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
OH 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

MINNESOTA DEPARTMENT OF TRANSPORTATION

THE COUNTY OF OLMSTED

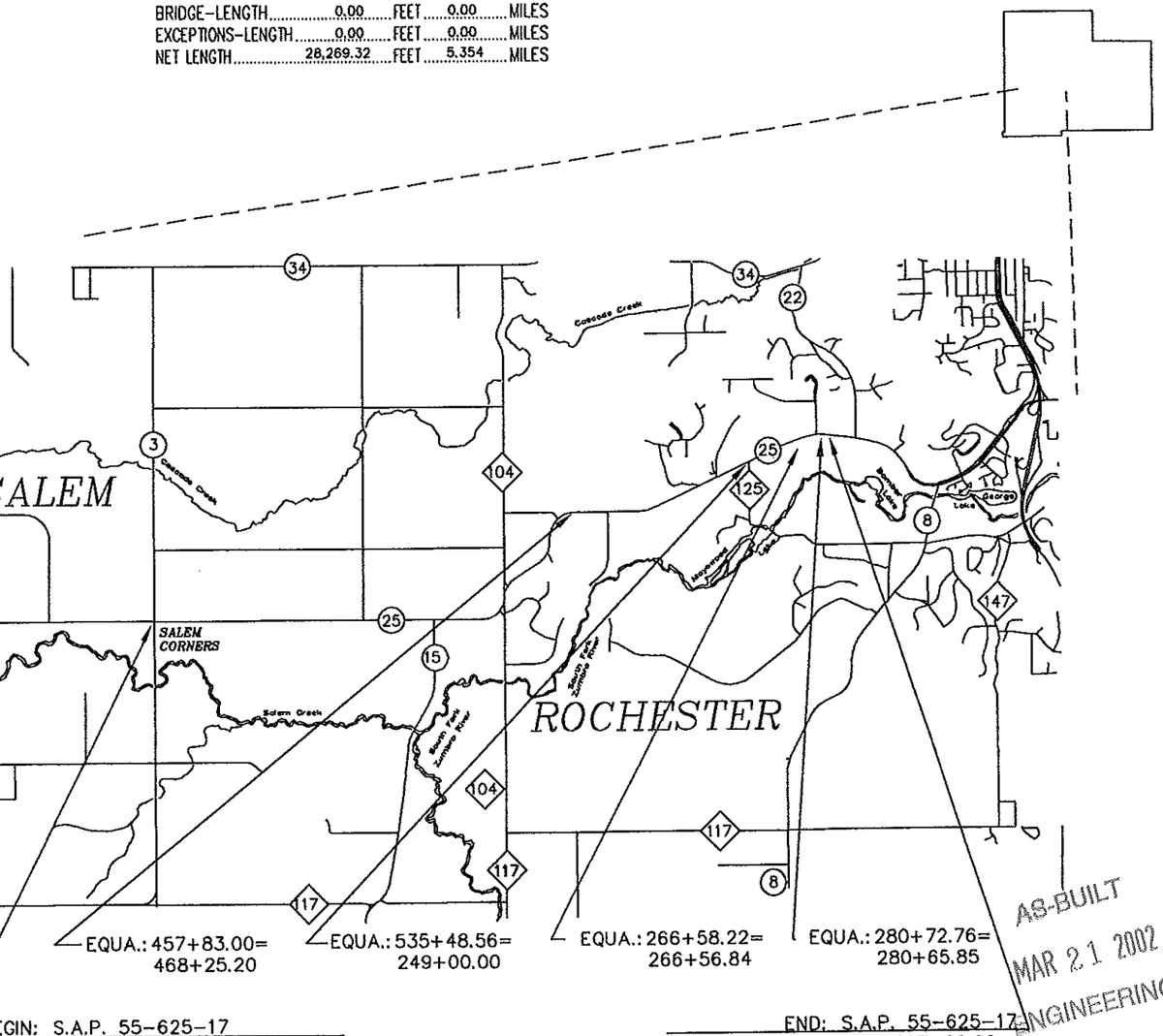
CONSTRUCTION PLAN FOR RETRO FIT DOWEL BARS, CONCRETE PLANING, CONCRETE REHAB. BITUMINOUS SHOULDERS & PAVEMENT EDGE DRAINS

LOCATED ON OLMSTED CSAH 25 BETWEEN CSAH 3 AND 772' W. OF JCT. CSAH 22 & CSAH 25 IN ROCHESTER (GEOGRAPHIC DESCRIPTION)

FROM CENTER SEC. 15 T.106 N. - R.15 W. TO 1415' S. & 425' W. OF THE 1/4 COR. OF SEC. 4&9 T.106N.-R.14W. (LEGAL DESCRIPTION)

S.A.P. NO. 55-625-17

GROSS LENGTH	28,269.32	FEET	5.354	MILES
BRIDGE-LENGTH	0.00	FEET	0.00	MILES
EXCEPTIONS-LENGTH	0.00	FEET	0.00	MILES
NET LENGTH	28,269.32	FEET	5.354	MILES



EQUA.: 457+83.00= 468+25.20

EQUA.: 535+48.56= 249+00.00

EQUA.: 266+58.22= 266+56.84

EQUA.: 280+72.76= 280+65.85

BEGIN: S.A.P. 55-625-17
STA. 280+45.33

END: S.A.P. 55-625-17
STA. 287+00.00

AS-BUILT
MAR 21 2002
ENGINEERING

MINN. PROJ. NO. .....

GOVERNING SPECIFICATIONS

THE 1988 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" AS AMENDED BY THE MAY 2, 1994, SUPPLEMENTAL SPECIFICATION SHALL GOVERN.

INDEX

SHEET NO. 1	TITLE SHEET
SHEET NO. 2	EST. OF QUANTITIES & MILLING TAB SHEET
SHEET NO. 3	APPROACH, ENT. & SHLD. TYPICALS
SHEET NO. 4	DRAIN DETAIL SHEET
SHEET NO. 5	DRAINTILE TAB & RETROFIT DETAIL SHEET
SHEET NO. 6-11	PAVEMENT REPAIR DETAIL SHEETS
SHEET NO. 12-16	PLAN SHEETS (INFORMATION ONLY)
SHEET NO. 17-18	TRAFFIC CONTROL SHEETS

THIS PLAN CONTAINS 18 SHEETS.

STA 280+45.33 TO STA 287+00.00
CONCRETE PAVING 1982 UNDER SAP 55-625-13

STA 280+33.33 TO STA 535+48.56
GRADED 1979 UNDER SAP 55-625-13

STA 249+00.00 TO STA 287+00.00
GRADED 1973 UNDER C25-73-3 LOCAL FUNDS

DESIGN DESIGNATION (OLMSTED CSAH 25)

ADT (Current Year)	= 2,600(2000)	Design Speed	55 MPH
ADT (Future Year)	= 4,160(2020)	STA.	TO STA.
DHV (Design Hr. Vol.)	=	Design Speed	MPH
D (Directional Distr.)	=	STA.	TO STA.
T (Heavy Commercial)	=	Based on STOPPING Sight Distance	
SOIL FACTOR	= 30	Height of eye 3.75	Height of object 0.5
TON DESIGN	10	Design Speed not achieved at:	
LANE WIDTH	12	STA.	TO STA. MPH
SHOULDER WIDTH	8'	STA.	TO STA. MPH
MAJOR COLLECTOR			

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

DATE 7/21/00 REG. NO. 19917 ENGR. Kay W. Brenneck

COUNTY OLMSTED

Approved 7/21 20.00 Michael W. Hanson
OLMSTED COUNTY ENGINEER

Recommended for Approval ..... 20.....
DISTRICT STATE AID ENGINEER

Recommended for Approval ..... 20.....
STATE AID PLANS AND SPECS ENGINEER

Approved August 4 20.00 Randy Schmidt
FOR STATE AID DIVISION

STATE AID PROJ. NO. 55-625-17
~~STATE PROJ. NO.~~ .....

ESTIMATED QUANTITIES

	SPECIFICATION NO.	ITEM	UNIT	PARTICIPATING	TOTAL ESTIMATED QUANTITIES	As built
	2021.501	MOBILIZATION	LUMP SUM	1	1	
1	2232.501	MILL BITUMINOUS SURFACE (2.5")	SQ.YD.	16,005	~~16,005~~	17295
	2301.501	CONCRETE PAVEMENT (TYPE D-1)	SQ.YD.	109	~~109~~	71
	2301.501	CONCRETE PAVEMENT (TYPE D-2)	SQ.YD.	8	~~8~~	3
	2301.529	REINFORCEMENT BARS (EPOXY COATED)	POUND	50	~~50~~	40
	2301.538	DOWEL BAR	EACH	110	~~110~~	42
	2301.610	DOWEL BAR RETROFIT	EACH	11,337	~~11,337~~	10929
	2301.602	DRILL & GROUT REINFORCEMENT BAR	POUND	6	~~6~~	0
	2301.602	SEAL CONCRETE PAVEMENT (3723)	POUND	11,229	~~11,229~~	15180
	2301.603	CONCRETE PLANING	SQ.YD.	75,416	~~75,416~~	75666
	2301.604	JOINT REPAIR (TYPE A-2)	LIN.FT.	45,336	~~45,336~~	45681
	2301.604	1/4" LONGITUDINAL JOINT REPAIR (TYPE A-6)	LIN.FT.	28,282	~~28,282~~	29054
	2301.604	CRACK REPAIR (TYPE A-7H)	LIN.FT.	108	~~108~~	273
	2301.604	EDGE REPAIR (TYPE B-2C)	LIN.FT.	4	~~4~~	15
	2301.604	JOINT REPAIR (TYPE B-3)	LIN.FT.	7	~~7~~	62
	2301.604	CONTRACTION JOINT (TYPE C-3D)	LIN.FT.	24	~~24~~	137
	2301.609	SPOT-SURFACE REPAIR (TYPE B-2A)	SQ.FT.	57	~~57~~	174
2	2350.609	TYPE LV SHOULDER MIXTURE	TON	2,641	~~2,641~~	3168
3	2502.521	4" TP PIPE DRAIN	LIN FT	2,000	~~2000~~	1942
3	2502.541	4" PERF PE PIPE DRAIN	LIN FT	50,294	~~50,294~~	51839
3	2502.601	4" PRECAST CONCRETE HEADWALL	EACH	90	~~90~~	92
	2563.601	TRAFFIC CONTROL	LUMP SUM	1	1	
	2564.603	4" SOLID LINE WHITE-EPOXY	LIN FT	56,562	~~56,562~~	56668
	2564.603	4" SOLID LINE YELLOW-EPOXY	LIN FT	8,757	~~8,757~~	8870
	2564.603	4" BROKEN LINE YELLOW-EPOXY	LIN.FT.	3,735	~~3,735~~	3769
	2564.603	4" SOLID DOUBLE YELLOW-EPOXY	LIN.FT.	9,498	~~9,498~~	9402

MILL BITUMINOUS SURFACE

STATIONS	LOCATION	SQ. YDS.
280+52 - 284+42	LT.	347
280+52 - 283+79	RT.	291
289+88 - 295+53	RT.	502
311+50 - DRIVE	LT.	135
317+70 - 321+80	RT.	364
319+30 - 323+85	LT.	404
338+45 - DRIVE	RT.	135
347+80 - 352+18	LT.	391
355+61 - DRIVE	RT.	135
359+34 - TWP. RD.	LT.	230
385+74 - CSAH 15	RT.	230
397+95 - 400+55	RT.	319
399+00 - 416+05	LT.	1516
412+00 - CR 104	RT.	BY OTHERS
419+15 - CR 104	LT.	773
423+40 - DRIVE	RT.	135
446+76 - DRIVE	LT.	135
443+05 EQUA. 469+00	RT.	1409
444+00 - TWP. RD.	RT.	88
450+80 - TWP. RD.	LT.	621
470+28 - DRIVE	LT.	135
480+46 - TWP. RD.	RT.	230
485+29 - DRIVE	LT.	135
511+20 - 515+20	LT.	621
515+20 - 518+50	LT.	337
522+56 - WESTHILL DR.	LT.	424
523+81 - DRIVE	RT.	135
527+20 - DRIVE	RT.	135
534+60 EQUA. 264+00	RT.	1271
249+00 EQUA. 275+95	LT.	2380
279+88 - 287+00	LT.	633
271+15 - 287+00	RT.	1409
	TOTAL	16,005

QUANTITY NOTES

1. MILLING LOCATIONS ARE ON SHEET 2. MILLING MATERIALS ARE TO BE USED TO PREPARE THE BASE OF THE SHOULDER BEFORE BITUMINOUS SHOULDER MIX IS PLACED AND IS ALSO TO BE PLACED AND MIXED WITH INPLACE AGGREGATE SHOULDERS BY THE USE OF A MOTOR GRADER ALONG THE LENGTH OF THE PROJECT AND USED IN FIELD DRIVES AS DIRECTED BY THE ENGINEER IN THE FIELD. ALL WORK AND EQUIPMENT TO PERFORM THESE TASKS SHALL BE CONSIDERED INCIDENTAL TO ITEM 2232.501 (MILL BITUMINOUS SURFACE) .
2. BITUMINOUS MATERIAL FOR TACK COAT WILL BE REQUIRED BETWEEN ANY LIFT AND WILL BE CONSIDERED INCIDENTAL TO ITEM 2350.609 TYPE LV SHOULDER MIXTURE.
3. SEE TABULATION SHEET 5 FOR PERFORATED PIPE & HEADWALL LOCATIONS. TILE OPERATIONS MUST BE PERFORMED AFTER THE MILLING OF THE BITUMINOUS AND BEFORE THE PAVING OF THE BITUMINOUS SHOULDERS.

STANDARD PLATES

THE FOLLOWING STANDARD PLATES AS, APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION SHALL APPLY ON THIS PROJECT.

PLATE NO.	DESCRIPTION
	NUMERICAL INDEX OF STANDARD PLATES
3131 B	PRECAST CONCRETE HEADWALL FOR SUBSURFACE DRAINS
8000 I	STANDARD BARRICADES

BASIS OF QUANTITIES

2350 BITUMINOUS MIXTURE-146.67 LBS./FT ^{3}

BITUMINOUS MATERIAL FOR TACK COAT-.05 GALLONS/YD.^{2}

AS-BUILT

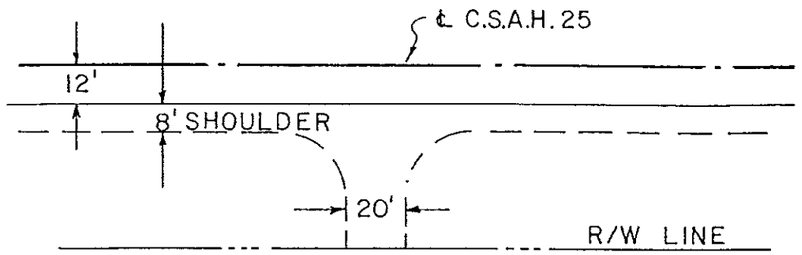
MAR 21 2002

ENGINEERING

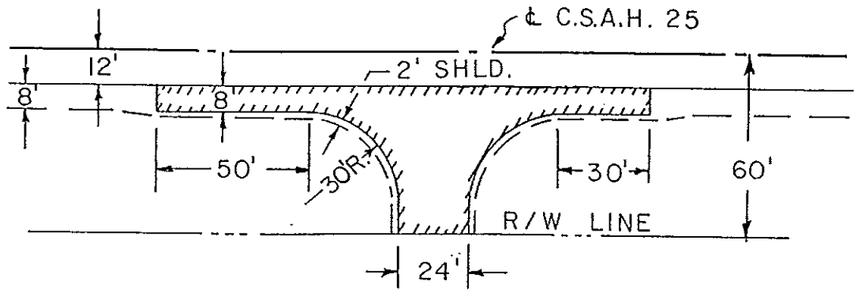
CERTIFIED BY Kevin Biesiek PROFESSIONAL ENGINEER REG. NO. 19917 7/21 2000

S.A.P. 55-625-17

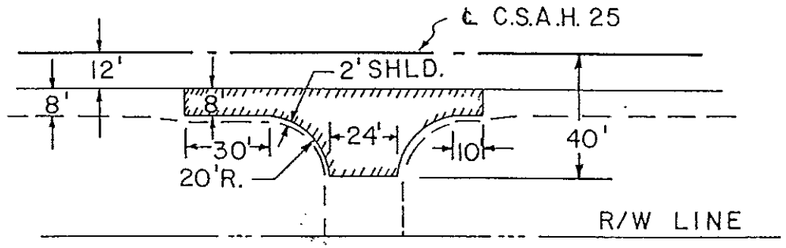
APPROACHES AND ENTRANCES



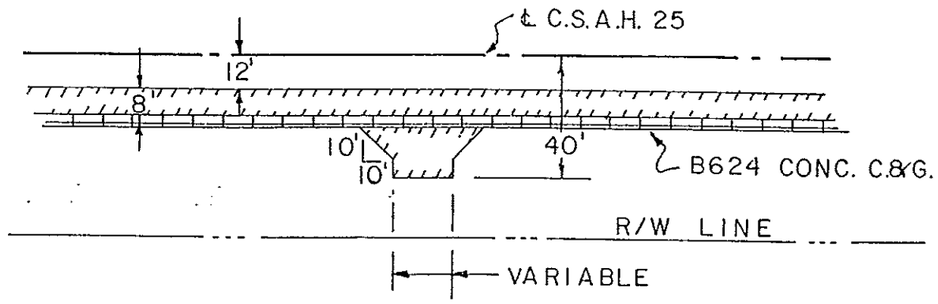
36 FIELD ENTRANCES



11 ROAD APPROACHES



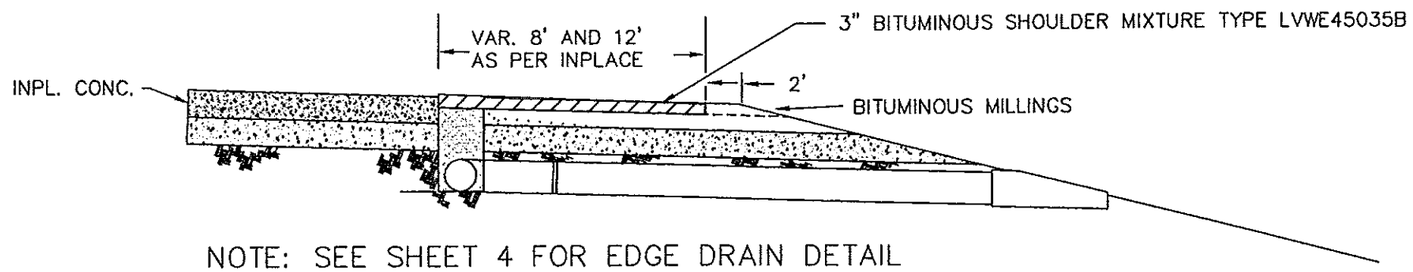
27 FARM AND RES. ENTRANCES



10 URBAN TYPE ENTRANCES

DESIGNATES BITUMINOUS SURFACING.

X-SECTION VIEW OF BIT. SHLD. REPLACEMENT



NOTE: SEE SHEET 4 FOR EDGE DRAIN DETAIL

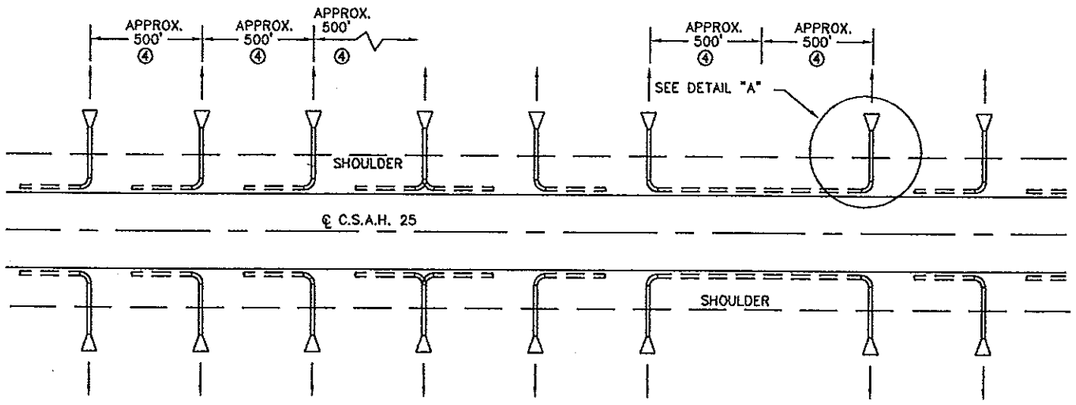
AS-BUILT
MAR 21 2002
ENGINEERING

CERTIFIED BY Kurt M Bierniek PROFESSIONAL ENGINEER REG. NO. 19917 7/21 2000

S.A.P. 55-625-17

EDGE DRAIN DETAILS AND CONSTRUCTION NOTES

PLAN VIEW



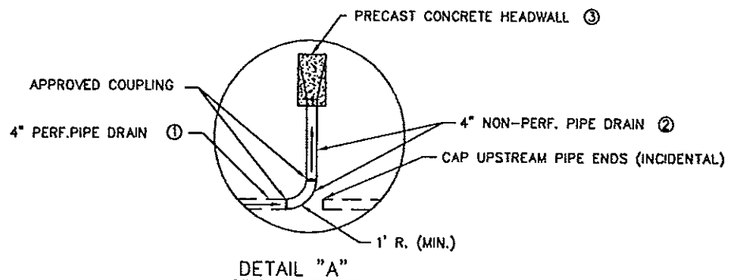


LEGEND

= = = 4" PERFORATED PIPE DRAIN

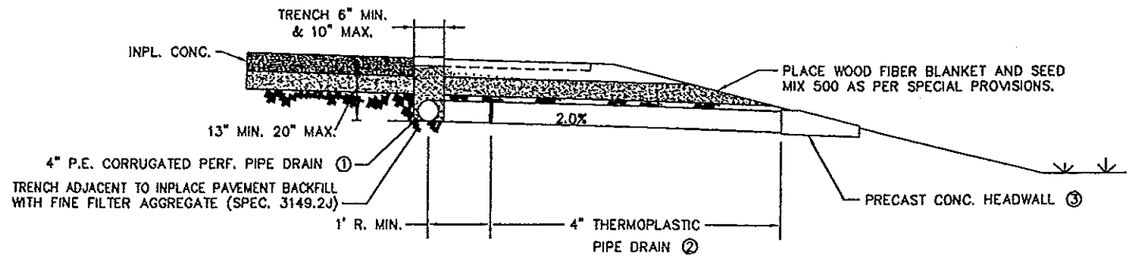
═══ 4" NON-PERFORATED PIPE DRAIN

▷ PRECAST CONCRETE HEADWALL



DETAIL "A"

X-SECTION VIEW



CONSTRUCTION NOTES

① PAYMENT FOR 4" PERFORATED PIPE DRAIN SHALL BE FULL COMPENSATION FOR TRENCHING, FABRIC WRAPPED P.E. PIPE, INSTALLATION, FILTER AGGREGATE BACKFILL AND COMPACTION, BITUMINOUS OR AGGREGATE CAP, AND ALL OTHER ASSOCIATED WORK.

② PAYMENT FOR 4" NON-PERFORATED PIPE DRAIN SHALL BE FULL COMPENSATION FOR TRENCHING, FURNISHING AND PLACING PIPE AND CONNECTIONS, BACKFILL AND COMPACTION, AND ALL OTHER ASSOCIATED WORK.

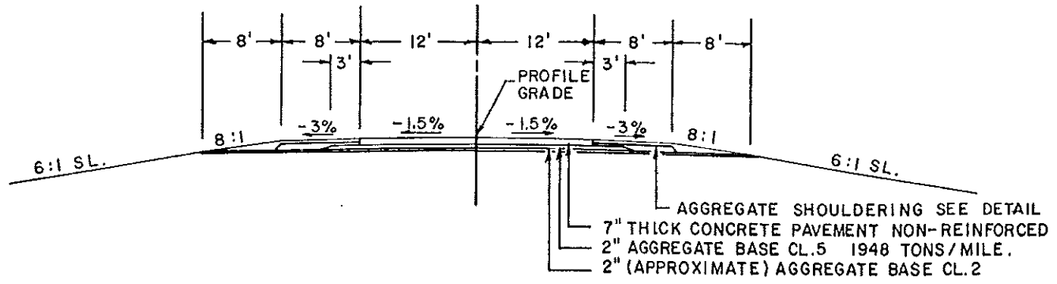
③ PAYMENT FOR PRECAST CONCRETE HEADWALLS SHALL BE FULL COMPENSATION FOR PLACING HEADWALL, WOOD FIBER BLANKET AND SEED, AND ALL OTHER ASSOCIATED WORK.

④ IF AN OUTLET HAPPENS TO FALL WITHIN A CROSS-OVER OR DITCH-BLOCK INCREASE THE LENGTH OF THE PERFORATED PIPE TO A POINT WHERE AN OUTLET CAN BE SATISFACTORLY CONSTRUCTED AS DIRECTED BY THE ENGINEER.

⑤ EXCESS EXCAVATED MATERIAL SHALL BE DISPOSED OF IN ACCORDANCE WITH MN/DOT SPEC. 2104.303.

⑥ NO EDGEDRAINS WILL BE PLACED ON ELEVATED SUPER SIDE AS DIRECTED BY ENGINEER.

TYPICAL INPLACE SECTIONS



CERTIFIED BY Kevin M Brunick REG. NO. 19917 8/2 2000
PROFESSIONAL ENGINEER

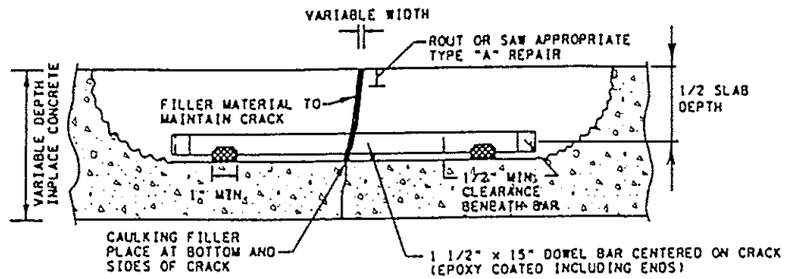
S.A.P. 55-625-17

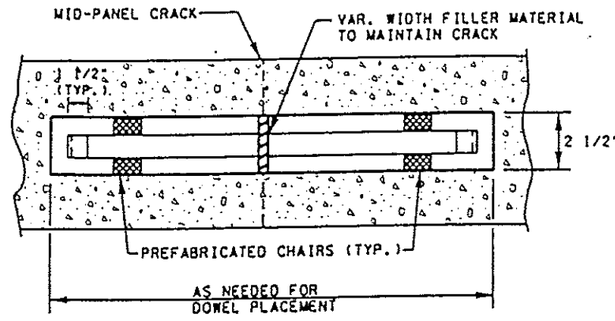
SHEET 4 OF 18 SHEETS

EDGE DRAIN TABULATIONS				
STATIONS	LOCATION	PERF. PIPE (feet)	HEADWALLS (each)	HEADWALL STATIONS
284+75 – 292+00	LT.	725	1	287+00 LOW POINT
283+75 – 292+00	RT.	625	1	287+00 LOW POINT
292+00 – 297+00	LT.&RT.	1000	2	292+00
297+00 – 302+00	LT.&RT.	1000	2	297+00
302+00 – 307+00	LT.&RT.	1000	2	302+00
307+00 – 312+15	LT.&RT.	1030	2	307+00
312+15 – 324+30	LT.&RT.	2430	4	312+15 – 324+30
324+30 – 329+30	LT.&RT.	1000	2	329+30
329+30 – 334+30	LT.&RT.	1000	2	334+30
334+30 – 339+30	LT.&RT.	1000	2	339+30
339+30 – 347+50	LT.&RT.	1640	2	343+00 LOW POINT
347+50 – 357+00	LT.&RT.	1900	4	347+50 – 357+00
357+00 – 362+10	LT.&RT.	1020	2	362+10
362+10 – 367+00	LT.&RT.	980	2	367+00
367+00 – 372+00	LT.&RT.	1000	2	372+00
372+00 – 377+00	LT.&RT.	1000	2	377+00
377+00 – 382+00	LT.&RT.	1000	2	382+00
382+00 – 387+00	LT.&RT.	1000	2	387+00
387+00 – 395+00	LT.&RT.	1600	2	390+00
395+00 – 397+95	RT.	295	1	395+00
395+00 – 400+00	LT.	500	1	395+00
400+00 – 405+00	LT.	500	1	400+00
405+00 – 410+00	LT.	500	1	405+00
410+00 – 415+00	LT.	500	1	410+00
415+00 – 418+30	LT.	330	1	415+00
413+00 – 425+00	RT.	1200	2	413+00 – 425+00
425+00 – 430+00	RT.	500	1	430+00
430+00 – 435+00	RT.	500	1	435+00
424+00 – 435+00	LT.	600	1	435+00
435+00 – 440+00	LT.&RT.	1000	2	440+00
440+00 – 445+00	RT.	500	1	445+00
440+00 – 447+50	LT.	750	1	447+50
445+00 – 450+00	RT.	500	1	450+00
450+00 EQUA. 473+00	RT.	1258	1	468+25 LOW POINT
EQUA. 468+25 – 473+00	LT.	475	1	468+25 LOW POINT
473+00 – 478+00	LT.&RT.	1000	2	473+00
478+00 – 491+00	RT.	1300	2	478+00 – 491+00
478+00 – 488+00	LT.	1000	1	478+00 – 488+00
488+00 – 493+00	LT.	500	1	493+00
493+00 – 503+00	LT.	1000	1	496+90 LOW POINT
497+20 – 503+00	RT.	580	1	497+20
503+00 – 508+00	LT.&RT.	1000	2	503+00
508+00 – 518+00	LT.&RT.	2000	4	508+00 – 518+00
518+00 – 524+00	LT.	600	1	524+00
518+00 – 523+60	RT.	560	1	523+60
524+00 – 529+00	LT.	500	1	529+00
523+60 – 529+00	RT.	440	1	529+00
529+00 – 534+00	LT.&RT.	1000	2	534+00
534+00 EQUA. 254+00	LT.&RT.	1298	2	254+00
254+00 – 261+50	LT.&RT.	1500	2	256+50
261+50 EQUA. 271+50	LT.&RT.	1998	4	261+50 – 271+50
271+50 – 275+00	RT.	350	1	275+00
275+90 – 280+00	RT.	410	1	280+00
280+00 – 287+00	LT.&RT.	1400	2	284+00 LOW POINT
	TOTAL	50,294	90	

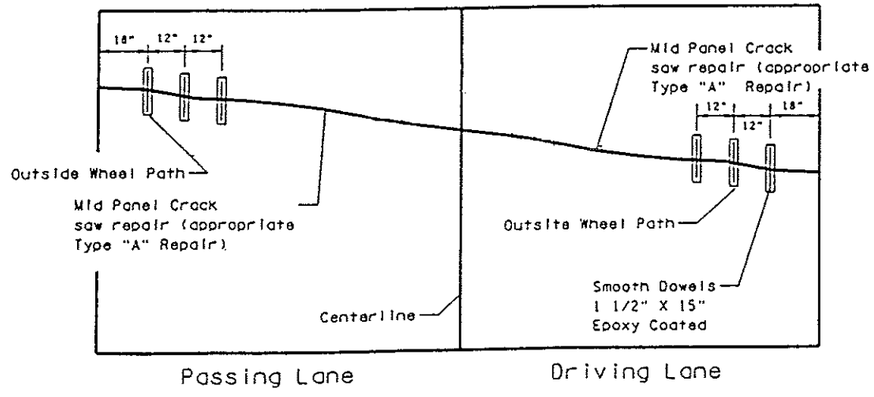
DOWEL BAR RETROFIT

DESCRIPTION: THIS REPAIR IS INTENDED TO BE USED TO ESTABLISH/RESTORE LOAD TRANSFER AT JOINTS OR CRACKS.





TYPICAL RETROFIT DOWEL LAYOUT



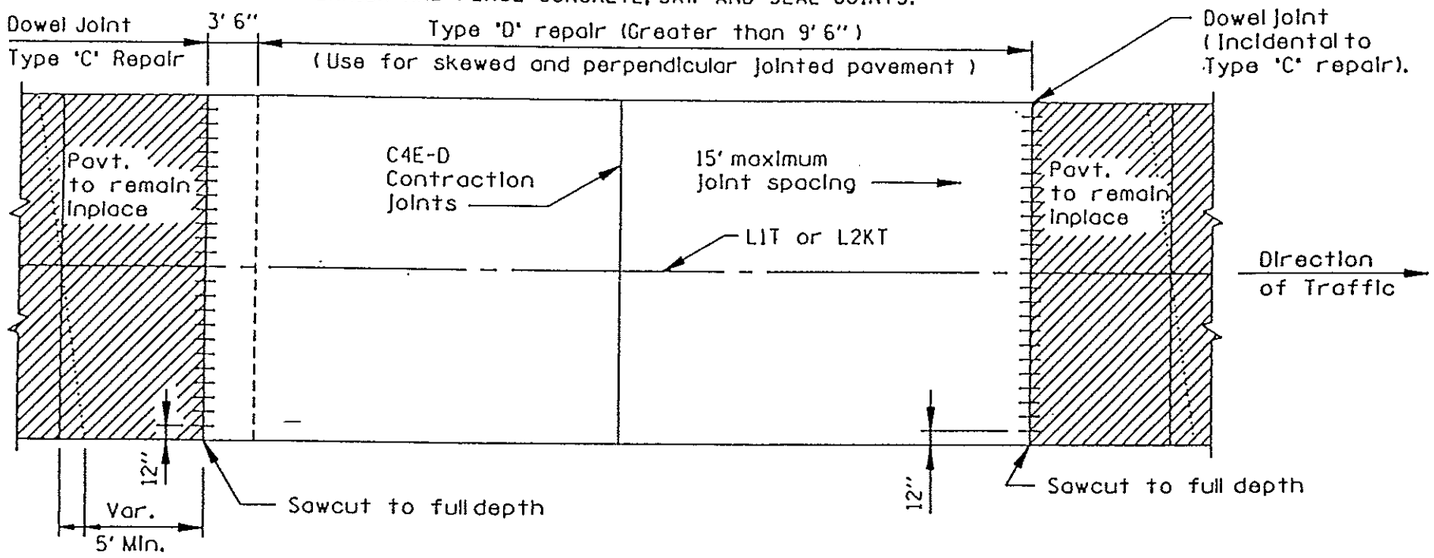
DATE: January, 2000

CERTIFIED BY Kaye M Bierwirth PROFESSIONAL ENGINEER REG. NO. 19917 7/21 20.00

PAVEMENT REPLACEMENT, TWO LANE, (TYPE D-1)

DATE: January, 2000

DESCRIPTION: REMOVE CONCRETE, RESTORE BASE, PLACE DOWELS AND REINFORCEMENT, FURNISH AND PLACE CONCRETE, SAW AND SEAL JOINTS.



WORK TO BE DONE

1. Saw full depth & remove concrete pavement. (Incidental).
2. Place gravel (Cl.5) & restore base to grade by quality compaction (Incidental).
3. Furnish & Install 1" diameter smooth dowel bar parallel to centerline. Place with an approved non-shrink grout.
4. Place dowel bars for C4E-D contraction joints.
5. Clean inplace vertical slab surface. Place conc. and reinf. for L1T or L2KT. Finish to required grade, slope and texture. Apply cure. L1T and L2KT bars shall be No. 16 x 3' 0" spaced at 3' 0". For additional reinforcement over culverts, see Standard Plate 1070.
6. Restore joints by green sawing or by other methods approved by the Engineer.
7. Saw C4E-D contraction joints (Incidental).
8. Seal joints and cracks with appropriate sealer.

BASIS OF PAYMENT

- 2301.604 (Appropriate Type "C" Repair) lin. ft.
- 2301.501 Concrete pavement (Type D) sq. yd.
- 2301.529 Reinf. Tie Bars, lb.
- 2301.538 Dowel Bars, Each
- 2301.604 (Appropriate Type "A" Repair) lin. ft.
- 2301.606 Seal Conc. Pavement (Silicone) gallon
- 2301.602 Seal Conc. Pavt. (3723 or 3725) lb.

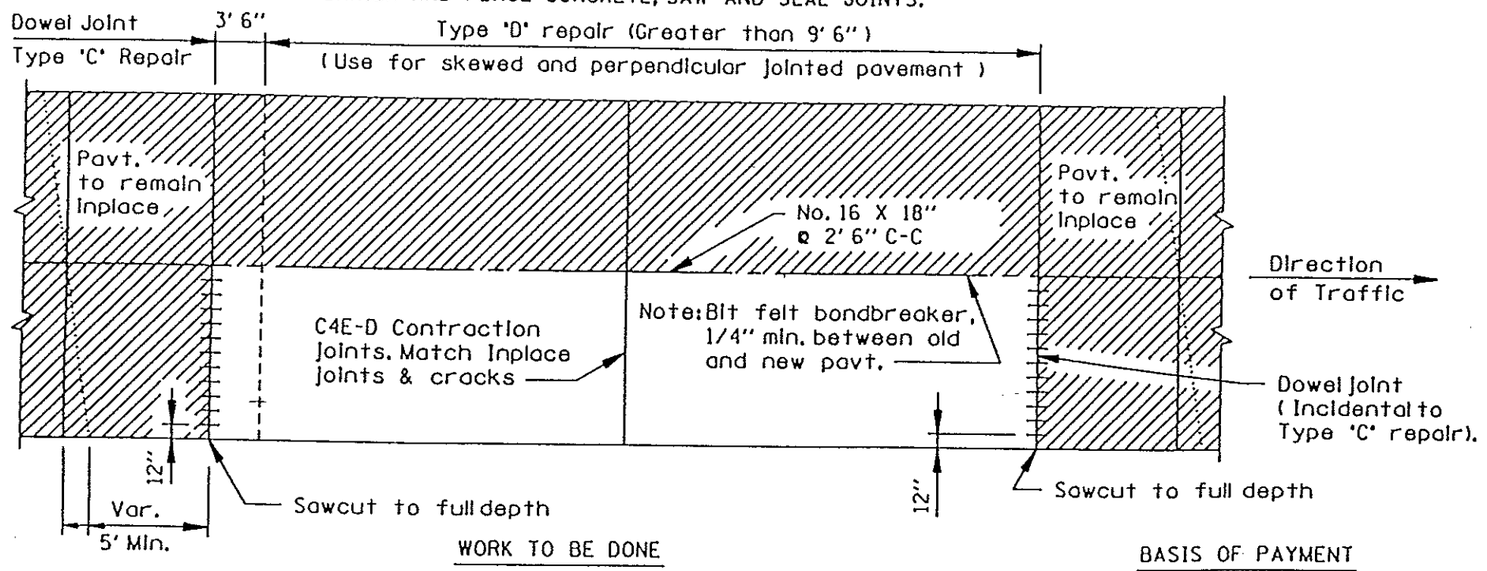
CERTIFIED BY Kayne M Bierwirth PROFESSIONAL ENGINEER REG. NO. 19917 7/21/2000

S.A.P. 55-625-17

PAVEMENT REPLACEMENT, SINGLE LANE, (TYPE D-2)

DATE: January, 2000

DESCRIPTION: REMOVE CONCRETE, RESTORE BASE, PLACE DOWELS AND REINFORCEMENT, FURNISH AND PLACE CONCRETE, SAW AND SEAL JOINTS.



WORK TO BE DONE

1. Saw full depth & remove concrete pavement. (Incidental).
2. Place gravel (Cl.5) & restore base to grade by quality compaction (Incidental).
3. Furnish & Install 1" diameter smooth dowel bar parallel to centerline or No. 25 tie bar 18" long at 12" C-C, skewed 20° into inplace concrete pavement. Place with an approved non-shrink grout.
4. Furnish and Install No. 16 reinforcing tie bars 18" long at 2' 6" C-C. Place reinforcement with approved nonshrinking grout.
5. Place dowel bars for C4E-D contraction joints.
6. Clean inplace vertical slab surface. Place concrete. Finish to required grade, slope and texture. Apply cure. For additional reinforcement over culverts, see Standard Plate 1070.
7. Restore joints by green sawing or by other methods approved by the Engineer.
8. Saw C4E-D contraction joints (Incidental).
9. Seal joints and cracks with appropriate sealer.

BASIS OF PAYMENT

- 2301.604 (Appropriate Type "C" Repair) lin. ft.
- 2301.501 Concrete pavement (Type D) sq. yd.
- 2301.529 Reinf. Tie Bars, lb.
- 2301.538 Dowel Bars, Each
- 2301.602 Drill & grout reinf. bars (Epoxy coated) lb.
- 2301.604 (Appropriate Type "A" Repair) lin. ft.
- 2301.606 Seal Conc. Pavement (Silicone) gallon
- 2301.602 Seal Conc. Pavt. (3723 or 3725) lb.

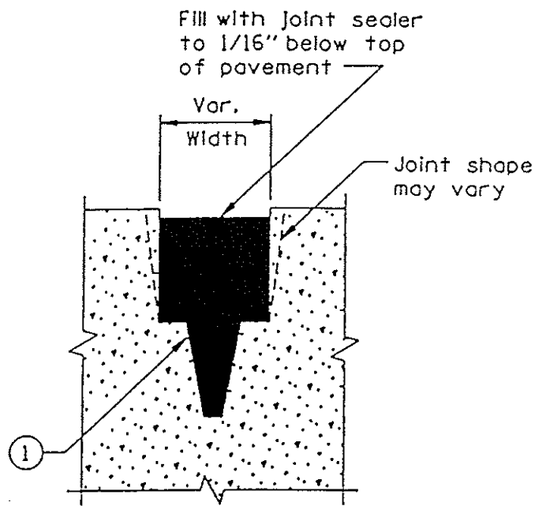
CERTIFIED BY Kevin M Reinert PROFESSIONAL ENGINEER REG. NO. 19917 7/21 2000

S.A.P. 55-625-17

SHEET 7 OF 18 SHEETS

JOINT REPAIR (TYPE A-2)

DESCRIPTION: CLEAN AND FILL TRANSVERSE PAVEMENT JOINTS.
(NOT RECOMMENDED FOR HIGH VOLUME ROADWAYS)



SECTION

(1) If crack below joint well has opened beyond 3/8", use an approved backer rod.

WORK TO BE DONE

1. Remove Inplace Joint Seal
2. Clean Joint by sandblasting and airblasting.
3. Seal joint with Joint sealer (Spec. 3719) or hot pour (Spec. 3723 or 3725).

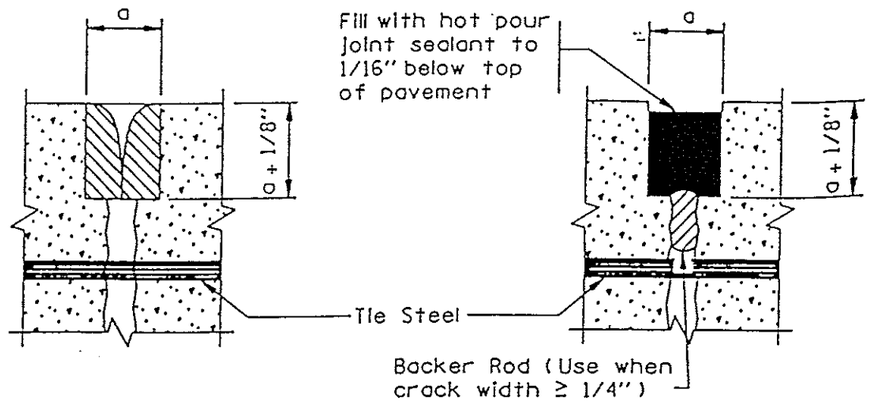
BASIS OF PAYMENT

- 2301.604 Joint repair (Type A-2) lin. ft.
- 2301.602 Seal Concrete Pavement (3719) lb.
- 2301.602 Seal Concrete Pavement (3723 or 3725) lb.

DATE: January, 2000

1/4" LONGITUDINAL TIED JOINT REPAIR (TYPE A-6)

DESCRIPTION: SAW AND SEAL LONGITUDINAL JOINTS.



SECTION REMOVAL

SECTION INSTALLATION

▨ AREA TO BE REMOVED BY SAWING OR ROUTING

WORK TO BE DONE

1. Remove Inplace joint seal.
2. Saw both joint faces to configuration shown.
3. Clean and dry joint by sandblasting and airblasting.
4. Place backer rod of appropriate diameter in present crack or joint opening.
5. Seal joint with hot pour joint sealer (Spec. (3723 or 3725) Hot-Pour Elastic Type)

BASIS OF PAYMENT

- 2301.604 1/4" Longitudinal Joint Repair (Type A-6) lin. ft.
- 2301.602 Seal Concrete Pavement (3723 or 3725) lb.

DATE: January, 2000

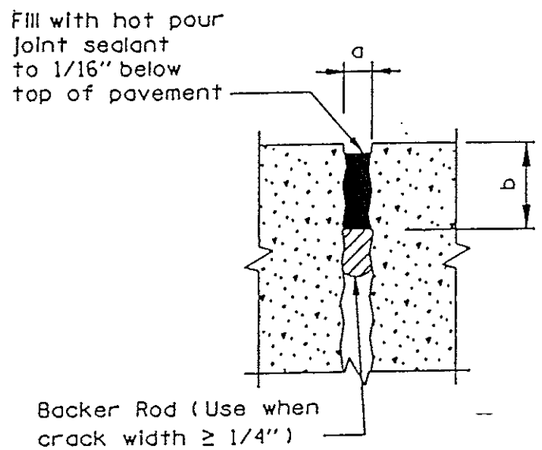
CERTIFIED BY Kyle M Brenneh PROFESSIONAL ENGINEER REG. NO. 19917 7/21 2000

S.A.P. 55-625-17

SHEET 8 OF 18 SHEETS

CRACK REPAIR (TYPE A-7H)

DESCRIPTION: CLEAN AND SEAL CRACKS LESS THAN OR EQUAL TO 1/2" IN WIDTH.



SECTION INSTALLATION

WORK TO BE DONE

1. Remove any inplace seal.
2. Clean and dry crack by sandblasting and airblasting.
3. Seal joint with hot pour joint sealer. (See Sealing Detail)

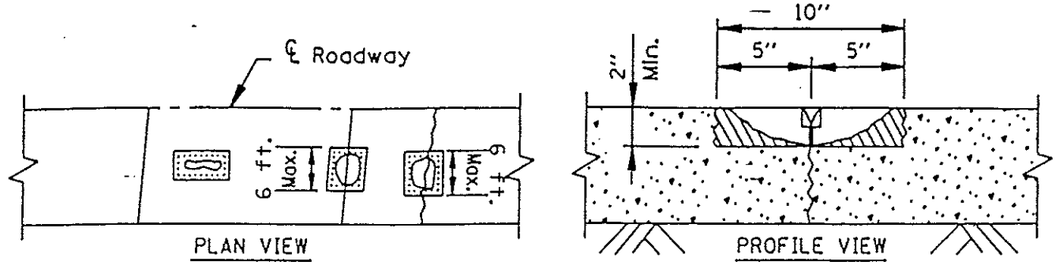
BASIS OF PAYMENT

2301.604 Crack Repair (Type A-7H) lin. ft.

2301.602 Seal Concrete Pavement (3723 or 3725) lb.

SPOT-SURFACE REPAIR (TYPE B-2A)

DESCRIPTION: REMOVE CONCRETE. FURNISH AND PLACE CONCRETE, SAW OR ROUT AND SEAL JOINTS/CRACKS.



(1) a.) At locations where repairs include joints the initial reestablishment of the joint in the plastic concrete shall be accomplished with an approved cutter bar or with 1/4" min. compression relief material (sawing not allowed).

b.) Fill voids below top of dowels with sand or approved compression material.

c.) Joint compression relief to the top of the dowel bars shall be provided by a minimum 1/4" sawcut as soon as possible after initial set or 1/4" min. compression relief material as noted above. Edging required (See Construction Note 14).

WORK TO BE DONE

1. Define removal area (less than 30 sq. ft. and/or less than 6 lin. ft. at crack, joint or edge) and to a 2" depth.
2. Remove all concrete to limits shown in detail, including deteriorated concrete to a max. of 1/2 the pavement depth or top of dowels, by milling. (See construction note No. 1)
3. Clean exposed surface by sandblasting and airblasting. Apply bonding grout immediately prior to concrete placement. Coat exposed surface of dowels, if any, with approved bond breaker.
4. Restore joints and cracks using compression relief material of width equal to existing joint (1/4" min.) and the appropriate Type "A" repair. See note (1) above.
5. Furnish & place Concrete Mix No. 3U18. Finish to grade, slope and texture. Seal edges with grout and apply cure.
6. Seal joints and cracks with appropriate sealer.

NOTE:
As an option to milling, the concrete removal may be accomplished by sawing out the removal limits and tapering edges by chipping.

▨ AREA TO BE REMOVED
10" Min. dimension (width & length)

BASIS OF PAYMENT

Measurement and payment shall be made to the nearest sq. ft.

2301.604 Spot-surface repair (Type B-2A) sq. ft.

2301.604 (Appropriate Type "A" repair) lin. ft.

2301.606 Seal Conc. Pavt. (Silicone) gallon
2301.602 Seal Conc. Pavement (3723 or 3725) lb.

DATE: January, 2000

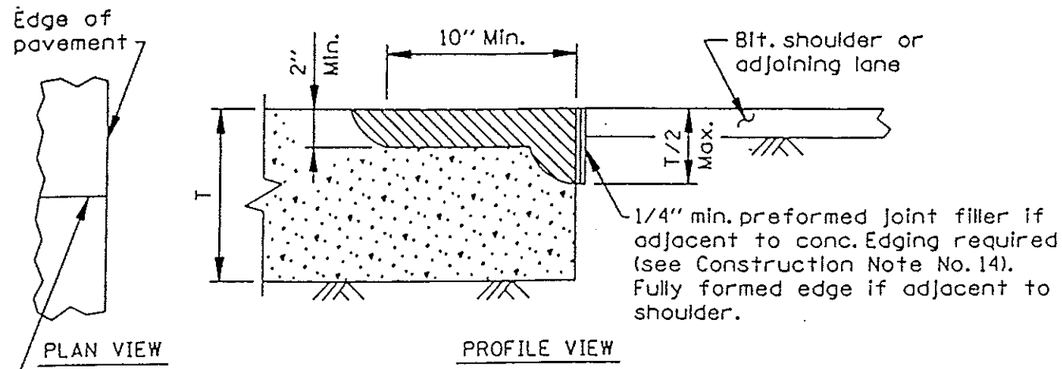
CERTIFIED BY Kane M Bierwirth PROFESSIONAL ENGINEER REG. NO. 19917 7/21 2000

S.A.P. 55-625-17

SHEET 9 OF 18 SHEETS

EDGE REPAIR (TYPE B-2C)

DESCRIPTION: REMOVE CONCRETE, FURNISH & PLACE CONCRETE, SAW AND SEAL JOINTS.



WORK TO BE DONE

1. Define removal area (10" min. width, length measured longitudinally) at 2" minimum depth. Sawcut for the sawing & chipping option to a 2" min. depth.
2. Remove all concrete to limits shown in the details including deteriorated concrete to a T/2 maximum depth. Taper edges by chipping. Removal may be accomplished by milling.
3. Clean exposed surface by sandblasting and airblasting. Apply bonding grout immediately prior to concrete placement. Coat exposed surface of dowels, if any, with approved bond breaker.
4. Restore joints and cracks using compression relief material and appropriate Type "A" repair.
5. Furnish & place Concrete Mix No. 3U18. Finish to grade, slope and texture. Seal edges with grout and apply cure.
6. Seal joints and cracks with appropriate sealer.

NOTE: See repair special Type B-2D, If spall is below 4" depth.

BASIS OF PAYMENT

Area exceeding 10" in width and/or less than 6 lin. ft. shall be paid as spot surface repair, Type B-2A.

2301.604 Edge Repair, Type B-2C lin. ft.

2301.604 (Appropriate Type "A" repair) lin. ft.

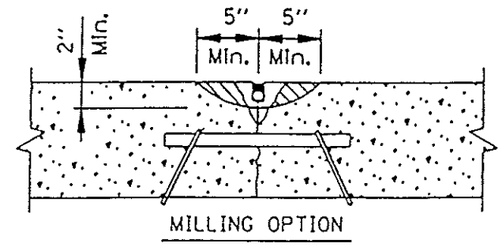
2301.606 Seal Concrete Pavement (Silicone) gallon
2301.602 Seal Concrete Pavement (3723 or 3725) lb.

DATE: January, 2000

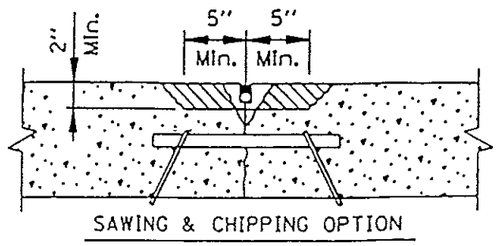
JOINT REPAIR (TYPE B-3)

DESCRIPTION: REMOVE CONCRETE, FURNISH & PLACE CONCRETE, SAW AND SEAL JOINTS.

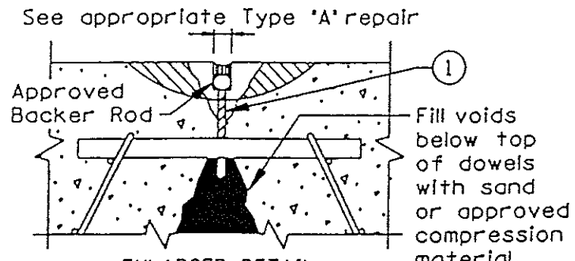
NOTE: These details apply to either longitudinal or transverse joints.



MILLING OPTION



SAWING & CHIPPING OPTION



ENLARGED DETAIL

AREA TO BE REMOVED

(1) a) The initial reestablishment of the joint in the plastic conc. shall be accomplished with an approved cutter bar or with 1/4" min. compression relief material (sawing not allowed).

b) Joint compression relief to the top of the dowel bars shall be provided by a minimum 1/4" sawcut as soon as possible after initial set or 1/4" min. compression relief material as noted above. Edging required (see Const. Note No. 14).

WORK TO BE DONE

1. Define removal area (10" min. width, 6 ft. min. length & 2" min. depth).
2. Remove all concrete to limits shown in detail, including deteriorated concrete to a max. of 1/2 the pavement depth or top of dowels, by milling.
3. Clean exposed surface by sandblasting and airblasting. Apply bonding grout immediately prior to concrete placement. Coat exposed surface of dowels, if any, with approved bond breaker.
4. Restore joints and cracks using compression relief material of width equal to existing joint (1/4" min.) and the appropriate Type "A" repair. See note (1) above.
5. Furnish & place Concrete Mix No. 3U18. Finish to grade, slope and texture. Seal edges with grout and apply cure.
6. Seal joints and cracks with appropriate sealer.

NOTE:
As an option to milling, the conc. removal may be accomplished by sawing out the removal limits and tapering edges by chipping.

BASIS OF PAYMENT

Area exceeding 10" in width and/or less than 6 lin. ft. shall be paid as spot surface repair, Type B-2A.

2301.604 Joint Repair (Type B-3) lin. ft.

2301.604 (Appropriate Type "A" repair) lin. ft.

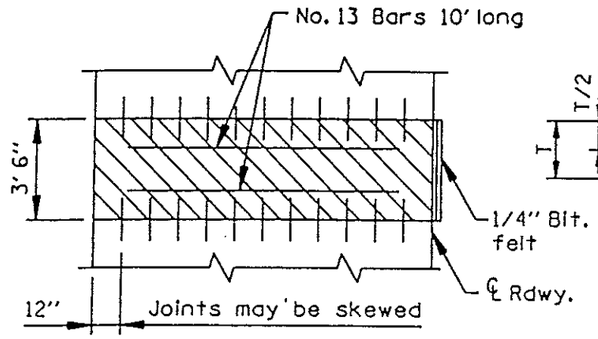
2301.606 Seal Concrete Pavement (Silicone) gallon
2301.602 Seal Concrete Pavement (3723 or 3725) lb.

DATE:
January, 2000

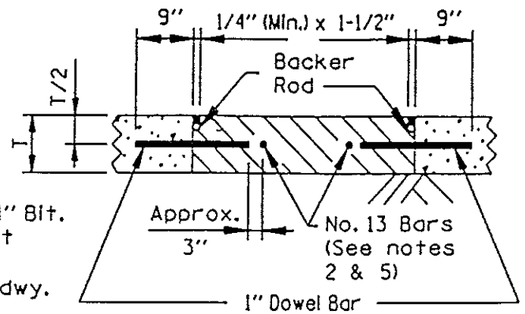
CERTIFIED BY Kaye M Bierwirth PROFESSIONAL ENGINEER REG. NO. 19917 7/21 2000

CONTRACTION JOINT (TYPE C-3D)

DESCRIPTION: REMOVE CONCRETE, PLACE REINFORCING AND DOWELS, FURNISH AND PLACE CONCRETE, SAW AND SEAL JOINTS.



PLAN VIEW



PROFILE VIEW

NOTE: For skewed repairs, eliminate a dowel at centerline edge with acute angle.

AREA TO BE REMOVED
Minimum dimension - 1 lane wide

WORK TO BE DONE

1. Saw cut to full depth and remove concrete pavement. Restore inplace base.
2. For repairs over 12 ft. in width without a longitudinal joint, place the following supplemental steel: No. 13 bars, 6" shorter than width of repair, placed at 4 ft. C. to C. (See Construction Note No. 35).
3. Furnish and install 1" dowel bars 18" long at 12" C-C. Drill with an approved jig. Place with an approved non-shrink grout. Coat free end with a form coating material meeting Spec. 3902.
4. Clean surfaces of inplace concrete.
5. Furnish and place concrete. Place No. 13 bar 10 ft. long in plastic concrete, approximately 3" from end of dowel bar at mid-depth. Finish to required grade, slope and texture. Seal tied edge with grout and cure.
6. Re-establish joints & longitudinal cracks using the appropriate Type "A" repair.
7. Seal joints and cracks with appropriate sealer.
8. At engineers discretion, tied joints may use an A-6 repair.

BASIS OF PAYMENT

2301.604 Contraction Joint Repair (Type C-30) lin. ft.

2301.604 (Appropriate Type "A" Repair) lin. ft.

2301.606 Seal Concrete Pavement (Silicone) gallon
2301.602 Seal Concrete Pavement (3723 or 3725) lb.

DATE: January, 2000

CERTIFIED BY Kenneth M Reinicke PROFESSIONAL ENGINEER REG. NO. 19917 7/21 2000

Fed. Proj. No.

280+57

BEGIN: S.A.P. 55-625-13
STA. 280 + 33.33

C.S.A.H. 25

C.S.A.H. 3

TOWN HALL ENT. LT 282+54
B 284+00
CONST. 2" BITUMINOUS APPROACHES

℄ CULV 286+63
INPL. 102" SPAN x 86" R C P-A.
CONST. 19' REINFORCED PANEL
STA. 286+52 TO STA. 286+71

F. E. LT 289+75
CONST. AGGREGATE SURFACE

8' AGGREGATE SHOULDER
60'
8' AGGREGATE SHOULDER
60'
24' CONC. PAVEMENT NON-REINFORCED

NOTE: C5-1 CONTRACTION JOINTS SHOWN ARE THE JOINTS LOCATED BETWEEN THE 19' & 13' PANELS. ROTATION OF JOINTS TO BE AT 13', 16', 14', AND 19' UNLESS OTHERWISE SHOWN.

P.I. 280+33.33
3/4" PIPE

CENTER SECTION 15 T.10N. R.15W.

GAS PUMPS
STORE
50'
20'
END CURB & GUTTER + 45

SEE PLAN SHEET NO. 3 FOR DETAIL DRAWING FROM STA 280+33.33 TO STA. 284+50

RES. DR. RT. 283+20
CONST. 2" BITUMINOUS APPROACH

F.E. RT. 289+83
CONST. AGGREGATE SURFACE

RES. DR. RT. 290+54, 291+80 & 293+45
CONST. 2" APPROACES & RT. TURN LANES

F. E. RT. 295+26
CONST. AGGREGATE SURFACE

F.E. RT. 296+00
CONST. AGGREGATE SURFACE

B.M. ELEV. 1078.74
SPK. IN P.P. S.W. COR. INTERS. 3 & 25

B.M. ELEV. 1091.38
TOP. ELEC. METER POST RT. 294+52

B.M. ELEV. 1097.14
SPK. IN P.P. RT.
STA. 297+48

P.V.C. +55.26316
ELEV. 75.23421

P.I. +55.26316
ELEV. 75.23421
800' V.C.
M = 3.8

P.V.T. +99.23420
ELEV. +

-0.3%

+3.5%

℄ FINISHED GRADE ELEV.

1120
1100
1080

280 285 290 295 300 305

RES. DR. LT. 309+18
CONST. 2" BITUMINOUS APPROACH & RT. TURN LANE

F.E. LT. 311+50
CONST. AGGREGATE SURFACE

RES. DR. LT. 321+48 & 323+25
CONST. 2" BITUMINOUS APPROACHES

CONST. B624 CONC. CURB & GUTTER LT. STA. 319+50 TO 321+33.
CONST. 2" BITUMINOUS SHOULDER LT. STA. 319+30 TO 323+85
BACKFILL CURB WITH TOPSOIL BORROW (LV) 77 CU. YDS.
PLACE 243 SQ. YDS. SOD.

8' AGGREGATE SHOULDER
60'
8' AGGREGATE SHOULDER
24' CONC. PAVEMENT NON-REINFORCED

NOTE: C5-1 CONTRACTION JOINTS SHOWN ARE THE JOINTS LOCATED BETWEEN THE 19' AND 13' PANELS. ROTATION OF JOINTS TO BE AT 13', 16', 14', AND 19' UNLESS OTHERWISE SHOWN.

F.E. RT. 309+66
CONST AGGREGATE SURFACE

RES. DR. RT. 318+31 & 321+45
CONST. 2" BITUMINOUS APPROACHES

CONST. B624 CONC. CURB & GUTTER RT. STA. 318+46 TO STA. 321+30.
CONST. 2" BITUMINOUS SHOULDER RT. STA. 317+71 TO STA. 321+75.
BACKFILL CURB WITH TOPSOIL BORROW (LV) 116 CU. YDS.
PLACE 335 SQ. YDS. SOD.

CONST. BITUMINOUS SPILLWAY LT. & RT. STA. 321+65.
BITUMINOUS QUANTITIES INCLUDED IN SHOULDER MIXTURE.

F.E. RT. 323+45
CONST. AGGREGATE SURFACE

B.M. ELEV. 1137.22
SPK. IN P.P. RT.
STA. 307+06

B.M. ELEV. 1162.37
SPK. IN P.P. RT.
STA. 318+68

B.M. ELEV. 1127.57
SPK. IN P.P. 50' RT.
STA. 331+12

P.V.C. 89.06250
ELEV. 69.16719

P.I. +39.06250
ELEV. 69.16719
1300' V.C.
M = 10.4

P.V.T. 89.06250
ELEV. 90.31721

P.V.C. +36.20689
ELEV. 33.00003

P.I. + 86.20689
ELEV. 33.00003
500' V.C.
M = 0.90626

P.V.T. 36.20689
ELEV. 29.37500

+3.5%
-2.9%
-1.45%

℄ FINISHED GRADE ELEV.

1160
1140
1120

305 310 315 320 325 330

State Proj. No. S.A.P. 55-625-13 OLMSTED COUNTY Sheet No. 5 of 10 Sheets

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PROFESSIONAL ENGINEER

S.A.P. 55-625-17

SHEET 12 OF 18 SHEETS

Fed. Proj. No.

F E LT 343 + 90
CONST. AGGREGATE SURFACE

℄ CULV 345 + 85 SKEWED 30°
INPL 60" x 112" R C P
CONST. 13', 16', 14', AND 19' REINFORCED PANELS
STA. 345 + 55 TO STA. 346 + 17.

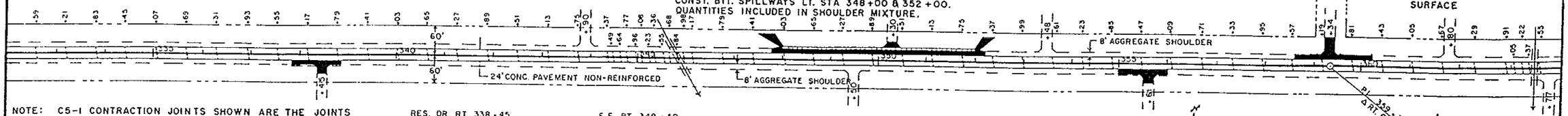
RES DR RT 350 + 30
CONST. 2" BITUMINOUS APPROACH

CONST. B624 CONC. CURB & GUTTER LT. STA. 348 + 00 TO STA. 352 + 00. CONST. 2" BITUMINOUS SHOULDER STA. 347 + 80 TO STA. 352 + 20. BACKFILL CURB WITH TOPSOIL BORROW (LV) 162 CU. YDS.
PLACE 497 SQ. YDS. SOD.
CONST. BIT. SPILLWAYS LT. STA 348 + 00 & 352 + 00.
QUANTITIES INCLUDED IN SHOULDER MIXTURE.

F E LT 353 + 48
CONST. AGGREGATE SURFACE

TWP. RD. LT. 359 + 34
CONST. 2" BITUMINOUS APPROACH & RT. TURN LANE

F. E. LT. 361 + 80
CONST. AGGREGATE SURFACE



NOTE: C5-1 CONTRACTION JOINTS SHOWN ARE THE JOINTS LOCATED BETWEEN THE 19' & 13' PANELS. ROTATION OF JOINTS TO BE AT 13', 16', 14' AND 19' UNLESS OTHERWISE SHOWN.

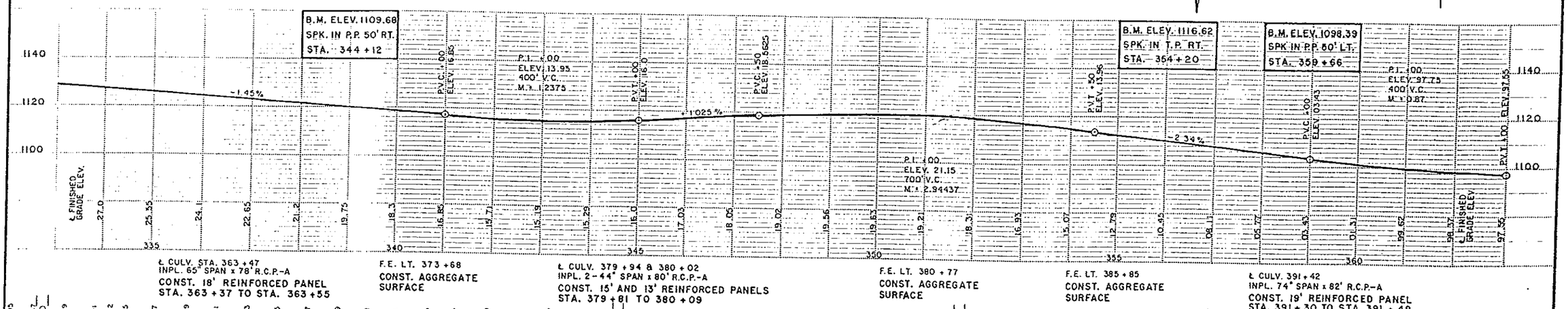
RES. DR. RT. 338 + 45
CONST. 2" BITUMINOUS APPROACH & RT. TURN LANE

F E. RT. 349 + 50
CONST. AGGREGATE SURFACE

RES. DR RT. 355 + 61
CONST. 2" BITUMINOUS APPROACH & RT. TURN LANE

F E. RT. 363 + 77
CONST. AGGREGATE SURFACE

P.I. 359 + 34.15
℄ RT. 00°13'



℄ CULV. STA. 363 + 47
INPL. 65" SPAN x 78" R.C.P.-A
CONST. 18' REINFORCED PANEL
STA. 363 + 37 TO STA. 363 + 55

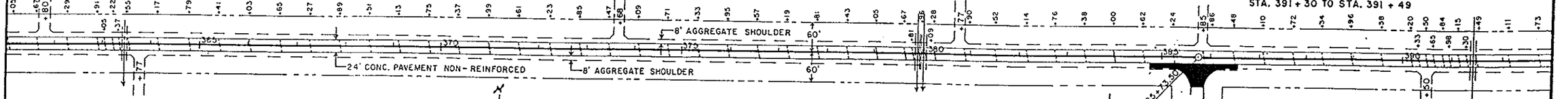
F.E. LT. 373 + 68
CONST. AGGREGATE SURFACE

℄ CULV. 379 + 94 & 380 + 02
INPL. 2 - 44" SPAN x 80" R.C.P.-A
CONST. 15' AND 13' REINFORCED PANELS
STA. 379 + 81 TO 380 + 09

F.E. LT. 380 + 77
CONST. AGGREGATE SURFACE

F.E. LT. 385 + 85
CONST. AGGREGATE SURFACE

℄ CULV. 391 + 42
INPL. 74" SPAN x 82" R.C.P.-A
CONST. 19' REINFORCED PANEL
STA. 391 + 30 TO STA. 391 + 49



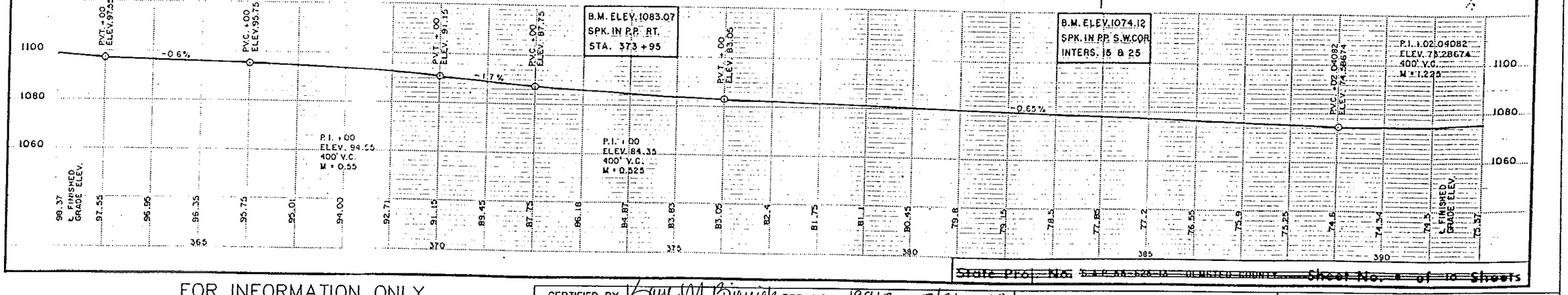
NOTE: C5-1 CONTRACTION JOINTS SHOWN ARE THE JOINTS LOCATED BETWEEN THE 19' AND 13' PANELS. ROTATION OF JOINTS TO BE AT 13', 16', 14', AND 19' UNLESS OTHERWISE SHOWN.

C.S.A.H. 15 RT. 385 + 74
CONST. 2" BITUMINOUS APPROACH & RT. TURN LANE

P.O.T. 385 + 73.50

C.S.A.H. 15 + 74

F.E. RT. 390 + 50
CONST. AGGREGATE SURFACE



FOR INFORMATION ONLY

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State Proj. No. S.A.P. 55-625-18 DENOTES COUNTY Sheet No. # of 18 Sheets

S.A.P. 55-625-17

SHEET 13 OF 18 SHEETS

Fed. Proj. No.

NOTE: C5-1 CONTRACTION JOINTS SHOWN ARE THE JOINTS LOCATED BETWEEN THE 19' AND 13' PANELS. ROTATION OF JOINTS TO BE AT 13', 16', 14' AND 19 UNLESS OTHERWISE SHOWN

P.I. 407+36.00
Δ LT. 66° 16'
D = 5° 00'
T = 747.96'
L = 1325.33
R = 1146.92

P.C. 399+88.04

MATCH LINE STA. 405+00

8' AGGREGATE SHOULDER

24' CONC. PAVEMENT NON-REINFORCED

RES. DR. RT. 398+55 & 400+44
CONST. 2" BITUMINOUS APPROACH

CONST. B624 CONC. CURB & GUTTER RT. STA. 398+70 TO STA. 400+29.
CONST. 2" BITUMINOUS SHOULDER RT. STA. 397+95 TO STA. 400+74.
BACKFILL CURB WITH TOPSOIL BORROW (LV) 64 CU. YDS.
PLACE 196 SQ. YDS. SOD.
CONST. BITUMINOUS SPILLWAY RT. STA. 398+40
BIT. QUANTITIES INCLUDED IN SHOULDER MIXTURE.

℄ CULV. 402+26
INPL. 54"x 100' R.C.P.
CONST. 16' REINFORCED PANEL
STA. 402+18 TO STA. 402+34

C.R. 104 RT. 412+00
CONST. 2" BITUMINOUS APPROACH & RT. TURN LANE

CONST. 2" BITUMINOUS SHOULDER
LT. STA. 399+00 TO STA. 416+05

RES. DR. LT. 415+45
CONST. 2" BITUMINOUS APPROACH

F.E. LT. 416+98
CONST. AGGREGATE SURFACE

C.R. 104 LT. 419+15
CONST. 2" BITUMINOUS APPROACH & RT. TURN LANE

P.T. 413+13.37

8' BITUMINOUS SHOULDER

8' AGGREGATE SHOULDER

P.C. 419+73.13

B.M. ELEV. 1089.01
PAINTED BOLT TOP
WELL RT. 399+60

B.M. ELEV. 1116.50
SPK. IN P.P. 60' LT.
STA. 420+50

P.V.T. +02.04082
ELEV. 76.88672

+1.8%

P.V.C. +50 ELEV. 86.75

P.I. +30
ELEV. 89.35
400' V.C.
M = +0.75

P.V.T. +50 ELEV. 90.9

+0.3%

P.V.C. +50 ELEV. 91.55

P.I. +50
ELEV. 92.15
400' V.C.
M = 1.55

P.V.T. +50 ELEV. 99.05

+3.4%

P.V.C. +00
ELEV. 10.85

P.I. +50
ELEV. 23.15
800' V.C.
M = 5.0625

P.V.T. +50 ELEV. 21.2

℄ FINISHED GRADE ELEV.

NOTE: C5-1 CONTRACTION JOINTS SHOWN ARE THE JOINTS LOCATED BETWEEN THE 19' AND 13' PANELS. ROTATION OF JOINTS TO BE AT 13', 16', 14' AND 19' UNELESS OTHERWISE SHOWN.

℄ CULV. 430+72
INPL. 42"x 128' R.C.P.
CONST. 13' AND 16' REINFORCED PANEL STA. 430+57 TO STA. 430+86

F.E. LT. 433+00
CONST. AGGREGATE SURFACE

P.I. 437+77.40
Δ LT. 5° 27'
D = 0° 45'
T = 363.71'
L = 726.67'
R = 7639.44'

P.C. 434+13.19

P.T. 441+40.46

RES. DR. LT. 446+76
CONST. 2" BITUMINOUS APPROACH & RT. TURN LANE

C.R. 104

8' AGGREGATE SHOULDER

24' CONC. PAVEMENT NON-REINFORCED

P.I. 424+00
RT. 16° 57'
D = 2° 00'
T = 426.87'
L = 847.50
R = 2864.79

P.C. 419+73.13

P.T. 426+20.63

RES. DR. RT. 423+40
CONST. 2" BITUMINOUS APPROACH & RT. TURN LANE

TWP. RD. RT. 444+00
SEE PLAN SHEET NO. 3
FOR CONSTRUCTION DETAILS

TWP. RD.

F.E.

P.C. 446+84.17

F.E. RT. NORTH TWP. RD.
CONST. AGGREGATE SURFACE

B.M. ELEV. 1112.44
HUB 100' LT.
STA. 433+60

-1.1%

P.V.T. +00
ELEV. 21.2

P.V.C. 15.71428
ELEV. 06.62715

P.I. + 65.71428
ELEV. 01.77715
700' V.C.
M = 3.0625

P.V.T. + 13.71428
ELEV. 85.67716

-4.6%

P.V.C. +00
ELEV. 24.9

-4.6%

℄ FINISHED GRADE ELEV.

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TWP RD. LT 450+80
CONST. 2" BITUMINOUS APPR.
& RT. TURN LANE

NOTE: C5-1 CONTRACTION JOINTS SHOWN ARE THE JOINTS LOCATED BETWEEN THE 19' AND 13' PANELS. ROTATION OF JOINTS TO BE AT 13', 16', 14' AND 19' UNLESS OTHERWISE SHOWN.

PT 457+83.00

℄ CULV. 469+30 & 469+40
INPL. 2-59" SPAN x 78' RCP-A.

CONST. 14' AN 19' REINFORCED PANELS
STA. 469+18 TO 469+51.

RES. DR. LT. 470+28
CONST. 2" BITUMINOUS APPROACH
& RT. TURN LANE

RES. DR. LT. 485+29
CONST. 2" BITUMINOUS APPROACH
& RT. TURN LANE.

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P.O.T. 468+25.20

EQUATION

8' AGGREGATE SHOULDER

24' CONC. PAVEMENT NON-REINFORCED

8' AGGREGATE SHOULDER

TWP RD. +46

+70

CONST. 2" BITUMINOUS SHOULDER RT.
STA. 443+08 TO 469+00

F.E. RT. 472+26
CONST. AGGREGATE SURFACE

TWP. RD. RT. 480+46
CONST. 2" BITUMINOUS APPROACH & RT. TURN LANE.

F.E. RT. 486+70
CONST. AGGREGATE SURFACE

P.I. 452+80.15
Δ RT. 54°56.15
D 5°00'
T 595.98'
L 1098.83'
R 1145.92'

P.I. +00
ELEV. 49.6
400' V.C.
M = 1.85

P.V.T. +00
ELEV. 47.8

P.V.C. +77.78261
ELEV. 45.29997

P.I. +77.78261
ELEV. 45.49995
400' V.C.
M = 0.375

-0.9%

B.M. ELEV. 1042.04
SPK. IN P.P. 50' LT.
STA. 470+35

P.V.T. +19.98261
ELEV. 43.99995

+0.25%

P.V.C. +00
ELEV. 46.95

P.I. +00
ELEV. 47.45
400' V.C.
M = 0.35

P.V.T. +00
ELEV. 46.85

B.M. ELEV. 1038.83
SPK. IN P.P. 55' LT.
STA. 489+10

-0.45%

1060
1040
1020

54.66 ℄ FINISHED GRADE ELEV.
51.45 49.16 47.8 46.9 46.0 45.11 44.14 44.02 43.89 43.88 45.55 44.2 44.55 44.7 44.95 45.2 45.45 45.7 45.55 46.2 46.45 46.7 46.95 47.1 47.10 46.91 46.55 46.1 45.55 45.2 ℄ FINISHED GRADE ELEV. 44.75

450 455 470 475 480 485

P.I. 494+14.28
Δ LT 24°59'
D 4°
T 317.34
L 624.58
R 1432.39

PC 490+96.84

℄ CULV. 493+79
INPL. 6'x 86' RCP

CONST. 14' REINFORCED PANEL STA. 493+72 TO 493+86.

P.T. 497+21.52

F.E. LT. 497+50
CONST. AGGREGATE SURFACE.

℄ CULV. 498+95 SKEWED 30°
INPL. 48"x 98' RCP

CONST. 12', 15', 13' & 18' REINF. PANELS STA. 498+67 TO 499+25

F.E. LT. 501+80
CONST. AGGREGATE SURFACE

TWP RD. LT 512+00
CONST. 4" AGGREGATE BASE
CONST. 2" BITUMINOUS SURFACE & RT. TURN LANE 12' WIDE.
CONST. 2' AGGREGATE SHOULDER.
SEE TYPICAL SECTION ON SHEET 2

TWP. RD. +00

RES. DR. LT 518+16
CONST. 2" BITUMINOUS APPROACH & RT. TURN LANE.

F.E. RT. 496+75
CONST. AGGREGATE SURFACE

8' AGGREGATE SHOULDER

24' CONC. PAVEMENT NON-REINFORCED

F.E. RT. 499+61
CONST. AGGREGATE SURFACE

F.E. RT. 504+20
CONST. AGGREGATE SURFACE

NOTE: C5-1 CONTRACTION JOINTS SHOWN ARE THE JOINTS LOCATED BETWEEN THE 19' AND 13' PANELS. ROTATION OF JOINTS TO BE AT 13', 16', 14' AND 19' UNLESS OTHERWISE SHOWN.

B.M. ELEV. 1039.05
SPK. IN P.P. 50' LT.
STA. 498+10

P.I. +02.24719
ELEV. 39.23989
600' V.C.
M = 3.3375

P.V.T. +02.24719
ELEV. 40.58989

P.V.C. +50
ELEV. 86.15

+4.0%

B.M. ELEV. 1081.65
SPK. IN P.P. 60' RT.
STA. 513+90.

P.I. +50
ELEV. 02.15
1800' V.C.
M = 20.25

-0.45%

1080
1060
1040

45.2 ℄ FINISHED GRADE ELEV. 44.75 44.3 43.85 43.4 42.95 42.5 42.05 41.6 41.51 42.15 43.54 45.66 48.54 52.15 56.15 60.15 64.15 68.07 71.09 74.59 77.09 79.09 80.59 81.59 82.09 82.09 81.89 80.59 79.09 ℄ FINISHED GRADE ELEV. 77.09

490 495 500 505 510 515

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RES. DR LT. 518 + 16
CONST. 2" BITUMINOUS APPROACH & RT. TURN LANE

P.I. 521 + 11.60
Δ LT. 1° 00'
D = 00° 08' 30"
T = 352.94'
L = 705.89'
R = 40,444.07

RES. DR. LT. 521 + 31
CONST. 2" BITUMINOUS APPROACH & RT. TURN LANE

F.E. LT. 524 + 11
CONST. AGGREGATE SURFACE

F.E. LT. 526 + 15
CONST. AGGREGATE SURFACE

P.C. 517 + 58.66
P.T. 524 + 64.54
P.O.T. 535 + 48.56 = EQUATION

F.E. RT. 520 + 25
CONST. AGGREGATE SURFACE

RES. DR. RT. 523 + 81
CONST 2" BITUMINOUS APPROACH & RT. TURN LANE

RES. DR. RT. 527 + 20
CONST. 2" BITUMINOUS APPROACH & RT. TURN LANE

P.C. 527 + 90.57
P.T. 535 + 04.84 = EQUATION

F.E. RT. 534 + 43
CONST. AGGREGATE SURFACE

P.I. 531 + 47.70
Δ RT 00° 30'
D = 00° 07'
T = 357.17'
L = 714.58'
R = 34,377.40'

C.R. 125 + 45

F.E. LT. 249 + 22
CONST. AGGREGATE SURFACE

P.O.T. 249 + 00

60' | 8' AGGREGATE SHOULDER | 24' CONC. PAVEMENT NON-REINFORCED | 65' | 8' AGGREGATE SHOULDER

C.R. 125 RT. 249 + 45
CONST. 2" BITUMINOUS APPROACH & RT. TURN LANE

NOTE: C5-1 CONTRACTION JOINTS SHOWN ARE THE JOINTS LOCATED BETWEEN THE 19' AND 13' PANELS. ROTATION OF JOINTS TO BE AT 13', 16', 14' AND 19' UNLESS OTHERWISE SHOWN.

B.M. ELEV. 1030.88
SPK. IN P.P. 60' RT.
STA. 535 + 48

B.M. ELEV. 1030.01
SPK. IN P.P. RT.
STA. 26 + 00

P.I. +00
ELEV. 44.65
500' V.C.
M = 2.187 %

P.I. +00
ELEV. 28.55
400' V.C.
M = 0.335

P.V.T. +50 ELEV. 57.15
P.V.C. +50 ELEV. 58.15
P.V.T. +50 ELEV. 40.90
P.V.C. +31.42857 ELEV. 35.67858
P.V.T. +31.42857 ELEV. 32.77858
P.V.C. +00 ELEV. 30.45
P.V.T. +00 ELEV. 29.89

-1.5 %
-0.45 %
+0.22 %

1080 / 1060 / 1040 / 1020

79.09 ℄ FINISHED GRADE ELEV.
77.09 | 74.59 | 71.59 | 68.09 | 64.09 | 59.59 | 54.74 | 50.34 | 46.83 | 43.94 | 41.74 | 40.15 | 38.65 | 37.15 | 35.71 | 34.52 | 33.6 | 32.93 | 32.70 | 32.70 | 32.25 | 31.8 | 31.35 | 30.9 | 30.45 | 30.06 | 29.86 | 29.55 | 29.39 | 30.21 | 30.43
520 | 525 | 530 | 535 | EQUATION | 240 | 245 | 250

F.E. LT. 271 + 96
CONST. AGGREGATE SURFACE

℄ CULV. 275 + 66 & 275 + 75
INPL. 2-51" SPAN x 78" R.C.P.-A.
CONST. 15' AND 14' REINFORCED PANELS STA. 275 + 57 TO STA. 275 + 86.

34TH. AVE. S.W. LT. 275 + 97
T.W.P. RD.
CONST. 2" BITUMINOUS APPROACH & RT. TURN LANE.

RES. DR. LT. 277 + 87
CONST. 2" BITUMINOUS APPROACH & RT. TURN LANE

F.E. LT. 281 + 24
CONST. AGGREGATE SURFACE

℄ CULV. 287 + 41
INPL. 30" x 82" R.C.P.
CONST. 13' REINFORCED PANEL.
STA. 287 + 37 TO STA. 287 + 50

RES. DR. LT. 279 + 83
CONST. 2" BITUMINOUS APPROACH & RT. TURN LANE

MATCH EQUATION
P.O.T. 280 + 65.67

End STA 286+90

8' AGGREGATE SHOULDER | 24' CONC. PAVEMENT NON-REINFORCED | 8' AGGREGATE SHOULDER

P.I. 263 + 92.72
Δ RT. 5° 18'
D = 0.99738°
T = 265.898'
L = 531.39'
R = 5744.63'

P.C. 261 + 26.83
P.T. 266 + 58.22 = EQUATION

F.E. RT. 266 + 16
CONST. AGGREGATE SURFACE

P.O.T. 266 + 56.84

P.C. 271 + 88.09

F.E. RT. 279 + 75
CONST. AGGREGATE SURFACE

P.I. 276 + 38
Δ RT. 26° 20'
D = 2.97662°
T = 480.29'
L = 884.67'
R = 1924.86'

P.T. 280 + 72.76 = MATCH EQUATION LINE

B.M. ELEV. 1027.83
SPK. IN P.P. RT.
STA. 267 + 75

B.M. ELEV. 1022.83
BOLT IN P.P. 67' RT. STA. 277 + 22

P.I. +00
ELEV. 31.31
400' V.C.
M = 0.325

P.I. +00
ELEV. 26.58
400' V.C.
M = 0.19

P.V.T. +00 ELEV. 30.45
P.V.C. +00 ELEV. 30.87
P.V.C. +00 ELEV. 27.44
P.V.T. +00 ELEV. 26.48

+0.22 %
-0.43 %
-0.05 %
-0.05 %

1040 / 1020

30.21 ℄ FINISHED GRADE ELEV.
30.43 | 30.65 | 30.87 | 31.01 | 30.99 | 30.8 | 30.45 | 30.28 | 30.2 | 30.02 | 29.59 | 29.16 | 28.73 | 28.3 | 27.87 | 27.44 | 27.06 | 26.77 | 26.58 | 26.48 | 26.43 | 26.38 | 26.33 | 28.29 | 26.29 | 26.29 | 26.23 | 26.18 | 26.13 | 26.08 | 26.03 | ℄ FINISHED GRADE ELEV. 25.98
260 | 265 | EQUATION | 267 | 270 | 275 | 280 | EQUATION | 281 | 285

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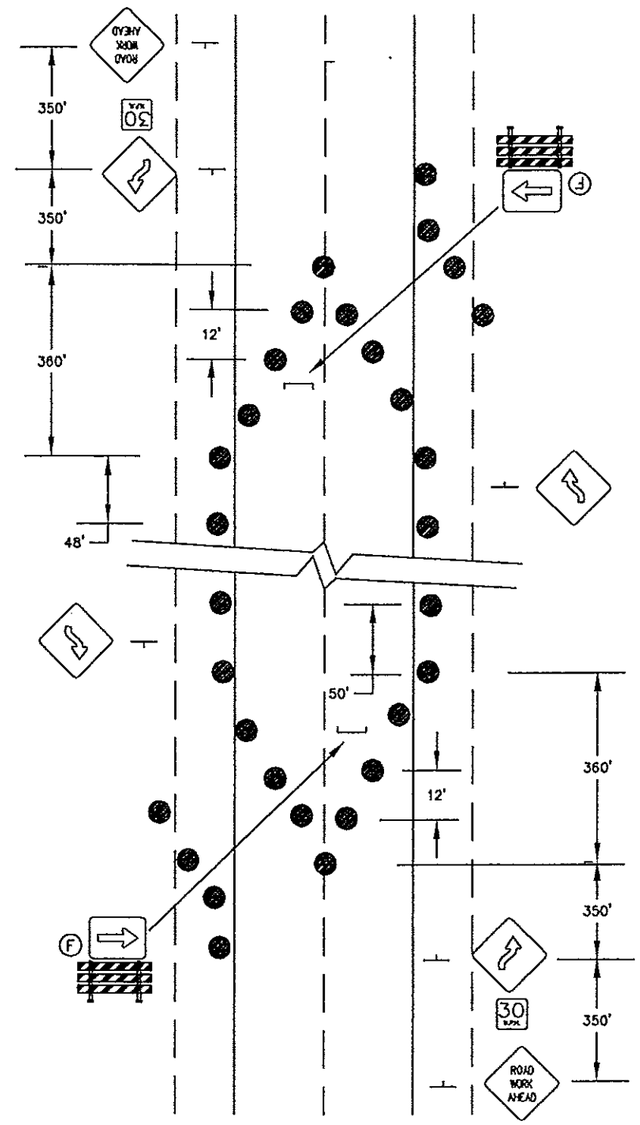
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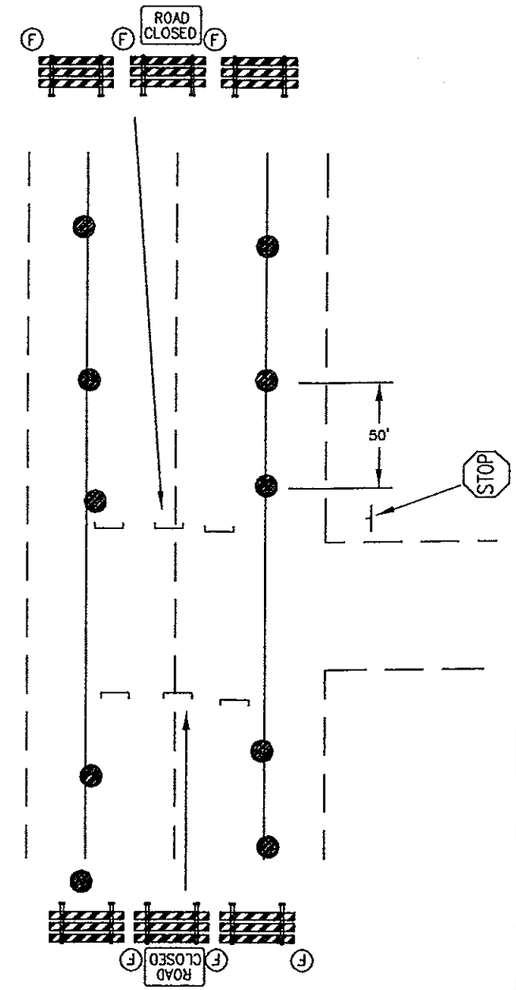
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ESTIMATE OF TRAFFIC CONTROL DEVICES

DEVICE	NUMBER	SIZE (INCHES)	COLOR	QUANTITY	DEVICE	NUMBER	SIZE (INCHES)	COLOR	QUANTITY
DO NOT PASS	R4-1	24 x 30	BLK/WH	11	ROAD WORK AHEAD	W20-1	48 x 48	BLK/OR	14
PASS WITH CARE	R4-2	24 X 30	BLK/WH	9	NO SHOULDER	W21-X1	48 x 48	BLK/OR	SEE NOTE #5
LOW SHOULDER	W8-9	48 x 48	BLK/OR	SEE NOTE #5	ROAD WORK NEXT MILES	G20-1	60 x 24	BLK/OR	2
UNEVEN LANES	W8-11	48 x 48	BLK/OR	SEE NOTE #5	END ROAD WORK	G20-2A	48 x 24	BLK/OR	5
NO CENTER STRIPE	W8-12	48 x 48	BLK/OR	8		REBOUNDABLE PLASTIC DRUM	APPROX. 36"	OR & WH	SEE NOTE #5 & #4
ROAD CLOSED	R11-2	48"x 30"	BLK/WH	2	(F)	TYPE A	FLASHING LAMP	AMBER	21 SEE NOTE #6
	TYPE III	MIN. 6'	OR & WH	6 SEE NOTE #6 & #4		W1-6	48"x 24"	BLK/OR	SEE NOTE #4
	W1-4	48 x 48	BLK/OR	SEE NOTE #4	30 MPH	W13-1	24 x 24	BLK/OR	SEE NOTE #4
	W1-4	48 x 48	BLK/OR	SEE NOTE #4	STOP	R1-1	30"x 30"	WH/RED	SEE NOTE #4



TYPICAL STAGE WORK ZONE
APPROX. 4000' LENGTH
(SEE NOTE #4)



TYPICAL STAGE WORK ZONE
AT INTERSECTION
(SEE NOTE #4)

TRAFFIC CONTROL NOTES

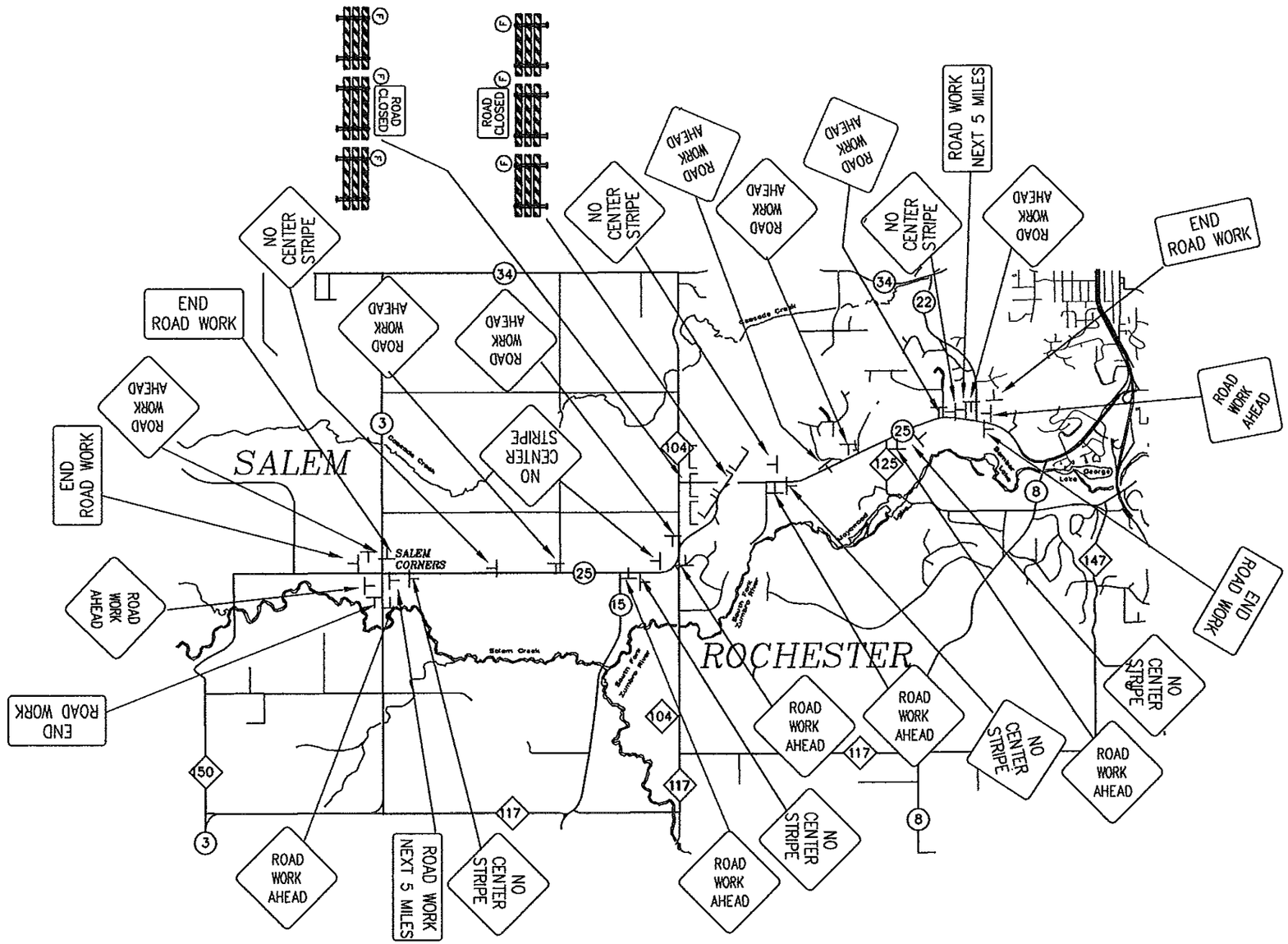
1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC CONTROL FOR THIS PROJECT.
2. THE LOCATION OF SIGNS AND DEVICES WILL BE STAKED BY THE ENGINEER IN THE FIELD.
3. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES INCLUDING THE TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS FIELD MANUAL DATED JANUARY 1998.
4. CONSTRUCTION ZONE SIGNING SHALL ALSO BE THE RESPONSIBILITY OF THE CONTRACTOR AND WILL INCLUDE, BUT NOT BE LIMITED TO SIGNS FOR LANE CLOSURES, MACHINERY AHEAD, BUMP, DIP, LOOSE GRAVEL, ETC. THE NUMBER AND LOCATION WILL BE DETERMINED BY THE CONTRACTORS OPERATION. CROSS TRAFFIC AT INTERSECTIONS SHALL BE MAINTAINED. FLAG PERSONS WILL BE REQUIRED AS SITUATIONS EXIST. INCLUDES TYPICAL STAGE WORK ZONE.
5. THE CONTRACTOR SHALL INSTALL TRAFFIC CONTROL DEVICES FOR EDGE DROP OFFS AT THE END OF EACH WORK SHIFT AS THE SITUATIONS EXIST AS PER TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS FIELD MANUAL PAGES 6K-102 & 6K-103 (THESE ITEMS ARE NOT INCLUDED IN THE ESTIMATE OF TRAFFIC CONTROL DEVICES.)
6. ALL BARRICADES REQUIRE A TYPE A FLASHING LAMP.

AS-BUILT
MAR 21 2002
ENGINEERING

TRAFFIC CONTROL LEGEND
- POST OR STAND MOUNTED SIGN
- TYPE III BARRICADE
- (F) TYPE "A" AMBER FLASHING LAMP
- RETROREFLECTIVE DRUM

TRAFFIC CONTROL

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TRAFFIC CONTROL LEGEND

⊥ POST OR STAND MOUNTED SIGN

└┘ TYPE III BARRICADE

Ⓕ TYPE "A" AMBER FLASHING LAMP

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