

# COUNTY ROAD "J" - C.S.A.H. 32 - 85TH AVENUE N.E.

## THE CITIES OF SHOREVIEW AND BLAINE RAMSEY AND ANOKA COUNTIES

### CONSTRUCTION PLAN FOR GRADING, SURFACING, DRAINAGE, CHANNEL REALIGNMENT AND BRIDGE NO. 02558

LOCATED ON C.S.A.H. 32 BETWEEN LEXINGTON AVENUE AND WEST ROYAL OAKS DRIVE (Geographic Description)

FROM A POINT 892.89' EAST OF THE NW CORNER OF SEC. 3, T. 30, R. 23 TO A POINT 740.42' EAST OF THE NW CORNER OF THE N 1/4 OF SEC. 3, T. 30, R. 23 (Legal Description)

STATE AID PROJ. NO. 02-632-04

STATE AID PROJ. NO. 62-601-06

STATE AID PROJ. NO. 62-601-05

MINN. PROJ. NO. LOCAL FUNDS  
MINN. PROJ. NO.

#### GOVERNING SPECIFICATIONS

THE 1988 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" AND "SUPPLEMENTAL SPECIFICATIONS TO THE 1988 STANDARD SPECIFICATIONS FOR CONSTRUCTION", DATED JANUARY 2, 1991, SHALL GOVERN.

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THIS PLAN SET CONTAINS 48 SHEETS

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.

BRW, INC.

DATE 12-17-91 REG. NO. 12666

ENGINEER BOYD R PAULU *Boyd R Paulu*

Design Squad ROBERT S CROWELL

Recommended For Approval *Paul K. Kuhl* 1/21/1992  
RAMSEY COUNTY ENGINEER

Recommended For Approval *David J. Scholt* 1-14-1992  
RAMSEY COUNTY COORDINATING ENGINEER

Approved 6-12-92 1992 *David J. Scholt*  
ASSISTANT RAMSEY COUNTY ENGINEER

Approved 19 *H.A. Ungard* 6-7-92  
CHAIR OF THE RAMSEY COUNTY BOARD

Approved 2-6-1992 *Paul K. Kuhl*  
ANOKA COUNTY ENGINEER

Approved 2-25-1992 *Charles Lentz*  
CITY OF BLAINE

Approved 12-19-1991 *R. K. Kuhl*  
CITY OF SHOREVIEW

Recommended For Approval *John A. Munn* April 11, 1992  
DISTRICT STATE AID ENGINEER

Recommended For Approval *Mark J. Siska* 5-11-1992  
STATE AID PLANS AND SPECS ENGINEER

Approved 5/15/1992 *Julie Hallman*  
STATE AID ENGINEER

Recommended For Approval 4-28-1992 *Donald J. Munn*  
STATE BRIDGE ENGINEER

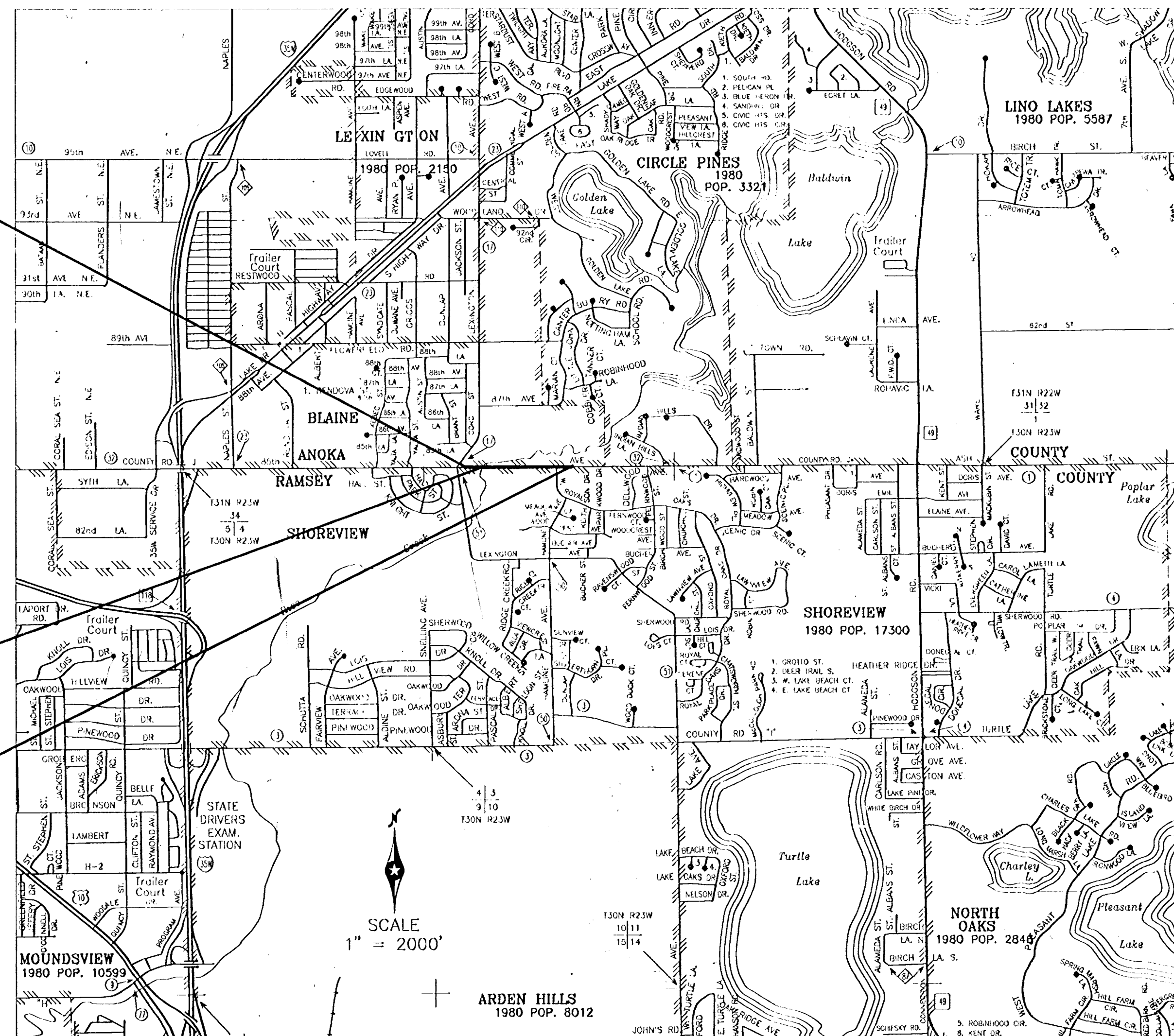
I HEREBY CERTIFY THAT THE FINAL FIELD REVISIONS, IF ANY, OF THIS PLAN WERE MADE BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

DATE \_\_\_\_\_ REG. NO. \_\_\_\_\_

BEGIN S.A.P. 02-632-04  
S.A.P. 62-601-06 STA. 161+85

BRIDGE NO. 02558  
S.A.P. 62-601-05  
S.A.P. 02-632-04

END S.A.P. 02-632-04  
S.A.P. 62-601-06 STA. 181+32



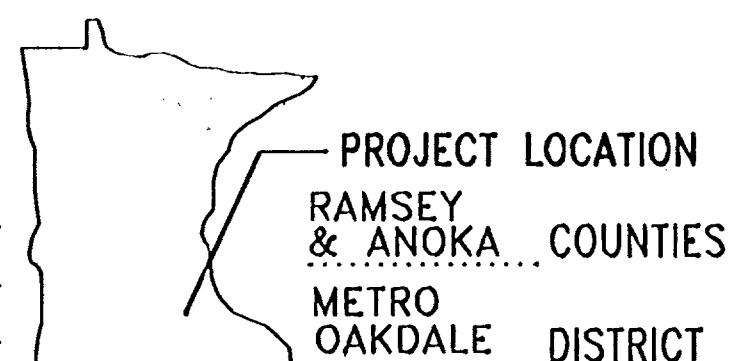
GROSS LENGTH	1947	FEET	.369	MILES
BRIDGES LENGTH	22	FEET	.004	MILES
EXCEPTIONS LENGTH		FEET		MILES
NET LENGTH	1947	FEET	.369	MILES

#### SCALES

PLAN 50  
PROFILE 50

#### DESIGN DESIGNATION

Functional Classification: MINOR ARTERIAL (LOW DENSITY)  
 No. of Traffic Lanes = 2  
 ADT (Current Year) 1992 = 4800  
 ADT (Future Year) 2012 = 9550  
 DHV (Design Hr. Vol.) = 840  
 D (Directional Distr.) = 50 %  
 T (Heavy Commercial) = 5 %  
 R-Value 60  
 No. of Parking Lanes = 2  
 Design Speed 50 MPH  
 Based on STOPPING Sight Distance  
 Height of eye 3.5' Height of Object 0.5'  
 Design Speed not achieved at: N.A.  
 STA. N.A. TO STA. N.A. MPH N.A.  
 N20 Factor 1,200,000 Design Load 10 ton



PLANNING  
TRANSPORTATION  
ENGINEERING  
URBAN DESIGN  
(612) 370-0700  
BRW INC. 700 THIRD STREET SOUTH, MINNEAPOLIS, MN 55415

PLAN REVISIONS		
DATE	SHEET NO.	APPROVED BY
4/8/92	1,2,3,4,5,7,11,16,18A,18B,20,17	

STATE AID PROJ. NO. 62-601-06, 02-632-04  
STATE PROJ. NO.

SHEET NO. 1 OF 32 SHEETS

STATEMENT OF ESTIMATED QUANTITIES

NOTE	CHART NO	ITEM NO	ITEM	UNIT	TOTAL QUANTITIES		ANOKA COUNTY S.A.P. 02-632-04		RAMSEY COUNTY S.A.P. 62-601-06				STORM SEWER		
					EST.	FINAL	PARTICIPATING *		NON-PARTICIPATING		SHOREVIEW		EST.	FINAL	
							EST.	FINAL	EST.	FINAL	EST.	FINAL			
		2021.501	MOBILIZATION	LUMP SUM	1		0.50		0.50						
		2031.501	FIELD OFFICE, TYPE D	LUMP SUM	1		0.50		0.50						
		2101.511	CLEARING & GRUBBING	LUMP SUM	1		0.50		0.50						
	B	2104.501	REMOVE CURB AND GUTTER	LIN FT	80		40		40						
	F	2104.501	REMOVE FENCE	LIN FT	890		332		558						
	B	2104.501	REMOVE BITUMINOUS CURB	LIN FT	50		25		25						
	B	2104.503	REMOVE BITUMINOUS FLUME	SQ FT	75		37.5		37.5						
	B	2104.505	REMOVE BITUMINOUS PAVEMENT	SQ YD	6246		312.3		312.3						
		2104.507	REMOVE RIPRAP	CU YD	18.9		9.45		9.45						
		2104.509	REMOVE FILTER BERM	EACH	1		0.5		0.5						
	E	2104.513	SAWING BIT PAVEMENT (FULL DEPTH)	LIN FT	120.5		60.25		60.25						
	G	2104.521	SALVAGE PIPE CULVERTS AND SEWERS	LIN FT	200		100		100						
	F	2104.521	SALVAGE TRAF. BAR, DESIGN PLATE BEAM	LIN FT	535		267.5		267.5						
	F	2104.523	SALVAGE TWISTED END TREATMENT	EACH	2		1		1						
(12)(15)		2104.523	SALVAGE CONCRETE APRON	EACH	2		0.5		1.5						
(4)	C	2104.523	SALVAGE SIGNS TYPE C	EACH	11		5.5		5.5						
(15)	I	2105.501	COMMON EXCAVATION	CU YD (P)	27572		13786		13786						
(8)	I	2105.505	MUCK EXCAVATION	CU YD	5636		2818		2818						
	I	2105.507	SUBGRADE EXCAVATION	CU YD	2614		1307		1307						
	I	2105.511	COMMON CHANNEL EXCAVATION	CU YD (P)	4110		2055		2055						
	I	2105.522	SELECT GRANULAR BORROW (LV)	CU YD	12668		6334		6334						
	I	2105.522	SELECT GRANULAR BORROW MOD 7% (LV)	CU YD	962		481		481						
(13)		2105.523	COMMON BORROW (LV)	CU YD	7303		3651.5		3651.5						
		0105.609	GEOTEXTILE FABRIC	SQ YD	30		15		15						
(2)		2130.501	WATER	M GAL	1.5		0.75		0.75						
(2)		2131.502	CALCIUM CHLORIDE SOLUTION	GAL	300		150		150						
(14)	H	2211.503	AGGREGATE BASE PLACED CLASS 5	CU YD (P)	465				290		175				
	H	2211.503	AGGREGATE BASE PLACED CLASS 6	CU YD (P)	1917		958.5		958.5						
(10,11)	D	2301.553	BRIDGE APPROACH PANELS	SQ YD (P)	258		129		129						
	H	2331.508	TYPE 41 WEARING COURSE MIXTURE	TON	591		295.5		295.5						
(14)	H	2331.508	TYPE 31 WEARING COURSE MIXTURE	TON	287				179		108				
	H	2331.510	TYPE 31 BINDER COURSE MIXTURE	TON	895		447.5		447.5						
	H	2331.514	TYPE 31 BASE COURSE MIXTURE	TON	1804		902		902						
	H	2357.502	BITUMINOUS MATERIAL FOR TACK COAT	GAL	1028		514		514						
	G	2501.515	15" RC PIPE APRON	EACH	2									2	
(15)	G	2501.573	INSTALL CONCRETE APRON	EACH	2									2	
	G	0501.602	15" TRASH GUARD FOR PIPE APRON	EACH	2									2	
(15)	G	2503.541	15" RC PIPE SEWER DESIGN 3006	LIN FT	277									277	
	G	2503.571	INSTALL 15" RC PIPE	LIN FT	200									200	

\* DENOTES 50% COST SPLIT BETWEEN PARTICIPATING RAMSEY AND ANOKA COUNTY, ROADWAY ITEMS (EXCEPT CURB AND GUTTER)  
 \*\* DENOTES 50% COST SPLIT BETWEEN PARTICIPATING RAMSEY AND ANOKA COUNTY, STORM SEWER ITEMS

QUANTITY NOTES:


- (1) COMMON EXCAVATION INCLUDES SALVAGED TOPSOIL QUANTITY.
- (2) FOR DUST CONTROL AS DIRECTED BY THE ENGINEER.
- (3) FOR USE AS DIRECTED BY THE ENGINEER.
- (4) INCLUDES 2 DELINEATORS.
- (5) INCLUDES 13,775 CU.YD. EXCAVATION IN MITIGATION AREA.
- (6) SEE SHEET 18 FOR BASIS OF QUANTITIES FOR SEED MIXTURES 100 AND 1200. INCLUDES QUANTITIES FOR MITIGATION AREA #3.
- (7) FERTILIZER IS REQUIRED FOR ROADSIDE SEEDING ONLY, MITIGATION AREAS WILL NOT REQUIRE FERTILIZATION.
- (8) INCLUDES 3,173 CU.YD. MUCK EXCAVATION FROM CHANNEL.
- (9) FOR MITIGATION AREAS 2 AND 3.
- (10) EACH SQUARE YARD OF BRIDGE APPROACH PANEL REQUIRES 36.4 POUNDS OF REBAR PLUS 3 EXTRA #5 BARS FOR EXPANSION JOINT IF NEEDED. BAR SPACING WILL BE 6" AND 12" (ALONG C) REGARDLESS OF SKEW.
- (11) PAYMENT FOR LOW SLUMP OVERLAY IS INCLUDED IN "BRIDGE PLAN 02558" INCLUDED WITH THIS PLAN SET.
- (12) WITH TRASH GUARD
- (13) SEE SHEET 7 AND 18B FOR QUANTITY DETERMINATION.
- (14) ITEMS ARE QUANTITIES FOR THE 8' WIDE BITUMINOUS PATH
- (15) INCLUDES QUANTITIES FOR PIPE EXTENSION AT LEXINGTON AVE. STA. 514+25

BASIS OF QUANTITIES

TYPE 31 - 115#/SQ YD /INCH  
 TYPE 41 - 115#/SQ YD /INCH  
 TACK COAT - .05 GAL/SQ YD/LAYER

SEED MIXTURE 600 - 75#/ACRE  
 MULCH TYPE 5 - 1500#/ACRE  
 FERTILIZER - 200#/ACRE

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the State of Minn. Statutes Sections 326.02 to 326.16.



PLANNING  
TRANSPORTATION  
ENGINEERING  
URBAN DESIGN  
(612) 370-0700  
BRM INC. 700 THIRD STREET SOUTH, MINNEAPOLIS, MN 55415

DESIGN BY: T.C.B.  
 DRAWN BY: RSC  
 CHECKED BY: T.C.B.

SURVEY BOOK

ORIGINAL DATE 10/4/91  
 REVISIONS

COUNTY ROAD "J"  
 C.S.A.H. 32  
 RAMSEY/ANOKA COUNTY  
 ESTIMATED QUANTITIES

S.A.P. NO. 02-632-04  
 62-601-06

SHEET 2 OF 32

DESIGN FILE No. 99002

STATEMENT OF ESTIMATED QUANTITIES (Continued)

NOTE	CHART NO	ITEM NO	ITEM	UNIT	TOTAL QUANTITIES		ANOKA COUNTY S.A.P. 02-632-04		RAMSEY COUNTY S.A.P. 62-601-06				
					EST.	FINAL	PARTICIPATING *		NON-PARTICIPATING		STORM SEWER **		
							EST.	FINAL	EST.	FINAL	EST.	FINAL	
		0504.602	ADJUST GATE VALVE BOX	EACH	1		0.5		0.5				
	G	2506.501	CONSTRUCT DRAINAGE STRUCTURE DESIGN F	LIN FT	6.9							6.9	
	G	2506.501	CONSTRUCT DRAINAGE STRUCTURE DESIGN LP-4	LIN FT	16.5							16.5	
	G	2506.516	CASTING ASSEMBLY	EACH	4							4	
	G	2506.521	INSTALL CASTINGS	EACH	4							4	
	G	2506.522	ADJUST FRAME & RING CASTINGS	EACH	2							2	
	G	0506.602	CONNECT TO EXISTING DRAINAGE STRUCTURE	EACH	1							1	
(16)	G	2511.501	RANDOM RIPRAP CL III	CU YD	15.7		7.85		7.85				
(16)		2511.505	HAND PLACED RIPRAP	CU YD	16.7		8.35		8.35				
		2531.501	CONCRETE C & G DESIGN B424	LIN FT	263		88		175				
		2531.501	CONCRETE C & G DESIGN D418	LIN FT	7		3.5		3.5				
		2531.501	CONCRETE C & G DESIGN B624	LIN FT	2194		268		482		1444		
		2531.507	6" CONCRETE DRIVEWAY PAVEMENT	SQ YD	10		5		5				
		0531.602	PEDESTRIAN CURB RAMP	EACH	3		1		1		1		
		2554.501	TRAFFIC BARRIER DESIGN B8307	LIN FT	100		50		50				
		0554.602	ECCENTRIC LOADER BCT	EACH	4		2		2				
		0554.603	GUARDRAIL TRANSITION CONNECTION	LIN FT	100		50		50				
(3)		2557.529	TEMPORARY FENCE	LIN FT	300		150		150				
(17)		0563.601	TRAFFIC CONTROL	LUMP SUM	1		0.5		0.5				
		0563.604	CONSTRUCTION SIGNS-SPECIAL	SQ FT	180		90		90				
		2571.505	SPECKLED ALDER OR WINTERBERRY 24" HIGH B&B	SHRUB	7		3.5		3.5				
		2571.505	ILEX VERTICILLATA	SHRUB	7		3.5		3.5				
		2571.505	RED-OSIER DOGWOOD 24" HIGH B&B	SHRUB	7		3.5		3.5				
		2571.505	CORNUS STOLONIFERA	SHRUB	6		3		3				
		2571.505	PUSSY WILLOW 24" HIGH B&B	SHRUB	6		3		3				
		2573.501	BALE CHECK	EACH	30		15		15				
(3)		2573.502	SILT FENCE, HEAVY DUTY	LIN FT	2814		1407		1407				
(9)		2575.501	SEEDING	ACRE (P)	4.5		2.25		2.25				
		2575.501	ROADSIDE SEEDING	ACRE (P)	2.2		1.1		1.1				
(6)		2575.502	SEED MIXTURE 100	POUND	71		35.5		35.5				
		2575.502	SEED MIXTURE 600	POUND	165		82.5		82.5				
(6)		2575.502	SEED MIXTURE 1200	POUND	67		33.5		33.5				
		2575.505	SODDING TYPE LAWN AND BOULEVARD	SQ.YD.	3455		1180		1180		1095		
		2575.511	MULCH MATERIAL TYPE 5	TON	1.7		0.85		0.85				
(7)		2575.532	COMMERCIAL FERT ANALYSIS 12-12-12	POUND	440		220		220				
		2580.501	TEMPORARY LANE MARKING	RD.STA.	26		13		13				

\* DENOTES 50% COST SPLIT BETWEEN PARTICIPATING RAMSEY AND ANOKA COUNTY, ROADWAY ITEMS (EXCEPT CURB AND GUTTER)  
 \*\* DENOTES 50% COST SPLIT BETWEEN PARTICIPATING RAMSEY AND ANOKA COUNTY, STORM SEWER ITEMS

QUANTITY NOTES:

- (1) COMMON EXCAVATION INCLUDES SALVAGED TOPSOIL QUANTITY.
- (2) FOR DUST CONTROL AS DIRECTED BY THE ENGINEER.
- (3) FOR USE AS DIRECTED BY THE ENGINEER.
- (4) INCLUDES 2 DELINEATORS.
- (5) INCLUDES 13,775 CU.YD. EXCAVATION IN MITIGATION AREA.
- (6) SEE SHEET 18 FOR BASIS OF QUANTITIES FOR SEED MIXTURES 100 AND 1200. INCLUDES QUANTITIES FOR MITIGATION AREA #3.
- (7) FERTILIZER IS REQUIRED FOR ROADSIDE SEEDING ONLY, MITIGATION AREAS WILL NOT REQUIRE FERTILIZATION.
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- (9) FOR MITIGATION AREAS 2 AND 3.
- (10) EACH SQUARE YARD OF BRIDGE APPROACH PANEL REQUIRES 36.4 POUNDS OF REBAR PLUS 3 EXTRA #5 BARS FOR EXPANSION JOINT IF NEEDED. BAR SPACING WILL BE 6" AND 12" (ALONG C) REGARDLESS OF SKEW.
- (11) PAYMENT FOR LOW SLUMP OVERLAY IS INCLUDED IN "BRIDGE PLAN 02558" INCLUDED WITH THIS PLAN SET.
- (12) WITH TRASH GUARD
- (13) SEE SHEET 7 AND 18B FOR QUANTITY DETERMINATION.
- (14) ITEMS ARE QUANTITIES FOR THE 8' WIDE BITUMINOUS PATH
- (15) INCLUDES QUANTITIES FOR PIPE EXTENSION AT LEXINGTON AVE. STA. 514+25
- (16) NECESSARY FILTER MATERIAL IS INCIDENTAL TO RIPRAP.
- (17) ALL TRAFFIC CONTROL SIGNING AND DEVICES SHALL CONFORM TO THE MUTCD, INCLUDING APPENDIX B, DATED MARCH, 1990.

BASIS OF QUANTITIES

TYPE 31 - 115#/SQ YD /INCH  
 TYPE 41 - 115#/SQ YD /INCH  
 TACK COAT - .05 GAL/SQ YD/LAYER

SEED MIXTURE 600 - 75#/ACRE  
 MULCH TYPE 5 - 1500#/ACRE  
 FERTILIZER - 1#/ACRE

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the State of Minn. Statutes Sections 326.02 to 326.16.

DESIGN BY: T.J.G. LB  
 DRAWN BY: BSC  
 CHECKED BY: T.J.G. LB


PLANNING	REVISIONS
TRANSPORTATION	06-03-92
ENGINEERING	
URBAN DESIGN	

COUNTY ROAD "J"  
 C.S.A.H. 32  
 RAMSEY/ANOKA COUNTY  
 ESTIMATED QUANTITIES

THE FOLLOWING STANDARD PLATES AS APPROVED BY THE FHWA SHALL APPLY

STANDARD PLATES	
PLATE NO.	DESCRIPTION
0005A	SPECIFICATION REFERENCE TO STANDARD PLATES
3000L	REINFORCED CONCRETE PIPE
3006F	GASKET JOINT FOR R.C. PIPE
3007B	SHEAR REINFORCEMENT FOR PRECAST DRAINAGE STRUCTURES
3100G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE
3133B	RIPRAP AT RCP OUTLETS
3145E	CONCRETE PIPE TIES
4005K	MANHOLE OR CATCH BASIN (DESIGN F)
4008F	CATCH BASIN (DESIGN I)
4010G	CONC. SHORT CONE AND ADJUSTING RING (SECTIONAL CONCRETE)
4011D	PRECAST CONCRETE BASE
4021D	PRECAST CURB OPENING CATCH BASIN
4101C	RING CASTING FOR MANHOLE OR CATCH BASIN
4108F	MANHOLE ADJUSTING RINGS
4110E	COVER CASTING FOR MANHOLE
4180H	MANHOLE OR CATCH BASIN STEP
7035J	CONCRETE WALK & CURB RETURN AT ENTRANCES
7036D	PEDESTRIAN CURB RAMP
7102H	CONCRETE CURB & GUTTER
7100F	CONCRETE CURB AND GUTTERS (DESIGN B & DESIGN V)
7111G	INSTALLATION & REINFORCEMENT OF CATCH BASIN CASTINGS
8000I	STANDARD BARRICADES
8307N	STEEL PLATEBEAM GUARDRAIL
8329F	ECCENTRIC LOADER BREAKAWAY CABLE TERMINAL
9102D	SODDING AT PIPE CULVERT ENDS

INDEX OF TABULATED CHARTS		
SHEET NO.	CHART	DESCRIPTION
5	A	INPLACE UTILITIES MODIFICATION
5	B	CONCRETE AND BITUMINOUS REMOVALS
5	C	INPLACE SIGN TABULATION
5	D	SAWING BITUMINOUS PAVEMENT
5	E	BRIDGE APPROACH PANELS
5	F	MISCELLANEOUS REMOVALS
6	G	DRAINAGE TABULATION
5	H	BITUMINOUS SUMMARY
7	I	EARTHWORK SUMMARY AND BALANCE

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the State of Minn. Statutes Sections 326.02 to 326.16. Date _____ Minn. Reg. No. 12566	 PLANNING TRANSPORTATION ENGINEERING URBAN DESIGN BRW INC. 700 THIRD STREET SOUTH, MINNEAPOLIS, MN 55415	ORIGINAL DATE 10/4/91 REVISIONS 4/8/92	COUNTY ROAD "J" C.S.A.H. 32 RAMSEY/ANOKA COUNTY INDEX & STANDARD PLATES SHEET 4 OF 33
		DESIGN BY: RSC DRAWN BY: RSC CHECKED BY: JGG	
S.A.P. NO. 02-632-04 62-601-06			

**WARNING: PRIOR TO CONSTRUCTION CONTACT**

**ALL CONTRACTORS MUST CONTACT**

- A. NORTHERN STATES POWER COMPANY  
ERV WESTPHAL (RAMSEY COUNTY)  
(612) 779-3114  
1700 COUNTY ROAD "E"  
WHITE BEAR LAKE, MN. 55110
- B. NORTHERN STATES POWER (GAS)  
RON MESSETLER  
(612) 779-3190  
1700 COUNTY ROAD "E"  
WHITE BEAR LAKE, MN. 55110
- C. WILLIAMS PIPE LINE COMPANY  
KATHY PULLEN (ROW COORDINATOR)  
(612) 633-1555, FAX 788-1997  
APACHE OFFICE PARK, SUITE 246  
2500 39TH AVE. N.E.  
MPLS, MN. 55421
- D. NORTH CENTRAL CABLE TV  
SCOTT GUNDERSON  
(612) 483-3233  
934 WOODHILL DRIVE  
ROSEVILLE, MN. 55113
- E. CITY OF SHOREVIEW  
CHARLES AHL (CITY ENGINEER)  
(DIRECTOR OF PUBLIC WORKS)  
(612) 490-4650, FAX (612) 490-4699  
4600 NORTH VICTORIA STREET  
SHOREVIEW, MN. 55126
- F. ANOKA COUNTY (DEPARTMENT OF HIGHWAYS)  
JON G. OLSON  
(612) 754-3520  
1440 BUNKER LAKE BLVD. NW  
ANDOVER, MN. 55304
- G. U.S. WEST COMMUNICATIONS  
JOAN ANDERSON  
(612) 569-2501  
5910 SHINGLE CREEK PKWY.  
BROOKLYN CENTER, MN. 55430
- H. U S WEST  
GENE MC CLOUD  
(612) 221-5611  
70 WEST 4TH 7C  
ST. PAUL, MN. 55102
- I. RAMSEY COUNTY  
DAVID CLAYPOOL  
LAND SURVEYOR  
SUITE 270 LOWRY MED. BLDG.  
350 ST. PETER  
ST. PAUL, MN 55102  
(612) 298-5278  
LAND MONUMENTS

**ONE CALL**  
TWIN CITY AREA 454-0002  
MN. TOLL FREE 1-800-252-1166  
**BEFORE CONSTRUCTION BEGINS**

**WARNING !!**  
**PETROLEUM PRODUCTS PIPELINE !!**  
EXCAVATION AND/OR CONSTRUCTION  
PROHIBITED WITHOUT WRITTEN PERMISSION FROM  
KATHY PULLEN, RIGHT OF WAY COORDINATOR  
2500 39TH AVENUE  
APACHE OFFICE PARK, SUITE 246  
MINNEAPOLIS, MINNESOTA 55421  
(612) 633-1555

INPLACE UTILITY MODIFICATIONS						A			
STATION	LOCATION	ITEM INPLACE	ADJUST EACH	SALVAGE EACH	SALVAGE LIN FT	REMARKS	EXISTING ELEVATION	PROPOSED ELEVATION	OWNERSHIP CONTACT
COUNTY ROAD "J"									
161+84	LT	15" F.E.S. & TRASH-GUARD				TO REMAIN INPLACE			F
161+85 TO 178+16	RT	3" GAS MAIN				RELOCATE BY OTHERS			C
163+04	RT	POWER OVERHEAD				RELOCATE BY OTHERS			A
166+12	RT	POWER OVERHEAD				RELOCATE BY OTHERS			A
169+07	RT	POWER OVERHEAD/ ANCHOR				RELOCATE BY OTHERS			A
172+22	RT	POWER OVERHEAD				RELOCATE BY OTHERS			A
175+08	RT	POWER OVERHEAD				RELOCATE BY OTHERS			A
176+96	RT	POWER OVERHEAD				RELOCATE BY OTHERS			A
178+16	RT TO LT	3" GAS MAIN				RELOCATE BY OTHERS			C
178+64	RT	15" F.E.S. & TRASH-GUARD		1		SALVAGE	880.27		E
178+64 TO 180+67	RT	15" STORM SEWER			200	SALVAGE			E
178+82	RT	POWER OVERHEAD				RELOCATE BY OTHERS			A
179+08	RT	TELEVISION PEDESTAL				RELOCATE BY OTHERS			D
180+64	42'RT	LIGHT POLE				TO REMAIN INPLACE			A
180+67	34'RT	CATCH BASIN	1			ADJUST	883.89	883.80	E
180+67 TO 181+10	RT	15" STORM SEWER				TO REMAIN INPLACE			E
180+98	43'RT	GATE VALVE	1			ADJUST	884.41	884.41 (1)	E
181+10	35'RT	CATCH BASIN	1			ADJUST	884.11	884.01	E
181+10 TO 181+46	RT	15" STORM SEWER				TO REMAIN INPLACE			E
181+13	45'RT	HYDRANT				TO REMAIN INPLACE			E
181+30	27'RT	POWER OVERHEAD				TO REMAIN INPLACE			A
181+46	RT	15" F.E.S. & TRASH-GUARD				TO REMAIN INPLACE			E

NOTES:  
(1) FIELD ADJUST TO FINISHED GRADE.

CONCRETE AND BITUMINOUS REMOVALS					B
STATION TO STATION	LOCATION	CONC CURB AND GUTTER LIN FT	BITUMINOUS PAVEMENT SQ YD	BITUMINOUS CURB LIN FT	
COUNTY ROAD "J"					
161+85 TO 181+32	LT & RT		6237		
180+46 TO 180+67	24.5'RT TO 49'RT			25	
180+58 TO 180+63			9 (1)		
180+67 TO 180+71	24'RT TO 34'RT	15			
181+07 TO 181+13	24'RT TO 49'RT	15			
181+13 TO 181+32	24'RT TO 35'RT			25	
TOTALS		30	6246	50	

NOTES:  
(1) BITUMINOUS PATH REMOVAL

BRIDGE APPROACH PANELS			D
STATION TO STATION	OUTSIDE DIMENSIONS (1)	AREA	
COUNTY ROAD "J"			
164+32.50 TO 164+52.50	20' x 57.8'	129	
164+74.50 TO 164+94.50	20' x 57.8'	129	
TOTAL		258	

NOTE:  
(1) OUTSIDE DIMENSIONS ARE CALCULATED TO THE BACK OF CURB. TRANSITION CURB AND MODIFIED CURB AND GUTTER SHALL BE INCIDENTAL TO THE BRIDGE APPROACH PANEL AND NO DIRECT PAYMENT SHALL BE MADE

MISCELLANEOUS REMOVALS						F
STATION	LOCATION	ITEM INPLACE	REMOVE	SALVAGE	SALVAGE TWISTED END TREATMENT	
			LIN FT	LIN FT	EACH	
COUNTY ROAD "J"						
162+15 TO 165+24	RT	PLATE BEAM GUARDRAIL		285	1	
163+00 TO 165+75	LT	PLATE BEAM GUARDRAIL		250	1	
169+42 TO 175+00	RT	BARB WIRE FENCE	558			
178+00 TO 181+32	LT	BARB WIRE FENCE	332			
TOTALS			890	535	2	

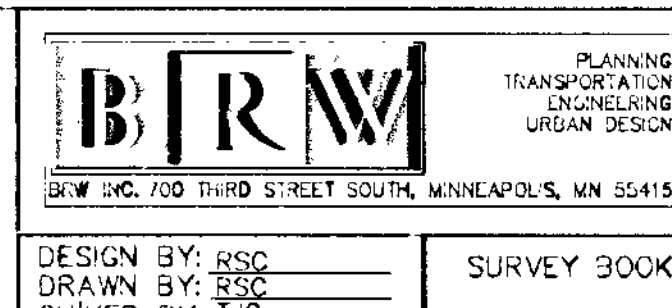
INPLACE SIGN TABULATION					C
STATION	LOCATION	TYPE	REMARKS	LEGEND	
COUNTY ROAD "J"					
162+90	LT	C	SALVAGE	NO PARKING	
163+15	RT	C	SALVAGE	SPEED LIMIT 50 MPH/ NO PARKING	
164+77	LT	C	SALVAGE	CLEARANCE MARKER	
165+24	RT	C	SALVAGE	CLEARANCE MARKER	
165+87	RT	C	SALVAGE	COUNTY SIGN	
166+45	LT	DELINEATOR	SALVAGE		
167+70	RT	C	SALVAGE	DEER CROSSING	
167+75	LT	C	SALVAGE	STOP AHEAD	
175+95	LT	DELINEATOR	SALVAGE		
180+46	RT	C	LEAVE IN PLACE	STREET SIGN	
181+15	RT	C	LEAVE IN PLACE	STOP SIGN	
TOTAL		11			

SAWING BITUMINOUS PAVEMENT			E
STATION TO STATION	LOCATION	LIN FT	
COUNTY ROAD "J"			
161+85	24'LT TO 24'RT	48	
180+72.23 TO 181+05.20	53.8'RT TO 53.5'RT	33	
181+32	12.5'LT TO 24'RT	36.5	
TOTAL		120.5	

BITUMINOUS SUMMARY							H
STATION TO STATION	2211 AGGREGATE CLASS 5 CU.YD.	2211 AGGREGATE CLASS 6 CU.YD.	WEAR COURSE TYPE 31 CU.YD.	WEAR COURSE TYPE 41 TON	BINDER COURSE TYPE 31 TON	BINDER COURSE TYPE 31 TON	2357 BIT. MIX. TACK COAT TON
COUNTY ROAD "J"							
161+85 TO 173+00	193	1056	120	326	402	993	482
(1) 173+00 TO 181+32	131	861	82	265	493	811	566
LEXINGTON AVE.							
509+36.7 TO 518+58	141		85				
TOTAL		465	1917	287	591	1804	1028

NOTE: (1) INCLUDES ROYAL OAKS DRIVE.

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the State of Minn. Statutes Sections 326.02 to 326.16.



ORIGINAL DATE 10/4/91  
REVISIONS 4/8/92  
6/3/92

**COUNTY ROAD "J"**  
**C.S.A.H. 32**  
**TABULATED QUANTITIES**

Date: \_\_\_\_\_ Minn. Reg. No. 12666

S.A.P. NO.

SHEET 5 OF 33

DESIGN FILE No. 99002

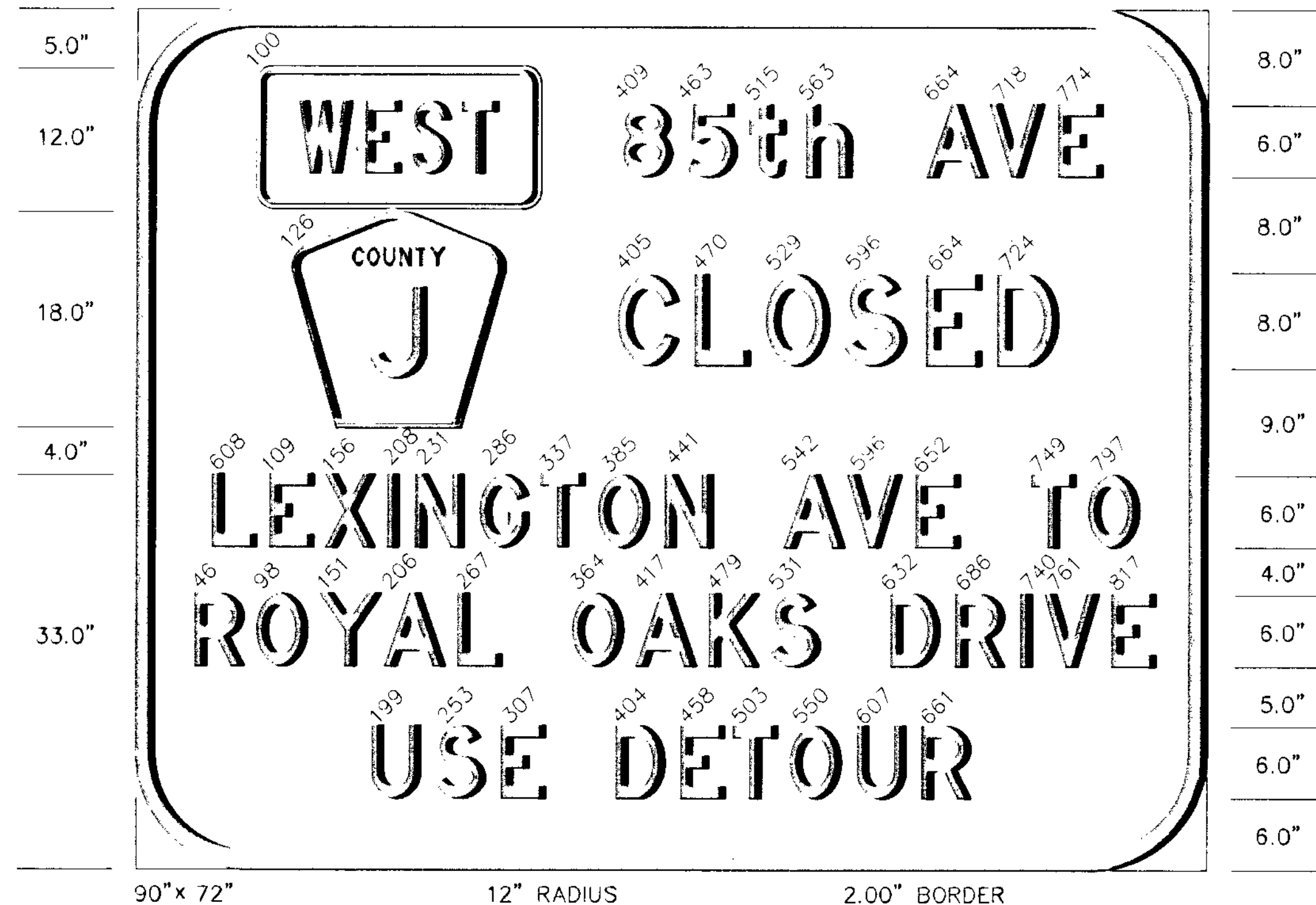
DRAINAGE TABULATION																	G
STRUCTURE NUMBER	STATION	LOCATION	CONSTRUCTION			INSTALL							DRAINS TO			REMARKS	
			TOP OF CASTING OR INLET ELEV	OUTLET ELEV	PAY HEIGHT	DESIGN MH	DESIGN CB	F & I CASTING ASSEMBLY	15" RCP CL III	SALVAGE APRON WITH TRASH GUARD	INSTALL APRON	RANDOM RIPRAP CL III	INSTALL TRASH GUARD	STRUCTURE	GRADE IN %		INLET ELEV.
					LIN FT			TYPE	LIN FT		EACH	CU YD	EACH				
COUNTY ROAD "J"																	
CB 1	162+69	29.33' RT	886.20	881.70	5.2		LP-4	A	58					CB 2	2.0	880.54	
CB 2	162+69	29.33' LT	886.20	880.38	6.5		LP-4	A	18		1	2.9	1	APRON	9.9	878.00	
CB 3	171+03	29.33' RT	884.55	880.35	4.9		LP-4	A	29		1	2.9	1	APRON	2.0	879.77	
EXISTING CB	180+67	35' RT	883.89	880.87					112 (2)					MH 1	0.5	879.55	CONNECT TO EXISTING CB
MH 1	178+00	30' RT	886.08	879.45	6.9	F		B	50		1	(1) 1	2.9	APRON	0.5	879.20	
TOTALS									267		1	3	8.7				

SPECIFIC NOTES:

- (1) INSTALL SALVAGED APRON WITH TRASH GUARD.
- (2) INSTALL 112' 15" RCP & SUITABLE SALVAGED 15" RCP FOR BALANCE OF 264'.

CASTING ASSEMBLIES

- A = DESIGN -LP  
RING CASTING -MN/DOT NO. 790-2 MODIFIED SEE STD. PLT. NO. 4108F  
COVER CASTING -MN/DOT NO. 715 SEE STD. PLT. NO. 4110E
- B = DESIGN F  
RING CASTING -MN/DOT NO. 700-7 SEE STD. PLT. NO. 4101C  
COVER CASTING -MN/DOT NO. 715 SEE STD. PLT. NO. 4110E



- LINE 1: 40.2 6" SERIES D
- LINE 2: 24.0 24" OVERLAY
- LINE 3: 37.3 8" SERIES D
- LINE 4: 18.0 18" OVERLAY
- LINE 5: 77.9 6" SERIES D
- LINE 6: 80.7 6" SERIES D
- LINE 7: 50.3 6" SERIES D

- NOTES: 1. TYPE "D" SIGN PANELS SHALL HAVE BLACK LEGEND ON ORANGE BACKGROUND.  
2. CORNERS OF THE SIGN PANELS EXTENDING BEYOND THE BORDER SHALL NOT BE TRIMMED.



NOTE: REPLACE M3-4A WITH M3-2A ON SPECIAL SIGN FOR LOCATION ON LEXINGTON AVENUE SOUTHBOUND, NORTH OF INTERSECTION WITH COUNTY ROAD "J".

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the State of Minn. Statutes Sections 326.02 to 326.16.		ORIGINAL DATE 10/4/91	COUNTY ROAD "J" C.S.A.H. 32 RAMSEY/ANOKA COUNTY DRAINAGE TABULATIONS AND SPECIAL SIGN DETAIL
		DESIGN BY: RSC DRAWN BY: RSC CHK'ED BY: JJC	
Date: _____ Minn. Reg. No. 12666	S.A.P. NO. 02-632-04 62-601-06	SHEET 6 OF 32	

EARTHWORK SUMMARY AND BALANCE																	
LOCATION	EXCAVATION (EV)						EMBANKMENT (CV)					BALANCE					
	TOPSOIL	COMMON	SUBGRADE	MUCK	CHANNEL		TOPSOIL	REGULAR	SELECT GRAN	GRAN	MUCK DISPOSAL	TOPSOIL	COMMON	SELECT GRAN BORROW	GRAN	MUCK DISPOSAL	SELECT GRAN BORROW MOD 7%
					MUCK	COMMON											
COUNTY ROAD "J"																	
161+85 TO 172+90	2,685	5066	0	0			600	6,564	4,941	2,058	2,172	(1,414)	4,823	4,941	0	2,172	641
172+90 TO 177+10	351	0	2,614	2,463			269	2,630	1,750	5,726	825	6	670	1,750	5,726	(653)	
177+10 TO 181+32	638	1723	0	0			142	989	1,754	196	246	(336)	(107)	1,754	0	246	
RICE CREEK																	
62+73 TO 78+41 <sup>Δ</sup>	3334					4,110						(2,501)	(3,083)				
MITIGATION AREA #1 (OXBOW)					3,173											(1,904)	
MITIGATION AREA #2 <sup>Δ</sup>	2,141	11,634					831					(795)	(3,000)		(5,726)		
MITIGATION AREA #3						(6) 414		(7) 7368					7058				
LEXINGTON AVE.																	
509+36.7 TO 517+58							89	628				133	942				
SUB TOTAL														8,445			641
TOTAL	5,815	18,423	2,614	2,463	3,173	4,524	1,842	17,551	8,445	7,980	3,243	(4,907)	7,303	12,668 (LV)	0	(298)	962 (LV)

**CONSTRUCTION NOTES**

- THE CONTRACTOR WILL COOPERATE WITH APPROPRIATE CITY AND COUNTY OFFICES AS RELATES TO PERPETUATING MONUMENTATION, INCLUDING ADVANCE NOTICE OF ANY DISTURBANCE OF MONUMENTS.
- PROVIDE DRAINAGE OUTLETS FOR ALL SUBCUTS DURING CONSTRUCTION DITCHES SHOULD BE DEEPER THAN SUBCUT TO PROVIDE OUTLET DRAINAGE.
- TAPER ENDS OF SUBCUTS AT A 10:1 SLOPE UNLESS OTHERWISE DIRECTED.
- WHERE THE PROPOSED SUBCUT IS LOCATED UNDER INPLACE BASE AND BITUMINOUS SURFACING OR CONCRETE PAVEMENT, THE ENDS OF SUBCUT SHALL BE VERTICAL FOR THE DEPTH OF THE BITUMINOUS OR CONCRETE AND 2:1 IN AGGREGATE BASE.
- STRIP TOPSOIL FROM ALL AREAS TO BE DISTURBED BY CONSTRUCTION AND STOCKPILE (IF PRACTICAL) FOR REPLACEMENT LATER AS SLOPE DRESSING.
- CONCRETE, BITUMINOUS, OR OTHER MISC. ITEMS REMOVED BY THIS CONSTRUCTION SHALL BE DISPOSED OF BY THE CONTRACTOR IN ACCORDANCE WITH THE PROVISIONS OF 2104.3C.
- THE CONTRACTOR SHALL PROTECT VEHICULAR AND PEDESTRIAN TRAFFIC FROM OPEN EXCAVATION AS NOTED IN THE SPECIAL PROVISIONS OR AS DIRECTED BY THE ENGINEER.
- THE <sup>Δ</sup>ORDINARY COMPACTION METHOD SHALL BE USED ON THIS PROJECT FOR EMBANKMENT CONSTRUCTION.
- THE CONTRACTOR SHALL OBTAIN FROM THE UTILITY COMPANIES THE EXACT LOCATION OF ANY UNDERGROUND UTILITIES WHICH HE MAY ENCOUNTER IN THE PERFORMANCE OF HIS WORK.

- TOP OF "GRADING GRADE" IS DEFINED AS THE TOP OF THE EMBANKMENT MATERIAL OR THE BOTTOM OF THE AGGREGATE BASE COURSE.
- BALE CHECKS WILL BE INSTALLED AT ALL CATCH BASIN INLETS AND OTHER AREAS AS DIRECTED BY THE ENGINEER.
- TOPSOIL SHALL CONSIST OF ORGANIC SOILS ABLE TO SUBSTAIN HEALTHY PLANT GROWTH AS APPROVED BY THE ENGINEER AND TOPSOIL BORROW SHALL MEET MN/DOT SPEC. 3877.2A.
- GRANULAR MATERIAL SHALL CONSIST OF SUITABLE SITE EXCAVATED GRADING MATERIAL AS DETERMINED BY THE ENGINEER AND SHALL MEET MN/DOT SPEC. 3149.2A.
- REGULAR EMBANKMENT SHALL CONSIST OF ANY SITE EXCAVATED MATERIAL NOT SUITABLE FOR USE AS GRANULAR BACKFILL.
- UNLESS OTHERWISE RECOMMENDED, SELECTED GRADING MATERIALS SHALL CONSIST OF GRANULAR SOILS, EXCLUDING TOPSOIL. GRANULAR MATERIAL SHALL MEET THE REQUIREMENTS OF SPEC. 3149.2A.
- DISPOSAL OF MUCK EXCAVATION OFF SITE SHALL BE IN ACCORDANCE WITH SPEC. 2105.3D.
- TEST ROLLING WILL NOT BE REQUIRED.

**GENERAL NOTES:**

- SHRINKAGE FACTOR OF 25% USED FOR NORMAL GRADING (EV TO CV).
- ADJUSTMENT FACTOR OF 150% USED FOR BORROW QUANTITIES (LV TO CV).
- SUITABLE SOILS MEETING THE REQUIREMENTS OF GRANULAR BORROW ENCOUNTERED DURING COMMON AND SUBGRADE EXCAVATIONS SHALL BE USED AS GRANULAR EMBANKMENT. THE REMAINING BALANCE SHALL BE USED AS REGULAR EMBANKMENT.
- MUCK DISPOSAL INCLUDES MATERIAL OBTAINED FROM MUCK AND COMMON CHANNEL EXCAVATIONS.
- (X,XXX) REPRESENTS SURPLUS VOLUME. WASTE TO BE DISPOSED OF OFFSITE AT CONTRACTOR'S EXPENSE.
- SEE SHEET 18A FOR LIMITS OF CHANNEL EXCAVATION.
- QUANTITIES FOR COMMON BORROW ARE SHOWN ON SHEET 18B, THE VOLUME OF EMBANKMENT WAS ADJUSTED BY 25% TO APPROXIMATE THE MATERIALS ANTICIPATED TO SETTLE OUT FROM RICE CREEK DURING THE PERIOD THE SEDIMENTATION POND IS IN USE.

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the State of Minn. Statutes Sections 326.02 to 326.16.

**B R W**  
 PLANNING  
 TRANSPORTATION  
 ENGINEERING  
 URBAN DESIGN  
 B R W INC. 700 THIRD STREET SOUTH, MINNEAPOLIS, MN 55419

DESIGN BY: RSC  
 DRAWN BY: RSC  
 CHECKED BY: LB, TUG

SURVEY BOOK

ORIGINAL DATE 10/4/91  
 REVISIONS 4/8/92  
 Δ 6/3/92

COUNTY ROAD "J"  
 C.S.A.H. 32  
 RAMSEY/ANOKA COUNTY  
 EARTHWORK SUMMARY

S.A.P. NO. 02-632-04  
 62-601-06

SHEET 7 OF 32

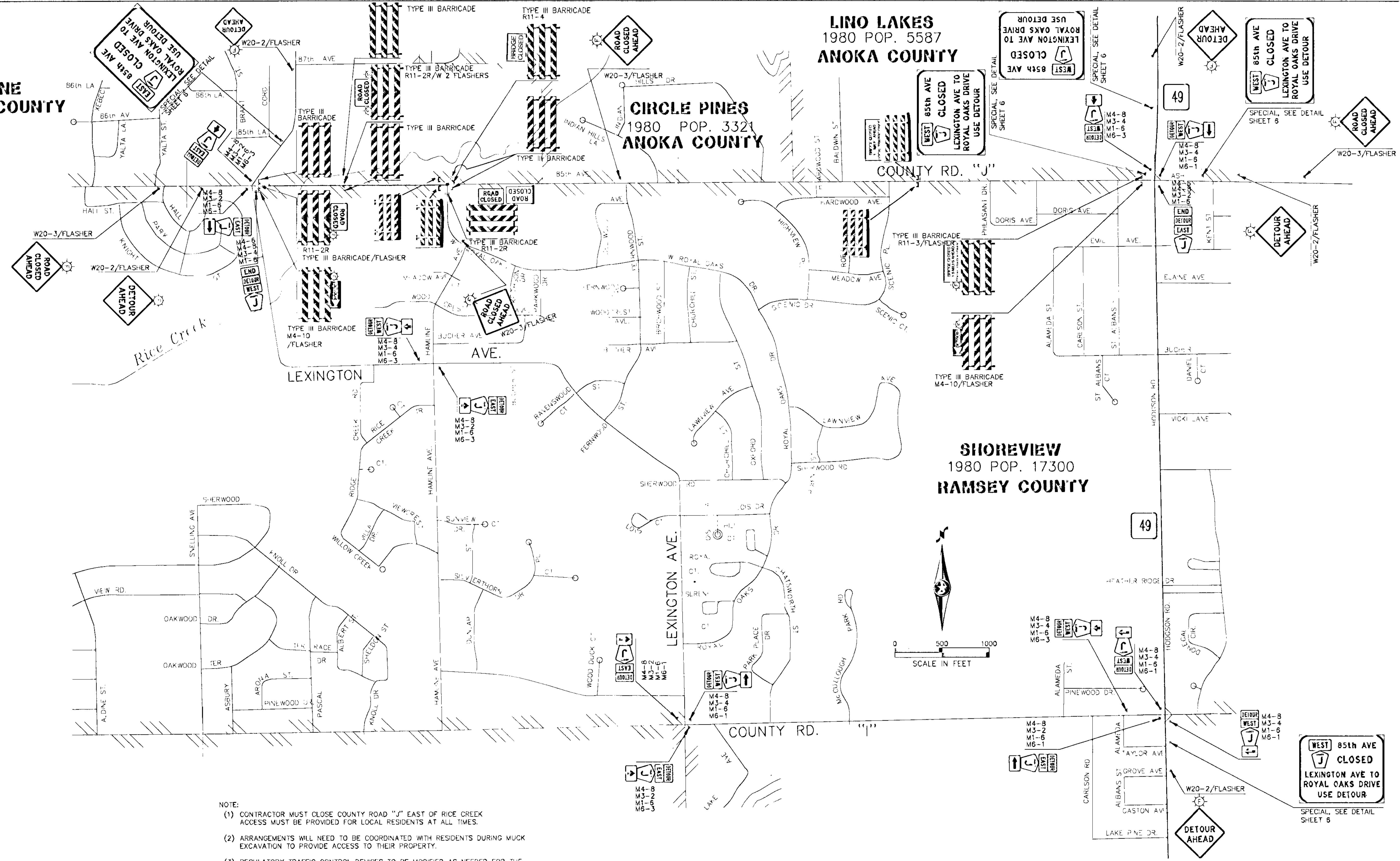
DESIGN FILE No. 99002

**BLAINE  
ANOKA COUNTY**

**LINO LAKES  
1980 POP. 5587  
ANOKA COUNTY**

**CIRCLE PINES  
1980 POP. 3321  
ANOKA COUNTY**

**SHOREVIEW  
1980 POP. 17300  
RAMSEY COUNTY**



- NOTE:
- (1) CONTRACTOR MUST CLOSE COUNTY ROAD "J" EAST OF RICE CREEK ACCESS MUST BE PROVIDED FOR LOCAL RESIDENTS AT ALL TIMES.
  - (2) ARRANGEMENTS WILL NEED TO BE COORDINATED WITH RESIDENTS DURING MUCK EXCAVATION TO PROVIDE ACCESS TO THEIR PROPERTY.
  - (3) REGULATORY TRAFFIC CONTROL DEVICES TO BE MODIFIED AS NEEDED FOR THE DURATION OF THE DETOUR.

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the State of Minn. Statutes Sections 326.02 to 326.16.

**BRM**  
PLANNING  
TRANSPORTATION  
ENGINEERING  
URBAN DESIGN  
INC. 700 THIRD STREET SOUTH, MINNEAPOLIS, MN 55415

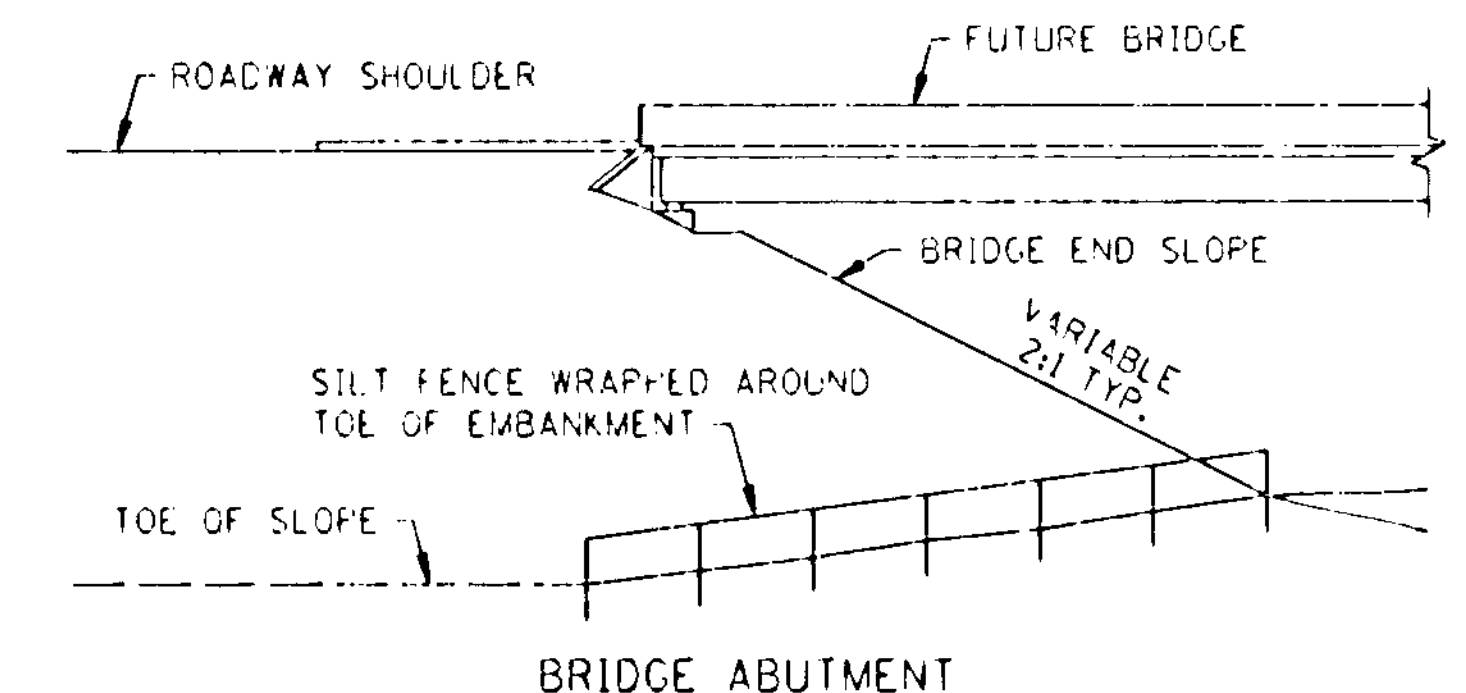
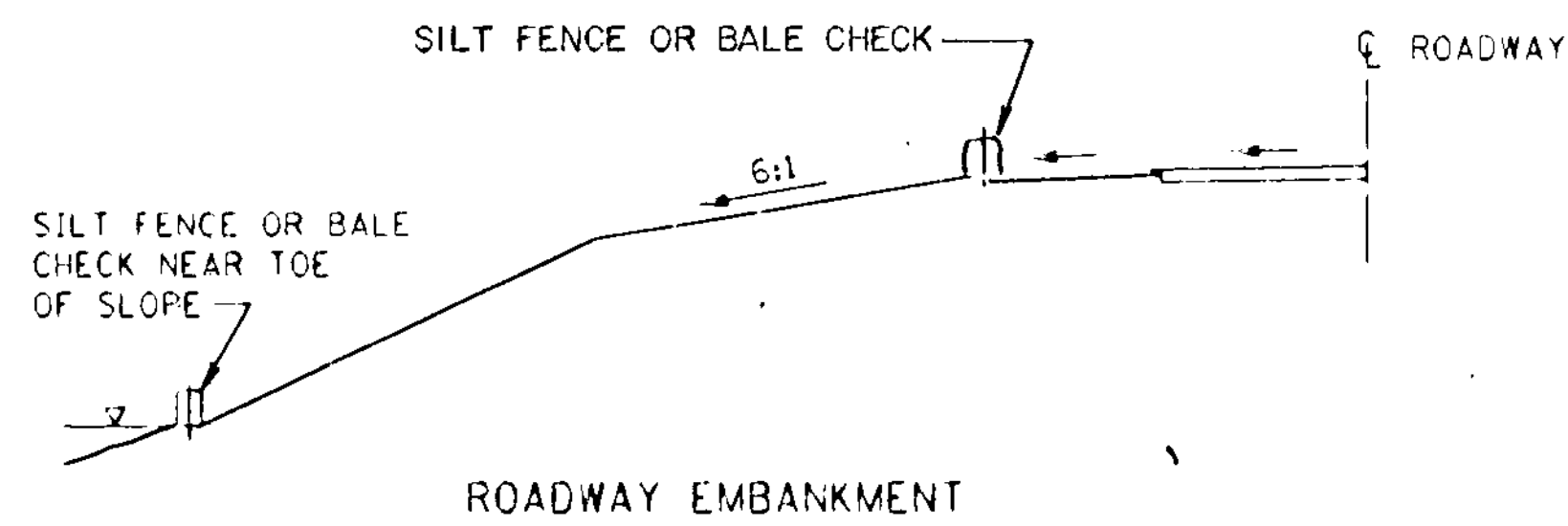
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DRAWN BY: TIG  
CHECKED BY: TIG

SURVEY BOOK

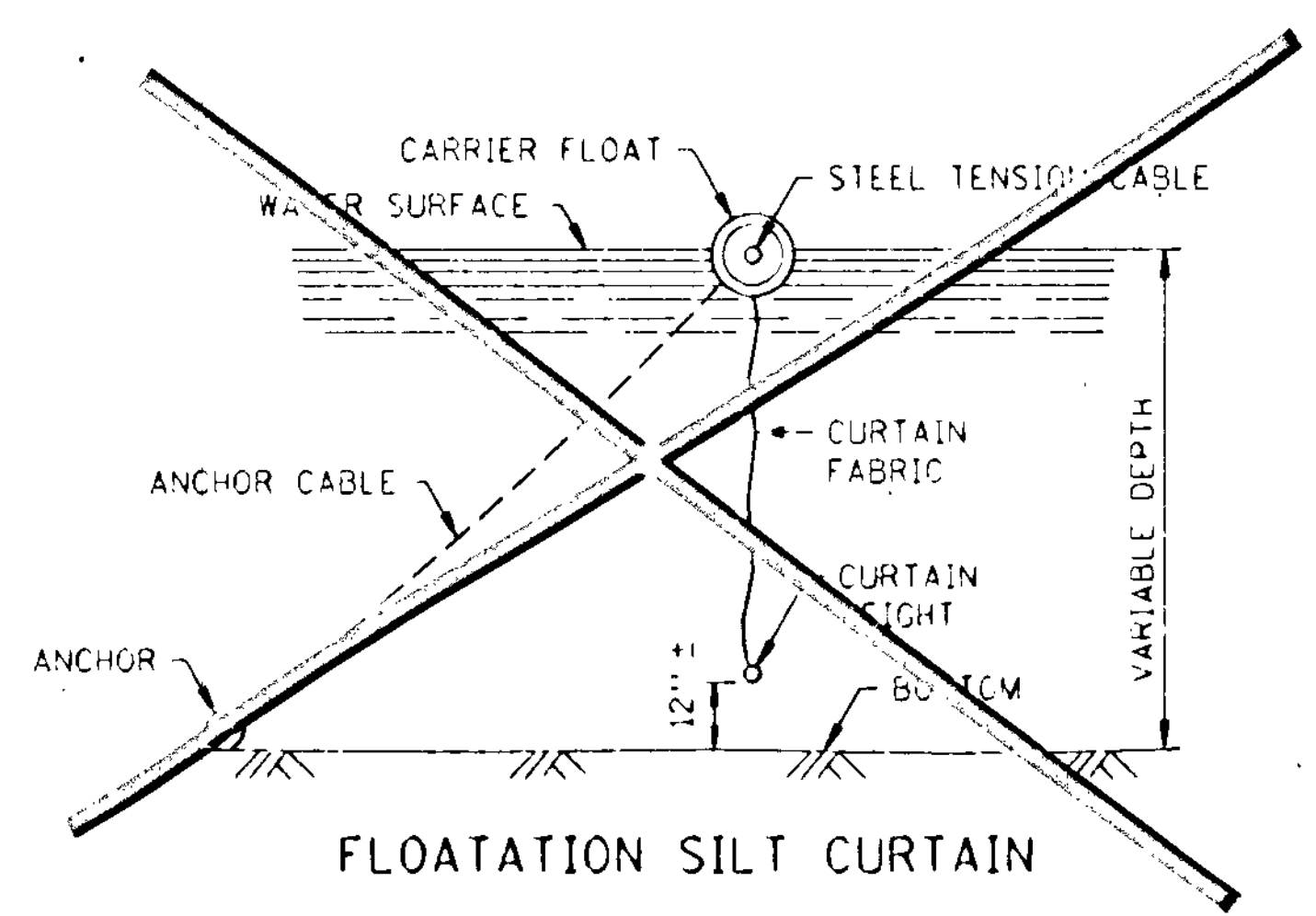
ORIGINAL DATE 10/04/9
REVISIONS

**COUNTY ROAD "J"  
C.S.A.H. 32  
RAMSEY/ANOKA COUNTY  
DETOUR LAYOUT**

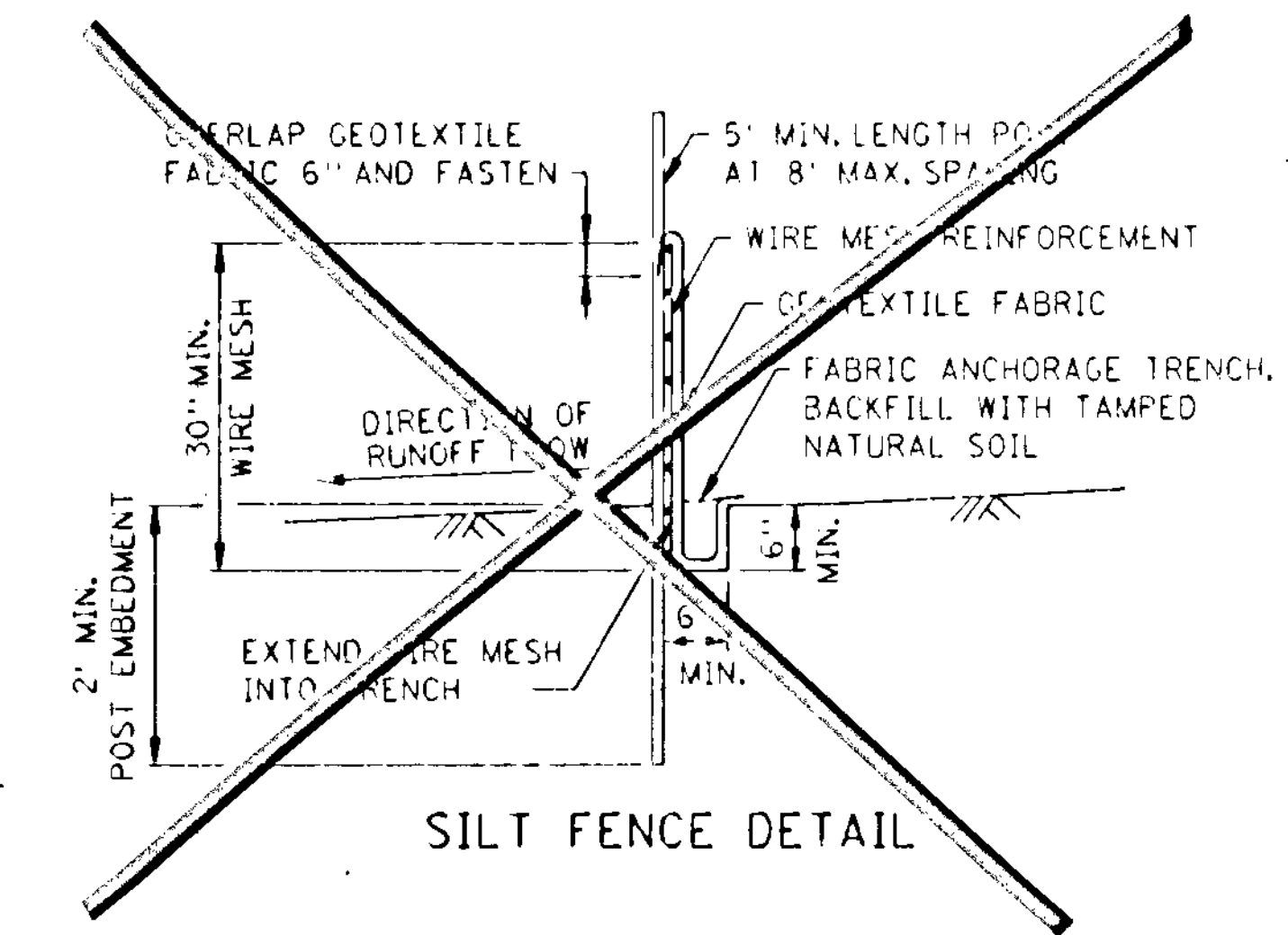




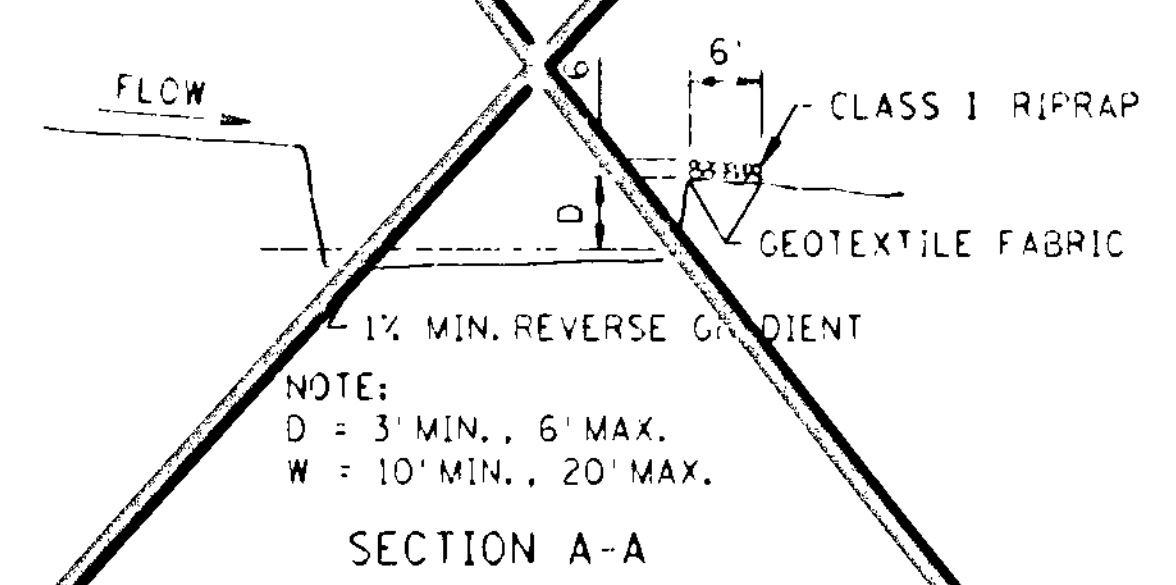
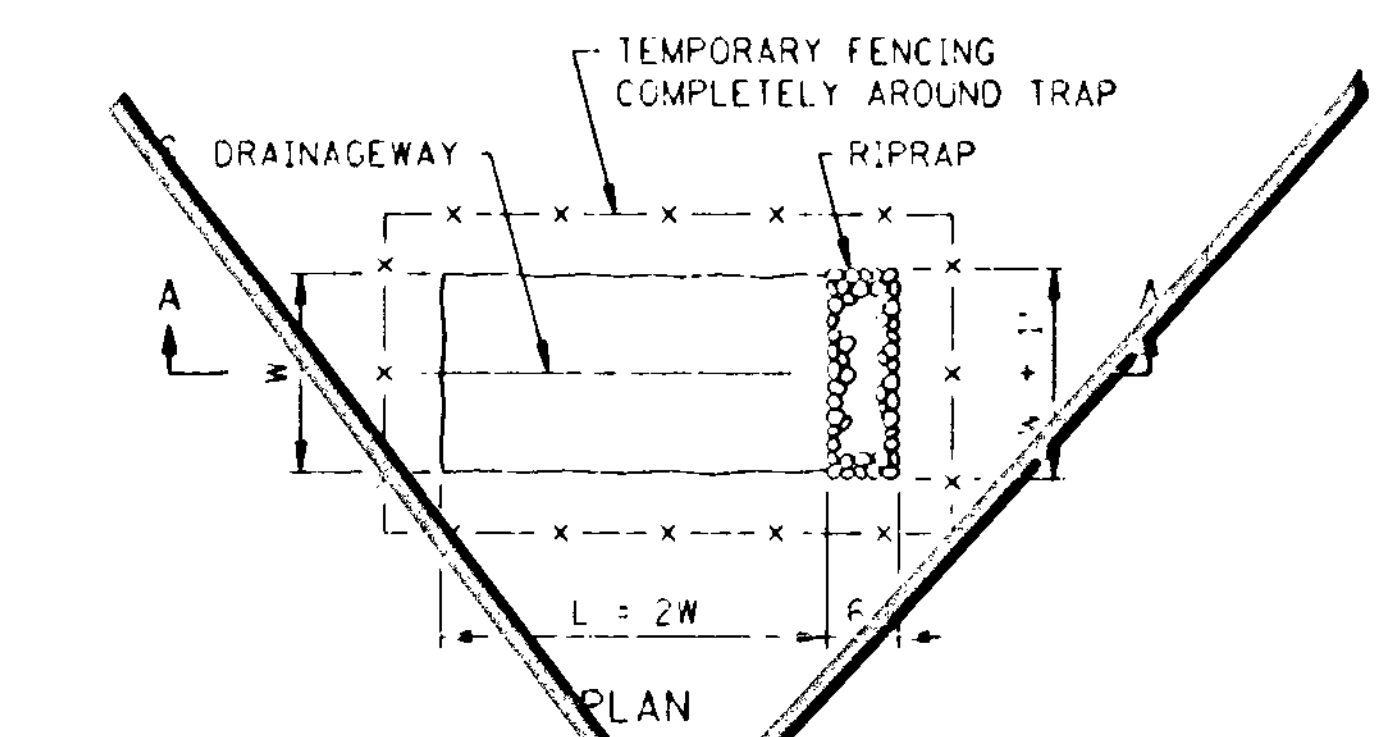
SILT FENCE OR BALE CHECK TO PROTECT ADJACENT CRITICAL AREAS



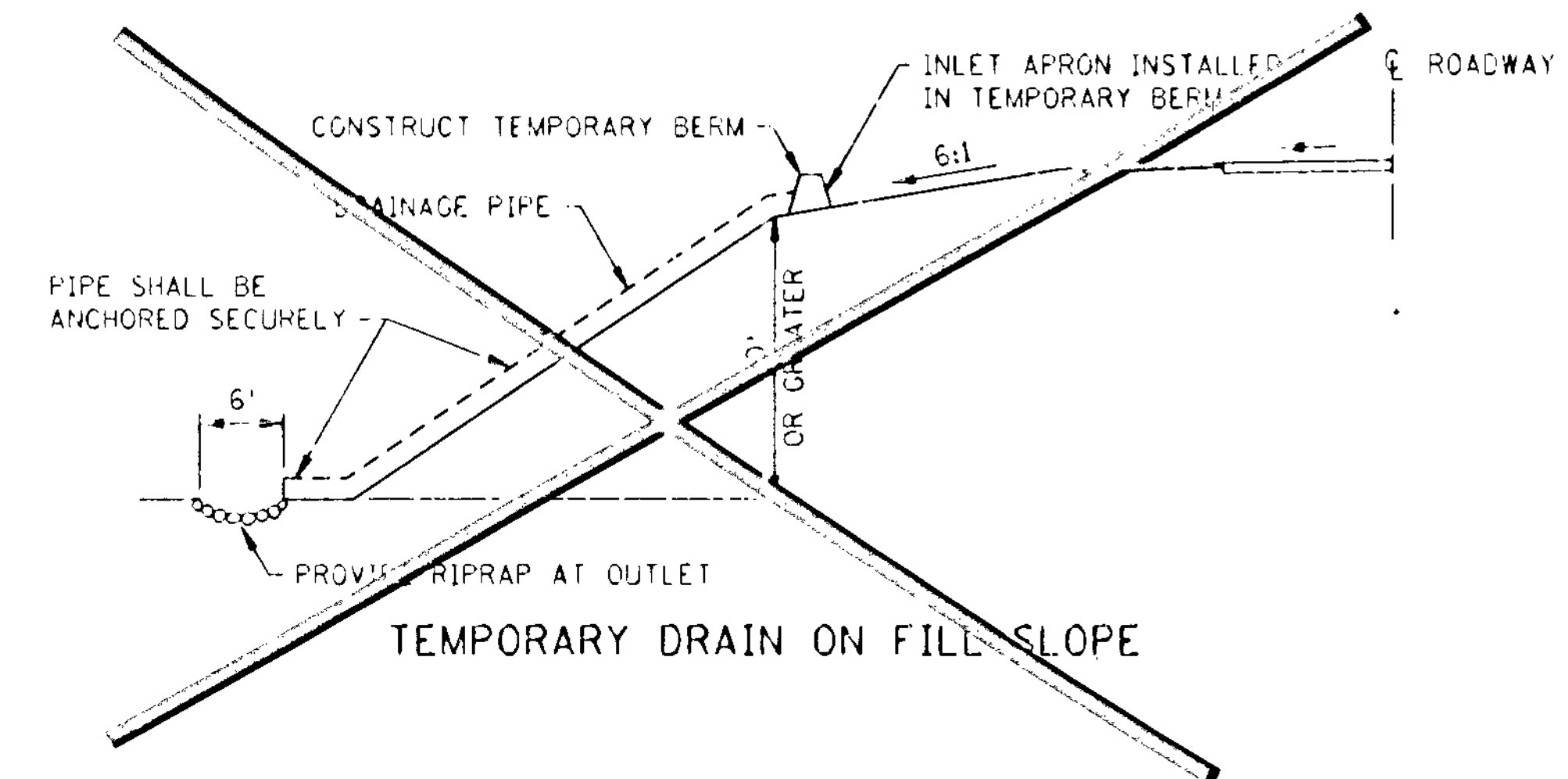
FLOATATION SILT CURTAIN



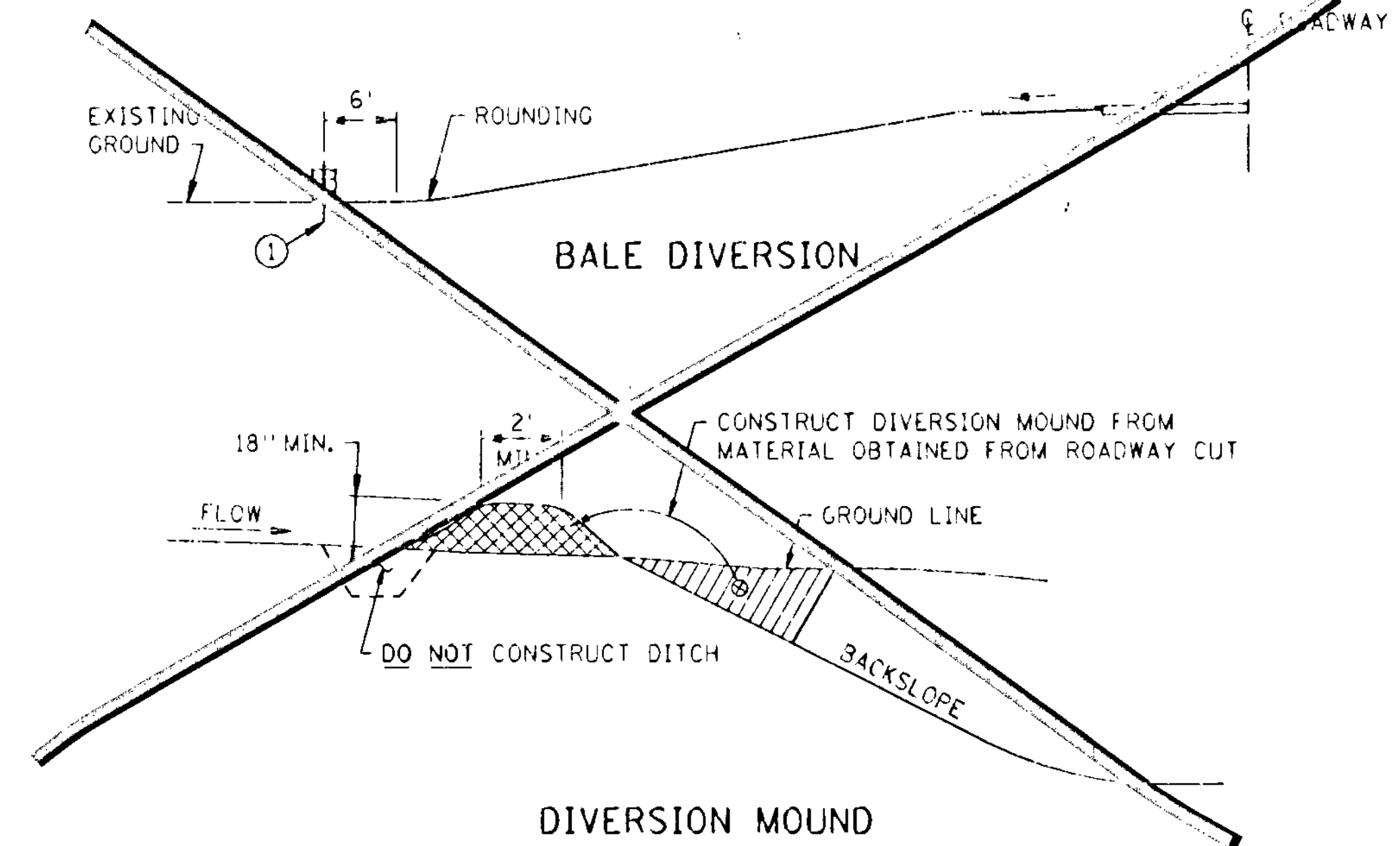
SILT FENCE DETAIL



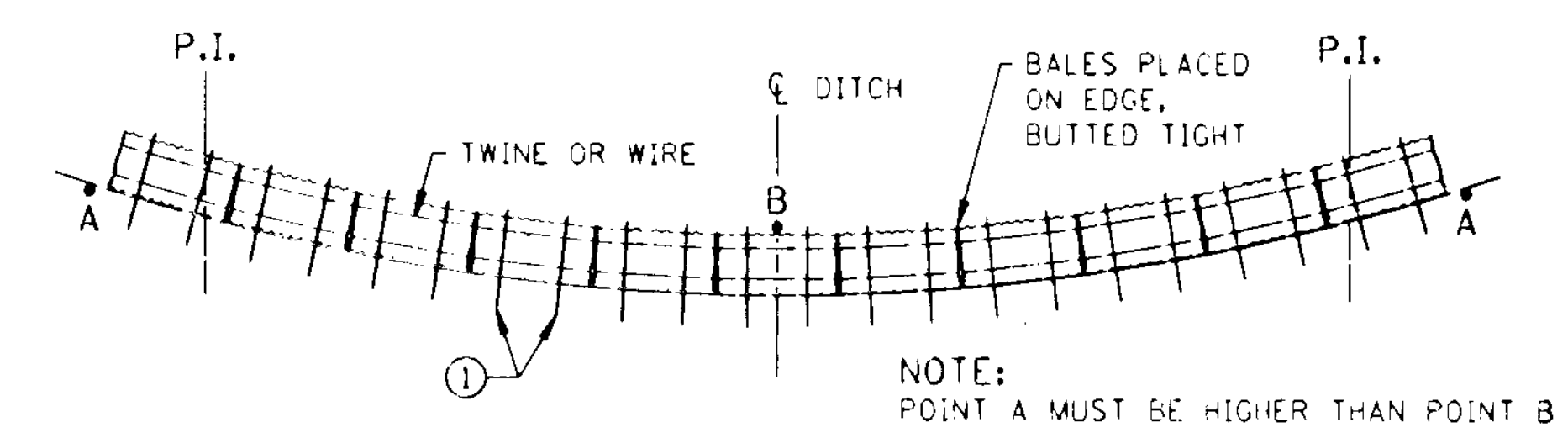
SECTION A-A  
TEMPORARY SEDIMENT TRAP



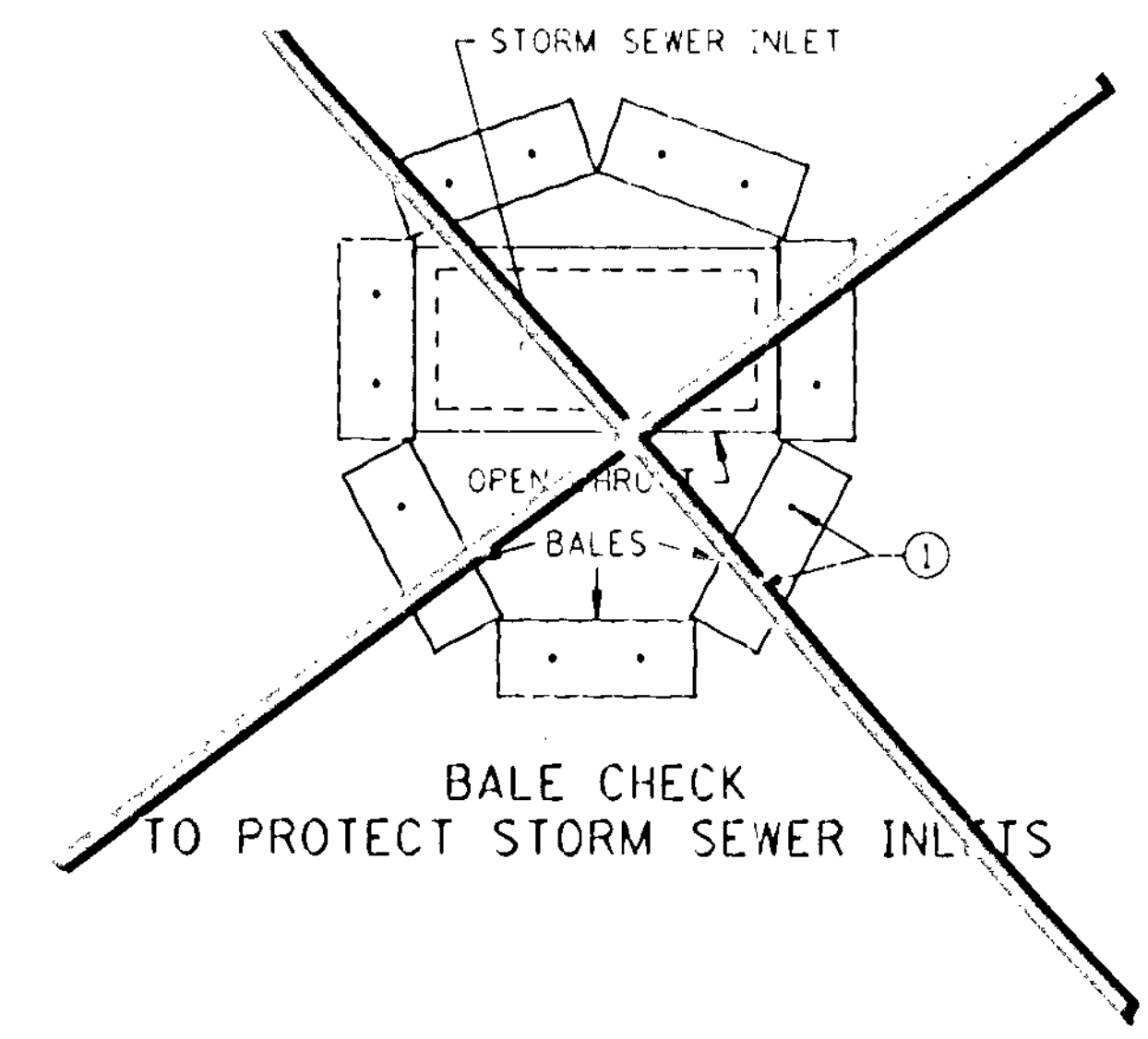
TEMPORARY DRAIN ON FILL SLOPE



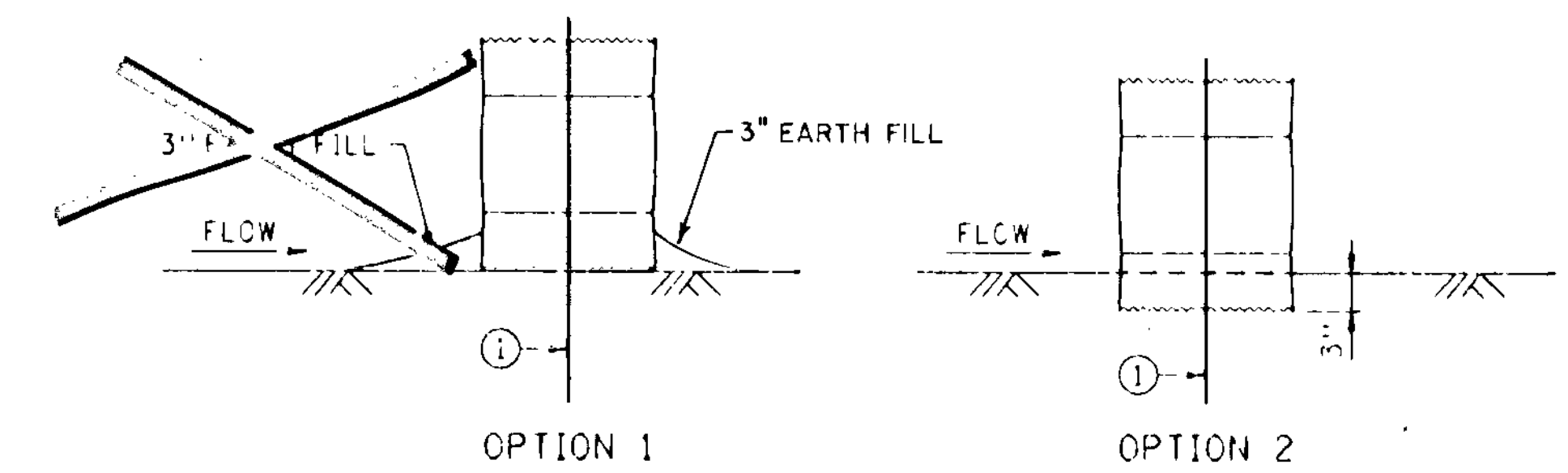
DIVERSION MOUND



BALE DITCH CHECK



BALE CHECK TO PROTECT STORM SEWER INLETS

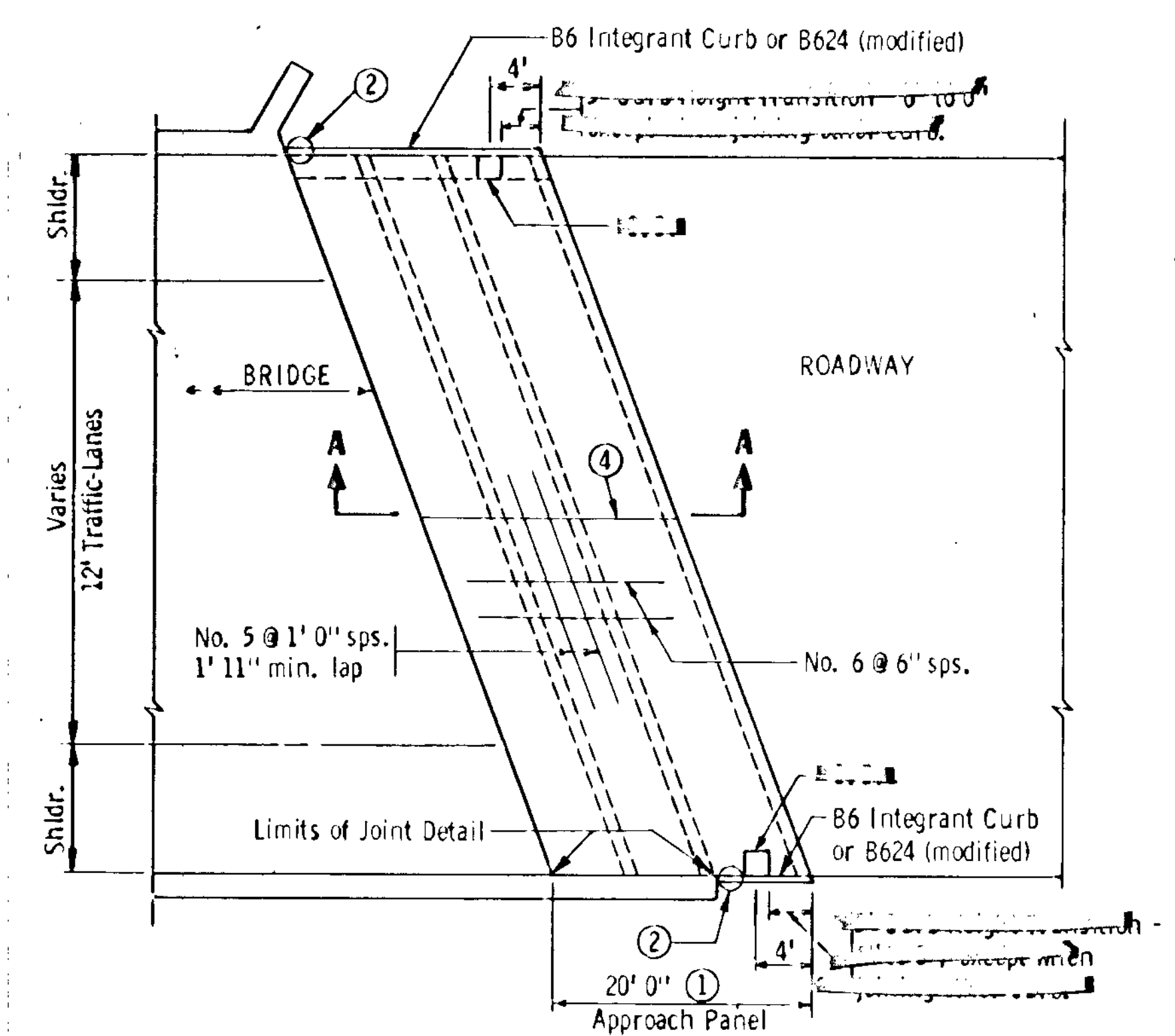


BALE CHECK DETAILS

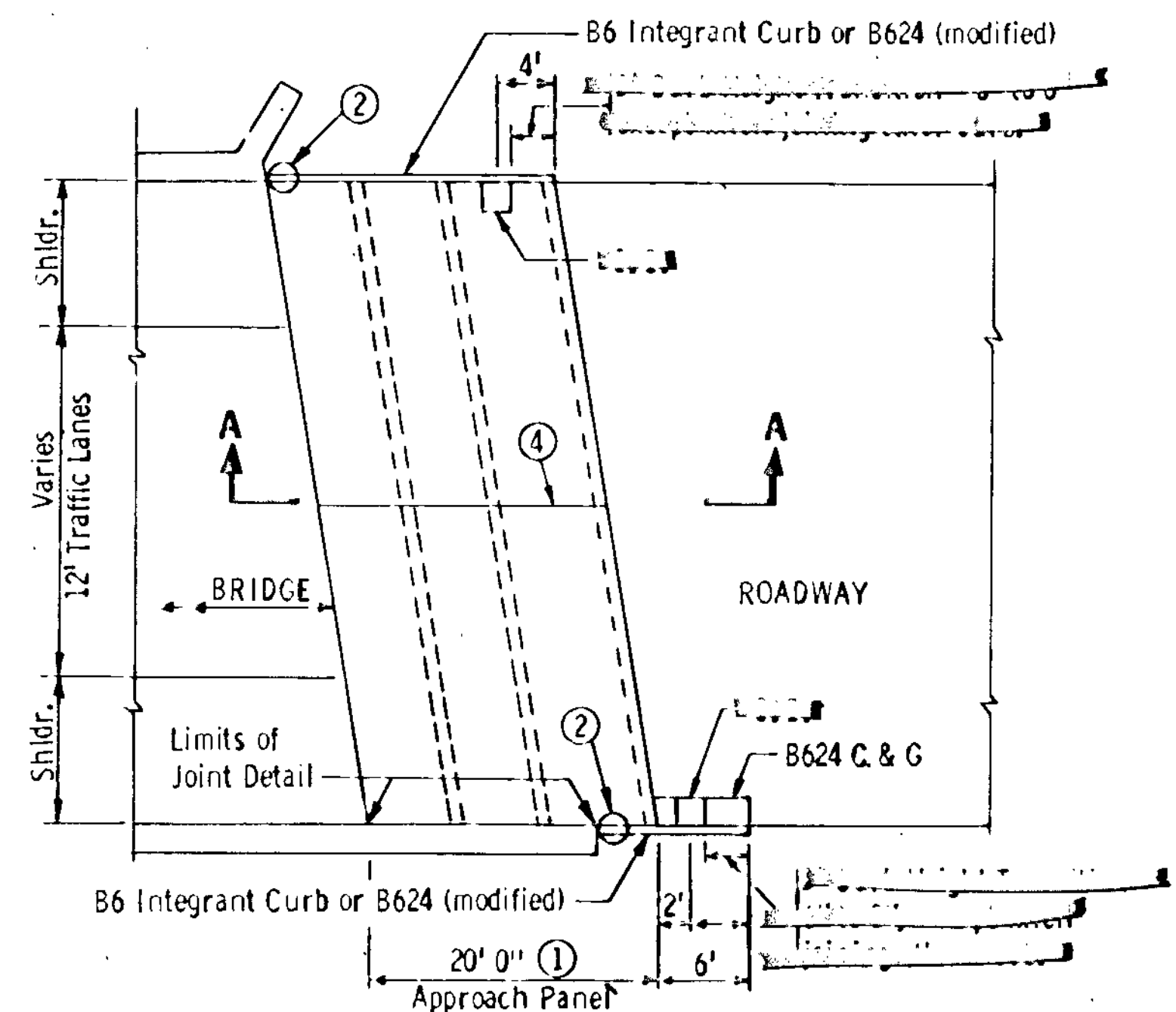
NOTE:  
① TWO 2" X 2" WOOD STAKES OR REINFORCING BARS IN EACH BALE AND EMBEDDED IN THE GROUND 10" MINIMUM.

VAX760 GSA3:145:1001 FILE NAME S405L90.SPN

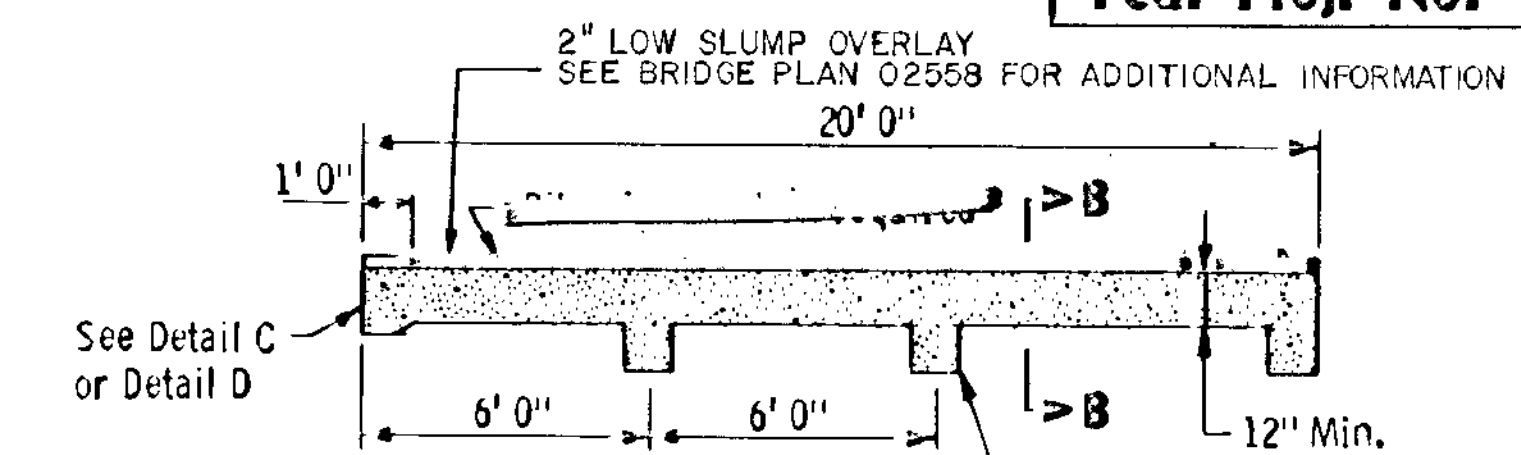
STANDARD SHEET NO. 5-297.405	TITLE: TEMPORARY EROSION CONTROL
STANDARD APPROVED: DECEMBER 19, 1990	
STATE PROJ. NO. 02-632-04, 62-601-06	SHEET NO. 9 OF 32 SHEETS



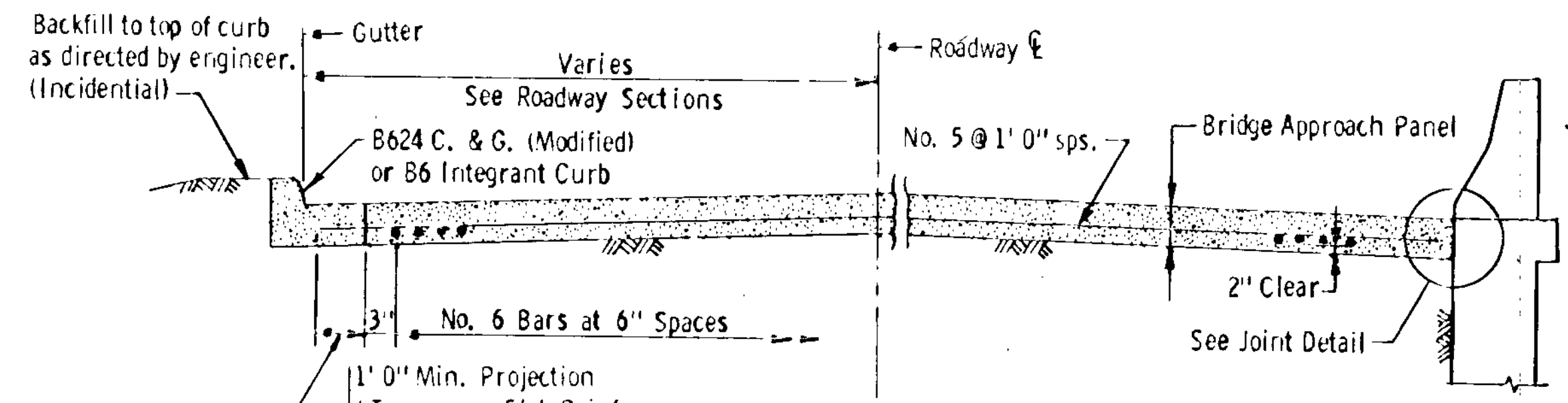
**ROADWAY PLAN**  
PARALLEL & NONPARALLEL WINGWALLS  
14 FT. AND LESS IN LENGTH



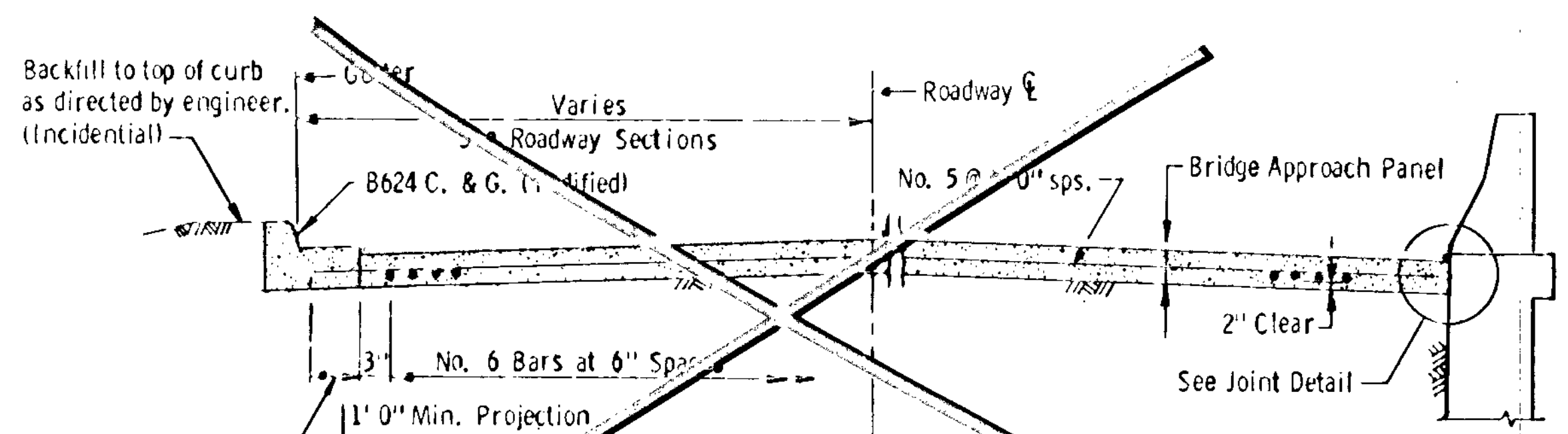
**ROADWAY PLAN**  
PARALLEL & NONPARALLEL WINGWALLS  
OVER 14 FT. IN LENGTH



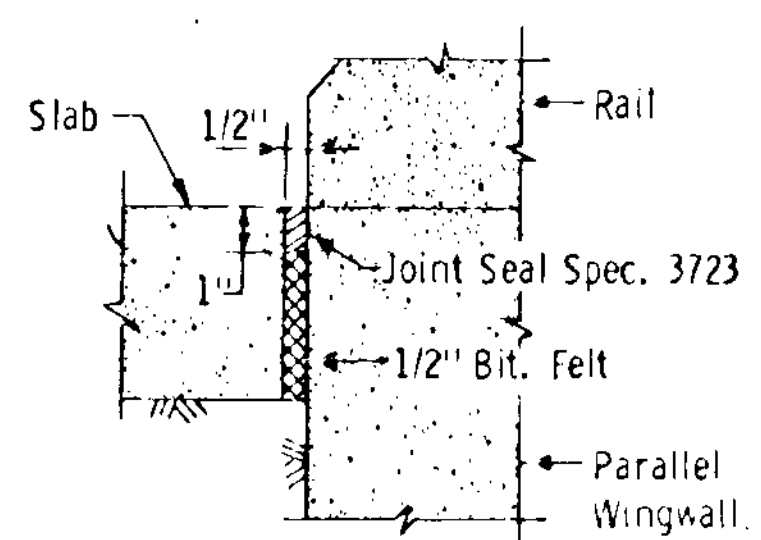
**SECTION A-A**



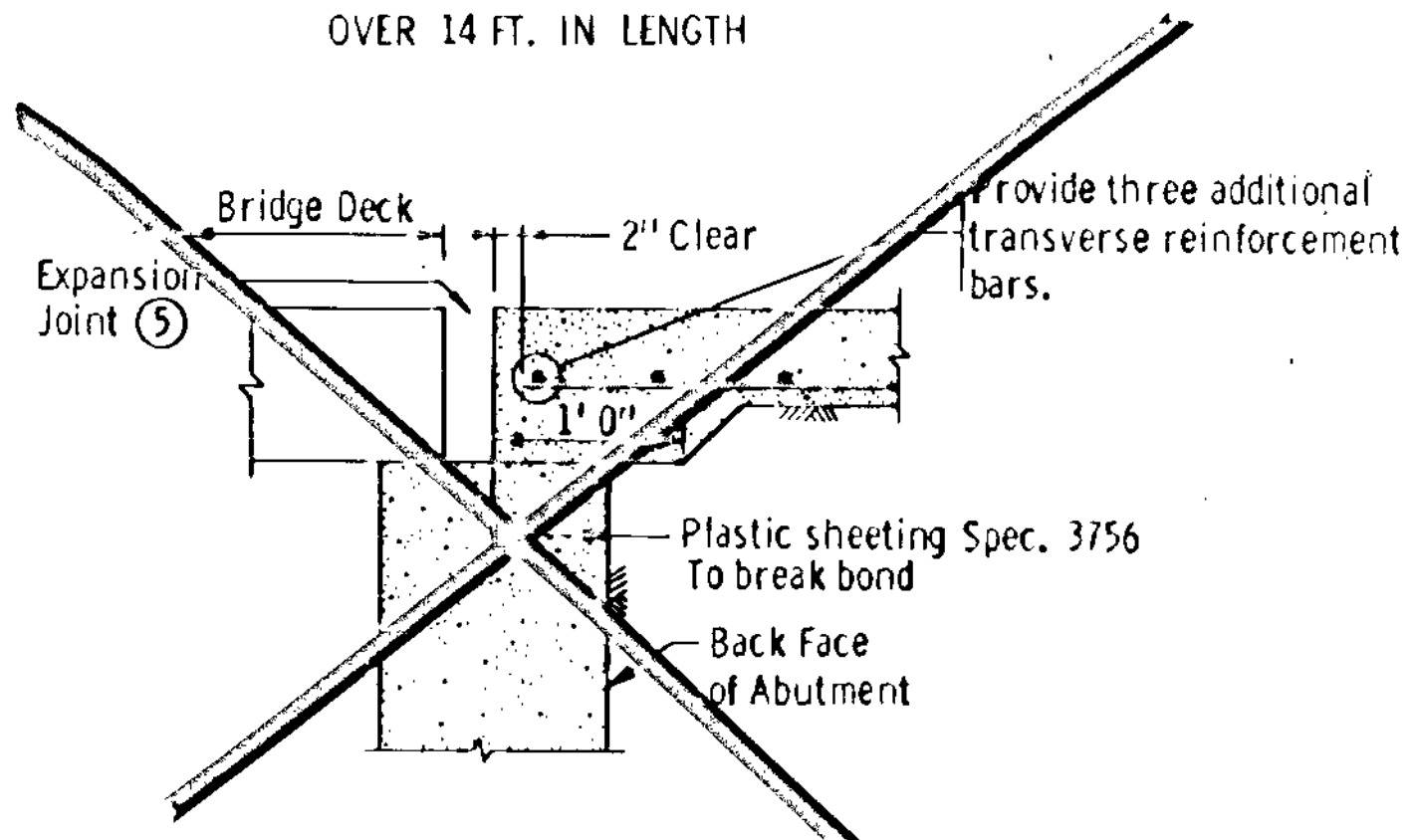
**SECTION B-B**  
(See Roadway Cross Section)  
THIS SECTION TO BE USED WHEN BRIDGE SURFACE IS CONCRETE



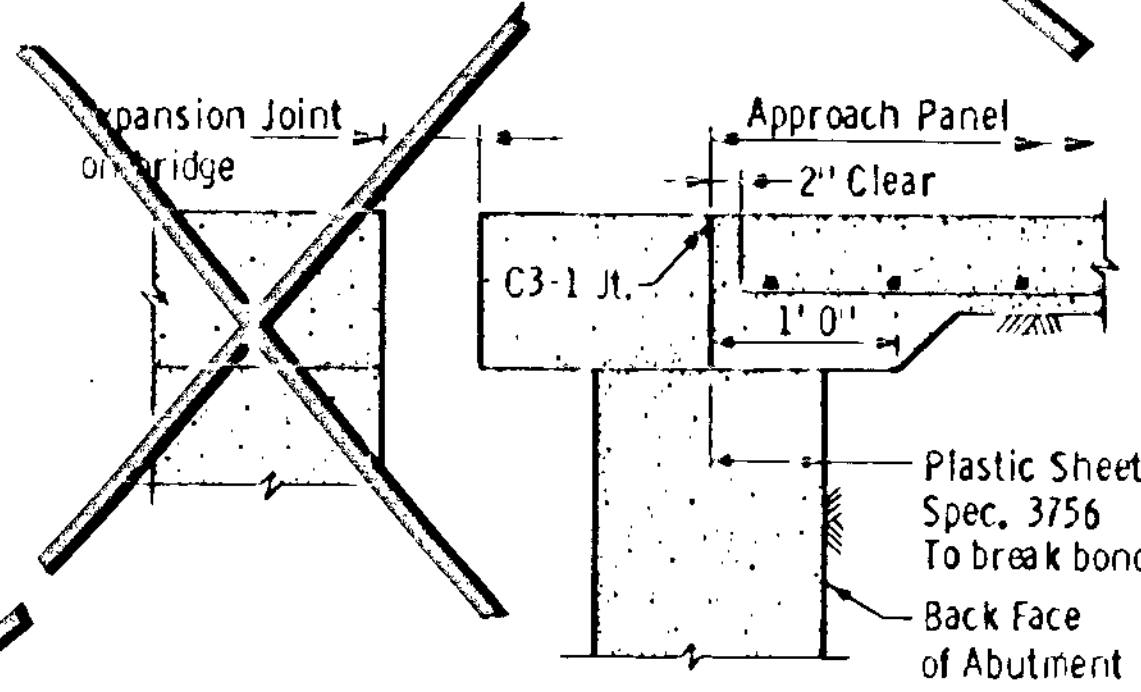
**SECTION B-B**  
(See Roadway Cross Section)  
THIS SECTION TO BE USED WHEN BRIDGE SURFACE IS BITUMINOUS



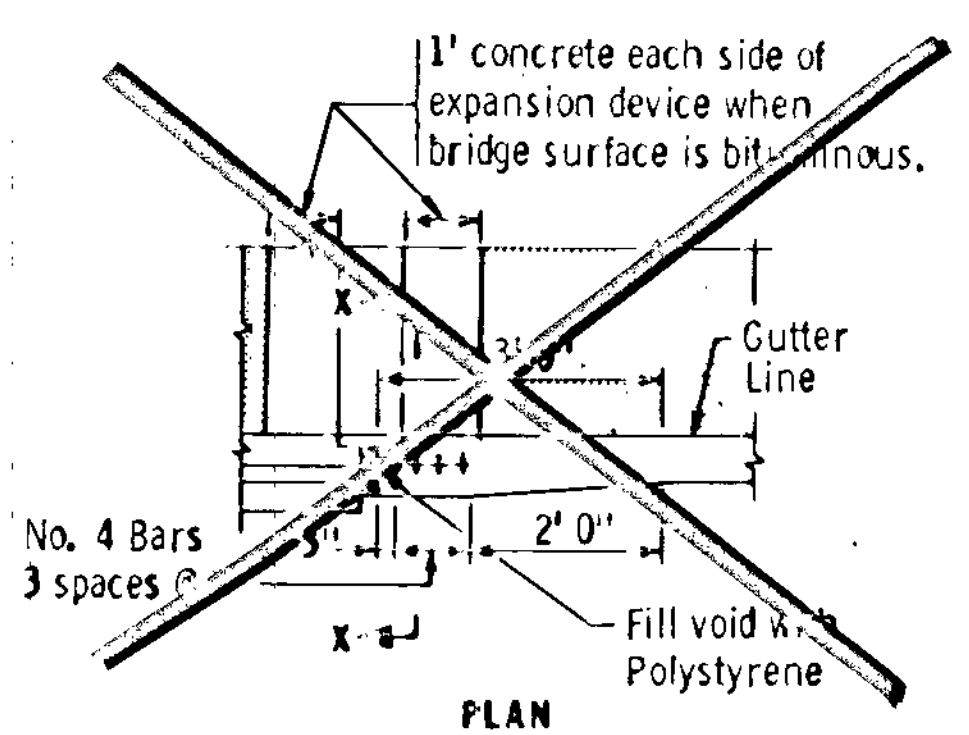
**JOINT DETAIL**



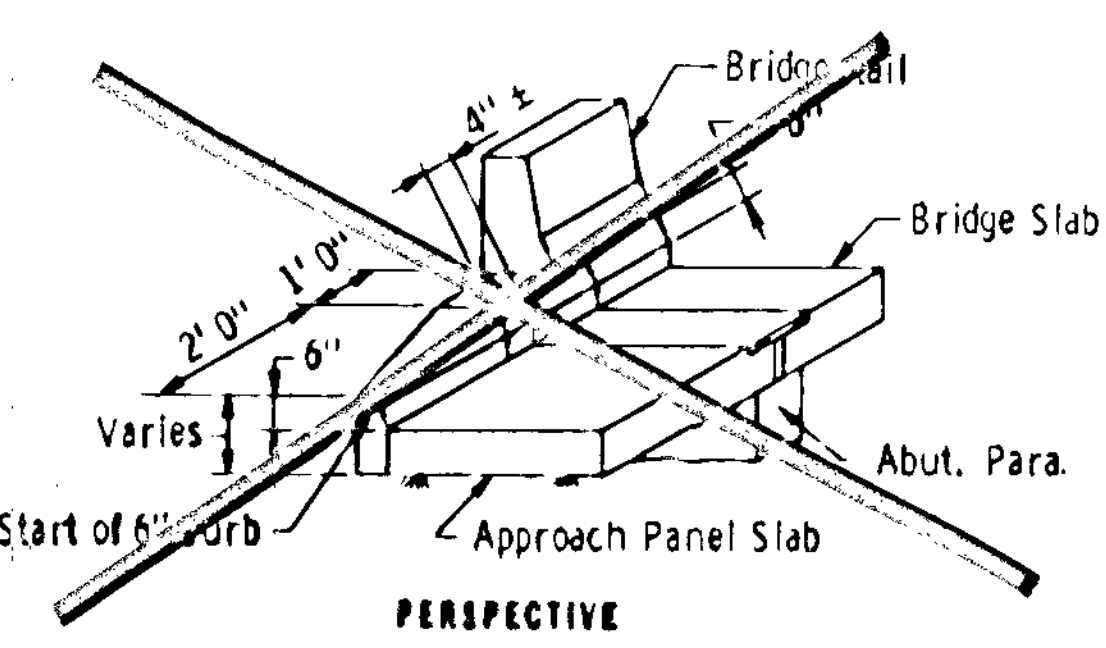
**DETAIL C**



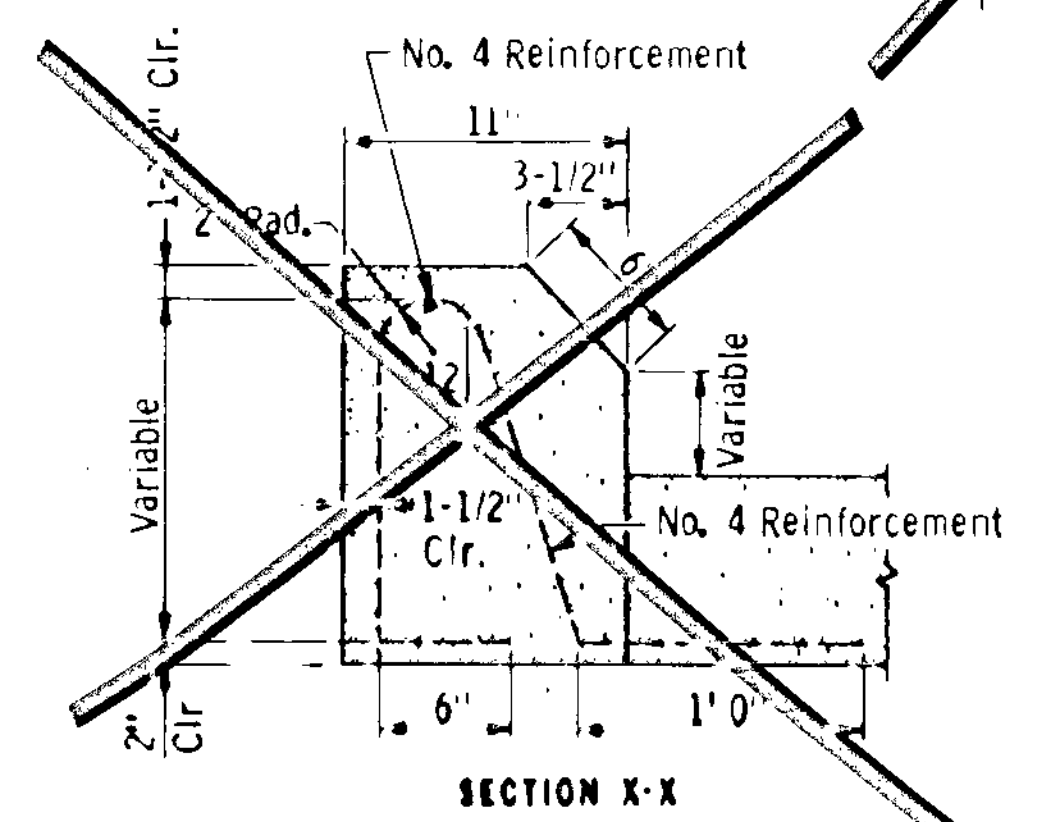
**DETAIL D**



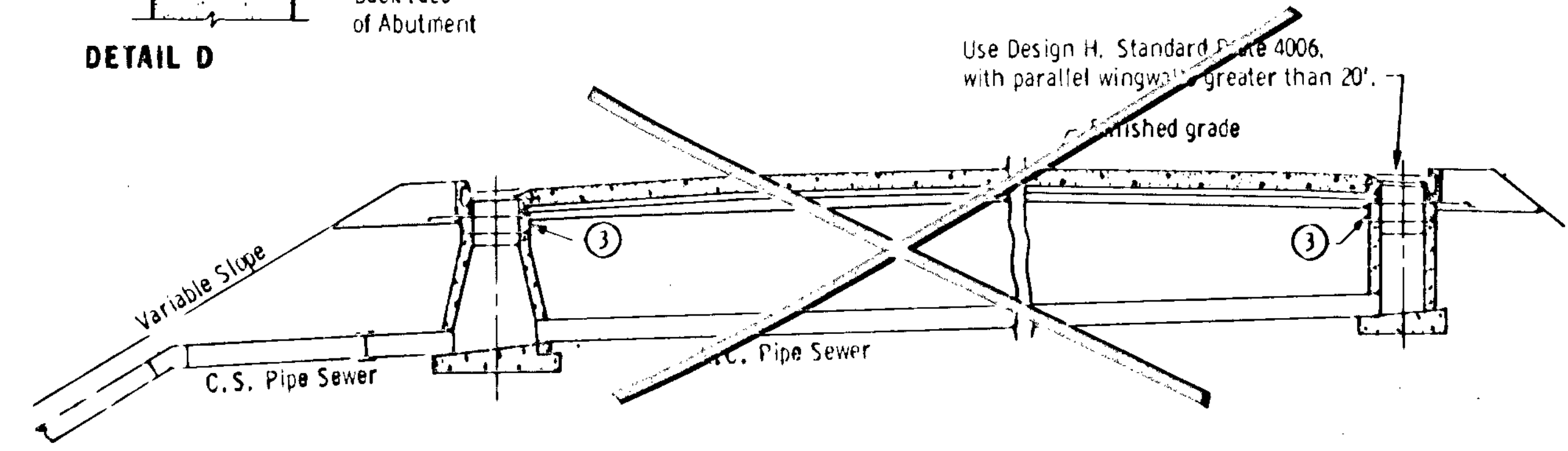
**PLAN**



**PERSPECTIVE**



**SECTION X-X**



**CROSS SECTION AT CATCH BASINS**

**NOTES:**

- ① Use No. 6 bars @ 6" longitudinal and No. 5 bars @ 1'-0" transverse reinforcement.
- ② Transition face of 6" curb into profile of bridge railing as necessary.
- ③ Adjust as required as per Spec. 2506 with 2" conc. adjusting rings. See Standard Plate 4010.
- ④ 1' longitudinal joint. (L2) See Standard Plan Sheet 5-297.221.
- ⑤ Expansion device shall be furnished by bridge contractor. Bridge contractor shall install bridge end of expansion device and leaving contractor complete expansion joint installation.

APPROVED July 5, 1979  
*R. L. Mann*  
Director  
OFFICE OF ENGINEERING STANDARDS

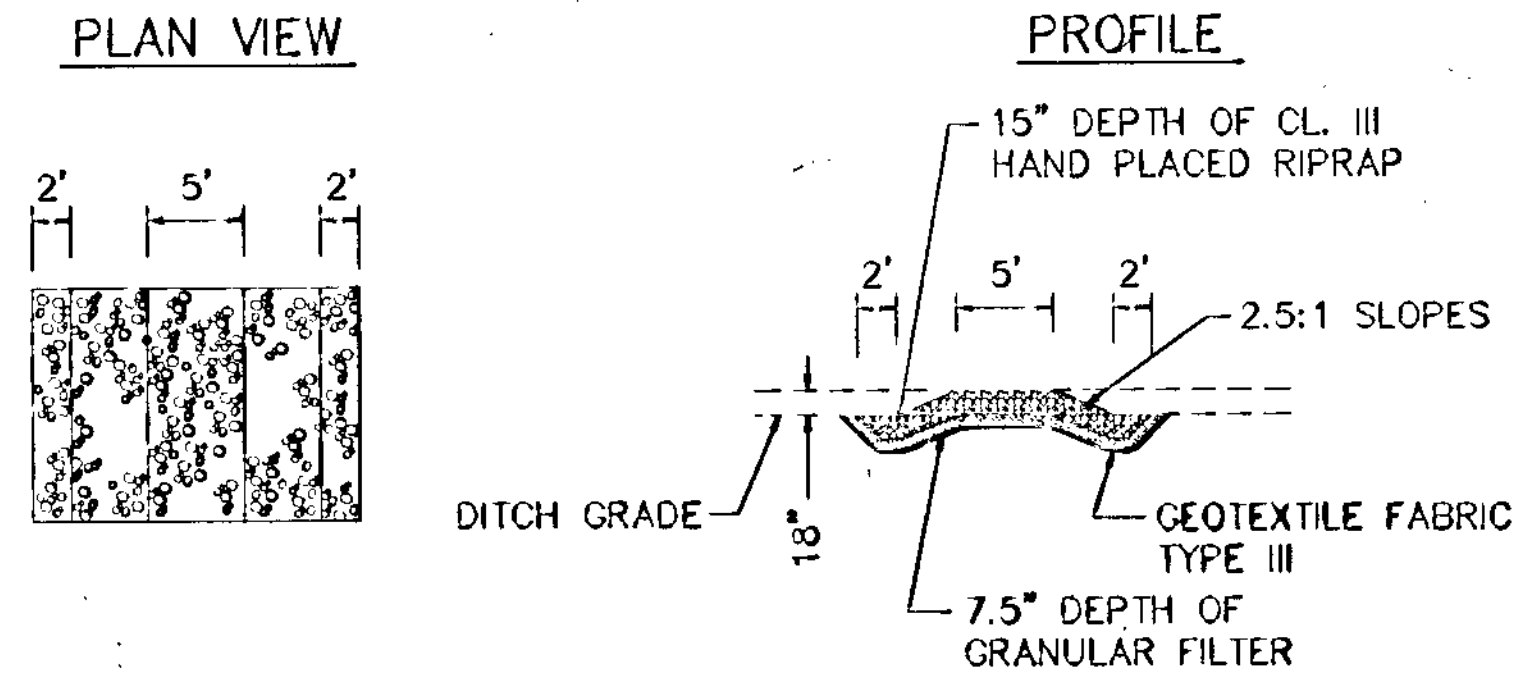
**CURB TRANSITION DETAILS**  
FOR USE WHEN BRIDGE EXPANSION  
JOINT IS BETWEEN END OF APPROACH  
PANEL AND BRIDGE SLAB

S.A.P. 02-652-04  
S.A.P. 62-601-06

**BRIDGE APPROACH PANEL**  
ALL SKEWS (BITUMINOUS PAVEMENT)



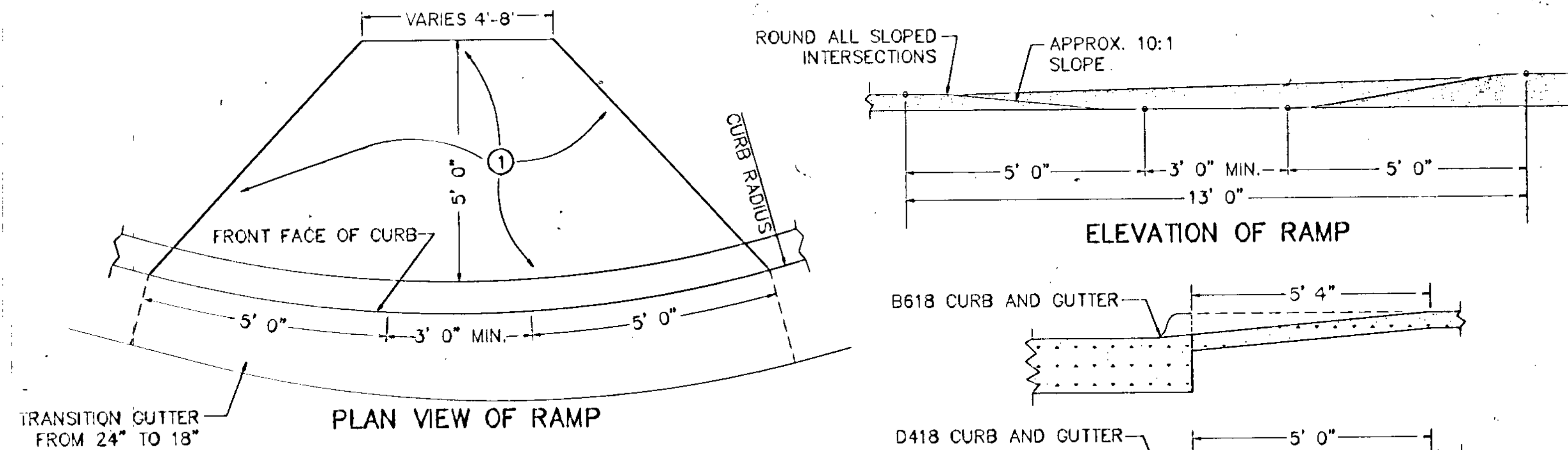
**FILTER BERM DETAIL**



ESTIMATED QUANTITIES				
LOCATION	RIPRAP	GRANULAR FILTER	GEOTEXTILE FABRIC (TYPE III)	TOP ELEVATION
163+00	12.6 CY	6.3 CY	30 SY	878.53

**FILTER BERM NOTES**

- (1) PAYMENT FOR FILTER BERM SHALL BE MADE AS ITEMS 2511.505 H.P. RIPRAP, 2511.511 GRANULAR FILTER AND 2105.609 GEOTEXTILE FABRIC.
- (2) GEOTEXTILE FABRIC SHALL BE A NON-WOVEN TYPE III AND MEET THE REQUIREMENTS OF SPECIFICATION 3733.2



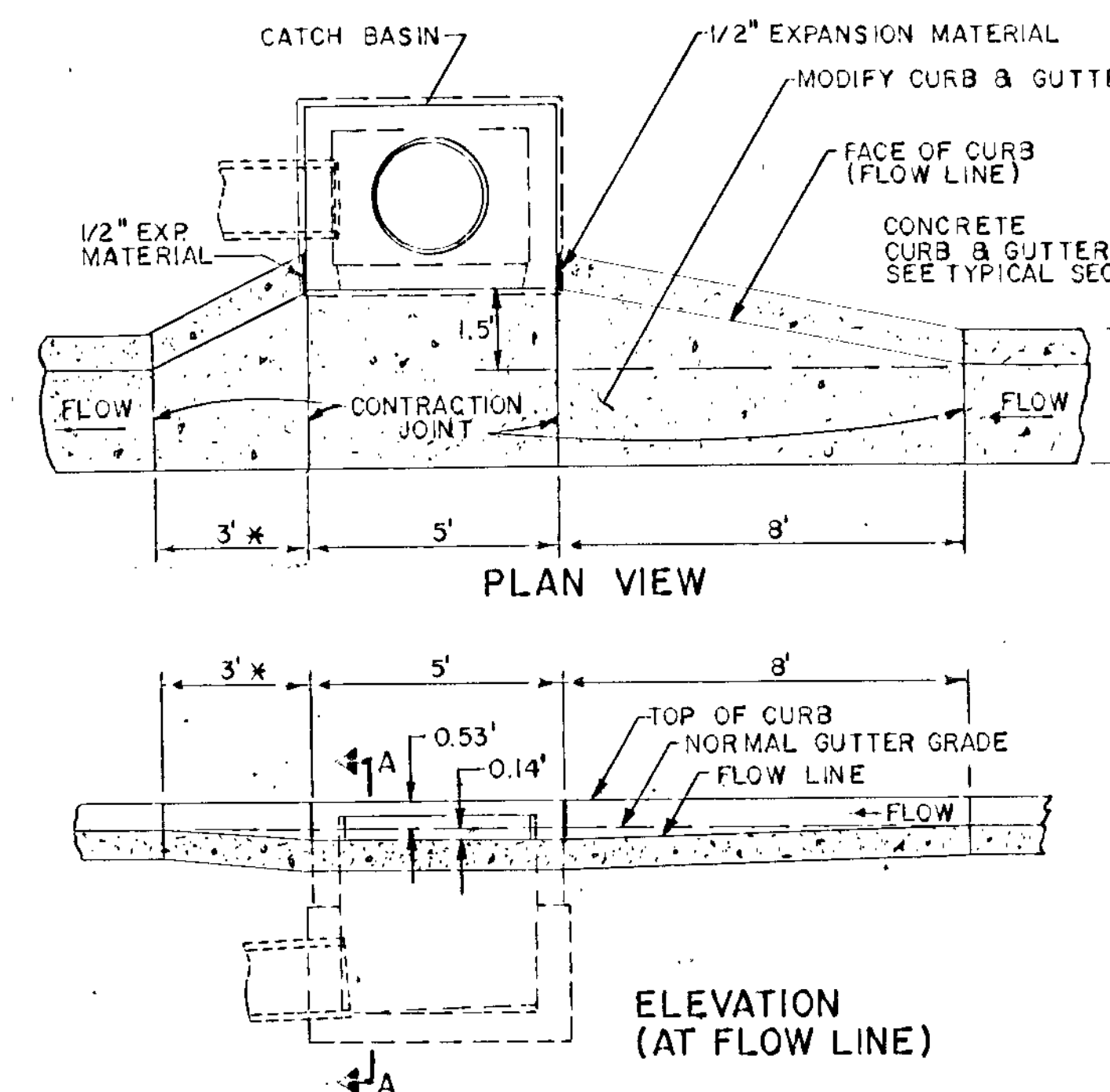
**GENERAL NOTES:**

THE CURB AND CURB TRANSITION ON THE RAMP WILL BE PAID FOR AS LINEAR FEET OF CONCRETE CURB OR CONCRETE CURB AND GUTTER.  
 THE RAMP AREA WILL BE PAID FOR AS SQUARE FEET OF CONCRETE WALK.  
 SURFACE TREATMENT WILL BE CONSIDERED INCIDENTAL.

**SPECIFIC NOTES:**

- (1) SURFACE TREATMENT A- THE CONCRETE MIX FOR "SURFACE TREATMENT A" ONLY, SHALL CONFORM TO MIX 3A37EX. IMMEDIATELY AFTER CONCRETE PLACEMENT AND FINISHING, AND AFTER CONTRACTION JOINTS ARE FORMED, AN APPROVED SURFACE RETARDER SHALL BE APPLIED TO THE AREA REQUIRED TO BE EXPOSED. AFTER ADEQUATE CURE WITH 3752 WATER-PROOF CURING PAPER OR 3756 PLASTIC CURING BLANKETS, THE SURFACE SHALL BE LIGHTLY RINSED TO WASH MORTAR AND EXPOSE THE AGGREGATE.  
 SURFACE TREATMENT B- IN LIEU OF THE ABOVE TREATMENT A, THE CONTRACTOR AT HIS OPTION AFTER NORMAL CONCRETE FINISHING SHALL COMPLETELY EMBED AGGREGATE MEETING THE REQUIREMENTS OF SPEC. 3137 CA-70 MODIFIED TO 100% OF THE MATERIAL 1/2" TO 3/8" IN SIZE, IN THE GREEN CONCRETE. THE SURFACE SHOULD THEN BE FINISHED AGAIN AND AN APPROVED SURFACE RETARDER SHALL THEN BE APPLIED TO THE AREA REQUIRED TO BE EXPOSED. AFTER ADEQUATE CURE WITH 3752 WATERPROOF CURING PAPER OR 3756 PLASTIC CURING BLANKETS THE SURFACE SHALL BE LIGHTLY RINSED TO WASH MORTAR OFF AND EXPOSE THE AGGREGATE.

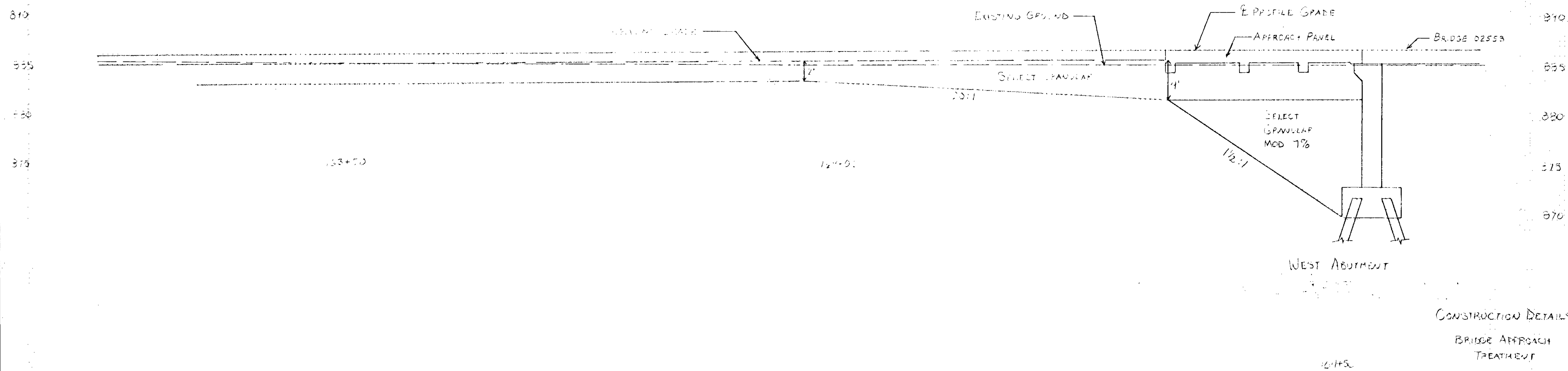
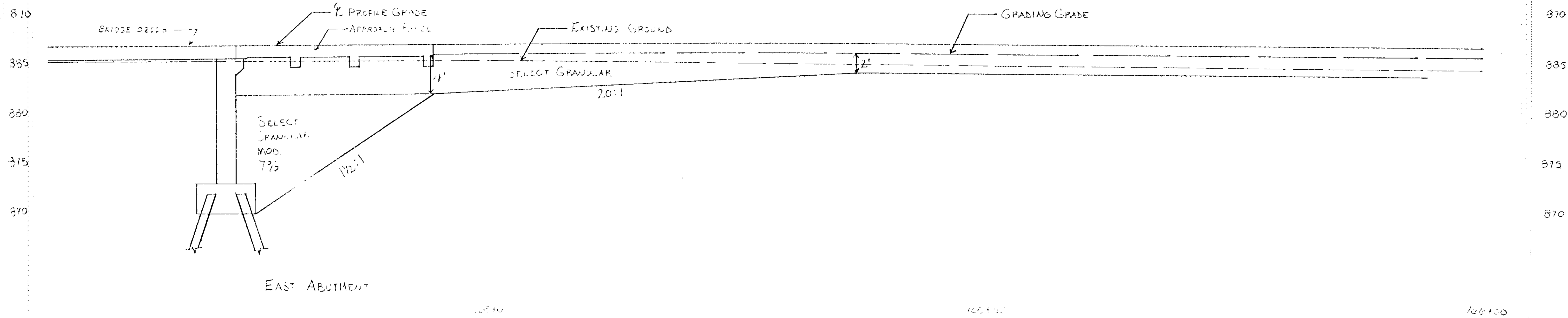
**CURB OPENING CATCH BASIN - DESIGN LP INSTALLATION DETAIL**



**NOTES:**

1. X DIMENSION SHALL BE 8' WHEN STRUCTURE INSTALLED AT LOW POINT IN GRADE.
2. CATCH BASIN - DESIGN LP- SEE MN/DOT STD. PL. NO 4021
3. TOP OF CATCH BASIN SHALL BE INSTALLED AT SAME SLOPE AS BLVD. GRADES AND TOP OF CURB GRADE EACH SIDE OF STRUCTURE
4. ELEVATION OF STRUCTURE IS COMPUTED AT LOCATION SHOWN IN SEC. A-A AT  $\frac{1}{2}$  OF CB. OPENING.

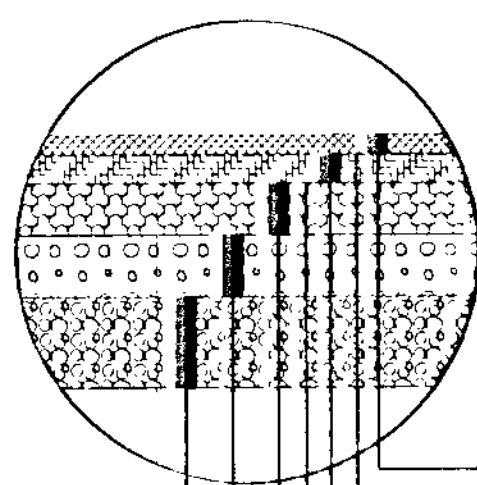
I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the State of Minn. Statutes Sections 326.02 to 326.16. Date: _____ Minn. Reg. No. 12666	PLANNING TRANSPORTATION ENGINEERING URBAN DESIGN 600 E. 700 THIRD STREET SOUTH, MINNEAPOLIS, MN 55415	ORIGINAL DATE 10/4/91 REVISIONS 4/8/92	COUNTY ROAD "J" C.S.A.H. 32 RAMSEY/ANOKA COUNTY CONSTRUCTION DETAILS
		DESIGN BY: _____ DRAWN BY: _____ CHECKED BY: _____	
S.A.P. NO. 02-632-04 62-601-06		SHEET 11 OF 32 DESIGN FILE No. 99002	



S.A.P. NO. 02-632-04  
62-601-06

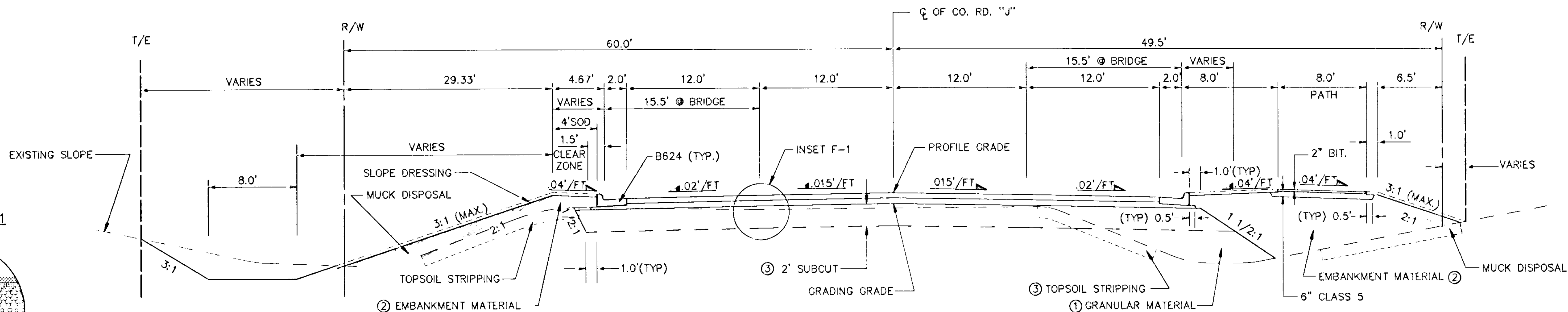
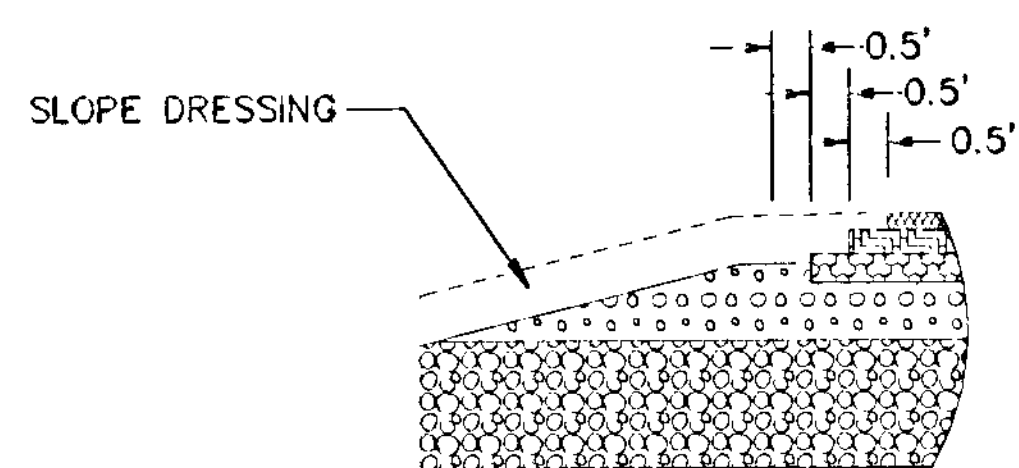
Sheet No. 12 of 32 Sheets

INSET F-1

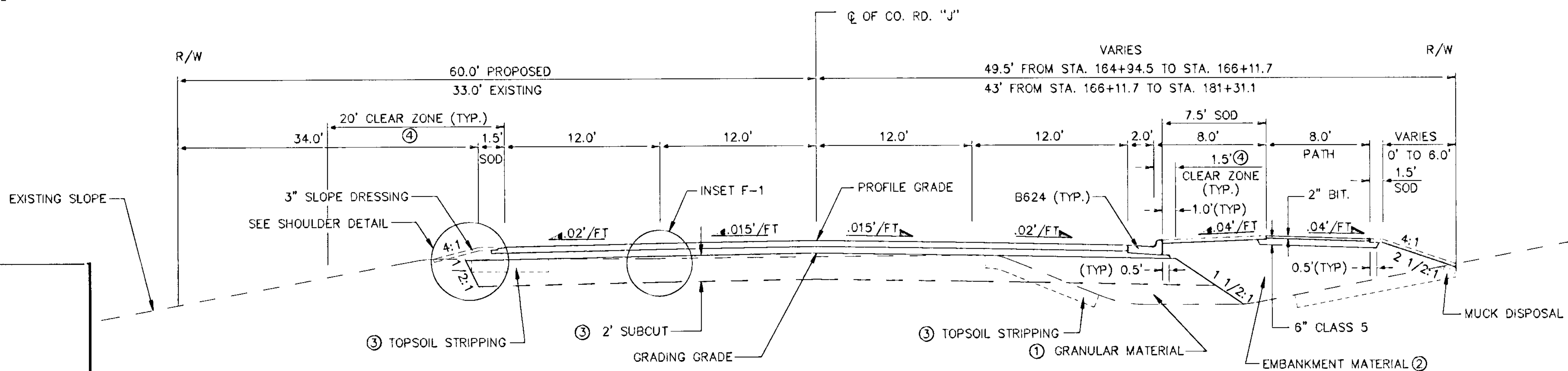


- 1" PLANT MIXED BITUMINOUS SURFACE, SPEC. 2331 WEAR COURSE TYPE 41.
- TACK COAT, SPEC. 2357.
- 1 1/2" PLANT MIXED BITUMINOUS SURFACE, SPEC. 2331, BINDER COURSE TYPE 31.
- TACK COAT, SPEC. 2357.
- 3" PLANT MIXED BITUMINOUS SURFACE, SPEC. 2331, BASE COURSE TYPE 31.
- 6" AGGREGATE BASE CLASS 6 - SPEC. 2211
- 2' SELECT GRANULAR MATERIAL

SHOULDER DETAIL



**COUNTY ROAD "J"**  
STA. 161+85 TO STA. 165+00



**COUNTY ROAD "J"**  
STA. 165+00 TO STA. 173+00  
STA. 177+00 TO STA. 181+32

- ① GRANULAR MATERIAL SHALL CONSIST OF SUITABLE SITE EXCAVATED MATERIAL CONFORMING TO THE REQUIREMENTS OF 3149.2A .
- ② EMBANKMENT SHALL CONSIST OF ANY SITE EXCAVATED MATERIAL NOT SUITABLE FOR USE AS GRANULAR MATERIAL.
- ③ PAID AS COMMON EXCAVATION.
- ④ ALL UTILITY POLES AND OTHER UNYIELDING OBJECTS SHALL BE REMOVED AND RELOCATED OUTSIDE THE RECOVERY AREA.

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the State of Minn. Statutes Sections 326.02 to 326.16.

**IBR** **W**  
PLANNING  
TRANSPORTATION  
ENGINEERING  
URBAN DESIGN  
1000 THIRD STREET SOUTH, MINNEAPOLIS, MN 55415

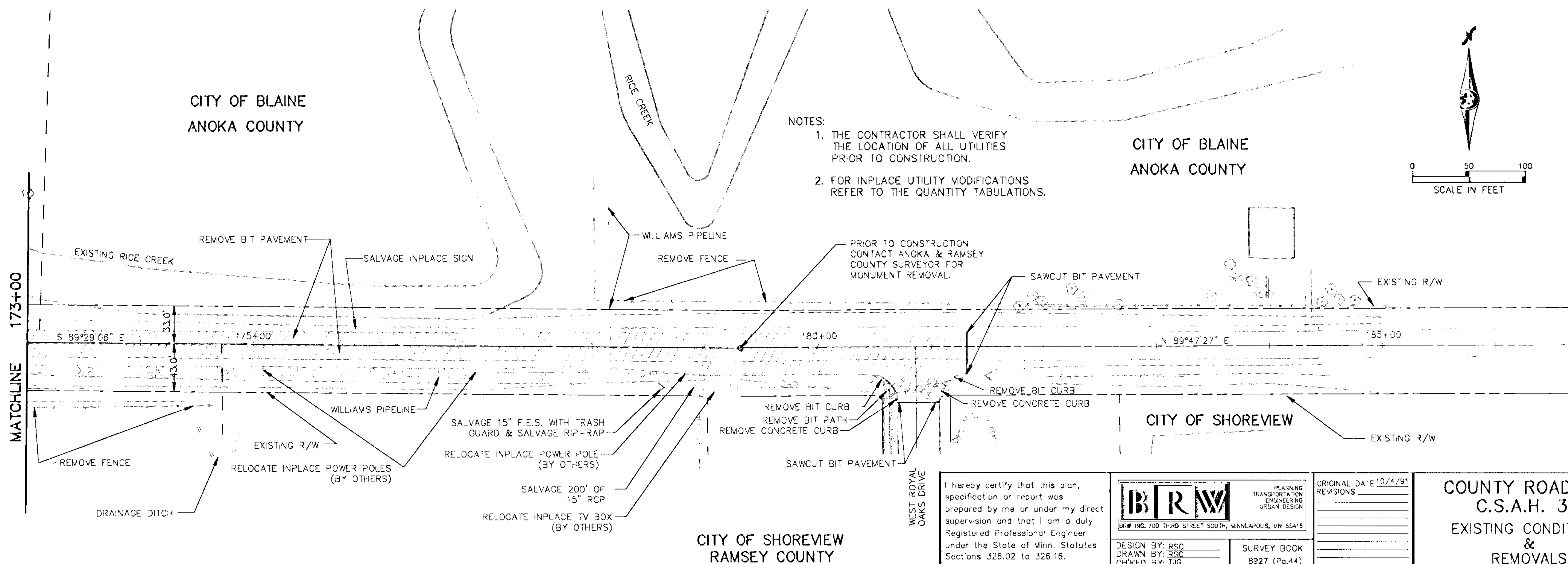
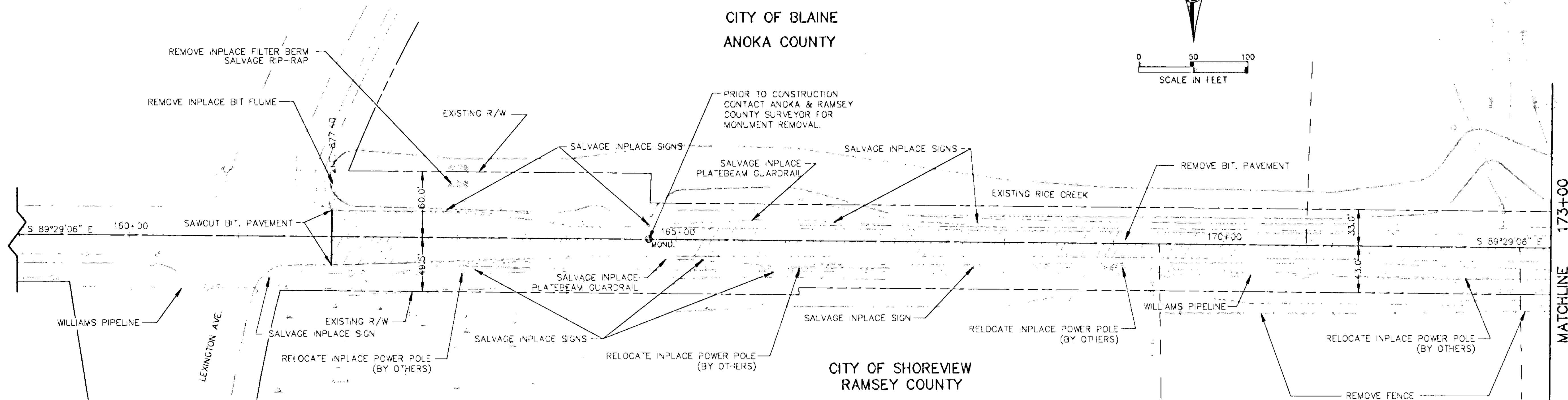
DESIGN BY: RSC  
DRAWN BY: RSC  
CHECKED BY: JGL

SURVEY BOOK

ORIGINAL DATE	10/4/91
REVISIONS	


**COUNTY ROAD "J"**  
C.S.A.H. 32  
RAMSEY/ANOKA COUNTY  
TYPICAL SECTIONS





- NOTES:
1. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.
  2. FOR INPLACE UTILITY MODIFICATIONS REFER TO THE QUANTITY TABULATIONS.

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the State of Minn. Statutes Sections 326.02 to 326.16.

 BTRW INC. 700 THIRD STREET SOUTH, WINNEBAGO, MN 55445	PLANNING TRANSPORTATION ENGINEERING URBAN DESIGN	
	DESIGN BY: RSC DRAWN BY: RSC CHECKED BY: JIG	SURVEY BOOK 8927 (Pg.44)
	ORIGINAL DATE 10/4/91 REVISIONS	

COUNTY ROAD "J"  
 C.S.A.H. 32  
 EXISTING CONDITIONS  
 &  
 REMOVALS

S.A.P. NO. 02-632-04  
 62-601-06

SHEET 15 OF 32

DESIGN FILE No. 99002



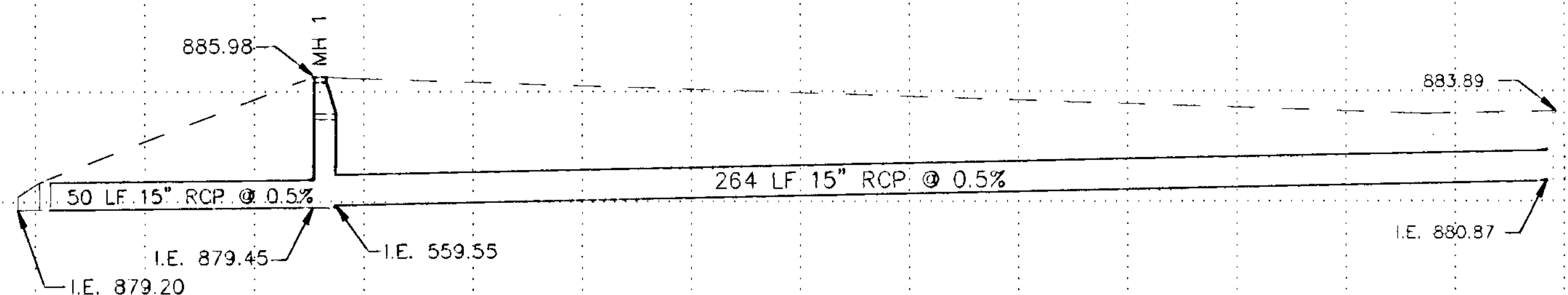
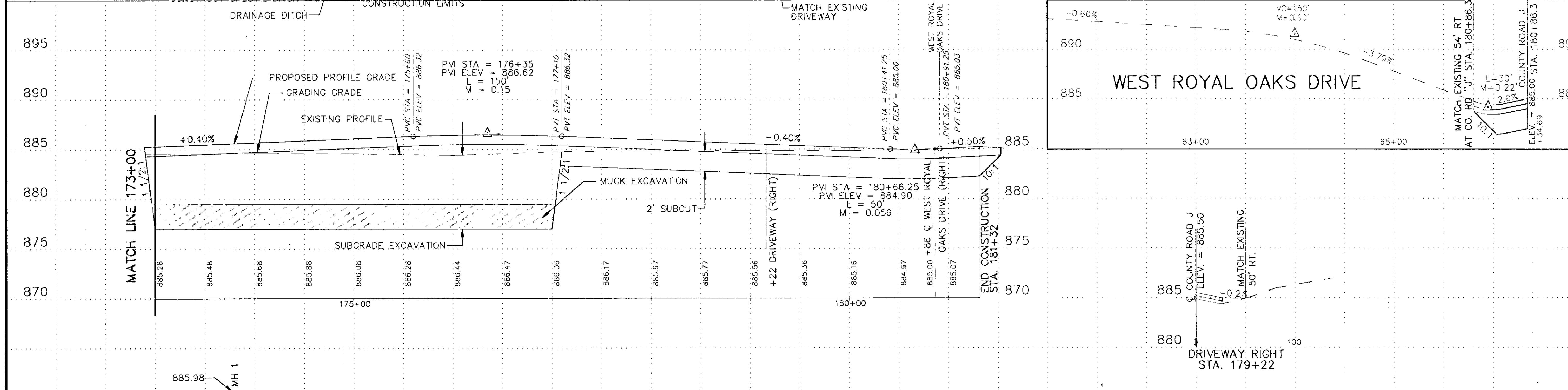
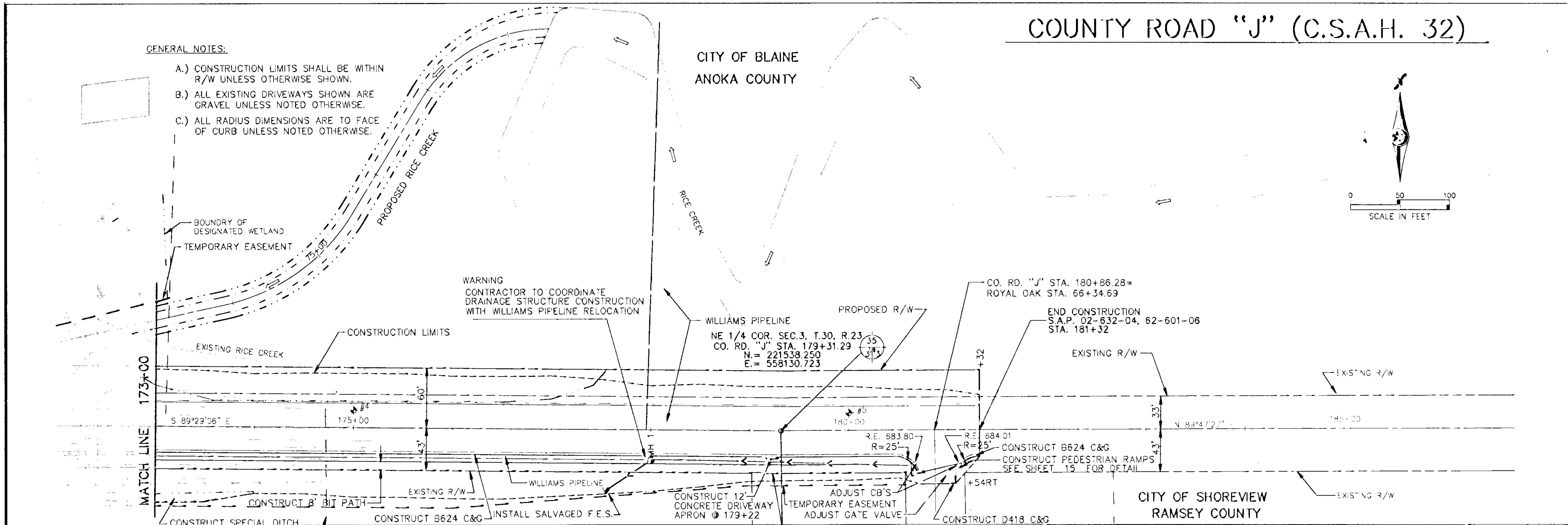
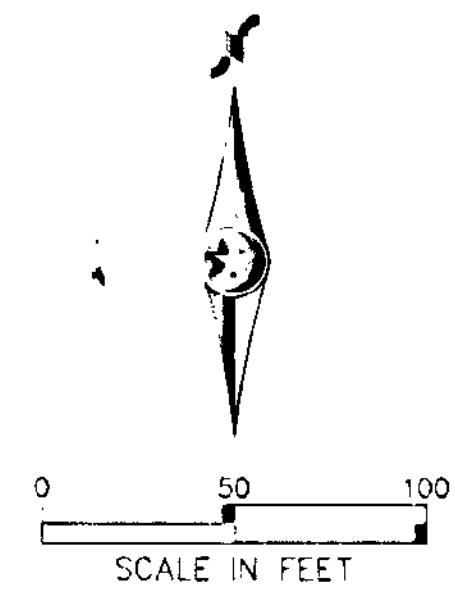


# COUNTY ROAD "J" (C.S.A.H. 32)

## GENERAL NOTES:

- A.) CONSTRUCTION LIMITS SHALL BE WITHIN R/W UNLESS OTHERWISE SHOWN.
- B.) ALL EXISTING DRIVEWAYS SHOWN ARE GRAVEL UNLESS NOTED OTHERWISE.
- C.) ALL RADIUS DIMENSIONS ARE TO FACE OF CURB UNLESS NOTED OTHERWISE.

CITY OF BLAINE  
ANOKA COUNTY



I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the State of Minn. Statutes Sections 326.02 to 326.06.



DESIGN BY: RSC  
DRAWN BY: RSC  
CHECKED BY: J.G.  
SURVEY BOOK  
8927 (Pg. 44)

ORIGINAL DATE	02/4/91
REVISIONS	

COUNTY ROAD "J"  
C.S.A.H. 32  
PLAN & PROFILE  
FROM STA 173+00 TO 186+72

Date \_\_\_\_\_ Minn. Reg. No. 12666

S.A.P. NO. 02-632-04  
62-601-06

SHEET 17 OF 32  
DESIGN FILE No. 99002

CITY OF SHOREVIEW  
RAMSEY COUNTY

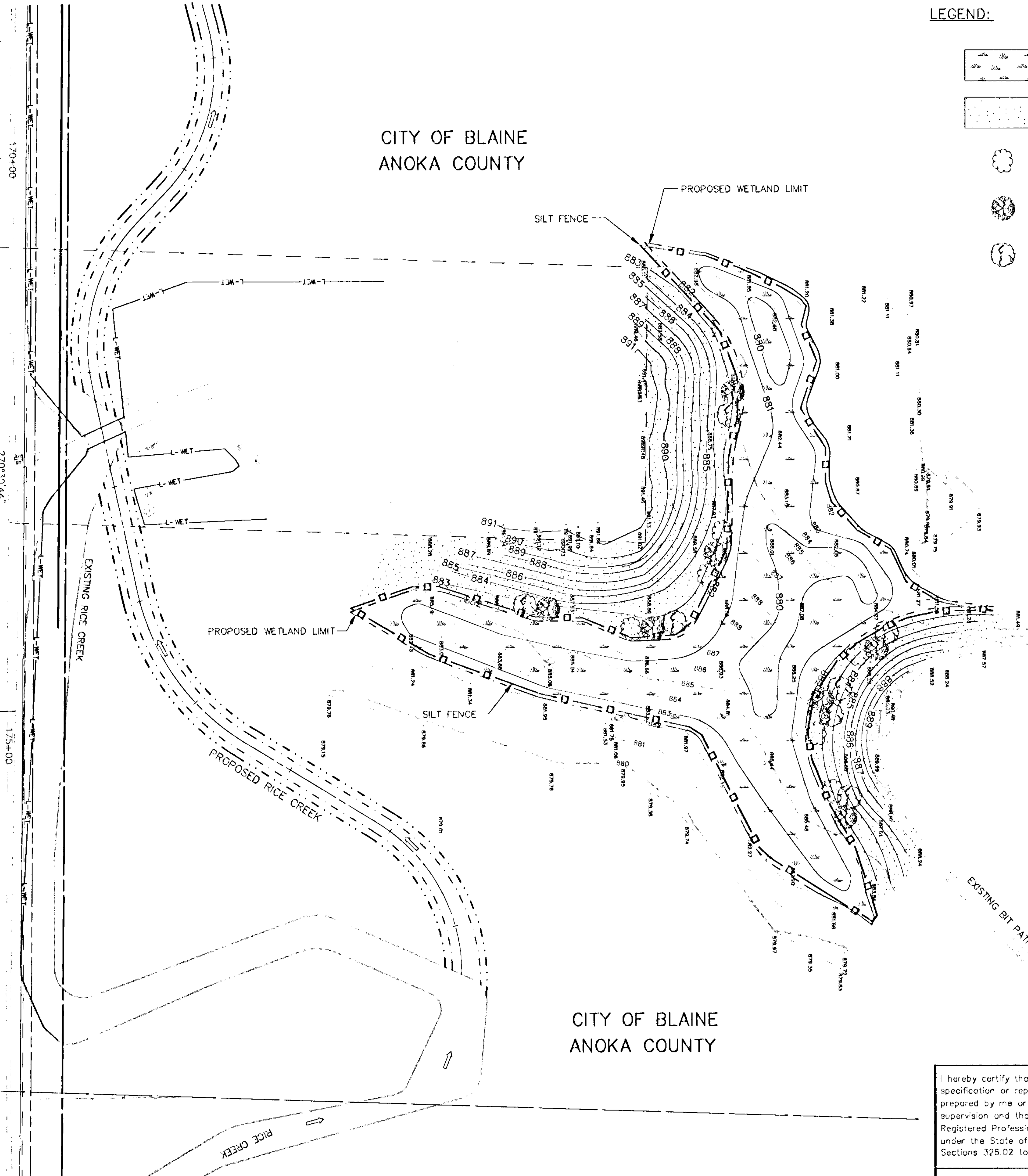
CITY OF SHOREVIEW  
RAMSEY COUNTY

CITY OF BLAINE  
ANOKA COUNTY

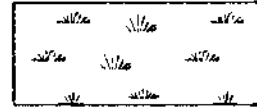
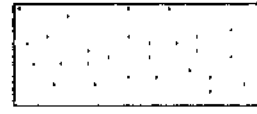



CITY OF BLAINE  
ANOKA COUNTY

COUNTY ROAD "J"

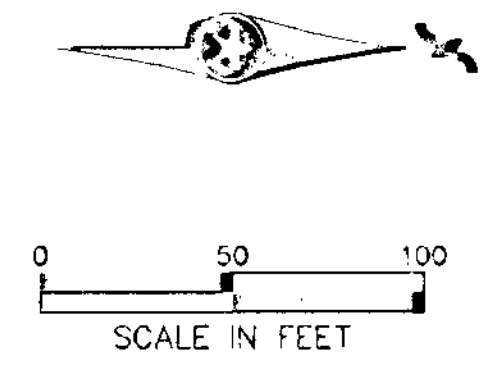
87 TH. AVENUE



LEGEND:

-  TYPE 2 VEGETATION (1.63 ac)  
(TYPE 1200 SEED MIXTURE @ 15#/ac)
-  NATIVE GRASSES (1.03 ac)  
(TYPE 100 SEED MIXTURE @ 25#/ac)  
(TYPE 1200 SEED MIXTURE @ 15#/ac)
-  PUSSY WILLOW (24")
-  RED-OSIER DOGWOOD (24")
-  SPECKLED ALDER OR WINTERBERRY (24")

EXISTING BIT PATH



I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the State of Minn. Statutes Sections 326.02 to 326.16.

**B R W**  
BRW INC. 700 THIRD STREET SOUTH, MINNAPOLIS, MN 55415

PLANNING  
TRANSPORTATION  
ENGINEERING  
URBAN DESIGN

DESIGN BY: BAK  
DRAWN BY: EFC  
CHECKED BY: BAK

SURVEY BOOK

ORIGINAL DATE	10/4/91
REVISIONS	

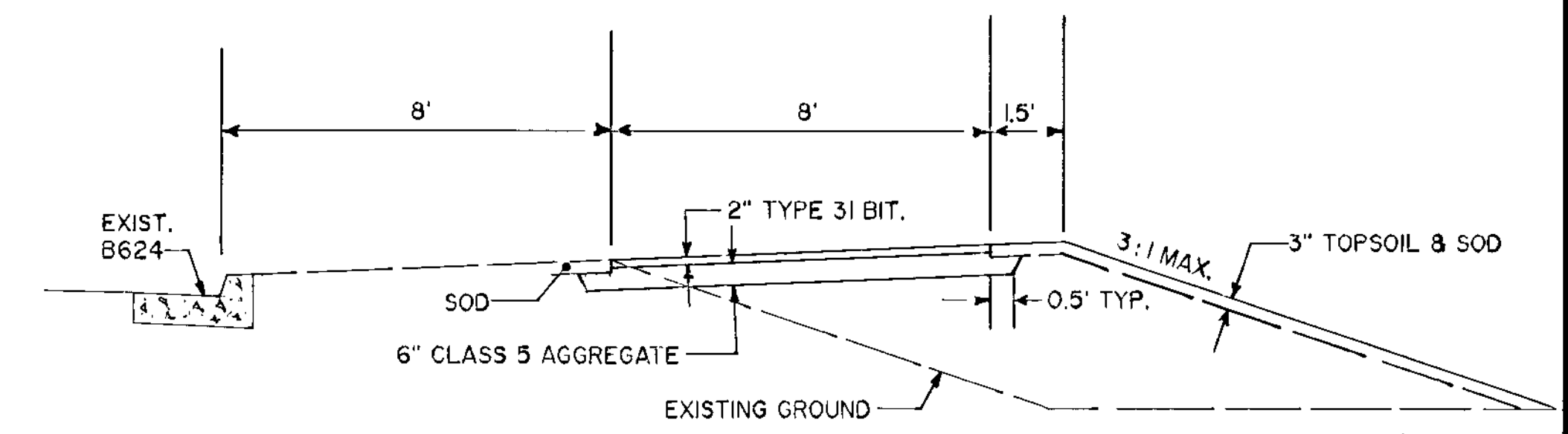
COUNTY ROAD "J"  
C.S.A.H. 32  
RAMSEY/ANOKA COUNTY  
WETLAND MITIGATION PLAN  
AREA 2

Date: \_\_\_\_\_ Minn. Reg. No. 12656

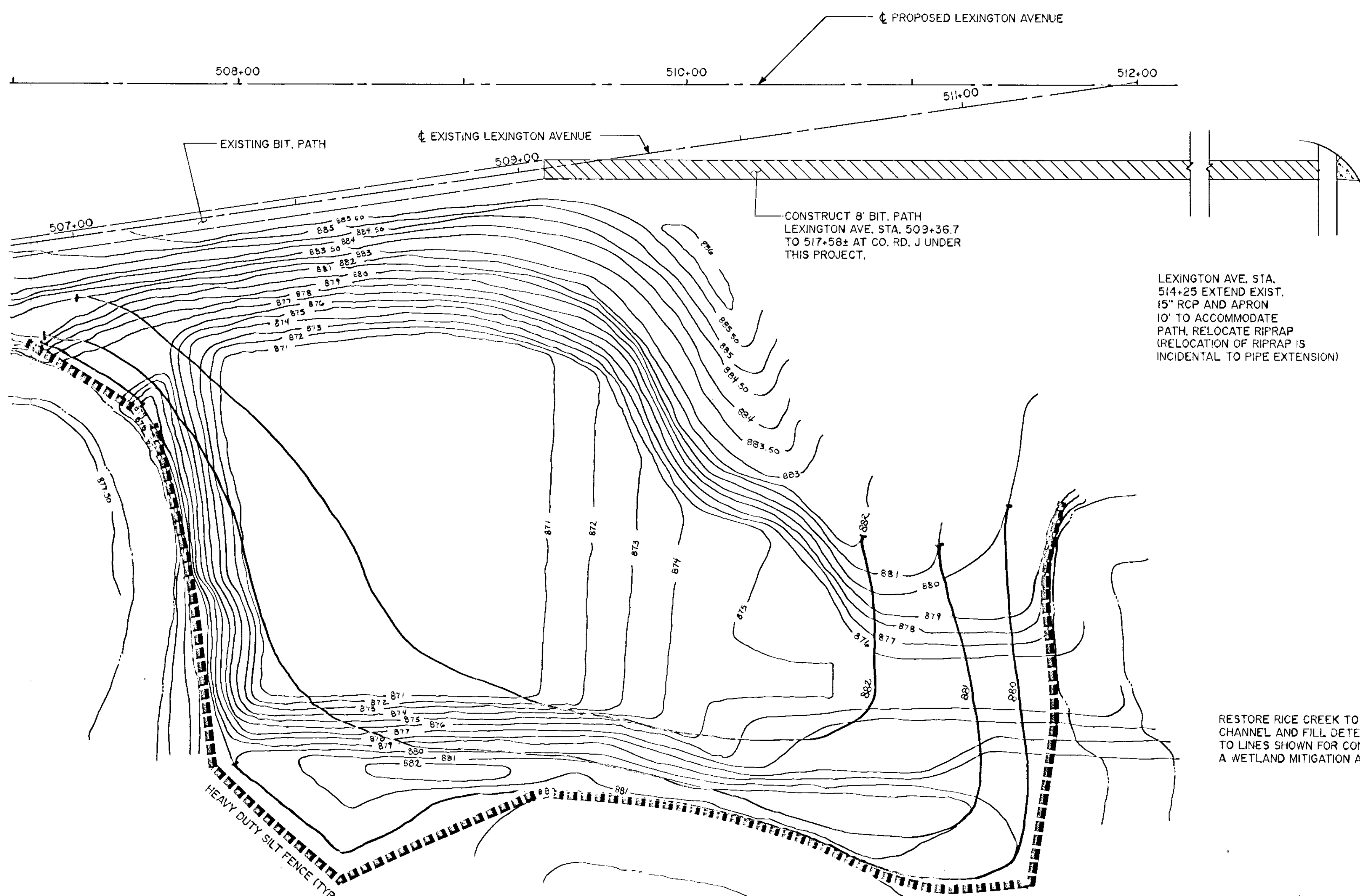
S.A.P. NO. 02-632-04  
62-601-06

DESIGN FILE No. 99002  
SHEET 18 OF 32



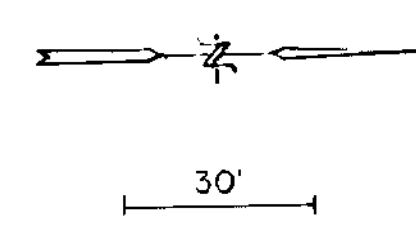


LEXINGTON AVE. PATH EXTENSION TYPICAL SECTION



QUANTITIES		TOTAL
COMMON BORROW	CU YD	9824
SILT FENCE-HEAVY DUTY	LIN FT	796
SEED MIXTURE 100	LBS	45
SEED MIXTURE 1200	LBS	27

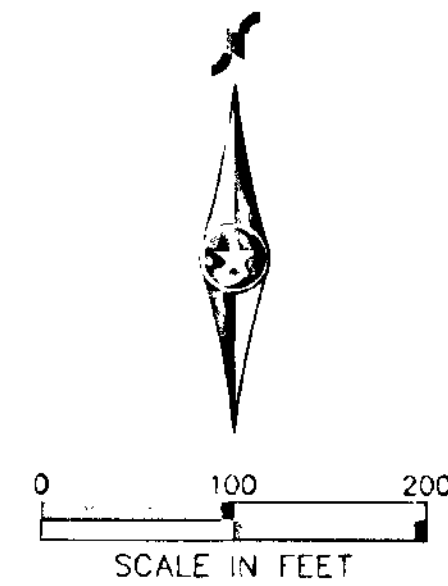
RESTORE RICE CREEK TO ORIGINAL CHANNEL AND FILL DETENTION BASIN TO LINES SHOWN FOR CONVERSION TO A WETLAND MITIGATION AREA



MITIGATION AREA #3  
SEDIMENTATION POND

REV. 4/8/92





CITY OF BLAINE  
ANOKA COUNTY

MITIGATION AREA 2

MITIGATION AREA 1

RICE CREEK

RICE CREEK

COUNTY ROAD "J" (C.S.A.H. 32)

CHANNEL EXCAVATE OXBOWS,  
SEE SHEET 14  
FOR TYPICAL DITCH SECTION

**LEGEND**

SILT FENCE □ — □ —

CITY OF SHOREVIEW  
RAMSEY COUNTY

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the State of Minn. Statutes Sections 326.02 to 326.16.



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DRAWN BY: RSC  
CHECKED BY:

ORIGINAL DATE 10/4/8  
REVISIONS 4/8/32

SURVEY BOOK

COUNTY ROAD "J"  
C.S.A.H. 32  
RAMSEY/ANOKA COUNTY  
EROSION CONTROL

Date: \_\_\_\_\_ Minn. Reg. No. 12666

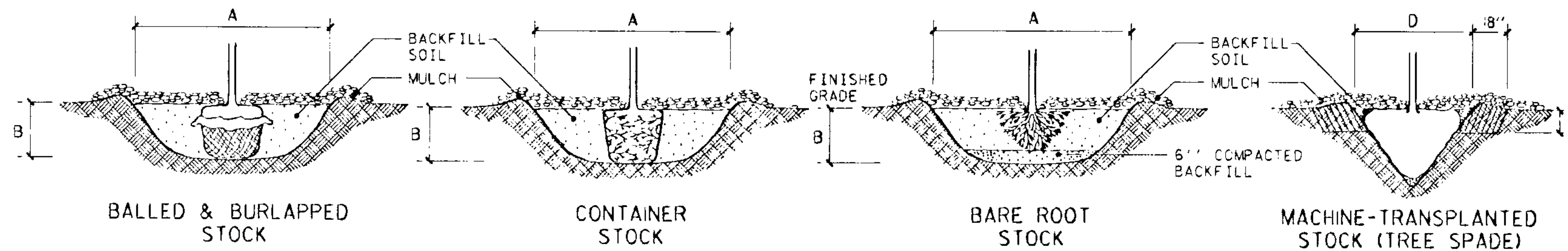
S.A.P. NO. 02-632-04  
62-601-06

SHEET 20 OF 32

DESIGN FILE No. 99002

**PLANTING HOLE DIMENSIONS**

PLANT TYPE	PLANT SIZE (UP TO AND INCLUDING)	APPROXIMATE HOLE DIMENSIONS (INCHES)		
		MINIMUM HOLE WIDTH (INCHES) A	MINIMUM HOLE DEPTH (INCHES) B	
EVERGREEN TREES	3" B.B.	42	11	
	4" B.B.	51	13	
	5" B.B.	60	13	
	6" B.B.	66	15	
	7" B.B.	72	16	
	8" B.B.	81	18	
SHADE & FLOWERING TREES	1" B.R.	54	14	
	1 1/4" B.R.	60	14	
	1 1/2" B.R.	66	15	
	1 3/4" B.R.	72	16	
EVERGREEN SHRUBS (UPRIGHT)	2" B.B.	36	9	
	3" B.B.	48	12	
	4" B.B.	63	14	
	EVERGREEN SHRUBS (SPREADING)	18" spread B.B.	30	8
		2' spread B.B.	36	9
		2 1/2' spread B.B.	42	11
DECIDUOUS SHRUBS	18" B.B.	30	8	
	2" B.B.	33	9	
	3" B.B.	42	11	
	4" B.B.	48	12	
	5" B.B.	54	14	
	6" B.B.	60	14	
	18" B.B.	27	7	
	2" B.B.	30	8	
	3" B.B.	36	9	
	4" B.B.	42	11	
CONTAINER GROWN PLANTS	#1 cont.	23	7	
	#2 cont.	26	9	
	#3 cont.	30	10	
	#5 cont.	36	13	
	#15 cont.	51	18	

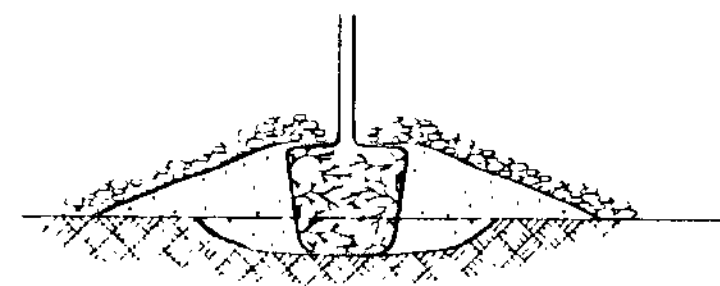


1. SCARIFY SIDES AND BOTTOM OF HOLE.
2. PROCEED WITH CORRECTIVE PRUNING AS DIRECTED BY ENGINEER.
3. SET PLANT ON UNDISTURBED NATIVE SOIL, OR THOROUGHLY COMPACTED BACKFILL SOIL AT THE SAME DEPTH AS IT WAS GROWN IN THE NURSERY.
4. PLANT SHALL BE PLACED IN PLANTING HOLE WITH BURLAP AND WIRE BASKET, IF USED, INTACT. ONCE IN PLACE, THE PLANT SHALL BE BACKFILLED TO WITHIN 12" OF THE TOP OF THE ROOTBALL. THE BURLAP SHALL BE FOLDED OR CUT BACK.
5. PLUMB AND BACKFILL WITH THE BACKFILL SOIL SPECIFIED.
6. BACKFILL VOIDS AND CONSTRUCT 3" DEPTH WATERING BASIN.
7. WATER THOROUGHLY WITHIN 2 HOURS.
8. PLACE MULCH WITHIN 48 HOURS OF THE SECOND WATERING.
9. BIODEGRADABLE TWINE MAY BE LEFT ON AS SUPPORT BETWEEN THE ROOT BALL AND ROOT COLLAR UNTIL THE END OF THE PLANT ESTABLISHMENT PERIOD AT WHICH TIME IT MUST BE CUT AND TOTALLY REMOVED FROM THE ROOT COLLAR. USE OF NONBIODEGRADABLE TWINE SHALL NOT BE PERMITTED.

**NOTES:**

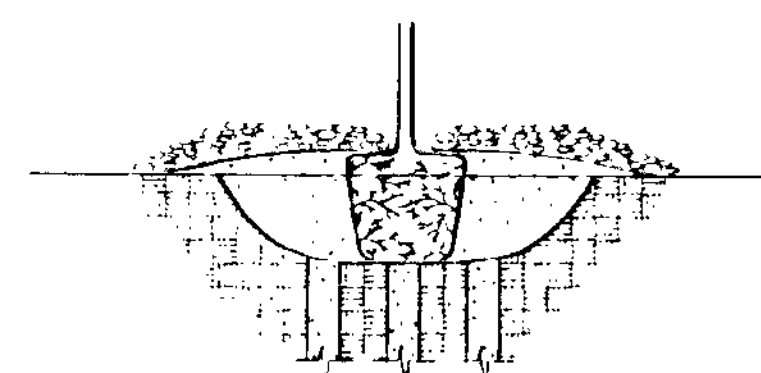
1. THE PLANTING DETAILS REPRESENT ADEQUATELY DRAINED SOIL CONDITIONS. THE CONTRACTOR SHOULD EXERCISE DISCRETION IN SETTING PLANTS 1"-3" HIGHER IN POORLY DRAINED SOILS.
2. ON 2:1 SLOPES OR GREATER, DO NOT CONSTRUCT THE UPHILL HALF OF THE WATERING BASIN.
3. ON WET, POORLY DRAINED SOILS, DO NOT CONSTRUCT WATERING BASIN.
4. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ADEQUATE DRAINAGE IN HEAVY POORLY DRAINED OR IMPERVIOUS SOILS.

**SHRUB AND TREE PLANTING DETAILS**



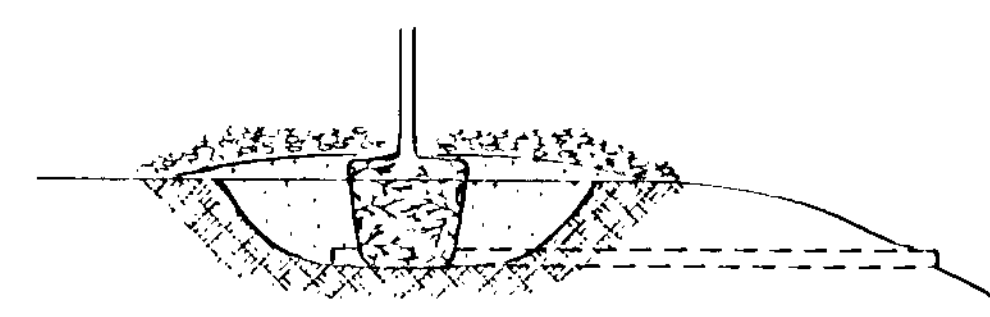
**INSTALL MINI-BERM**

1. EXCAVATE HOLE OR BED 1/4 THE DEPTH OF THE ROOT BALL.
2. SET ROOT BALL IN HOLE.
3. CONSTRUCT BERM WITH SANDY LOAM TOPSOIL EXTENDING THE BERM BASE 3 TIMES THE HEIGHT OF THE BERM.
4. COMPLETE PLANTING ACCORDING TO SHRUB AND TREE PLANTING DETAILS ABOVE AS APPLICABLE.



**INSTALL GRANULAR FILTER**

1. EXCAVATE HOLE OR BED TO ALLOW PLACING TOP OF ROOT BALL 1"-3" HIGHER THAN FINISHED GRADE.
2. AUGER 8" DIAMETER HOLES ENTIRELY THROUGH IMPERVIOUS OR POORLY DRAINED HARD PAN SOIL LAYER TO ADEQUATELY DRAINED SUBSOIL.
3. BACKFILL AUGER HOLES WITH A THOROUGHLY INCORPORATED MIXTURE OF 50% SAND AND 50% HEAVY INPLACE SOIL.
4. COMPLETE PLANTING ACCORDING TO SHRUB AND TREE PLANTING DETAILS ABOVE AS APPLICABLE.

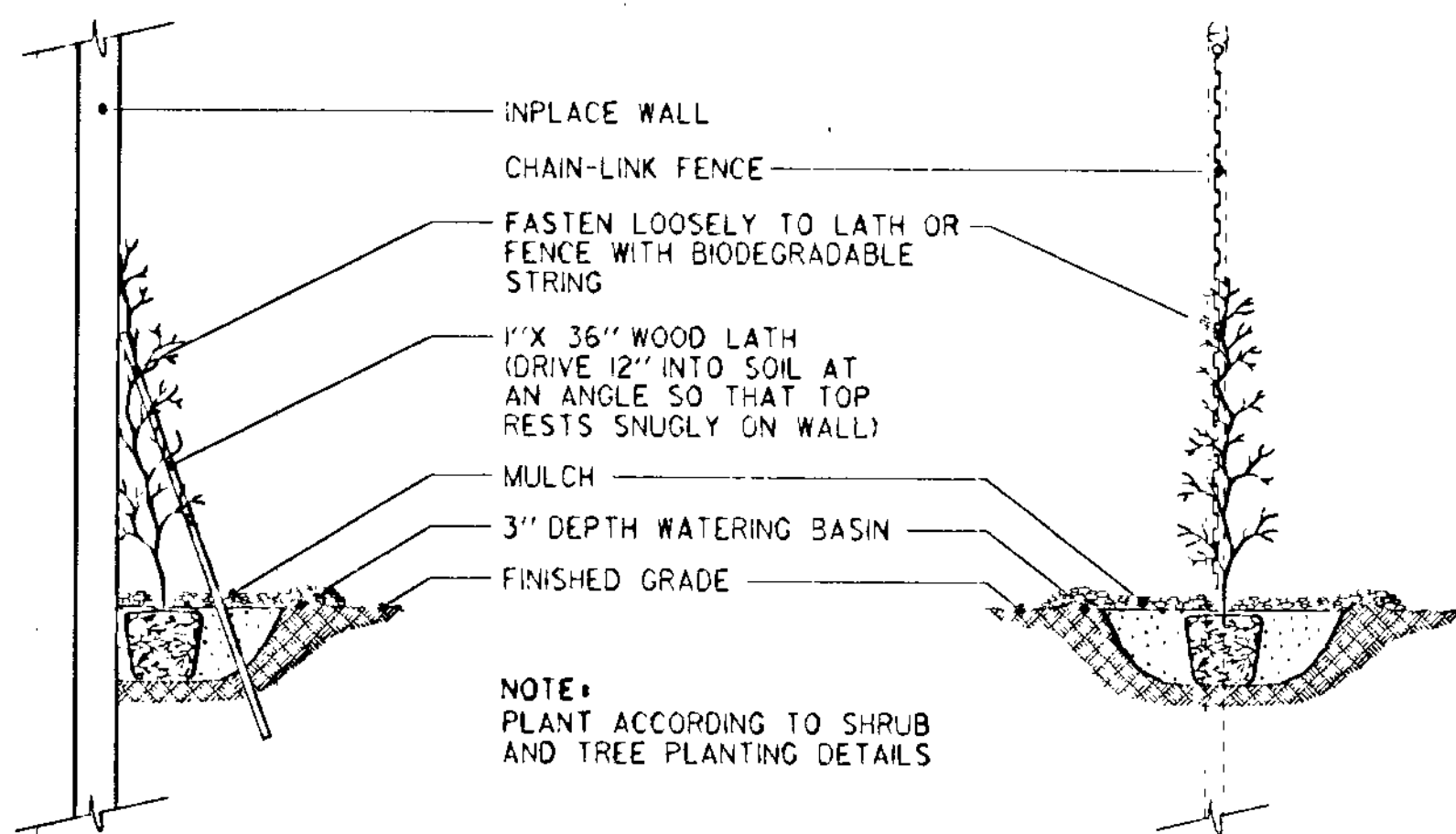


**INSTALL TILE DRAINAGE**

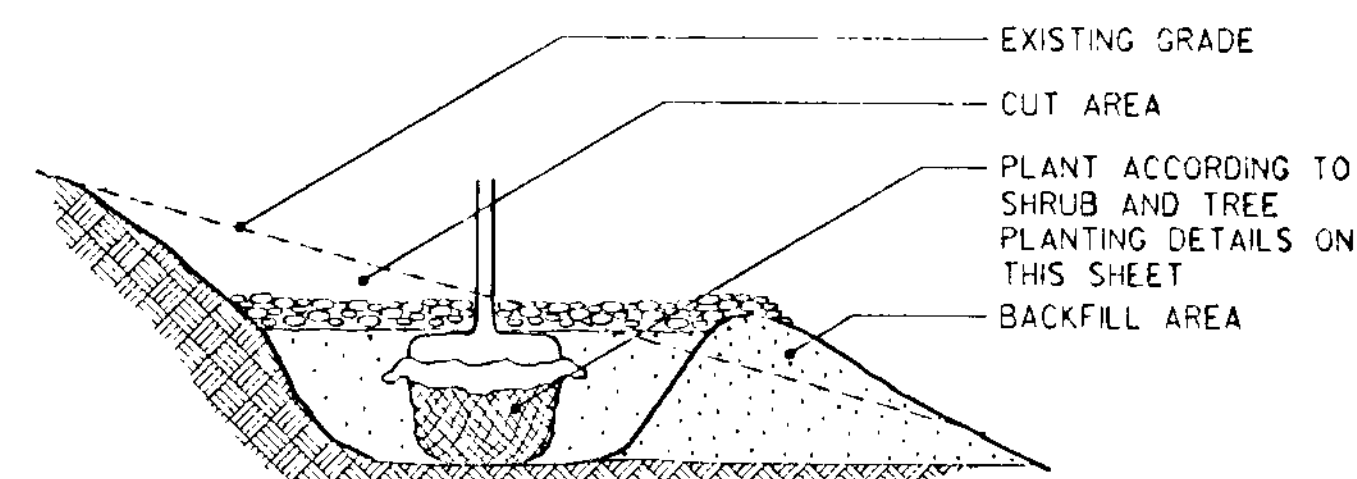
1. EXCAVATE HOLE OR BED TO ALLOW PLACING TOP OF ROOT BALL 1"-3" HIGHER THAN FINISHED GRADE.
2. INSTALL 4" MINIMUM DIAMETER DRAIN TILE DAYLIGHTING AT A LOWER GRADE AS APPROVED BY THE ENGINEER OR LANDSCAPE ARCHITECT.
3. COMPLETE PLANTING ACCORDING TO SHRUB AND TREE PLANTING DETAILS ABOVE AS APPLICABLE.

**SHRUB AND TREE PLANTING ALTERNATIVE DETAILS IN POORLY DRAINED SOIL**

(NEED AND ALTERNATIVE SELECTION SHALL BE DETERMINED BY CONTRACTOR SUBJECT TO APPROVAL BY THE ENGINEER.)

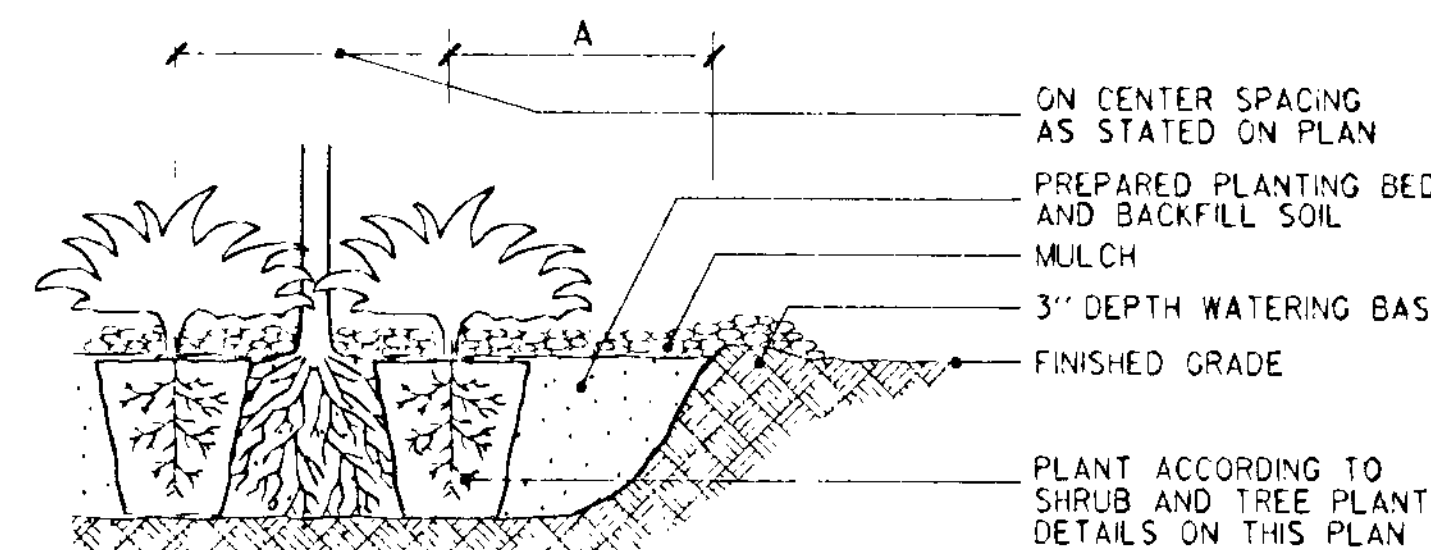


**VINE PLANTING DETAIL**



**PLANTING ON A SLOPE**

NOTE: EXTENDED EXCAVATION AND BACKFILL SOIL TO A POINT DOWNSLOPE EQUAL TO OR LOWER IN ELEVATION THAN THE BOTTOM OF THE HOLE DIRECTLY BENEATH THE PLANT TO INSURE ADEQUATE DRAINAGE IN HEAVY SOILS. GRANULAR SOIL MUST BE ADDED AS BACKFILL IN AREAS OF POOR DRAINAGE.



**TREE / SHRUB / GROUNDCOVER MASS BED PLANTING DETAIL**

**GENERAL NOTES - SEE SPECIAL PROVISIONS FOR SPECIFIC PROJECT REQUIREMENTS**

- PLANTING BED PREPARATION:** ALL MASS PLANTING BEDS SHALL BE TILLED TO A MINIMUM DEPTH OF 10". AMENDMENTS SHALL BE APPLIED AFTER CULTIVATION.
- BACKFILL SOIL:** USE SOIL EXCAVATED FROM PLANTING HOLES AND PROVIDE AMENDMENTS. REMOVE ALL DEBRIS INCLUDING ROCKS LARGER THAN 3" DIA.
- FERTILIZER:** \_\_\_\_\_ NONE  
\_\_\_\_\_ MN/DOT 3881
- COMPOST:** \_\_\_\_\_ NONE  
\_\_\_\_\_ MN/DOT 3890
- MULCH MATERIAL:** MN/DOT 2571.2C4, MN/DOT 2571.3H, MN/DOT 3882 TYPE 6. UNLESS OTHERWISE SPECIFIED, MASS MULCH ALL PLANTING BEDS.
- TREE STAKING:** MN/DOT 2571.3J. SEE SPECIAL PROVISIONS. TREE STAKING (ALL SIZES) WILL NOT BE REQUIRED UNLESS NECESSARY TO MAINTAIN TREES IN A PLUMB CONDITION WHERE VANDALISM, SOIL, OR WIND CONDITIONS ARE A PROBLEM AS REQUESTED BY THE ENGINEER.
- TREE PAINTING:** PAINT OAKS, LINDENS, LOCUSTS, MAPLES, CRABAPPLES, AND MOUNTAIN ASHES. ONLY UNDILUTED EXTERIOR WHITE LATEX BASE PAINT IS ACCEPTABLE.
- RODENT PROTECTION:** PROVIDE ON ALL TREES, EXCEPT SPRUCE UNLESS OTHERWISE SPECIFIED.
- MASS PLANTINGS:** PLANT SPACING OF \_\_\_\_\_ OR LESS SHALL BE MASS EXCAVATED AND/OR CULTIVATED BY TILLING. PLANT IN STAGGERED ROWS ON THE PERIMETER FIRST, THEN UNIFORMLY FILL IN WITH REMAINING QUANTITY USING TRIANGULAR SPACING. PROVIDE 5' RADIUS CLEAR OF SHRUBS AROUND EACH DECIDUOUS TREE AND 8' RADIUS AROUND EACH EVERGREEN TREE. NOTIFY ENGINEER OF GROSS PLANT QUANTITY SURPLUS OR DEFICIENCY IMMEDIATELY. PLANT SPACINGS OF \_\_\_\_\_ OR LESS SHALL BE MASS MULCHED.

**PLANTING PLAN:** RESPECT STATED DIMENSIONS. DO NOT SCALE DRAWINGS.

**WATERING GUIDELINES:**

PLANT TYPE	AVERAGE AMOUNT OF WATER PER APPLICATION (GALLONS)
MACHINE TRANSPLANTED TREES (3" CALIPER+)	50-100
BALLED & BURLAPPED TREES	20±
BARE ROOT TREES	15±
BALLED & BURLAPPED SHRUBS	10±
BARE ROOT OR CONTAINER SHRUBS	7±
WOODY SEEDLINGS	4±
HERBACEOUS GROUNDCOVERS AND VINES	3±

1) THE WATERING GUIDELINES ASSUME A SOIL CONDITION WITH ADEQUATE BUT NOT EXCESSIVE OR POOR DRAINAGE. WATERING INTERVALS AND AMOUNT OF APPLICATION MUST BE VARIED CONSIDERING PREVAILING SOIL MOISTURE AND WEATHER CONDITIONS THROUGHOUT THE GROWING SEASON. ADEQUATE BUT NOT EXCESSIVE SOIL MOISTURE IN THE ROOT ZONE OF NEW PLANTINGS MUST BE MAINTAINED AT ALL TIMES THROUGHOUT THE GROWING SEASON. FOR THE FIRST TWO YEARS FOLLOWING PLANTING, WATERING MAY BE REQUIRED WEEKLY. THIS DETERMINATION SHALL BE MADE BY THE CONTRACTOR.

2) THE CONTRACTOR IS ADVISED THAT THE WATERING GUIDELINES ARE NOT REQUIREMENTS OF THE CONTRACT ALTHOUGH FAILURE TO CORRECT WATER DEFICITS BY SUPPLEMENTAL WATERING MAY RESULT IN UNACCEPTABLE PLANTS FOR WHICH REDUCED OR NO PAYMENT WILL BE MADE.

**STANDARD PLANTING DETAILS (A)**  
DATED JANUARY 25, 1991





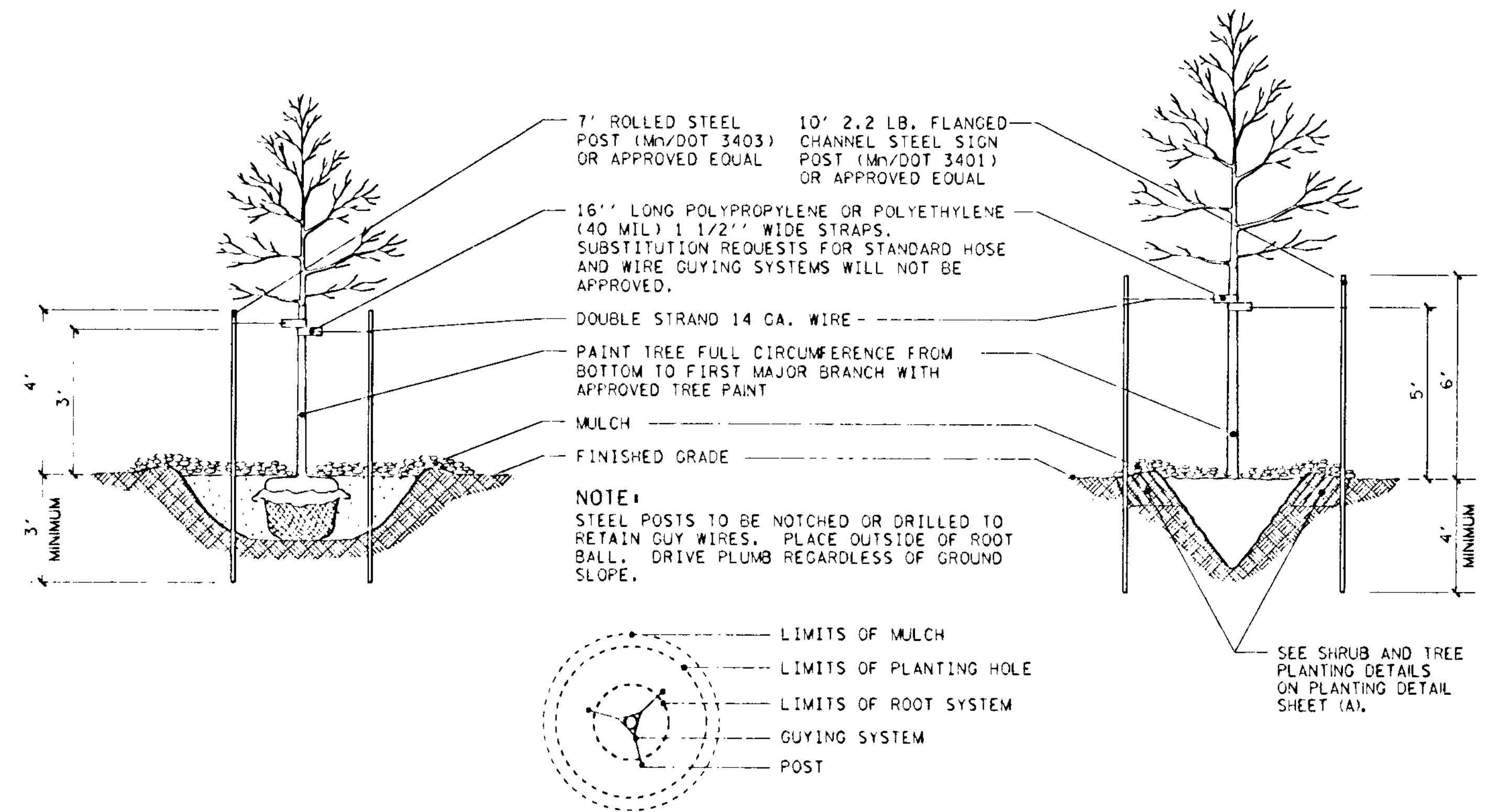
- ZONE 1  BELOW -50 F
- ZONE 2  -50 to -40
- ZONE 3  -40 to -30
- ZONE 4  -30 to -20
- ZONE 5  -20 to -10

PLANTS WITHIN THESE ZONES FROM THE ACCEPTABLE GROWING RANGE MAY BE USED ON ALL PROJECTS UNLESS OTHERWISE SPECIFIED.

PLANTS WITHIN THIS ZONE FROM THE ACCEPTABLE GROWING RANGE ARE ALLOWED ONLY ON PROJECTS WITHIN ZONE 4 IN MINNESOTA.

**ACCEPTABLE GROWING RANGES FOR PLANT STOCK**

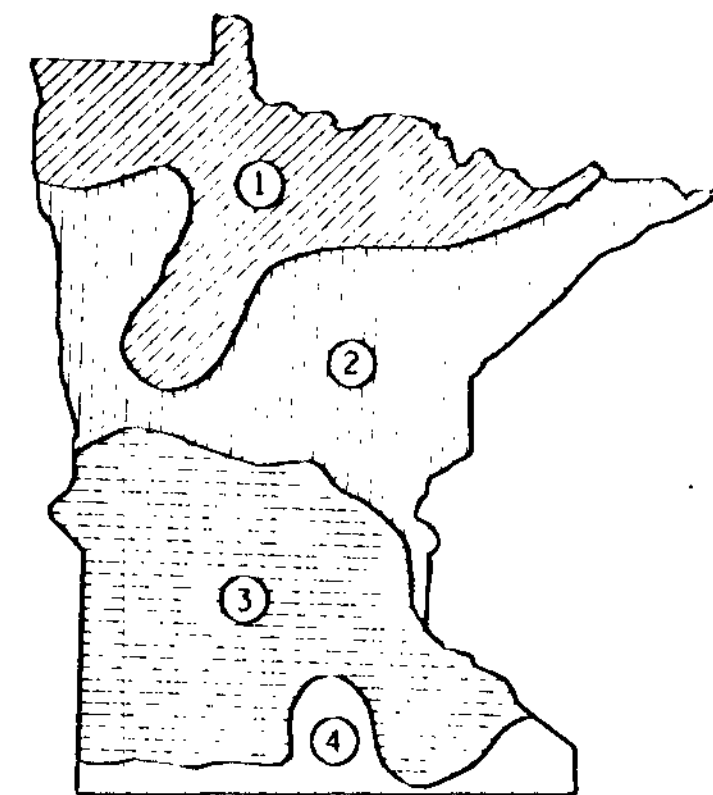
SOURCE: U.S.D.A. PLANT HARDINESS ZONE MAP



**STANDARD TREE STAKING AND WRAPPING DETAIL**

**TYPICAL PLAN VIEW**

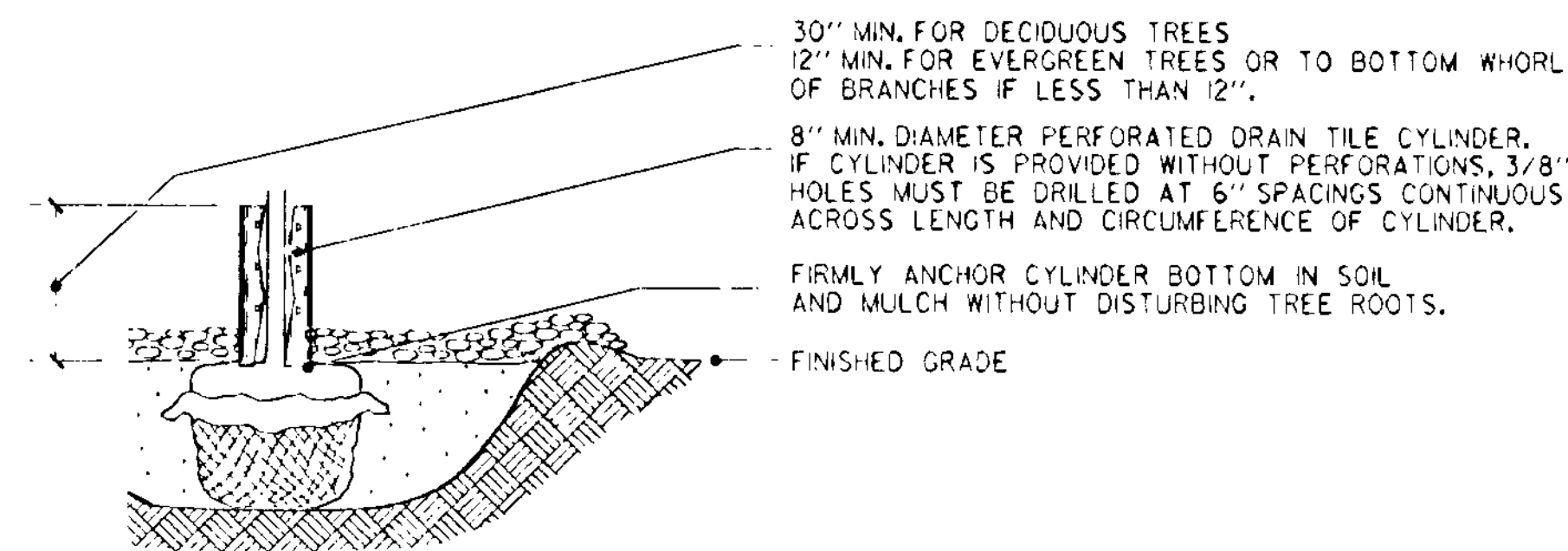
**LARGE TREE STAKING AND WRAPPING DETAIL**



	SPRING		FALL	
	DECIDUOUS	EVERGREEN	DECIDUOUS	EVERGREEN
1	APRIL 21 TO JUNE 1	APRIL 21 TO JUNE 1	OCT. 1 TO NOV. 1	AUG. 25 TO SEPT. 15
2	APRIL 14 TO JUNE 1	APRIL 14 TO MAY 24	OCT. 1 TO NOV. 6	AUG. 25 TO SEPT. 15
3	APRIL 7 TO JUNE 1	APRIL 7 TO MAY 17	OCT. 10 TO NOV. 15	AUG. 25 TO SEPT. 15
4	APRIL 1 TO MAY 25	APRIL 1 TO MAY 15	OCT. 15 TO NOV. 20	SEPT. 5 TO OCT. 1

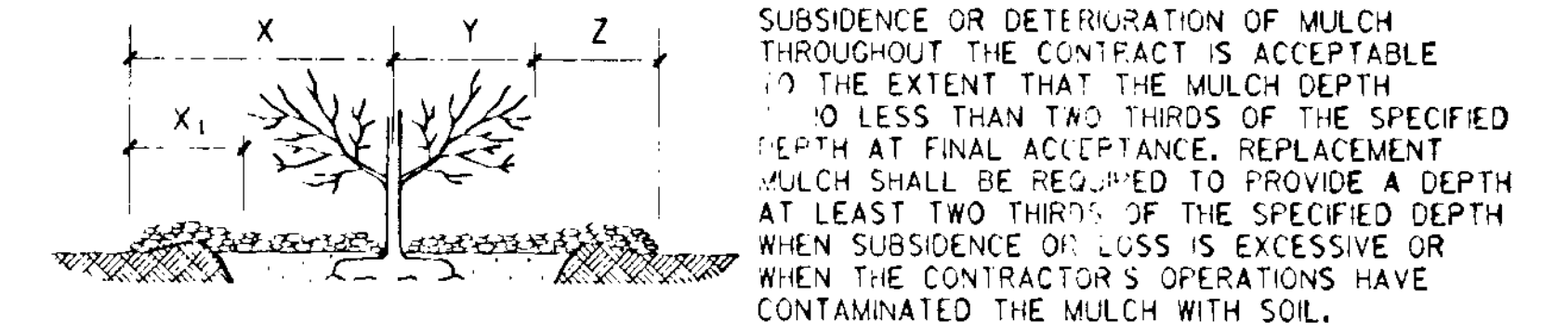
NOTE: ACTUAL DATES MAY CHANGE DEPENDING UPON SEASONAL CONDITIONS AS DETERMINED BY THE ENGINEER. FALL PLANTING MAY NOT BE RECOMMENDED OR ALLOWED. SEE SPECIAL PROVISIONS FOR SPECIFIC PROJECT REQUIREMENTS.

**OPTIMUM PLANTING DATE ZONES IN MINNESOTA**



- NOTES:
- DO NOT CUT LOWER BRANCHES TO PERMIT PROTECTION.
  - PLACE MULCH INSIDE CYLINDER TO SAME DEPTH AS OUTSIDE.
  - INSTALLATION UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

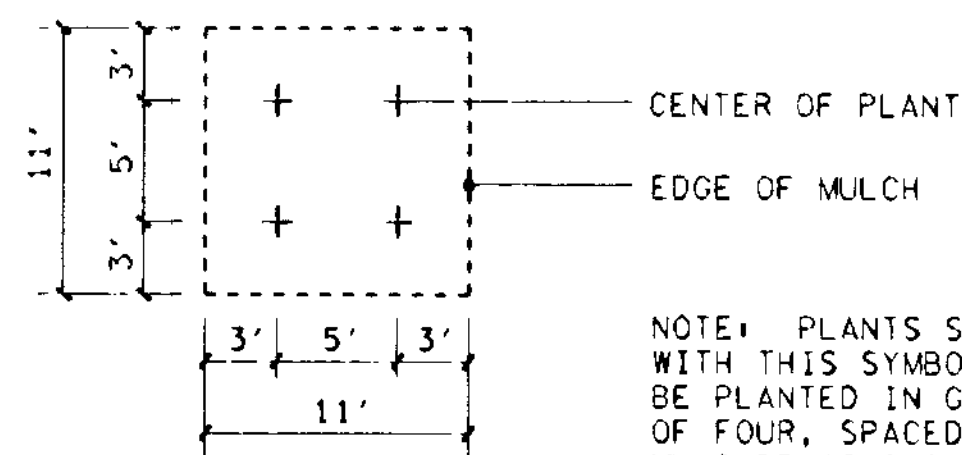
**RODENT PROTECTION DETAIL**



NOTE: REMOVE MULCH PLACED TO A DEPTH GREATER THAN THAT SPECIFIED WHEN DIRECTED BY THE ENGINEER.

TYPE OF PLANT	X CENTER OF PLANT TO MULCH LINE	X <sub>1</sub> EDGE OF BRANCHING TO MULCH LINE	Y DEPTH OF MULCH	Z DEPTH OF MULCH
EVERGREEN TREES	VARIABLES	3' MIN.	6"	6"
DECIDUOUS TREES	3' MIN.	N/A	6"	6"
EVERGREEN SHRUBS	VARIABLES	3' MIN.	3"	6"
DECIDUOUS SHRUBS	3' MIN.	N/A	6"	6"
VINES	2' MIN.	N/A	6"	4"
GROUNDCOVERS	VARIABLES	2' MIN.	3"	3"
MACHINE-TRANSPLANTED TREES	12" BEYOND EDGE OF HOLE		6"	6"

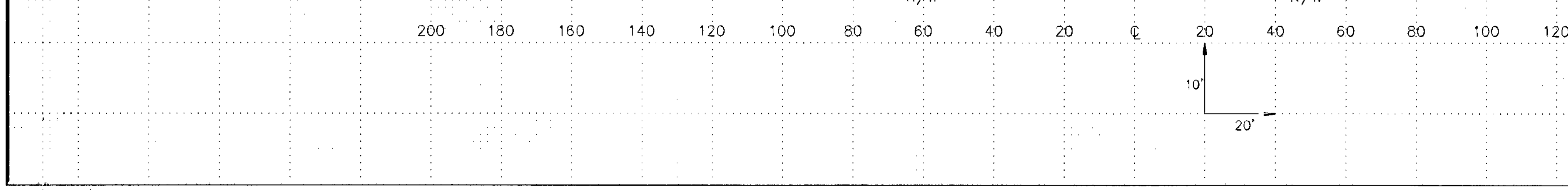
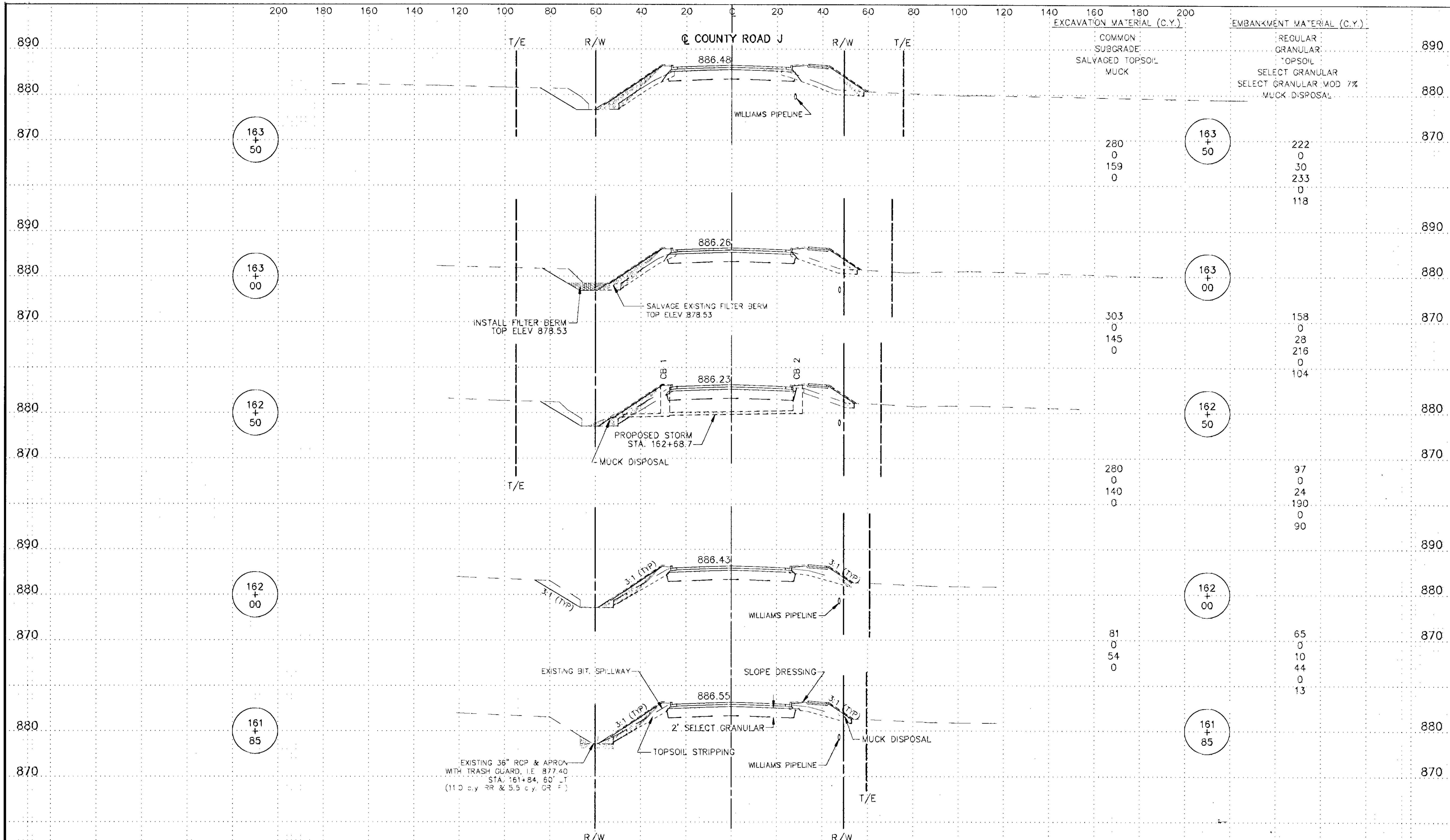
**MULCH PLACEMENT DETAIL**



NOTE: PLANTS SHOWN WITH THIS SYMBOL WILL BE PLANTED IN GROUPS OF FOUR, SPACED AND MULCHED AS SHOWN.

**SPREADING SHRUB PLANTING DETAIL**

**STANDARD PLANTING DETAILS (B)**  
DATED JANUARY 25, 1991



**BRW**

BRW INC. 700 THIRD STREET SOUTH, MINNEAPOLIS, MN 55415

DESIGN BY: RSC  
DRAWN BY: RSC  
CHECKED BY: B.T.G.

PLANNING  
TRANSPORTATION  
ENGINEERING  
URBAN DESIGN

SURVEY BOOK  
8927 (Pg.44)

ORIGINAL DATE 10/24/98

REVISIONS

\_\_\_\_\_

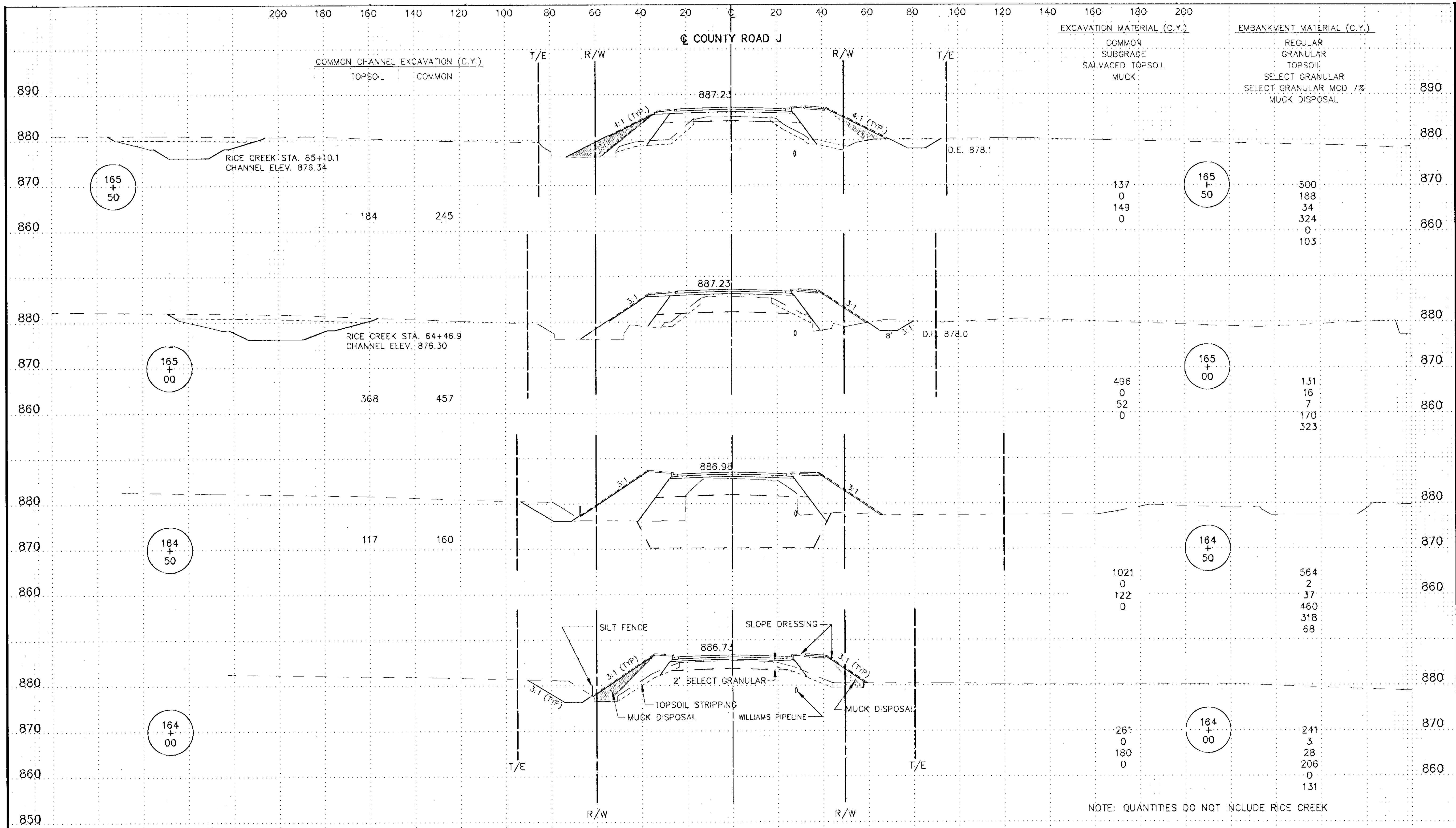
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**COUNTY ROAD "J"**  
C.S.A.H. 32  
RAMSEY/ANOKA COUNTY  
CROSS SECTIONS  
STA. 161+85 TO STA. 163+50

S.A.P. NO. 02-632-04  
62-601-06

DESIGN FILE  
No. 99002



140 160 180 200

**BRM** PLANNING TRANSPORTATION ENGINEERING URBAN DESIGN  
BRM INC. 700 THIRD STREET SOUTH, MINNEAPOLIS, MN 55415

DESIGN BY: RSC  
DRAWN BY: RSC  
CHK'D BY: LB, JG

SURVEY BOOK  
8927 (Pg.44)

ORIGINAL DATE 10/04/9  
REVISIONS

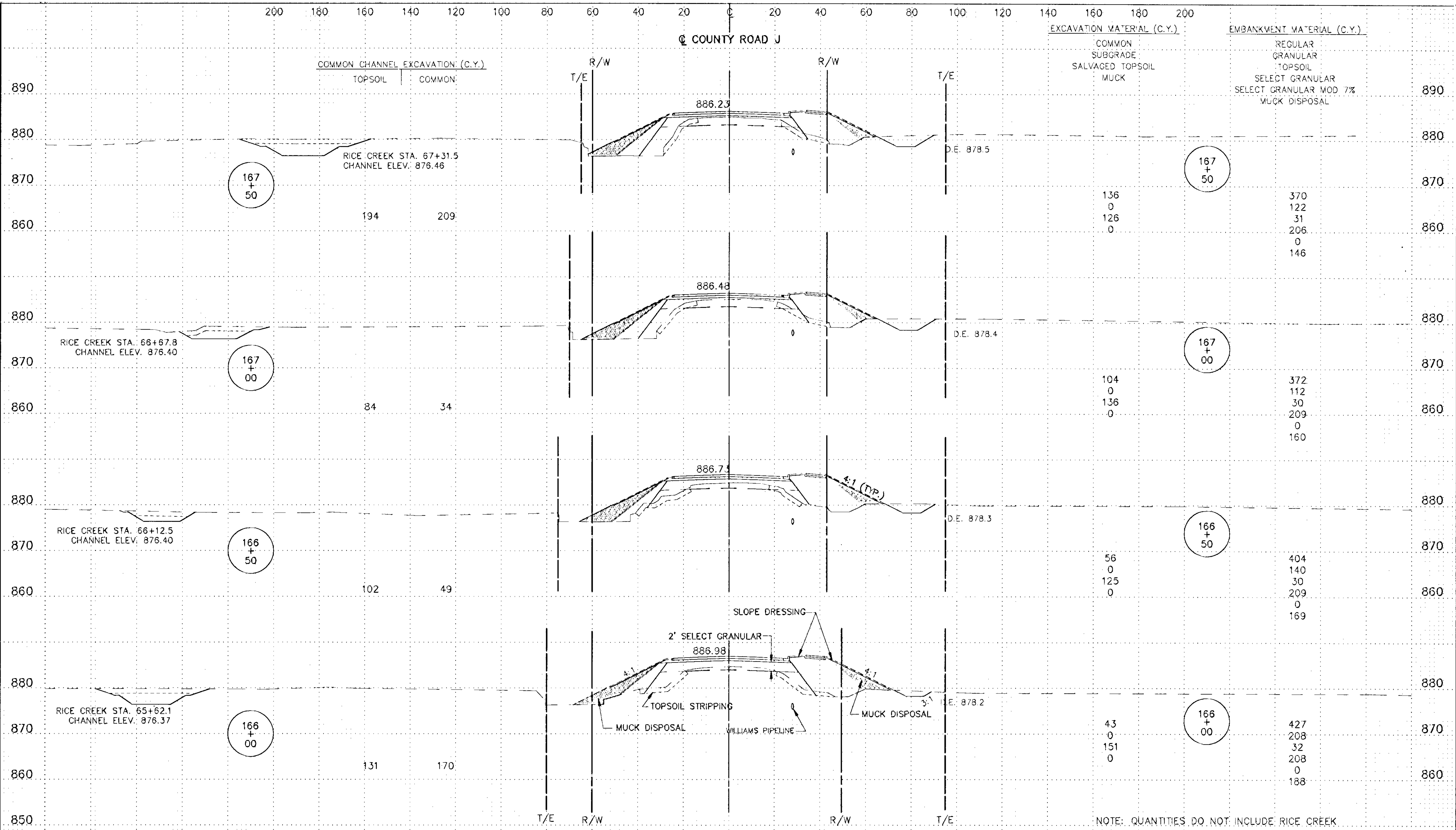
COUNTY ROAD "J"  
C.S.A.H. 32  
RAMSEY/ANOKA COUNTY  
CROSS SECTIONS  
STA. 164+00 TO STA. 165+00

S.A.P. NO. 02-632-04  
62-601-06

SHEET 24 OF 32

DESIGN FILE No. 99002

Q COUNTY ROAD J



140 160 180 200



DESIGN BY: RSC  
DRAWN BY: RSC  
CHECKED BY: L.B.T.G.  
SURVEY BOOK  
8927 (Pg.44)

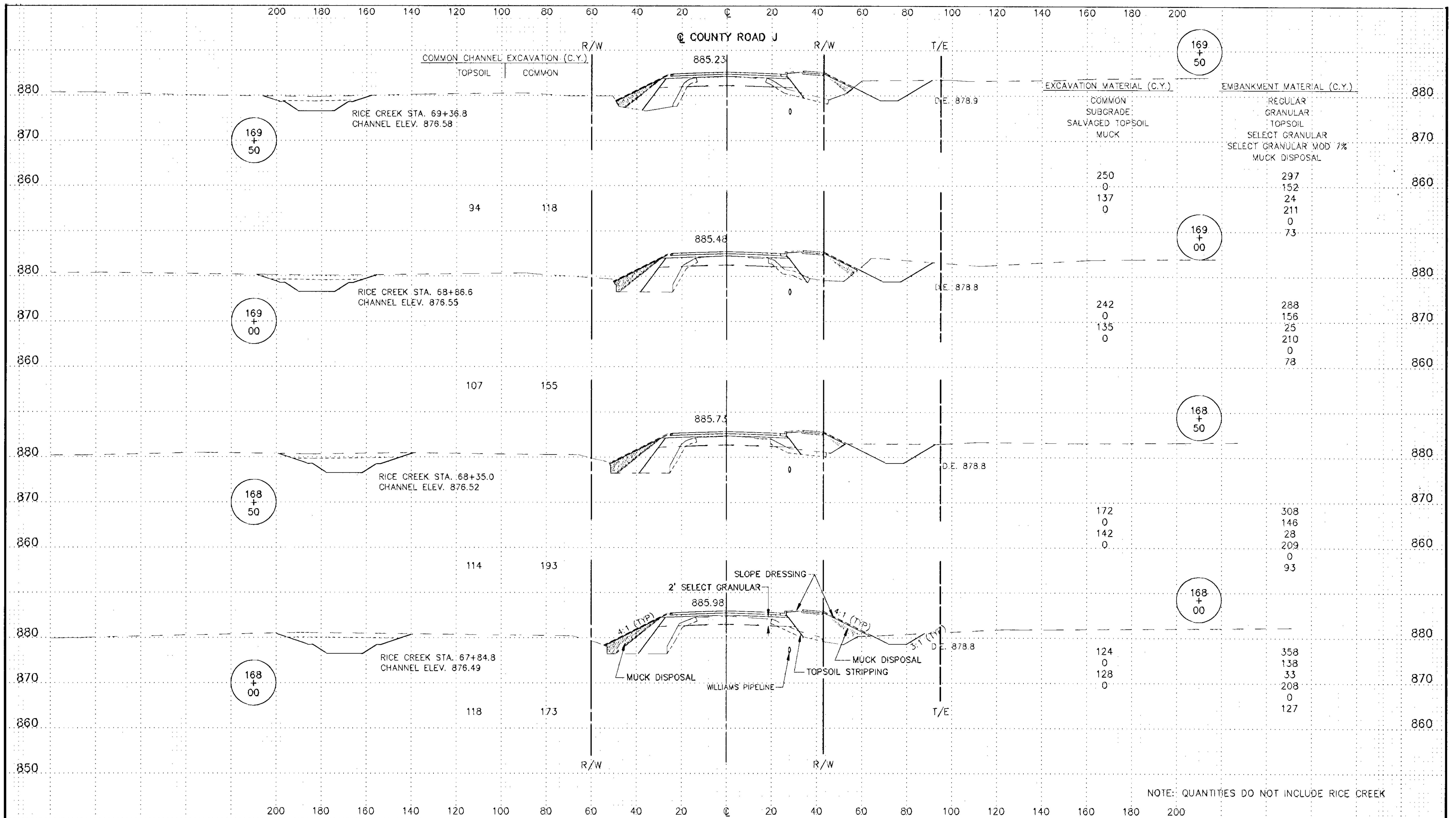
ORIGINAL DATE	10/04/98
REVISIONS	

COUNTY ROAD "J"  
C.S.A.H. 32  
RAMSEY/ANOKA COUNTY  
CROSS SECTIONS  
STA. 166+00 TO STA. 167+50

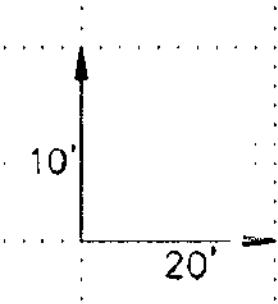
S.A.P. NO. 02-632-04  
62-601-06

SHEET 25 OF 32

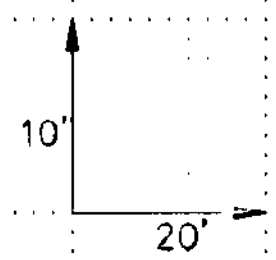
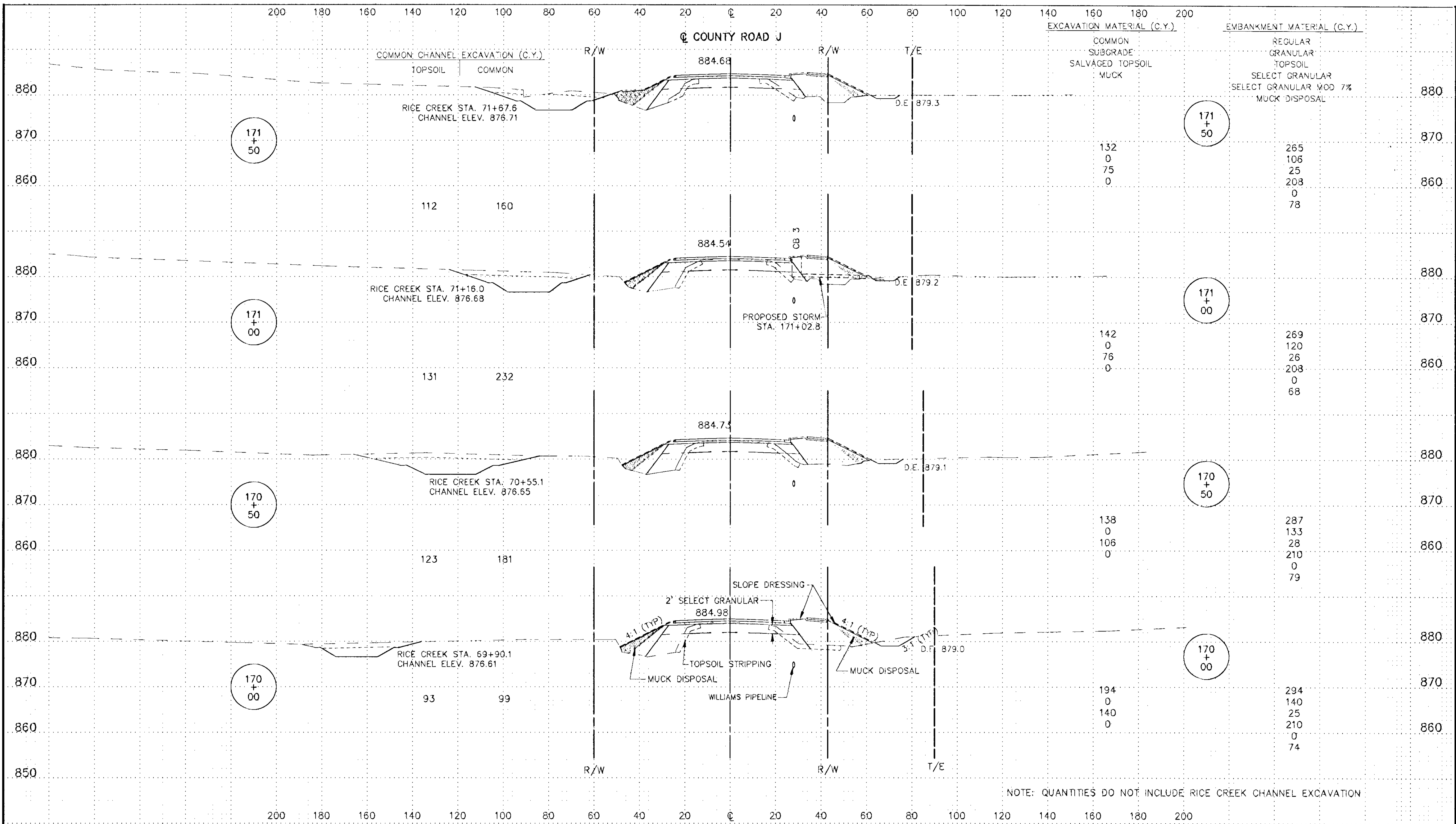
DESIGN FILE  
No. 99002



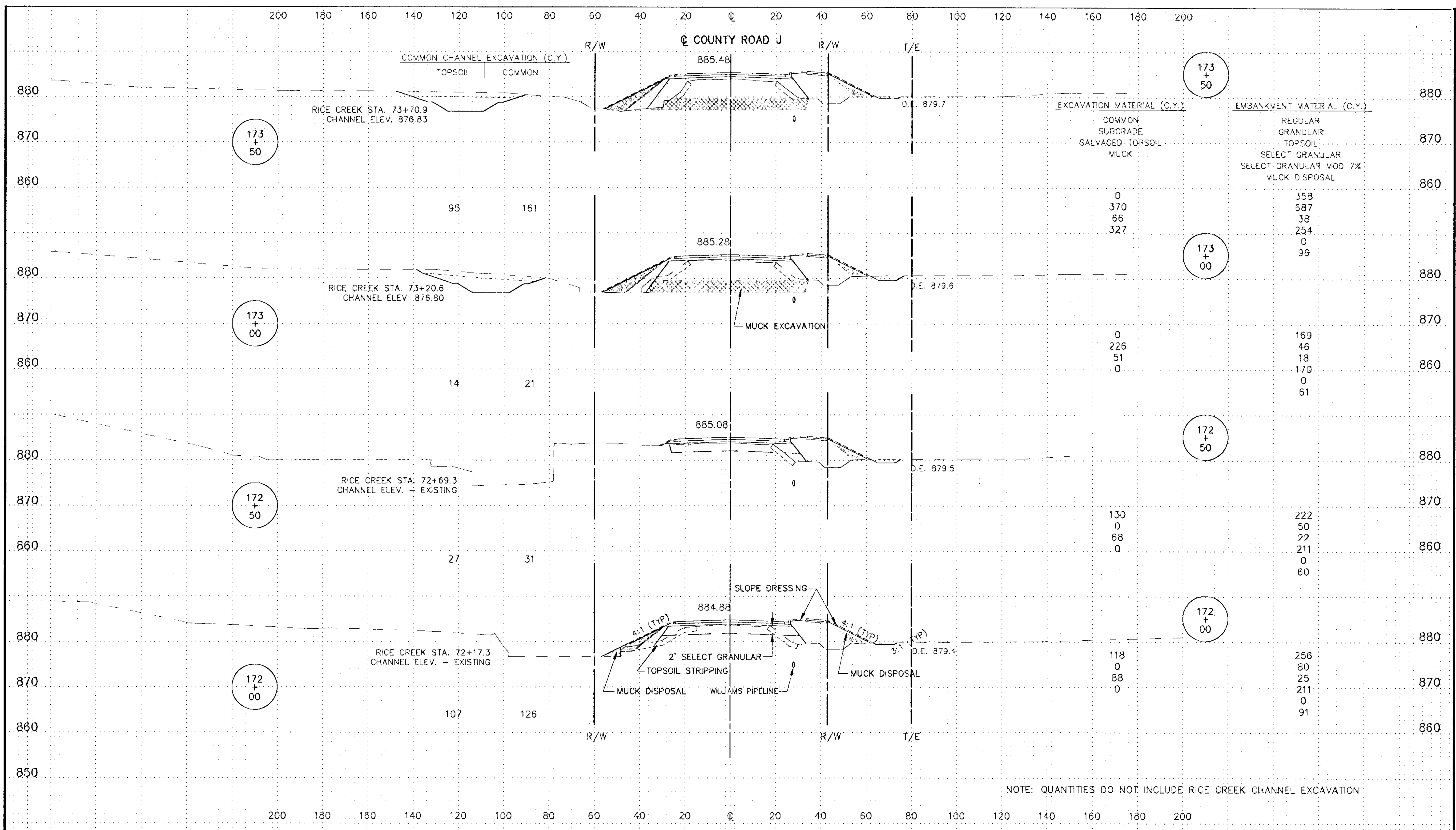
NOTE: QUANTITIES DO NOT INCLUDE RICE CREEK



	PLANNING	ORIGINAL DATE 10/04/9	<b>COUNTY ROAD "J"</b> <b>C.S.A.H. 32</b> <b>RAMSEY/ANOKA COUNTY</b> <b>CROSS SECTIONS</b> <b>STA. 168+00 TO STA. 169+50</b>
	TRANSPORTATION	REVISIONS	
DESIGN BY: RSC DRAWN BY: RSC CHECKED BY: LB, JG	SURVEY BOOK 8927 (Pg. 44)		DESIGN FILE No. 99002
<b>S.A.P. NO. 02-632-04</b> <b>62-601-06</b>		<b>SHEET 26 OF 32</b>	



 BRW INC. 700 THIRD STREET SOUTH, MINNEAPOLIS, MN 55415	PLANNING	ORIGINAL DATE 10/04/91	<b>COUNTY ROAD "J"</b> <b>C.S.A.H. 32</b> <b>RAMSEY/ANOKA COUNTY</b> <b>CROSS SECTIONS</b> <b>STA. 170+00 TO STA. 171+50</b>
	TRANSPORTATION	REVISIONS	
DESIGN BY: BSC	SURVEY BOOK		<b>S.A.P. NO. 02-632-04</b> <b>62-601-06</b>
DRAWN BY: BSC	8927 (Pg.44)		
CHECKED BY: LB, T.G.			<b>SHEET 27 OF 32</b>



PLOT DATE: 12/12/91 pm PLOT VIEW: PLO 1

10'  
20'

**BRW**

PLANNING  
TRANSPORTATION  
ENGINEERING  
URBAN DESIGN

BRW INC. 700 THIRD STREET SOUTH, MINNEAPOLIS, MN 55415

DESIGN BY: RSC  
DRAWN BY: RSC  
CHECKED BY: J.B.J.G.

SURVEY BOOK  
8927 (Pg.44)

ORIGINAL DATE 10/04/91  
REVISIONS

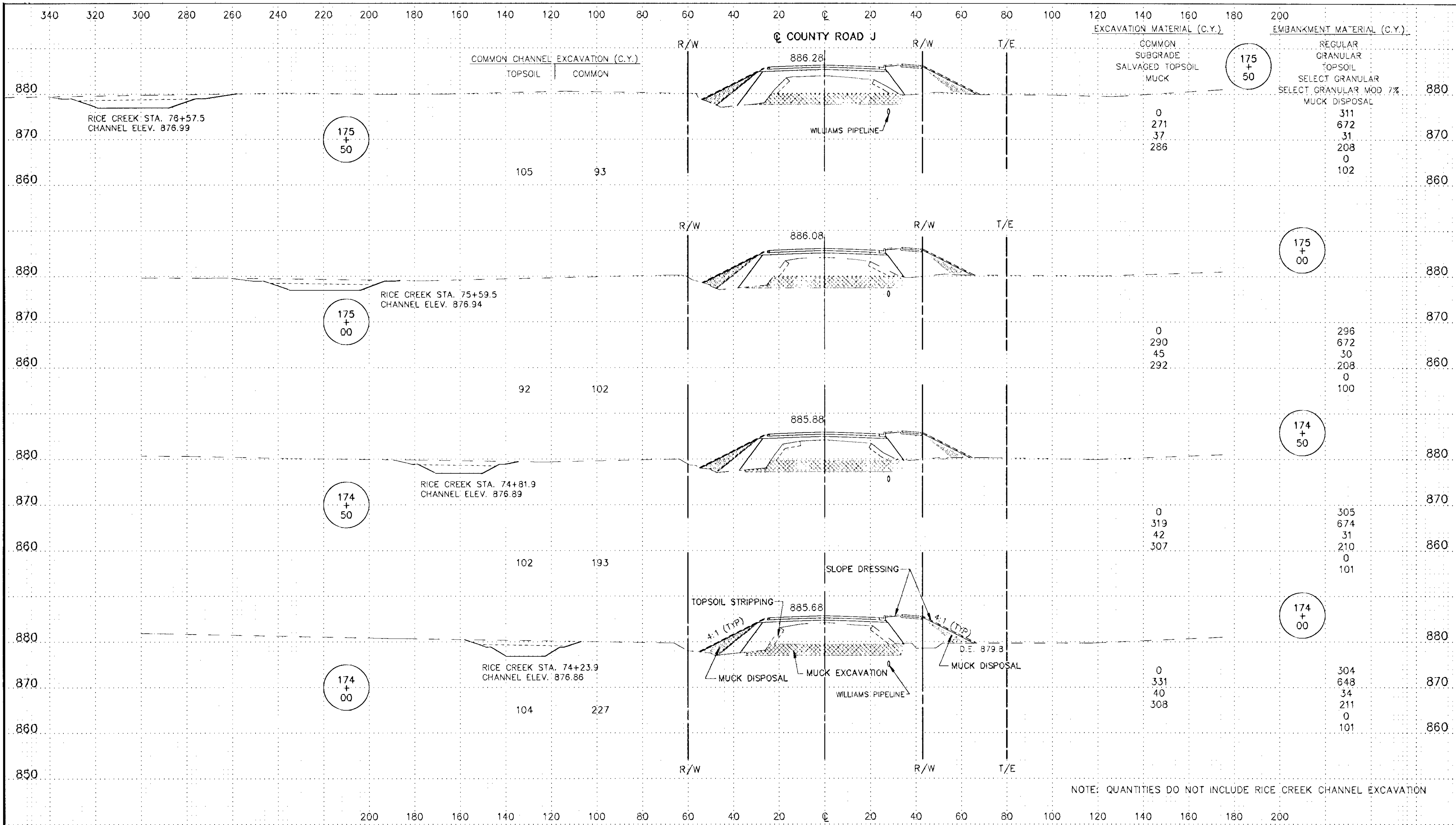
**COUNTY ROAD "J"**  
C.S.A.H. 32  
RAMSEY/ANOKA COUNTY  
CROSS SECTIONS  
STA. 172+00 TO STA. 173+50

S.A.P. NO. 02-632-04  
62-601-06

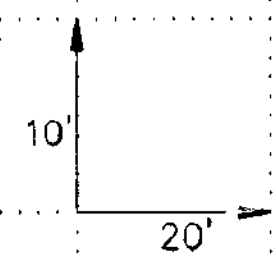
DESIGN FILE  
No. 99002

SHEET 28 OF 32

XJ-SHTB



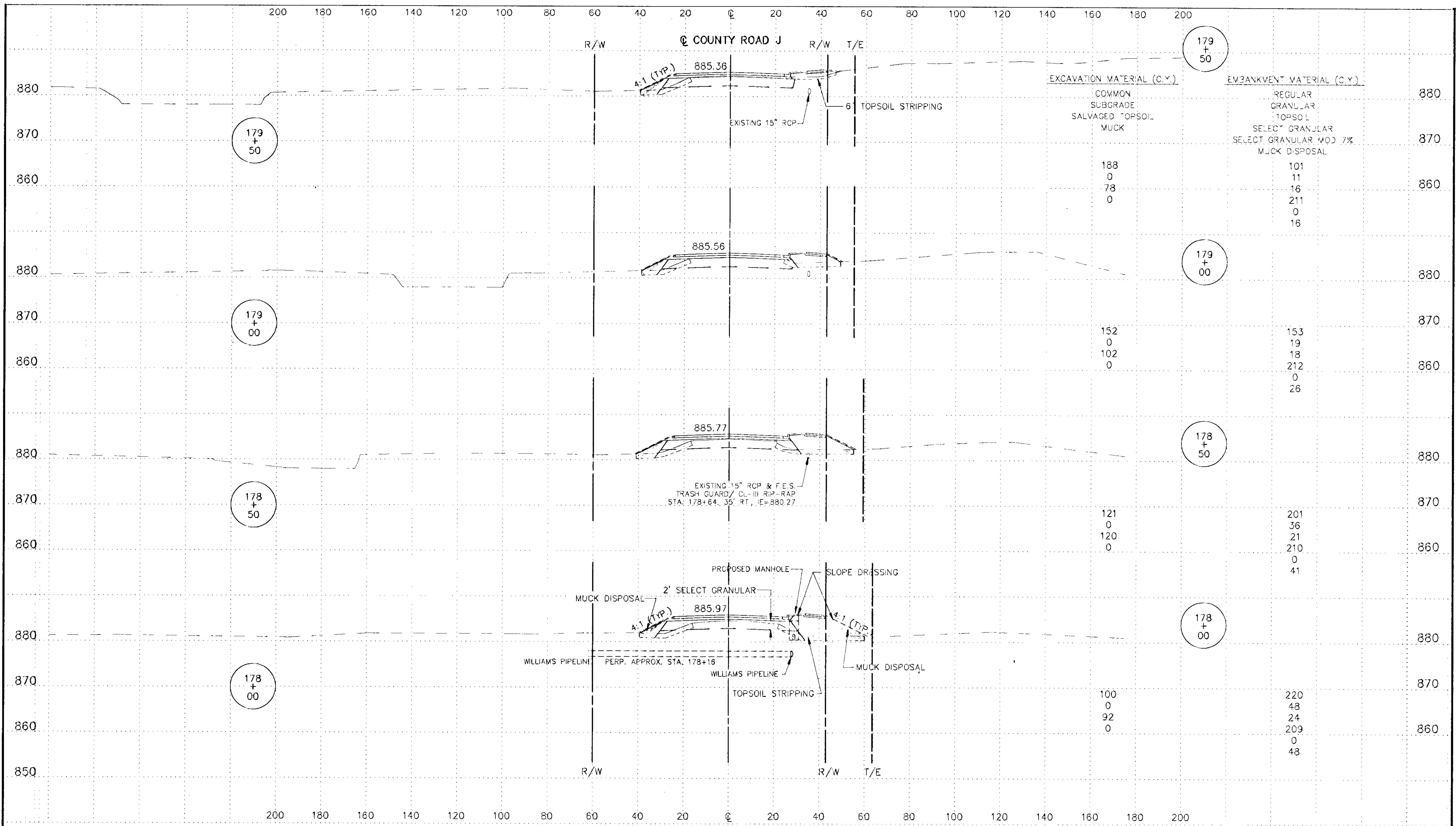
NOTE: QUANTITIES DO NOT INCLUDE RICE CREEK CHANNEL EXCAVATION



	PLANNING TRANSPORTATION ENGINEERING URBAN DESIGN	ORIGINAL DATE 10/04/98	<b>COUNTY ROAD "J"</b> C.S.A.H. 32 RAMSEY/ANOKA COUNTY CROSS SECTIONS STA. 174+00 TO STA. 175+50
	DESIGN BY: RSC DRAWN BY: RSC CHECKED BY: J.B.T.G.	SURVEY BOOK 8927 (Pg. 44)	
S.A.P. NO. 02-632-04 62-601-06		DESIGN FILE No. 99002	







PLC# DATE: 4/22/92

PLC# VIEW: PLC#

**BRW** PLANNING TRANSPORTATION ENGINEERING URBAN DESIGN  
BRW INC. 700 THIRD STREET SOUTH, MINNEAPOLIS, MN 55415

DESIGN BY: HSC  
 DRAWN BY: BSC  
 CHECKED BY: L.B.T.G.

SURVEY BOOK 8927 (Pg.44)

S.A.P. NO. 02-632-04  
 62-601-06

ORIGINAL DATE \_\_\_\_\_  
 REVISIONS \_\_\_\_\_  
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**COUNTY ROAD "J"**  
 C.S.A.H. 32  
 RAMSEY/ANOKA COUNTY  
 CROSS SECTIONS  
 STA. 178+00 TO STA. 179+50

SHEET 31 OF 32

DESIGN FILE No. 99302

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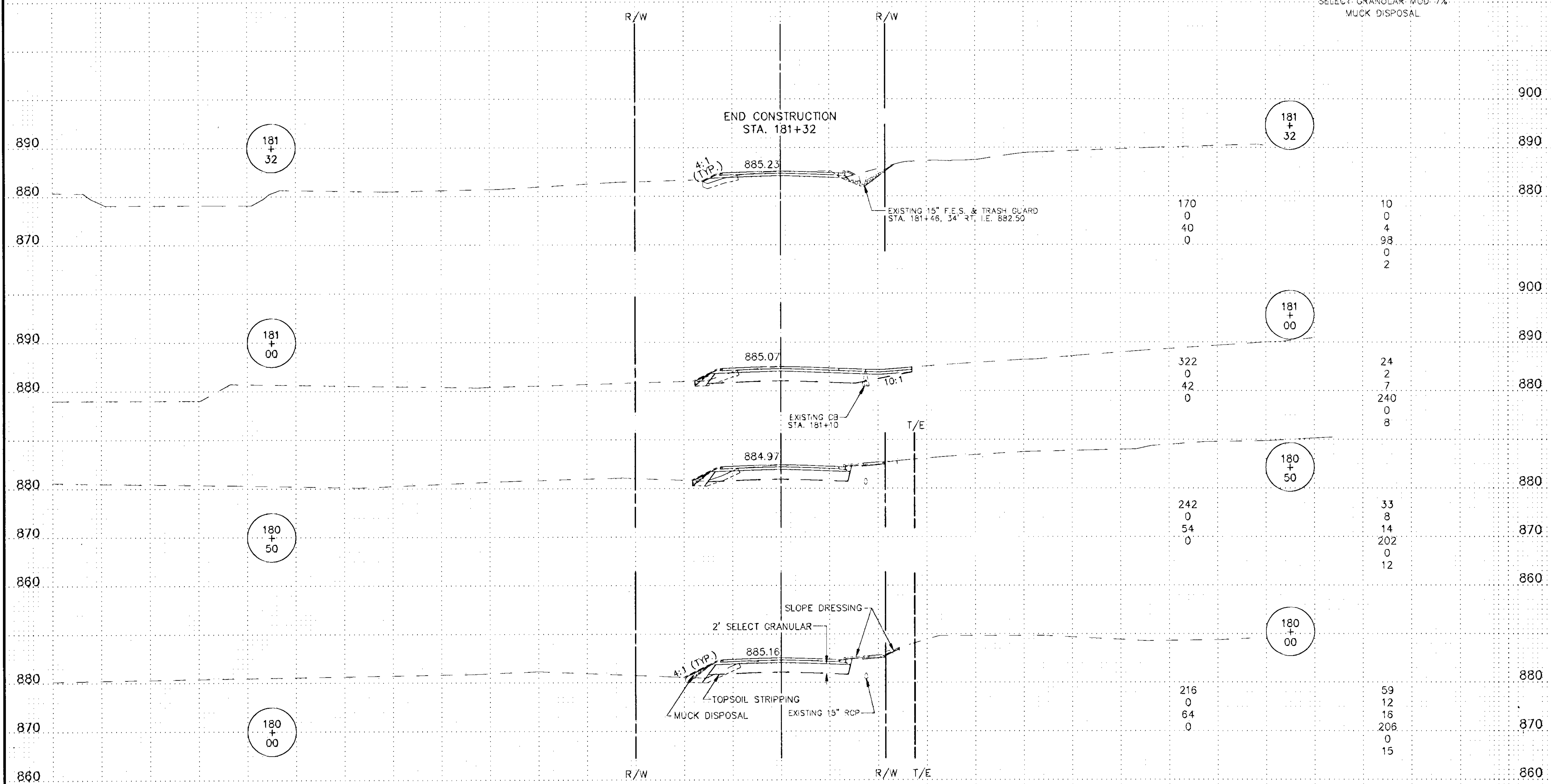
☉ COUNTY ROAD J

EXCAVATION MATERIAL (C.Y.)

EMBANKMENT MATERIAL (C.Y.)

COMMON  
SUBGRADE  
SALVAGED TOPSOIL  
MUCK

REGULAR  
GRANULAR  
TOPSOIL  
SELECT GRANULAR  
SELECT GRANULAR MOD. 7%  
MUCK DISPOSAL



200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120

140 160 180 200



DESIGN BY: RSC  
DRAWN BY: RSC  
CHK'D BY: B.T.J.G.

SURVEY BOOK  
8927 (Pg.44)

ORIGINAL DATE	_____
REVISIONS	_____
	_____
	_____
	_____
	_____

COUNTY ROAD "J"  
C.S.A.H. 32  
RAMSEY/ANOKA COUNTY  
CROSS SECTIONS  
STA. 180+00 TO STA. 181+32

S.A.P. NO. 02-632-04  
62-601-06

SHEET 32 OF 32

DESIGN FILE  
No. 99002