

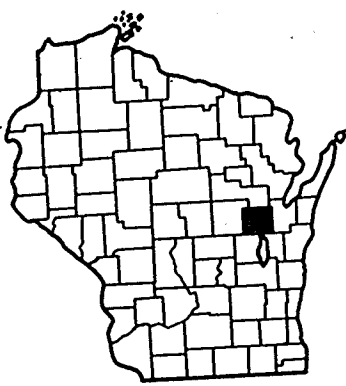
N-3

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
4989-0-02	M 1209(001)	1

Index of Sheets

Sheet No.	1	Title
Sheet No.	2-2.1	Typical Cross Sections
Sheet No.	3	Estimate of Quantities
Sheet No.	3A	Miscellaneous Quantities
Sheet No.	4-4.1	Right of Way Plat
Sheet No.	5-5.5	Plan and Profile
Sheet No.	6-6.12	Standard Details
Sheet No.	-	Structure Plans
Sheet No.	-	Computer Earthwork Data
Sheet No.	8-8.9	Cross Sections

TOTAL SHEETS = 36



Design Designation (C.T.H. "N")

	RURAL	URBAN
A.D.T. (1978)	11,224	11,224
A.D.T. (1998)	13,464	13,464
D.H.V. (TWO WAY)	1,481	1,481
D.	55 %	55 %
T.	3.5 %	3.5 %
V.	50 MPH	25 MPH

Conventional Signs

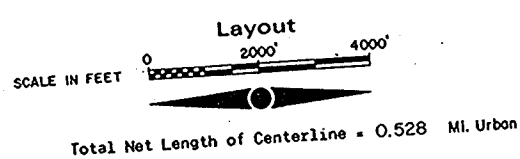
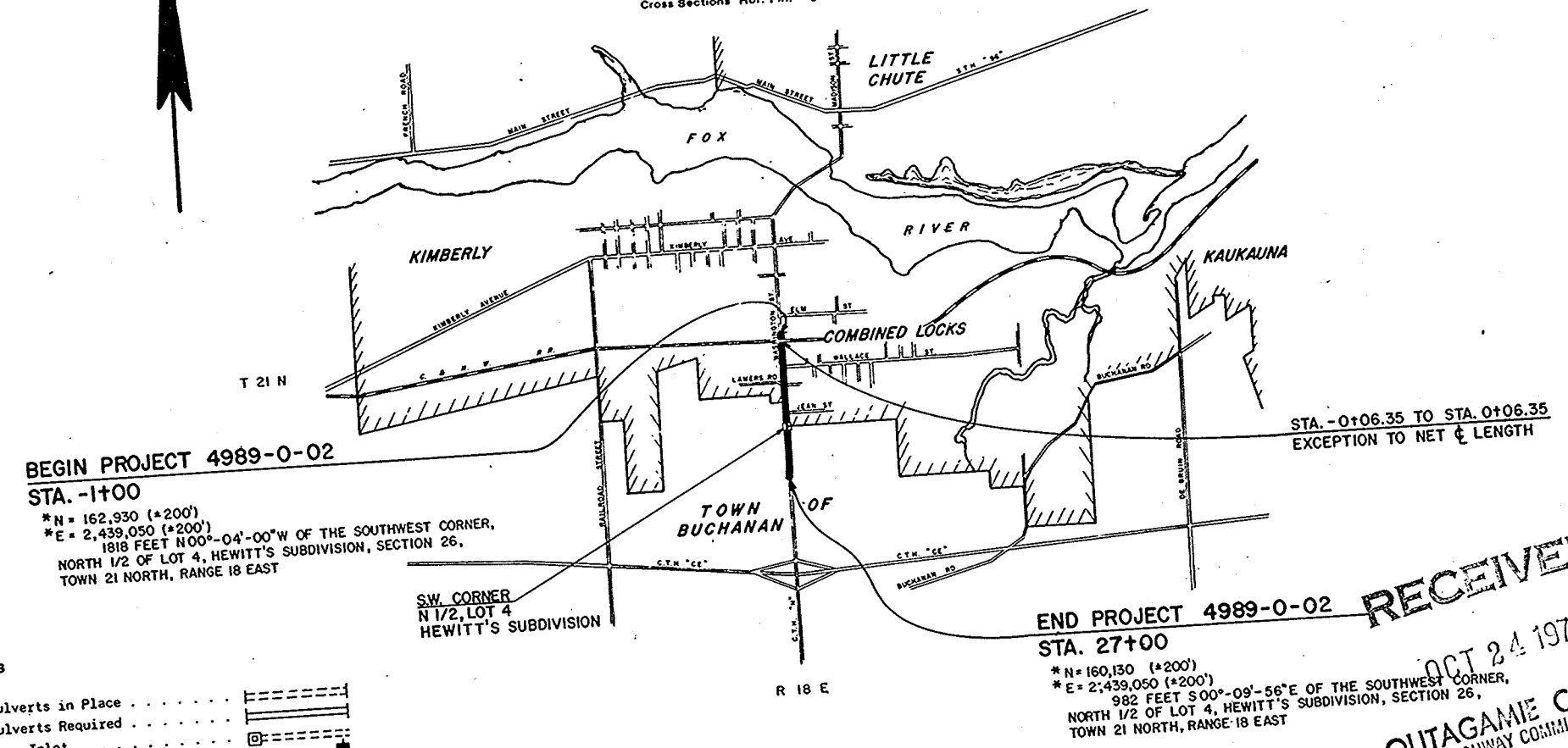
County Line	-----	Culverts in Place	-----
Township or Range Line	-----	Culverts Required	-----
Section Line	-----	Drop Inlet	-----
New Right of Way Line	-----	Power Pole	-----
Present Right of Way Line	-----	Telephone or Telegraph Pole	-----
Wire Fence	-----	Right of Way Markers	-----
Corporate or City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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PLAN AND PROFILE OF PROPOSED
WASHINGTON STREET, KIMBERLY & COMBINED LOCKS
(C. & N.W. R.R. TRACKS - C.T.H. "CE")
C.T.H. "N"
OUTAGAMIE COUNTY

STATE PROJECT NUMBER
4989-0-02

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



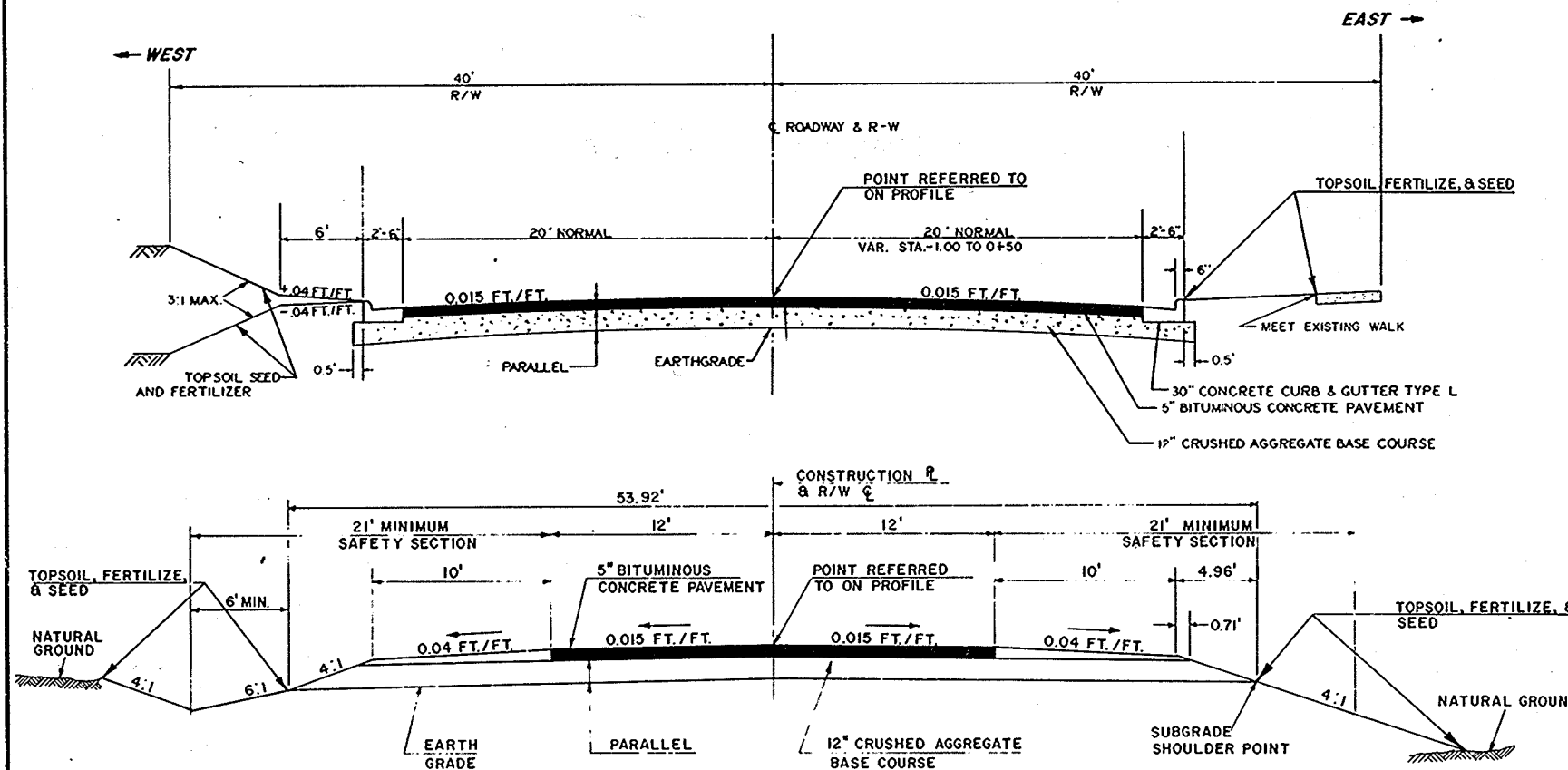
RECEIVED
OCT 24 1978
OUTAGAMIE COUNTY
HIGHWAY COMMISSION

* SCALED FROM U.S.G.S. TOPOGRAPHIC MAPS,
APPLETON, WI, FOR IDENTIFICATION
ONLY

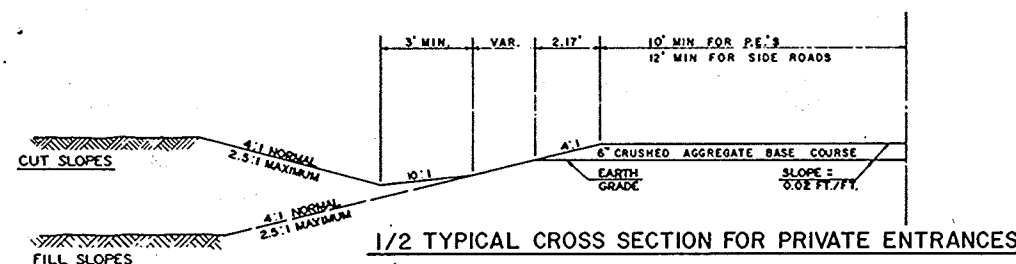
APPROVED FOR OUTAGAMIE COUNTY	
<i>Michael M. Madsen</i>	
Date: 3-15-78 Title: _____	
ORIGINAL PLANS PREPARED BY McMAHON ASSOCIATES, INC.	
DATE: 3-15-78 Benjamin J. Cooperman, Jr.	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS	
Surveyor: _____	District Checker: W.P.W.
Designer: _____	C.O. Checker: R.A.H.
District Supervisor: J.E.F.	C.O. Monitor: _____
Correct: _____	
Date: 3/24/78	District Engineer: _____
Recommended for Approval: _____	
Date: 8-29-78	Chief of Facilities Development: _____
Approved: _____	
Date: 9-5-78	State Highway Engineer: _____
U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION REGION 5 WISCONSIN DIVISION	
Approved: _____	
Date: _____	Division Engineer: _____

"187" 77

TYPICAL CROSS SECTION FOR URBAN AREA
STA. -1+00 to STA. 17+20



TYPICAL CROSS SECTION FOR RURAL AREA
STA. 17+20 to STA. 27+00



STANDARD ABBREVIATIONS

P.I.	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.P.A.	CORRUGATED METAL PIPE ARCH
F.L.	FLOW LINE
M.H.	MAN HOLE
P.E.	PRIVATE ENTRANCE
R.C.P.	REINFORCED CONCRETE PIPE
R/W	RIGHT OF WAY LINE
T/C	TOP OF CURB
R.	RADIUS

GENERAL NOTES

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

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 MOVE ALL PRIVATELY OWNED FACILITIES WHICH INTERFERE WITH THE NEW WORK.

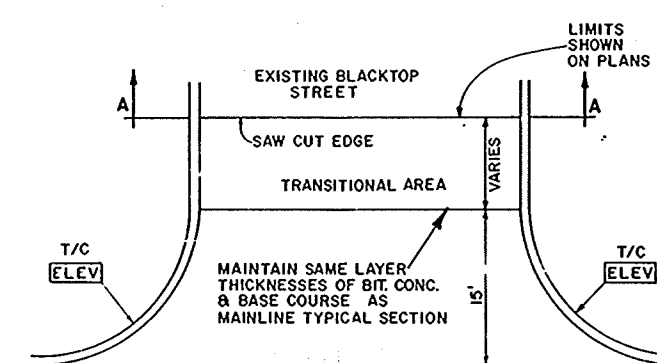
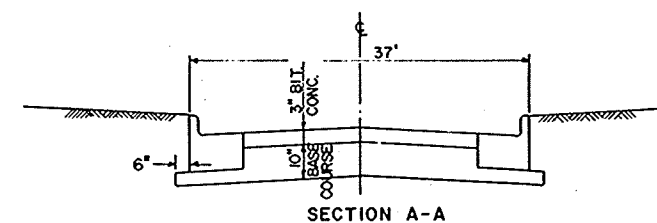
WHEN THE QUANTITY OF THE ITEMS OF BASE OR SURFACE COURSE ARE MEASURED FOR PAYMENT BY THE TON THE DEPTH OR THICKNESS OF THE COURSE SHOWN ON THE PLAN IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIALS AS DIRECTED BY THE ENGINEER.

ALL DISTURBED AREAS SHALL HAVE A MINIMUM OF 4" TOPSOIL SEEDED AND FERTILIZED. SEED MIXTURE NO. 4 SHALL BE USED IN THE URBAN AREA (STA. -1+00 TO STA. 17+20). SEED MIXTURE NO. 3 SHALL BE USED IN THE RURAL AREA (STA. 17+20 TO STA. 30+00) OR AS DIRECTED BY THE ENGINEER.

INLET AND DISCHARGE ELEVATIONS FOR DRAINAGE STRUCTURES SHOWN ARE APPROXIMATE AND SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
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.
DISTURBED DRIVEWAYS ARE TO BE REPLACED IN KIND.

STANDARD DETAIL DRAWINGS

CATCH BASIN, MANHOLE & INLET COVERS	8A5-3a
CATCH BASINS, TYPE 1 & 2	8A6-2
MANHOLES, TYPE 1	8B6-2
INLETS, TYPE 1 & 2	8C1-3
CONCRETE CURB, CONCRETE CURB & GUTTER, OR INTEGRAL CURB	8D1-3
CONCRETE SURFACE DRAIN	8D4-1
CURB RAMPS FOR HANDICAPPED PERSONS	8D5-4
CONCRETE MASONRY ENDWALLS (CIRCULAR PIPE & PIPE ARCHES)	8E6-3
APRON ENDWALLS FOR CULVERT PIPE AND PIPE ARCH	8F1-8
PAVEMENT DETAILS FOR RAILROAD APPROACH	13B1-2
CONSTRUCTION BARRICADES AND STANDARD SIGNS	15C1-5
LANDMARK REFERENCE MONUMENTS	16A1-2
INLETS, TYPE 3	8C2-3



UTILITIES LOCATED WITHIN THIS PROJECT

WISCONSIN - ELECTRIC POWER COMPANY
807 SOUTH ONEIDA STREET, APPLETON
414 - 734 - 1411, ROBERT JACOBS

FOX CITIES COMMUNICATIONS, INC.
1620 SOUTH LAWE STREET, APPLETON
414 - 731-3272, ED ROGAN

WISCONSIN GAS COMPANY
150 WISCONSIN AVENUE, KAUKAUNA
414 - 766 - 3551, RAY JEDWABNY

WISCONSIN TELEPHONE COMPANY
114 E. COLLEGE AVENUE, APPLETON
414 - 739 - 8867, JAMES BROPHY

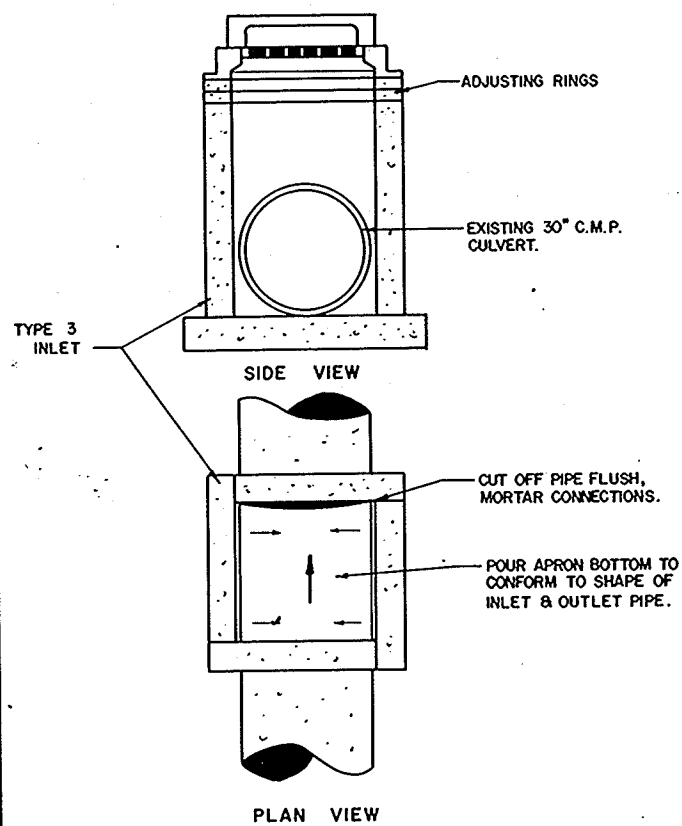
C & NW TRANSPORTATION COMPANY
200 DOUSMAN STREET, GREEN BAY
414 - 432 - 3104, L.G. TIEMAN

VILLAGE OF COMBINED LOCKS - DEPT OF PUBLIC WORKS
405 WALLACE STREET, COMBINED LOCKS
414 - 788 - 9022, WILLIAM DE GOEY

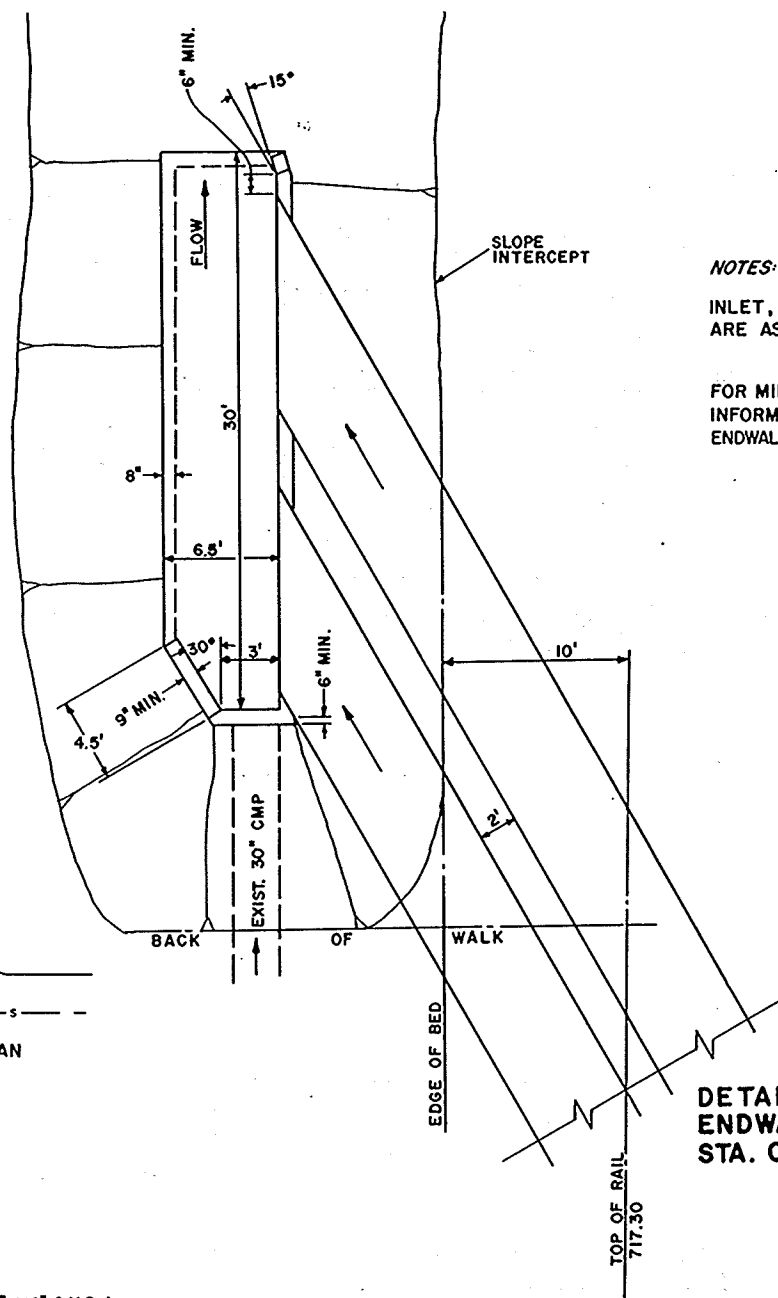
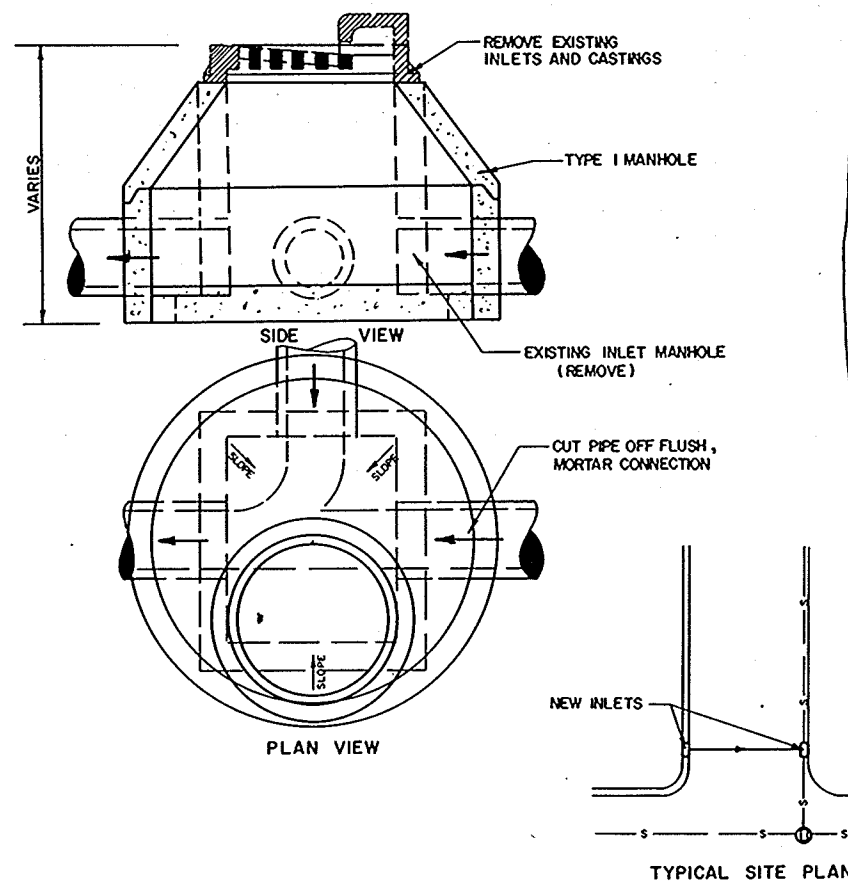
VILLAGE OF KIMBERLY - WATER WORKS DEPT.
404 N. JOHN STREET, KIMBERLY
414 - 788 - 3412, DENNIS VANDER BLOEMEN

VILLAGE OF KIMBERLY - DEPT. OF PUBLIC WORKS.
426 W. KIMBERLY AVE, KIMBERLY
414 - 734 - 8224, TOM ROVERS

**TYPICAL INSTALLATION OF INLETS
AT STA. 0+20
(STRUCTURES NO. 1&3)**



**TYPICAL STORM MANHOLE WHERE INLETS ARE REMOVED.
(STRUCTURES NO. 7, 11, 14 AND 18)**

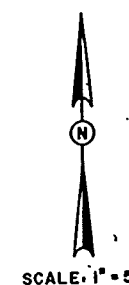
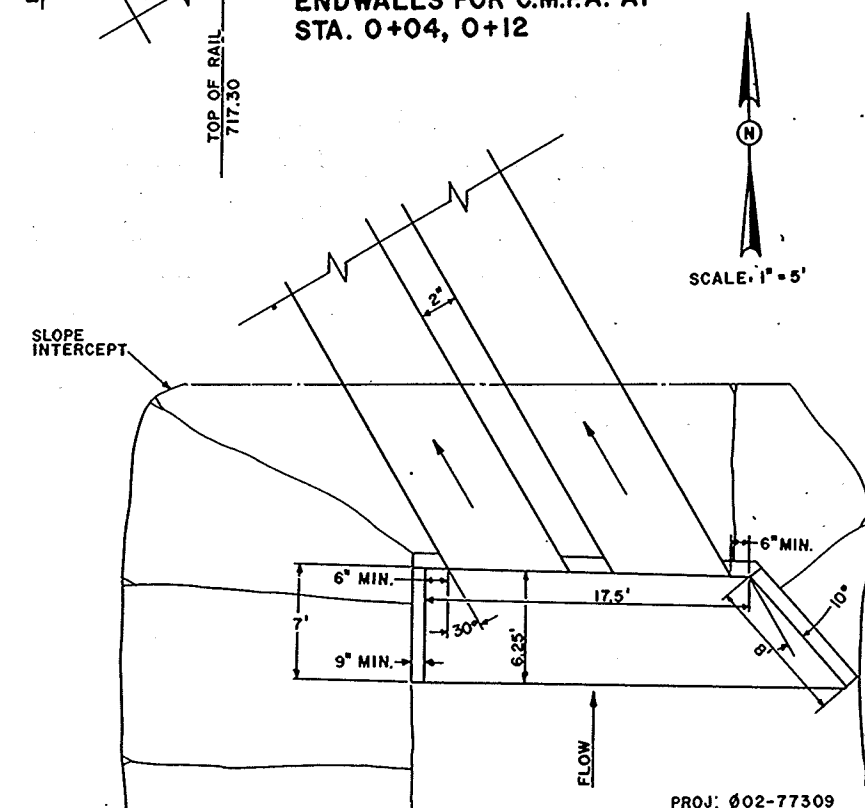


NOTES:

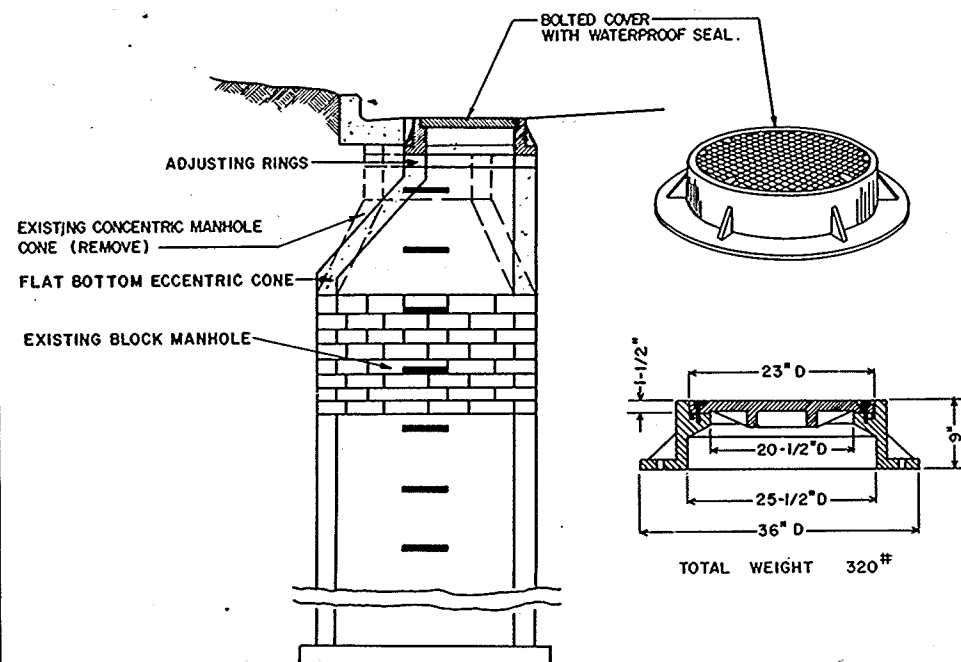
INLET, CATCH BASIN AND MANHOLE DIMENSIONS NOT SHOWN ARE AS SHOWN ON THE STANDARD DETAIL DRAWINGS

FOR MINIMUM CLEARANCES, DIMENSIONS, REINFORCING, AND INFORMATION NOT SHOWN HERE, SEE S.D.D. "CONC. MASONRY, ENDWALLS".

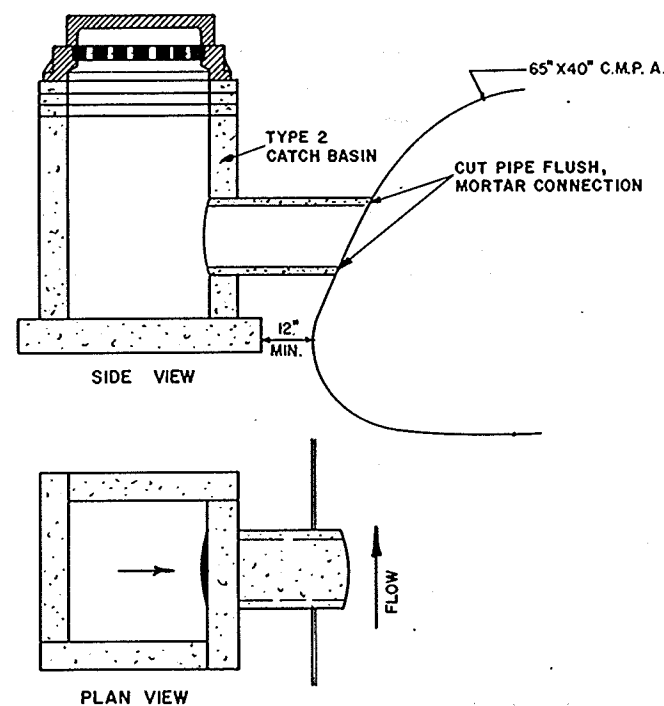
**DETAIL OF CONCRETE MASONRY
ENDWALLS FOR C.M.P.A. AT
STA. 0+04, 0+12**



**TYPICAL SANITARY MANHOLE RECONSTRUCTION
(STRUCTURES NO. 20S, 21S, 22S, 23S AND 24S)**



**TYPICAL INSTALLATION OF CATCH BASINS
AT STA. 0+30
(STRUCTURES NO. 2 AND 4)**



ESTIMATE OF QUANTITIES

CONTRACT NO. 1 (4989-0-02)
GRADING, BASE AND SURFACE
(BITUMINOUS CONCRETE)

STATE PROJECT NUMBER

4989-0-02

SHEET NO.

3

CONTRACT	STATION TO STATION	NET LENGTH OF CENTER LINE	REMOVING OLD CULVERT, STATION 0+37	REMOVING CURB AND GUTTER	REMOVING INLETS	UNCLASSIFIED EXCAVATION	CRUSHED AGGREGATE BASE COURSE	BITUMINOUS CONCRETE PAVEMENT	BITUMINOUS MATERIAL FOR SURFACE COURSE	CONCRETE SURFACE DRAINS	CONCRETE MASONRY, ENDWALLS	CORRUGATED METAL CULVERT PIPE, 18-INCH	CORRUGATED METAL CULVERT PIPE, 24-INCH	METAL APRON ENDWALLS FOR CULVERT PIPE, 24-INCH	CONCRETE CURB AND GUTTER, 30-INCH, TYPE L	CONCRETE SIDEWALK, 4-INCH	REINFORCED CONCRETE PIPE, CLASS III, STORM SEWER, 12-INCH	REINFORCED CONCRETE PIPE, CLASS III, STORM SEWER, 15-INCH	REINFORCED CONCRETE PIPE, CLASS III, STORM SEWER, 18-INCH	CATCH BASINS, TYPE 2	MANHOLES TYPE 1	INLETS TYPE 1	INLETS TYPE 3	RECONSTRUCTING MANHOLES	CATCH BASIN COVERS, TYPE A	MANHOLE COVERS, TYPE J	INLET COVERS, TYPE A	INLET COVERS, TYPE H	ADJUSTING MANHOLE COVERS
		ITEM NO. UNIT	20301 LUMP SUM	20405 LIN. FT.	20416 EACH	20503 CU. YD.	30404 TON	40701 TON	40702 TON	40934 CU. YD.	50409 CU. YD.	52105 LIN. FT.	52107 LIN. FT.	52148 EACH	60150 LIN. FT.	60204 SQ. FT.	60825 LIN. FT.	60826 LIN. FT.	60827 LIN. FT.	61102 EACH	61110 EACH	61121 EACH	61122 EACH	61128 EACH	61131 EACH	61151 EACH	61161 EACH	61167 EACH	61182 EACH
I	STA. -1+00 - STA. -0+06.35 STA. 0+06.36 - STA. 27+00	2787.30	1	465	7	11,732	10,435	3,196	192	13	20	30	75	2	3428	98	115	60	36	3	6	5	4	5	3	6	5	4	6
		2787.30	1	465	7	11,732	10,435	3,196	192	13	20	30	75	2	3428	98	115	60	36	3	6	5	4	5	3	6	5	4	6

CONTRACT	STATION TO STATION	LANDMARK REFERENCE MONUMENT WITH COVER	MOBILIZATION	LANDMARK REFERENCE MONUMENTS	TOPSOIL	FERTILIZER	SEEDING	FIELD OFFICE, TYPE A	TRAFFIC CONTROL	MANHOLE COVERS, WATER-PROOF, BOLTED	ASBESTOS-BONDED CORRUGATED METAL PIPE ARCH 65"X 40"	CALCIUM CHLORIDE SURFACE TREATMENT	METAL APRON ENDWALL FOR CULVERT PIPE 18-INCH
		ITEM NO. UNIT	61910 LUMP SUM	62101 EACH	62501 SQ. YD.	62901 CWT.	63002 POUND	64201 LUMP SUM	64301 LUMP SUM	90001 EACH	90002 LIN. FT.	62301 TON	52146 EACH
I	STA. -1+00 - STA. -0+06.35 STA. 0+06.36 - STA. 27+00	1	1	3	15,042	10	406	1	1	5	234	5	2
		1	1	3	15,042	10	406	1	1	5	234	5	2

DETAIL SUMMARY OF MISCELLANEOUS QUANTITIES

STATE PROJECT NUMBER

4989-0-02

SHEET NO.

3A

INLETS, CATCH BASINS, MANHOLES & COVER SUMMARY

GRATE FLOWLINE

STRUCTURE NO.	STATION	LOCATION	STRUCTURE	TYPE-COVER-GRATE	GRATE FLOWLINE ELEVATION	FLOWLINE ELEVATION	DEPTH
0	0+39	28' LT.	MANHOLE	1-J	716.10	708.53	6.65
1	-0+20	18' LT.	INLET	3-H-RIGHT	717.21	710.78	5.51
2	0+30	20' LT.	CATCH BASIN	2-A-LEFT	716.84	710.50	6.92
3	-0+20	18' RT.	INLET	3-H-LEFT	717.21	712.02	4.27
4	0+30	20' RT.	CATCH BASIN	2-A-RIGHT	716.84	709.50	7.92
5	4+90	20' RT.	INLET	3-H-RIGHT	721.86	717.15	4.04
7	4+82	26' LT.	MANHOLE	1-J	721.84	716.10	4.74
8	4+92	41' LT.	INLET	1-A-LEFT	721.69	716.26	4.51
9	5+25	41' LT.	INLET	1-A-RIGHT	721.79	716.06	4.81
10	5+41	20' LT.	INLET	1-A-LEFT	722.09	716.08	5.09
11	5+25	26' LT.	MANHOLE	1-J	721.93	715.91	5.02
12	8+32	41' LT.	INLET	1-A-LEFT	724.83	720.40	3.51
13	8+67	41' LT.	CATCH BASIN	2-A-RIGHT	725.00	720.05	5.53
14	8+68	32' LT.	MANHOLE	1-J	725.50	719.95	4.55
15	8+80	20' LT.	INLET	1-A-LEFT	725.67	720.10	4.65
17	9+18	15' RT.	INLET	3-H-RIGHT	726.33	721.05	4.36
18	15+02	26' LT.	MANHOLE	1-J	732.90	726.45	5.50
19	17+23	30' LT.	MANHOLE	1-J	732.40	727.70	4.25
20S	2+93	21' LT.	SANITARY MH.	SPECIAL	RECONSTRUCT		
21S	6+13	21' LT.	SANITARY MH.	SPECIAL			
22S	9+26	21' LT.	SANITARY MH.	SPECIAL			
23S	11+63	20' LT.	SANITARY MH.	SPECIAL			
24S	16+83	22' LT.	SANITARY MH.	SPECIAL			

ADJUSTING MANHOLE COVERS

STATION	LOCATION	NO.
-0+30	4' RT.	1
4+90	17' RT.	1
5+09	18' LT.	1
8+48	19' LT.	1
9+19	16' RT.	1
14+81	21' LT.	1

CONCRETE CURB AND GUTTER, 30-INCH, TYPE L

LOCATION	LIN. FT.
MAINLINE (C.T.H. "N") STA. -1+00 TO STA. 17+20	3210
WALLACE ST.	57
BARBARA ST.	67
JEAN ST.	47
LAMERS RD.	47

CROSS DRAIN PIPE

STATION	IN. DIA.	FT. LENGTH	TYPE	APRON	REMARKS
0+04	65" X 40"	108	C.M.P.A. *	CONC. MASONRY ENDWALL	3" X 1" CORRUGATIONS (12 GAGE)
0+12	65" X 40"	126	C.M.P.A. *	CONC. MASONRY ENDWALL	3" X 1" CORRUGATIONS (12 GAGE)
18+12	24"	75	C.M.C.P.	2 METAL ENDWALLS	SKEW 15° AHEAD RT.

* ASBESTOS-BONDED

SEEDING

#4	191 lbs.
#3	215 lbs.

PIPE THICKNESS - STEEL

C.M.C.P.	18"	0.064"
"	24"	0.064"
C.M.P.A.	65 X 40	0.109"

CONCRETE SIDEWALK, 4-INCH

LOCATION	SQ. YD.
STA. -0+18 TO STA. 0+61 (LESS R.R.)	37
WALLACE ST. INTERSECTION	21
BARBARA ST. INTERSECTION	20
JEAN ST. INTERSECTION	20

REMOVING CURB AND GUTTER

STATION	TO	STATION	LOCATION	LIN. FT.
-1+00	-0+20	18' LT.		80
1+50	4+80	28' LT.		330
WALLACE ST.	5+09	LT.		35
BARBARA ST.	8+48	LT.		20

CRUSHED AGGREGATE BASE COURSE

LOCATION	ROADWAY (TON)	SHOULDER (TON)
MAINLINE (C.T.H. "N")	7902	2269
WALLACE ST.	66	—
BARBARA ST.	80	—
JEAN ST.	52	—
LAMERS RD.	66	—

BITUMINOUS QUANTITIES

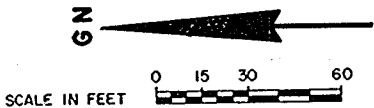
LOCATION	BITUMINOUS CONCRETE PAVEMENT (TON)	BITUMINOUS MATERIAL FOR SURFACE COURSE (TON)
MAINLINE (C.T.H. "N")	3,084	185
WALLACE ST.	28	1.7
BARBARA ST.	34	2.3
JEAN ST.	22	1.3
LAMERS RD.	28	1.7

STORM SEWER

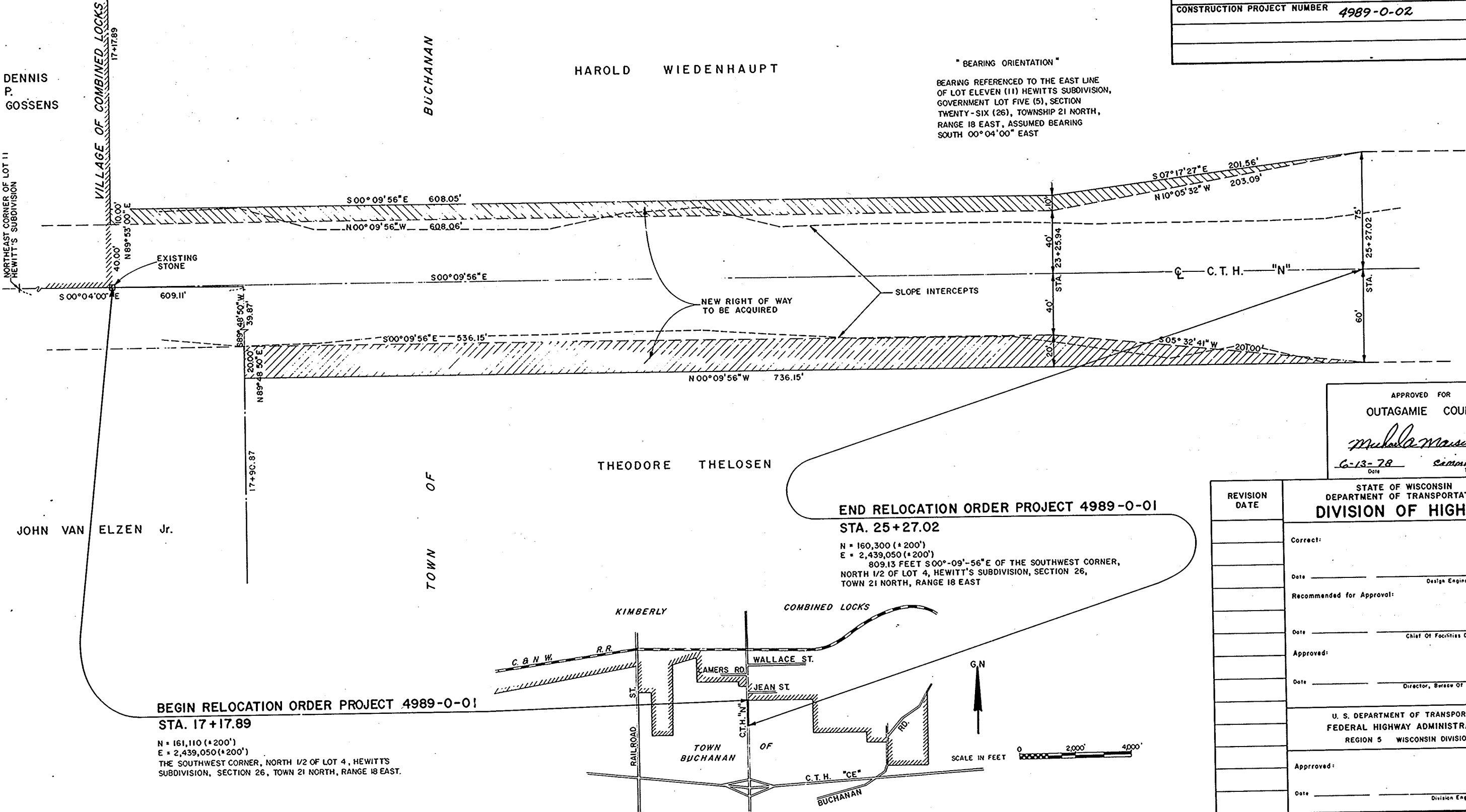
LOCATION FROM	TO	DIAMETER INCHES	LENGTH FEET	TYPE	ELEVATION		REMARKS
					INLET	DISCHARGE	
0A	0	12	12	R.C.P. CLASS III	708.65	708.53	SET CATCH BASIN OVER PIPE
0	C.M.P.A.	18	26	R.C.P. CLASS III	708.53	708.27	
5A	5	18	15	C.M.C.P.	717.25	717.15	
5	6	18	—	C.M.C.P.	717.15	717.05	5A IS APRON ENDWALL
10	11	12	17	R.C.P. CLASS III	716.08	715.91	6 IS EXIST. MH, SET INLET OVER EXIST. 18" PIPE
9	11	15	15	"	716.06	715.91	
8	7	12	16	"	716.26	716.10	
12	13	12	35	"	720.40	720.05	
13	14	15	10	"	720.05	719.95	
15	14	12	15	"	720.10	719.95	
17	16	12	20	"	721.05	720.00	16 IS EXIST. MH.
19A	19	15	35	"	728.05	727.70	SET M.H. OVER EXIST. 15" R.C.P.
16A	16	18	15	C.M.C.P.			16A IS APRON ENDWALL
4	C.M.P.A.	18	4	R.C.P. CLASS III	709.50	C.M.P.A.	EXTEND EXISTING STORM SEWER PIPE
4A	C.M.P.A.	18	6	"	—	C.M.P.A.	

PARCEL NUMBER	OWNER	INTEREST REQUIRED	LHE ACRES	NEW R/W REQUIRED	EXISTING R/W	TOTAL R/W REQUIRED	TOTAL REMAINING ACRES	OPERATIONS PROJECT NO.
1	THEODORE THELOSEN	FEE		0.29	0.72	1.01	49.55	4989-0-02
2	HAROLD WIEDENHAUPT	FEE		0.16	0.99	1.15	59.35	4989-0-02

SCHEDULE OF LANDS AND INTERESTS REQUIRED



R/W PROJECT NUMBER 4989-0-01	SHEET NUMBER	TOTAL SHEETS
FEDERAL PROJECT NUMBER		
PLAT OF RIGHT OF WAY REQUIRED FOR WASHINGTON STREET, KIMBERLY & COMBINED LOCKS (C. & N.W. R.R. TRACKS — C.T.H. "CE") C.T.H. "N" OUTAGAMIE COUNTY		
CONSTRUCTION PROJECT NUMBER	4989-0-02	4



" BEARING ORIENTATION "

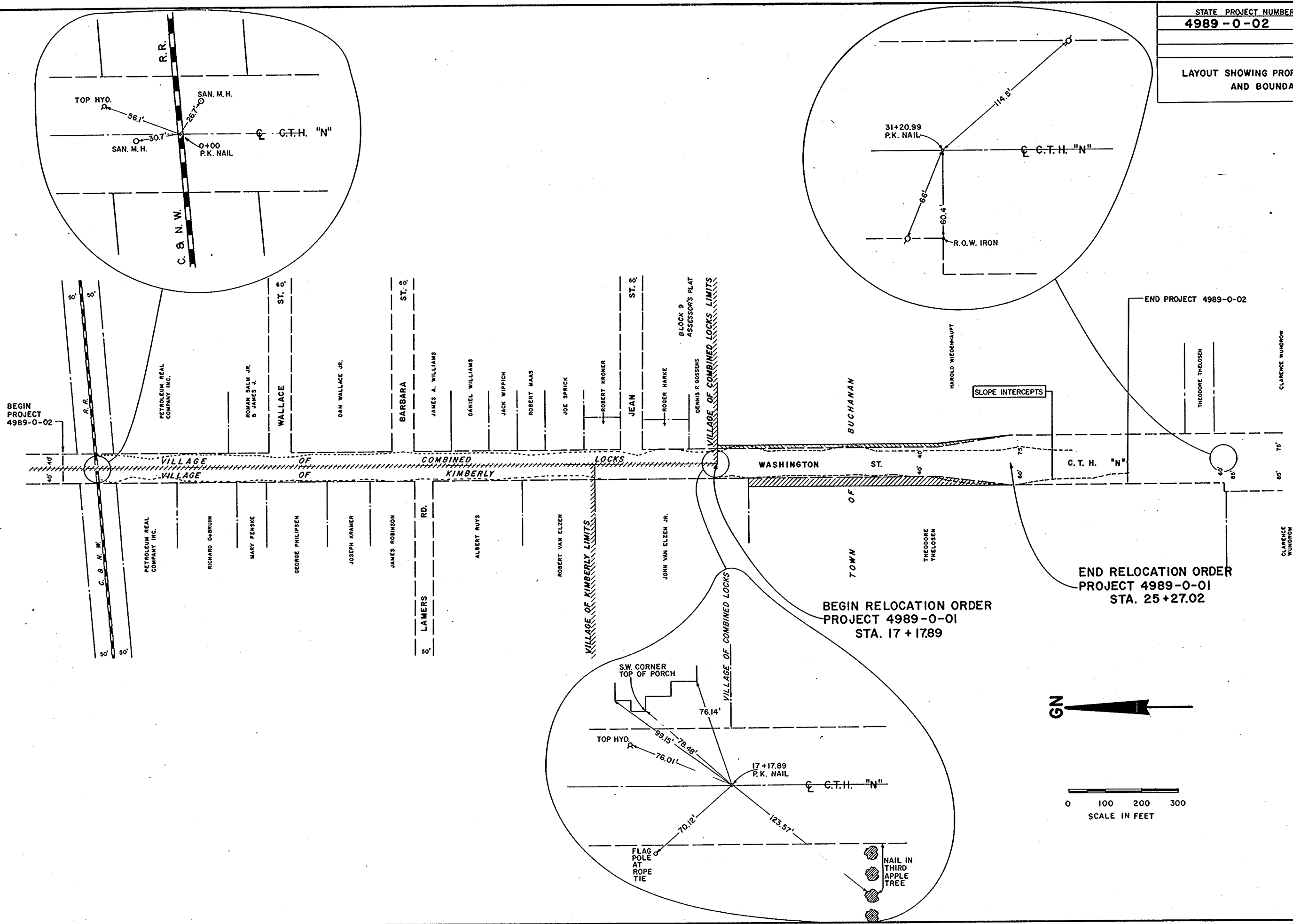
BEARING REFERENCED TO THE EAST LINE OF LOT ELEVEN (11) HEWITT'S SUBDIVISION, GOVERNMENT LOT FIVE (5), SECTION TWENTY-SIX (26), TOWNSHIP 21 NORTH, RANGE 18 EAST, ASSUMED BEARING SOUTH 00°04'00" EAST

APPROVED FOR
OUTAGAMIE COUNTY

Michael M. Mader
6-13-78
Date Commissioner Title

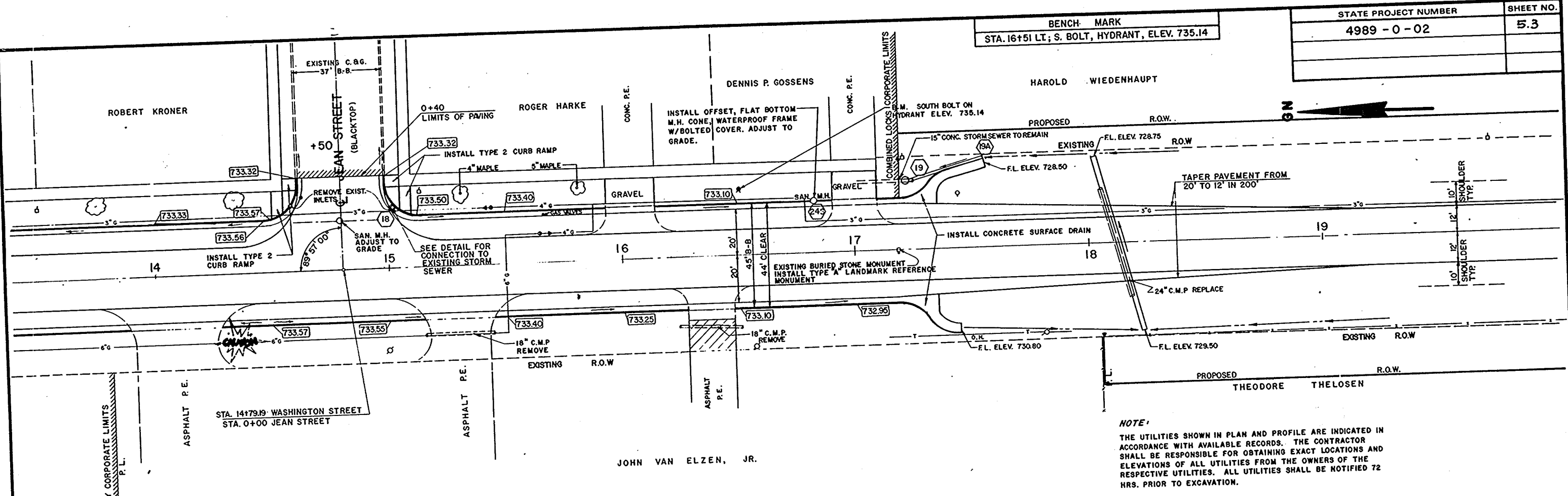
REVISION DATE	STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS
	Correct:
	Date _____ Design Engineer
	Recommended for Approval:
	Date _____ Chief Of Facilities Development
	Approved:
	Date _____ Director, Bureau Of Real Estate
	U. S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION REGION 5 WISCONSIN DIVISION
	Approved:
	Date _____ Division Engineer

STATE PROJECT NUMBER	SHEET NO.
4989-0-02	4.1
LAYOUT SHOWING PROPERTY OWNERS AND BOUNDARIES	

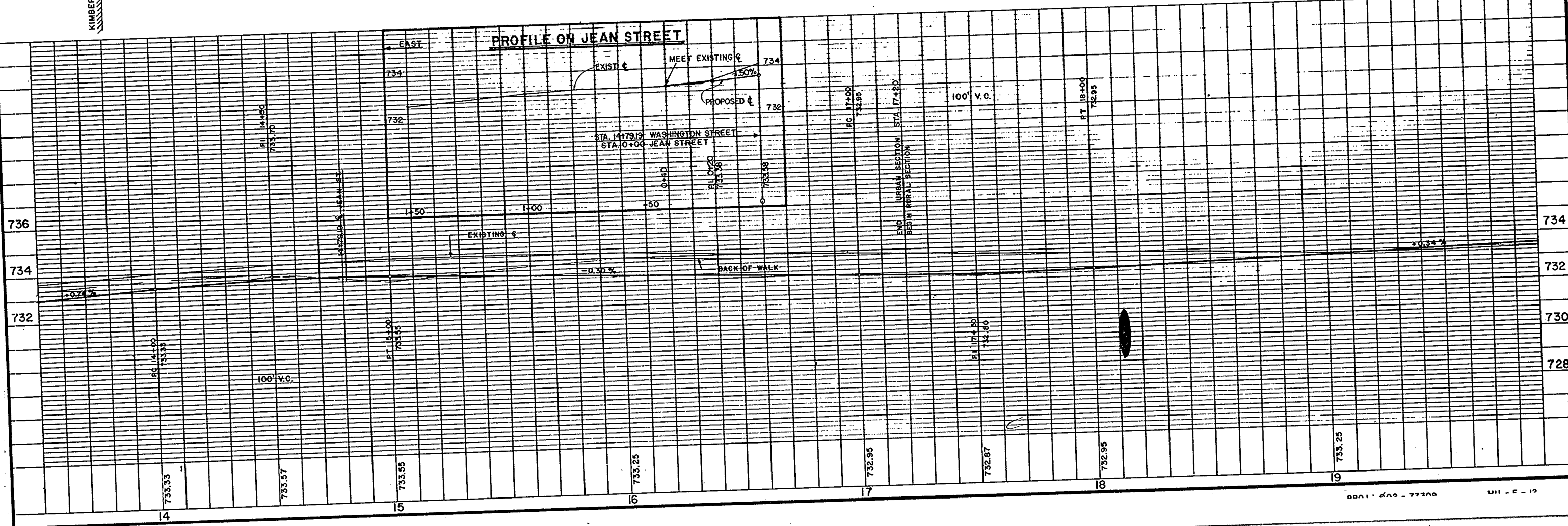


BENCH MARK
STA. 16+51 LT; S. BOLT, HYDRANT, ELEV. 735.14

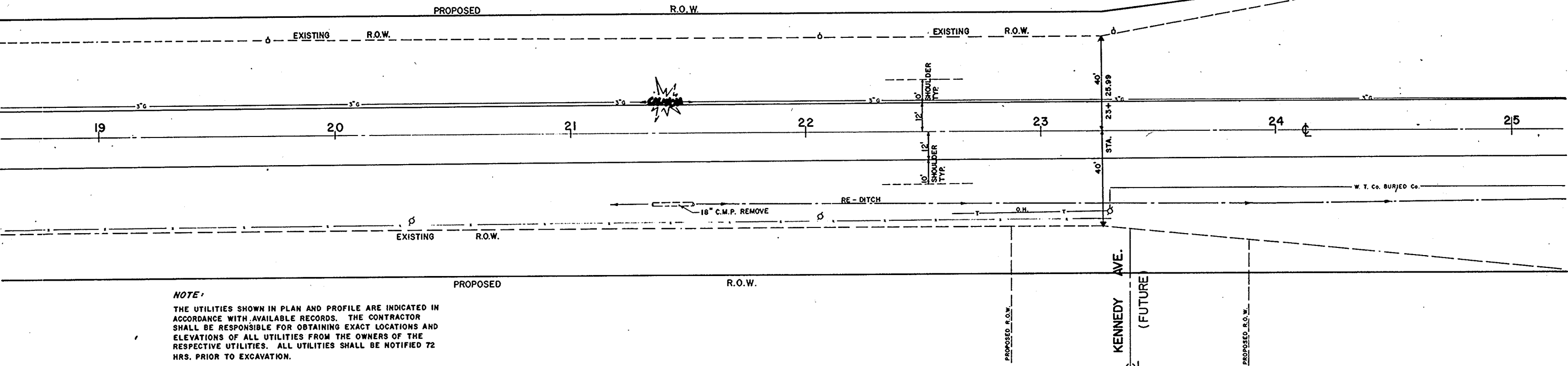
STATE PROJECT NUMBER	SHEET NO.
4989 - 0 - 02	5.3



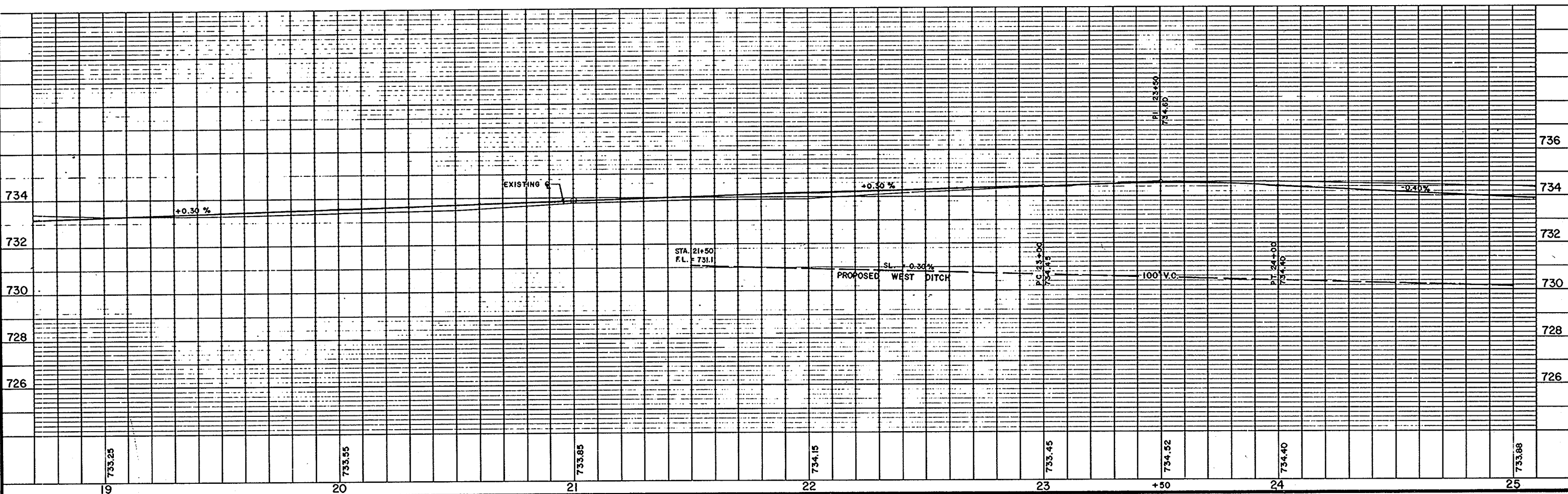
NOTE:
THE UTILITIES SHOWN IN PLAN AND PROFILE ARE INDICATED IN ACCORDANCE WITH AVAILABLE RECORDS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING EXACT LOCATIONS AND ELEVATIONS OF ALL UTILITIES FROM THE OWNERS OF THE RESPECTIVE UTILITIES. ALL UTILITIES SHALL BE NOTIFIED 72 HRS. PRIOR TO EXCAVATION.



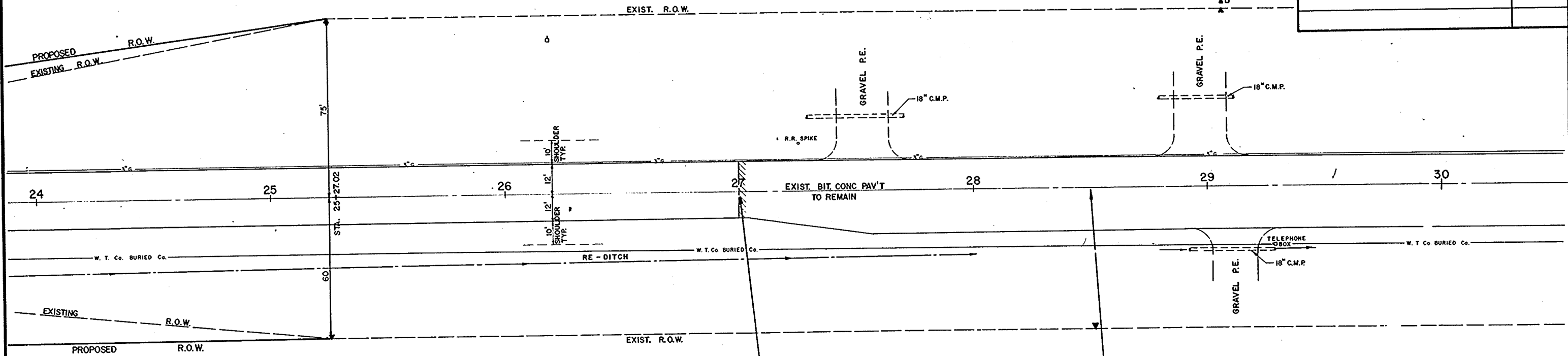
STATE PROJECT NUMBER	SHEET NO.
4989 - 0 - 02	5.4



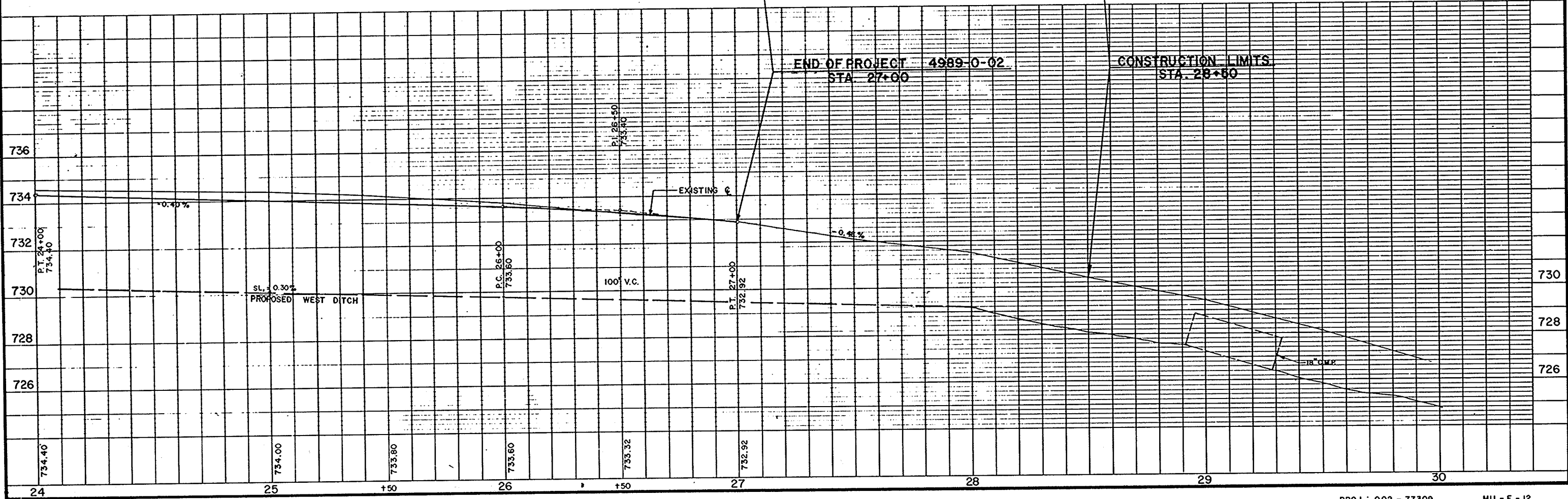
NOTE:
THE UTILITIES SHOWN IN PLAN AND PROFILE ARE INDICATED IN ACCORDANCE WITH AVAILABLE RECORDS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING EXACT LOCATIONS AND ELEVATIONS OF ALL UTILITIES FROM THE OWNERS OF THE RESPECTIVE UTILITIES. ALL UTILITIES SHALL BE NOTIFIED 72 HRS. PRIOR TO EXCAVATION.

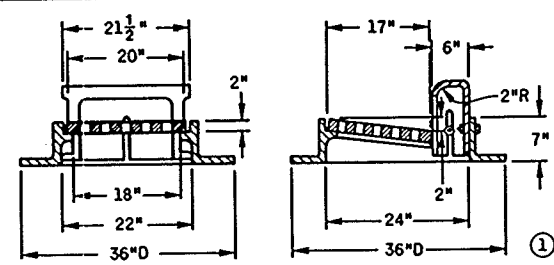


STATE PROJECT NUMBER	SHEET NO.
4989 - 0 - 02	5.5



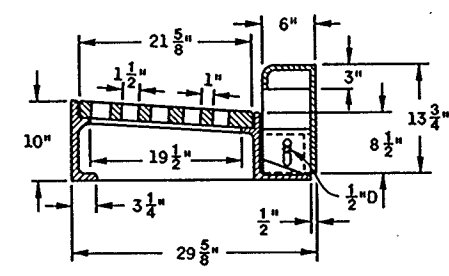
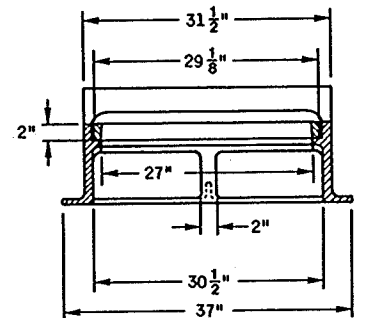
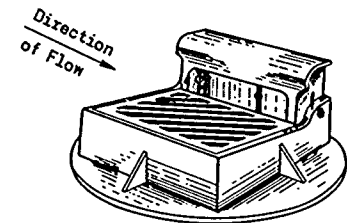
NOTE:
 THE UTILITIES SHOWN IN PLAN AND PROFILE ARE INDICATED IN ACCORDANCE WITH AVAILABLE RECORDS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING EXACT LOCATIONS AND ELEVATIONS OF ALL UTILITIES FROM THE OWNERS OF THE RESPECTIVE UTILITIES. ALL UTILITIES SHALL BE NOTIFIED 72 HRS. PRIOR TO EXCAVATION.



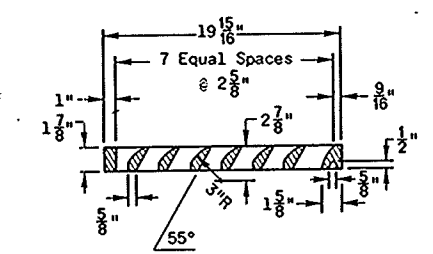
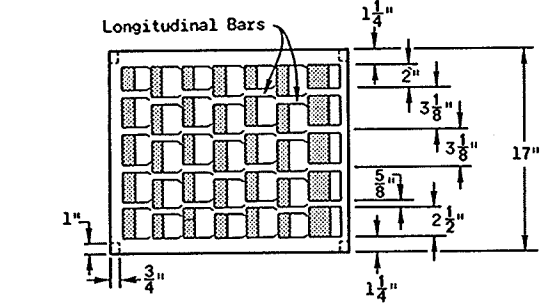
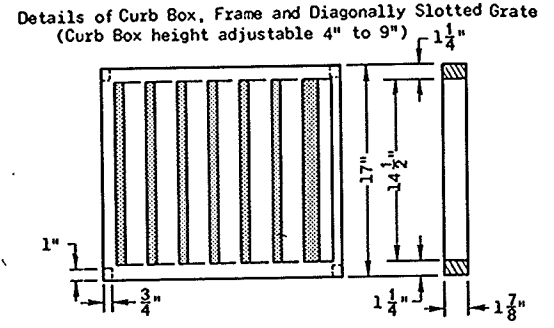
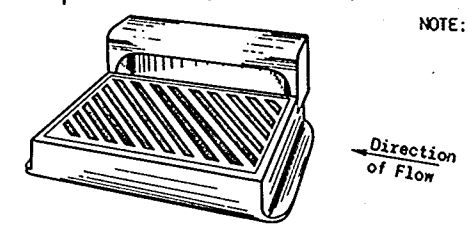


1" Diagonal Bars with 1 1/2" Openings

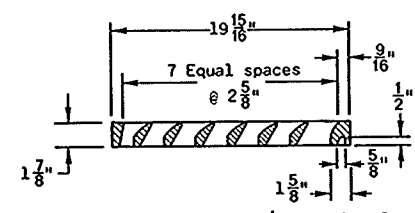
TYPE "A"
(Approximate Weight 405 lbs.)
Frame Weight 250 lbs.
Grate Weight 85 lbs.
Box Weight 70 lbs.



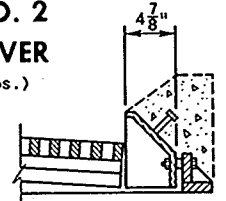
NOTE: Curb Box height adjustable 6" to 9"



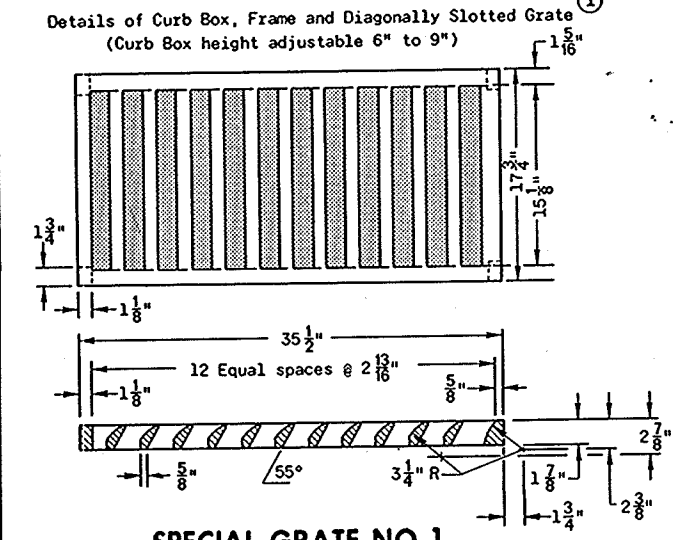
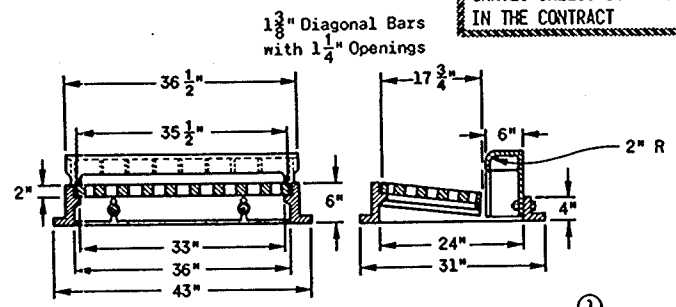
SPECIAL GRATE NO. 1
FOR TYPE "A" COVER
(Approximate Weight 70 lbs.)



SPECIAL GRATE NO. 2
FOR TYPE "A" COVER
(Approximate Weight 84 lbs.)

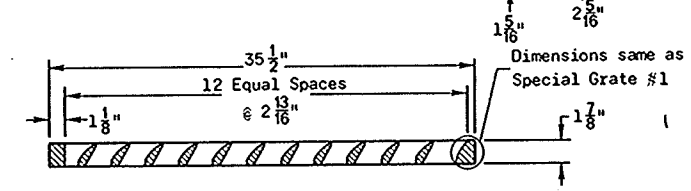
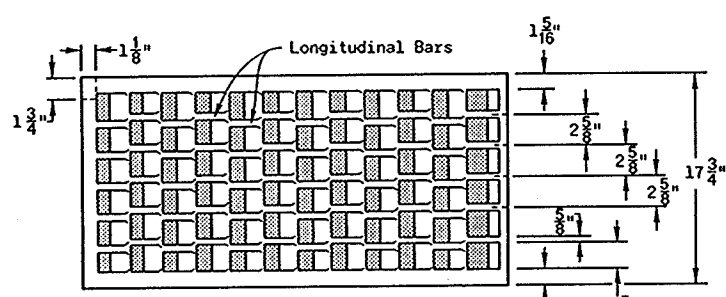
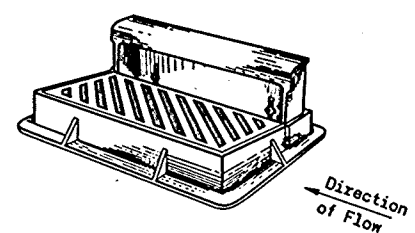


MOUNTABLE CURB BOX
FOR TYPES "A" & "H" COVERS

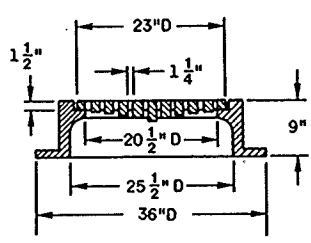


SPECIAL GRATE NO. 1
FOR TYPE "H" COVER
(Approximate Weight 140 lbs.)

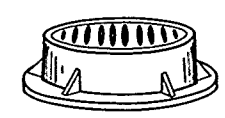
TYPE "H"
(Approximate Weight 510 lbs.)
Frame Weight 220 lbs.
Grate Weight 175 lbs.
Box Weight 115 lbs.



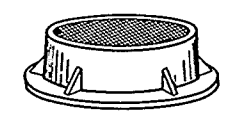
SPECIAL GRATE NO. 2
FOR TYPE "H" COVER
(Approximate Weight 165 lbs.)



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



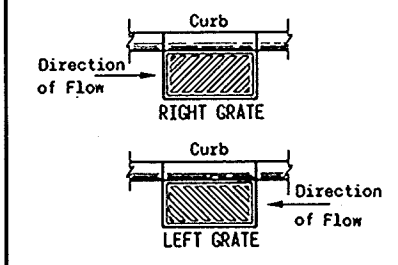
TYPE "C"
Slotted Grate



TYPE "J"
Solid Cover

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

Diagonal Slots shall be oriented to the direction of flow. RIGHT and LEFT grates or grates that are manufactured to be reversible and can be used as either RIGHT or LEFT grates shall be furnished depending on direction of flow (See sketch below)



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. Precast concrete grade rings shall conform to the specifications for Precast Reinforced Concrete Manhole Sections, AASHTO Designation M199, except that when such units are wet cast, they shall be made with air-entraining portland cement. Maximum adjustment shall be 8 inches.

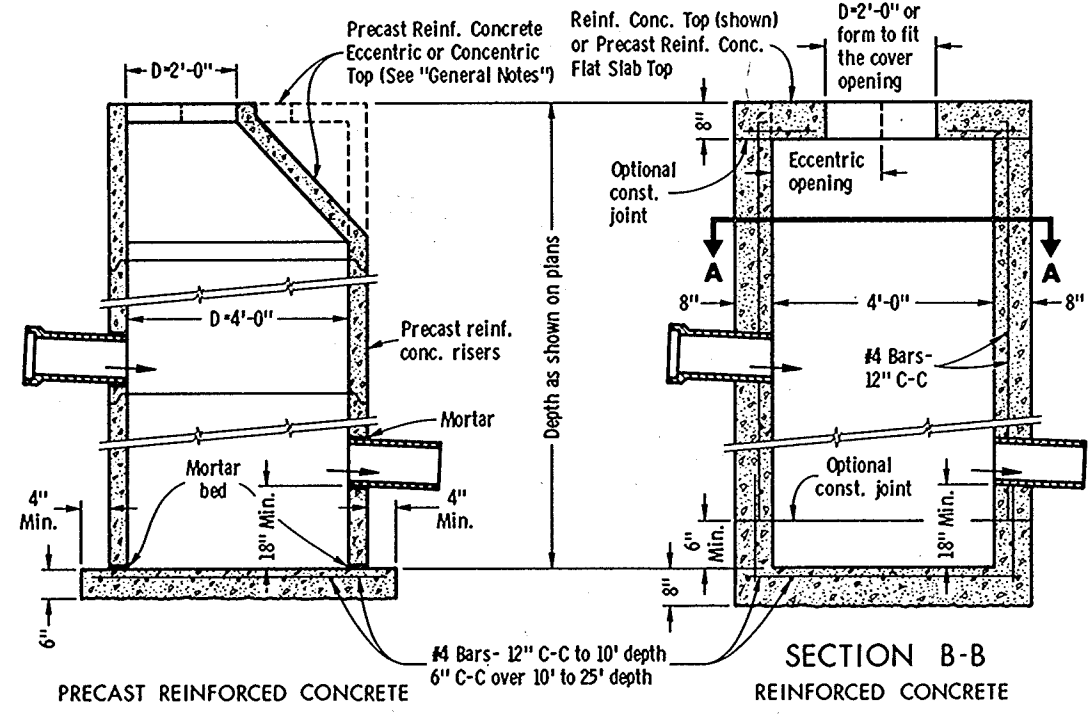
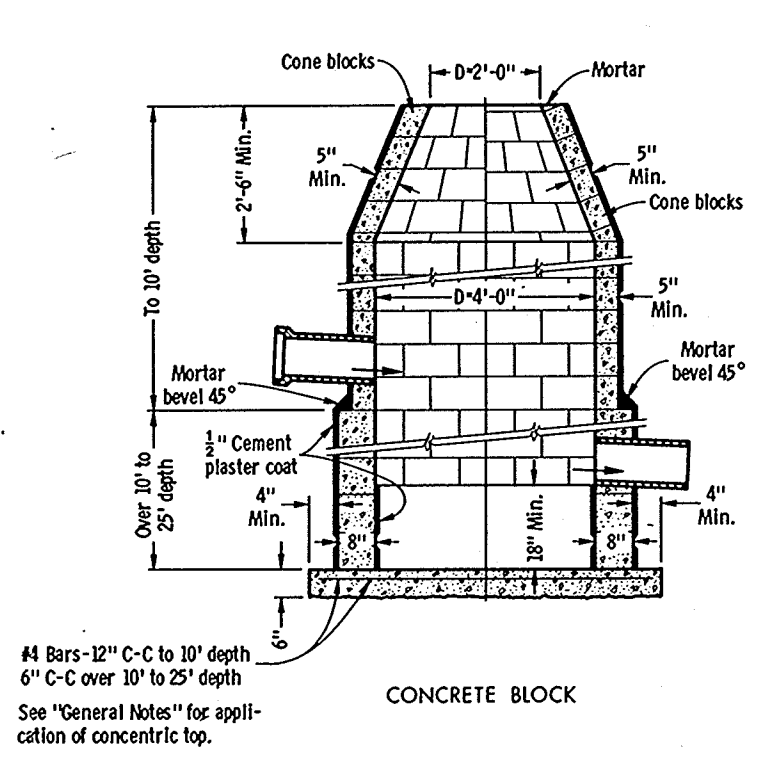
The actual weight of covers may vary within 5 percent, plus or minus, of the approximate weight.

**CATCH BASIN
MANHOLE AND
INLET COVERS**

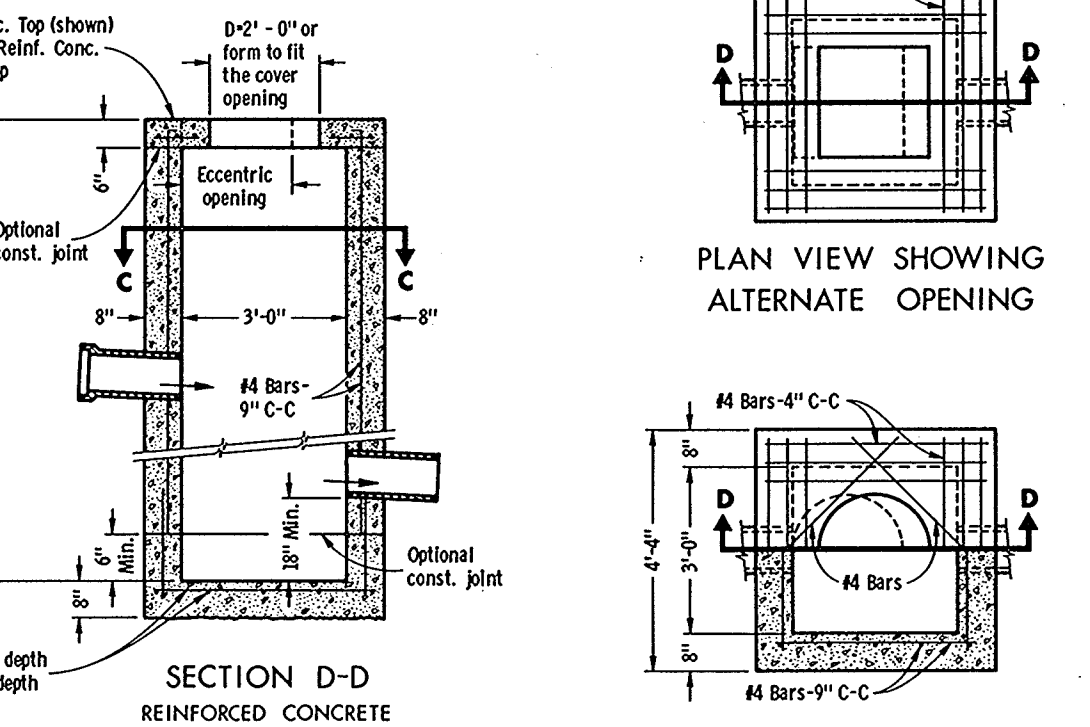
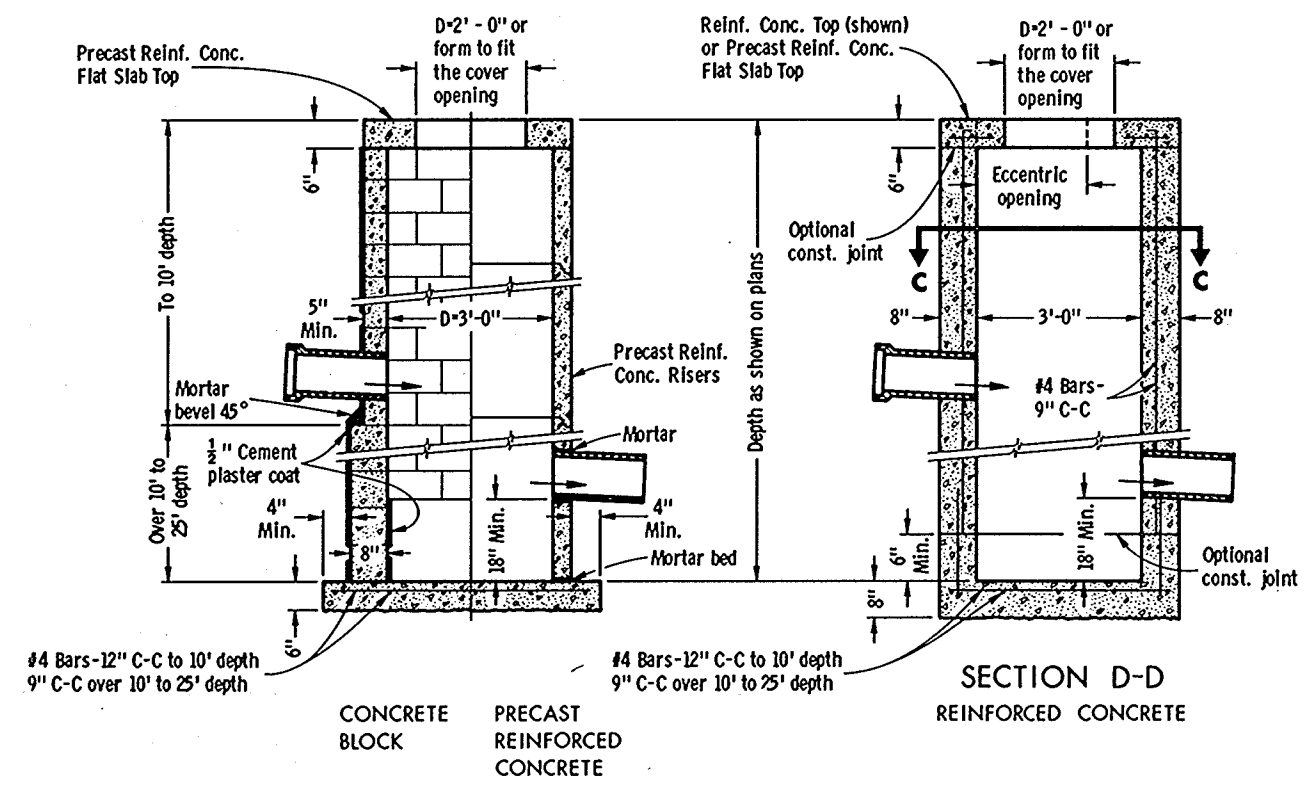
State of Wisconsin
Department of Transportation
Division of Highways

APPROVED
11-23-77
DATE
APPROVED
11-25-77
DATE
FWHA

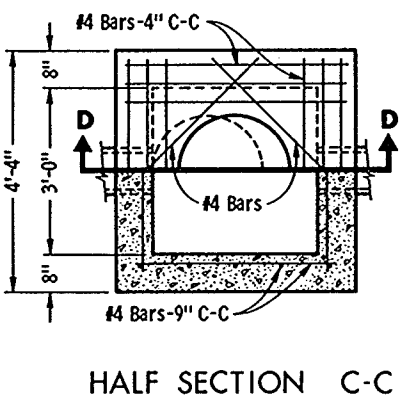
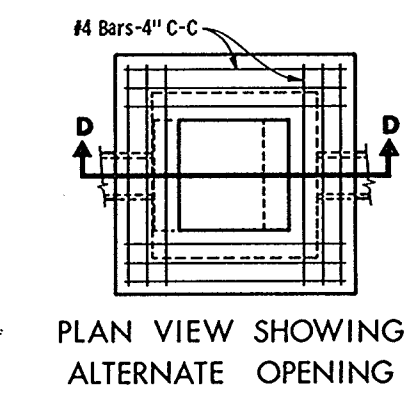
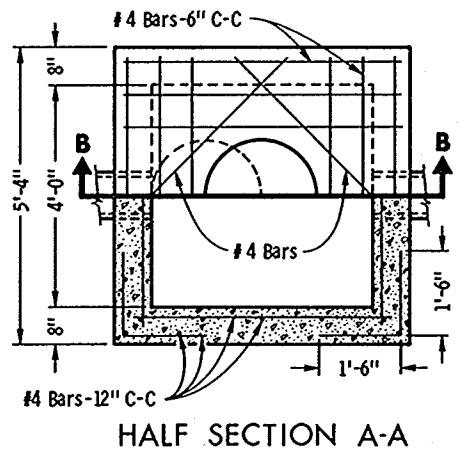
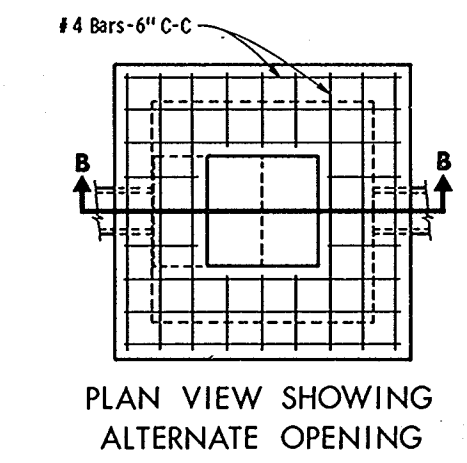
Supervising Development Engineer
Chief of Facilities Development



CATCH BASINS TYPE 1



CATCH BASINS TYPE 2



GENERAL NOTES

Details of construction, materials and workmanship not shown on this drawing shall conform to the pertinent requirements of the 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 of 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) or Precast Reinforced Concrete Flat Slab Tops 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.

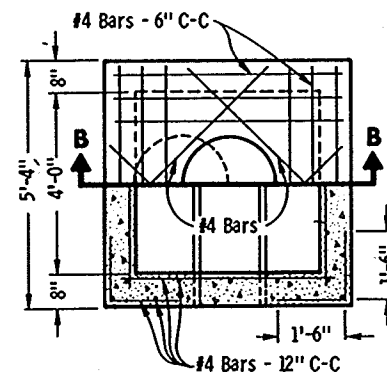
CATCH BASINS TYPE 1 & 2

State of Wisconsin
Department of Transportation
Division of Highways

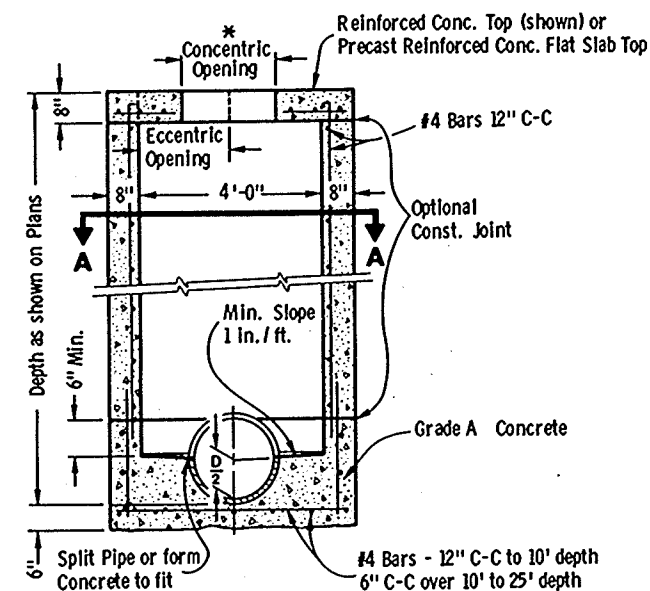
RECOMMENDED FOR APPROVAL:
12-3-75
DATE
APPROVED
12-9-75
DATE

J.C. Hennrich
CHIEF OF FACILITIES DEVELOPMENT

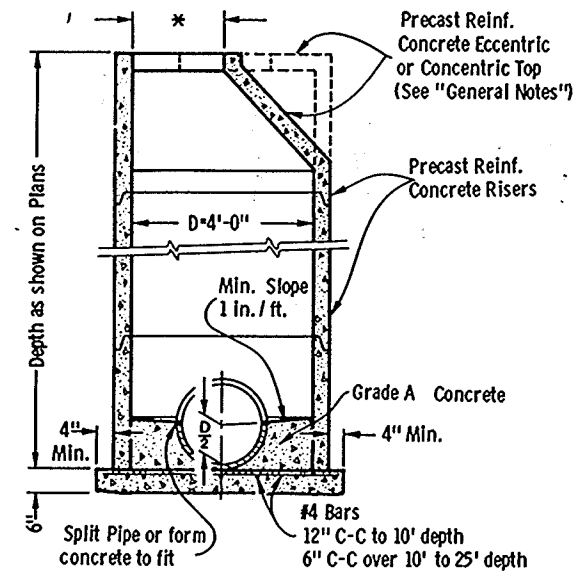
W. J. Siedler
STATE HIGHWAY ENGINEER



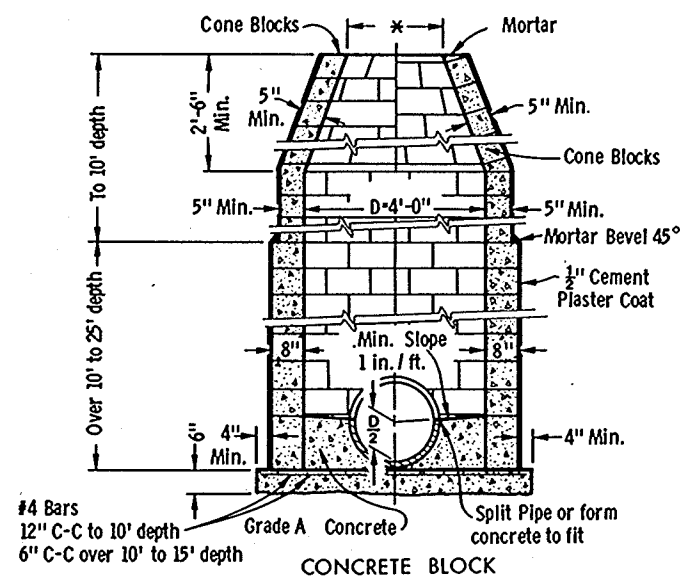
HALF SECTION A-A



SECTION B-B
REINFORCED CONCRETE



PRECAST 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

State of Wisconsin
Department of Transportation
Division of Highways

RECOMMENDED FOR APPROVAL:

12-3-75

DATE

APPROVED

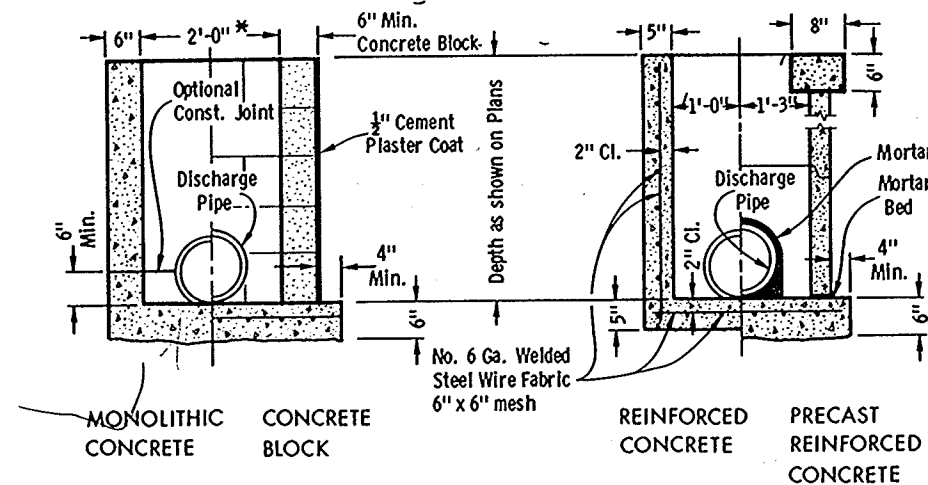
12-9-75

DATE

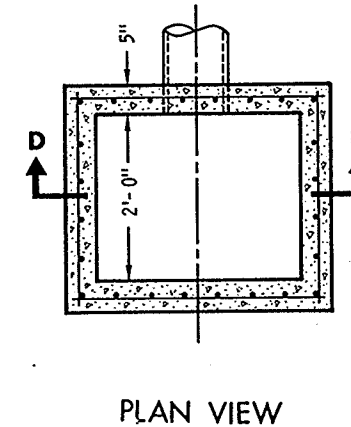
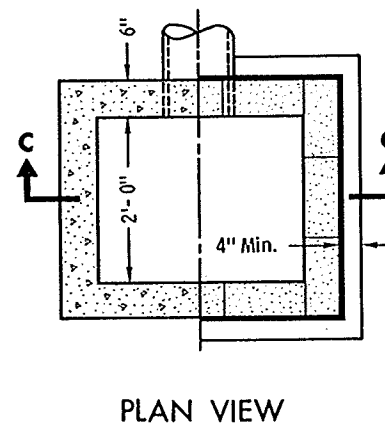
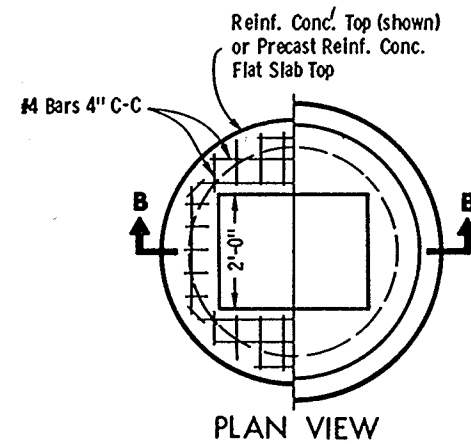
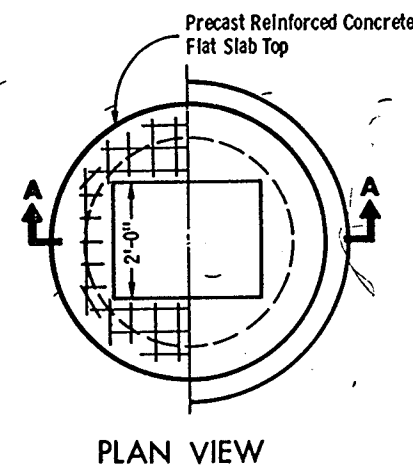
J. C. Hennrich
CHIEF OF FACILITIES DEVELOPMENT

J. C. Hennrich
STATE HIGHWAY ENGINEER

* Selection of Square or Circular Design will be based on the pipe sizes and the Inlet Cover being utilized.



INLETS TYPE 1



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 AASHTO Designation M 199.

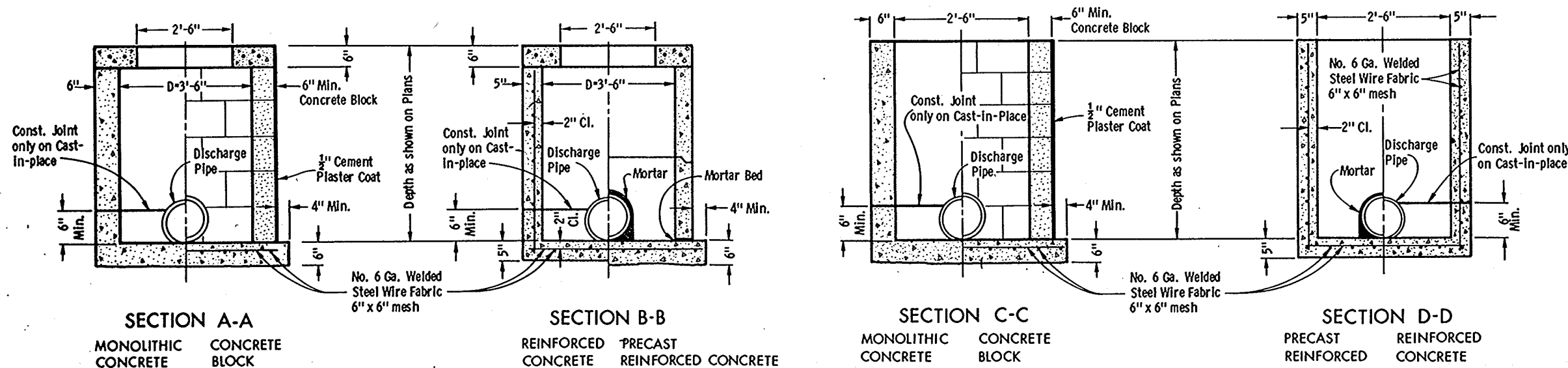
All drainage structures are designated on the plans as "Manholes 1 - C", "Catch Basins 1 - B", "Inlets 1 - H", etc. The first digit designates the masonry portion of the structure, and the following letter designates the type of cover to be used to comprise the complete unit.

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 reinforced 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 2

INLETS TYPE 1 & 2

State of Wisconsin
Department of Transportation
Division of Highways

RECOMMENDED FOR APPROVAL

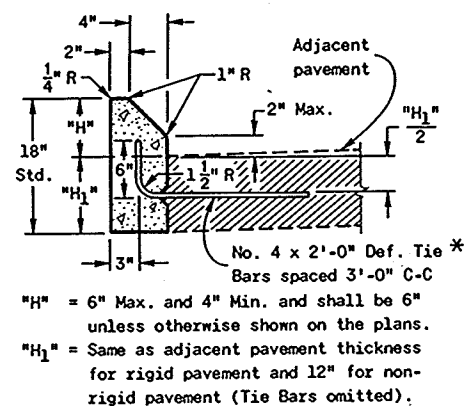
10-16-75
DATE

APPROVED

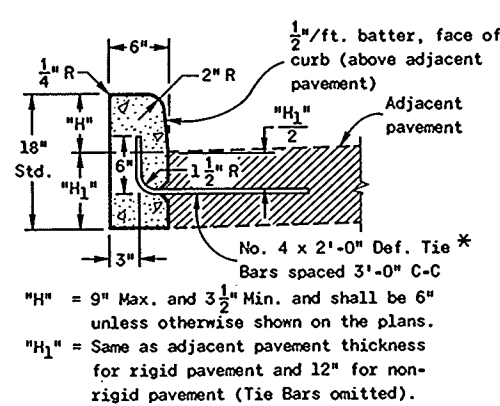
10-16-75
DATE

L. C. Hennrich
CHIEF OF FACILITIES DEVELOPMENT

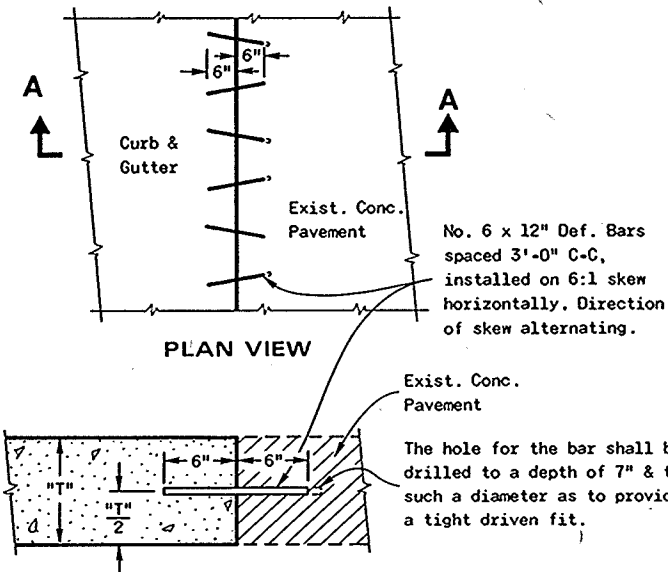
W. J. S. Jones
STATE HIGHWAY ENGINEER



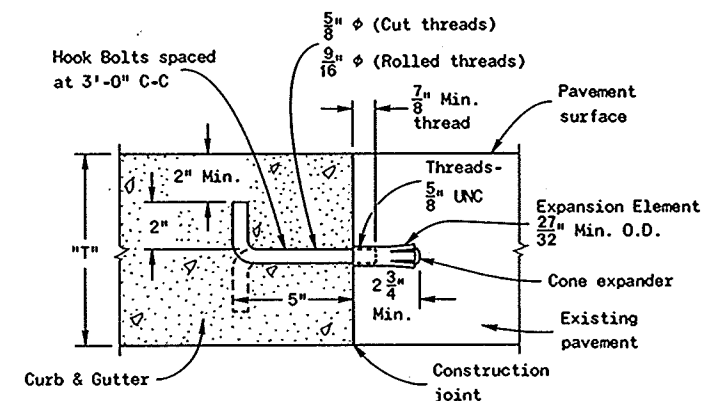
TYPE "G"
(INCLUDING TIE BARS)
MOUNTABLE CONCRETE CURB



TYPE "A"
(INCLUDING TIE BARS)
CONCRETE CURB



SECTION A - A
ALTERNATE TIE BAR INSTALLATION



HOOK BOLT

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.

Joints shall not be sealed in Concrete Curb, or Concrete Curb & Gutter.

*Where Concrete Curb or Concrete Curb & Gutter is poured adjacent to existing pavement, a "Hook Bolt" or "Alternate Tie Bar Installation" shown on this sheet is required.

INTEGRAL CURB ALTERNATE

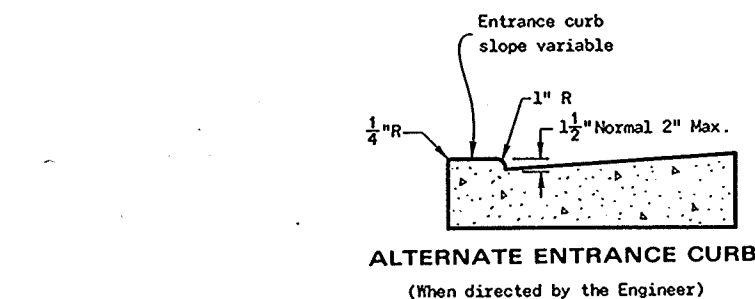
Unless otherwise specified in the contract, Integral Curb may be built as an alternative to Curb & Gutter.

Integral Curb shall be measured and paid for as Curb & Gutter.

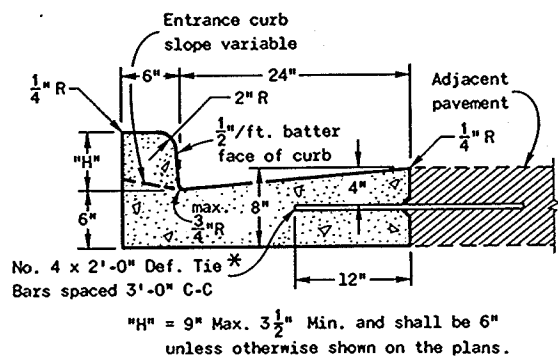
Pavement reinforcing steel and load transfer dowels will not be required within the pay limits of Integral Curb.

Contraction, construction or expansion joints shall be continuous through the Integral Curb.

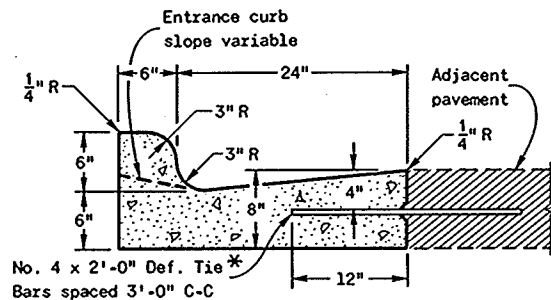
"T" = Pavement thickness.



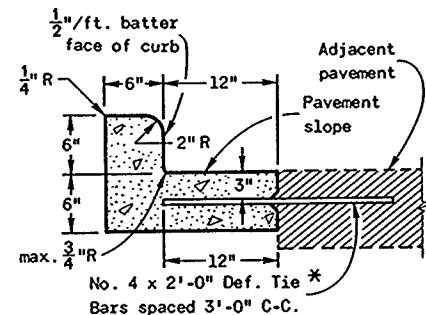
ALTERNATE ENTRANCE CURB
(When directed by the Engineer)



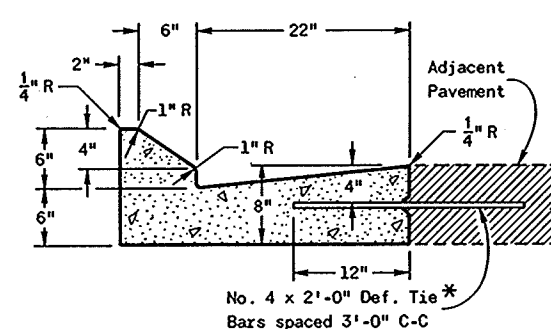
TYPE "A"
(INCLUDING TIE BARS)
CONCRETE CURB & GUTTER 30"



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

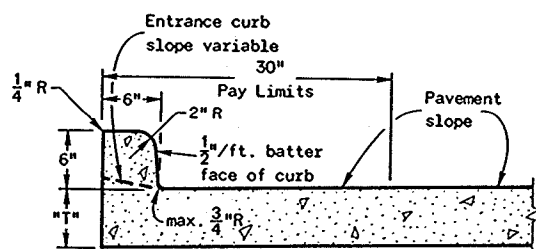


TYPE "A"
(INCLUDING TIE BARS)
CONCRETE CURB & GUTTER 18"



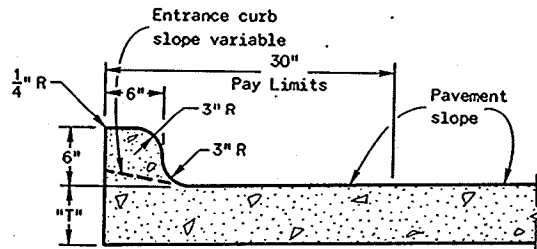
TYPE "J"
(EXCLUDING TIE BARS)
MOUNTABLE CONCRETE CURB & GUTTER 30"

CONCRETE CURB & GUTTER



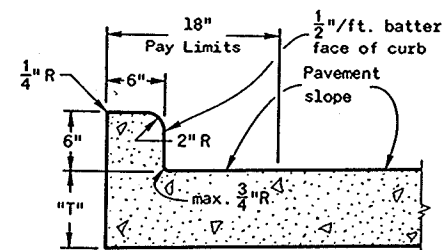
TYPE "A" AND "D"

INTEGRAL CURB ALTERNATE 30"

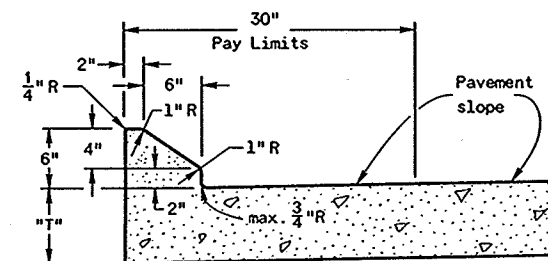


TYPE "K" AND "L"

CONCRETE INTEGRAL CURB



INTEGRAL CURB ALTERNATE 18"



INTEGRAL CURB ALTERNATE MOUNTABLE 30"

CONCRETE CURB, CONCRETE CURB & GUTTER, OR INTEGRAL CURB

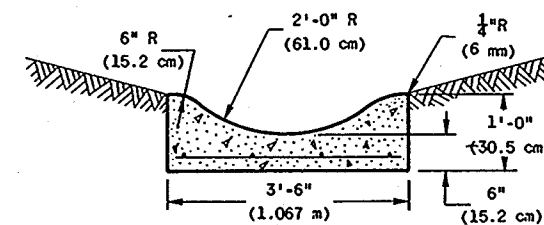
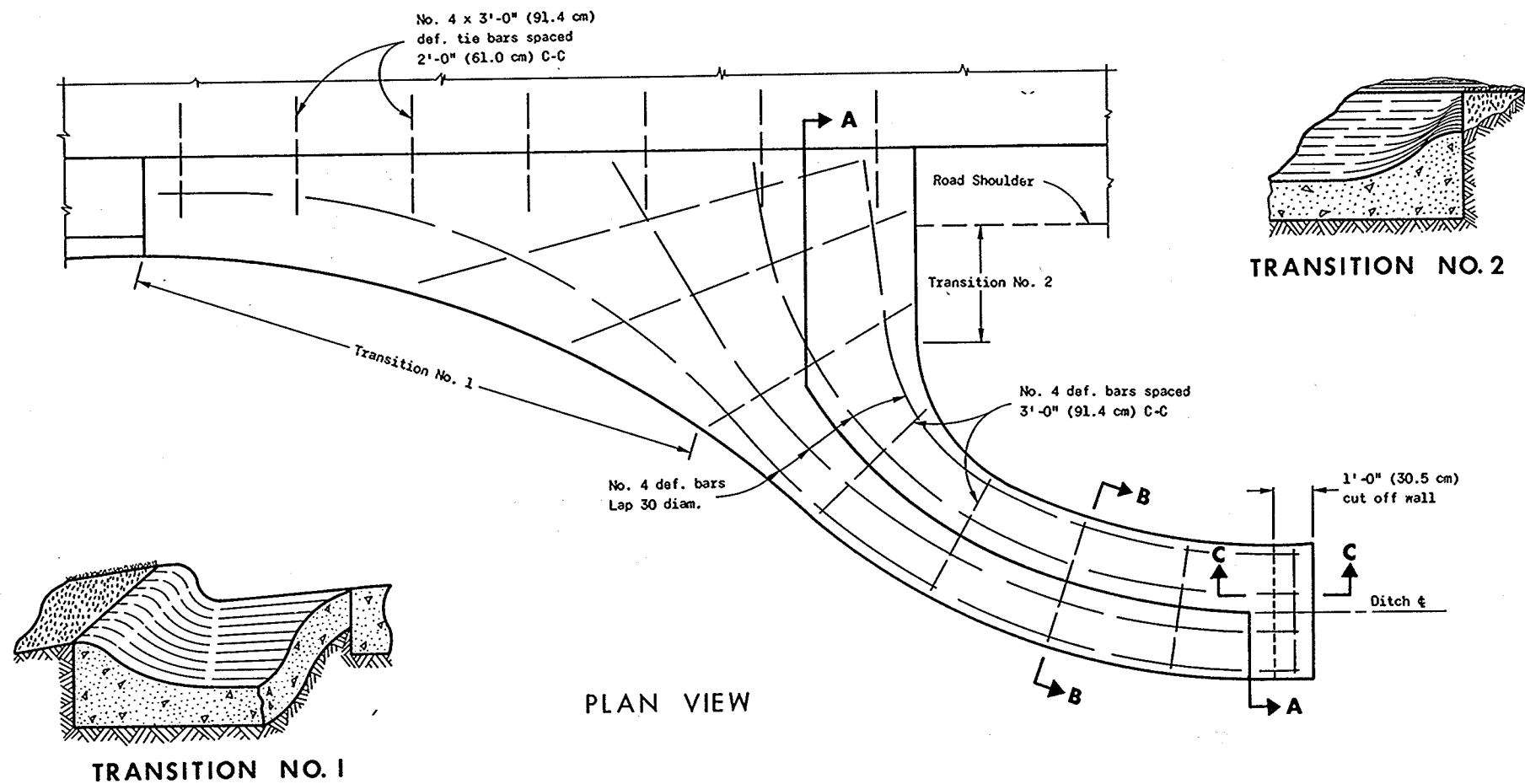
State of Wisconsin
Department of Transportation
Division of Highways

APPROVED
11-9-76
DATE

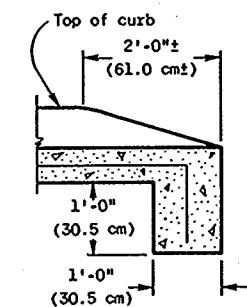
D. J. Schand
CHIEF OF FACILITIES DEVELOPMENT

APPROVED
11-12-76
DATE

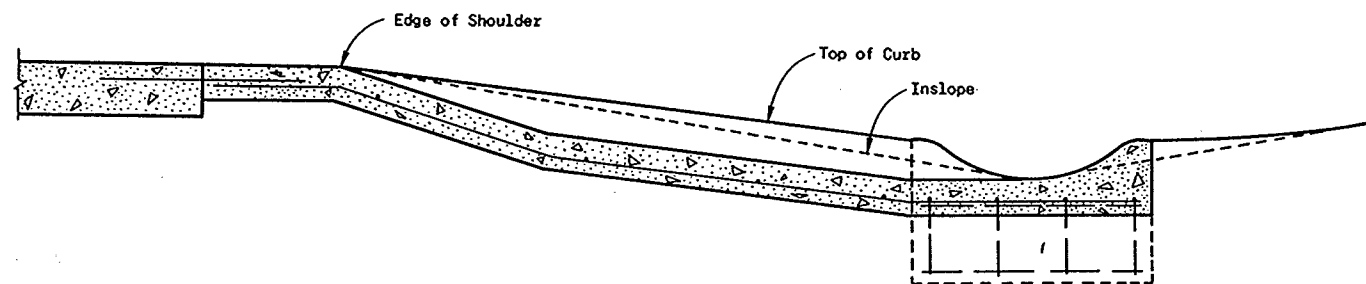
W. J. Siedler
STATE HIGHWAY ENGINEER



SECTION B-B



SECTION C-C

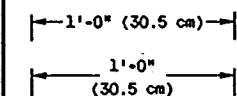


GENERAL NOTES

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.

METHOD OF DIMENSIONING



BASIS: 1 in. = EXACTLY 25.4 mm

CONCRETE SURFACE DRAIN

State of Wisconsin
Department of Transportation
Division of Highways

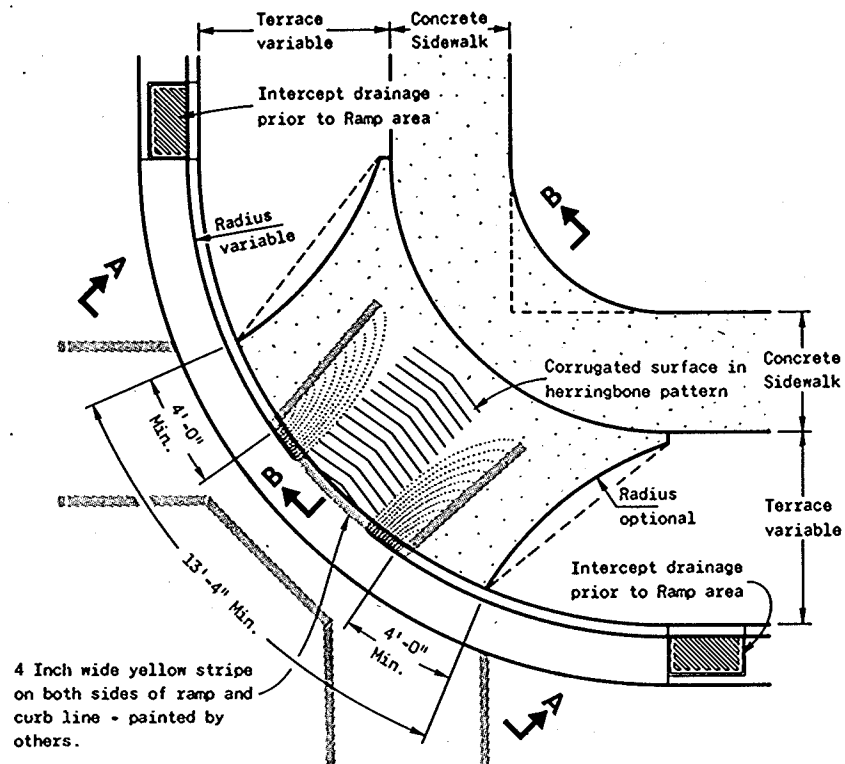
RECOMMENDED FOR APPROVAL:

1-7-74
DATE

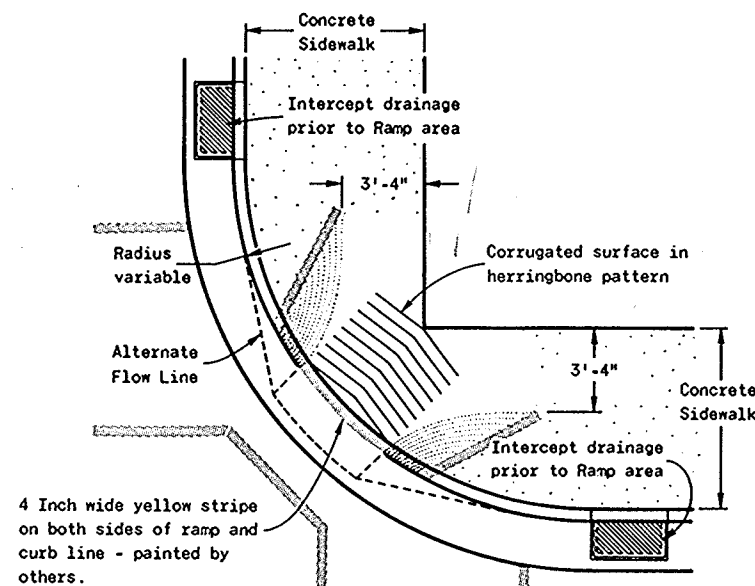
J. C. Hennrich
CHIEF OF FACILITIES DEVELOPMENT

1-15-74
DATE

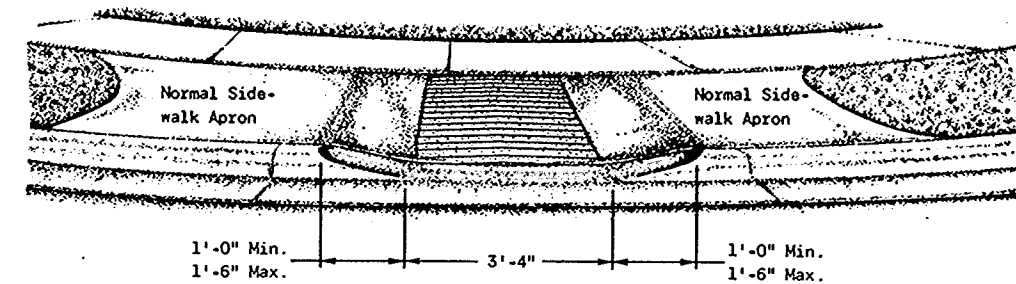
H. S. Siedler
STATE HIGHWAY ENGINEER



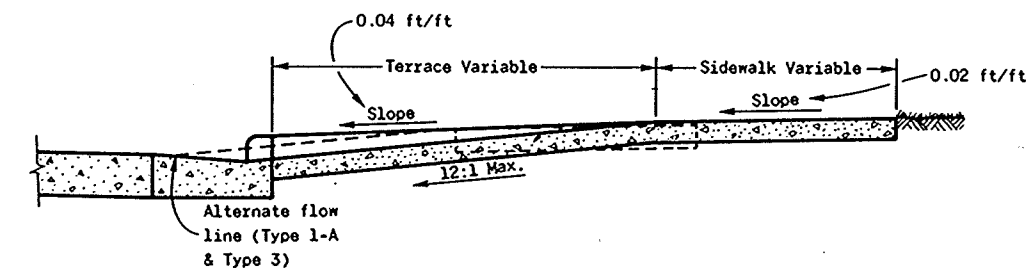
PLAN VIEW
TYPE 1 RAMP
(CENTER OF CORNER RADIUS)



PLAN VIEW
TYPE 1-A RAMP
(NO TERRACE)



VIEW A-A



SECTION B-B

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.

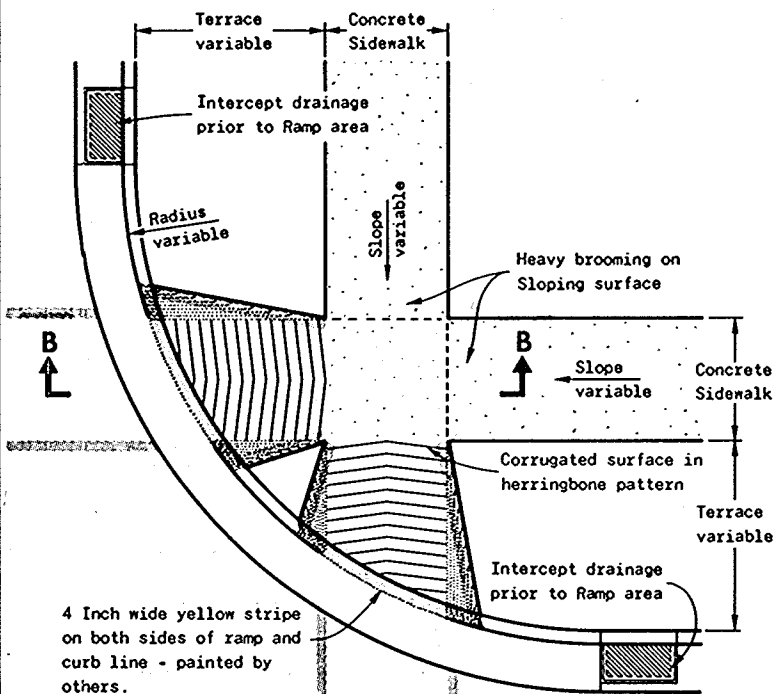
Ramps shall be built at 12:1 or flatter. When necessary, the sidewalk elevation may be lowered to meet the high point on the ramp.

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.

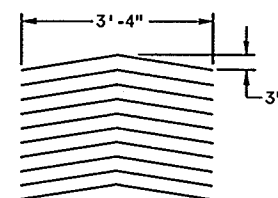
Section 66.616, Wisconsin Statutes requires curb ramping for handicapped persons. This law also states that "the ramp shall be either bordered on both sides and the curb line with a four inch wide yellow stripe, or the surface treatment on the ramp shall have integral coloration".

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.

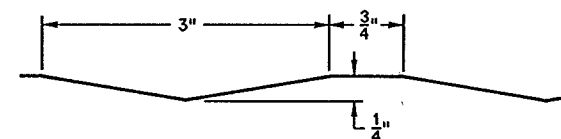


PLAN VIEW
TYPE 2 RAMP
(ON LINE WITH SIDEWALK)

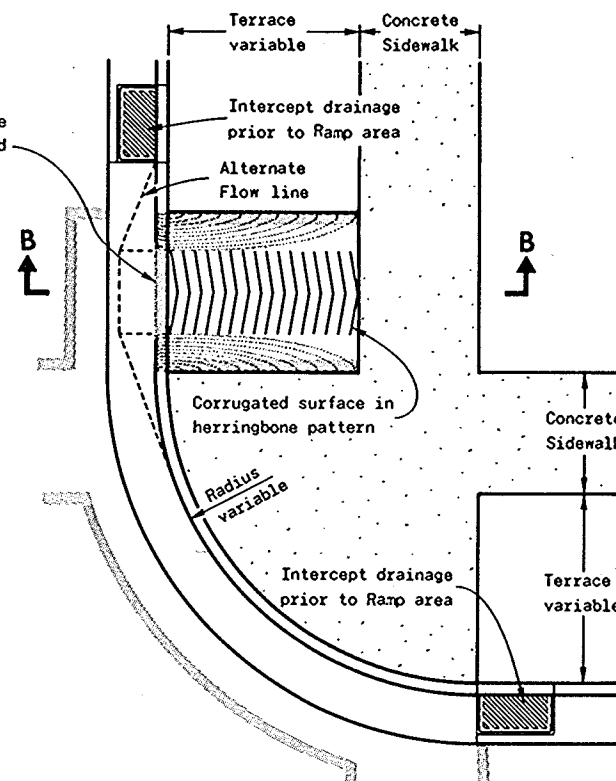
4 Inch wide yellow stripe on both sides of ramp and curb line - painted by others.



DETAIL OF
HERRINGBONE PATTERN



DETAIL OF
SURFACE CORRUGATION



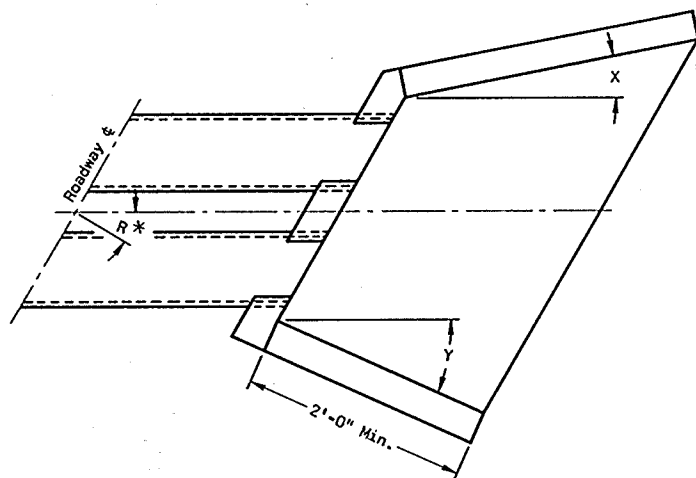
PLAN VIEW
TYPE 3 RAMP
(OUTSIDE OF CROSSWALK AREA)

CURB RAMPS FOR HANDICAPPED PERSONS

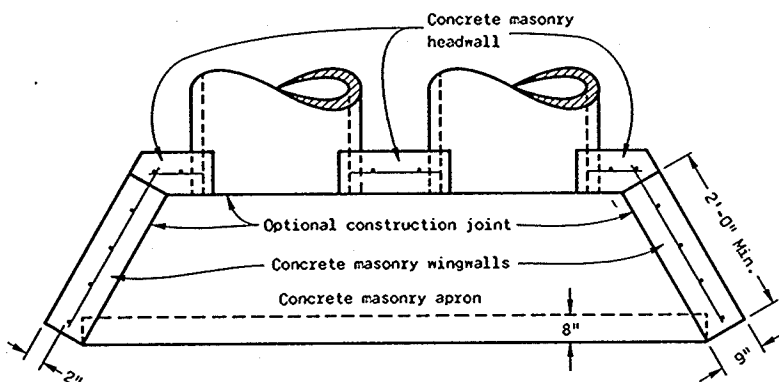
State of Wisconsin
Department of Transportation
Division of Highways

APPROVED
12-27-77
DATE
APPROVED
12-27-77
DATE
FWA

R. W. B. B.
SUPERVISING DEVELOPMENT ENGINEER
D. J. B. B.
CHIEF OF FACILITIES DEVELOPMENT

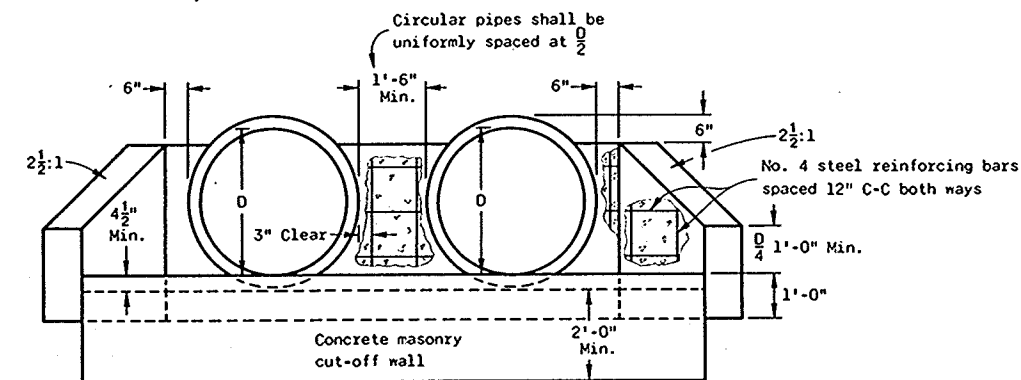


WINGWALL ANGLE DETAILS



PLAN VIEW

CIRCULAR PIPE AND PIPE ARCH

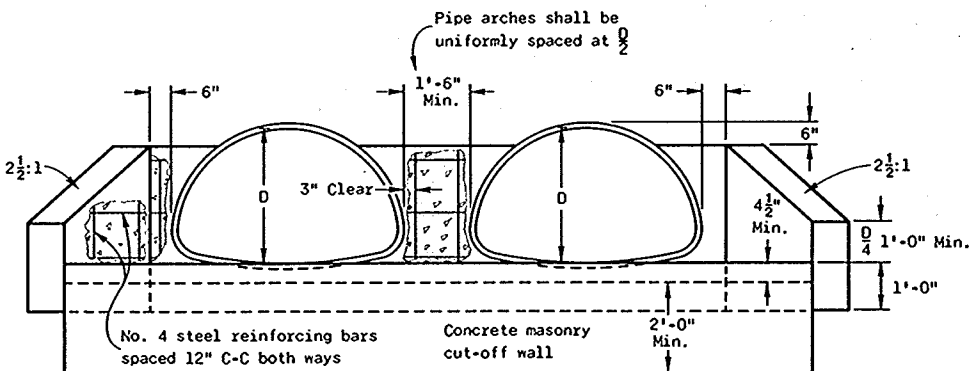


END ELEVATION

CIRCULAR PIPE

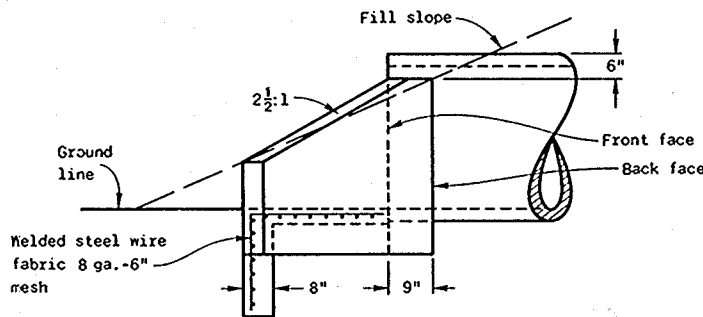
INLET			OUTLET		
R*	X	Y	R*	X	Y
0 - 7°	30°	30°	0 - 15°	15°	15°
8 - 22°	25°	"	16 - 45°	10°	"
23 - 37°	20°	"	46 - 75°	5°	"
38 - 52°	15°	"	over 75°	0°	"
53 - 67°	10°	"			
68 - 82°	5°	"			
over 82°	0°	"			

*R = Number of degrees right or left hand forward.



END ELEVATION

PIPE ARCH



SIDE ELEVATION

CIRCULAR PIPE AND PIPE ARCH

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.

Fill slopes flatter than $2\frac{1}{2}:1$ shall be warped to meet the top of the wingwall.

All headwalls, aprons and cut-off walls shall be constructed of concrete masonry reinforced as shown on this drawing. Construction methods, materials, measurement and payment for concrete masonry endwalls shall conform to the pertinent requirements of section 504 of the Standard Specifications and with any applicable Supplemental Specifications and Special Provisions.

Steel reinforcing bars and welded steel wire fabric shall be of the size and spacing shown on this drawing. Construction methods and materials for steel reinforcing bars (high strength bars not required) and welded steel wire fabric shall conform to the requirements of section 505 of the Standard Specifications and with any applicable Supplemental Specifications and Special Provisions.

All steel reinforcement and welded steel wire fabric shall be embedded 2 inches clear unless otherwise noted.

CONCRETE MASONRY ENDWALLS
(CIRCULAR PIPE & PIPE ARCHES)

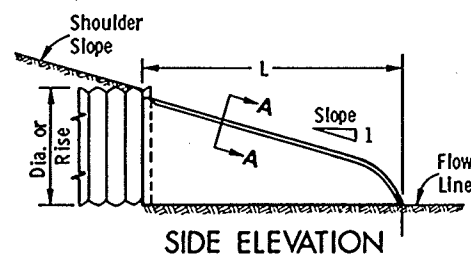
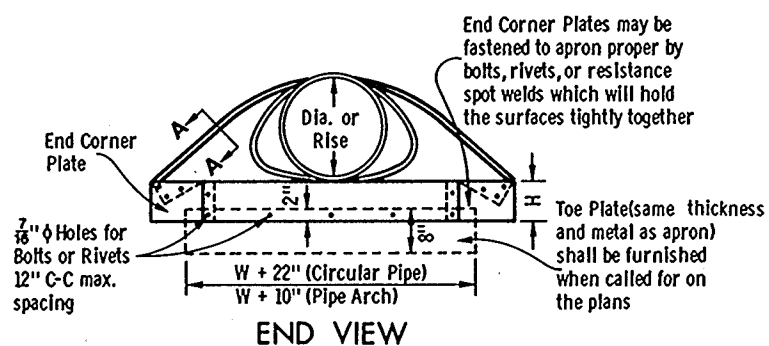
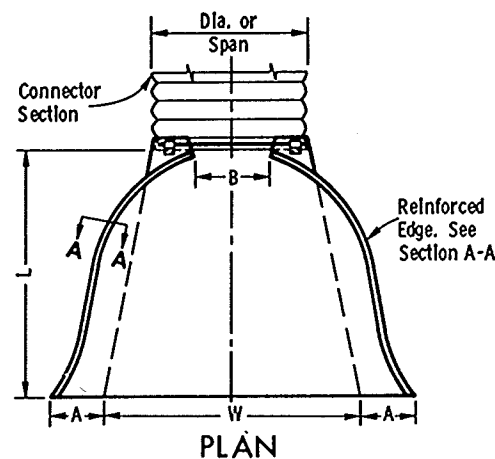
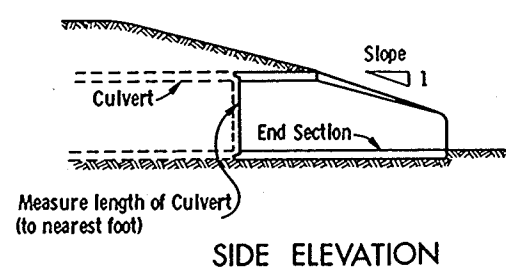
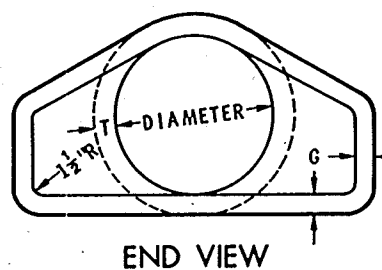
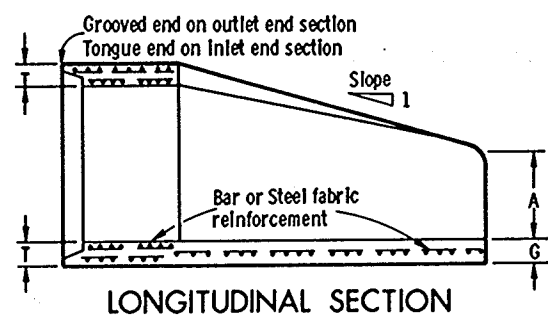
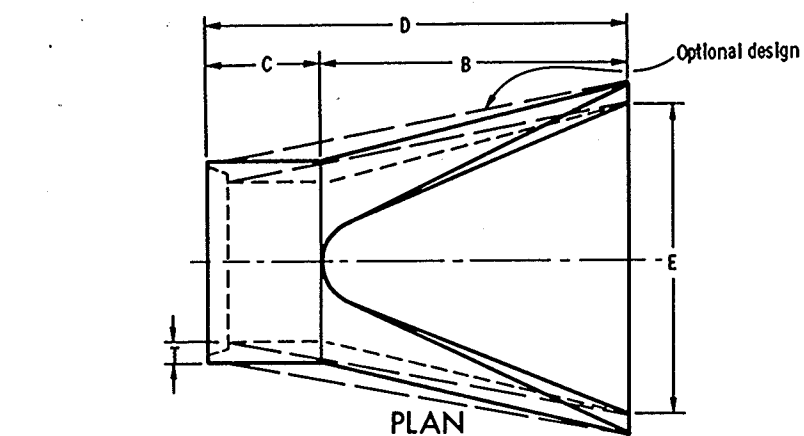
State of Wisconsin
Department of Transportation
Division of Highways

RECOMMENDED FOR APPROVAL:
6-6-75
DATE

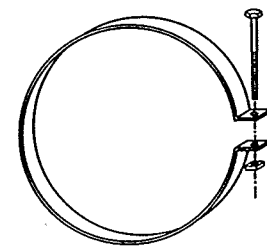
J.C. Hennrich
CHIEF OF FACILITIES DEVELOPMENT

APPROVED
6-6-75
DATE

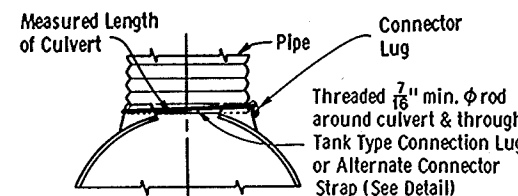
W. J. Siedler
STATE HIGHWAY ENGINEER



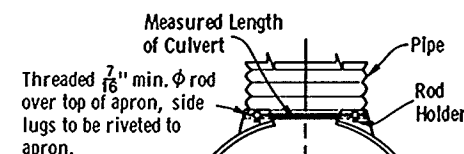
1" Wide, 12 Ga. galvanized (0.109" thick) strap with standard 6" x 1/2" band bolt and nut



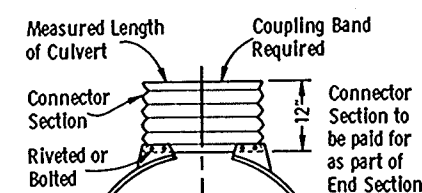
Alternate for Type 1 Connection
END SECTION CONNECTOR STRAP



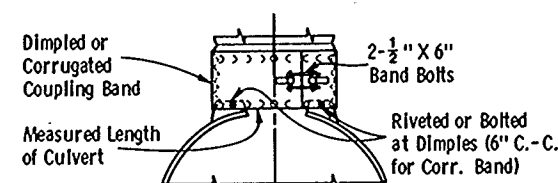
TYPE 1
For 12" thru 24" only (Circular Pipe)



TYPE 2
For 30" and 36" only (Circular Pipe)
For 17" X 13" thru 57" X 38" only (Pipe Arch)



TYPE 3
For 42" thru 84" only (Circular Pipe)
For 64" X 43" & 71" X 47" (Pipe Arch)



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

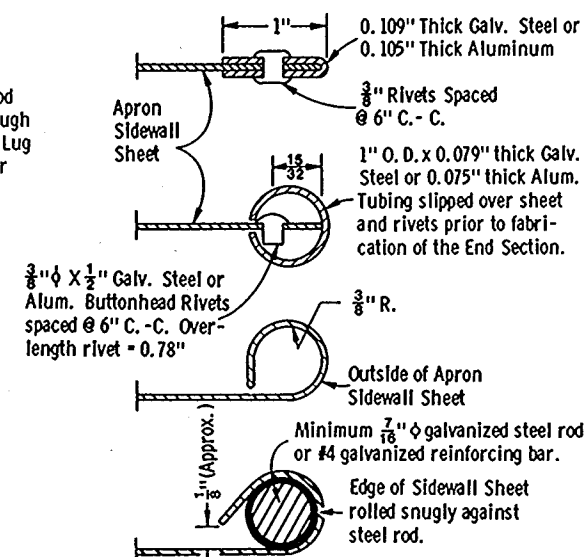
For Circumferentially Corrugated Pipe use Endwall Connection Details 1, 2, 3, or 5 as applicable.

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.



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 1/4"	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 1/4" - 35"	98 1/4" - 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"	34" - 36"	72" - 78"	21"	102"	102"	5 1/2"	
72"	12,520	7"	36" - 38"	78"	21"	108"	108"	6"	
78"	14,430	7 1/2"	38" - 40"	78"	21"	114"	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	MIN. METAL THICKNESS	MIN. ALUM. THICKNESS	DIMENSIONS					APPROX. SLOPE
PIPE DIAM.			A ± 1"	B MAX.	H ± 1"	L ± 1 1/2"	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 1/2 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	18"	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		MIN. METAL THICK.	DIMENSIONS					APPROX. SLOPE
SPAN	RISE		A ± 1"	B MAX.	H ± 1"	L ± 1½"	W ± 2"	
17"	13"	0.064	7"	9"	6"	19"	30"	2½ 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"	2½ to 1
64"	43"	↑	18"	30"	12"	70"	102"	2¼ to 1
71"	47"	↑	18"	33"	12"	77"	114"	2¼ 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

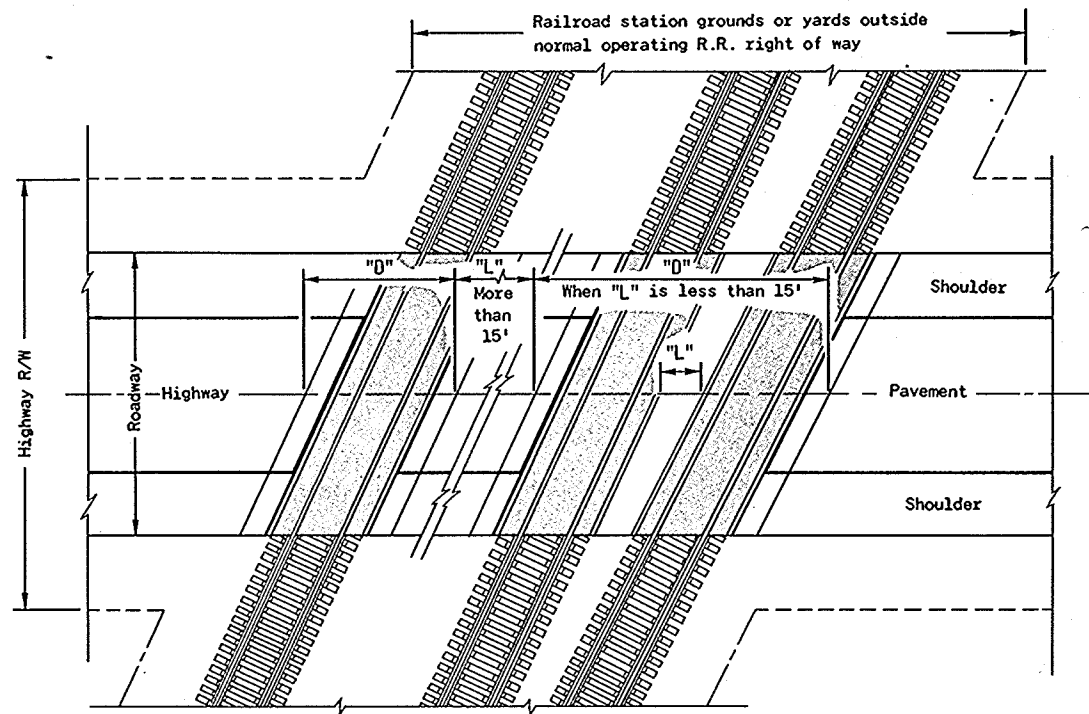
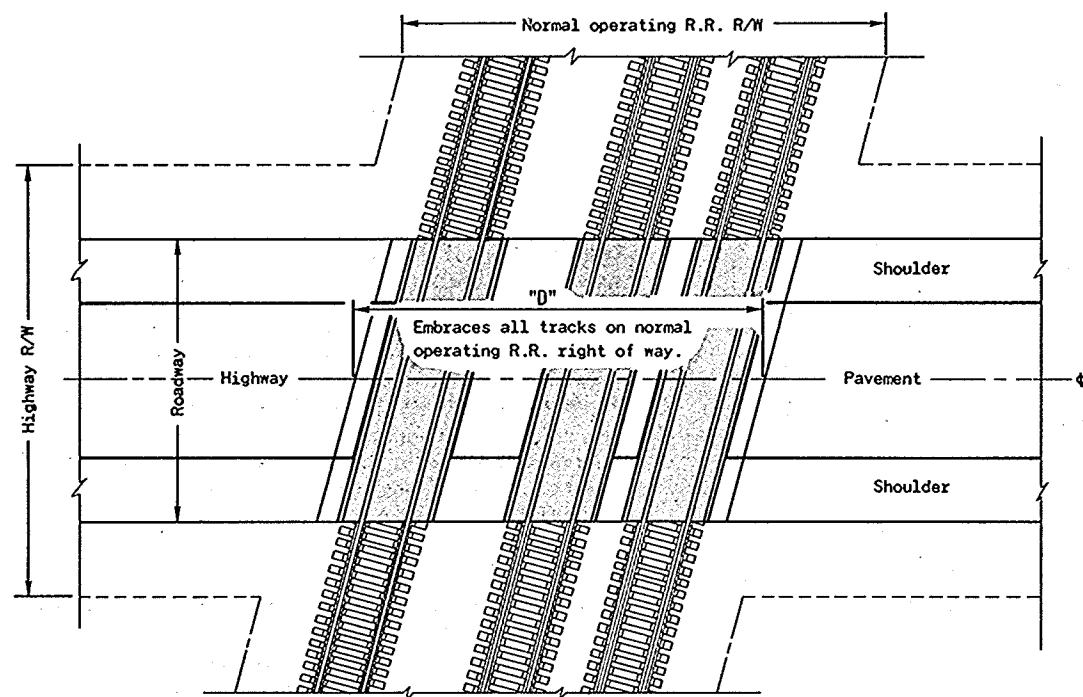
METAL APRON ENDWALLS FOR PIPE ARCHES

APRON ENDWALLS FOR CULVERT PIPE AND PIPE ARCH

State of Wisconsin
Department of Transportation
Division of Highways

APPROVED
DATE 7-14-78
APPROVED
DATE 7-17-78
FWA

John P. Baker
SPECIAL AGENT IN CHARGE
D. J. Schuch
CHIEF OF ARCHITECTS DIVISION

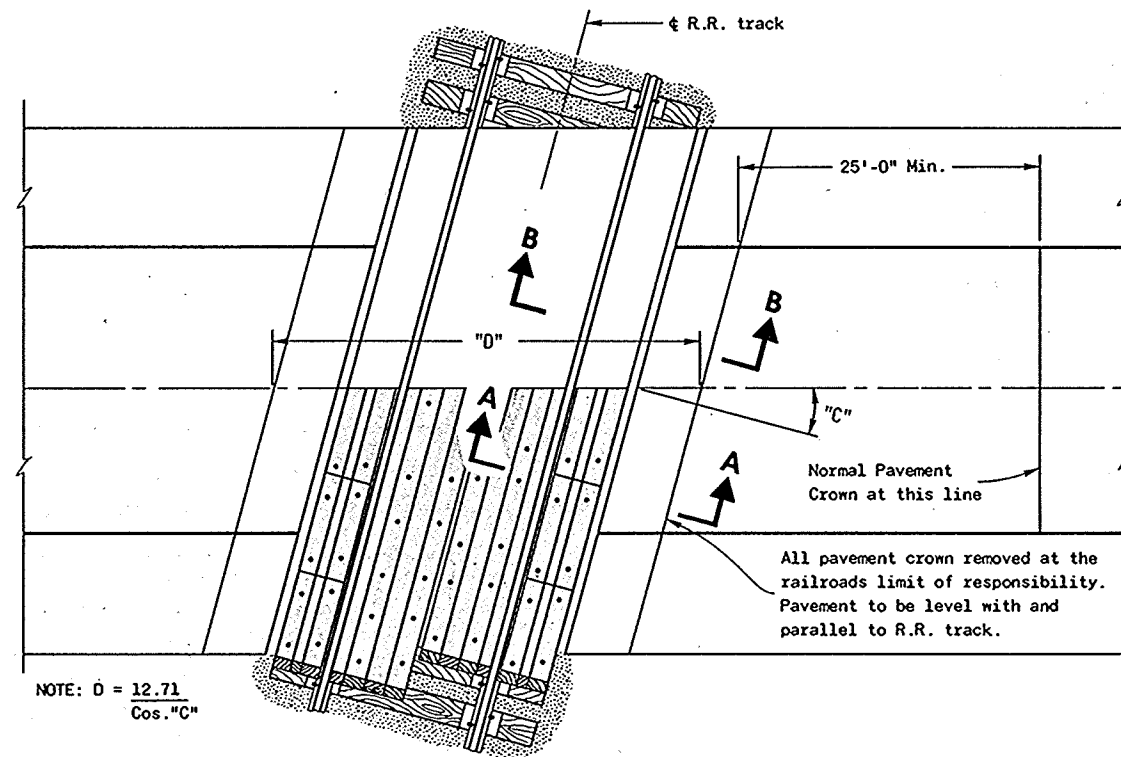


GENERAL NOTES

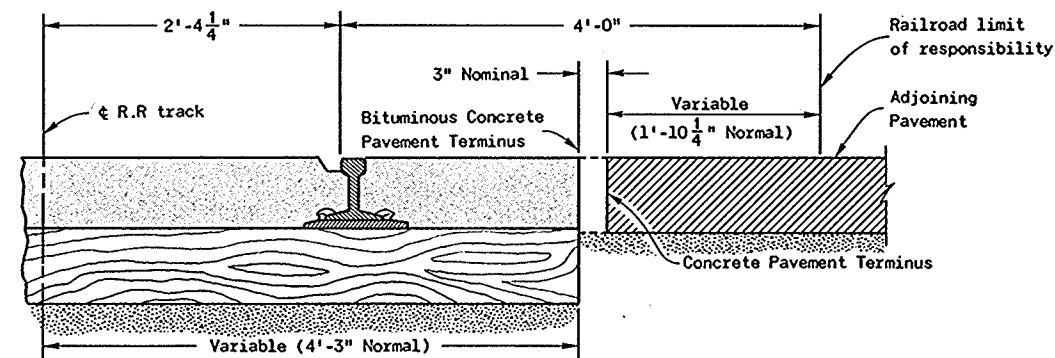
Details of construction, materials and workmanship not shown on this drawing shall conform to the pertinent requirements of the Standard Specifications and the applicable Special Provisions.

"D" = Exception to net length of $\pm$. Paving or surfacing and shoulder material within limits designated by "D" to be at expense of railroad company. Trackage to industrial sites to be treated same as trackage to R.R. station grounds or yards outside of normal operating R/W.

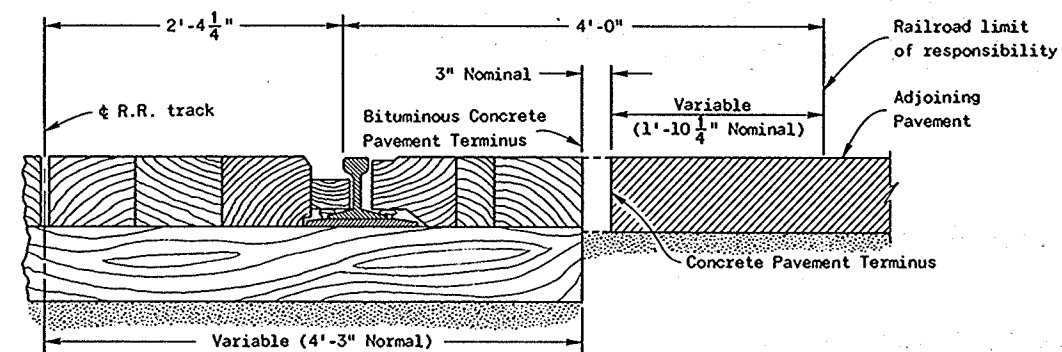
TYPICAL TYPES OF RAILROAD GRADE CROSSINGS
SHOWING THE RAILROAD'S LIMIT OF RESPONSIBILITY
AND MEASUREMENT DETAILS



NOTE: $D = \frac{12.71}{\cos "C"}$



SECTION B-B



SECTION A-A

RAILROAD APPROACH CONSTRUCTION DETAILS

PAVEMENT DETAILS FOR RAILROAD APPROACH

State of Wisconsin
Department of Transportation
Division of Highways

APPROVED
9-26-77

DATE
APPROVED
9-26-77

DATE
FHWA

John C. B. B.
SUPERVISING DEVELOPMENT ENGINEER

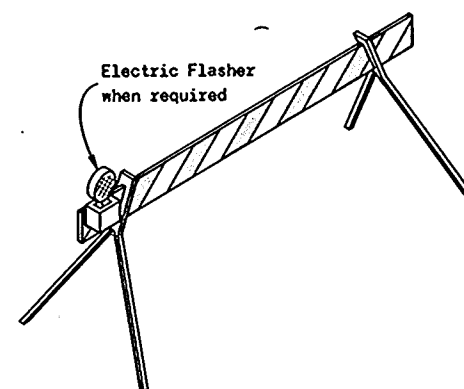
D. J. Shank
CHIEF OF FACILITIES DEVELOPMENT

TABLE OF BARRICADE CHARACTERISTICS

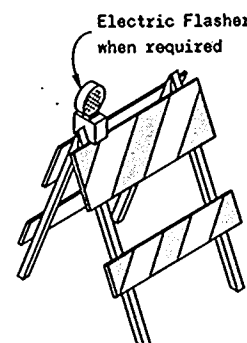
BARRICADE TYPE	I	II	III
Height	3' Minimum		5' Minimum
* Rail Width	8" Minimum to 12" Maximum		
Rail Length	2' Minimum to variable Maximum		
** Stripe Width	6" at 45° Angle		
Stripe Colors	Reflectorized Orange & White		

* Nominal dimensions when barricade is constructed of lumber.

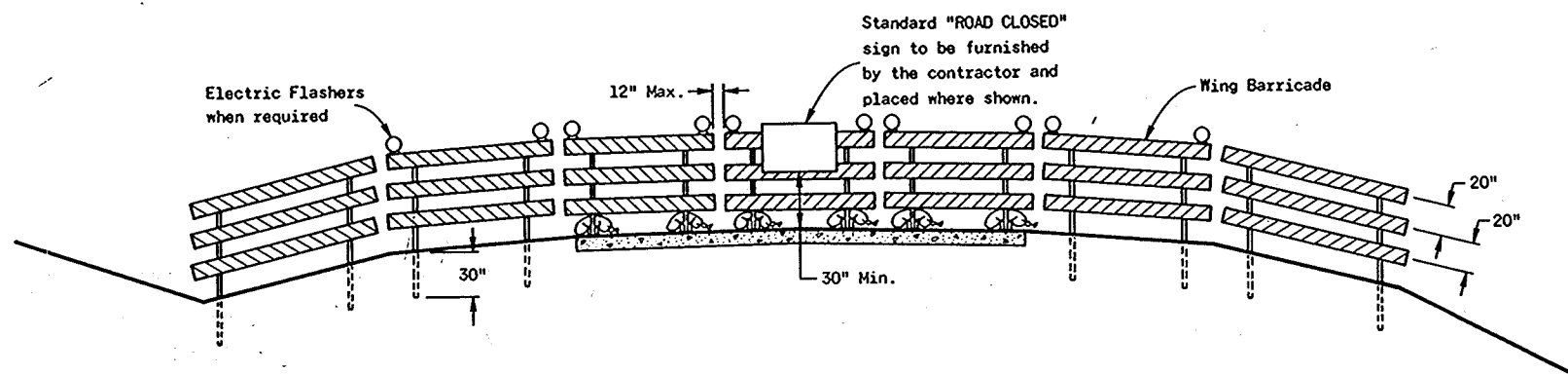
** May be 4" for rail lengths less than 3'.



TYPICAL TYPE I BARRICADE

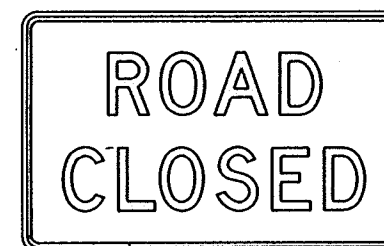


TYPICAL TYPE II BARRICADE



TYPICAL INSTALLATION SHOWING TYPE III BARRICADE

CONSTRUCTION BARRICADES



R11-2

48" x 30"

Black Lettering on Reflective
White Background
Letter Series "D"
Letter height 8"



W20-3

48" x 48"

Black Lettering on Reflective
Orange Background
Letter Series "D"
Letter height 7"

STANDARD SIGNS-TYPE II

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.

Each barricade shall have the name and telephone number of a person responsible for 24 hour emergency service printed in letters at least 3/4 inch in height.

CONSTRUCTION BARRICADES & STANDARD SIGNS

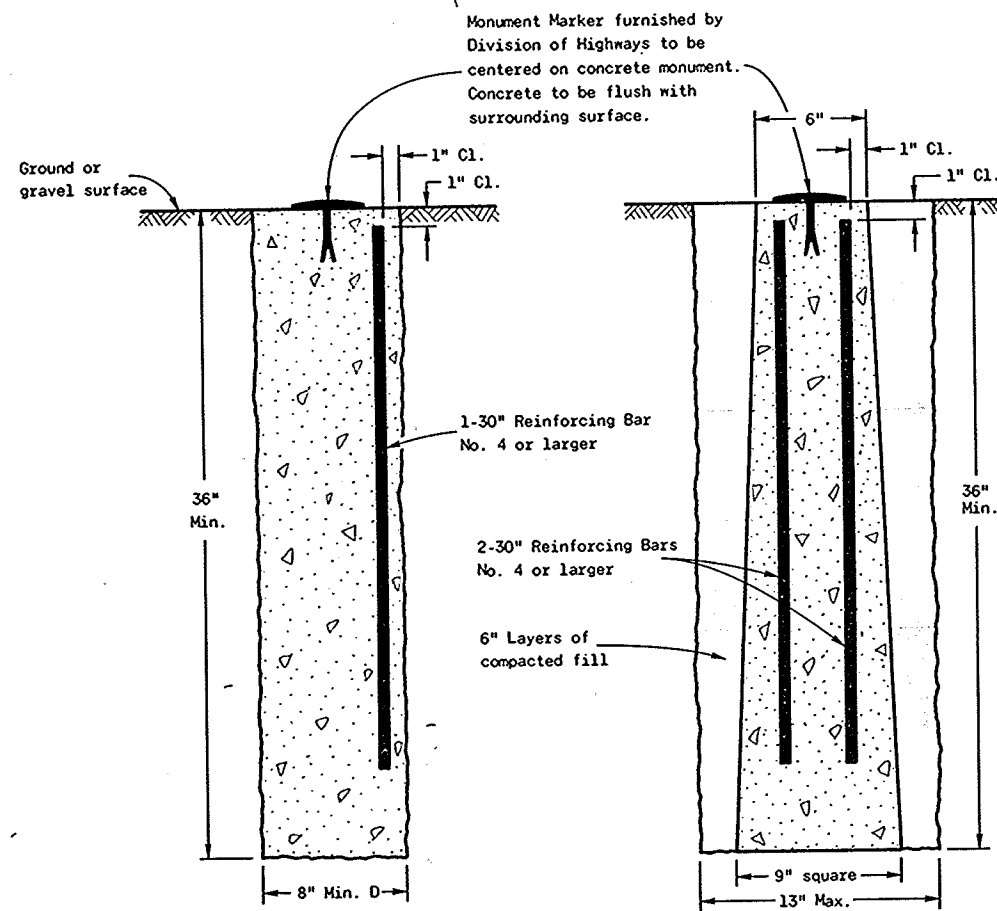
State of Wisconsin
Department of Transportation
Division of Highways

APPROVED
10-1-76
DATE

D. J. Strand
CHIEF OF FACILITIES DEVELOPMENT

APPROVED
10-1-76
DATE

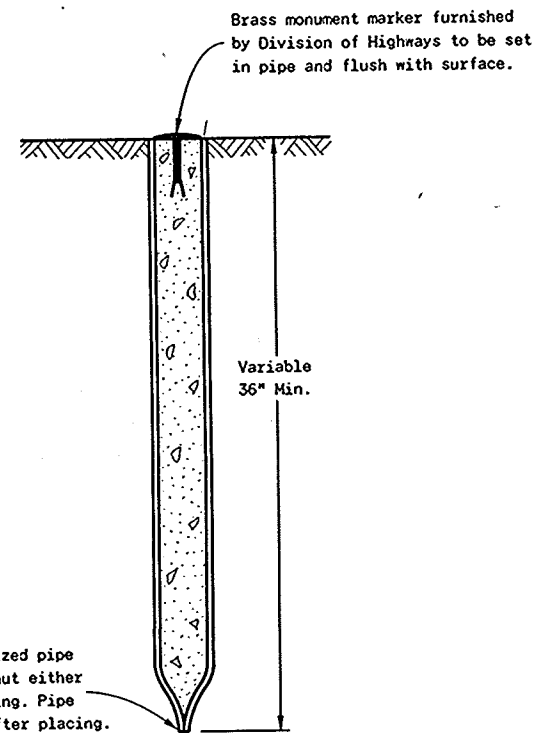
W. J. Siedler
STATE HIGHWAY ENGINEER



CAST-IN-PLACE
CONCRETE MONUMENT

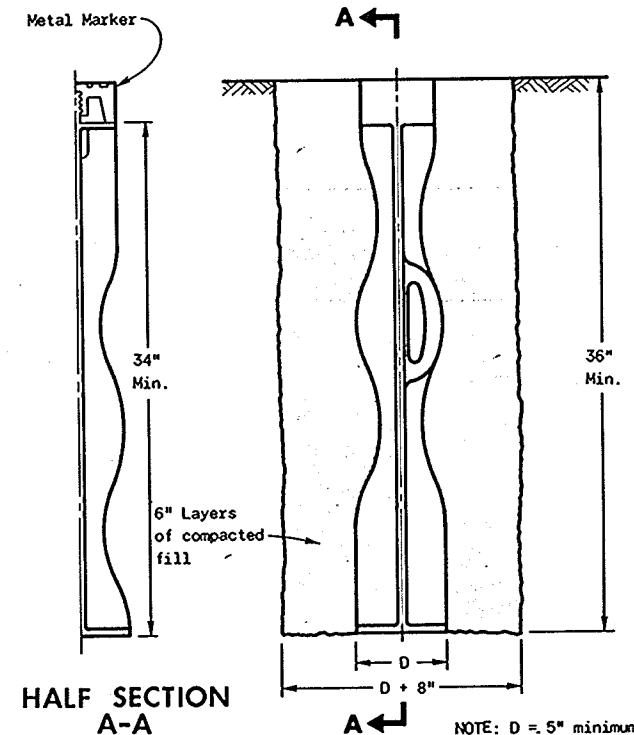
PRECAST
CONCRETE MONUMENT

TYPE A



TYPE B

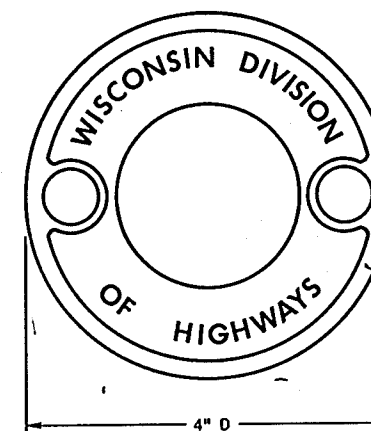
NOT TO BE USED IN PAVEMENT STRUCTURE



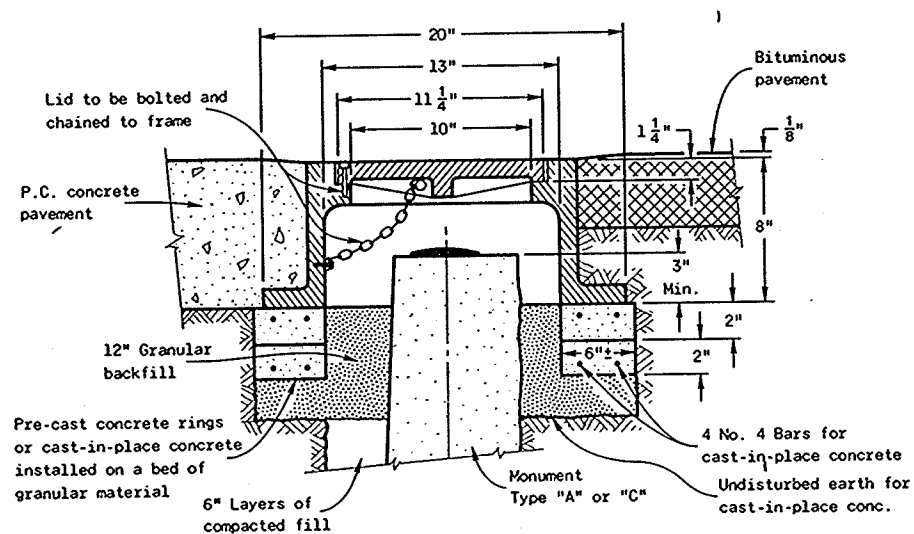
METAL MONUMENT
(Includes Marker)

TYPE C

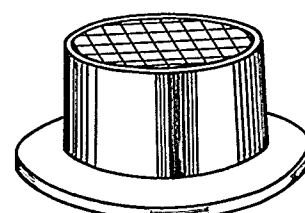
NOTE: D = 5" minimum
diameter base.



TOP LEGEND FOR MARKER



DETAIL OF MONUMENT COVER
INSTALLATION IN PAVEMENT OVER A MONUMENT



(Approximate weight - 95 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.

Detailed drawings of proposed alternate designs for Metal Monuments or Monument Covers shall be submitted to the Engineer for approval.

The installed Metal Monument must be easily detected with a dip needle. Inert permanent magnets shall be attached near the top and bottom of those Monuments constructed of a metal alloy which is not attractive to a dip needle.

Type A and Type C Monuments are equal alternates unless otherwise specified on the plan or by special provision.

When Landmark Reference Monument and Cover is specified, contractor shall furnish and install Monument and Monument Cover in conformance with details on this drawing and pertinent requirements of Section 611 of the Standard Specifications.

The Monument Cover shall be a "Non-Rocking" type. Adjustment of the Cover to grade may be accomplished by the use of mortar and brick, or by either pre-cast or cast-in-place Reinforced Concrete Grade Rings.

Monuments shall be located and placed at the direction of the Engineer.

LANDMARK REFERENCE MONUMENTS

State of Wisconsin
Department of Transportation
Division of Highways

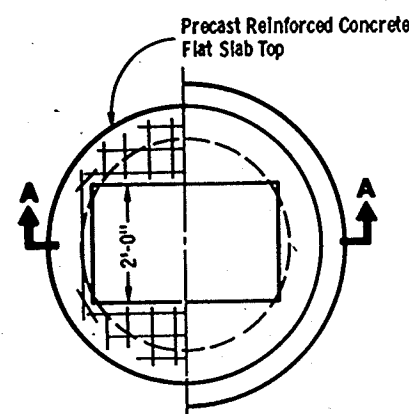
RECOMMENDED FOR APPROVAL:

2-15-74
DATE

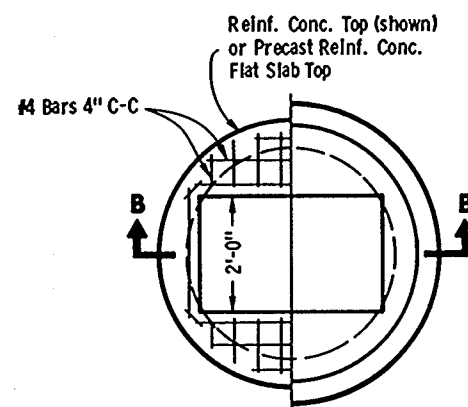
J. C. Hermal
CHIEF OF FACILITIES DEVELOPMENT

APPROVED
3-21-74
DATE

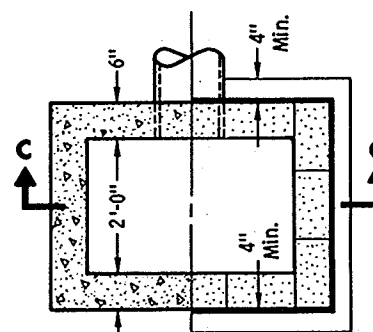
H. J. Siedler
STATE HIGHWAY ENGINEER



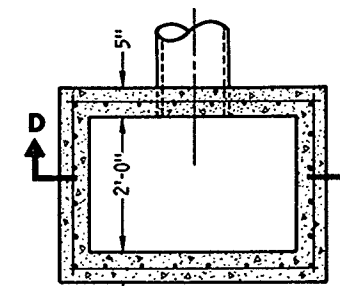
PLAN VIEW



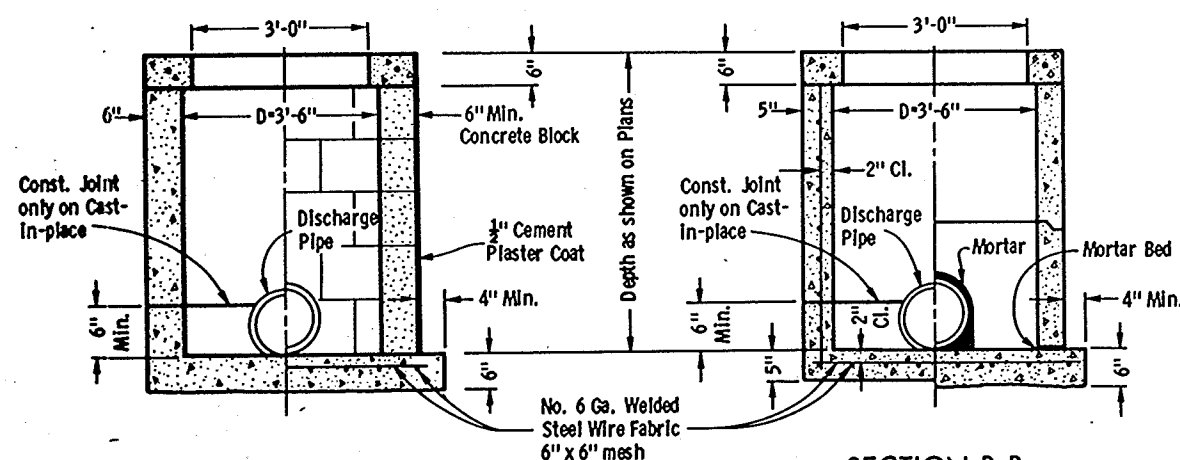
PLAN VIEW



PLAN VIEW

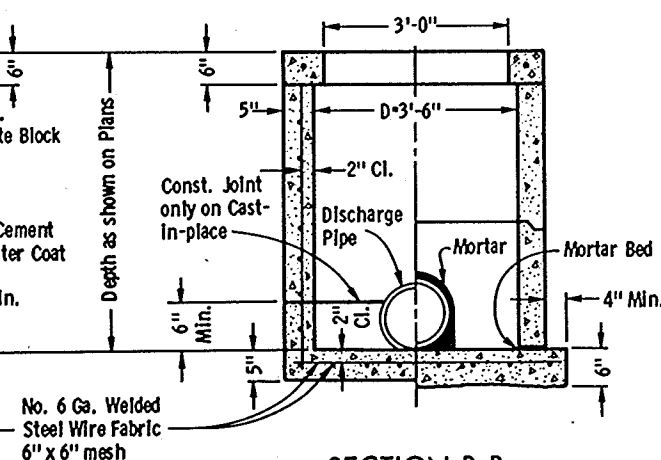


PLAN VIEW



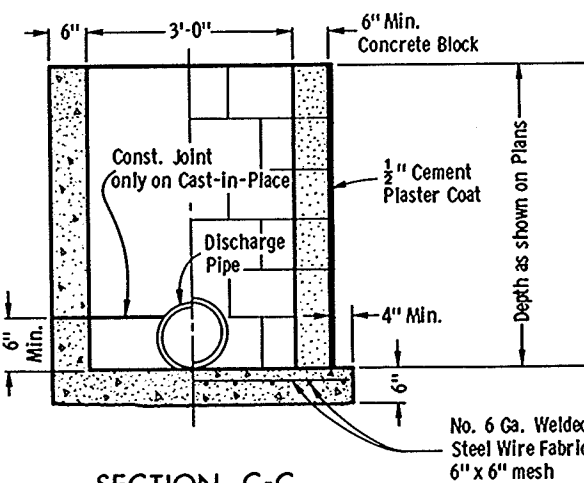
SECTION A-A

MONOLITHIC
CONCRETE



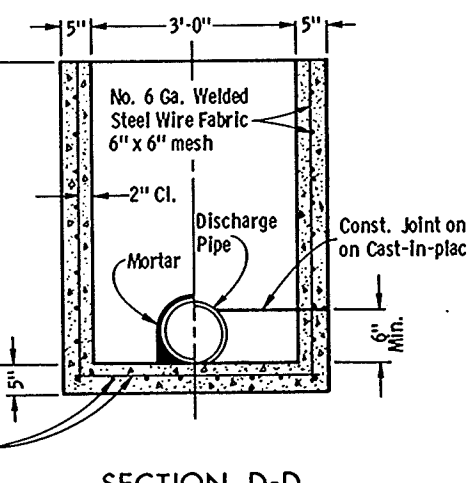
SECTION B-B

REINFORCED
CONCRETE



SECTION C-C

MONOLITHIC
CONCRETE



SECTION D-D

PRECAST
REINFORCED
CONCRETE

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 AASHTO 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

APPROVED

10-16-75

DATE

L. C. Hennel
CHIEF OF FACILITIES DEVELOPMENT

W. J. Sinder
STATE HIGHWAY ENGINEER

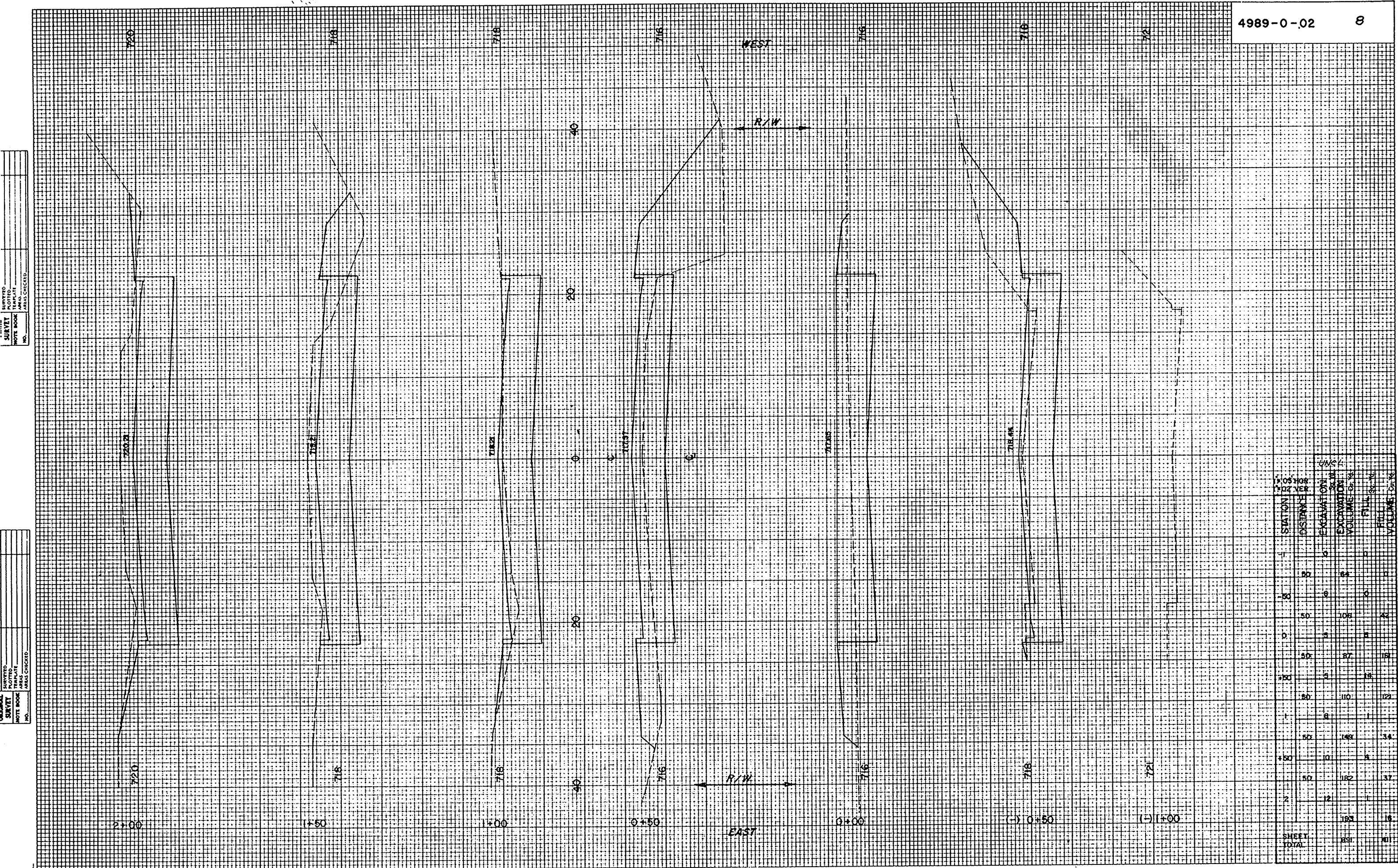
S.D.D. 8C2-3

SURVEYED
 SURVEY
 NO.

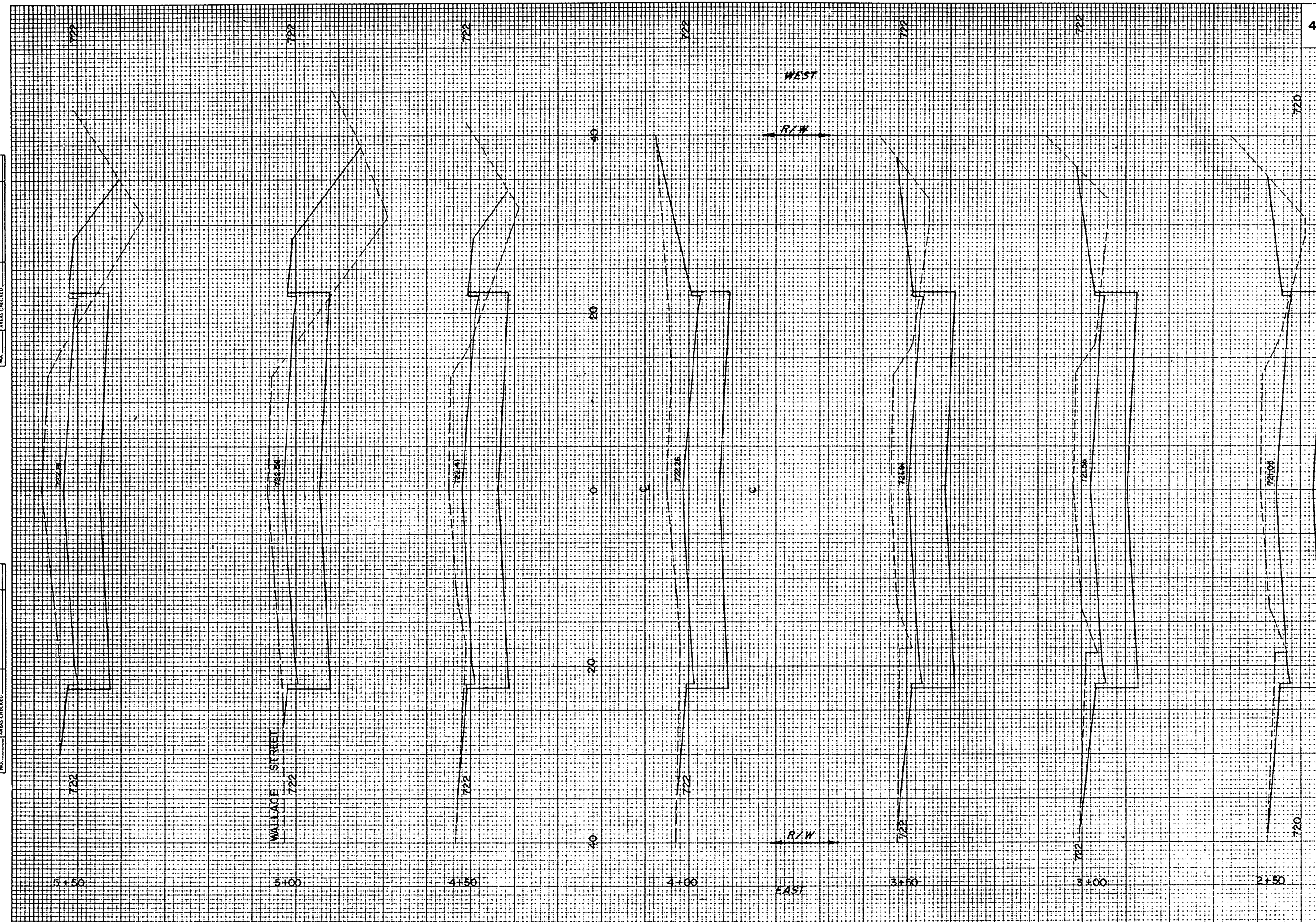
SURVEYED
 SURVEY
 NO.

4989-0-02

8

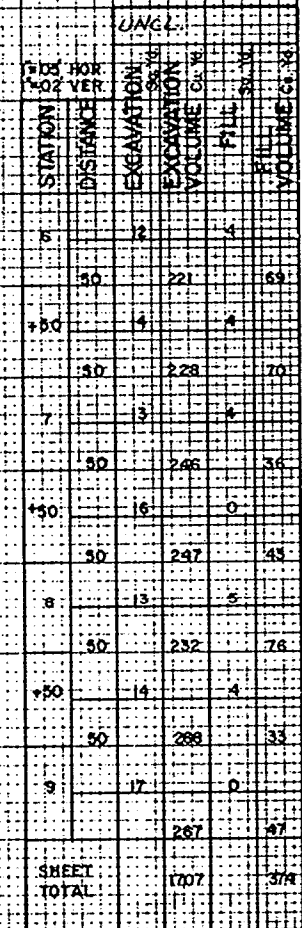


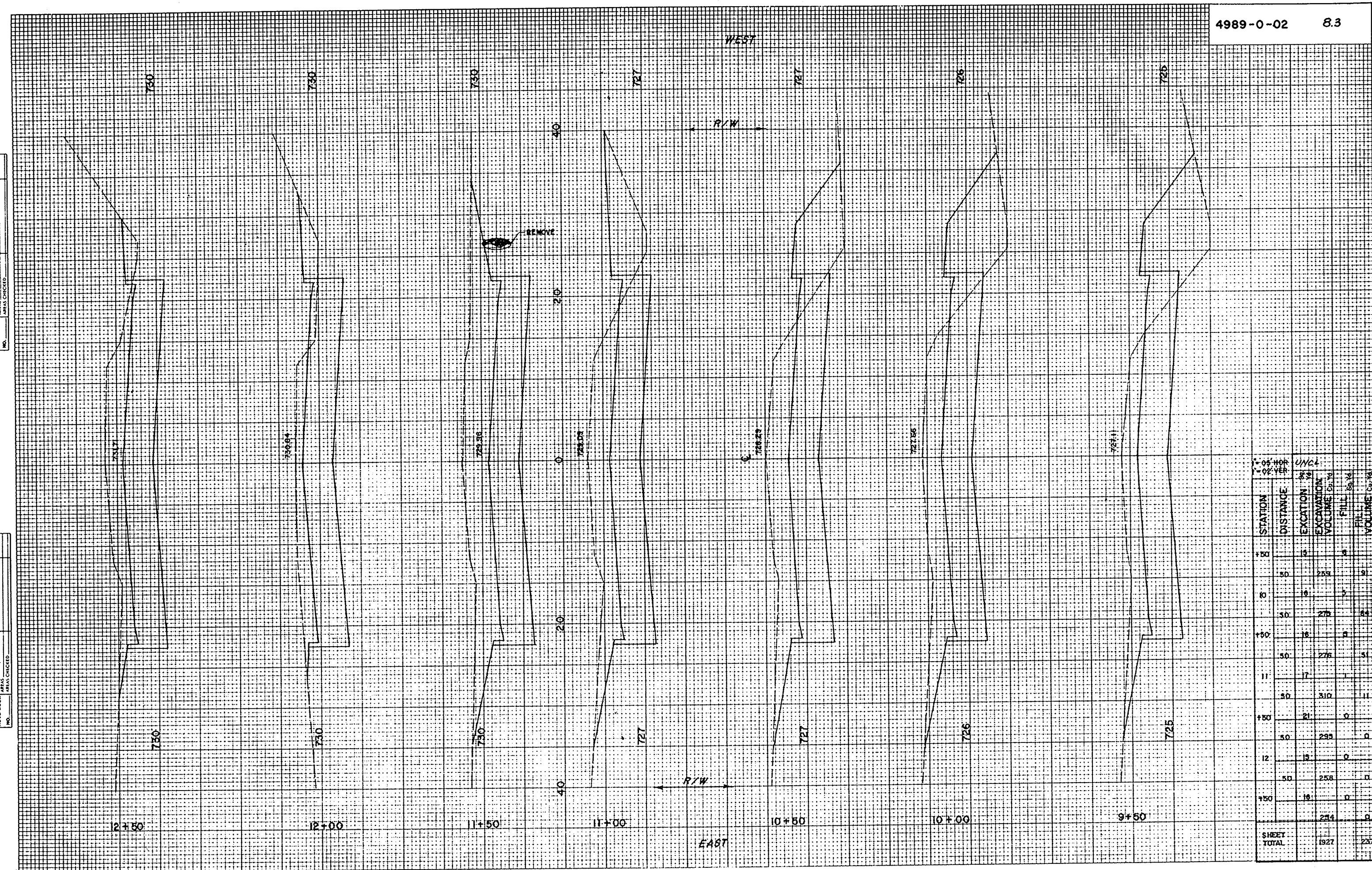
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1	0	0	0
20	0	0	0
40	0	0	0
60	0	0	0
80	0	0	0
100	0	0	0
120	0	0	0
140	0	0	0
160	0	0	0
180	0	0	0
200	0	0	0
220	0	0	0
240	0	0	0
260	0	0	0
280	0	0	0
300	0	0	0
320	0	0	0
340	0	0	0
360	0	0	0
380	0	0	0
400	0	0	0
420	0	0	0
440	0	0	0
460	0	0	0
480	0	0	0
500	0	0	0
520	0	0	0
540	0	0	0
560	0	0	0
580	0	0	0
600	0	0	0
620	0	0	0
640	0	0	0
660	0	0	0
680	0	0	0
700	0	0	0
720	0	0	0
740	0	0	0
760	0	0	0
780	0	0	0
800	0	0	0
820	0	0	0
840	0	0	0
860	0	0	0
880	0	0	0
900	0	0	0
920	0	0	0
940	0	0	0
960	0	0	0
980	0	0	0
1000	0	0	0
SHEET TOTAL	0	0	0



STATION	DISTANCE	EXCAVATION		FILL	
		EXCAVATION VOLUME	EXCAVATION VOLUME	FILL VOLUME	FILL VOLUME
5+50	11			1	
5+00	50	195		21	
4+50	12			1	
4+00	50	202		21	
3+50	12			1	
3+00	50	213		111	
2+50	13			0	
2+00	50	199		32	
1+50	11			9	
1+00	50	176		108	
5+00	50	187		124	
4+50	12			6	
SHEET TOTAL		202		51	
		1374		800	

NO.	AREAS CHECKED
AREAS	
TEMPLATE	
PLOTTED	
SURVEY	
NOTE BOOK	





STATION	DISTANCE	EXCAVATION VOLUME	FILL VOLUME
12+50	15	0	0
12+00	50	259	0
11+50	10	0	0
11+00	50	275	0
10+50	10	0	0
10+00	50	276	0
9+50	17	0	0
9+00	50	310	0
8+50	21	0	0
8+00	50	295	0
7+50	10	0	0
7+00	50	258	0
6+50	10	0	0
6+00	50	234	0
SHEET TOTAL		1927	237

DESIGNED	DATE
DRAWN	DATE
CHECKED	DATE
APPROVED	DATE
NO.	

DESIGNED	DATE
DRAWN	DATE
CHECKED	DATE
APPROVED	DATE
NO.	

16+00 732

15+50 732

15+00 732

14+50 733

14+00 733

13+50 733

13+00 732

JEAN STREET

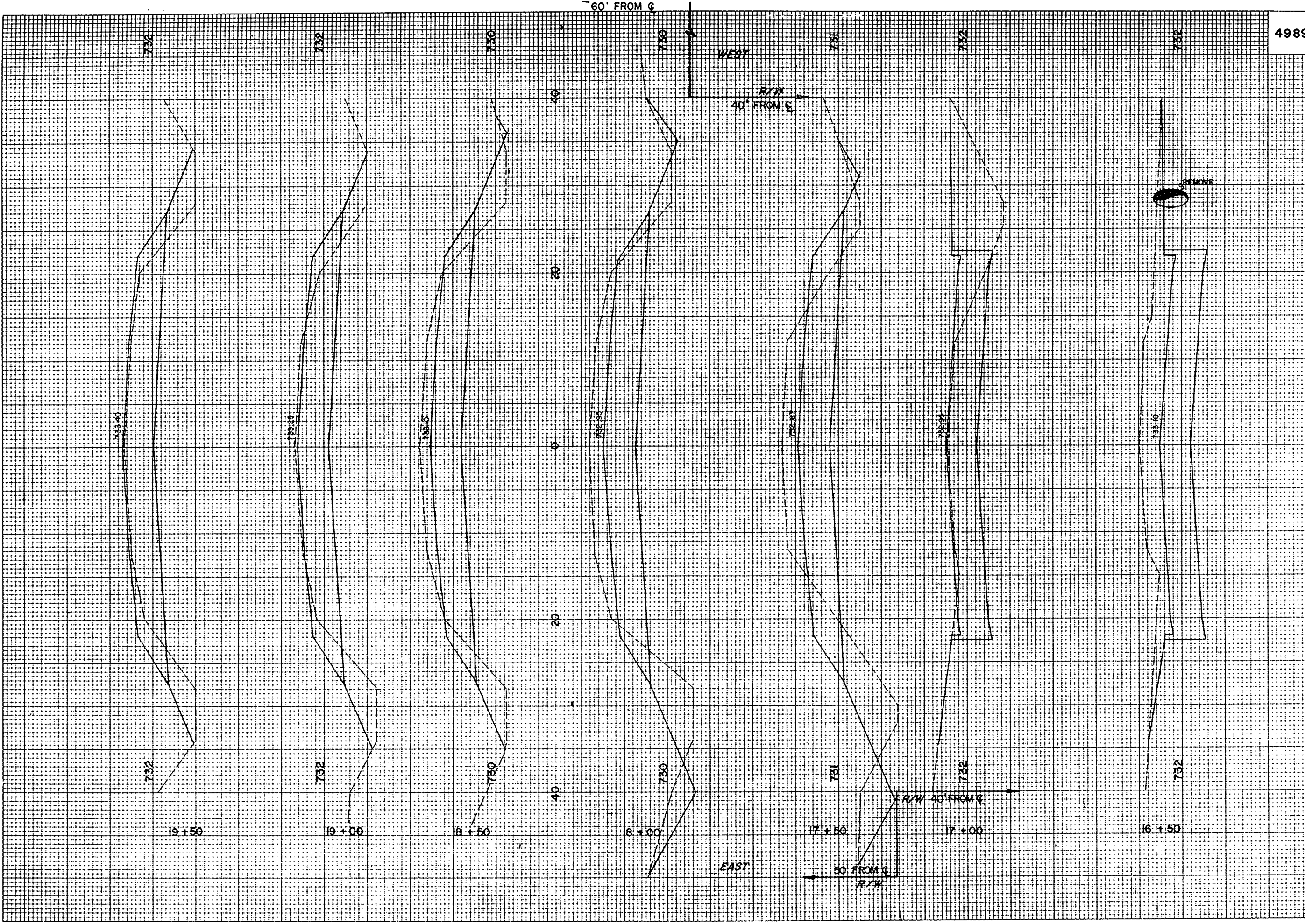
WEST

EAST

R/W

R/W

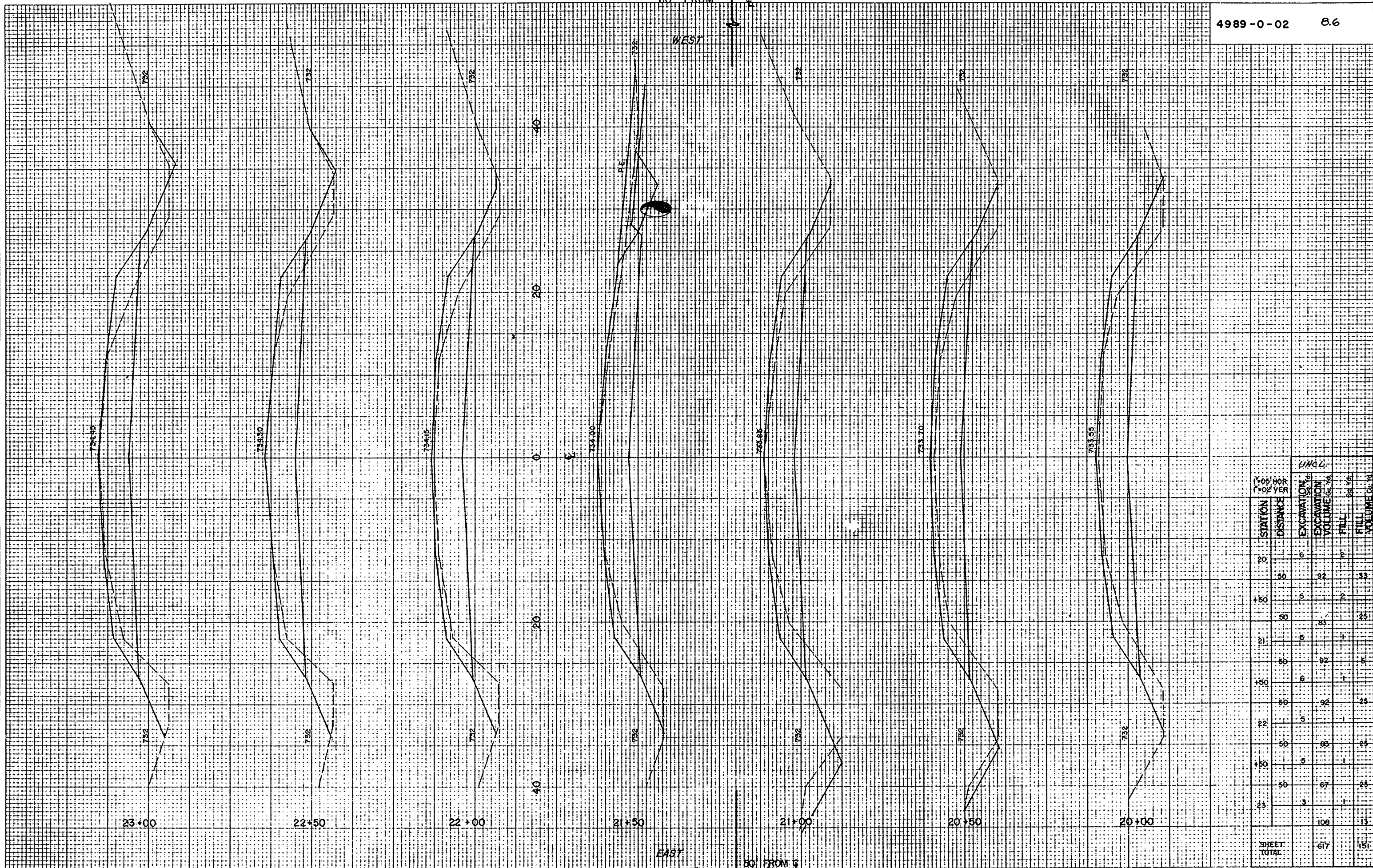
STATION	DISTANCE	EXCAVATION #	EXCAVATION VOLUME	FILL VOLUME	TOTAL VOLUME
16+00	0	0	0	0	0
15+50	50	260	0	0	260
15+00	50	295	0	0	295
14+50	50	302	0	0	302
14+00	50	305	0	0	305
13+50	50	322	0	0	322
13+00	50	344	0	0	344
SHEET TOTAL		2105			2105



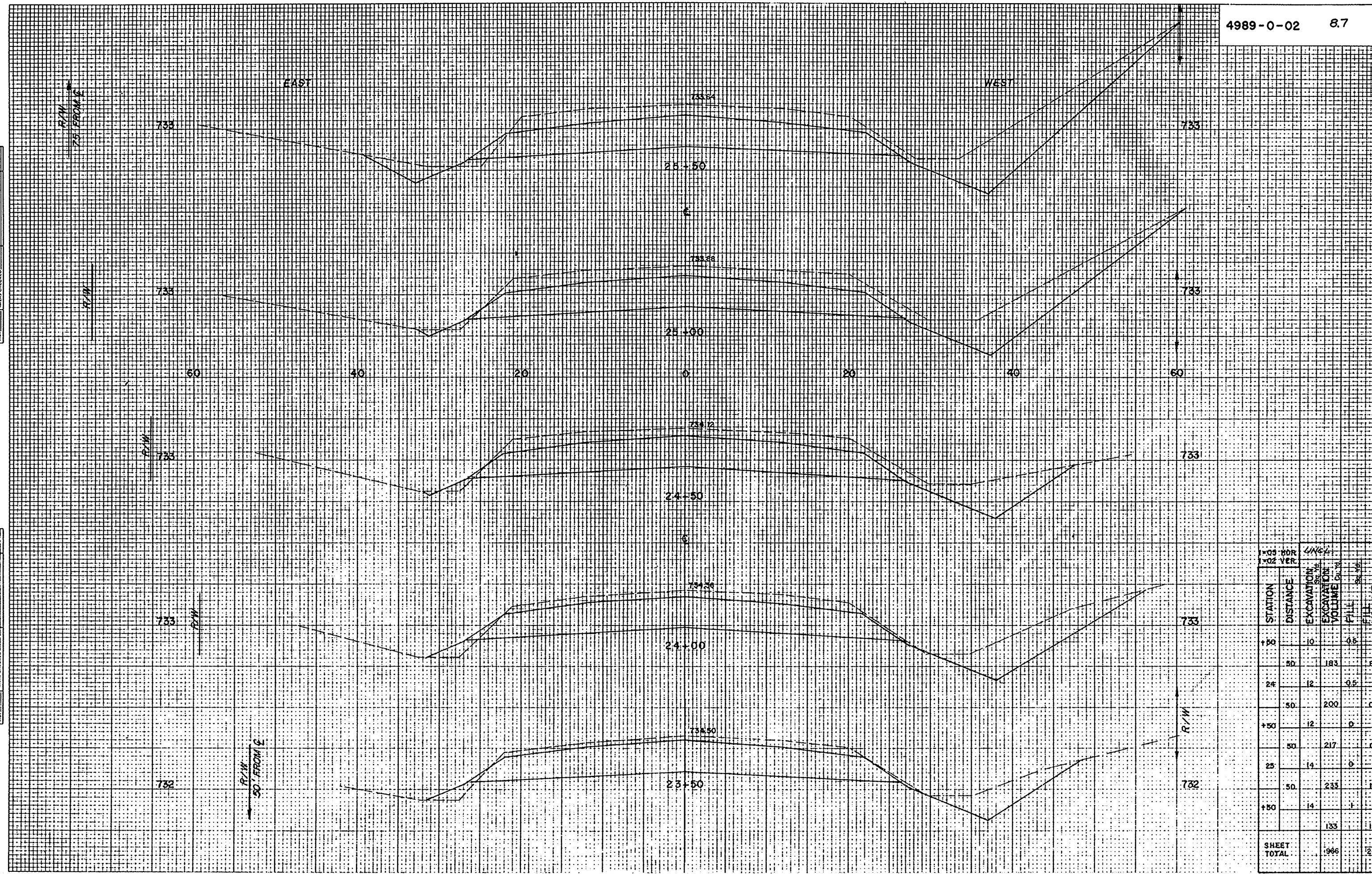
1-05 FOR 1-02 VER

UNCL

STATION	DISTANCE	EXCAVATION VOLUME	FILL VOLUME
19+50	25	0	
19+00	256	16	
18+50	4	1	
18+00	242	24	
17+50	6	2	
17+00	267	25	
16+50	17	1	
16+00	267	17	
15+50	15	1	
15+00	233	17	
14+50	13	1	
14+00	208	17	
13+50	12	1	
SHEET TOTAL		150	25
TOTAL		1683	138

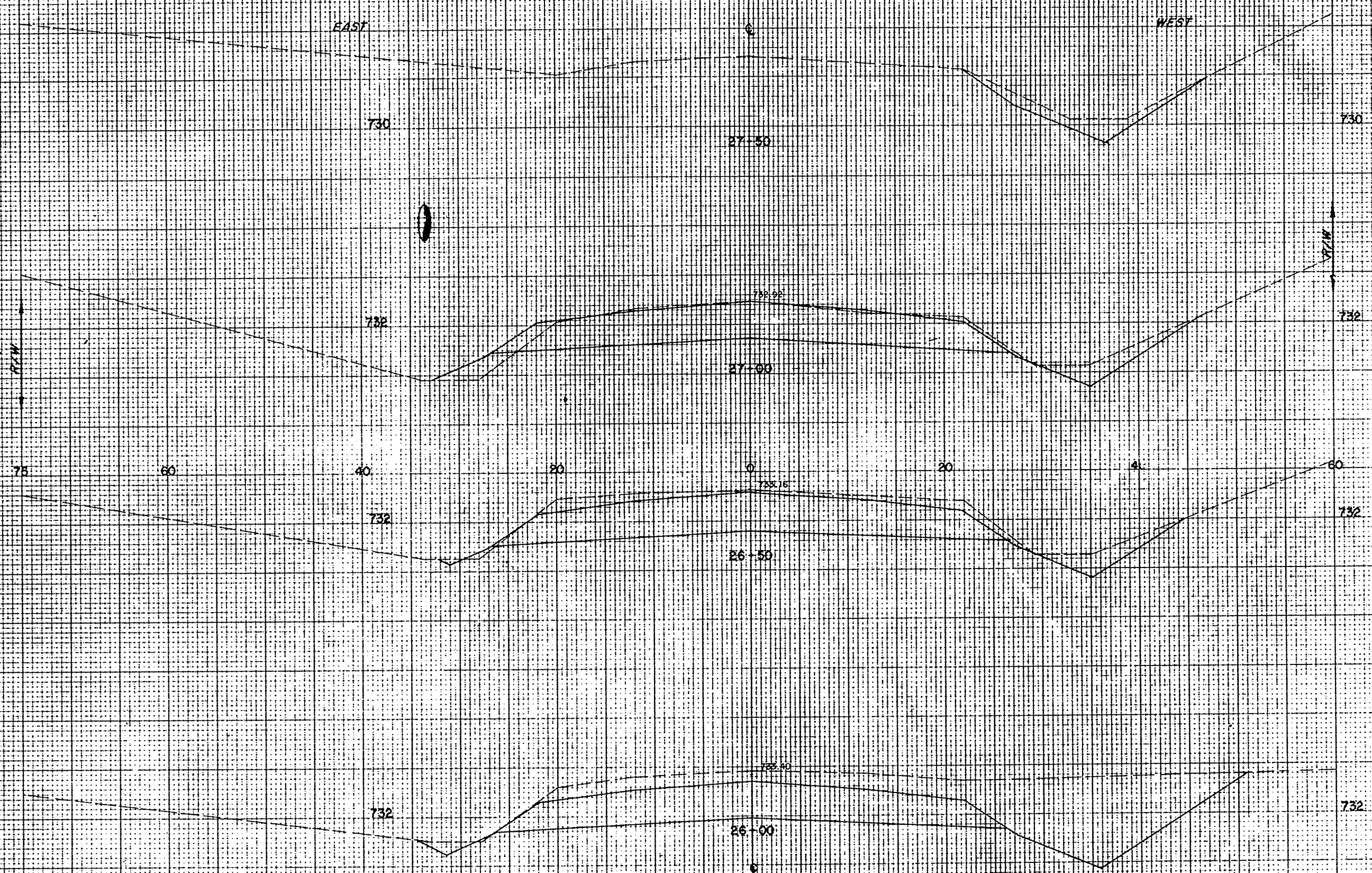


4989-0-02 8.6

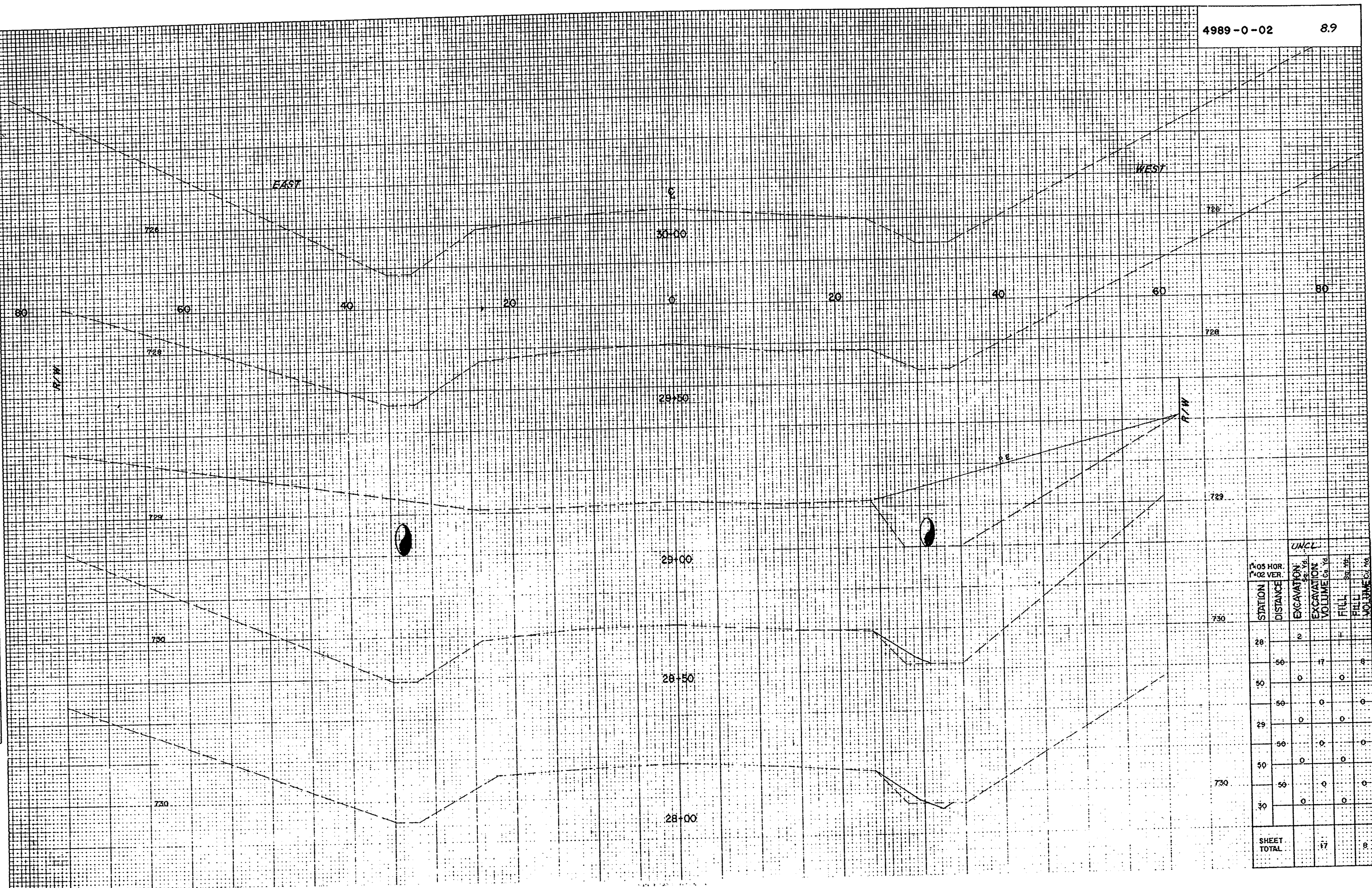


SURVEY NO. 4989-0-02
PROJECT NO. 4989-0-02
DATE 10/1/50
BY J. H. HARRIS
CHECKED BY J. H. HARRIS

SURVEY NO. 4989-0-02
PROJECT NO. 4989-0-02
DATE 10/1/50
BY J. H. HARRIS
CHECKED BY J. H. HARRIS



STATION	DISTANCE	EXCAVATION VOLUME	FILL VOLUME	UNCV.	
				EXCAVATION VOLUME	FILL VOLUME
26	0	0	0	0	0
50	50	50	0	0	0
60	50	0	0	0	0
50	117	0	0	0	0
27	0	0	0	0	0
50	175	0	0	0	0
50	12	0	0	0	0
117	0	0	0	0	0
SHEET TOTAL		447	0		



		UNCL			
		EXCAVATION	EXCAVATION	FILL	FILL
		Vol	Vol	Vol	Vol
		cu yd	cu yd	cu yd	cu yd
STATION	DISTANCE				
28	0	2		1	
	50		17		8
29	0	0		0	
	50	0		0	
29	0	0		0	
	50	0		0	
30	0	0		0	
	50	0		0	
30	0	0		0	
	50	0		0	
SHEET TOTAL			17		8