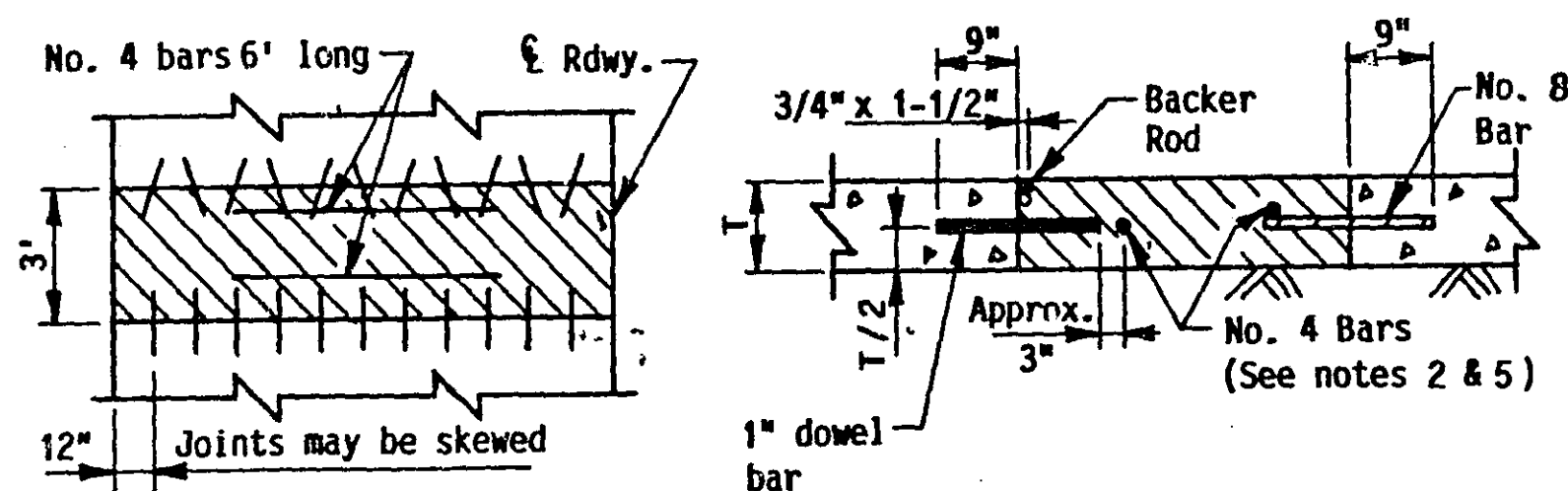


CONTRACTION JOINT (TYPE C-3A)

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



PLAN VIEW OF ROADWAY

PROFILE

AREA TO BE REMOVED

WORK TO BE DONE

1. Saw cut to full depth and remove concrete pavement. Restore in-place base.
2. Furnish and install No. 8 Reinf. tie bars 18" long at 12" C-C, skewed 20° from normal to joint. Place reinf. with approved non-shrink grout. Place No. 4 bar, 6' long as shown in detail.
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 MC-250 or approved equal.
4. Clean surfaces of in-place concrete by sandblasting and airblasting. Apply bonding grout immediately prior to placing concrete.
5. Furnish and place concrete Mix Finish to required grade, slope, texture, and cure. Place No. 4 bar 6 ft. long in plastic concrete approx. 3" from end of dowel bar at mid-depth.
6. Re-establish longitudinal joints and cracks as directed by the Engineer.
7. Seal transverse joints and cracks with silicone sealer; longitudinal cracks and joints with hot-pour Spec. 3723 sealer or equal.

BASIS OF PAYMENT

Minimum dimension 1-lane wide

0301.604 Contraction joint repair lin. ft. (Type C-3A)

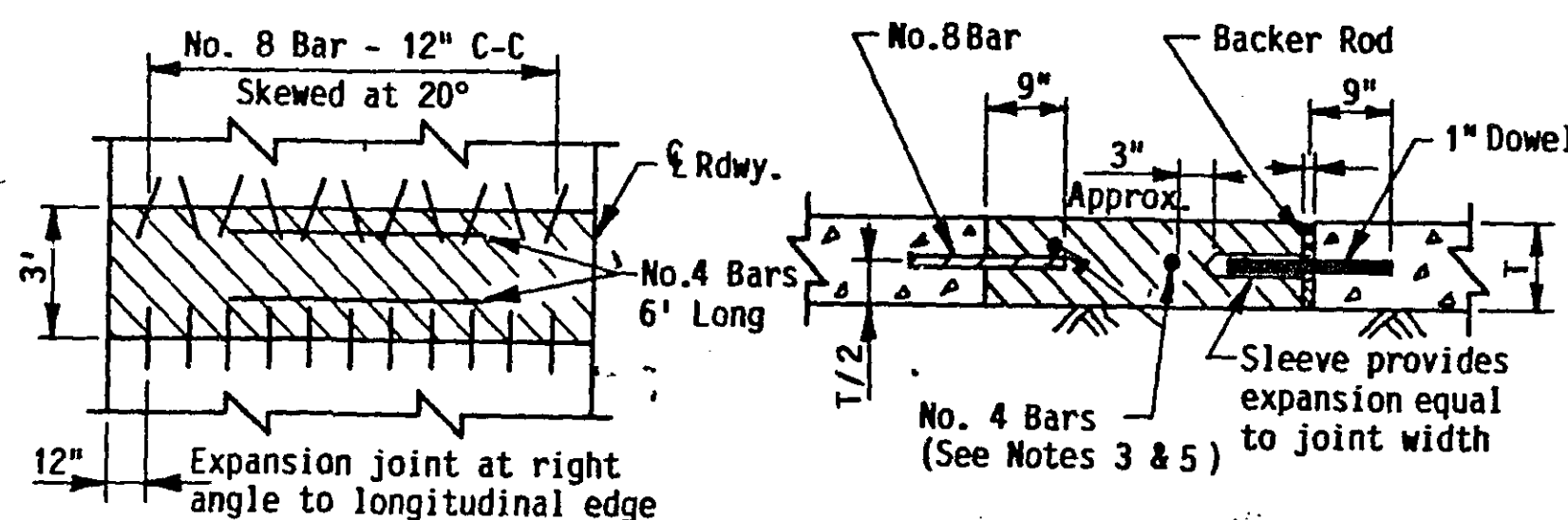
0301.602 seal concrete pavement joint - LB.

DATE: January, 1986

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EXPANSION JOINT (TYPE C-3B)

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



PLAN VIEW OF ROADWAY

PROFILE

AREA TO BE REMOVED

Minimum dimension 1-lane wide

1. Saw cut to full depth and remove concrete pavement. Restore in-place base.
2. Furnish and install No. 8 reinforcing tie-bars, 18" long at 12" C-C skewed 20° from the normal to both joints. Place reinforcement with approved non-shrink grout. Place No. 4 bar, 6' long as shown in detail.
3. Drill with an approved jig and install 1" dowel bar 18" long at 12" C-C, place with an approved non-shrink grout. Coat free end of dowel with MC-250 or an approved equal and dowel sleeves to allow for movement equal to joint space. Install preformed joint filler (Spec. 3702). Form expansion joint opening with an approved insert. Insert shall remain in-place for 24 hours.
4. Clean surfaces of in-place concrete by sandblasting and airblasting. Apply bonding grout immediately prior to placing concrete.
5. Furnish and place concrete Mix Finish to required grade, slope, texture, seal tied edge with grout and cure. Place No. 4 bar 6 ft. long in plastic conc. approx. 3" from end of dowel bar at mid-depth.
6. Re-establish longitudinal joints and cracks as directed by the Engineer.
7. Seal transverse joints and cracks with silicone sealer; longitudinal cracks and joints with hot-pour Spec. 3723 sealer or equal.

0301.604 expansion joint repair (Type C-3B) lin. ft.

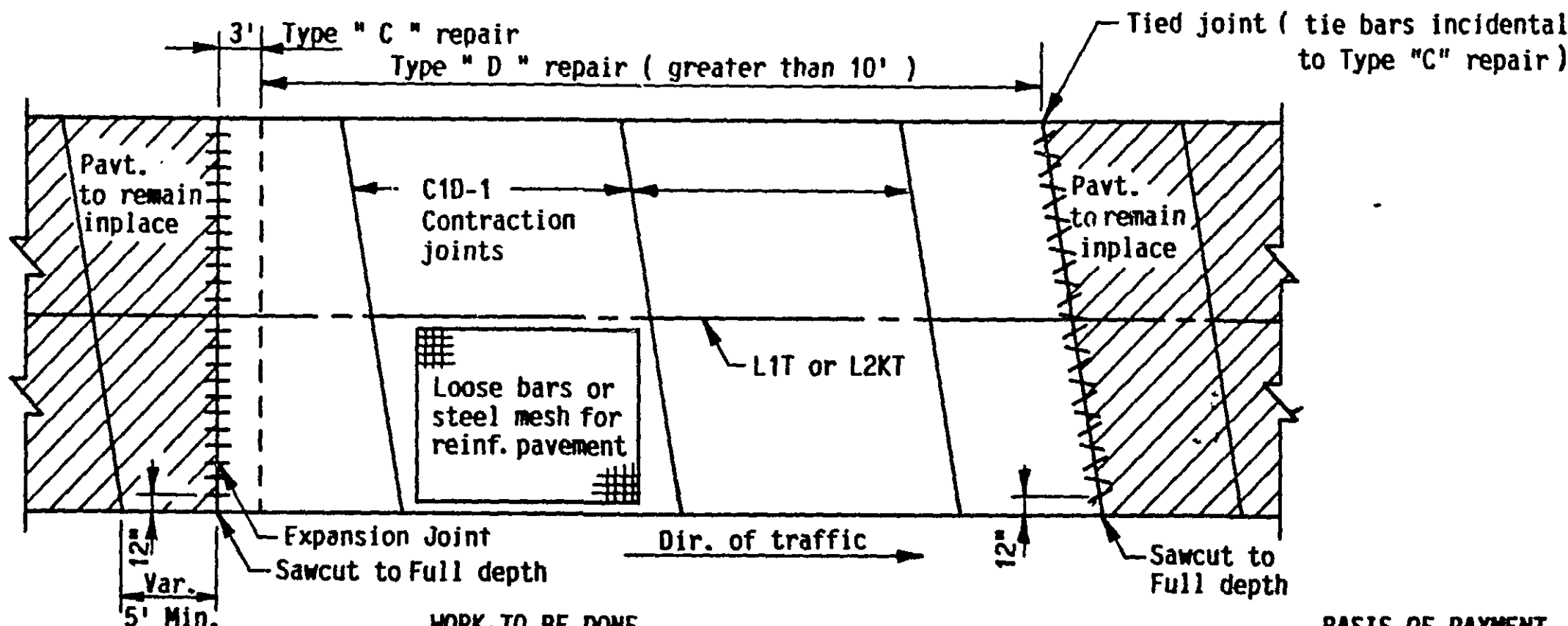
0301.602 seal concrete pavement joint - LB.

DATE: Jan., 1986

State Proj. No. 62-665-29 Sheet No. 21 of 22 Sheets

PAVEMENT REPLACEMENT (TYPE D)

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



WORK TO BE DONE

1. Saw full depth and remove concrete pavement, saw cut may be skewed. (Incidental)
2. Place gravel base (Class 5), restoring base to grade by ordinary compaction.
3. F & I 1" diameter smooth dowel bar parallel to centerline or No. 8 tie bar 18" long at 12" C-C, skewed 20 degrees into Inp. Conc. Pav't. Place with an approved non-shrink grout.
4. Place C10-1 contraction joints to match in-place joints.
5. Clean removal surface by sandblasting and airblasting. When required, place mesh (12X12 D7.2XW4.0 or 12X12 D7.8XW4.0 or 24"X24" - #4 Bars). Apply bonding grout immediately prior to concrete placement. Place Conc. Mix No. , Reinf. for L1T or L2KT, and finish to required grade, slope, texture and cure.
6. Restore joints by green sawing or by other methods approved by the engineer.
7. Form expansion joint and saw C10-1 contraction joint.
8. Seal transverse joints with silicone sealer; longitudinal joints with hot-pour Spec. 3723 sealer or equal.

BASIS OF PAYMENT

2301.501 Concrete pavement (Type D) sq.yd.
2301.521 Pavement reinf. sq.yd.
2301.529 Reinf. tie bars lbs.
2301.536 Dowel bar assembly lin.ft.
0301.602 Seal concrete pavement joints lb.

DATE: January, 1986

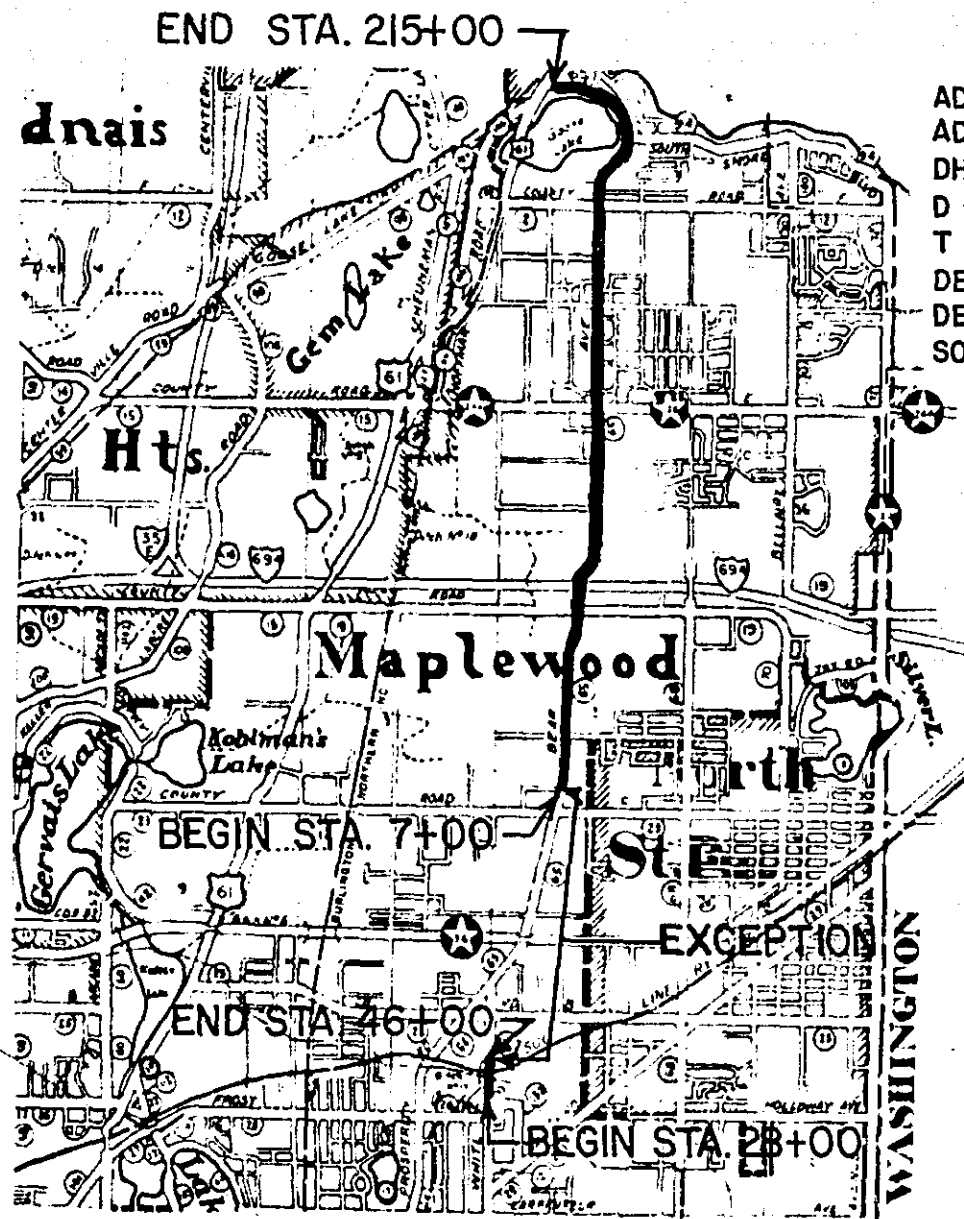
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RAMSEY COUNTY DEPARTMENT OF PUBLIC WORKS WHITE BEAR AVE. CONCRETE PAVEMENT REHABILITATION

S.A.P. 62-665-29
BETWEEN: FROST AVE. AND T.H. 61
FEET MILES

GROSS LENGTH 29,681 5.62
NET LENGTH 22,600 4.28

DESIGN DESIGNATION	WHITE BEAR AVE.	
	FROST AVE. TO CO. RD. B	CO. RD. C TO T.H. 61
ADT (CURRENT YEAR) 1986	17,000	13,800
ADT (FUTURE YEAR) 2006	22,400	20,000
DHV	2,600	2,000
D (DIRECTIONAL DISTRIBUTION)	60-40	60-40
T (HEAVY COMMERCIAL)	5%	5%
DESIGN SPEED	45 MPH	50 MPH
DESIGN LOAD	9 TON	9 TON
SOIL FACTOR	100%	100%



INDEX	
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	LOCATION MAP
3	TYPICAL SECTIONS
4	ESTIMATED QUANTITIES
5	TABULATIONS AND STANDARD PLATES
6-7	CONSTRUCTION NOTES
8-22	DETAILS

GOVERNING SPECIFICATIONS
THE 1983 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.

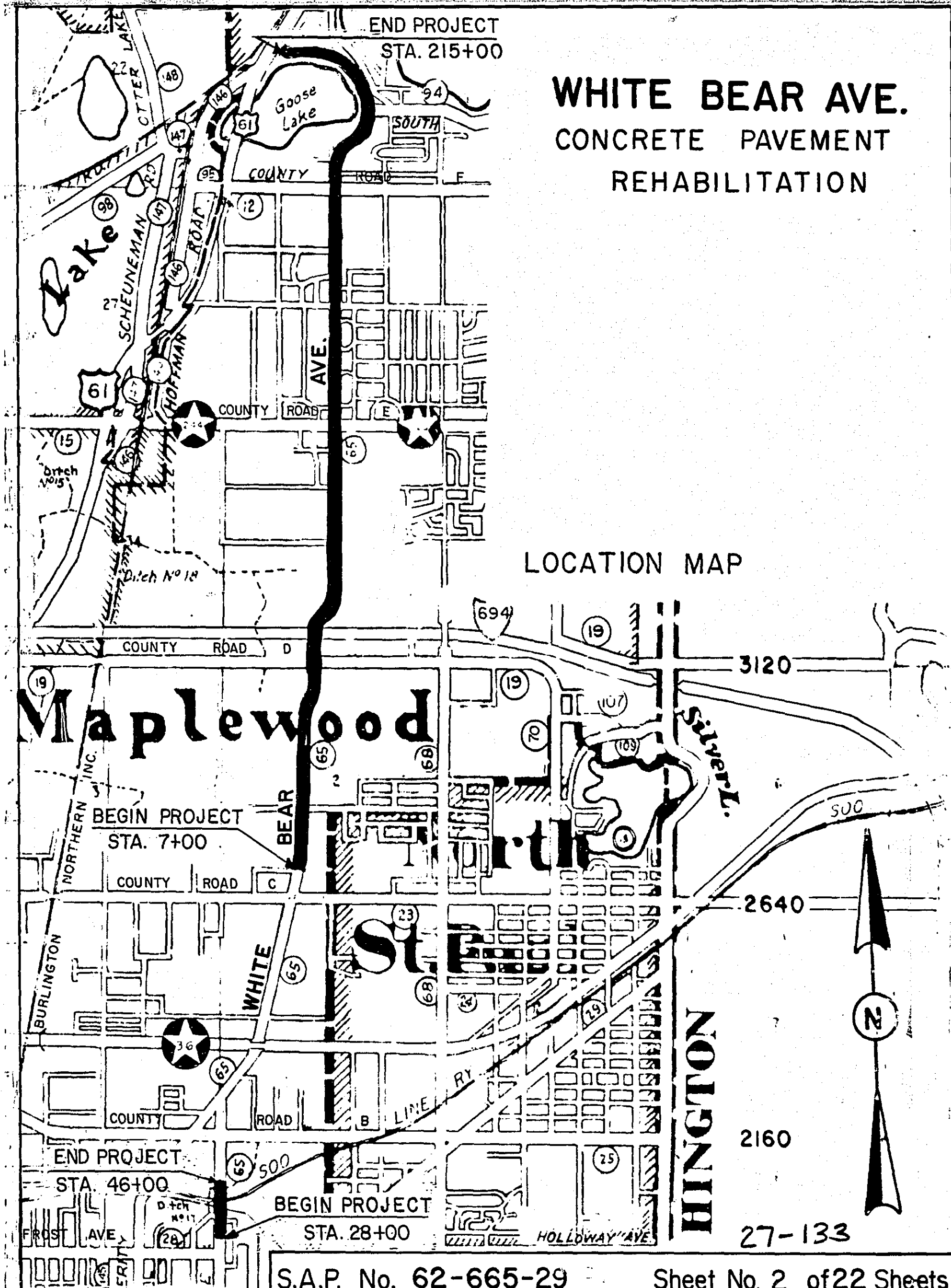
RECOMMENDED FOR APPROVAL LKF DATE 3-19-86
DESIGN ENGR.
RECOMMENDED FOR APPROVAL FLK DATE 3-19-86
TRAF. ENGR.
RECOMMENDED FOR APPROVAL DOJ DATE 3-19-86
MAINT. ENGR.
RECOMMENDED FOR APPROVAL SW DATE 3/19/86
ENV. ENGR.
APPROVED Wm. P. Jones DATE 3-20-86
COORDINATING ENGINEER

RECOMMENDED FOR APPROVAL Handwritten Signature DATE 4-24-86
COUNTY ENGINEER
APPROVED Handwritten Signature DATE 4/5/86
CHAIRMAN OF THE RAMSEY COUNTY BOARD
APPROVED Handwritten Signature DATE 4/24/86
CITY OF MAPLEWOOD
APPROVED Handwritten Signature DATE 4/28/86
CITY OF WHITE BEAR LAKE

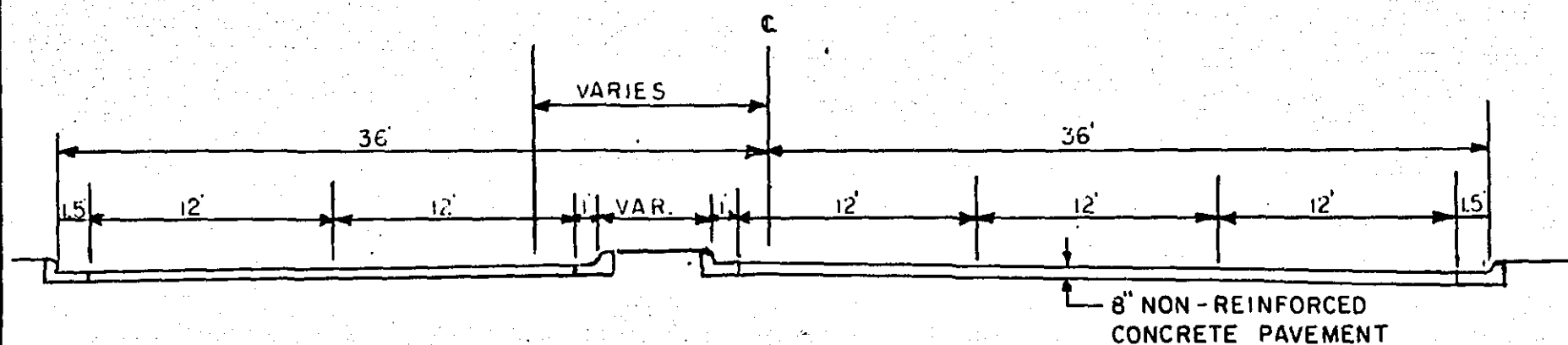
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
DATE 3-19-86 REG. NO. 10729 ENGR. Robert H. Paine

MINNESOTA DEPARTMENT OF TRANSPORTATION
RECOMMENDED FOR APPROVAL Julio Skallman DATE 5-16-86
DIST. STATE AID ENGR.
RECOMMENDED FOR APPROVAL Handwritten Signature DATE 5/1/86
APPROVED Handwritten Signature DATE 5/19/86
STATE AID ENGINEER

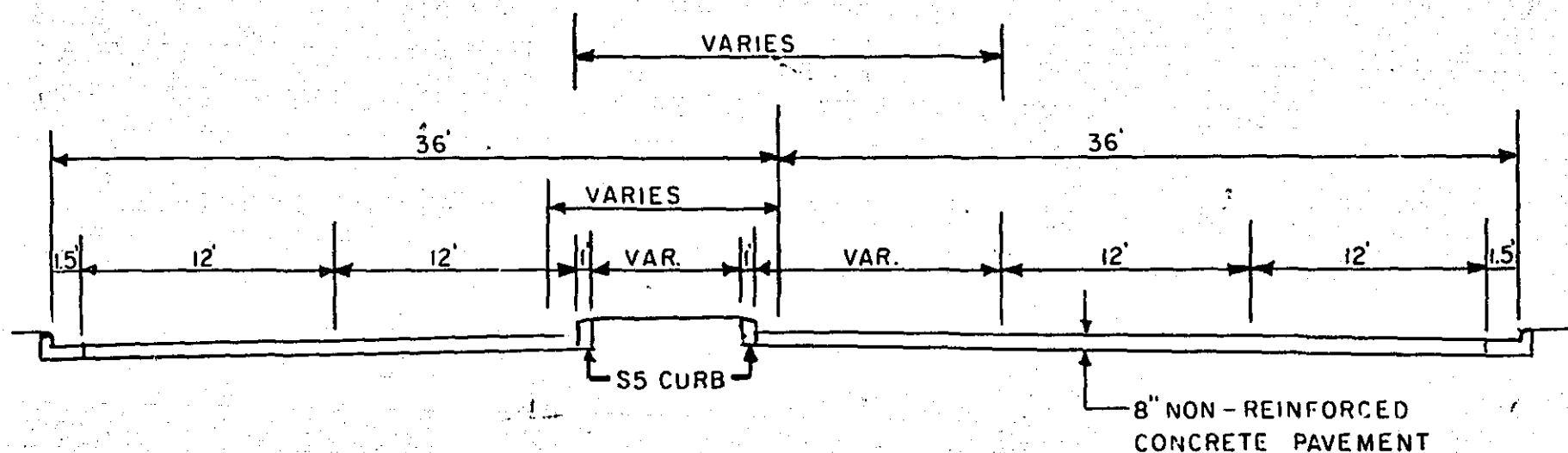
WHITE BEAR AVE. CONCRETE PAVEMENT REHABILITATION



WHITE BEAR AVE
FROST AVE TO CO. RD. "B"



WHITE BEAR AVE
CO. RD. "C" TO CO. RD. "D"



WHITE BEAR AVE
WHITE BEAR COURT TO S.T.H. 61

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STATEMENT OF ESTIMATED QUANTITIES

SPECIFICATION NUMBER	ITEM	UNIT	ESTIMATED QUANTITIES	FINAL QUANTITIES
2021.501	MOBILIZATION	L.S.	1	
2104.501	REMOVE CONCRETE CURB AND BUTTER	L.F.	500	
2105.525	TOPSOIL BORROW	C.Y.	30	
2301.501	CONCRETE PAVEMENT REPAIR, TYPE C1	S.Y.	10	
2301.501	CONCRETE PAVEMENT, TYPE D	S.Y.	435	
2301.529	REINFORCEMENT BARS	POUND	185	
0301.602	SEAL CONCRETE PAVEMENT JT, SILICONE SEAL	POUND	16465	
0301.602	SEAL CONCRETE PAVEMENT JT, HOT POUR	POUND	41261	
0301.604	CRACK REPAIR (TYPE A-3)	L.F.	876	
0301.604	CRACK REPAIR (TYPE A-4AS)	L.F.	450	
0301.604	JOINT REPAIR (TYPE A-1)	L.F.	54480	
0301.604	LONGITUDINAL JOINT REPAIR (TYPE A-5)	L.F.	68770	
0301.604	CRACK REPAIR (TYPE B-1)	L.F.	152	
0301.604	EDGE REPAIR (TYPE B-2C)	L.F.	744	
0301.604	REPAIR SPECIAL (TYPE B-2D)	L.F.	150	
0301.604	REPAIR SPECIAL (TYPE B-2E)	S.F.	215	
0301.604	JOINT REPAIR (TYPE B-3)	L.F.	2788	
0301.604	MID-PANEL REPAIR (TYPE C-2)	L.F.	24	
0301.604	CONTRACTION JOINT REPAIR (TYPE C-3A)	L.F.	432	
0301.604	EXPANSION JOINT REPAIR (TYPE C-3B)	L.F.	48	
0301.609	SPOT SURFACE REPAIR (TYPE B-2A)	S.F.	1172	
0301.609	SPOT FULL-DEPTH REPAIR (TYPE C-1)	S.F.	116	
0301.610	NO. 8 REINFORCED TIE BAR & 1" DOWEL BARS	EACH	130	
2531.501	CONCRETE CURB & BUTTER, DESIGN B6-1B	L.F.	500	
2575.505	SODDING	S.Y.	200	
0565.602	LOOP DETECTOR 4 X 4	EACH	8	
0565.602	LOOP DETECTOR 8 X 18	EACH	3	
0565.602	LOOP DETECTOR 6 X 25	EACH	2	
0565.602	LOOP DETECTOR 4 X 40	EACH	4	

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CONCRETE PAVEMENT REPAIR TYPE "D"

STATION	SIZE W x L	PAVEMENT S.Y.	REBARS POUND	CURB & GUTTER	COMMENTS
33+10 - 33+50	12 x 37	49	25	40	
67+20 - 67+40	17 x 24	45	11		
73+40 - 73+80	12 x 37	49	20		
75+00 - 75+20	17 x 12	23	11	20	ADJUST M.H.
77+60 - 78+00	12 x 37	49	20		
91+00 - 91+60	12 x 57	76	38	60	
149+00 - 149+20	12 x 17	23	11		
175+00 - 175+60	12 x 57	76	38	60	ADJUST M.H.
179+00 - 179+20	24 x 17	45	11	20	

PLATE NO.	DESCRIPTION
0004 A	SPECIFICATION REFERENCE TO STANDARD PLATES
1100 N	EXPANSION JOINTS
1120 R	CONTRACTION JOINTS
1140 R	LONGITUDINAL JOINTS
8000 I	STANDARD BARRICADES
8130 D	SAWCUT LOOP DETECTORS

NOTE: INPLACE SIGNAL SYSTEMS
THE CONTRACTOR SHALL PROTECT OR REPLACE EXISTING LOOP DETECTORS DURING PAVEMENT REPAIR OPERATIONS AS DIRECTED BY THE ENGINEER.
LOOP DETECTOR REPLACEMENT, WHERE DIRECTED BY THE ENGINEER, WILL BE PAID FOR AS SPECIFIED IN THE PAY QUANTITIES.
ALL LOOP DETECTORS WILL BE LOCATED BY THE COUNTY.

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CONSTRUCTION NOTES

This work shall meet the provisions of Specification 2301 except as modified herein:

- Bonding grout shall consist of equal parts, by weight, of Portland Cement and sand, mixed with sufficient water to form a slurry with the consistency of thick cream. The grout will require brushing or scrubbing (with a stiff bristle broom) into the in-place concrete. Grout shall be mixed by mechanical means. Concrete shall be placed immediately after grouting. If the grout whitens, sandblast and re-grout.
- For partial depth removals, no "Jackhammers" shall be allowed. Removal hammers shall be limited to a maximum weight of 30 pounds.
- Concrete shall have the maximum allowed dosage rate of approved water reducer (Type A) added to Grade 3018 Concrete for Type "B" repairs and to Grade 3A32ME for Type "C" repairs and Type "D" repairs less than 200 feet long. Type "B" and Type "C" repairs may be open to traffic in 24 hours and Type "D" repairs in 72 hours providing temperatures exceed 60 degrees F.
For earlier openings, concrete shall have an approved water reducing accelerator (Type E) added at the job site for Type "B", Type "C", and Type "D" repairs less than 50 feet long. For early openings, the concrete grades shall be Grade 3018 for Type "B" repairs and Grades 3027, 3028 or 3022 for Type "C" and Type "D" repairs. Dosage rates of water reducing accelerator (Type E) shall be 40 percent of maximum allowed dosage rates for Type "B" partial depth repairs and Type "C" full depth repairs and 25 percent of the maximum allowed dosage rate for Type "D" repairs. Type "B" repairs shall have a minimum cure of 4 hours prior to opening to traffic, Type "C" in 8 hours, and Type "D" in 24 hours with these dosage rates. Extended cure times including insulating the patches may be required in cool weather (under 60 degrees F.) or when in-place pavement temperatures are low.
Concrete mix Grade 3027, 3028 or 3022 shall have water reducing accelerator (Type E) used as a slump increaser but the water reducing accelerator solution shall be included as part of the total recommended mixing water. Accelerators should generally not be used when the ambient air temperature exceeds 80 degrees F. If the accelerators are used, they must be used with caution (contact Concrete Engineering).
- Concrete for Type B partial depth repairs shall not be placed at air temperatures below 50 degrees F.
- Tapering of the edges of Type "B" partial depth repairs will not be required where removal is accomplished by milling, either transversely or longitudinally.
- Saw adjoining slab full-depth 4" wide and remove concrete prior to installing a full-depth, full-width repair at the location directed by the Engineer. Payment shall be made under bid item "Relief Cut".
- Misaligned dowel bars and those with cross-section less shall be burnt off or otherwise severed. If this involves more than 5 adjacent dowels, remove and replace the dowels using the appropriate repair detail.
- Non-shrink grout used for bonding reinforcing tie bars and dowel bars to in-place concrete shall be fully set prior to placing concrete for all repairs. Epoxy coating is required on tie bars, dowel bars and reinforcing steel.

DATE: January, 1986

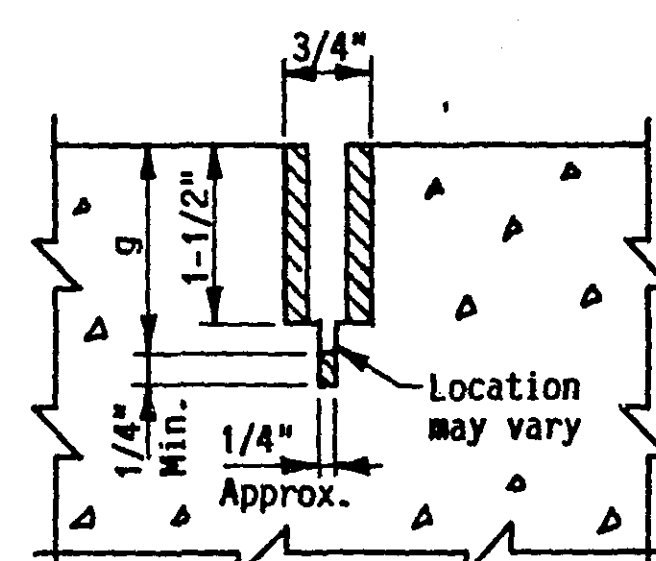
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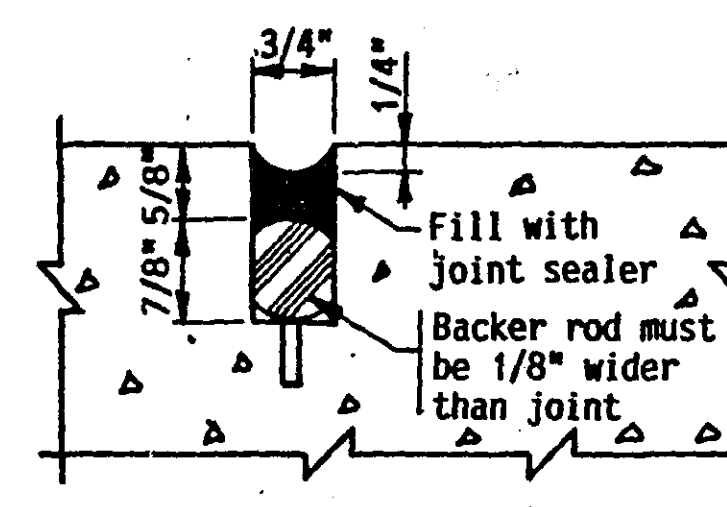
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JOINT REPAIR (TYPE A-1)

DESCRIPTION: CLEAN SAW AND SEAL TRANSVERSE PAVEMENT JOINTS.



SECTION
(Showing Removal)



SECTION
(Showing Installation)

AREA TO BE REMOVED BY SAWING

WORK TO BE DONE

- Remove Inplace Seal
- Saw joint to configuration shown
- Clean joint by sandblasting and air-blasting, place closed cell backer rod.
- Seal joint with cold applied silicone joint and crack sealer.

BASIS OF PAYMENT

- 0301.604 Joint repair (Type A-1) lin. ft.
- 0301.602 seal concrete pavement joint - lb.

NOTE: At the centerline of the joint, the shape factor shall be 3/4" wide x 3/8" deep.

DATE: January, 1986

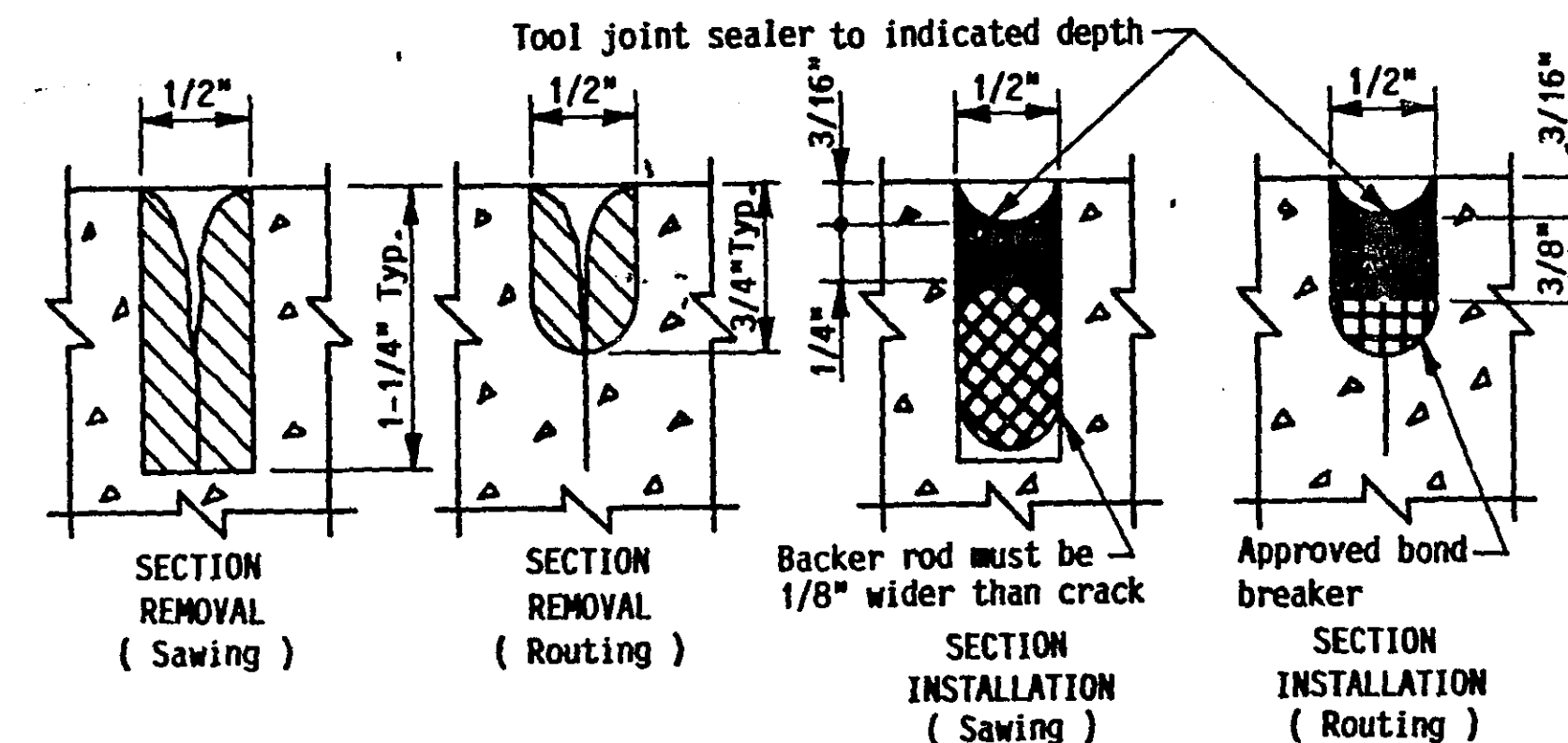
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CRACK REPAIR (TYPE A-3)

DESCRIPTION: SAW OR ROUT AND SEAL MID PANEL CRACKS.



AREA TO BE REMOVED BY SAWING OR ROUTING

WORK TO BE DONE

- Saw or rout as shown.
- Clean crack by sandblasting and airblasting, place closed cell backer rod or approved bond breaker.
- Seal joint with cold applied silicone joint and crack sealer. (See Sealing Detail)

BASIS OF PAYMENT

- 0301.604 Crack Repair (Type A-3) Lin. Ft.
- 0301.602 Seal Concrete Pavement Joints - lb.

DATE: January, 1986

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- Overlaps in sawcuts from removal operations shall be filled with grout.
- Concrete shall not protrude beyond the original cross-section of the pavement. The edges shall be formed or sawn full-depth.
- Longitudinal and transverse joints shall be re-established throughout all repairs.
- The concrete surface texture shall consist of brooming in the long dimension direction of the repair.
- All concrete shall be cured in accordance with Spec. 2531.362 "Membrane Curing Method". The material shall meet Specification 3254 except as noted in Specification 2301.3M regarding extreme surface cure.
- Cold applied silicone joint and crack sealer (Dow 888 or equal; Weight = 12.4 lbs./gal.) shall be tooled into the transverse joints and cracks by an appropriate device approved by the engineer. Concrete joint and crack sealer Spec. 3723 or an approved equal shall be used for sealing longitudinal joints. Spec. 3723 joint sealer shall be placed flush to 1/8" below the top of the concrete surface.
- Any damage to any in-place roadway structure or appurtenance by the contractor's operations shall be repaired as directed by the Engineer at no cost to the State.
- For Type "C" full-depth joint repair listed as a lin. ft. pay item, any repair from 0 to 10 feet outside of the 3-foot minimum width shall be paid for as 2301.501 concrete pavement repair type "C" paid by the sq. yd. Type "C1" shall include all costs involving removal and replacement including the cost of the structural concrete. If the total length of the repair including the 3-foot minimum is greater than 15 feet, the first 3-foot shall be paid as type "C" lin.ft. and the remainder as pavement replacement type "D".
- The provisions of Specification 1907 shall be modified to the extent that when the actual usage of joint sealer material is less than specified, the surplus material shall remain the property of the contractor and he shall be paid 15 percent of the material cost in lieu of handling and transportation costs.
- The contractor shall be responsible for repairs that fail within one month following completion of that repair.
- Dowel bars shall be placed parallel within a tolerance of 1/8" in relation to the top of the planned pavement profile and the pavement centerline.
- After removal, if a Type "B" repair is changed by the Engineer to a Type "C" repair, the contractor shall be paid at a measured quantity of 40% of the Type "B" item plus the full cost for the Type "C" repair.
- The air content for grade 3017, 3018, 3027 and 3028 concrete shall be 6.5 plus or minus 1.5 percent. Specification 2461.44b shall be adjusted accordingly based on the 6.5 percent target value.
- The CA-B gradation in Table 3137-1 of the Specifications shall be modified to read 70 to 100% passing the #4 sieve.
- To ensure re-establishing cracks in their original locations for Type "B" repairs, parallel scribe their locations on the adjoining pavement outside the removal area prior to removal operations. The cracks shall be re-established at their original locations using a compressible material.

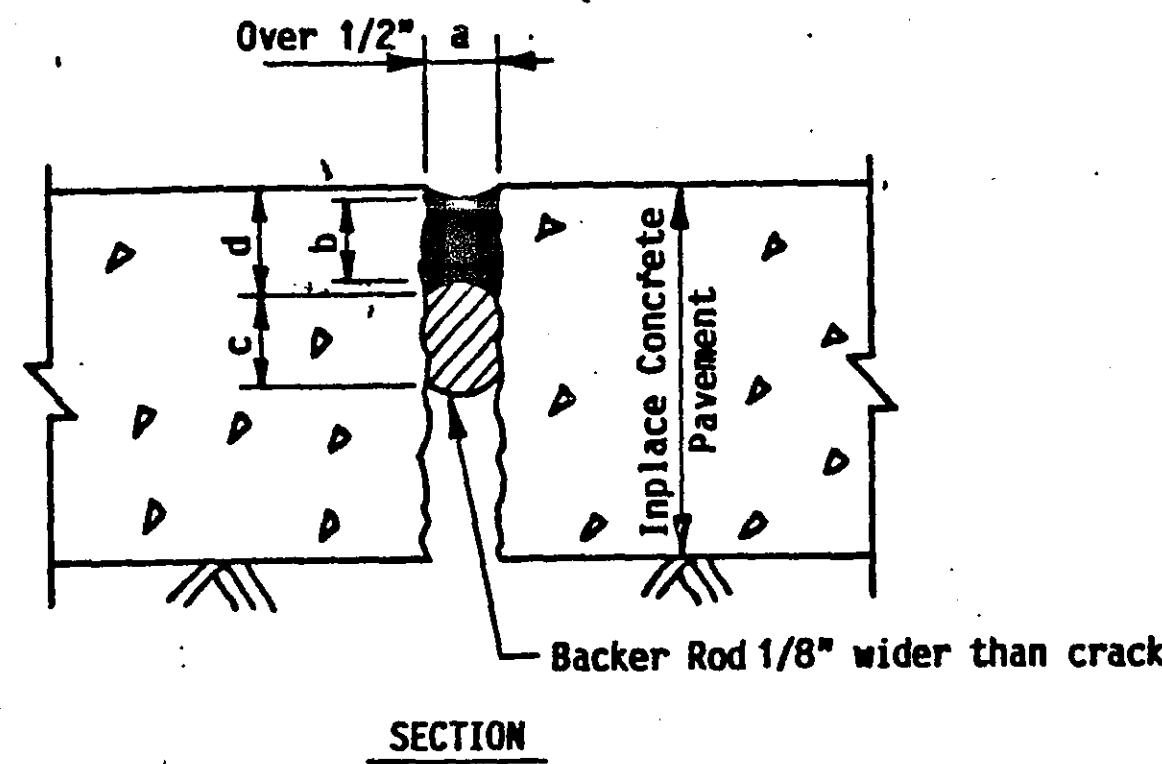
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CRACK REPAIR (TYPE A-4AS) MID-PANEL CRACKS GREATER THAN 1/2" (WITH BACKER ROD)

DESCRIPTION: CLEAN AND SEAL MID PANEL CRACKS OVER 1/2" IN WIDTH.



WORK TO BE DONE

1. Clean in-place crack by sandblasting and air blasting. Cracks shall be dust-free prior to installation of backer rod and sealer.
2. Place backer rod with 1/8" larger diameter than present crack opening.
3. Seal joint with cold applied silicone joint and crack sealer.

BASIS OF PAYMENT

0301.604 Crack Repair (Type A-4AS) Lin. Ft.
0301.602 Seal Concrete Pavement Joint - Lb.

CRACK WIDTH INCHES	SEALANT BEAD THICKNESS INCHES	BACKER ROD DIAMETER INCHES	BACKER ROD PLACEMENT DEPTH INCHES
a	b	c	d
5/8	5/16	3/4	9/16
3/4	3/8	7/8	5/8
7/8	7/16	1	11/16
1	1/2	1-1/8	3/4
>1	1/2	1-1/4	3/4

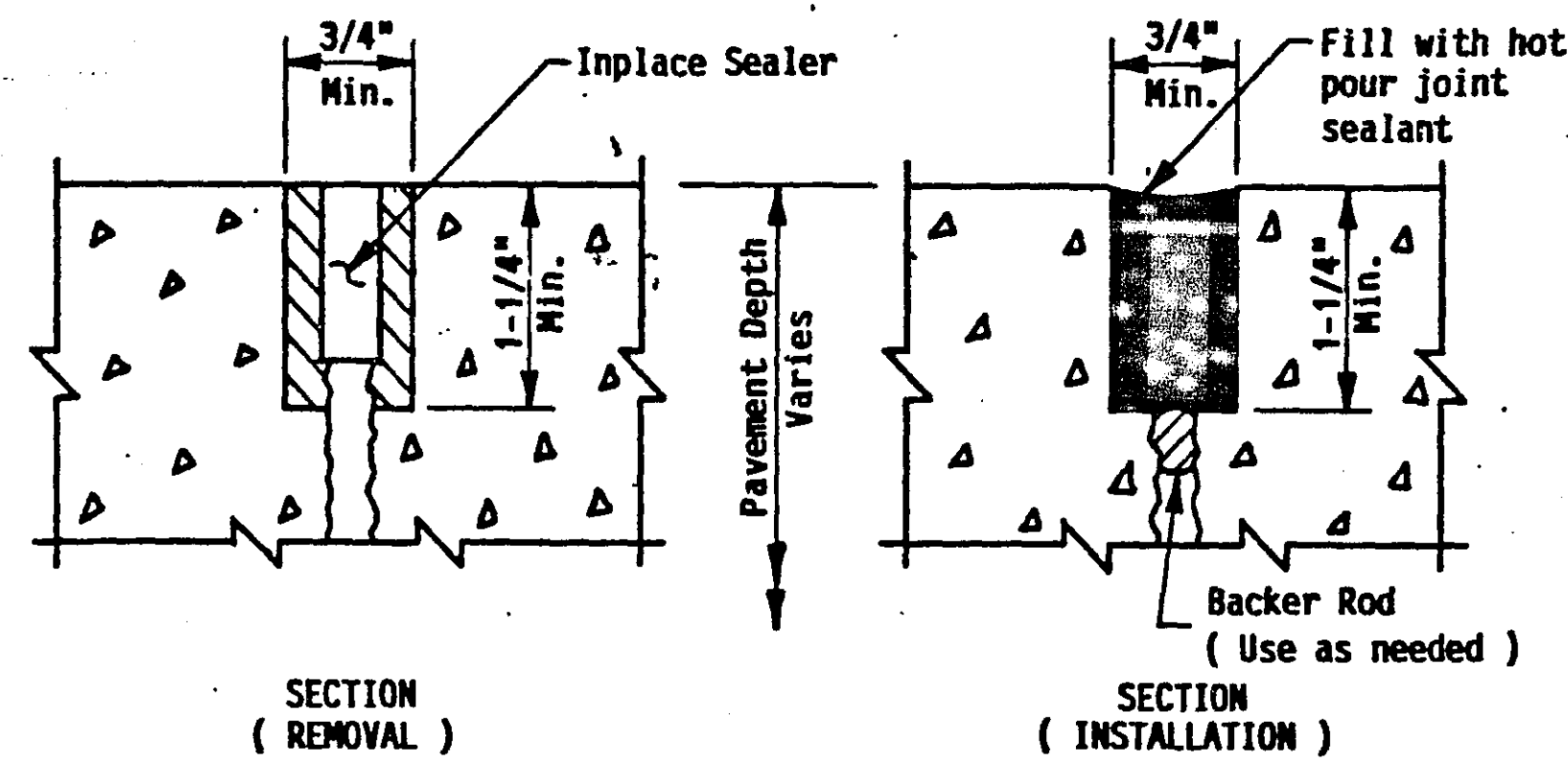
Volumes will vary depending on crack irregularities, tooling, backer rod placement and waste.

DATE: January, 1986
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LONGITUDINAL JOINT REPAIR (TYPE A-5)

DESCRIPTION: CLEAN, SAW AND SEAL LONGITUDINAL PAVEMENT JOINTS



WORK TO BE DONE

1. Remove in-place joint seal.
2. Saw joint to configuration shown.
3. Clean joint by sandblasting and air-blasting.
4. Place backer rod 1/8" larger than present crack opening, or approved bond breaker as needed.
5. Seal joint with hot pour joint sealer (Spec. 3723 Hot-Pour Elastic Type).

BASIS OF PAYMENT

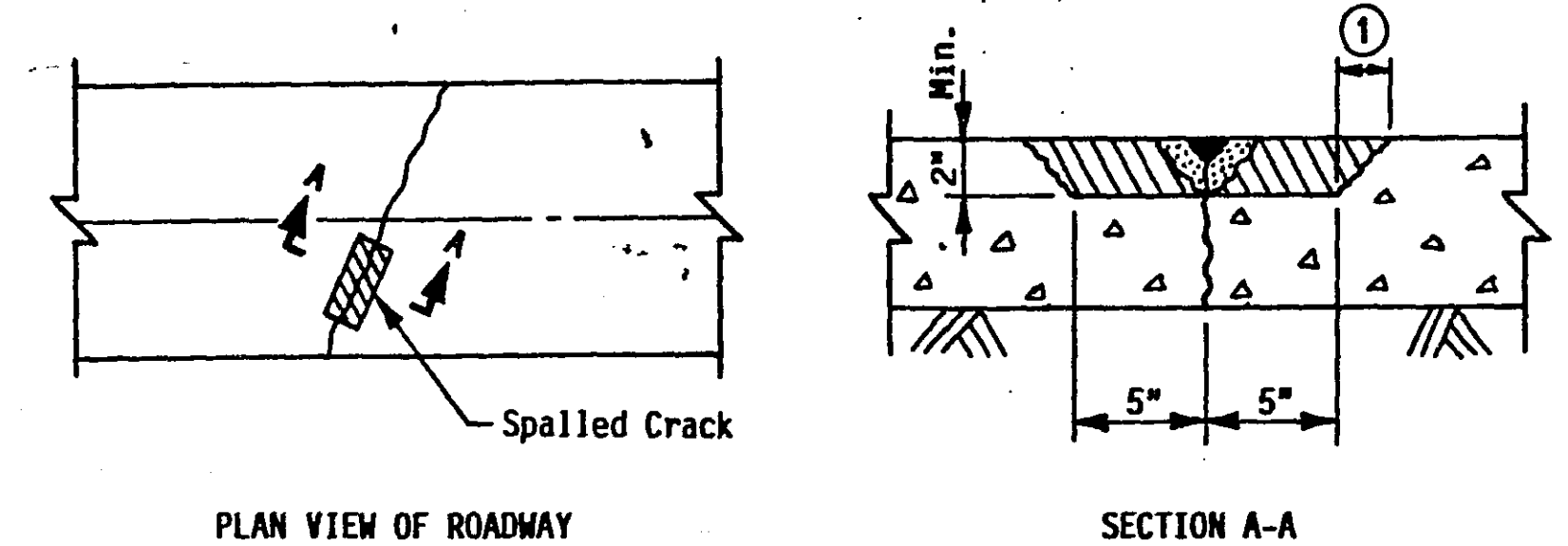
0301.604 Joint Repair (Type A-5) Lin. Ft.
0301.602 Seal Concrete Pavement Joints - Lb.

DATE: January, 1986
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SPALLED CRACK REPAIR (TYPE B-1)

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



WORK TO BE DONE

1. Define removal area a min. distance of 5" from each side of crack, 2" minimum in depth and 6 ft. minimum length. Sawcut for the sawing and chipping option to a 2" min. depth.
2. Remove all concrete to limits shown in detail including deteriorated concrete to a maximum of 1/2 pavement depth or top of dowels and 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 MC250 oil or an approved equal.
4. Furnish and place Concrete Mix No. 3018. Restore joints and cracks to the Configuration approved by the engineer. Finish to grade, slope and texture. Seal edges with grout and apply cure.
5. Seal cracks with cold applied silicone joint and crack sealer. (See Sealing Detail)

BASIS OF PAYMENT

Area outside 5" from crack and/or less than 6 lin. ft. shall be paid as spot surface repair type B-2A.
① Measurement for payment does not include taper section.

0301.604 crack repair (Type B-1) lin. ft.

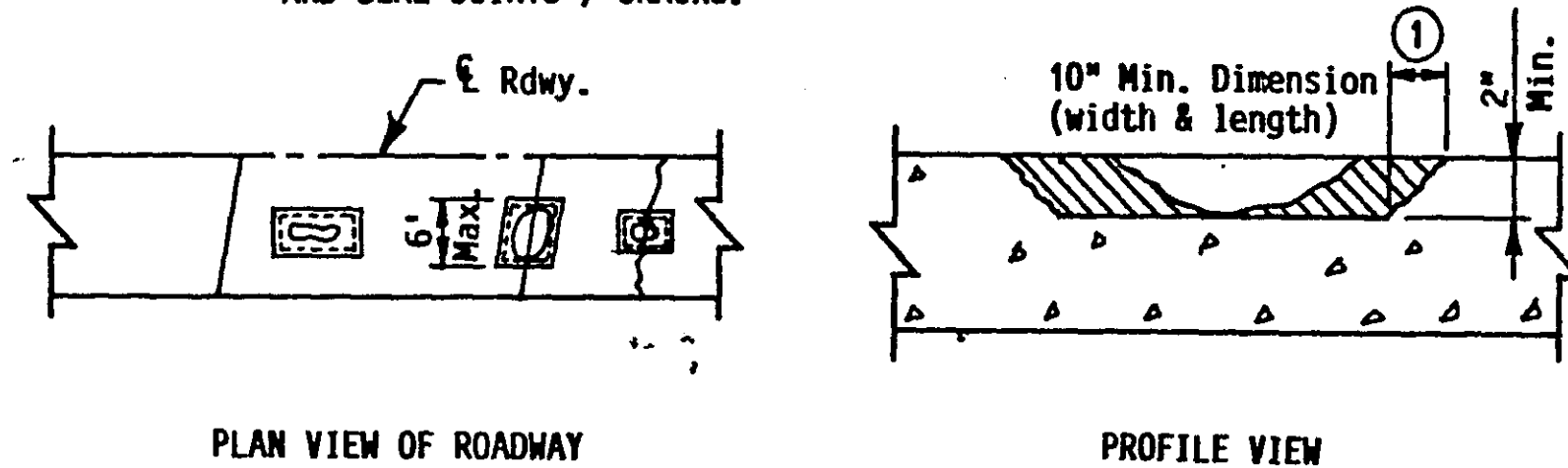
0301.602 Seal Concrete Pavement Joint - Lb.

DATE: January, 1986

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SPOT-SURFACE REPAIR (TYPE B-2A)

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



WORK TO BE DONE

1. Define removal area (less than 30 sq. ft. and/or less than 6 lin. ft. at crack or joint) and sawcut for the sawing & chipping option to a 2" minimum depth.
2. Remove all concrete to limits shown in detail including deteriorated concrete to a maximum of 1/2 pavement depth or top of dowels and 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 MC250 oil or an approved equal.
4. Furnish and place Concrete Mix No. 3018. Restore joints and cracks to the Configuration approved by the engineer. Finish to grade, slope and texture. Seal edges with grout and apply cure.
5. Seal cracks/joints with cold applied silicone joint and crack sealer. (See Sealing Detail).

BASIS OF PAYMENT

① Measurement for payment does not include tapered area. Minimum payment 1 sq. ft.

0301.609 Spot-surface repair (Type B-2A) sq. ft.

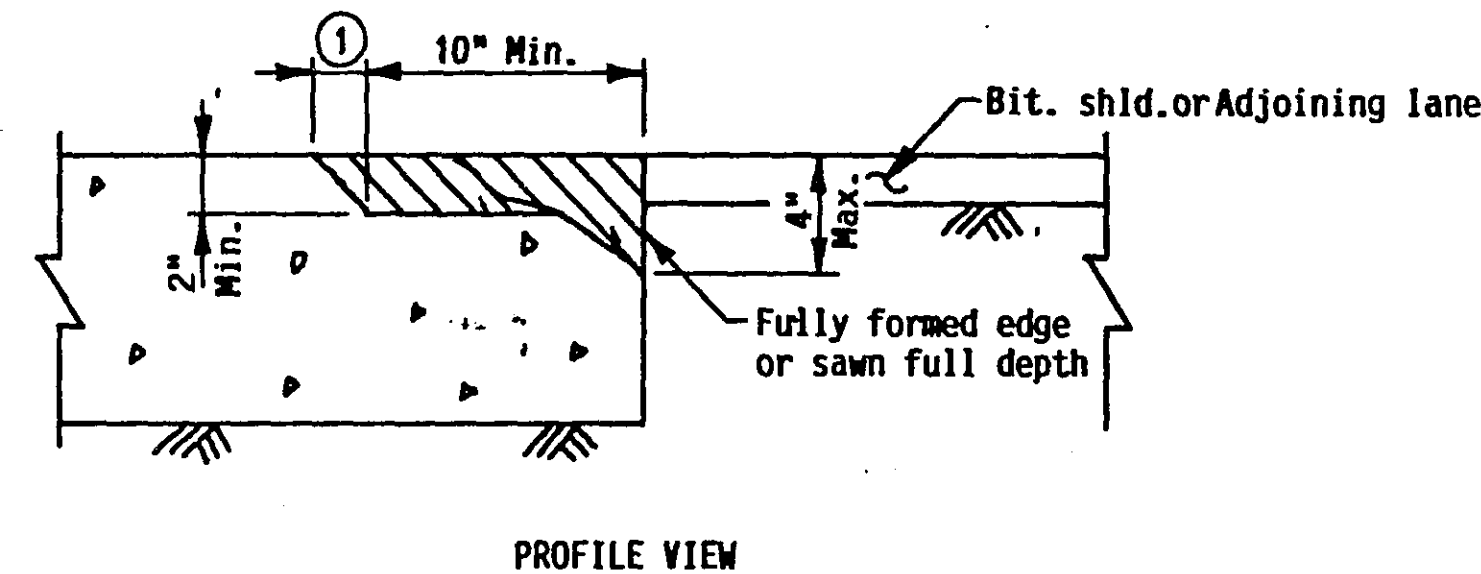
0301.602 seal concrete pavement joint LB.

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EDGE REPAIR (TYPE B-2C)

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



WORK TO BE DONE

1. Define removal area (10" minimum width, length measured longitudinally) at 2" minimum depth. Sawcut for the sawing & chipping option to a 2" minimum depth.
2. Remove all concrete to the limits shown in the details including deteriorated concrete to a 4" 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 MC250 oil or an approved equal.
4. Furnish and place Concrete Mix No. 3018. Restore joints and cracks to the Configuration approved by the engineer. Finish to grade, slope and texture. Seal edges with grout and apply cure.
5. Seal transverse joints and cracks with silicone sealer; longitudinal cracks and joints with hot-pour Spec. 3723 sealer or equal.

BASIS OF PAYMENT

Additional wider areas shall be paid as spot surface repair type B-2A. If less than 6 ft. long Pay as B-2A.

① Measurement for payment does not include taper section

0301.604 edge repair Type B-2C lin. ft.

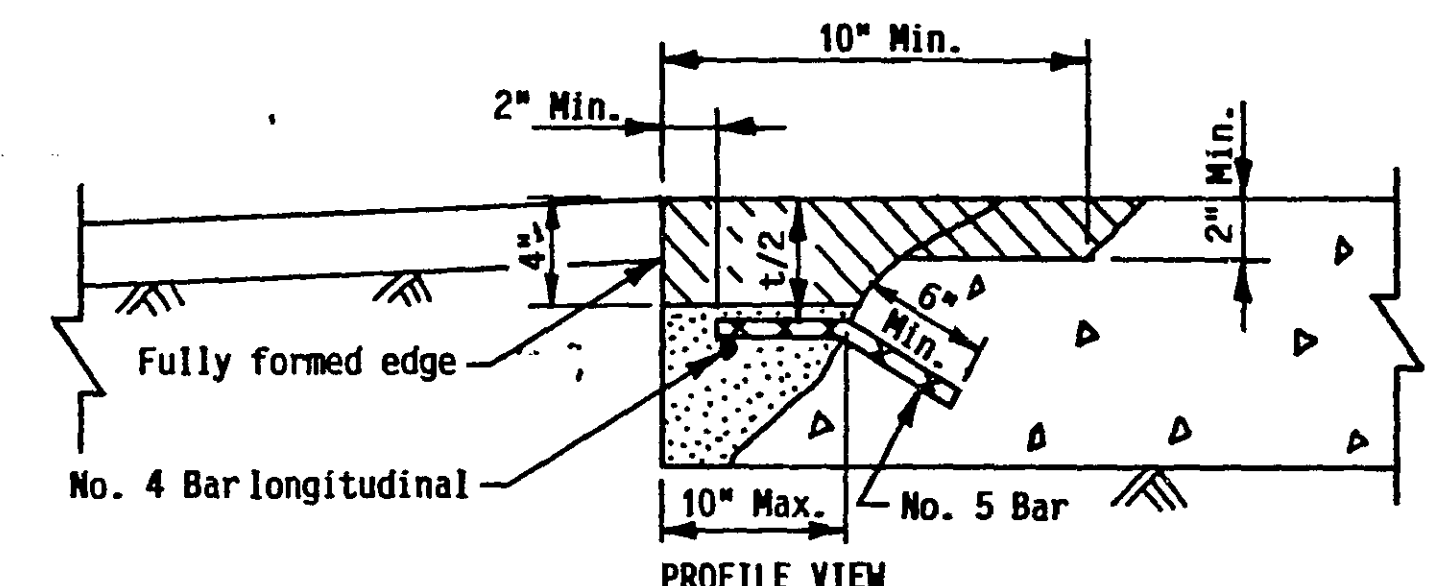
0301.602 seal concrete pavement joints LB.

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REPAIR-SPECIAL (TYPE B-2D)

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



WORK TO BE DONE

1. Define removal area (length measured longitudinally) at 4" below the in-place surface.
2. Remove all deteriorated concrete to limits shown in detail. Taper edges by chipping.
3. Clean exposed surface by sandblasting and airblasting, apply bonding grout immediately prior to concrete placement. Coat exposed surface of dowels, if any, with MC250 oil or an approved equal.
4. Furnish and install No. 5 reinforcement tie bars, 10" long at 24" center to center, minimum 1-bar. Place with an approved non-shrink grout. Place No. 4 reinforcement bar longitudinally, terminate 3" from transverse joints.
5. Furnish and place Concrete Mix No. 3018. Restore joints and cracks to the Configuration approved by the engineer. Finish to grade, slope and texture. Seal edges with grout and apply cure.
6. Seal transverse joints and cracks with silicone sealer; longitudinal cracks and joints with hot-pour Spec. 3723 sealer or equal.

BASIS OF PAYMENT

Pay quantity dimensions will be measured at 4" below the in-place surface. This payment will be in addition to edge repair Type-B-2C quantities for the same area.

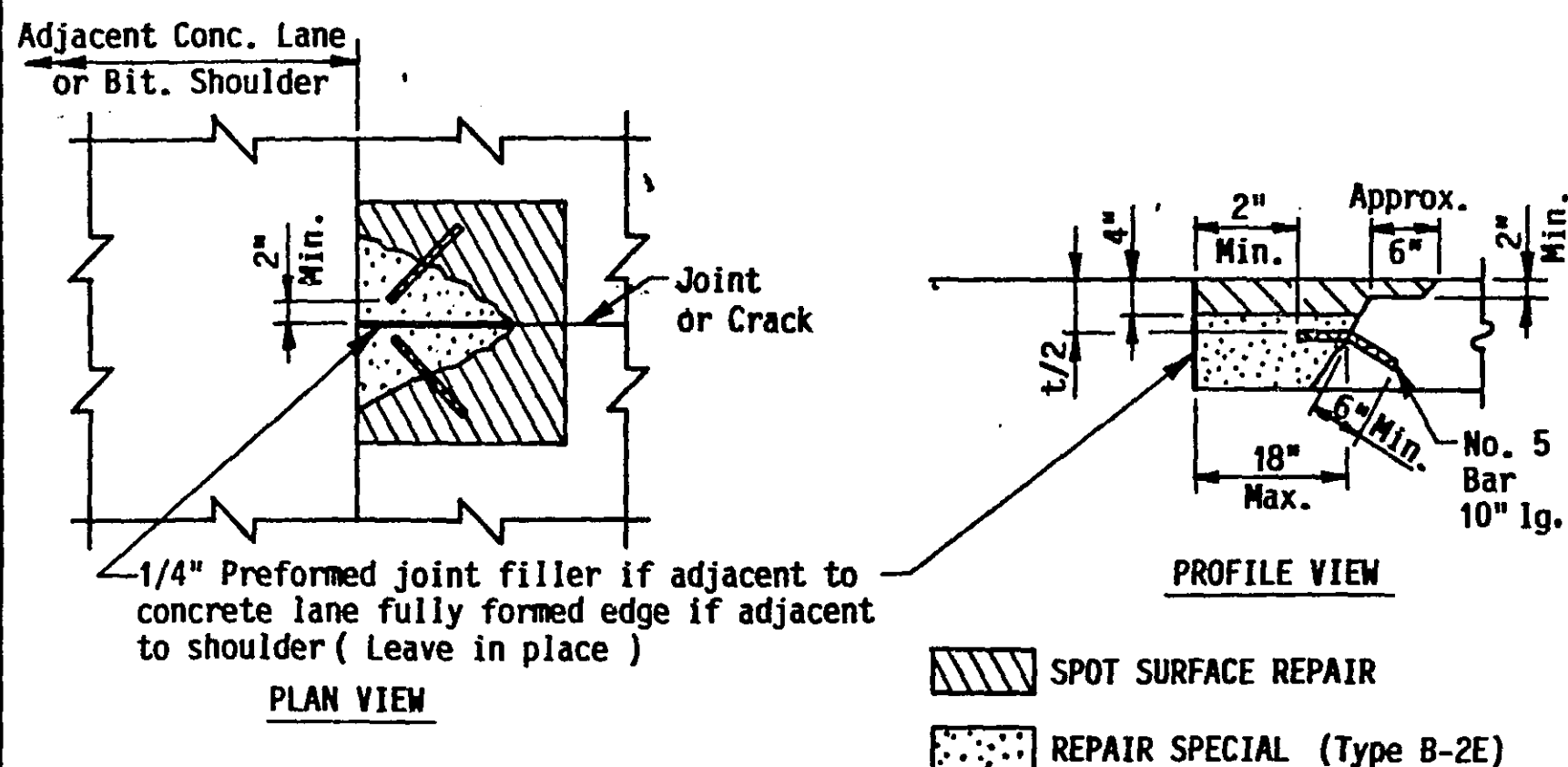
0301.604 repair Spec. Type B-2D Lin. Ft.

0301.602 seal concrete pavement joints - LB.
DATE: January, 1986

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REPAIR - SPECIAL (TYPE B-2E)

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



WORK TO BE DONE

1. Define removal, 4" below in-place surface.
2. Remove all deteriorated concrete to limits shown in detail. Taper edges by chipping.
3. Clean exposed surface by sandblasting and airblasting, apply bonding grout immediately prior to concrete placement. Coat exposed surface of dowels, if any, with MC250 oil or an approved equal.
4. Furnish and install No. 5 reinforcement tie bars as shown. Place with an approved non-shrink grout.
5. Furnish and place Concrete Mix No. 3018. Restore joints and cracks to the configuration approved by the engineer. Finish to grade, slope and texture. Seal edges with grout and apply cure.
6. Seal transverse joints and cracks with silicone sealer; longitudinal cracks and joints with hot-pour Spec. 3723 sealer or equal.

BASIS OF PAYMENT

Pay quantity dimensions will be measured at 4" below the in-place surface. This payment will be in addition to Type "B" repair quantities for the same area. Minimum payment 1 sq. ft.

0301.609 Repair Special (Type B-2E) Sq. Ft.

0301.602 Seal Concrete Pavement Joints - Lb.

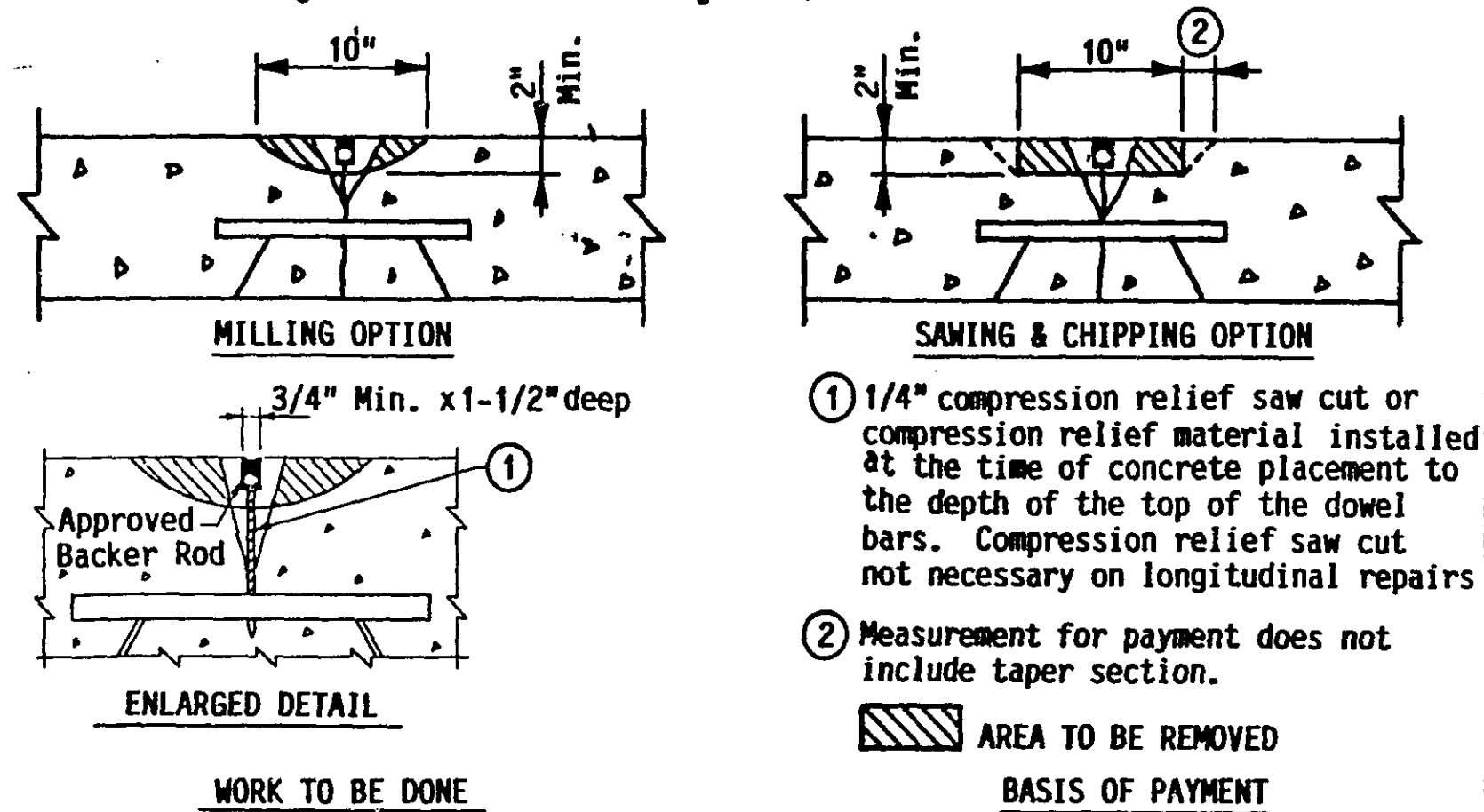
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JOINT REPAIR (TYPE B-3)

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

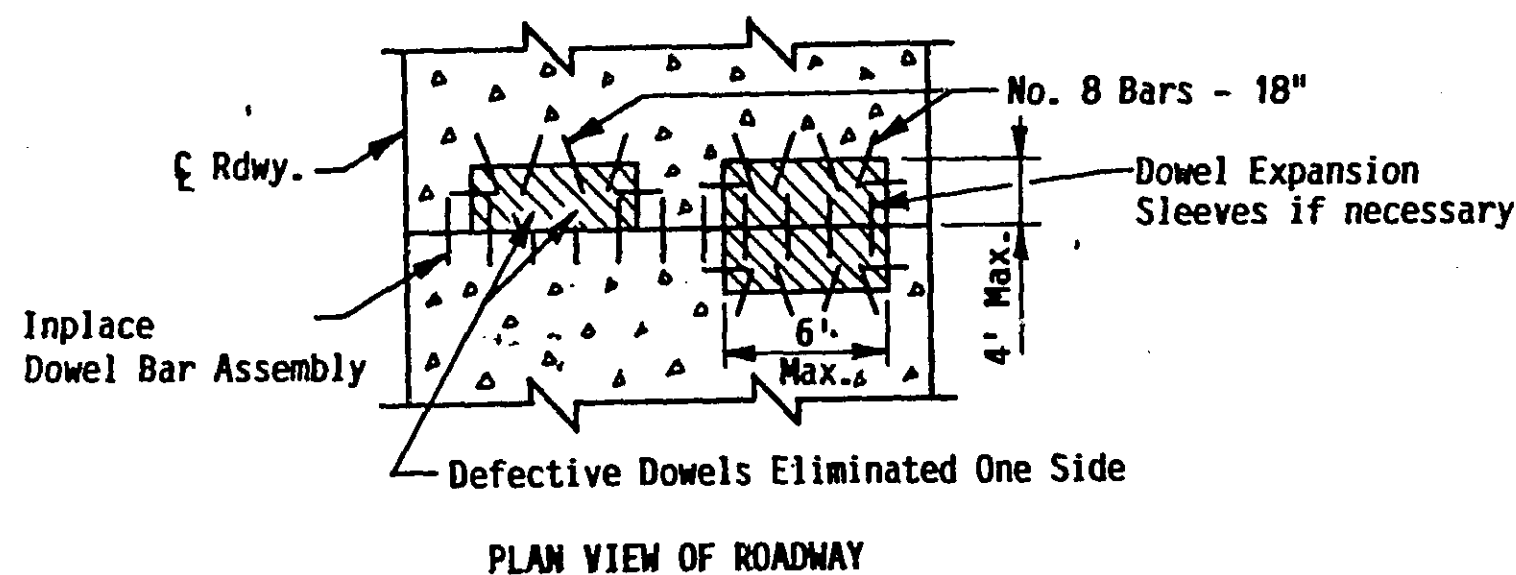
Note: These details apply to either longitudinal or transverse joints.



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SPOT FULL-DEPTH REPAIR (TYPE C-1)

DESCRIPTION: REMOVE CONCRETE, ELIMINATE AND/OR REPLACE DEFECTIVE DOWEL BARS, PLACE REINFORCING STEEL, FURNISH AND PLACE CONCRETE, SAW AND SEAL JOINTS.



1. Define removal area. Saw cut to a 2" min. depth. 4 ft. or 4 dowel bars max. width.
2. Remove concrete full depth (misaligned and badly deteriorated dowel bars should be removed). Restore in-place base.
3. Furnish and install No. 8 Reinf. tie bars 18" long at 12" C-C, skewed 20° from normal to joint. Place reinf. with approved non-shrink grout.
4. Place partial dowel basket if necessary.
5. Clean exposed surface by sandblasting and airblasting, apply bonding grout immediately prior to concrete placement. Coat exposed surface of dowels, if any, with MC250 oil or an approved equal.
6. Furnish and place Concrete Mix No. 3018. Restore joints and cracks to the original configuration as approved by the engineer. Finish to grade, slope and texture. Seal edges with grout and apply cure.
7. Seal joints with cold applied silicone joint and crack sealer. (See Sealing Detail)

0301.610 No. 8 tie bars and/or 1" dowel bars each

0301.609 Spot Full-depth joint repair sq. ft. (Type C-1)

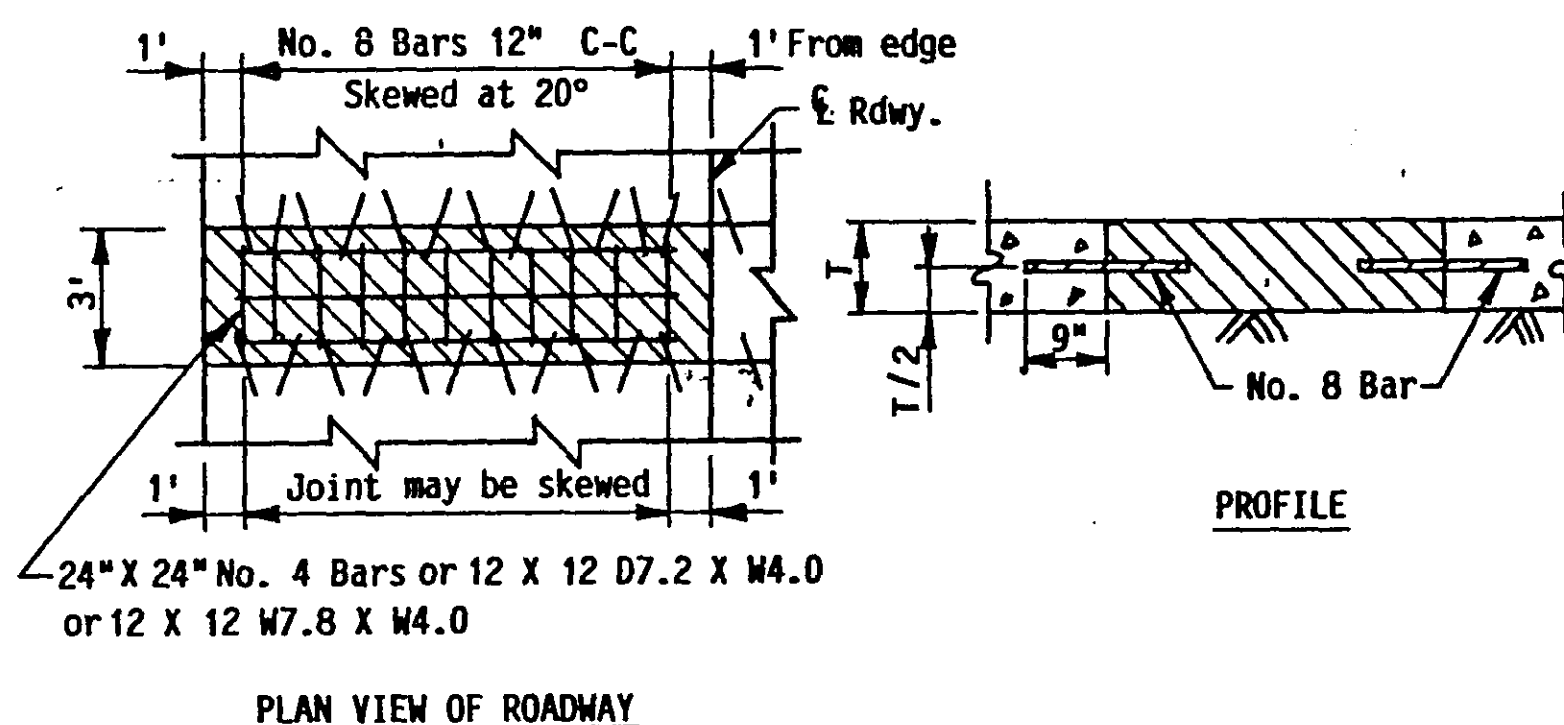
0301.602 seal concrete pavement joint - LB.

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DATE: January, 1986

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MID-PANEL REPAIR (TYPE C-2)

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



WORK TO BE DONE

1. Saw cut to full depth and remove concrete pavement. Restore in-place base.
2. Furnish and install no. 8 reinforcing tie bars 18" long at 12" C-C skewed 20° from normal to both joints. Place with approved non-shrink grout. Place reinforcing mesh or bars.
3. Clean surfaces of in-place concrete by sandblasting and airblasting. Apply bonding grout immediately prior to placing concrete.
4. Furnish and place concrete Mix No. 3018. Finish to required grade, slope, texture seal edges with grout and apply cure.
5. Re-establish longitudinal joints and cracks as directed by the Engineer.
6. Seal joints with concrete joint sealer, Spec. 3723 (Hot-Pour elastic type) or cold applied silicone joint and crack sealer.

BASIS OF PAYMENT

0301.604 Mid-Panel repair lin. ft. (Type C-2)

0301.602 Seal concrete pavement joint LB.

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