

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
9479 - 00 - 70		

INDEX OF SHEETS

Sheet No.	Title
1	Typical Sections and Details
	Estimate of Quantities
	Plan and Profile
	Standard Detail Drawings
	Computer Earthwork Data
	Cross Sections

TOTAL SHEETS =

CTH S - STH 107

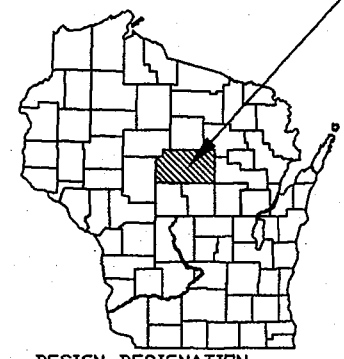
C.T.H. A

MARATHON COUNTY

STATE PROJECT NUMBER
9479 - 00 - 70

END PROJECT
STA. 26+33.00

BEGIN PROJECT
STA. 7+50.00

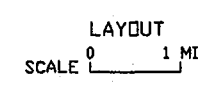
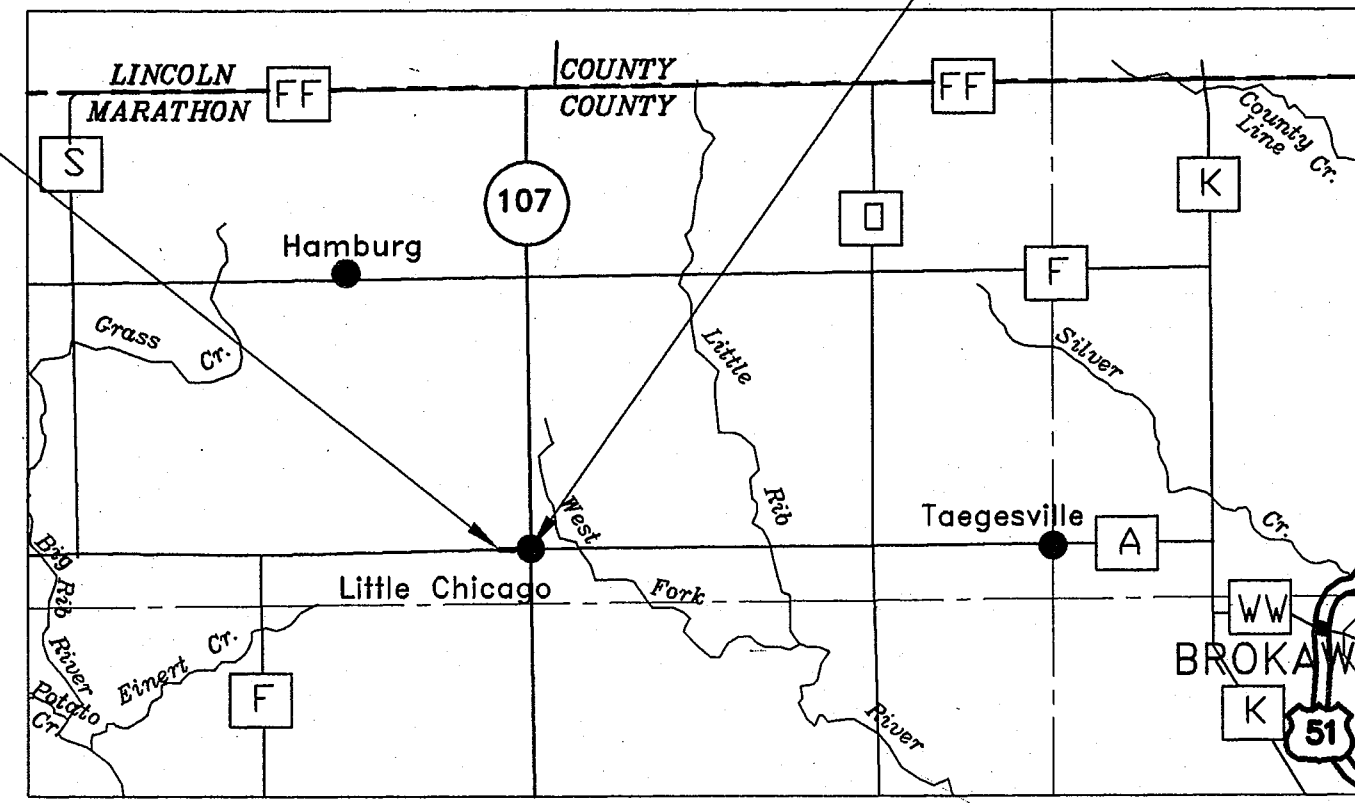


DESIGN DESIGNATION

A.D.T. (1998)	= 1300
A.D.T. (2000)	= 1400
A.D.T. (2020)	= 1800
D.H.V. (1998)	= 5.2
D. (1998)	= 62/38%
T. (1998)	=
DESIGN SPEED	= 55
ESALS	= 233,600

CONVENTIONAL SYMBOLS

COUNTY LINE	COMBUSTIBLE FLUIDS	CAUTION
CORPORATE LIMITS	UNDERGROUND UTILITIES	
PROPERTY LINE	GAS	
LOT LINE	ELECTRIC	
LIMITED EASEMENT	TELEPHONE OR TELEGRAPH	
EXISTING RIGHT OF WAY	COMMUNICATIONS LINE	
PROPOSED OR NEW R/W LINE	SERVICE PEDESTAL	
SURVEY LINE	POWER POLE	
SLOPE INTERCEPT	TELEPHONE POLE	
ORIGINAL GROUND	RAILROAD	
MARSH OR ROCK PROFILE	SANITARY SEWER	
(To be noted as such)	STORM SEWER	
MARSH AREA	WATER	
WOODED OR SHRUB AREA	EXISTING CULVERT	
	PROPOSED CULVERT	
	(Box or Pipe)	
	CULVERT (Profile View)	
RIP RAP	SILT FENCE	
EROSION BALES	BENCHMARK	
STUMP	CONTROL POINT	
CONIFEROUS TREE	DECIDUOUS TREE	
	BUSH/SHRUB	



Coordinates on this plan are referenced to the Wisconsin County Coordinate System (WCCS), Marathon County.
ORIGIN OF DATUM: Chiseled '□' on top of southwest corner of parapet wall, S.T.H. 107 bridge over creek 400 feet south of C.T.H. A, Elev. 1273.42.

TOTAL NET LENGTH OF CENTERLINE = 0.347 MI. (URBAN)

ACCEPTED BY THE MARATHON COUNTY HIGHWAY DEPARTMENT

ORIGINAL PLANS PREPARED BY



STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	REI
Designer	REI 5/10/2000
District Examiner	
District Supervisor	
Proj. Dev. Engineer	
C.D. Examiner	

APPROVED FOR DISTRICT OFFICE

DATE: _____ (Signature)

AUTHORIZED FOR BUREAU OF HIGHWAY OPERATIONS

DATE: _____ (Signature)

AUTHORIZED FOR BUREAU OF HIGHWAY DEVELOPMENT

DATE: _____ (Signature)

PROJECT ID:

COUNTY: MARATHON

GENERAL NOTES, UTILITY CONTACTS,
STANDARD ABBREVIATIONS, LISTING
OF STANDARD DETAIL DRAWINGS

GENERAL NOTES

BEARINGS AND DISTANCES SHOWN ON THIS PLAN ARE GROUND.

ALL RADII ARE MEASURED TO THE BACK OF THE CURB, UNLESS OTHERWISE NOTED.

THE LOCATIONS OF EXISTING UTILITIES SHOWN ON THIS PLAN ARE BASED ON AVAILABLE INFORMATION AND ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS PRESENT THAT ARE NOT SHOWN ON THE PLAN.

EXCAVATION BELOW SUBGRADE (EBS) IS NOT SHOWN ON THIS PLAN. EBS IS TO BE PAID FOR AS COMMON EXCAVATION. EXACT LOCATIONS OF EBS, IF NEEDED, ARE TO BE DETERMINED BY THE ENGINEER.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR SEEDING AND MULCHING AND FERTILIZING ANY PREVIOUSLY GRASSED AREAS WHICH ARE DISTURBED BY THE CONTRACTORS OPERATION.

ALL EROSION CONTROL MEASURES SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH "THE WISCONSIN CONSTRUCTION SITE BEST MANAGEMENT PRACTICE HANDBOOK" DEVELOPED BY THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES. THE EXACT LOCATION OF EROSION CONTROL DEVICES WILL DETERMINED IN THE FIELD BY THE ENGINEER. ANY STRUCTURES WITH TYPE H OR MS COVERS SHALL BE PROTECTED WITH SILT FENCE DURING CONSTRUCTION ACTIVITIES.

THE EXACT LOCATION OF ALL DRIVEWAY OPENINGS AND APRONS TO BE DETERMINED BY THE ENGINEER IN THE FIELD.

CONSTRUCT INSIDE EDGE OF SIDEWALK 1/2 INCH ABOVE THE TOP OF CURB WHEN THEY ARE ADJACENT TO EACH OTHER.

A BUTT JOINT SHALL BE PLACED AT ALL LOCATIONS WHERE NEW PAVEMENTS IS TO MATCH EXISTING PAVEMENT.

ALL BUTT JOINTS SHALL BE A VERTICAL SAWCUT, THROUGH EXISTING DRIVEWAYS AND PAVEMENTS AT REMOVAL LIMITS.

RIM ELEVATIONS SHOWN FOR CURB INLETS WITH TYPE H COVER ARE TO THE FLOWLINE OF THE CURB/COVER.

ALL STORM SEWER INVERTS, ELEVATIONS, PIPE LENGTHS AND GRADES ARE COMPUTED CENTER TO CENTER OF STRUCTURES, EXCEPT AT ENDWALLS, WHERE PIPE LENGTHS ARE MEASURED TO THE PIPE END OF THE ENDWALL.

ASPHALTIC CONCRETE PAVEMENT TYPE MV SHALL BE CONSTRUCTED WITH ONE 2 1/2 INCH LOWER LAYER AND ONE 1 1/2 INCH UPPER LAYER.

REPLACEMENT AND RESTORATION OF DRIVEWAYS WITH LIKE MATERIALS SHALL BE INCIDENTAL TO DRIVEWAY APPROACH ITEM.

ALL EXISTING CULVERT PIPE AND STORM SEWER STRUCTURES AND APPURTENANCES WITHIN THE RIGHT OF WAY SHALL BE REMOVED.

STATION & OFFSET LOCATIONS GIVEN FOR STORM DRAINAGE STRUCTURES ARE TO THE CENTER OF THE GRATE OR COVER OPENING.

UTILITIES

WISCONSIN PUBLIC SERVICE
P.O. BOX 19002
700 NORTH ADAMS STREET GREEN BAY, WI 54307-9002
ATTENTION: REAL ESTATE DEPT.
PHONE: (414) 433-1387

GTE TELEPHONE COMPANY
FOR FIELD LOCATES CALL DIGGER'S HOTLINE
PHONE: (800) 242-8511

FOR FIELD LOCATES CALL DIGGER'S HOTLINE
PHONE: (800) 242-8511

DESIGN CONTACT

REI
4080 NORTH 20TH AVENUE
WAUSAU, WI 54401
PHONE: (715) 675-9784
ATTN: JIM HAHN

MARATHON COUNTY HIGHWAY DEPARTMENT
1430 WEST STREET
WAUSAU, WI 54401
ATTN: GLENN SPEICH

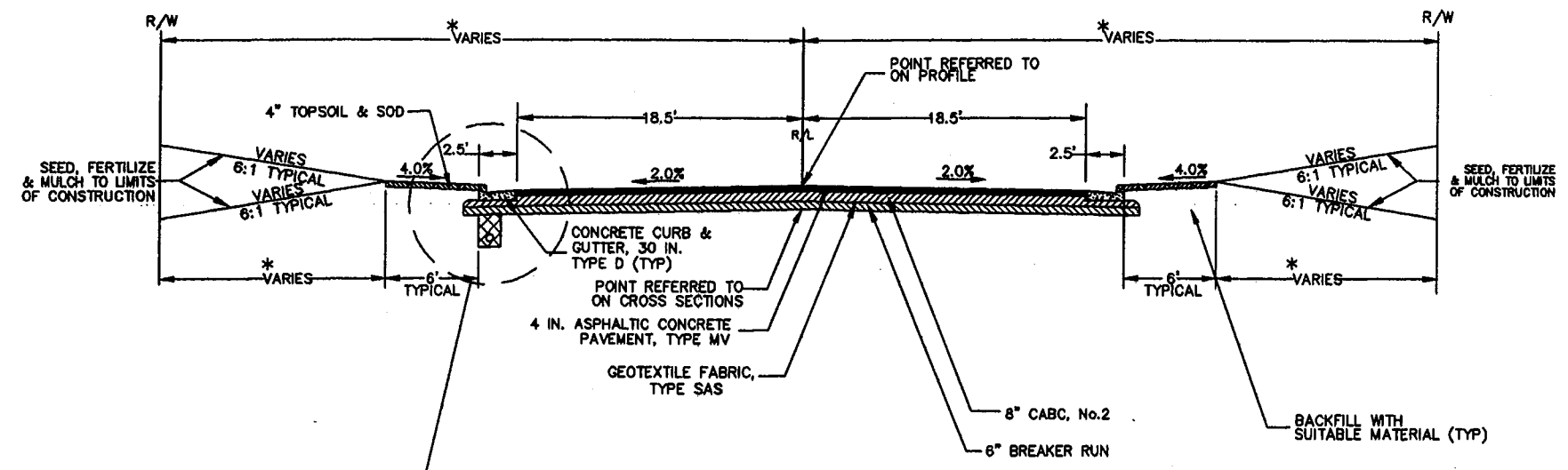
ABBREVIATIONS

AH	AHEAD
ASPH	ASPHALTIC
AVG	AVERAGE
BK	BACK
BVCE	BEGIN VERTICAL CURVE ELEVATION
BVCS	BEGIN VERTICAL CURVE STATION
BM	BENCHMARK
CL	CENTERLINE
CONC	CONCRETE
CMP	CORRUGATED METAL PIPE
CTH	COUNTY TRUNK HIGHWAY
CABC	CRUSHED AGGREGATE BASE COURSE
CY	CUBIC YARD
C&G	CURB AND GUTTER
C	CUT
DIST	DISTRICT
X	EAST GRID COORDINATE
E	EAST OR EAST PROJECT COORDINATE
EL OR ELEV	ELEVATION
EVCE	END VERTICAL CURVE ELEVATION
EVCS	END VERTICAL CURVE STATION
EW	ENDWALL
ENT	ENTRANCE
EXC	EXCAVATION
EBS	EXCAVATION BELOW SUBGRADE
EXIST	EXISTING
FERT	FERTILIZE
F	FILL
FG	FINISHED GRADE
FL	FLOW LINE
HDPE	HIGH DENSITY POLYETHYLENE
IN DIA	INCH DIAMETER
INL	INLET
INV	INVERT
JT	JOINT
JCT	JUNCTION
LT	LEFT
LF	LINEAR FOOT
LS	LUMP SUM
MH	MANHOLE
MIN	MINIMUM
Y	NORTH GRID COORDINATE
N	NORTH OR NORTH PROJECT COORDINATE
NO	NUMBER
OBJT	OBTERATE
OGBC	OPEN GRADED BASE COURSE
PAVT	PAVEMENT
PU	PIPE UNDERDRAIN
PI	POINT OF INTERSECTION
PVI	POINT OF VERTICAL INTERSECTION
PCC	PORTLAND CEMENT CONCRETE
LB	POUNDS
PROJ	PROJECT
PL	PROPERTY LINE
R	RADIUS
RP	RADIUS POINT
R	RANGE
RECY	RECYCLED
RL	REFERENCE LINE
REIN	REINFORCE
RCHP	REINFORCED CONCRETE HORIZONTAL ELLIPTICAL PIPE
RCP	REINFORCED CONCRETE PIPE
REQ'D	REQUIRED
RW	RETAINING WALL
RT	RIGHT
R/W	RIGHT-OF-WAY
SALV	SALVAGED
SEC	SECTION
SW	SIDEWALK
SI	SLOPE INTERCEPT
SPECS	SPECIFICATIONS
SF	SQUARE FOOT
SS	STORM SEWER

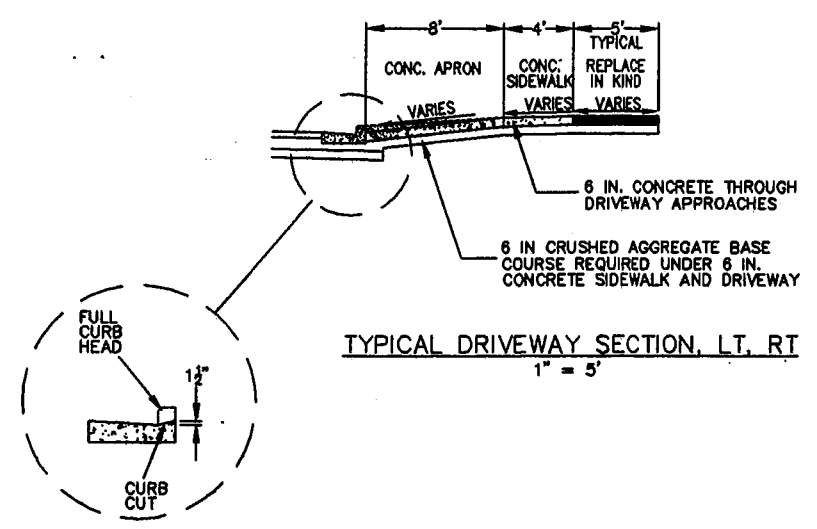
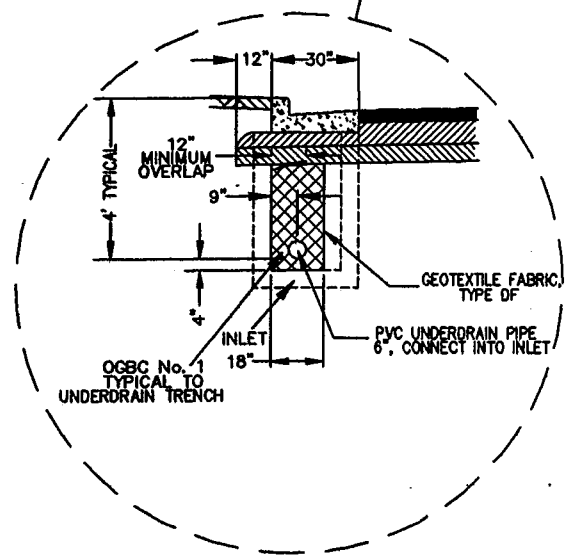
STANDARD DETAIL DRAWINGS

SDD NUMBER	TITLE
8A5-15A	Inlet covers Type A, H, A-S & H-S
8A5-15B	Inlet covers Type B, B-A, C, MS, MS-A & WM
8A5-15d	Inlet cover, Type Z Manhole covers Type K, J, J-S, L & M
8B6-3	Manholes, Type 1
8B7-3	Manholes Types 2 and 3
8C1-5	Inlets, Types 1, 2, 3 & 4
8C5-2	Inlets, Types 8, 9, 10 & 11
8D1-13	Concrete Curb, Concrete Curb and Gutter and Pavement Ties
8E8-2	Typical Installations of Erosion Bales
8E9-4	Silt Fence
8F1-11	Apron Endwalls for Culvert Pipe
8F2-1	Apron Endwalls for Pipe Arch and Elliptical Pipe
8F5-1	Class B Bedding for Culvert Pipe and Storm Sewer
15C2-3	Barricades and Signs for Road Closures
15C7-5a	Pavement Marking Symbols
15C8-8a	Pavement Marking (Mainline)

TYPICAL SECTIONS



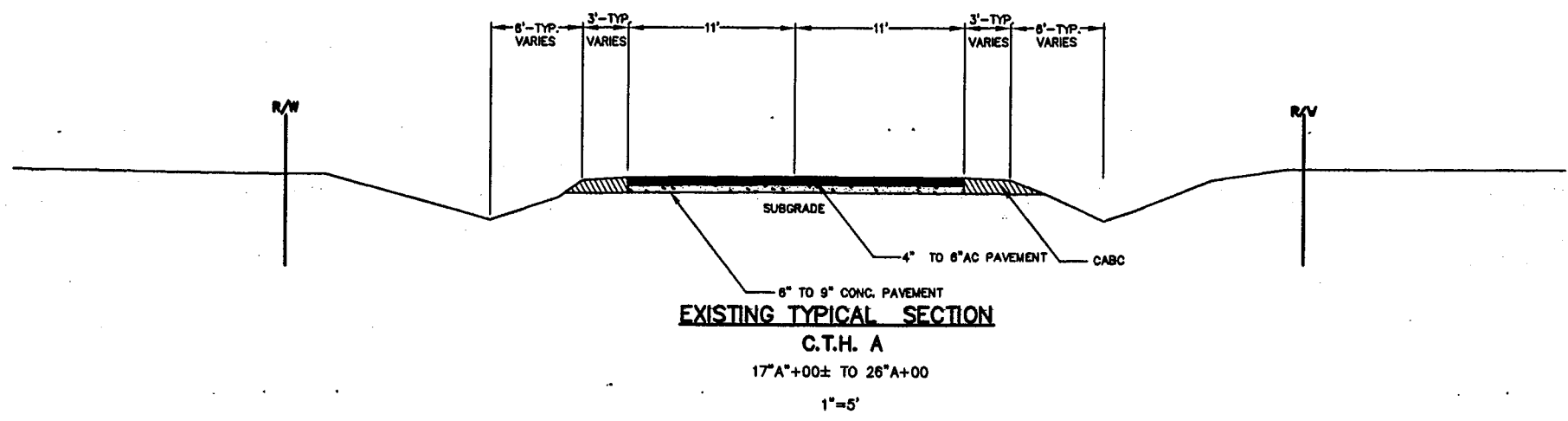
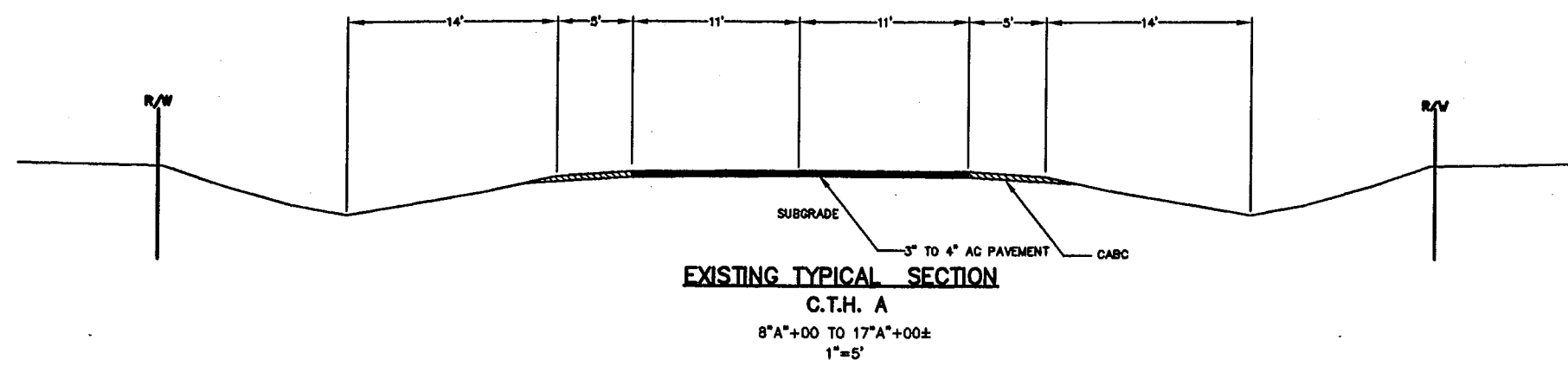
TYPICAL FINISHED SECTION
C.T.H. A
8"A"+44.4 TO 26"A"+00
1"=5'



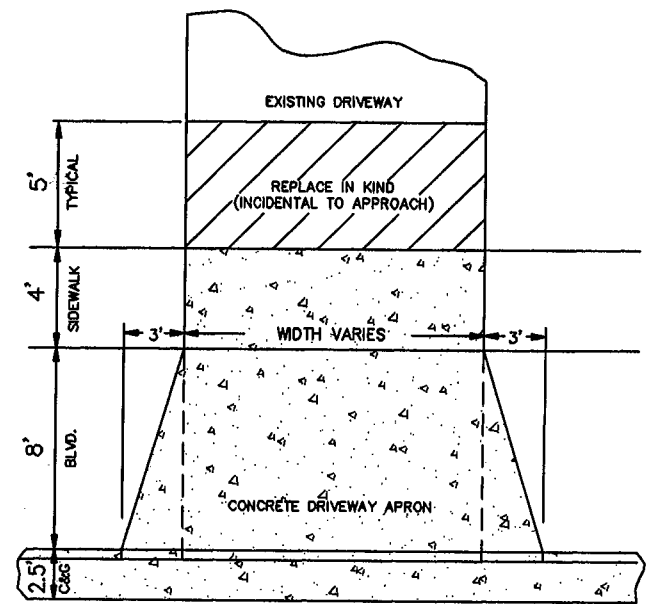
TYPICAL DRIVEWAY SECTION, LT, RT
1" = 5'

* RIGHT-OF-WAY WIDTHS: 7"A"+50 TO 23"A"+14.4, RT, R-O-W = 41.25 FEET RIGHT OF REFERENCE LINE
23"A"+14.40 TO 26"A"+11.40, RT, R-O-W = 33 FEET RIGHT OF REFERENCE LINE
7"A"+50 TO 18"A"+86.87, LT, R-O-W = 41.25 FEET LEFT OF REFERENCE LINE
18"A"+86.87 TO 26"A"+13.79, LT, R-O-W = 33 FEET LEFT OF REFERENCE LINE

TYPICAL SECTIONS

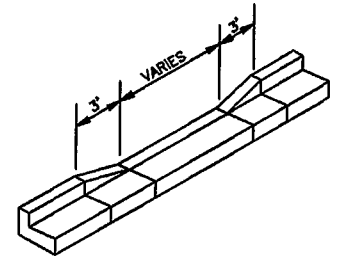


DETAILS



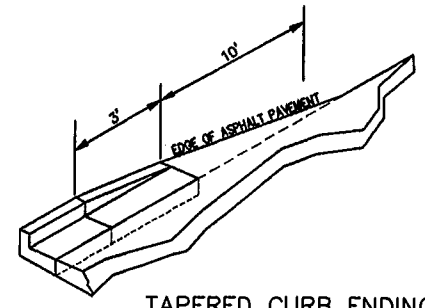
TYPICAL DRIVEWAY PLAN

NOT TO SCALE
 12'A'+27.18, LT
 13'A'+17.02, RT
 17'A'+14.44, LT
 17'A'+28.02, RT
 18'A'+33, LT
 19'A'+15.75, RT
 19'A'+62.27, LT
 20'A'+61.34, LT
 21'A'+08.55RT
 21'A'+14.40, LT
 22'A'+32.92, LT
 22'A'+34.92, RT
 23'A'+22.58, LT
 24'A'+70.49, RT
 25'A'+50, LT



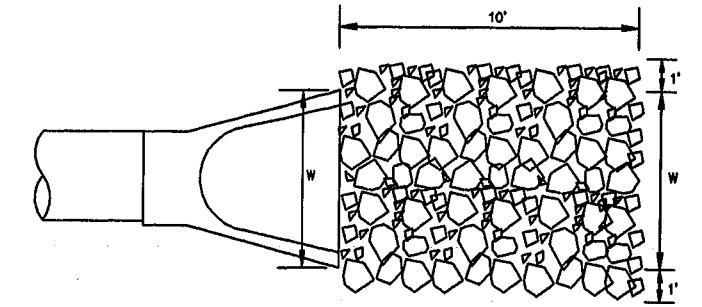
STANDARD CURB CUT

NOT TO SCALE
 12'A'+27.18, LT
 13'A'+17.02, RT
 17'A'+14.44, LT
 17'A'+28.02, RT
 18'A'+33, LT
 19'A'+15.75, RT
 19'A'+62.27, LT
 20'A'+61.34, LT
 21'A'+08.55RT
 21'A'+14.40, LT
 22'A'+32.92, LT
 22'A'+34.92, RT
 23'A'+22.58, LT
 24'A'+70.49, RT
 25'A'+50, LT



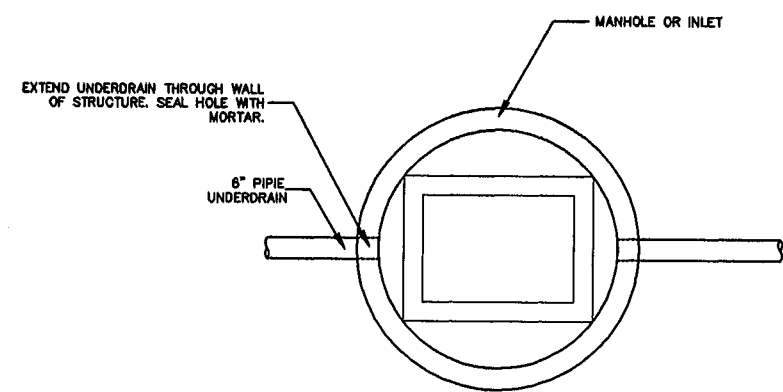
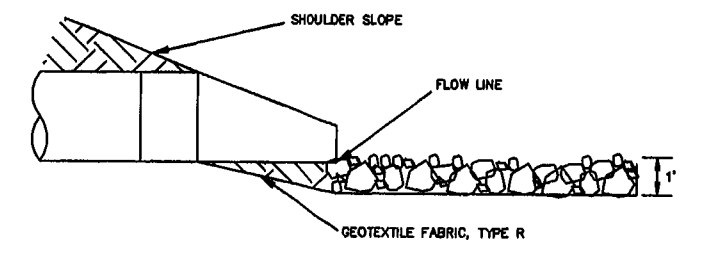
TAPERED CURB ENDING

NOT TO SCALE
 48'A'+00, LT, RT
 49'107'+83.86, LT
 50'107'+47.35, LT



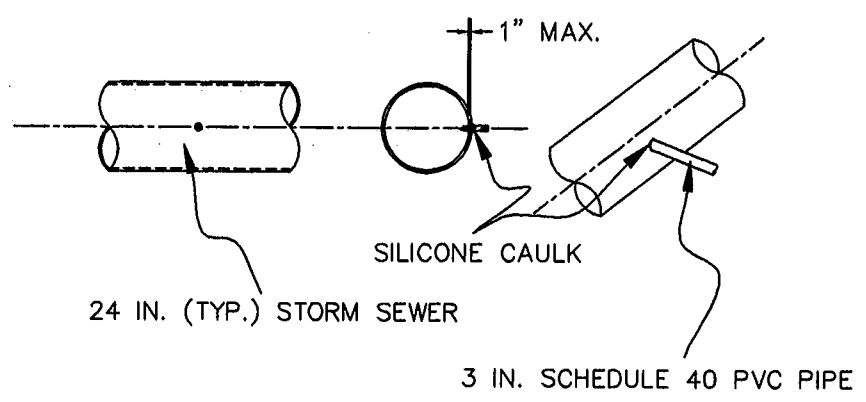
MEDIUM RIPRAP AT ENDWALL

NOT TO SCALE
 10'A'+08, LT, RT
 47'107'+00, LT



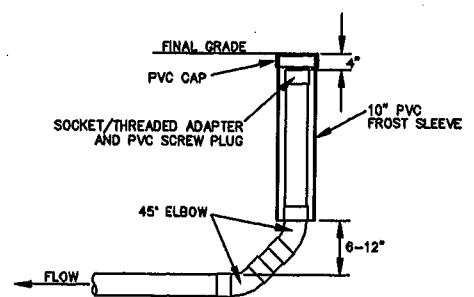
PLAN OF PIPE UNDERDRAIN

NOT TO SCALE
 PIPE UNDERDRAIN, 6" CONNECTION TO MANHOLE OR INLET.
 NOTE: CONTRACT UNIT PRICE FOR 6" PIPE UNDERDRAIN SHALL INCLUDE THE COST OF CONNECTION TO MANHOLE OR INLET.



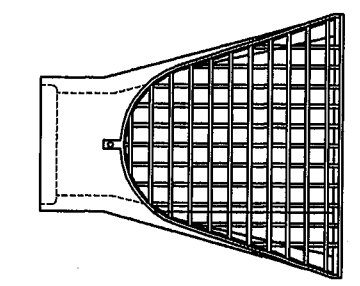
CLEARWATER DRAIN CONNECTION

NOT TO SCALE
 20'A'+41, LT
 19'A'+05, LT
 24'A'+88.50, LT



DETAIL OF PIPE UNDERDRAIN CLEANOUT

NOT TO SCALE
 STA. 8'A'+40, 20.25 LT, RT

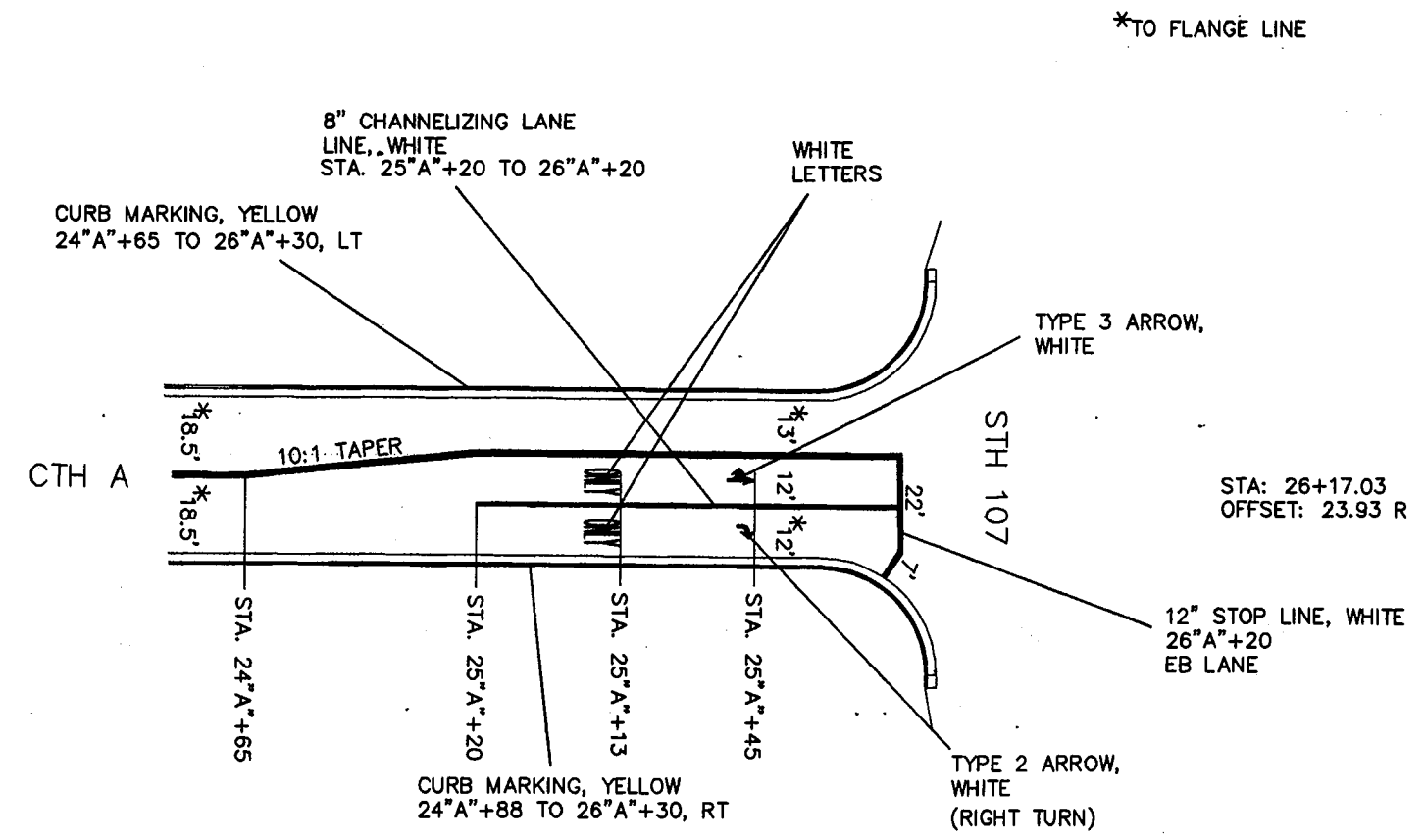


GALVANIZED TRASH GUARD

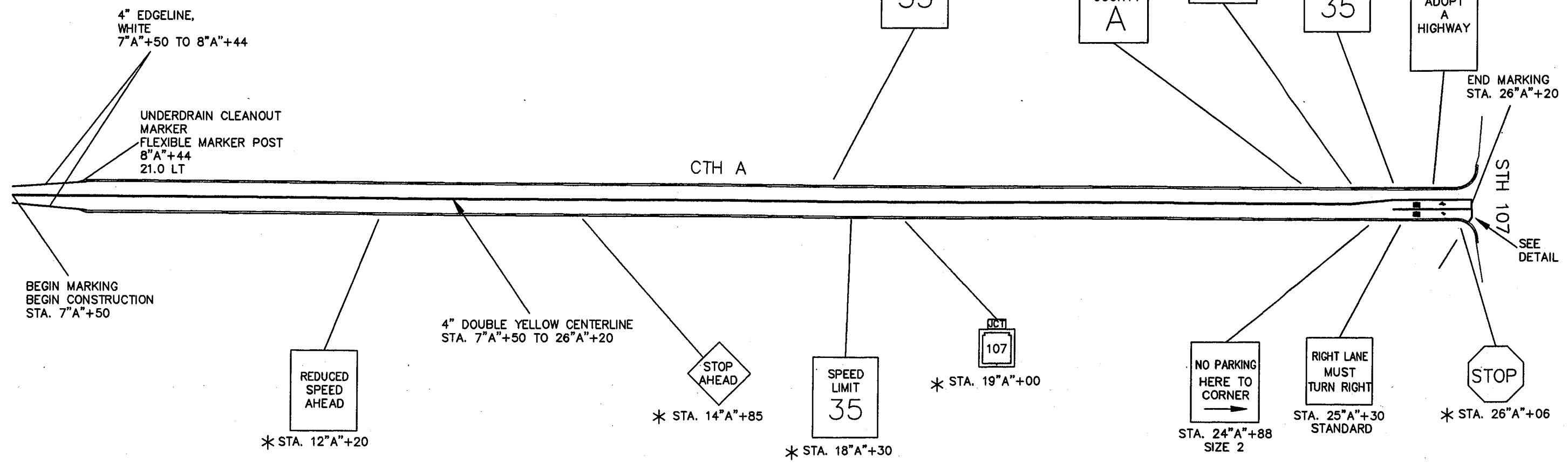
NOT TO SCALE
 47'107'+00, LT

-BAR DIAMETER 1"
 -BOLT DIAMETER 3/4"
 -6" MINIMUM SPACING SPACING BETWEEN BARS
 -CONNECTOR PLATE W/BOLT ATTACHED AT THREE POINTS TO ENDWALL

PAVEMENT MARKING & SIGNING DETAILS



DETAIL: CTH A & STH 107 INTERSECTION MARKING



* RE-USE EXISTING SIGN AND POST

STORM SEWER STRUCTURE CHART

STATION	LOCATION	STRUCTURE NUMBER	MANHOLE TYPE 1 EACH	MANHOLE TYPE 3 EACH	INLET TYPE 3 EACH	INLET TYPE 8 EACH	INLET TYPE 9 EACH	CONCRETE APRON ENDWALL	COVER TYPE J EACH	COVER TYPE H EACH	COVER TYPE MS EACH	ENDWALL WITH GUARD EACH	DRAINS TO	RIM ELEV	INVERT ELEV.
10+08	32.7LT	1.1	-	-	-	-	-	1	-	-	-	-	1.2	-	1290.68
10+08	20.OLT	1.2	-	1	-	-	-	-	-	1	-	-	1.3	1296.23	1290.56
10+08	20.ORT	1.3	-	1	-	-	-	-	-	1	-	-	1.4	1296.23	1290.18
10+08	35.OLT	1.4	-	-	-	-	-	1	-	-	-	-	DITCH	-	1290.04
12+75	20.ORT	2.1	-	-	1	-	-	-	-	1	-	-	3.1	1294.88	1290.83
12+75	20.OLT	2.2	-	-	1	-	-	-	-	1	-	-	2.1	1294.88	1291.28
16+00	20.ORT	3.1	-	-	1	-	-	-	-	1	-	-	4.1	1291.80	1287.15
16+00	20.OLT	3.2	-	-	1	-	-	-	-	1	-	-	3.1	1291.80	1287.60
18+00	20.ORT	4.1	1	-	-	-	-	-	-	1	-	-	5.1	1288.06	1282.97
18+00	20.OLT	4.2	-	-	1	-	-	-	-	1	-	-	4.1	1288.06	1284.18
20+11.5	20.ORT	5.1	1	-	-	-	-	-	-	1	-	-	6.1	1284.26	1278.76
20+11.5	20.OLT	5.2	-	-	1	-	-	-	-	1	-	-	5.1	1284.26	1280.30
20+11.5	30.OLT	5.3	-	-	-	1	-	-	-	-	1	-	5.2	1283.50	1280.35
22+00	20.ORT	6.1	1	-	-	-	-	-	-	1	-	-	7.1	1281.94	1276.69
22+00	20.OLT	6.2	-	-	1	-	-	-	-	1	-	-	6.1	1281.94	1277.89
24+00	20.ORT	7.1	1	-	-	-	-	-	-	1	-	-	8.1	1277.26	1272.89
24+00	20.OLT	7.2	-	-	1	-	-	-	-	1	-	-	7.1	1277.26	1274.09
25+99	20.ORT	8.1	1	-	-	-	-	-	-	1	-	-	9.1	1274.75	1270.51
25+98	20.OLT	8.2	-	-	1	-	-	-	-	1	-	-	8.1	1274.75	1271.67
26+26.70	21.ORT	9.1	-	1	-	-	-	-	1	-	-	-	10.1	1274.76	1269.81
51+40	18.OLT	9.2	-	-	-	-	1	-	-	-	2	-	9.1	1274.59	1270.63
47+00	26.OLT	10.1	-	-	-	-	-	1	-	-	-	1	DITCH	-	1268.42
TOTAL			5	3	9	1	1	3	1	16	3	1			

STORM SEWER PIPE CHART

LOCATION FROM	TO	SIZE (IN.)	LENGTH (FT.)	GRADE %	ELEV. INLET	ELEV. DISCHG.	TYPE OF PIPE	REMARKS
1.1	1.2	42	4	0.94	1290.68	1290.56	RCP	
1.2	1.3	42	40	0.94	1290.56	1290.18	RCP	
1.3	1.4	42	5	0.94	1290.18	1290.04	RCP	
2.2	2.1	12	40	0.50	1291.28	1291.08	HDPE	
2.1	3.1	12	325	1.13	1290.83	1287.15	HDPE	
3.2	3.1	12	40	0.50	1287.60	1287.40	HDPE	
3.1	4.1	12	200	1.59	1287.15	1283.98	HDPE	
4.2	4.1	12	40	0.50	1284.18	1283.98	HDPE	
4.1	5.1	24	212	1.99	1282.98	1278.76	HDPE	
5.3	5.2	12	10	0.50	1280.35	1280.30	HDPE	
5.2	5.1	12	40	1.35	1280.30	1279.76	HDPE	
5.1	6.1	24	188	1.88	1278.76	1277.69	HDPE	
6.2	6.1	12	40	0.50	1277.89	1276.69	HDPE	
6.1	7.1	24	200	1.90	1277.69	1272.89	HDPE	
7.2	7.1	12	40	0.50	1274.09	1272.89	HDPE	
7.1	8.1	24	200	1.19	1272.89	1270.51	HDPE	
8.2	8.1	12	40	0.40	1271.67	1271.51	HDPE	
8.1	9.1	24	28	1.00	1270.51	1270.23	HDPE	
9.2	9.1	24X38	161	0.25	1270.63	1270.23	RCP	ELLIPTICAL
9.1	10.1	29X45	271	0.50	1269.81	1268.42	RCP	ELLIPTICAL

PIPE SUMMARY

12 IN., STORM SEWER - 855 L.F.
 24 IN., STORM SEWER - 828 L.F.
 24X38 IN. - 161 L.F.
 29X45 IN. - 271 L.F.
 42 IN. - 50 L.F.

ENDWALL SUMMARY

29X45 IN. - 1 EACH
 42 IN. - 2 EACH
 TRASH GUARD FOR 29X45 IN. ENDWALL - 1 EACH

MISC. QUANTITIES

CLEARING AND GRUBBING - ID			
STATION	LOCATION	CLEAR INCHES	GRUB INCHES
20+46	31LT	24	24
20+67	33LT	24	24
20+67	34LT	30	30
21+40	31LT	24	24
21+55	33LT	42	42
21+67	30RT	18	18
21+74	30LT	36	36
21+80	28RT	18	18
21+90	25LT	36	36
22+08	30LT	36	36
23+18	19LT	16	16
TOTAL		64	304

CLEARING AND GRUBBING - STATION			
STATION	STATION	CLEARING	GRUBBING
6+50	10+50	4	4

REMOVING OLD CULVERTS - LS
 LOCATION 25'A'+05 TO 26'A'+25, RT
 48'107'+91 TO 50'107'+84, LT

REMOVING CULVERTS - EACH

LOCATION

10'A'+06, LT, RT
 12'A'+28, LT
 13'A'+16, RT
 13'A'+48, LT
 17'A'+13, LT
 17'A'+28, RT
 16'A'+32, LT
 19'A'+17, RT
 19'A'+67, LT
 20'A'+82, LT
 21'A'+08, RT
 21'A'+20, LT
 22'A'+32, LT
 22'A'+34, RT
 23'A'+23, LT
 23'A'+56, RT
 24'A'+70, RT
 25'A'+80, LT

REMOVING PAVEMENT

LOCATION 17'A'+00 - 26'A'+33 S.Y. 2877

REMOVING ASPHALT SURFACE

LOCATION 7'A'+50 - 26'A'+33 S.Y. 2969

REMOVING CONCRETE SIDEWALK

LOCATION 25'A'+84 - 26'A'+15 S.Y. 40

REMOVING INLETS - EACH

LOCATION 26'A'+27, 16LT NO. 1
 26'A'+27, 20RT 1
 TOTAL 2

COMMON EXCAVATION

LOCATION 7'A'+50 - 26'A'+33: 3061 C.Y. CUT
 48'107'+33 - 51'107'+85: 125 C.Y. FILL
 NET YARDS: 3186 C.Y. CUT

CRUSHED AGGREGATE BASE COURSE

LOCATION 7'A'+50 - 26'A'+33 TONS 4118

CRUSHED AGGREGATE BASE COURSE - OPEN GRADED NUMBER 1

LOCATION 8'A'+40 - 26'A'+00 TONS 315

BREAKER RIN

LOCATION 6'A'+40 - 26'A'+00 TONS 2600

ASPHALTIC MATERIAL FOR PLANT MIX

LOCATION 7'A'+50 - 26'A'+33 TONS 105

ASPHALTIC CONCRETE PAVEMENT TYPE MV

LOCATION 7'A'+50 - 26'A'+33 TONS 1741

ASPHALTIC MATERIAL FOR TACK COAT

LOCATION 7'A'+50 - 26'A'+33 GALS 198

CONCRETE DRIVEWAYS - 6-INCH

LOCATION S.Y.

12'A'+28, LT 22.7
 13'A'+16, RT 25.6
 13'A'+48, LT 29.4
 17'A'+13, LT 33.0
 17'A'+28, RT 31.7
 18'A'+32, LT 21.7
 19'A'+17, RT 26.5
 19'A'+67, LT 38.2
 20'A'+82, LT 22.3
 21'A'+08, RT 18.3
 21'A'+20, LT 34.3
 22'A'+32, LT 25.9
 22'A'+34, RT 18.7
 23'A'+23, LT 22.5
 23'A'+56, RT 34.3
 24'A'+70, RT 33.0
 25'A'+80, LT 33.0
 TOTAL 471.7

CONC. CURB - TYPE D

LOCATION S.Y.

5'A'+44 - 26'A'+33, LT, RT 3598

RIPRAP

LOCATION C.Y.

10'A'+06, LT 3
 10'A'+08, RT 3
 47'107'+00, LT 3
 TOTAL 9

PIPE UNDERDRAIN - 6-INCH

LOCATION 8'A'+40 - 26'A'+00, LT L.F. 1756

UNDERDRAIN TRENCH

LOCATION 8'A'+40 - 26'A'+00, LT L.F. 1756

PVC PIPE - SCHEDULE 40 - 6-INCH

LOCATION 6'A'+40, LT L.F. 4

PVC PIPE - SCHEDULE 40 - 10-INCH

LOCATION 6'A'+40, LT L.F. 3

SOCKET/THREADED ADAPTER AND PVC SCREW PLUG

LOCATION 6'A'+40, LT EACH 1

PVC CAP - 6-INCH

LOCATION 6'A'+40, LT EACH 1

ELBOWS - PVC - 45 DEGREE - 6-INCH

LOCATION 6'A'+40, LT EACH 2

MARKER POST - FLEXIBLE FOR CULVERT END

LOCATION 6'A'+40, LT EACH 1

SALVAGED TOPSOIL

LOCATION 7'A'+50 - 26'A'+33, 48'107'+30 - 51'107'+85 S.Y. 7518

MULCHING

LOCATION 7'A'+50 - 26'A'+33, 48'107'+30 - 51'107'+85 S.Y. 5188

SILT FENCE - SILTY SOIL - DELIVERED

LOCATION 7'A'+50 - 26'A'+33, 48'107'+30 - 51'107'+85 L.F. 2041

FERTILIZER - TYPE B

LOCATION 7'A'+50 - 26'A'+33, 48'107'+30 - 51'107'+85 Cwt. 3.34

SEEDING MIXTURE NO. 50

LOCATION 7'A'+50 - 26'A'+33, 48'107'+30 - 51'107'+85 LB. 1908

SODDING

LOCATION 7'A'+50 - 26'A'+33, 48'107'+30 - 51'107'+85 S.Y. 2210

WATERING SOODED AREAS

LOCATION 7'A'+50 - 26'A'+33, 48'107'+30 - 51'107'+85 MGAL 33

WOOD POSTS - 4X4-INCH X 14FT

LOCATION EACH

STA. 24'A'+00, LT 1
 STA. 24'A'+65, LT 1
 STA. 24'A'+88, RT 1
 STA. 25'A'+30, RT 1
 TOTAL 4

SIGNS - TYPE II - REFLECTIVE

S.F.

STA. 24'A'+00, LT 4.0
 STA. 24'A'+65, LT 3.0
 STA. 24'A'+88, RT 3.0
 STA. 25'A'+30, RT 6.25
 TOTAL 16.25

MOVING SIGNS - TYPE I

EACH 9

FIELD OFFICE - TYPE A

EACH 1

TRAFFIC CONTROL - SIGNS

DAYS 1512

TRAFFIC CONTROL - DRUMS

DAYS 1280

TRAFFIC CONTROL - TYPE III BARRICADES

DAYS 252

TRAFFIC CONTROL - WARNING LIGHTS - TYPE A

DAYS 3108

TRAFFIC CONTROL - SURVEILLANCE AND MAINTENANCE

DAYS 42

MOBILIZATION

L.S. 1

WATER

MGAL 7.6

GEOTEXTILE FABRIC - TYPE SAS

LOCATION 6'A'+40 - 26'A'+00 S.Y. 8915

GEOTEXTILE FABRIC - TYPE DF

LOCATION 6'A'+40 - 26'A'+00 S.Y. 1981

GEOTEXTILE FABRIC - TYPE B

LOCATION 10'A'+08, LT 9
 10'A'+08, RT 9
 47'107'+00, LT 9
 TOTAL 27

CONSTRUCTION STAKING - STORM SEWER

LOCATION L.F.

10'A'+08, LT, RT 1558
 12'A'+75, - 26'A'+00
 47'107'+00, - 51'107'+40

CONSTRUCTION STAKING - SUBGRADE

LOCATION STA.

7'A'+50 - 26'A'+33 18.8

CONSTRUCTION STAKING - CRUSHED AGG. BASE COURSE

LOCATION STA.

7'A'+50 - 26'A'+33 18.8

CONSTRUCTION STAKING - CURB AND GUTTER

LOCATION L.F.

7'A'+50 - 26'A'+33 3598

MISC. 90005C. CONSTRUCTION STAKING - PRELIMINARY

LOCATION STA.

7'A'+50 - 26'A'+33 18.8

SAWING PAVEMENT

LOCATION L.F.

7'A'+50 22'
 17'A'+03 - 17'A'+26, LT 23'
 19'A'+07 - 19'A'+25, RT 18'
 23'A'+26 - 25'A'+25 200'
 48'107'+88 - 51'107'+15 231'
 TOTAL 494'

FERRUG FITTINGS

LOCATION EACH

17'A'+34 1
 19'A'+05 1
 20'A'+41 1
 24'A'+56 1
 TOTAL 3

PVC PIPE - SCHEDULE 40 - 3-INCH

LOCATION L.F.

17'A'+34 61
 19'A'+05 61
 20'A'+41 61
 24'A'+56 61
 TOTAL 244

PAVEMENT MARKING - EPOXY - 4-INCH

PAVEMENT MARKING - CHANNELIZING - 8-INCH EPOXY

PAVEMENT MARKING - STOP LINE - 12-INCH EPOXY

PAVEMENT MARKING - CURB EPOXY

PAVEMENT MARKING - ARROWS - TYPE 2 EPOXY

PAVEMENT MARKING - ARROWS - TYPE 3 EPOXY

PAVEMENT MARKING - WORDS

LOCATION L.F.

7'A'+50 - 26'A'+20, LT, RT 3930

LOCATION L.F.

25'A'+20 - 26'A'+20, RT 100

LOCATION L.F.

28'A'+20, RT 23

LOCATION L.F.

24'A'+85 - 26'A'+30, LT 179
 24'A'+88 - 26'A'+30, RT 159
 TOTAL 338

LOCATION EACH

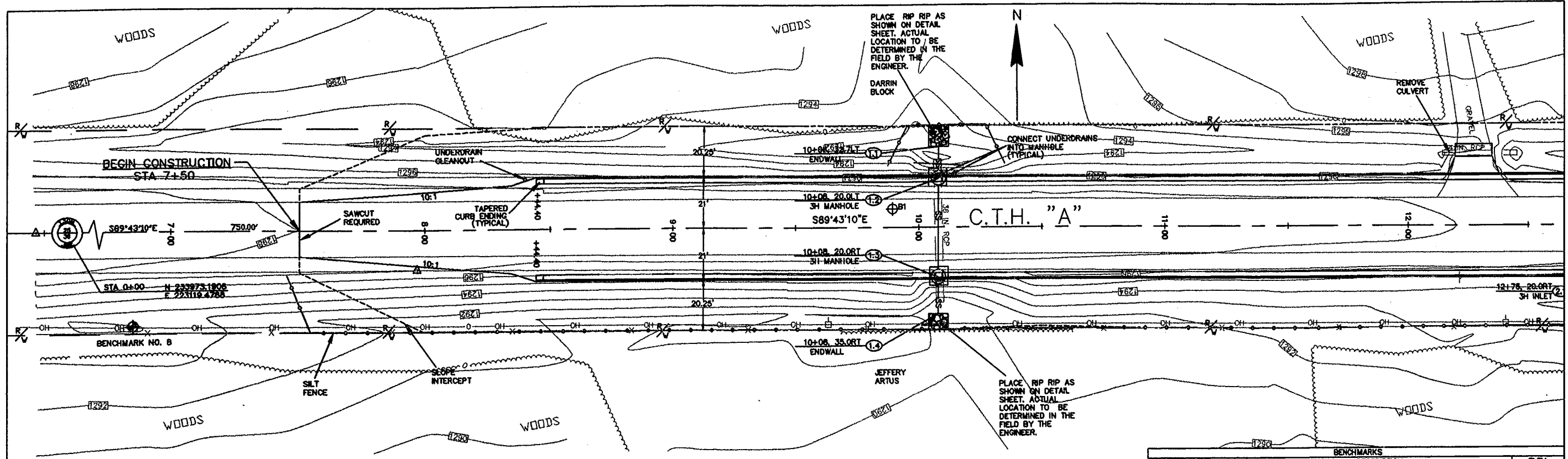
25'A'+45 1

LOCATION EACH

25'A'+45 1

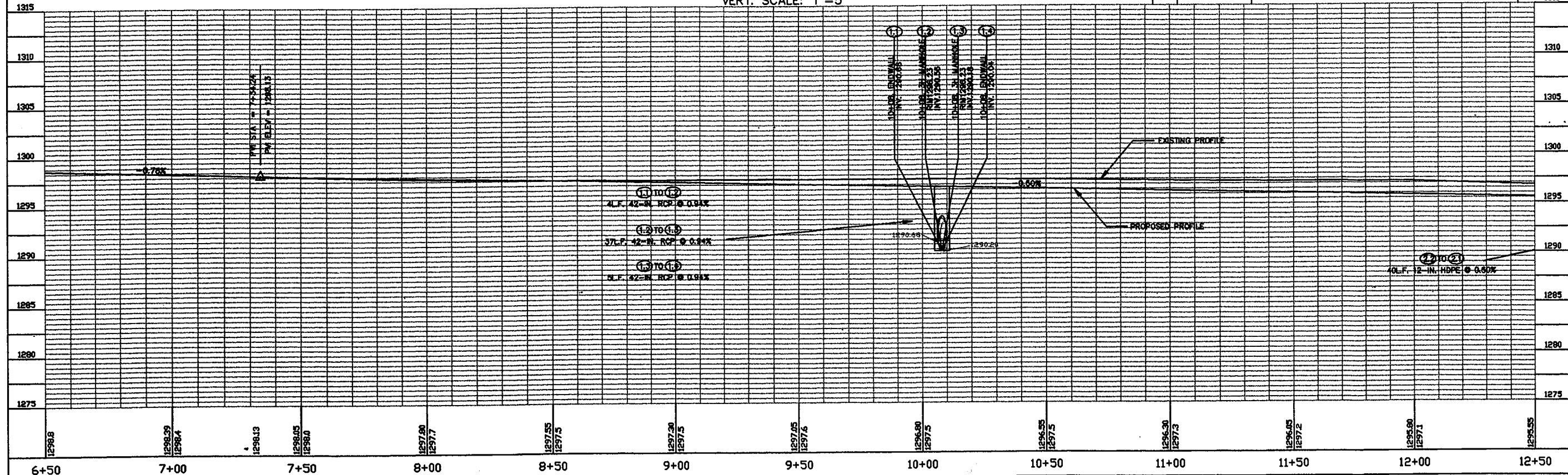
LOCATION EACH

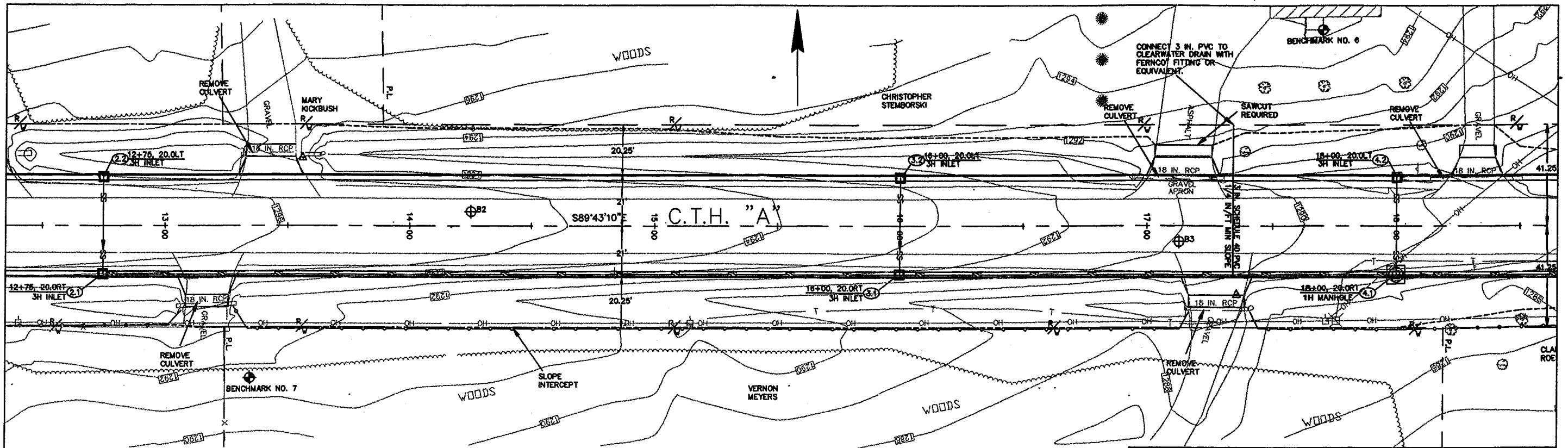
25'A'+13 2



HORIZ. SCALE: 1"=20'
VERT. SCALE: 1"=5'

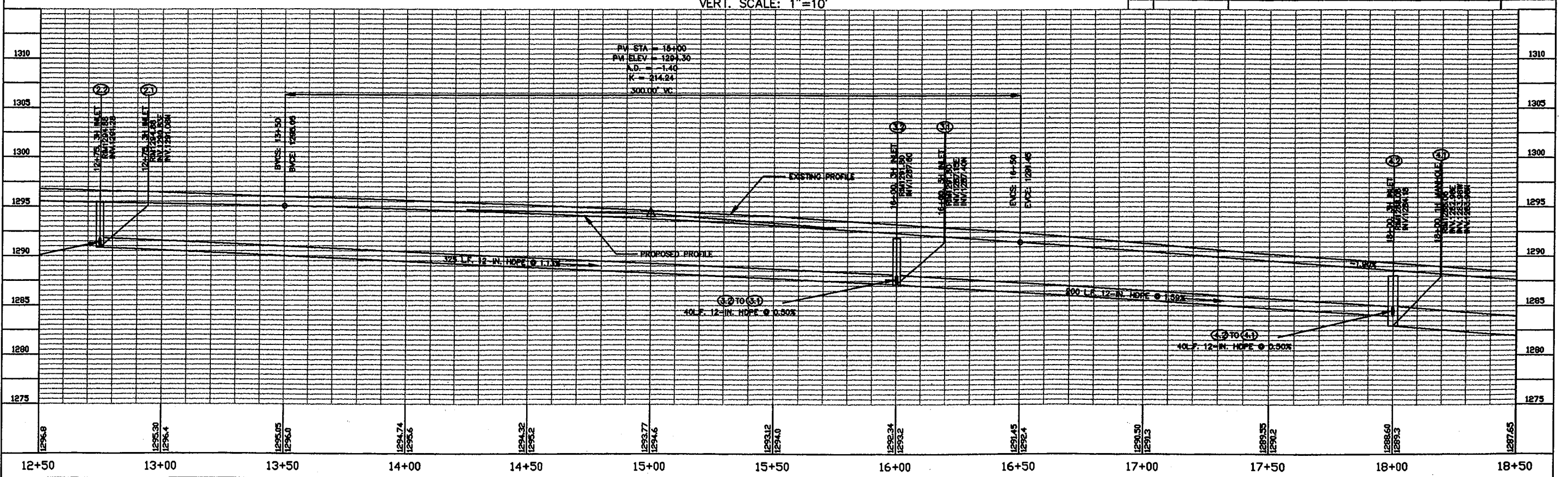
BENCHMARKS			
No.	STATION	DESCRIPTION	ELEV.
B	8+85, 36RT	800 SPIKE SET IN POWER POLE NO. 3005 36E7	1295.73





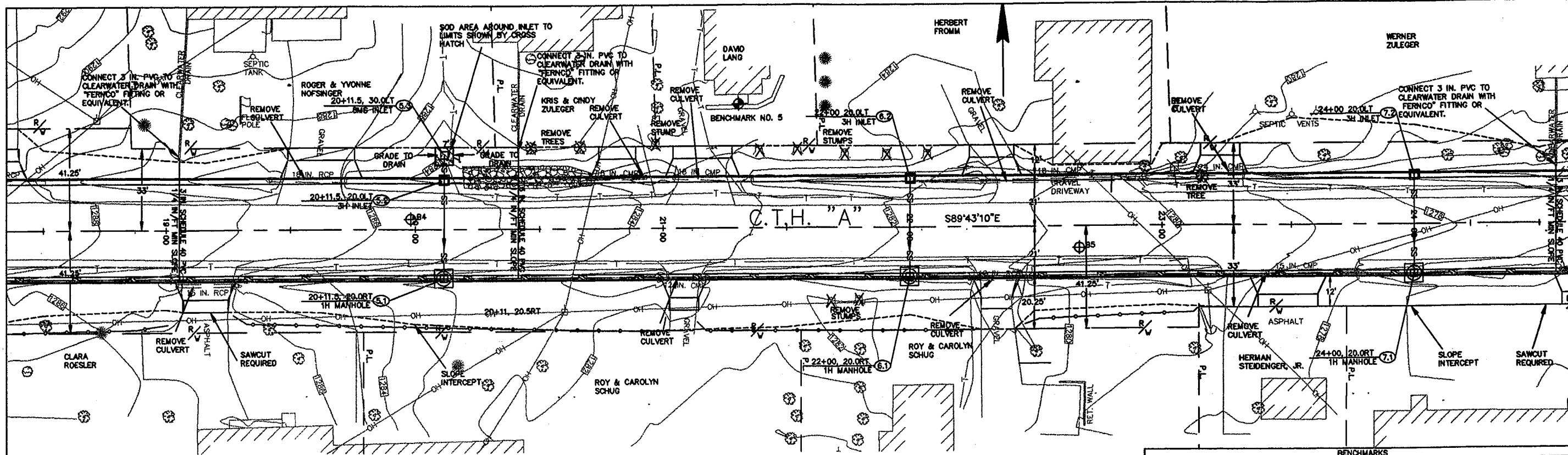
HORZ. SCALE: 1"=40'
 VERT. SCALE: 1"=10'

BENCHMARKS			
No.	STATION	DESCRIPTION	ELEV.
7	13+34, 62RT	R.R. SPIKE SET IN 24-IN. WHITE PINE	1294.13
6	17+70, 80LT	MARKED SQUARE, S.E. COR. OF CONC. SLAB AT FRONT DOOR TO HOUSE #132	1295.51



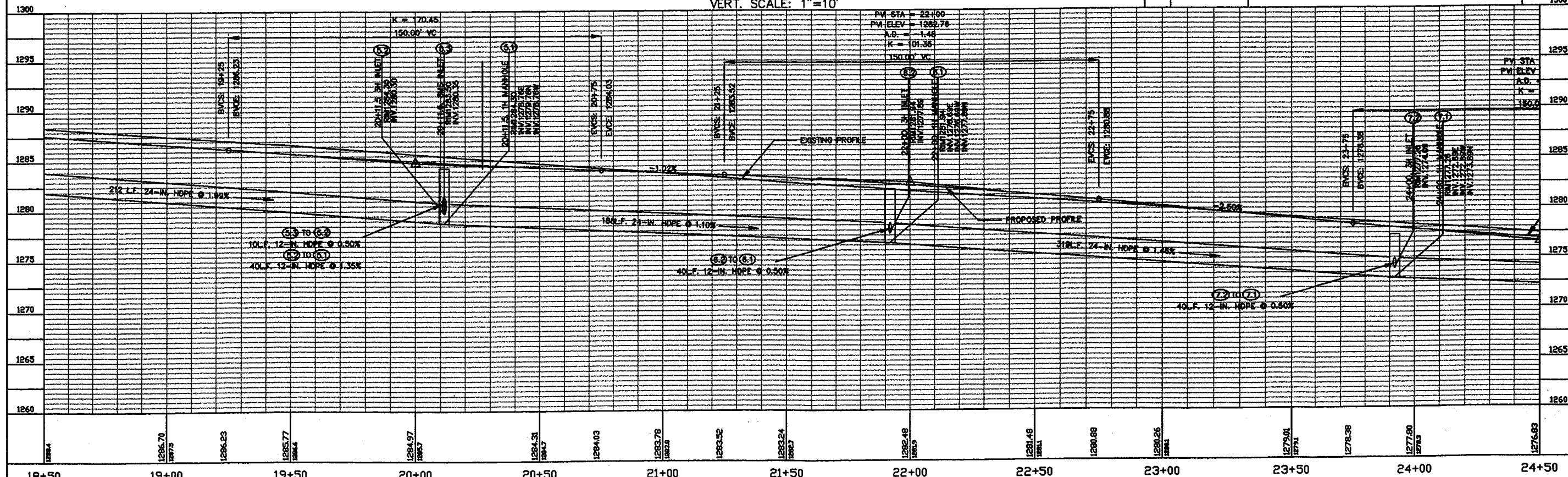
STATE PROJECT NUMBER: 9479-00-70 HWY: C.T.H. A COUNTY: MARATHON SHEET NO: 5.2

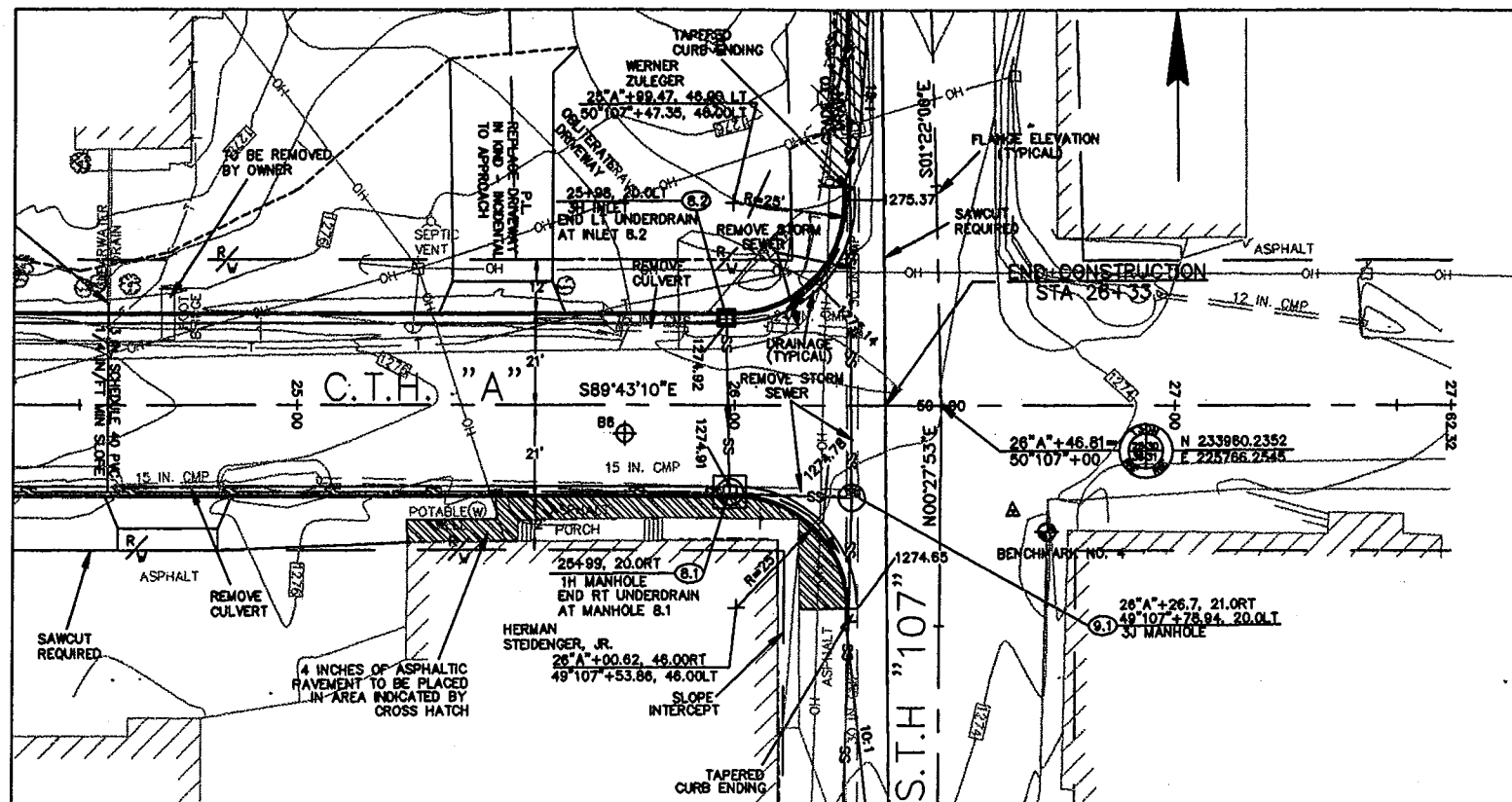
FILE NAME: PLOT DATE: ORG DATE: PLOT NAME: Originator: Dist PLOT SCALE:



HORZ. SCALE: 1"=40'
 VERT. SCALE: 1"=10'

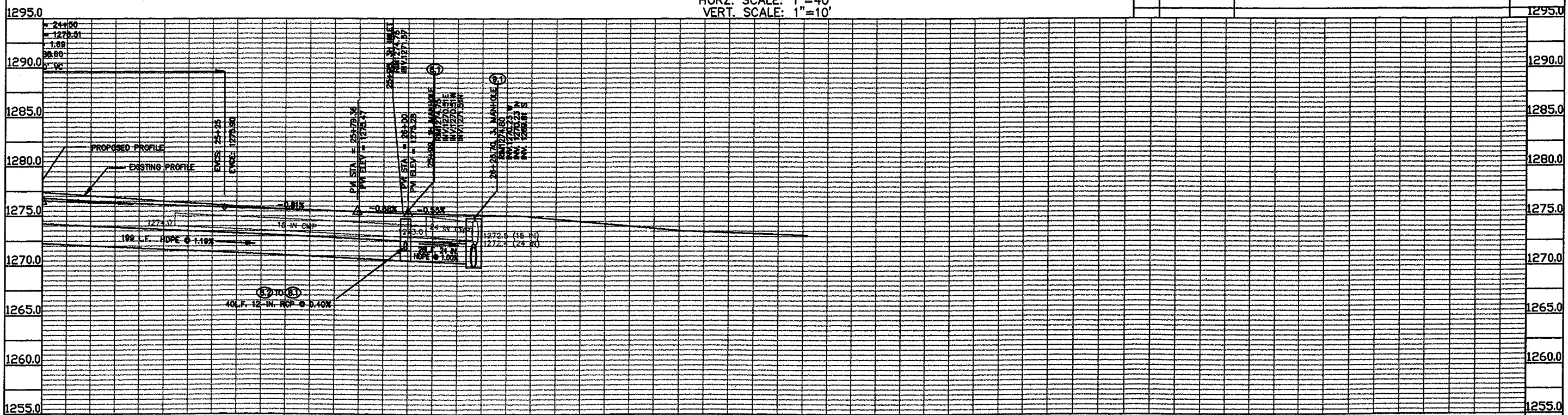
No.	STATION	BENCHMARKS DESCRIPTION	ELEV.



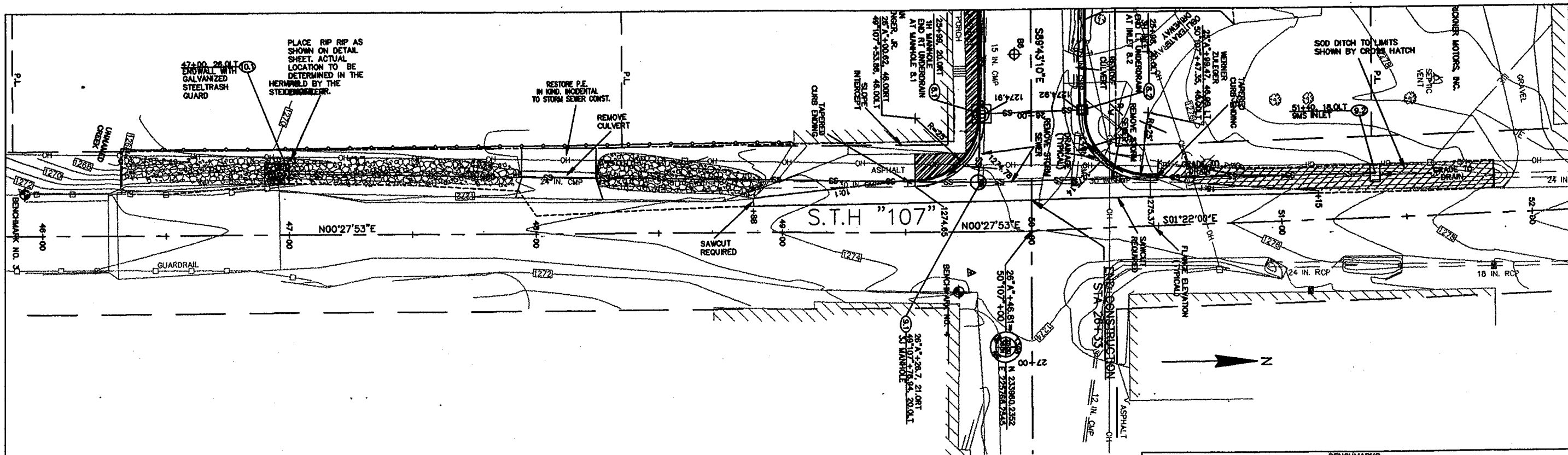


HORZ. SCALE: 1"=40'
 VERT. SCALE: 1"=10'

BENCHMARKS			
No.	STATION	DESCRIPTION	ELEV.
4	26+71, 29RT	MARKED SQUARE, N.W. TOP COR. OF PORCH	1278.05

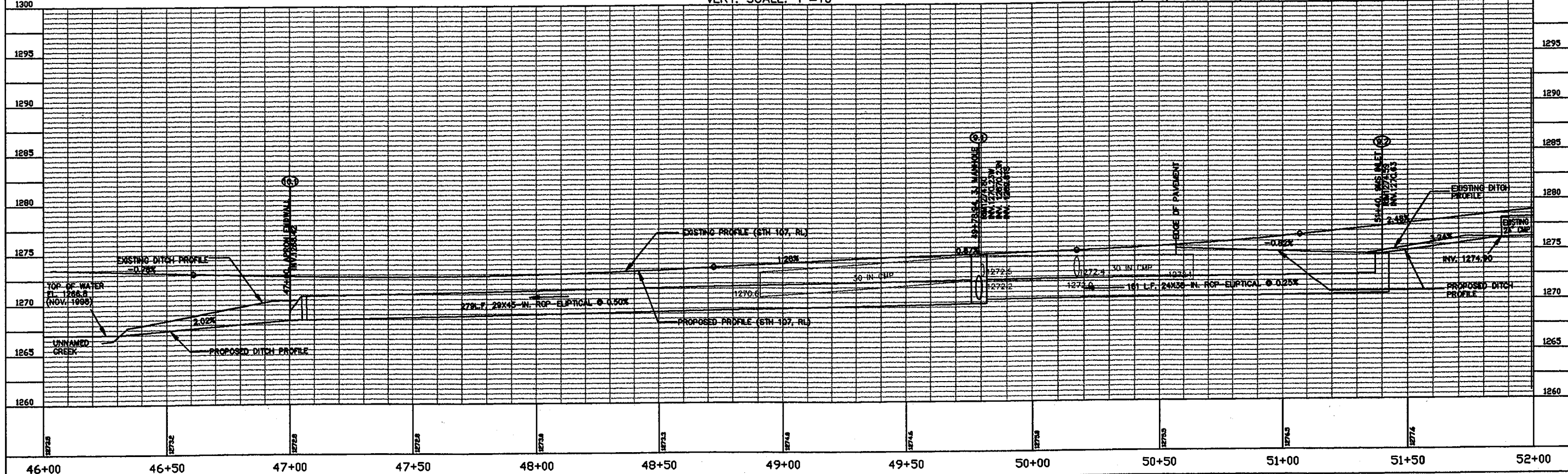


1277.4	1276.14 1276.5	1275.70 1276.7	1275.28 1276.3	1274.94 1274.9	1273.8	1273.2
24+50	25+00	25+50	26+00	26+50	27+00	27+50 27+62



HORIZ. SCALE: 1"=40'
VERT. SCALE: 1"=10'

BENCHMARKS			
No.	STATION	DESCRIPTION	ELEV.
3	45+83, 17LT	CHISELED SQUARE, S.W. COR. PARAPET WALL	1273.42
4	49+71, 24RT	MARKED SQUARE, N.W. TOP COR. OF PORCH	ELEV.
			1300



STATE PROJECT NUMBER: 9479-00-70 HWY: S.T.H. "107" COUNTY: MARATHON SHEET NO: 5.5

FILE NAME: PLOT DATE: ORC DATE: PLOT NAME: Originator: Diet PLOT SCALE:

GENERAL NOTES

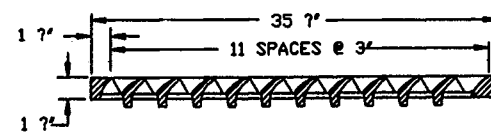
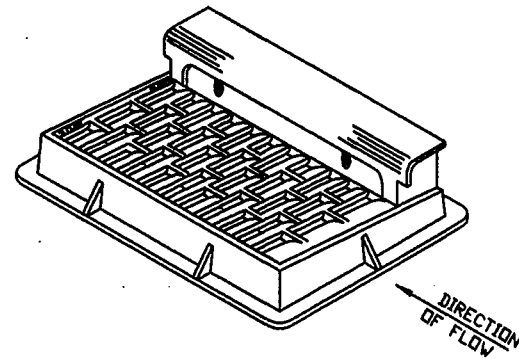
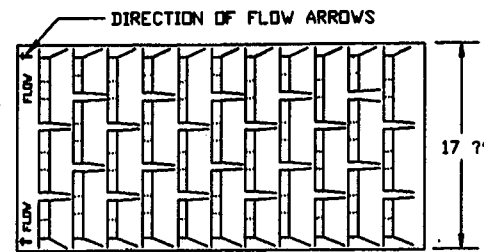
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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.

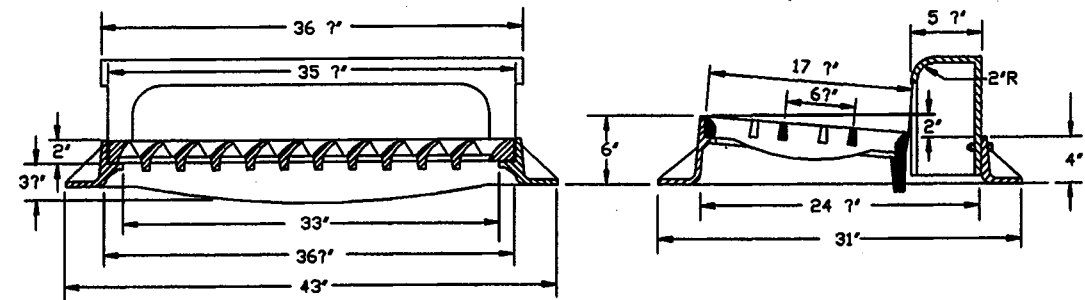
ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.

THE ACTUAL WEIGHT OF COVERS MAY VARY WITHIN 5 PERCENT, PLUS OR MINUS, OF THE APPROXIMATE WEIGHT.

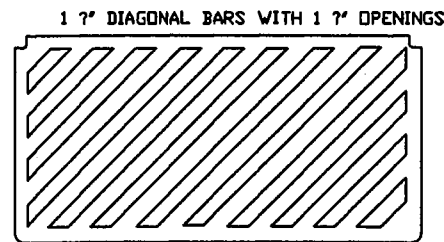
NOTE:
GRATE IS REVERSIBLE.



NOTE: CURB BOX HEIGHT ADJUSTABLE 6' TO 9'

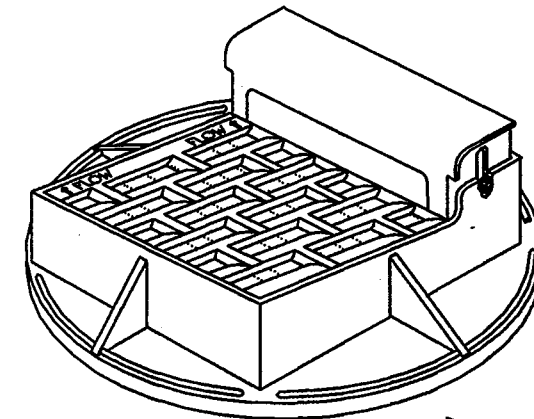
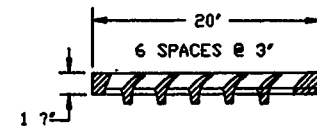
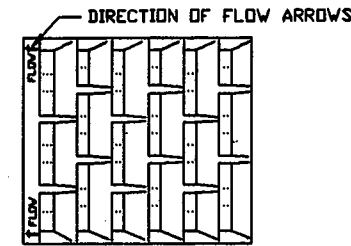


TYPE "H"
(APPROXIMATE WEIGHT 422 LBS.)
FRAME..... 175 LBS.
GRATE..... 138 LBS.
CURB BOX..... 109 LBS.



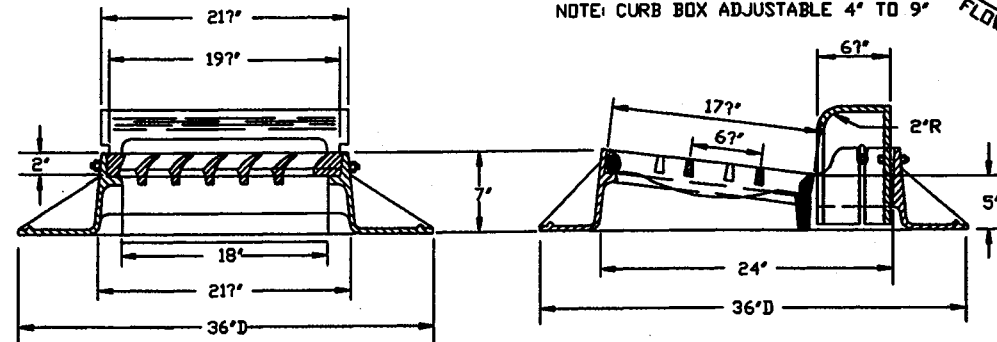
SPECIAL GRATE FOR TYPE "H" COVER
(MEASURES 35' X 17' X 2')
(APPROXIMATE WEIGHT 172 LBS.)
GRATE..... 172 LBS.
(NOTED AS TYPE H-S ON DRAINAGE TABLE)

NOTE:
GRATE IS REVERSIBLE.



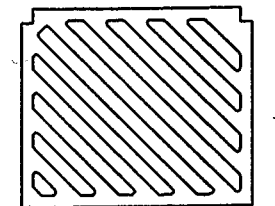
NOTE:
GRATE IS REVERSIBLE.

NOTE: CURB BOX ADJUSTABLE 4' TO 9'



TYPE "A"
(APPROXIMATE WEIGHT 325 LBS.)
FRAME..... 157 LBS.
GRATE..... 84 LBS.
CURB BOX..... 84 LBS.

1' DIAGONAL BARS WITH 1' OPENINGS



SPECIAL GRATE FOR TYPE "A" COVER
(MEASURES 19' X 17' X 1')
GRATE..... 84 LBS.
(NOTED AS TYPE A-S ON DRAINAGE TABLE)

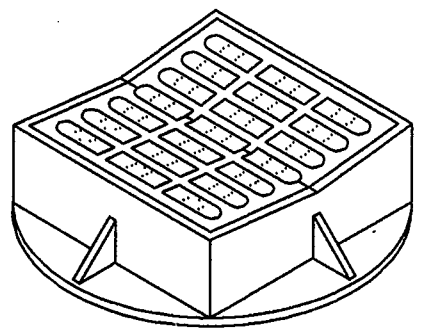
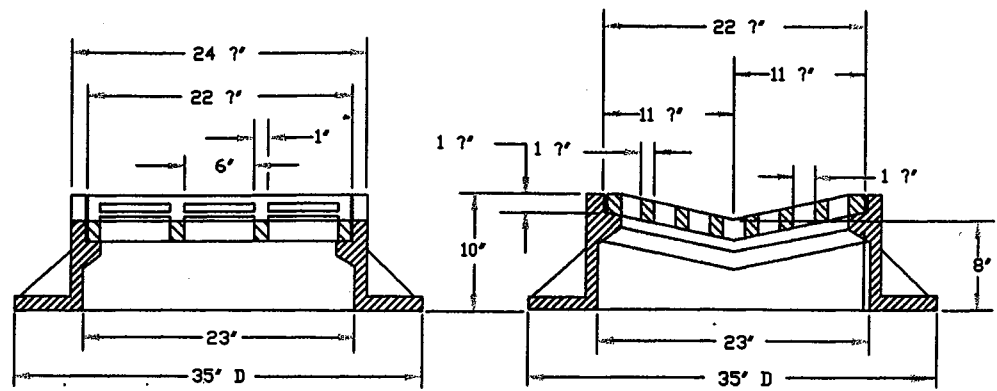
NOTE:
GRATE IS REVERSIBLE.

INLET COVERS
TYPE A, H, A-S, & H-S

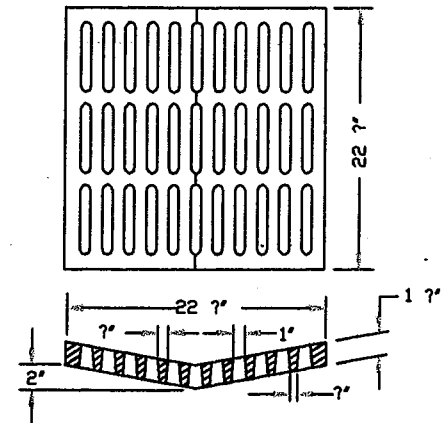
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

DATE _____ CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

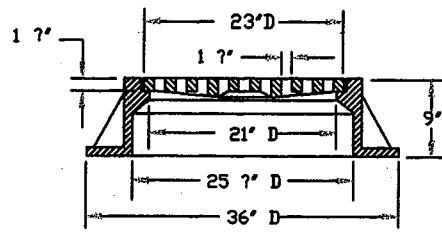
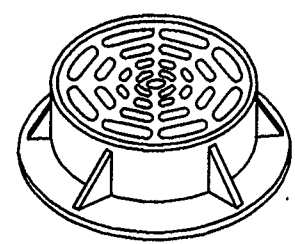


TYPE "B"
 (APPROXIMATE WEIGHT 395 LBS.)
 FRAME..... 285 LBS.
 GRATE..... 110 LBS.



ALTERNATIVE GRATE FOR TYPE "B" COVER

(APPROXIMATE GRATE WEIGHT 125 LBS.)
 GRATE..... 125 LBS.
 USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS POSSIBLE.
 NOTED AS TYPE B-A ON THE DRAINAGE TABLE



TYPE "C"
 (APPROXIMATE WEIGHT 340 LBS.)

FRAME..... 235 LBS.
 GRATE..... 105 LBS.

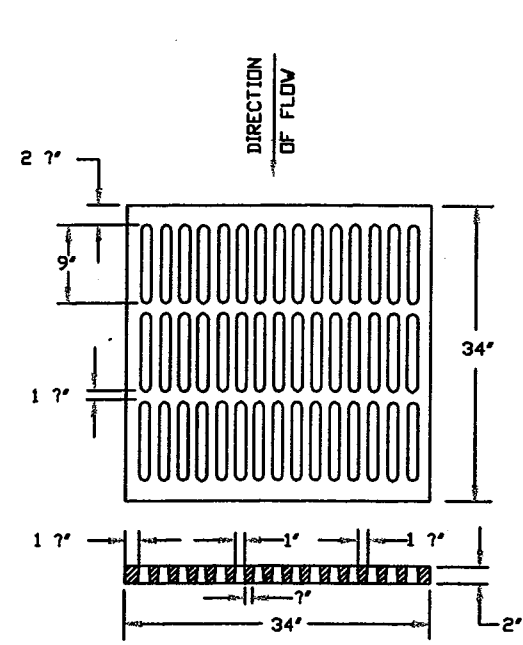
GENERAL NOTES

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.

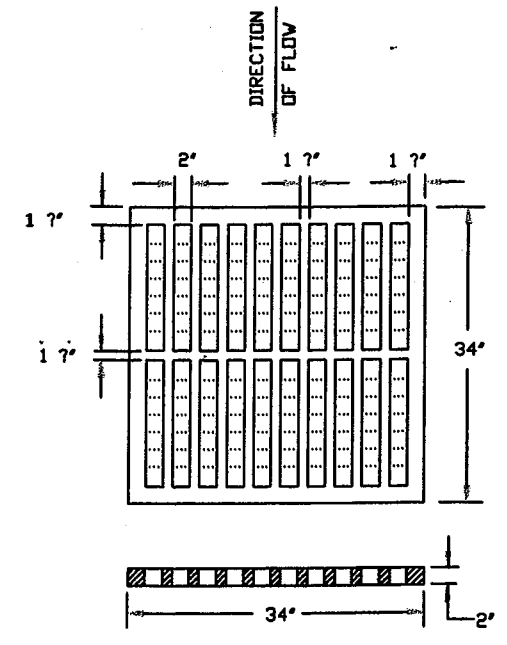
ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.

THE ACTUAL WEIGHT OF COVERS MAY VARY WITHIN 5 PERCENT, PLUS OR MINUS, OF THE APPROXIMATE WEIGHT.



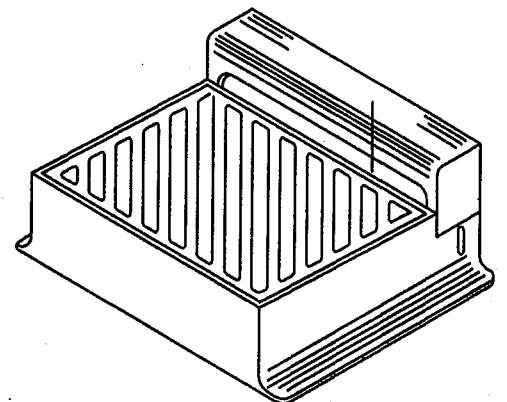
ALTERNATIVE TYPE "MS"
 (APPROXIMATE GRATE WEIGHT 365 LBS.)
 GRATE..... 365 LBS.

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS PERMITTED. NOTED AS TYPE MS-A ON THE DRAINAGE TABLE

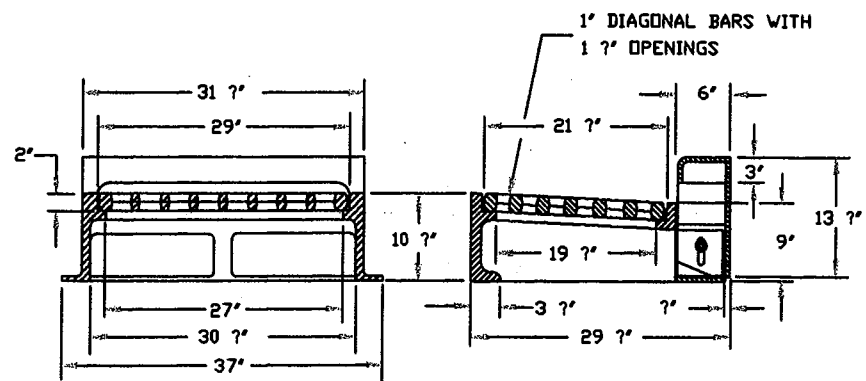


TYPE "MS"
 (APPROXIMATE GRATE WEIGHT 270 LBS.)
 GRATE..... 270 LBS.

USE ON FREEWAYS AND EXPRESSWAYS. NOTED AS TYPE MS ON DRAINAGE TABLE



DIAGONAL SLOTS, SHALL BE ORIENTED TO THE DIRECTION OF FLOW AS ILLUSTRATED. GRATES ARE MANUFACTURED TO BE REVERSIBLE.



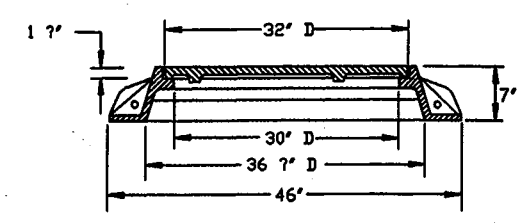
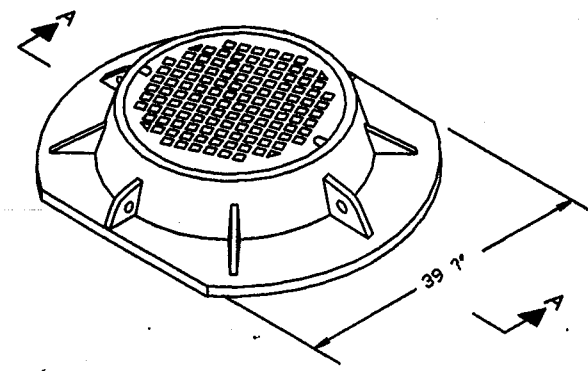
NOTE: CURB BOX HEIGHT ADJUSTABLE. 6' TO 9'

TYPE "WM"
 (APPROXIMATE WEIGHT 670 LBS.)

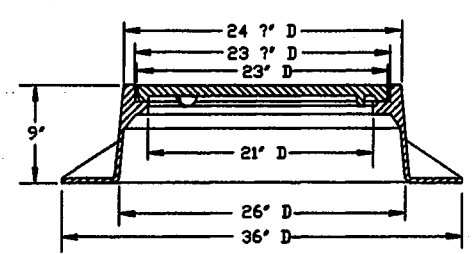
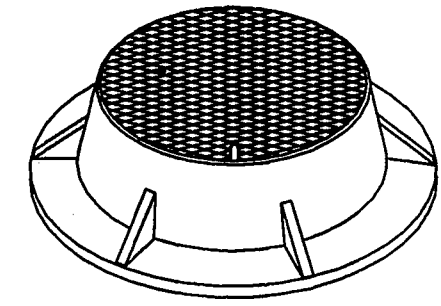
FRAME..... 360 LBS.
 GRATE..... 160 LBS.
 CURB BOX..... 150 LBS.

INLET COVERS TYPE B, B-A, C, MS, MS-A, & WM	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
DATE _____	CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA	

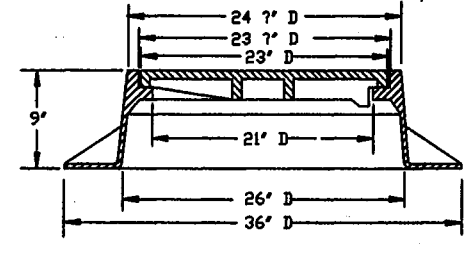
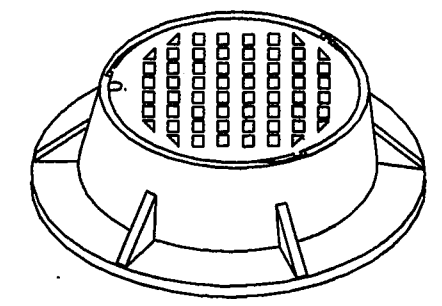
S.D.D. 8 A 5-15b



SECTION A-A
TYPE "K"
(APPROXIMATE WEIGHT 415 LBS.)
FRAME..... 210 LBS.
LID..... 205 LBS.



TYPE "J"
(APPROXIMATE WEIGHT 250 LBS.)
FRAME..... 135 LBS.
LID..... 115 LBS.



TYPE "J" SPECIAL
TYPE "B" NON-ROCKING SELF-SEAL LID
(APPROXIMATE WEIGHT 245 LBS.)
FRAME..... 145 LBS.
LID..... 100 LBS.
(NOTED AS TYPE J-S ON THE DRAINAGE TABLE)

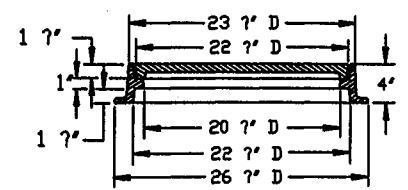
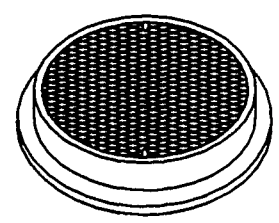
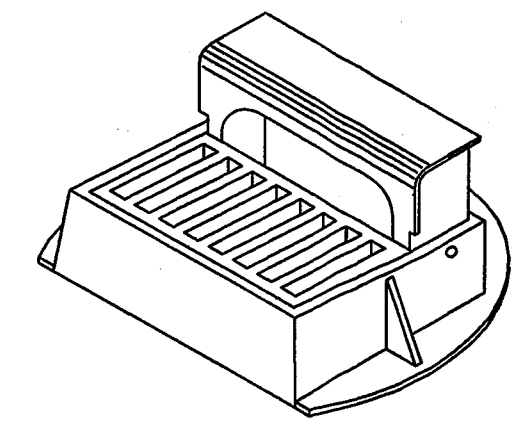
GENERAL NOTES

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.

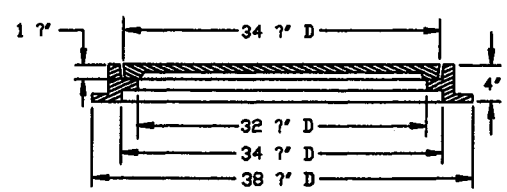
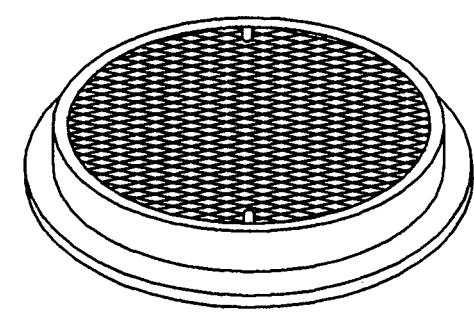
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR MANHOLE COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.

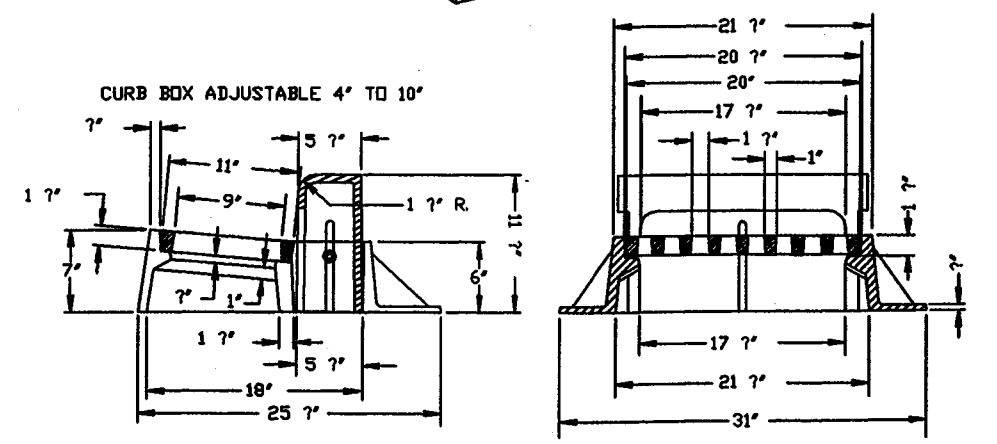
THE ACTUAL WEIGHT OF COVERS MAY VARY WITHIN 5 PERCENT, PLUS OR MINUS, OF THE APPROXIMATE WEIGHT.



TYPE "L"
(APPROXIMATE WEIGHT 145 LBS.)
FRAME..... 75#
LID..... 70#



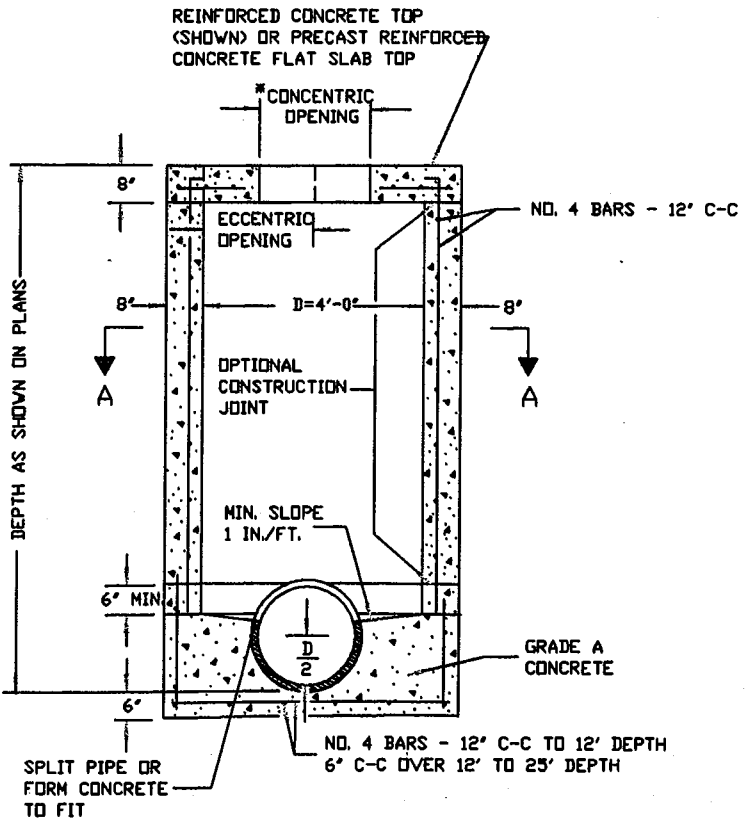
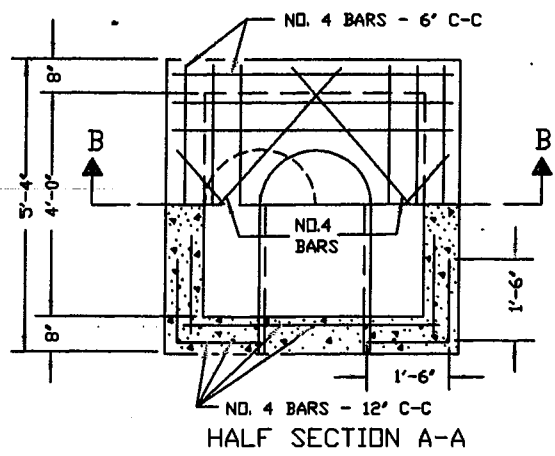
TYPE "M"
(APPROXIMATE WEIGHT 385 LBS.)
FRAME..... 125#
LID..... 260#



INLET COVER TYPE "Z"
(APPROXIMATE WEIGHT 340 LBS.)
FRAME..... 198 LBS.
GRATE..... 50 LBS.
CURB BOX..... 92 LBS.

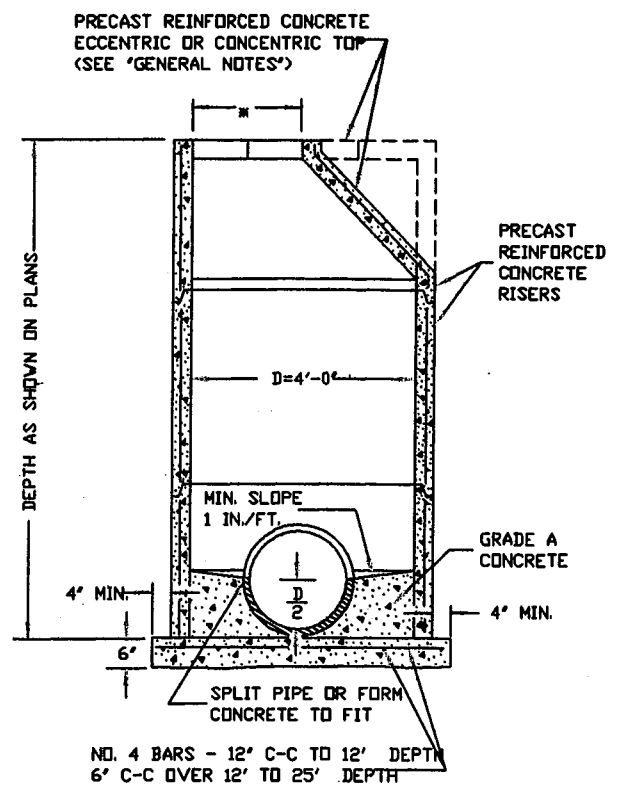
INLET COVER, TYPE Z MANHOLE COVERS, TYPE K, J, J-S, L & M	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
DATE	CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA	

S.D.D. 8 A 5-15d

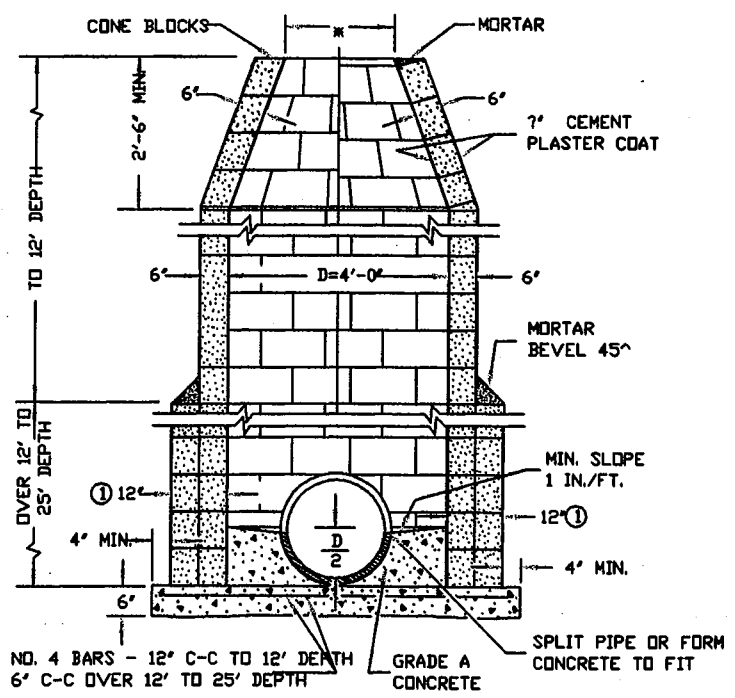


SECTION B-B
REINFORCED CONCRETE

MANHOLES TYPE 1



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 3-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 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 ARE ACCEPTABLE.

ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

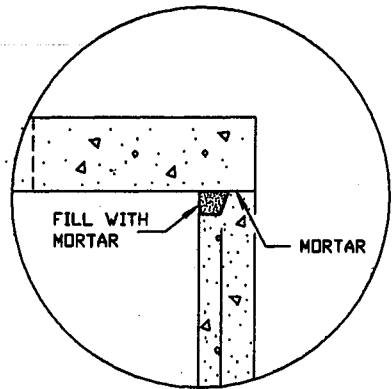
PRECAST REINFORCED CONCRETE RISERS MAY BE PLACED WITH TONGUE UP OR DOWN.

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M 199.

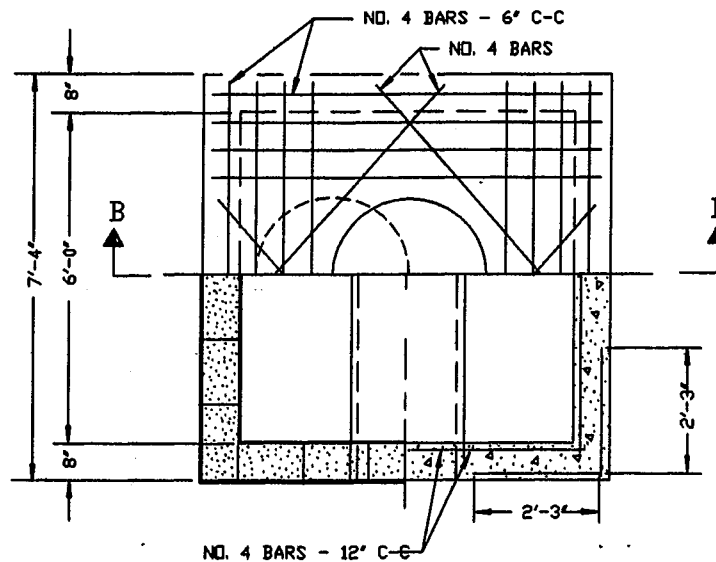
- * USE 2'-0" DIAMETER OPENING WITH TYPE "C", "L" AND "J" COVERS, OR 3'-0" DIAMETER WITH TYPE "K" AND "M" COVERS.
- ① 2 COURSES 6" BLOCK.

S.D.D. 8 B 6-3

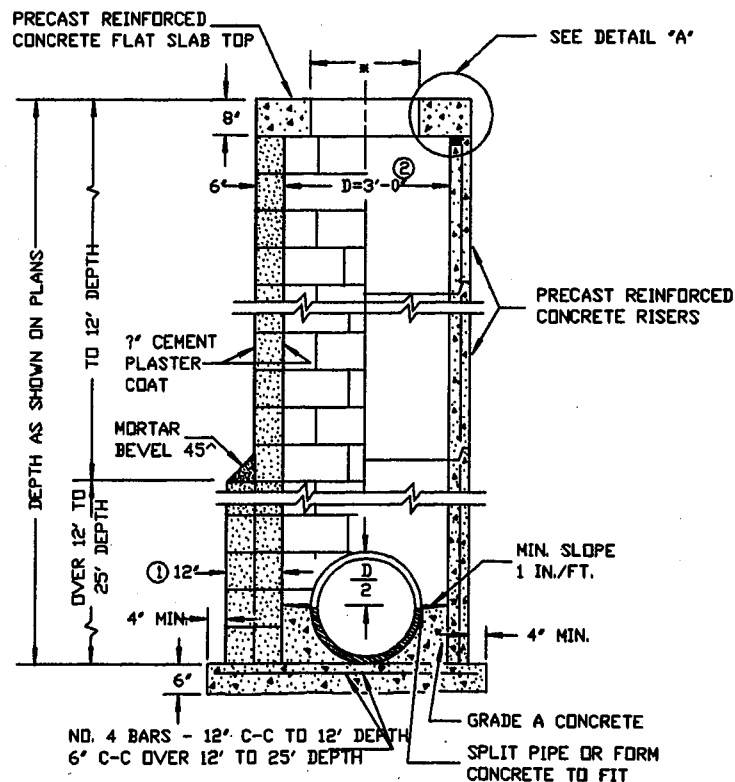
MANHOLES TYPE 1	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	STATE DESIGN ENGINEER FOR HWYS
DATE	
FHWA	



DETAIL "A"

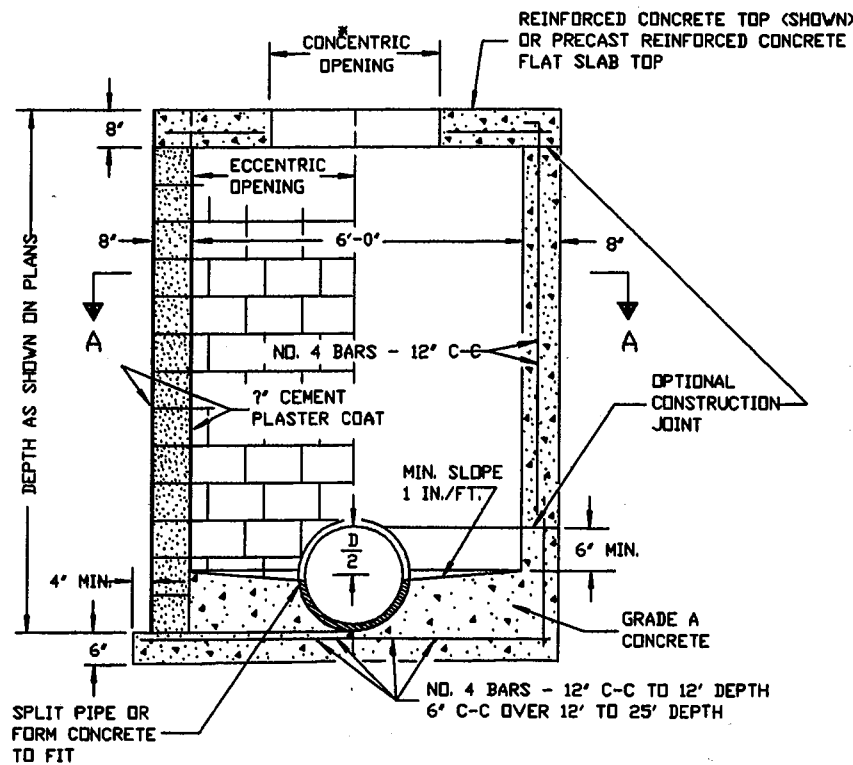


HALF SECTION A-A



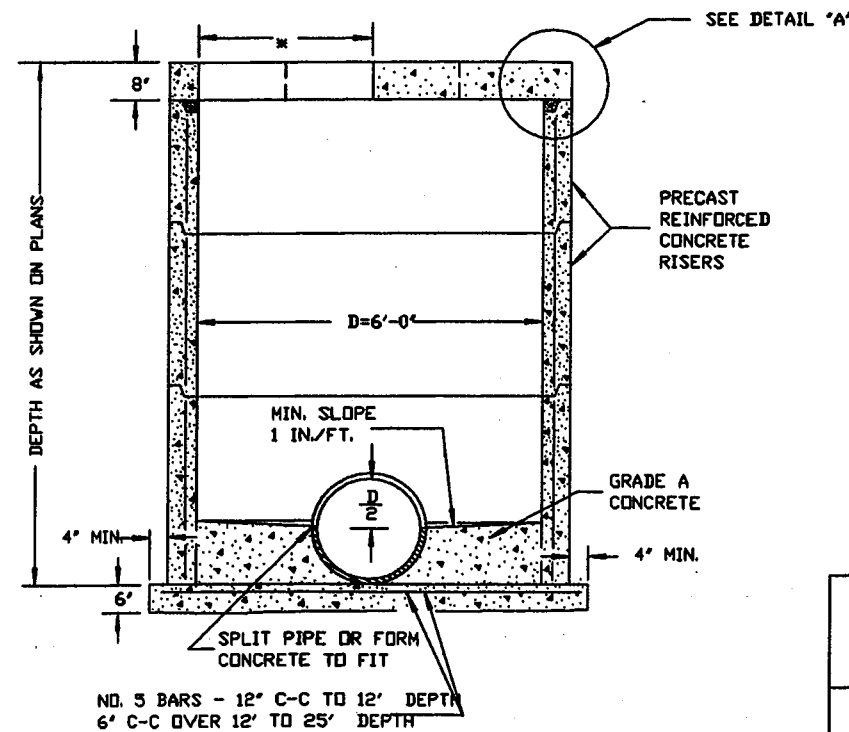
CONCRETE BLOCK
 PRECAST REINFORCED CONCRETE

MANHOLES TYPE 2



CONCRETE BLOCK
 REINFORCED CONCRETE

MANHOLES TYPE 3



PRECAST REINFORCED CONCRETE

MANHOLES TYPE 2 & 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.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 1-C", "CATCH BASINS 1-B", "INLETS 3-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.

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 ARE 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.

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M 199.

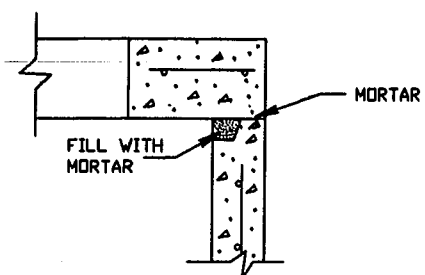
* USE 2'-0" DIAMETER OPENING WITH TYPE "C", "L" AND "J" COVERS, OR 3'-0" DIAMETER WITH TYPE "K" AND "M" COVERS.

- ① 2 COURSES 6" BLOCK.
- ② WHEN CONNECTING PIPES ARE 24" OR LARGER THE PRECAST MANHOLES MAY BE INCREASED TO 42" DIAMETER.

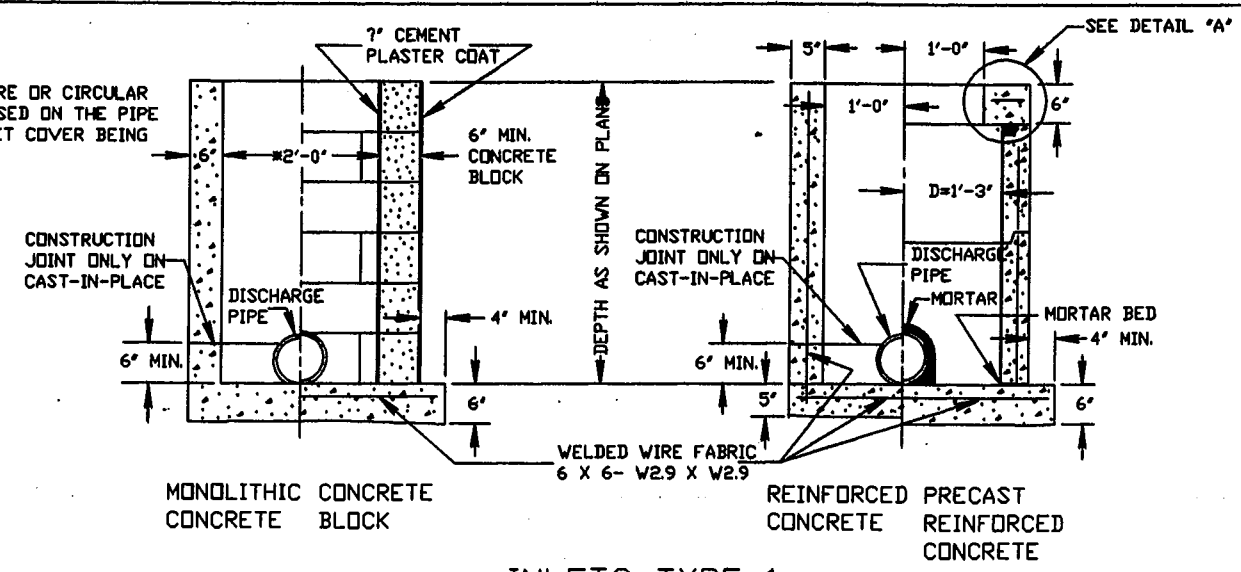
S.D.D. 8 B 7-3

MANHOLES TYPE 2 & 3	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	STATE DESIGN ENGINEER FOR HWYS
DATE	
FHWA	

*SELECTION OF SQUARE OR CIRCULAR DESIGN WILL BE BASED ON THE PIPE SIZES AND THE INLET COVER BEING UTILIZED



DETAIL "A"



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.

ALL 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 3-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.

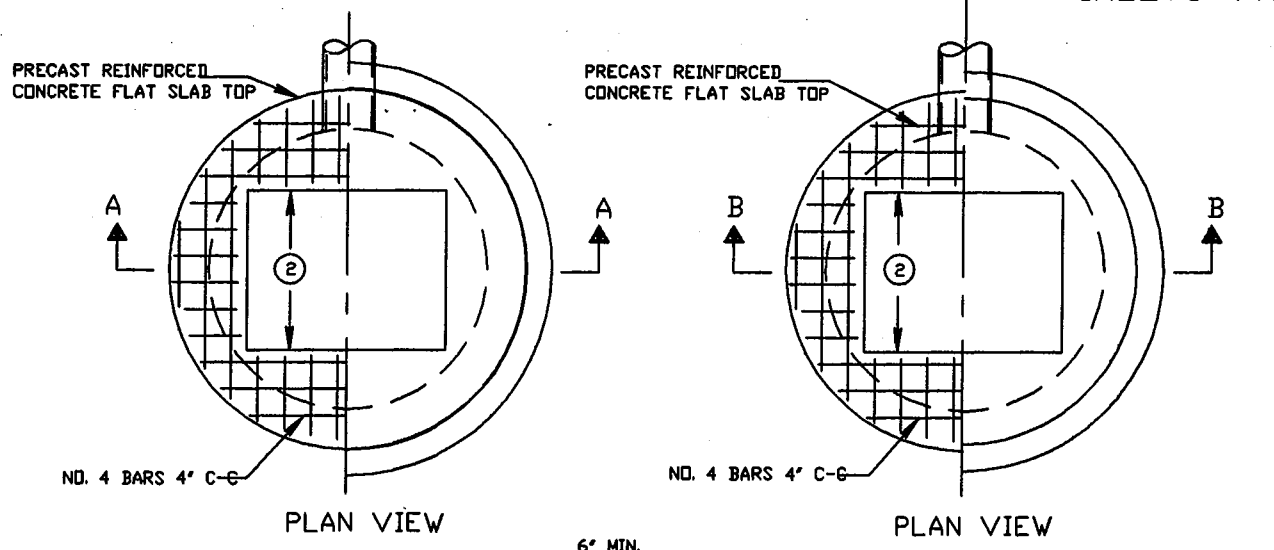
PRECAST REINFORCED BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF GRANULAR BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

PRECAST REINFORCED CONCRETE 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.

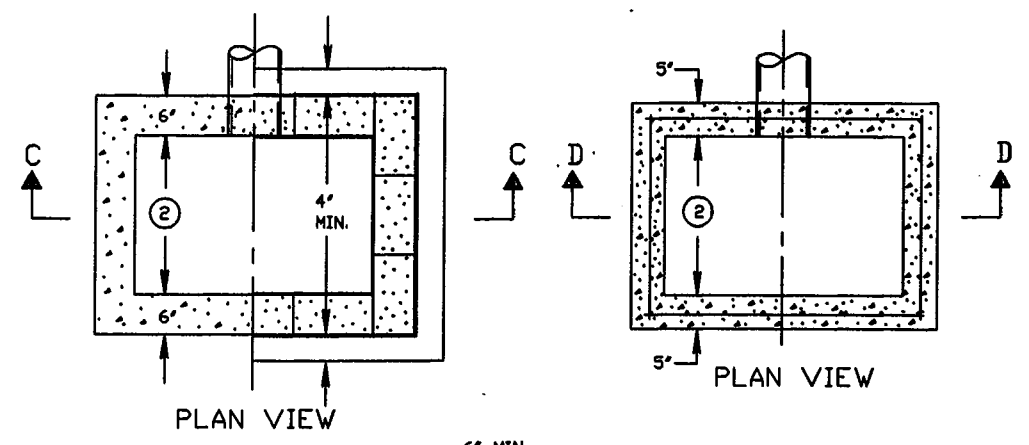
PRECAST REINFORCED CONCRETE RISERS SHALL BE PLACED WITH TONGUE DOWN.

- ① USE 2'-6" OPENING FOR TYPE 2 INLETS, 3'-0" OPENING FOR TYPE 3 INLETS, AND 2'-11" FOR TYPE 4 INLETS.
- ② USE 2'-0" OPENING FOR TYPE 1, 2 & 3 INLETS, 2'-6" OPENING FOR TYPE 4 INLETS.



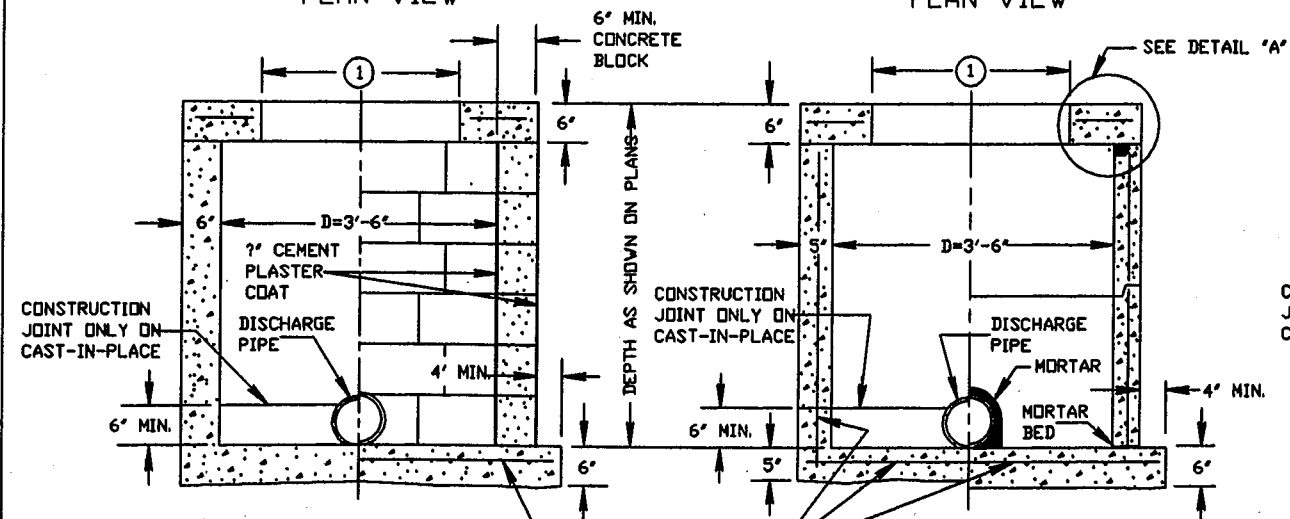
PLAN VIEW

PLAN VIEW



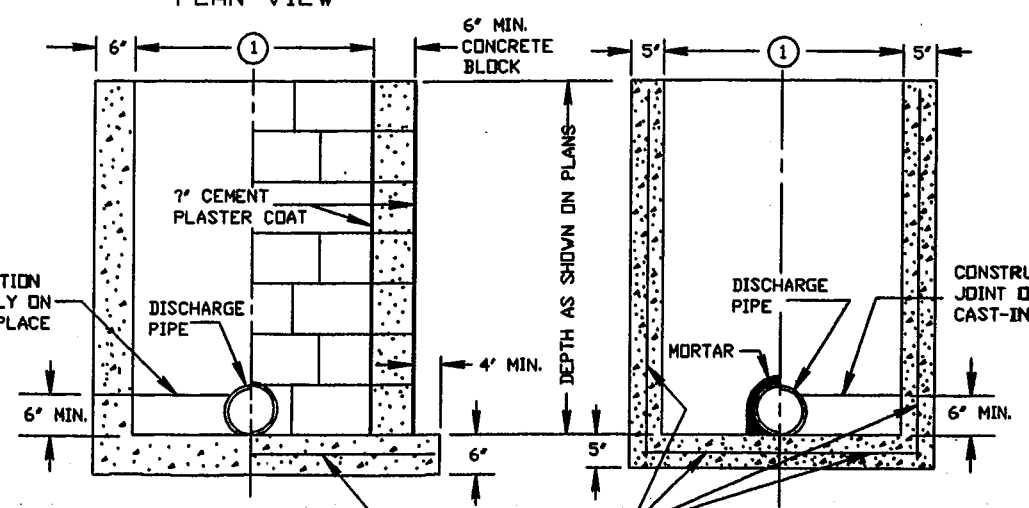
PLAN VIEW

PLAN VIEW



SECTION A-A

SECTION B-B



SECTION C-C

SECTION D-D

INLETS TYPE 2, 3 & 4

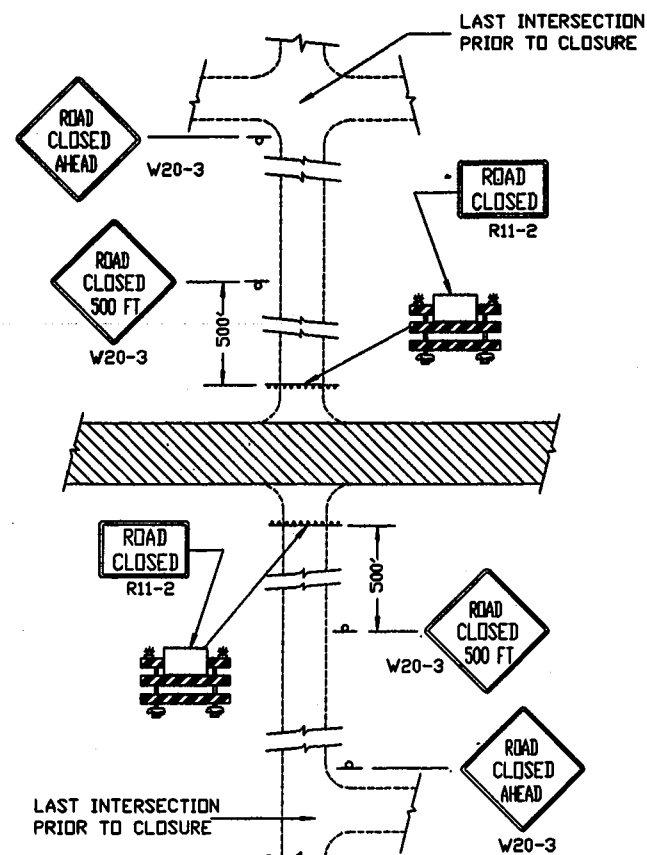
INLETS TYPE 1, 2, 3 & 4

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

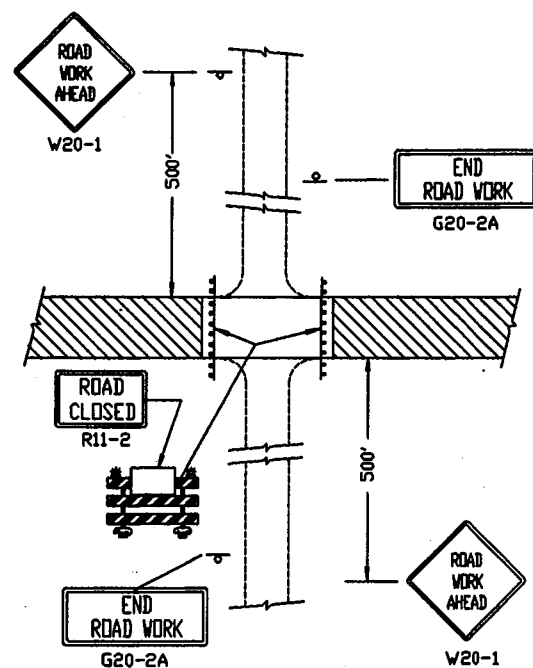
APPROVED
DATE _____ CHIEF ROADWAY DEVELOPMENT ENGINEER
FHVA

S.D.D. 8 C 1-5

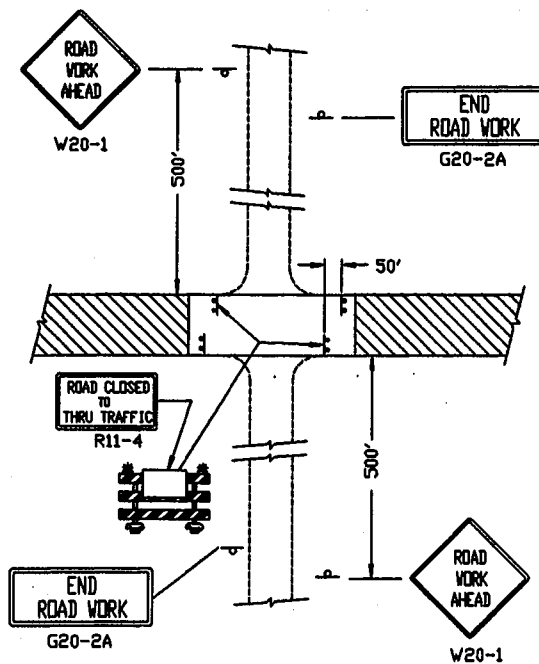
S.D.D. 8 C 1-5



DETAIL 1
(NO ACCESS TO PROJECT)

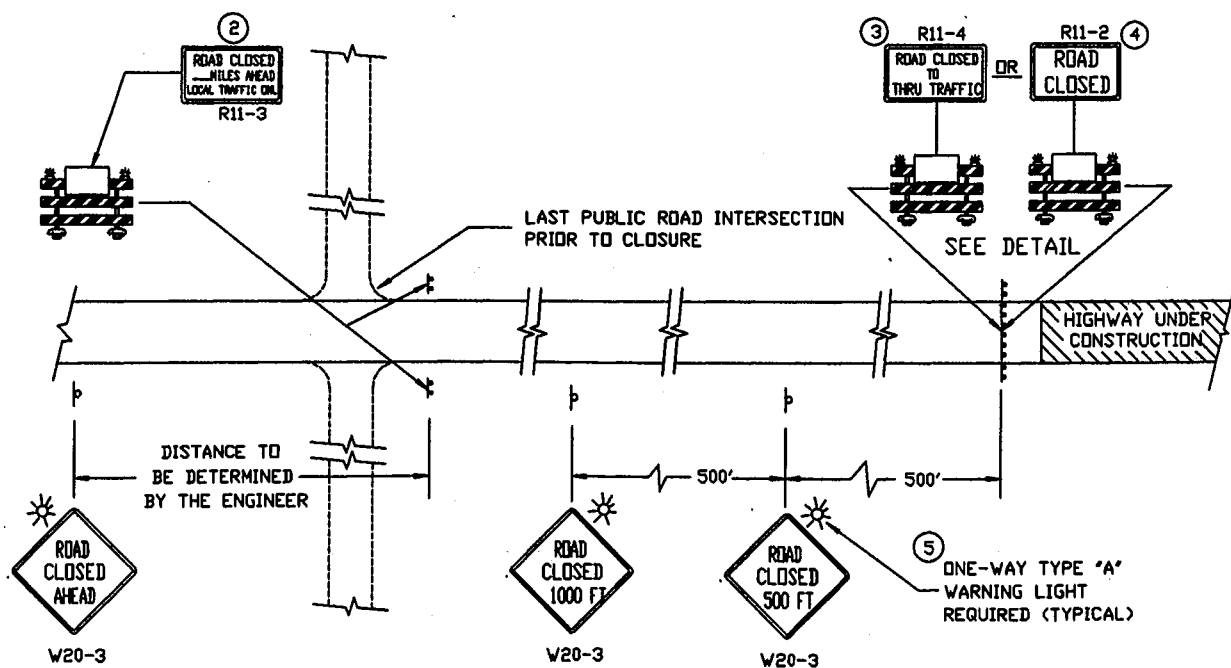


DETAIL 2
(PUBLIC CROSS-TRAFFIC MAINTAINED,
NO ACCESS TO PROJECT).

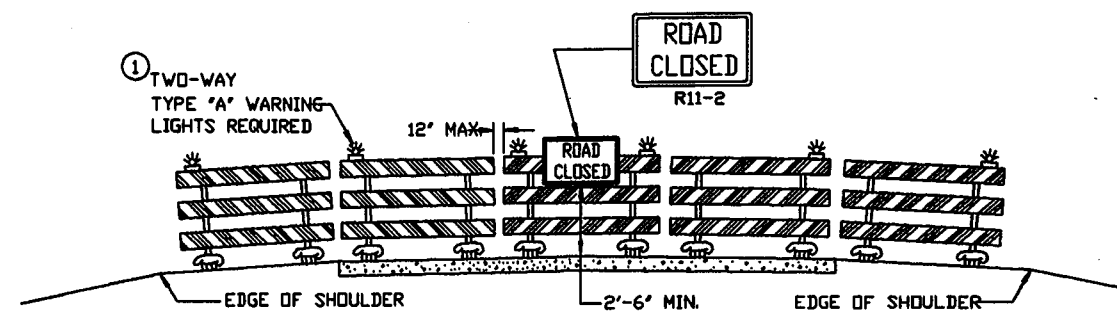


DETAIL 3
(PUBLIC CROSS-TRAFFIC MAINTAINED, CONTRACTOR,
LOCAL BUSINESS AND RESIDENT ACCESS).

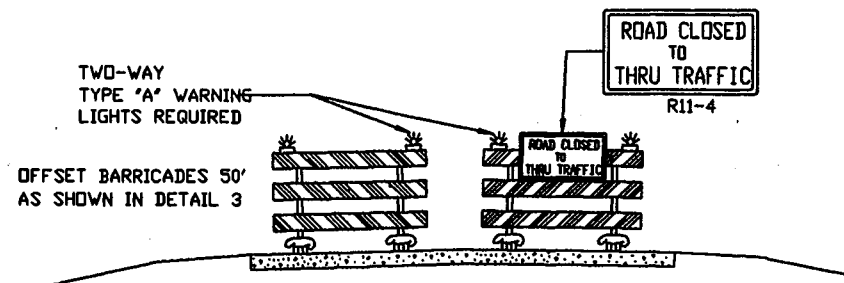
SIDEROAD CLOSURES



MAINLINE CLOSURE



APPROACH VIEW
ROAD CLOSURE BARRICADE DETAIL



APPROACH VIEW
LANE CLOSURE BARRICADE DETAIL

GENERAL NOTES

DETAILS OF TRAFFIC CONTROL DEVICES AND THEIR LOCATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE WISCONSIN MANUAL OF TRAFFIC CONTROL DEVICES, THE PLANS, SPECIFICATIONS AND CONTRACT.

SIGN AND BARRICADE LOCATIONS MAY BE ADJUSTED IN THE FIELD AS DIRECTED BY THE ENGINEER. ANY EXISTING TRAFFIC SIGNS THAT CONFLICT WITH THIS WORK SHALL BE COVERED AS DIRECTED BY THE ENGINEER. ALL "STOP" OR OTHER REGULATORY SIGNS ON THE SIDE ROADS SHALL NOT BE DISTURBED, EXCEPT WHEN NECESSARY TO COMPLETE THE WORK. THE SIGNS MUST THEN BE IMMEDIATELY REESTABLISHED.

BARRICADE DETAIL FOR FULL ROAD CLOSURES. TYPE "A" LOW INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

CLOSED TO THRU TRAFFIC SIGN (R11-4) SHALL BE ATTACHED ONLY TO THE TOP RAIL OF THE TYPE III BARRICADE. THE SIGNS SHALL NOT COVER MIDDLE RAIL.

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
R11-2, "ROAD CLOSED" SIGNS SHALL BE 48" X 30".
R11-3, AND R11-4 SIGNS SHALL BE 60" X 30".
G20-2A SIGNS SHALL BE 48" X 24".

- ① TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND AT LEAST ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN.
- ② THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT INTERSECTION
- ③ FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT. SEE LANE CLOSURE BARRICADE DETAIL
- ④ FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT. SEE ROAD CLOSURE BARRICADE DETAIL
- ⑤ ONE-WAY LIGHTS SHALL BE PROVIDED ON ALL ADVANCE WARNING SIGNS. THE UNIT SHALL BE POSITIONED SUCH THAT THE LIGHT SOURCE IS OUTSIDE THE SIGN FACE AND AT THE TOP OF THE SIGN.

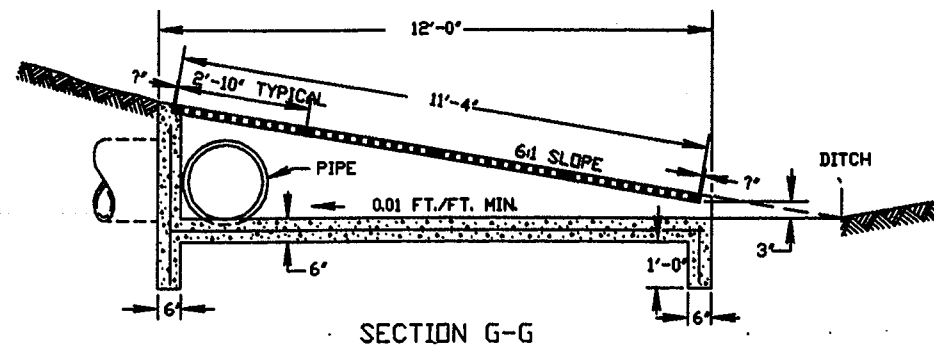
LEGEND

- ⊥ POST MOUNTED WARNING SIGN
- ⊥ TYPE III BARRICADES WITH TYPE "H" REFLECTIVE SHEETING
- ⊛ TYPE "A" LOW INTENSITY FLASHING WARNING LIGHT (FOR NIGHT USE)
- ▨ WORK AREA

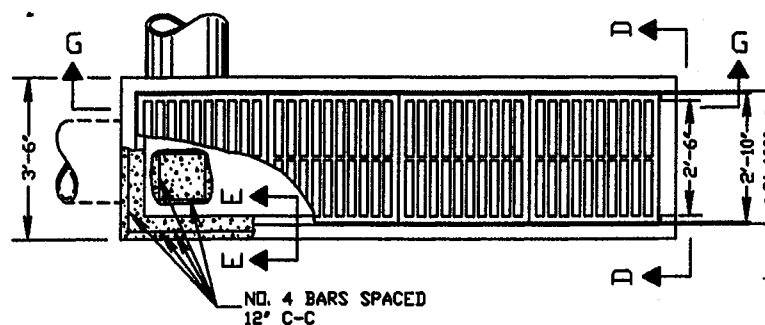
BARRICADES AND SIGNS FOR ROAD CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
DATE _____ DIRECTOR, OFFICE OF TRAFFIC
FHWA



SECTION G-G



PLAN VIEW

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.

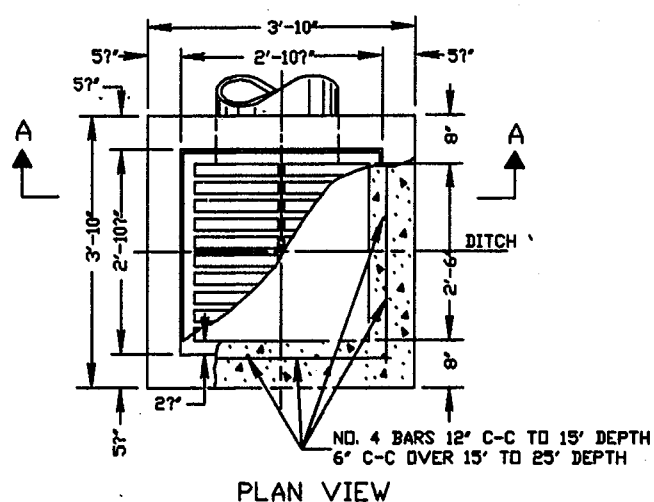
DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR INLETS WHICH MAY INCLUDE PRECAST REINFORCED CONCRETE INLETS, SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

PRECAST REINFORCED CONCRETE INLET UNITS, IF USED, SHALL CONFORM TO THE REQUIREMENTS OF THE CATCH BASINS, MANHOLES AND INLETS SECTION OF THE STANDARD SPECIFICATIONS, UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST INLET UNITS REQUIRED FOR THE PROJECT UNTIL A CORRECTED LIST OF SIZES IS FURNISHED BY THE ENGINEER.

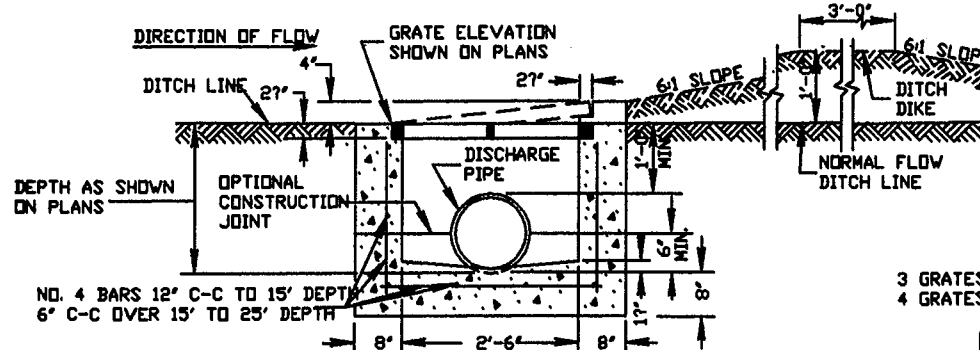
ALL INLETS ARE DESIGNATED ON THE PLANS AS 'INLETS, B-MS', ETC. THIS DESIGNATION IS INTERPRETED TO MEAN THAT THE NUMBER, OR FIRST DIGIT DESIGNATES THE MASONRY PORTION OF THE STRUCTURE AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER OR IRON CASTING TO BE USED THEREWITH TO COMPRISE THE COMPLETE UNIT.

ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

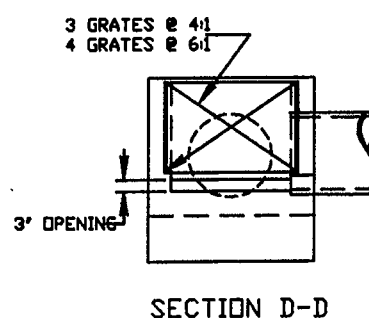
REINFORCED CONCRETE INLET TYPE 11



PLAN VIEW

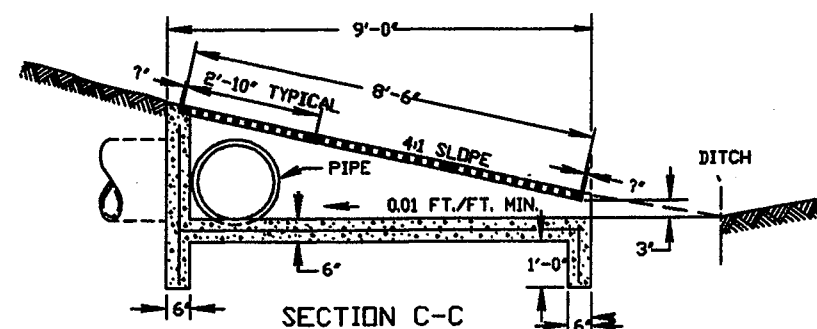


SECTION A-A

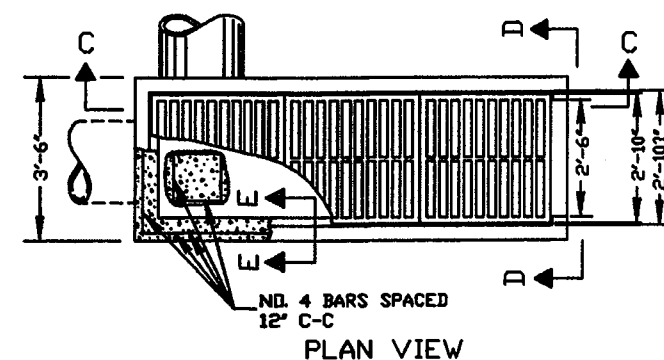


SECTION D-D

REINFORCED CONCRETE INLET TYPE 8

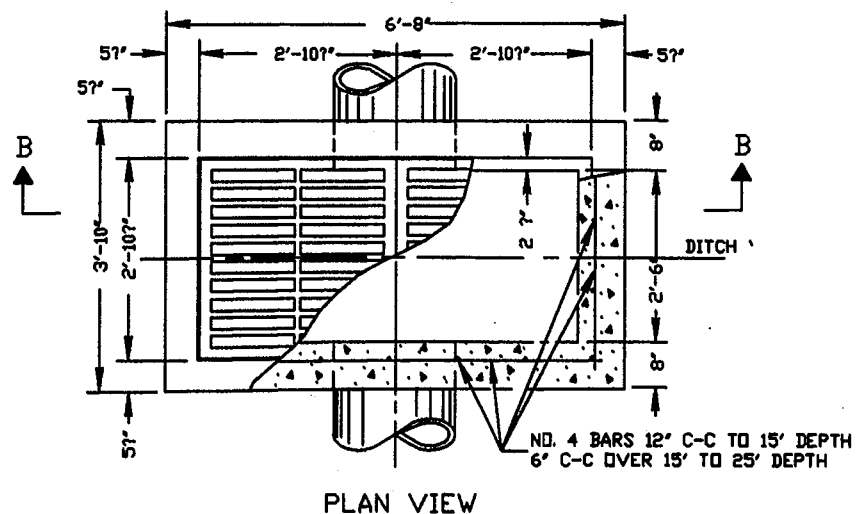


SECTION C-C

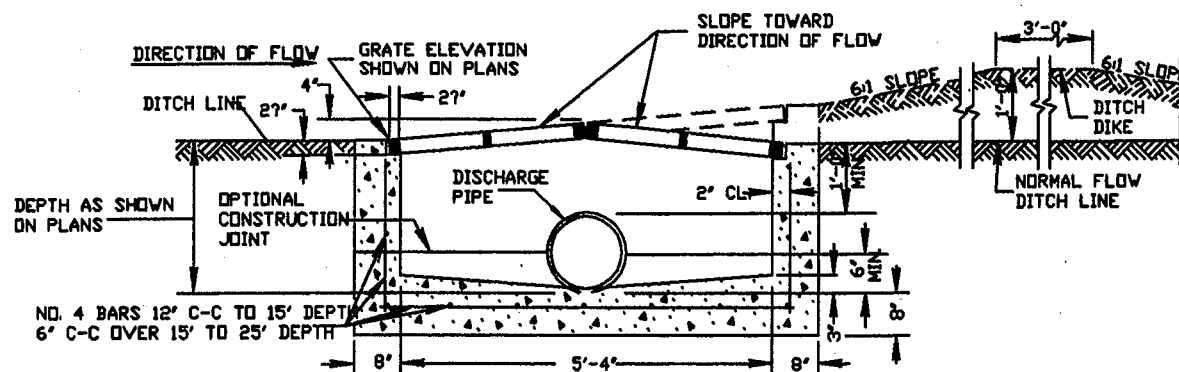


PLAN VIEW

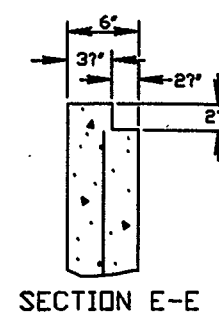
REINFORCED CONCRETE INLET TYPE 10



PLAN VIEW



SECTION B-B



SECTION E-E

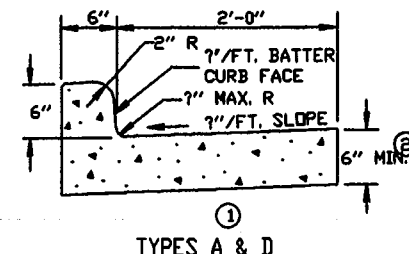
REINFORCED CONCRETE INLET TYPE 9

INLETS TYPE 8, 9, 10 AND 11

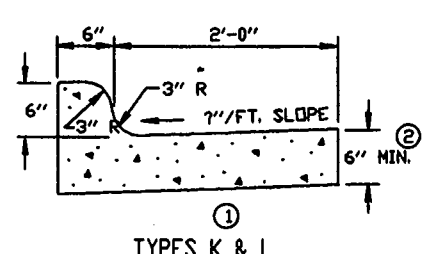
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

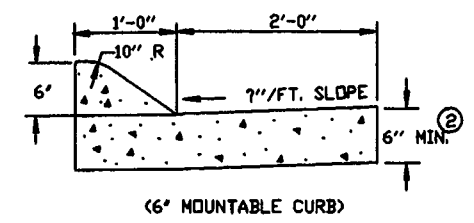
DATE _____ CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA



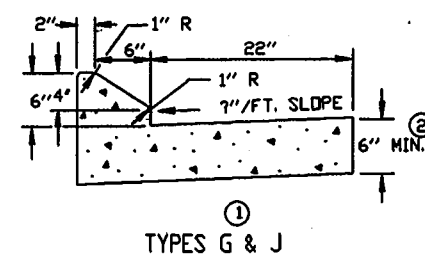
TYPES A & D



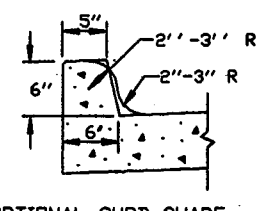
TYPES K & L



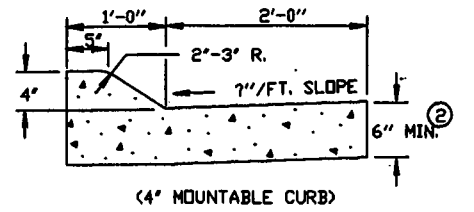
6" MOUNTABLE CURB



TYPES G & J



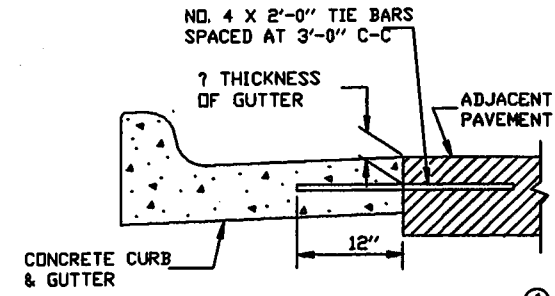
OPTIONAL CURB SHAPE FOR TYPES K & L



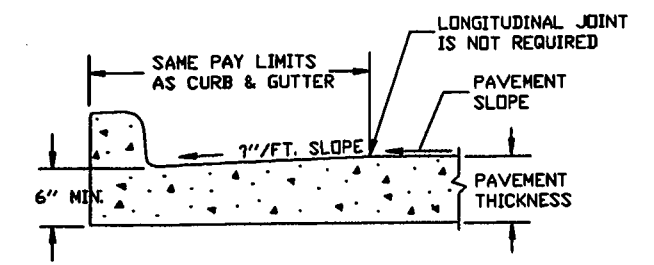
4" MOUNTABLE CURB

TYPES A & D CONCRETE CURB & GUTTER 36"

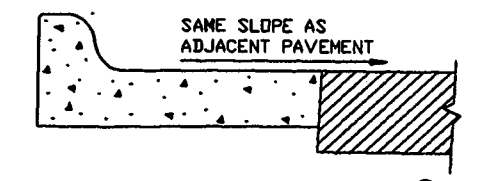
CONCRETE CURB & GUTTER 30"



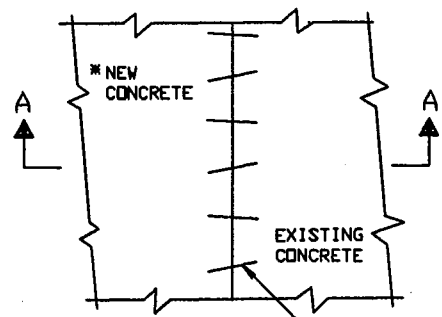
TYPICAL TIE BAR LOCATION



PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB & GUTTER

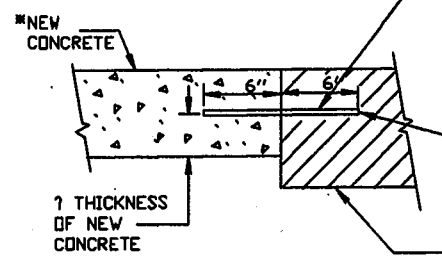


REVERSE SLOPE GUTTER (TYPICAL FOR ALL CURB & GUTTER TYPES)



PLAN VIEW

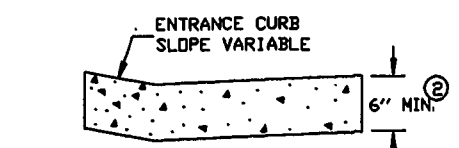
* NEW CURB & GUTTER, SURFACE DRAINS, CONCRETE PAVEMENT OR OTHER NEW CONCRETE.



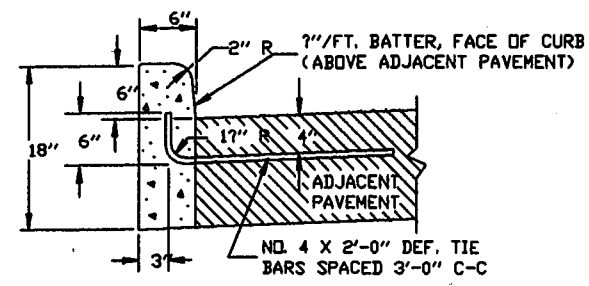
SECTION A-A PAVEMENT TIES

NO. 6 X 12' DEF. BARS SPACED 3'-0" C-C, INSTALLED ON 6:1 SKEW HORIZONTALLY. DIRECTION OF SKEW ALTERNATING AFTER EVERY ONE OR TWO BARS.

THE HOLE FOR THE BAR SHALL BE DRILLED TO A DEPTH OF 7" AND TO SUCH A DIAMETER AS TO PROVIDE A TIGHT DRIVEN FIT

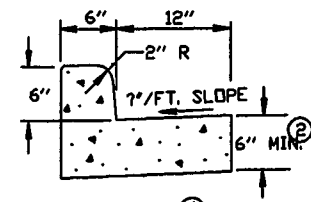


DRIVEWAY ENTRANCE CURB (WHEN DIRECTED BY THE ENGINEER)

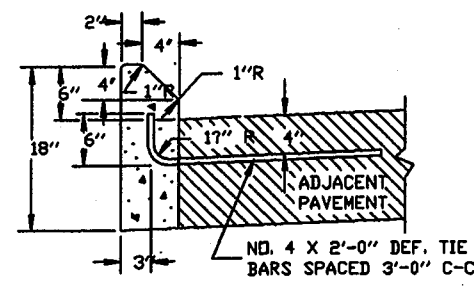


TYPES A & D

CONCRETE CURB



TYPES A & D CONCRETE CURB & GUTTER 18"



TYPES G & J

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

INTEGRAL CURB & GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB & GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE. A LONGITUDINAL CONSTRUCTION JOINT IS NOT REQUIRED WITH INTEGRAL CURB AND GUTTER.

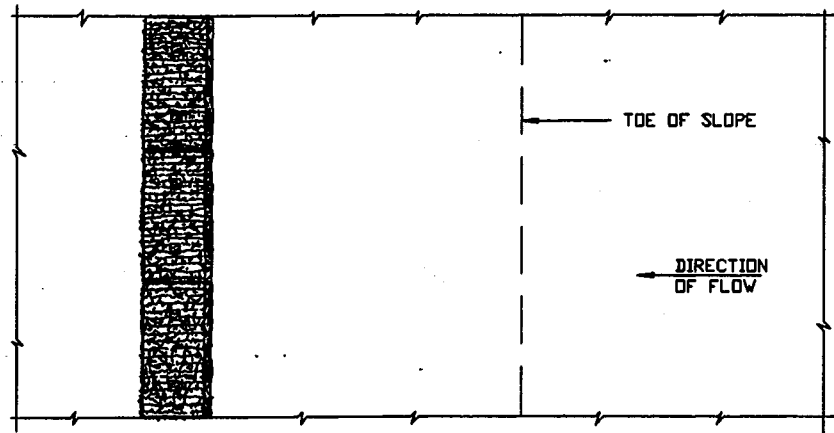
WHERE THE TRANSVERSE JOINTS IN THE PAVEMENT ARE REQUIRED TO BE SEALED, THE JOINTS IN THE INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME TYPE OF SEALANT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB AND GUTTER.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE COURSE AND UNCLASSIFIED EXCAVATION LIMITS ARE 2'-0" BEHIND THE BACK OF CURBS.

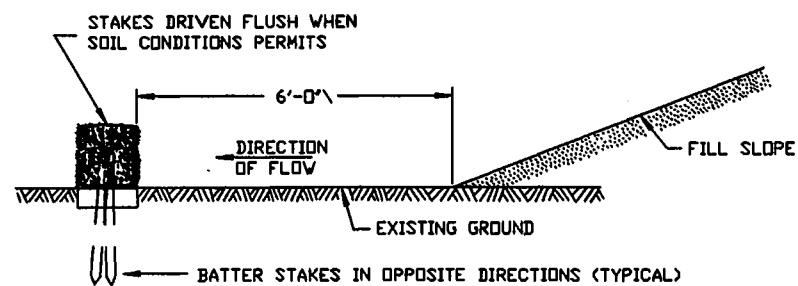
- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G AND K.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE COURSE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ③ WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.

S.D.D. 8 D 1-13

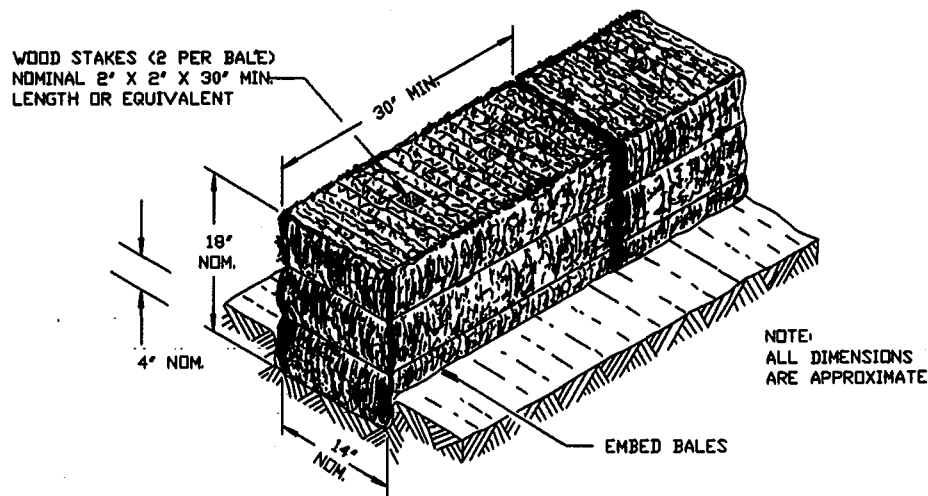
CONCRETE CURB, CONCRETE CURB & GUTTER AND PAVEMENT TIES	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	DATE
	CHIEF ENGINEER
	FHWA



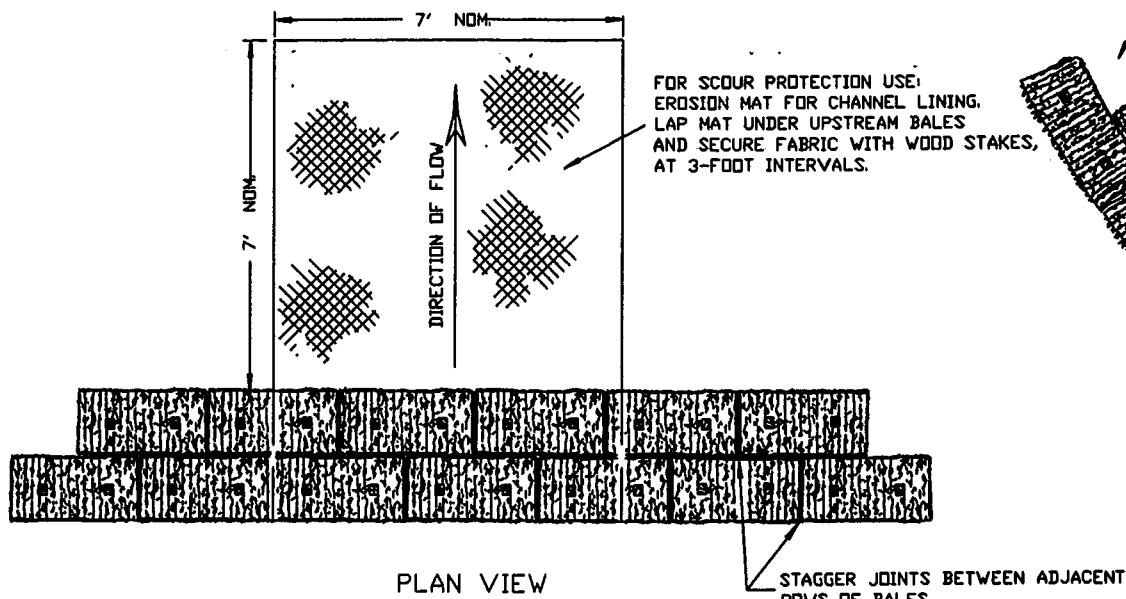
PLAN VIEW



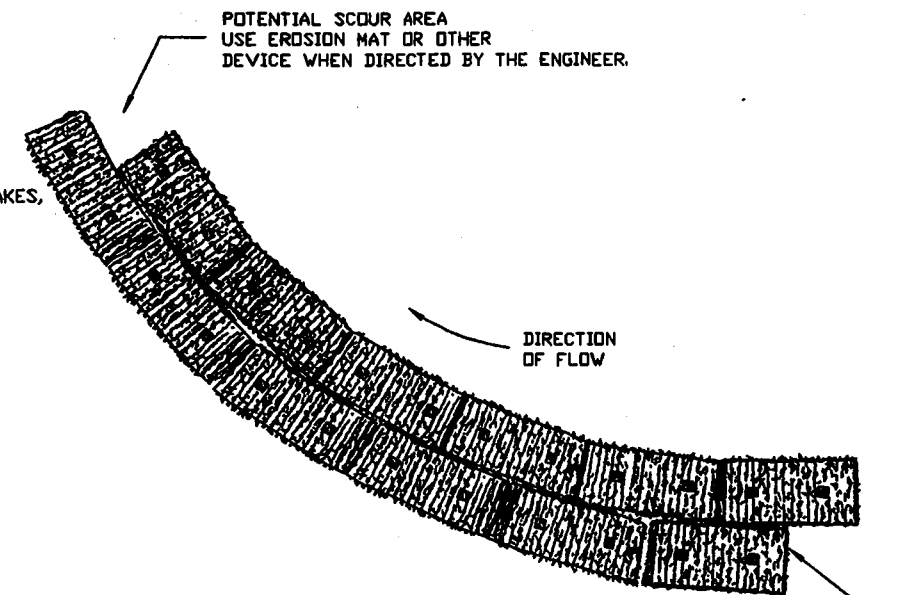
FRONT ELEVATION
WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE
EROSION BALES FOR SHEET FLOW



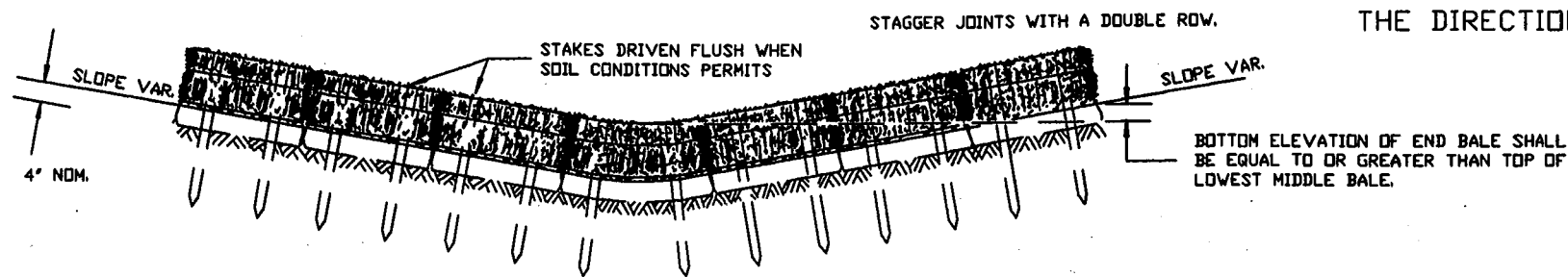
NOTE:
ALL DIMENSIONS
ARE APPROXIMATE



PLAN VIEW



PLAN VIEW



FRONT ELEVATION

EROSION BALES FOR CHANNEL FLOW

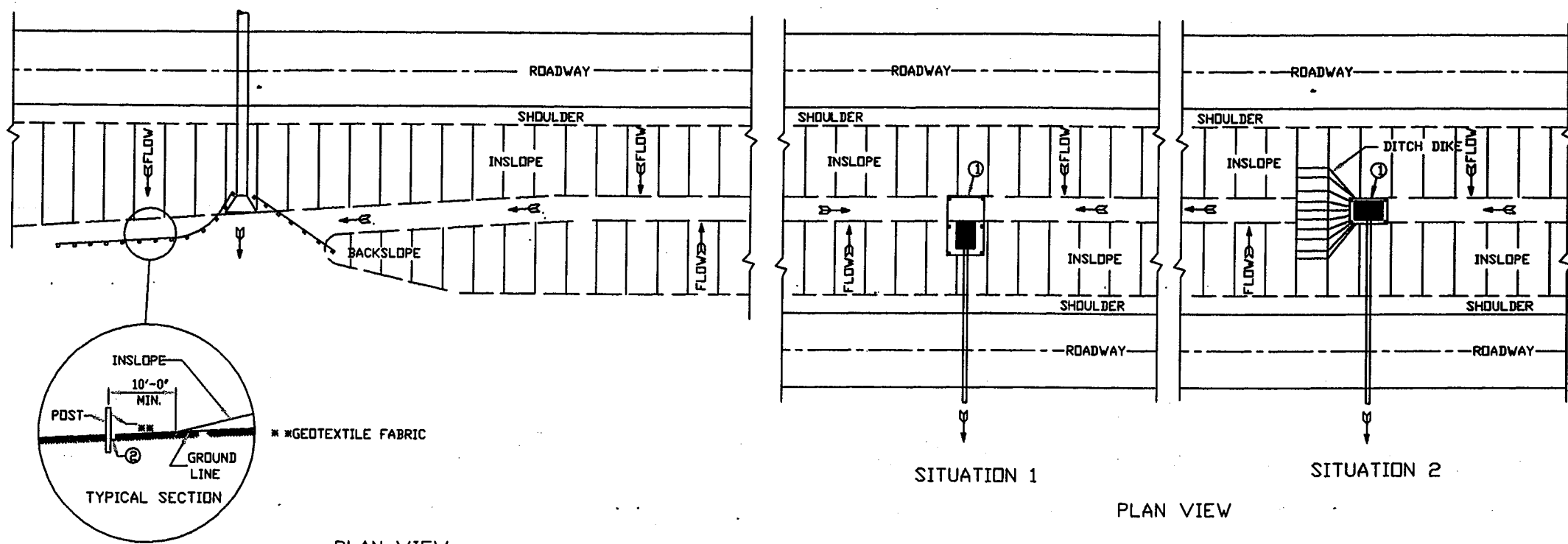
GENERAL NOTES

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.

S.D.D. 8 E 8-2

TYPICAL INSTALLATIONS OF EROSION BALES	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	DATE
	CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA	

S.D.D. 8 E 8-2

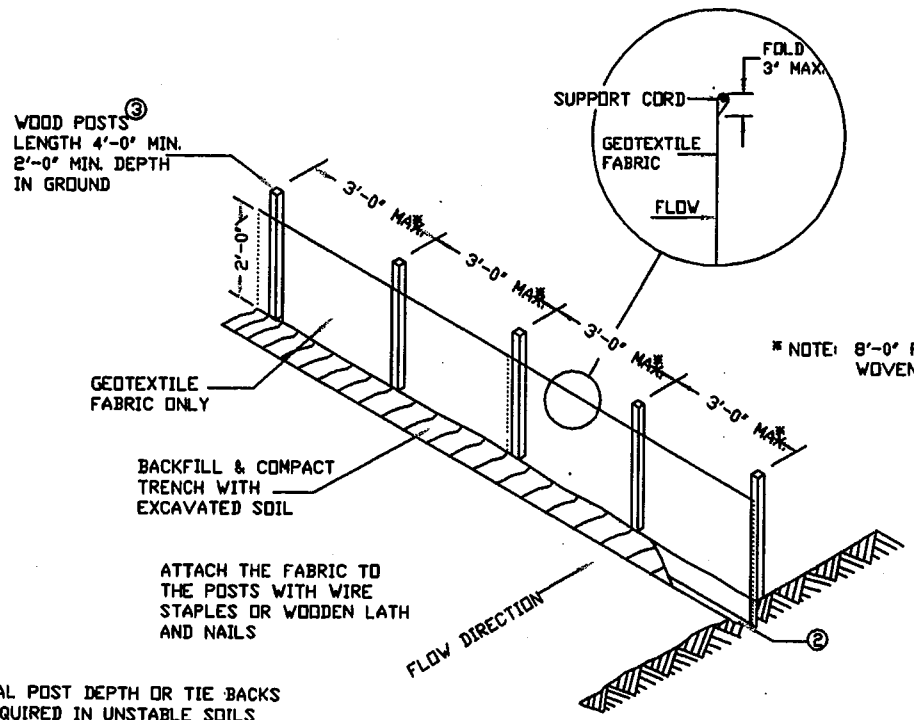


PLAN VIEW
TYPICAL APPLICATIONS OF SILT FENCE

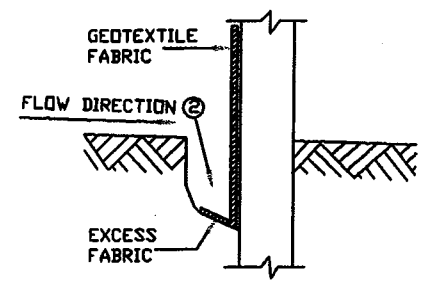
SITUATION 1
SITUATION 2
PLAN VIEW
SILT FENCE AT MEDIAN SURFACE DRAINS

GENERAL NOTES

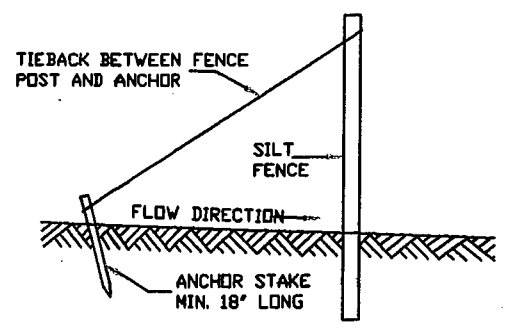
- DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.
- ① HORIZONTAL BRACE WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS AS DIRECTED BY THE ENGINEER.
 - ② TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
 - ③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1" X 1" OF OAK OR HICKORY.



SILT FENCE
(NON-REINFORCED)



TRENCH DETAIL



SILT FENCE TIE BACK
(WHEN REQUIRED BY THE ENGINEER)

NOTE: ADDITIONAL POST DEPTH OR TIE BACKS MAY BE REQUIRED IN UNSTABLE SOILS

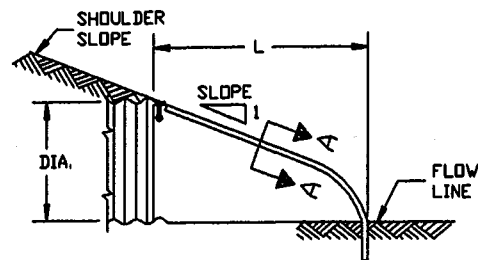
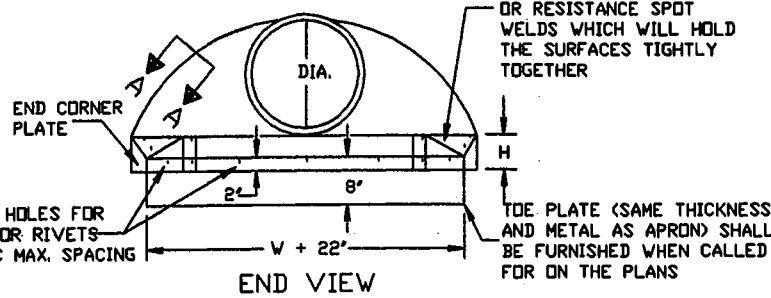
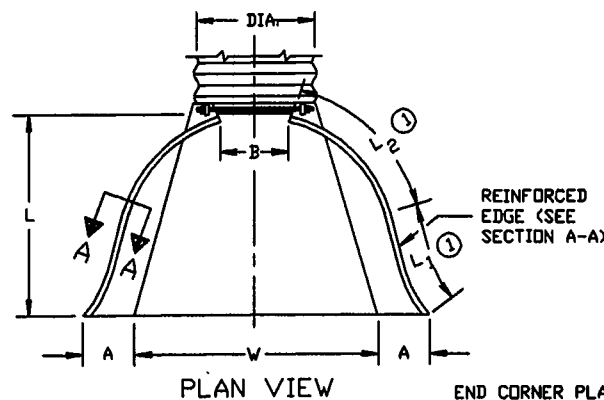
* NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

S.D.D. 8 E 9-4

SILT FENCE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
DATE _____	CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA	

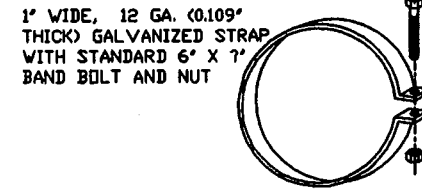
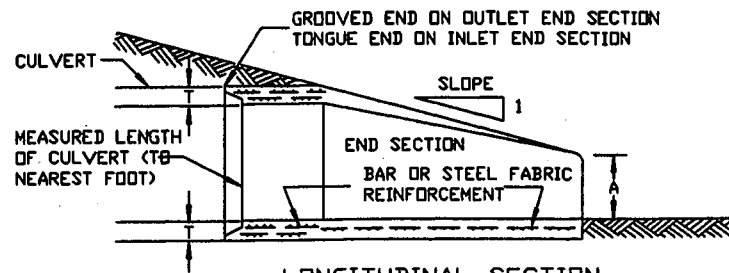
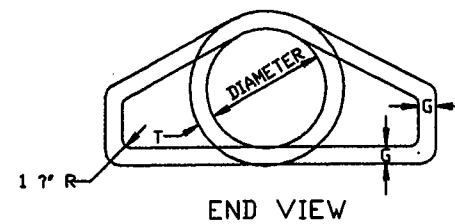
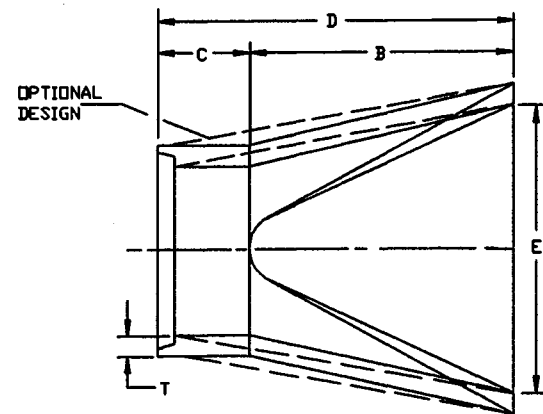
METAL APRON ENDWALLS											
PIPE DIA. (IN.)	MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY
	STEEL	ALUM.	A (1')	B (MAX.)	H (1')	L (1 7')	L ₁ (1)	L ₂ (1)	V (1 2')		
12	.064	.060	6	6	6	21	12	171	24	27to 1	1 Pc.
15	.064	.060	7	8	6	26	14	217	30	27to 1	1 Pc.
18	.064	.060	8	10	6	31	15	287	36	27to 1	1 Pc.
21	.064	.060	9	12	6	36	18	297	42	27to 1	1 Pc.
24	.064	.075	10	13	6	41	18	377	48	27to 1	1 Pc.
30	.079	.075	12	16	8	51	18	527	60	27to 1	1 Pc.
36	.079	.105	14	19	9	60	24	597	72	27to 1	2 Pc.
42	.109	.105	16	22	11	69	24	757	84	27to 1	2 Pc.
48	.109	.105	18	27	12	78	24	81	90	27to 1	3 Pc.
54	.109	.105	18	30	12	84	30	857	102	27to 1	3 Pc.
60	.109	.105	18	33	12	87	—	—	114	2 to 1	3 Pc.
66	.109	.105	18	36	12	87	—	—	120	2 to 1	3 Pc.
72	.109	.105	18	39	12	87	—	—	126	2 to 1	3 Pc.
78	.109	.105	18	42	12	87	—	—	132	17to 1	3 Pc.
84	.109	.105	18	45	12	87	—	—	138	17to 1	3 Pc.
90	.109	.105	18	37	12	87	—	—	144	17to 1	3 Pc.
96	.109	.105	18	35	12	87	—	—	150	17to 1	3 Pc.

* EXCEPT CENTER PANEL SEE GENERAL NOTES

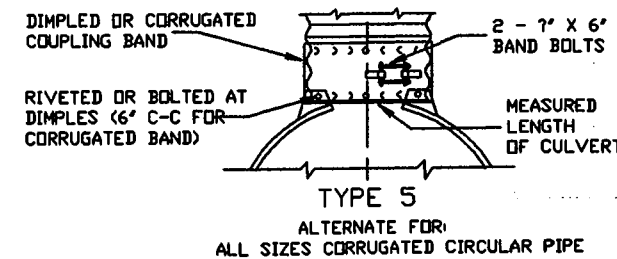
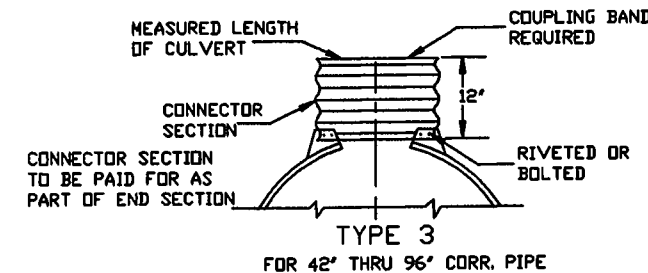
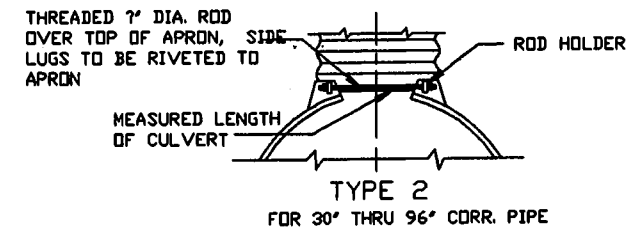
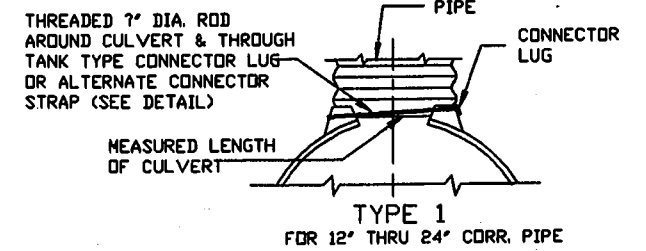


REINFORCED CONCRETE APRON ENDWALLS									
PIPE DIA. (IN.)	DIMENSIONS (Inches)							APPROX. SLOPE	
	T	A	B	C	D	E	G		
12	2	4	24	487	727	24	2	3 to 1	
15	27	6	27	46	73	30	27	3 to 1	
18	27	9	27	46	73	36	27	3 to 1	
21	27	9	36	377	737	42	27	3 to 1	
24	3	97	437	30	737	48	3	3 to 1	
27	37	107	497	24	737	54	37	3 to 1	
30	37	12	54	197	737	60	37	3 to 1	
36	4	15	63	347	977	72	4	3 to 1	
42	47	21	63	35	98	78	47	3 to 1	
48	5	24	72	26	98	84	5	3 to 1	
54	57	27	65	337-35	987-700	90	57	2 5/8 to 1	
60	6	30-35	60	39	99	96	5	2 to 1	
66	67	24-30	72-78	21-27	99	102	57	2 to 1	
72	7	24-36	78	21	99	108	6	2 to 1	
78	77	24-36	78	21	99	114	67	2 to 1	
84	8	36	907	21	1117	120	67	17to 1	
90	87	41	877	24	1117	132	67	17to 1	

■ MINIMUM
■ MAXIMUM



ALTERNATE FOR TYPE 1 CONNECTION END SECTION CONNECTOR STRAP



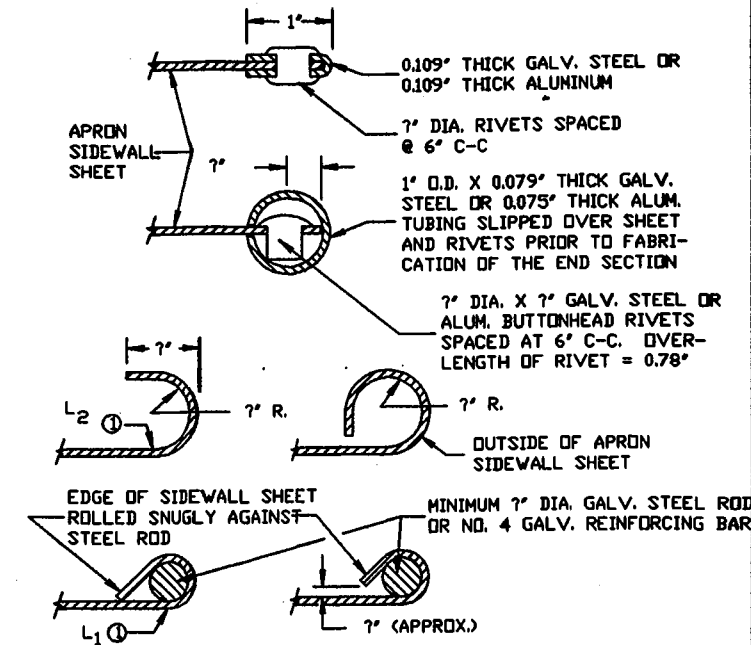
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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.

CONNECTION DETAILS



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.

CONCRETE CULVERT ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL OR ALUMINUM CULVERT PIPE OR VISE VERSA. GALVANIZED STEEL OR ALUMINUM ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE OF THE SAME METAL.

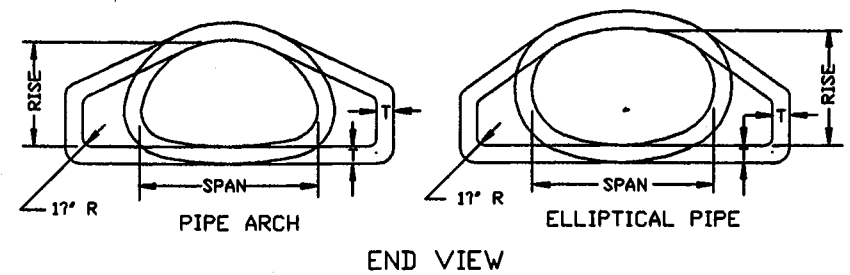
ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE PERIMETER.

LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 60" THROUGH 96" DIAMETER APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.

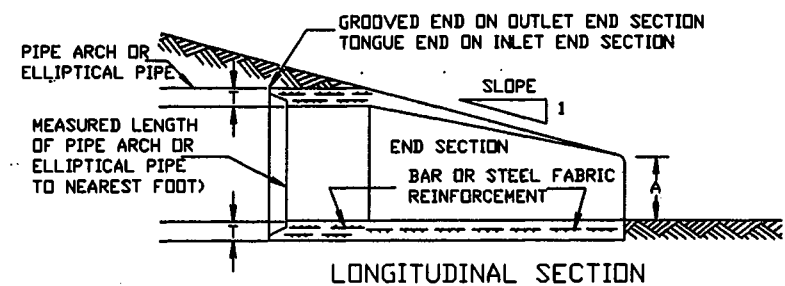
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

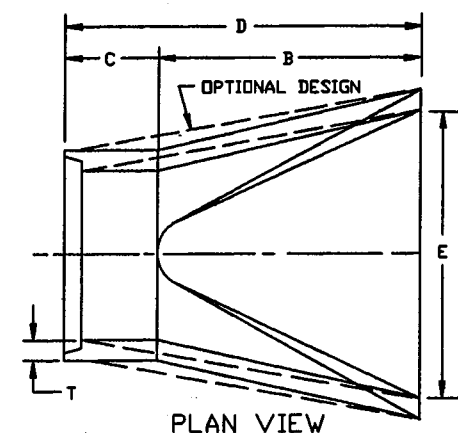
APRON ENDWALLS FOR CULVERT PIPE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	DATE
	CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA	



END VIEW

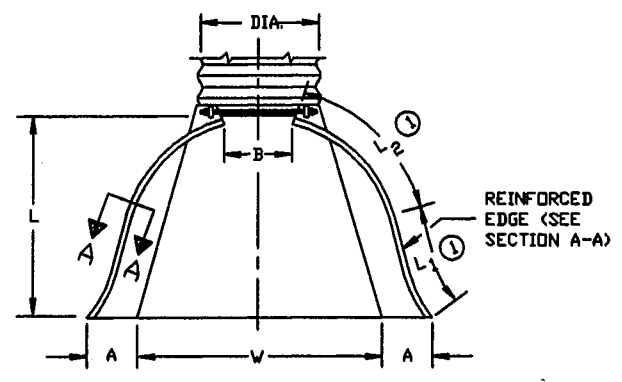


LONGITUDINAL SECTION

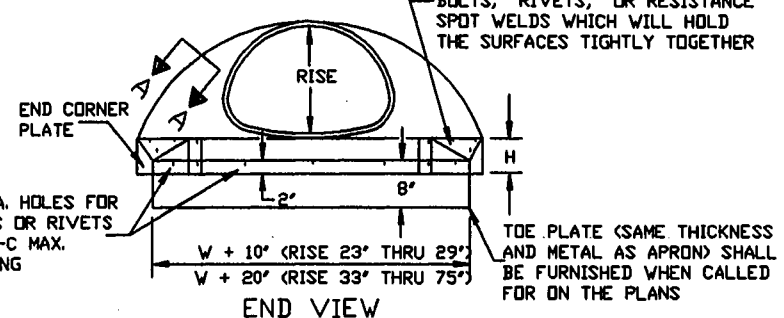


PLAN VIEW

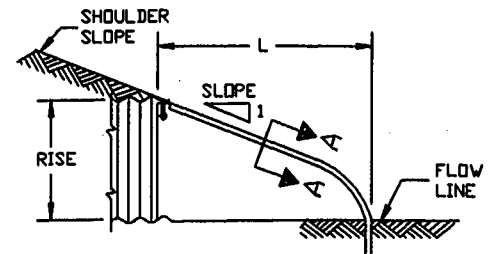
CONCRETE ENDWALLS



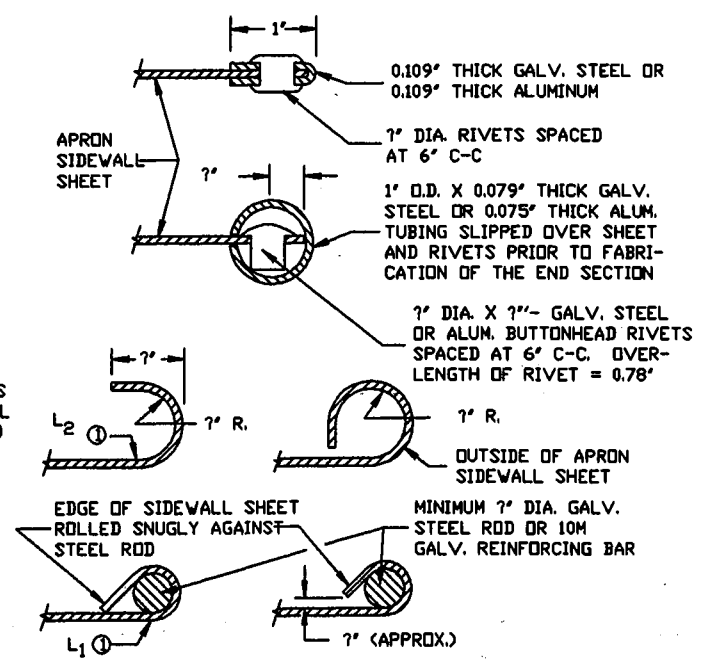
PLAN VIEW



END VIEW



SIDE ELEVATION
METAL ENDWALLS



SECTION A-A

2-2/3" X 7" CORRUGATIONS

EQUIV. DIA. (Inches)	(Inches)		MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY
	SPAN	RISE	STEEL	ALUM.	A (1')	B (MAX.)	H (1')	L (1 7/8')	L1 (1)	L2 (1)	W (12')		
15	17	13	.064	.060	7	9	6	19	14	16	30	27to 1	1 Pc.
18	21	15	.064	.060	7	10	6	23	14	19	36	27to 1	1 Pc.
21	24	18	.064	.060	8	12	6	28	18	21	42	27to 1	1 Pc.
24	28	20	.064	.060	9	14	6	32	18	27	48	27to 1	1 Pc.
30	35	24	.079	.075	10	16	6	39	18	37	60	27to 1	1 Pc.
36	42	29	.079	.075	12	18	8	46	24	45	75	27to 1	1 Pc.
42	49	33	.109	.105	13	21	9	53	24	54	85	27to 1	2 Pc.
48	57	38	.109	.105	18	26	12	63	24	68	90	27to 1	3 Pc.
54	64	43	.109	.105	18	30	12	70	24	72	102	27to 1	3 Pc.
60	71	47	.109	.105	18	33	12	77	30	82	114	27to 1	3 Pc.
66	77	52	.109	.105	18	36	12	77	—	—	126	2 to 1	3 Pc.
72	83	57	.109	.105	18	39	12	77	—	—	138	2 to 1	3 Pc.

3" X 1" CORRUGATIONS

EQUIV. DIA. (Inches)	(Inches)		MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY
	SPAN	RISE	STEEL	ALUM.	A (1')	B (MAX.)	H (1')	L (1 7/8')	L1 (1)	L2 (1)	W (12')		
48	53	41	.109	.105	18	26	12	63	24	72	90	27to 1	2 Pc.
54	60	46	.109	.105	18	30	12	70	30	82	102	2 to 1	2 Pc.
60	66	51	.109	.105	18	33	12	77	—	—	114	17to 1	3 Pc.
66	73	55	.109	.105	18	36	12	77	—	—	126	17to 1	3 Pc.
72	81	59	.109	.105	18	39	12	77	—	—	138	2 to 1	3 Pc.
78	87	63	.109	.105	22	38	12	77	—	—	148	17to 1	3 Pc.
84	95	67	.109	.105	22	34	12	77	—	—	162	17to 1	3 Pc.
90	103	71	.109	.105	22	38	12	77	—	—	174	17to 1	3 Pc.
96	112	75	.109	.105	24	40	12	77	—	—	174	17to 1	3 Pc.

NOTE: ALL SPLICES TO BE LAP RIVETED OR BOLTED. * EXCEPT CENTER PANEL SEE GENERAL NOTES

REINFORCED CONCRETE PIPE ARCH

EQUIV. DIA. (Inches)	DIMENSIONS (Inches)							APPROX. SLOPE	
	SPAN	RISE	T	A	B	C	D		E
24	29	18	3	8	39	33	72	48	3 to 1
30	36	22	3	9	50	46	96	60	3 to 1
36	44	27	4	11	60	36	96	72	3 to 1
42	51	31	4	15	60	36	96	78	3 to 1
48	58	36	5	21	60	36	96	84	3 to 1
54	65	40	5	25	60	36	96	90	3 to 1
60	73	45	6	31	60	36	96	96	3 to 1
72	88	54	7	31	60	39	99	120	2 to 1
84	102	62	8	28	83	19	102	144	2 to 1

REINFORCED CONCRETE ELLIPTICAL PIPE

EQUIV. DIA. (Inches)	DIMENSIONS (Inches)							APPROX. SLOPE	
	SPAN	RISE	T	A	B	C	D		E
24	30	19	3	8	39	33	72	48	3 to 1
30	38	24	3	9	54	18	72	60	3 to 1
36	45	29	4	11	60	24	84	72	27to 1
42	53	34	5	15	60	36	96	78	27to 1
48	60	38	5	21	60	36	96	84	27to 1
54	68	43	6	25	60	36	96	90	27to 1
60	76	48	6	30	60	36	96	96	27to 1

** NOMINAL SIZE

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.

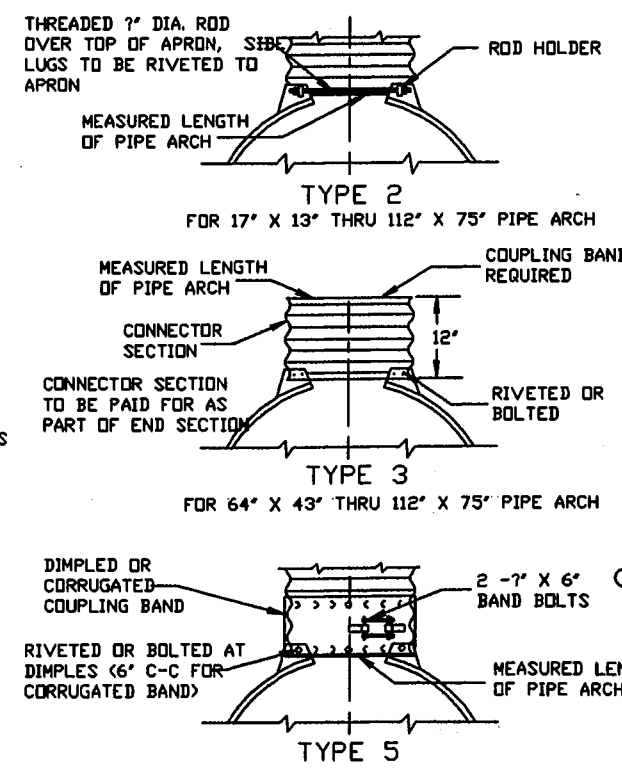
CONCRETE APRON ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL OR ALUMINUM CULVERT PIPE OR VICE VERSA. GALVANIZED STEEL OR ALUMINUM APRON ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE OF THE SAME METAL.

ALL THREE PIECE STEEL APRON ENDWALLS FOR 66" X 51" PIPE ARCH AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 66" X 51" PIPE ARCH AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE ARCH PERIMETER.

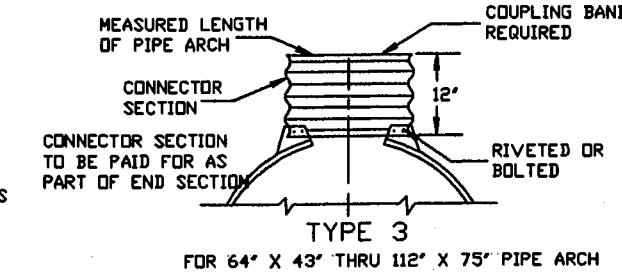
LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 77" X 52" THROUGH 112" X 75" APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.

WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

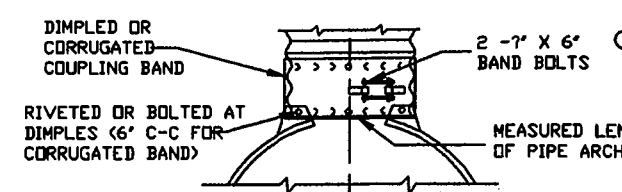
FOR PIPE ARCH SIZES UP TO 73" X 55" A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.



TYPE 2
FOR 17" X 13" THRU 112" X 75" PIPE ARCH



TYPE 3
FOR 64" X 43" THRU 112" X 75" PIPE ARCH



TYPE 5
ALTERNATE FOR ALL SIZES CORRUGATED PIPE ARCHES

NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL.

CONNECTION DETAILS

APRON ENDWALLS FOR PIPE ARCH AND ELLIPTICAL PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED _____

DATE _____ CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

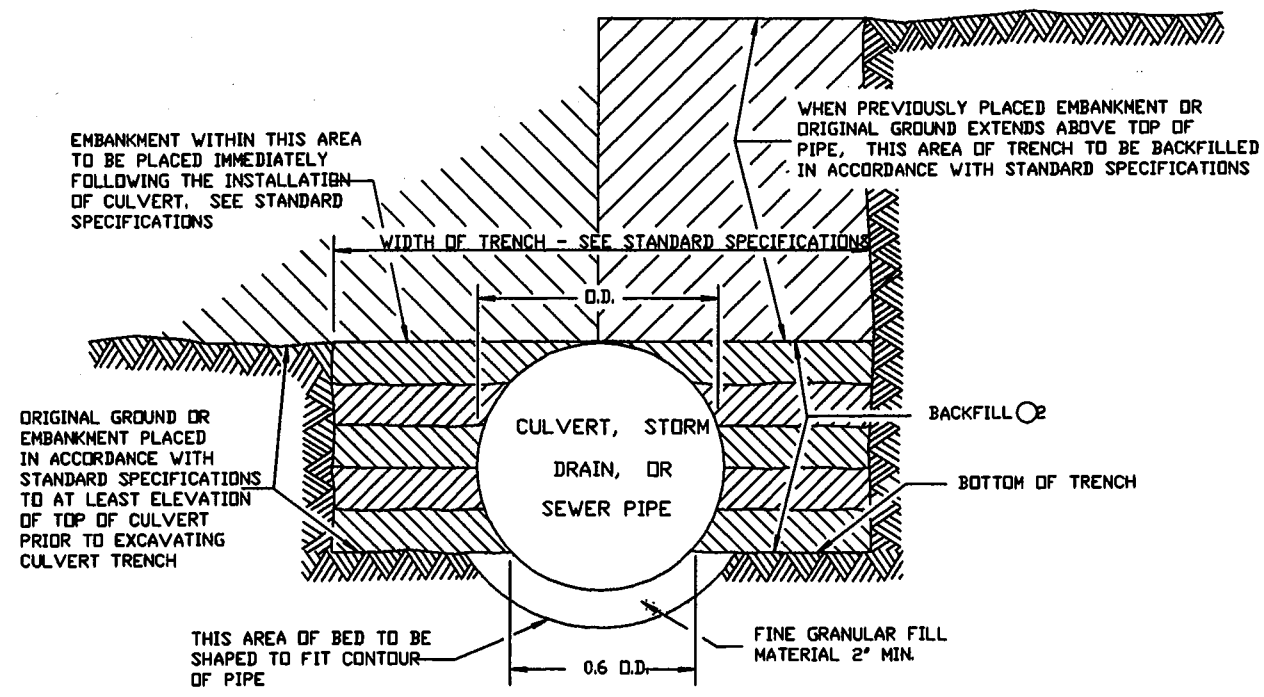
S.D.D. 8 F 2-1

GENERAL NOTES

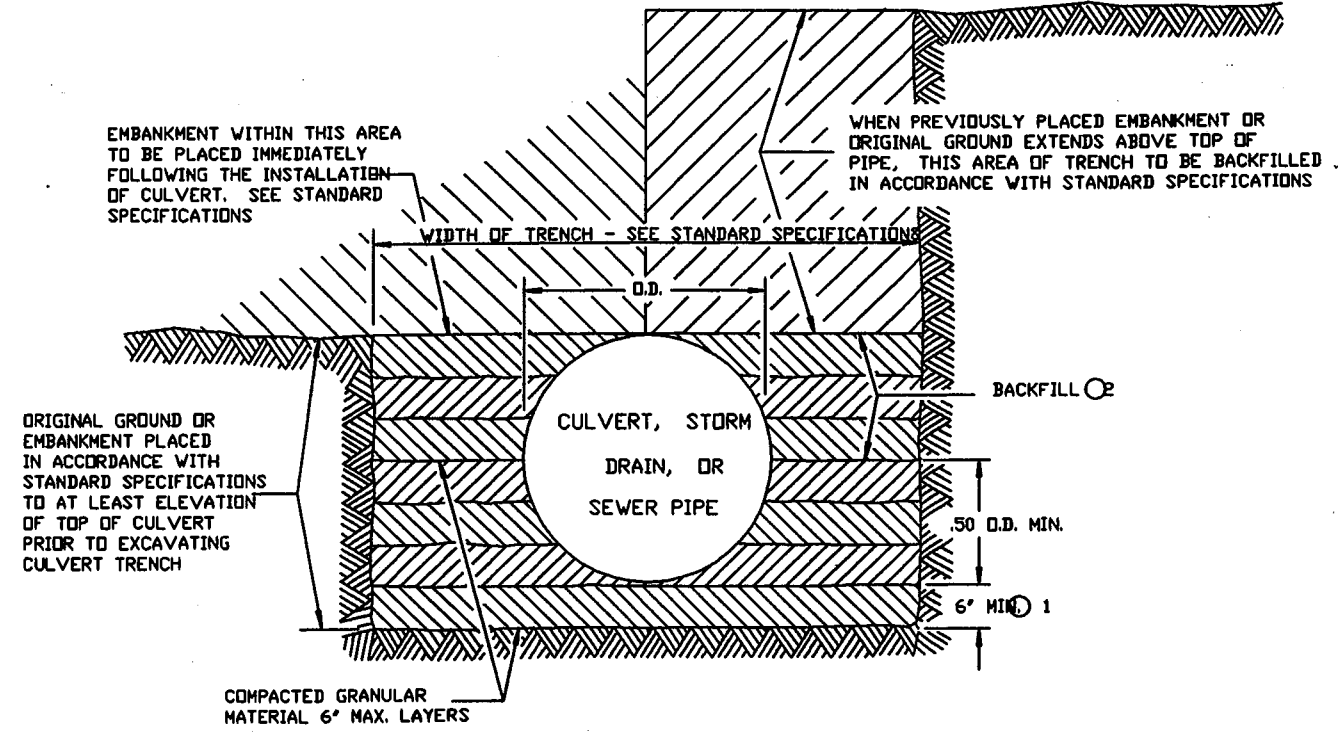
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

THE SHAPED SUBGRADE WITH GRANULAR FOUNDATION IS AN EQUAL ALTERNATE TO THE GRANULAR FOUNDATION EXCEPT WHERE ROCK IS ENCOUNTERED.

- ① WHERE ROCK, HARD PAN OR FRAGMENTED MATERIAL IS ENCOUNTERED, THE TRENCH SHALL BE EXCAVATED BELOW THE BOTTOM OF THE PIPE AN AMOUNT EQUAL TO 1 INCH PER FOOT OF PROPOSED EMBANKMENT ABOVE THE TOP OF THE PIPE, BUT NOT LESS THAN 6 INCHES.
- ② TRENCH SHALL BE BACKFILLED AS REQUIRED BY STANDARD SPECIFICATIONS; SECTION 520 FOR PIPE CULVERTS AND SECTION 607 FOR STORM SEWERS.



SHAPED SUBGRADE WITH GRANULAR FOUNDATION



GRANULAR FOUNDATION

CLASS "B" BEDDING

S.D.D. 8 F 5-1

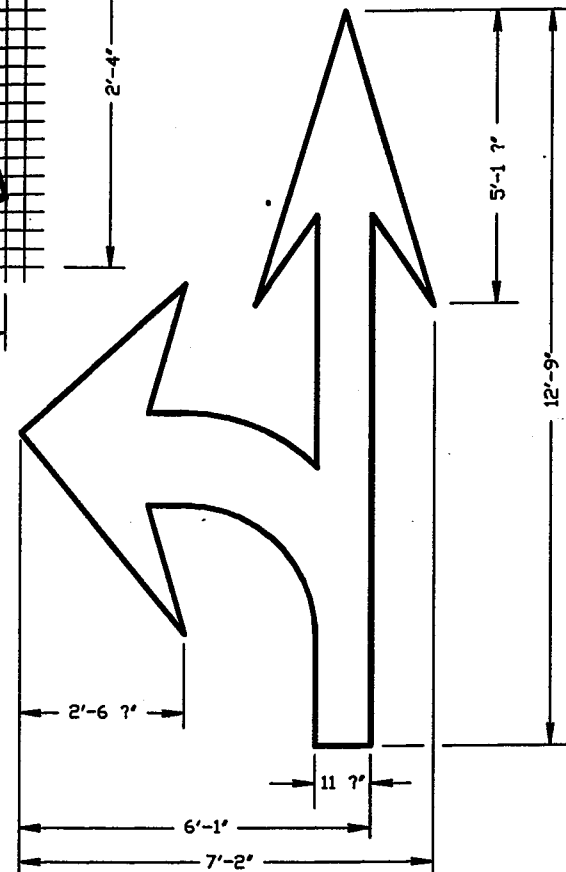
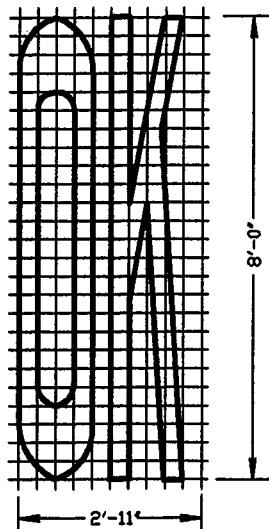
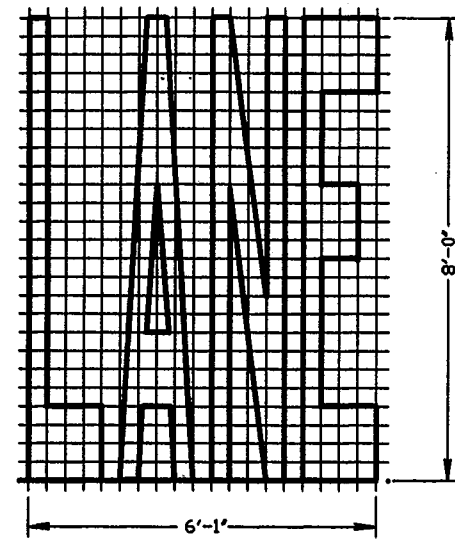
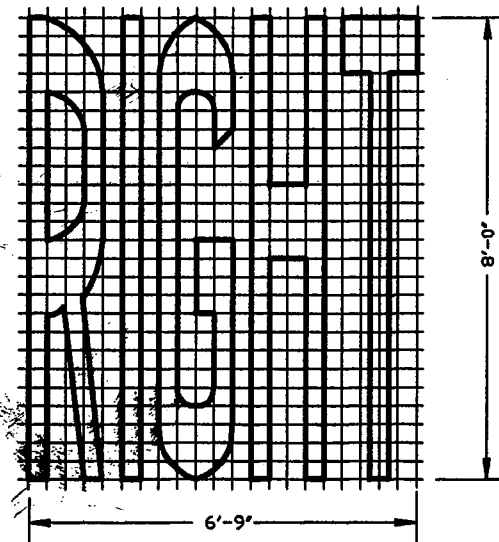
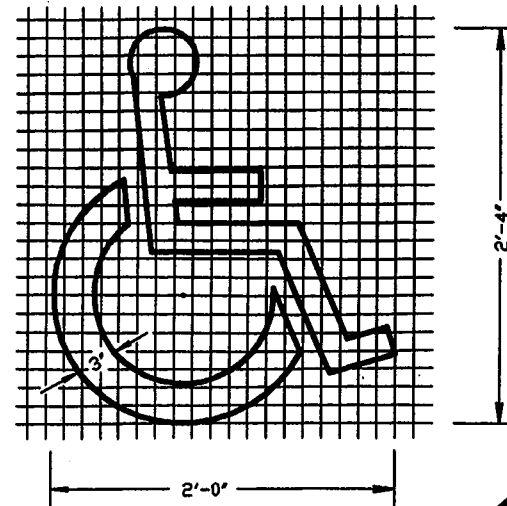
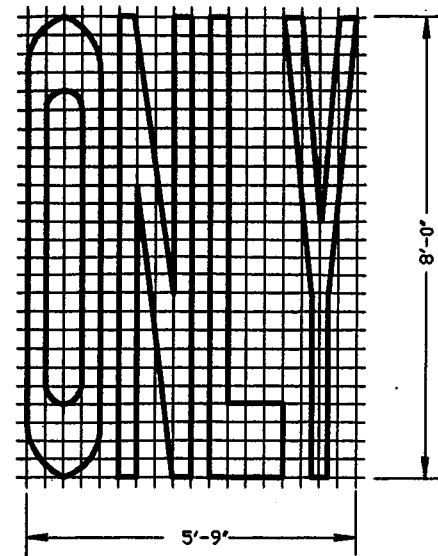
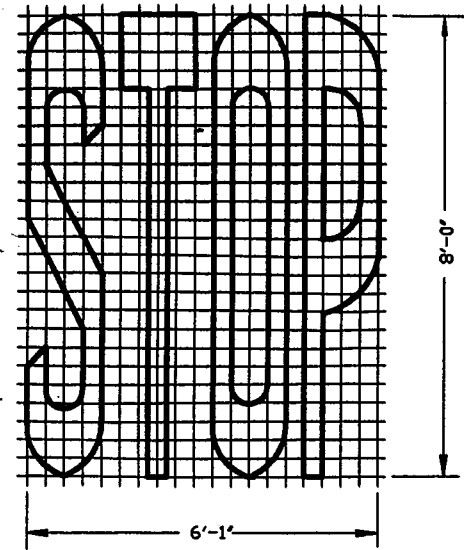
CLASS "B" BEDDING FOR CULVERT PIPE OR STORM SEWER	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
DATE	STATE DESIGN ENGINEER FOR HWYS
FHWA	

GENERAL NOTES

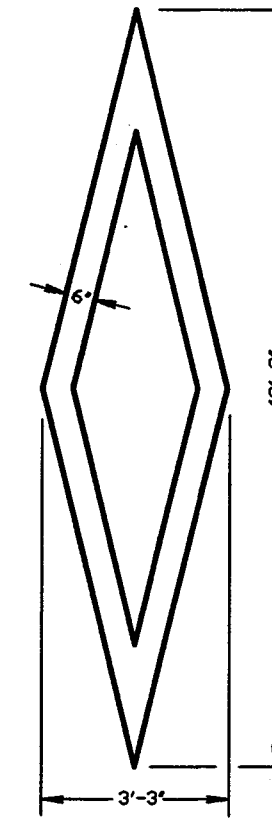
DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

ALL LETTERS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED.

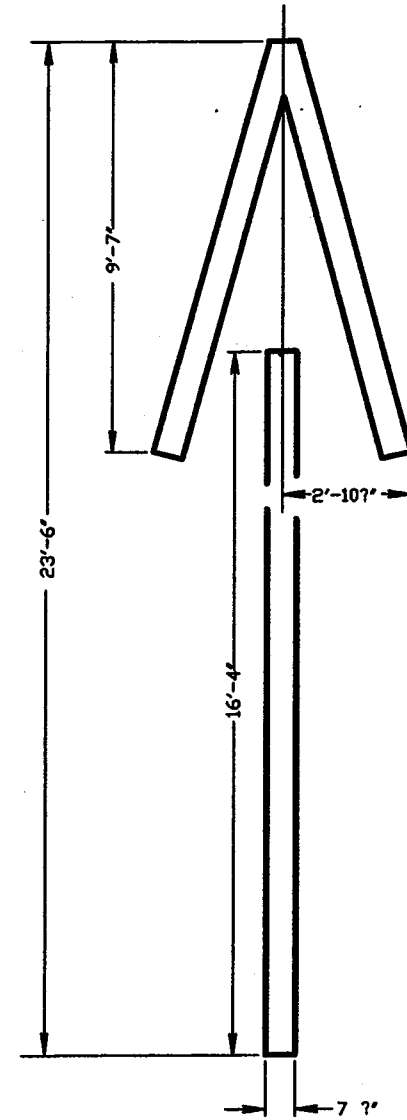
A DETAILED DRAWING OF THE HANDICAPPED PARKING SYMBOL IS ILLUSTRATED IN THE "STANDARD HIGHWAY SIGNS MANUAL" BY THE FEDERAL HIGHWAY ADMINISTRATION.



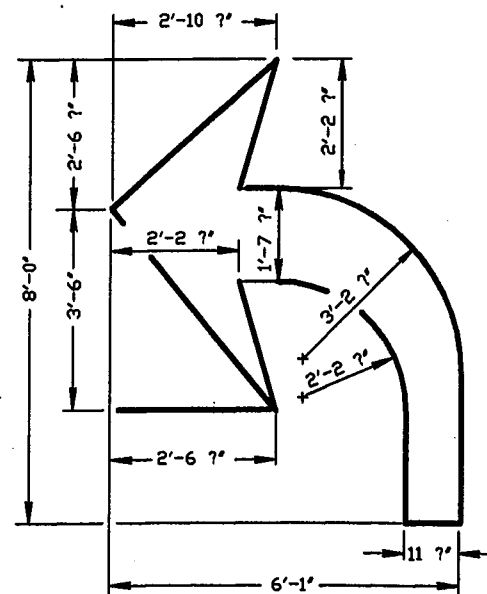
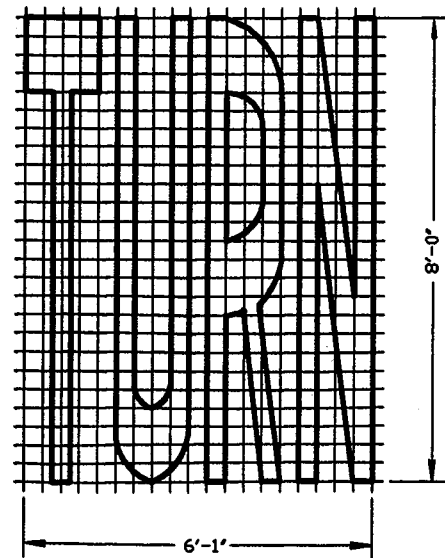
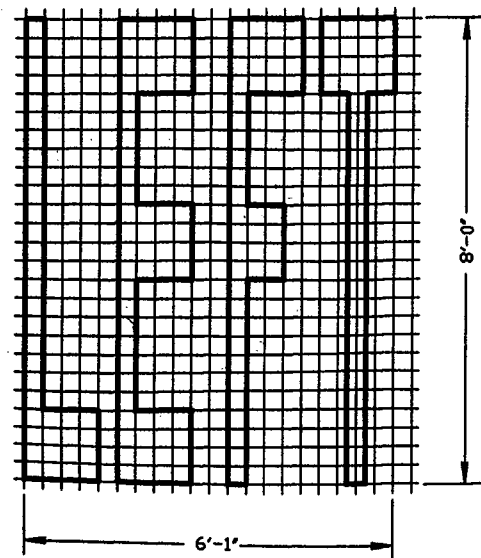
TYPE 3



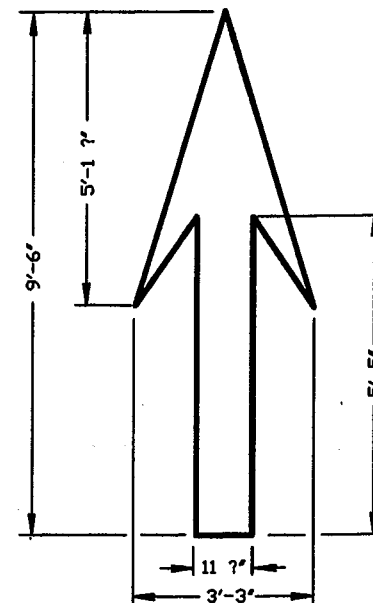
PREFERENTIAL LANE SYMBOL



TYPE 4



TYPE 2



TYPE 1

S.D.D. 15 C 7-5a

PAVEMENT MARKING SYMBOLS

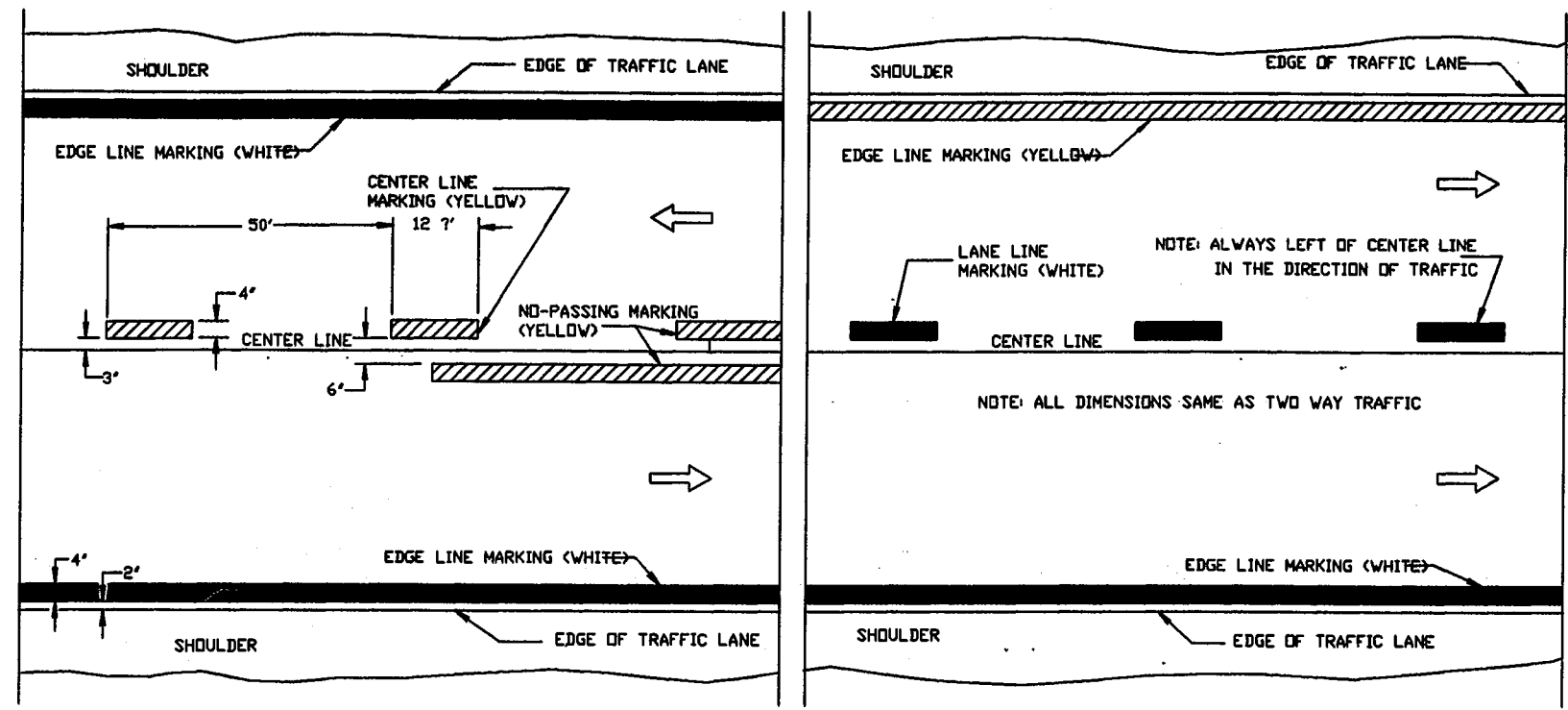
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

DATE

DIRECTOR, OFFICE OF TRAFFIC

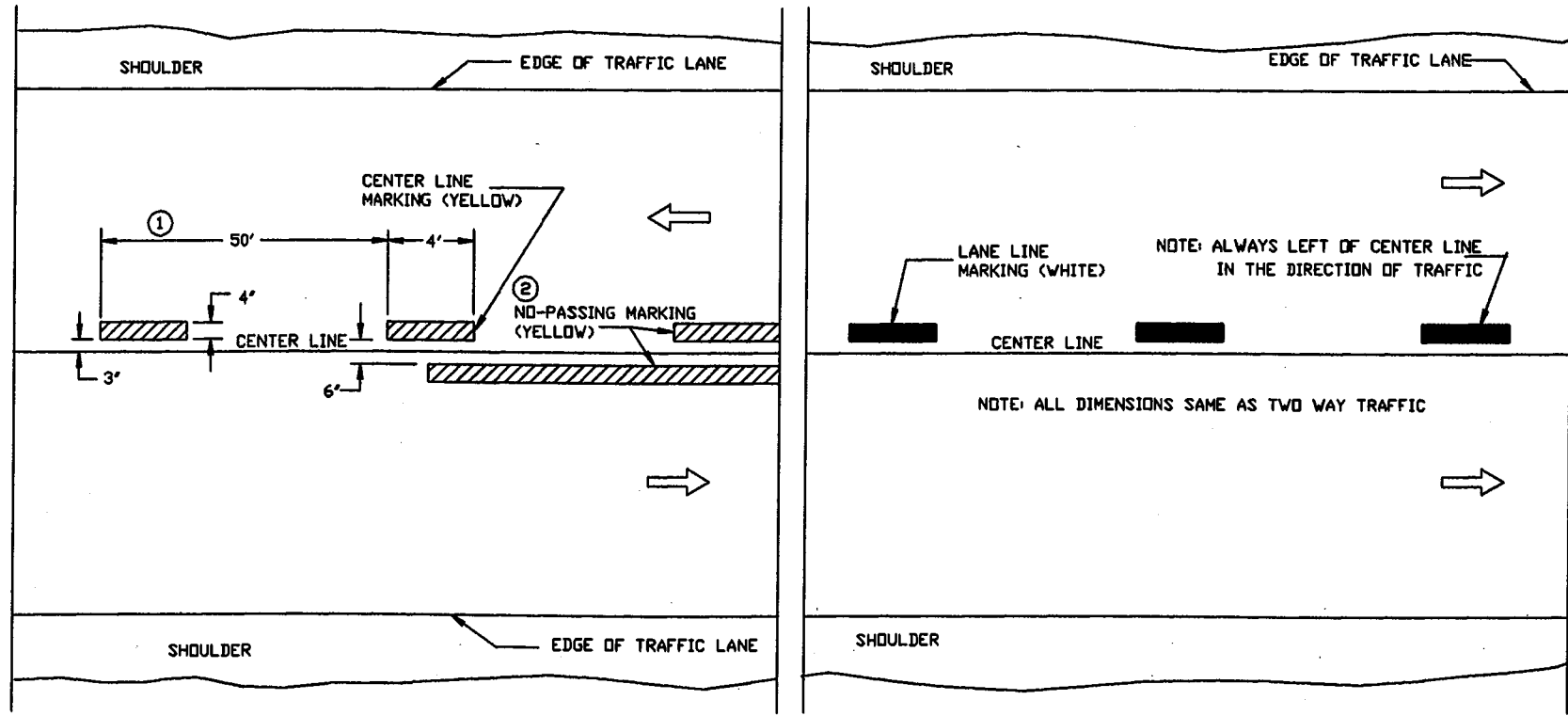
FHWA



TWO WAY TRAFFIC

ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC

ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING
(SHOWS CYCLE FOR TEMPORARY CENTER LINE OR TEMPORARY LANE LINE MARKING)

GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

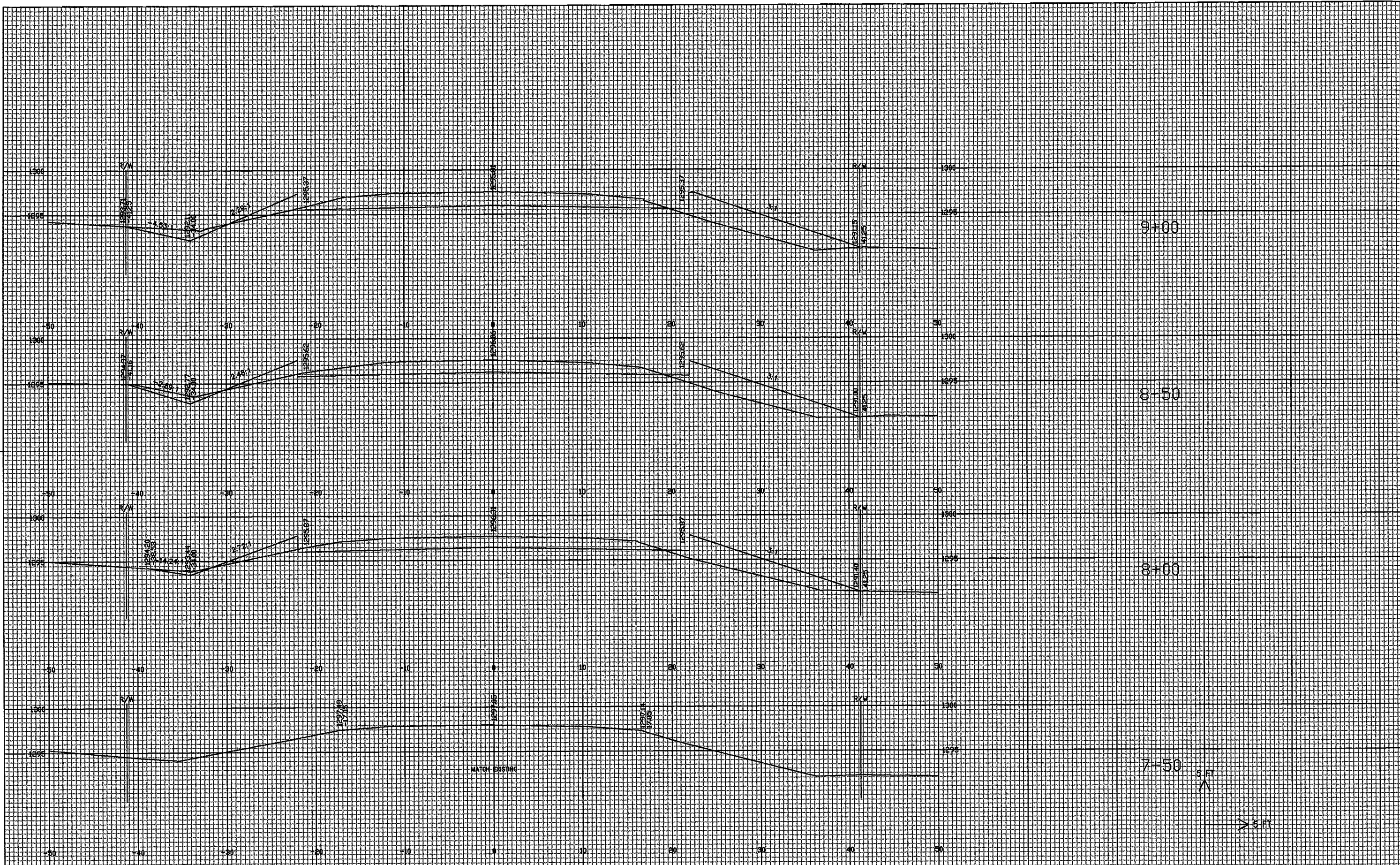
- ① HALF CYCLE LENGTHS (25') WITH 2' MINIMUM STRIPE LENGTHS SHALL BE PROVIDED ON ROADWAYS (INCLUDING TEMPORARY TRAVELED WAYS) WITH REVERSE CURVATURE, CURVATURE OF OVER 5 DEGREES OR WHEN DIRECTED BY THE ENGINEER TO MARK UNUSUAL ALIGNMENT OF THE TRAVELED WAY.
- ② NO PASSING ZONE TEMPORARY PAVEMENT MARKING IS REQUIRED TO BE PLACED, WHERE APPROPRIATE, ALONG WITH CENTERLINE TEMPORARY PAVEMENT MARKING WHEN A SAME DAY PERMANENT PAVEMENT MARKING ITEM IS INCLUDED IN THE CONTRACT.

NOTE

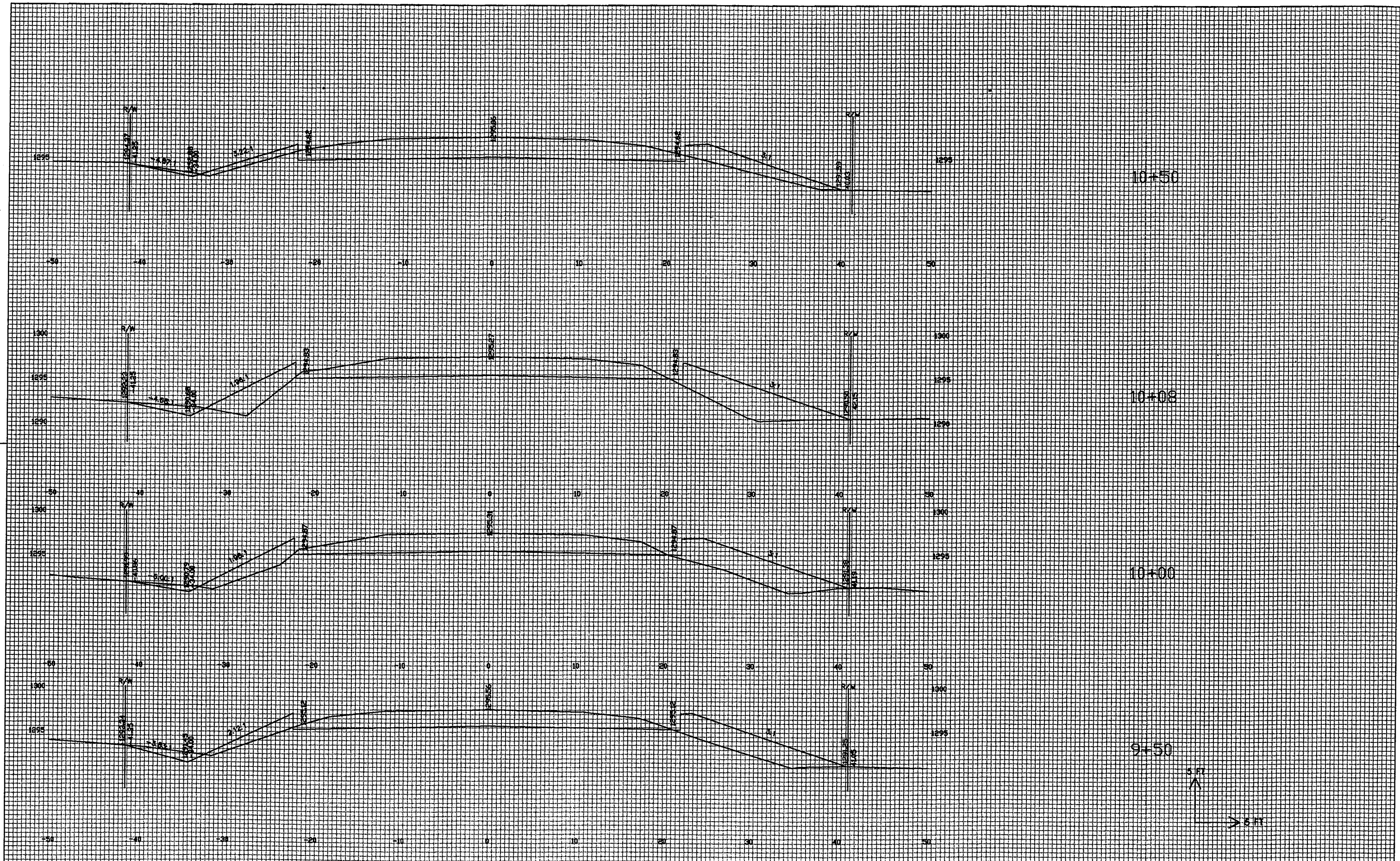
ARROW SYMBOL SHOWS DIRECTION OF TRAVEL

S.D.D. 15 C 8-8a

PAVEMENT MARKING (MAINLINE)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
DATE	CHIEF SIGNS AND MARKING ENGINEER
FHWA	

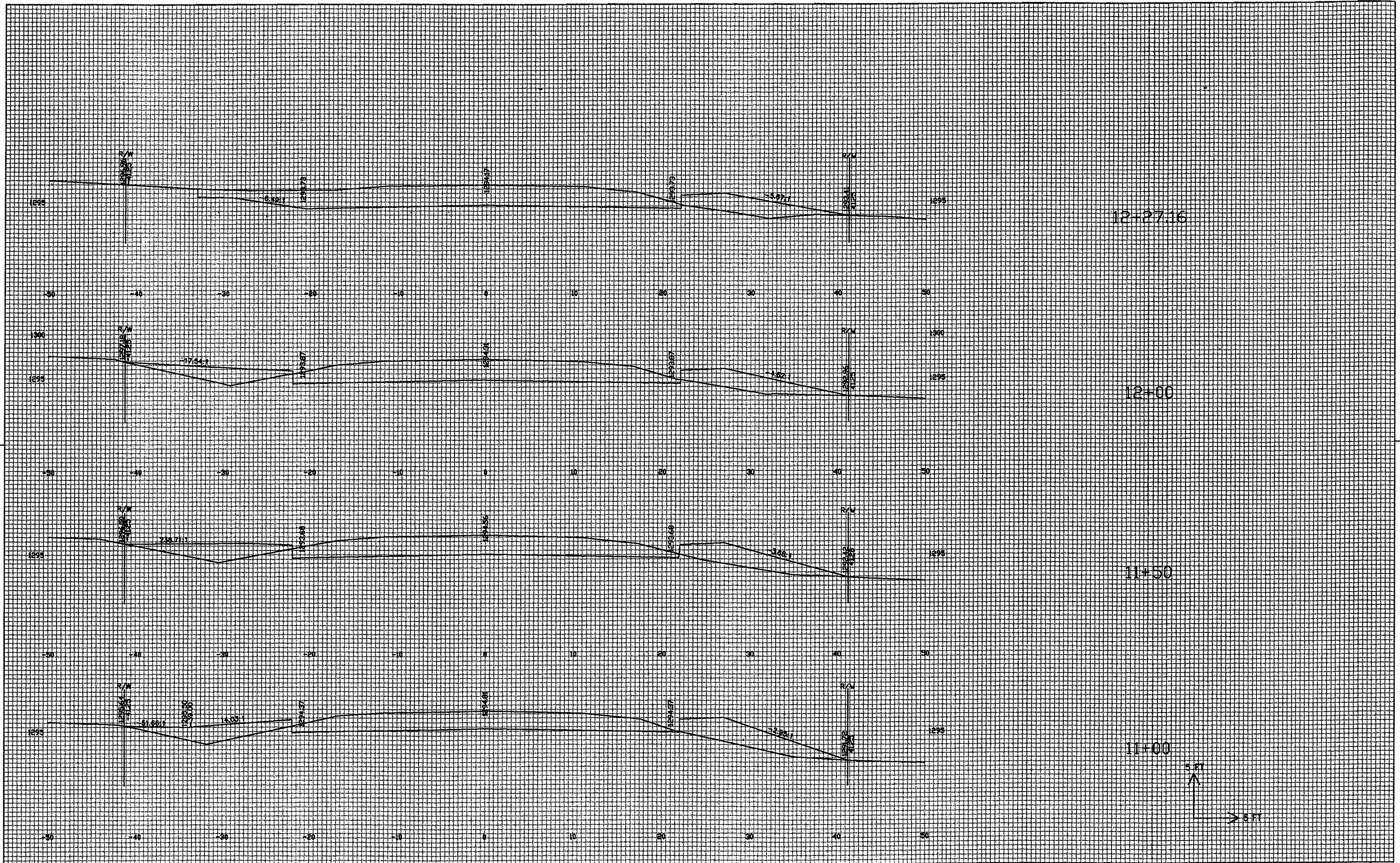


STATE PROJECT NUMBER: 9479-00-00	HWY: C.T.H. A	COUNTY: MARATHON	CROSS SECTIONS: 7+50 TO 9+00	SHEET NO: 9.1	E
FILE NAME:	PLOT DATE:	ORG DATE:	PLOT NAME:	Originator:	Dist
				PLOT SCALE:	WISDOT/CADD SHEET 21



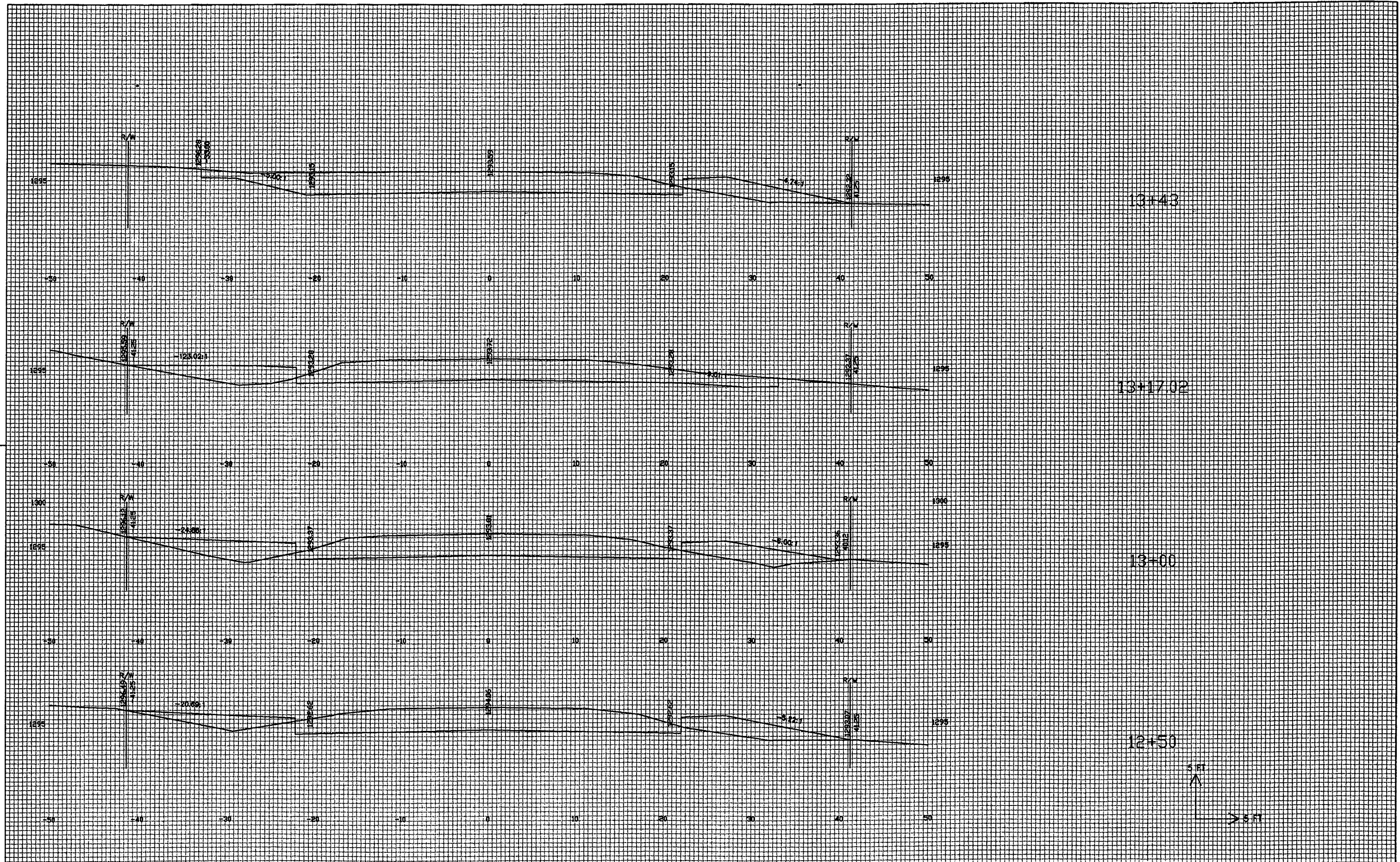
STATE PROJECT NUMBER: 9479-00-70	HWY: C.T.H. A	COUNTY: MARATHON	CROSS SECTIONS: 9+50 TO 10+50	9.2	E
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FILE NAME:	PLOT DATE:	ORG DATE:	PLOT NAME:	Originator:	Dist	PLOT SCALE:	WISDOT/CADD SHEET 21
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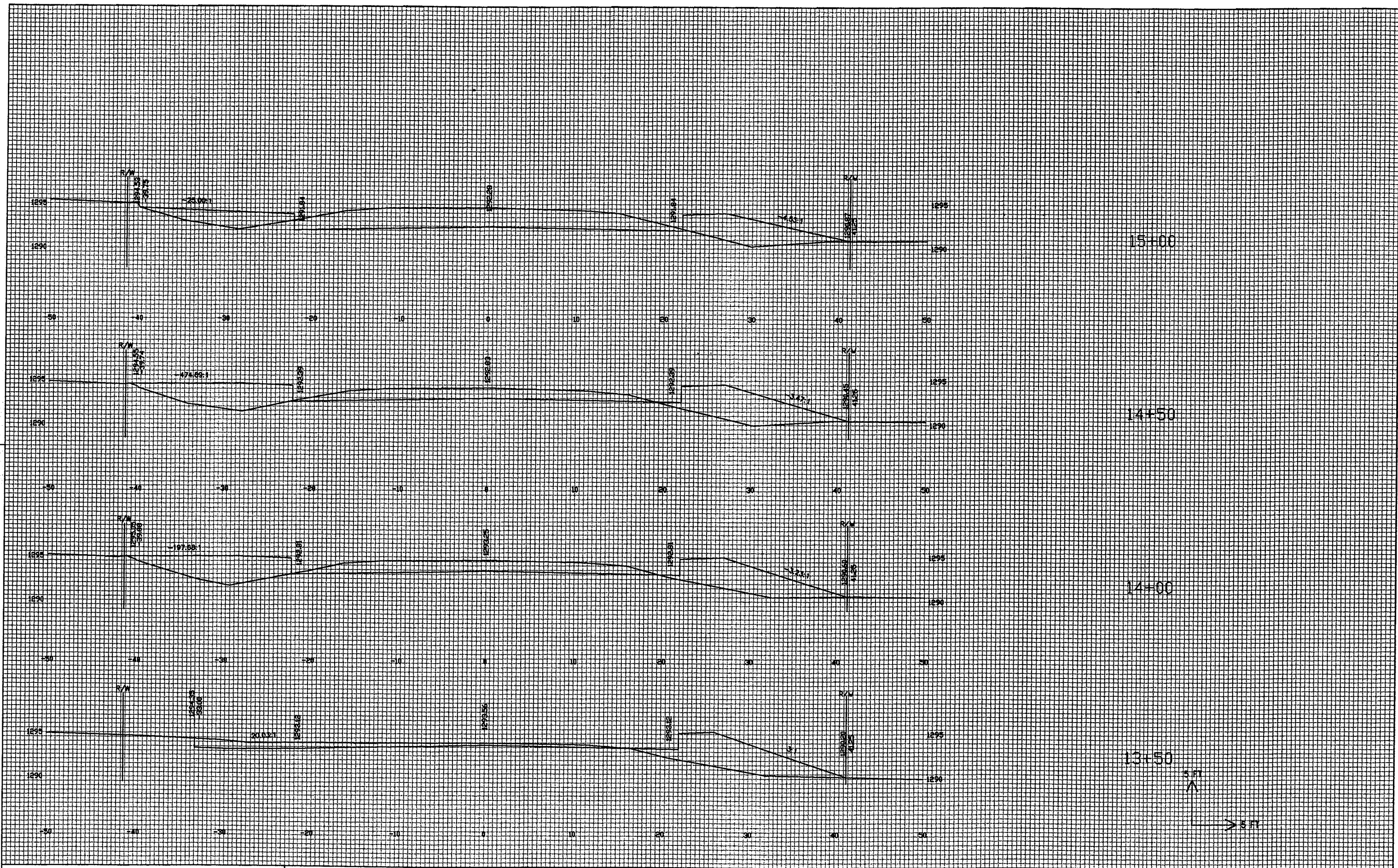


STATE PROJECT NUMBER: 9479-00-70	HWY: C.T.H. A	COUNTY: MARATHON	CROSS SECTIONS: 11+00 TO 12+27.16	SHEET NO: 9.3	E
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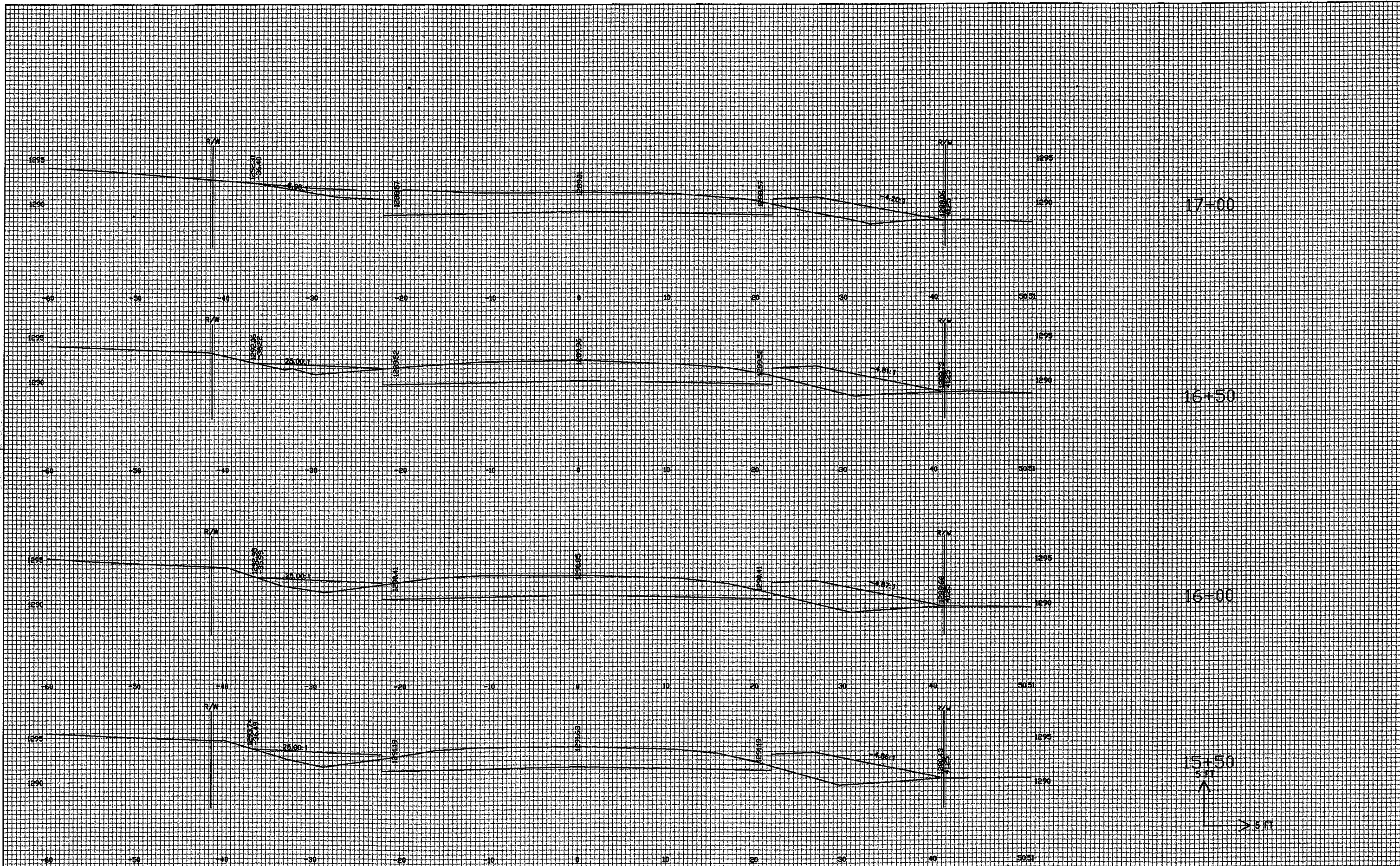
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STATE PROJECT NUMBER: 9479-00-70	HWY: C.T.H. A	COUNTY: MARATHON	CROSS SECTIONS: 12+50 to 13+43	SHEET NO: 9.4	E
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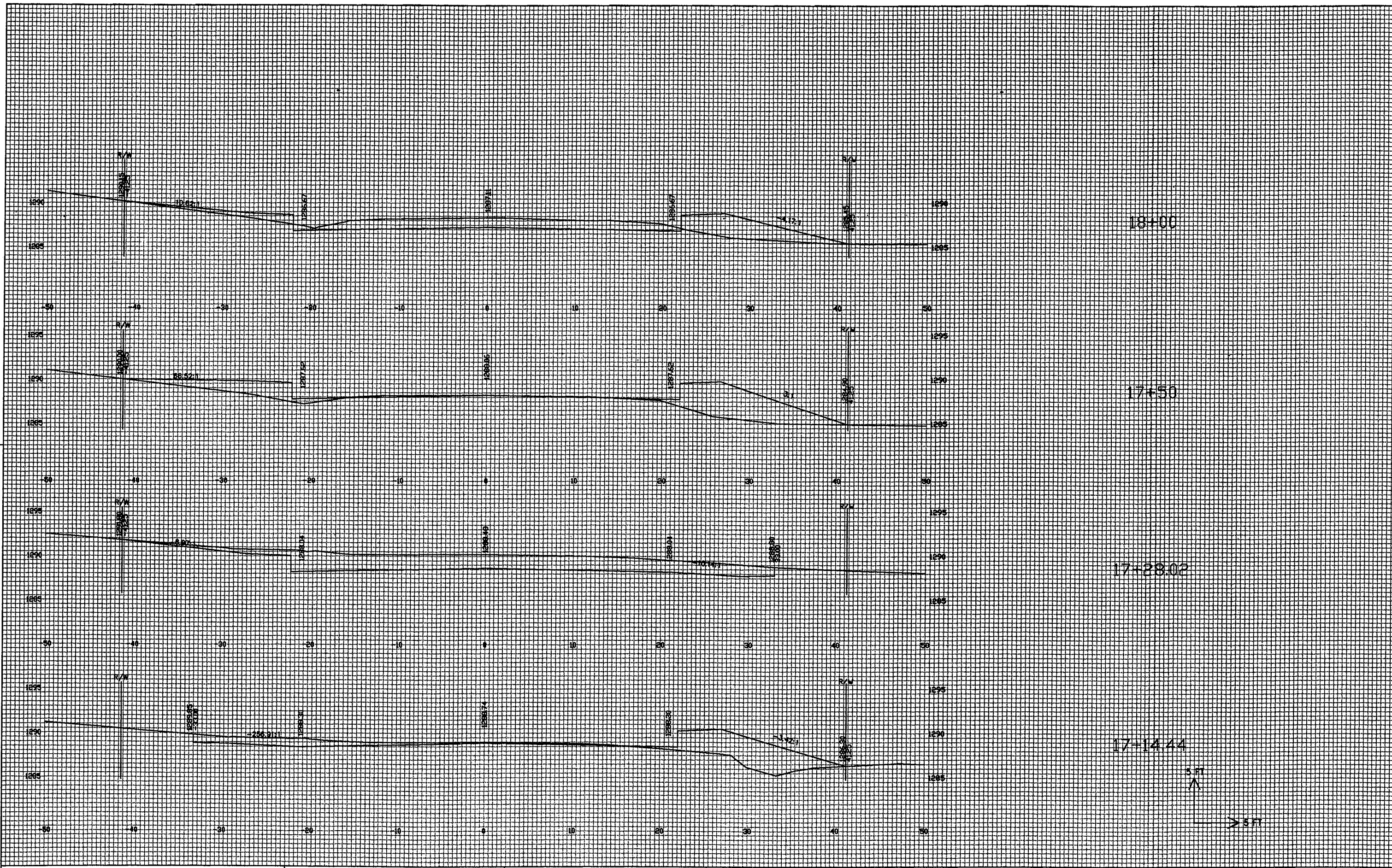


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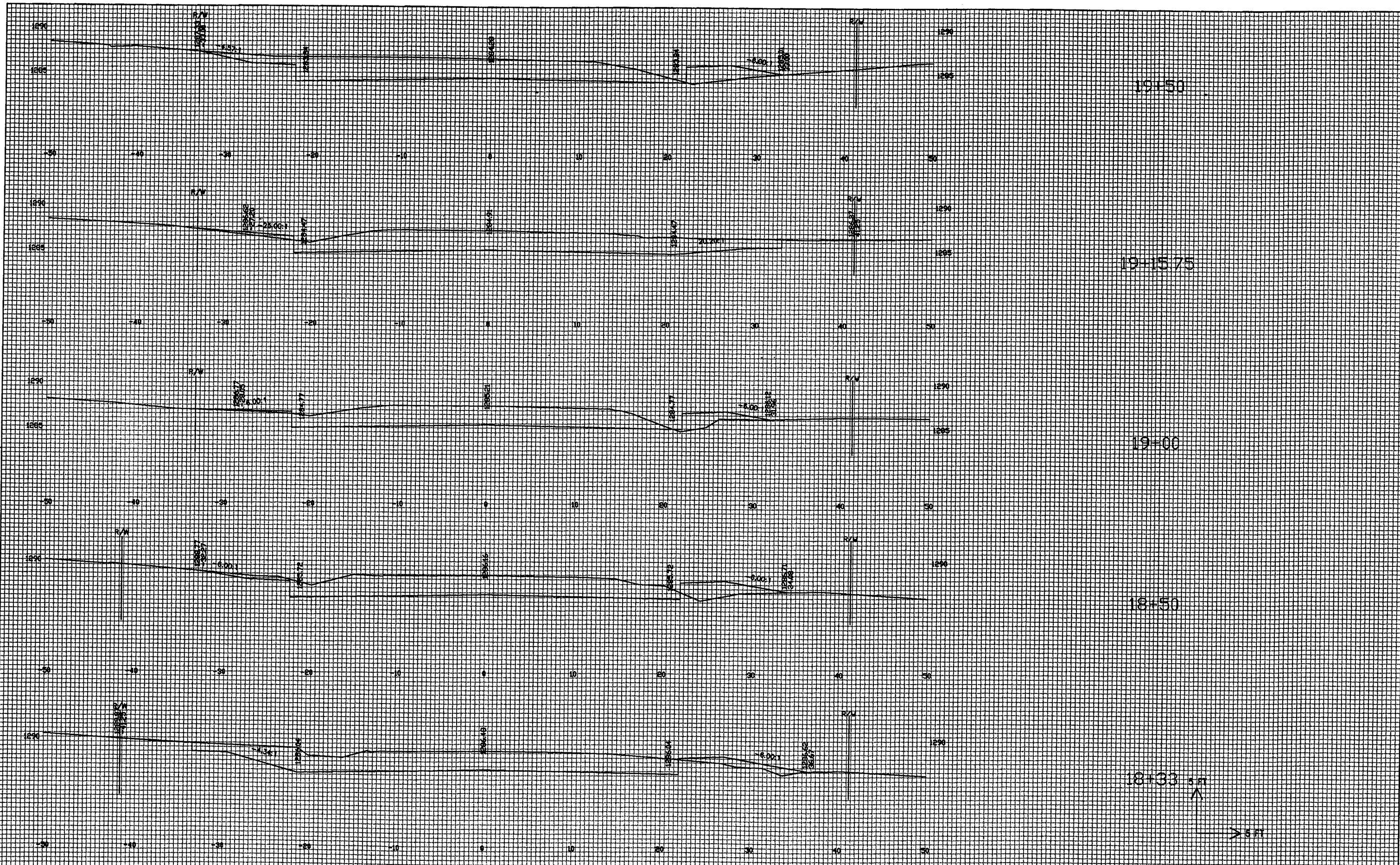
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FILE NAME:	PLOT DATE:	ORG DATE:	PLOT NAME:	Originator:	Dist	PLOT SCALE:	WISDOT/CADD SHEET 21
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STATE PROJECT NUMBER: 9479-00-70 HWY: C.T.H. A COUNTY: MARATHON CROSS SECTIONS: 17+14.44 TO 18+00 SHEET NO: 9.7 E

FILE NAME: PLOT DATE: ORG DATE: PLOT NAME: Originator: Dist PLOT SCALE: WISDOT/CADD SHEET 21



STATE PROJECT NUMBER: 9479-00-70

HWY: C.T.H. A

COUNTY: MARATHON

CROSS SECTIONS: 18+33 to 19+50

SHEET NO: 9.8

E

FILE NAME:

PLOT DATE:

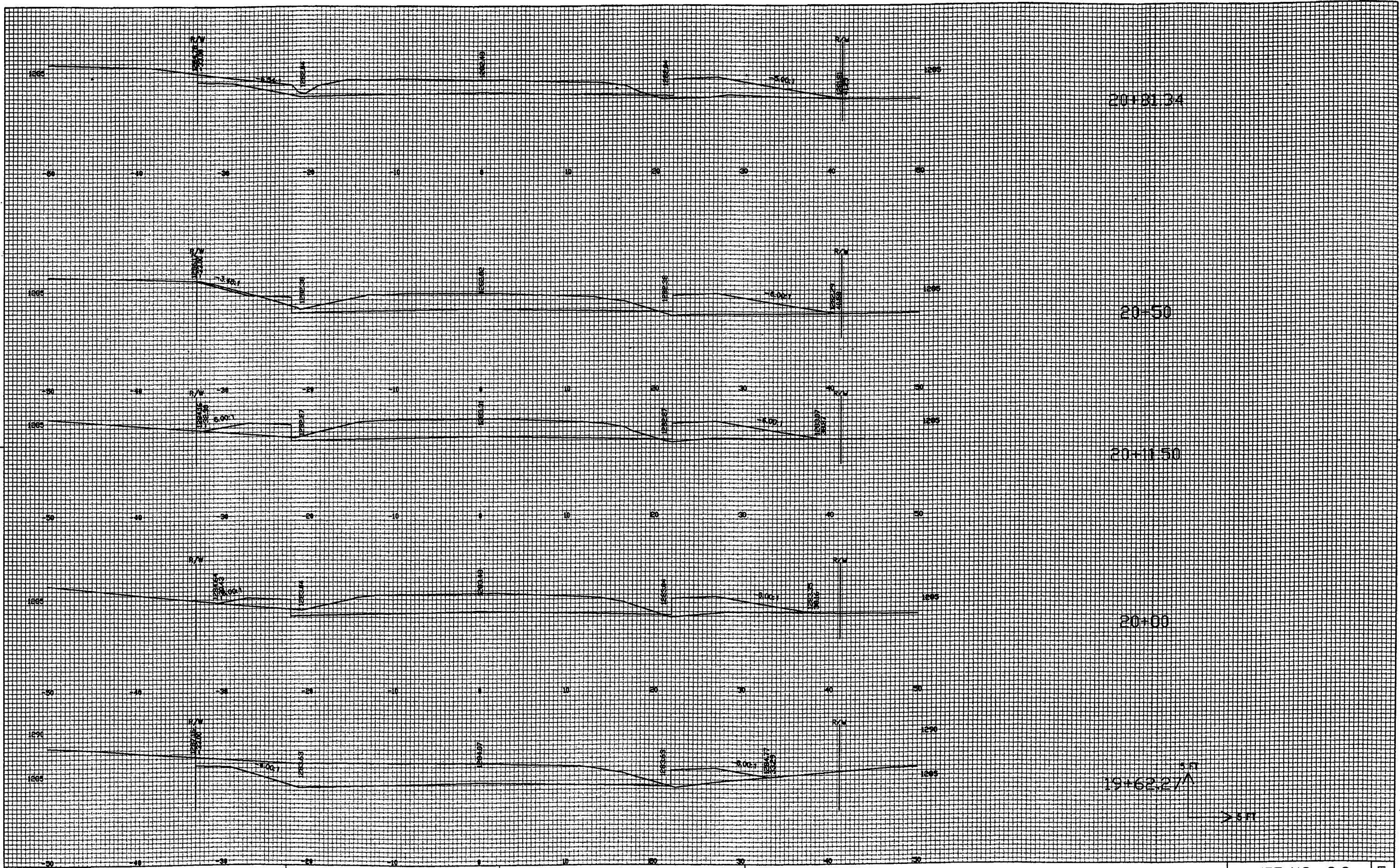
ORG DATE:

PLOT NAME:

Originator: Dist

PLOT SCALE:

WISDOT/CADD SHEET 21



STATE PROJECT NUMBER: 9479-00-70

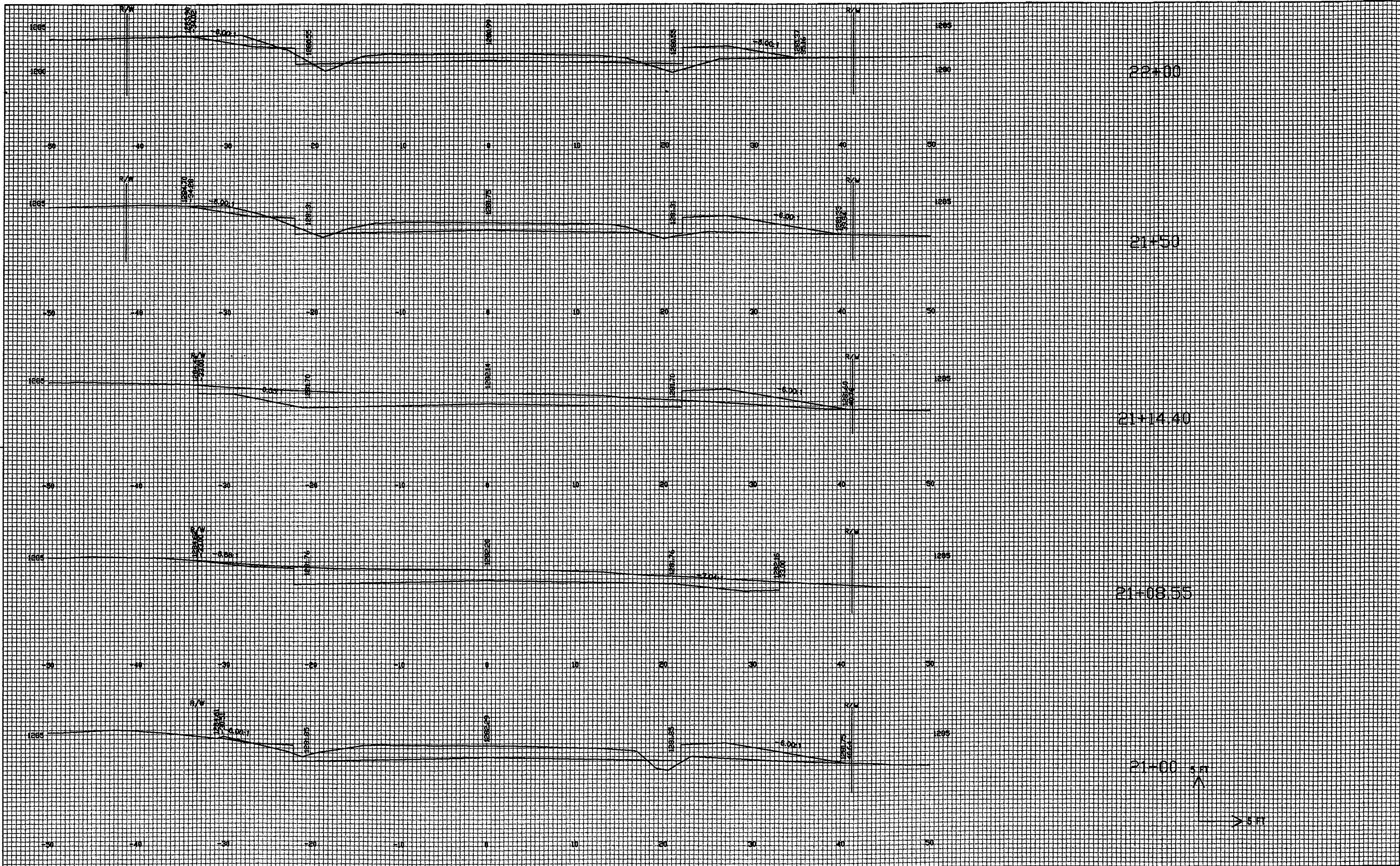
HWY: C.T.H. A

COUNTY: MARATHON

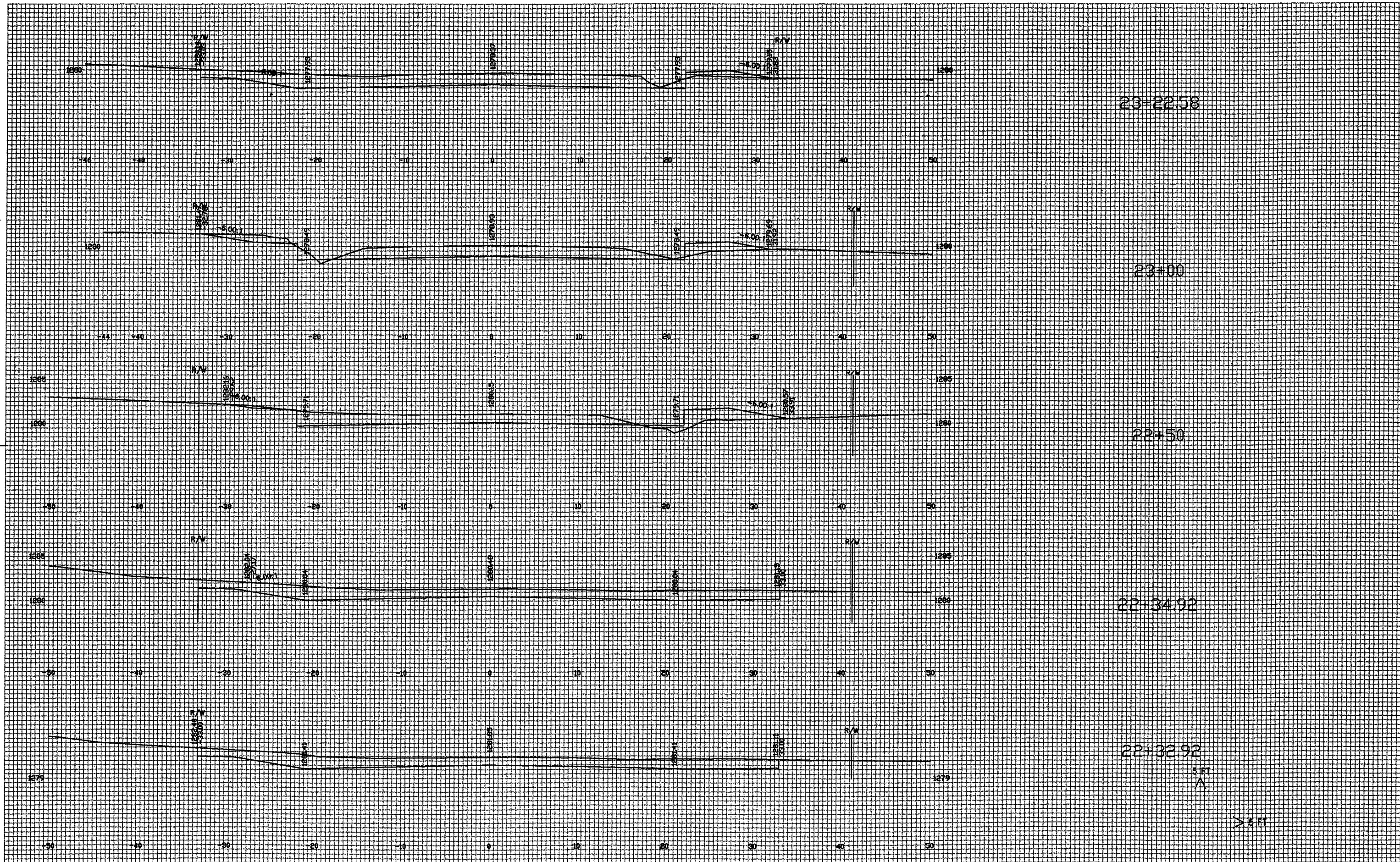
CROSS SECTIONS: 19+62.27 to 20+81.34

SHEET NO: 9.9 E

FILE NAME: PLOT DATE: ORG DATE: PLOT NAME: Originator: Diet PLOT SCALE: WISDOT/CADD SHEET 21

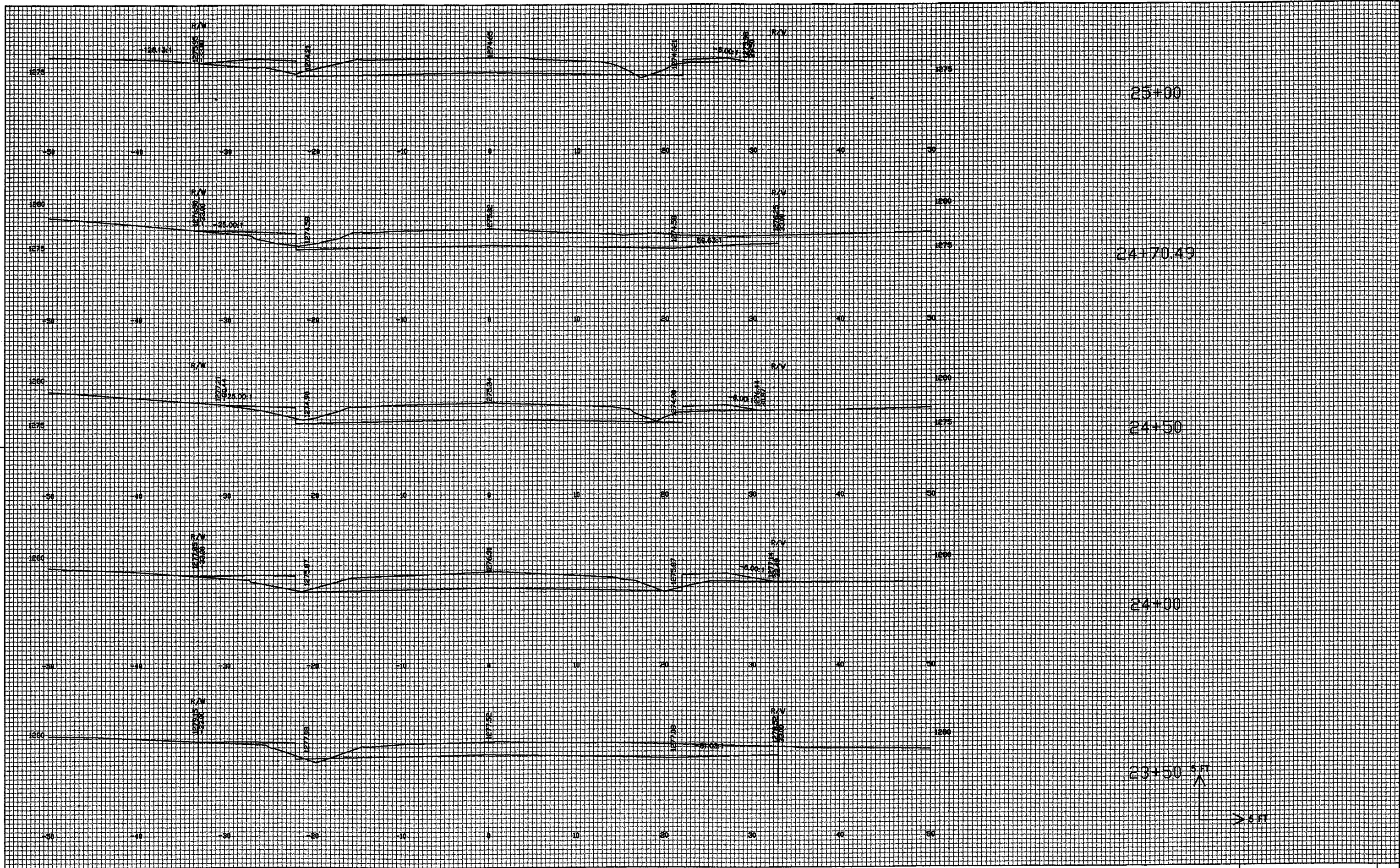


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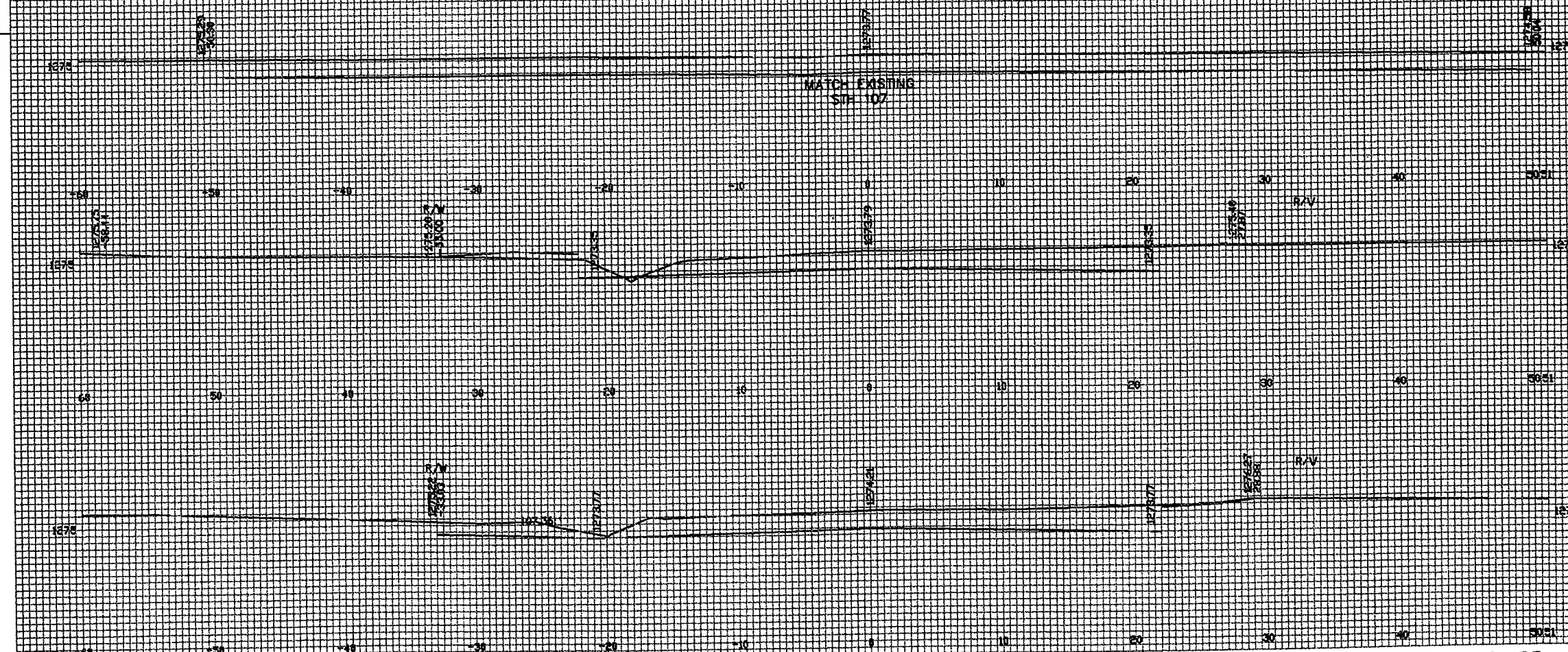


STATE PROJECT NUMBER: 9479-00-70	HWY: C.T.H. A	COUNTY: MARATHON	CROSS SECTIONS: 22+34.92 to 23+22.58	SHEET NO: 9.11	E
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FILE NAME:	PLOT DATE:	ORG DATE:	PLOT NAME:	Originator:	Dist	PLOT SCALE:	WISDOT/CADDS SHEET 21
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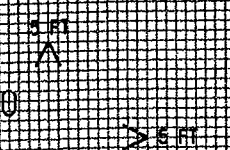
STATE PROJECT NUMBER: 9479-00-70	HWY: C.T.H. A	COUNTY: MARATHON	CROSS SECTIONS: 23+50 to 25+00	SHEET NO: 9.12	E
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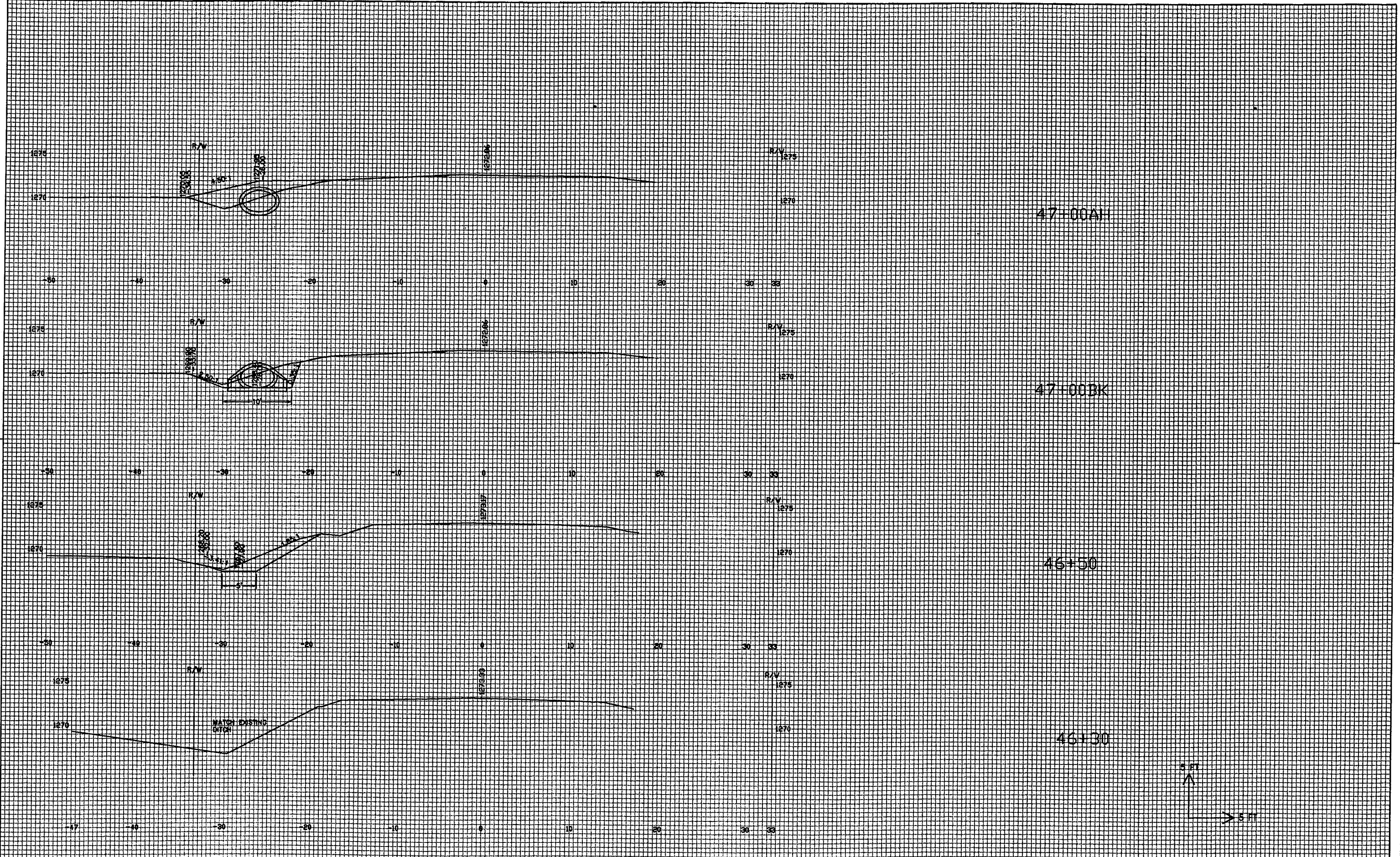


26+33

26+00

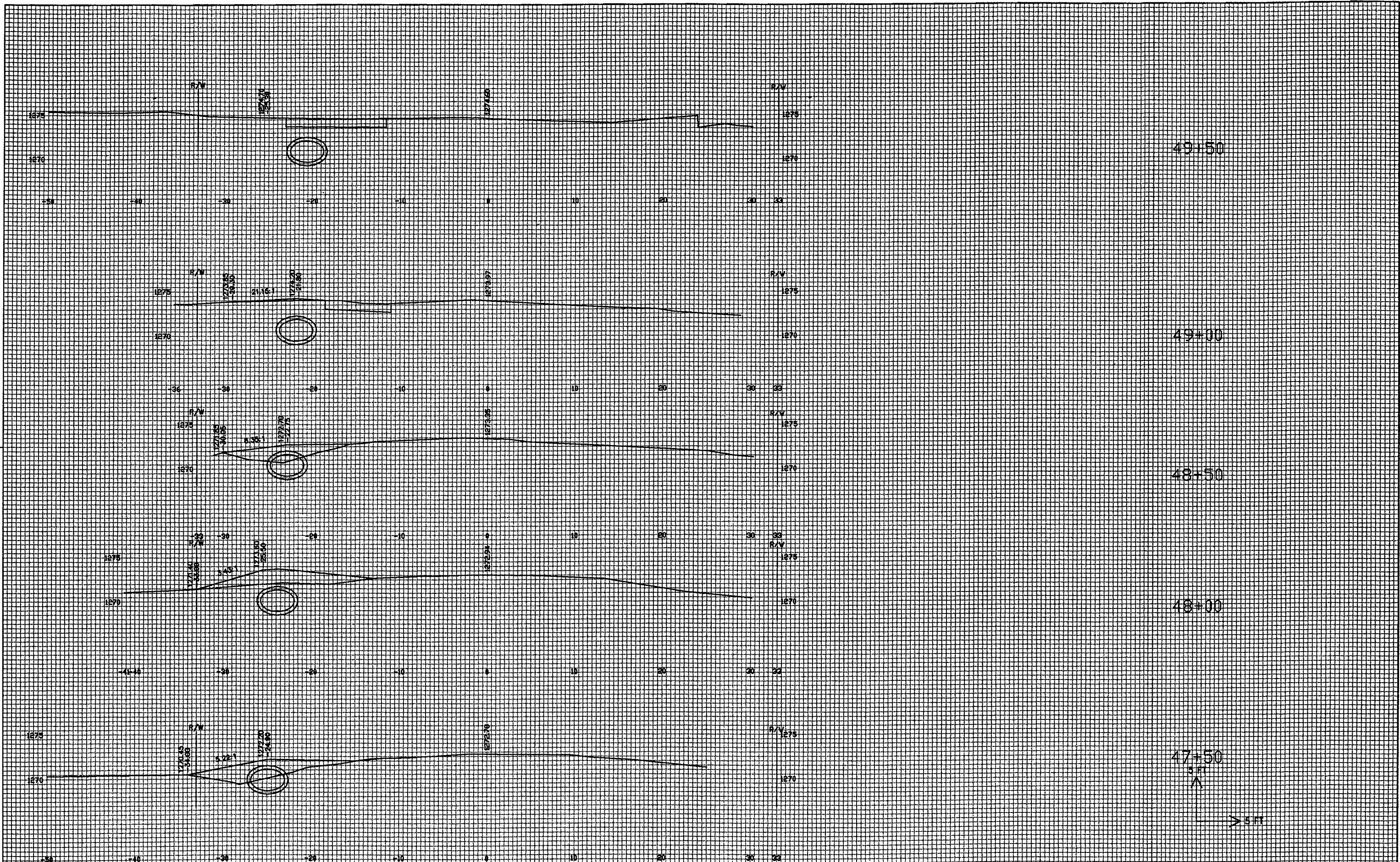
25+50





STATE PROJECT NUMBER: 9479-00-70	HWY: S.T.H. 107	COUNTY: MARATHON	CROSS SECTIONS: 46+30 TO 47+00AH	SHEET NO: 9.14	E
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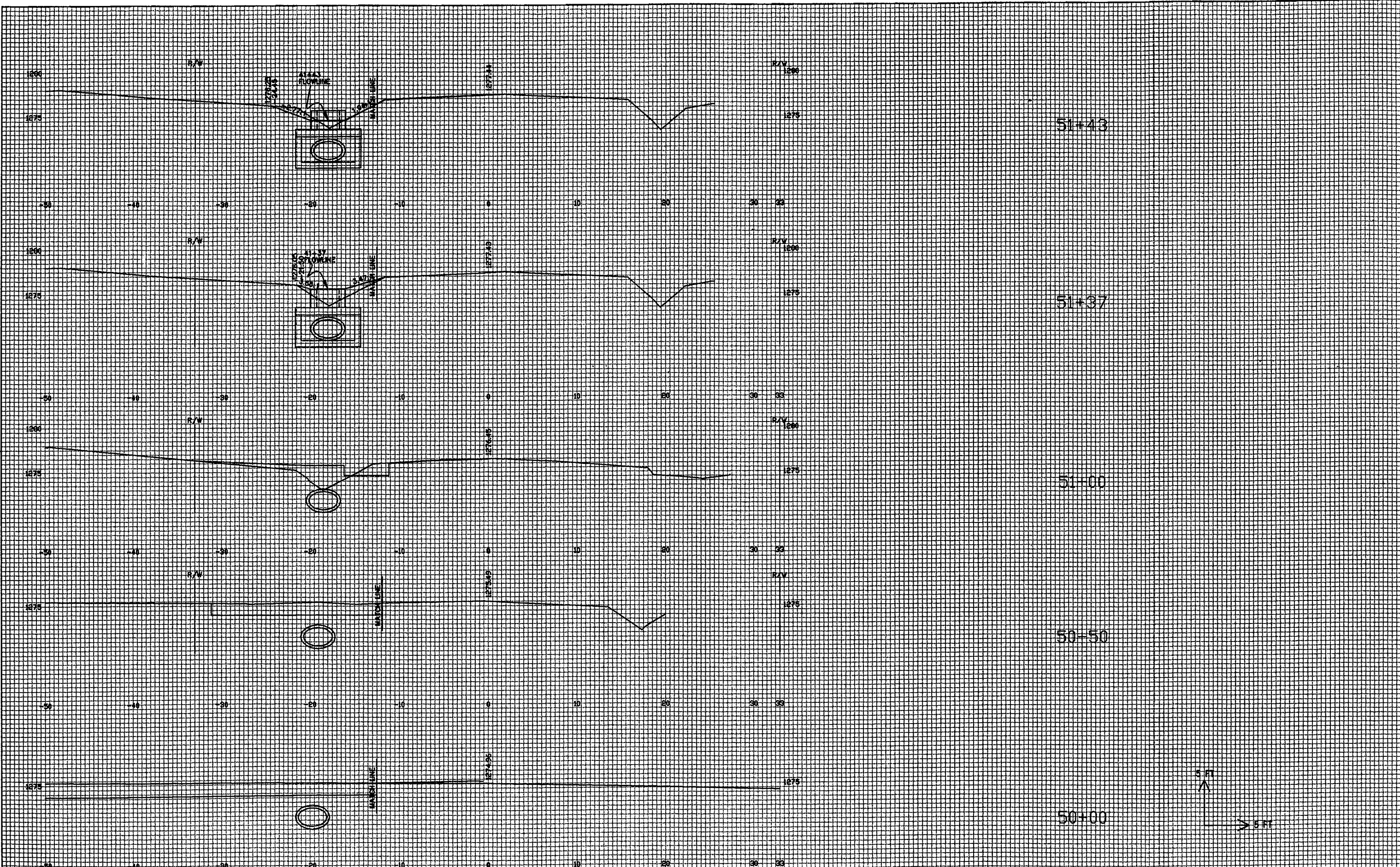


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FILE NAME:	PLOT DATE:	ORG DATE:	PLOT NAME:	Originator:	Dist	PLOT SCALE:	WISDOT/CADD SHEET 21
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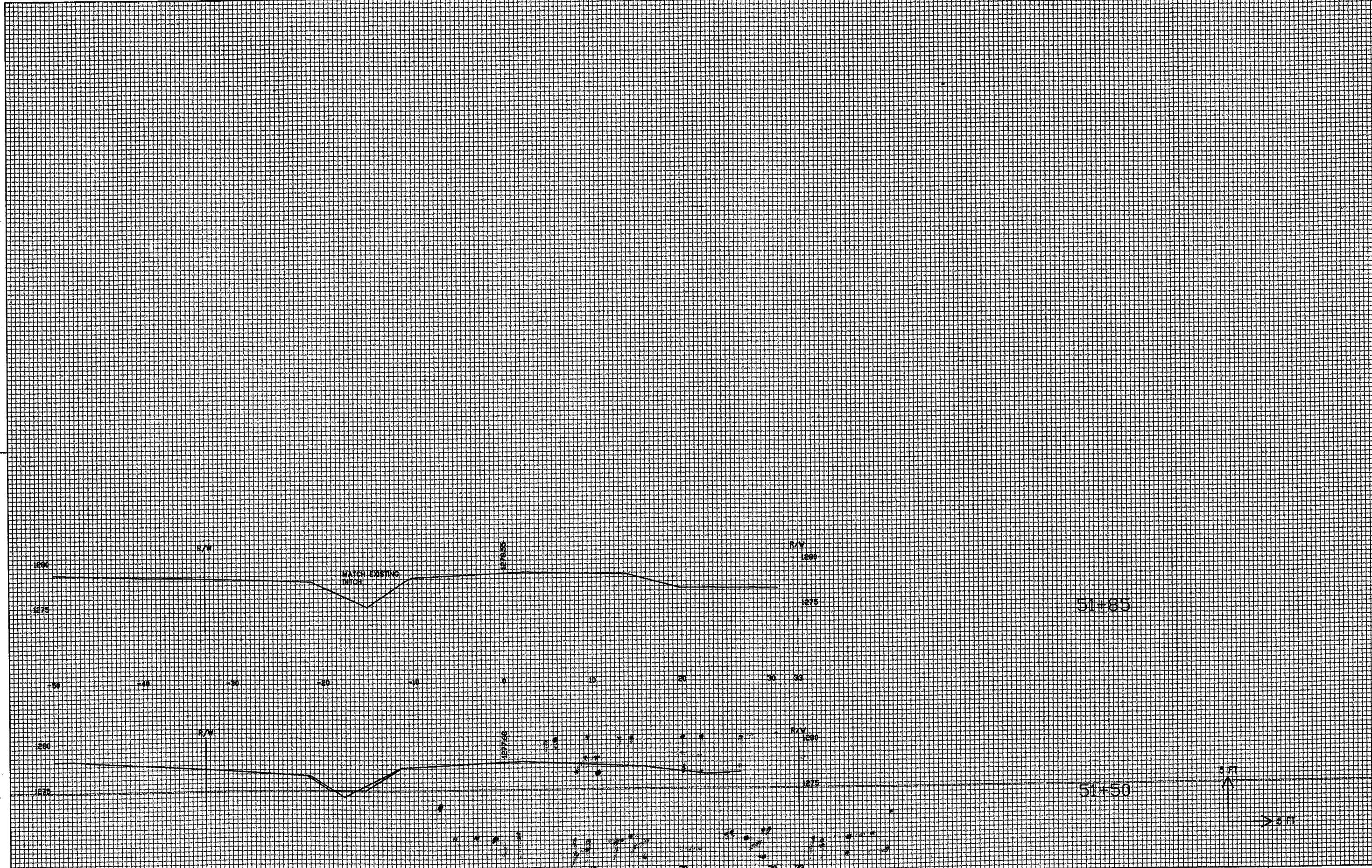
47+50
3 FT
A

→ 5 FT



STATE PROJECT NUMBER: 9479-00-70	HWY: S.T.H. 107	COUNTY: MARATHON	CROSS SECTIONS: 50+00 TO 51+43	SHEET NO: 9.16 E
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FILE NAME:	PLOT DATE:	ORG DATE:	PLOT NAME:	Originator:	Dist	PLOT SCALE:	WISDOT/CADD SHEET 21
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STATE PROJECT NUMBER: 9479-00-70 HWY: C.T.H. A COUNTY: MARATHON CROSS SECTIONS: 51+50 TO 51+85 SHEET NO: 9.17 E

FILE NAME: PLOT DATE: ORG DATE: PLOT NAME: Originator: Dist PLOT SCALE: WSDOT/CADD SHEET 21