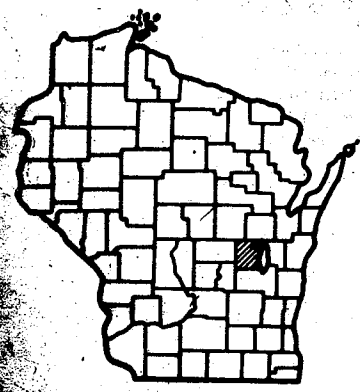


PLAN #623

Index of Sheets

SHEET NO. 1	TITLE
SHEET NO. 2	TYPICAL CROSS SECTIONS
SHEET NO. 3	ESTIMATE OF QUANTITIES
SHEET NO. 4-5.3	PLAN AND PROFILE STA. 9+26 to STA. 31+00
SHEET NO. 6-6.7	STANDARD DETAILS
SHEET NO. 8-8.4	CROSS SECTIONS

TOTAL SHEETS = 20



STATE OF WISCONSIN  
**DEPARTMENT OF TRANSPORTATION**  
**DIVISION OF HIGHWAYS**

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
4992-0-11	M1202 (002)	1

PLAN AND PROFILE OF PROPOSED  
**GREEN BAY ROAD - C.T.H. "PP"**  
**C.T.H. "II"**  
**WINNEBAGO COUNTY**

STATE PROJECT NUMBER  
**4992-0-11**

Scales  
 Plan 1 in. = 20 FEET  
 Profile Hor. 1 in. = 20 FEET Vert. 1 in. = 2 FEET  
 Cross Sections Hor. 1 in. = 5 ft. Vert. 1 in. = 2 ft.

**AS BUILT PLAN**

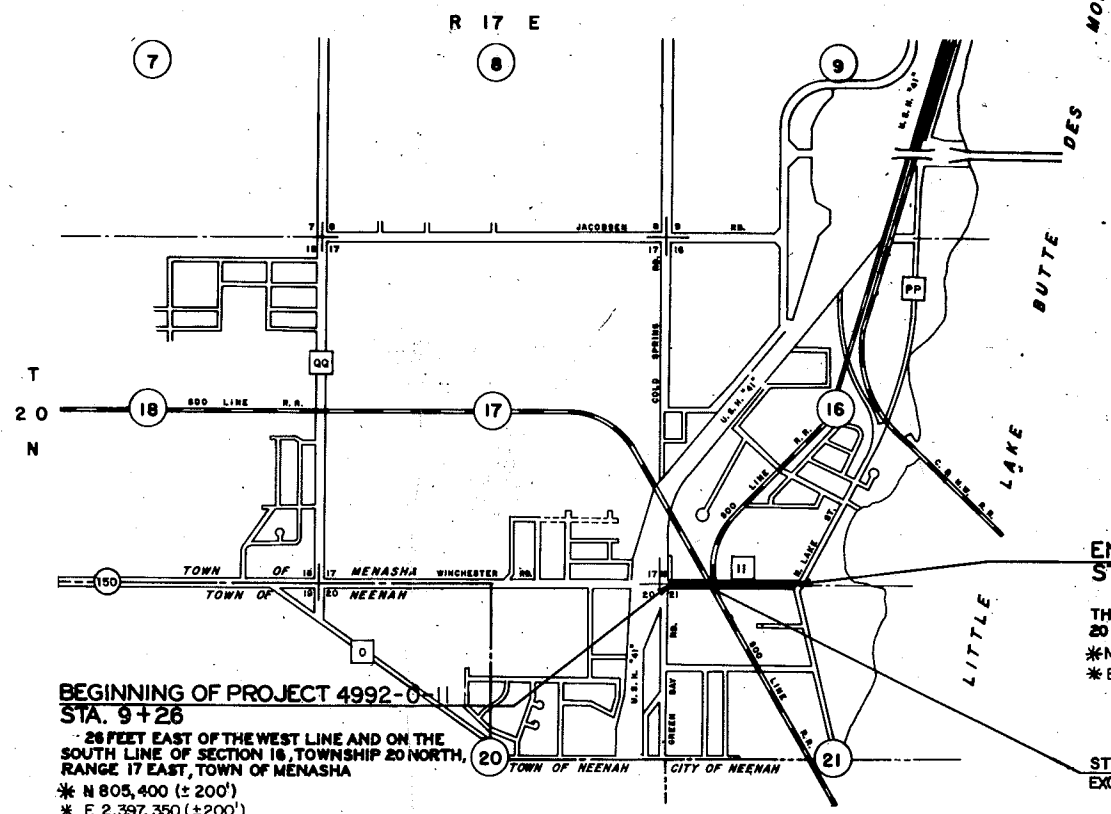
**AS BUILT PLAN**  
**NO. 623**

SUPERVISOR R. L. BERG  
 RESIDENT H. TUST  
 CONTRACTOR COURTNEY & PUMMER, INC.  
 COMPLETED 5-10-77

Design Designation

A.B.T. (1976)	2,563
A.B.T. (1986)	7,889
S.R.V.	789
	55% - 45%
	6%
	35 M.P.H.

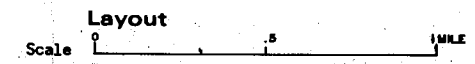
WINCHESTER ROAD



**BEGINNING OF PROJECT 4992-0-11**  
**STA. 9+26**  
 26 FEET EAST OF THE WEST LINE AND ON THE SOUTH LINE OF SECTION 16, TOWNSHIP 20 NORTH, RANGE 17 EAST, TOWN OF MENASHA  
 \* N 805,400 (±200')  
 \* E 2,397,350 (±200')

**END OF PROJECT 4992-0-11**  
**STA. 31+00**  
 2200 FEET EAST OF THE WEST LINE AND ON THE SOUTH LINE OF SECTION 16, TOWNSHIP 20 NORTH, RANGE 17 EAST, TOWN OF MENASHA.  
 \* N 805,450 (±200')  
 \* E 2,399,500 (±200')

STA. 17+93.8 TO STA. 18+42.8  
 EXCEPTION TO NET CENTERLINE LENGTH



Total Net Length of Centerline = 0.402 Mi. (URBAN)

Conventional Signs

County Line	-----	Culverts in Place	-----
Township or Range Line	-----	Culverts Required	-----
Section Line	-----	Drop Inlet	-----
New Right of Way Line	-----	Power Pole	-----
Present Right of Way Line	-----	Telephone or Telegraph Pole	-----
Wire Fence	-----	Right of Way Markers	-----
Corporate or City Limits	-----	Reference Stake for Hubs Only	-----
Property Line	-----	Marsh	-----
Traveled Way or P.E.	-----	Hedge	-----
Railroads	-----	Trees	-----
Base of Survey Line	-----	Ground Elevation	-----
Caution Symbol (combustible fluids under pressure)	-----	Grade Elevation	-----



APPROVED FOR WINNEBAGO COUNTY HIGHWAY COMMISSION BY

WINNEBAGO COUNTY WISCONSIN  
 July 28, 1976 [Signature]  
 DATE SIGNATURE

ORIGINAL PLANS PREPARED BY  
 MCMAHON ASSOCIATES INCORPORATED  
 CONSULTING ENGINEERS MENASHA, WISC.

July 31, 1975 [Signature]  
 DATE SIGNATURE

STATE OF WISCONSIN  
 DEPARTMENT OF TRANSPORTATION  
 DIVISION OF HIGHWAYS

Surveyor \_\_\_\_\_ District Checker RLB  
 Designer \_\_\_\_\_ C.O. Checker LLJ

Correct:

Date 9/2/75 [Signature]  
 District Engineer

Recommended for Approval:  
 Date 10/1/75 [Signature]  
 Chief of Facilities Development

Approved:  
 Date 10/1/75 [Signature]  
 State Highway Engineer

U.S. DEPARTMENT OF TRANSPORTATION  
 FEDERAL HIGHWAY ADMINISTRATION  
 REGION 8 WISCONSIN DIVISION

Approved:  
 Date \_\_\_\_\_  
 Division Engineer

\* SCALED FROM U. S. G. S. TOPOGRAPHIC MAP, NEENAH, WISCONSIN QUADRANGLE, SOUTH ZONE, FOR IDENTIFICATION PURPOSES ONLY.

**GENERAL NOTES**

THE QUANTITY OF UNCLASSIFIED EXCAVATION INCLUDES THE REMOVAL OF CULVERT PIPE, REMOVAL OF THE EXISTING BITUMINOUS PAVEMENT, TOPSOIL, EXISTING BASE COURSE, AND ANY OTHER MATERIALS REMOVED TO OBTAIN THE PROPER CROSS SECTION.

CUBIC YARDS OF FILL AS SHOWN ON THE PLAN SHEETS PERTAINS TO EMBANKMENT CONSTRUCTED FROM UNCLASSIFIED EXCAVATION WITH A COMPUTED SHRINKAGE OF 30% BASED ON THE FILL. ALL EXCESS EXCAVATION SHALL BE REMOVED FROM THE PROJECT AREA.

CERTAIN UNDERGROUND UTILITY STRUCTURES HAVE BEEN LOCATED ON THESE PLANS. THESE LOCATIONS SHALL NOT BE TAKEN AS CONCLUSIVE; VERIFICATION AS TO THE LOCATION TO THE SATISFACTION OF THE CONTRACTOR, OF ALL UNDERGROUND UTILITY STRUCTURES, WHETHER SHOWN ON THE PLANS OR NOT, SHALL BE ASSUMED AS A CONDITION OF THE CONTRACT.

PRIVATE UTILITY COMPANIES SHALL ADJUST OR REMOVE ALL PRIVATELY OWNED FACILITIES WHICH INTERFERE WITH THE NEW WORK.

WHEN THE QUANTITY OF THE ITEMS OF SUBBASE, BASE OR SURFACE COURSE ARE MEASURED FOR PAYMENT BY THE TON OR CUBIC YARD, THE DEPTH OR THICKNESS OF THE COURSE SHOWN ON THE PLAN IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIALS AS DIRECTED BY THE ENGINEER.

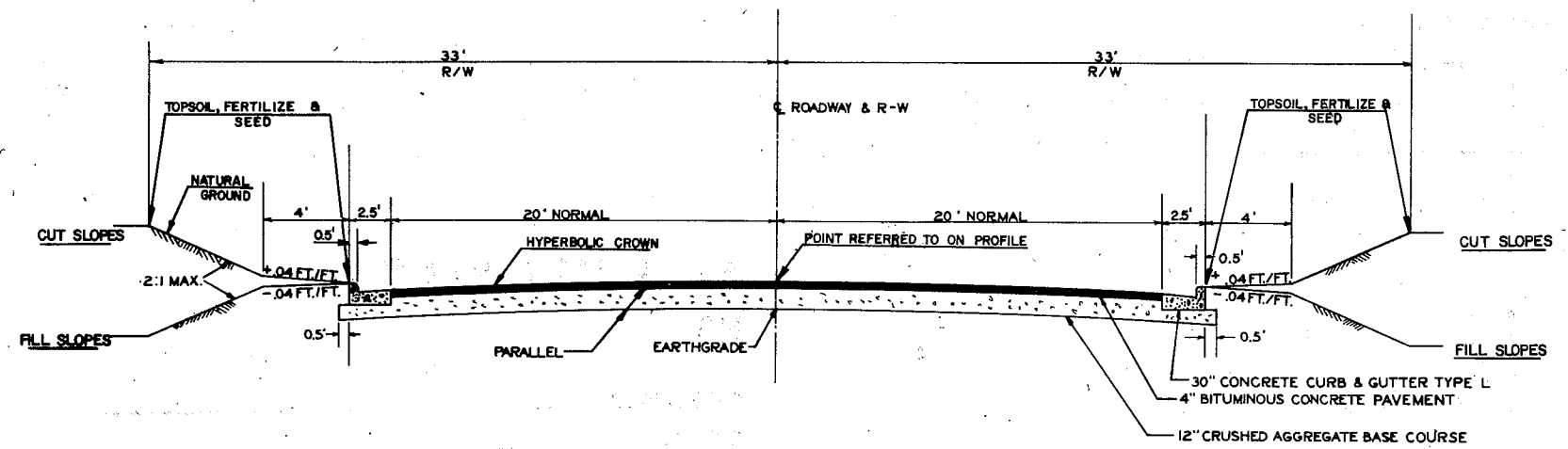
IN THE PERFORMANCE OF THE WORK UNDER THE ITEM OF CLEARING AND GRUBBING, NO TREES OR SHRUBS ARE TO BE REMOVED UNLESS SUCH TREES OR SHRUBS HAVE FIRST BEEN INDICATED FOR REMOVAL BY THE ENGINEER IN THE FIELD. ALL DISTURBED AREAS SHALL HAVE A MINIMUM OF 4" TOPSOIL, SEEDED AND FERTILIZED.

INLET AND DISCHARGE ELEVATIONS FOR DRAINAGE STRUCTURES SHOWN ARE APPROXIMATE AND SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

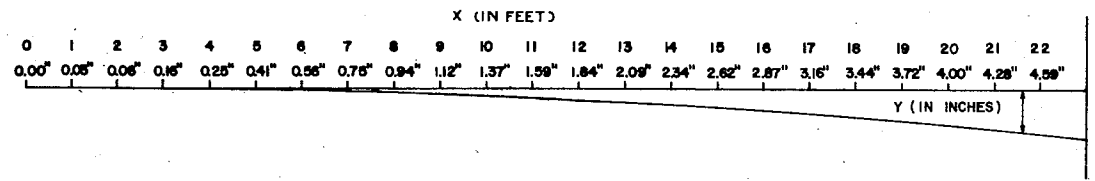
THE EXACT LOCATION OF DRIVEWAYS SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD. ALL CURB AND GUTTER RADII ARE SHOWN TO FRONT FACE OF CURB.

SEED SHALL CONFORM TO SEED MIXTURE NUMBER 4.

DISTURBED DRIVEWAYS ARE TO BE REPLACED IN KIND.

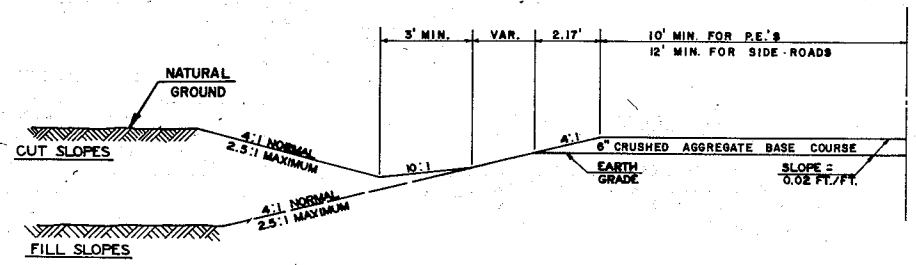


**PROPOSED TYPICAL SECTION**  
STA. 9+28 - STA. 31+00



$$Y = \sqrt{\left(\frac{X^2}{10} + 9\right)} - 3$$

**COORDINATES FOR HYPERBOLIC CROWN**



**1/2 TYPICAL CROSS SECTION FOR PRIVATE ENTRANCES**

**STANDARD ABBREVIATIONS**

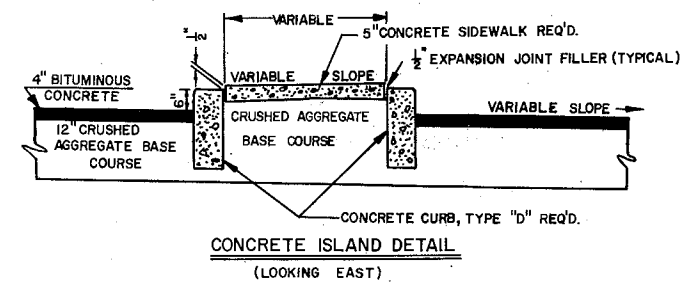
PI	POINT OF INTERSECTION
P.C.	POINT OF CURVATURE
P.T.	POINT OF TANGENCY
I.P.	IRON PIPE
B.M.	BENCH MARK
C.B.	CATCH BASIN
CL	CENTER LINE
C.M.C.P.	CORRUGATED METAL CULVERT PIPE
F.L.	FLOW LINE
M.H.	MAN HOLE
P.E.	PRIVATE ENTRANCE
R.C.C.P.	REINFORCED CONCRETE CULVERT PIPE
R/W	RIGHT OF WAY LINE
T/C	TOP OF CURB
R.	RADIUS

**STANDARD DETAIL DRAWINGS**

CATCH BASIN, MANHOLE & INLET COVERS.....	8A5-2
MANHOLES, TYPE 1.....	8B6-2
INLETS, TYPE 3.....	8C2-3
CONCRETE CURB, GUTTER, COMBINATION CURB & GUTTER.....	8D1-2
CONCRETE SURFACE DRAIN.....	8D4-1
CURB RAMPS FOR HANDICAPPED PERSONS.....	8D5-2
APRON ENDWALLS FOR CULVERT PIPE AND PIPE ARCH.....	8F1-6
CONSTRUCTION BARRICADES & STANDARD SIGNS.....	15C1-4

**UTILITIES LOCATED WITHIN THIS PROJECT**

WISCONSIN MICHIGAN POWER COMPANY	
MR. O.R. BOLL	TELEPHONE 414-734-1411
807 SOUTH ONEIDA STREET	
APPLETON, WISCONSIN.	
TOWN OF MENASHA WATER	
MR. RICHARD MENTZEL	TELEPHONE 414-734-5872
1000 VALLEY ROAD	
MENASHA, WISCONSIN	
TOWN OF MENASHA SEWER	
MR. GERALD QUARFORD	TELEPHONE 414-722-5511
660 AIRPORT ROAD	
MENASHA, WISCONSIN.	
WISCONSIN TELEPHONE COMPANY	
MR. AL TENNESSEN	TELEPHONE 414-922-5501
70 EAST DIVISION STREET	
FOND DU LAC, WISCONSIN	
SOO LINE RAILROAD COMPANY	
MR. J.P. GANNON	
P.O. BOX 348	
STEVENS POINT, WISCONSIN.	



**CONCRETE ISLAND DETAIL**  
(LOOKING EAST)

# ESTIMATE OF QUANTITIES

CONTRACT NO. 1  
GRADE BASE & SURFACE  
(BITUMINOUS CONCRETE PAVEMENT)

STATE PROJECT NUMBER

4992-0-11

SHEET NO.

3

CONTRACT NO.	STATION TO STATION	NET LENGTH OF CENTER LINE	CLEARING	GRUBBING	UNCLASSIFIED EXCAVATION	FINISHING ROADWAY	CRUSHED AGGREGATE BASE COURSE	BITUMINOUS CONCRETE PAVEMENT	BITUMINOUS MATERIAL FOR SURFACE COURSE	CONCRETE SURFACE DRAINS	CORRUGATED METAL CULVERT PIPE, 18-INCH	METAL APRON ENDWALLS FOR C.P. 18 INCH	REINFORCED CONCRETE APRON ENDWALLS FOR CULVERT PIPE			CONCRETE CURB & GUTTER, 30-INCH, TYPE "L"	REINFORCED CONCRETE PIPE, CLASS III, STORM SEWER					MANHOLES, TYPE I	INLETS, TYPE 3	MANHOLE COVERS, TYPE "J"	INLET COVERS TYPE "H"	ADJUSTING MANHOLE COVERS
													24-INCH	30-INCH	42-INCH		12-INCH	15-INCH	24-INCH	30-INCH	42-INCH					
ITEM NO.	UNIT	LIN. FT.	IN. DIA.	IN. DIA.	CU. YD.	L.S.	TON	TON	TON	CU. YD.	LIN. FT.	EACH	EACH	EACH	EACH	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	EACH	EACH	EACH	EACH	EACH
1	9 + 26 - 31 + 00	2,125	220	220	6,841	1	6,990	2,150	128	5	20	2	2	4	2	4,235	206		74	28	10	1	8	1	10	7
	NO FEDERAL PARTICIPATION																	1,271				6		7		
1	TOTALS	2,125	220	220	6,841	1	6,990	2,150	128	5	20	2	2	4	2	4,235	206	1,271	74	28	10	7	8	8	10	7

## DETAIL SUMMARY OF MISCELLANEOUS QUANTITIES

MOBILIZATION	SALVAGED TOPSOIL	FERTILIZER	SEEDING	FIELD OFFICE, TYPE "A"	MANHOLES, TYPE 1, SPECIAL	INLETS, TYPE 3, SPECIAL	CONCRETE ISLAND
61910 L.S.	62505 S.Y.	62901 CWT.	63002 LB.	64201 L.S.	90001 EACH	90002 EACH	90003 L.S.
1	4,700	3	65	1		2	1
1	4,700	3	65	1	1	2	1

\* NO FEDERAL PARTICIPATION

### STORM SEWER & PRIVATE ENTRANCE PIPE

FROM-TO	SIZE	LENGTH	TYPE	CLASS	INLET ELEVATION	DISCHARGE ELEVATION
2-1	24"	74'	R.C.C.P.	III S.S.	763.00	762.00
3-7	12"	72'	R.C.C.P.	III S.S.	758.45	758.15
7-6	12"	4'	R.C.C.P.	III S.S.	758.15	758.10
* 6-10	15"	270'	R.C.C.P.	III S.S.	758.10	757.70
* 8-14	15"	40'	R.C.C.P.	III S.S.	757.39	757.26
* 10-8	15"	208'	R.C.C.P.	III S.S.	757.70	757.39
11-12	12"	42'	R.C.C.P.	III S.S.	758.00	757.75
12-10	12"	4'	R.C.C.P.	III S.S.	757.75	757.70
13-14	30"	12'	R.C.C.P.	III S.S.	EXISTING	757.26
14-15	30"	12'	R.C.C.P.	III S.S.	757.26	EXISTING
16-17	42"	4'	R.C.C.P.	III S.S.	EXISTING	EXISTING
18-19	42"	6'	R.C.C.P.	III S.S.	EXISTING	EXISTING
20-21	12"	30'	R.C.C.P.	III S.S.	753.90	753.70
22-21	12"	12'	R.C.C.P.	III S.S.	753.80	753.70
* 21-23	15"	295'	R.C.C.P.	III S.S.	753.60	752.13
24-23	12"	12'	R.C.C.P.	III S.S.	752.25	752.15
* 23-25	15"	75'	R.C.C.P.	III S.S.	752.13	751.75
26-25	12"	30'	R.C.C.P.	III S.S.	752.00	751.80
* 25-27	15"	383'	R.C.C.P.	III S.S.	751.75	747.00
29-28	30"	4'	R.C.C.P.	III S.S.	EXISTING	746.14
30-31 P.E.	18"	20'	C.M.C.P.	O.064" Thick		

### MANHOLES, INLETS, & COVERS

NUMBER	STATION	LOCATION	STRUCTURE	TYPE	COVER	GRATE
3	12 + 19.6	21.5' LT.	INLET	3	H	RT.
* 6	12 + 81	24.5' RT.	MANHOLE	1	J	
7	12 + 81	21.5' RT.	INLET	3	H	LT.
* 8	17 + 60	24.5' RT.	MANHOLE	1	J	
11	15 + 50	21.5' LT.	INLET	3	H	RT.
* 10	15 + 50	24.5' RT.	MANHOLE	1	J	
12	15 + 50	21.5' RT.	INLET	3	H	LT.
14	17 + 60	17.0' LT.	MANHOLE	1	J	
20	22 + 00	21.5' LT.	INLET	3	H	RT.
* 21	22 + 00	9.0' RT.	MANHOLE	1	J	
22	22 + 00	21.5' RT.	INLET	3	H	LT.
* 23	25 + 00	9.0' RT.	MANHOLE	1	J	
24	25 + 00	21.5' RT.	INLET	3	H	LT.
* 25	25 + 70	9.0' RT.	MANHOLE	1	J	
26	25 + 75	21.5' LT.	INLET	3	H	RT.
28	29 + 50	21.5' LT.	INLET	3 SPECIAL	H	RT.
* 27	29 + 53	9.0' RT.	MANHOLE	1 SPECIAL	J	
32	29 + 54	21.5' RT.	INLET	3 SPECIAL	H	LT.

### CLEARING AND GRUBBING

STATION	LOCATION	QUANTITY (IN. DIA.)
11 + 52	24' RT.	8"
11 + 68	24' RT.	10"
12 + 03	23' RT.	10"
19 + 68	26' LT.	8"
21 + 54	27' LT.	8"
22 + 76	24' RT.	8"
23 + 57	23' LT.	33"
23 + 87	23' LT.	27"
24 + 10	23' LT.	22"
24 + 29	29' RT.	9"
24 + 30	24' LT.	12"
24 + 72	24' LT.	9"
24 + 90	23' LT.	22"
25 + 12	23' LT.	18"
28 + 30	25' LT.	16"

### CONCRETE SURFACE DRAINS

STATION	LOCATION	QUANTITY CUBIC YARDS.
30 + 64	73' RT.	2.5
30 + 90	50' LT.	2.5

### CONCRETE CURB AND GUTTER

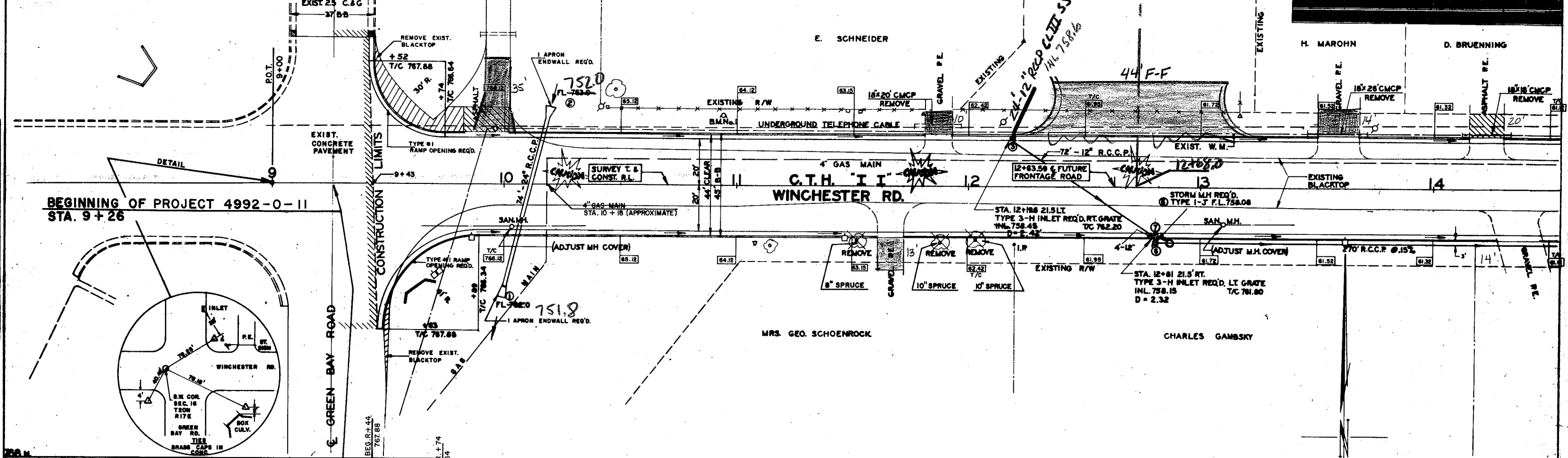
STATION TO STATION	LOCATION	QUANTITY LIN. FT.
9 + 74	LT. RADIUS	72
9 + 89	RT. RADIUS	65
9 + 89 TO 17 + 82	LT.	793
9 + 89 TO 18 + 05	RT.	816
18 + 36 TO 30 + 45	LT.	1,209
18 + 51 TO 30 + 25	RT.	1,174
30 + 25	RT. RADIUS	54
30 + 45	LT. RADIUS	52

### ADJUSTING MANHOLE COVERS

STATION	LOCATION	COVERS
10 + 04	17' RT.	1
13 + 10	16' RT.	1
16 + 54	17' RT.	1
19 + 04	15' RT.	1
22 + 55	18' RT.	1
26 + 67	18' RT.	1
30 + 74	22' RT.	1

STA	DESCRIPTION	ELEV.
1	TOP OF HYDRANT 29.2' L.	767.85

STATE PROJECT NUMBER	SHEET NO.
4992-0-11	5



BEGINNING OF PROJECT 4992-0-11  
STA. 9+26

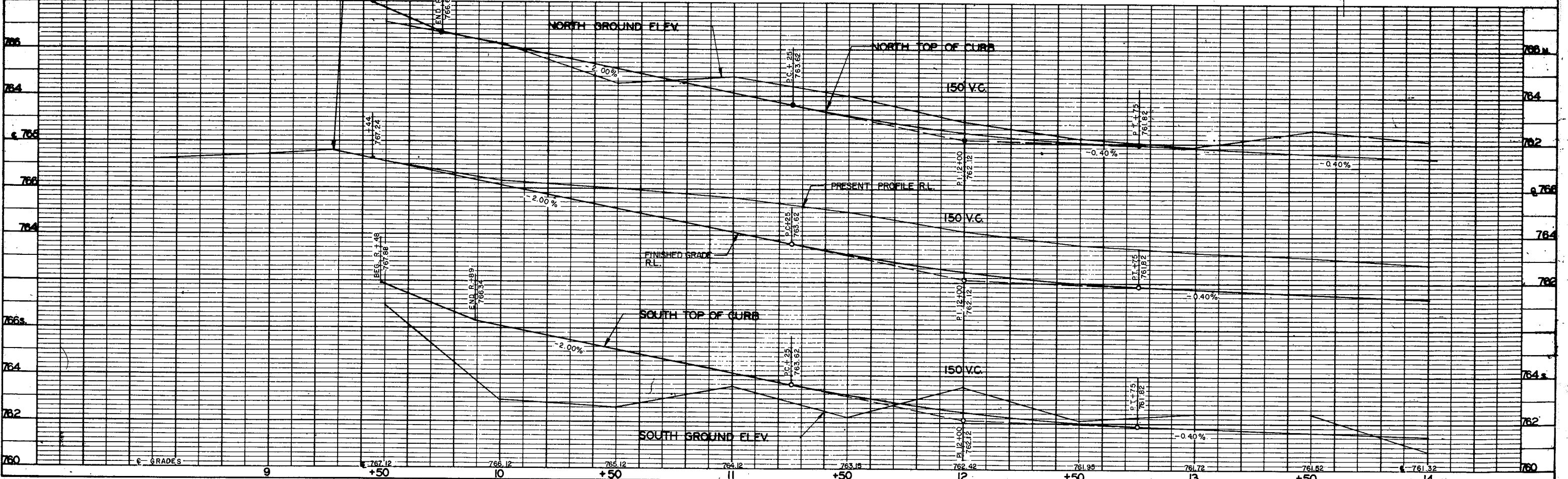
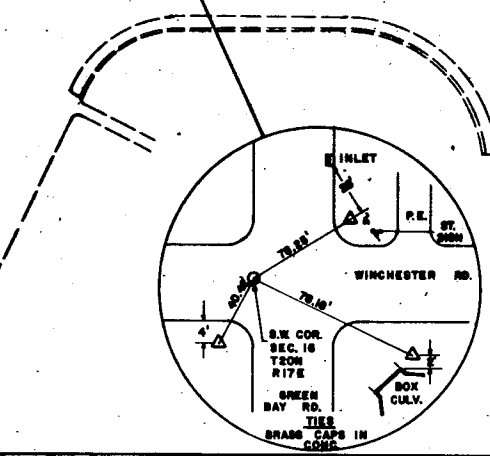
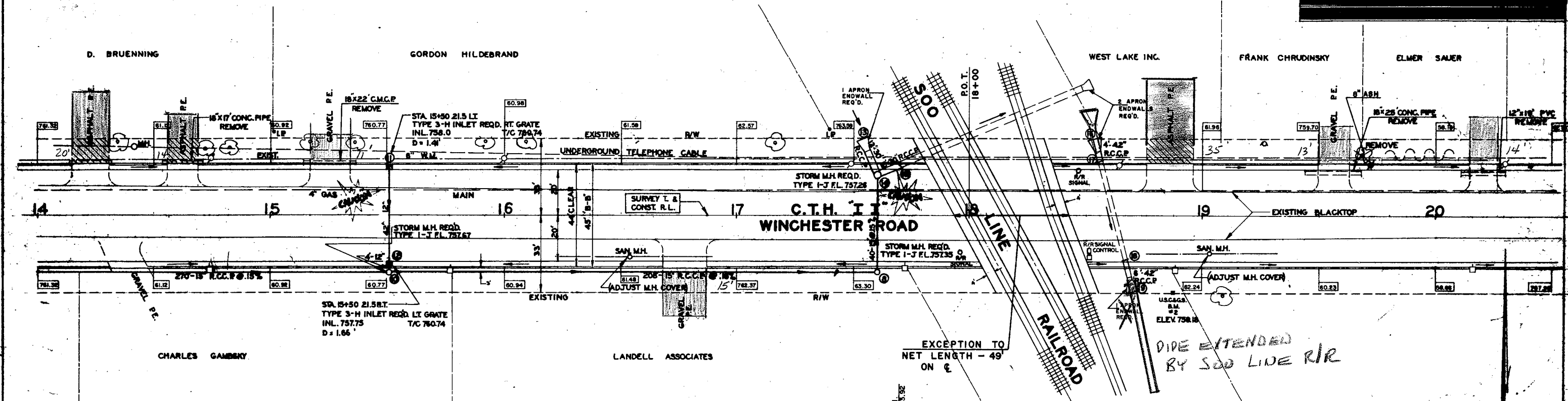


PLATE 1 - PLAN - PROFILE - F.A.S.  
CLEARPRINT PAPER CO., S.F. CAL.

BENCH MARKS		
STA	DESCRIPTION	ELEV.
2	U.S.C. & G.S. 33R	758.18

STATE PROJECT NUMBER	SHEET NO.
4992-0-11	51



NOTE  
 PROVIDE CURB TRANSITION FROM 6" TO 0" IN 25' ON EITHER SIDE OF RAILROAD CROSSING.

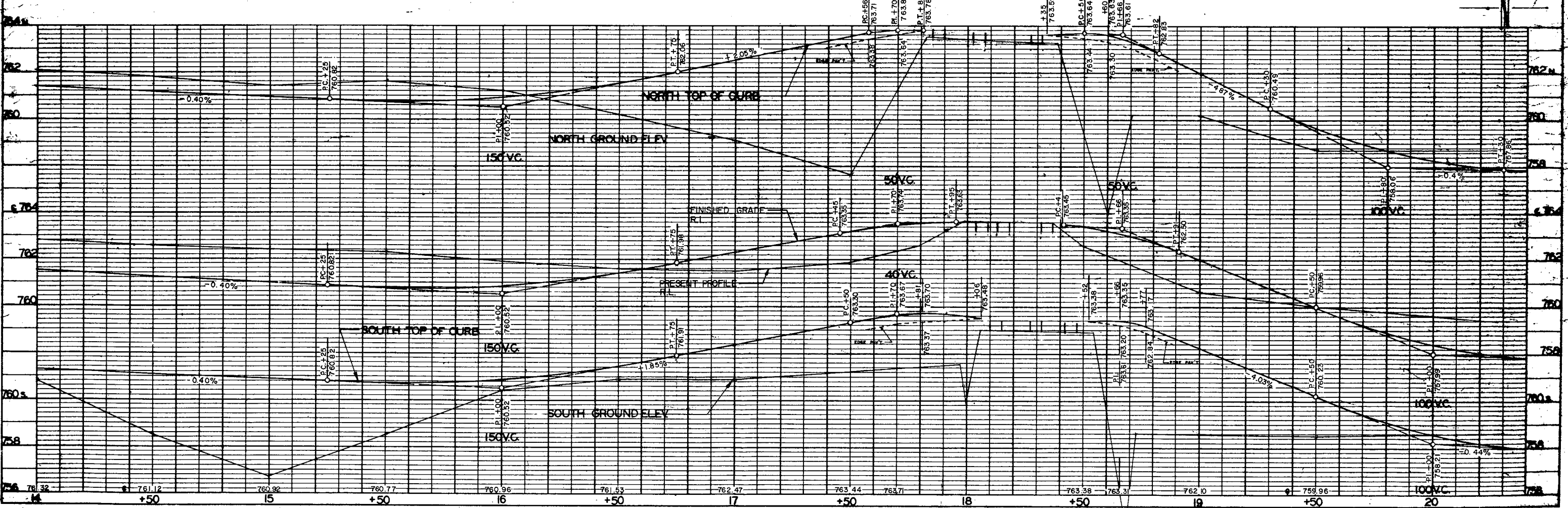
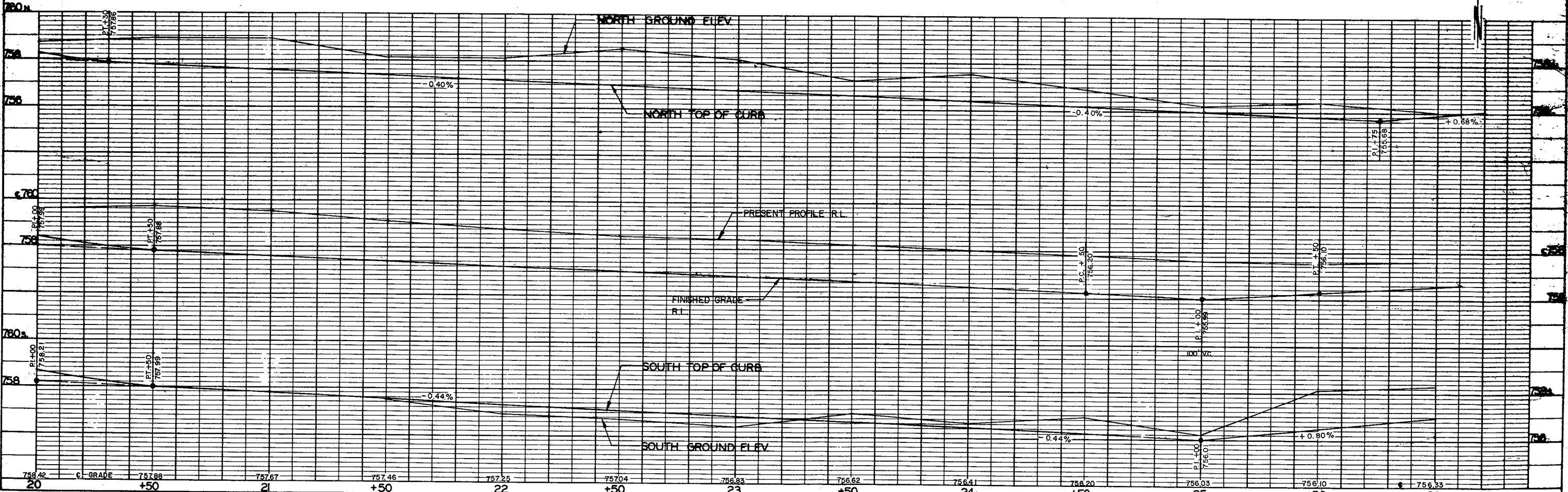
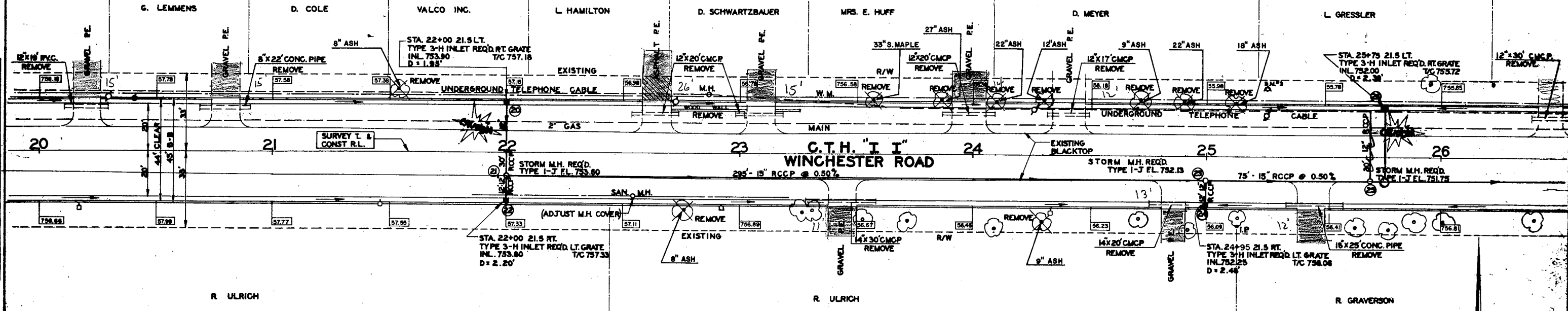


PLATE 1 - PLAN - PROFILE - F.A.S.  
 CLEARPRINT PAPER CO., S.F. CAL.  
 1000001

**BENCH MARKS**

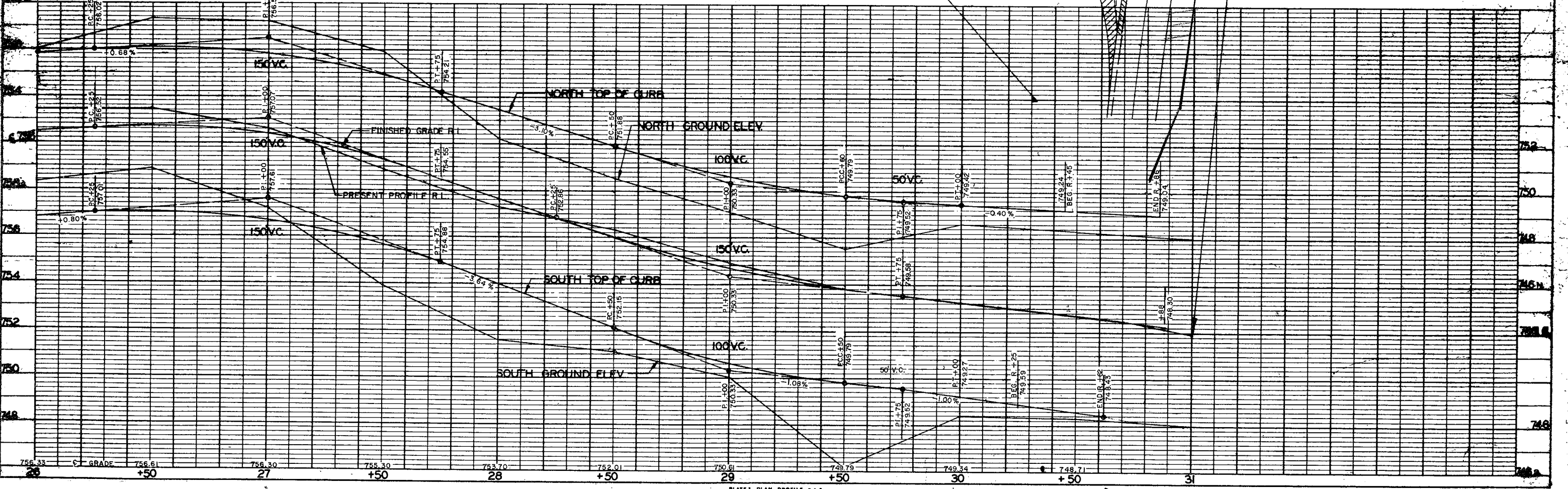
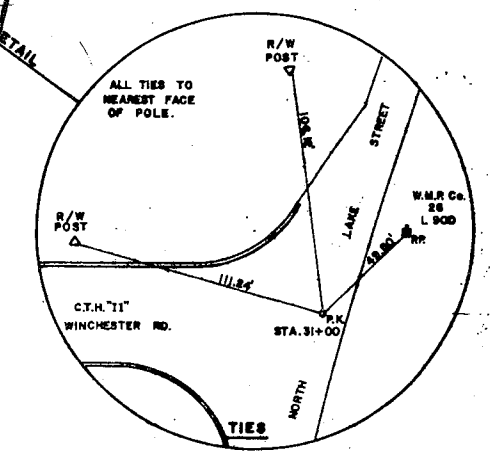
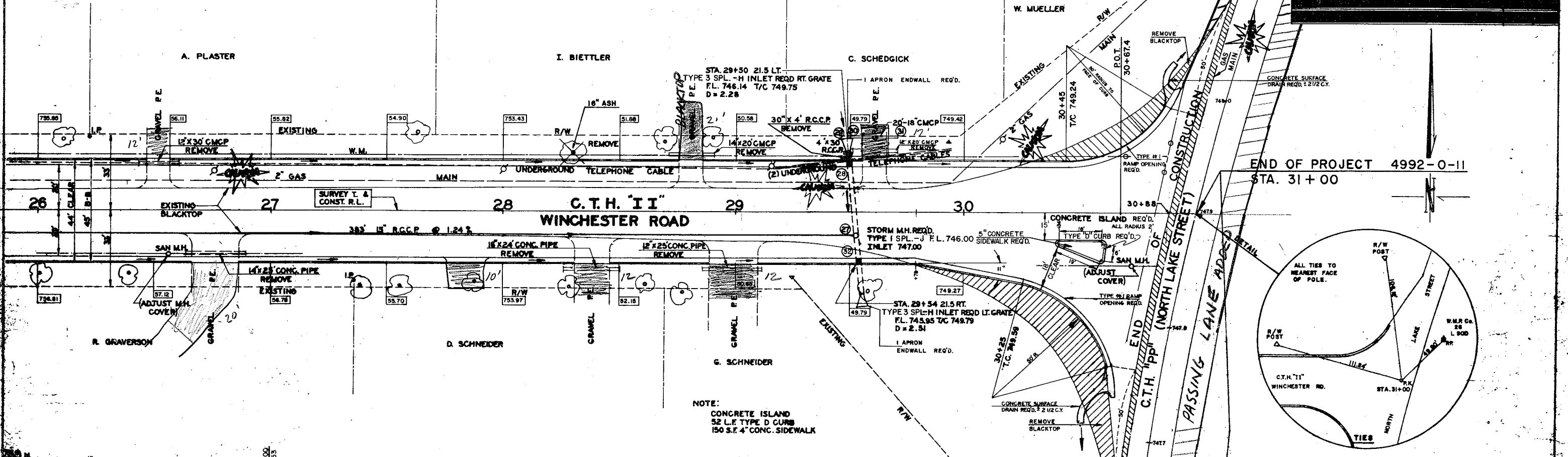
STA.	DESCRIPTION	ELEV.
2 19+88	U.S.C. & G.S. 33'R	759.18
3 25+26	TOP OF HYDRANT 26 L.	759.06

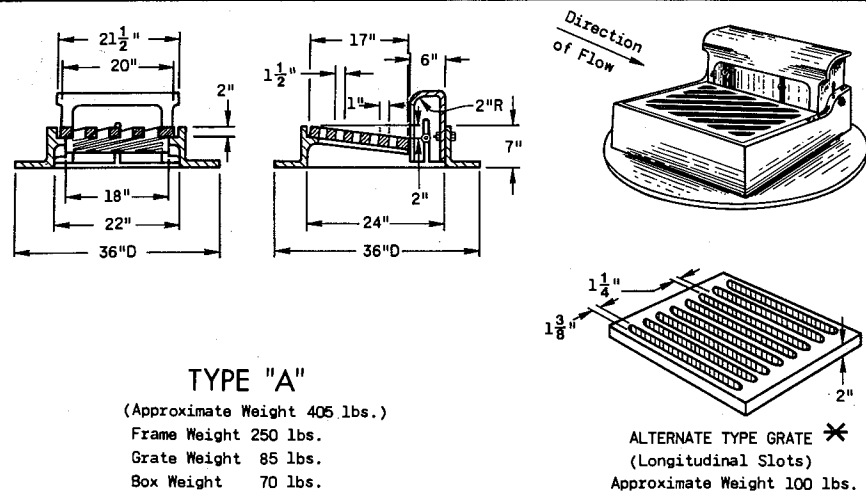
STATE PROJECT NUMBER	SHEET
4992-0-11	52



BENCH MARKS		
NO.	DESCRIPTION	ELEV.
3	BASE TOP OF HYDRANT 28'L	759.08

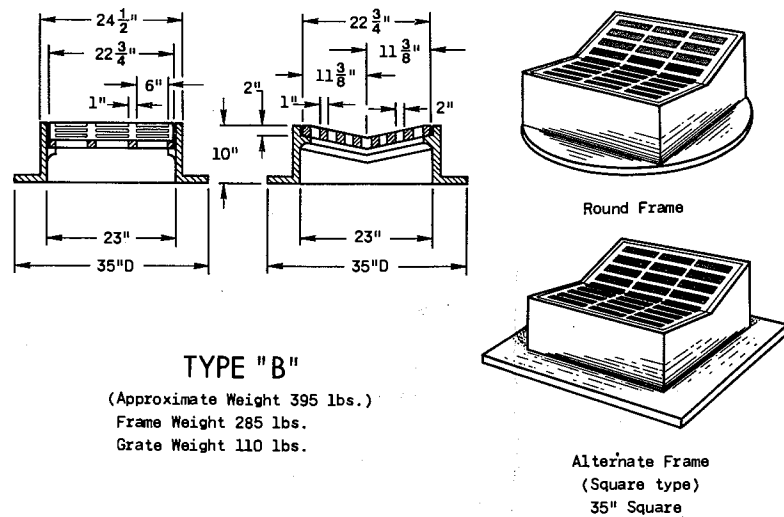
STATE PROJECT NUMBER	SHEET NO.
4992-0-11	5.3



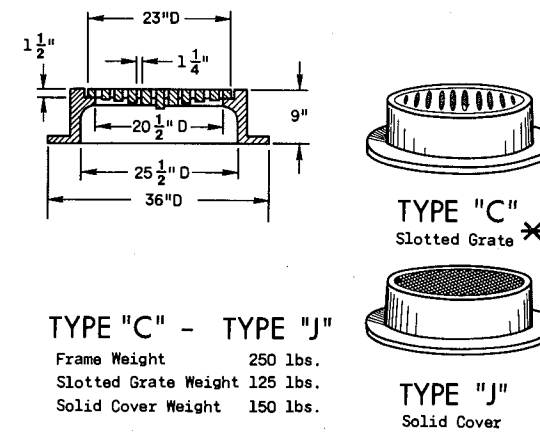


**TYPE "A"**  
 (Approximate Weight 405 lbs.)  
 Frame Weight 250 lbs.  
 Grate Weight 85 lbs.  
 Box Weight 70 lbs.

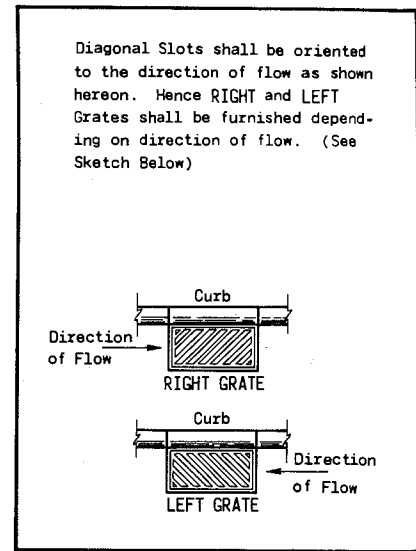
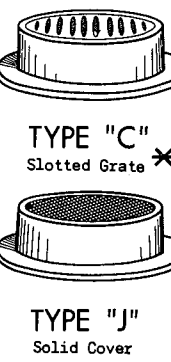
**ALTERNATE TYPE GRATE \***  
 (Longitudinal Slots)  
 Approximate Weight 100 lbs.



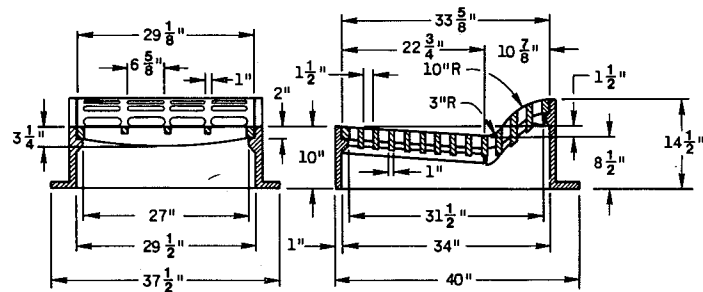
**TYPE "B"**  
 (Approximate Weight 395 lbs.)  
 Frame Weight 285 lbs.  
 Grate Weight 110 lbs.



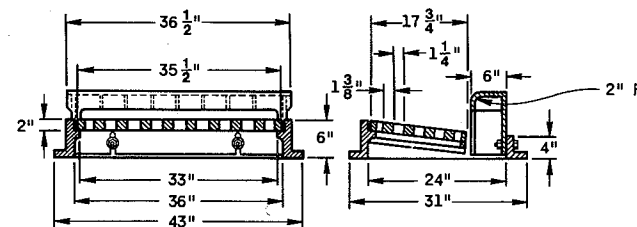
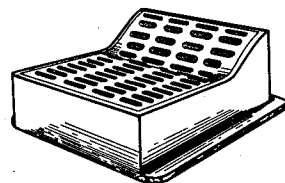
**TYPE "C" - TYPE "J"**  
 Frame Weight 250 lbs.  
 Slotted Grate Weight 125 lbs.  
 Solid Cover Weight 150 lbs.



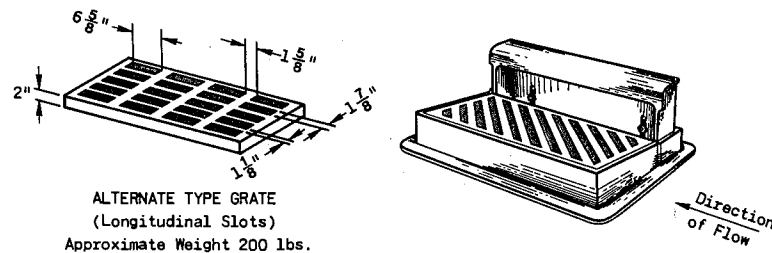
Diagonal Slots shall be oriented to the direction of flow as shown hereon. Hence RIGHT and LEFT Grates shall be furnished depending on direction of flow. (See Sketch Below)



**TYPE "F"**  
 (Approximate Weight 850 lbs.)  
 Frame 515 lbs.  
 Back grate 160 lbs.  
 Front grate 175 lbs.

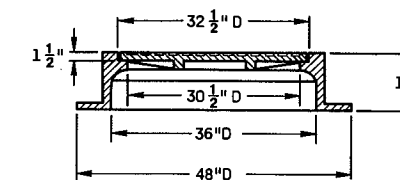


NOTE: Curb Box height adjustable 6" to 9"

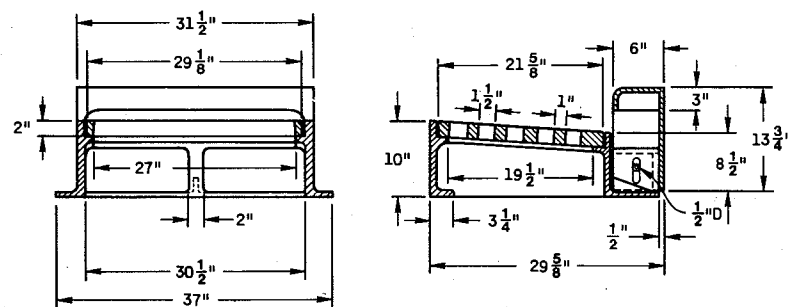
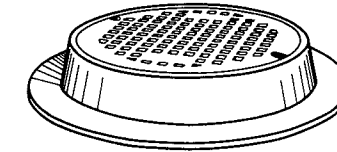


**ALTERNATE TYPE GRATE**  
 (Longitudinal Slots)  
 Approximate Weight 200 lbs.

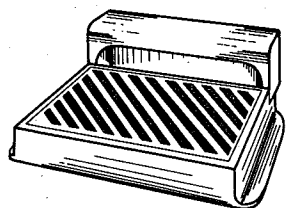
\* CAUTION: DO NOT USE GRATES WITH LONGITUDINAL SLOTS WHERE BICYCLE TRAFFIC IS PERMITTED.



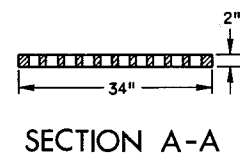
**TYPE "K"**  
 (Approximate Weight 785 lbs.)



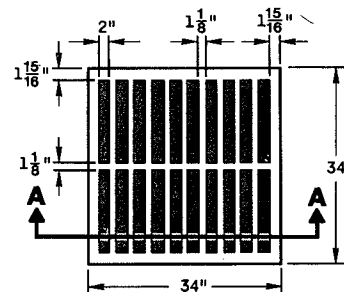
NOTE: Curb Box height adjustable 6" to 9"



**TYPE "WM"**  
 (Approximate Weight 670 lbs.)  
 Frame Weight 350 lbs.  
 Grate Weight 185 lbs.  
 Box Weight 135 lbs.



**TYPE "MS" \***  
 (Approximate Grate Weight 285 lbs.)



**GENERAL NOTES**

Details of construction, materials and workmanship not shown on this drawing shall conform to the pertinent requirements of the Standard Specifications and the applicable Special Provisions.

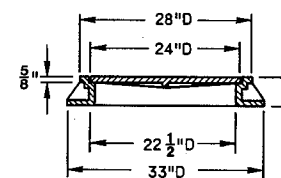
Detail drawings for proposed alternate designs for Catch Basin, Manhole and Inlet Covers shall be submitted to the Engineer for approval providing that such alternate designs make provision for equivalent capacity and strength.

All Catch Basin, Manhole and Inlet Covers which are placed in vehicular traffic areas shall be "Non-Rocking" type.

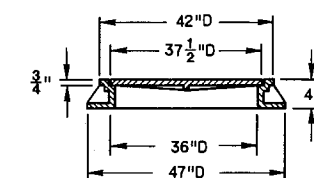
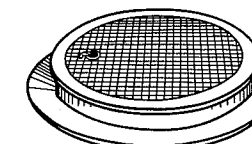
Adjustment of the cover to grade may be accomplished by the use of mortar and brick, or by Precast Concrete Grade Rings (AASHTO Designation M-199). Maximum adjustment shall be 8 inches.

Curb box height to be adjusted 4 to 9 inches, unless otherwise noted, after the form is in place.

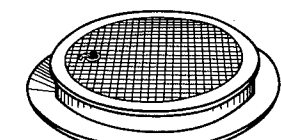
The actual weight of covers may vary within 5 percent, plus or minus, of the approximate weight.



**TYPE "L"**  
 (Approximate Weight 220 lbs.)



**TYPE "M"**  
 (Approximate Weight 535 lbs.)



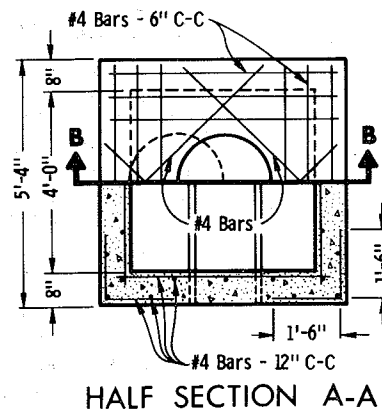
**CATCH BASIN  
 MANHOLE AND  
 INLET COVERS**

State of Wisconsin  
 Department of Transportation  
 Division of Highways

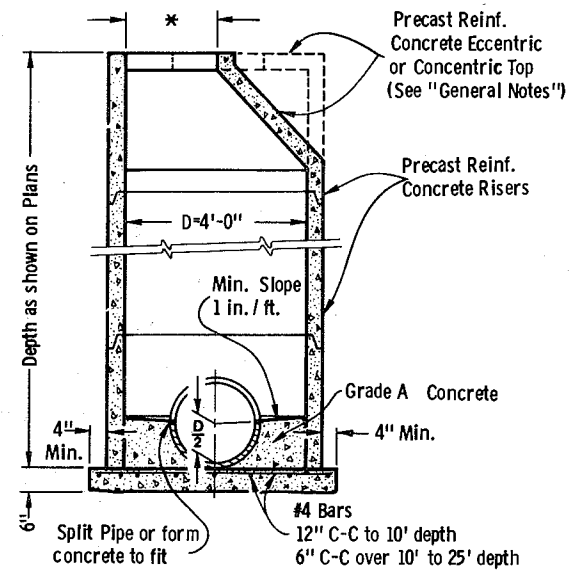
RECOMMENDED FOR APPROVAL:  
 12-3-75  
 DATE  
 APPROVED  
 12-9-75  
 DATE

J.C. Hennrich  
 CHIEF OF FACILITIES DEVELOPMENT  
 H.J. Siedler  
 STATE HIGHWAY ENGINEER

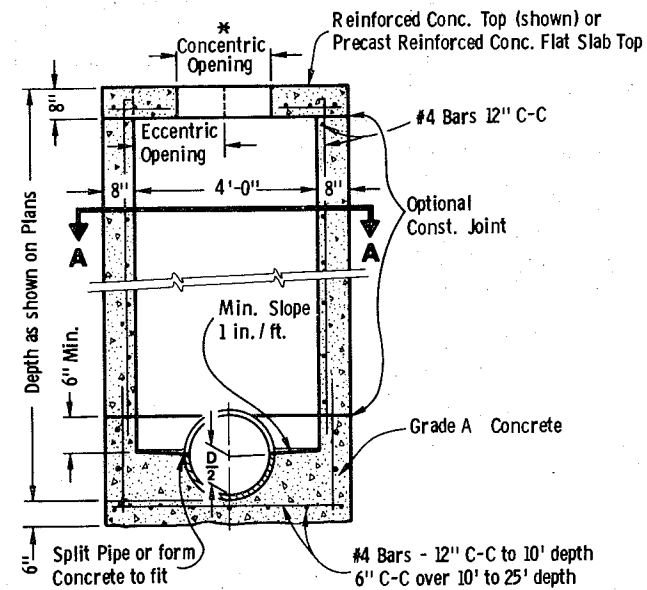




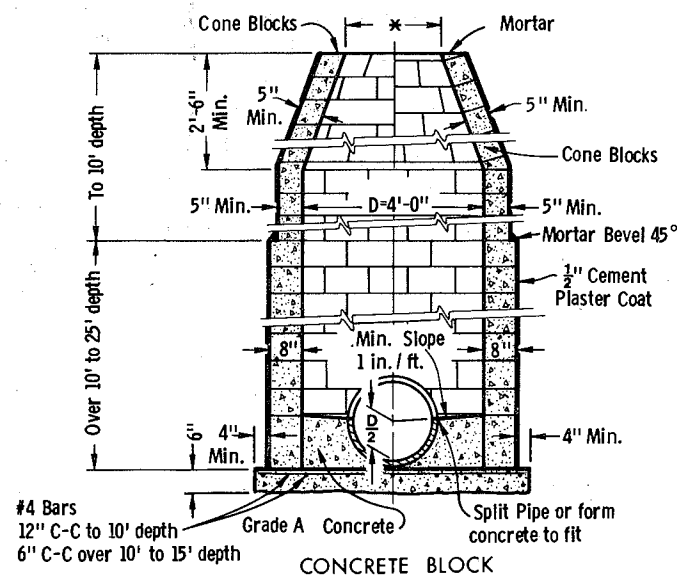
HALF SECTION A-A



PRECAST REINFORCED CONCRETE



SECTION B-B  
REINFORCED CONCRETE



CONCRETE BLOCK

**GENERAL NOTES**

Details of construction, materials and workmanship not shown on this drawing shall conform to the pertinent requirements of the Standard Specifications and the applicable Special Provisions.

Detailed drawings for proposed alternate designs for underground drainage structures shall be submitted to the Engineer for approval providing that such alternate designs make provision for equivalent capacity and strength.

All drainage structures are designated on the plans as "Manholes 1 - C", "Catch Basins 1 - B", "Inlets 1 - H", etc. The first digit designates the masonry portion of the structure, and the following letter designates the type of cover to be used to comprise the complete unit.

Precast Reinforced Bases shall be placed on a bed of material at least 6 inches in depth, which meets the requirements for Granular Backfill. This bedding shall be compacted and provide uniform support for the entire area of the base.

Precast Reinforced Concrete Cone Tops (Eccentric or Concentric) may be used on concrete block structures. The Cone Tops shall be installed on a bed of mortar.

Eccentric Cone Tops may be used on all structures, and Concentric Cone Tops shall be used only on structures 5 feet or less in depth, unless otherwise directed by the Engineer.

Steps meeting the following requirements shall be installed in all structures over 5 feet in depth: 16 inch C-C maximum spacing; project a minimum clear distance of 4 inches from the wall at the point of embedment; minimum length of 10 inches; minimum wall embedment of 3 inches; and be capable of supporting a concentrated load of 300 lbs. Ferrous metal steps not painted or treated to resist corrosion shall have a minimum cross sectional dimension of 1 inch.

Solid Aluminum steps shall have a minimum cross sectional dimension of 0.75 inch. Aluminum surfaces to be embedded in concrete shall be given one coat of suitable quality paint, such as zinc chromate primer conforming to federal specification TT-P-645 or equivalent. Steps of approved Polypropylene plastic coated reinforcement bar will be acceptable.

All bar steel reinforcement shall be embedded 2 inches clear unless otherwise shown or noted.

Precast Reinforced Concrete Risers may be placed with tongue up or down.

\* Use 2'-0" diameter opening with type "C", "L" and "J" covers, or 3'-0" diameter with type "K" and "M" covers.

**MANHOLES TYPE 1**

**MANHOLES TYPE 1**

State of Wisconsin  
Department of Transportation  
Division of Highways

RECOMMENDED FOR APPROVAL:

12-3-75  
DATE

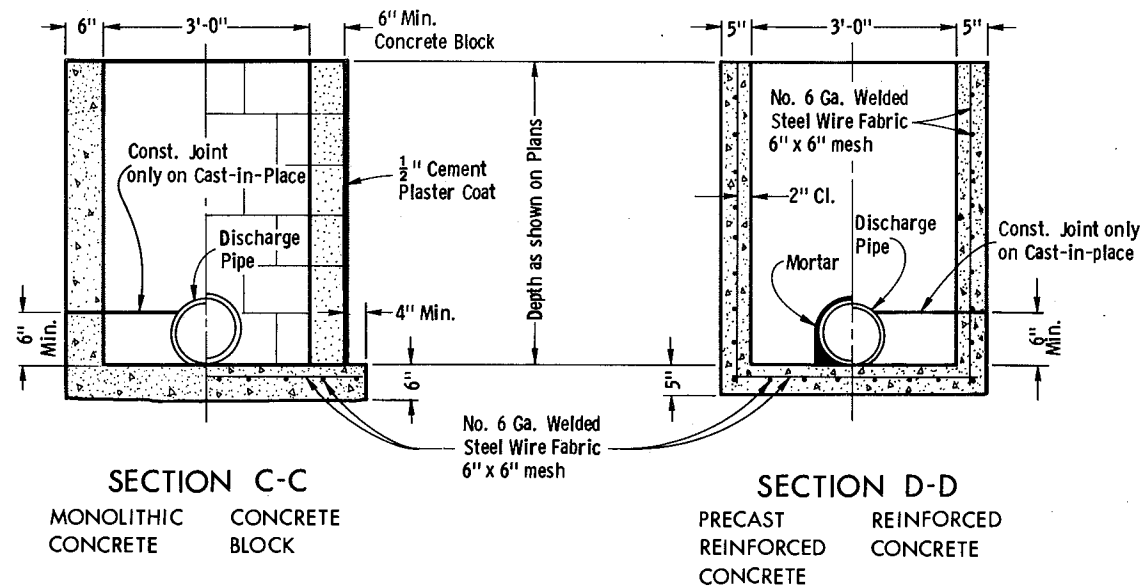
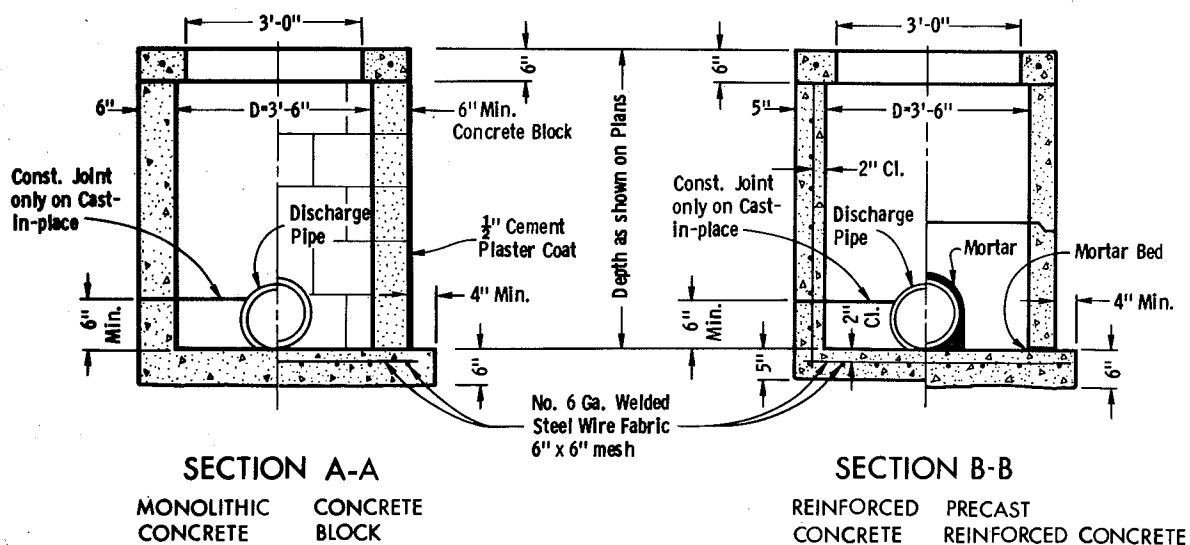
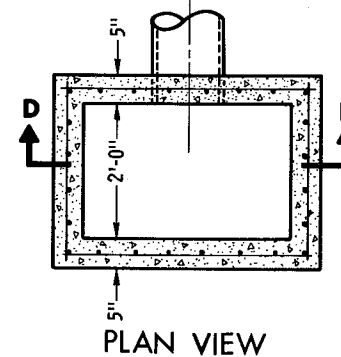
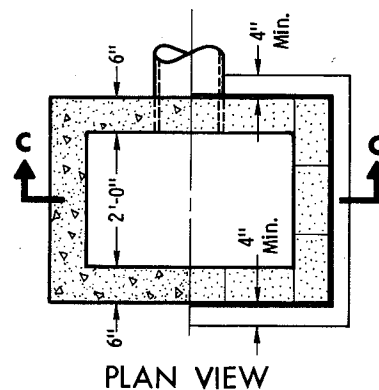
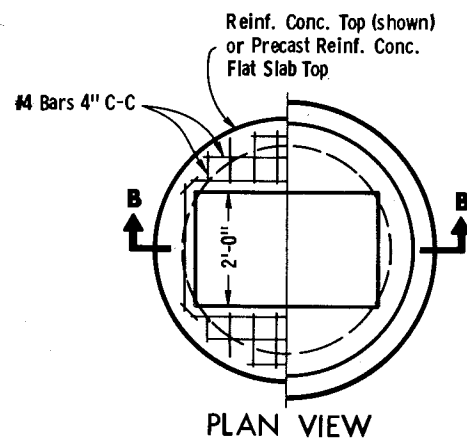
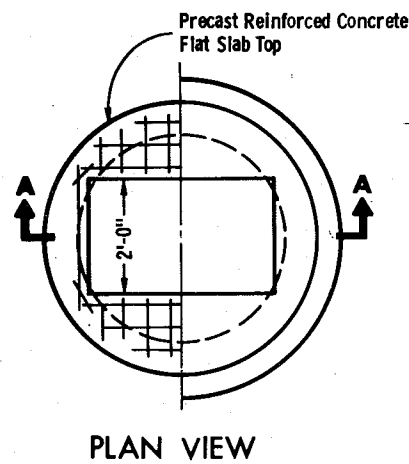
*J.C. Hennrich*  
CHIEF OF FACILITIES DEVELOPMENT

APPROVED

12-9-75  
DATE

*W.J. Sudas*  
STATE HIGHWAY ENGINEER

S.D.D. 8 B6-2



**INLETS TYPE 3**

**GENERAL NOTES**

Details of construction, materials and workmanship not shown on this drawing shall conform to the pertinent requirements of the Standard Specifications and the applicable Special Provisions.

Detailed drawings for proposed alternate designs for underground drainage structures shall be submitted to the Engineer for approval providing that such alternate designs make provision for equivalent capacity and strength.

Square Precast Inlet units shall conform to the pertinent requirements of AA SHTO Designation M 199.

All drainage structures are designated on the plans as "Manholes 1 - C", "Catch Basins 1 - B", "Inlets 1 - H", etc. The first digit designates the masonry portion of the structure, and the following letter designates the type of cover to be used to comprise the complete unit.

Precast Reinforced Bases shall be placed on a bed of material at least 6 inches in depth, which meets the requirements for Granular Backfill. This bedding shall be compacted and provide uniform support for the entire area of the base.

Precast Reinforced Concrete Flat Slab Tops may be used on the structures. The Tops shall be installed on a bed of mortar.

All bar steel reinforcement shall be embedded 2 inches clear unless otherwise shown or noted.

Precast Reinforced Concrete Risers may be placed with tongue up or down.

**INLETS TYPE 3**

State of Wisconsin  
Department of Transportation  
Division of Highways

RECOMMENDED FOR APPROVAL:

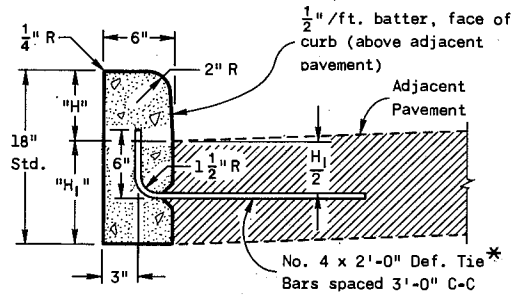
10-16-75  
DATE

*J. C. Hennrich*  
CHIEF OF FACILITIES DEVELOPMENT

APPROVED

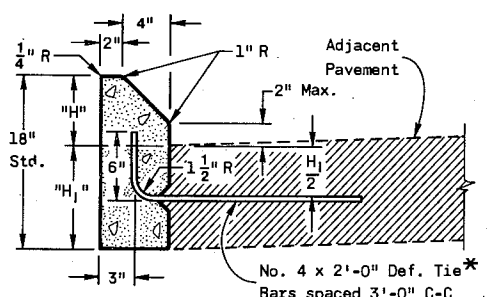
10-16-75  
DATE

*W. J. Sieder*  
STATE HIGHWAY ENGINEER



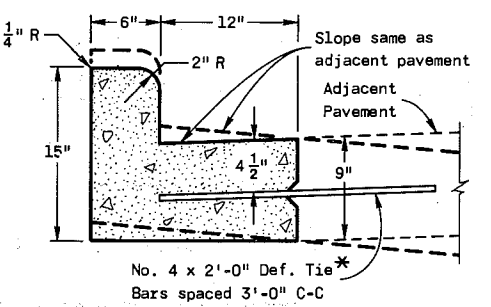
"H" = 9" Max. and 3 1/2" Min. and shall be 6" unless otherwise shown on the plans.  
 "H<sub>1</sub>" = Same as adjacent pavement thickness for rigid pavement and 12" for non-rigid pavement (Tie Bars omitted)

**TYPE "A"** (INCLUDING TIE BARS)  
**TYPE "D"** (EXCLUDING TIE BARS)  
**CONCRETE CURB**

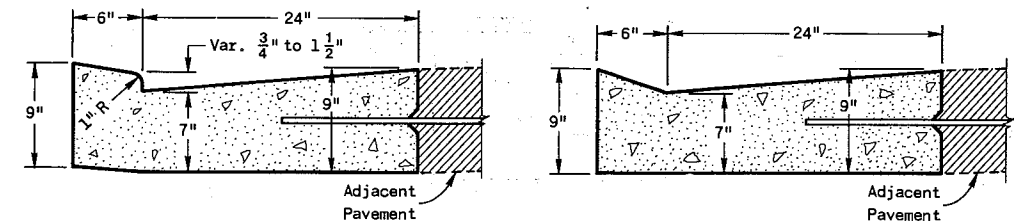


"H" = 6" Max. and 4" Min. and shall be 6" unless otherwise shown on the plans.  
 "H<sub>1</sub>" = Same as adjacent pavement thickness for rigid pavement and 12" for non-rigid pavement (Tie Bars omitted)

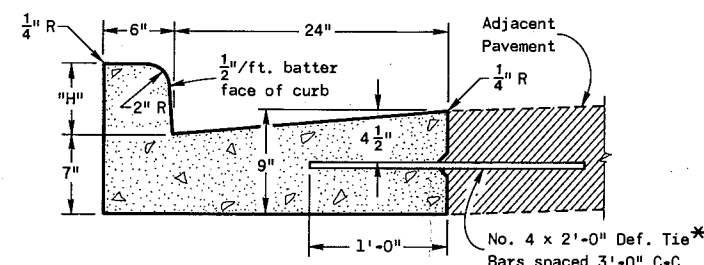
**TYPE "G"** (INCLUDING TIE BARS)  
**TYPE "J"** (EXCLUDING TIE BARS)  
**CONCRETE CURB**  
 (MOUNTABLE)



**TYPE "A"** (INCLUDING TIE BARS)  
**TYPE "D"** (EXCLUDING TIE BARS)  
**CONCRETE CURB & GUTTER 18"**  
 Reverse slope Curb & Gutter shown thus ---

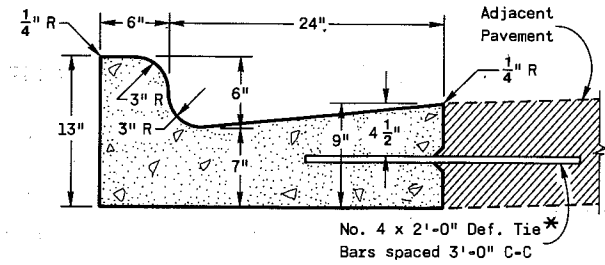


**ALTERNATE ENTRANCES**  
**CONCRETE CURB & GUTTER 30"**

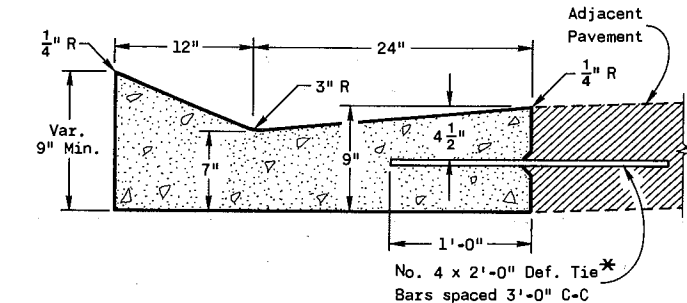


"H" = 9" Max. 3 1/2" Min. and shall be 6" unless otherwise shown on the plans.

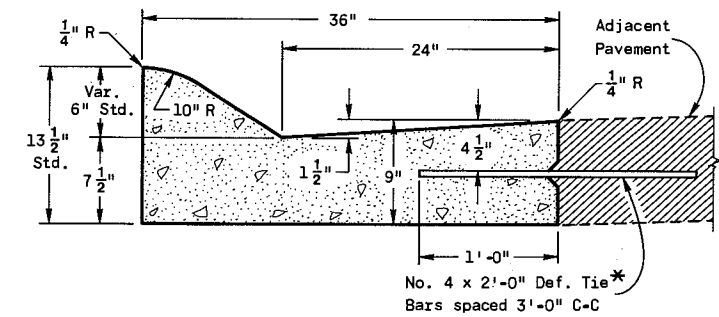
**TYPE "A"** (INCLUDING TIE BARS)  
**TYPE "D"** (EXCLUDING TIE BARS)  
**CONCRETE CURB & GUTTER 30"**



**TYPE "K"** (INCLUDING TIE BARS)  
**TYPE "L"** (EXCLUDING TIE BARS)  
**CONCRETE CURB & GUTTER 30"**



**TYPE "A"** (INCLUDING TIE BARS)  
**TYPE "D"** (EXCLUDING TIE BARS)  
**CONCRETE GUTTER 36"**



**TYPE "A"** (INCLUDING TIE BARS)  
**TYPE "D"** (EXCLUDING TIE BARS)  
**CONCRETE CURB & GUTTER 36"**  
 (MOUNTABLE)

**GENERAL NOTES**

Details of construction, materials and workmanship not shown on this drawing shall conform to the pertinent requirements of the Standard Specifications and the applicable Special Provisions.  
 Detailed drawings for proposed alternate designs for Curb, Gutter and Combination Curb and Gutter shall be submitted to the Engineer for approval providing that such alternate designs make provision for equivalent capacity and strength.  
 Joints shall not be sealed in Concrete Curb, or Concrete Curb & Gutter.  
 \* Where Curb and Gutter are poured adjacent to existing pavement, the Hook Bolt may be used as for "Longitudinal Joints - Concrete Pavement".

**CONCRETE CURB, GUTTER,  
 COMBINATION CURB & GUTTER**

State of Wisconsin  
 Department of Transportation  
 Division of Highways

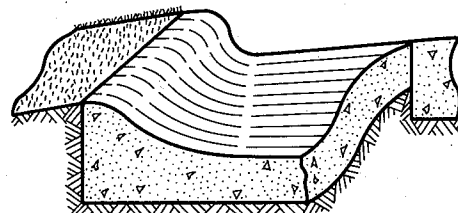
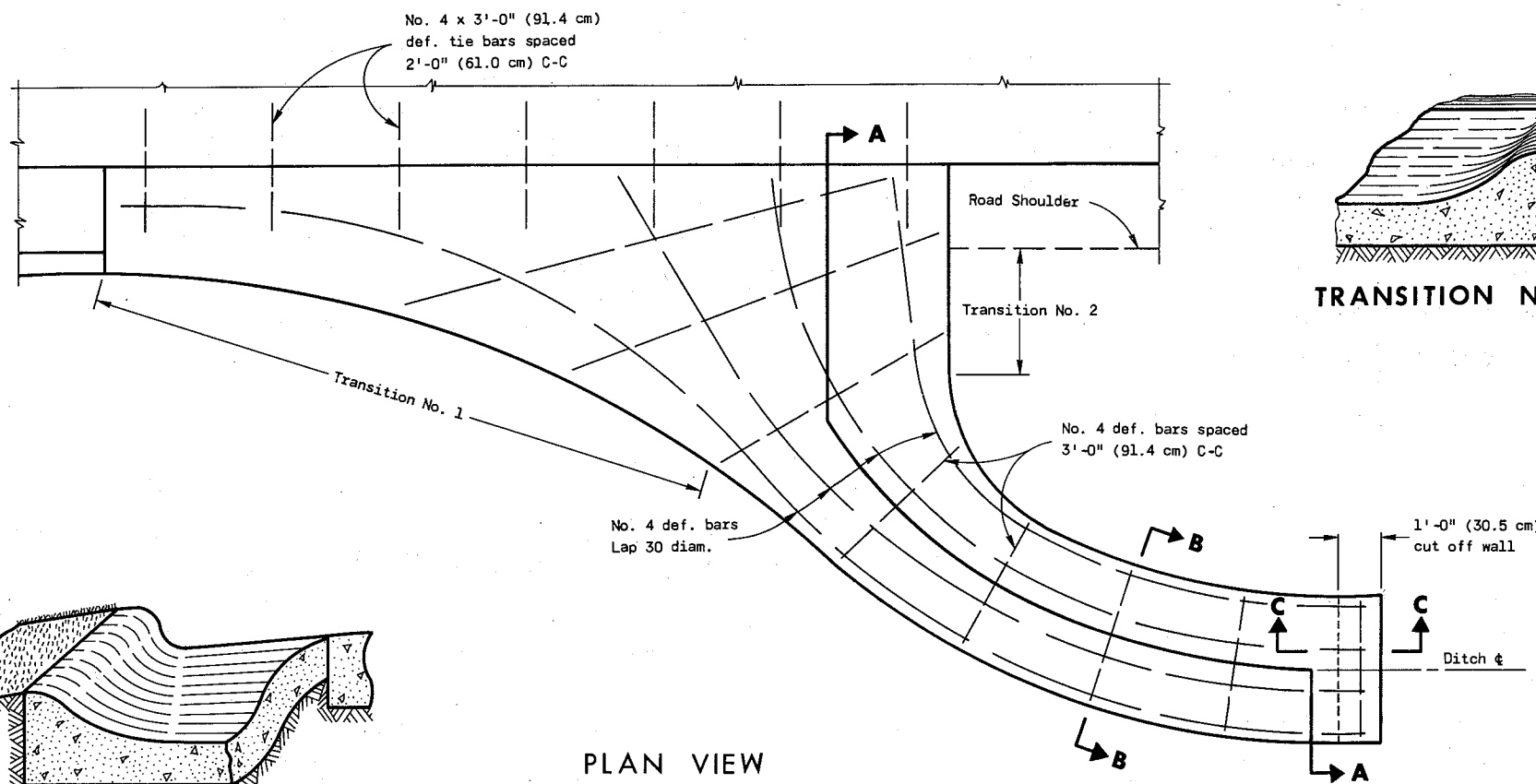
RECOMMENDED FOR APPROVAL:  
 9-12-73  
 DATE

APPROVED:  
 9-19-73  
 DATE

L.C. [Signature]  
 CHIEF OF FACILITIES DEVELOPMENT

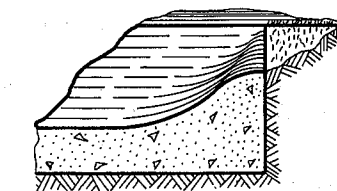
[Signature]  
 STATE HIGHWAY ENGINEER

S.D.D. 8D1-2

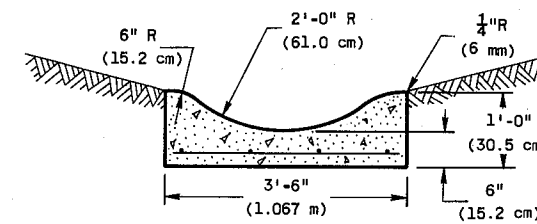


TRANSITION NO. 1

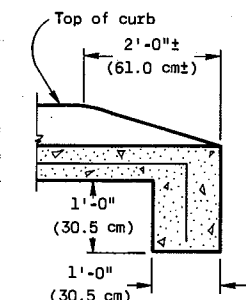
PLAN VIEW



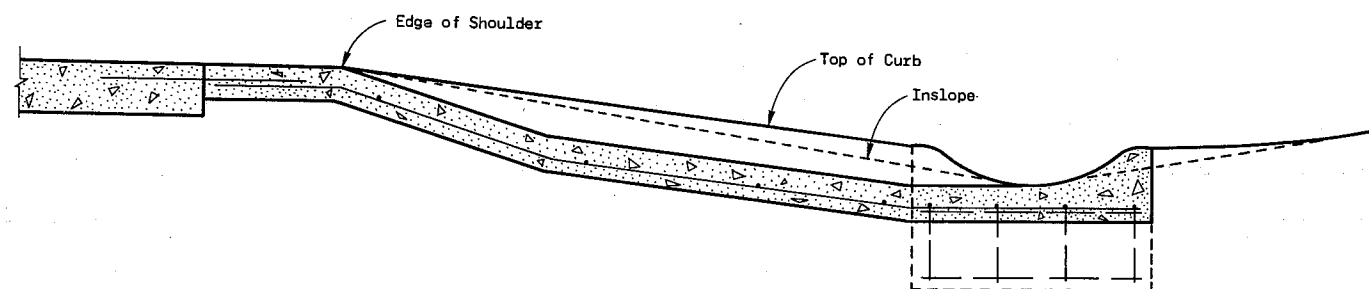
TRANSITION NO. 2



SECTION B-B



SECTION C-C

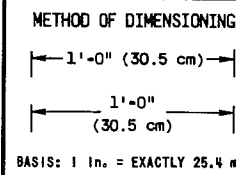


SECTION A-A

**GENERAL NOTES**

Details of construction, materials and workmanship not shown on this drawing shall conform to the pertinent requirements of the Standard Specifications and the applicable Special Provisions.

Typical design only; exact design and flume length may be modified by the Engineer to meet field conditions.



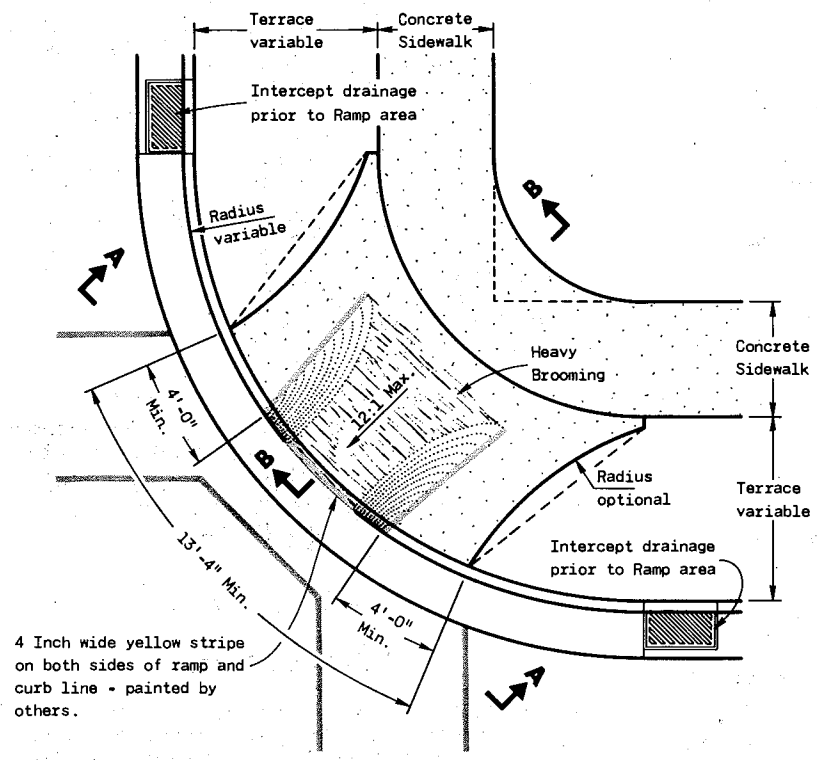
**CONCRETE SURFACE DRAIN**

State of Wisconsin  
Department of Transportation  
Division of Highways

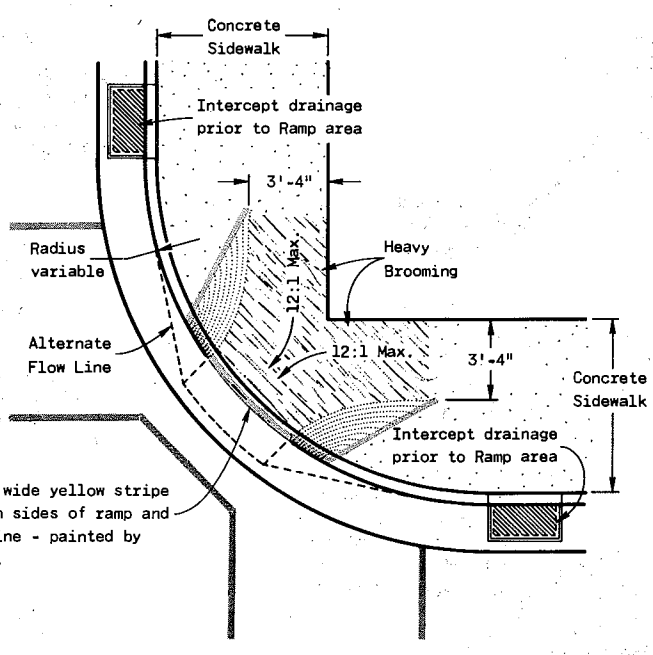
RECOMMENDED FOR APPROVAL:  
DATE 1-7-74  
APPROVED: 1-15-74  
DATE

*J. C. Hennrich*  
CHIEF OF FACILITIES DEVELOPMENT

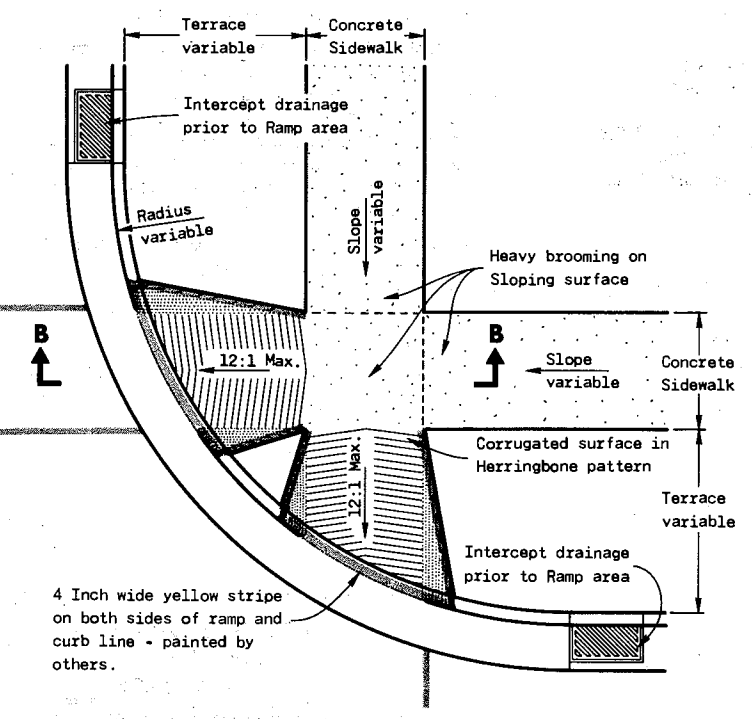
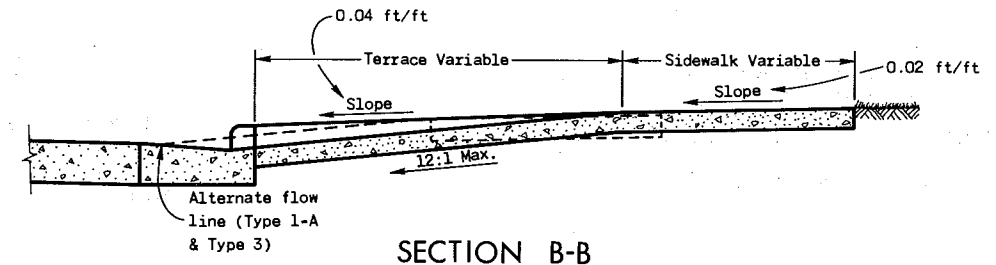
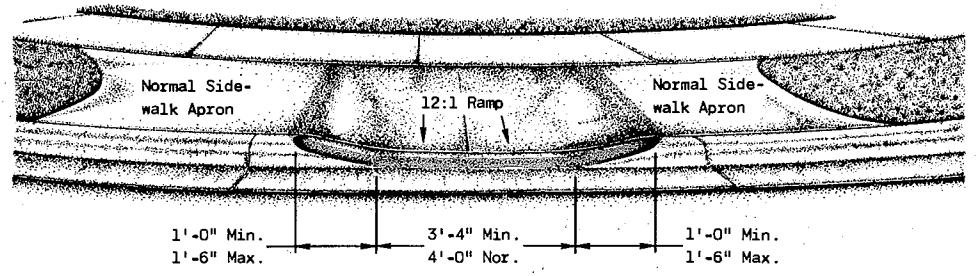
*H. J. Siedler*  
STATE HIGHWAY ENGINEER



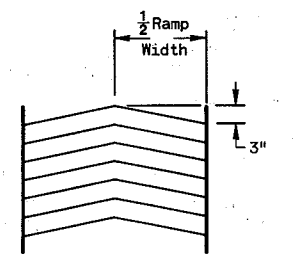
PLAN VIEW  
TYPE 1 RAMP  
(CENTER OF CORNER RADIUS)



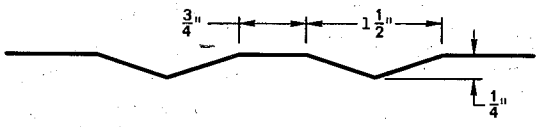
PLAN VIEW  
TYPE 1-A RAMP  
(NO TERRACE)



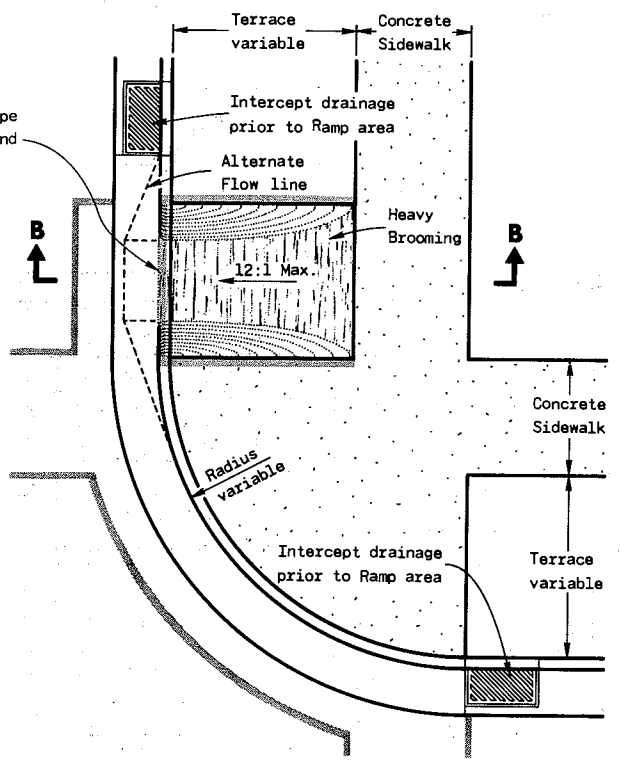
PLAN VIEW  
TYPE 2 RAMP  
(ON LINE WITH SIDEWALK)



DETAIL OF  
HERRINGBONE PATTERN



DETAIL OF  
SURFACE CORRUGATION



PLAN VIEW  
TYPE 3 RAMP  
(OUTSIDE OF CROSSWALK AREA)

**GENERAL NOTES**

Details of construction, materials and workmanship not shown on this drawing shall conform to the pertinent requirements of the Standard Specifications and the applicable Special Provisions.

Ramps shall be built at 12:1 or flatter. When necessary, the Sidewalk elevation may be lowered to meet the high point on the Ramp.

Type 1 or Type 1-A Ramps shall have a normal Sidewalk apron and Curb on both sides of Ramp. Entire Curb radius shall not be made into Ramp.

Curb Ramps shall be measured and paid for as Concrete Sidewalk and Concrete Curb and Gutter.

Section 66.616, Wisconsin Statutes requires Curb Ramping for handicapped persons. This law also states that "the Ramp shall be either bordered on both sides and the Curb line with a four inch wide yellow stripe, or the surface treatment on the Ramp shall have integral coloration".

The paint stripe alternate is shown to alert users of this drawing of the requirement for delineation of the Ramp. The paint stripes will be applied by state or municipal signing crews unless otherwise indicated by Special Provision.

**CURB RAMPS FOR  
HANDICAPPED PERSONS**

State of Wisconsin  
Department of Transportation  
Division of Highways

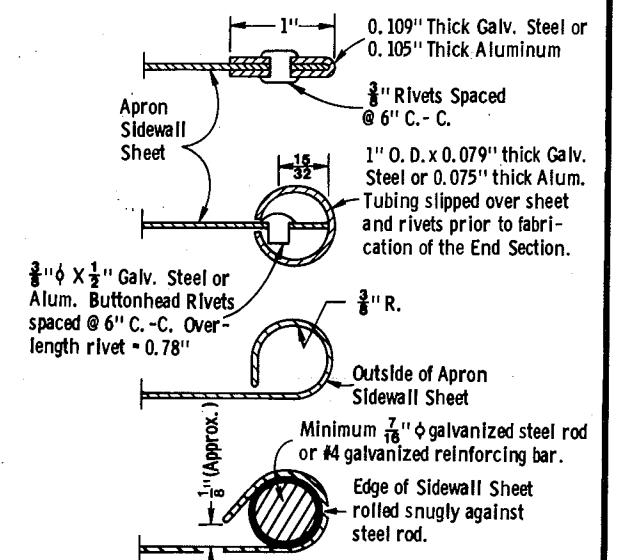
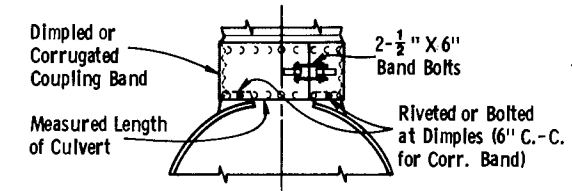
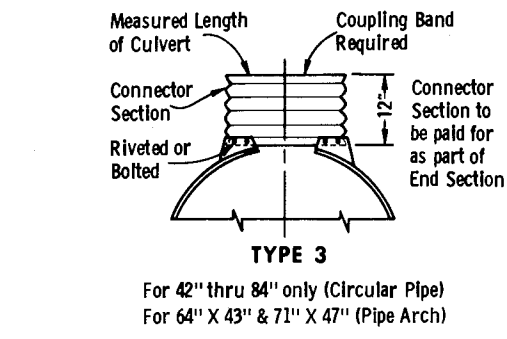
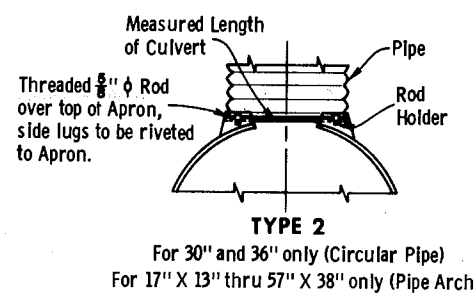
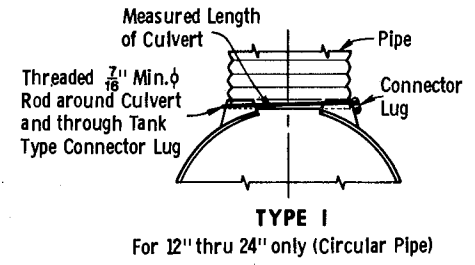
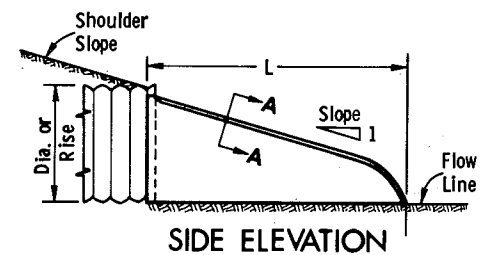
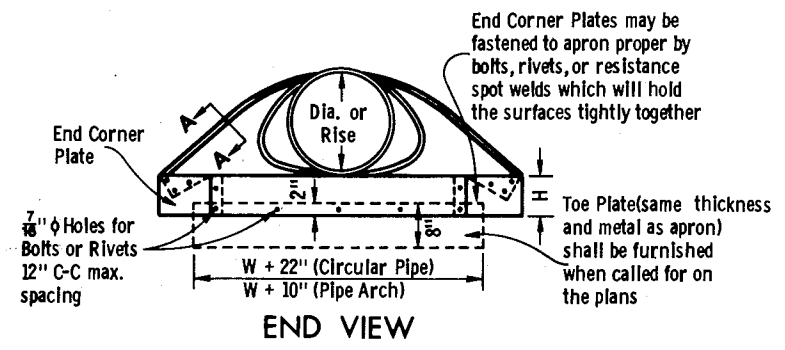
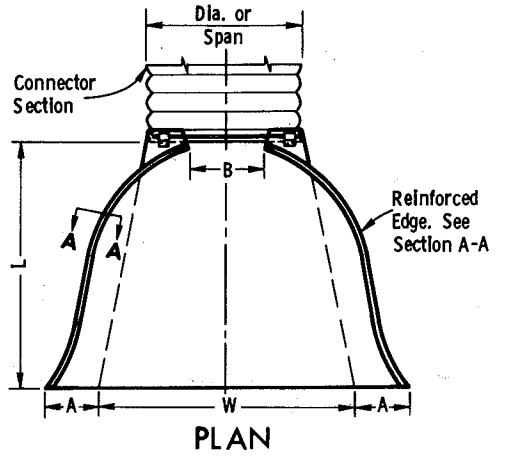
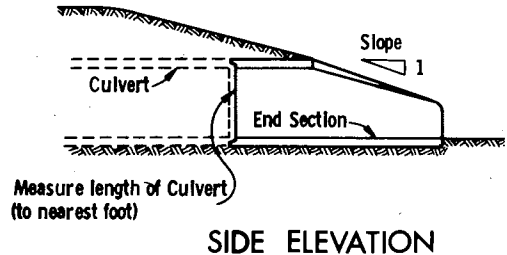
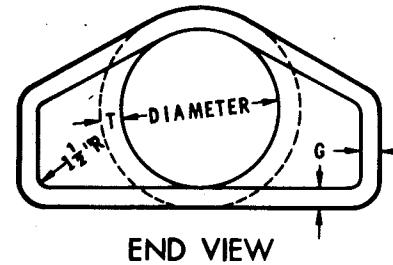
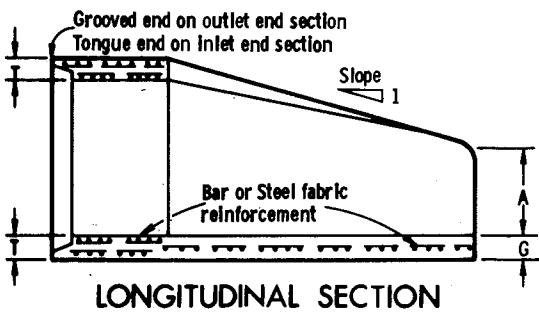
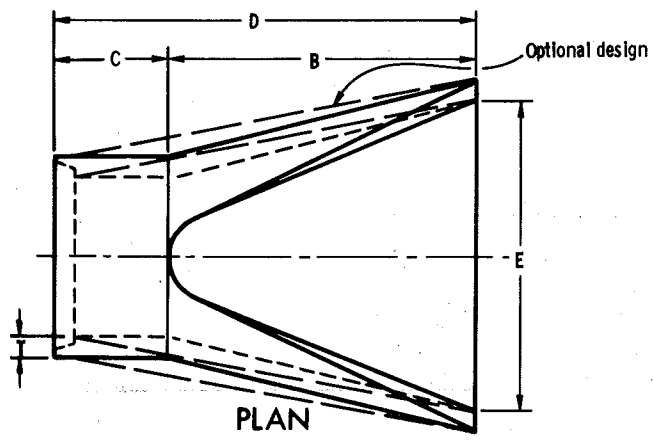
RECOMMENDED FOR APPROVAL:  
12-16-75  
DATE

APPROVED  
12-18-75  
DATE

J. C. Henning  
CHIEF OF FACILITIES DEVELOPMENT

H. S. Siedler  
STATE HIGHWAY ENGINEER

S.D.D. 8D5-2



**SECTION A-A**  
**GENERAL NOTES**

Details of construction, materials, and workmanship not shown on this drawing shall conform to the pertinent requirements of the Standard Specifications and the applicable Special Provisions.

Variations of the dimensions and designs shown hereon will be permitted providing equivalent capacity and structural integrity are attained, and prior approval of the Engineer is obtained.

Concrete culvert endwalls may not be used with galvanized steel or aluminum culvert pipe or vice versa.

Galvanized steel or aluminum endwalls shall normally be installed on culvert pipe of the same metal. The use of galvanized steel endwalls on aluminum pipes is permitted, provided the two metals at the joint interface are kept separated by a suitable insulating material approximately 1/8" thick or greater. Such material would be an asphalt impregnated fabric, a sheet plastic, a rubber gasket or other nondegradable material of substantial strength.

When two or more pipe arches with apron endwalls are to be laid adjacent to each other, they shall be separated by the following amount.

Pipes: Total width of apron endwall less the diameter of pipe plus 6 inches.

Pipe Arches: Total width of apron endwall less the span dimension of the pipe arch plus 6 inches.

DIA.	APPROX. WEIGHT/SECTION	T	A	B	C	D	E	G	APPROX. SLOPE
12"	530	2"	4"	24"	48 7/8"	72 7/8"	24"	2"	3 to 1
15"	740	2 1/2"	6"	27"	46"	73"	30"	2 1/4"	
18"	990	2 1/2"	9"	27"	46"	73"	36"	2 1/2"	
21"	1,280	2 3/4"	9"	36"	37 1/2"	73 1/2"	42"	2 3/4"	
24"	1,520	3"	9 1/2"	43 1/2"	30"	73 1/2"	48"	3"	
27"	1,930	3 1/4"	10 1/2"	49 1/2"	24"	73 1/2"	54"	3 1/4"	
30"	2,190	3 1/2"	12"	54"	19 3/4"	73 3/4"	60"	3 1/2"	
36"	4,100	4"	15"	63"	34 3/4"	97 3/4"	72"	4"	
42"	5,380	4 1/2"	21"	63"	35"	98"	78"	4 1/2"	
48"	6,550	5"	24"	72"	26"	98"	84"	5"	3 to 1
54"	8,040	5 1/2"	27"	65"	33 1/2" - 35"	98 1/2" - 100"	90"	5"	2 1/2 to 1
60"	8,730	6"	30" - 35"	60"	39"	99"	96"	5"	2 to 1
66"	10,630	6 1/2"	30" - 35"	72" - 78"	21" - 27"		102"	5 1/2"	
72"	12,520	7"	36" - 36"	78"	21"		108"	6"	
78"	14,430	7 1/2"	36" - 36"	78"	21"	99"	114"	6 1/2"	2 to 1
84"	18,160	8"	36"	90 1/2"	21"	111 1/2"	120"	6 1/2"	1 1/2 to 1

\*\* Minimum  
\* Maximum  
**REINFORCED CONCRETE APRON ENDWALLS**

D PIPE DIAM.	MIN. METAL THICKNESS	MIN. ALUM.	DIMENSIONS					APPROX. SLOPE
			A ± 1"	B MAX. ± 1"	H ± 1 1/2"	L ± 2"	W ± 2"	
12"	0.064	0.060	6"	6"	6"	21"	24"	2 1/2 to 1
15"			7"	8"		26"	30"	
18"			8"	10"		31"	36"	
21"		0.060	9"	12"		36"	42"	
24"	0.064	0.075	10"	13"	6"	41"	48"	
30"	0.079	0.075	12"	16"	8"	51"	60"	
36"	0.079	0.105	14"	19"	9"	60"	72"	
42"	0.109		16"	22"	11"	69"	84"	2 1/2 to 1
48"			18"	27"	12"	78"	90"	2 1/4 to 1
54"		0.105	30"			84"	102"	2 to 1
60"		NA	33"			87"	114"	1 3/4 to 1
66"			36"			87"	120"	1 1/2 to 1
72"			39"			87"	126"	1 1/2 to 1
78"			42"			87"	132"	1 1/4 to 1
84"	0.109	NA	45"	12"		87"	138"	1 1/8 to 1

NOTE: All splices to be lap riveted or bolted  
**METAL OR ALUMINUM APRON ENDWALLS FOR CIRCULAR PIPES**

PIPE - ARCH DIMENSIONS SPAN	RISE	MIN. METAL THICK.	DIMENSIONS					APPROX. SLOPE
			A ± 1"	B MAX. ± 1"	H ± 1 1/2"	L ± 2"	W ± 2"	
17"	13"	0.064	7"	9"	6"	19"	30"	2 1/2 to 1
21"	15"		7"	10"		23"	36"	
24"	18"		8"	12"		28"	42"	
28"	20"	0.064	9"	14"		32"	48"	
35"	24"	0.079	10"	16"	6"	39"	60"	
42"	29"	0.079	12"	18"	8"	46"	75"	
49"	33"	0.109	13"	21"	9"	53"	85"	
57"	38"		18"	26"	12"	63"	90"	2 1/2 to 1
64"	43"		18"	30"	12"	70"	102"	2 1/4 to 1
71"	47"		18"	33"	12"	77"	114"	2 1/4 to 1
77"	52"		18"	36"	12"	77"	126"	2 to 1
83"	57"	0.109	18"	39"	12"	77"	138"	2 to 1

NOTE: All splices to be lap riveted or bolted  
**METAL APRON ENDWALLS FOR PIPE ARCHES**

**TYPE 5**  
Alternate for  
All sizes Corrugated Circular Pipe and Pipe Arch

NOTE: Dimpled Band fits over Outside of Endwall, and Corr. Band fits Inside Endwall. Dimpled Band may be used with Helically Corrugated Pipe

**CONNECTION DETAILS**

**CIRCULAR PIPE**  
For Circumferentially Corrugated Pipe use Endwall Connection Details 1, 2, 3, or 5 as applicable.

For Helically Corrugated Pipe use Endwall Connection Details 1, 2 or 5.

For Helically Corrugated Pipes with two Circumferential Corrugations at each end use Endwall Connection Details 1, 2, or 3

**PIPE ARCH**  
Use Endwall Connection Details 2, 3, or 5 as applicable.

**APRON ENDWALLS FOR CULVERT PIPE AND PIPE ARCH**

State of Wisconsin  
Department of Transportation  
Division of Highways

RECOMMENDED FOR APPROVAL:  
7-29-75  
DATE  
J. E. [Signature]  
CHIEF OF FACILITIES DEVELOPMENT

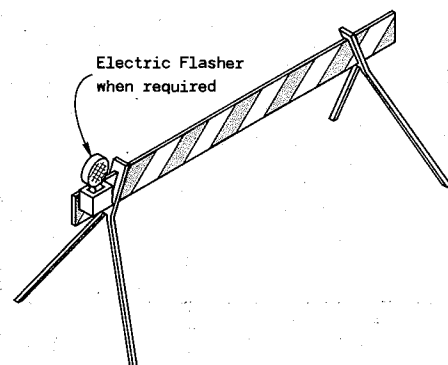
APPROVED:  
7-29-75  
DATE  
[Signature]  
STATE HIGHWAY ENGINEER

S.D.D. 8F1-6

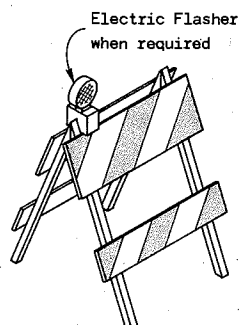
TABLE OF BARRICADE CHARACTERISTICS

BARRICADE TYPE	I	II	III
Height	3'(91.4 cm) Min.		5'(152.4 cm) Min.
* Rail Width	8"(20.3 cm) Min. to 12"(30.5 cm) Max.		
Rail Length	2'(61.0 cm) Min. to Variable Maximum		
** Stripe Width	6" (15.2 cm) at 45° Angle		
Stripe Colors	Reflectorized Orange & White		

\* Nominal dimensions when barricade is constructed of lumber.  
 \*\* May be 4"(10.2 cm) for rail lengths less than 3'(91.4 cm).



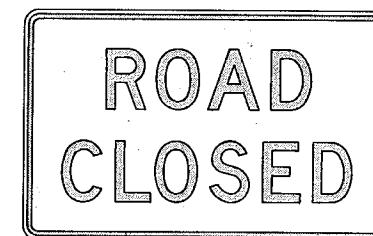
TYPICAL TYPE I BARRICADE



TYPICAL TYPE II BARRICADE

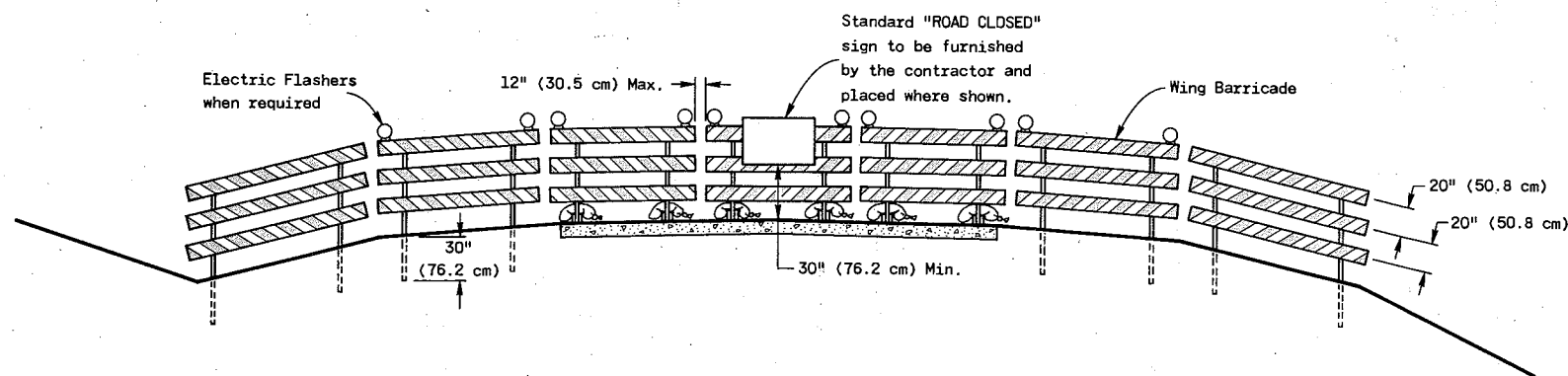


**W20-3**  
 48"(121.9 cm) x 48"(121.9 cm)  
 Black Lettering on Reflective Orange Background  
 Letter Series "D"  
 Letter height 7" (17.8 cm)



**R11-2**  
 48"(121.9 cm) x 30"(76.2 cm)  
 Black Lettering on Reflective White Background  
 Letter Series "D"  
 Letter height 8" (20.3 cm)

STANDARD SIGNS-TYPE II



TYPICAL INSTALLATION SHOWING TYPE III BARRICADE

CONSTRUCTION BARRICADES

**GENERAL NOTES**

The contractor shall furnish, erect and maintain Barricades and Signs. Details regarding location, spacing, dimensions, fabrication, material, sign lettering, lighting devices and color of Barricades and Signs shall conform to this drawing, the Wisconsin Manual on Uniform Traffic Control Devices, the Standard Specifications, Special Provisions and/or plans.

Type III Barricades and Signs shall be erected at the termini of projects and at other road or street locations where it is necessary to control or eliminate public access to the construction area.

Type I and II Barricades shall be used on projects when traffic is to be maintained through the construction area.

The actual field location of barricade installations and advance signs shall be as directed by the Engineer.

**CONSTRUCTION BARRICADES & STANDARD SIGNS**

State of Wisconsin  
 Department of Transportation  
 Division of Highways

RECOMMENDED FOR APPROVAL:

6-6-75  
 DATE

*J. C. Hermal*  
 CHIEF OF FACILITIES DEVELOPMENT

APPROVED

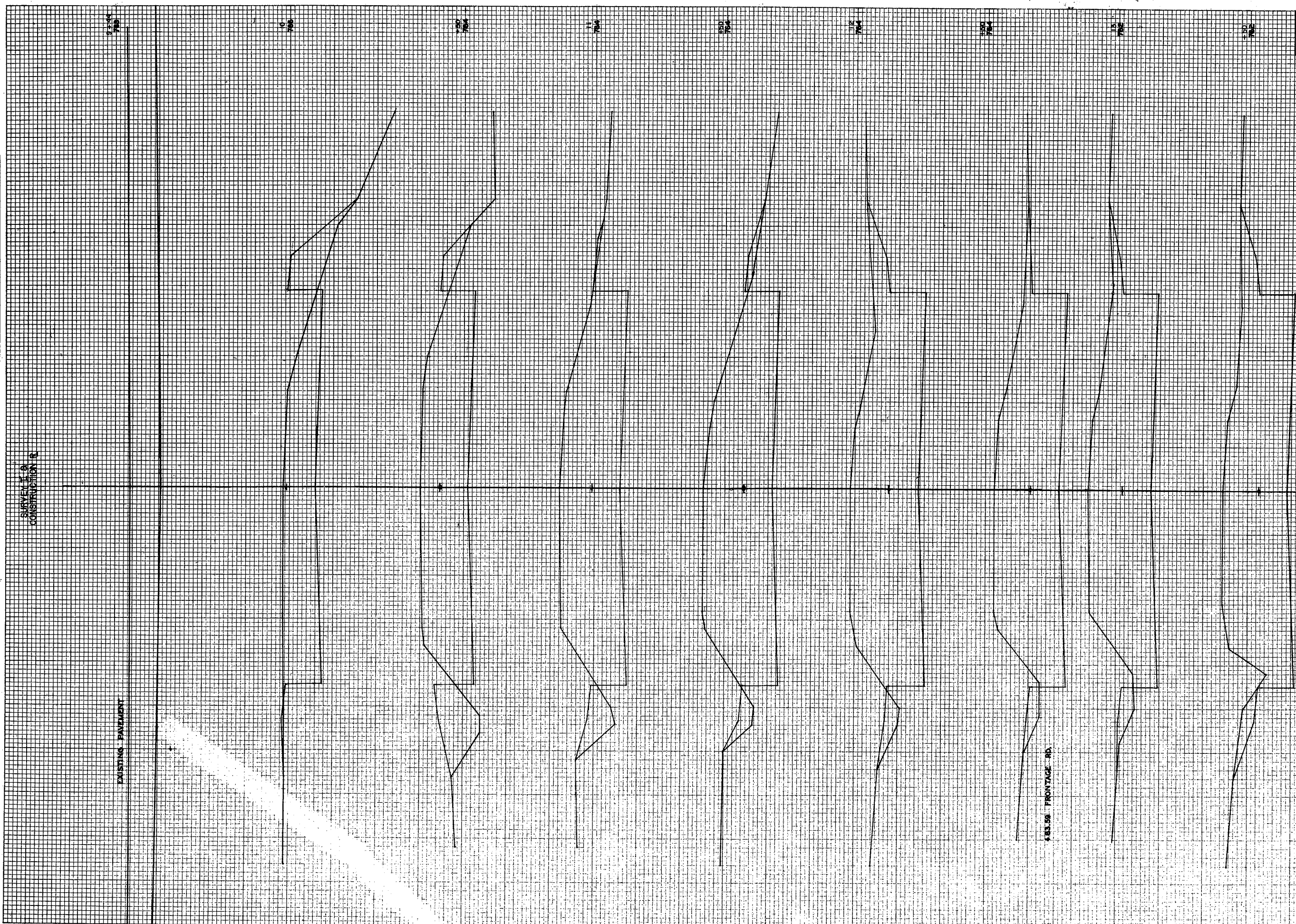
6-6-75  
 DATE

*W. J. Sudler*  
 STATE HIGHWAY ENGINEER

NOTE BOOK TEMPLATE  
 AREA CHECKED  
 NO.

NOTE BOOK TEMPLATE  
 AREA CHECKED  
 NO.

S.P.R. DISTRICT OFFICE	PROJECT	SHEET NO.	TOTAL SHEETS
WIS, 4	4992-0-11	8	

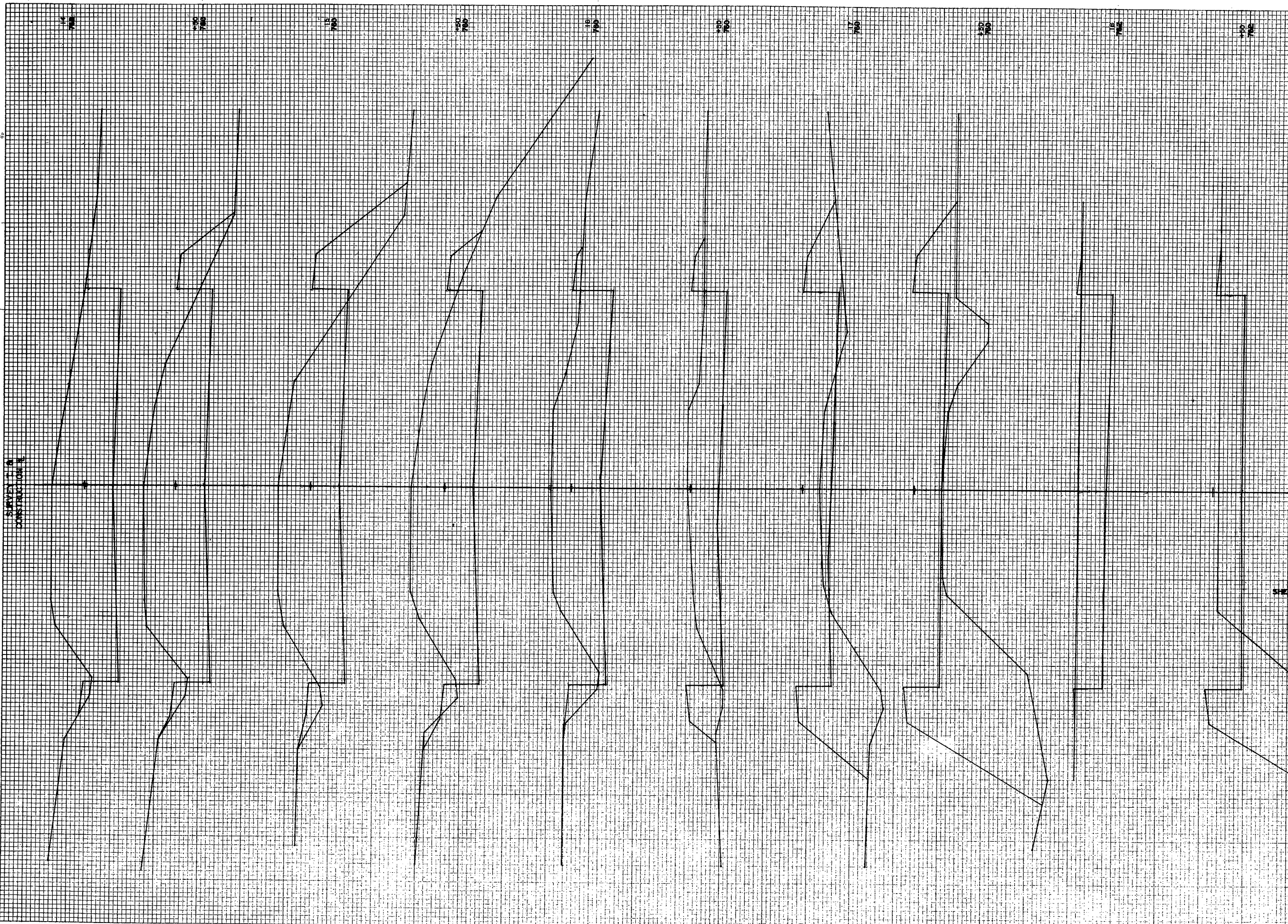


STATION	DISTANCE	EXCAVATION	
		DIRL	FILL
9			
10			
10+44			
10+66	180		15
10+76			
10+80	127		21
10+90			
10+96	142		16
11+06			
11+06	132		6
11+10			
11+20	242		5
11+22			
11+26	242		3
11+30			
11+30	236		5
11+33			
11+33	233		5
11+36			
11+36	221		1
11+44			
	1797		78



B.P.R. DISTRICT OFFICE	PROJECT	SHEET NO.	TOTAL SHEETS
WIS. 4	4992-0-11	8.1	

STATION	DISTANCE	YARDAGE	
		EXCAVATION	FILL
14	50	199	12
+50	50	193	36
15	50	192	31
+50	50	175	3
16	50	193	14
+50	50	31	37
17	50	10	125
+50	50	58	98
18	50	93	95
+50			
SHEET TOTAL		1114	427



FINAL SURVEY BY DATE  
 SURVEYED PLOTTED  
 NOTE BOOK TEMPLATE  
 NO. AREAS CHECKED

ORIGINAL SURVEY BY DATE  
 SURVEYED PLOTTED  
 NOTE BOOK TEMPLATE  
 NO. AREAS CHECKED

8 P.R. DISTRICT OFFICE	PROJECT	SHEET NO.	TOTAL SHEETS
WIS 4	4992-0-11	8.2	

STATION	YARDAGE	
	DISTANCE	EXCAVATION
	LINEAL	CUBIC
18		
+4.50	50' 37"	25
19	60' 48"	30
+4.50	50' 134"	22
20	50' 204"	3
+4.50	50' 236"	2
21	50' 225"	1
+4.50	60' 309"	2
22	50' 213"	4
+4.50	50' 226"	3
23	50' 225"	1
+4.50		
TOTAL	1755	243

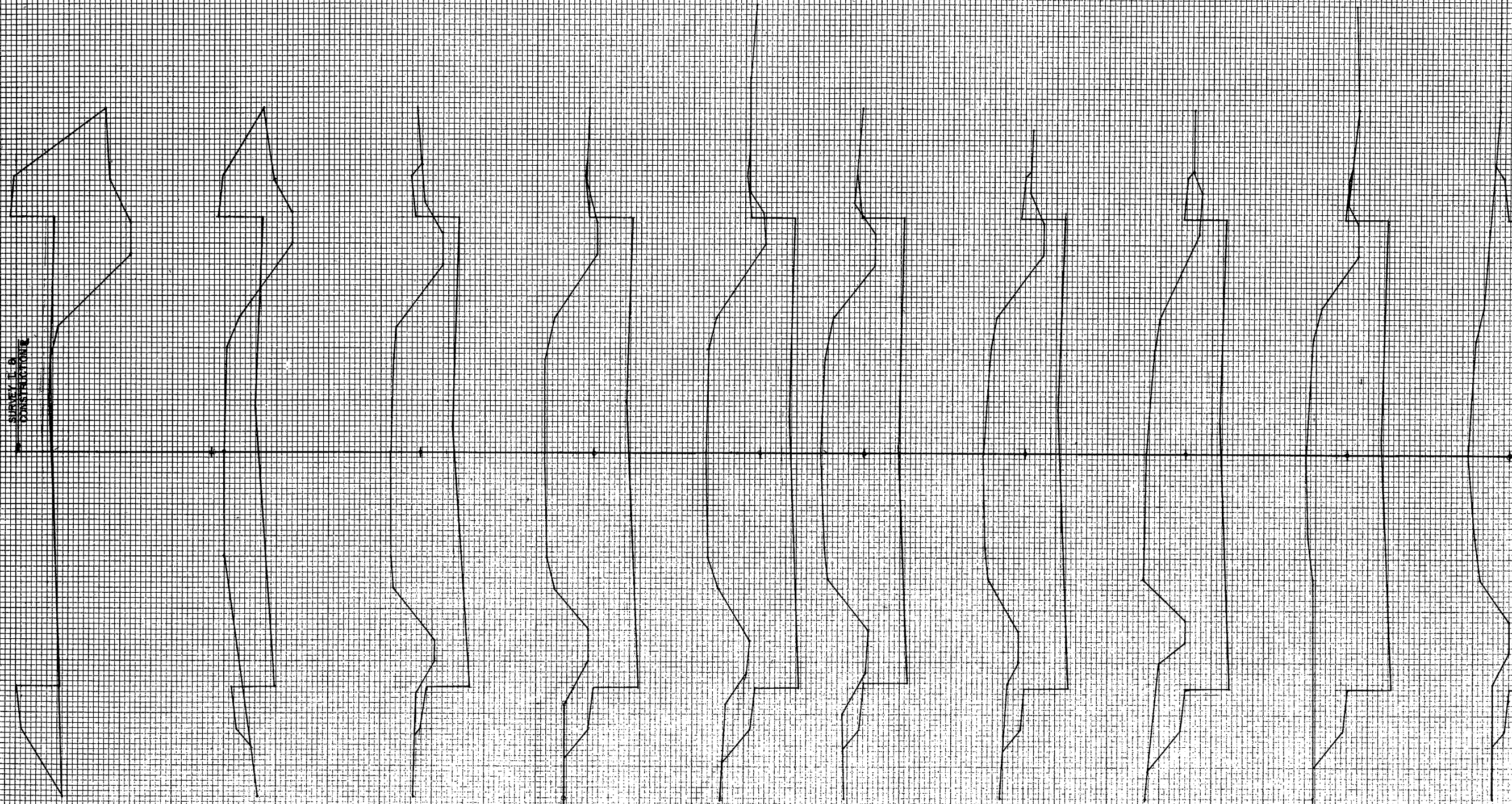
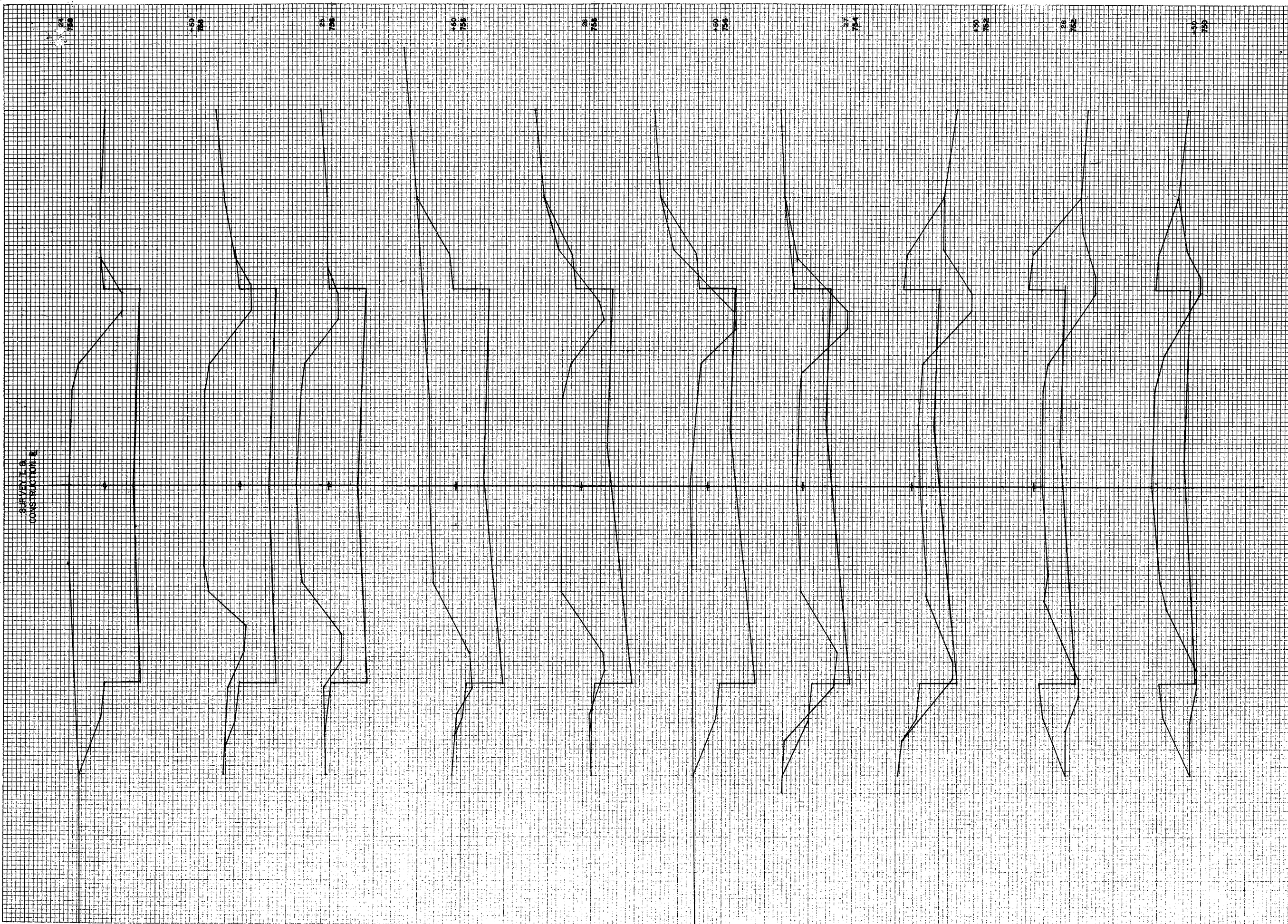


PLATE NO. 1  
 DATE 11/1/51  
 NOTE BOOK NO. 1  
 AREA CHECKED

PLATE NO. 2  
 DATE 11/1/51  
 NOTE BOOK NO. 2  
 AREA CHECKED

8 PR. DISTRICT OFFICE	PROJECT	SHEET NO.	TOTAL SHEETS
WIS. 4	4882-0-11	83	

STATION	YARDAGE	
	EXCAVATION	FILL
23		
+30		
50'	230	1
24		
50'	229	2
+30		
50'	204	2
25		
50'	211	2
+50		
50'	192	4
26		
50'	166	5
+50		
50'	155	1
27		
50'	71	35
+50		
50'	43	45
28		
50'	70	51
+50		
TOTAL	1563	169



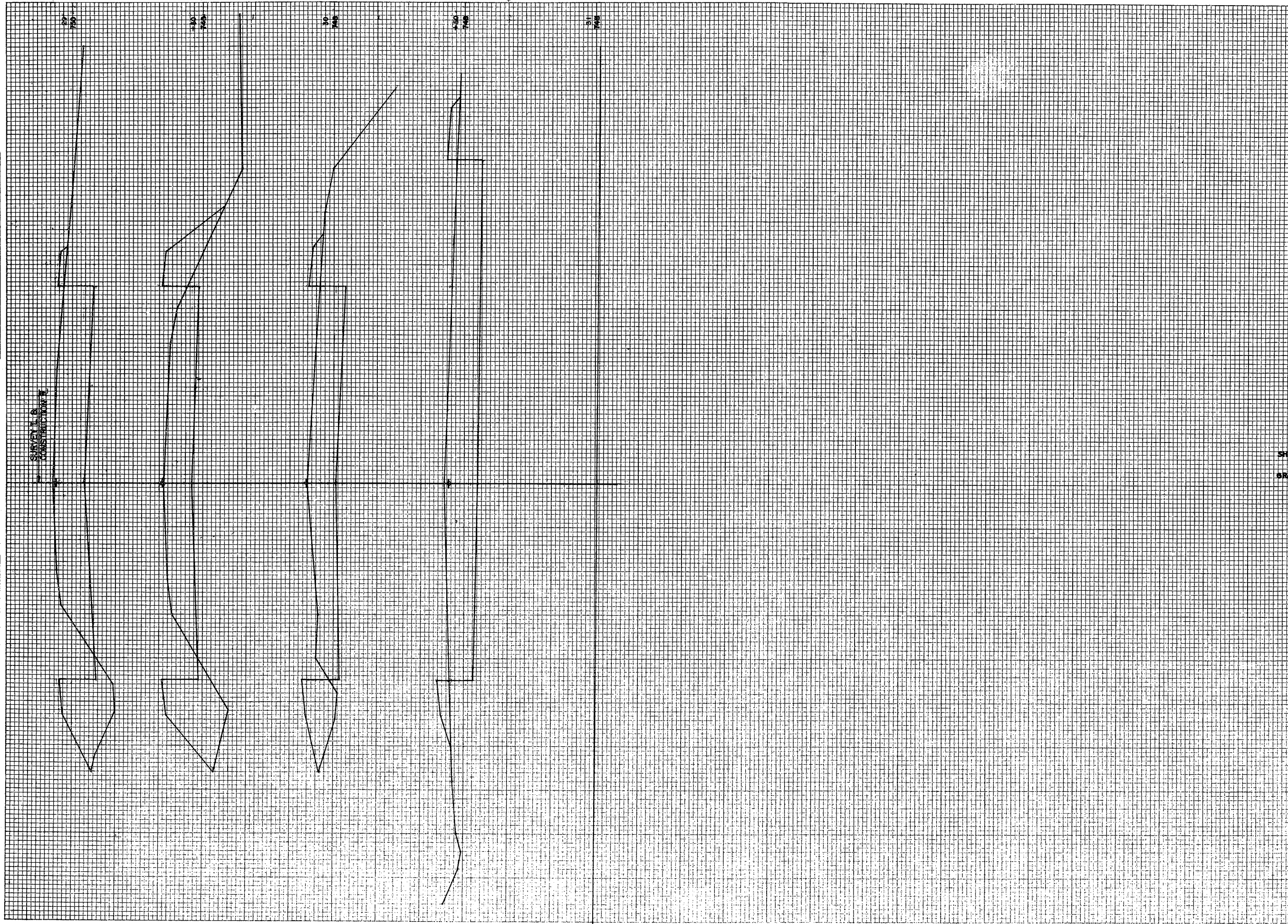
FINAL SURVEY  
 SURVEYED  
 PLOTTED  
 TEMPLATE  
 AREAS CHECKED  
 DATE  
 BY

ORIGINAL SURVEY  
 SURVEYED  
 PLOTTED  
 TEMPLATE  
 AREAS CHECKED  
 DATE  
 BY

SURVEY LINE  
 CONSTRUCTION

NOTE: BOOLE TEMPLATE AREAS CHECKED

NOTE: BOOLE TEMPLATE AREAS CHECKED



B RR. DISTRICT OFFICE	PROJECT	SHEET NO.	TOTAL SHEETS
WIS.	4992-0	84	

STATION	DISTANCE	YARDAGE	
		EXCAVATION	FILL
26			
+50			
50	66		26
20			
50	112		46
+50			
50	96		41
30			
50	124		19
+50			
50	162		4
+50			
SHEET TOTAL	812		145
GRAND TOTAL	8,544		1,042