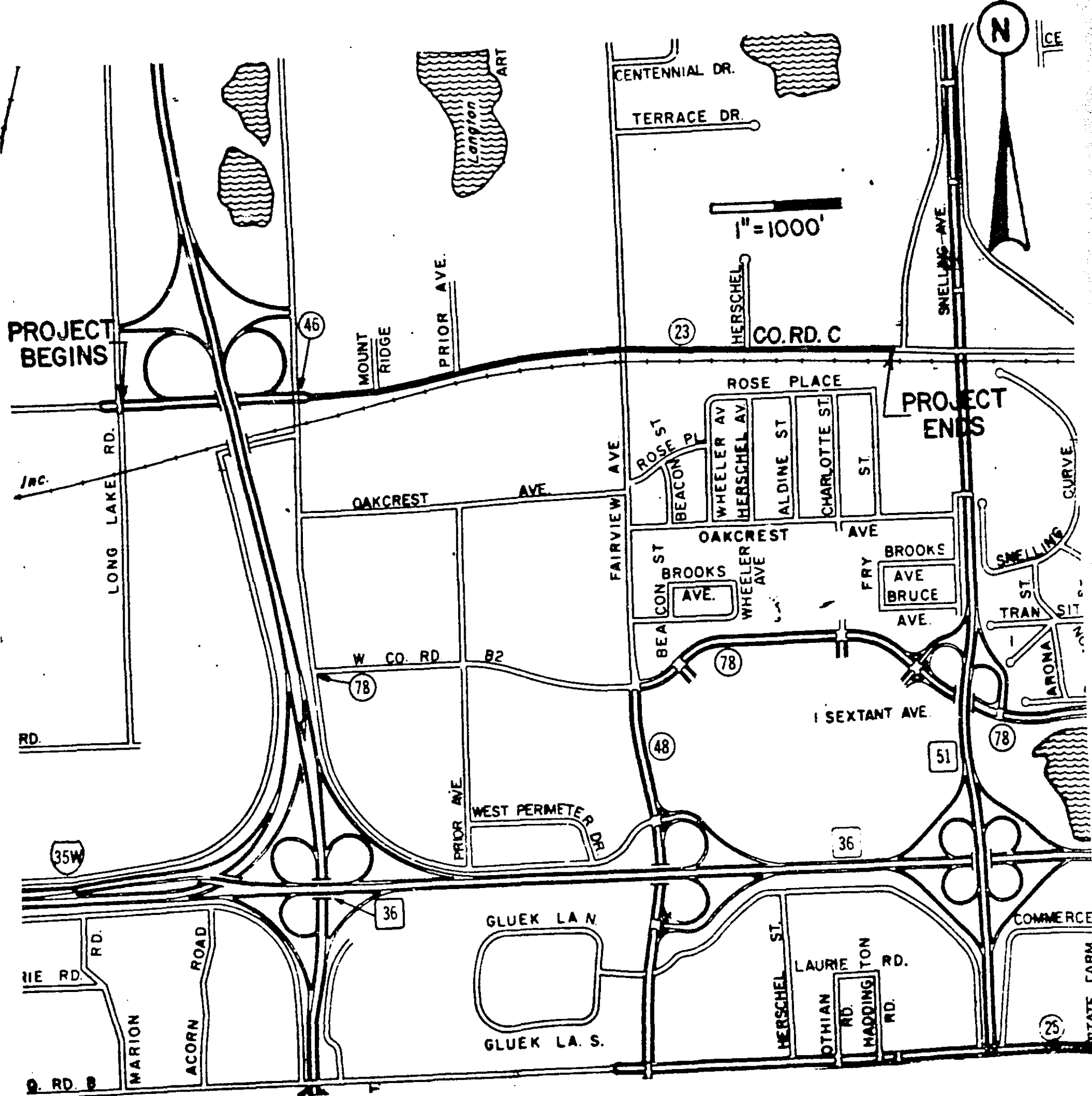


# CO. RD. "C"

LONG LAKE RD. TO  
544.58 FT. WEST OF E SNELLING AVE.



27-132

S.A.P. No. 62-623-26

Sheet No. 2 of 22 Sheets

PAVEMENT REPAIR TYPE D									
STATION	SIZE	PAVEMENT	MESH	E2D-1	CID-1	#B BARS	REBAR	CURB & GUTTER	
	W x L	3 Y.	5 Y.	L.F.	L.F.	EA.	POUND		
99+80	24X30	104	104			48			
107+00	195X12	260	260			48			
53+30	17X15	28	28			48		31	
57+75	24X31	83	83			48		26	
59+00	12X28	35	35			48			
79+00	24X8	21	21			48			
88+70	24X18	48	48			48		18	
TOTAL		654	654			368			

\*REMOVAL AND REPLACEMENT WILL BE DETERMINED IN THE FIELD BY THE ENGINEER. REPLACEMENT OF DAMAGED BLVD. AREAS WILL BE CONSIDERED INCIDENTAL TO THE WORK.

NOTE: CITY OF ROSEVILLE HAS AN EXISTING WATER GATE VALVE IN THE SOUTHEAST CORNER OF CLEVELAND AVE. AND COUNTY ROAD "C" BURIED UNDER CONCRETE PAVEMENT. THE CONTRACTOR SHALL BE PAID FOR A TYPE C REPAIR AROUND THIS VALVE. THE CITY WILL BE RESPONSIBLE FOR RAISING THE VALVE TO THE DESIRED ELEVATION.

27-132

S.A.P. NO. 62-623-26

Sheet No. 5 of 22 Sheets

Department of Public Works  
Ramsey County, Minnesota

Project: County Road C-Long Lake Road to Snelling Avenue  
Concrete Rehabilitation

## STATEMENT OF ESTIMATED QUANTITIES

Specification Number	Item	Unit	Quantities Estimated	Final
2021.501	Mobilization	L.S.	1	
2104.501	Remove Concrete Curb & Gutter	L.F.	225	
2211.503	Aggregate Base Placed, Class 5 (1)	C.Y.	200	
2301.501	Concrete Pavement Repair, Type CX	S.Y.	62	
2301.501	Concrete Pavement, Type D	S.Y.	654	
2301.521	Pavement Reinf., Type 12x12 D5.8xW4.0 (4)	S.Y.	654	
2301.529	Reinforcement Bars	Pound	601	
2301.531	Expansion Joints, Design E2D-1 (2)	L.F.	240	
2301.536	Dowel Bar Assemblies (2)	L.F.	96	
2301.541	Integritant Curb, Design B6	L.F.	15	
0301.602	Seal Concrete Pavement Joint	Pound	12,096	
0301.604	Crack Repair (Type A-3)	L.F.	2,185	
0301.604	Crack Repair (Type A-4A)	L.F.	3,300	
0301.604	Joint Repair (Type A-1)	L.F.	7,200	
0301.604	Longitudinal Joint Repair (Type A-5)	L.F.	6,100	
0301.604	Crack Repair (Type B-1)	L.F.	30	
0301.604	Contraction Joint (Special) (Type C-3AS)	L.F.	24	
0301.604	Edge Repair (Type B-2C)	L.F.	672	
0301.604	Repair Special (Type B-2D)	L.F.	100	
0301.604	Joint Repair (Type B-3)	L.F.	265	
0301.604	Saw Concrete Joints (3)	L.F.	100	
0301.604	Mid-Panel Repair (Type C-2)	L.F.	24	
0301.604	Contraction Joint Repair (Type C-3A)	L.F.	600	
0301.604	Expansion Joint Repair (Type C-3B)	L.F.	240	
0301.609	Spot Surface Repair (Type B-2A)	S.F.	1,117	
0301.609	Spot Full-Depth Repair (Type C-1)	S.F.	40	
0301.610	No. 8 Reinforced Tie Bar & 1" Dowel Bars	Each	368	
2531.501	Concrete Curb & Gutter, Design B6-18	L.F.	225	
0565.602	Loop Detector 6 x 40	Each	4	
0565.602	Loop Detector 6 x 20	Each	1	

27-132

S.A.P. No. 62-623-26

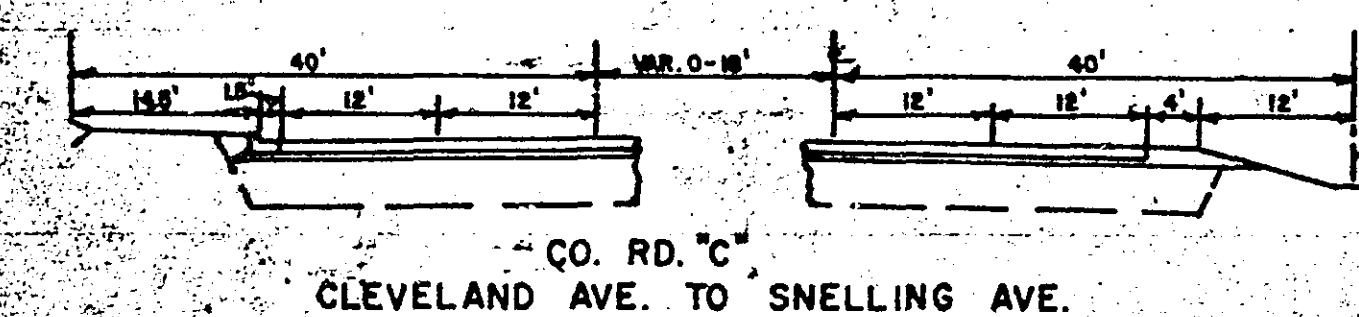
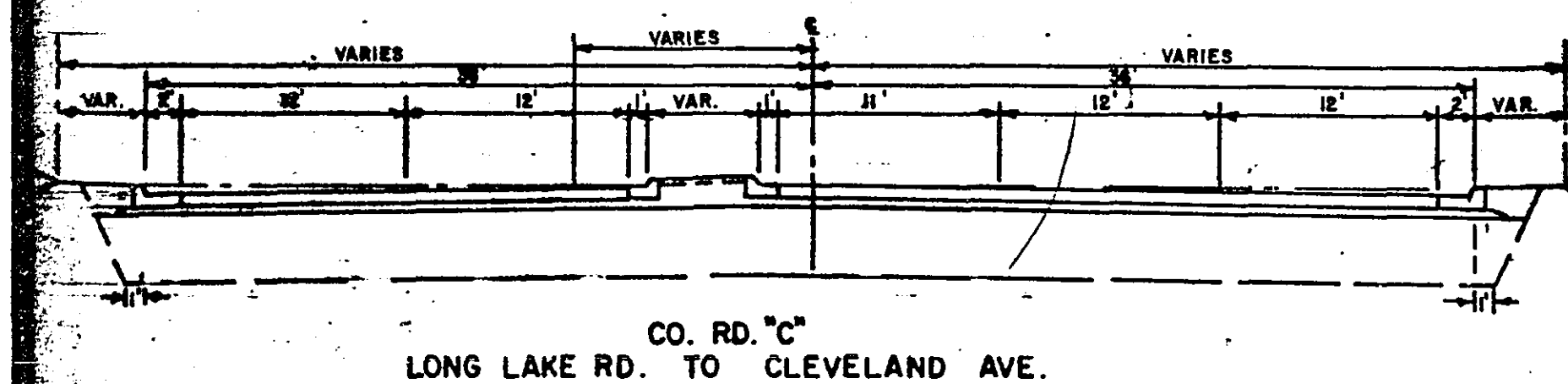
Sheet No. 3 of 22 Sheets

## STATEMENT OF ESTIMATED QUANTITIES NOTES

- COMPUTED AT 3" DEPTH FOR ENTIRE AREA OF PAVEMENT REPLACEMENT.
- FOR PAVEMENT REPLACEMENT AREAS ONLY.
- FOR USE ON EXISTING PAVEMENT ONLY.
- OR 12x12 W6.2 x W4.0 CONTRACTOR MAY ALSO USE AN APPROVED BAR REINFORCEMENT.

STANDARD PLATES	
PLATE NO.	DESCRIPTION
0004 A	SPECIFICATION REFERENCE TO STANDARD PLATES
1018 C	CONCRETE PAVEMENT WITH STEEL FABRIC REINF.
1100 N	EXPANSION JOINTS
1103 I	TYPICAL DOWEL BAR ASSEMBLY
1120 R	CONTRACTION JOINTS
1140 R	LONGITUDINAL JOINTS
8000 H	STANDARD BARRICADES
8130 D	SAWCUT LOOP DETECTORS

## TYPICAL SECTIONS



27-132

S.A.P. NO. 62-623-26

Sheet No. 4 of 22 Sheets

## CONSTRUCTION NOTES

THIS WORK SHALL MEET THE PROVISIONS OF SPECIFICATION 2301 EXCEPT AS MODIFIED HEREIN:

1. 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 BRUSH) INTO THE INPLACE CONCRETE. GROUT SHALL BE MIXED BY MECHANICAL MEANS. IF THE GROUT WHITENS, SANDBLAST AND REGROUT.

2. CONCRETE SHALL HAVE THE MAXIMUM DOSAGE RATE OF APPROVED WATER REDUCER (TYPE A) ADDED TO GRADE 3018 CONCRETE FOR TYPE "B" REPAIRS AND TO GRADE 3032H CONCRETE 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 "D" REPAIRS 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 MAY BE OPEN TO TRAFFIC IN 4 HOURS, TYPE "C" IN 8 HOURS, AND TYPE "D" IN 24 HOURS WITH THE THESE DOSAGE RATES. 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).

3. CONCRETE FOR TYPE B PARTIAL DEPTH REPAIRS SHALL NOT BE PLACED AT AIR TEMPERATURES BELOW 50 DEGREES F.

4. TAPERING OF THE EDGES OF TYPE "B" PARTIAL DEPTH REPAIRS WILL NOT BE REQUIRED WHERE REMOVAL IS ACCOMPLISHED BY MILLING, EITHER TRANSVERSELY OR LONGITUDINALLY.

5. SAW ADJOINING SLAB FULL-DEPTH 4" WIDE AND REMOVE CONCRETE PRIOR TO INSTALLING A FULL-DEPTH, FULL-WIDTH REPAIR. PAYMENT SHALL BE MADE UNDER BID ITEM "RELIEF CUT".

6. MISALIGNED DOWEL BARS AND THOSE WITH OVER 40 PERCENT CROSS-SECTION LOSS SHALL BE BURNED OFF OR OTHERWISE SEVERED. IF THIS INVOLVES MORE THAN 3 ADJACENT DOWELS, REMOVE AND REPLACE THE DOWELS USING THE APPROPRIATE REPAIR DETAIL. THE SHAPE OF PARTIALLY DETEIORATED DOWEL BAR SURFACES SHALL BE RESTORED IN A METHOD APPROVED BY THE ENGINEER.

7. NON-SHINK GROUT USED FOR BONDING REINFORCING TIE BARS AND DOWEL BARS TO INPLACE CONCRETE SHALL BE FULLY SET PRIOR TO PLACING CONCRETE FOR ALL REPAIRS. EPOXY COATING IS REQUIRED ON TIE BARS, DOWEL BARS AND REINFORCING STEEL.

27-132

S.A.P. No.

Sheet No. 6 of 22 Sheets

- 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 BROOKING IN THE LONG DIMENSION DIRECTION OF THE REPAIR.
- ALL CONCRETE SHALL BE CURED IN ACCORDANCE WITH SPEC. 2531.3G2 "MEMBRANE CURING METHOD". THE MATERIAL SHALL MEET SPECIFICATION 3754 EXCEPT AS NOTED IN SPECIFICATION 2301.3M REGARDING EXTREME SERVICE CURE.
- CONCRETE JOINT AND CRACK SEALER, SPEC. 3720 (NOT POURED SOFT ELASTIC TYPE) SHALL BE LEFT 1/8" PLUS OR MINUS 1/16" BELOW THE TOP OF THE CONCRETE SURFACE.
- ANY DAMAGE TO THE INPLACE SHOULDERS AND PAVEMENT BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED AS DIRECTED BY THE ENGINEER AT NO COST TO THE COUNTY.
- FOR TYPE "C" FULL-DEPTH JOINT REPAIR LISTED AS A LTM. 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 "CX" PAID BY THE SO. YD. TYPE "CX" 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 13 FEET, THE FIRST 3-FEET SHALL BE PAID AS TYPE "C" LTM. 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 DUE TO POOR WORKMANSHIP FOR THE DURATION OF THE CONTRACT.
- DOWEL BARS SHALL BE PLACED PARALLEL WITHIN A TOLERANCE OF 1/8 INCH 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 FOR 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 2461.4A4b SHALL BE ADJUSTED ACCORDINGLY BASED ON THE 6.5 PERCENT TARGET VALUE.
- THE CA-8 GRADATION IN TABLE 3137-1 OF THE SPECIFICATIONS SHALL BE MODIFIED TO READ 70 TO 95 % PASSING THE #4 SIEVE.

27-132

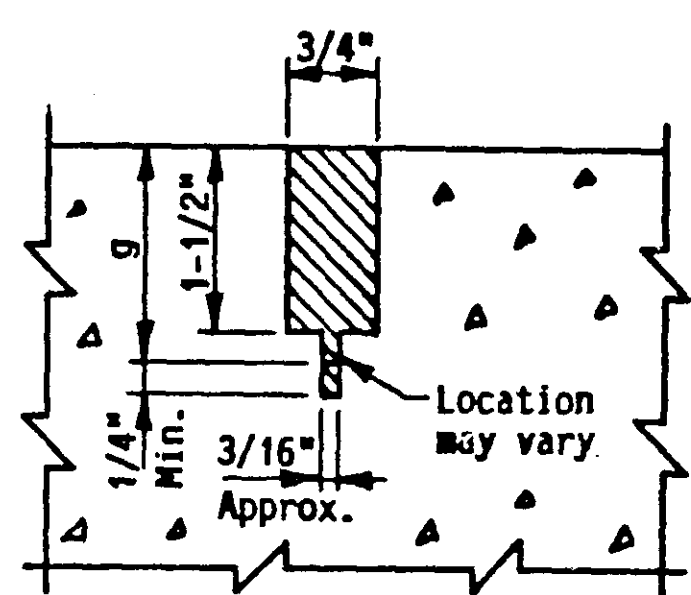
S.A.P. No.

Sheet No. 7 of 22 Sheets

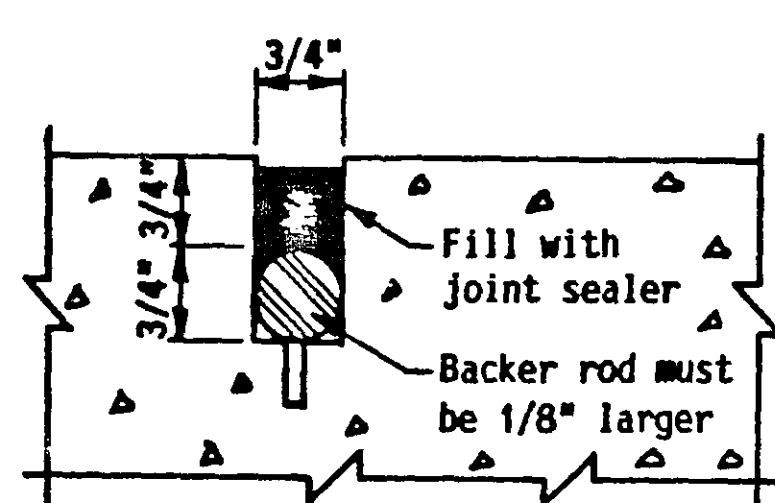


## JOINT REPAIR (TYPE A-1)

DESCRIPTION: CLEAN SAW AND SEAL TRANSVERSE PAVEMENT JOINTS.



SECTION  
(Showing Removal)



SECTION  
(Showing Installation)

AREA TO BE REMOVED BY SAWING

### WORK TO BE DONE

1. Remove Inplace Seal
2. Saw joint to configuration shown
3. Clean joint by sandblasting and air-blasting, place backer rod.
4. Seal joint with hot pour joint sealer (Spec. 3720)

### BASIS OF PAYMENT

0301.604 Joint repair  
(Type A-1) lin. ft.

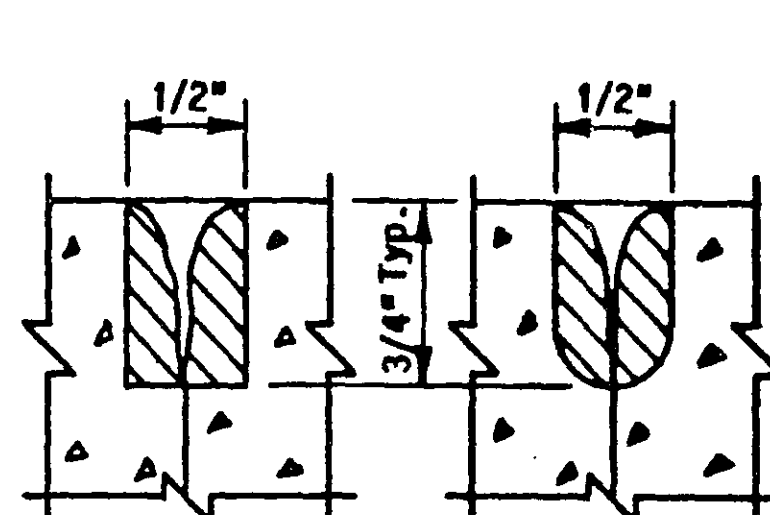
0301.602 seal concrete  
pavement joint - Lb.

DATE: January, 1985  
27-132

S.A.P. No. Sheet No. 8 of 22 Sheets

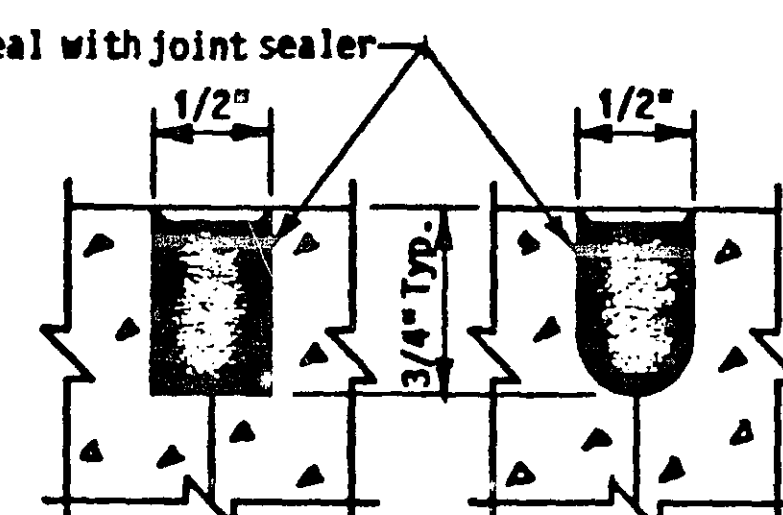
## CRACK REPAIR (TYPE A-3)

DESCRIPTION: SAW OR ROUT AND SEAL MID PANEL CRACKS.



SECTION  
REMOVAL  
(Sawing)

SECTION  
REMOVAL  
(Routing)



SECTION  
INSTALLATION  
(Sawing)

SECTION  
INSTALLATION  
(Routing)

AREA TO BE REMOVED  
BY SAWING OR ROUTING

### WORK TO BE DONE

1. Saw or rout and clean as shown
2. Clean crack by sandblasting and air-blasting.
3. Seal crack with concrete joint sealer (Spec. 3720) (Hot poured elastic type)

### BASIS OF PAYMENT

0301.604 Crack Repair (Type A-3)  
Lin. Ft.

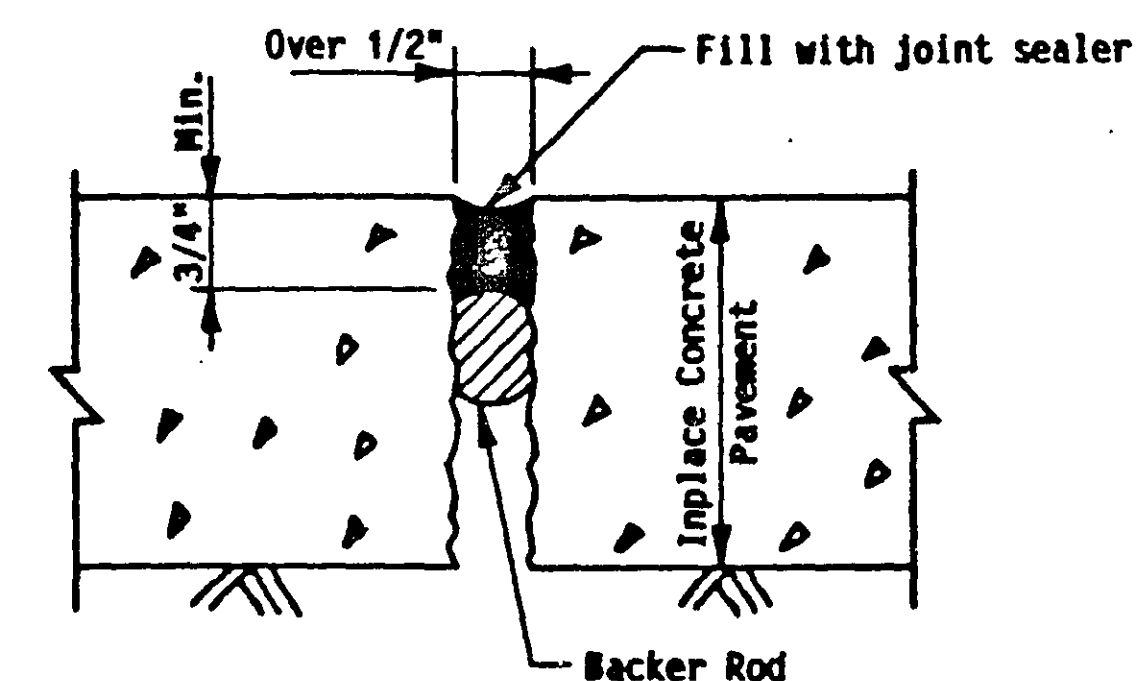
0301.602 Seal Concrete Pavement  
Joints - L.B.

27-132

S.A.P. No. Sheet No. 9 of 22 Sheets

## CRACK REPAIR (TYPE A-4A) HOT POUR SEALER MID-PANEL CRACKS GREATER THAN 1/2"

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



SECTION

### 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 crack with hot pour joint sealer (Spec. 3720).

### BASIS OF PAYMENT

0301.604 Crack Repair  
(Type A-4A) Lin. Ft.

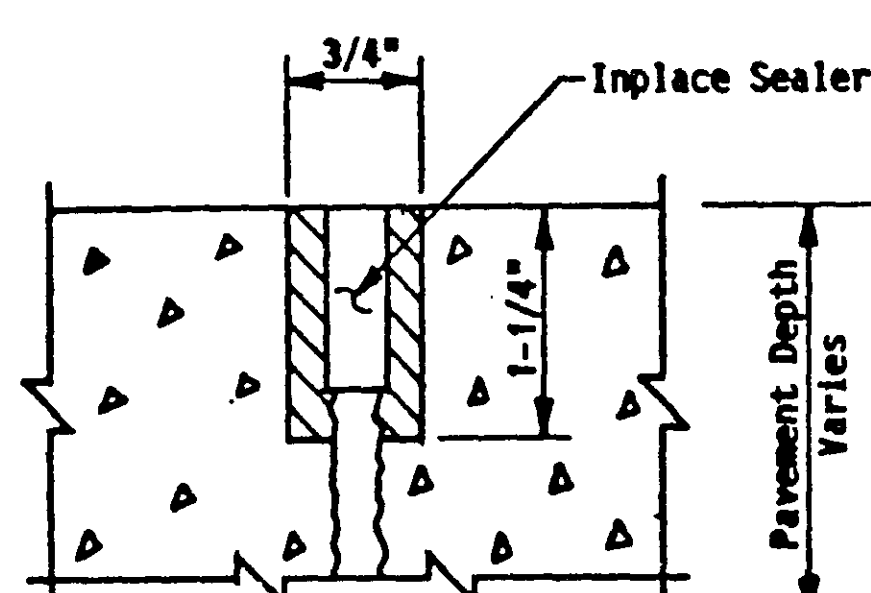
0301.602 Seal Concrete  
Pavement Joint - Lb.

27-132

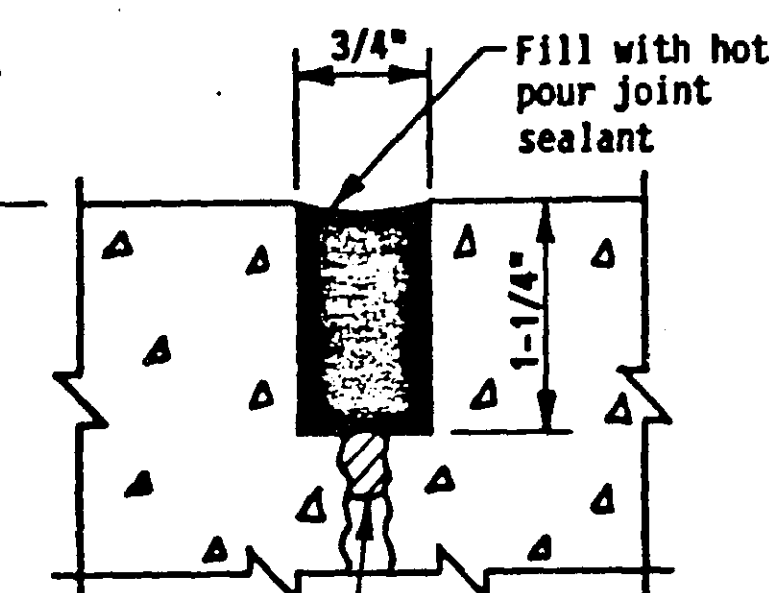
S.A.P. No. Sheet No. 10 of 22 Sheets

## LONGITUDINAL JOINT REPAIR (TYPE A-5)

DESCRIPTION: CLEAN, SAW AND SEAL LONGITUDINAL PAVEMENT JOINTS



SECTION  
(REMOVAL)



SECTION  
(INSTALLATION)

AREA TO BE REMOVED BY SAWING.

### WORK TO BE DONE

1. Remove Inplace 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. 3720 Hot-Poured Elastic Type).

0301.604 Joint Repair (Type A-5)  
Lin.Ft.

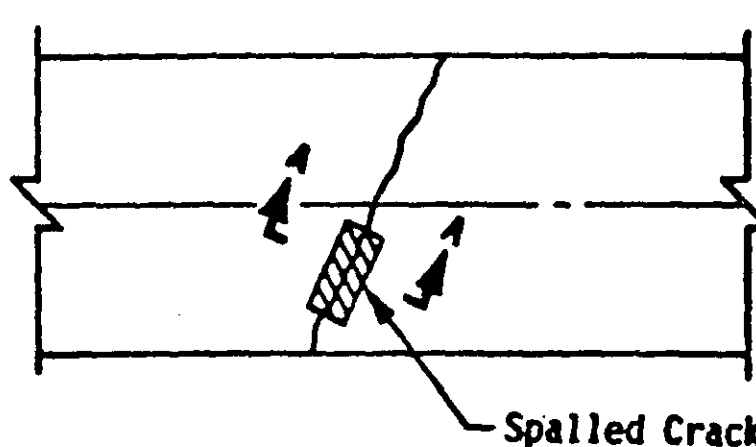
0301.602 Seal Concrete Pavement  
Joints - Lb.

27-132

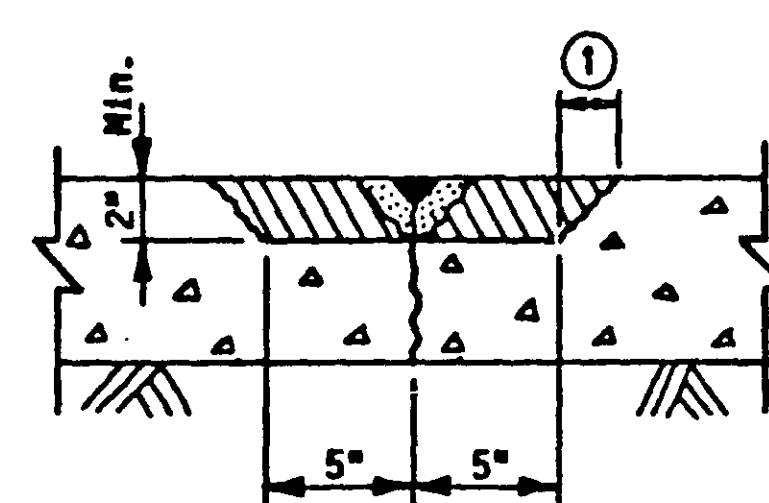
S.A.P. No. Sheet No. 11 of 22 Sheets

## SPALLED CRACK REPAIR (TYPE B-1)

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



PLAN VIEW OF ROADWAY



SECTION A-A

SPALLED AREA  
AREA TO BE REMOVED

### 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 air-blasting, 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 original configuration as approved by the engineer. Finish to grade, slope and texture. Seal edges with grout and apply cure.
5. Seal cracks with concrete joint sealer, Spec. 3720 (Hot-Poured Elastic Type).

### 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.

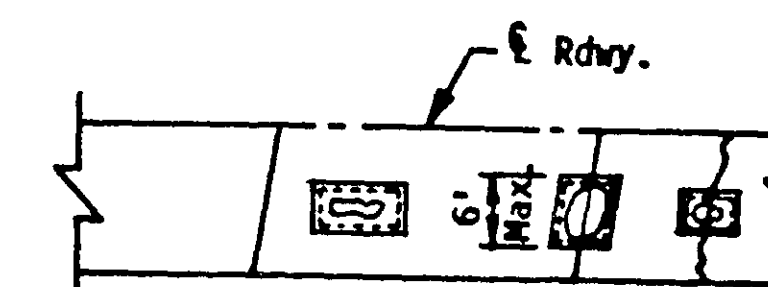
0301.602 Seal Concrete Pavement  
Joint - Lb.

DATE: January, 1985  
27-132

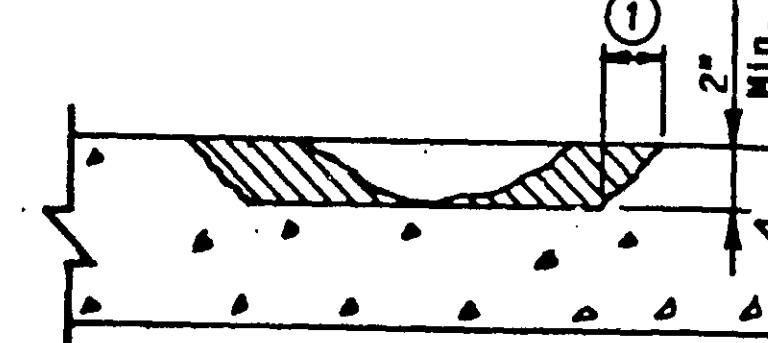
S.A.P. No. Sheet No. 12 of 22 Sheets

## SPOT-SURFACE REPAIR (TYPE B-2A)

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



PLAN VIEW OF ROADWAY



PROFILE VIEW

AREA TO BE REMOVED

### 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 air-blasting, 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 original configuration as approved by the engineer. Finish to grade, slope and texture. Seal edges with grout and apply cure.
5. Seal joints/cracks with concrete joint sealer, Spec. 3720 (hot-Poured Elastic Type).

### 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.

DATE: January, 1985  
27-132

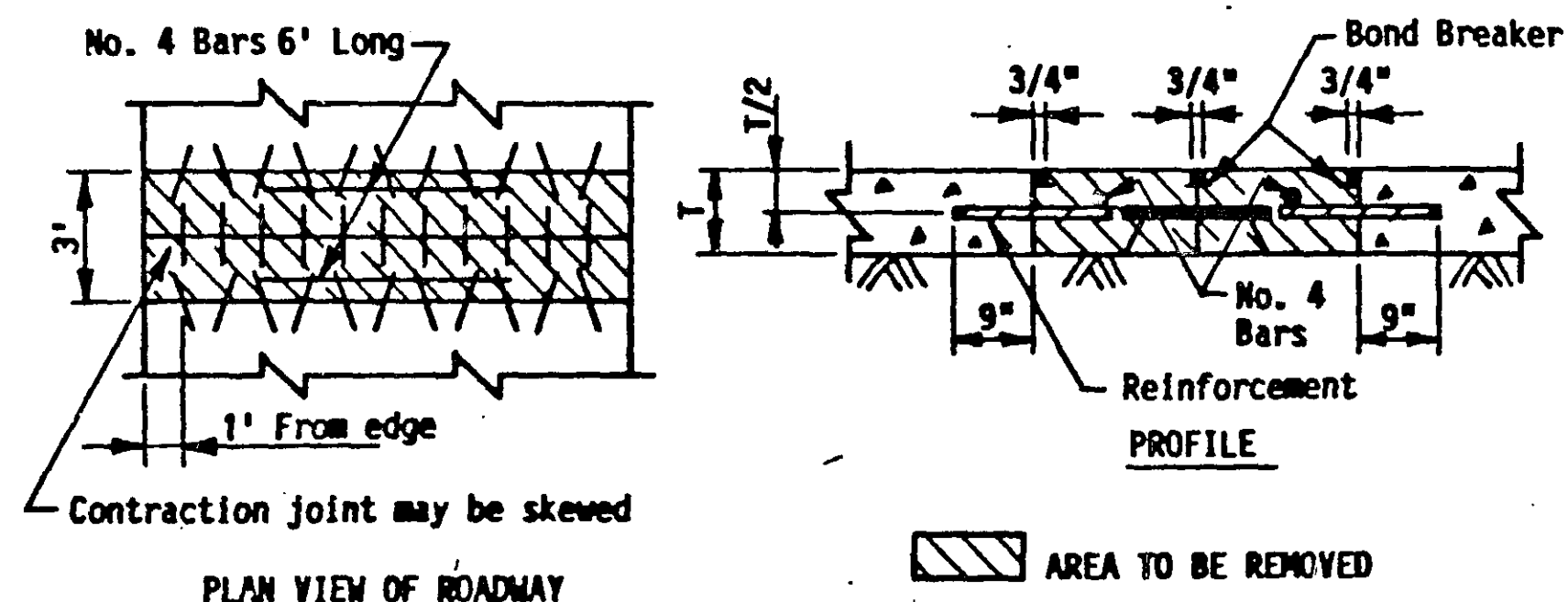
S.A.P. No. Sheet No. 13 of 22 Sheets





## CONTRACTION JOINT (SPECIAL) TYPE C-3AS

DESCRIPTION: REMOVE CONCRETE, PLACE REINFORCING STEEL, DOWEL BAR ASSEMBLY, 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 the normal to both joints. Place reinforcement with approved non-shrink grout. Place two No. 4 bars 6 ft. long as shown in detail.
3. Place contraction joint assembly, coat alternating ends of dowel bars with MC-250 or an 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 3A32HE Finish to required grade, slope, texture, and cure.
6. Form or saw joints to a min. of 3/4" deep.
7. Seal joints with concrete joint sealer, Spec. 3720 (Hot-pour elastic type).

0301.604 Contraction joint (special) Type C-3AS lin. ft.

0301.602 Seal Concrete pavement joint - LB.

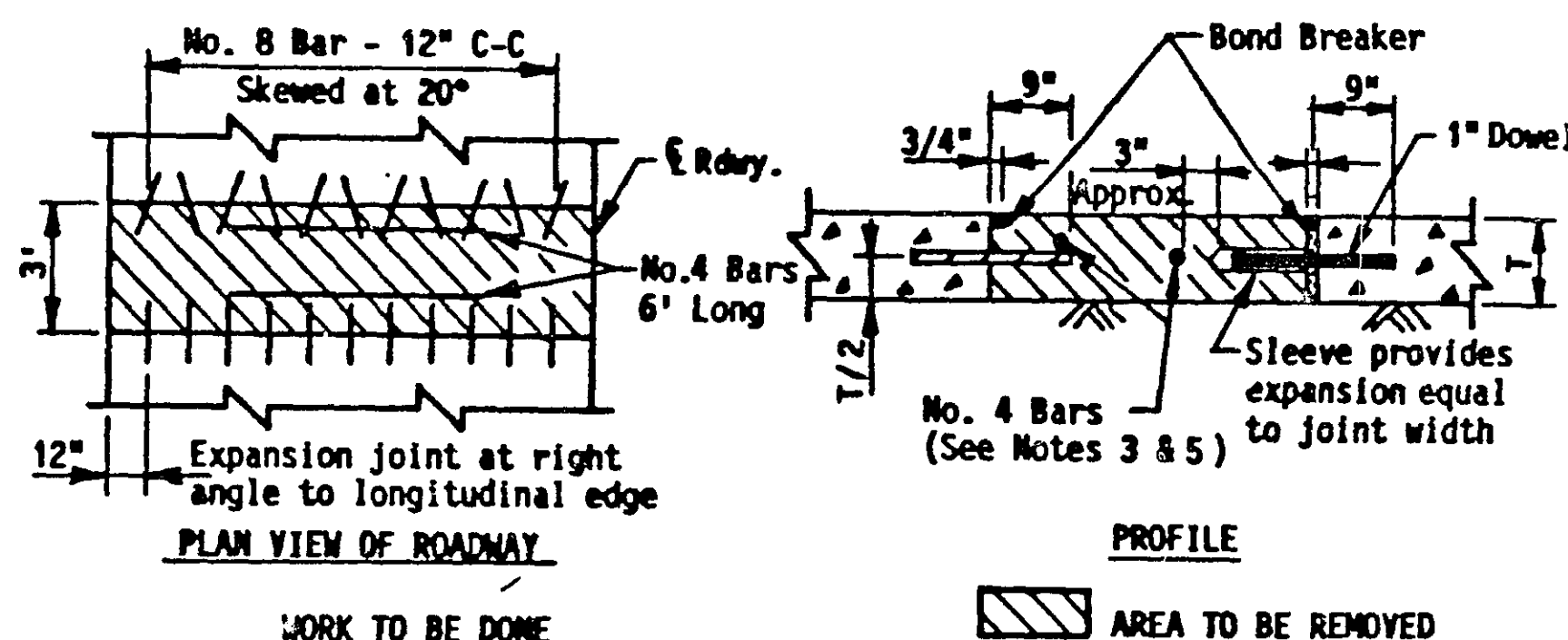
27-132 DATE: January, 1985

S.A.P. No.

Sheet No. 20 of 22 Sheets

## EXPANSION JOINT (TYPE C-3B)

DESCRIPTION: REMOVE CONCRETE, PLACE REINFORCING AND DOWELS, FURNISH & 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 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 3A32HE 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. Form or saw joints to a min. of 3/4" deep.
7. Seal with concrete joint sealer, Spec. 3720 (Hot-poured elastic type).

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

0301.602 seal concrete pavement joint - LB.

27-132

DATE: Jan., 1985

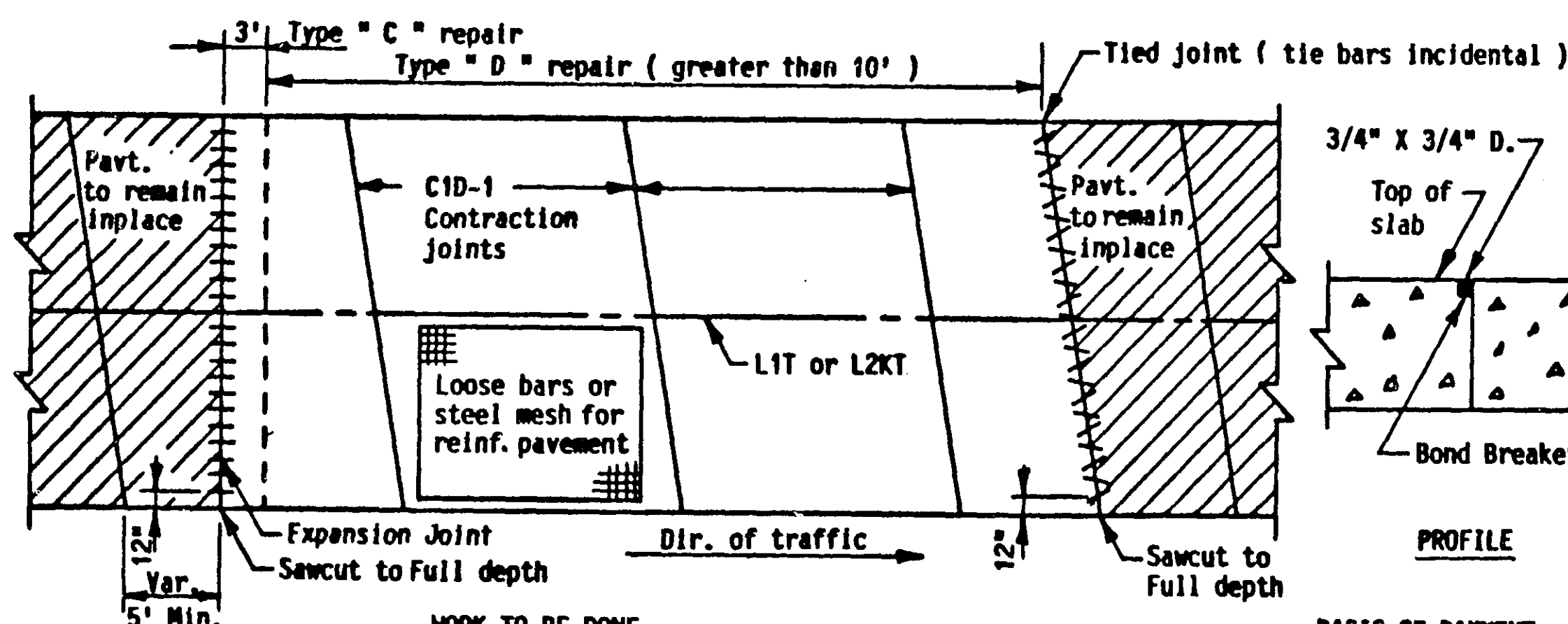
S.A.P. No.

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.

DATE: January, 1985



### 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 in-place concrete. Place with an approved non-shrink grout.
4. Place C1D-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. 3A32, 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 C1D-1 contraction joint.
8. Seal joints with concrete joint sealer, Spec. 3720 (Hot poured elastic type).

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.

S.A.P. No.

Sheet No. 22 of 22 Sheets

27-132

# RAMSEY COUNTY DEPARTMENT OF PUBLIC WORKS COUNTY ROAD "C" CONCRETE PAVEMENT REHABILITATION

*Draft Room*  
*Please micro*  
*Film*  
*VITY*

S.A.P. 62-623-26  
BETWEEN: LONG LAKE RD. AND 544.58 FT. WEST OF SNELLING AVE.

FEET MILES  
GROSS LENGTH 6065.4 1.15  
NET LENGTH 6065.4 1.15

BEGIN STA. 38+80.60 7 END STA. 99+46.00



## INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	LOCATION MAP
3-4	ESTIMATED QUANTITIES
5	TABULATIONS
6-7	CONSTRUCTION NOTES
8-22	DETAILS

## DESIGN DESIGNATION

	WEST CO. LINE TO CLEVELAND	CLEVELAND TO SNELLING
ADT (CURRENT YEAR)	14,800	12,000
ADT (FUTURE YEAR)	22,000	16,700
DHV		
D	50-50	
T (HCADT)	10%	
DESIGN SPEED	50 M.P.H.	40 M.P.H.
DESIGN LOAD	10 TON	8 TON

## GOVERNING SPECIFICATIONS

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

RECOMMENDED FOR APPROVAL *LKF* DATE *4-11-85*  
DESIGN ENGR.

RECOMMENDED FOR APPROVAL *PK* DATE *4-11-85*  
TRAF. ENGR.

RECOMMENDED FOR APPROVAL *PK* DATE *4-11-85*  
CONST. ENGR.

RECOMMENDED FOR APPROVAL *PK* DATE *4-11-85*  
COORDINATING ENGR.

RECOMMENDED FOR APPROVAL *Handwritten signature* DATE *5-17-85*  
COUNTY ENGINEER

APPROVED *Handwritten signature* DATE *6-17-85*  
CHAIRMAN OF THE RAMSEY COUNTY BOARD

APPROVED *Charles V. Hamrell* DATE *5-9-85*  
CITY OF ROSEVILLE

APPROVED \_\_\_\_\_ DATE \_\_\_\_\_

## MINNESOTA DEPARTMENT OF TRANSPORTATION

RECOMMENDED FOR APPROVAL *Delbert D. O'Neil* DATE *5-27-85*

RECOMMENDED FOR APPROVAL *Handwritten signature* DATE *5/27/85*  
DIST. STATE AID ENGR.

APPROVAL *Handwritten signature* DATE *6/2/85*

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 *4-11-85* REG. NO. *10729* ENGR. *Robert B. Parn*

27-132