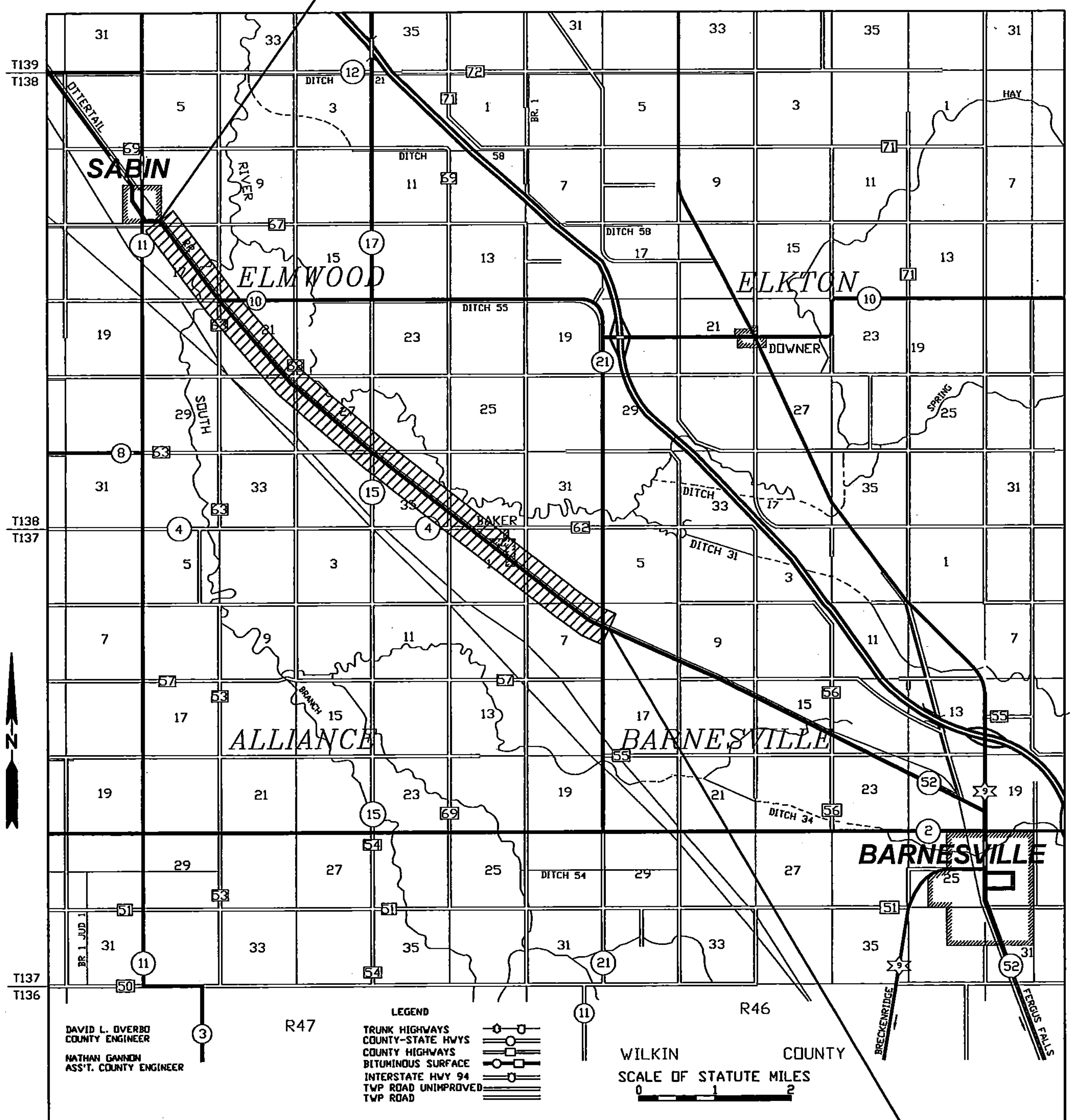
MINNESOTA DEPARTMENT OF TRANSPORTATION

MINN. PROJ. NO. STPX 1410 (246)

END S.P. 14-652-09
STA. 729+00



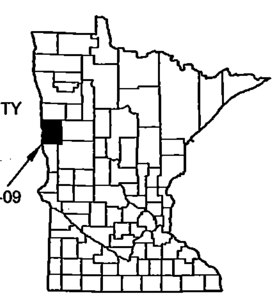
BEGIN S.P. 14-652-09
STA. 306+00

CLAY COUNTY DEPARTMENT OF HIGHWAYS

DESIGN SPEED – 55 mph
SOIL FACTOR – 130%
ROADWAY DESIGN – 10 TONS
FUNCTIONAL CLASS – MAJOR COLLECTOR
PRESENT TRAFFIC (2010) – 2,903 A.D.T.
PROJECTED TRAFFIC (2030) – 3,774 A.D.T.
H.C.A.D.T. – LESS THAN 300
RECOVERY AREA – 42' CL
SHOULDER WIDTH – 6'
2 LANES UNDIVIDED
CESALS – (30 YR) – 2,498,000
STOPPING SIGHT DISTANCE BASED ON:
3.5' HEIGHT OF EYE
2.0' HEIGHT OF OBJECT

PLAN SYMBOLS

POWER POLE
POWER POLE & GUY WIRE
UTILITY PEDESTAL
—T-BUR— BURIED TELEPHONE CABLE
—P-BUR— BURIED POWER CABLE
170+00 CENTERLINE
EXISTING R/W
PROPOSED R/W
TREE
PINE
BUSH
CULVERT
BIOROLL
EROSION STABILIZATION MAT
EROSION CONTROL BLANKET
DRAINAGE ARROW



SCALE

PLAN & PROFILE SHEET

VERT. 10 5 0 10 30

HORIZ. 100 50 0 100 300

SPECIFICATIONS REFERENCE

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

CONSTRUCTION PLAN FOR: UNBONDED CONCRETE OVERLAY, BITUMINOUS MILLING, DRAIN TILE, BITUMINOUS SHOULDER PAVING, TURN LANES, BRIDGE #5853 REPAIR AND CONCRETE OVERLAY.

COUNTY STATE AID HIGHWAY NO. 52

FROM A POINT 0.06 MILES SOUTH AND EAST OF THE INTERSECTION OF C.S.A.H. 52 & C.S.A.H. 21.
TO A POINT 0.05 MILES NORTH AND WEST OF THE INTERSECTION OF C.S.A.H. 52 & COUNTY HIGHWAY 67.

FROM A POINT 1,863.93' SOUTH AND 277.93 EAST OF THE NORTHWEST CORNER OF SECTION 8, T-137-N, R-46-W.

TO A POINT 1,106.79' EAST AND 65.94' NORTH OF THE SOUTHWEST CORNER OF SECTION 8, T-138-N, R-47-W.

S.P. 14-652-09

GROSS LENGTH	42,300.00	FEET	8.011	MILES
EXCEPTION LENGTH	0.00	FEET	0.000	MILES
NET LENGTH	42,300.00	FEET	8.011	MILES

INDEX

THIS PLAN CONTAINS 48 SHEETS

ALL APPLICABLE FEDERAL, STATE AND LOCAL LAWS AND ORDINANCES WILL BE COMPLIED WITH IN THE CONSTRUCTION OF THIS PROJECT.

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.

David L. Overbo LIC. NO. 41485 DATE 4-9-10
DAVID L. OVERBO – CLAY COUNTY ENGINEER

Merle Earley DATE 4/9/10
DISTRICT STATE AID ENGINEER: REVIEWED FOR COMPLIANCE WITH STATE-AID RULES/POLICY

DATE 5/3/10
APPROVED FOR FEDERAL FUNDING: STATE AID ENGINEER

ESTIMATED QUANTITIES

SPEC. NO.	ITEM	UNIT	TOTAL ESTIMATED QUANTITIES	NOTES
2011.601	CONSTRUCTION SURVEYING	LUMP SUM	1	THIS ITEM PROVIDES FOR ALL CONSTRUCTION SURVEYING INCLUDING CONCRETE PAVING, CULVERTS, SHOULDER BLUETOPS, DITCHES, TRANSITIONS AND ANY OTHER SURVEYING.
2021.501	MOBILIZATION	LUMP SUM	1	
2104.501	REMOVE METAL CULVERT	LIN. FT.	1,874	THIS ITEM PROVIDES FOR REMOVING THE FOLLOWING SIZES: 18"X 182', 24"X 798', 30"X 894'.
2104.501	REMOVE CONCRETE CULVERT	LIN. FT.	540	THIS ITEM PROVIDES FOR REMOVING THE FOLLOWING SIZES: 24"X 248', 36"X 292'.
2104.501	REMOVE BOX CULVERT	LIN. FT.	132	THIS ITEM PROVIDES FOR REMOVING THE FOLLOWING SIZES: 5'X 3'X 46', 5'X 3'X 42', 5'X 3'X 44'.
2104.501	REMOVE GUARD RAIL	LIN. FT.	520	
2104.505	REMOVE CONCRETE PAVEMENT	SQ. YD.	1,626	THIS ITEM PROVIDES FOR REMOVING THE INPLACE PANELS OVER THE CENTERLINE CULVERTS AND AT THE BRIDGE.
2104.505	REMOVE BITUMINOUS PAVEMENT	SQ. YD.	300	THIS ITEM PROVIDES FOR REMOVING BITUMINOUS PAVEMENT NEAR THE RAILROAD TRACKS.
2104.509	REMOVE MAIL BOX SUPPORT	EACH	2	THIS ITEM PROVIDES FOR REMOVING 2 MAIL BOXES SUPPORTS AT STA. STA. 473+00 +/- LT., AND STA. 692+50 +/- LT.
2104.511	SAWING CONCRETE PAVEMENT	LIN. FT.	40	THIS ITEM PROVIDES FOR SAWING THE CONCRETE FOR THE PERMANENT HEADERS AT THE BEGINNING AND THE END OF THE CONCRETE PAVEMENT.
2104.513	SAWING BITUMINOUS PAVEMENT	LIN. FT.	60	THIS ITEM PROVIDES FOR SAWING THE BITUMINOUS PAVEMENT AT C.S.A.H. 21 AND AT COUNTY HIGHWAY 67.
2104.523	SALVAGE MAIL BOX SUPPORT	EACH	1	THIS ITEM PROVIDES FOR SALVAGING THE MAIL BOX SUPPORT AT STA. 394+00 +/- RT.
2104.523	SALVAGE BRIDGE NAMEPLATE	EACH	2	
2105.521	GRANULAR BORROW MOD. (LV)	CU. YD.	1,762	THIS ITEM PROVIDES FOR GRANULAR BORROW AT THE FOUR CENTERLINE CULVERTS AND 300 CU. YDS. FOR CULVERT INSTALLATION AT C.S.A.H. 21.
2105.525	TOPSOIL BORROW (LV)	CU. YD.	1,000	THIS ITEM PROVIDES FOR PLACING TOPSOIL ON THE INSLOPES WHERE NECESSARY.
2105.619	MINOR GRADING	ROAD STA.	407	THIS ITEM PROVIDES FOR GRADING THE DITCHES TO DRAIN ON BOTH SIDES, WITH AN EXCEPTION AREA FROM STA. 676+00 TO STA. 692+00.
2112.603	SHOULDER PREPARATION	LIN. FT.	84,600	THIS ITEM PROVIDES FOR PREPARING THE SHOULDERS, ROAD ENTRANCES, HOME ENTRANCES AND CONSTRUCTING THE TURN LANES, THIS INCLUDES PLACING BITUMINOUS MATERIAL.
2123.503	MOTOR GRADER	HOUR	16	THIS ITEM PROVIDES FOR 16 HOURS OF MISCELLANEOUS CONSTRUCTION IF NECESSARY. MNDOT SPECIFICATION 1903 DOES NOT APPLY.
2123.510	10-12 CU YD TRUCK	HOUR	16	THIS ITEM PROVIDES FOR 16 HOURS OF MISCELLANEOUS CONSTRUCTION IF NECESSARY. MNDOT SPECIFICATION 1903 DOES NOT APPLY.
2123.514	3 CU YD FRONT END LOADER	HOUR	16	THIS ITEM PROVIDES FOR 16 HOURS OF MISCELLANEOUS CONSTRUCTION IF NECESSARY. MNDOT SPECIFICATION 1903 DOES NOT APPLY.
2123.522	PNEUMATIC-TIRED ROLLER (TRACTOR DRAWN)	HOUR	16	THIS ITEM PROVIDES FOR 16 HOURS OF MISCELLANEOUS CONSTRUCTION IF NECESSARY. MNDOT SPECIFICATION 1903 DOES NOT APPLY.
2123.610	1.5 CU YD BACKHOE	HOUR	16	THIS ITEM PROVIDES FOR 16 HOURS OF MISCELLANEOUS CONSTRUCTION IF NECESSARY. MNDOT SPECIFICATION 1903 DOES NOT APPLY.
2211.502	AGGREGATE BASE (LV) CLASS 5 MOD	CU. YD.	1,560	THIS ITEM PROVIDES FOR AGGREGATE BASE AT COMMERCIAL, HOME, FIELD ENTRANCES, AREAS OF 8" CONCRETE IF NEEDED AND APPROACH PANELS.
2231.501	BITUMINOUS PATCHING MIXTURE	TON	360	THIS ITEM PROVIDES FOR PATCHING CRACKS AND DEPRESSIONS PRIOR TO PLACING PASSRC.
2232.501	MILL BITUMINOUS SURFACE	SQ. YD.	101,629 (P)	THIS ITEM PROVIDES FOR MILLING ALL BITUMINOUS, INCLUDING ROAD AND HOME APPROACHES TO FULL DEPTH. 100% OF THE MILLED MATERIAL WILL BE USED IN THE SHOULDER AREA.
2301.502	CONCRETE PAVEMENT STANDARD WIDTH 6.0"	SQ. YD.	118,753	THIS ITEM PROVIDES FOR A ROADWAY WIDTH OF 26.0'.
2301.502	CONCRETE PAVEMENT STANDARD WIDTH 8.0"	SQ. YD.	1,887	THIS ITEM PROVIDES FOR A ROADWAY WIDTH OF 26.0'.
2301.538	DOWEL BAR	EACH	1,372	
2301.545	CONCRETE CORING	EACH	86	THIS ITEM PROVIDES FOR CORING 10 PER 5000' LOTS.
2301.561	PERMANENT TERMINAL HEADER	LIN. FT.	52	THIS ITEM PROVIDES FOR A TERMINAL HEADER AT THE BEGINNING AND ENDING OF THE CONCRETE PAVING.
2301.601	BRIDGE APPROACH PANELS	LUMP SUM	1	INCLUDES ALL ITEMS LISTED IN SUMMARY OF QUANTITIES FOR BRIDGE APPROACH PANEL, SHEET B12.
2350.609	BIT MIX FOR PERM ASPH STAB ST RE COURSE	TON	4,465	
2350.609	ASPHALT CEMENT FOR MIXTURE	TON	165	THIS ITEM IS PROVIDED FOR THE PASSRC, THE OIL CONTENT WILL BE DETERMINED BY THE MNDOT AFTER A AGGREGATE SAMPLE HAS BEEN SUBMITTED.
2357.502	BITUMINOUS MATERIAL FOR TACK COAT (UNDILUTED)	GALLON	5,125	THIS ITEM PROVIDES FOR THE APPLICATION RATE OF 0.06 GAL/SQ. YD. (DILUTED 1 PART WATER TO 1 PART TACK) AND SHALL BE CSS-1 OR CSS-1H.
2360.501	TYPE SP 12.5 WEARING COURSE MIXTURE (2,B)	TON	17,800	THIS QUANTITY INCLUDES ROAD APPROACHES, HOME ENTRANCES, FIELD ENTRANCES AND TURN LANES.
2401.512	BRIDGE SLAB CONCRETE (3Y33)	SQ. FT.	100	PROVIDED FOR FULL DEPTH REPAIR.
2401.513	TYPE P-4 (TL-4) RAILING CONCRETE (3Y46A)	LIN. FT.	202 (P)	
2401.541	REINFORCEMENT BARS (EPOXY COATED)	POUND	4,510 (P)	
2401.601	STRUCTURE EXCAVATION	LUMP SUM	1	
2404.618	CONCRETE WEARING COURSE (3U17A) 2.0"	SQ. FT.	4,220	
2433.505	REMOVE SLAB TYPE 1	SQ. FT.	500	CLAY COUNTY RESERVES THE RIGHT TO REMOVE ALL OR A PORTION OF THIS ITEM FROM THE CONTRACT.
2433.505	REMOVE SLAB TYPE 3	SQ. FT.	100	CLAY COUNTY RESERVES THE RIGHT TO REMOVE ALL OR A PORTION OF THIS ITEM FROM THE CONTRACT.
2433.506	REMOVE BRIDGE RAIL	LIN. FT.	202	INCLUDES STEEL TUBE RAILS, W-BEAM GUARDRAIL AND CONCRETE POSTS. CONCRETE CURB TO REMAIN IN PLACE.
2433.516	ANCHORAGES TYPE REINFORCED BARS	EACH	540	INCLUDES 444 ANCHORS FOR R1601E BARS LOCATED AT BRIDGE RAILING AND 96 ANCHORS FOR A2501E BARS LOCATED AT BRIDGE APPROACH PANELS.
2433.618	SCARIFY BRIDGE DECK	SQ. FT.	3,020	

(P) – DENOTES PLAN QUANTITY

ESTIMATED QUANTITIES

SPEC. NO.	ITEM	UNIT	TOTAL ESTIMATED QUANTITIES	NOTES
2501.511	18" CS PIPE CULVERT	LIN. FT.	204	
2501.511	24" CS PIPE CULVERT	LIN. FT.	1,210	
2501.511	30" CS PIPE CULVERT	LIN. FT.	1,938	
2501.515	18" GS PIPE APRON	EACH	8	
2501.515	24" GS PIPE APRON	EACH	54	
2501.515	30" GS PIPE APRON	EACH	50	
2502.501	4" PRECAST CONCRETE HEADWALL	EACH	158	
2502.521	4" THERMOPLASTIC PIPE DRAIN	LIN. FT.	2,476	
2502.541	4" PERFORATED P.E. PIPE DRAIN	LIN. FT.	79,940	THIS ITEM PROVIDES FOR FURNISHING AND PLACEMENT OF THE COURSE FILTER AGGREGATE, THIS SHALL BE CONSIDERED INCIDENTAL.
2540.602	INSTALL MAIL BOX SUPPORT	EACH	4	THIS ITEM PROVIDES FOR INSTALLING 4 MAIL BOXES AT STA. 394+00 +/- RT., STA. 473+00 +/- LT., AND 2 AT STA. 692+50 +/- LT.
2540.602	MAIL BOX SUPPORT	EACH	3	THIS ITEM PROVIDES FOR FURNISHING 3 MAIL BOX SUPPORTS AT STA. 473+00 +/- LT., AND 2 AT STA. 692+50 +/- LT.
2554.501	TRAFFIC BARRIER DESIGN SPECIAL	LIN. FT.	100	INCLUDES ANCHORAGE ASSEMBLY (25 FEET EACH CORNER).
2554.501	TRAFFIC BARRIER DESIGN B8338	LIN. FT.	150	SEE MN/DOT STD. PLATE 8338 (75 FEET NORTHWEST AND SOUTHEAST CORNERS).
2554.523	END TREATMENT-TANGENT TERMINAL	EACH	4	END TREATMENT WILL BE ET-PLUS STEEL YIELDING TERMINAL POST OR SKT-350 STEEL BOLTED HINGE POST.
2563.601	TRAFFIC CONTROL	LUMP SUM	1	
2563.601	DETOUR SIGNING	LUMP SUM	1	
2573.540	FILTER LOG, TYPE STRAW BIOROLL	LIN. FT.	828	
2575.501	SEEDING	ACRE	29.9	THIS ITEM PROVIDES FOR GENERAL ROADSIDE SEEDING INCLUDING ALL DISTURBED AREAS. MNDOT SPECIFICATION 1903 DOES NOT APPLY.
2575.502	SEED MIXTURE 280	POUND	1,495	THIS ITEM PROVIDES FOR AN APPLICATION RATE OF 50 POUNDS PER ACRE. MNDOT SPECIFICATION 1903 DOES NOT APPLY.
2575.511	MULCH MATERIAL, TYPE 8	TON	59.8	THIS ITEM PROVIDES FOR PRAIRIE HAY AT THE RATE OF 2 TONS PER ACRE. MNDOT SPECIFICATION 1903 DOES NOT APPLY.
2575.519	DISK ANCHORING	ACRE	29.9	MNDOT SPECIFICATION 1903 DOES NOT APPLY.
2575.523	EROSION CONTROL BLANKETS CATEGORY 3	SQ. YD.	7,000	THIS ITEM PROVIDES FOR 606 SQ. YDS. TO BE PLACED ON CENTERLINE CULVERTS AND 734 SQ. YDS. TO BE PLACED ON ALL OTHER CULVERTS.
2575.525	EROSION STABILIZATION MAT CLASS 3	SQ. YD.	33.8	INSTALLATION AND ALL MATERIALS REQUIRED SHALL BE CONSIDERED INCIDENTAL TO EROSION STABILIZATION MAT.
2575.531	FERTILIZER, TYPE 1	TON	5.23	THIS ITEM PROVIDES FOR AN ANALYSIS OF 22-5-10 AND AN APPLICATION RATE OF 350 POUNDS PER ACRE. MNDOT SPECIFICATION 1903 DOES NOT APPLY.
2582.502	4" BROKEN LINE YELLOW-EPOXY	LIN. FT.	8,460	MARKING SHALL BE A 10' STRIPE WITH A 40' SKIP. MNDOT SPECIFICATION 1903 DOES NOT APPLY.
2582.502	4" SOLID LINE YELLOW-EPOXY	LIN. FT.	1,200	THIS ITEM PROVIDES FOR A NO PASSING ZONE NEAR THE CITY OF SABIN. MNDOT SPECIFICATION 1903 DOES NOT APPLY.
2582.502	6" SOLID LINE WHITE-EPOXY	LIN. FT.	87,715	THIS ITEM PROVIDES FOR A SHOULDER STRIPE IN EACH DIRECTION AND 7 TURN LANE STRIPES. MNDOT SPECIFICATION 1903 DOES NOT APPLY.

(P) - DENOTES PLAN QUANTITY

GENERAL CONSTRUCTION NOTES

THE CONTRACTOR WILL BE RESPONSIBLE FOR PROVIDING ACCESS TO ALL RESIDENTIAL DWELLINGS AND BUSINESS ESTABLISHMENTS ADJACENT TO THIS PROJECT. FINAL DETAILS ON THE LOCATION OF ACCESS POINTS AND CONSTRUCTION PROCEDURES SHALL BE WORKED OUT WITH THE ENGINEER IN THE FIELD PRIOR TO THE START OF THE PROJECT.

THE CONTRACTOR WILL BE RESPONSIBLE TO VERIFY THE LOCATIONS AND TO CALL THE GOPHER STATE ONE CALL AT 1-800-252-1166 TO HAVE THE LOCATIONS MARKED PRIOR TO THE BEGINNING OF CONSTRUCTION. THE CONTRACTOR WILL BE LIABLE FOR ANY COSTS RESULTING FROM DAMAGE TO UTILITIES.

IN REFERENCE TO CONSTRUCTION SURVEYING, THIS ITEM PROVIDES FOR ALL SURVEYING NECESSARY TO CONSTRUCT THE PROJECT SHOWN ON THE PLANS AND SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

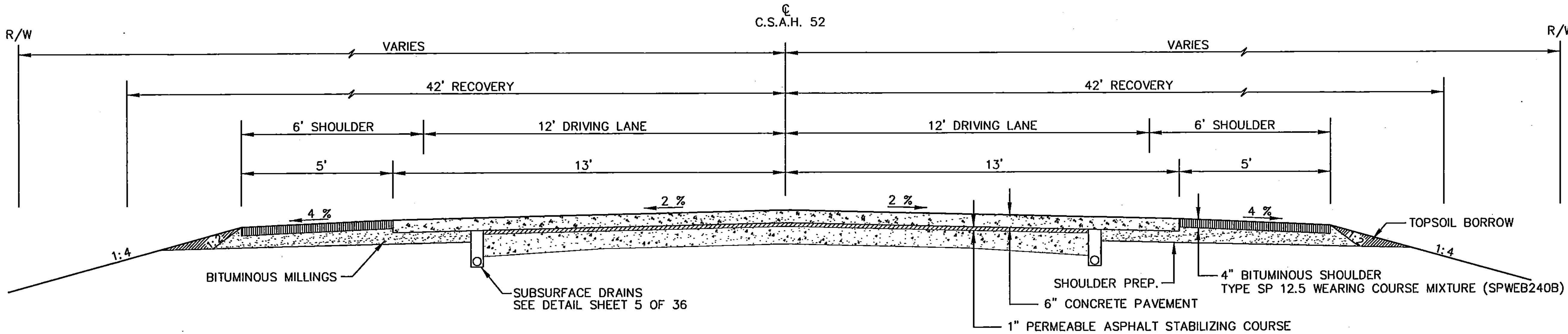
IN REFERENCE TO REMOVE CONCRETE PAVEMENT, A STANDARD PANEL IS 20' WIDE, THICKNESS IS 9"-7"-9" AND THE LENGTH IS IN 40'-4" REINFORCED PANELS. A TAPERED PANEL IS 20' WIDE AT ONE END AND 28' WIDE AT THE OTHER, THICKNESS IS 9"-7"-9" AND THE LENGTH IS IN 40'-4" REINFORCED PANELS.

IN REFERENCE TO SHOULDER PREPARATION, THIS ITEM PROVIDES FOR PREPARING THE SHOULDERS, ROAD ENTRANCES, HOME ENTRANCES AND CONSTRUCTING THE TURN LANES. IT IS ANTICIPATED THAT EACH OF THE SIX 480' TURN LANES WILL TAKE AS MUCH AS 554 CU. YDS. AND THE 235' TURN LANE WILL TAKE AS MUCH AS 271 CU. YDS. FOR A TOTAL OF 3,595 CU. YDS. COMMON BORROW OR GRANULAR BORROW WILL BE ACCEPTED. THE ITEM SHOULDER PREPARATION ALSO INCLUDES THE PLACEMENT OF ANY AGGREGATE BASE IF NEEDED.

THE ITEM FOR BITUMINOUS PATCHING MIXTURE SHALL MEET THE REQUIREMENTS OF TYPE SP 12.5 WEARING COURSE MIXTURE (SPWEB240B) AND SHALL BE USED AS DIRECTED BY THE ENGINEER. THIS ITEM IS FOR PATCHING CRACKS AND DEPRESSIONS PRIOR TO PLACING THE PASSRC.

ANY SUBGRADE PREPARATION NECESSARY FOR CONCRETE PAVEMENT STANDARD WIDTH 8.0" SHALL BE CONSIDERED INCIDENTAL.

IN REFERENCE TO EROSION STABILIZATION MAT, THIS SHALL BE A PRODUCT CALLED SCOUR STOP, OR AN APPROVED EQUAL. THIS SHALL BE INSTALLED AS PER THE MANUFACTURES RECOMMENDATIONS. EROSION CONTROL BLANKET SHALL BE PLACED UNDER THE STABILIZATION MAT PRIOR TO INSTALLATION. INSTALLATION AND ALL MATERIALS REQUIRED SHALL BE CONSIDERED INCIDENTAL TO EROSION STABILIZATION MAT.



PROPOSED TYPICAL SECTION

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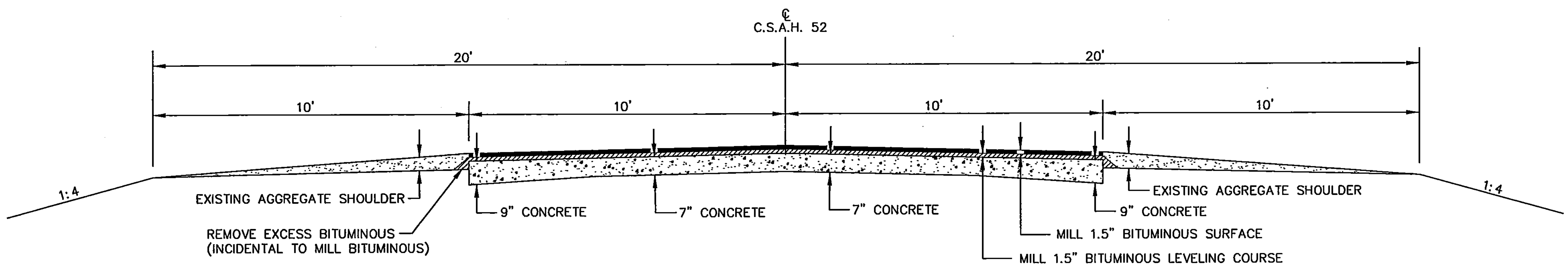
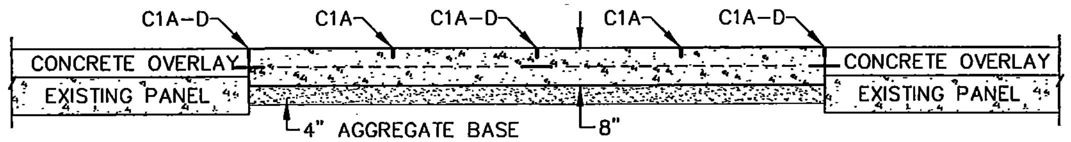


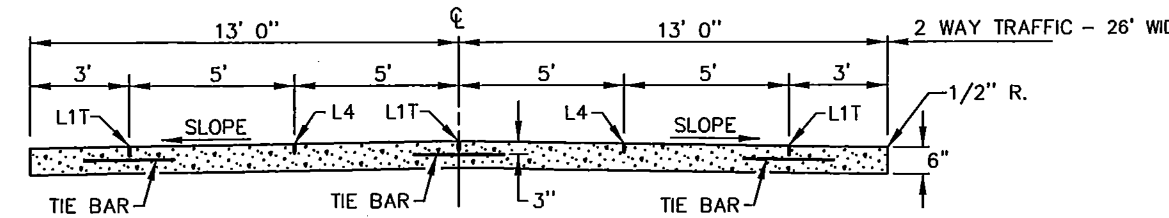
EXISTING TYPICAL SECTION

(NO SCALE)

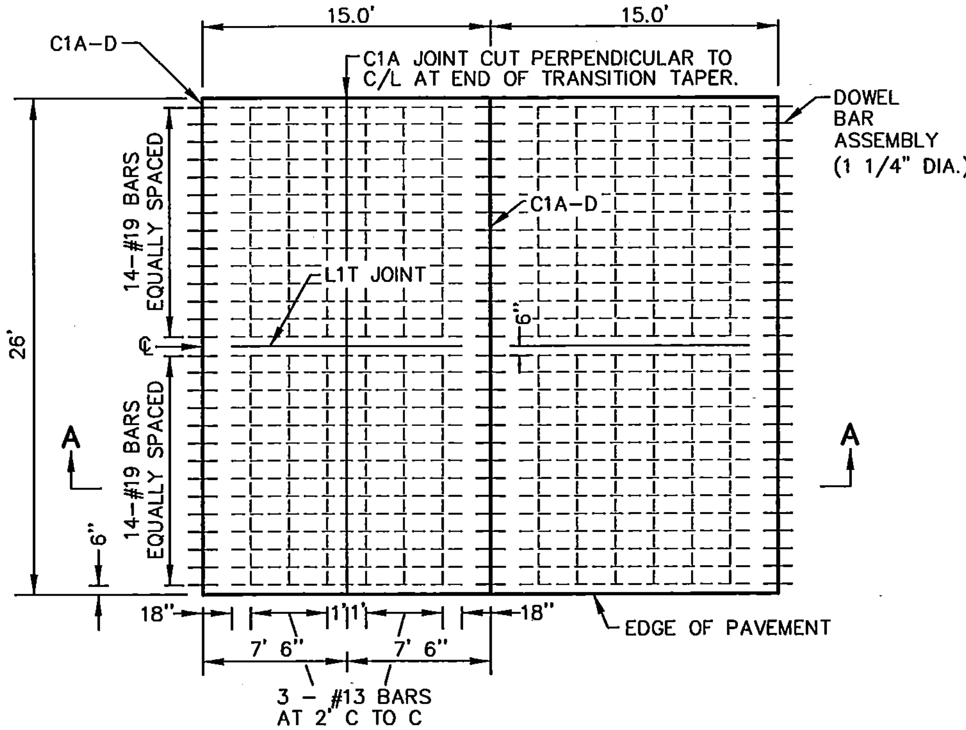
CERTIFIED BY [illegible] DAVID L. OVERBO – CLAY COUNTY ENGINEER LIC. NO. 41485 DATE 4-9-10	DRAWN BY BC CHECKED BY [illegible]	S.P. 14-652-09	CLAY COUNTY	TYPICAL SECTIONS	SHEET C5 OF C34 SHEETS



SECTION A–A

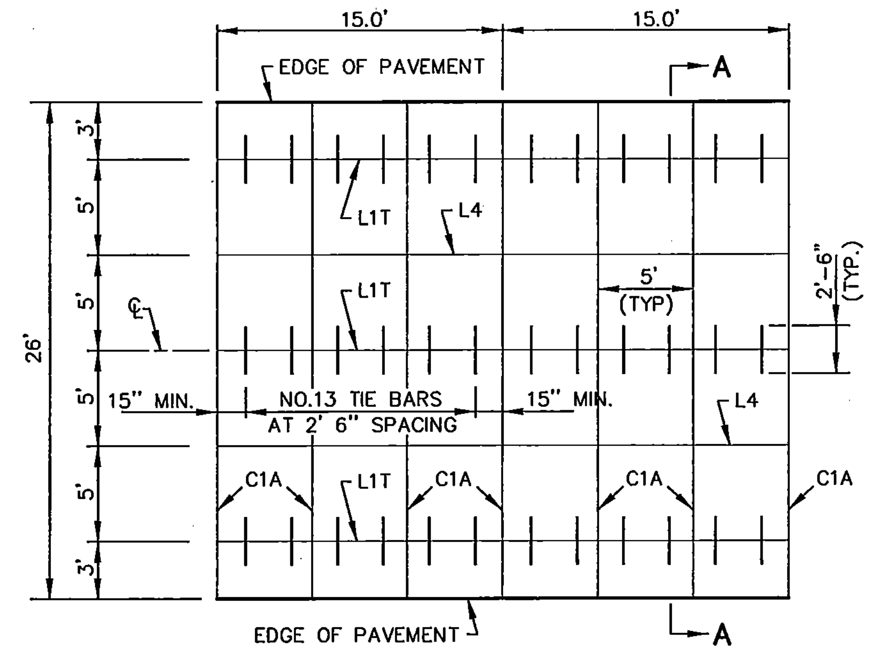


SECTION A–A



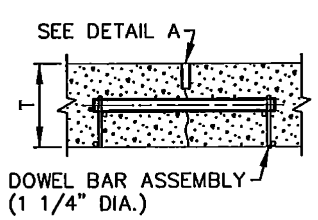
PANEL REPLACEMENT DETAIL

8" CONCRETE PANEL WITH SUPPLEMENTAL REINFORCEMENT
TO BE USED AT CENTERLINE CULVERTS
AND PANEL REPLACEMENT AREAS

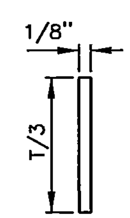


MAINLINE PAVEMENT

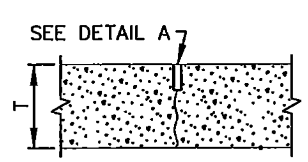
6" CONCRETE OVERLAY
UNDOWELED



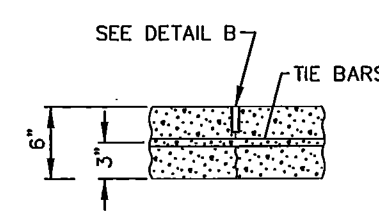
C1A–D



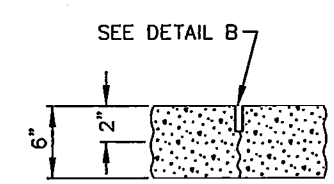
DETAIL A
FORMED & SAWED



C1A



L1T



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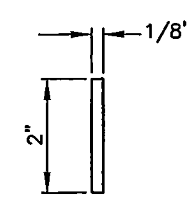
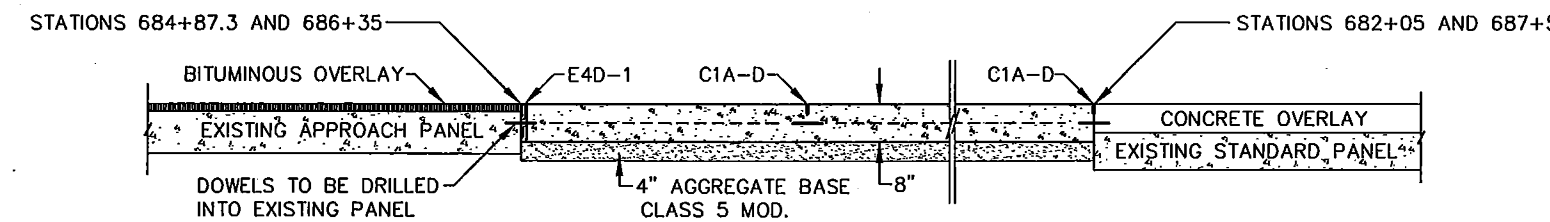
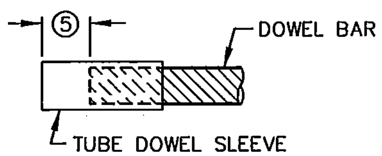


DETAIL B
(SAWED)

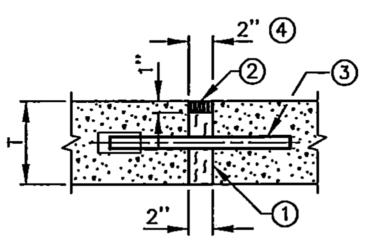
CERTIFIED BY David L. Overbo LIC. NO. 41485 DATE 4-9-10 DAVID L. OVERBO – CLAY COUNTY ENGINEER	DRAWN BY RC CHECKED BY NB	S.P. 14–652–09	CLAY COUNTY	PAVEMENT DETAILS	SHEET C9 OF C34 SHEETS



SECTION A–A



DOWEL BAR
SLEEVE DETAIL

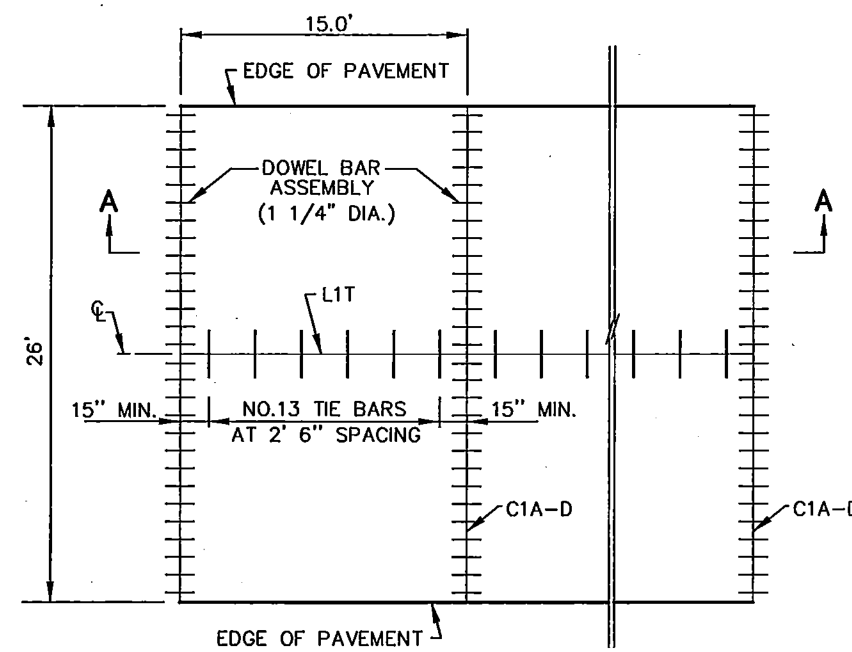


E4D-1
(W/DOWELS)
DETAIL E

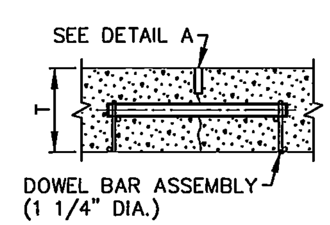
EXPANSION JOINTS
DESIGN E

NOTES:

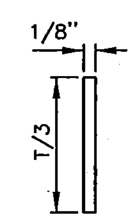
1. PREFORMED JOINT FILLER MATERIAL, SPEC. 3702.
2. JOINT SEALER SPEC. 3723. TOP OF SEALER, FLUSH TO 1/8" BELOW TOP OF PAVEMENT SURFACE. MAKE TOP OF SEALER FOR CURB SECTION E JOINTS FLUSH WITH SURFACE.
3. DOWEL BAR ASSEMBLY, SEE STANDARD PLATE 1103.
4. THE FIRST NUMBER IN THE JOINT DESIGNATION IS EQUAL TO HALF OF THE JOINT NUMBER IN 1/2" INTERVALS (I.E. E1 = 1/2", E2 = 1", E4 = 2", AND E8 = 4").
5. SPACE FROM END OF DOWEL BAR TO END OF SLEEVE TO BE EQUAL TO EXPANSION JOINT WIDTH.
6. DRILLING AND CONSTRUCTING OF THE E4D-1 JOINT SHALL BE CONSIDERED INCIDENTAL TO THE CONSTRUCTION OF 8" CONCRETE REPLACEMENT PANEL.



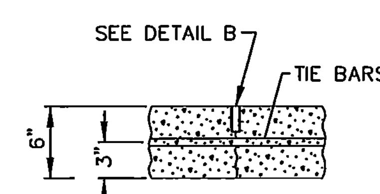
PANEL REPLACEMENT DETAIL
8" CONCRETE PANEL TO BE USED AT BRIDGE APPROACH



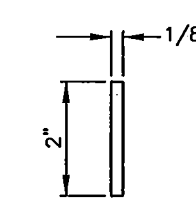
C1A–D



DETAIL A
FORMED & SAWED



L1T



DETAIL B
(SAWED)

CONCRETE PAVEMENT & PAVEMENT JOINTS

STATION	DESCRIPTION	6" STANDARD WIDTH	8" STANDARD WIDTH	DOWEL ② BARS 1.25"	PERMANENT TERMINAL HEADER	① INCIDENTAL JOINTS				
						E4D–1	C1A–D	C1A	L1T	L4
		SQ. YD.	SQ. YD.	EACH	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.
308+00	TRANSITION				26'					
308+00 – 343+58.67	OVERLAY SECTION	10,280						18,496	10,671	7,114
343+58.67 – 344+39.33	PANEL OVER CULVERT		233	168			140	140	81	
344+39.33 – 442+34.67	OVERLAY SECTION	28,297						50,936	29,386	19,591
442+34.67 – 443+15.33	PANEL OVER CULVERT		233	168			140	140	81	
443+15.33 – 540+33.84	OVERLAY SECTION	28,076						50,536	29,156	19,437
540+33.84 – 540+74.17	PANEL OVER CULVERT		117	112			70	70	41	
540+74.17 – 640+48.84	OVERLAY SECTION	28,816						51,868	29,924	19,949
640+48.84 – 640+89.17	PANEL OVER CULVERT		117	112			70	70	41	
640+89.17 – 682+05	OVERLAY SECTION	11,890						21,612	12,468	8,312
682+05 – 684+91.33	BRIDGE APPROACH		826	560		26	490		283	
686+31 – 687+56	BRIDGE APPROACH		361	252		26	210		121	
687+56 – 727+00	OVERLAY SECTION	11,394						20,500	11,827	7,885
727+00	TRANSITION				26'					
	PROJECT TOTAL	118,753	1,887	1,372	52'	52	1,120	214,368	124,080	82,288

NOTE: ALL REINFORCEMENT BARS SHALL BE EPOXY COATED, AND WILL BE CONSIDERED INCIDENTAL TO THE COST OF CONCRETE PAVEMENT.

① THESE JOINTS ARE INCIDENTAL WORK FOR WHICH THERE WILL BE NO DIRECT COMPENSATION.
MAINLINE DOWEL BAR ASSEMBLIES SHALL BE PLACED ON THE BASIS OF TWO 12' LONG ASSEMBLIES, PAID FOR BY THE BAR, 12 BARS EACH.

② DOWEL BASKETS IN CONCRETE REPLACEMENT AREAS SHALL BE ANCHORED TO THE SATISFACTION OF THE ENGINEER.
PINNING SHALL BE FROM THE TOP RAIL, USING 15" PINS. SEE DOWEL BASKET STANDARD PLATE 1103J.
DOWEL BASKETS IN CONCRETE OVERLAY AREAS SHALL BE ANCHORED TO THE UNDERLYING CONCRETE PAVEMENT TO PREVENT MOVEMENT.
THE ANCHORAGE SYSTEM SHALL USE PINS OR FASTENERS OF SUFFICIENT LENGTH AND SHANK DIAMETER (0.177 INCH MINIMUM) TO PENETRATE INTO THE INPLACE CONCRETE A MINIMUM OF ONE INCH. THE CONTRACTOR'S CHOSEN ANCHORAGE PROCEDURE MUST BE DEMONSTRATED, TO THE SATISFACTION OF THE ENGINEER PRIOR TO THE START OF PAVING.

ALL TRANSVERSE JOINTS FOR 8" PANELS SHALL BE DOWELED, USING 1.25" DOWELS.

TRANSVERSE JOINTS SHOULD NOT BE LOCATED WITHIN 2.5 FEET OF AN EXISTING JOINT OR A WORKING JOINT.
JOINT SPACING SHOULD BE 5–FOOT WITH THE EXCEPTION OF WHERE THE JOINT FALLS WITHIN 2.5 FEET OF AN EXISTING TRANSVERSE OR WORKING JOINT.
CONTRACTOR SHALL MARK THE LOCATION OF THE INPLACE JOINTS AND ADJUST THE OVERLAY PANEL LENGTH AS NECESSARY.
JOINTS SHOULD BE PLACED ON THE APPROACH SIDE OF THE EXISTING JOINT.

REINFORCEMENT BARS

LOCATION AND APPLICATION	POUND
MAINLINE	
L1T JOINT FOR 6" OVERLAY	82,455
8" REINF. PANELS OVER CULVERTS	9,769
L1T JOINT FOR 8" PANELS AT BRIDGE APPROACH	269
PROJECT TOTAL	92,493