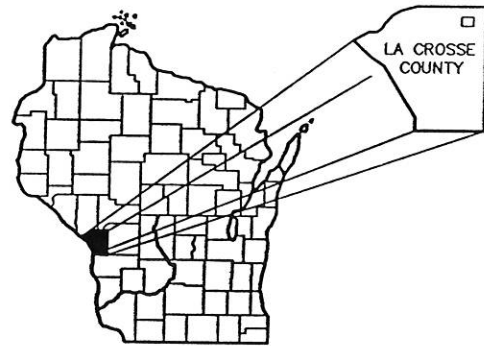


7268-05-71 LA CROSSE

INDEX OF SHEETS

Sheet No. 1	Title
Sheet No.	Typical Sections and Details (Includes Erosion Control Plans)
Sheet No.	Estimate of Quantities
Sheet No.	Miscellaneous Quantities
Sheet No.	Right of Way Plat
Sheet No.	Plan and Profile
Sheet No.	Standard Detail Drawings
Sheet No.	Sign Plates
Sheet No.	Structure Plans
Sheet No.	Computer Earthwork Data
Sheet No.	Cross Sections

TOTAL SHEETS =



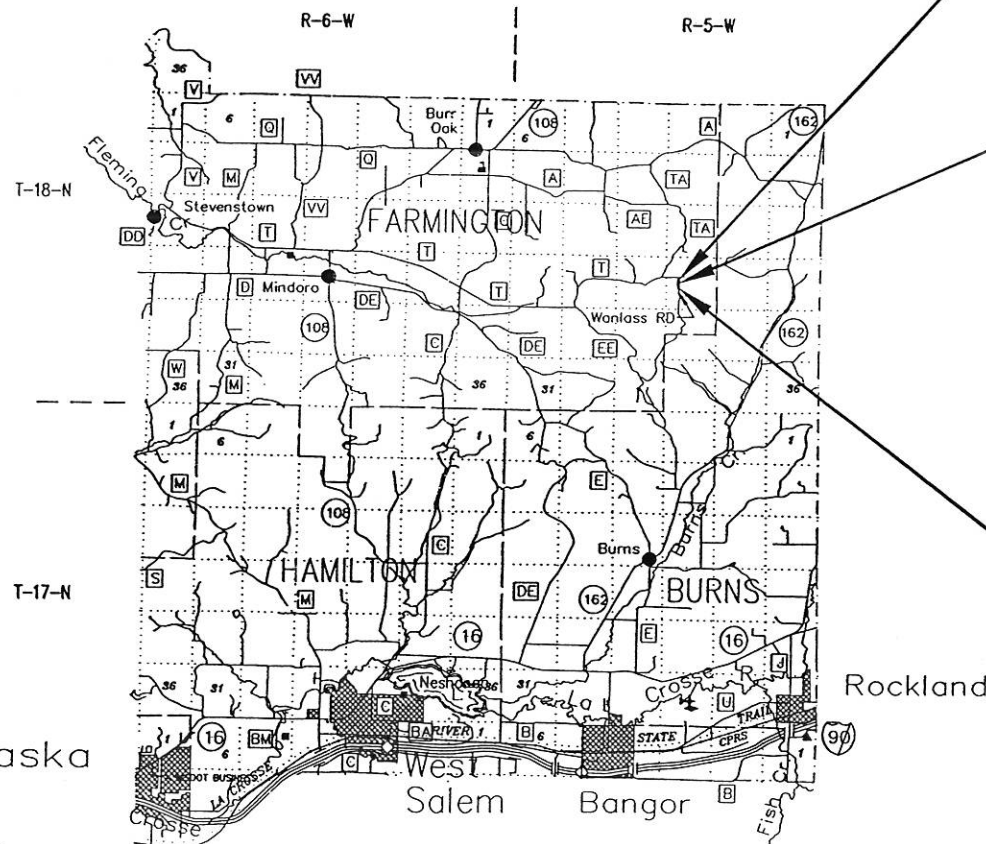
# STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

## PLAN OF PROPOSED IMPROVEMENT

### WANLASS ROAD (FLEMING CREEK BRIDGE & APPROACHES) TOWN ROAD LA CROSSE COUNTY

STATE PROJECT NUMBER  
**7268-05-71**

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
7268-05-71		



END PROJECT  
STA. 1+060

STRUCTURE B-32-192

BEGIN PROJECT  
STA. 1+000  
Y = 226 020 (±30)  
X = 532 030 (±30)

DESIGN DESIGNATION

A.D.T. (1998)	=	27
A.D.T. (2018)	=	40
D.H.V. (2018)	=	6
D.	=	60/40
T.	=	5.0%
DESIGN SPEED	=	30 km/h
ESAL'S	=	N/A

CONVENTIONAL SYMBOLS

COUNTY LINE		COMBUSTIBLE FLUIDS (UNDER PRESSURE)	
CORPORATE LIMITS		UNDERGROUND UTILITIES	
PROPERTY LINE		GAS	
LOT LINE		ELECTRIC	
LIMITED EASEMENT		TELEPHONE	
EXISTING RIGHT OF WAY		SERVICE PEDESTAL	
NEW RIGHT OF WAY		CABLE MARKER	
REFERENCE LINE		POWER POLE	
SLOPE INTERCEPT		TELEPHONE POLE	
ORIGINAL GROUND		RAILROADS	
MARSH OR ROCK PROFILE		MARSH	
CULVERT IN PLACE		WOODED AREA	
CULVERT REQUIRED			
CULVERT REQUIRED (Profile)			

LAYOUT  
0 1 2km  
SCALE

TOTAL NET LENGTH OF CENTERLINE = 0.060 km (RURAL)

NOTE:  
ALL COORDINATES SHOWN ON THIS PLAN ARE BASED ON THE WISCONSIN COORDINATE SYSTEM, SOUTH ZONE AND ARE SCALED FROM U.S.G.S. TOPOGRAPHIC MAP, FOUR CORNERS, W. QUADRANGLE AND CONVERTED TO METRIC FOR IDENTIFICATION ONLY.

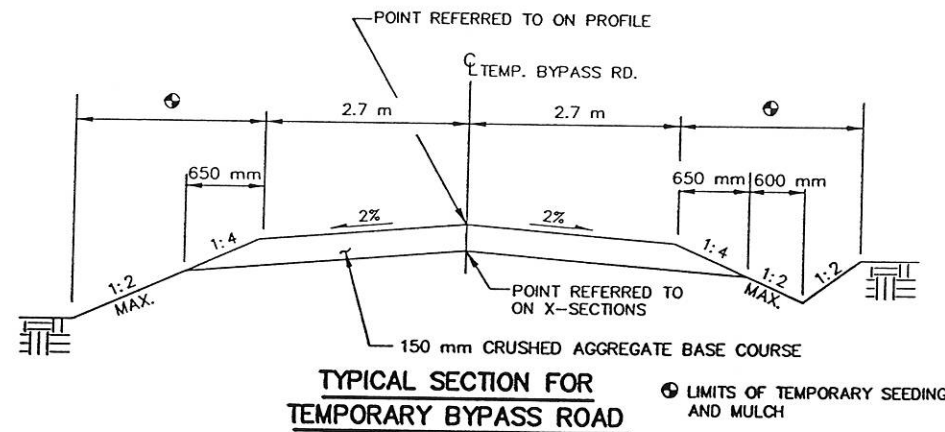
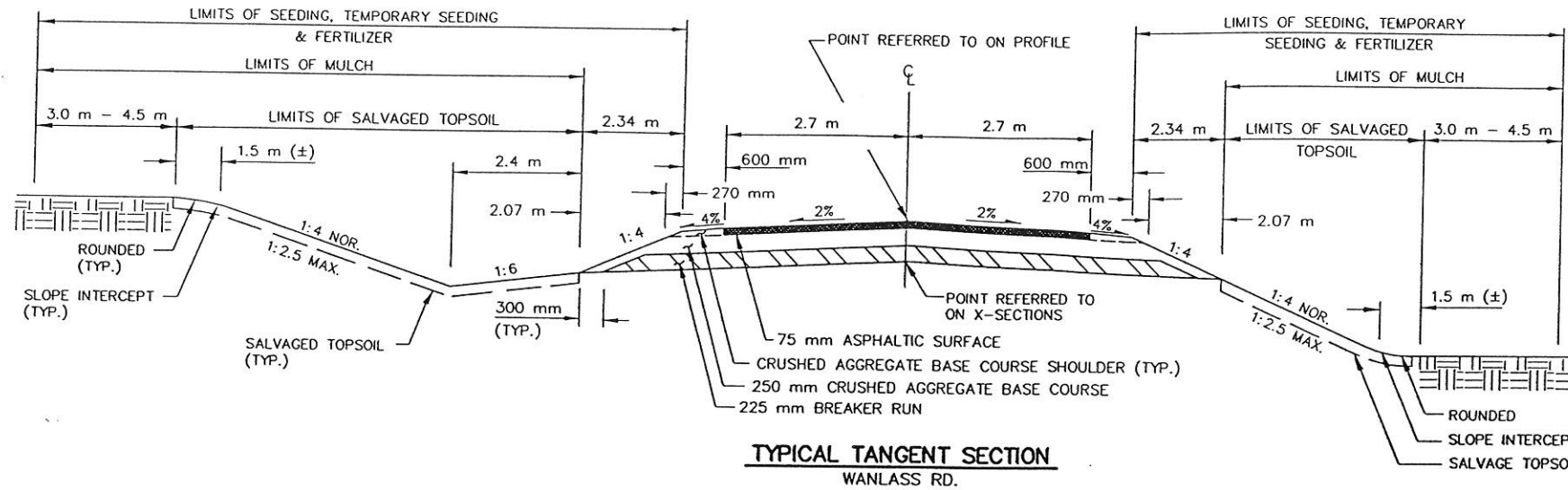
ACCEPTED FOR	
TOWNSHIP _____ of FARMINGTON	
(Date) _____	(CHAIRMAN) _____
ACCEPTED FOR	
COUNTY _____ of LA CROSSE	
(Date) _____	(Commissioner) _____
ORIGINAL PLANS PREPARED BY	
WESTBROOK ASSOCIATED ENGINEERS, INC. SPRING GREEN, WISCONSIN 53588	
(Date) _____	(Signature) _____
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
PREPARED BY	
Surveyor <u>WESTBROOK</u>	
Designer <u>WESTBROOK</u>	
District Examiner _____	
District Supervisor _____	
Proj. Dev. Engineer _____	
C.O. Examiner _____	
APPROVED FOR DISTRICT OFFICE	
DATE _____	(District Design Supervisor) _____



WESTBROOK ASSOCIATED  
ENGINEERS, INC.  
SPRING GREEN, WI 53588

**GENERAL NOTES**

- MULCH ALL SLOPES AS DIRECTED BY THE ENGINEER.
- SILT FENCE TO BE PLACED AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. SILT FENCE SHALL BE IN PLACE PRIOR TO CONSTRUCTION.
- EROSION MAT & EROSION BALES TO BE PLACED AS DIRECTED BY THE ENGINEER IN THE FIELD.
- DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCEPT BETWEEN THE SHOULDER POINTS, ARE TO BE FERTILIZED AND SEEDED, AND TEMPORARILY SEEDED.
- SALVAGED TOPSOIL SHALL BE PLACED ON THE SLOPES 1.5 m BEYOND THE SLOPE INTERCEPT WITH THE ORIGINAL GROUND AS SHOWN ON THE CROSS SECTIONS.
- THE DEPTH OR THICKNESS OF THE CRUSHED AGGREGATE BASE COURSE AND ASPHALTIC SURFACE SHOWN ON THE PLANS IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER IN THE FIELD.
- REMOVAL OF ASPHALTIC SURFACES WHERE AN ABUTTING ASPHALTIC SURFACE IS TO REMAIN IN PLACE, SHALL REQUIRE A SAWCUT MEETING THE APPROVAL OF THE ENGINEER IN THE FIELD.
- THE ASPHALTIC SURFACE SHALL BE PLACED IN TWO LIFTS CONSISTING OF A 40 mm LOWER LAYER AND 35 mm UPPER LAYER.
- NO TREES OR SHRUBS ARE TO BE REMOVED WITHOUT THE APPROVAL OF THE ENGINEER.
- THE LOCATIONS OF EXISTING UTILITIES INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.
- D.O.T. MONUMENT TO BE FURNISHED BY THE STATE AND PLACED BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER.
- BEARINGS ORIENTED TO MAGNETIC NORTH
- BENCH MARKS ARE REFERENCED TO A CHISELED "C" LOCATED ON THE SOUTH END OF THE NW HEADWALL OF A STONE MASONRY CULVERT LOCATED ON CTH T IN T18N, R5W APPROXIMATELY 0.5 Km SOUTH OF THE CORNER OF SECTION 15,16,21, AND 22, APPROXIMATELY 44 m WEST OF THE CTH T/ CTH TA INTERSECTION WITH A RECORD ELEVATION OF 286.750 m.
- ALL STREAM BANK AREAS DISTURBED BY THE TEMPORARY BYPASS ROAD SHALL BE COVERED WITH HEAVY RIPRAP TO THE EXTENT SPECIFIED BY THE ENGINEER.
- CULVERT PIPE ELEVATIONS AS SHOWN ON THE PLAN MAY BE ADJUSTED BY THE ENGINEER IN THE FIELD TO FIT FIELD CONDITIONS.
- THE EXACT LOCATION OF THE FIELD ENTRANCES AND PRIVATE ENTRANCES SHALL BE DETERMINED BY THE THE ENGINEER IN THE FIELD.
- THE FILL SLOPES CAN BE FLATTENED AS DIRECTED BY THE ENGINEER TO WASTE EXCESS YARDAGE.



**STANDARD ABBREVIATIONS**

ADT	AVERAGE DAILY TRAFFIC	MAX.	MAXIMUM	R <sub>L</sub> OR R/L	REFERENCE LINE
AGG.	AGGREGATE	m	METER	REINF.	REINFORCED
B.M.	BENCH MARK	mm	MILLIMETER	REQ'D.	REQUIRED
☉ OR C/L	CENTERLINE	m <sup>2</sup>	SQUARE METER	RT.	RIGHT
COR.	CORNER	m <sup>3</sup>	CUBIC METER	R/W	RIGHT-OF-WAY
CR.	CRUSHED	MIN.	MINIMUM	RD.	ROAD
CTH	COUNTY TRUNK HIGHWAY	Mg	MEGAGRAM	RDWY.	ROADWAY
D.H.	DOUBLE HEADED	N.	NORTH	S.	SOUTH
D.H.V.	DESIGN HOURLY VOLUME	NOR.	NORMAL	SE	SOUTHEAST
DIA.	DIAMETER	O.A.L.	OVERALL LENGTH	SHRK.	SHRINKAGE
DIR.	DIRECTED	OHE	OVERHEAD ELECTRIC	S.R.	SIDE ROAD
E.	EAST	PAVT.	PAVEMENT	STD.	STANDARD
EL. OR ELEV.	ELEVATION	P.C.	POINT OF CURVE	STH	STATE TRUNK HIGHWAY
EST.	ESTIMATED	P.I.	POINT OF INTERSECTION	STA.	STATION
F.E.	FIELD ENTRANCE	P.E.	PRIVATE ENTRANCE	T	TANGENT LENGTH OF CURVE
H.W.	HIGH WATER	P.K.	PARKER-KALON NAIL	TEMP.	TEMPORARY
K	SIGHT DISTANCE	P <sub>L</sub> OR PL	PROPERTY LINE	T <sub>L</sub>	TRANSIT LINE
Kg	KILOGRAM	P.P.	POWER POLE	UNCL.	UNCLASSIFIED EXCAVATION
L	LITER	PROJ.	PROJECT	V	DESIGN SPEED
L.C.	LENGTH OF CURVE	P.T.	POINT OF TANGENCY	V.C.	VERTICAL CURVE
L.H.F.	LEFT HAND FORWARD	PVMT.	PAVEMENT	VAR.	VARIABLE
L.S.	LUMP SUM	R.	RADIUS	W.	WEST
LT.	LEFT	R.R.	RAILROAD		

**MEMBER**  
OF THE  
**CALL SYSTEMS INTERNATIONAL**

TO OBTAIN LOCATION OF PARTICIPANTS' UNDERGROUND FACILITIES BEFORE YOU DIG IN WISCONSIN

**CALL DIGGERS HOTLINE**  
1-800-242-8511  
TOLL FREE

FAX-A-LOCATE 1-800-333-3860  
TDD (FOR HEARING IMPAIRED) 1-800-542-2289

WS. STATUTE 182.0175 (1974)  
REQUIRES MIN. OF 3 WORK DAYS  
NOTICE BEFORE YOU EXCAVATE.

**UTILITIES**

- \* GTE. NORTH INC. 835 RED IRON ROAD BLACK RIVER FALLS, WI 54615 ATTN: BECKY ODEGARD (715) 284-4373
- BANGOR MUNICIPAL UTILITY P.O. BOX 130 BANGOR, WI 54614 ATTN: CECIL ROLFE (608) 486-2151

\* DENOTES DIGGERS HOTLINE MEMBERS

FILE NAME: 5863TYPI DATE: 5-5-97 SCALE(METRIC): 1:000:1

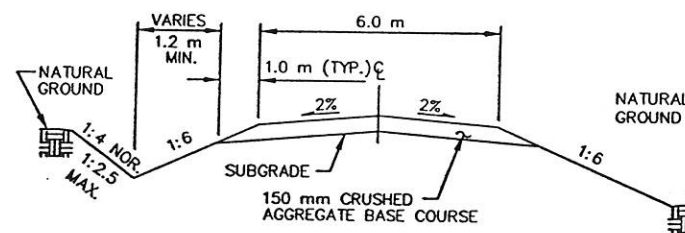


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ENGINEERS, INC.  
SPRING GREEN, WI 53588

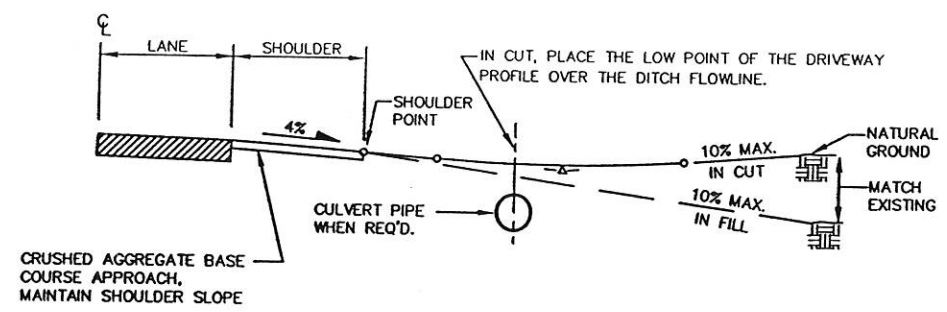
RUNOFF COEFFICIENT TABLE

LAND USE	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS	.08 .22	.16 .30	.22 .38	.12 .26	.20 .34	.27 .44	.15 .30	.24 .37	.33 .50	.19 .34	.28 .41	.38 .56
MEDIAN STRIP-TURF	.19 .24	.20 .26	.24 .30	.19 .25	.22 .28	.26 .33	.20 .26	.23 .30	.30 .37	.20 .27	.25 .32	.30 .40
SIDE SLOPE-TURF			.25 .32			.27 .34			.28 .36			.30 .38
PAVEMENT:												
ASPHALT	.70 - .95											
CONCRETE	.80 - .95											
BRICK	.70 - .80											
DRIVES, WALKS	.75 - .85											
ROOFS	.75 - .95											
GRAVEL ROADS, SHOULDERS	.40 - .60											

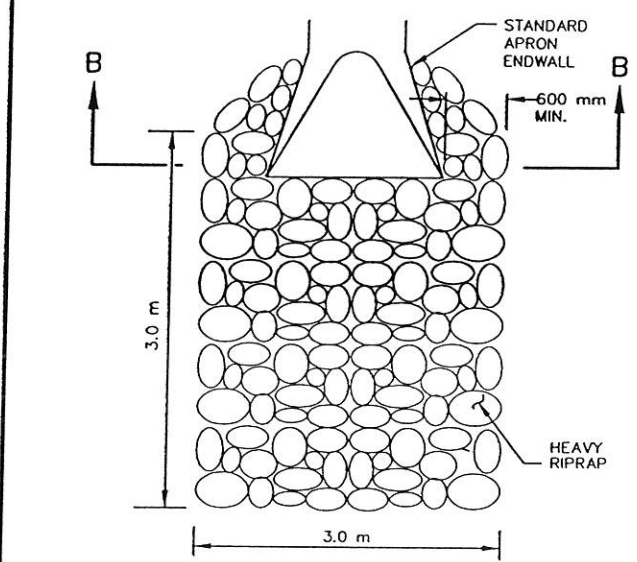
TOTAL PROJECT AREA = 1034 m<sup>2</sup>  
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 670 m<sup>2</sup>



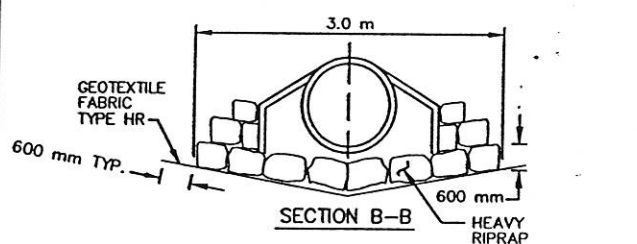
TYPICAL CROSS-SECTION FOR FIELD ENTRANCE



TYPICAL FIELD ENTRANCE PROFILES

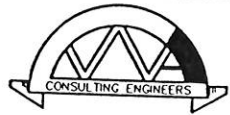


PLAN VIEW



HEAVY RIPRAP DISCHARGE APRON DETAIL  
(SEE EROSION CONTROL PLAN FOR LOCATION)

FILE NAME: 5863D101 DATE: 1-21-97 SCALE(METRIC): 1:250



WESTBROOK ASSOCIATED  
ENGINEERS, INC.  
SPRING GREEN, WI 53588

FILE NAME: 5863AL01 DATE: 5-5-97 SCALE(METRIC): 1:250 ROT: -90°

BEGIN PROJECT STA. 1+000 =  
 TEMP. BYPASS STA. 2+000  
 N=20000.008  
 E=10000.258

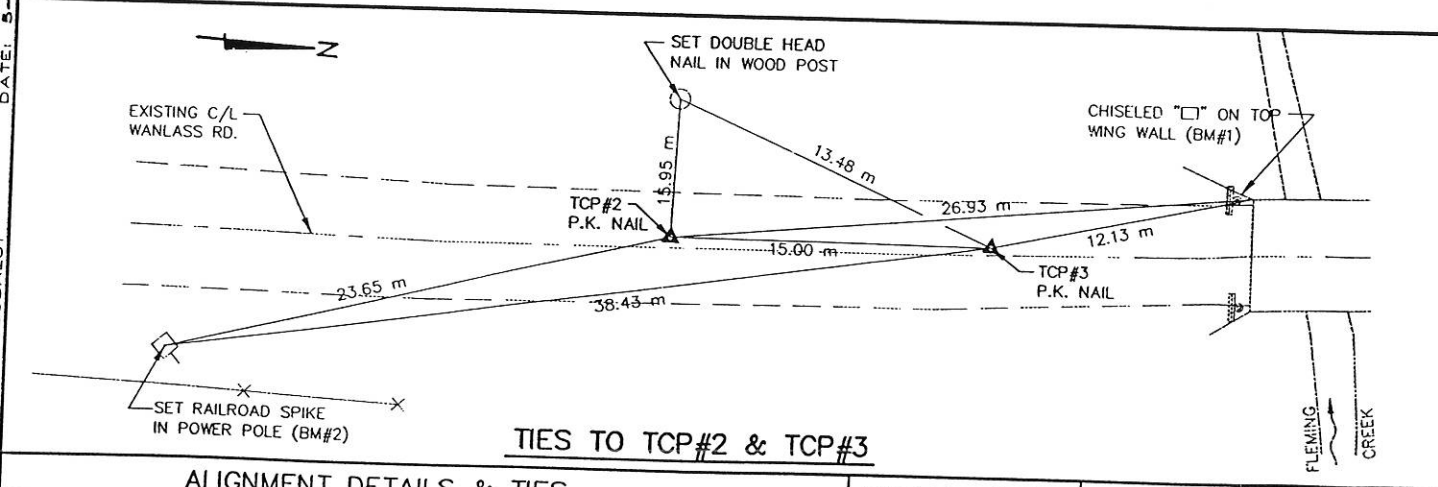
END PROJECT STA. 1+060 =  
 TEMP. BYPASS STA. 2+067.720  
 N=20059.842  
 E=9995.805

**BENCH MARKS**

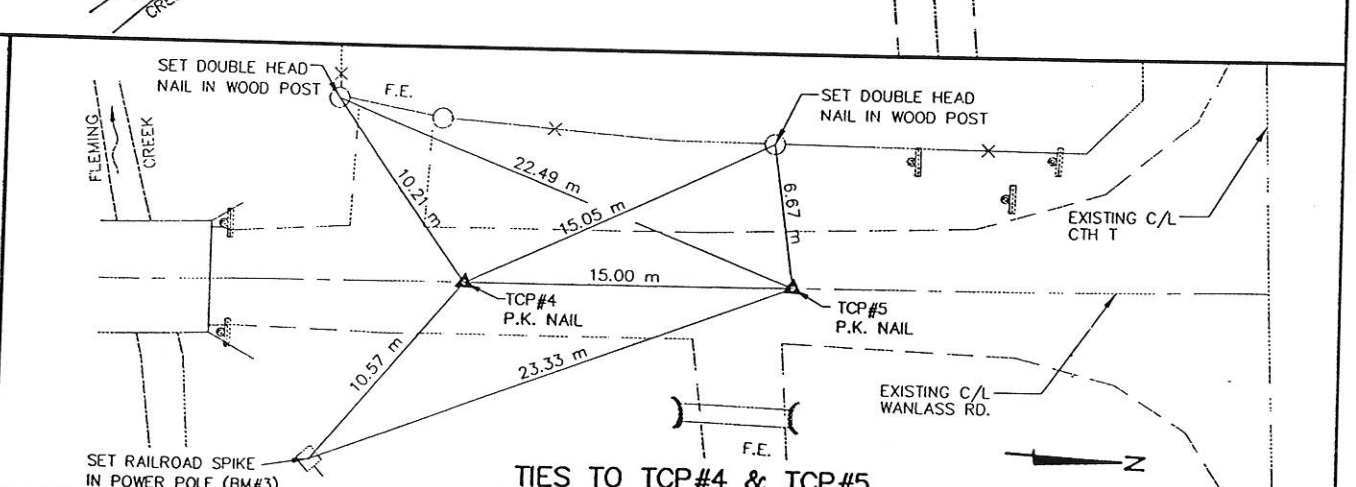
NO.	STATION	DESCRIPTION	ELEVATION
1	1+026.8	CHISELED "□" ON TOP OF WING, EXISTING STRUCTURE (P-32-926), 3.09 m LT.	291.719
2	0+976.9	RAILROAD SPIKE SET IN WEST FACE OF POWER POLE, 4.72 m RT.	292.059
3	1+038.1	RAILROAD SPIKE SET IN WEST FACE OF POWER POLE, 7.88 m RT.	291.528

**LEGEND**  
▲ P.K. NAIL

**ALIGNMENT DETAIL**



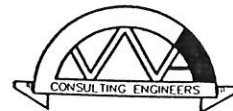
ALIGNMENT DETAILS & TIES



TIES TO TCP#4 & TCP#5

SCALE: 1:250 HWY: WANLASS RD.

COUNTY: LA CROSSE STATE PROJECT NO. 7000 05 71



WESTBROOK ASSOCIATED  
ENGINEERS, INC.  
SPRING GREEN, WI 53588

### GENERAL NOTES

1. ALL SIGNS AND DEVICES SHALL BE IN CONFORMANCE WITH THE WISCONSIN MANUAL OF TRAFFIC CONTROL DEVICES (WMTCD).
2. THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS.
3. DURING HOURS OF DARKNESS, ALL BARRICADES USED TO SHIELD A HAZARD SHALL BE EQUIPPED WITH TYPE "A" (LOW INTENSITY FLASHING) LIGHTS AND DEVICES USED TO DELINEATE A TRAVEL PATH SHALL BE EQUIPPED WITH A TYPE "C" (STEADY BURN) LIGHTS.
4. ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE CONTROL ZONE, INCLUDING PRE-EXISTING SIGNING IN THE VICINITY, SHALL BE COVERED OR REMOVED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS, OR AS DIRECTED BY THE ENGINEER.
5. ALL SIGNS ARE 1200 mm X 1200 mm UNLESS OTHERWISE NOTED.
6. "WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACK GROUND IS ORANGE.
7. ALL TRAFFIC CONTROL ITEMS SHALL BE PAID FOR UNDER THE BID ITEM "TRAFFIC CONTROL, LUMP SUM", EXCEPT FOR THE TEMPORARY DELINEATORS WHICH SHALL BE PAID FOR UNDER THE BID ITEM "TEMPORARY DELINEATORS, EACH".

### LEGEND

- TYPE III BARRICADE WITH/WITHOUT SIGN ATTACHED. TWO TYPE "A" FLASHING LIGHTS REQUIRED PER BARRICADE.
- TEMPORARY DELINEATORS AT 7.5 m SPACING ALONG TEMP. BYPASS ROAD
- WORK AREA
- SIGN ON PERMANENT SUPPORT
- TYPE "A" FLASHING LIGHT
- DRUMS AT 7.5 m SPACING WITH TYPE "C" LIGHTS

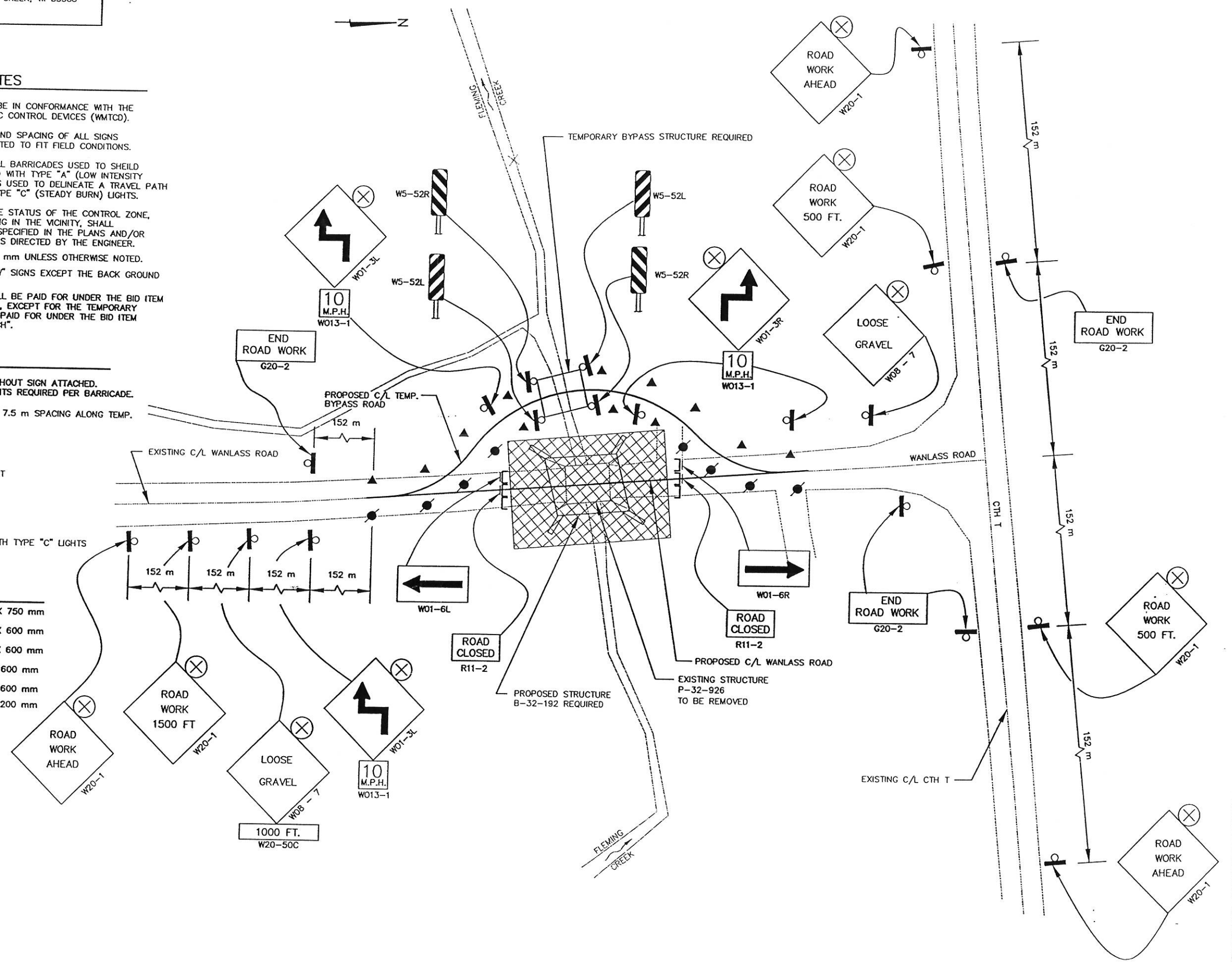
### SIGN SIZES

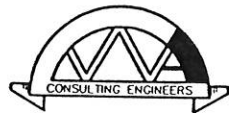
R11-2	=	1200 mm X 750 mm
W01-6L & R	=	1200 mm X 600 mm
G20-2	=	1500 mm X 600 mm
W5-52L & R	=	300 mm X 600 mm
W013-1	=	600 mm X 600 mm
W20-50C	=	750 mm X 200 mm

DATE: 1-21-97

SCALE(METRIC): 1:250

FILE NAME: 5863TC01





WESTBROOK ASSOCIATED  
ENGINEERS, INC.  
SPRING GREEN, WI 53588

JAMES & BETTY  
KROENER



FIELD

BYPASS STA. 2+031  
TEMPORARY BYPASS  
STRUCTURE REQUIRED

STA. 1+030  
EXISTING STRUCTURE P-32-926  
SINGLE SPAN DECK GIRDER STRUCTURE  
7.07 m O.A.L., 4.88 m CLEAR ROADWAY WIDTH  
TO BE REMOVED

STRUCTURE  
B-32-192  
REQUIRED

STA. 1+042, LT  
CONSTRUCT F.E.

BARN YARD

1+060  
10.058 m  
(33.0')

T.L.E. - BYPASS ROAD

C/L TEMP. BYPASS  
(SEE DETAIL SHEET)

FENCES TO BE REMOVED  
BY OTHERS (TYP.)

EXISTING R/W  
CTH T

EXISTING C/L  
CTH T

GTE NORTH, INC.  
(TYP.)

EXISTING C/L  
WANLASS RD.

10.058 m

1+000  
10.058 m  
(33.0')

WANLASS ROAD  
(ASPHALT)

1+040

(ASPHALT)

10.058 m

EXISTING R/W  
WANLASS RD.

BEGIN PROJECT  
AT STA. 1+000

SLOPE INTERCEPTS  
(TYP.)

PROPOSED C/L  
WANLASS RD.

END PROJECT  
AT STA. 1+060

FIELD

HEAVY RIPRAP (6m<sup>3</sup>), WITH  
GEOTEXTILE FABRIC, TYPE HR  
(18m<sup>2</sup>)L=3.0 m, W=3.0 m

STA. 1+057, RT  
REMOVE EXISTING 450 mm DIA. C.P.

STA. 1+057, RT  
CONSTRUCT F.E.  
1-600 mm DIA. C.P. REQUIRED  
2- APRON ENDWALLS REQUIRED

BANGOR MUNICIPAL  
UTILITY (TYP.)

BM#2

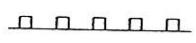
FIELD

EXISTING PIPE INLET AND  
OUTLETS TO REMAIN IN PLACE

WOODS

FLEMING  
CREEK

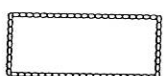
**LEGEND**



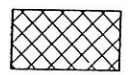
SILT FENCE, SILTY SOIL



FLOW DIRECTION



HEAVY RIPRAP WITH GEOTEXTILE  
FABRIC, TYPE HR (SEE STRUCTURE  
PLANS AND MISCELLANEOUS QUANTITIES  
SHEET FOR QUANTITIES)



EROSION MAT, CLASS I, TYPE B



CULVERT PIPE

NOTE: THE LOCATION OF SALVAGED TOPSOIL, MULCH,  
EROSION BALES, EROSION MAT, SEEDING AND  
FERTILIZER ARE SHOWN ON THE MISCELLANEOUS  
QUANTITIES SHEET.

**EROSION CONTROL PLAN**

FILE NAME: 5863ER01  
DATE: 5-5-97  
SCALE(METRIC): 1:250  
ROTA 1-90



WESTBROOK ASSOCIATED  
ENGINEERS, INC.  
SPRING GREEN, WI 53588

REMOVING OLD CULVERTS

STATION	LOCATION	EACH
1+057	F. E. RT	1
TOTAL		1

CRUSHED AGGREGATE BASE COURSE

STATION-STATION	LOCATION	BASE (m3)	SHOULDER (m3)
1+000 - STRUCTURE	MAINLINE	90	14
STRUCTURE - 1+060	MAINLINE	90	14
2+000 - 2+060	TEMP. BYPASS	44	---
↑ 1+042	F. E., LT	12	---
↑ 1+057	F. E., RT	6	---
TOTALS		242	28

BREAKER RUN STONE

STATION	LOCATION	m3
1+000 - STRUCTURE	MAINLINE	75
STRUCTURE - 1+060	MAINLINE	75
TOTALS		150

ASPHALTIC SURFACE

STATION	LOCATION	m2
1+000 - STRUCTURE	MAINLINE	28
STRUCTURE - 1+060	MAINLINE	28
TOTALS		56

CULVERT PIPE, CLASS III, 600 mm AND APRON ENDWALLS FOR CULVERT PIPE, 600 mm

STATION	LOCATION	CULVERT PIPE THICKNESS (mm) STEEL/ALUM.	CULVERT PIPE, CLASS III, 600 mm LENGTH (m)	APRON ENDWALLS FOR CULVERT PIPE, 600 mm (EACH)
1+057	F. E., RT	1.74/2.05	9	2
TOTALS				2

TEMPORARY STRUCTURE, STATION 2+031

LOCATION	L. S.
TEMP. BYPASS	1
TOTAL	1

HEAVY RIPRAP AND GEOTEXTILE FABRIC, TYPE HR

STATION	LOCATION	HEAVY RIPRAP (m3)	GEOTEXTILE FABRIC TYPE HR (m2)
1+057	F. E. CULVERT DISCHARGE	6	18
2+030	TEMP. BYPASS STRUCTURE	24	34
TOTALS		30	52

\* FINISHING ITEMS

STATION - STATION	LOCATION	SALVAGED TOPSOIL (m2)	MULCHING (m2)	FERTILIZER TYPE A (kg)	SEEDING, MIX #20 (kg)	SEEDING, TEMPORARY (kg)	SEEDING, BORROW MIXTURE (kg)
1+000 - 1+060	MAINLINE	340	715	33	15	7	-
2+000 - 2+067.720	TEMP. BYPASS	290	430	10	5	2	-
↑ 1+042	BORROW AREA	---	---	1	-	-	1
↑ 1+057	UNDISTRIBUTED	---	255	6	5	1	-
TOTALS		630	1400	50	25	10	1

\* INCLUDES QUANTITIES TO RESTORE THE TEMPORARY BYPASS BACK TO THE ORIGINAL STATE.

EROSION CONTROL ITEMS

STATION-STATION	LOCATION	EROSION BALES, DELIVERED (EACH)	EROSION BALES, INSTALLED (EACH)	EROSION MAT, DELIVERED, CLASS I, TYPE B (m2)	EROSION MAT, INSTALLED, CLASS I, TYPE B (m2)	SILT FENCE, SILTY SOIL, DELIVERED (m)	SILT FENCE, SILTY SOIL, INSTALLED (m)	SILT FENCE MAINTENANCE (m)
1+000 - 1+060	MAINLINE UNDISTRIBUTED	---	15	130	130	200	200	400
	TOTALS	15	15	160	160	200	200	400

TEMPORARY DELINEATORS

STATION	LOCATION	EACH
2+000 - 2+067	TEMP. BYPASS	20
↑ 1+042		
↑ 1+057		
TOTAL		20

WOOD POSTS, 100 x 100 mm x 3 m

LOCATION	EACH
STRUCTURE CORNERS	4
TOTAL	4

SIGNS, TYPE II REFLECTIVE

LOCATION	m2
1 SIGN AT STRUCTURE CORNERS	1.08
TOTAL	1.08

SAWING EXISTING PAVEMENT

STATION	LOCATION	m
1+000	MAINLINE	5.5
1+060	MAINLINE	5.5
TOTALS		11.0

MISCELLANEOUS QUANTITIES

SCALE: 1:1

COUNTY: LA CROSSE

STATE PROJECT NO. 7000 05 71

FILE NAME: 5863M01 DATE: 1-24-97 SCALE: METRIC



WESTBROOK ASSOCIATED  
ENGINEERS, INC.  
SPRING GREEN, WI 53588

①  
JAMES & BETTY  
KROENER

**SCHEDULE OF LANDS & INTERESTS REQUIRED**

PARCEL NUMBER	OWNER(S)	INTEREST REQUIRED	T.L.E. ACRES
1	JAMES & BETTY KROENER	T.L.E.	0.43 ha 0.11 AC

**TABLE OF T.L.E. COURSES**

COURSE	BEARING	DISTANCE
(A)	S 04°00'00"E	30.0 m (98.42')
(B)	S 86°00'00"W	10.058 m (33')
(C)	N 29°31'34"W	33.245 m (109.07')
(D)	N 21°31'26"E	33.248 m (109.08')
(E)	S 04°00'00"E	60.0 m (196.85')

**LEGEND**

- TEMPORARY SHORING
- FLOW DIRECTION
- CULVERT PIPE WITH APRON ENDWALLS

NOTE: SEE DETAIL SHEETS FOR EROSION CONTROL AND ALIGNMENT LAYOUTS.

**STATION, OFFSET & ELEVATIONS FOR TEMP. BYPASS**

MAINLINE STATION	TEMP. BYPASS STATION	OFFSET FROM MAINLINE	TEMP. BYPASS ELEVATION
1+000.000	2+000.000	0	291.965
1+007.500	2+007.573	0.704	291.861
1+015.000	2+016.899	6.006	291.562
1+022.500	2+026.173	11.318	290.393
1+030.000	2+033.861	12.670	290.166
1+037.500	2+041.549	11.318	290.943
1+045.000	2+050.822	6.006	291.950
1+052.500	2+060.148	0.704	292.535
1+060.000	2+067.720	0	292.997

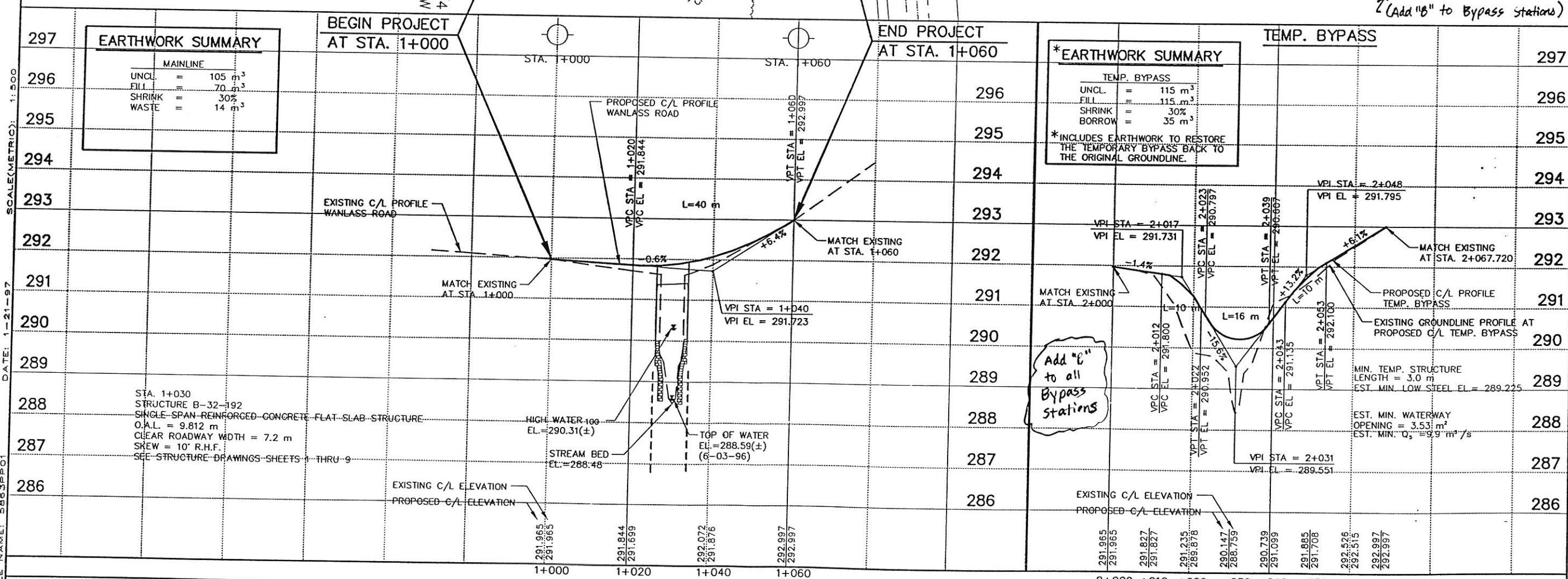
(Add "6" to Bypass stations)

DATE: 1-21-97

SCALE (METRIC): 1:500

DATE: 1-21-97

FILE NAME: 9963PPO1



**EARTHWORK SUMMARY**

MAINLINE	
UNCL.	105 m <sup>3</sup>
FILL	70 m <sup>3</sup>
SHRINK	30%
WASTE	14 m <sup>3</sup>

**\*EARTHWORK SUMMARY**

TEMP. BYPASS	
UNCL.	115 m <sup>3</sup>
FILL	115 m <sup>3</sup>
SHRINK	30%
BORROW	35 m <sup>3</sup>

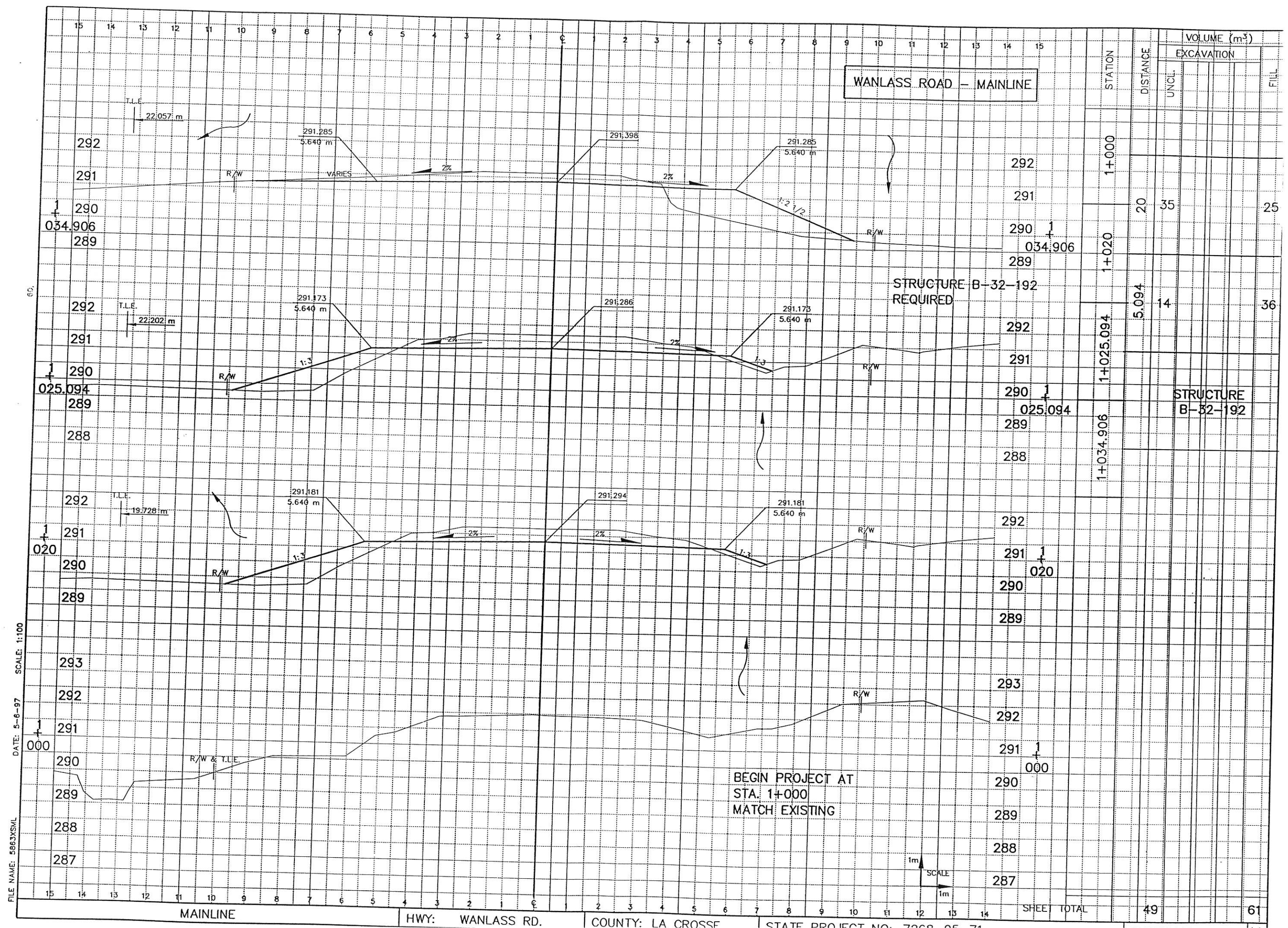
\*INCLUDES EARTHWORK TO RESTORE THE TEMPORARY BYPASS BACK TO THE ORIGINAL GROUNDLINE.

STA. 1+030  
STRUCTURE B-32-192  
SINGLE SPAN REINFORCED CONCRETE FLAT SLAB STRUCTURE  
O.A.L. = 9.812 m  
CLEAR ROADWAY WIDTH = 7.2 m  
SKEW = 10° R.H.F.  
SEE STRUCTURE DRAWINGS SHEETS 1 THRU 9

MIN. TEMP. STRUCTURE  
LENGTH = 3.0 m  
EST. MIN. LOW STEEL EL. = 289.225

EST. MIN. WATERWAY  
OPENING = 3.53 m<sup>2</sup>  
EST. MIN. Q<sub>s</sub> = 9.9 m<sup>3</sup>/s





FILE NAME: 5863XSM1  
 DATE: 5-6-97  
 SCALE: 1:100

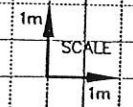
WANLASS ROAD - MAINLINE

STRUCTURE B-32-192  
 REQUIRED

STRUCTURE  
 B-32-192

BEGIN PROJECT AT  
 STA. 1+000  
 MATCH EXISTING

STATION	DISTANCE	VOLUME (m <sup>3</sup> )		
		UNCL.	EXCAVATION	FILL
1+000	20	35		25
1+020	5.094	14		36
1+034.906				
SHEET TOTAL		49		61

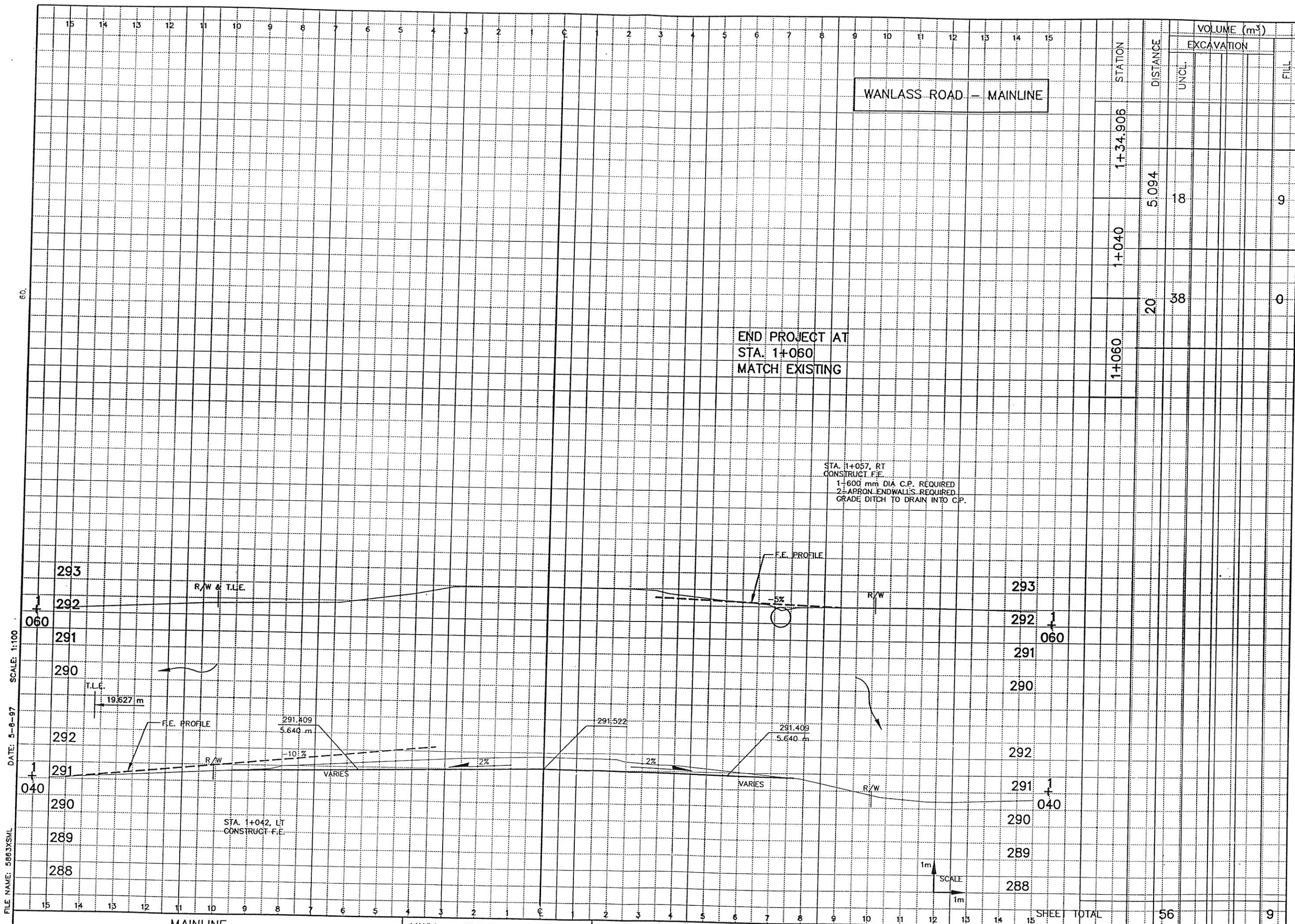


MAINLINE

HWY: WANLASS RD.

COUNTY: LA CROSSE

STATE PROJECT NO: 7268 05 71



WANLASS ROAD - MAINLINE

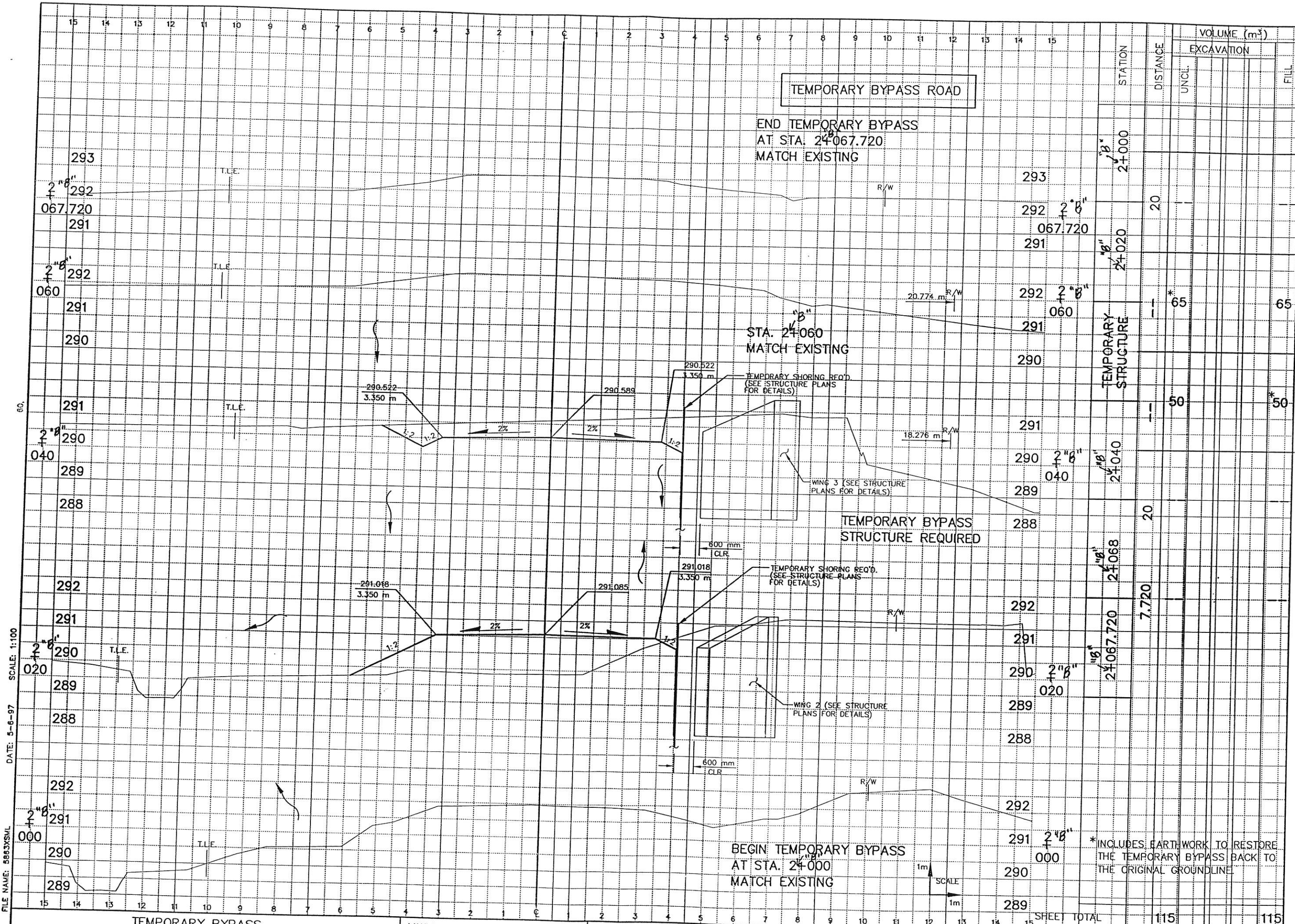
END PROJECT AT  
STA. 1+060  
MATCH EXISTING

STA. 1+057, RT  
CONSTRUCT F.E.  
1-600 mm DIA C.P. REQUIRED  
2-APRON ENDWALLS REQUIRED  
GRADE DITCH TO DRAIN INTO C.P.

STATION	DISTANCE	VOLUME (m <sup>3</sup> )	
		EXCAVATION	FILL
1+060	20	38	0
1+040	5.094	18	9
1+34.906			

FILE NAME: 5863XSML  
DATE: 5-8-97  
SCALE: 1:100

1m  
SCALE  
1m



FILE NAME: 5863XSWL  
 DATE: 5-6-97  
 SCALE: 1:100

**DESIGN DATA**

**LIVE LOAD:**  
 DESIGN RATING \_\_\_\_\_ MS18  
 INVENTORY RATING \_\_\_\_\_ MS21  
 OPERATIONAL RATING \_\_\_\_\_ MS35  
 MAXIMUM STANDARD PERMIT VEHICLE LOAD \_\_\_\_\_ 929 kN

STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 1.0 kN/m<sup>2</sup>.

**ULTIMATE DESIGN STRESSES:**  
 CONCRETE MASONRY, SLAB \_\_\_\_\_  $f'_c = 28 \text{ MPa}$   
 ALL OTHER \_\_\_\_\_  $f'_c = 24 \text{ MPa}$   
 HIGH-STRENGTH BAR STEEL REINFORCEMENT \_\_\_\_\_  $f_y = 420 \text{ MPa}$

**FOUNDATION DATA:**  
 ABUTMENTS TO BE SUPPORTED ON HP 250 mm x 62 kg/m STEEL PILING. DRIVEN TO A MINIMUM BEARING VALUE OF 490 kN PER PILE. ESTIMATE 8 m PILE LENGTHS AT BOTH ABUTMENTS.

**TRAFFIC DATA**  
 A.D.T. (1998) \_\_\_\_\_ 27  
 A.D.T. (2018) \_\_\_\_\_ 40  
 DESIGN SPEED \_\_\_\_\_ 30 km/h

**HYDRAULIC DATA**  
 $Q_{100}$  \_\_\_\_\_ 18.41 m<sup>3</sup>/s  
 DRAINAGE AREA \_\_\_\_\_ 4.43 km<sup>2</sup>  
 WATERWAY AREA @  $Q_{100}$  \_\_\_\_\_ 6.00 m<sup>2</sup>  
 VELOCITY \_\_\_\_\_ 3.03 m/s  
 OVERTOPPING ROAD \_\_\_\_\_ N/A  
 HIGH WATER<sub>100</sub> ELEVATION \_\_\_\_\_ 290.31 m  
 SCOUR CRITICAL CODE \_\_\_\_\_ 8

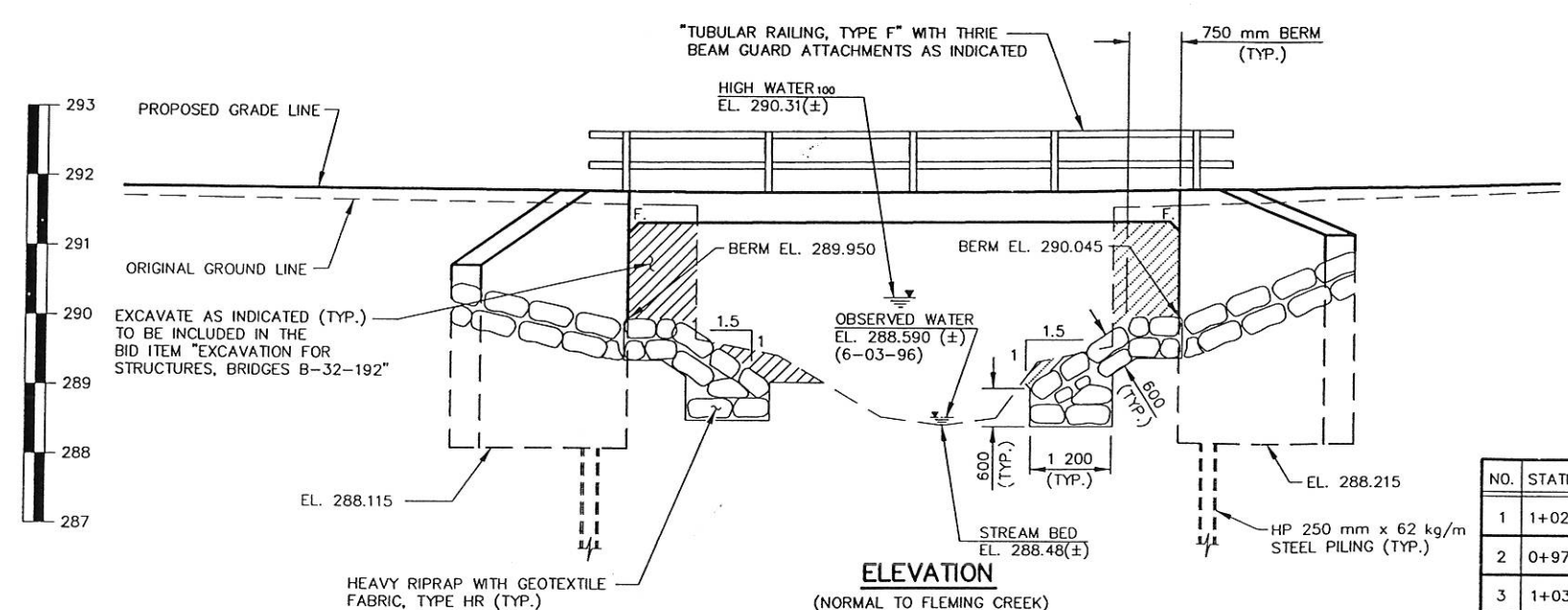
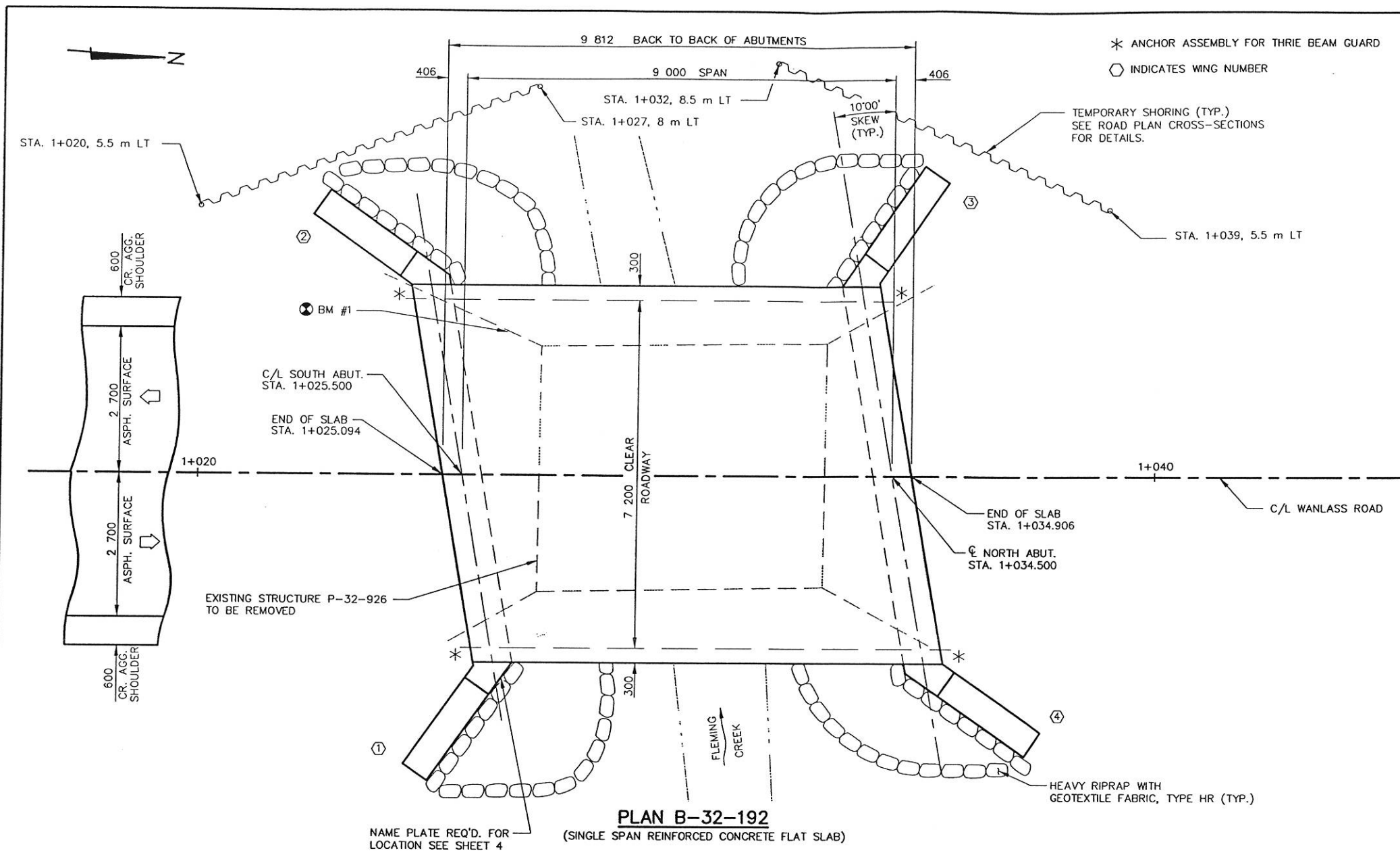
**TEMPORARY STRUCTURE**  
 $Q_{5.5}$  \_\_\_\_\_ 9.9 m<sup>3</sup>/s  
 MIN. WATERWAY AREA \_\_\_\_\_ 3.53 m<sup>2</sup>  
 MIN. STRUCTURE LENGTH \_\_\_\_\_ 3.0 m  
 MIN. LOW STEEL \_\_\_\_\_ 289.225

**LIST OF DRAWINGS**

- 1. GENERAL PLAN
- 2. CROSS SECTION AND QUANTITIES
- 3. SUBSURFACE EXPLORATION
- 4. ABUTMENTS
- 5. ABUTMENT DETAILS
- 6. ABUTMENT BILL OF BARS
- 7. SUPERSTRUCTURE
- 8. SUPERSTRUCTURE DETAILS
- 9. TUBULAR RAILING, TYPE F


**BRIDGE OFFICE CONTACT**  
 GERRY ANDERSON  
 (608) 266-8488

DRAWING FILE: 5863FISH.DWG SCALE: 1000:50000 DATE: 5-13-97 ROT: -94.2589672



**BENCH MARKS**

NO.	STATION	DESCRIPTION	ELEVATION
1	1+026.8	CHISELED "□" ON TOP OF WING, EXISTING STRUCTURE (P-32-926), 3.09 m LT.	291.719
2	0+976.9	RAILROAD SPIKE SET IN WEST FACE OF POWER POLE, 4.72 m RT.	292.059
3	1+038.1	RAILROAD SPIKE SET IN WEST FACE OF POWER POLE, 7.88 m RT.	291.528

No.	DATE	REVISION	BY
 WESTBROOK ASSOCIATED ENGINEERS, INC. SPRING GREEN, WI 53588 (608) 588-7866			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
<b>STRUCTURE B-32-192</b> WANLASS ROAD OVER FLEMING CREEK			
COUNTY	LA CROSSE	TOWN/CITY/VILLAGE	FARMINGTON
DESIGN SPEC.	AASHTO 1996	LOAD	MS18
DESIGNED BY	KAO	CONST. SPEC.	1996
DESIGN CK'D.	JJK	DRAWN BY	KDK
PLANS CK'D.	KAO		
APPROVED		DATE	
CHIEF BRIDGE DESIGN ENGINEER			
<b>GENERAL PLAN</b>			SHEET 1 OF 9

**GENERAL NOTES**

DRAWINGS SHALL NOT BE SCALED.

THE FIRST TWO DIGITS OF A 4 DIGIT MARK SIGNIFIES THE BAR SIZE.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 50 mm CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

FILLER SHALL CONFORM TO A.A.S.H.T.O. DESIGNATION M153, TYPE I, II, OR III, OR A.A.S.H.T.O. DESIGNATION M213.

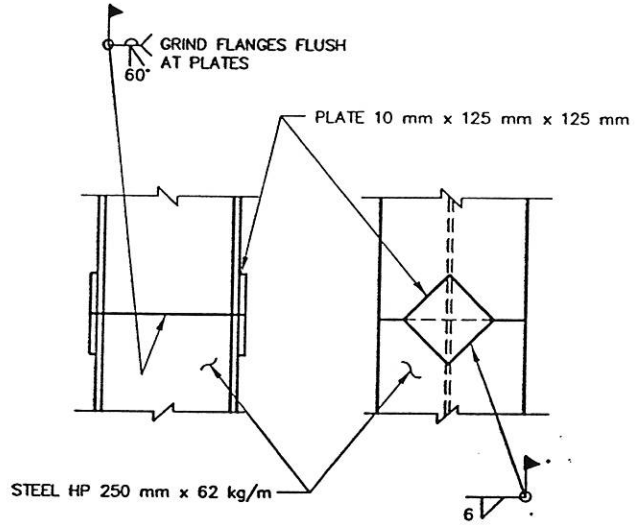
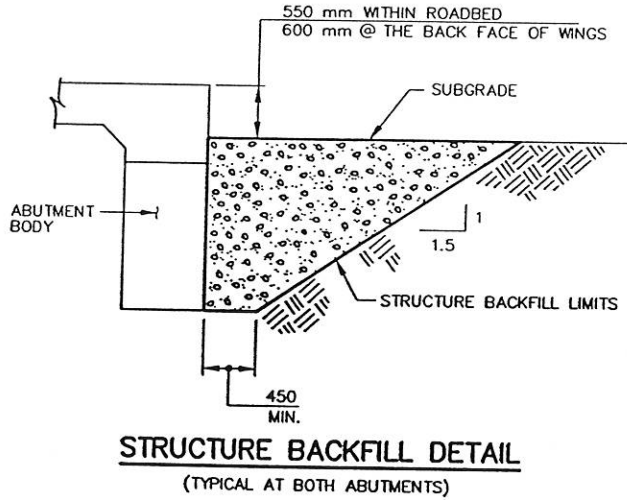
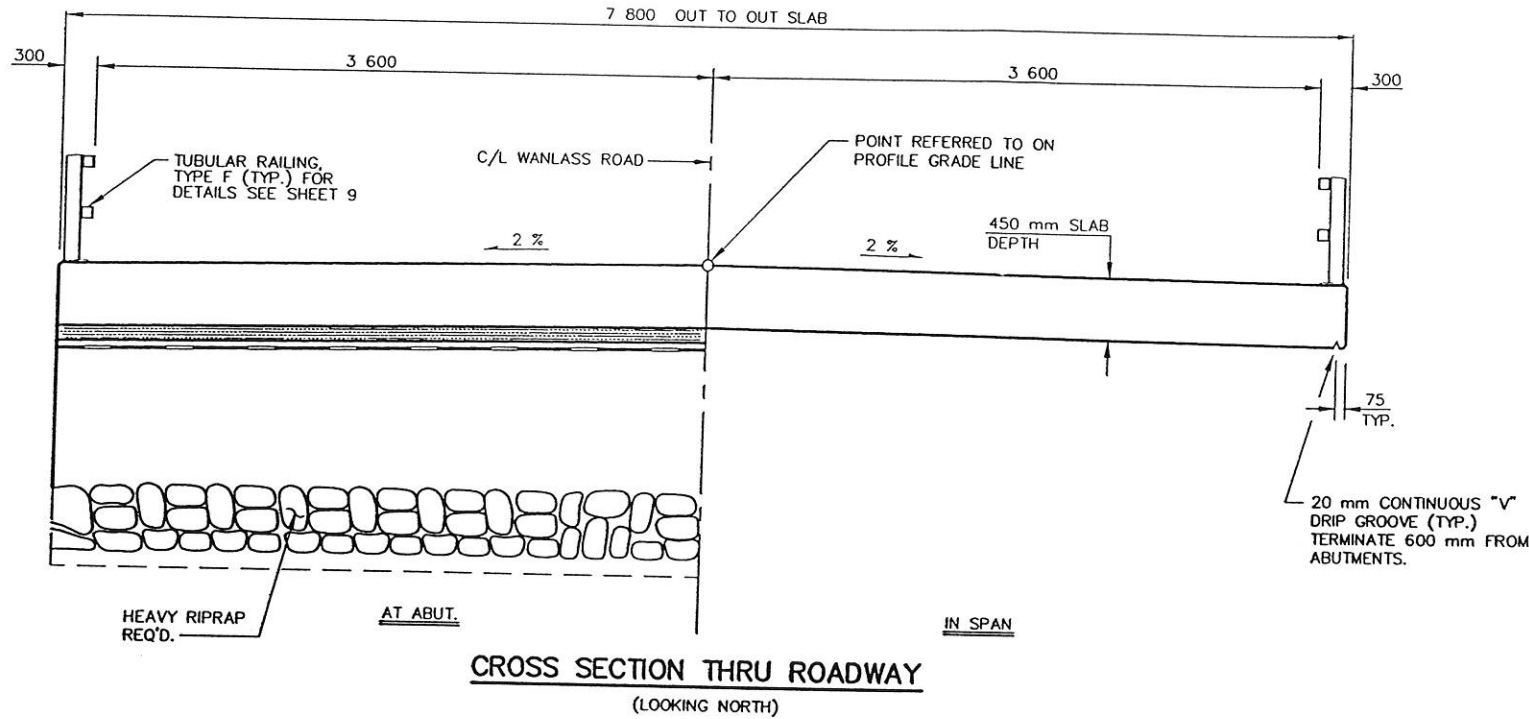
THE SLOPE OF FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH HEAVY RIPRAP AND GEOTEXTILE FABRIC, TYPE HR TO THE EXTENT SHOWN ON SHEET 1 AND IN THE ABUTMENT DETAILS OR AS DIRECTED BY THE ENGINEER.

AT THE ABUTMENTS, ALL EXCAVATED VOLUME NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL. SEE THIS SHEET FOR DETAIL.

THE EXISTING STRUCTURE (P-32-926) IS A SINGLE SPAN STEEL DECK GIRDER STRUCTURE WITH AN OVERALL LENGTH OF 7.1 m, AND A CLEAR ROADWAY WIDTH OF 4.9 m TO BE REMOVED.

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.

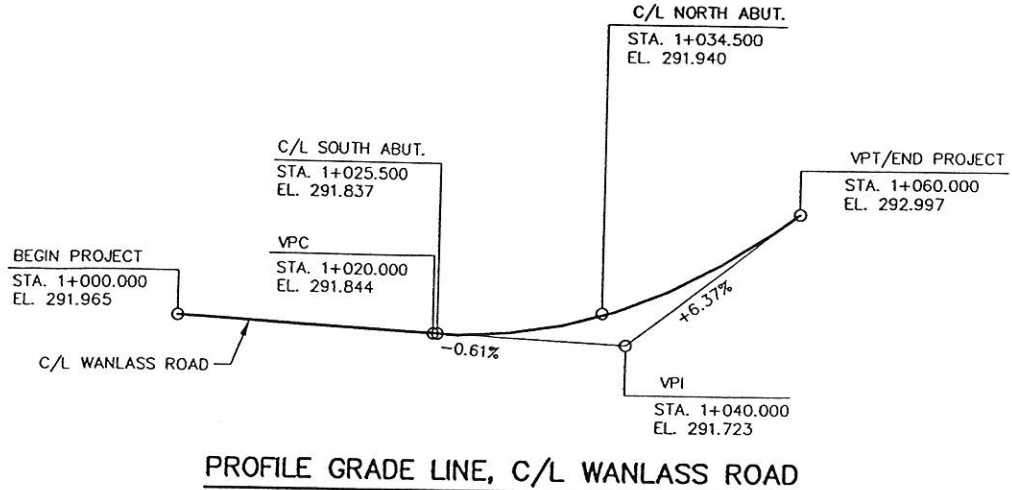
ALL STATIONS AND ELEVATIONS ARE IN METERS.



DRAWING FILE: 58630NT SCALE: 1000:50000 DATE: 5-5-97

**TOTAL ESTIMATED QUANTITIES**

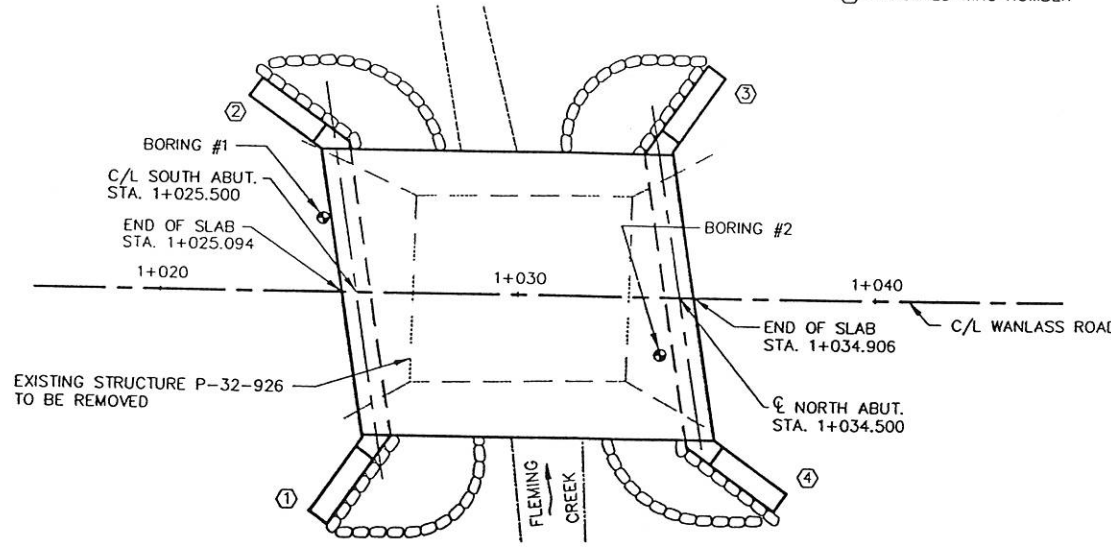
BID ITEMS	UNIT	S. ABUT.	N. ABUT.	SUPER.	TOTALS
REMOVING OLD BRIDGE, STATION 1+030	L.S.	---	---	---	1
EXCAVATION FOR STRUCTURES, BRIDGES B-32-192	L.S.	---	---	---	1
STRUCTURE BACKFILL	m <sup>3</sup>	115	115	---	230
CONCRETE MASONRY, BRIDGES	m <sup>3</sup>	32	32	36	100
PROTECTIVE SURFACE TREATMENT	m <sup>2</sup>	---	---	77	77
HIGH-STRENGTH BAR STEEL REINFORCEMENT, BRIDGES	kg	1370	1370	2760	5500
COATED HIGH-STRENGTH BAR STEEL REINFORCEMENT, BRIDGES	kg	---	---	815	815
STEEL PILING, DELIVERED AND DRIVEN, HP 250 mm x 62 kg/m	m	48	48	---	96
TUBULAR RAILING, TYPE F, STRUCTURE B-32-192	L.S.	---	---	---	1
RUBBERIZED MEMBRANE WATERPROOFING	m <sup>2</sup>	4.5	4.5	---	9
HEAVY RIPRAP	m <sup>3</sup>	20	20	---	40
GEOTEXTILE FABRIC, TYPE HR	m <sup>2</sup>	55	55	---	110
TEMPORARY SHORING	m	7.5	7.7	---	15.2
NON BID ITEMS					
FILLER	SIZE	---	---	---	13mm&19mm



No.	DATE	REVISION	BY
WESTBROOK ASSOCIATED ENGINEERS, INC. SPRING GREEN, WI 53588 (608) 588-7866			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
<b>STRUCTURE B-32-192</b>			
CONST. SPEC.	1996	DRAWN BY	KDK
		PLANS CK'D.	KAO
CROSS SECTION AND QUANTITIES			SHEET 2 OF 9

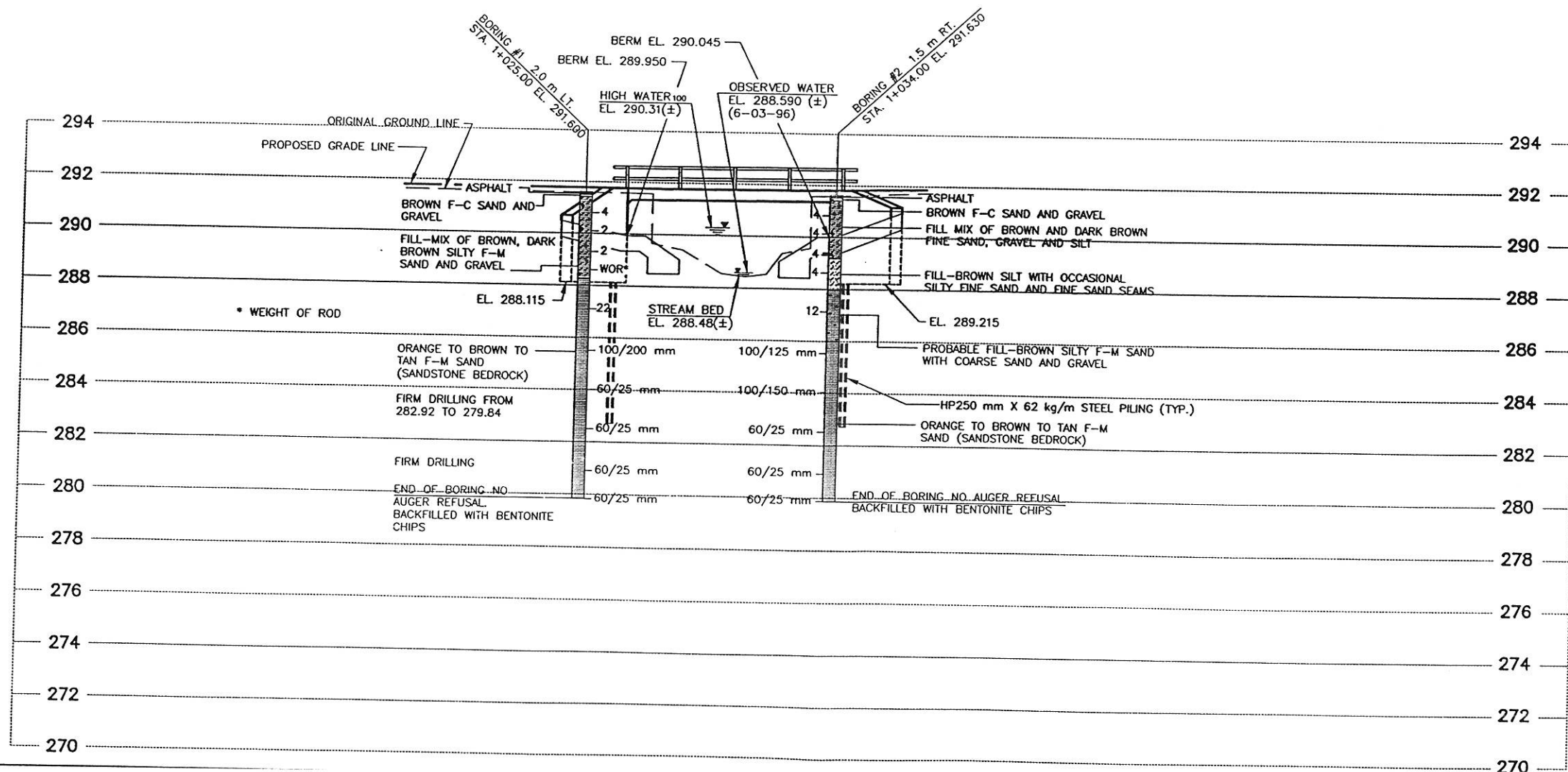


○ INDICATES WING NUMBER



**B-32-192**

DATE: 5-5-97  
SCALE: 1000:100000  
DRAWING FILE: 5863BOR.DWG



SOIL BORINGS

BY: ENVIRONMENTAL AND FOUNDATION DRILLING, INC.  
WAUNAKEE, WISCONSIN

ON: AUGUST 20 AND 21, 1996

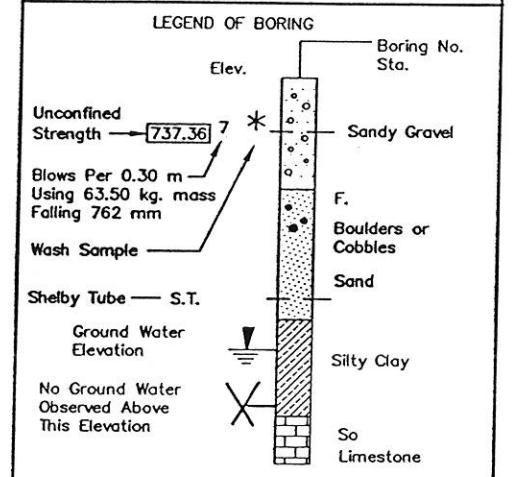
STATE PROJECT NUMBER	SHEET NO.
7268-05-71	

ABBREVIATIONS  
F—Fine M—Medium C—Course  
Ws—Weathered So—Sound

MATERIAL SYMBOLS

Topsoil	Silt	Sandstone
Sand	Peat	Limestone
Gravel	Clay	Igneous Rock

LEGEND OF PROBING  
95/152 mm = Blows for 152 mm Penetration  
Probing taken with a 158.75 kg mass Falling 457 mm on a 51 mm O.D. Point.  
Refusal 95/152 mm



Unless otherwise specified, the blows per 0.30 m at the locations indicated are based on driving a 51 mm O.D. X 35.56 mm I.D. split spoon sampler with a 63.5 kg. hammer having a free fall of 762 mm. The blow count is taken in undisturbed soil immediately below a cased or open hole eliminating side friction on the drive pipe.

**SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION**  
To obtain relative data concerning the character of material in and upon which the foundation might be built, borings and/or soundings were made at points approximately as indicated on this drawing. The data presented herein represent the findings of the subsurface explorations made. However, because the depths investigated are limited and the area of the borings and/or soundings is very small in relation to the entire area, the Division of Highways does not warrant conditions below the depths investigated or that the classification of material encountered in the investigations is necessarily typical of the entire site.

No.	DATE	REVISION	BY



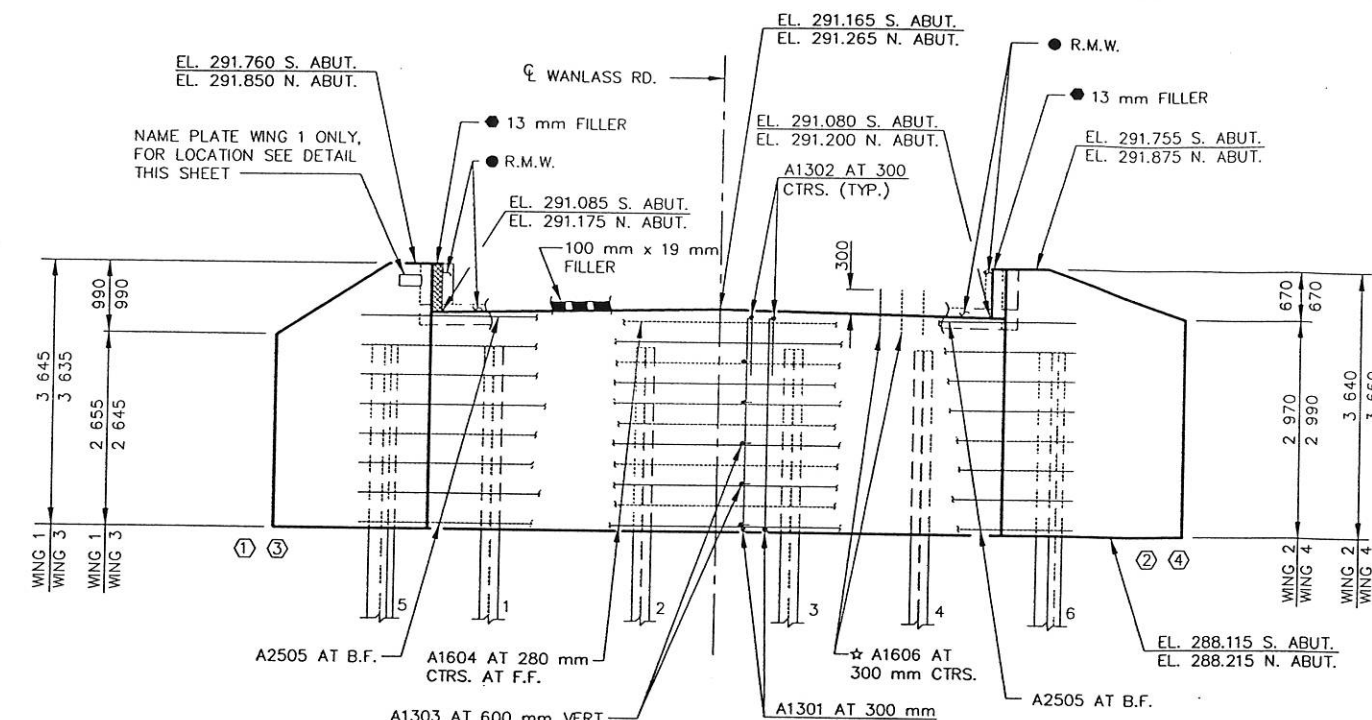
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

**STRUCTURE B-32-192**

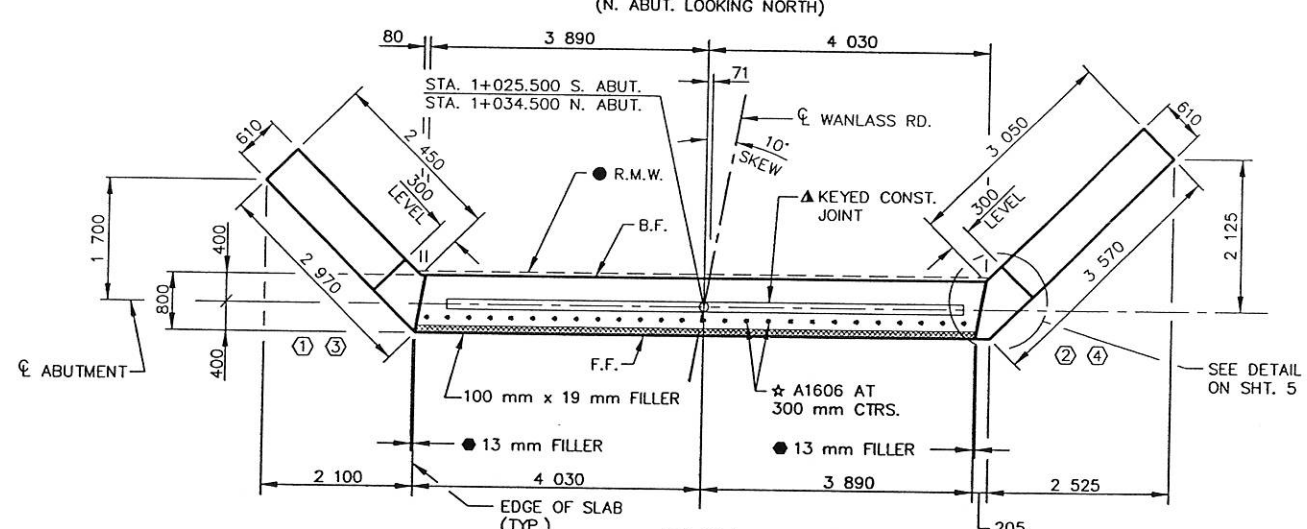
CONST. SPEC.	1996	DRAWN BY	KDK	PLANS CK'D.	KAO
--------------	------	----------	-----	-------------	-----

**SUBSURFACE EXPLORATION**

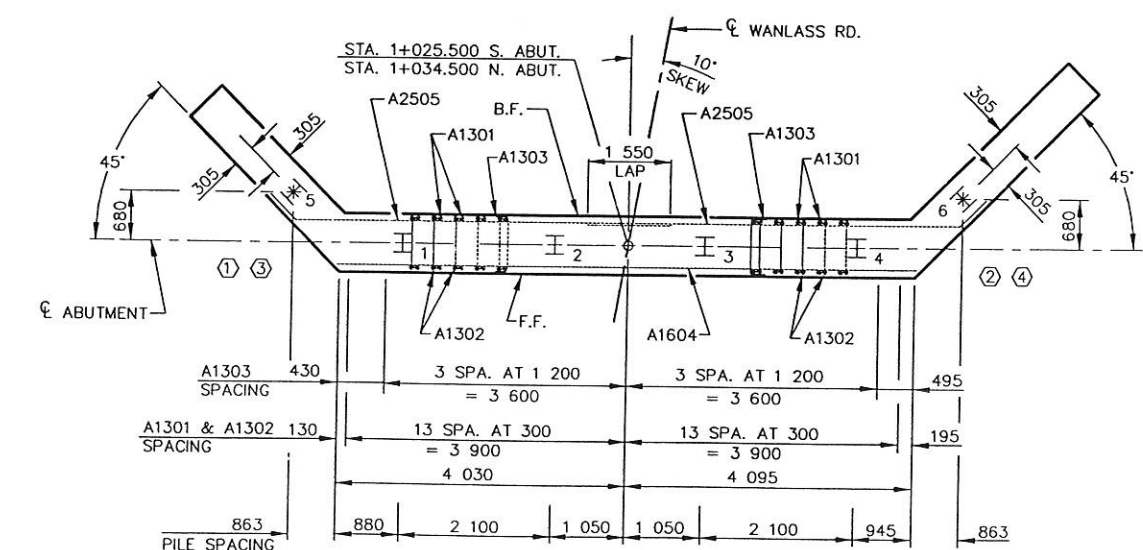
SHEET 3 OF 9



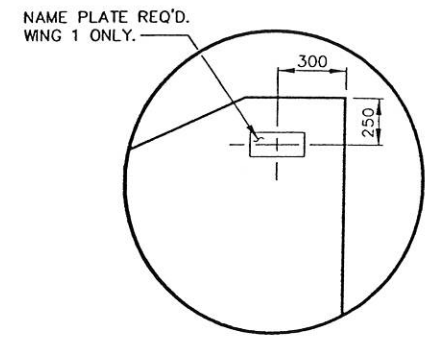
**ELEVATION**  
(S. ABUT. LOOKING SOUTH)  
(N. ABUT. LOOKING NORTH)



**PLAN**

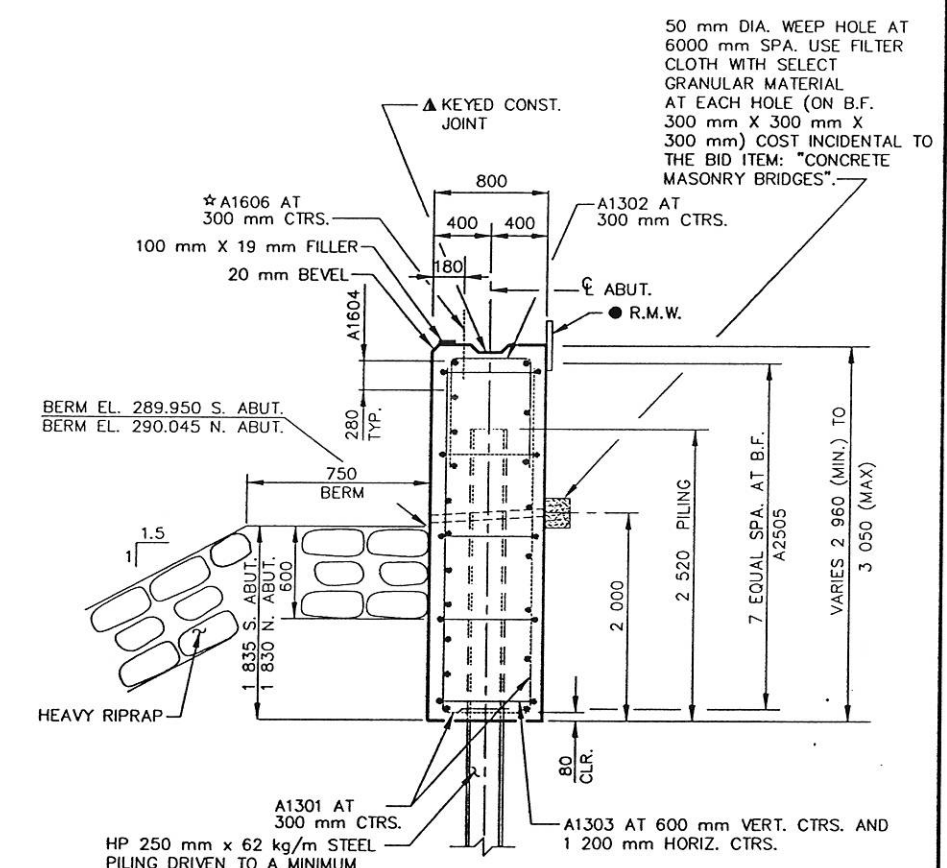


**LAYOUT**



**NAME PLATE DETAIL**

- ALL DIMENSIONS ARE IN MILLIMETERS, UNLESS OTHERWISE NOTED.
- SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF 13 mm FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (25 mm DEEP AND HOLD 3 mm BELOW SURFACE OF CONCRETE.)
  - ▲ KEYED CONSTRUCTION JOINT FORMED BY A SURFACED, BEVELED 38 mm X 140 mm.
  - 457 mm RUBBERIZED MEMBRANE WATERPROOFING (R.M.W.)
  - ★ A1606 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE IT HAS TAKEN ITS INITIAL SET. EMBED BAR 300 mm.
- DO NOT PLACE FILL ABOVE 900 mm FROM THE BOTTOM OF THE ABUTMENT UNTIL SUPERSTRUCTURE IS IN PLACE.



**TYPICAL SECTION THRU ABUTMENT**


EXCAVATE TO EL. 288.115 AT THE S. ABUT. AND EL. 288.215 AT THE N. ABUT. BEFORE DRIVING.

FOR PILE SPLICE DETAIL SEE SHEET 2.

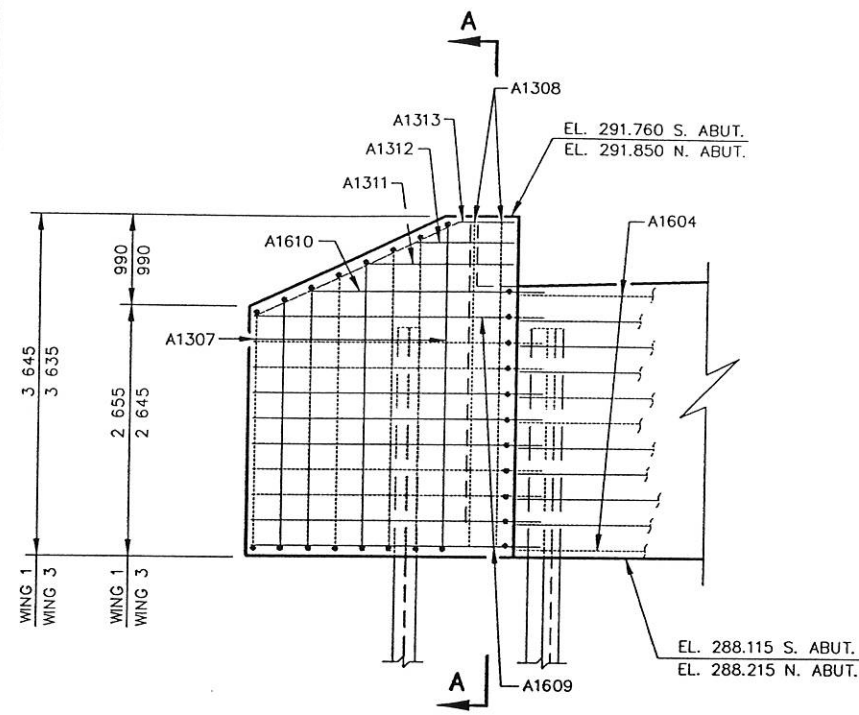
F.F. - FRONT FACE  
B.F. - BACK FACE

SCALE: 1000:50000 DATE: 5-13-97

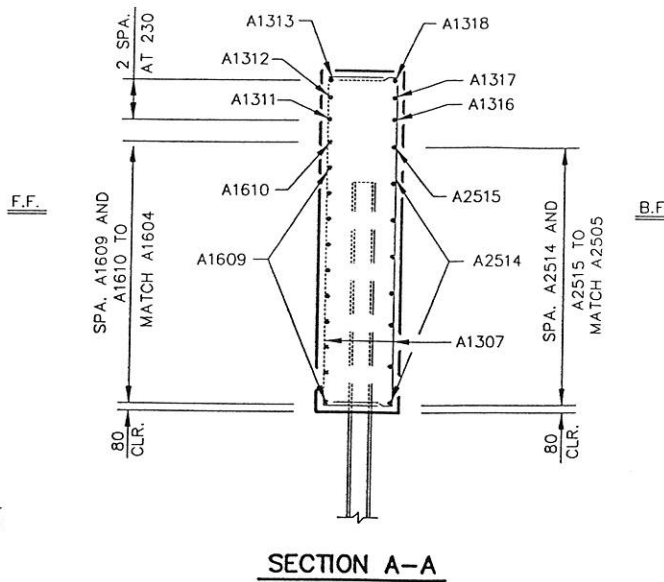
DRAWING FILE: 5863ABUT

No.	Date	Revision	By
 <b>WESTBROOK ASSOCIATED ENGINEERS, INC.</b> SPRING GREEN, WI 53588 (608) 588-7866			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
<b>STRUCTURE B-32-192</b>			
Const. Spec.	1996	Drawn By TAF	Plans Checked KAO
<b>ABUTMENTS</b>			SHEET 4 OF 9

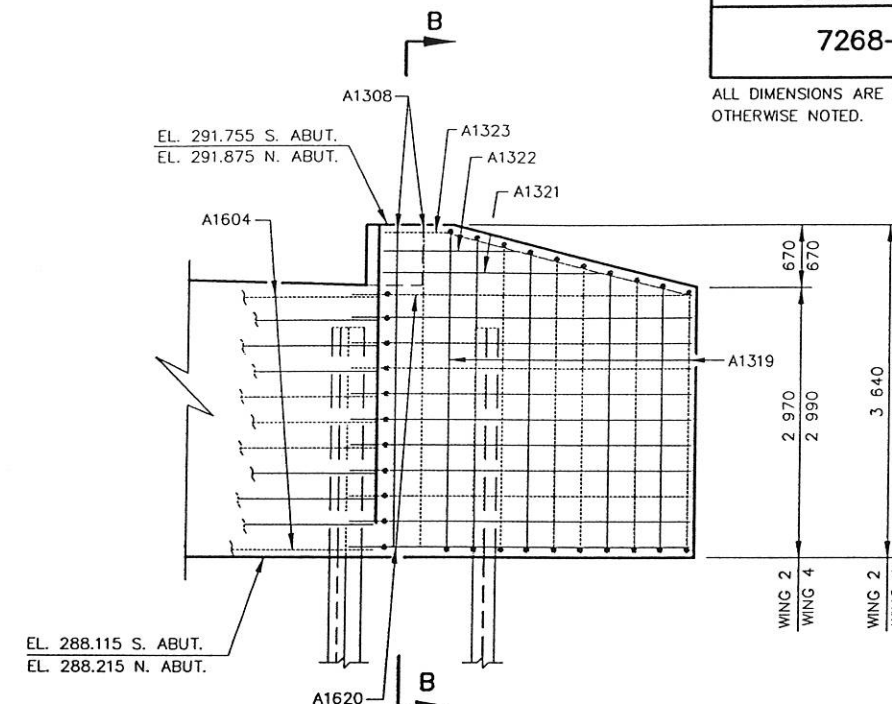
ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.



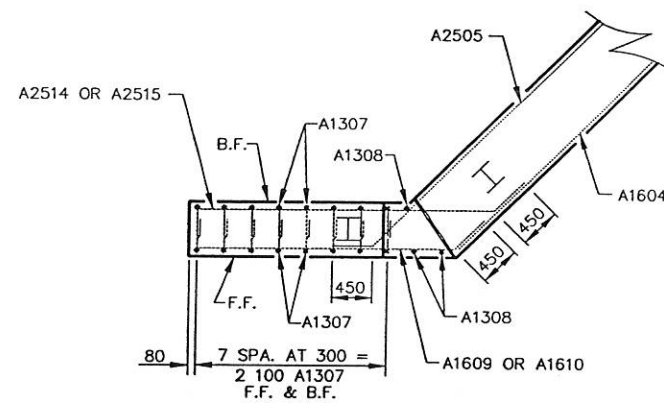
F.F. ELEVATION - WING 1 & 3



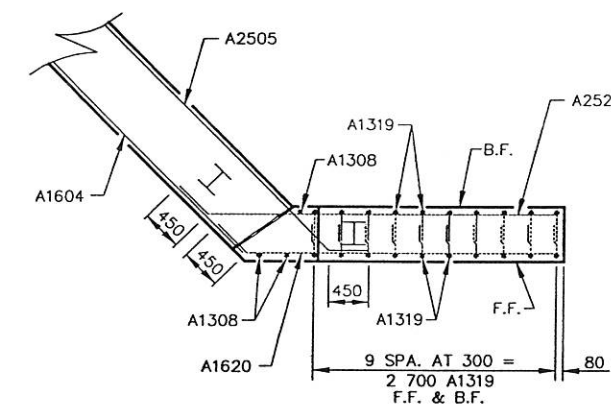
SECTION A-A



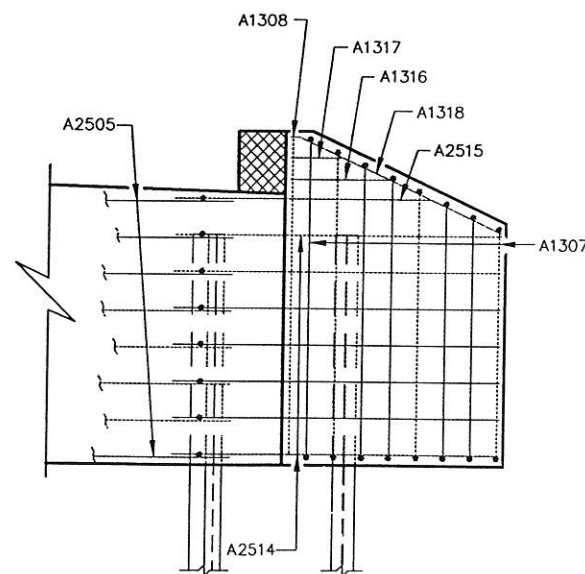
F.F. ELEVATION - WING 2 & 4



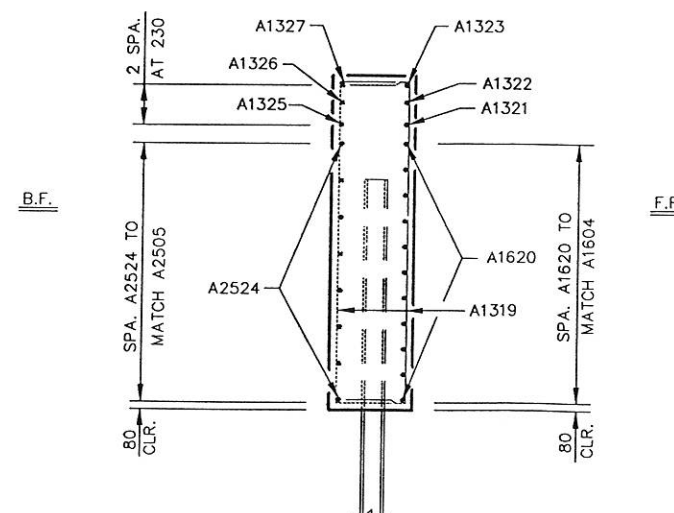
PLAN - WING 1 & 3



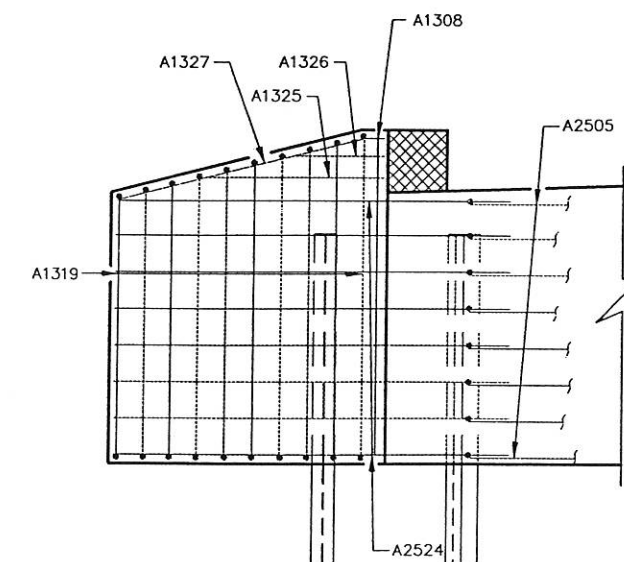
PLAN - WING 2 & 4



B.F. ELEVATION - WING 1 & 3




SECTION B-B



B.F. ELEVATION - WING 2 & 4

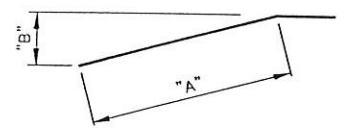
SCALE: 1000:40000 DATE: 5-13-97

DRAWING FILE: 5863WING

No.	Date	Revision	By
 <p>WESTBROOK ASSOCIATED ENGINEERS, INC. SPRING GREEN, WI 53588 (608) 588-7866</p>			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
<b>STRUCTURE B-32-192</b>			
Const. Spec.	1996	Drawn By TAF	Plans Checked KAO
<b>ABUTMENT DETAILS</b>			SHEET 5 OF 9

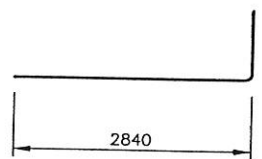


ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.  
 THE FIRST TWO DIGITS OF A BAR MARK SIGNIFY THE BAR SIZE.  
 ALL BAR BEND DIMENSIONS ARE OUT TO OUT OF BAR.

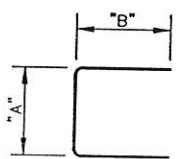


MARK	"A"	"B"
A1313	2 290	960
A1318	2 290	960
A1323	2 750	660
A1327	2 750	660

**A1313, A1318, A1323 & A1327**

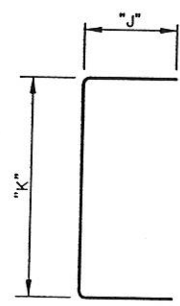


**A1301**



MARK	"A"	"B"
A1302	700	780
A1303	700	100

**A1302 & A1303**



MARK	"J"	"K"
A1307	410	2 500
		2 640
		2 790
		2 930
		3 080
		3 220
		3 370
A1319	410	3 510
		3 130
		3 210
		3 280

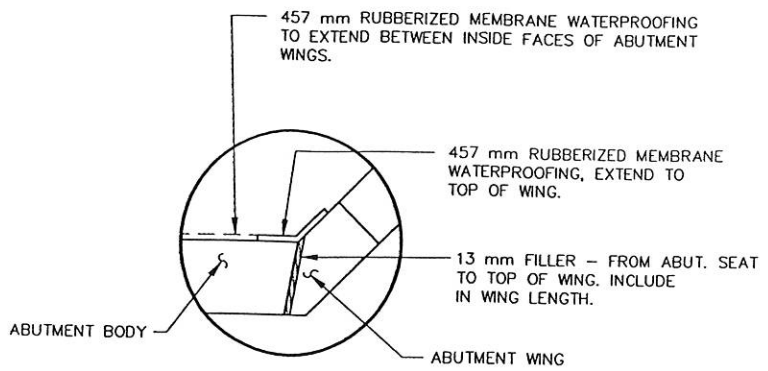
MARK	"J"	"K"
A1307	410	2 840
		2 910
		2 990
		3 060
		3 130
		3 210
		3 280
A1319	410	3 360
		3 430
		3 510

**A1307 & A1319**

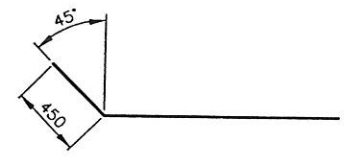
**BAR SERIES TABLE**

MARK	NO. REQ'D.	LENGTH
A1307	4 SERIES OF 8	3 260 TO 4 270
A1319	4 SERIES OF 10	3 600 TO 4 270

BUNDLE & TAG EACH SERIES SEPARATELY



**R.M.W. DETAIL**




**A2505, A1609, A1610, A2514, A2515, A1620 & A2524**

**BILL OF BARS (BOTH ABUTMENTS) UNCOATED 2 740 kg.**

MARK	NUMBER		LENGTH (mm)	BENT	BAR SERIES	LOCATION
	COATED	UNCOATED				
A1301		108	3 310	X		BODY - F.F. & B.F. VERT.
A1302		54	2 200	X		" - TIES AT TOP "
A1303		70	840	X		" - TIES. HORIZ.
A1604		22	8 080			" - F.F. "
A2505		32	5 940	X		" - B.F. "
A1606		54	600			" - F.F. - DOWELS VERT.
A1307		32	3 760	X	X	WING 1 & 3 - STIRRUPS VERT.
A1308		12	3 510			WING 1 THRU 4 - F.F. & B.F. VERT.
A1609		20	3 300	X		WING 1 & 3 - F.F. HORIZ.
A1610		2	2 680	X		" - F.F. "
A1311		2	1 700			" - F.F. "
A1312		2	1 200			" - F.F. "
A1313		2	3 000	X		" - F.F. "
A2514		14	3 800	X		" - B.F. "
A2515		2	3 180	X		" - B.F. "
A1316		2	1 340			" - B.F. "
A1317		2	840			" - B.F. "
A1318		2	2 600	X		" - B.F. "
A1319		40	3 930	X	X	WING 2 & 4 - STIRRUPS VERT.
A1620		22	3 900	X		WING 2 & 4 - F.F. HORIZ.
A1321		2	2 680			" - F.F. "
A1322		2	1 730			" - F.F. "
A1323		2	3 540	X		" - F.F. "
A2524		16	4 420	X		" - B.F. "
A1325		2	2 140			" - B.F. "
A1326		2	1 200			" - B.F. "
A1327		2	3 000	X		" - B.F. "

F.F. - FRONT FACE  
 B.F. - BACK FACE  
 ▲ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

DRAWING FILE: 5863WING(A) SCALE: 1000:40000 DATE: 5-13-97

No.	Date	Revision	By
 WESTBROOK ASSOCIATED ENGINEERS, INC. SPRING GREEN, WI 53588 (608) 588-7866			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
<b>STRUCTURE B-32-192</b>			
Const. Spec.	1996	Drawn By	TAF
		Plans Checked	KAO
<b>ABUTMENT BILL OF BARS</b>			SHEET 6 OF 9

**NOTES**

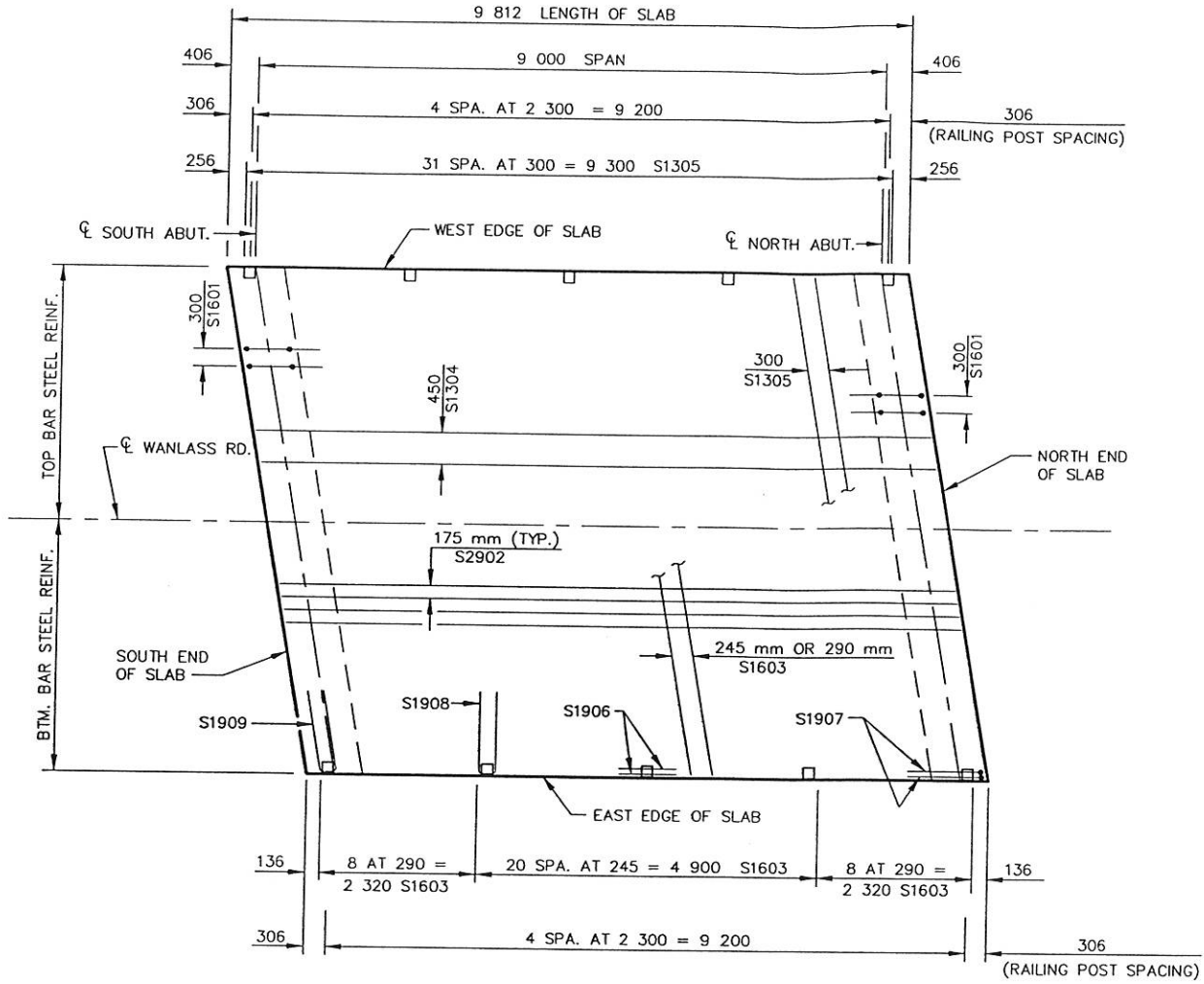
ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.

ALTERNATE TOP TRANSVERSE BARS IN SLAB SHALL BE SUPPORTED BY INDIVIDUAL BAR CHAIRS AT APPROXIMATELY 900 mm CENTERS.

BOTTOM LONGITUDINAL BARS SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS AT APPROXIMATELY 1200 mm CENTERS.

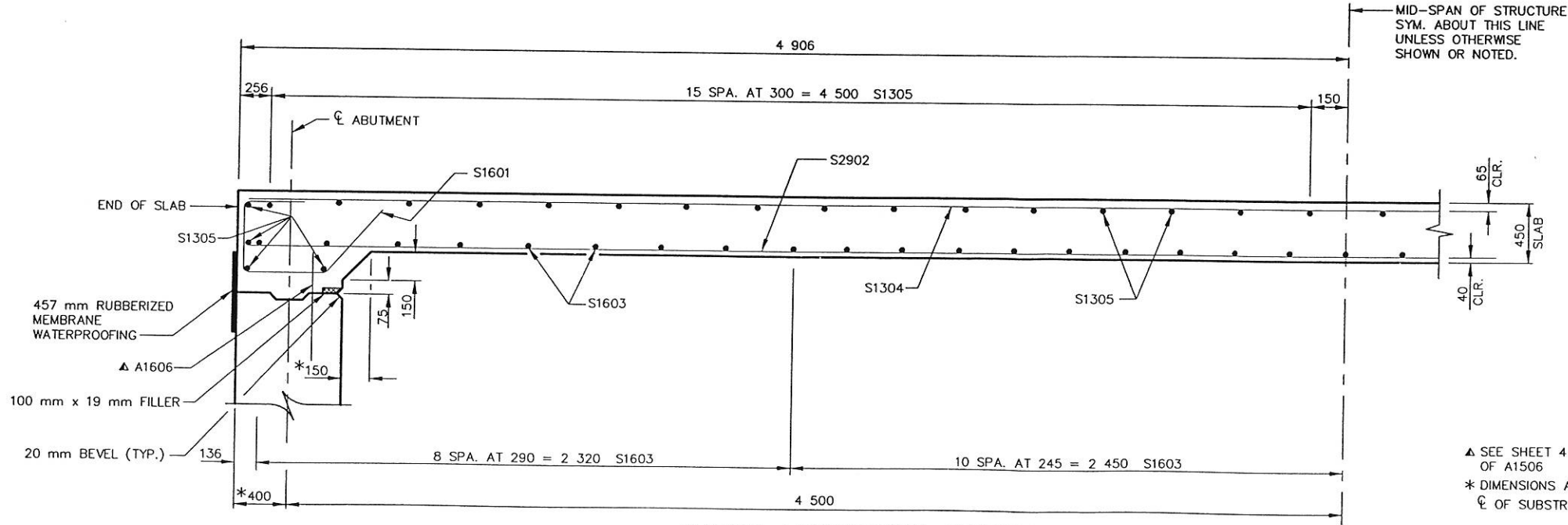
ALL SLAB THICKNESS DIMENSIONS ARE MINIMUM. ANY TOLERANCES NECESSARY TO CORRECT CONSTRUCTION DISCREPANCIES ARE TO BE PLUS (+).

ALL TRANSVERSE BAR STEEL SHALL BE PLACED ON THE SKEW.



**PLAN**

DRAWING FILE: 5863SS1 SCALE: 1000:50000 DATE: 5-5-97

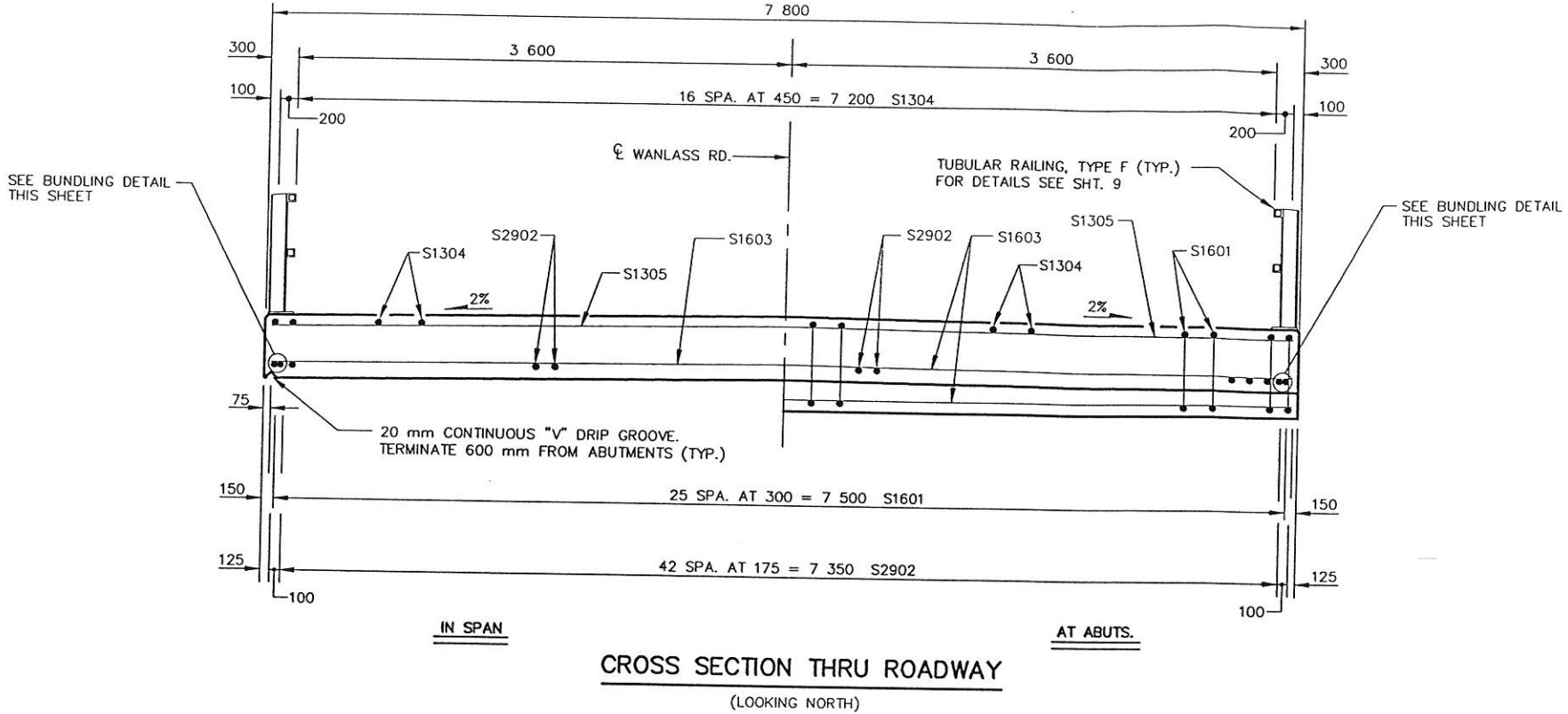


**PARTIAL LONGITUDINAL SECTION**

▲ SEE SHEET 4 FOR PLACEMENT OF A1506  
 \* DIMENSIONS ARE NORMAL TO THE CL OF SUBSTRUCTURE UNITS.

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STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
<b>STRUCTURE B-32-192</b>			
Const. Spec.	1996	Drawn By TAF	Plans Checked KAO
SUPERSTRUCTURE			SHEET 7 OF 9

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.  
 THE FIRST TWO DIGITS OF A MARK SIGNIFY THE BAR SIZE.  
 ALL BAR BEND DIMENSIONS ARE OUT TO OUT OF BAR.

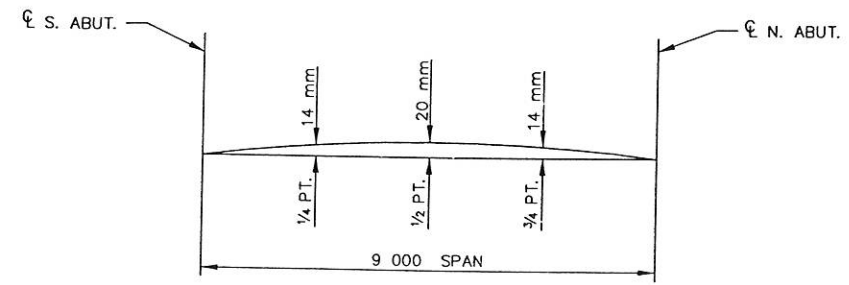
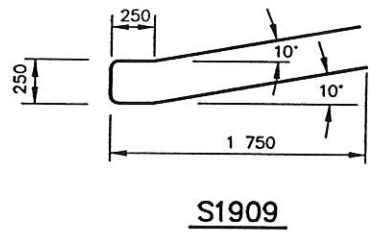
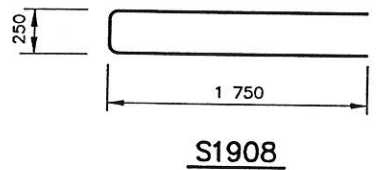
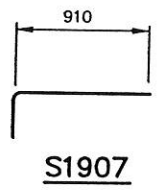
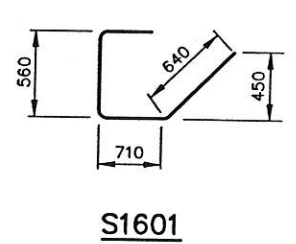
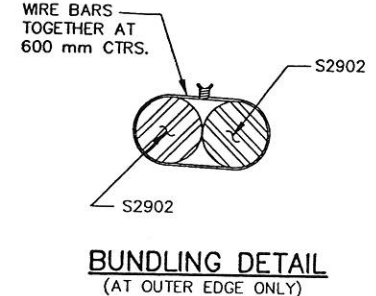


**BILL OF BARS (SUPERSTRUCTURE)** UNCOATED 2 760 kg.  
 COATED 815 kg.

MARK	NUMBER REQ'D.		LENGTH (mm)	BENT	BAR SERIES	LOCATION
	COATED	UNCOATED				
S1601	52		2 260	X		SLAB AT ABUTMENT - TIES LONGIT.
* S2902		47	9 710			SLAB - BOTTOM LONGIT.
S1603		37	7 810			SLAB - BOTTOM TRANS.
S1304	19		9 710			SLAB - TOP LONGIT.
S1305	40		7 810			SLAB - TOP TRANS.
☆ S1906	12		1 220			SLAB AT INTERIOR RAIL POSTS LONGIT.
☆ S1907	8		1 220	X		SLAB AT EXTERIOR RAIL POSTS LONGIT.
☆ S1908	6		3 650	X		SLAB AT INTERIOR RAIL POSTS TRANS.
☆ S1909	4		3 650	X		SLAB AT EXTERIOR RAIL POSTS TRANS.

\* EDGE BARS ARE BUNDLED AS SHOWN ON CROSS SECTION.  
 ☆ SEE SHEETS 7 & 9 FOR PLACEMENT.

SCALE: 1000:50000 DATE: 513-97 DRAWING FILE: 5863SS2



**SLAB CAMBER DIAGRAM**  
 CAMBER SPAN AS SHOWN TO PROVIDE FOR DEAD LOAD DEFLECTION AND FUTURE CREEP. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT. DEADLOAD DEFLECTION ONLY EQUALS APPROXIMATELY 1/4 OF THE CAMBER VALUES SHOWN.

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<b>STRUCTURE B-32-192</b>			
Const. Spec.	1996	Drawn By TAF	Plans Checked KAO
<b>SUPERSTRUCTURE DETAILS</b>			SHEET 8 OF 9

**LEGEND**

- ① W150 x 37 WITH 35 mm DIA. HOLES ON EACH SIDE OF POST FOR STUD No. 6. CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF ROADWAY. PLACE POST VERTICAL. PLACE POSTS NORMAL TO GRADE LINE.
- ② PLATE 25 mm x 240 mm x 255 mm WITH 27 mm x 40 mm SLOTTED HOLES FOR ANCHOR BARS No. 3. WELD TO No. 1 AS SHOWN.
- ③ A325M - M22 x 200 mm LONG HEX BOLTS (GALVANIZED) WITH A325M NUT AND WASHER. 4 REQ'D. PER POST. THREAD 75 mm AND PLACE NORMAL TO PLATE No.2. CHAMFER TOP OF BOLTS BEFORE THREADING. USE 310 mm LONG FOR SLAB SPAN BRIDGES. USE 360 mm LONG AT END POSTS AND AT POSTS LOCATED ON ABUTMENT WING WALLS.
- ④ 6 mm x 200 mm x 200 mm FLAT BAR, WITH 24 mm DIA. HOLES FOR ANCHOR BOLTS No. 3.
- ⑤ TS 102 x 102 x 6.4 STRUCTURAL TUBING, CONFORMING TO A.S.T.M. DESIGNATION A501 OR A500 GRADE B. ATTACH TO No. 1 WITH STUDS No. 6.
- ⑥ 16 mm DIA. x 40 mm LG. SHOP WELDED STUDS, WITH HEX. NUT AND 50 mm WASHERS. (2 REQ'D. AT EACH RAIL TO POST LOCATION).
- ⑦ PLATE 10 mm x 400 mm x 510 mm. BOLT TO RAIL AS SHOWN IN DETAILS. REQUIRED AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYMMETRICALLY ABOUT TUBES No. 5.
- ⑧ 25 mm DIA. HOLES IN PLATE No. 7 AND TUBES No.5 FOR M22 A325M BOLTS W/HEX. NUTS AND WASHERS.
- ⑨ SQUARE SLEEVE FABRICATED FROM 6 mm PLATE. PROVIDE "SLIDING FIT" WITH A MINIMUM OUT TO OUT DIMENSION OF 87 mm.
- ⑩ TS 76 x 76 x 6.4 x (710 mm AT EXPANSION JOINTS) AND (560 mm AT FIELD JOINTS) LONG. PROVIDE 13 mm DIA. SURFACE WELDS ON ALL SIDES AS SHOWN. GRIND WELDS TO FIT FREE INTO I.D. OF No. 5. PROVIDE 10 mm DIA. x 13 mm WELDING STUDS ON TOP AND BOTTOM SURFACES AT CENTERLINE.

**GENERAL NOTES**

BID ITEM SHALL BE "TUBULAR RAILING, TYPE F", WHICH INCLUDES ALL ITEMS SHOWN.

RAILING SHALL BE FABRICATED IN LENGTHS THAT INCLUDE 3 OR 4 POSTS.

POST BASE PLATES, No. 2, SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.

ALL MATERIAL, EXCEPT ANCHORAGE DETAIL (No.3 & 4) SHALL BE GALVANIZED AFTER FABRICATION.

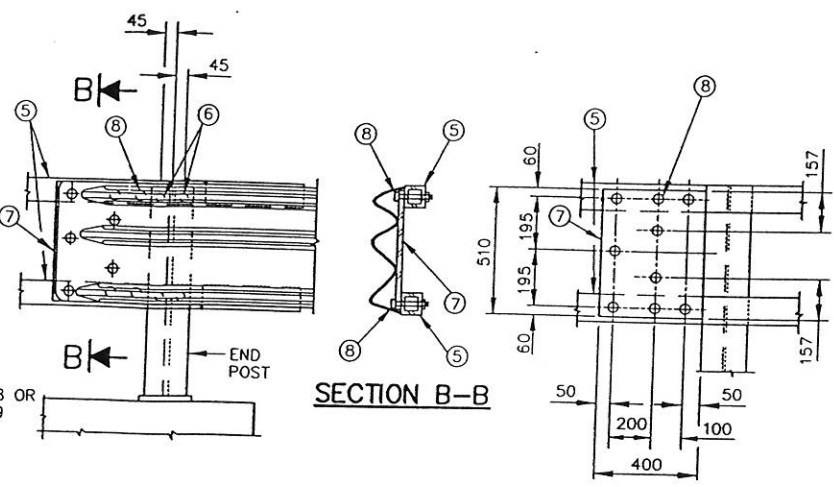
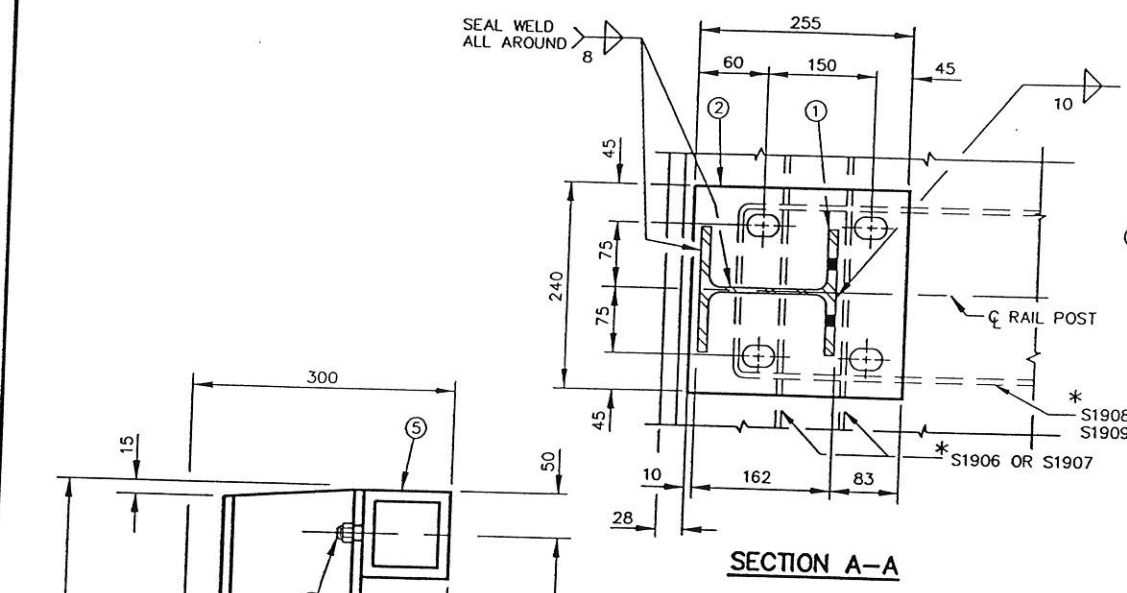
FILL EXPOSED OPENING BETWEEN SHIMS AND POST ANCHOR BOLT HOLES WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.

ALL MATERIALS USED IN FABRICATION SHALL BE MADE FROM MATERIALS CONFORMING TO A.S.T.M. DESIGNATION A709M GRADE 250 UNLESS NOTED OTHERWISE.

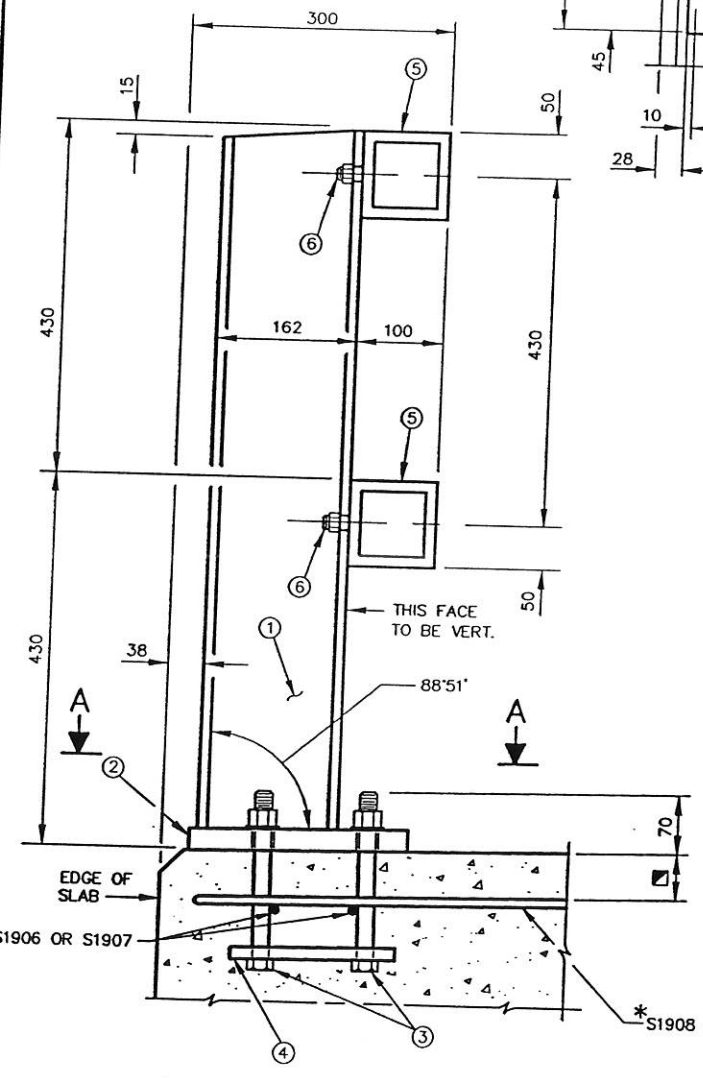
STEEL POST SHIMS MAY BE USED UNDER POSTS WHERE REQUIRED FOR ALIGNMENT.

PRIOR TO GALVANIZING, ALL STEEL RAILING POSTS AND STEEL TUBING SHALL BE GIVEN A No. 6 BLAST CLEANING BY S.S.P.C. SPECIFICATIONS.

ALL DIMENSIONS ARE IN MILLIMETERS.

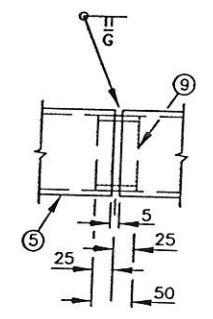


**DETAIL AT END POST**  
(THRIE BEAM RAIL ATTACHMENT)

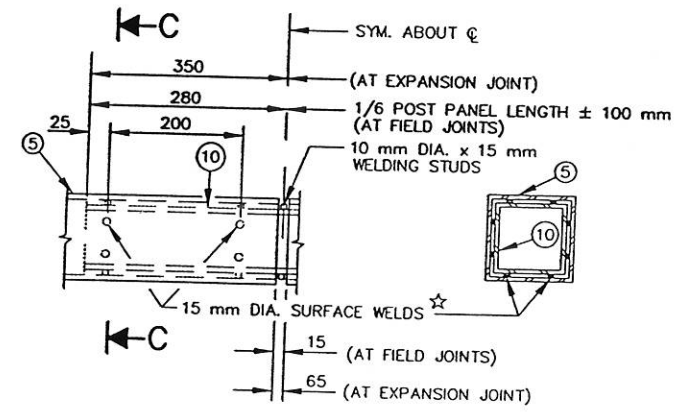


**SECTION THRU RAILING**

- ▣ PLACE BELOW TOP MAT SLAB REINFORCEMENT.
- \* USE S1906 AND S1908 BARS AT ALL INTERIOR POSTS AND S1907 AND S1909 BARS AT THE END POSTS

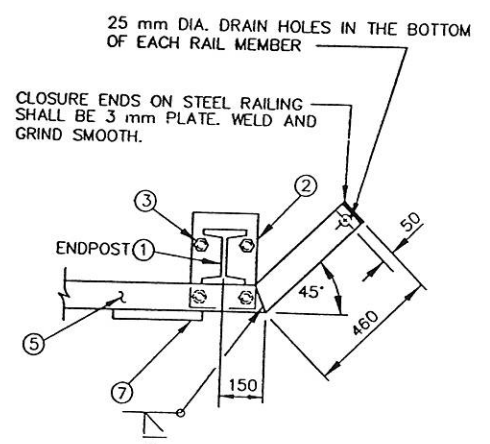


**SHOP RAIL SPLICE DETAIL**  
(LOCATION MUST BE SHOWN ON SHOP DRAWINGS)

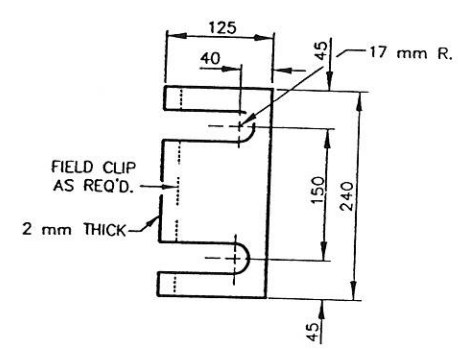


**FIELD ERECTION JOINT DETAIL**

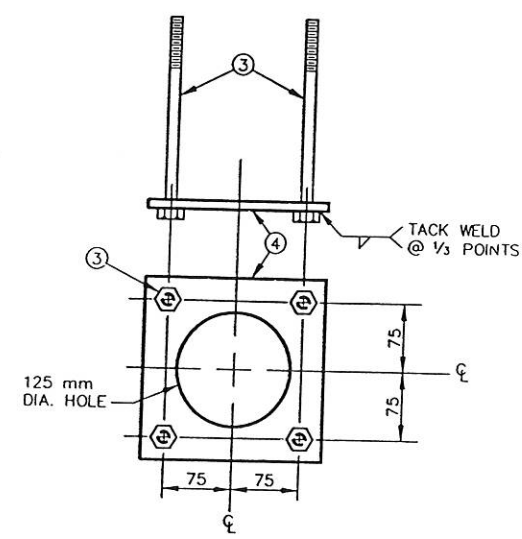
★ MIN. 15 mm FLAT SURFACE DIA. PUNCHINGS OR STUDS MAY BE USED AS AN ALTERNATE.



**DETAIL FOR END POSTS**

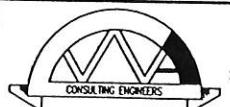


**POST SHIM DETAIL**  
(4 PER POST)



**ANCHORAGE DETAIL**

DRAWING FILE: 5863RAIL SCALE: 1000:50000 DATE: 5-5-97

No.	Date	Revision	By
 <p>WESTBROOK ASSOCIATED ENGINEERS, INC. SPRING GREEN, WI 53588 (608) 588-7866</p>			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
<b>STRUCTURE B-32-192</b>			
Const. Spec.	1996	Drawn By	TAF
		Plans Checked	KAO
<b>TUBULAR RAILING, TYPE F</b>			SHEET 9 OF 9