

MINNESOTA DEPARTMENT OF TRANSPORTATION

THE COUNTY OF OLMSTED

CONSTRUCTION PLAN FOR UNBONDED CONCRETE OVERLAY

GOVERNING SPECIFICATIONS

THE 2014 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" AND THE 2014 EDITION OF THE "MATERIALS LAB SUPPLEMENTAL SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.

INDEX

SHEET No.	DESCRIPTION
1	TITLE SHEET
2	ESTIMATED QUANTITIES AND STANDARD PLATES
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9-10	MISCELLANEOUS DETAILS
11-12	STANDARD PLAN SHEETS
13-23	C.S.A.H. 25 PLAN
24-25	TRAFFIC CONTROL PLAN

THIS PLAN CONTAINS 25 SHEETS

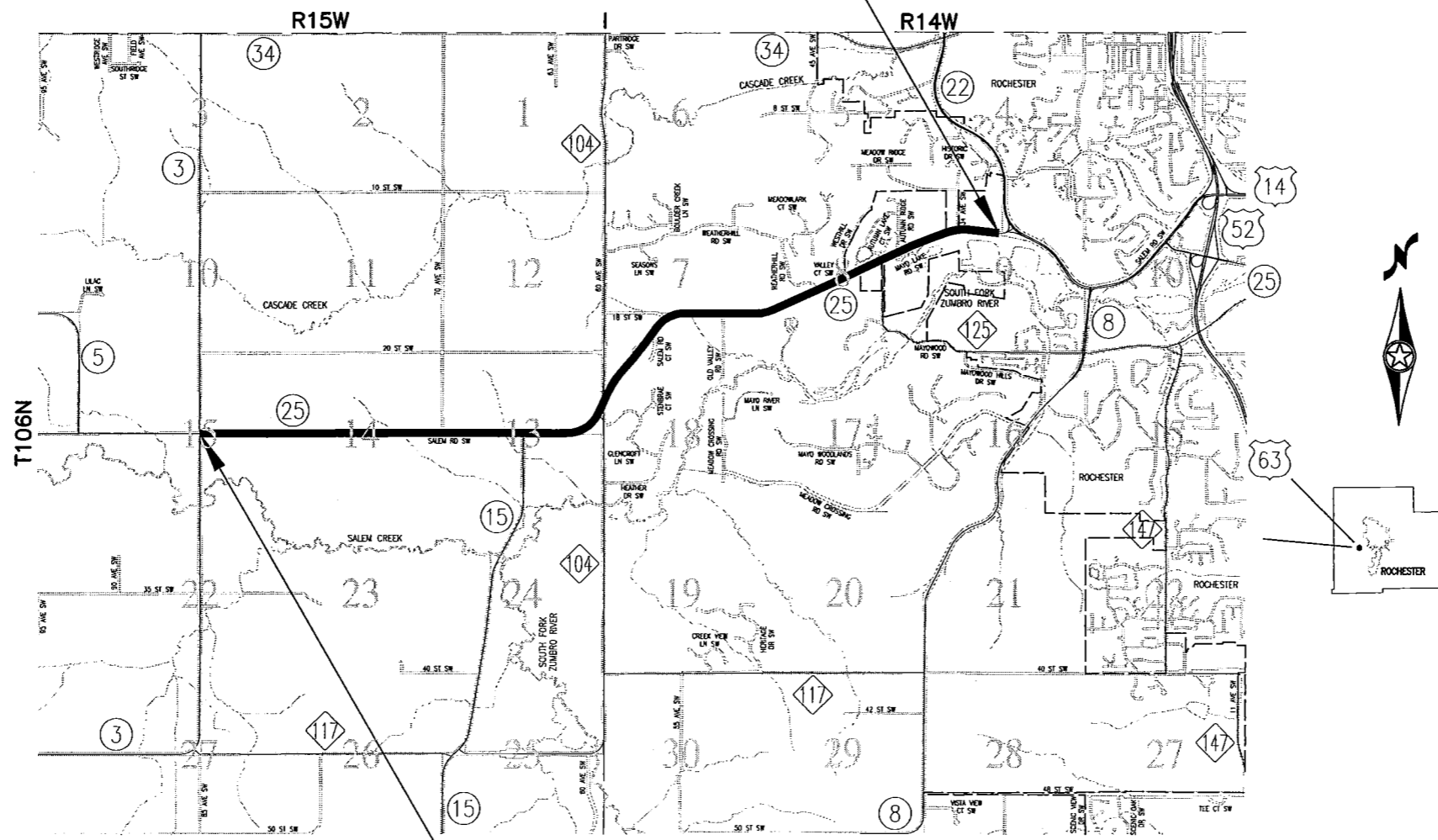
LOCATED ON C.S.A.H. 25 BETWEEN THE JCT. OF C.S.A.H. 3 & C.S.A.H. 25 AND THE INTERSECTION OF C.S.A.H. 22 (GEOGRAPHIC DESCRIPTION)
 FROM 4.19 FEET NORTH AND 20.71 FEET EAST OF THE CENTER OF SEC. 15, T 106 N, R 15 W TO 1298.60 FEET NORTH AND 474.66 FEET WEST OF THE CENTER OF SEC. 9, T 106 N, R 14 W (LEGAL DESCRIPTION)

S.P. NO. 055-625-023

GROSS LENGTH	28221.00 FEET	5.345 MILES
BRIDGES LENGTH	0.00 FEET	0.000 MILES
EXCEPTIONS LENGTH	0.00 FEET	0.000 MILES
NET LENGTH	28221.00 FEET	5.345 MILES

END PROJECT S.P. 055-625-023
STA. 562+70.00

BEGIN PROJECT S.P. 055-625-023
STA. 280+49.00



DESIGN DESIGNATION: S.P. 055-625-023

STA. 280+49 TO STA. 525+50	
ADT (Current Year)	= 2,319 (2015)
ADT (Future Year)	= 3,247 (2035)
HCAADT (Heavy Commercial)	= 8.6%
Functional Classification	= Major Collector
10 Ton Design	
Soil Characteristic, R-value	= 20
Soil Factor	= 130%
No. of Traffic Lanes	= 2 at 12 Ft.
Shoulder Width	= 8 Ft.

DESIGN DESIGNATION: S.P. 055-625-023

STA. 525+50 TO STA. 562+70	
ADT (Current Year)	= 3,847 (2015)
ADT (Future Year)	= 5,386 (2035)
HCAADT (Heavy Commercial)	= 8.6%
Functional Classification	= Minor Arterial
10 Ton Design	
Soil Characteristic, R-value	= 20
Soil Factor	= 130%
No. of Traffic Lanes	= 2 at 12 Ft.
Shoulder Width	= 8 Ft.

Design Speed 55 MPH Based on Stopping Sight Distance
 Stopping Sight Distance based on 3.5 Ft. Height of Eye and 2.0 Ft. Height of Object
 Design Speed not achieved at: N/A

DESIGN ENGINEER: I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

DATE 3/19/2015 LIC. NUMBER 44588
 PRINTED NAME: Benjamin T Johnson
 SIGNED NAME: [Signature]
 COUNTY PROJECT ENGINEER

DESIGNED BY: J. GOODMAN

DATE 3/19/15 LIC. NUMBER 19917
[Signature]
 APPROVED OLMTED COUNTY ENGINEER

[Signature] DATE: 03/19/15
 DISTRICT STATE AID ENGINEER: REVIEWED FOR COMPLIANCE WITH STATE-AID RULES/POLICY

[Signature] DATE: 4/6/2015
 STATE AID ENGINEER: APPROVED FOR STATE-AID & FEDERAL-AID FUNDING

PLAN SYMBOLS

<p>ROAD AND ROADWAY FEATURES</p> <p>PROJECTED ROAD FINISHED ROAD UNFINISHED ROAD GRAVEL AND GRAVEL ROAD SOIL SURFACE ROAD GRAVEL OR STONE ROAD BITUMINOUS ROAD PAVED ROAD DIRT ROAD TRUNK HIGHWAY UNDER CONSTRUCTION ROADS IN UNINCORPORATED COMPACTS, EXTENSIONS OF LOCAL ROADS (NOT F.A.S.) WITHIN MUNICIPALITIES AND FRONTAGE ROADS POINTS BETWEEN WHICH DISTANCES ARE MEASURED INDICATED THIS</p> <p>ROAD SYSTEM DESIGNATIONS</p> <p>INTERSTATE TRUNK HIGHWAY (35) U.S. NUMBERED TRUNK HIGHWAY (52) STATE NUMBERED TRUNK HIGHWAY (30) COUNTY STATE AID HIGHWAY (3) COUNTY ROAD (104) COUNTY STATE AID IN ADJACENT COUNTY (5) FEDERAL AID INTERSTATE SYSTEM NATIONAL FOREST HIGHWAY NATIONAL FOREST DEVELOPMENT STATE FOREST ROAD STATE PARK ROAD</p> <p>RAILROADS</p> <p>RAILROAD (ANY NUMBER OF TRACKS) USED BY A SINGLE OPERATING COMPANY OR BY TRACKS OF ANOTHER CARRIER UNDER TRACKAGE RIGHTS RAILROADS IN ADJUTATION (TWO OR MORE TRACKS OF SEPARATELY OPERATED COMPANIES OR ADJACENT RIGHTS OF WAY) RAILROAD STATION GRADE CROSSING UNDERPASS (HIGHWAY BELOW) OVERPASS (HIGHWAY ABOVE)</p> <p>AIRWAYS</p> <p>RUNWAY MILITARY FIELD COMMERCIAL OR MUNICIPAL FIELD LANDING AREA OR STRIP AIRWAY LIGHT BEACON, GENERAL</p> <p>STRUCTURES</p> <p>General Symbols (over 20' span) HIGHWAY BRIDGE SMALL SPANNS CLOSELY SPACED DRAWBRIDGE TRUSS Other Structures PEDESTRIAN BRIDGE DAM WITH ROAD DAM WITHOUT ROAD LEVEE OR DIKE WITH ROAD LEVEE OR DIKE WITHOUT ROAD MAJOR STRUCTURES (5' TO 20' SPAN) CONCRETE FORD OR DIP FORD - ROAD ESTABLISHED</p> <p>BOUNDARIES</p> <p>NATIONAL OR STATE COUNTY CIVIL TOWNSHIP CONGRESSIONAL TOWNSHIP (U.S. LAND) CORPORATE LINE SECTION LINE CONCEALED AREA NATIONAL OR STATE PARK NATIONAL OR STATE FOREST GAME REFUGE AIRPORT MILITARY MANAGEMENT AREA (STATE) OR WATERFOWL AREA (FEDERAL)</p> <p>DRAINAGE</p> <p>NATURAL STREAM MADE STREAM MARSH OR SWAMP LAND DRAINAGE DITCH LAKE OR POND</p>	<p>CONSERVATION</p> <p>FOREST RANGER STATION GARD OR RANGER STATION (NOT PERMANENTLY OCCUPIED) FISH HATCHERY GAME PRESERVE OBSERVATION OR LOOKOUT TOWER SMALL PARK SP = STATE, CP = COUNTY, MP = MUNICIPAL, WP = WARDSE PUBLIC ACCESS POINT</p> <p>RECREATION</p> <p>GOLF COURSE OR COUNTRY CLUB GOLF CLUB ATHLETIC FIELD AMUSEMENT PARK PICNIC GROUNDS PLAYGROUND, BALLFIELD ETC. BATHING BEACH OR SWIMMING POOL SCENIC SITE CAMP SITE CAMP OR LODGE</p> <p>FARM AND DWELLING UNITS</p> <p>FARM UNIT DWELLING OTHER THAN FARM BUSINESS OR CORPORATIONS FOR STUDENTS, WORKERS, MAGNATS ETC. SEASONAL DWELLING HOUS OR GROUPS OF DWELLINGS CLOSELY SPACED NUMBER ADJACENT TO SYMBOL INDICATES NUMBER OF EACH UNIT</p> <p>INDUSTRIAL</p> <p>FACTORY OR INDUSTRIAL PLANT SMALL STORAGE TANKS, OIL OR GAS GRAIN ELEVATOR BEET DUMP STOCKYARD, FEEDLOT QUARRY MEAT REFRIG. CREAMERY OR CHEESE FACTORY WAREHOUSE</p> <p>COMMERCIAL</p> <p>STORE OR SMALL BUSINESS ESTABLISHMENT HOTEL MAREL TOURIST COURT DRIVE-IN THEATRE WAREHOUSE GREENHOUSE</p> <p>PUBLIC SERVICE FACILITIES</p> <p>POST OFFICE FIRE STATION MUSEUM PUBLIC LIBRARY SCHOOL RADIO STATION SERVICE DISPOSAL PLANT HOSPITAL TOWN HALL</p> <p>CITY CENTERS</p> <p>COUNTY SEAT CITY CENTER INCORPORATED CITY (GENERALIZED) UNINCORPORATED COMMUNITY</p> <p>MISCELLANEOUS MAP FEATURES</p> <p>CHURCH, OTHER RELIGIOUS INSTITUTIONS CEMETERY FAIRGROUND, RACE COURSE, SPEEDWAY GRAVEL PIT SANITARY LANDFILL AUTO JUNKYARD HIGHWAY GARAGE DEPARTMENT OF TRANSPORTATION DISTRICT OFFICE VALVE HOUSE NATURAL GAS, PETROLEUM PRODUCTS, CRUDE OIL OR WATER GASOLINE OR PUMPING STATION NATURAL GAS, PETROLEUM PRODUCTS, CRUDE OIL OR WATER PIPELINE, NATURAL GAS PIPELINE, PETROLEUM PRODUCTS PIPELINE, CRUDE OIL PIPELINE, WATER TRANSMISSION LINE (33KV OR OVER) POWER PLANT TRANSFORMER STATION LATITUDE AND LONGITUDE INTERSECTION HISTORIC SITE, STATE OR NATIONAL OPEN TO PUBLIC</p>
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SCALES

PLAN:		100 FEET
PROFILE:		100 FEET HORIZ.
		10 FEET VERT.
CROSS SECTIONS:		20 FEET HORIZ. and VERT.
INDEX MAP:		1 MILE

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA".

DATE: 03-10-15 FILE NAME: P371CT01.DWG

STATEMENT OF ESTIMATED QUANTITIES

SPECIFICATION NO.	ITEM	ITEM NOTES	UNITS	S.P. 055-625-023		TOTAL ESTIMATED QUANTITIES
				PARTICIPATING	NON PARTICIPATING	
2021.501	MOBILIZATION		LUMP SUM	1		1
2104.501	REMOVE CURB & GUTTER		LIN. FT.	1037		1037
2104.505	REMOVE CONCRETE PAVEMENT		SQ. YD.	2125		2125
2104.505	REMOVE BITUMINOUS PAVEMENT		SQ. YD.	3024		3024
2104.511	SAWING CONCRETE PAVEMENT (FULL DEPTH)		LIN. FT.	72		72
2104.513	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)		LIN. FT.	1346		1346
2105.501	COMMON EXCAVATION	(1)	CU. YD.	605		605
2105.604	GEOTEXTILE FABRIC SPECIAL		SQ. YD.	130753		130753
2211.501	AGGREGATE BASE, CLASS 5 MOD.	(2)	TON	2318		2318
2221.501	SHOULDER BASE AGGREGATE, CLASS 2		TON	2486		2486
2232.501	MILL BITUMINOUS SURFACE	(3)	SQ. YD.	375		375
2301.504	PLACE CONCRETE PAVEMENT 6"		SQ. YD.	126258		(P) 126258
2301.504	PLACE CONCRETE PAVEMENT 8"		SQ. YD.	3446		(P) 3446
2301.508	SUPPLEMENTAL PAVEMENT REINFORCEMENT	(4)	POUND	18755		18755
2301.511	STRUCTURAL CONCRETE		CU. YD.	23572		23572
2301.538	DOWEL BAR	(5)	EACH	1144		1144
2301.602	DRILL & GROUT DOWEL BAR (EPOXY COATED)	(5)	EACH	22		22
2360.501	TYPE SP 12.5 WEARING COURSE MIX (3,C)	(6)	TON	1182		1182
2531.501	CONCRETE CURB & GUTTER DESIGN B424		LIN. FT.	1040		1040
2563.601	TRAFFIC CONTROL		LUMP SUM	1		1
2574.508	FERTILIZER, TYPE 1		POUND	944		944
2574.525	COMMON TOPSOIL BORROW		CU. YD.	1731		1731
2575.501	SEEDING		ACRE	4.7		4.7
2575.502	SEED, MIXTURE 21-111		POUND	472		472
2575.502	SEED, MIXTURE 25-151		POUND	566		566
2575.511	MULCH MATERIAL TYPE 1		TON	9.4		9.4
2575.519	DISK ANCHORING		ACRE	4.7		4.7
2582.502	6" SOLID LINE WHITE-EPOXY-GROUND IN		LIN. FT.	58195		58195
2582.502	8" DOTTED LINE WHITE-EPOXY-GROUND IN		LIN. FT.	60		60
2582.502	4" SOLID LINE YELLOW-EPOXY-GROUND IN		LIN. FT.	9113		9113
2582.502	4" BROKEN LINE YELLOW-EPOXY-GROUND IN		LIN. FT.	3582		3582
2582.502	4" DBLE SOLID LINE YELLOW-EPOXY-GROUND IN		LIN. FT.	10301		10301

- ① CONSISTS OF EXCAVATION AND REMOVAL OF 6" OF MATERIAL BELOW INPLACE CONCRETE FROM STA. 280+49.00 TO STA. 286+45.00 AND STA. 560+70.00 TO STA. 562+70.00.
- ② INCLUDES 862 TONS FOR DRIVEWAYS AND FIELD ENTRANCES.
- ③ CONSISTS OF MILLING 1-1/2" DEPTH ON BITUMINOUS SIDE ROADS AT EDGE OF INPLACE BITUMINOUS MATCH LINE. QUANTITY CALCULATED USING WIDTH OF 9' AT EACH SIDE ROAD LOCATION.
- ④ INCLUDES 1300 POUNDS FOR TRANSITION AREAS AND 17455 POUNDS FOR TURN LANE AND BYPASS LANE EXTENSIONS.
- ⑤ DOWEL BARS SHALL BE 1-1/4 INCH DIAMETER.
- ⑥ INCLUDES 827 TONS FOR SIDE ROADS AND 294 TONS FOR DRIVEWAYS.

STANDARD PLATES	
THE FOLLOWING STANDARD PLATES, APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION SHALL APPLY ON THIS PROJECT.	
PLATE NO.	DESCRIPTION
1070M	SUPPLEMENTAL PAVEMENT REINFORCEMENT
1103K	TYPICAL DOWEL BAR ASSEMBLY
1150R	CONCRETE HEADER JOINTS
7100H	CONCRETE CURB AND GUTTER
8000I	STANDARD BARRICADES
9000E	APPROACHES AND ENTRANCES

UTILITY LOCATIONS	
GOPHER STATE ONE CALL 1-800-252-1166	
CONTRACTOR SHALL VERIFY ALL UNDERGROUND UTILITY LOCATIONS AND ELEVATIONS PRIOR TO CONSTRUCTION. ALL INPLACE UTILITIES MAY NOT BE SHOWN ON THIS PLAN.	

BASIS OF QUANTITY

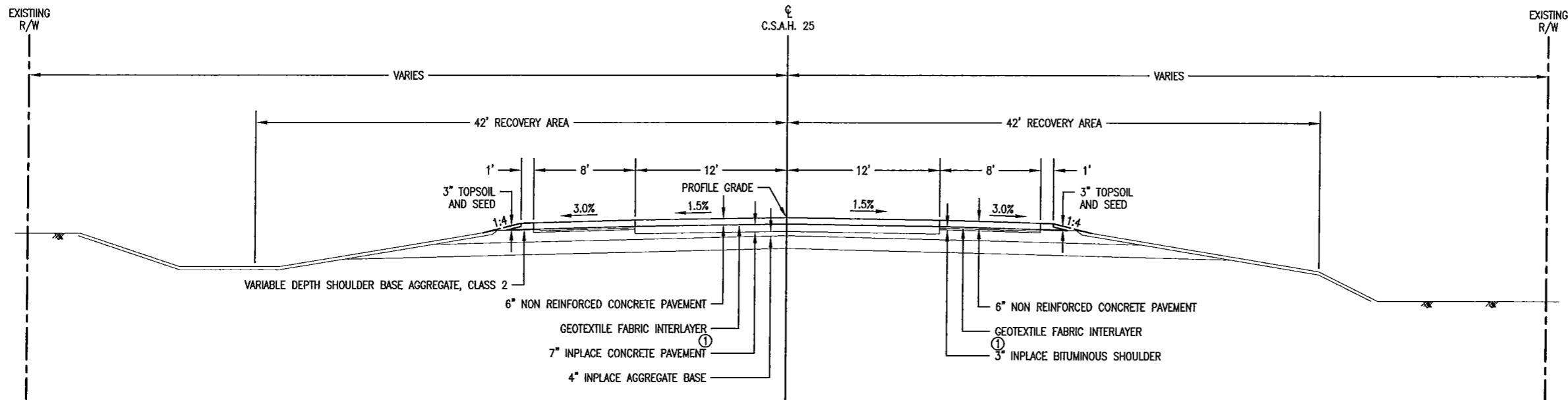
AGGREGATE BASE, CLASS 5 MOD. - 140 LBS./CU. FT. COMPACTED
 SHOULDER BASE AGGREGATE, CLASS 2 - 140 LBS./CU. FT. COMPACTED
 BITUMINOUS MIXTURE - 110 LBS./SQ. YD./1 INCH DEPTH
 FERTILIZER, TYPE 1 - 200 LBS./ACRE
 SEED, MIXTURE 21-111 - 100 LBS./ACRE
 SEED, MIXTURE 25-151 - 120 LBS./ACRE
 MULCH MATERIAL, TYPE 1 - 2 TONS/ACRE, EXCEPT EROSION BLANKET AND SOD AREAS
 DISK ANCHORING - ALL SEEDING AREAS, EXCEPT 1:2 SLOPES AND SOD AREAS

CERTIFIED BY *[Signature]* LIC. NO. 44588 3/10 2015
REGISTERED PROFESSIONAL ENGINEER

S.P. 055-625-023

TITLE: **C.S.A.H. No. 25**
 QUANTITY TABULATIONS
 ESTIMATED QUANTITIES

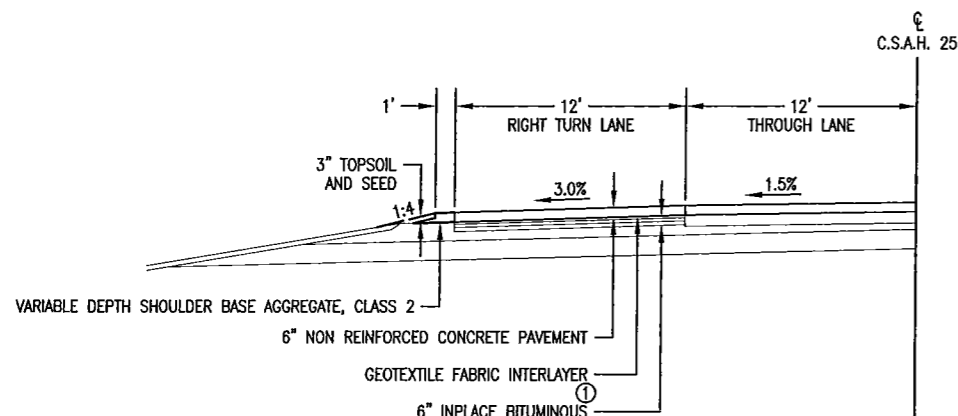
Sheet No. 2 of 25 Sheets



TYPICAL SECTION
STA. 286+45.00 TO STA. 560+70.00

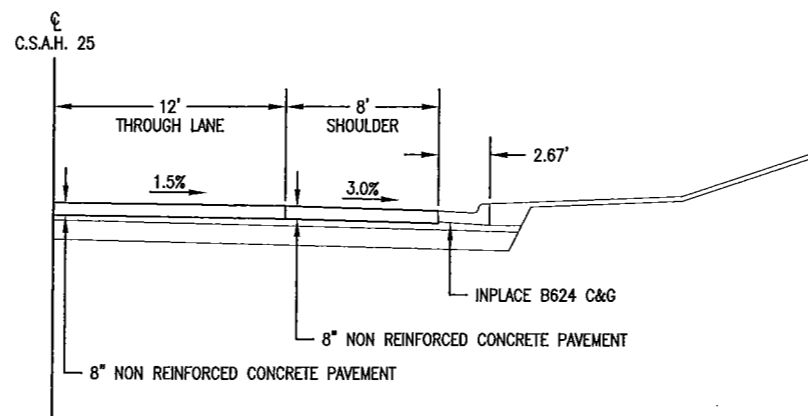
NOTES:

① EXTEND THE GEOTEXTILE FABRIC INTERLAYER 6" TO 12" BEYOND THE OUTSIDE EDGE OF CONCRETE SHOULDER PAVEMENT.



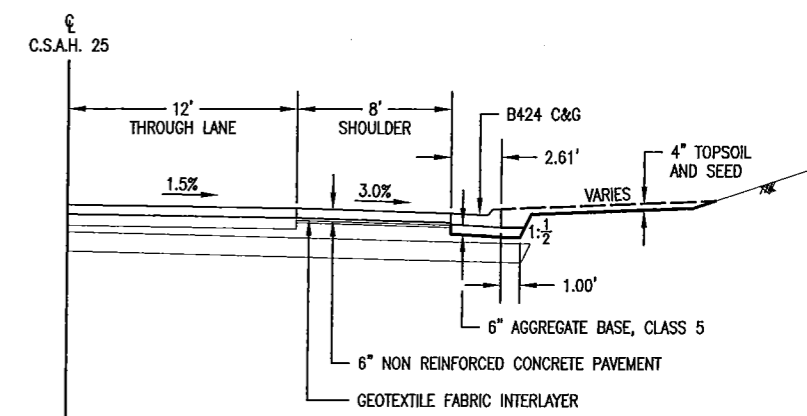
RIGHT TURN LANE SECTION

STA. 358+70.21 TO STA. 364+25.22 LT.
 STA. 380+80.58 TO STA. 386+46.33 RT.
 STA. 407+10.37 TO STA. 412+85.90 RT.
 STA. 418+19.09 TO STA. 424+07.10 LT.
 STA. 449+94.97 TO STA. 455+63.36 LT.
 STA. 500+82.56 TO STA. 506+46.56 LT.
 STA. 511+38.62 TO STA. 517+02.31 LT.
 STA. 520+37.76 TO STA. 531+97.63 RT.
 STA. 524+32.37 TO STA. 536+15.68 LT.
 STA. 539+99.78 TO STA. 545+68.78 RT.
 STA. 544+14.18 TO STA. 549+84.78 LT.
 STA. 547+89.61 TO STA. 553+60.17 RT.
 STA. 551+40.21 TO STA. 556+96.21 LT.



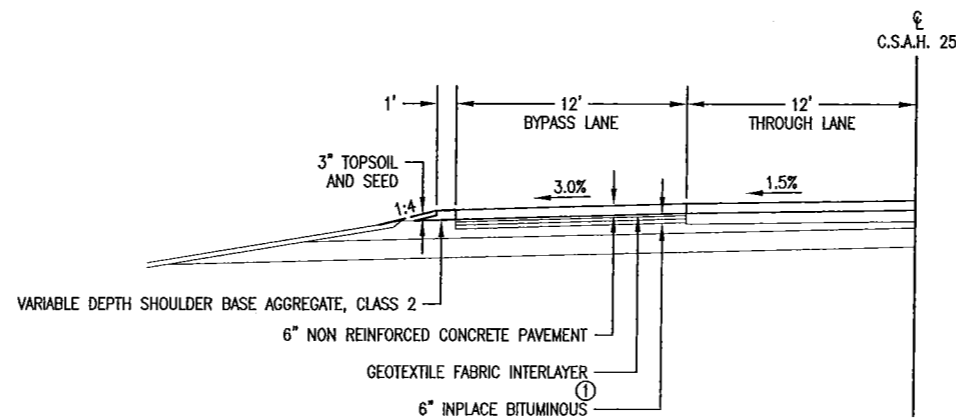
CONCRETE PAVEMENT WITH INPLACE CURB AND GUTTER SECTION

STA. 280+90.13 TO STA. 284+37.00 LT.
 STA. 280+96.26 TO STA. 283+50.00 RT.



CURB AND GUTTER SECTION

STA. 318+46.00 TO STA. 321+32.00 RT.
 STA. 319+47.00 TO STA. 321+32.00 LT.
 STA. 347+98.00 TO STA. 352+06.00 LT.
 STA. 398+66.50 TO STA. 400+26.29 RT.



BYPASS LANE SECTION

STA. 383+30.58 TO STA. 389+40.58 LT.
 STA. 396+13.50 TO STA. 402+23.50 LT.

FILE NAME: P371Y01.DWG DATE: 02-26-15

CERTIFIED BY

[Signature]
LICENSED PROFESSIONAL ENGINEER

LIC. NO. 44588

2/27 2015

S.P. 055-625-023

TITLE:
C.S.A.H. No. 25
TYPICAL SECTIONS
C.S.A.H. 25

Sheet No. 3 of 25 Sheets

CONCRETE PAVEMENT AND JOINT SUMMARY														
STATION	LOCATION	GEOTEXTILE FABRIC SPECIAL	CONCRETE PAVEMENT 6"	CONCRETE PAVEMENT 8"	SUPPLEMENTAL PAVEMENT RE-INFORCEMENT	STRUCTURAL CONCRETE	DOWEL BAR ①	DRILL & GROUT DOWEL BAR ①	INCIDENTAL ITEMS					
									CONTRACTION JOINTS		LONGITUDINAL JOINTS			
									C1U	C1U-D	L1U	L1TU	L2TU	L3U
		SQ. YD.	SQ. YD.	SQ. YD.	POUND	CU. YD.	EACH	EACH	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.
C.S.A.H. 25														
280+54.05-286+45.00	LT. & RT.			2557		573	858		592	936		591	1104	601
286+37.50-286+50.50	LT. & RT.				650									
286+45.00-311+50.00	LT. & RT.	11551	11133			2010			16680		5010	5010	2505	
311+50.00-336+50.00	LT. & RT.	11489	11111			2006			16680		5000	5000	2500	471
336+50.00-361+50.00	LT. & RT.	11619	11236			2029			16824		5280	5000	2500	408
358+68.50-358+98.50	LT.				351									
361+50.00-386+50.00	LT. & RT.	12045	11627			2099			17452		6161	5000	2500	
386+50.00-411+50.00	LT. & RT.	12113	11708			2114			17576		6344	5000	2500	160
389+22.50-389+40.50	LT.				210									
402+06.50-402+24.50	LT.				210									
411+50.00-436+50.00	LT. & RT.	11853	11435			2065			17120		5727	5000	2500	
412+80.50-412+86.50	RT.				70									
418+20.50-418+44.50	LT.				280									
423+84.50-424+08.50	LT.				280									
436+50.00-461+50.00	LT. & RT.	11786	11369			2053			17056		5577	5000	2500	
449+94.50-450+00.50	LT.				70									
453+90.50-455+64.50	LT.				2033									
461+50.00-486+50.00	LT. & RT.	11528	11111			2006			16680		5000	5000	2500	
486+50.00-511+50.00	LT. & RT.	11784	11367			2052			17020		5575	5000	2500	
500+82.50-500+88.50	LT.				70									
504+96.50-506+46.50	LT.				1752									
511+50.00-536+50.00	LT. & RT.	12816	12398			2239			18612		7895	5000	2500	
514+02.50-517+02.50	LT.				3505									
524+34.50-524+64.50	LT.				351									
525+60.50-526+50.50	RT.				1051									
536+50.00-560+70.00	LT. & RT.	12169	11763			2124			17636		7107	4840	2420	
544+14.50-544+44.50	LT.				351									
547+86.50-552+18.50	RT.				5047									
551+40.50-551+70.50	LT.				351									
553+32.50-553+62.50	RT.				351									
556+02.50-556+98.50	LT.				1122									
560+64.50-560+77.50	LT. & RT.				650									
560+70.00-562+70.00	LT. & RT.			889		202	286		208	312		400	200	
562+70.00	LT. & RT.							22						
TOTALS		130753	126258	3446	18755	23572	1144	22	190136	1248	64676	55841	28729	1640

① USE 1-1/4 INCH DOWEL BARS (EPOXY COATED).

CONCRETE			
STATION	LOCATION	B424 CURB & GUTTER	REMARKS
		LIN. FT.	
C.S.A.H. 25			
318+46.00-321+32.00	RT.	286	
319+47.00-321+32.00	LT.	185	
347+98.00-352+06.00	LT.	408	
398+66.50-400+26.29	RT.	161	
TOTALS		1040	

FILE NAME: P3710T03.DWG DATE: 02-26-15

CERTIFIED BY

B. J. A.
LICENSED PROFESSIONAL ENGINEER

LIC. NO. 44588

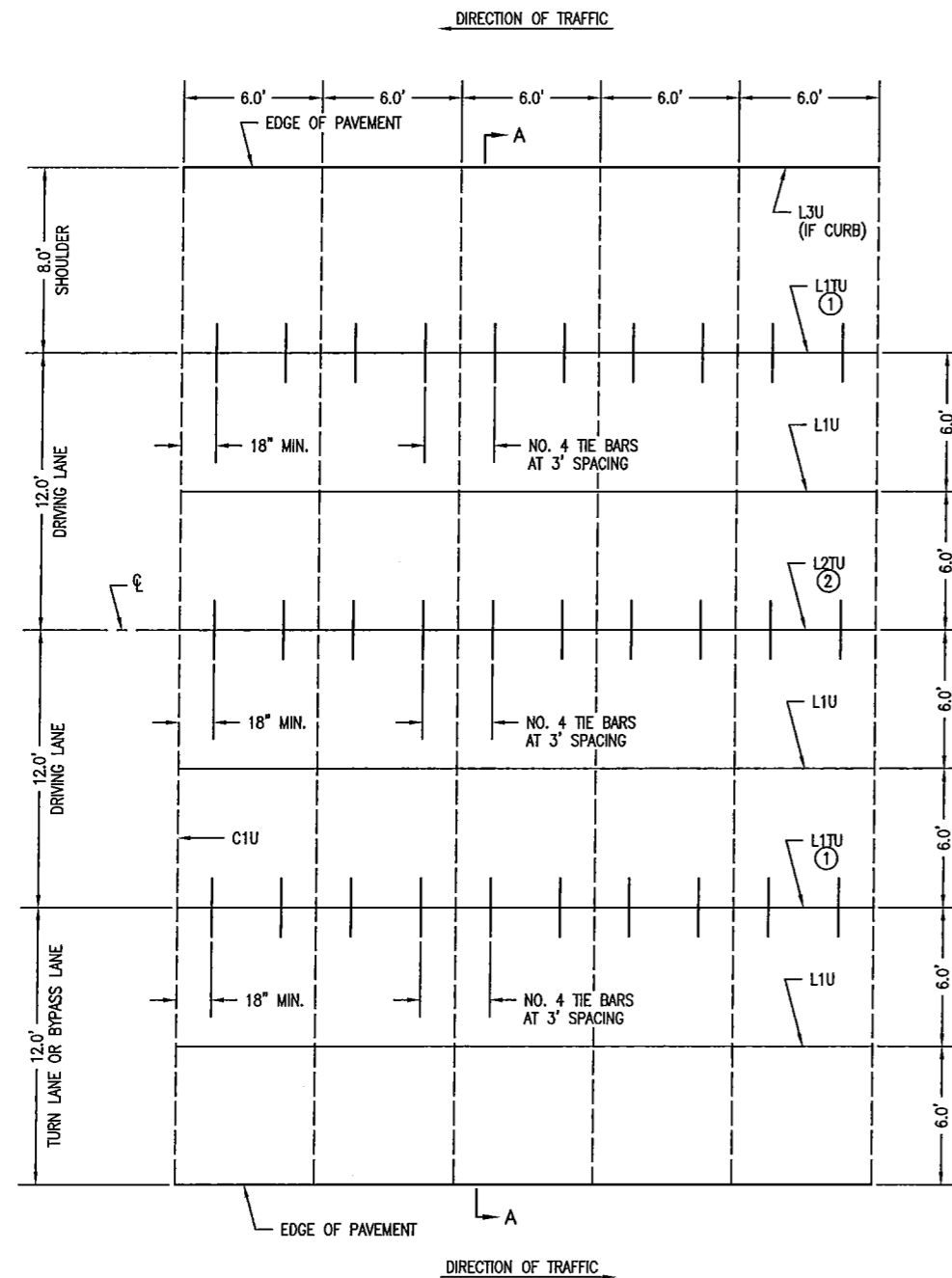
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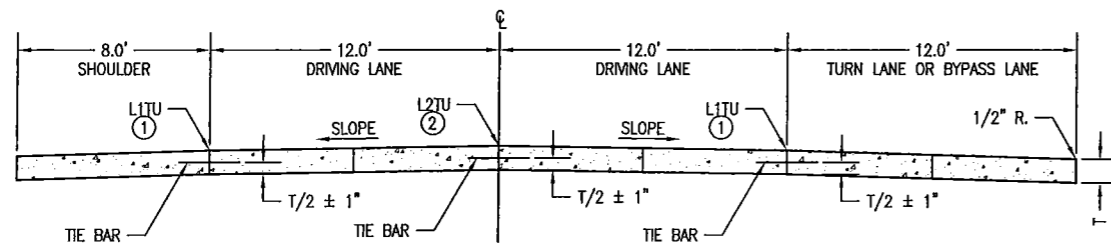
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C.S.A.H. No. 25
QUANTITY TABULATIONS
CONCRETE

Sheet No. 6 of 25 Sheets

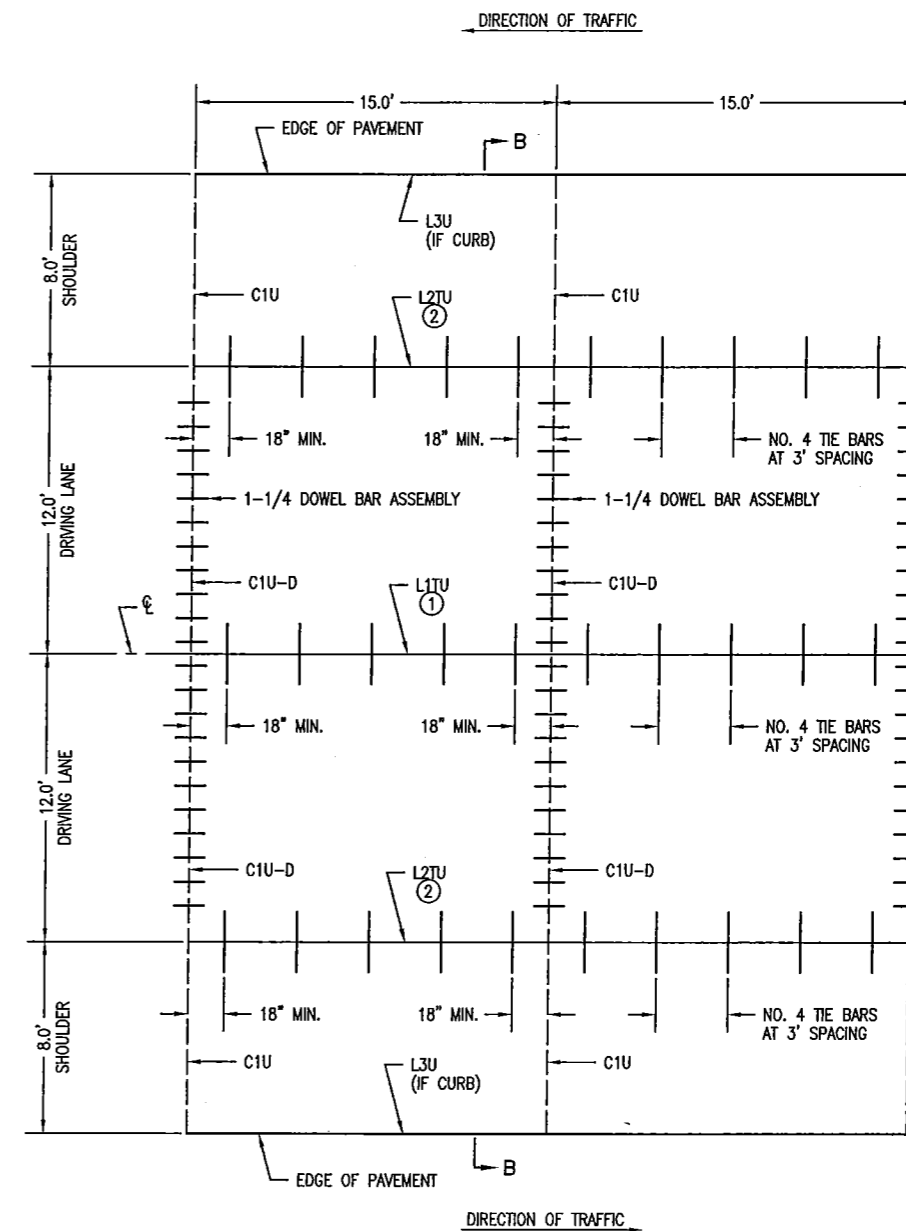


6" CONCRETE PAVEMENT
UNDOWELED

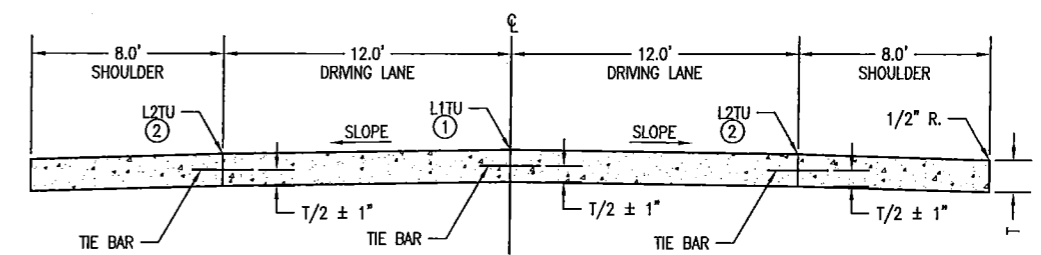


SECTION A-A

- ① L2TU JOINT IF 12' DRIVING LANES ARE PAVED TOGETHER AND SHOULDERS, TURN LANES AND BYPASS LANES ARE PAVED SEPARATELY.
- ② L1TU JOINT IF 12' DRIVING LANES ARE PAVED TOGETHER AND SHOULDERS, TURN LANES AND BYPASS LANES ARE PAVED SEPARATELY.



8" CONCRETE PAVEMENT
DOWELED



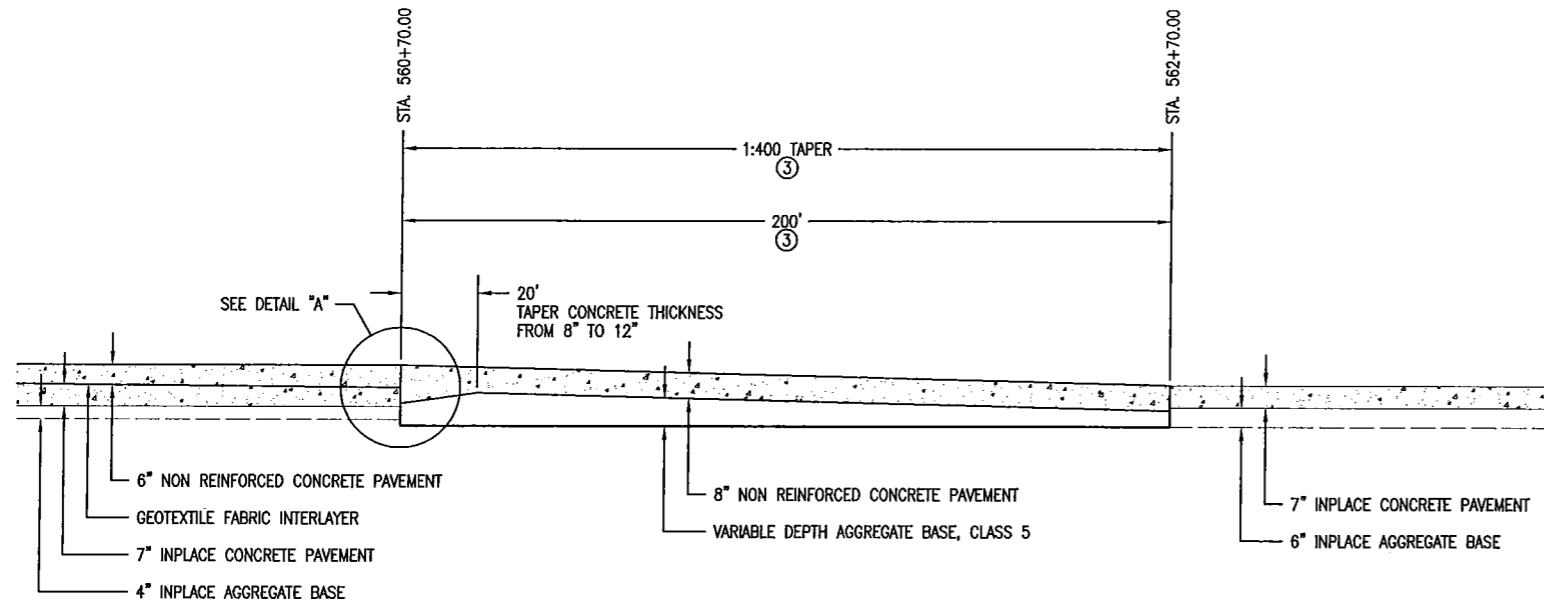
SECTION B-B

FILE NAME: P371C001.DWG DATE: 02-26-15

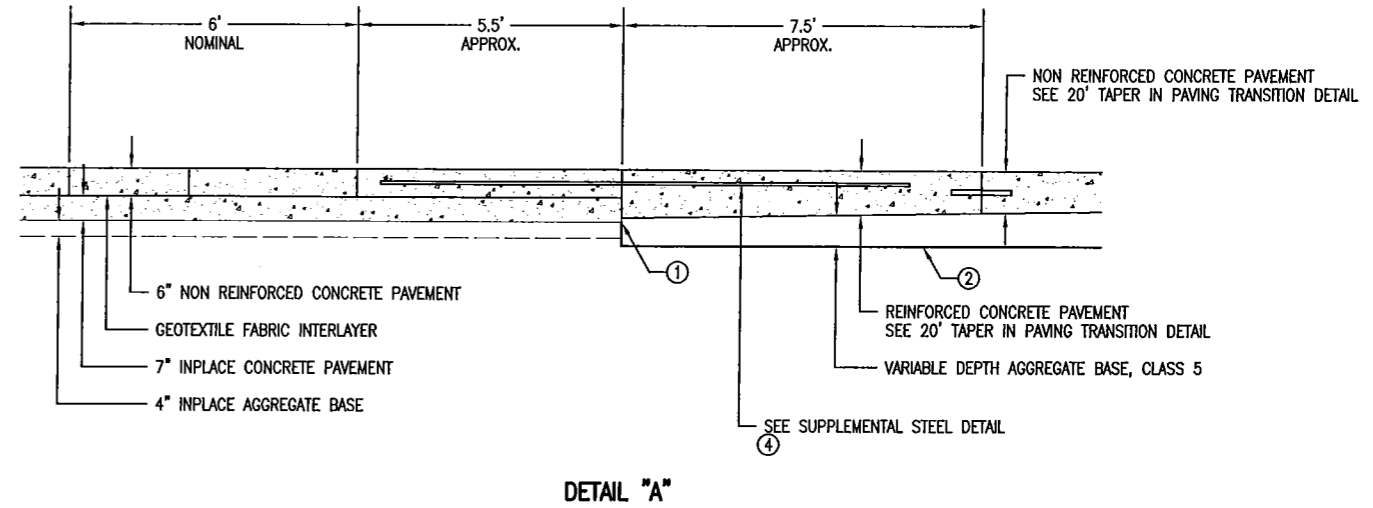
CERTIFIED BY *B. J. [Signature]* LICENSED PROFESSIONAL ENGINEER LIC. NO. 44588 2/27 2015

S.P. 055-625-023

TITLE: C.S.A.H. No. 25
CONCRETE PAVEMENT DETAIL
JOINT DETAIL
Sheet No. 9 of 25 Sheets

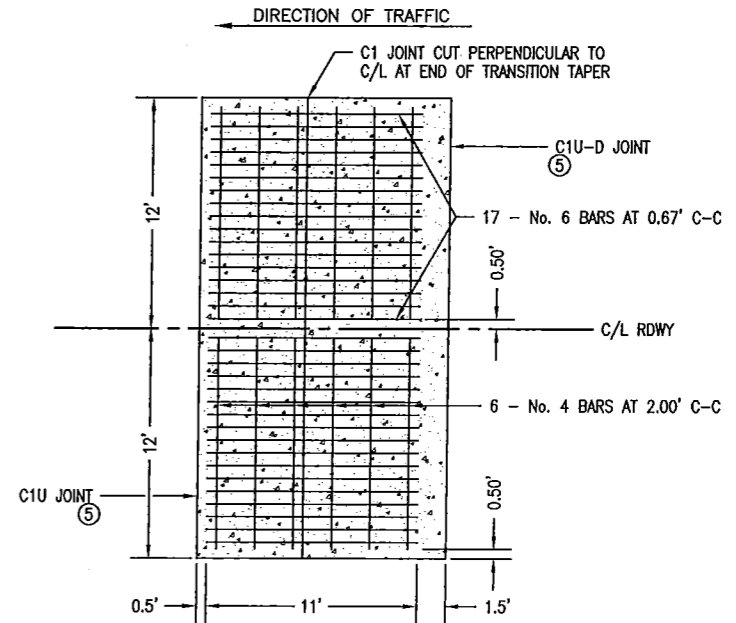


PAVING TRANSITION DETAIL
STA. 560+70.00 TO STA. 562+70.00

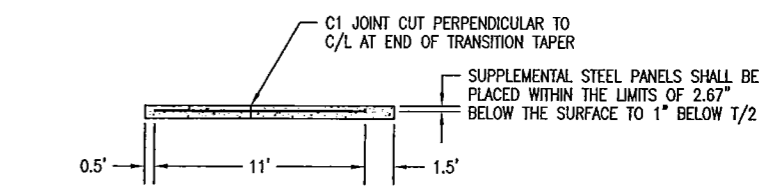


NOTES:

- ① SAWCUT INPLACE CONCRETE PAVEMENT NEAR MID-PANEL, PERPENDICULAR TO ROADWAY CENTERLINE, AND SAW C1U JOINT DIRECTLY OVER SAWCUT.
- ② EXCAVATE AND REMOVE 6" OF MATERIAL BELOW INPLACE CONCRETE FROM STA. 280+49.00 TO STA. 286+45.00 AND FROM STA. 560+70.00 TO STA. 562+70.00. EXCAVATION OF MATERIAL AND REMOVAL FROM THE PROJECT SHALL BE PAID FOR AS ITEM No. 2105.501, COMMON EXCAVATION.
- ③ THE 200' TAPER LENGTH MAY BE ADJUSTED TO MISS INPLACE SKEWED JOINTS.
- ④ PROVIDE SUPPLEMENTAL STEEL WHERE BASE MATERIALS DIFFER UNDER OVERLAY. ALL SUPPLEMENTAL AND REINFORCING STEEL SHALL BE EPOXY COATED AND SHALL BE INCIDENTAL FOR WHICH NO ADDITIONAL COMPENSATION WILL BE MADE.
- ⑤ C1U AND C1U-D JOINTS WILL BE USED. SAW C1 JOINTS PERPENDICULAR TO C/L JOINT.

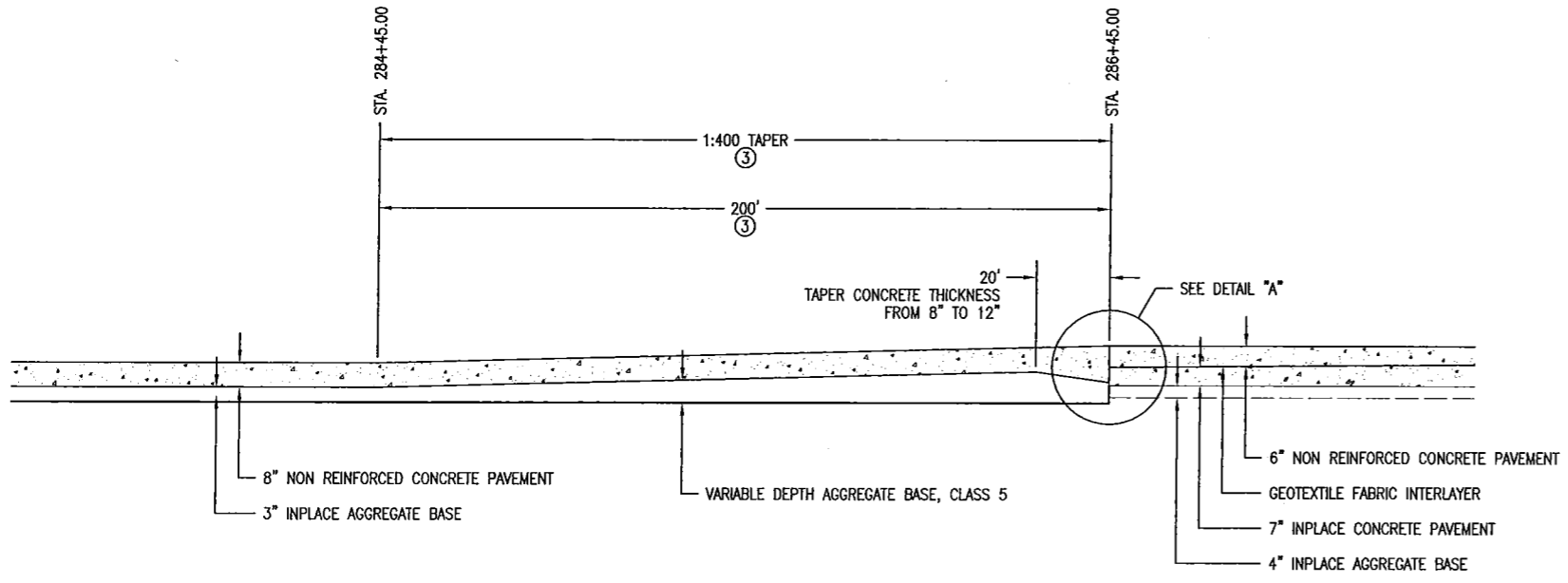


TOP VIEW



SIDE VIEW

SUPPLEMENTAL STEEL DETAIL
TRANSITION FROM UNBONDED OVERLAY TO PAVING ON GRADE



PAVING TRANSITION DETAIL
STA. 284+45.00 TO STA. 286+45.00

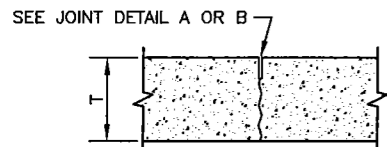
FILE NAME: P3710002.DWG DATE: 02-27-15

CERTIFIED BY *[Signature]* LICENSED PROFESSIONAL ENGINEER LIC. NO. 44588 2/27 2015

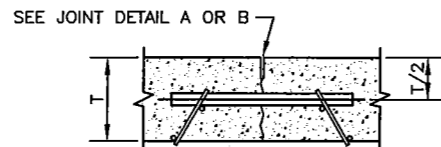
S.P. 055-625-023

TITLE:
C.S.A.H. No. 25
PAVING TRANSITION DETAIL
SUPPLEMENTAL STEEL DETAIL

Sheet No. 10 of 25 Sheets



C1U & C2H



C1U-D & C2H-D

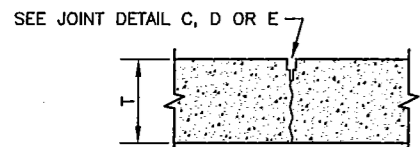
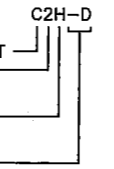
CONTRACTION JOINT REFERENCE, DETAIL & SEALER SPEC. TABLE

JOINT REFERENCE		JOINT DETAIL	JOINT SEALER SPEC.	JOINT WIDTH
WITHOUT DOWELS	WITH DOWELS			
C1U	C1U-D	A	UNSEALED	1/8"
C2H	C2H-D	B	3725	1/8"
C3P	C3P-D	C	3721	3/8"
C4S	C4S-D	D	3722	3/8"
C5H	C5H-D	E	3725	3/8"

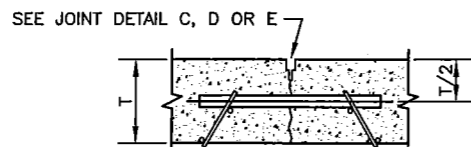
LEGEND

C = CONTRACTION JOINT NO.
 U = UNSEALED
 H = HOT POURED
 P = PREFORMED
 S = SILICONE
 -D = DOWEL BARS

EXAMPLE



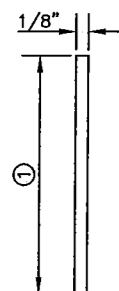
C3P, C4S, C5H



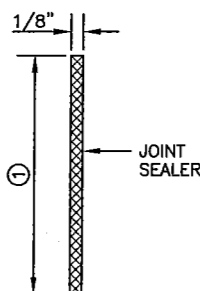
C3P-D, C4S-D, C5H-D

DOWEL BAR DIAMETER TABLE

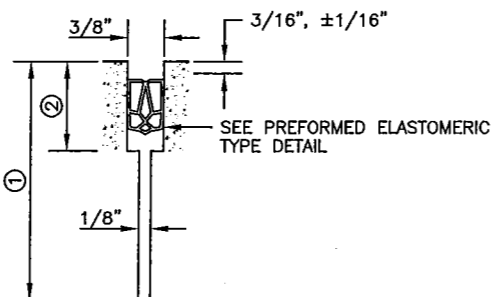
PAVEMENT THICKNESS T	DOWEL BAR DIAMETER
LESS THAN 6"	NONE
6" - 6-1/2"	1" OR NONE
7" - 7-1/2"	1"
8" - 10"	1-1/4"
10-1/2" AND GREATER	1-1/2"



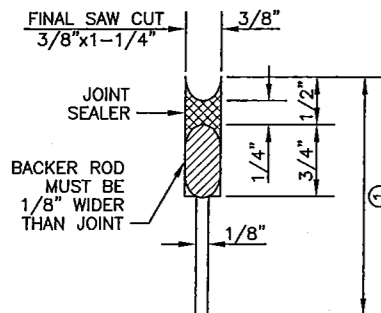
JOINT DETAIL A
SAWED AND UNSEALED



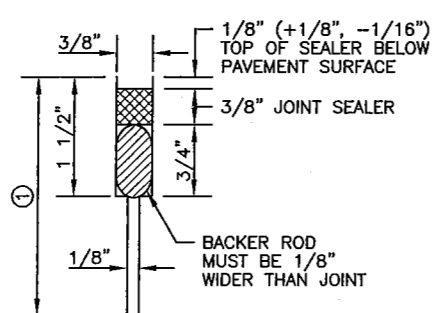
JOINT DETAIL B ③
SAWED AND SEALED



JOINT DETAIL C ③
SAWED AND SEALED



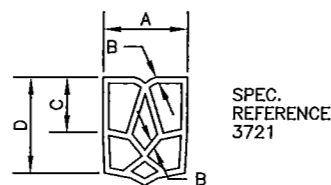
JOINT DETAIL D ③ ④
SAWED AND SEALED



JOINT DETAIL E ③ ⑤
SAWED AND SEALED

REQUIRED DIMENSIONS

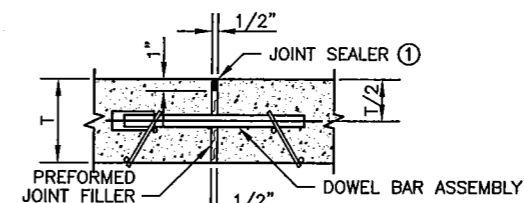
JOINT TYPE	TRANSVERSE
NOMINAL SEALER SIZE	1 1/16" USE IN ALL 3/8" JOINTS
A	0.69" +0.13" -0.05"
B	0.08" ±0.02"
C	0.25" MIN.
D	0.63" MIN.



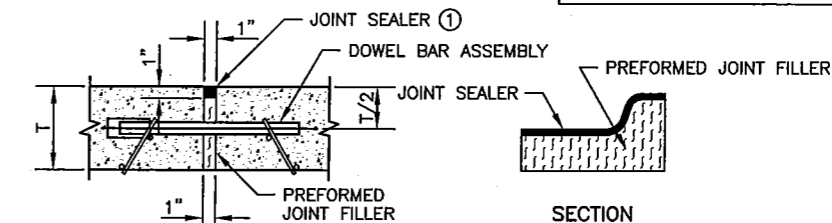
TYPICAL SHAPE FOR SATISFACTORY INSTALLATION IN JOINT (5 CELL MIN.)

NOTES:

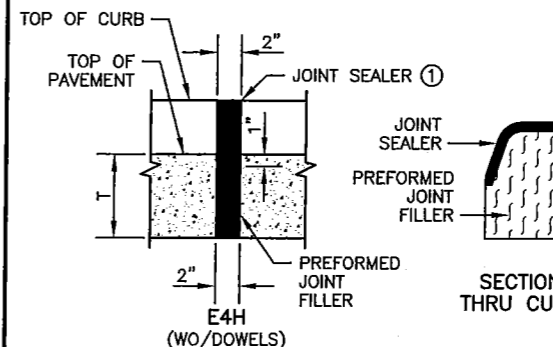
- SEE STANDARD PLATE 1103 FOR DOWEL BAR ASSEMBLY.
- SEE STANDARD PLATE 1150 FOR CONSTRUCTION OF HEADER JOINTS.
- JOINT WIDTH TOLERANCE IS +1/16" TO -1/32".
- FURNISH AND INSTALL ALL JOINT SEALER IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- SEE STANDARD PLANS 5-297.217 AND 5-297.219, FOR CONCRETE MAINLINE/RAMP PAVEMENT.
- SEE PAVING LAYOUTS IN THE PLANS FOR JOINT CLASS DESIGNATION TO BE USED AND SPECIAL REINFORCEMENT REQUIRED.
- JOINT DEPTH SHALL BE:
 FOR CONCRETE OVERLAYS - 1/3 THE PAVEMENT THICKNESS
 FOR CONCRETE PAVEMENT - 1/4 THE PAVEMENT THICKNESS
- SEE CONTRACTION JOINT SEALER DETAIL. WHEN USING PREFORMED JOINT SEALER, THE DEPTH SHALL BE 1/4" MORE THAN THE PREFORMED SEALER, WHEN COMPRESSED, TO FIT THE JOINT DESIGN WIDTH. "A" DIMENSION SHALL APPLY AT ANY POINT THROUGHOUT "C" DEPTH. SHARP INTERNAL CORNERS WILL NOT BE PERMITTED. ALL CORNERS SHALL BE PROVIDED WITH SUITABLE FILLET.
- WHEN SEALING, THE JOINT FACES SHALL BE CLEANED AND DRIED BY SANDBLASTING AND AIR BLASTING.
- PRIOR TO SEALING THE JOINT, A 1/2" DIA. CLOSED CELL BACKER ROD SHALL BE PLACED SUCH THAT THE TOP OF THE BACKER ROD IS 1/2" BELOW THE SURFACE OF THE PAVEMENT. NON SELF-LEVELING SILICONE SHALL BE TOOLED INTO THE JOINT MAINTAINING A SEAL AND BEAD THICKNESS OF 1/4".
- PRIOR TO SEALING THE JOINT, A 1/2" DIA. CLOSED CELL BACKER ROD CAPABLE OF WITHSTANDING SEALANT TEMPERATURES OF 400 DEGREES F. SHALL BE PLACED 1/2" BELOW THE TOP OF THE PAVEMENT.



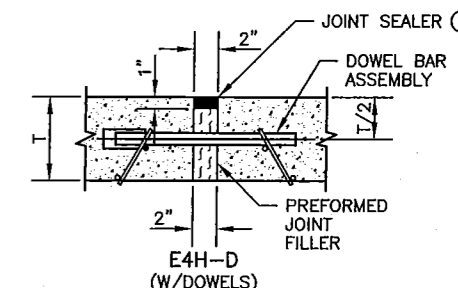
JOINT DETAIL A



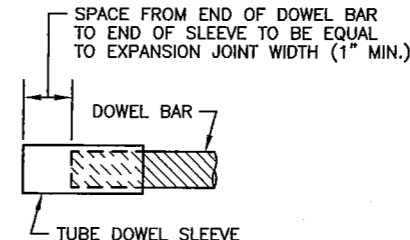
JOINT DETAIL B



JOINT DETAIL C



JOINT DETAIL D



DOWEL BAR SLEEVE DETAIL

NOTES:

- PREFORMED JOINT FILLER MATERIAL, SPEC. 3702.
- FOR DOWEL BAR ASSEMBLY, SEE STANDARD PLATE 1103.
- JOINT SEALER SPEC. 3725. THE JOINT FACES SHALL BE CLEANED AND DRIED BY SANDBLASTING AND AIR BLASTING. TOP OF SEALER, FLUSH TO 1/8" BELOW TOP OF PAVEMENT SURFACE. MAKE TOP OF SEALER FOR CURB SECTION D JOINTS FLUSH WITH SURFACE ±1/8".

EXPANSION JOINTS DESIGN E

PREFORMED ELASTOMERIC TYPE DETAIL

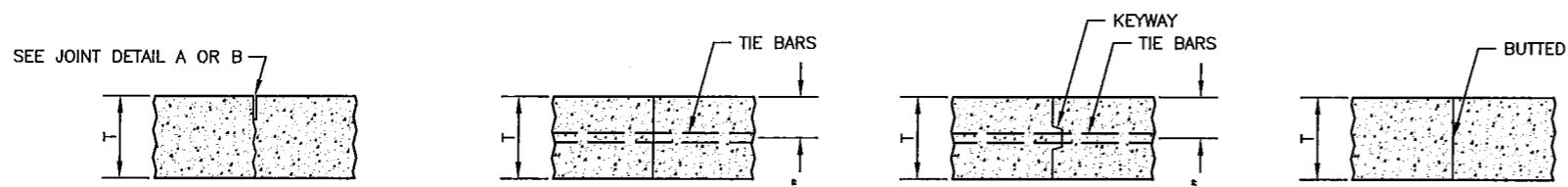
FILE NAME: 5297-221A.DWG DATE: 03-10-15

REVISION:
 APPROVED: 08-06-2014
 DIRECTOR, OFFICE OF MATERIALS AND ROAD RESEARCH

CONTRACTION JOINTS DESIGN C

REVISED:
 APPROVED: 08-06-2014
 STATE DESIGN ENGINEER

TITLE:
PAVEMENT JOINTS
 CONTRACTION (DESIGN C) AND EXPANSION (DESIGN E)
 STANDARD PLAN 5-297.221
 S.P. 055-625-023
 1 OF 2
 Sheet No. 11 of 25 Sheets

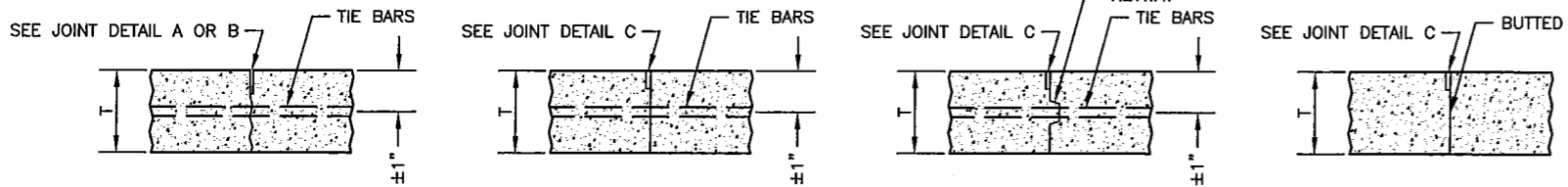


L1U & L1H ①

L2TU ②

L2KTU ③

L3U



L1TU & L1TH ①

L2TH ②

L2KTH ③

L3H

TIE BAR TABLE

PAVEMENT THICKNESS T	TIE BAR SIZE	LENGTH
<10-1/2"	NO. 4	30"
≥10-1/2"	NO. 5	36"
ALL THICKNESS WHEN TYING TO CURB AND GUTTER	NO. 4	30"

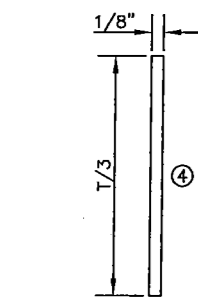
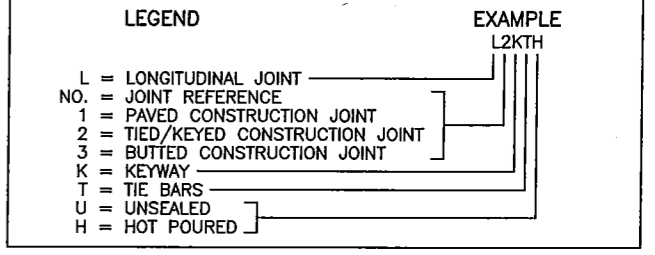
THE TIE BAR SPACING FOR ALL L2T AND L2KT JOINTS SHALL BE 3'-0" CENTER TO CENTER AND BENT 60° AS SHOWN, EXCEPT WHEN NOTED OTHERWISE IN THE PLANS.

TIE BARS IN THE L2T AND L2KT JOINTS SHALL BE THE SAME SIZE AND LENGTH AS USED FOR THE L1T JOINTS WHEN TYING PAVEMENT TO PAVEMENT. TIE BARS IN THE L2KT JOINTS SHALL BE NO. 4 x 2'-6" WHEN TYING CURB AND GUTTER TO PAVEMENT.

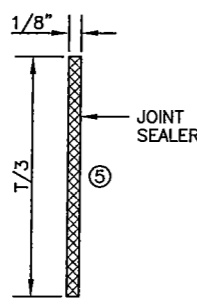
ALL TIE BARS SHALL BE EPOXY COATED AND COMPLY WITH SPEC. 3301.

LONGITUDINAL JOINT REFERENCE, DETAIL & SEALER SPECIFICATION TABLE

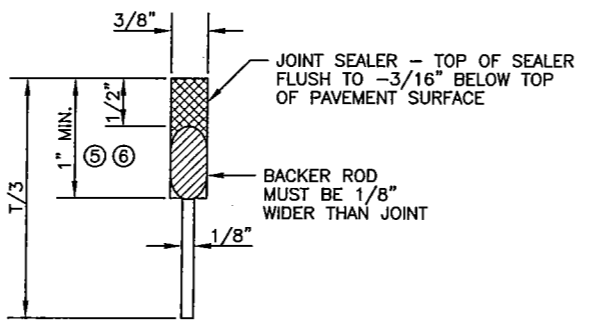
JOINT REFERENCE			JOINT DETAIL	JOINT SEALER SPEC.	JOINT WIDTH
WITHOUT TIE BARS	WITH TIE BARS	WITH KEYWAY & TIE BARS			
L1U	L1TU		A	UNSEALED	1/8"
L1H	L1TH		B	3725	1/8"
	L2TU	L2KTU	NONE	UNSEALED	
	L2TH	L2KTH	C	3725	3/8"
L3U			NONE	UNSEALED	
L3H			C	3725	3/8"



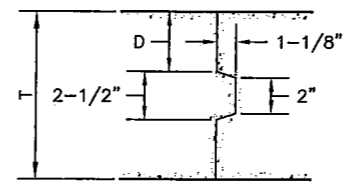
JOINT DETAIL A
SAWED AND UNSEALED



JOINT DETAIL B
SAWED AND SEALED



JOINT DETAIL C
SAWED AND SEALED



PAVEMENT KEYWAY DETAIL

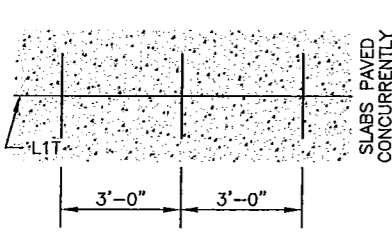
KEYWAY DIMENSION TABLE

PAVEMENT THICKNESS T	D (TOLERANCE ±1/4")
< 7"	NO KEYWAY
7" TO 7-1/2"	3"
8" TO 10"	4"
≥10-1/2"	5"

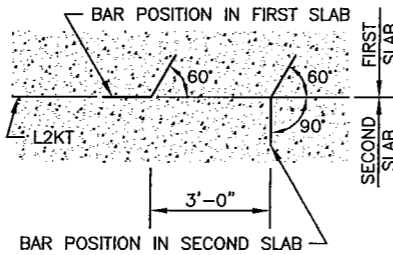
KEYWAY (1-1/8" x 2" x 2-1/2") MAY BE FORMED WITH MOLD OR METAL FORM. OTHER APPROVED KEYWAY SHAPES GIVING EQUIVALENT CONSTRUCTION FEATURES MAY BE USED WITH APPROVAL OF THE ENGINEER.

NOTES:

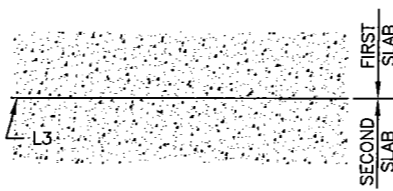
- NORMALLY, TIED PAVEMENT WIDTHS SHALL NOT EXCEED FOUR LANES, EXCEPT BRIDGE APPROACH PANELS AND PAVEMENT TAPERS.
- JOINT WIDTH TOLERANCE IS +1/16" TO -1/32".
- FURNISH AND INSTALL ALL JOINT SEALER IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- TIED/KEYED AND BUTTED CONSTRUCTION JOINTS SHALL BE UNSEALED EXCEPT AS OTHERWISE NOTED IN THE PLAN OR REQUIRED BY THE ENGINEER.
- SEE STANDARD PLANS 5-297.217 AND 5-297.219 FOR CONCRETE MAINLINE AND RAMP PAVEMENT.
- SEE PAVING LAYOUTS IN THE PLANS FOR JOINT CLASS DESIGNATIONS TO BE USED AND SPECIAL REINFORCEMENT REQUIRED.
- WHEN CURB AND GUTTER IS PLACED ADJACENT TO CONCRETE MAINLINE, THE TIE BARS SHALL BE PLACED A MINIMUM OF 2" ABOVE THE CURB AND GUTTER GRADE.
- ① SEE THE LONGITUDINAL JOINT REFERENCE, DETAIL & SEALER SPECIFICATION TABLE TO DETERMINE JOINT DETAIL.
- ② CONCRETE PAVEMENTS LESS THAN 7" SHALL USE L2TU AND L2TH JOINTS UNLESS OTHERWISE ALLOWED BY THE ENGINEER.
- ③ CONCRETE PAVEMENTS GREATER THAN OR EQUAL TO 7" SHALL USE L2KTU AND L2KTH JOINTS UNLESS OTHERWISE ALLOWED BY THE ENGINEER.
- ④ THE JOINT FACES SHALL BE CLEANED WITH WATER DURING THE SAW CUTTING OPERATION OR BY WATER BLASTING AFTER SAWING.
- ⑤ THE JOINT FACES SHALL BE CLEANED AND DRIED BY SANDBLASTING AND AIR BLASTING.
- ⑥ PRIOR TO SEALING THE JOINT, A 1/2" DIAMETER CLOSED CELL BACKER ROD CAPABLE OF WITHSTANDING SEALANT TEMPERATURES OF 400 DEGREES F. SHALL BE PLACED 1/2" BELOW THE TOP OF THE PAVEMENT.



L1T PAVING DETAIL



L2T & L2KT TIE BAR BENDING AND PAVING DETAIL



L3 PAVING DETAIL

FILE NAME: 5297-221B.DWG DATE: 03-10-15

REVISION:

APPROVED: 08-06-2014

[Signature]

DIRECTOR, OFFICE OF MATERIALS AND ROAD RESEARCH

REVISED:

APPROVED: 08-06-2014

[Signature]

STATE DESIGN ENGINEER

TITLE:

PAVEMENT JOINTS
LONGITUDINAL (DESIGN L)

STANDARD PLAN 5-297.221

2 OF 2

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Sheet No. 12 of 25 Sheets