

MINNESOTA DEPARTMENT OF TRANSPORTATION

THE COUNTY OF OLMSTED

CONSTRUCTION PLAN FOR GRADING, AGG. BASE, STORM SEWER, CONCRETE SURFACING & BIT. SHOULDERS

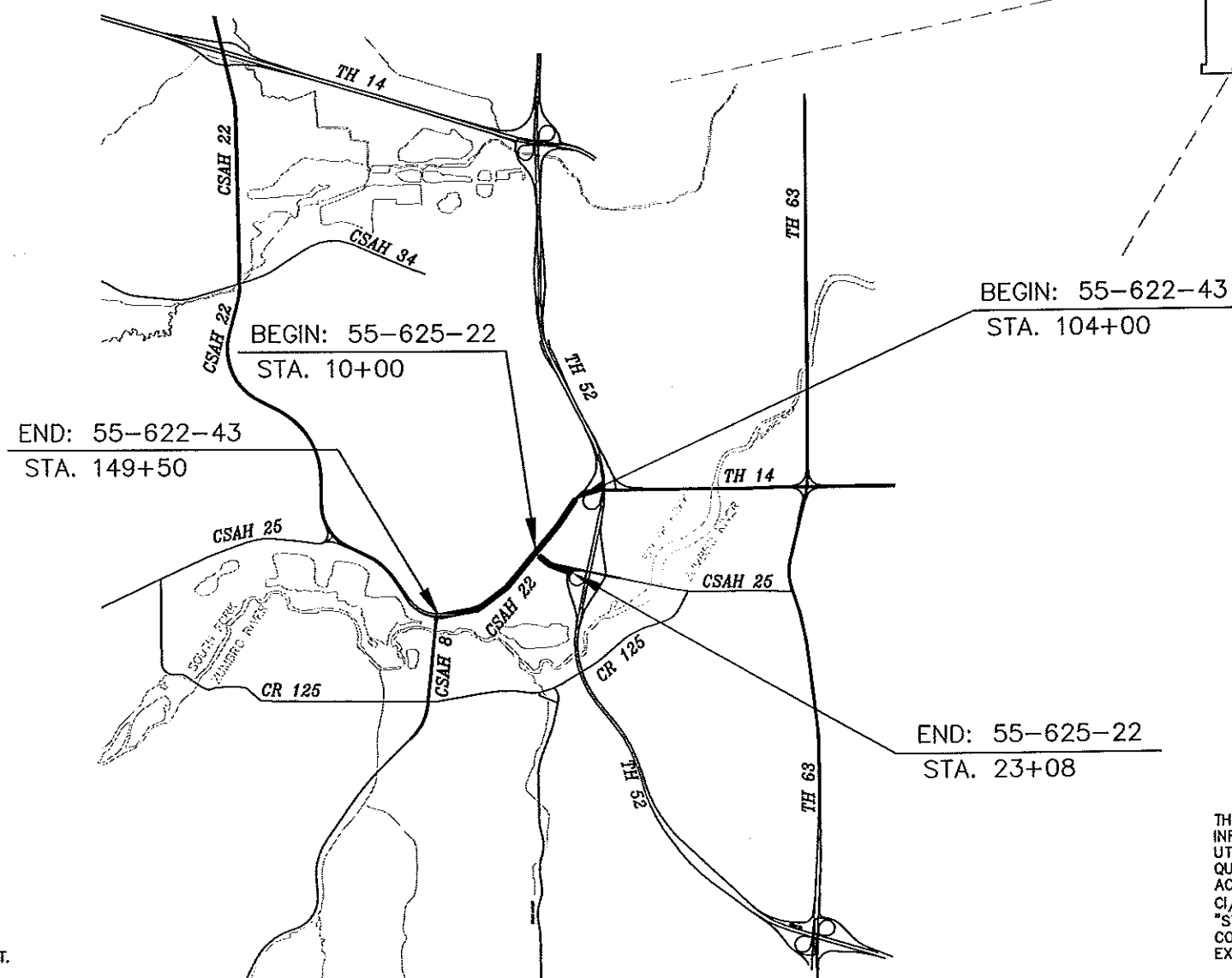
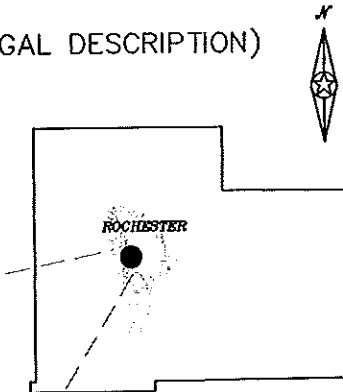
LOCATED ON C.S.A.H. 22 BETWEEN T.H. 14 / T.H. 52 AND C.S.A.H. 8 (GEOGRAPHIC DESCRIPTION)

FROM APPROX. 560' S.E. OF CENTER SEC. OF 9 & 10 T106N - R14W TO APPROX. 1304' S.E. OF CENTER SEC. 3 & 10 T106N - R14W (LEGAL DESCRIPTION)

LOCATED ON C.S.A.H. 25 BETWEEN C.S.A.H. 22 AND T.H. 52 (GEOGRAPHIC DESCRIPTION)

FROM APPROX. 967' N. OF CENTER SEC. 10 T106N - R14W TO APPROX. 1381' N.E. OF CENTER SEC. 10 T106N - R14W (LEGAL DESCRIPTION)

S.P. NO.	55-622-43	S.P. NO.	55-625-22
GROSS LENGTH	4,550.00 FEET 0.862 MILES	GROSS LENGTH	1,308.00 FEET 0.248 MILES
BRIDGE-LENGTH	0.00 FEET 0.000 MILES	BRIDGE-LENGTH	0.00 FEET 0.000 MILES
EXCEPTIONS-LENGTH	0.00 FEET 0.000 MILES	EXCEPTIONS-LENGTH	0.00 FEET 0.000 MILES
NET LENGTH	4,550.00 FEET 0.862 MILES	NET LENGTH	1,308.00 FEET 0.248 MILES



PLAN SYMBOLS

STATE LINE	---
COUNTY LINE	---
TOWNSHIP OR RANGE LINE	---
SECTION LINE	---
QUARTER LINE	---
SIXTEENTH LINE	---
RIGHT-OF-WAY LINE	---
PRESENT RIGHT-OF-WAY LINE	---
CONTROL OF ACCESS LINE	---
PROPERTY LINE (Except Land Lines)	---
VACATED PLATTED PROPERTY	---
CORPORATE OR CITY LIMITS	---
TRUNK HIGHWAY CENTER LINE	---
RETAINING WALL	---
RAILROAD	---
RAILROAD RIGHT-OF-WAY	---
RIVER OR CREEK	---
DRY RUN	---
DRAINAGE DITCH	---
DRAIN TILE	---
CULVERT	---
DROP INLET	---
GUARD RAIL	---
BARBED WIRE FENCE	---
WOVEN WIRE FENCE	---
CHAIN LINK FENCE	---
RAILROAD SNOW FENCE	---
STONE WALL OR FENCE	---
HEDGE	---
RAILROAD CROSSING SIGN	---
RAILROAD CROSSING BELL	---
ELECTRIC WARNING SIGN	---
CROSSING GATE	---
MEANDER CORNER	---
SPRINGS	---
MARSH	---
TIMBER ORCHARD	---
BRUSH	---
NURSERY	---
CATCH BASIN	---
FIRE HYDRANT	---
CATTLE GUARD	---
OVERPASS (HIGHWAY OVER)	---
UNDERPASS (HIGHWAY UNDER)	---
BRIDGE	---
BUILDING (ONE STORY FRAME)	---
F - FRAME C - CONCRETE	---
S - STONE T - TILE	---
B - BRICK ST - STUCCO	---
IRON PIPE OR ROD	---
MONUMENT (STONE, CONCRETE, OR METAL)	---
WOODEN HUB	---
GRAVEL PIT	---
SAND PIT	---
BORROW PIT	---
ROCK QUARRY	---
SLOPE EASEMENT	---

UTILITIES SYMBOLS

POWER POLE LINE	---
TELEPHONE OR TELEGRAPH POLE LINE	---
JOINT TELEPHONE AND POWER ON POWER POLE	---
ON TELEPHONE POLES	---
ANCHOR	---
STEEL TOWER	---
STREET LIGHT	---
PEDESTAL (TELEPHONE CABLE TERMINAL)	---
GAS MAIN	---
WATER MAIN	---
CONDUIT	---
TELEPHONE CABLE IN CONDUIT	---
ELECTRICAL CABLE IN CONDUIT	---
TELEPHONE MANHOLE	---
ELECTRICAL MANHOLE	---
BURIED TELEPHONE CABLE	---
BURIED ELECTRICAL CABLE	---
AERIAL TELEPHONE CABLE	---
SEWER (SANITARY OR SEWER)	---
SEWER MANHOLE	---

EROSION CONTROL SYMBOLS

TEMPORARY SILT FENCE	---
RIP RAP DITCH CHECKS	---

SCALES

PLAN	0 50'
PROFILE	0 50' HORIZ. 0 10' VERT.
CROSS SECTIONS	0 10' HORIZ. 0 10' VERT.
INDEX MAP	NOT TO SCALE

GOVERNING SPECIFICATIONS

THE 2005 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.

INDEX

SHEET NO. 1	TITLE SHEET
SHEET NO. 2-3	ESTIMATE OF QUANTITIES
SHEET NO. 4-5	TYPICAL SECTIONS
SHEET NO. 6-10	GRADING PLAN & PROFILES
SHEET NO. 11	TABULATED QUANTITIES
SHEET NO. 12-16	PAVEMENT PLAN & PROFILES
SHEET NO. 17-19	PAVEMENT & JOINT SHEETS
SHEET NO. 20-24	STORM SEWER PLAN & PROFILE
SHEET NO. 25	STORM SEWER SCHEDULE
SHEET NO. 26-29	EROSION CONTROL SHEETS
SHEET NO. 30-32	EROSION CONTROL DETAILS
SHEET NO. 33-53	TRAFFIC SIGNAL SHEETS
SHEET NO. 54-67	TRAFFIC CONTROL SHEETS
SHEET NO. 68-99	CROSS SECTIONS

THIS PLAN CONTAINS 99 SHEETS.

DESIGN DESIGNATION: S.P. 55-622-43

ADT (Current Year)	= 18,738(2009)	Design Speed	45 MPH
ADT (Future Year)	= 29,981(2029)	Based on	STOPPING Sight Distance
DHV (Design Hr. Vol.)	=	Height of eye	3.5 FT. Height of object 2.0 FT.
D (Directional Distr.)	=	Design Speed not achieved at:	
T (Heavy Commercial)	= EST. 15% STA. TO STA. MPH		
SOIL FACTOR	= 1.30% STA. TO STA. MPH		
TON DESIGN	10		

"NO PARKING" RESOLUTION REQUIRED STA. 104+00 TO STA. 149+50

NO. OF TRAFFIC LANES	4	NO. OF PARKING LANES	NONE
SHOULDER WIDTH	8 FT.		
LANE WIDTH	12 FT.		

FUNCTIONAL CLASSIFICATION: PRINCIPAL ARTERIAL

DESIGN DESIGNATION: S.P. 55-625-22

ADT (Current Year)	= 12,276(2009)	Design Speed	45 MPH
ADT (Future Year)	= 19,642(2029)	Based on	STOPPING Sight Distance
DHV (Design Hr. Vol.)	=	Height of eye	3.5 FT. Height of object 2.0 FT.
D (Directional Distr.)	=	Design Speed not achieved at:	
T (Heavy Commercial)	= EST. 15% STA. 10+00 TO STA. 16+70 MPH 35		
SOIL FACTOR	= 1.30% STA. TO STA. MPH		
TON DESIGN	10		

"NO PARKING" RESOLUTION REQUIRED STA. 10+34 TO STA. 23+08

NO. OF TRAFFIC LANES	4	NO. OF PARKING LANES	NONE
SHOULDER WIDTH	2 FT.		
LANE WIDTH	12 FT.		

FUNCTIONAL CLASSIFICATION: MINOR ARTERIAL

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 2/11/09 REG. NO. 19917

PRINTED NAME: KAYE M. BIENIEK

SIGNED NAME: Kaye M. Bieniek
COUNTY DESIGN ENGINEER

DATE 2/11/09 REG. NO. 10397
Michael Stukan

APPROVED: OLMS TED COUNTY ENGINEER

Kevin W. Krause DATE: 2/27/09
APPROVED: ROCHESTER CITY ENGINEER

Andy Stundt DATE: 3/6/09
DISTRICT STATE AID ENGINEER: REVIEWED FOR COMPLIANCE WITH STATE-AID RULES/ POLICY

Merry Dahn DATE: 5-18-09
STATE AID ENGINEER: APPROVED FOR STATE AID & FEDERAL AID FUNDING:

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."

ESTIMATED QUANTITIES

SPECIFICATION NO.	ITEM	UNIT	S.P. 55-622-43			S.P. 55-625-22			TOTAL ESTIMATED QUANTITIES
			PARTICIPATING	STORM SEWER	CITY OF ROCHESTER	PARTICIPATING	STORM SEWER	CITY OF ROCHESTER	
	2104.501 REMOVE CONCRETE CULVERT	LIN. FT.	970			66			1036
	2104.501 REMOVE METAL CULVERT	LIN. FT.				309			309
	2104.501 REMOVE CONCRETE CURB	LIN. FT.	2,877			657			3,534
	2104.501 REMOVE CURB AND GUTTER	LIN. FT.	7,418			3,075			10,493
①	2104.503 REMOVE BITUMINOUS WALK	SQ. FT.	4,942						4,942
②	2104.503 REMOVE CONCRETE WALK	SQ. FT.	1,059			6,167			7,226
③	2104.503 REMOVE CONCRETE PAVEMENT	SQ. FT.	800						800
④	2104.505 REMOVE BITUMINOUS PAVEMENT	SQ. YD.	34,702			10,112			44,814
	2104.509 REMOVE CONCRETE APRON	EACH	2						2
	2104.509 REMOVE CATCH BASIN	EACH	5			4			9
	2104.511 SAWING CONCRETE PAVEMENT (FULL DEPTH)	LIN. FT.	112						112
	2104.513 SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LIN. FT.	272			78			350
⑤	2106.607 COMMON EMBANKMENT (CV)	CU. YD.	3,323			217			3,540 (P)
	2106.607 SELECT GRANULAR EMBANKMENT (CV)	CU. YD.	14,205			4,388			18,593 (P)
	2106.607 UNCLASSIFIED EXCAVATION	CU. YD.	25,539			6,071			31,610 (P)
⑥	2130.501 WATER	M-GAL	57			18			75
	2211.501 AGGREGATE BASE CLASS 5 MOD.	TON	14,291			4,475			18,766
⑦	2221.501 AGGREGATE SHOULDERING CLASS 2	TON	895			328			1,223
	2301.502 CONCRETE PAVEMENT STANDARD WIDTH 9.0"	SQ. YD.	29,476			7,924			37,400 (P)
	2301.503 CONCRETE PAVEMENT IRREGULAR WIDTH 9.0"	SQ. YD.	706			1,332			2,038 (P)
⑧	2301.511 STRUCTURAL CONCRETE	CU. YD.	7,546			2,314			9,860 (P)
	2301.538 DOWEL BAR	EACH	18,109			5,554			23,663
	2301.602 DRILL AND GROUT DOWEL BAR (EPOXY COATED)	EACH	112			88			200
	2301.602 DRILL AND GROUT REINF BAR (EPOXY COATED)	EACH	261			35			296
	2301.645 CONCRETE CORING	EACH	31			10			41
⑨	2360.501 TYPE SP 9.5 WEARING COURSE MIX (3C)	TON	1,112			352			1,464
	2501.515 15" R.C. PIPE APRON	EACH					1		1
	2501.515 18" R.C. PIPE APRON	EACH			1				1
	2501.515 24" R.C. PIPE APRON	EACH			2				2
	2501.515 30" R.C. PIPE APRON	EACH			2				2
	2501.515 36" R.C. PIPE APRON	EACH					1		1
	2501.525 36" SPAN R.C. PIPE-ARCH APRON	EACH			1				1
⑩	2501.602 PLUG FILL & ABANDON PIPE CULVERT	EACH			2				2
⑪	2502.541 4" PERF PE PIPE DRAIN	LIN. FT.	500						500
	2503.521 36" SPAN R.C. PIPE-ARCH SEWER CL. IIA	LIN. FT.			144				144
	2503.541 12" R.C. PIPE SEWER DES 3006 CL. IV	LIN. FT.			559		37		596
	2503.541 15" R.C. PIPE SEWER DES 3006 CL. III	LIN. FT.			361		32		393
	2503.541 18" R.C. PIPE SEWER DES 3006 CL. III	LIN. FT.			674				674
	2503.541 21" R.C. PIPE SEWER DES 3006 CL. III	LIN. FT.			64				64
	2503.541 24" R.C. PIPE SEWER DES 3006 CL. III	LIN. FT.			244				244
	2503.541 30" R.C. PIPE SEWER DES 3006 CL. III	LIN. FT.			757				757
	2503.541 36" R.C. PIPE SEWER DES 3006 CL. III	LIN. FT.					301		301
	2506.502 CONSTRUCT DRAINAGE STRUCTURE, DESIGN G	EACH			6				6
	2506.502 CONSTRUCT DRAINAGE STRUCTURE, DESIGN N	EACH			18		3		21
	2506.502 CONSTRUCT DRAINAGE STRUCTURE, DESIGN 48-4020	EACH			1				1
	2506.502 CONSTRUCT DRAINAGE STRUCTURE, DESIGN 54-4020	EACH			6		1		7
	2506.502 CONSTRUCT DRAINAGE STRUCTURE, DESIGN 60-4020	EACH			1		1		2
⑫	2506.502 CONSTRUCT DRAINAGE STRUCTURE, DESIGN 66-4020	EACH			2				2
⑬	2506.516 CASTING ASSEMBLY	EACH			3		2		5
	2511.501 RANDOM RIPRAP CL. III	CU. YD.	20						20
⑭	2041.610 TRAINEES	HOUR	675			225			900

QUANTITY NOTES:

- ① STA 114+38 TO STA 119+25 LT
- ② INCLUDES CONCRETE MEDIAN AND PED RAMPS
- ③ INCLUDES ALL ADDITIONAL WORK AND DISPOSAL ASSOCIATED WITH REMOVAL OF PERMANENT TERMINAL HEADER (CSAH 22)
- ④ INCLUDES REMOVAL OF ALL TEMPORARY BITUMINOUS PAVING FOR CROSS OVER LOCATIONS ASSOCIATED WITH TRAFFIC CONTROL.
- ⑤ INCLUDES 2,531 CU. YDS. OF SLOPE DRESSING MATERIAL
- ⑥ WATER TO BE USED AS A DUST PREVENTATIVE AS DIRECTED BY THE ENGINEER. SPECIFICATION 1903 SHALL NOT APPLY FOR THIS ITEM.
- ⑦ INCLUDES 198 TONS FOR BITUMINOUS PATH AND CONCRETE SIDEWALK
- ⑧ INCLUDES FURNISHING AND PLACEMENT OF REINFORCEMENT BARS.
- ⑨ INCLUDES 121 TONS FOR BITUMINOUS PATH STA 114+35 TO STA 119+25 RT.
- ⑩ STA 108+97 AND STA 115+62
- ⑪ STA 117+00 TO STA 122+00 RT. CONNECT INTO MH 4.
- ⑫ SHALL INCLUDE ALL MATERIAL AND LABOR TO INSTALL SPECIAL GRATE. SEE SHEET 11 FOR DETAILS
- ⑬ SHALL INCLUDE FRAME CASTING 806, GRATE 816 AND CURB BOX 825. INCLUDES PLACEMENT ON EXISTING CB AND ANY ADJUSTMENTS NEEDED.

ESTIMATED QUANTITIES

CERTIFIED BY *Kare M. Kowalik* REG. NO. 19917 2/11 20.09
LICENSED PROFESSIONAL ENGINEER

S.P. 55-622-43 & S.P.55-625-22

SHEET 2 OF 99 SHEETS

ESTIMATED QUANTITIES

SPECIFICATION NO.	ITEM	UNIT	S.P. 55-622-43			S.P. 55-625-22			TOTAL ESTIMATED QUANTITIES
			PARTICIPATING	STORM SEWER	CITY OF ROCHESTER	PARTICIPATING	STORM SEWER	CITY OF ROCHESTER	
	2521.501	4" CONCRETE WALK							18,091
(14)	2521.501	5" CONCRETE WALK							3,575
(15)	2521.501	6" CONCRETE WALK	330		568	297		426	1,621
	2531.501	CONCRETE CURB & GUTTER DESIGN B424							17,007
(16)	2531.618	TRUNCATED DOMES			32			24	56
	2563.601	TRAFFIC CONTROL							1
	2565.601	TRAFFIC CONTROL INTERCONNECTION							1
	2565.602	PVC HANDHOLE							9
	2565.603	4" NON-METALLIC CONDUIT							325
	2565.616	VIDEO DETECTOR SYSTEM			0.5			0.5	1
	2565.616	REVISE SIGNAL SYSTEM A							1
	2565.616	REVISE SIGNAL SYSTEM B						0.5	1
	2573.530	STORM DRAIN INLET PROTECTION							42
	2573.550	EROSION CONTROL SUPERVISOR							1
(18)(19)	2573.502	SILT FENCE, TYPE MACHINE SLICED							3,350
(18)	2573.540	FILTER LOG TYPE STRAW BIOROLL							300
	2575.501	SEEDING							3.6
	2575.502	SEED MIXTURE 110							360
	2575.502	SEED MIXTURE 250							240
	2575.502	SEED MIXTURE 310							26
(20)	2575.505	SODDING TYPE SALT RESISTANCE							4,262
	2575.511	MULCH MATERIAL TYPE 1							7.2
	2575.519	DISK ANCHORING							3.6
	2575.532	FERTILIZER TYPE 1							720
	2580.603	INTERIM PAVEMENT MARKING							5700
	2582.501	PAVEMENT MESSAGE (LEFT ARROW)-EPOXY							17
	2582.501	PAVEMENT MESSAGE (RIGHT ARROW)-EPOXY							16
	2582.502	4" SOLID LINE WHITE-EPOXY							13,721
	2582.502	6" SOLID LINE WHITE-EPOXY							96
	2582.502	8" SOLID LINE WHITE-EPOXY							390
	2582.502	4" BROKEN LINE WHITE-EPOXY							8,405
	2582.502	4" DOTTED LINE WHITE-EPOXY							1,014
(21)	2582.502	24" STOP LINE WHITE-EPOXY							218
	2582.502	4" SOLID LINE YELLOW-EPOXY							9,470

- (14) FOR SIDEWALK REPLACEMENT STA 15+60 TO 23+08 LT.
- (15) INCLUDES 627 SQ. FT. FOR MEDIAN NOSES AND 994 SQ. FT. FOR PED RAMPS
- (16) 7 PED RAMP LOCATIONS. SEE STANDARD PLATE FOR DETAILS.
- (17) **SEE SPECIAL PROVISIONS - 2041**
- (18) SPECIFICATION 1903 SHALL NOT APPLY FOR THESE ITEMS.
- (19) INCLUDES MAINTENANCE
- (20) INCLUDES MEDIAN AREA GREATER THAN 10 FEET IN WIDTH.
- (21) TO BE PLACED AT BOTH SIGNAL LOCATIONS.

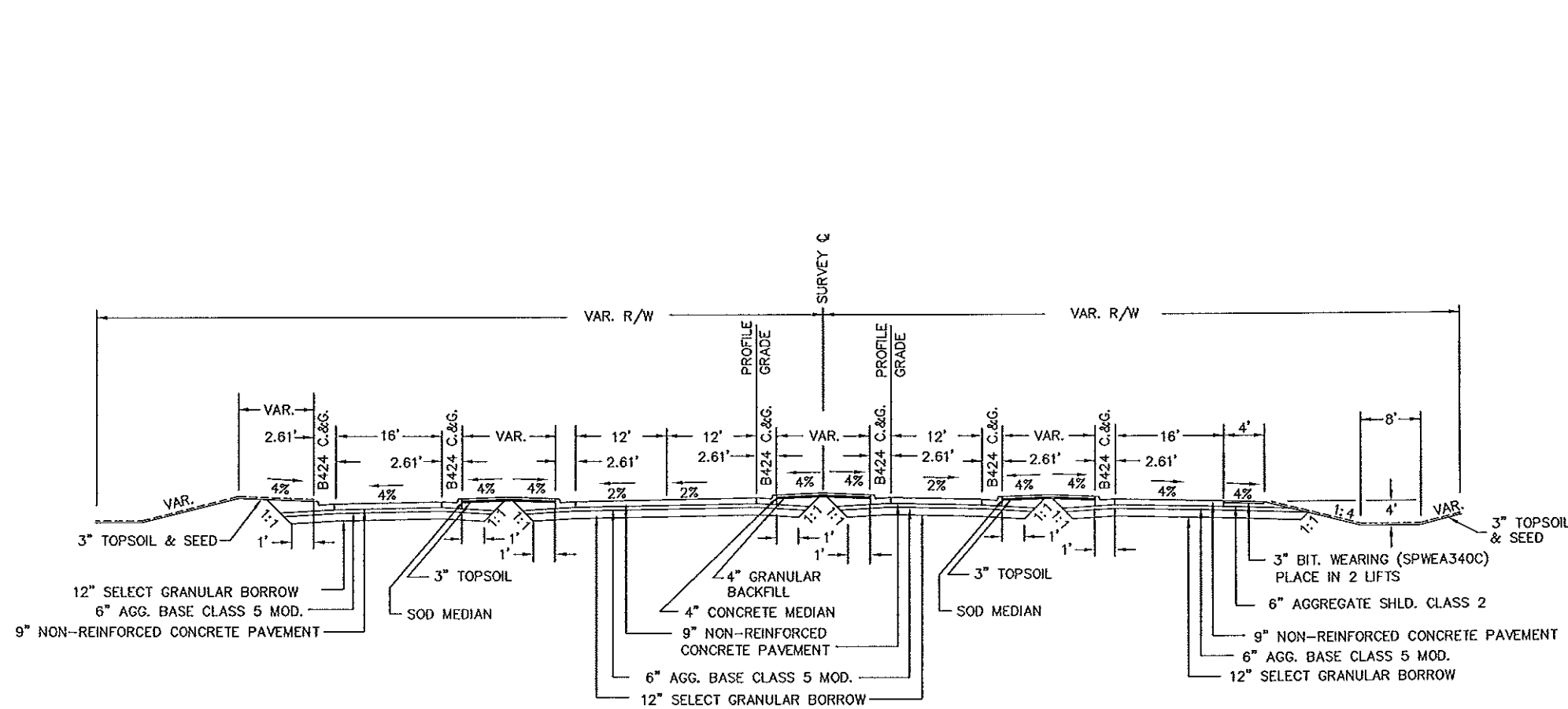
STANDARD PLATES	
THE FOLLOWING STANDARD PLATES, APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION SHALL APPLY ON THIS PROJECT.	
PLATE NO.	DESCRIPTION
	NUMERICAL INDEX OF STANDARD PLATES
1070 L	REINFORCED PANELS OVER CULVERTS
1103 J	TYPICAL DOWEL BAR ASSEMBLY
1141 D	PAVEMENT KEYWAY FOR KEYED JOINT CONSTRUCTION
3000 L	REINFORCED CONCRETE PIPE
3006 G	GASKET JOINT FOR R.C. PIPE
3100 G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE
3133 C	RIPRAP AT RCP OUTLETS
3145 F	CONCRETE PIPE TIES
4003 B	30" PRECAST CATCH BASIN
4006 L	MANHOLE OR CATCH BASIN
4011 E	PRECAST CONCRETE BASE
4020 J	MANHOLE OR CATCH BASIN
4101 D	RING CASTING FOR MANHOLE OR CATCH BASIN
4110 F	COVER CASTING FOR MANHOLE
4125 D	CATCH BASIN FRAME CASTING
4134 A	CURB BOX CASTING FOR CATCH BASIN
4154 B	CATCH BASIN GRATE CASTING
4180 J	MANHOLE OR CATCH BASIN STEP
7036 F	PEDESTRIAN CURB RAMP
7100 H	CONCRETE CURB AND GUTTER
7111 J	INSTALLATION OF CATCH BASIN CASTINGS
7113 A	CONCRETE APPROACH NOSE DETAIL
8000 I	STANDARD BARRICADES
9000 D	APPROACHES AND ENTRANCES
9102 D	TURF ESTABLISHMENT AREAS

QUANTITY NOTES:

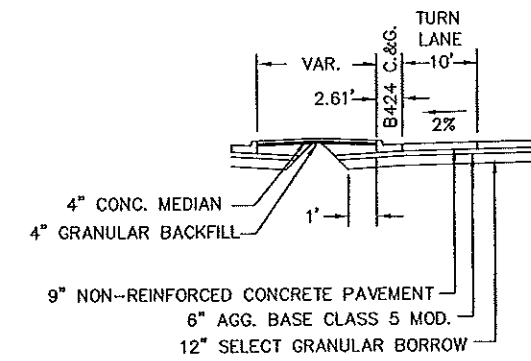
BITUMINOUS MIX - 110LBS./SQ.YD./1 IN. DEPTH
 AGGREGATE BASE CLASS 5 MOD.- 140LBS./CU.FT. COMPACTED
 AGGREGATE SHOULDERING CLASS 2 - 140LBS./CU.FT. COMPACTED
 SEED MIXTURE 110 - 100 LBS/ACRE
 SEED MIXTURE 250 - 70 LBS/ACRE
 SEED MIXTURE 310 - 82 LBS/ACRE
 MULCH MATERIAL - 2 TONS/ACRE
 DISK ANCHORING - ALL SEEDING AREAS EXCEPT 1:2 SLOPES
 COMMERCIAL FERTILIZER - 200 LBS/ACRE

UTILITY LOCATIONS
 GOPHER STATE ONE CALL 1-800-252-1166

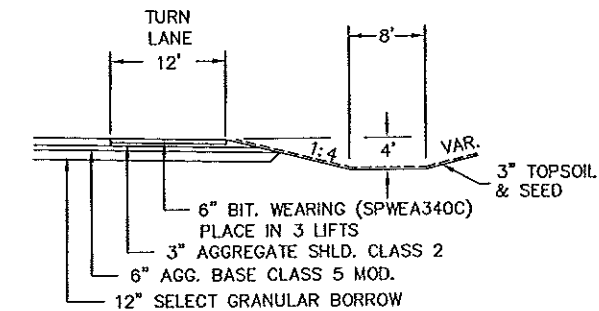
NOTE: CONTRACTOR SHALL VERIFY ALL UNDERGROUND UTILITIES LOCATIONS AND ELEVATIONS PRIOR TO CONSTRUCTION.



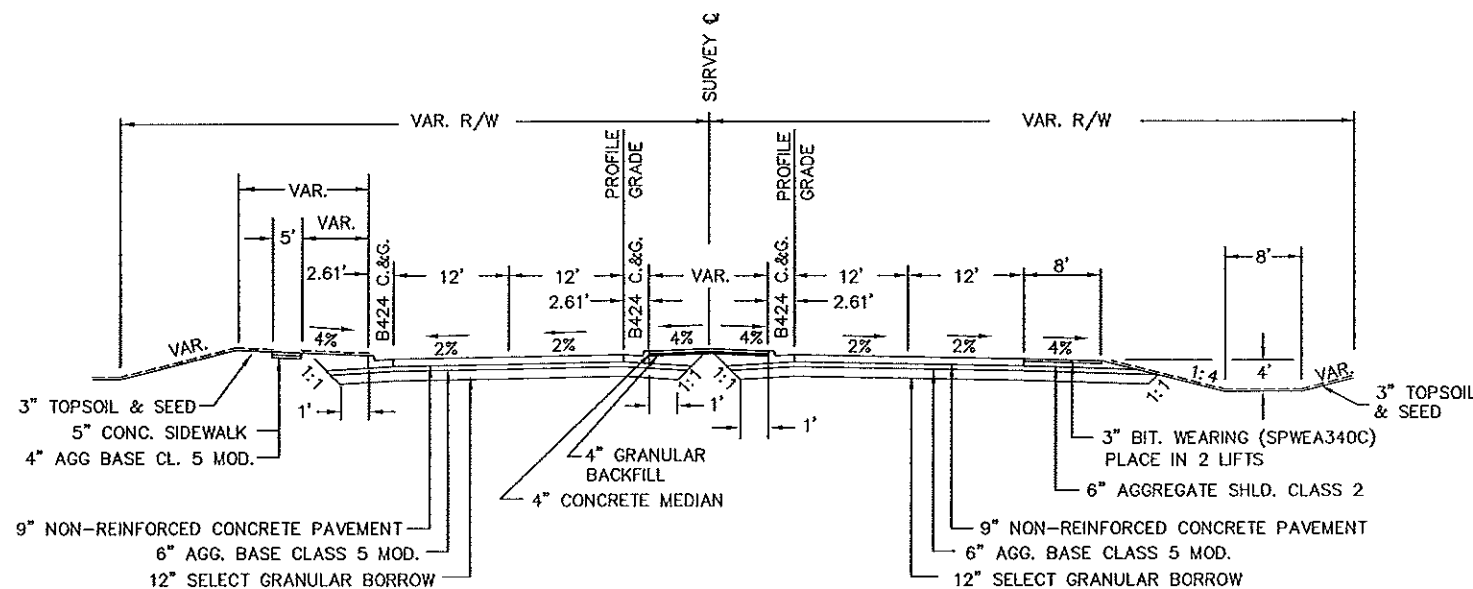
STA. 10+34 TO STA. 11+80



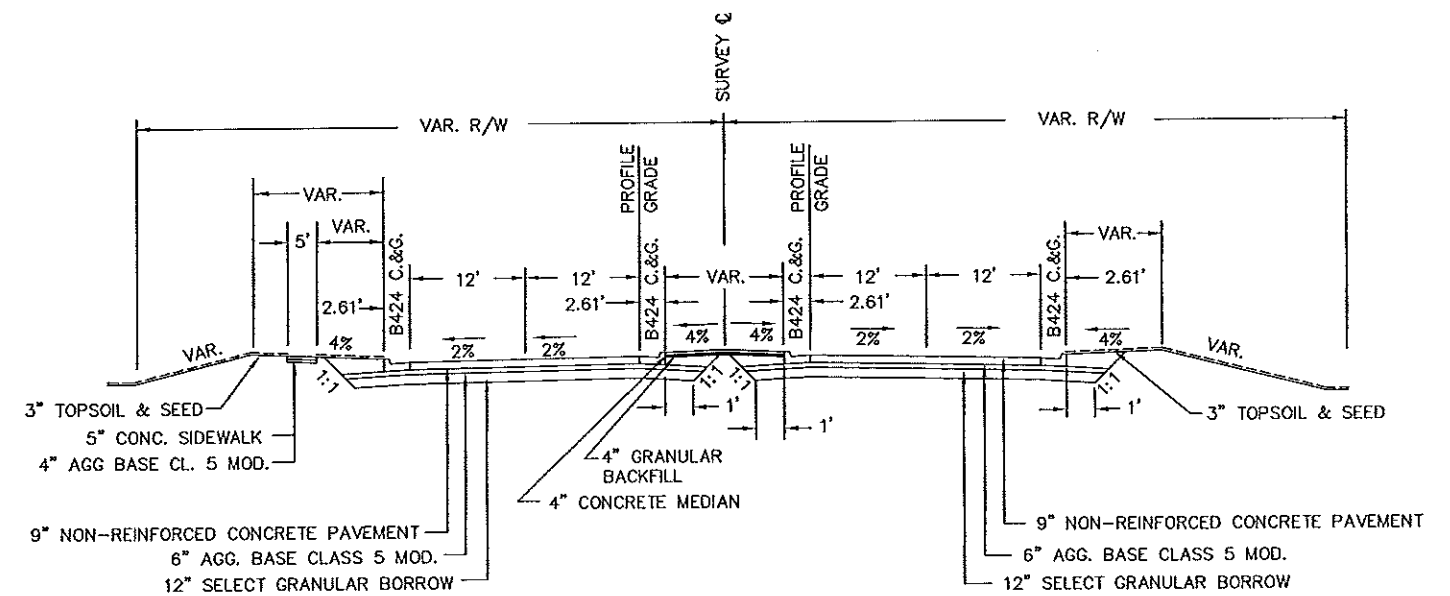
LEFT TURN LANE
 STA. 12+56 TO STA. 15.84
 STA. 15+04 TO STA 18+32
 STA. 18+97 TO STA 23+10



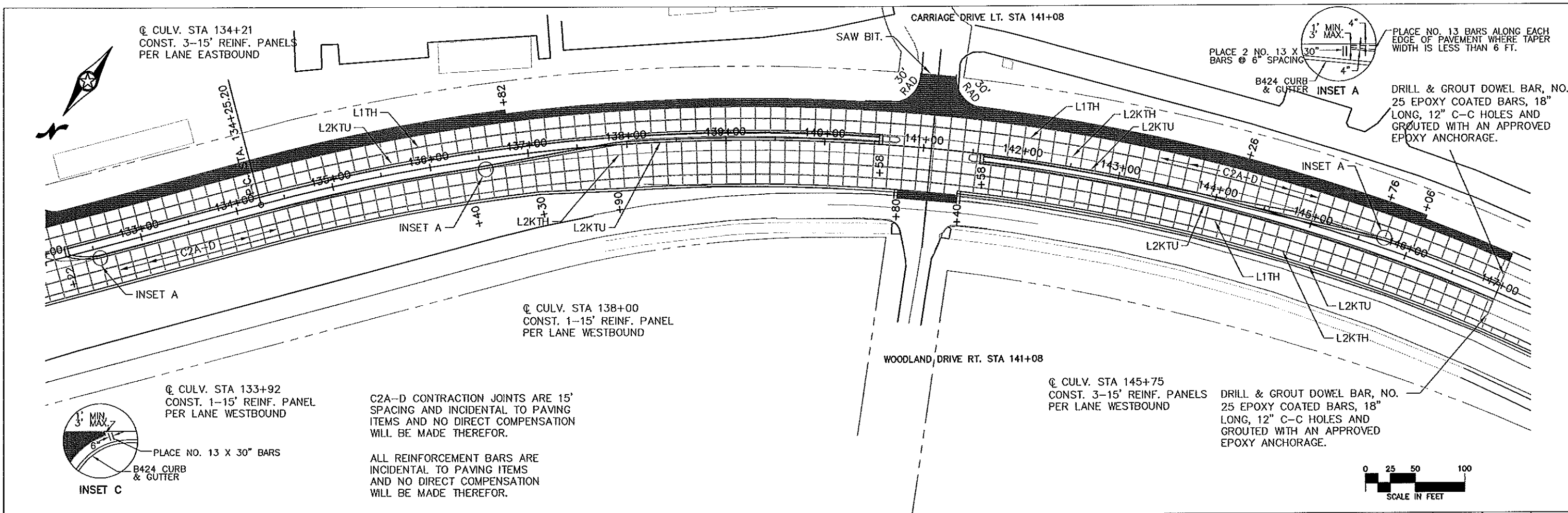
RIGHT TURN LANE
 STA. 11+52 TO STA 15+77



STA. 11+80 TO STA. 19+25
 CONCRETE SIDEWALK STA. 15+60 TO STA 23+08



STA. 19+25 TO STA. 23+08



☉ CULV. STA 134+21
CONST. 3-15' REINF. PANELS
PER LANE EASTBOUND

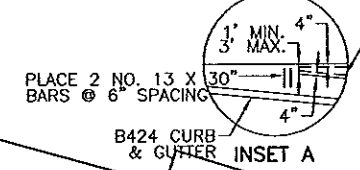
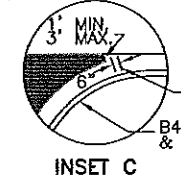
☉ CULV. STA 138+00
CONST. 1-15' REINF. PANEL
PER LANE WESTBOUND

☉ CULV. STA 145+75
CONST. 3-15' REINF. PANELS
PER LANE WESTBOUND

☉ CULV. STA 133+92
CONST. 1-15' REINF. PANEL
PER LANE WESTBOUND

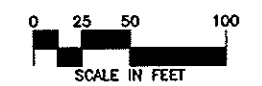
C2A-D CONTRACTION JOINTS ARE 15'
SPACING AND INCIDENTAL TO PAVING
ITEMS AND NO DIRECT COMPENSATION
WILL BE MADE THEREFOR.

ALL REINFORCEMENT BARS ARE
INCIDENTAL TO PAVING ITEMS
AND NO DIRECT COMPENSATION
WILL BE MADE THEREFOR.

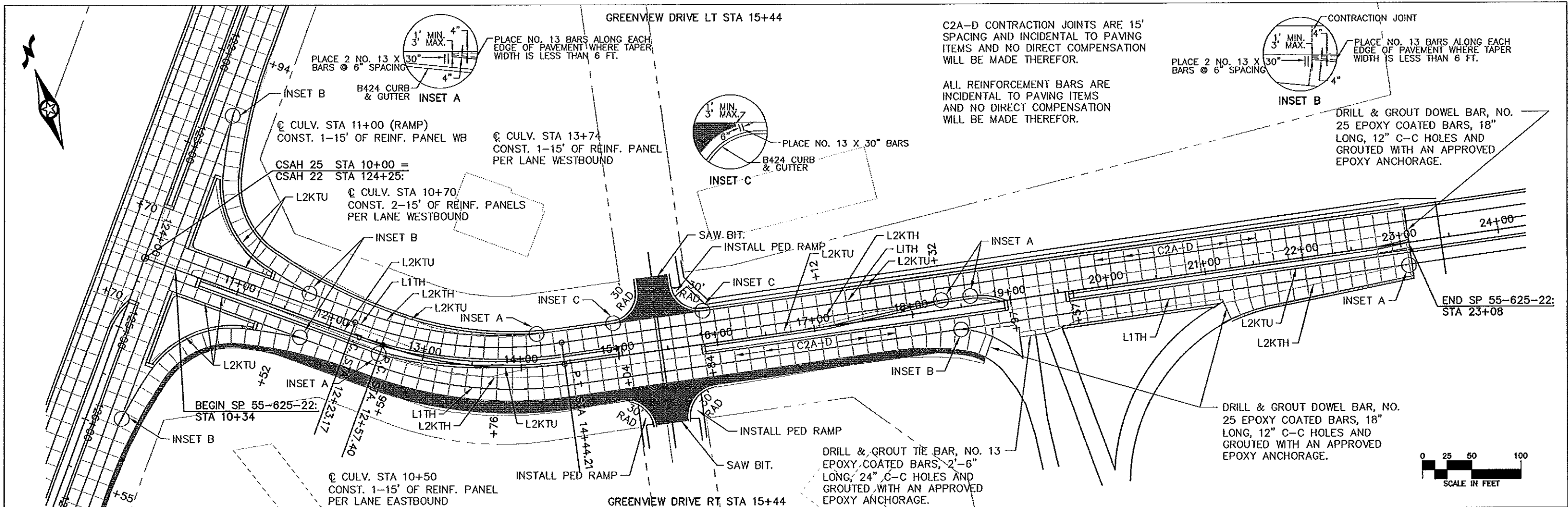


PLACE NO. 13 BARS ALONG EACH
EDGE OF PAVEMENT WHERE TAPER
WIDTH IS LESS THAN 6 FT.

DRILL & GROUT DOWEL BAR, NO.
25 EPOXY COATED BARS, 18"
LONG, 12" C-C HOLES AND
GROUTED WITH AN APPROVED
EPOXY ANCHORAGE.

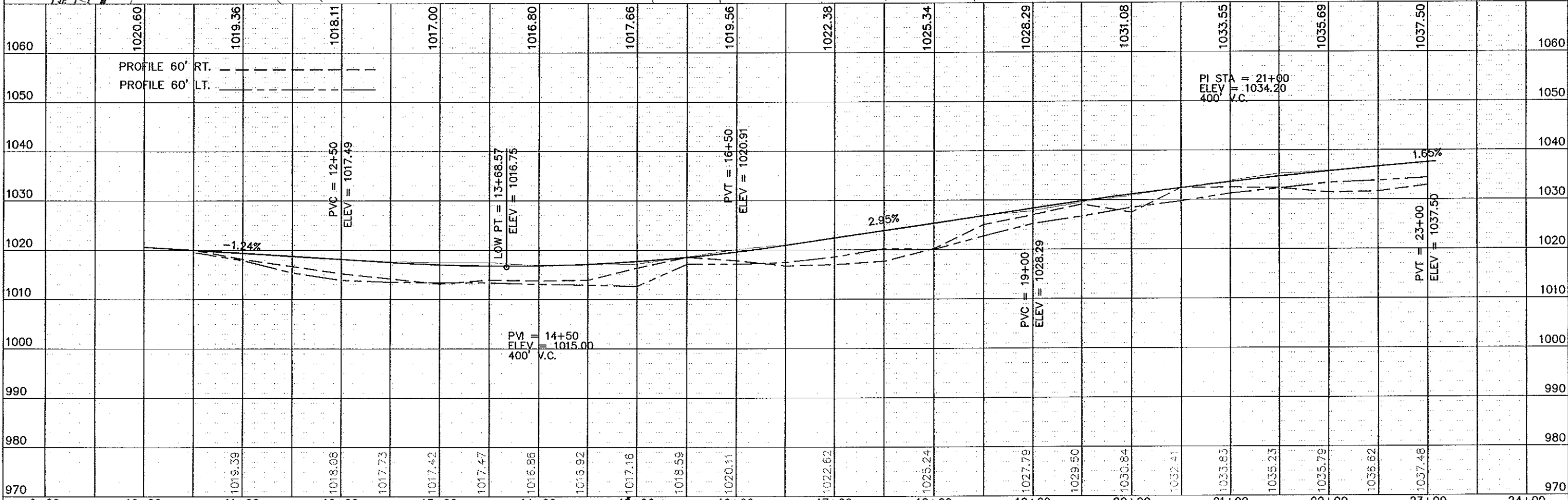
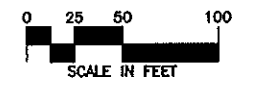
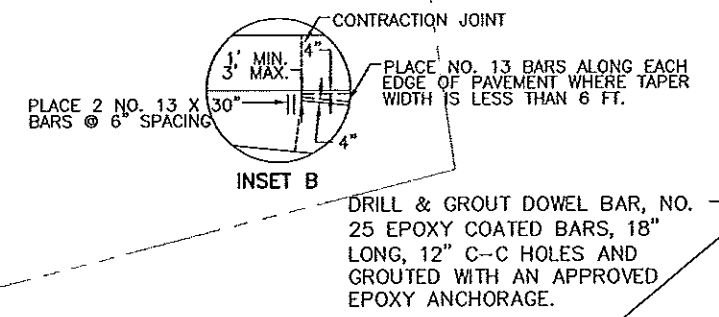


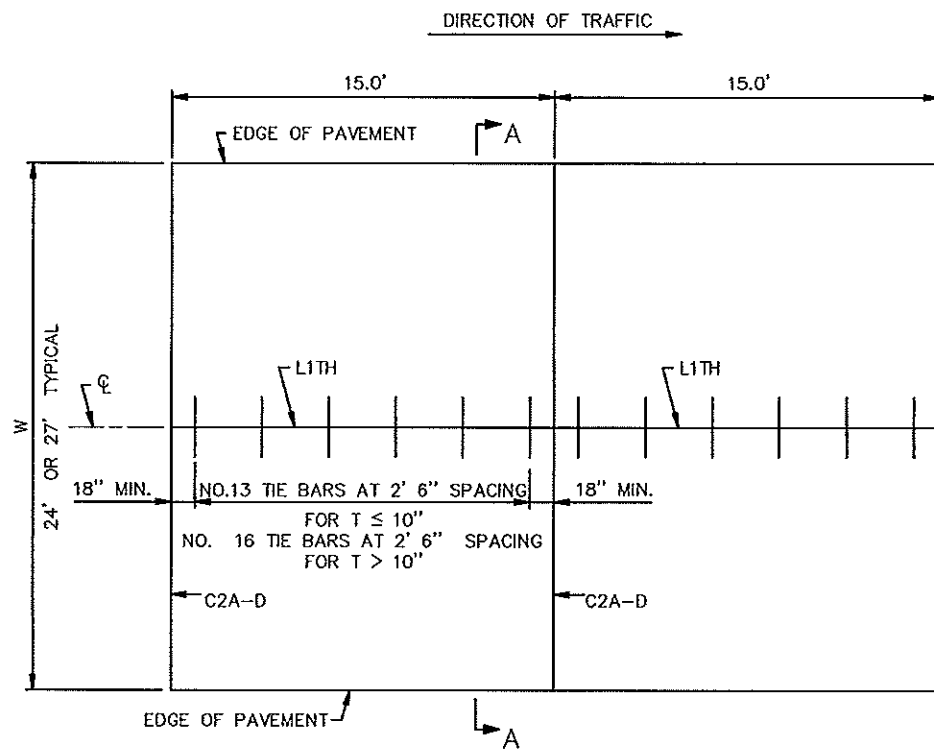
1060	EBL	1020.23	1020.01	1020.51	1021.01	1021.50	1022.00	1022.50	1023.50	1024.41	1024.65	1024.24	1023.73	1023.22	1022.71	1022.20	1060
1050	WBL	1020.63	1020.41	1020.91	1021.41	1021.90	1022.70	1023.50	1024.30	1025.10	1024.92	1024.73	1024.55	1024.37	1024.18	1024.00	1050
1040	PROFILE 60' RT. PROFILE 60' LT.					(WBL) PI STA = 137+00 ELEV = 1021.90			PVC = 140+25 ELEV = 1024.50	(WBL) PI STA = 141+00 ELEV = 1025.10 150' V. C.	PVT = 141+75 ELEV = 1024.96						1040
1030																	1030
1020		-0.28%		0.50%			0.80% (WBL)	1.00% (EBL)						-0.18% (WBL)	-0.51% (EBL)		1020
1010			PI STA = 133+92 ELEV = 1020.37 (WBL) ELEV = 1019.97 (EBL)				(EBL) PI STA = 139+00 ELEV = 1022.50		PVC = 140+50 ELEV = 1024.00	(EBL) PI STA = 141+50 ELEV = 1025.00 200' V. C.	PVT = 142+50 ELEV = 1024.49						1010
1000																	1000
990																	990
980																	980
970		1020.93	1020.81	1020.76	1021.20	1022.11	1022.89	1023.71	1024.06	1024.38	1024.21	1024.03	1023.92	1024.43	1024.02	1021.57	970
		132+00	133+00	134+00	135+00	136+00	137+00	138+00	139+00	140+00	141+00	142+00	143+00	144+00	145+00	146+00	147+00



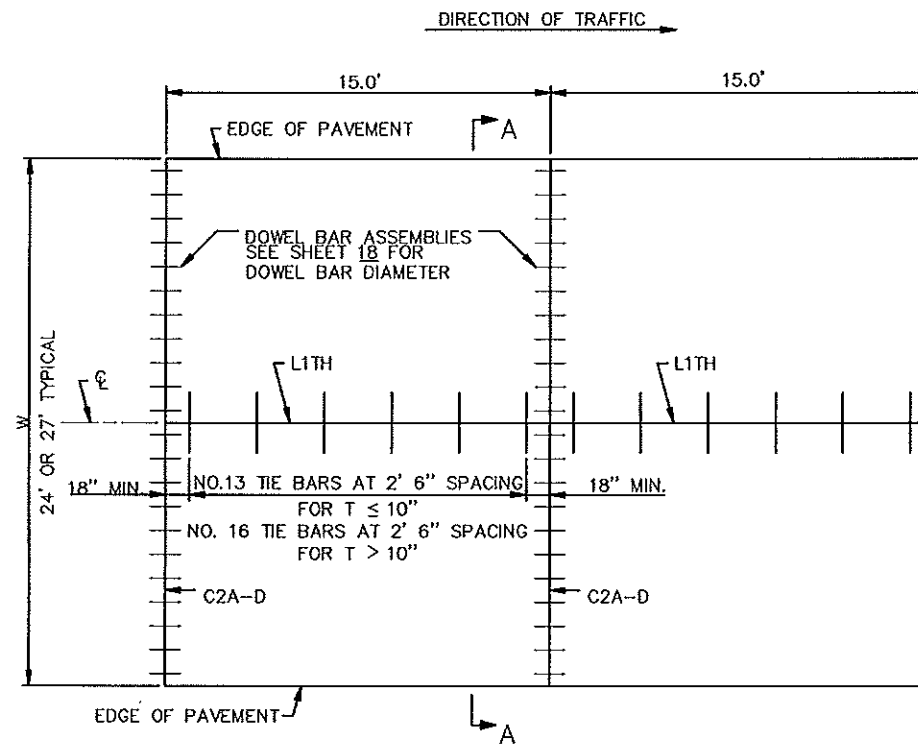
C2A-D CONTRACTION JOINTS ARE 15' SPACING AND INCIDENTAL TO PAVING ITEMS AND NO DIRECT COMPENSATION WILL BE MADE THEREFOR.

ALL REINFORCEMENT BARS ARE INCIDENTAL TO PAVING ITEMS AND NO DIRECT COMPENSATION WILL BE MADE THEREFOR.

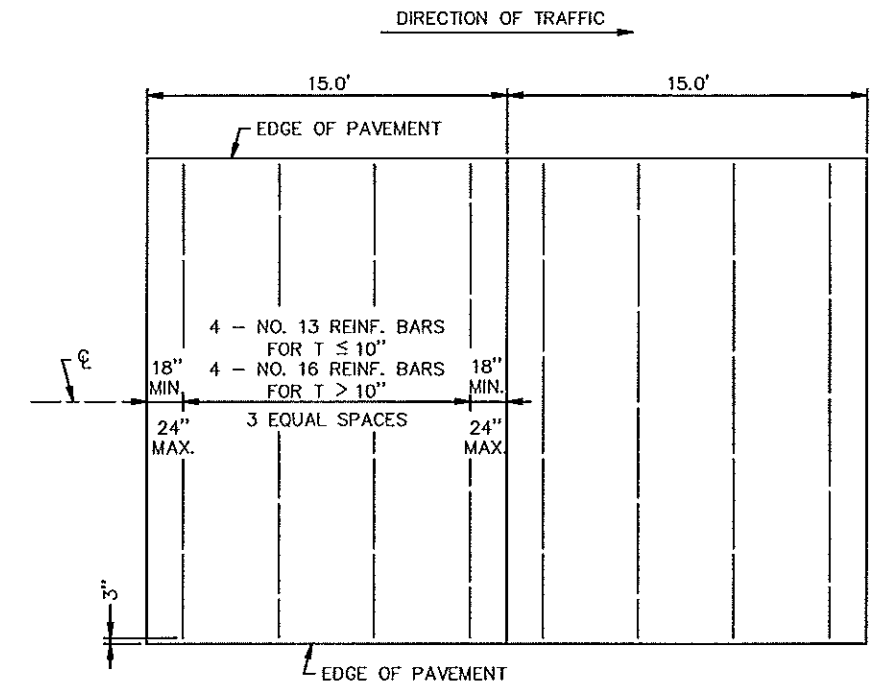




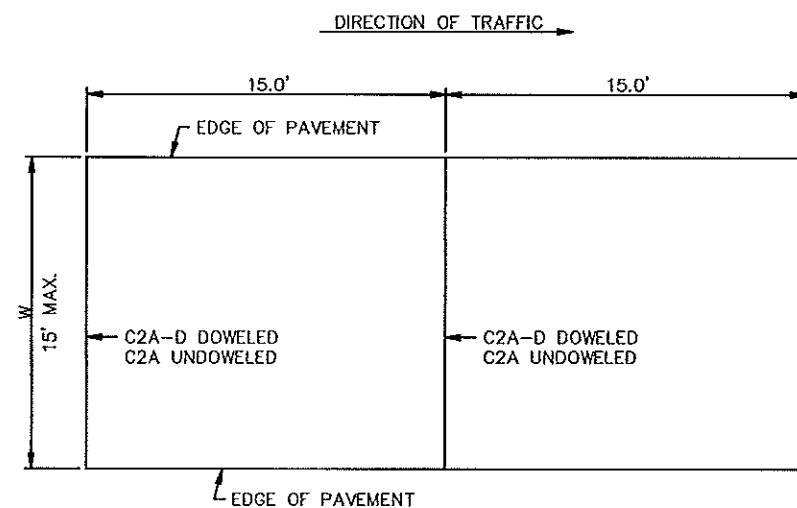
MAINLINE PAVEMENT
UNDOWELED



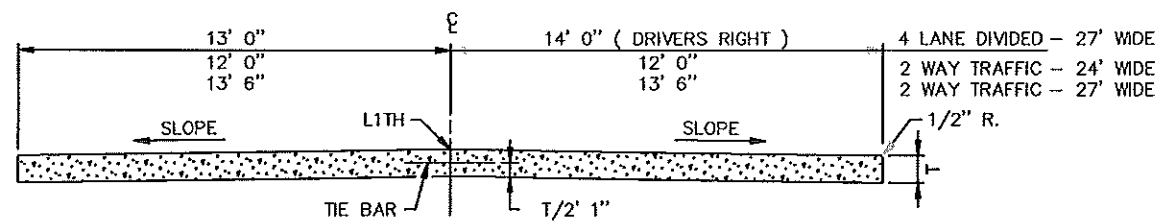
MAINLINE PAVEMENT
DOWELED



SUPPLEMENTAL PANEL REINFORCEMENT



PAVEMENT 2 FT. THRU 15 FT. WIDTH



SECTION A-A

GENERAL NOTES:

ALL REBARS ARE IN METRIC DESIGNATIONS

SEE TYPICAL SECTIONS AND PLAN SHEETS FOR CROSS SLOPES AND PAVEMENT THICKNESS, T.

WHEN RIGID PAVEMENT ADJOINS FLEXIBLE PAVEMENT, BRIDGE APPROACHES, R. R. CROSSINGS OR OTHER TYPES OF FREE ENDS, THE FOLLOWING MODIFICATIONS SHALL BE MADE: THE FIRST OR LAST 10 JOINTS SHALL BE DOWELED CONTRACTION JOINTS, C4E-D.

DOWEL BAR ASSEMBLIES, WHEN REQUIRED, SHALL BE SIMILAR TO THOSE SHOWN ON STANDARD PLATE 1103.

ALL REINFORCING BARS SHALL BE EPOXY COATED IN ACCORDANCE WITH SPEC. 3301 AND SHALL MEET THE REQUIREMENTS OF GRADE 60 FOR AASHTO M-31 OR M-53. FOR ADDITIONAL REINFORCEMENT OVER CULVERTS, SEE STANDARD PLATE 1070.

TIE BARS:
USE NO. 13 BARS 2' 6" LONG, AT 2' 6" SPACING. FOR T ≤ 10" USE NO. 16 BARS 3' 0" LONG AT 2' 6" SPACING FOR T > 10".

SUPPLEMENTAL PANEL REINFORCEMENT:
PLACE IN PANELS WHERE PAVEMENT WIDTH EXCEEDS 15.0' WITHOUT A LONGITUDINAL JOINT, AND IN THE MIDDLE LANE(S) WHERE TIED PAVEMENT WIDTH EXCEEDS 4 LANES. USE NO. 13 BARS FOR PAVEMENT THICKNESS 10" OR LESS. USE NO. 16 BARS FOR PAVEMENT THICKNESS GREATER THAN 10". PLACEMENT DEPTH SHALL BE PLANNED T/2' 1". NO MORE THAN TWO LANES SHALL BE PAVED AT THE SAME TIME.

STANDARD SHEET NO.
5-297.217
STANDARD APPROVED:
OCTOBER 1, 1998

TITLE:

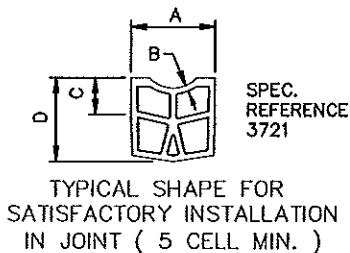
CONCRETE MAINLINE PAVEMENT
15.0 FT. PANEL LENGTH

REVISION DATE
1-21-2000

S.P. 55-622-43 & S.P. 55-625-22 SHEET NO. 17 OF 99 SHEETS

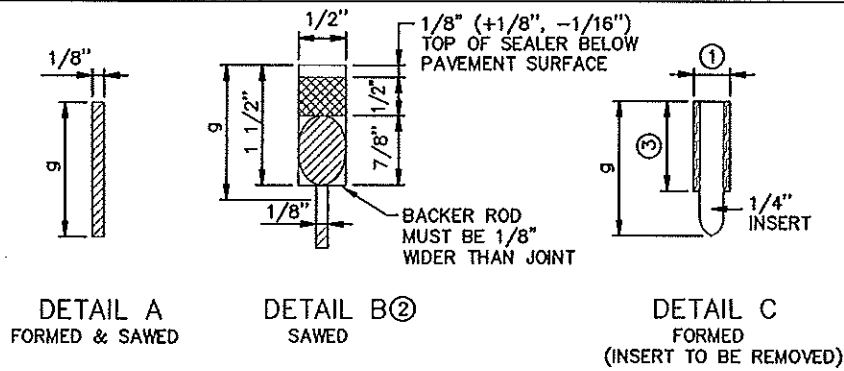
REQUIRED DIMENSIONS

JOINT TYPE	TRANSVERSE
NOMINAL SEALER SIZE	1 1/16"
USE IN ALL 3/8" JOINTS	
A	0.80" +0.14" -0.05"
B	0.08" ± 0.02"
C	0.60" MIN.
D	0.80" MIN.
WEB AND WALL THICKNESS, UNLESS NOTED	0.03" MIN.



NOTES:
 "A" DIMENSION SHALL APPLY AT ANY POINT THROUGHOUT "C" DEPTH. IN ITS FINAL POSITION, THE TOP CORNERS OF THE PREFORMED JOINT SEALER SHALL BE PLACED NOT LESS THAN 1/8 IN., NOR MORE THAN 5/16 IN. BELOW THE PAVEMENT SURFACE.
 SHARP INTERNAL CORNERS WILL NOT BE PERMITTED. ALL CORNERS SHALL BE PROVIDED WITH SUITABLE FILLET. CURRENTLY APPROVED CONFIGURATIONS ARE ON FILE IN THE MATERIALS ENGINEERING SECTION, MINNESOTA DEPARTMENT OF TRANSPORTATION.

CONTRACTION JOINT SEALER
 PREFORMED ELASTIC TYPE

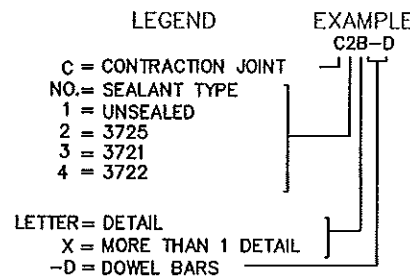
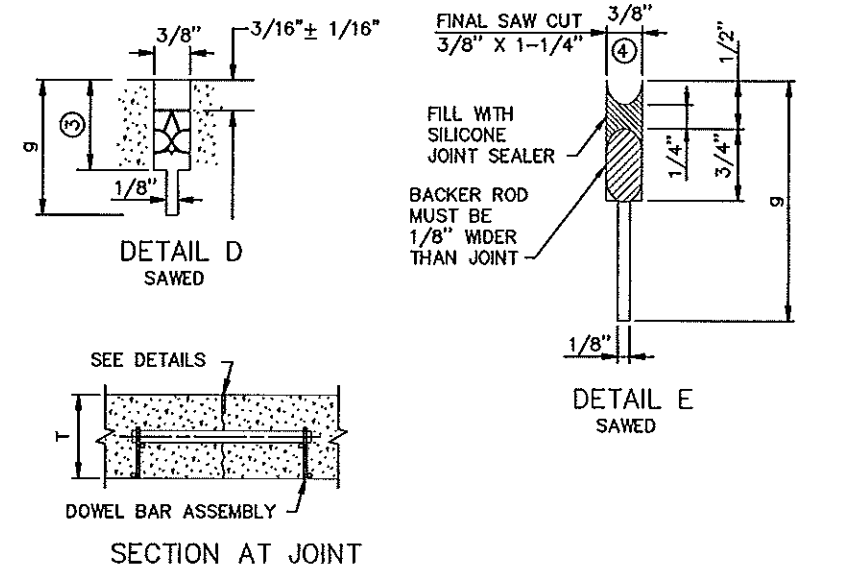


CONTRACTION JOINT CLASS DESIGNATION, DETAIL & SEALER SPEC. TABLE

CLASS DESIGNATION	JOINT DETAIL	JOINT SEALER SPEC.
C1A	A	UNSEALED
C2A	A	3725
C2B	B	3725
C2X	B OR C	3725
C3D	D	3721
C3X	C OR D	3721
C4E	E	3722

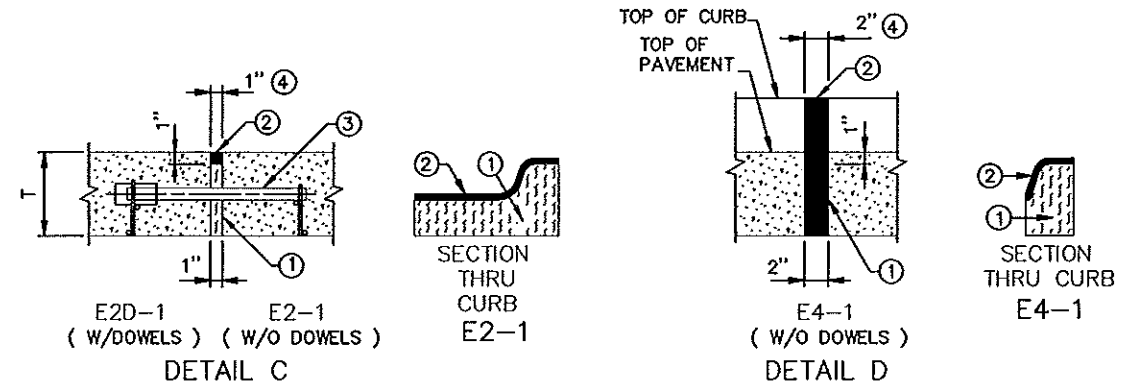
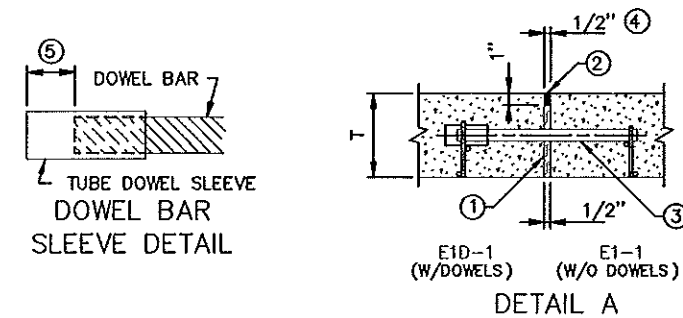
DOWEL BAR DIAMETER TABLE

PAVEMENT THICKNESS T	DOWEL BAR DIAMETER
6" - 6-1/4"	1"
6-1/2" - 10-1/4"	1-1/4"
10-1/2" - 12-1/2"	1-1/2"
13" - 14"	1-3/4"



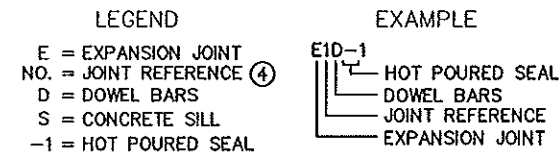
GENERAL NOTES:
 SEE STANDARD PLATE 1103, DOWEL BAR ASSEMBLY.
 SEE STANDARD PLATE 1150, CONSTRUCTION OF HEADER JOINTS, SEE STANDARD PLANS 5-297.217 AND 5-297.219, CONCRETE MAINLINE/RAMP PAVEMENT.
 SEE PAVING LAYOUTS IN THE PLANS FOR JOINT CLASS DESIGNATION TO BE USED AND SPECIAL REINFORCEMENT REQUIRED.
 FOR UNBONDED OVERLAYS, THE JOINT DEPTH "g" SHALL BE T/3.
 FOR CONCRETE PAVEMENT, THE JOINT DEPTH "g" SHALL BE T/4.

NOTES:
 ① DESIGN C3X OR C3X-D - PRIOR TO INSTALLING PREFORMED JOINT SEALER IN THE FORMED JOINT (DETAIL C), THE JOINT SHALL BE WIDENED TO A NOMINAL WIDTH OF 3/8" BY SAWING ALONG THE FULL LENGTH OF THE FORMED JOINT.
 DESIGN C2X OR C2X-D - PRIOR TO SEALING FORMED JOINT (DETAIL C), WITH HOT POUR SEALER, THE JOINT SHALL BE WIDENED TO A NOMINAL WIDTH OF 1/2". SAW ALONG FULL LENGTH OF THE FORMED JOINT TO DEPTH OF 3/4" (+1/8", -1/16") THE SEALER SHALL BE FILLED TO THE SAME DEPTH AS SHOWN IN DETAIL B.
 ② DESIGN C2B OR C2B-D - PRIOR TO SEALING JOINT (DETAIL B) WITH HOT POUR JOINT SEALER, A 5/8" DIA. CLOSED CELL BACKER ROD SHALL BE PLACED SUCH THAT THE TOP OF THE BACKER ROD IS 5/8" BELOW THE SURFACE OF THE PAVEMENT.
 ③ WHEN USING PREFORMED JOINT SEALER, THE DEPTH SHALL BE 1/4" MORE THAN THE PREFORMED SEALER, WHEN COMPRESSED, TO FIT THE JOINT DESIGN WIDTH.
 ④ 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 SEALANT BEAD THICKNESS OF 1/4".



EXPANSION JOINTS

CLASS DESIGNATION	JOINT DETAIL	JOINT SEALER SPEC.
E1D-1	A	3723
E2D-1	C	3723
E4D-1	D	3723
E4D-1	E	3723
E8S-1	(6)	3725



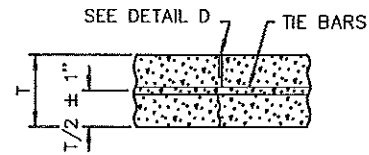
NOTES:
 ① PREFORMED JOINT FILLER MATERIAL, SPEC. 3702.
 ② JOINT SEALER SPEC. 3723. TOP OF SEALER, FLUSH TO 1/8 IN. BELOW TOP OF PAVEMENT SURFACE. MAKE TOP OF SEALER FOR CURB SECTION E JOINTS FLUSH WITH SURFACE ± 1/8 IN.
 ③ DOWEL BAR ASSEMBLY, SEE STANDARD PLATE 1103.
 ④ THE FIRST NUMBER IN THE JOINT DESIGNATION IS EQUAL TO HALF OF THE JOINT NUMBER IN 1/2" INTERVALS (I.E. E1 = 1/2", E2 = 1", E4 = 2 IN., E8 = 4 IN.).
 ⑤ SPACE FROM END OF DOWEL BAR TO END OF SLEEVE TO BE EQUAL TO EXPANSION JOINT WIDTH.
 ⑥ SEE STANDARD PLAN 5-297.223 FOR E8S JOINT DETAIL.

EXPANSION JOINTS
 DESIGN E

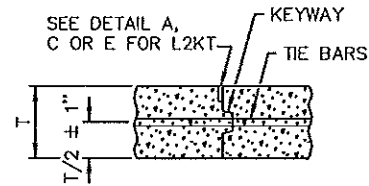
CONTRACTION JOINTS
 DESIGN C

STANDARD SHEET NO.
 5-297.221 (1 OF 2)
 STANDARD APPROVED:
 JUNE 6, 2005

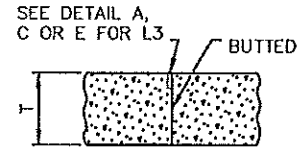
TITLE:
 PAVEMENT JOINTS
 CONTRACTION (DESIGN C) AND EXPANSION (DESIGN E)



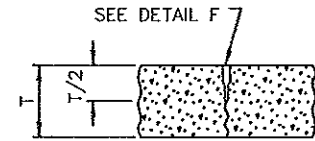
L1 & L1T



L2KT



L3



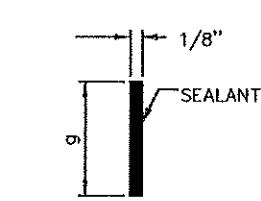
L4

LONGITUDINAL JOINT CLASS DESIGNATION, DETAIL & SEALER SPECIFICATION TABLE

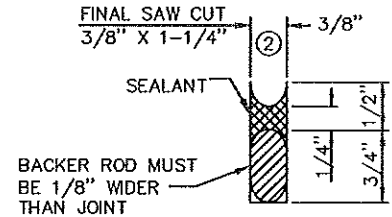
CLASS DESIGNATION				JOINT DETAIL	JOINT SEALER SPECIFICATION
WITHOUT TIE BARS	WITH TIE BARS	WITH KEYWAY & TIE BARS	BUTTED		
L1H	L1TH			B	3723
		L2KTH		D OR E	3723
		L2KTS		C	3722
			L3H	D OR E	3723
			L3S	C	3722
L4S				F	3722

LEGEND
 L = LONGITUDINAL JOINT
 NO. = JOINT REFERENCE
 K = KEYWAY
 T = TIE BARS
 U = UNSEALED
 H = HOT POUR (SEALANT)
 S = SILICONE (SEALANT)

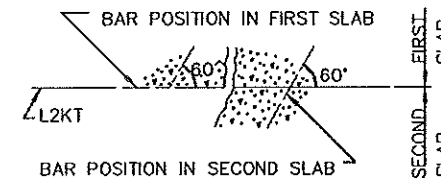
JOINT REFERENCE NUMBERS
 1 = SAWS TO A DEPTH OF T/3
 2 = KEYED CONSTRUCTION JOINT
 3 = BUTTED CONSTRUCTION JOINT
 4 = SAWS TO A DEPTH OF T/2



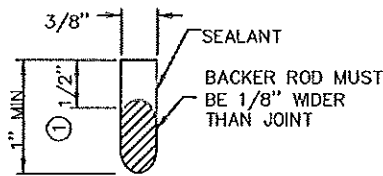
DETAIL B
(SAWED & SEALED WITH SPEC. 3723)



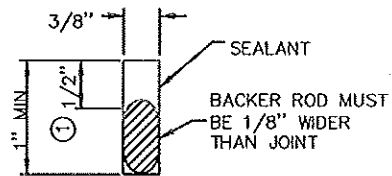
DETAIL C
(SAWED AND SEALED WITH SPEC. 3722)



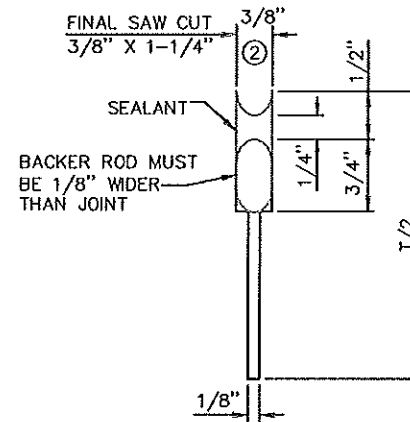
TIE BAR BENDING DETAIL



DETAIL D
(FORMED & SEALED WITH SPEC. 3723)



DETAIL E
(SAWED & SEALED WITH SPEC. 3723)



DETAIL F
(SAWED AND SEALED WITH SPEC. 3722)

LONGITUDINAL JOINT NOTES:

ALL REBARS ARE IN METRIC DESIGNATIONS

THE TIE BAR SPACING FOR ALL L2KT JOINTS SHALL BE 2' - 6" CENTER TO CENTER AND BENT 60° AS SHOWN, EXCEPT WHEN NOTED OTHERWISE IN THE PLANS.

TIE BARS IN THE 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. 13 X 2' - 6", WHEN TYING CURB & GUTTER TO PAVEMENT.

ALL TIE BARS SHALL MEET THE REQUIREMENTS OF GRADE 60 FOR AASHTO M-31 OR M-53.

NORMALLY, TIED PAVEMENT WIDTHS SHALL NOT EXCEED FOUR LANES, EXCEPT BRIDGE APPROACH PANELS AND PAVEMENT TAPERS.

JOINT WIDTH TOLERANCE IS + 1/16 IN. TO - 1/32 IN.

FOR CONCRETE PAVEMENT THE JOINT DEPTH "g" SHALL BE T/3 INCHES.

SPEC. 3723 SEALER - TOP OF SEALER FLUSH TO - 3/16 IN. BELOW TOP OF PAVEMENT SURFACE.

- THE JOINT FACES SHALL BE CLEANED AND DRIED BY SANDBLASTING AND AIR BLASTING. PRIOR TO SEALING THE JOINT, A CLOSED CELL BACKER ROD CAPABLE OF WITHSTANDING SEALANT TEMPERATURES OF 400 DEGREES F, WITH A DIAMETER 1/8 IN. LARGER THAN THE JOINT OPENING, MAY BE PLACED 1/2 IN. BELOW THE TOP OF THE PAVEMENT.
- THE JOINT FACES SHALL BE CLEANED AND DRIED BY SANDBLASTING AND AIR BLASTING. PRIOR TO SEALING THE JOINT, A 1/2 IN. DIAMETER CLOSED CELL BACKER ROD SHALL BE PLACED SUCH THAT THE TOP OF THE BACKER ROD IS 1/2 IN. BELOW THE SURFACE OF THE PAVEMENT. NON-SELF-LEVELING SILICONE SHALL BE TOOLED INTO THE JOINT MAINTAINING A SEALANT BEAD THICKNESS OF 1/4 IN.

GENERAL NOTES:

SEE STANDARD PLATE 1103, DOWEL BAR ASSEMBLY. SEE STANDARD PLATE 1141, PAVEMENT KEYWAY. 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 & SPECIAL REINFORCEMENT REQUIRED.

STANDARD SHEET NO.
5-297.221 (2 OF 2)
STANDARD APPROVED:
JUNE 6, 2005

TITLE:

PAVEMENT JOINTS
LONGITUDINAL (DESIGN L)