE NO: R-1956-8  
SHEET NO. C-402



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NO	DESCRIPTION	DATE

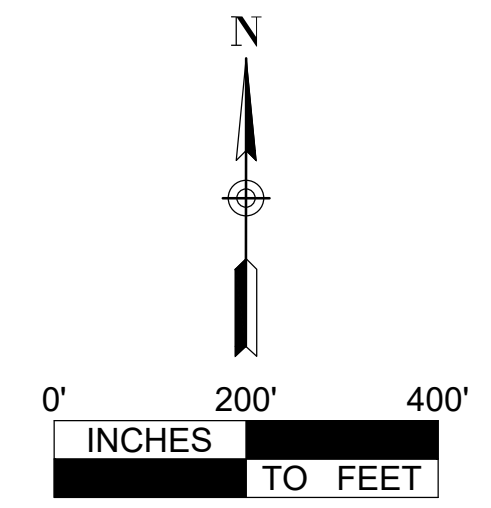
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ES-02-20  
ALTERNATE 1  
2020 SEALCOAT CONSTRUCTION  
PROJECT NO: 2019-3-593  
DESIGN BY: MG  
DRAWN BY: MT

SCALE: 1"=200'  
DATE: 3/10/20  
ARCHIVE NO: R-1956-9  
SHEET NO. C-403

**Quantities for Alternate 1 2020 (West 11th 2-Course)**

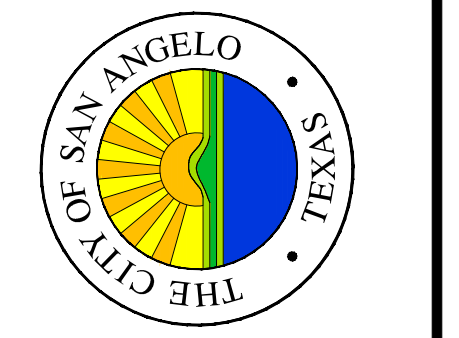
ITEM	CODE	DESCRIPTION	UNITS	EST. QTY.
	0316 6126	AGGR(TY-PB GR-4 SAC-A)	CY	143
	0316 6048	ASPH (AC-20-5TR)	GAL	6,260



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Quantities for Alternate 2 2020 (Ben Ficklin 2-Course)				
ITEM	CODE	DESCRIPTION	UNITS	EST. QTY.
	0316 6126	AGGR(TY-PB GR-4 SAC-A)	CY	135
	0316 6048	ASPH (AC-20-5TR)	GAL	5905
	667 6006	REFL PAV MRK TY I (W) 4" (SLD) (100MIL)	LF	240
	0666 6123	REFL PAV MRK TY I (Y) 4" (SLD) (100MIL)	LF	550
	0666 6123	REFL PAV MRK TY I (Y) 4" (BRK) (100MIL)	LF	450
	0666 6054	REFL PAV MRK TY I (W) (ARROW) (100MIL)	EA	3
	0672 6013	REFL PAV MRKR TY II-A-A	EA	75

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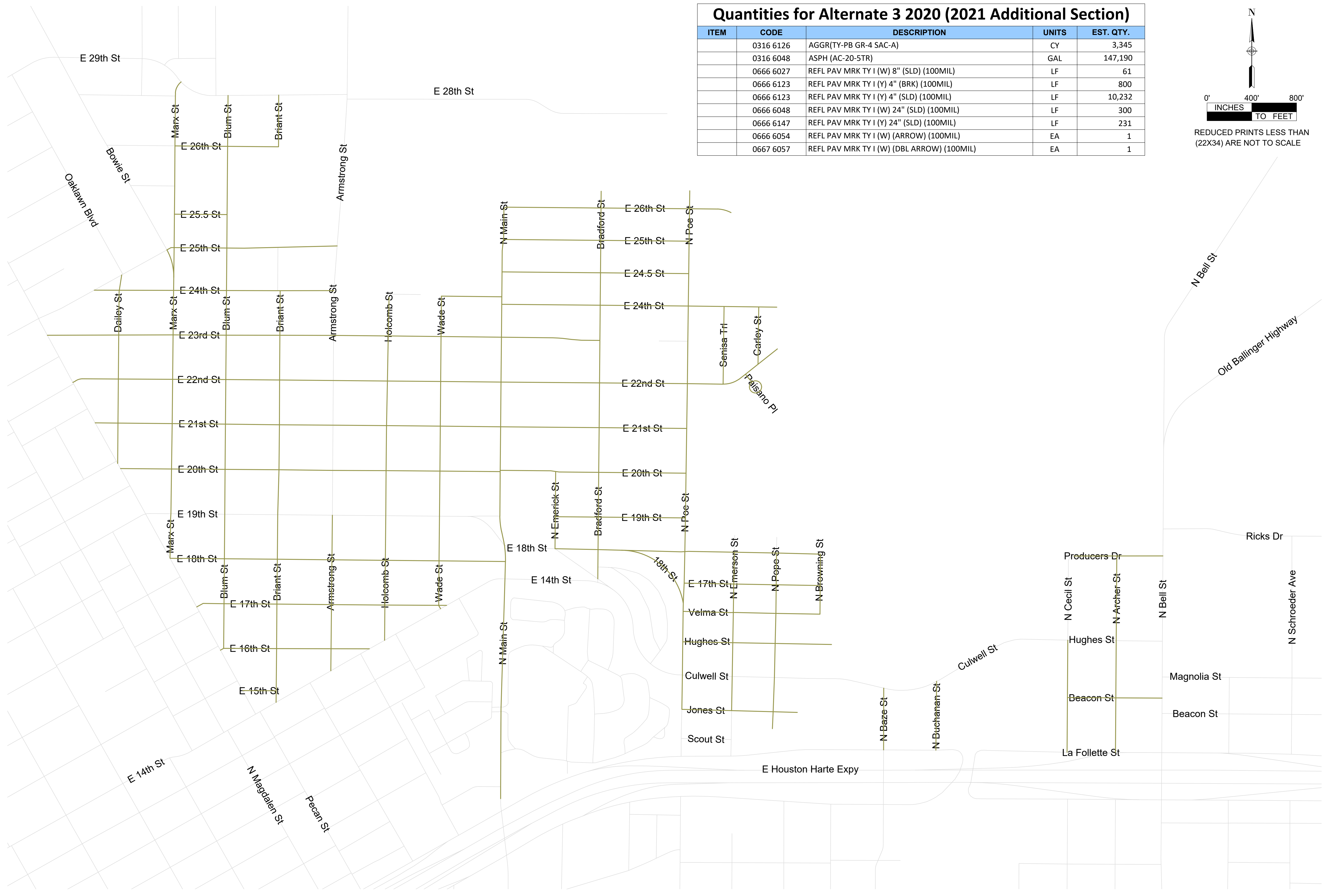
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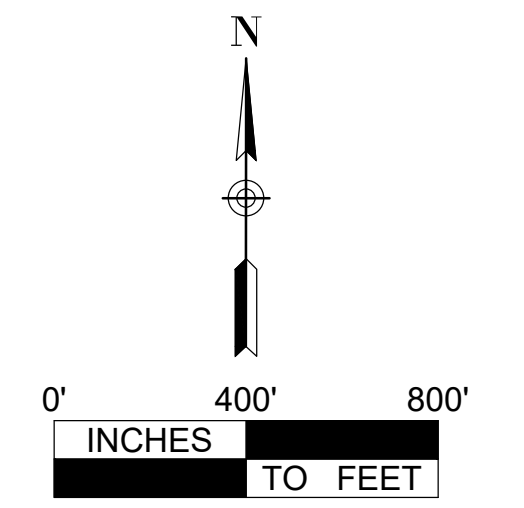
ES-02-20  
ALTERNATE 2  
2020 SEALCOAT CONSTRUCTION  
PROJECT NO: 2019-3-593  
DESIGN BY: MG  
DRAWN BY: MT

SCALE: 1"=200'  
DATE: 3/10/20  
ARCHIVE NO: R-1956-10  
SHEET NO. C-404



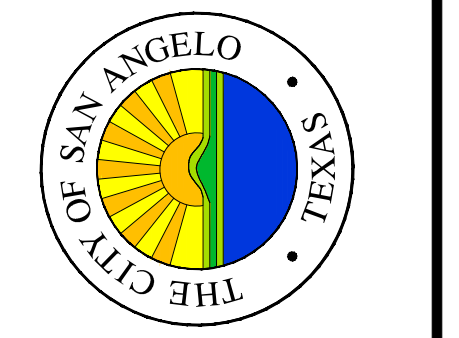
### Quantities for Alternate 3 2020 (2021 Additional Section)

ITEM	CODE	DESCRIPTION	UNITS	EST. QTY.
	0316 6126	AGGR(TY-PB GR-4 SAC-A)	CY	3,345
	0316 6048	ASPH (AC-20-5TR)	GAL	147,190
	0666 6027	REFL PAV MRK TY I (W) 8" (SLD) (100MIL)	LF	61
	0666 6123	REFL PAV MRK TY I (Y) 4" (BRK) (100MIL)	LF	800
	0666 6123	REFL PAV MRK TY I (Y) 4" (SLD) (100MIL)	LF	10,232
	0666 6048	REFL PAV MRK TY I (W) 24" (SLD) (100MIL)	LF	300
	0666 6147	REFL PAV MRK TY I (Y) 24" (SLD) (100MIL)	LF	231
	0666 6054	REFL PAV MRK TY I (W) (ARROW) (100MIL)	EA	1
	0667 6057	REFL PAV MRK TY I (W) (DBL ARROW) (100MIL)	EA	1



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NO	DESCRIPTION	DATE

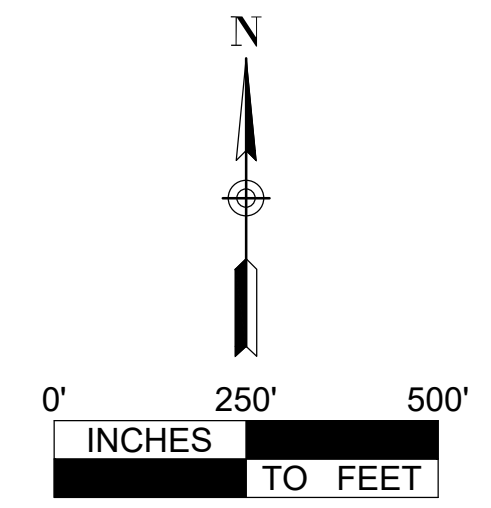
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ES-02-20	ALTERNATE 3	2020 SEALCOAT CONSTRUCTION	PROJECT NO: 2019-3-593	DESIGN BY: MG	DRAWN BY: MT
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SCALE: 1"=400'	DATE: 3/10/20	ARCHIVE NO: R-1956-11	SHEET NO. C-405
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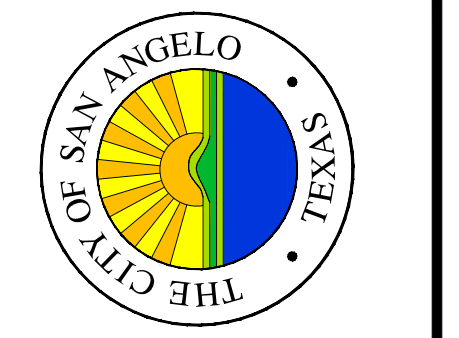
### Quantities for Alternate 4 (2018 Belaire Area)

ITEM	CODE	DESCRIPTION	UNITS	EST. QTY.
	0316 6126	AGGR(TY-PB GR-4 SAC-A)	CY	1,730
	0316 6048	ASPH (AC-20-5TR)	GAL	76,080
	0666 6042	REFL PAV MRK TY I (W) 12" (SLD) (100MIL)	LF	89
	0666 6048	REFL PAV MRK TY I (W) 24" (SLD) (100MIL)	LF	167



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COSA ENGINEER  
FOR STOPPING POINT.

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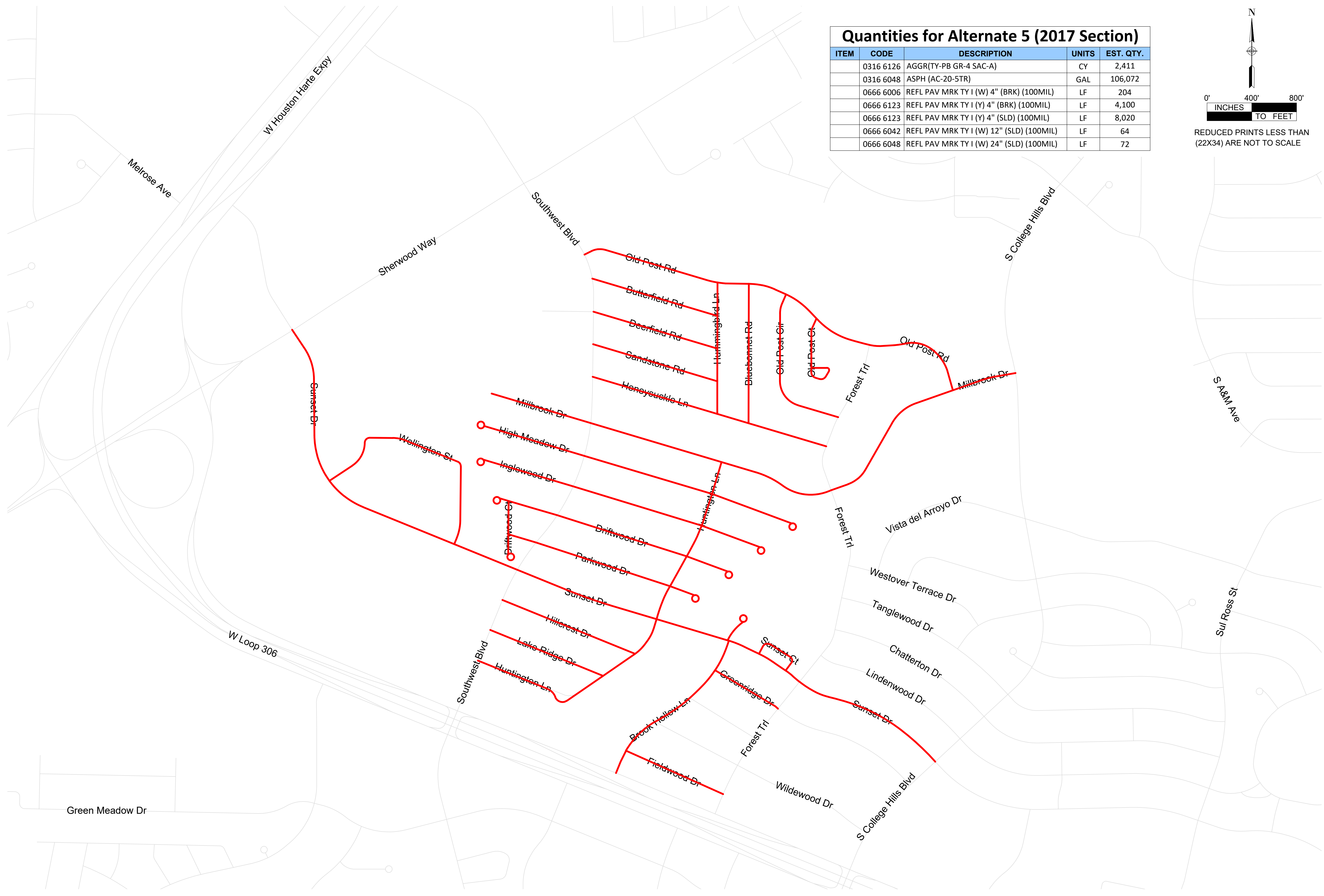


NO	DESCRIPTION	DATE

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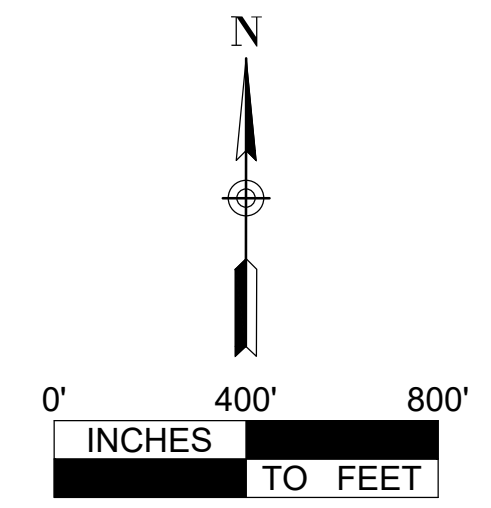
ES-02-20	ALTERNATE 4	2020 SEALCOAT CONSTRUCTION	PROJECT NO: 2019-3-593	DESIGN BY: MG	DRAWN BY: MT
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SCALE: 1"=250'	DATE: 3/10/20	ARCHIVE NO: R-1956-12	SHEET NO. C-406
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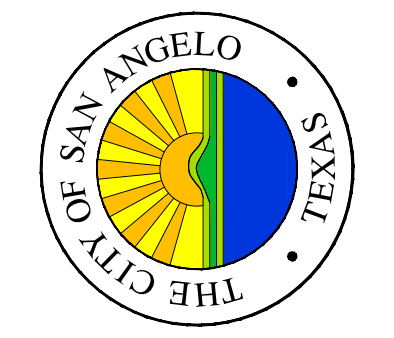
**Quantities for Alternate 5 (2017 Section)**

ITEM	CODE	DESCRIPTION	UNITS	EST. QTY.
	0316 6126	AGGR(TY-PB GR-4 SAC-A)	CY	2,411
	0316 6048	ASPH (AC-20-5TR)	GAL	106,072
	0666 6006	REFL PAV MRK TY I (W) 4" (BRK) (100MIL)	LF	204
	0666 6123	REFL PAV MRK TY I (Y) 4" (BRK) (100MIL)	LF	4,100
	0666 6123	REFL PAV MRK TY I (Y) 4" (SLD) (100MIL)	LF	8,020
	0666 6042	REFL PAV MRK TY I (W) 12" (SLD) (100MIL)	LF	64
	0666 6048	REFL PAV MRK TY I (W) 24" (SLD) (100MIL)	LF	72



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SCALE: 1"=400'	DATE: 3/10/20	ARCHIVE NO: R-1956-13	SHEET NO. C-407
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