Feb .04

ORDER OF SHEETS

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

TOTAL SHEETS = 128

AS BUILT PLAN.

REPLACE IN DRAWER !

PROJECT ID: 4994-01-09

WITH:

DESIGN ID 4994-01-08

4250

COUNTY: WINNEBAGO

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

WITZEL AVENUE, CITY OF OSHKOSH

OAKWOOD ROAD - USH 41

CTH E

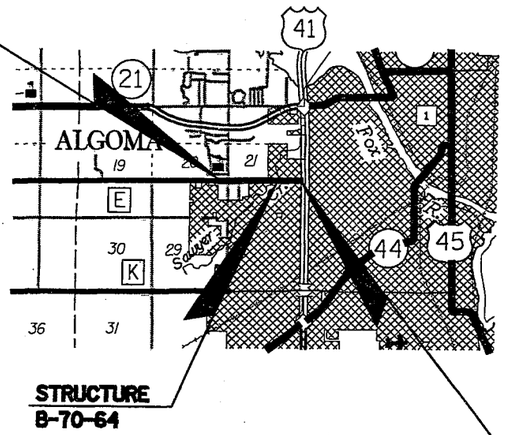
WINNEBAGO COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
4994-01-09	STP2004150	1

STATE PROJECT NUMBER
4994-01-09

BEGIN PROJECT
STA 98+66
N=738665.2032
E=2335470.0129

X=2335470.0129
Y=738665.2032



STRUCTURE
B-70-64

END PROJECT
STA 153+00.00

AS BUILT PLAN
NO.
SUPERVISOR ROGER RAHLF
RESIDENT JAMMY RABE, MEAD & HUNT
CONTRACTOR JAMES CAPE & SONS
COMPLETED JUNE 9, 2005

ACCEPTED FOR
WINNEBAGO COUNTY

DATE: 8/28/03 John M. Hoard
COUNTY HIGHWAY COMMISSIONER

ORGINAL PLANS PREPARED
BY

MEAD & HUNT
ENGINEERS
ARCHITECTS
SCIENTISTS
PLANNERS

WISCONSIN
JAY J. HIETPAS
33796
GREEN BAY, WI
PROFESSIONAL ENGINEER
8-27-03

Mead & Hunt, Inc.
1345B North Road Green Bay, Wisconsin 54313

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	MEAD & HUNT
Designer	MEAD & HUNT
Project Manager	JAY HIETPAS
District Examiner	TOM AHRENS
District Supervisor	ROGER RAHLF
C.O. Examiner	C. BUJANOWSKI

APPROVED FOR DISTRICT OFFICE
DATE: 9/23/03 (Signature) PE

E

DESIGN DESIGNATION

A.D.T.	2004	=	9,150
A.D.T.	2024	=	14,900
D.H.V.		=	1490
D.		=	50-50
T.		=	7.8%
DESIGN SPEED		=	40 MPH
ESALS		=	3,365,300

CONVENTIONAL SYMBOLS

PLAN		PROFILE	
CORPORATE LIMITS		GRADE LINE	
PROPERTY LINE	PL + 58.1	ORIGINAL GROUND	
LOT LINE		MARSH OR ROCK PROFILE (To be noted as such)	ROCK
LIMITED HIGHWAY EASEMENT		SPECIAL DITCH	LABEL
EXISTING RIGHT OF WAY		GRADE ELEVATION	95.36
PROPOSED OR NEW R/W LINE		CULVERT (Profile View)	
SLOPE INTERCEPT		UTILITIES	
REFERENCE LINE		ELECTRIC	E
EXISTING CULVERT		FIBER OPTIC	FO
PROPOSED CULVERT (Box or Pipe)		GAS	G
COMBUSTIBLE FLUIDS	CAUTION	SANITARY SEWER	SAN
		STORM SEWER	SS
MARSH AREA		TELEPHONE	T
		WATER	W
		UTILITY PEDESTAL	
WOODED OR SHRUB AREA		POWER POLE	
		TELEPHONE POLE	

LAYOUT
SCALE 0 1 MI.

TOTAL NET LENGTH OF CENTERLINE = 1.029 MI.

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WINNEBAGO COUNTY COORDINATE SYSTEM

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO BM TOP OF NUT ON HYDRANT H-06-6089 AT STA 131+48.96, 30.0'LT WITH ELEVATION OF 774.550

GENERAL NOTES

ELEVATIONS SHOWN ON THE PLAN ARE REFERENCED TO THE USGS DATUM.

TEMPORARY LIMITED EASEMENTS FOR DRIVEWAY CONSTRUCTION HAVE BEEN OBTAINED AND SUCH RIGHTS WILL BE EXTENDED TO THE CONTRACTOR.

BEARINGS SHOWN ON THE PLANS ARE ASSUMED.

CURVE DATA IS BASED ON THE ARC DEFINITION.

NO TREES AND SHRUBS ARE TO BE REMOVED WITHOUT THE APPROVAL OF THE ENGINEER.

ALL RADII ARE MEASURED TO THE FACE OF CURB UNLESS OTHERWISE SHOWN OR NOTED.

THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.

ALL PRIVATE EXISTING UTILITIES ARE TO BE ADJUSTED BY THE UTILITIES CONCERNED, MUNICIPAL OWNED MANHOLES AND/OR BOXES WILL BE ADJUSTED TO GRADE BY THE CITY OF OSHKOSH.

THE EXACT LOCATION OF DRIVEWAYS SHALL BE DETERMINED BY THE ENGINEER.

WHEN THE QUANTITY OF BASE AGGREGATE DENSE OR ASPHALTIC PAVEMENT IS MEASURED FOR PAYMENT BY THE TON, THE DEPTH OR THICKNESS OF THE COURSE SHOWN ON THE PLAN IS APPROXIMATE. THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF MATERIAL AS DIRECTED BY THE ENGINEER.

DISTURBED DRIVEWAYS SHALL BE REPLACED IN KIND.

SHRINKAGE VARIABLE, ESTIMATED AT 30 PERCENT.

REMOVAL ITEMS REQUIRING RESTORATION OF ASPHALT OR CONCRETE ROADWAYS, DRIVEWAYS, AND SIDEWALKS SHALL BE REMOVED TO AN EXISTING JOINT OR SAWED AS DETERMINED BY THE ENGINEER OR SHOWN ON THE PLANS. THE COST OF SAWING WILL BE MEASURED AND PAID FOR AS A BID ITEM.

ALL CONCRETE PAVEMENT JOINTS SHALL BE SEALED WITH HOT-POURED ELASTIC SEALANT.

THE LAST ADJOINING THREE SECTIONS OF CONCRETE PIPE SHALL BE TIED TOGETHER AS SHOWN ON THE STANDARD DETAIL DRAWINGS AND AS LOCATED IN THE MISCELLANEOUS QUANTITIES. JOINT TIES SHALL BE INCIDENTAL TO VARIOUS ITEMS.

PAVEMENT GRADES ON THE PLAN AND PROFILE SHEETS ARE SHOWN TO THE FACE OF CURB (FLOWLINE) ON THE INTEGRAL CURB AND GUTTER SEGMENTS.

THE CONTRACTOR SHALL CONTACT DAN KUSSMAN FROM THE CITY OF OSHKOSH PRIOR TO ANY LOOP DETECTOR, SIGNAL BASE, PULL BOX, OR CONTROL CABINET BASE CONSTRUCTION.

STANDARD DETAIL DRAWINGS

8A5-16a	INLET COVERS TYPE A, H, A-S AND H-S
8A5-16b	INLET COVERS TYPE B, B-A, C, MS, MS-A AND WM
8A5-16d	INLET COVER, TYPE Z MANHOLE COVERS, TYPE K, J, J-S, L AND M
8A6-4	CATCH BASINS, TYPES 1 AND 2
8A7-3	CATCH BASINS, TYPES 3 AND 5
8B6-3	MANHOLE, TYPE 1
8B7-3	MANHOLES, TYPES 2 AND 3
8C1-5	INLETS, TYPES 1, 2, 3 AND 4
8D1-13	CONCRETE CURB, CONCRETE CURB & GUTTER AND PAVEMENT TIES
8D5-9A	CURB RAMPS TYPES 1, 2 & 3
8D9-5B	CURB RAMPS TYPE 1-A
8E9-5	SILT FENCE
8E10-2	INLET PROTECTION TYPE A, B, C AND D
8F1-11	APRON ENDWALLS FOR CULVERT PIPE
8F2-1	APRON ENDWALLS FOR PIPE ARCH AND ELLIPTICAL PIPE
8F4-5	JOINT TIES FOR CONCRETE PIPE
8F5-1	CLASS "B" BEDDING FOR CULVERT PIPE AND STORM SEWER
9B2-6	CONDUIT
9B4-5	PULL BOX
9C2-2	CONCRETE BASES, TYPES 1, 2, & 5
9C5-3	CONCRETE CONTROL CABINET BASES
9F9-2	LOOP DETECTOR PLACED IN CRUSHED AGGREGATE BASE (NEW CONCRETE PAVEMENT)
13B2-4	CONCRETE PAVEMENT APPROACH SLAB
13C1-11	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND PAVEMENT TIES
13C13-4	URBAN DOWELED CONCRETE PAVEMENT
15C2-3	BARRICADES AND SIGNS FOR ROAD CLOSURES
15C7-6a	PAVEMENT MARKING SYMBOLS
15C8-9a	PAVEMENT MARKING (MAINLINE)
15C8-9b	PAVEMENT MARKING (INTERSECTIONS)
15C8-9d	PAVEMENT MARKING (LEFT TURN LANE)
15C8-10e	PAVEMENT MARKING (ISLANDS, STOP LINE & CROSS WALK)
15D20-1	TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY

UTILITIES

TIME WARNER CABLE
1001 KENNEDY AVE
KIMBERLY, WI 54316
MR. ROCK WERY
920-831-9207

ALGOMA SANITARY DISTRICT
1220 OAKWOOD CIRCLE
OSHKOSH, WI 54904
MS. ROSE MRANZ
920-426-0335

WISCONSIN PUBLIC SERVICE CORP. (GAS)
3300 NORTH MAIN ST
OSHKOSH, WI 54902
MR. PAUL SPANGLER
920-236-5908

WISCONSIN PUBLIC SERVICE CORP. (ELECTRIC)
3300 NORTH MAIN ST
OSHKOSH, WI 54902
MR. ERIC CHARETTE
920-236-5915 FAX 920-236-5969

DNR CONTACT

OSHKOSH SERVICE CENTER
625 E COUNTY RD Y
SUITE 700
OSHKOSH, WI 54901-9731
MS. BOBBI JO REISER
920-424-3050

ANR PIPE LINE CO.
W3925 PIPE LINE LN
EDEN, WI 53019
LARRY HUBER
920-477-4211 (EXT 2235)

ALLIANT ENERGY
903 W. SCOTT ST
FOND DU LAC, WI 54937
TIM BOELK
920-322-6763

SBC (TELEPHONE)
70 EAST DIVISION ST
FOND DU LAC, WI 54935
MR. CHUCK BARTELT
920-929-1013

CITY OF OSHKOSH (SEWER-WATER-STORM)
215 CHURCH AVE
PO BOX 1130
OSHKOSH, WI 54901
MR. DAVID PATEK
920-236-5065

CITY OF OSHKOSH (ELECTRIC)
926 DEMPSEY TRAIL
OSHKOSH, WI 54902
MR. DAN KUSSMAN
920-232-5350

PLANS PREPARED BY

MEAD & HUNT, INC.
1345B NORTH RD.
GREEN BAY, WI 54313
MR. JAY HIETPAS
920-496-0500

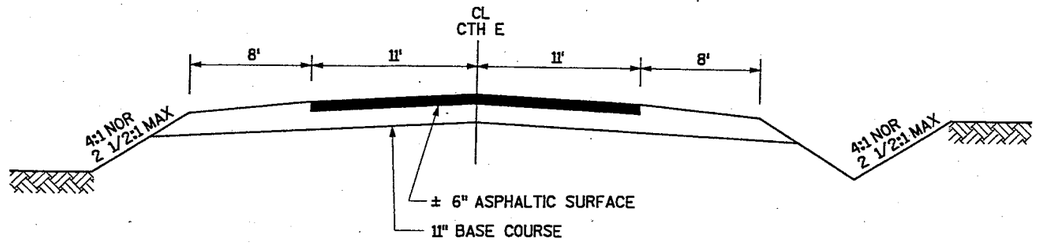
STATE PROJECT NUMBER: 4994-01-09	HWY: CTH E	COUNTY: WINNEBAGO	GENERAL NOTES	SCALE, FEET 0	SHEET NO: 2	E

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

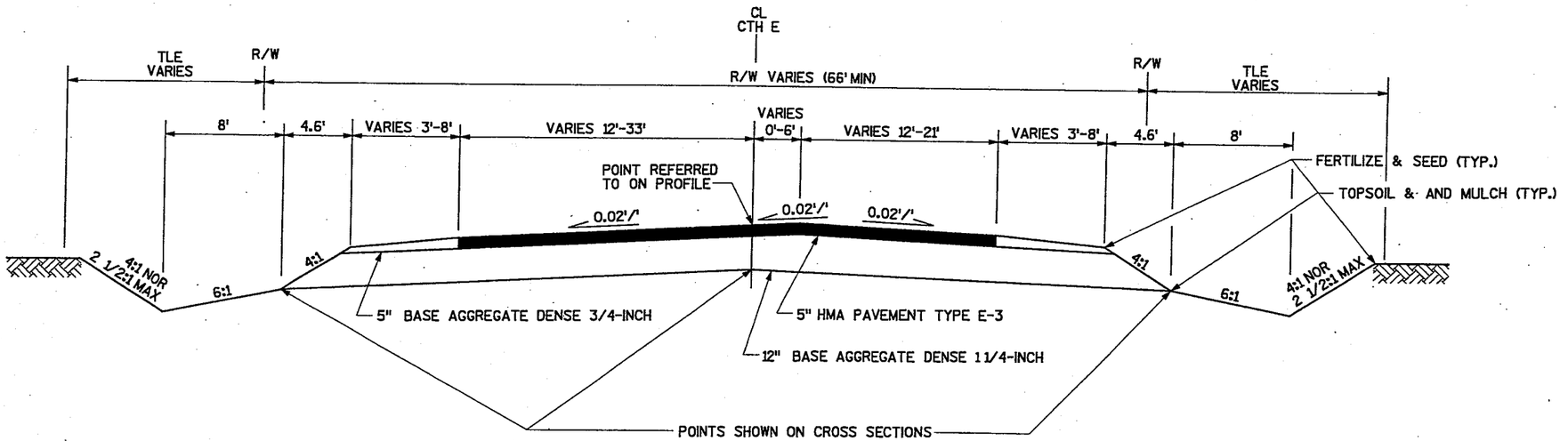
TOTAL PROJECT AREA = 18.5 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 16.0 ACRES
RUNOFF COEFFICIENT FOR THIS PROJECT: EXISTING PAVEMENT 0.75, NEW PAVEMENT 0.80

STANDARD ABBREVIATIONS

AGG	AGGREGATE
AH	AHEAD
ASPH	ASPHALTIC
AVG	AVERAGE
ADT	AVERAGE DAILY TRAFFIC
BK	BACK
B/O/C	BACK OF CURB
BM	BENCH MARK
BLDG	BUILDING
CB	CATCH BASIN
C/L	CENTER LINE
CE	COMMERCIAL ENTRANCE
CONC	CONCRETE
CONST	CONSTRUCTION
COR	CORNER
CORR	CORRUGATED
CTH	COUNTY TRUNK HIGHWAY
CR	CREEK
CY	CUBIC YARD
CMP	CULVERT METAL PIPE
CP	CULVERT PIPE
C&G	CURB AND GUTTER
D	DEGREE OF CURVE
DHV	DESIGN HOUR VOLUME
DIA	DIAMETER
DWY	DRIVEWAY
EA	EACH
E	EAST
X	EAST GRID COORDINATE
ELEC	ELECTRIC
EL	ELEVATION
ENT	ENTRANCE
EXC	EXCAVATION
EBS	EXCAVATION BELOW SUBGRADE
EXIST	EXISTING
F-F	FACE TO FACE
FERT	FERTILIZE
FE	FIELD ENTRANCE
F	FILL
FL	FLOW LINE
FT	FOOT
G	GAS
GV	GAS VALVE
GRAV	GRAVEL
H	HOUSE
HOR	HORIZONTAL
HYD	HYDRANT
IN	INCH
IN DIA	INCH DIAMETER
INL	INLET
INV	INVERT
IP	IRON PIPE OR PIN
LT	LEFT
L	LENGTH OF CURVE
LF	LINEAR FOOT
LC	LONG CHORD OF CURVE
LS	LUMP SUM
MH	MANHOLE
MAX	MAXIMUM
MIN	MINIMUM
NC	NORMAL CROWN
NOR	NORMAL
N	NORTH
Y	NORTH GRID COORDIANTE
NO	NUMBER
PAV'T	PAVEMENT
PT	POINT
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION
PT	POINT OF TANGENCY
POC	POINT ON CURVE
POT	POINT ON TANGENT
PVC	POLYVINYL CHLORIDE
LB	POUND
PP	POWER POLE
PE	PRIVATE ENTRANCE
PL	PROPERTY LINE
R	RADIUS
RCCP	REINFORCED CONCRETE CULVERT PIPE
RCHEP	REINFORCED CONCRETE HORIZONTAL ELLIPTICAL PIPE
REQ'D	REQUIRED
RT	RIGHT
R/W	RIGHT-OF-WAY
RD	ROAD
RDWY	ROADWAY
RO	RUNOFF
SAN	SANITARY SEWER
SALV	SALVAGED
SEC	SECTION
SHLDR	SHOULDER
SW	SIDEWALK
S	SOUTH
SF	SQARE FEET
SY	SQUARE YARD
STD	STANDARD
SDD	STANDARD DETAIL DRAWINGS
STA	STATION
SSD	STOPPING SIGHT DISTANCE
SS	STORM SEWER
STM	STORM
SE	SUPERELEVATION
T	TANGENT
TEL	TELEPHONE
TEMP	TEMPORARY
TLE	TEMPORARY LIMITED EASEMENT
T/O/C	TOP OF CURB
TN	TOWN
TRANS	TRANSITION
T/L	TRANSIT LINE
TYP	TYPICAL
UG	UNDERGROUND
USGS	UNITED STATES GEOLOGICAL SURVEY
VAR	VARIABLE
V	VELOCITY OR DESIGN SPEED
VERT	VERTICAL
VC	VERTICAL CURVE
VPC	VERTICAL POINT OF CURVATURE
VPI	VERTICAL POINT OF INTERSECTION
VPT	VERTICAL POINT OF TANGENCY
VOL	VOLUME
WM	WATER MAIN
WV	WATER VALVE
W	WELL
W	WEST
YD	YARD



EXISTING TYPICAL SECTION FOR CTH E



PROPOSED TYPICAL ROADWAY SECTION FOR CTH E

STA 98+66 TO STA 101+13

STATE PROJECT NUMBER: 4994-01-09	HWY: CTH E	COUNTY: WINNEBAGO	TYPICAL SECTIONS	SCALE, FEET	SHEET NO: 9	E

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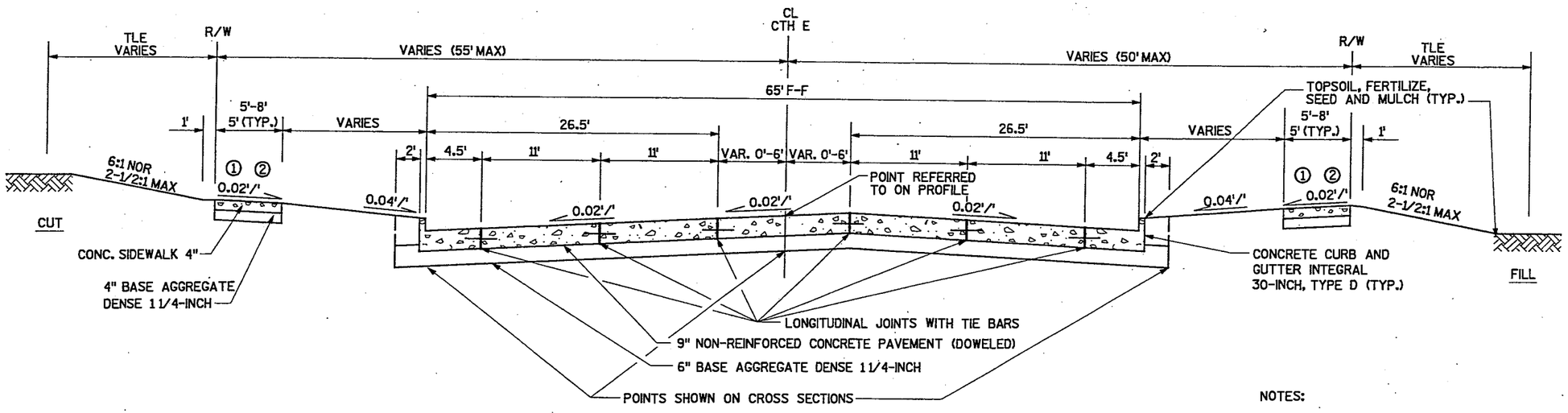


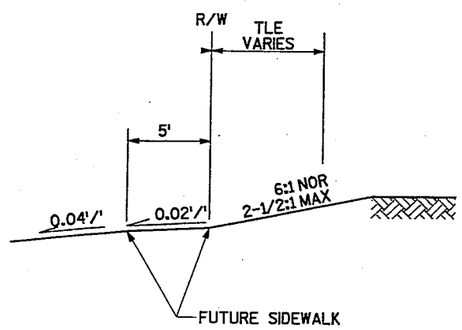
PROPOSED TYPICAL ROADWAY SECTION FOR CTH E

STA 101+13 TO STA 107+70

NOTES:

① SIDEWALK EXCEPTION AREAS
101+13 TO 103+30 LT AND RT
IN SIDEWALK EXCEPTION AREAS,
CONSTRUCT 6' MINIMUM BERM BEHIND CURB

② STATION 103+85 TO 107+70 RT
GRADE FOR FUTURE SIDEWALK
(SEE INSET A)



INSET A

STATE PROJECT NUMBER: 4994-01-09	HWY: CTH E	COUNTY: WINNEBAGO	TYPICAL SECTIONS	SCALE, FEET 0	SHEET NO: 5	E

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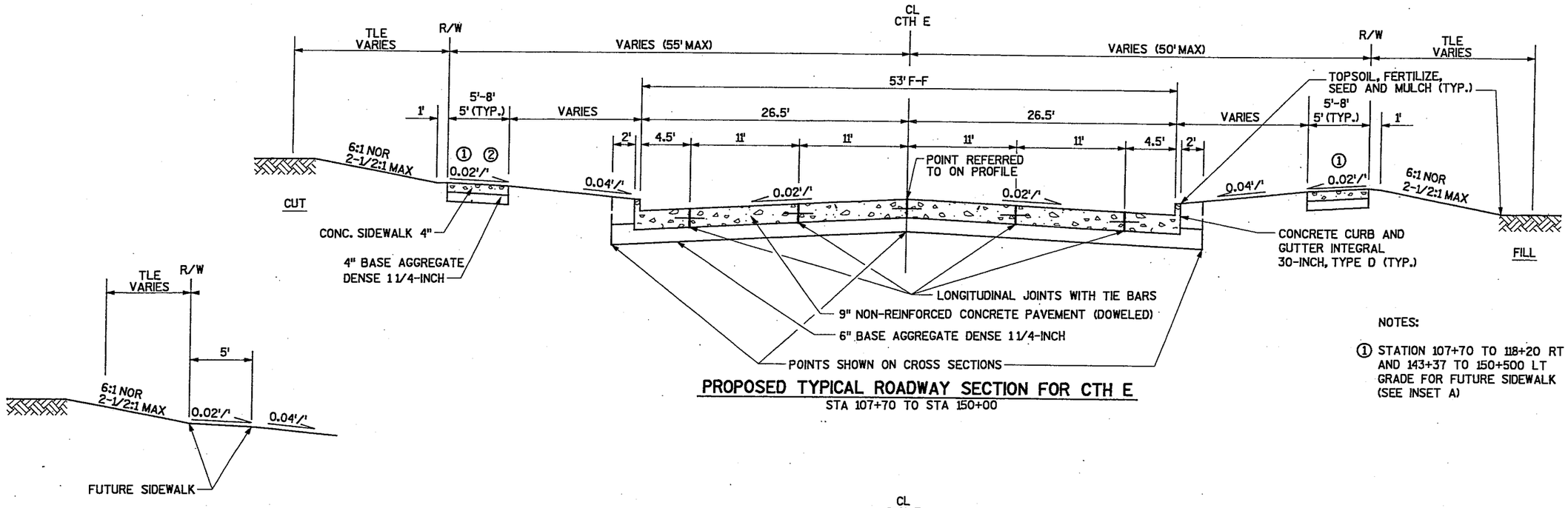


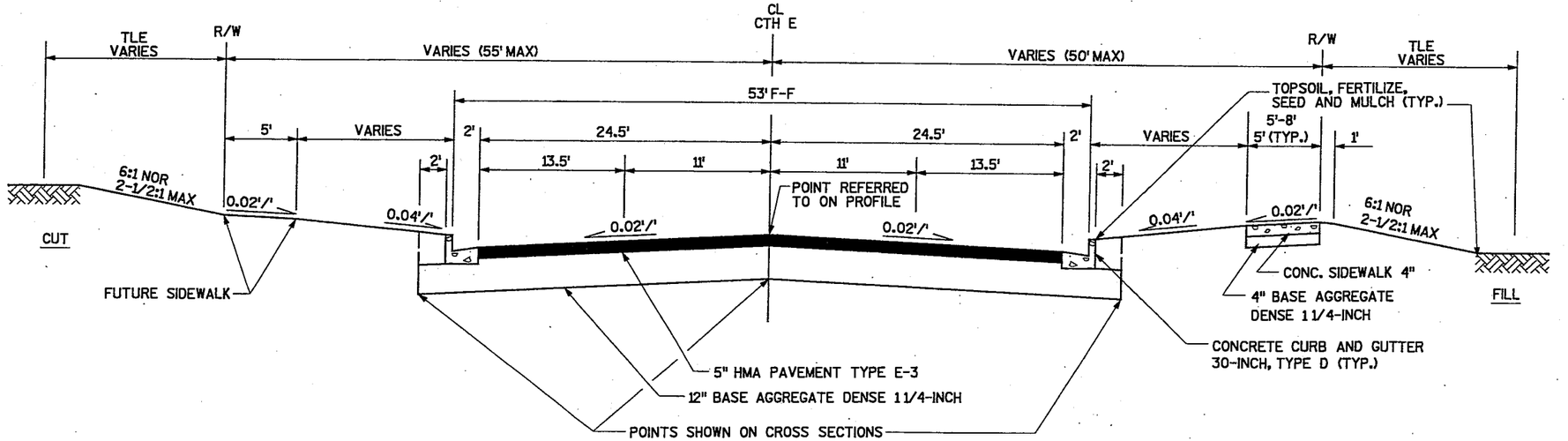
PROPOSED TYPICAL ROADWAY SECTION FOR CTH E

STA 107+70 TO STA 150+00

NOTES:

① STATION 107+70 TO 118+20 RT AND 143+37 TO 150+500 LT GRADE FOR FUTURE SIDEWALK (SEE INSET A)

INSET A



PROPOSED TYPICAL ROADWAY SECTION FOR CTH E

STA 150+00 TO STA 153+00

STATE PROJECT NUMBER: 4994-01-09	HWY: CTH E	COUNTY: WINNEBAGO	TYPICAL SECTIONS	SCALE, FEET 0	SHEET NO: 6	E

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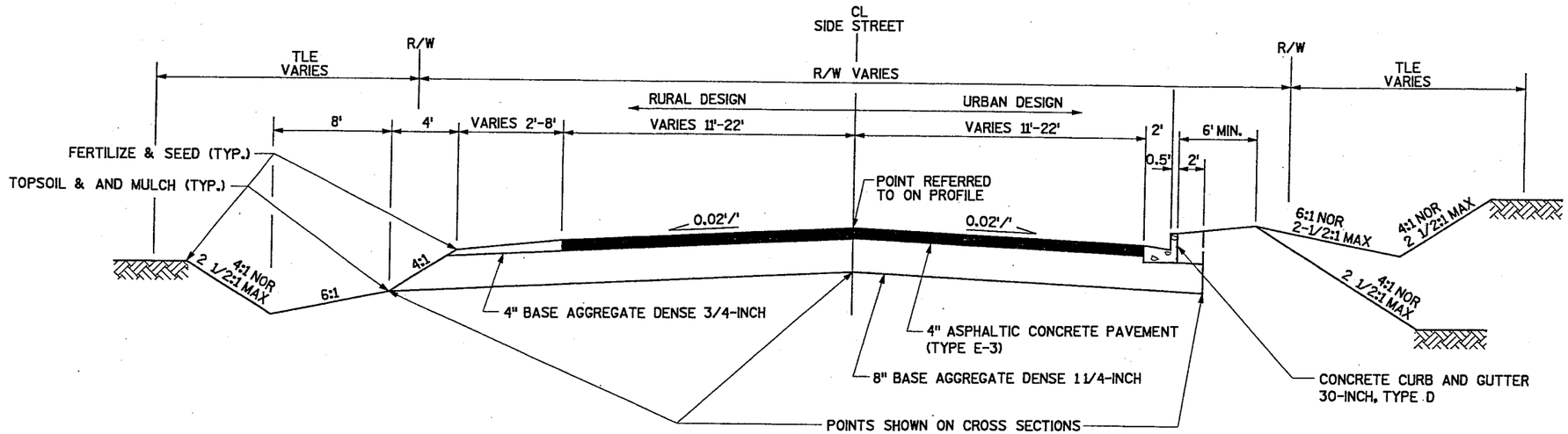
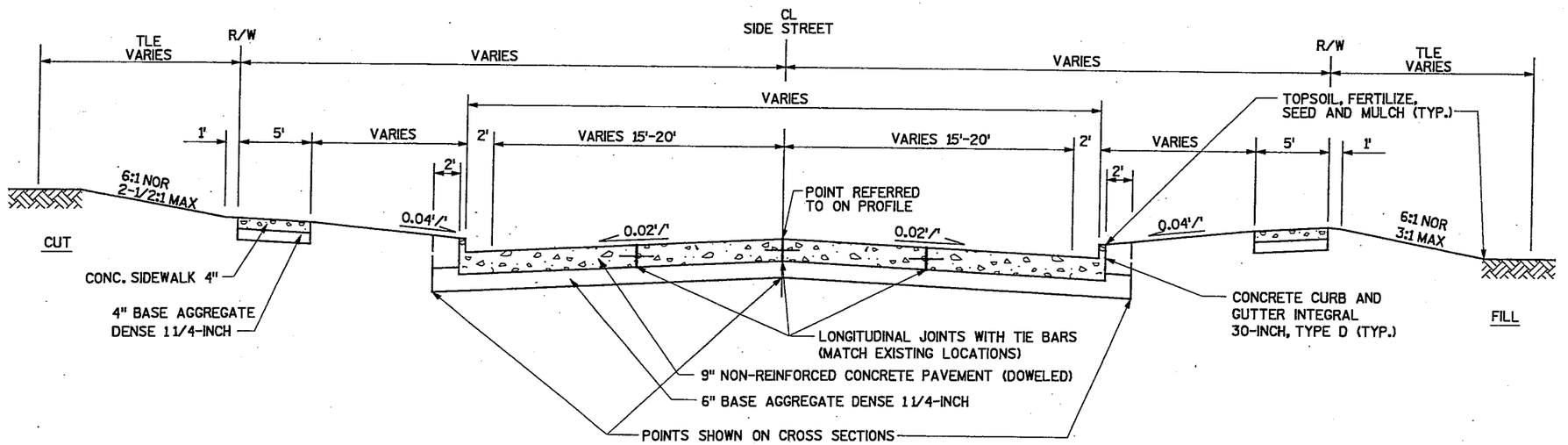


PROPOSED TYPICAL ROADWAY SECTION FOR ADJACENT STREETS (ASPHALT)

BARTON ROAD
WYLDEWOOD DRIVE
MARYDEN
OAKWOOD ROAD



PROPOSED TYPICAL ROADWAY SECTION FOR ADJACENT STREETS (CONCRETE)

WESTHAVEN
LAKE POINT
GRACELAND
WESTBROOK

STATE PROJECT NUMBER: 4994-01-09	HWY: CTH E	COUNTY: WINNEBAGO	TYPICAL SECTIONS	SCALE, FEET 0	SHEET NO: 7	E

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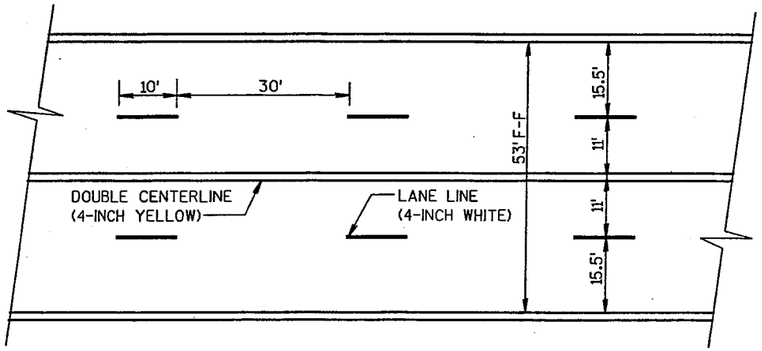
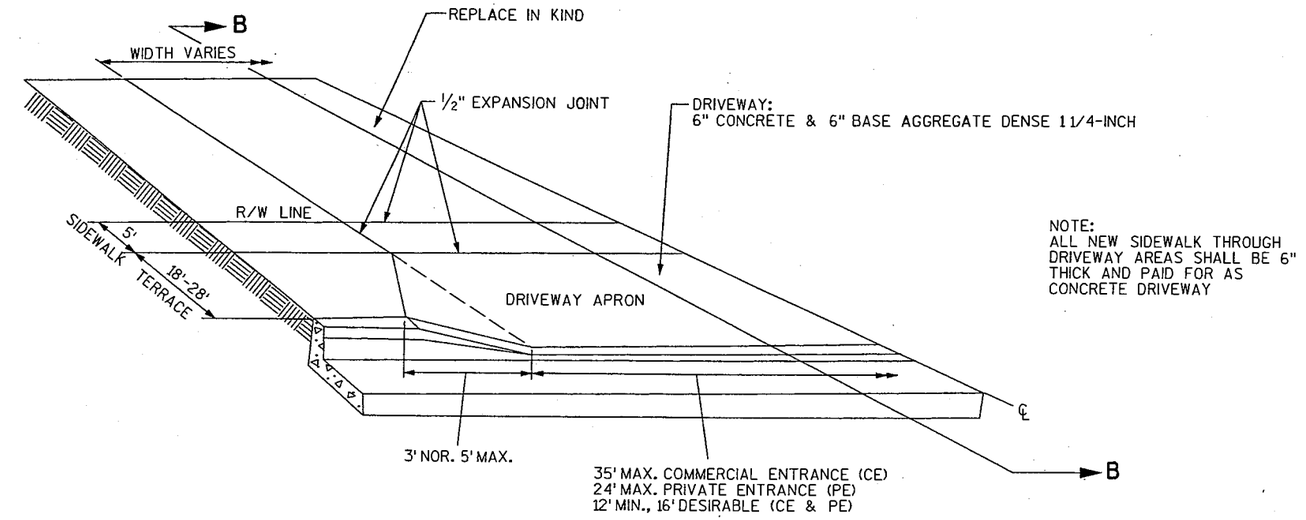


PAVEMENT MARKING DETAIL

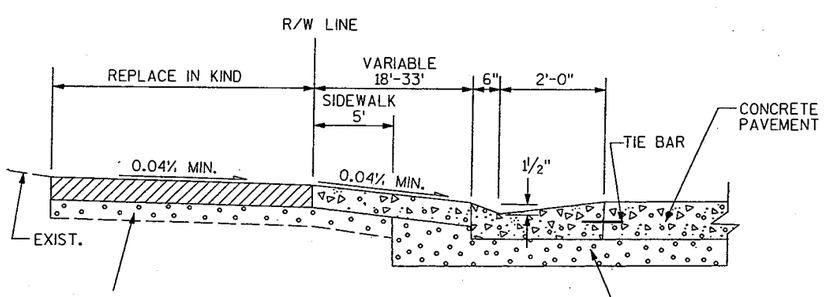
CTH E STA 108+00 TO STA 153+00

CTH E STA 98+66 to 108+00, SEE PAVEMENT MARKING DETAILS

FOR INTERSECTION AND CROSSWALK PAVEMENT MARKING,
SEE INTERSECTION PLAN AND PROFILE SHEET



NOTE:
ALL NEW SIDEWALK THROUGH DRIVEWAY AREAS SHALL BE 6" THICK AND PAID FOR AS CONCRETE DRIVEWAY



SECTION B-B

URBAN DRIVEWAY DETAILS

STATE PROJECT NUMBER: 4994-01-09	HWY: CTH E	COUNTY: WINNEBAGO	CONSTRUCTION DETAILS	SCALE, FEET 0	SHEET NO: 8	E

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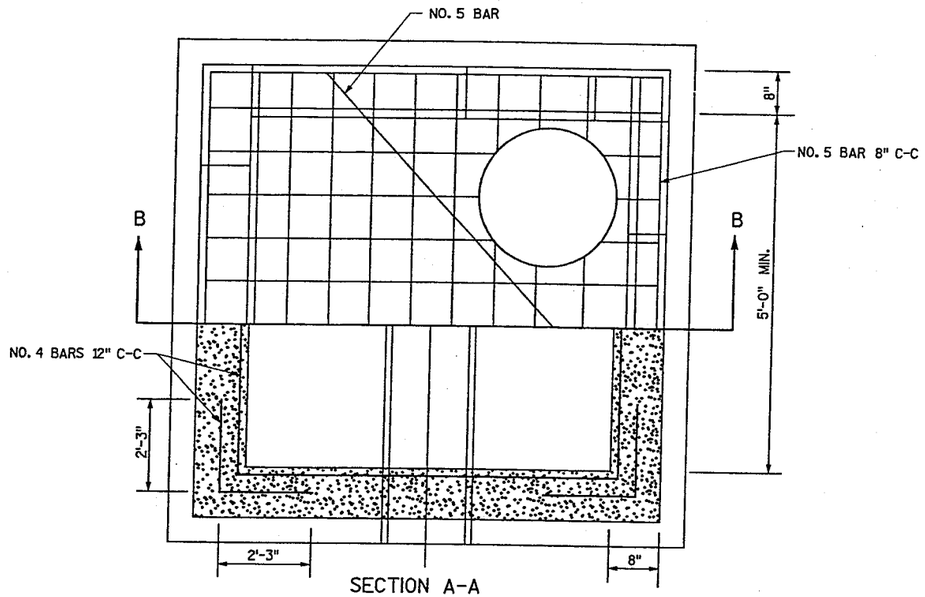
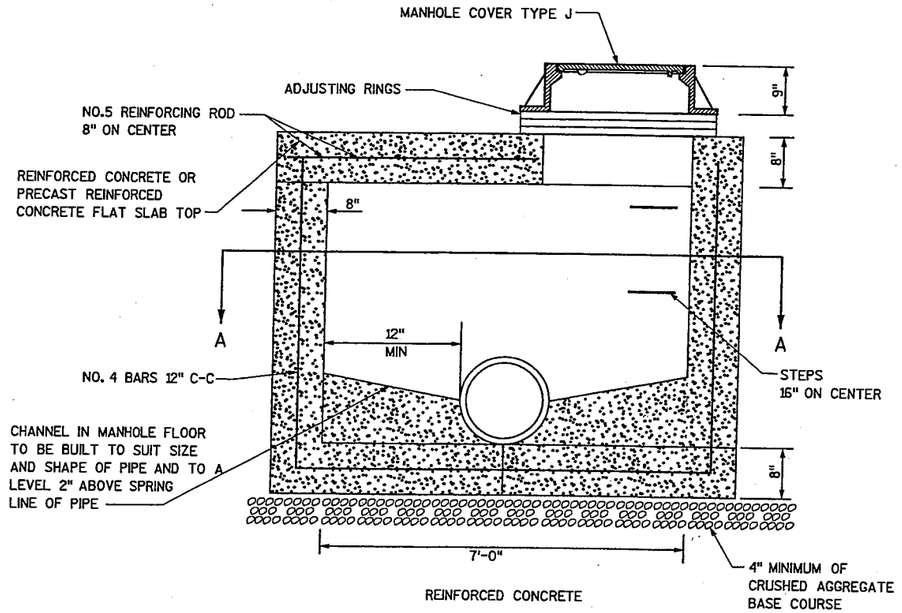


SECTION A-A



SECTION B-B

MANHOLE, 5'X7' BOX

SEE S.D.D. FOR ADDITIONAL INFORMATION NOT NOTED HERE

STATE PROJECT NUMBER: 4994-01-09	HWY: CTH E	COUNTY: WINNEBAGO	CONSTRUCTION DETAILS	SCALE, FEET 0	SHEET NO: 9	E

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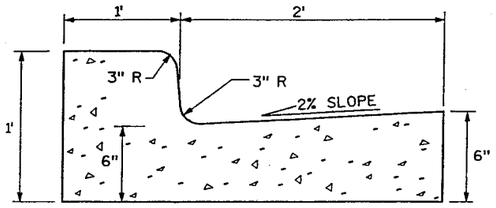
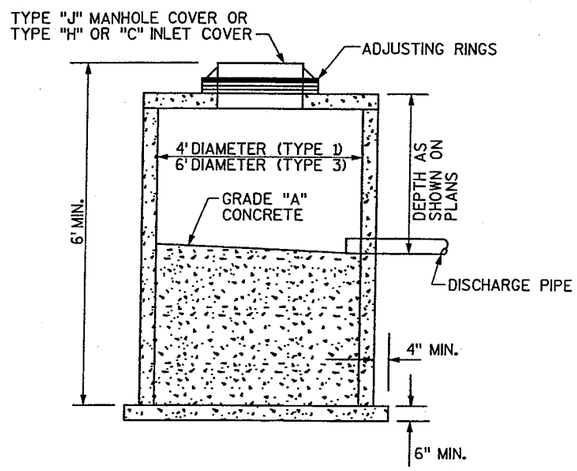


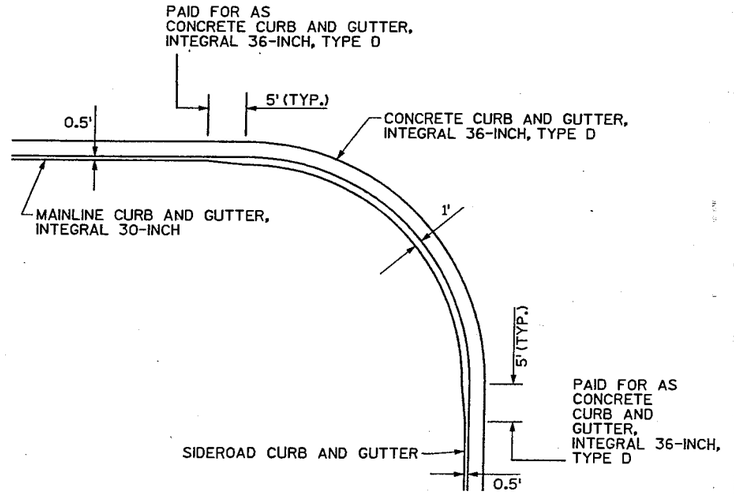
CONCRETE CURB AND GUTTER, INTEGRAL 36-INCH, TYPE D

FOR USE IN SIDE STREET RADIUS

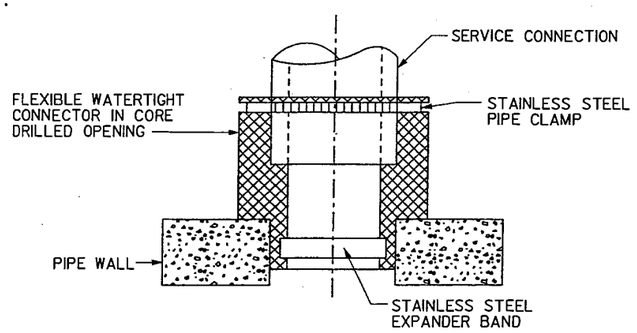


MANHOLE, TYPE 1 SPECIAL

SEE MISCELLANEOUS QUANTITIES FOR LOCATION AND SDD FOR ADDITIONAL INFORMATION NOT SHOWN ON THIS DETAIL

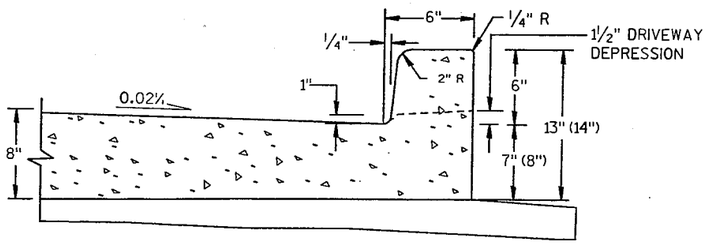


CURB AND GUTTER TRANSITION AT SIDE STREETS



6" LATERAL CONNECTION TO STORM SEWER

GENERAL NOTES:
1. FLEXIBLE WATERTIGHT CONNECTOR SHALL CONFORM TO A.S.T.M. C443
2. PIPE SHALL TERMINATE AT PROPERTY LINE
3. CONNECTION INCIDENTAL TO COST OF MATERIALS FOR PIPE UNDERDRAIN UNPERFORATED 6-INCH



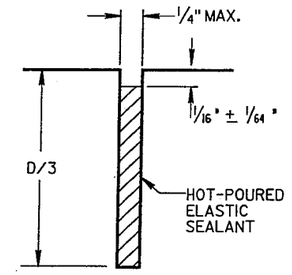
INTEGRAL CURB & GUTTER

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

PAVEMENT JOINTS SHALL BE EXTENDED THROUGH INTEGRAL CURB & GUTTER. JOINTS IN INTEGRAL GUTTER SHALL HAVE THE SAME DIMENSIONS AS THE JOINTS IN THE ADJACENT PAVEMENT. JOINTS IN INTEGRAL CURB SHALL BE 1/8" WIDE.

JOINTS IN INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE BACK OF CURB WITH THE SAME SEALANT SPECIFIED FOR THE PAVEMENT JOINT. 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 EXCAVATION LIMITS ARE 2'-0" BEHIND THE BACK OF CURBS.



JOINT SEALING DETAIL

D = PAVEMENT DEPTH

STATE PROJECT NUMBER: 4994-01-09	HWY: CTH E	COUNTY: WINNEBAGO	CONSTRUCTION DETAILS	SCALE, FEET 0	SHEET NO: 10	E

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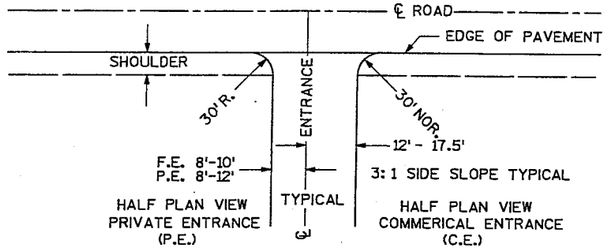
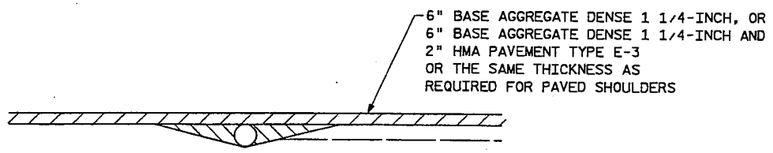
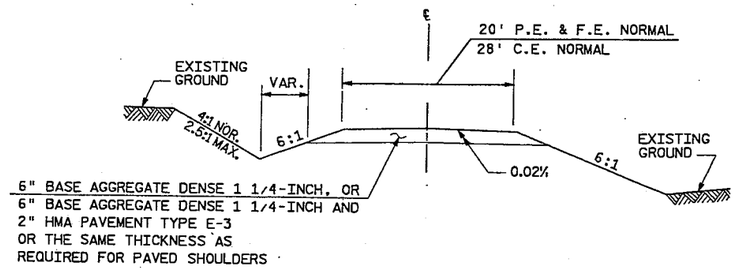


PLAN VIEW

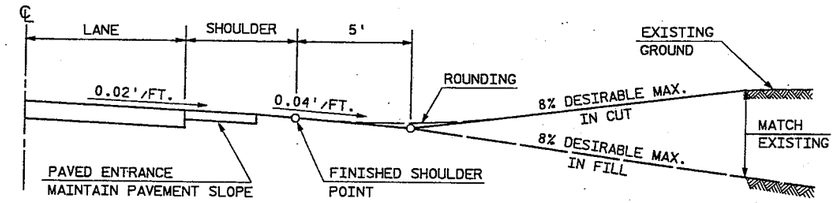


PROFILE VIEW

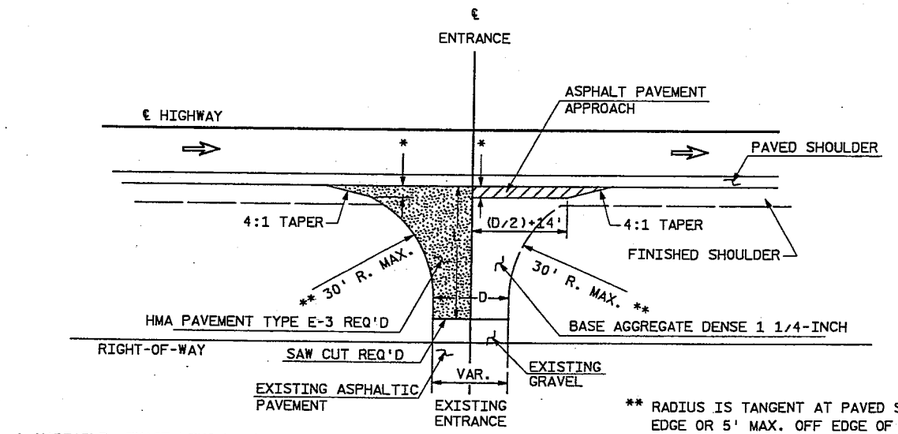
RURAL DRIVEWAY DETAIL



TYPICAL CROSS SECTION



PROFILE VIEW



L=VARIABLE, EXACT LENGTH TO BE DETERMINED
IN THE FIELD BY THE ENGINEER.
BLEND BACK ON THE ENTRANCE FAR
ENOUGH TO GET A SMOOTH PROFILE.

D=DRIVEWAY WIDTH
D=20'TYP. (PE's & FE's) (16'MIN.-24'MAX.)
D=28'TYP. (CE's & FARM ENT.) (24'MIN.-35'MAX.)

** RADIUS IS TANGENT AT PAVED SHOULDER EDGE OR 5' MAX. OFF EDGE OF MAIN LINE PAVEMENT WHICH EVER IS LESS.

* 3' MAX. OR TO FINISHED SHOULDER WHICH EVER IS LESS.

PLAN VIEW

RURAL DRIVEWAY INTERSECTION DETAIL
(PE's, FE's & CE'S)
(FOR NEW CONSTRUCTION)

STATE PROJECT NUMBER: 4994-01-09	HWY: CTH E	COUNTY: WINNEBAGO	CONSTRUCTION DETAILS	SCALE, FEET 0	SHEET NO: 11	E

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N

PROPOSED SEDIMENT BASIN CONTOUR

PROPOSED SEDIMENT BASIN CONTOUR

EROSION MAT (TYP.)

SILT FENCE (TYP.)

CONSTRUCTION PERMIT (TYP.)

EXISTING R/W

GERALD J. LAUTENSCHLAGER

RIPRAP HEAVY REQ'D

RIPRAP MEDIUM REQ'D

CTH E

N89°21'13"E

N89°21'13"E

N00°15'03"W

GRACELAND

SLOPE INTERCEPTS

STRUCTURE B-70-64

H#121

DIANNE WOLF

H#110

EDITH JANE WILSON

PI 68+47.39

STATE PROJECT NUMBER: 4994-01-09	HWY: CTH E	COUNTY: WINNEBAGO	CONTOUR MAP	SCALE, FEET 0	SHEET NO: 12	E

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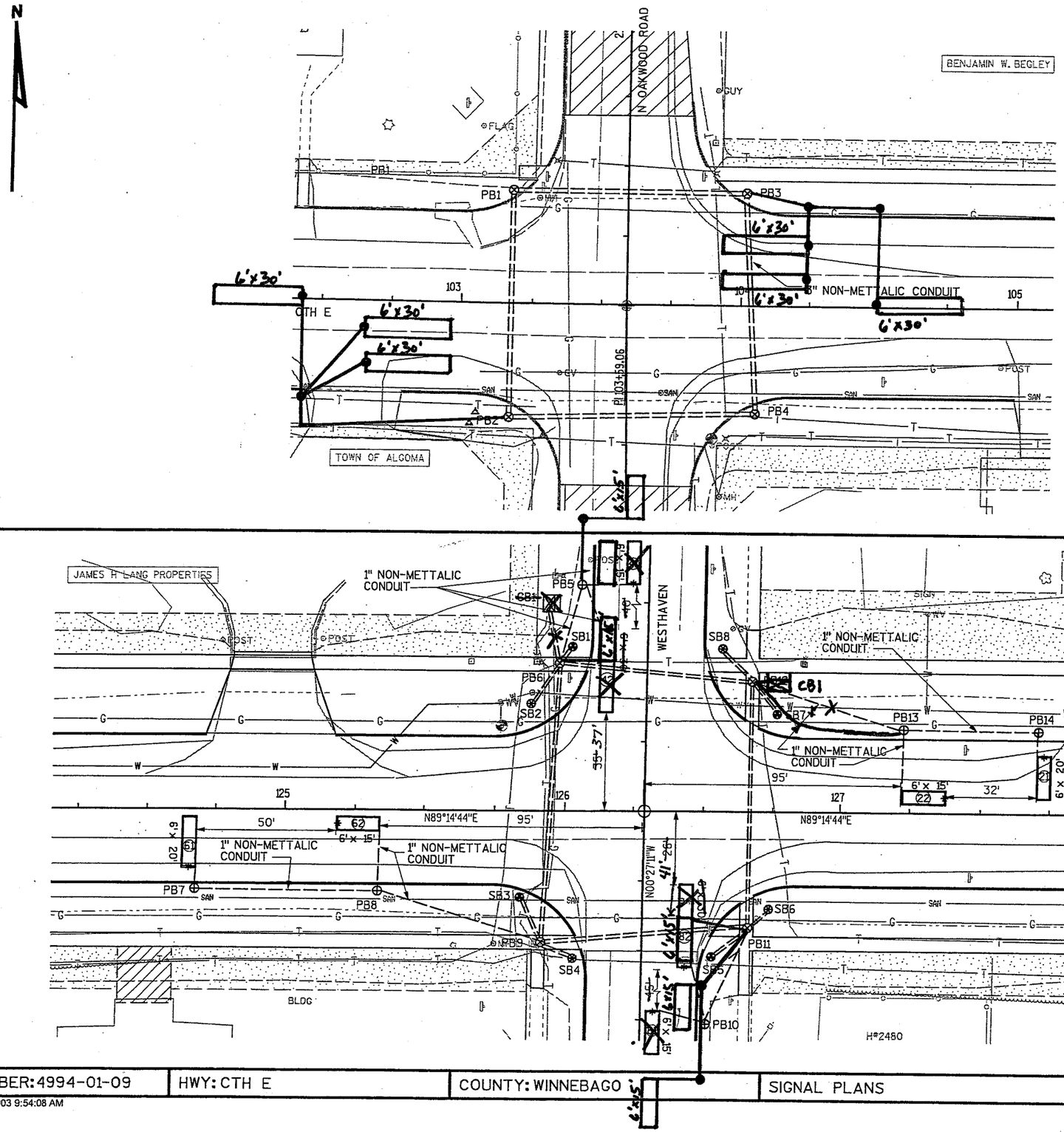

⊠ CONTROL BOX (BY OTHERS)

⊗ 24" X 36" PULL BOX

⊕ 12" X 36" PULL BOX

═══ 3" NONMETTALIC CONDUIT, SCHEDULE 80

——— 1" NON METALLIC CONDUIT, SCHEDULE 80

⊛ CONCRETE BASE, TYPE 2

⊛ CONCRETE BASE, TYPE 5

NOTES: ALL CONDUIT IS 3" UNLE3S OTHERWISE NOTED.

LOCATIONS OF LOOPS, CONDUIT, PULL BOXES AND BASES ARE APPROXIMATE. THE CONTRACTOR SHALL CONTACT DAN KUSSMANN FROM THE CITY OF OSHKOSH FOR FINAL LOCATIONS. THE CONTRACTOR SHALL CONTACT DAN A MINIMUM OF 7 DAYS PRIOR TO INSTALLATION.

STATE PROJECT NUMBER: 4994-01-09	HWY: CTH E	COUNTY: WINNEBAGO	SIGNAL PLANS	SCALE, FEET 0	SHEET NO: 13	E

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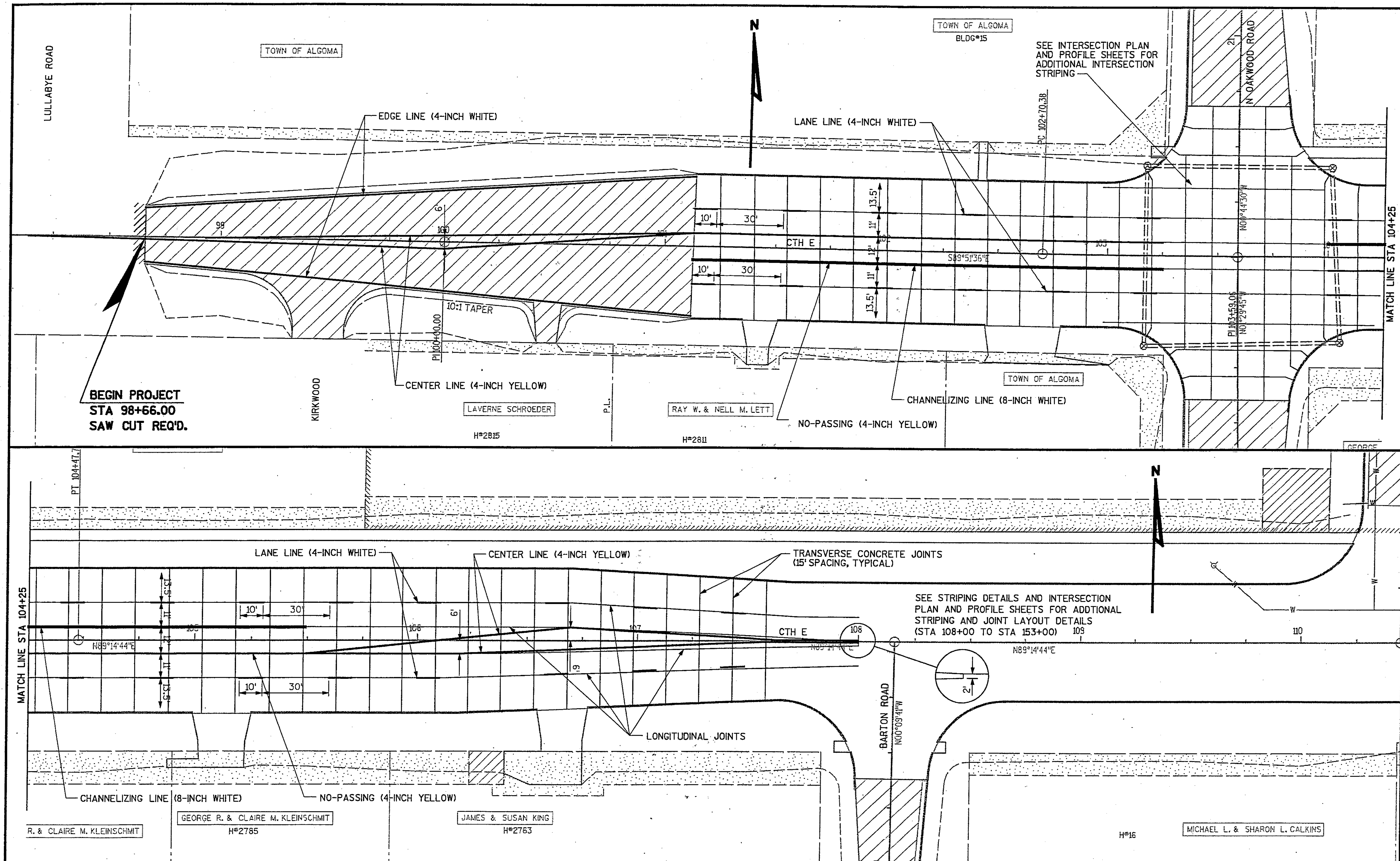
LULLABYE ROAD
TOWN OF ALGOMA
TOWN OF ALGOMA
BLDG#15
N
SEE INTERSECTION PLAN AND PROFILE SHEETS FOR ADDITIONAL INTERSECTION STRIPING
N OAKWOOD ROAD
EDGE LINE (4-INCH WHITE)
LANE LINE (4-INCH WHITE)
PC 102+70.38
13.5'
11'
12'
11'
13.5'
10'
30'
10'
30
CTH E
S89°51'36"E
N00°44'30"W
PI 103+59.05
MATCH LINE STA 104+25
10:1 TAPER
PI 100+00.00
CENTER LINE (4-INCH YELLOW)
CHANNELIZING LINE (8-INCH WHITE)
NO-PASSING (4-INCH YELLOW)
BEGIN PROJECT
STA 98+66.00
SAW CUT REQ'D.
KIRKWOOD
P.L.
LAVERNE SCHROEDER
H#2815
RAY W. & NELL M. LETT
H#2811
TOWN OF ALGOMA
PT 104+47.7
MATCH LINE STA 104+25
LANE LINE (4-INCH WHITE)
CENTER LINE (4-INCH YELLOW)
TRANSVERSE CONCRETE JOINTS (15' SPACING, TYPICAL)
SEE STRIPING DETAILS AND INTERSECTION PLAN AND PROFILE SHEETS FOR ADDTIONAL STRIPING AND JOINT LAYOUT DETAILS (STA 108+00 TO STA 153+00)
N89°14'44"E
CTH E
108
109
110
BARTON ROAD
N00°09'41"W
LONGITUDINAL JOINTS
CHANNELIZING LINE (8-INCH WHITE)
NO-PASSING (4-INCH YELLOW)
R. & CLAIRE M. KLEINSCHMIT
GEORGE R. & CLAIRE M. KLEINSCHMIT
H#2785
JAMES & SUSAN KING
H#2763
H#16
MICHAEL L. & SHARON L. CALKINS

STATE PROJECT NUMBER: 4994-01-09	HWY: CTH E	COUNTY: WINNEBAGO	PAVEMENT MARKING & JOINT LAYOUT	SCALE, FEET 0	SHEET NO: 14	E

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DATE 20NOV03

ESTIMATE OF QUANTITIES

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	4994-01-09 QUANTITY
0010	201.0105	CLEARING	STA	26.000	26.000
0020	201.0120	CLEARING	ID	66.000	66.000
0030	201.0205	GRUBBING	STA	26.000	26.000
0040	201.0220	GRUBBING	ID	66.000	66.000
0050	203.0100	REMOVING SMALL PIPE CULVERTS	EACH	46.000	46.000
0060	203.0200	REMOVING OLD STRUCTURE (STATION) 01. 138+42.84	LS	1.000	1.000
0070	204.0100	REMOVING PAVEMENT	SY	2,408.000	2,408.000
0080	204.0150	REMOVING CURB & GUTTER	LF	777.000	777.000
0090	204.0165	REMOVING GUARDRAIL	LF	568.000	568.000
0100	204.0210	REMOVING MANHOLES	EACH	1.000	1.000
0110	204.0220	REMOVING INLETS	EACH	6.000	6.000
0120	205.0100	EXCAVATION COMMON	CY	22,697.000	22,697.000
0130	206.1000	EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 01. B-70-64	LS	1.000	1.000
0140	208.0100	BORROW	CY	1,134.000	1,134.000
0150	210.0100	BACKFILL STRUCTURE	CY	520.000	520.000
0160	213.0100	FINISHING ROADWAY (PROJECT) 01. 4994-01-09	EACH	1.000	1.000
0170	301.0100.S	QMP BASE AGGREGATE	TON	17,330.000	17,330.000
0180	305.0110	BASE AGGREGATE DENSE 3/4-INCH	TON	380.000	380.000
0190	305.0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON	16,950.000	16,950.000
0200	311.0110	BREAKER RUN	TON	2,000.000	2,000.000
0210	415.0090	CONCRETE PAVEMENT 9-INCH	SY	30,191.000	30,191.000
0220	415.1195.S	QMP CONCRETE PAVEMENT URBAN	DAY	20.000	20.000
0230	415.2000.S	INCENTIVE STRENGTH CONCRETE PAVEMENT	DOL	8,454.000	8,454.000
0240	416.0050	CONCRETE PAVEMENT APPROACH SLAB	SY	164.000	164.000
0250	416.0160	CONCRETE DRIVEWAY 6-INCH	SY	1,745.000	1,745.000
0260	416.0610	PAVEMENT TIES	EACH	50.000	50.000
0270	416.0805	CONCRETE PAVEMENT GAPS	EACH	7.000	7.000
0280	455.0105	ASPHALTIC MATERIAL PG58-28	TON	89.000	89.000
0290	455.0605	TACK COAT	GAL	174.000	174.000
0300	460.1103	HMA PAVEMENT TYPE E-3	TON	1,490.000	1,490.000
0310	460.3000	QMP HMA MIXTURE	TON	1,490.000	1,490.000
0320	502.0100	CONCRETE MASONRY BRIDGES	CY	191.000	191.000
0330	502.0300.S	QMP CONCRETE STRUCTURES 5-CYLINDER	CY	205.000	205.000
0340	502.0400.S	INCENTIVE STRENGTH CONCRETE STRUCTURES	DOL	1,968.000	1,968.000
0350	502.3200	PROTECTIVE SURFACE TREATMENT	SY	495.000	495.000
0360	502.5010	MASONRY ANCHORS TYPE L NO. 6 BARS	EACH	32.000	32.000
0370	503.0145	PRESTRESSED GIRDER TYPE I 45-INCH	LF	246.000	246.000
0380	505.0405	BAR STEEL REINFORCEMENT HS BRIDGES	LB	3,520.000	3,520.000
0390	505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	33,680.000	33,680.000
0400	506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	8.000	8.000
0410	506.4000	STEEL DIAPHRAGMS (STRUCTURE) 01. B-70-64	EACH	4.000	4.000
0420	509.0301	PREPARATION DECKS TYPE 1	SY	11.000	11.000
0430	509.0302	PREPARATION DECKS TYPE 2	SY	5.000	5.000
0440	509.0500	CLEANING DECKS	SY	205.000	205.000
0450	509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	14.000	14.000
0460	511.2105	PILING STEEL DELIVERED AND DRIVEN HP 10-INCH X 42 LB	LF	480.000	480.000
0470	511.3000	PILE POINTS	EACH	12.000	12.000
0480	513.4050	RAILING TUBULAR TYPE F (STRUCTURE) 01. B-70-64	LS	1.000	1.000

DATE 20NOV03 — ESTIMATE OF QUANTITIES

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	4994-01-09 QUANTITY
0490	516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	26.000	26.000
0500	521.0112	CULVERT PIPE CORRUGATED STEEL 12-INCH	LF	565.000	565.000
0510	521.0118	CULVERT PIPE CORRUGATED STEEL 18-INCH	LF	415.000	415.000
0520	521.0721	PIPE ARCH CORRUGATED STEEL 21X15-INCH	LF	40.000	40.000
0530	521.1012	APRON ENDWALLS FOR CULVERT PIPE STEEL 12-INCH	EACH	6.000	6.000
0540	521.1018	APRON ENDWALLS FOR CULVERT PIPE STEEL 18-INCH	EACH	2.000	2.000
0550	521.1221	APRON ENDWALLS FOR PIPE ARCH STEEL 21X15-INCH	EACH	2.000	2.000
0560	522.1012	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 12-INCH	EACH	2.000	2.000
0570	522.1018	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 18-INCH	EACH	2.000	2.000
0580	522.1030	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 30-INCH	EACH	1.000	1.000
0590	522.1054	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 54-INCH	EACH	1.000	1.000
0600	601.0411	CONCRETE CURB & GUTTER 30-INCH TYPE D	LF	1,165.000	1,165.000
0610	601.0452	CONCRETE CURB & GUTTER INTEGRAL 30-INCH TYPE D	LF	10,143.000	10,143.000
0620	602.0405	CONCRETE SIDEWALK 4-INCH	SF	36,370.000	36,370.000
0630	602.0501.S	CURB RAMP DETECTABLE WARNING FIELD 01.	SF	160.000	160.000
0640	606.0200	RIPRAP MEDIUM	CY	30.000	30.000
0650	606.0300	RIPRAP HEAVY	CY	254.000	254.000
0660	608.0312	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 12-INCH	LF	2,228.000	2,228.000
0670	608.0318	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 18-INCH	LF	651.000	651.000
0680	608.0324	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 24-INCH	LF	949.000	949.000
0690	608.0330	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 30-INCH	LF	95.000	95.000
0700	608.0336	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 36-INCH	LF	1,026.000	1,026.000
0710	608.0342	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 42-INCH	LF	294.000	294.000
0720	608.0348	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 48-INCH	LF	774.000	774.000
0730	608.0354	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 54-INCH	LF	238.000	238.000
0740	610.0143	STORM SEWER PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-III 43X68-INCH	LF	419.000	419.000
0750	611.0101	CATCH BASINS TYPE 1	EACH	2.000	2.000
0760	611.0103	CATCH BASINS TYPE 2	EACH	7.000	7.000
0770	611.0105	CATCH BASINS TYPE 3	EACH	46.000	46.000
0780	611.0201	MANHOLES TYPE 1	EACH	9.000	9.000
0790	611.0210	MANHOLES TYPE 3	EACH	14.000	14.000
0800	611.0303	INLETS TYPE 3	EACH	4.000	4.000
0810	611.0420	RECONSTRUCTING MANHOLES	EACH	8.000	8.000
0820	611.0535	MANHOLE COVERS TYPE J-SPECIAL	EACH	33.000	33.000
0830	611.0612	INLET COVERS TYPE C	EACH	16.000	16.000
0840	611.0624	INLET COVERS TYPE H	EACH	43.000	43.000
0850	611.8110	ADJUSTING MANHOLE COVERS	EACH	16.000	16.000
0860	612.0206	PIPE UNDERDRAIN UNPERFORATED 6-INCH	LF	975.000	975.000

DATE 20NOV03

ESTIMATE OF QUANTITIES

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	4994-01-09 QUANTITY
0870	616.0404	FENCE CHAIN LINK SALVAGED 4-FT.	LF	300.000	300.000
0880	619.1000	MOBILIZATION	EACH	1.000	1.000
0890	624.0100	WATER	MGAL	175.000	175.000
0900	627.0200	MULCHING	SY	34,630.000	34,630.000
0910	628.1505	SILT FENCE DELIVERED	LF	2,740.000	2,740.000
0920	628.1510	SILT FENCE INSTALLED	LF	2,740.000	2,740.000
0930	628.1520	SILT FENCE MAINTENANCE	LF	1,370.000	1,370.000
0940	628.1905	MOBILIZATIONS EROSION CONTROL	EACH	3.000	3.000
0950	628.1910	MOBILIZATIONS EMERGENCY EROSION CONTROL	EACH	3.000	3.000
0960	628.2005	EROSION MAT DELIVERED CLASS I TYPE A	SY	1,250.000	1,250.000
0970	628.3005	EROSION MAT INSTALLED CLASS I TYPE A	SY	1,250.000	1,250.000
0980	628.7005	INLET PROTECTION TYPE A	EACH	16.000	16.000
0990	628.7015	INLET PROTECTION TYPE C	EACH	43.000	43.000
1000	629.0210	FERTILIZER TYPE B	CWT	22.200	22.200
1010	630.0140	SEEDING MIXTURE NO. 40	LB	900.000	900.000
1020	630.0200	SEEDING TEMPORARY	LB	230.000	230.000
1030	642.5000	FIELD OFFICE TYPE B (PROJECT) 01. 4994-01-09	EACH	1.000	1.000
1040	643.0100	TRAFFIC CONTROL (PROJECT) 01. 4994-01-09	EACH	1.000	1.000
1050	643.0300	TRAFFIC CONTROL DRUMS	DAYS	13,650.000	13,650.000
1060	645.0120	GEOTEXTILE FABRIC TYPE HR	SY	505.000	505.000
1070	646.0106	PAVEMENT MARKING EPOXY 4-INCH	LF	13,780.000	13,780.000
1080	646.0226	PAVEMENT MARKING CHANNELIZING EPOXY 8-INCH	LF	365.000	365.000
1090	647.0166	PAVEMENT MARKING ARROWS EPOXY TYPE 2	EACH	4.000	4.000
1100	647.0356	PAVEMENT MARKING WORDS EPOXY	EACH	4.000	4.000
1110	647.0556	PAVEMENT MARKING STOP LINE EPOXY 12-INCH	LF	196.000	196.000
1120	647.0766	PAVEMENT MARKING CROSSWALK EPOXY 6-INCH	LF	576.000	576.000
1130	650.4000	CONSTRUCTION STAKING STORM SEWER SYSTEM	EACH	104.000	104.000
1140	650.4500	CONSTRUCTION STAKING SUBGRADE	LF	6,749.000	6,749.000
1150	650.5000	CONSTRUCTION STAKING BASE	LF	1,356.000	1,356.000
1160	650.5500	CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER	LF	1,165.000	1,165.000
1170	650.6000	CONSTRUCTION STAKING PIPE CULVERTS	EACH	2.000	2.000
1180	650.6500	CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 01. B-70-64	LS	1.000	1.000
1190	650.7000	CONSTRUCTION STAKING CONCRETE PAVEMENT	LF	5,088.000	5,088.000
1200	650.8500	CONSTRUCTION STAKING ELECTRICAL INSTALLATIONS (PROJECT) 01. 4994-01-09	LS	1.000	1.000
1210	650.9900	CONSTRUCTION STAKING INITIAL LAYOUT	LF	6,815.000	6,815.000
1220	652.0310	CONDUIT RIGID NONMETALLIC SCHEDULE 80 1-INCH	LF	322.000	322.000
1230	652.0335	CONDUIT RIGID NONMETALLIC SCHEDULE 80 3-INCH	LF	820.000	820.000
1240	652.0800	CONDUIT LOOP DETECTOR	LF	586.000	586.000
1250	653.0115	PULL BOXES STEEL 12X36-INCH	EACH	6.000	6.000
1260	653.0135	PULL BOXES STEEL 24X36-INCH	EACH	8.000	8.000
1270	654.0102	CONCRETE BASES TYPE 2	EACH	4.000	4.000
1280	654.0105	CONCRETE BASES TYPE 5	EACH	4.000	4.000
1290	654.0215	CONCRETE CONTROL CABINET BASES TYPE 9	EACH	1.000	1.000
1300	690.0100	SAWING EXISTING PAVEMENT	LF	702.000	702.000
1310	690.0200	SAWING CONCRETE PAVEMENT FULL DEPTH	LF	437.000	437.000
1320	SPV.0060	SPECIAL 01. MANHOLE TYPE 1, SPECIAL	EACH	6.000	6.000
1330	SPV.0060	SPECIAL 02. MANHOLE 5' X 7' BOX SPECIAL	EACH	4.000	4.000

DATE 20NOV03 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	4994-01-09 QUANTITY
1340	SPV.0090	SPECIAL 01. CONCRETE CURB AND GUTTER INTEGRAL 36-INCH TYPE D SPECIAL	LF	1,220.000	1,220.000
1350	SPV.0180	SPECIAL 01. SEALING JOINTS SPECIAL	SY	30,191.000	30,191.000
1360	SPV.0180	SPECIAL 02. PULVERIZED TOPSOIL SPECIAL	SY	34,630.000	34,630.000

CLEARING AND GRUBBING

STATION	LOCATION	201.0105 CLEARING STA	201.0120 CLEARING ID	201.0205 GRUBBING STA	201.0220 GRUBBING ID
111+00 TO 113+00	CTH E	2		2	
116+17	CTH E		30		30
118+00 TO 125+00	CTH E	7		7	
131+00 TO 134+00	CTH E	3		3	
135+00 TO 143+00	CTH E	8		8	
141+00 TO 143+00	CTH E	2		2	
144+00 TO 145+00	CTH E	1		1	
144+83	CTH E		18		18
146+00 TO 149+00	CTH E	3		3	
149+80	CTH E		18		18
TOTAL		26	66	26	66

REMOVING SMALL PIPE CULVERTS

STATION	LOCATION	DESCRIPTION	203.0100 EACH
100+50, RT	CTH E	12" X 21" X 28' CMPA	1
101+43, RT	CTH E	14" x 24" x 28' CMPA	1
102+41, LT	CTH E	15" x 15' CMP	1
102+45, RT	CTH E	15" x 26" x 36' CMCA	1
103+00, LT	CTH E	18" x 26" CMCP	1
103+60, LT	CTH E	18" x 59' CMCP	1
103+60, RT	CTH E	12" x 24" x 53' CMPE	1
105+12, RT	CTH E	18" x 25' CMCP	1
106+66, RT	CTH E	18" x 25' CMCP	1
108+20, RT	CTH E	18" x 36' CMCP	1
109+95, LT	CTH E	15" x 41' CMCP	1
110+05, LT	CTH E	10" x 53' PCP	1
110+45, LT	CTH E	24" x 32" X 44' CMPE	1
111+34, RT	CTH E	18" x 29' CMCP	1
111+70, RT	CTH E	18" x 29' CMCP	1
112+40, LT	CTH E	20" x 28" X 36' CMCA	1
112+80, RT	CTH E	18" x 28' CMCP	1
114+97, LT	CTH E	20" x 36" x 38' CMCA	1
116+00, LT	CTH E	20" x 28" X 38" CMCA	1
117+08, LT	CTH E	20" x 28" x 33' CMCA	1
117+94, RT	CTH E	20" x 28" x 30' CMCA	1
120+40, LT	CTH E	20" x 30" x 30' CMCA	1
122+10, LT	CTH E	20" x 30" X 36' CMCA	1
123+78, LT	CTH E	24" X 36' CMCP	1
124+90, LT	CTH E	24" X 41' CMCP	1
126+32, LT	CTH E	24" x 65' CMCP	1
126+32, RT	CTH E	24" x 82' CMCP	1
127+97, LT	CTH E	30" x 34' CMCP	1
130+00, LT	CTH E	30" x 36' CMCP	1
131+67, RT	CTH E	30" x 18" x 24' CMCA	1
132+09, LT	CTH E	10" x 12' PCP	1
132+44, RT	CTH E	30" x 18" x 24' CMCA	1
132+95, RT	CTH E	30" x 18" x 24' CMCA	1
133+87, RT	CTH E	30" x 18" x 24' CMCA	1
134+26, LT	CTH E	32" x 50" x 80' CMCA	1
134+72, RT	CTH E	21" x 34" x 26' CMCA	1
140+59, RT	CTH E	18" x 108' RCCP	1
141+60, LT	CTH E	18" x 30' CMCP	1
143+07, LT	CTH E	18" x 60' CMCP	1
144+00, RT	CTH E	18" x 28' CMCP	1
145+37, LT	CTH E	15" x 28" CMCP	1
147+62, LT	CTH E	15" x 30' CMCP	1
148+92, LT	CTH E	15" x 30' CMCP	1
150+13, LT	CTH E	18" x 30' CMCP	1
151+04, LT	CTH E	18" x 48' CMCP	1
152+00, LT	CTH E	12" x 26" x 30' CMCE	1
TOTAL			46

REMOVING PAVEMENT

STA-STA	LOCATION	204.0100 QUANTITY S.Y.
152+48.48 - 153+00	CTH E	291
N SIDE	WESTHAVEN	511
S SIDE	WESTHAVEN	403
60+25 - 61+00	LAKE PT DRIVE	389
69+22.54 - 69+75	GRACELAND	349
80+25 - 81+25	WESTBROOK	465
		2408

NOTE: UNLESS OTHERWISE SPECIFIED, REMOVING PAVEMENT INCLUDES REMOVING INPLACE INTEGRAL CURB AND GUTTER.

REMOVE CURB AND GUTTER

LOCATION	STATION	204.0150 L.F.
CTH E	137+96 TO 138+12 LT & RT	32
OAKWOOD DRIVE	18+40 TO 18+62, LT	22
OAKWOOD DRIVE	20+19 TO 21+64	158
WYLDEWOOD DRIVE	90+30 TO 92+25, LT & RT	390
LAKE POINT DRIVE	MEDIAN	77
WAL-MART DRIVEWAY	151+20, RT	130
	TOTAL	777

REMOVING GUARDRAIL

STATION	LOCATION	DESCRIPTION	204.0165 QUANTITY L.F.
136+87 - 138+04 RT	CTH E	PLATE BEAM	117
138+83 - 140+99, RT	CTH E	PLATE BEAM	216
136+84 - 138+02, LT	CTH E	PLATE BEAM	118
138+83 - 140+00, LT	CTH E	PLATE BEAM	117
			568

REMOVING MANHOLE

STATION	LOCATION	TYPE	204.0210 QUANTITY EACH
103+27, CTH E	38' LT	STORM MANHOLE	1

REMOVING INLETS

STATION	LOCATION	204.0220 EACH
110+23, LT	CTH E	1
110+67, LT	CTH E	1
137+98, LT	CTH E	1
137+98, RT	CTH E	1
152+00, LT	CTH E	1
152+00, RT	CTH E	1
TOTAL		6

ALL ITEMS ARE GROUP CODE 0010 UNLESS OTHERWISE NOTED

EARTHWORK SUMMARY

LOCATION	205.0100 EXC COMMON C.Y.	FILL C.Y.	EXPANDED FILL	BORROW C.Y.	EBS C.Y.
CTH E	17583	18091	23519	1134	----
OAKWOOD	1789	54	70	----	----
BARTON	250	3	4	----	----
MARYDEN	340	5	7	----	----
WYLDEWOOD	500	50	64	----	----
WESTHAVEN	1375	36	47	----	----
LAKE PT DRIVE	460	50	64	----	----
GRACELAND	125	37	48	----	----
WESTBROOK	275	6	8	----	----
UNDISTRIBUTED	----	----	----	----	1000
TOTAL	22697**	18332	23831	1134	1000**

NOTE: EXPANSION FACTOR FOR FILL 1.30
** TOTAL EXCAVATION = 23,697 C.Y.

BASE AGGREGATE DENSE

LOCATION	305.0110 ¾INCH QUANTITY TONS	305.0120 1¼INCH QUANTITY TONS	624.0100 WATER MGAL
CTH E	105	12840	130
OAKWOOD	50	715	8
BARTON	40	225	3
MARYDEN	40	230	3
WYLDEWOOD		425	5
WESTHAVEN		400	4
LAKE PT DRIVE		165	2
GRACELAND		100	1
WESTBROOK		150	2
DRIVEWAYS	145	800	8
SIDEWALKS		900	9
TOTALS	380	16950	175

QMP SUMMARY

305.0199.S BASE AGGREGATE TON	415.1195.S CONCRETE PAVEMENT URBAN DAY
17330	20

BREAKER RUN STONE

LOCATION	311.0110 QUANTITY TON	REMARKS
CTH E	2000	TO BE USED AS EBS BACKFILL AS DIRECTED BY THE ENGINEER

CONCRETE PAVEMENT, 9-INCH

LOCATION	415.0090 QUANTITY S.Y.
CTH E	27084
OAKWOOD ROAD	490
BARTON ROAD	178
MARYDEN ROAD	176
WYDLWOOD DRIVE	194
WESTHAVEN DRIVE	1014
LAKE PT DRIVE	424
GRACELAND ROAD	263
WESTBROOK ROAD	368
TOTAL	30191

CONCRETE PAVEMENT APPROACH SLAB

STATION	LOCATION	416.0050 QUANTITY S.Y.
138+12	CTH E	82
138+73.86	CTH E	82
TOTAL		164

CONCRETE DRIVEWAY 6-INCH

LOCATION	STATION		416.0160 QUANTITY S.Y.
CTH E	101+40	RT	23
CTH E	105+13	RT	85
CTH E	102+60	RT	45
CTH E	106+55	RT	112
CTH E	111+34	RT	27
CTH E	111+70	RT	29
CTH E	112+40	LT	62
CTH E	112+89	RT	57
CTH E	115+94	LT	54
CTH E	117+08	LT	72
CTH E	117+91	RT	73
CTH E	120+41	LT	33
CTH E	122+09	LT	85
CTH E	123+78	LT	58
CTH E	124+95	LT	121
CTH E	127+98	LT	84
CTH E	129+97	LT	72
CTH E	131+70	RT	46
CTH E	132+46	RT	62
CTH E	132+94	RT	74
CTH E	133+87	RT	68
CTH E	134+72	RT	52
CTH E	141+61	LT	66
CTH E	143+96	RT	56
CTH E	145+39	LT	49
CTH E	146+15	LT	52
CTH E	147+63	LT	42
CTH E	148+92	LT	36
WESTBROOK	80+85	RT	25
WESTBROOK	80+92	LT	24
	TOTAL		1745

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PAVEMENT TIES

LOCATION	STATION	416.0610 QUANTITY EACH
WESTHAVEN ROAD	48+70	11
WESTHAVEN ROAD	51+40	11
LAKE POINT DRIVE	61+00	10
GRACELAND	69+22.54	10
WESTBROOK	81+25	8
TOTAL		50

PAVEMENT GAPS

LOCATION	416.0805 QUANTITY EACH
122+09 LT, CTH E	1
143+96 RT, CTH E	1
19+40 TO 20+65, RT	1
29+40 TO 30+00 RT, BARTON ROAD	1
40+00 TO 40+60 RT, MARYDEN ROAD	1
80+00 TO 81+25 RT, WESTBROOK ROAD	1
48+70 TO 51+40 RT, WESTHAVEN DRIVE	1
TOTAL	7

ASPHALTIC SUMMARY

LOCATION	455.0105 ASPHALTIC MATERIAL PG 58-28 6% TON	455.0605 TACK COAT GAL.	460.1103 HMA PAVEMENT TYPE E-3 (TON)
CTH E	52	117	860
OAKWOOD ROAD	13	23	220
BARTON ROAD	3	5	50
MARYDEN ROAD	3	5	50
WYDLEWOOD DRIVE	8	15	140
DRIVEWAYS	10	9	170
TOTAL	89	174	1490

CULVERT PIPE

STATION	LOCATION	521.0112 12-INCH * L.F.	521.0721 21X15-INCH L.F.	TYPE	521.1012 12-INCH APRON ENDWALLS * EACH	521.1221 21X15-INCH APRON ENDWALLS* EACH	INLET ELEVATION	OUTLET ELEVATION
100+50	CTH E	-	40	CSPA	-	2	789.7	789.0
141+61	CTH E	40	-	CSCP	2	-	773.1	772.0

* ADDITIONAL QUANTITIES SHOWN ELSEWHERE

CONCRETE CURB AND GUTTER

LOCATION	STATION	601.0411 30-INCH TYPE D L.F.	601.0452 INTEGRAL, 30-INCH TYPE D L.F.	SPV.0090.01 INTEGRAL, 36-INCH TYPE D, SPECIAL L.F.
CTH E	101+13 TO 150+00, LT & RT		9602	
CTH E	150+00 TO 153+00, LT & RT	600		
OAKWOOD	18+40 TO 19+76, LT	95		122
OAKWOOD	20+24 TO 21+64, LT	95		122
BARTON ROAD	28+80 TO 29+39	55		122
WYLDEWOOD	90+60 TO 92+25, LT & RT	320		122
MARYDEN	40+24 TO 40+67, LT & RT			122
WESTHAVEN	48+70 TO 49+39, LT & RT		146	122
WESTHAVEN	50+62 TO 51+40, LT & RT		146	122
LAKE PT	60+62 TO 61+00, LT & RT		69	122
LAKE PT	MEDIAN		32	
GRACELAND	69+22.54 TO 69+38.54, LT & RT		26	122
WESTBROOK	80+59 TO 81+25, LT & RT		122	122
TOTAL		1165	10143	1220

CONCRETE SIDEWALK, 4-INCH

LOCATION	602.0405 QUANTITY S.F.
CTH E, LT	18915
CTHE, RT	16920
WESTHAVEN	410
LAKE POINT DRIVE	75
GRACELAND	50
TOTAL	36370

CURB RAMP DETECTABLE WARNING FIELD

LOCATION	602.0501.S QUANTITY S.F.
BARTON RD	16
WYLDEWOOD RD	16
MARYDEN RD	16
WESTHAVEN RD	48
LAKE POINT DR	16
GRACELAND	16
WESTBROOK	32
TOTAL	160

FENCE CHAIN LINK SALVAGED 4-FT

STATION	LOCATION	DESCRIPTION	QUANTITY 616.0404 L.F.
100+20 TO 103+20	CTH E	CHAIN LINK	300

SUMMARY OF MANHOLES, INLETS, CATCH BASINS AND COVERS

MANHOLES				INLETS	CATCH BASINS			611.0535 COVERS	611.0612 COVERS	611.0624 COVERS
611.0201 TYPE 1	611.0210 TYPE 3	SPV.0060.01 TYPE 1 S.P.	SPV.0060.02 5' X 7' BOX S.P.	611.0303 TYPE 3	611.0101 TYPE 1	611.0103 TYPE 3	611.0105 TYPE 3	MANHOLE TYPE J-S	INLET TYPE C	INLET TYPE H
9	14	6	4	4	2	7	46	33	16	43

SUMMARY OF STORM SEWER QUANTITIES

RCP CLASS III									521.0112 CMCP	521.0118 CMCP	522.1012 APRON ENDWALLS	522.1018 APRON ENDWALLS	522.1030 APRON ENDWALLS	522.1054 APRON ENDWALLS	521.1012 CMCP	521.1018 CMCP	JOINT TIES
608.0312	608.0318	608.0324	608.0330	608.0336	608.0342	608.0348	608.0354	610.0143			REINFORCED CONC.						
12" L.F.	18" L.F.	24" L.F.	30" L.F.	36" L.F.	42" L.F.	48" L.F.	54" L.F.	43" x 68" L.F.	12" L.F.	18" L.F.	12" EACH	18" EACH	30" EACH	54" EACH	12" EACH	18" EACH	EACH
2228	651	949	95	1026	294	774	238	419	525	415	2	2	1	1	4	2	48

ALL ITEMS ARE GROUP CODE 0010 UNLESS OTHERWISE NOTED

STATE PROJECT NUMBER: 4994-01-09	HWY: CTH E	COUNTY: WINNEBAGO	MISCELLANEOUS QUANTITIES	SCALE, FEET 0 N/A	SHEET NO: 21	E

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STORM SEWER SUMMARY

LOCATION FROM	LOCATION TO	DIAMETER 12" L.F.	18" L.F.	24" L.F.	30" L.F.	36" L.F.	42" L.F.	48" L.F.	54" L.F.	H.E. 43x68 L.F.	TYPE	INLET	DISCHARGE	SLOPE (%)	REMARKS
1	2		199								CMCP	788.50	786.76	1.12	1 IS METAL ENDWALL
2	6		7								CMCP	786.66	786.59	1.00	
3	4		202								CMCP	788.60	786.70	0.94	
4	5		7								CMCP	786.69	786.62	1.00	
5	7		15								RCP CLASS III STORM SEWER	785.15	785.00	1.00	
6	7		37								RCP CLASS III STORM SEWER	785.37	785.00	1.00	
7	11			98							RCP CLASS III STORM SEWER	784.20	783.24	0.98	
8	10		51								RCP CLASS III STORM SEWER	785.35	784.85	1.00	
9	10	13									CMCP	789.20	785.87	25.62	9 IS METAL ENDWALL
10	11		75								RCP CLASS III STORM SEWER	784.75	784.00	1.00	
11	13			233							RCP CLASS III STORM SEWER	783.24	780.82	1.04	
12	13	50									RCP CLASS III STORM SEWER	783.15	782.65	1.00	12 IS YARD DRAIN
13	15			131							RCP CLASS III STORM SEWER	780.82	779.42	1.07	
14	15	15									RCP CLASS III STORM SEWER	780.15	780.00	1.00	
15	18			236							RCP CLASS III STORM SEWER	779.42	776.91	1.06	
16	15	37									RCP CLASS III STORM SEWER	780.37	780.00	1.00	
17	18	15									RCP CLASS III STORM SEWER	777.55	777.4	1.00	
18	23					81					RCP CLASS III STORM SEWER	776.91	776.13	1.07	
19	18	37									RCP CLASS III STORM SEWER	777.77	777.40	1.00	
20	19	48									CMCP	782.00	779.62	4.96	20 IS METAL ENDWALL
21	22	31									RCP CLASS III STORM SEWER	777.97	777.66	1.00	
22	23	66									RCP CLASS III STORM SEWER	777.66	777	1.00	
23	25					373					RCP CLASS III STORM SEWER	776.13	771.38	1.27	
24	25	15									RCP CLASS III STORM SEWER	773.15	773	1.00	
25	29					98					RCP CLASS III STORM SEWER	771.38	770.86	0.53	
26	25	37									RCP CLASS III STORM SEWER	773.27	773	0.73	
27	26	48									CMCP	777.8	774.5	6.88	27 IS METAL ENDWALL
28	29	78									RCP CLASS III STORM SEWER	778.8	778.02	1.00	28 IS CONC ENDWALL
29	31					91					RCP CLASS III STORM SEWER	770.86	770.42	0.48	
30	31	69									RCP CLASS III STORM SEWER	775	774.31	1.00	30 IS YARD DRAIN
31	34					99					RCP CLASS III STORM SEWER	770.42	769.92	0.51	
32	33	42									CMCP	775.9	773.81	4.98	32 IS METAL ENDWALL
33	34	37									RCP CLASS III STORM SEWER	772.37	772	1.00	
34	39					284					RCP CLASS III STORM SEWER	769.92	768.51	0.50	
35	34	15									RCP CLASS III STORM SEWER	772.15	772	1.00	
36	35	35									CMCP	772.95	772.6	1.00	36 IS YARD DRAIN
37	38	87									CMCP	769.95	769.35	0.69	37 IS YARD DRAIN
38	39	15									RCP CLASS III STORM SEWER	769.25	769.15	0.67	
39	44						167				RCP CLASS III STORM SEWER	768.51	767.69	0.49	
40	39	37									RCP CLASS III STORM SEWER	770.5	770.13	1.00	
41	40	25									RCP CLASS III STORM SEWER	772.35	772.1	1.00	41 IS YARD DRAIN
42	43	40									CMCP	770.85	768.16	6.73	42 IS YARD DRAIN
43	44	37									RCP CLASS III STORM SEWER	768.06	767.69	1.00	
44	48						127				RCP CLASS III STORM SEWER	767.69	767.06	0.50	
45	44	15									RCP CLASS III STORM SEWER	767.84	767.69	1.00	
46	45	48									CMCP	769.25	767.94	2.73	46 IS YARD DRAIN
47	48	77									RCP CLASS III STORM SEWER	767.85	767.08	1.00	47 IS YARD DRAIN
48	50							138			RCP CLASS III STORM SEWER	767.06	766.37	0.50	
49	50	57									RCP CLASS III STORM SEWER	768.55	767.98	1.00	49 IS YARD DRAIN
50	52							124			RCP CLASS III STORM SEWER	766.37	765.76	0.49	
51	52	37									RCP CLASS III STORM SEWER	767.77	767.4	1.00	
52	56							103			RCP CLASS III STORM SEWER	765.76	765.25	0.50	
53	52	15									RCP CLASS III STORM SEWER	767.55	767.4	1.00	
54	55	39									RCP CLASS III STORM SEWER	767.67	767.28	1.00	
55	56	78									RCP CLASS III STORM SEWER	767.28	766.5	1.00	

ALL ITEMS ARE GROUP CODE 0010 UNLESS OTHERWISE NOTED

STORM SEWER SUMMARY

LOCATION FROM	LOCATION TO	DIAMETER 12" L.F.	18" L.F.	24" L.F.	30" L.F.	36" L.F.	42" L.F.	48" L.F.	54" L.F.	H.E. 43x68 L.F.	JOINT TIES EACH	TYPE	INLET	DISCHARGE	SLOPE (%)	REMARKS
56	58							274				RCP CLASS III STORM SEWER	765.25	764.51	0.27	
57	58	37										RCP CLASS III STORM SEWER	766.37	766	1.00	
58	61							135				RCP CLASS III STORM SEWER	764.51	764.14	0.27	
59	58	15										RCP CLASS III STORM SEWER	767.15	766	7.67	
60	61	15										RCP CLASS III STORM SEWER	765.95	765.8	1.00	
61	66									188		RCP CLASS III STORM SEWER	764.14	763.22	0.49	
62	61				37							RCP CLASS III STORM SEWER	766.17	765.8	1.00	
63	62				58						8	RCP CLASS III STORM SEWER	767	766.17	1.43	63 IS CONC ENDWALL
64	65	45										CMCP	766.35	765.9	1.00	64 IS YARD DRAIN
65	66	51										RCP CLASS III STORM SEWER	765.9	765.39	1.00	65 IS YARD DRAIN
66	72									85		RCP CLASS III STORM SEWER	763.22	763.13	0.11	
67	68	67										CMCP	766.23	765.88	0.52	67 IS YARD DRAIN
68	69	10										RCP CLASS III STORM SEWER	764.8	764.7	1.00	
69	71			60								RCP CLASS III STORM SEWER	764.7	764.1	1.00	
70	71	10										RCP CLASS III STORM SEWER	764.2	764.1	1.00	
71	72			8								RCP CLASS III STORM SEWER	764.1	764	1.25	
72	75									146		RCP CLASS III STORM SEWER	763.13	763	0.09	
73	74	56										RCP CLASS III STORM SEWER	765.03	764.47	1.00	
74	75	47										RCP CLASS III STORM SEWER	764.47	764	1.00	
75	79								238		8	RCP CLASS III STORM SEWER	763	762.76	0.10	79 IS CONC ENDWALL
76	77	52										CMCP	766	764.62	2.65	76 IS YARD DRAIN
77	78	52										RCP CLASS III STORM SEWER	764.62	764.1	1.00	
78	75	8										RCP CLASS III STORM SEWER	764.1	764	1.25	
80	81	52										RCP CLASS III STORM SEWER	769.27	768.75	1.00	
81	82	42									8	RCP CLASS III STORM SEWER	768.75	765	8.93	82 IS CONC ENDWALL
83	85	35										RCP CLASS III STORM SEWER	768.69	768.32	1.06	
84	85	38										RCP CLASS III STORM SEWER	768.69	768.32	0.97	84 IS EXISTING MANHOLE
85	86	8										RCP CLASS III STORM SEWER	768.32	768.2	1.50	
86	87	37										RCP CLASS III STORM SEWER	768.2	767.82	1.03	
87	88			16								RCP CLASS III STORM SEWER	767.82	767.67	0.94	
88	89			10								RCP CLASS III STORM SEWER	767.67	767.57	1.00	
89	90			157							8	RCP CLASS III STORM SEWER	767.57	766.5	0.68	90 IS CONC ENDWALL
91	93	15										RCP CLASS III STORM SEWER	770.24	769.87	1.00	
92	93	37										RCP CLASS III STORM SEWER	770.02	769.87	1.00	
93	87		238									RCP CLASS III STORM SEWER	769.85	767.92	0.81	
94	93	297										RCP CLASS III STORM SEWER	771.34	769.85	0.50	
95	97	212										RCP CLASS III STORM SEWER	771.82	770.4	0.67	
96	97	34										RCP CLASS III STORM SEWER	771.10	770.76	1.00	96 IS YARD DRAIN
97	100	69										RCP CLASS III STORM SEWER	770.4	769.8	0.76	
98	99	10										RCP CLASS III STORM SEWER	770.2	770.09	1.10	
99	100	45									8	RCP CLASS III STORM SEWER	771.1	770.65	1.00	
99	100	15										RCP CLASS III STORM SEWER	770.09	769.94	1.00	
100	103		164									RCP CLASS III STORM SEWER	769.8	769.03	0.50	
101	102	10										RCP CLASS III STORM SEWER	770.41	770.31	1.00	
102	100	37									8	RCP CLASS III STORM SEWER	770.31	769.94	1.00	
103	104		71									RCP CLASS III STORM SEWER	769.03	768.5	0.75	104 IS CONC ENDWALL
TOTALS RCP		2228	651	949	95	1026	294	774	238	419	48	RCP CLASS III STORM SEWER				
TOTALS CMCP		525	415									CMCP				

ALL ITEMS ARE GROUP CODE 0010 UNLESS OTHERWISE NOTED

STATE PROJECT NUMBER: 4994-01-09	HWY: CTH E	COUNTY: WINNEBAGO	MISCELLANEOUS QUANTITIES	SCALE, FEET 0 N/A	SHEET NO: 23	E

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MANHOLES, CATCH BASINS AND COVERS

STRUCTURE NUMBER	STATION	LOCATION	STRUCTURE	DISTANCE LT/RT	TYPE	COVER	PAVEMENT ELEVATION	FLOWLINE	DEPTH FEET
1	101+00	CTH E	ENDWALL	43'LT	---	---	---	788.5	---
2	102+99	CTH E	MANHOLE	33' LT	1 S.P.	J-S	790.83	786.66	2.92
3	101+00	CTH E	CATCH BASIN	40' RT	2	C	---	789	---
4	103+02	CTH E	MANHOLE	34.4' RT	1 S.P.	J-S	790.86	786.69	2.92
5	103+01.6	CTH E	CATCH BASIN	26' RT	2	H	790.16	785.15	4.01
6	102+99.3	CTH E	CATCH BASIN	26' LT	2	H	790.19	785.37	3.82
7	103+02	CTH E	MANHOLE	11' RT	1	J-S	790.43	784.20	4.98
8	20+62.5	OAKWOOD	CATCH BASIN	23.5' LT	3	H	789.62	786.37	2.25
9	20+75.2	OAKWOOD	ENDWALL	25' RT	---	---	---	789.2	---
10	20+62.9	OAKWOOD	MANHOLE	26.7' RT	1	J-S	789.9	784.75	3.9
11	104+00	CTH E	MANHOLE	11' RT	1 S.P.	J-S	789.47	783.24	4.98
12	106+33	CTH E	CATCH BASIN	61' RT	3	C	786.4	783.15	2.25
13	106+33	CTH E	MANHOLE	11' RT	1	J-S	787.05	780.82	4.98
14	107+64.2	CTH E	CATCH BASIN	26' RT	3	H	785.38	780.15	4.23
15	107+64	CTH E	MANHOLE	11' RT	1	J-S	785.65	779.42	4.98
16	107+64	CTH E	CATCH BASIN	26' LT	3	H	785.38	780.37	4.01
17	109+92.2	CTH E	CATCH BASIN	26' RT	3	H	782.96	777.55	4.41
18	109+92.2	CTH E	MANHOLE	11' RT	3	J-S	783.23	776.91	5.32
19	109+92.2	CTH E	CATCH BASIN	11' LT	3	H	782.96	777.77	4.19
20	109+90	CTH E	ENDWALL	74' LT	---	---	---	782	---
21	90+60.8	WYLDEWOOD	CATCH BASIN	15.5' LT	3	H	782.29	777.97	3.32
22	90+62.3	WYLDEWOOD	CATCH BASIN	15.5' RT	3	H	782.31	777.66	3.65
23	110+73	CTH E	MANHOLE	11' RT	3	J-S	782.36	776.13	4.98
24	114+46	CTH E	CATCH BASIN	26' RT	3	H	778.42	773.15	4.28
25	114+46	CTH E	MANHOLE	11' RT	3	J-S	778.7	771.38	6.07
26	114+46	CTH E	CATCH BASIN	26' LT	3	H	778.43	773.37	4.06
27	40+65	MARYDEN	ENDWALL	15.5' RT	---	---	---	777.8	---
28	40+65	MARYDEN	ENDWALL	15.5' LT	---	---	---	77738	---
29	115+44	CTH E	MANHOLE	11' RT	3	J-S	778.17	770.86	6.06
30	116+35	CTH E	CATCH BASIN	59' LT	3	C	778.3	775	2.3
31	116+35	CTH E	MANHOLE	11' RT	3	J-S	777.71	770.42	6.04
32	117+34	CTH E	ENDWALL	68' LT	---	---	---	775.9	---
33	117+34	CTH E	CATCH BASIN	26' LT	3	H	776.94	772	3.94
34	117+34	CTH E	MANHOLE	11' RT	3	J-S	777.21	769.92	6.04
35	117+34	CTH E	CATCH BASIN	26' RT	3	H	776.94	772	3.94
36	117+34	CTH E	CATCH BASIN	61' LT	3	C	776.2	772.95	2.25
37	119+71	CTH E	CATCH BASIN	61' RT	3	C	773.2	769.95	2.25
38	120+18	CTH E	CATCH BASIN	26' RT	2	H	775.53	769.25	5.28
39	120+18	CTH E	MANHOLE	11' RT	3	J-S	775.8	768.51	6.04
40	120+18	CTH E	CATCH BASIN	26' LT	3	H	775.53	770.5	4.03
41	120+18	CTH E	CATCH BASIN	51' LT	3	C	775.6	772.35	2.25
42	121+85	CTH E	CATCH BASIN	66' LT	3	C	774.1	770.85	2.25
43	121+85	CTH E	CATCH BASIN	26' LT	3	H	774.69	768.06	5.63
44	121+85	CTH E	MANHOLE	11' RT	3	J-S	774.96	767.69	6.02
45	121+85	CTH E	CATCH BASIN	26' RT	3	H	774.69	767.84	5.85
46	122+02	CTH E	CATCH BASIN	70' RT	3	C	772.5	769.25	2.25
47	123+12	CTH E	CATCH BASIN	68' LT	3	C	773.5	767.85	4.65
48	123+12	CTH E	MANHOLE	11' RT	3	J-S	774.33	767.06	6.02
49	124+50	CTH E	CATCH BASIN	68' RT	3	C	771.8	768.55	2.25
50	124+50	CTH E	MANHOLE	11' RT	3	J-S	773.64	766.37	6.02
51	125+74.4	CTH E	CATCH BASIN	26' LT	3	H	772.85	767.77	4.08
52	125+74	CTH E	MANHOLE	11' RT	3	J-S	773.02	765.76	6.01
53	125+73.7	CTH E	CATCH BASIN	26' RT	3	H	772.85	767.55	4.3
54	50+62.1	WESTHAVEN	CATCH BASIN	19.5' LT	3	H	772.27	767.67	3.6
55	50+61.8	WESTHAVEN	CATCH BASIN	19.5' RT	2	H	772.67	767.28	3.39

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MANHOLES, CATCH BASINS AND COVERS

STRUCTURE NUMBER	STATION	LOCATION	STRUCTURE	DISTANCE LT/RT	TYPE	COVER	PAVEMENT ELEVATION	FLOWLINE	DEPTH FEET
56	126+76.6	CTH E	MANHOLE	11' RT	3	J-S	772.51	765.25	6.01
57	129+50	CTH E	CATCH BASIN	26' LT	3	H	770.88	766.37	3.51
58	129+50	CTH E	MANHOLE	11' RT	3	J-S	771.15	764.51	5.39
59	129+50	CTH E	CATCH BASIN	26' RT	3	H	770.88	766.15	3.73
60	130+85	CTH E	CATCH BASIN	26' RT	3	H	770.2	765.95	3.25
61	130+85	CTH E	MANHOLE	11' RT	5' X 7' BOX	J-S	770.47	764.14	5.08
62	130+85	CTH E	CATCH BASIN	26' LT	1	H	770.2	766.17	3.03
63	130+85	CTH E	ENDWALL	84' LT	---	---	---	767	---
64	132+28	CTH E	CATCH BASIN	58' RT	3	C	769.49	766.35	2.14
65	132+73	CTH E	CATCH BASIN	62' RT	3	C	769.49	765.9	2.59
66	132+73	CTH E	MANHOLE	11' RT	5' X 7' BOX	J-S	769.76	763.22	5.29
67	133+62	CTH E	CATCH BASIN	62' RT	3	C	769.48	766.23	2.25
68	133+53.8	CTH E	CATCH BASIN	26' RT	3	H	769.12	764.8	3.32
69	133+43.8	CTH E	CATCH BASIN	26' RT	2	H	769.12	764.7	3.42
70	133+53.8	CTH E	CATCH BASIN	26' LT	3	H	769.12	764.2	3.92
71	133+43.8	CTH E	CATCH BASIN	26' LT	3	H	769.12	764.1	4.02
72	133+43.8	CTH E	MANHOLE	34' LT	5' X 7' BOX	J-S	769.58	764.7	3.63
73	60+65.9	LAKE PT DR	CATCH BASIN	28.3' LT	3	H	769.42	765.03	3.39
74	60+65.9	LAKE PT DR	CATCH BASIN	27.4' RT	3	H	769.44	764.47	3.97
75	134+90	CTH E	MANHOLE	34' LT	5' X 7' BOX	J-S	770.65	763	6.4
76	134+54	CTH E	CATCH BASIN	60' RT	3	C	769.7	766	2.7
77	134+90	CTH E	CATCH BASIN	26' RT	3	H	769.72	764.1	4.62
78	134+88.7	CTH E	CATCH BASIN	26' LT	3	H	769.71	764	4.71
79	137+25	CTH E	ENDWALL	60' LT	---	---	---	762.76	---
80	138+90	CTH E	CATCH BASIN	26' RT	3	H	772.44	769.27	2.17
81	138+90	CTH E	CATCH BASIN	26' LT	3	H	772.44	768.75	2.69
82	138+90	CTH E	ENDWALL	68' RT	---	---	---	765	---
83	141+18.6	CTH E	CATCH BASIN	68' LT	1	C	772.7	768.69	3.01
84	140+90.6	CTH E	MANHOLE	44.5' RT	---	---	772.72	768.69	2.78
85	141+27	CTH E	MANHOLE	33.5' RT	1	J-S	774.39	768.32	4.82
86	141+26.8	CTH E	CATCH BASIN	26' RT	3	H	773.67	768.2	4.47
87	141+20	CTH E	MANHOLE	11' RT	1	J-S	774.91	767.82	5.84
88	141+17	CTH E	CATCH BASIN	26' LT	2	H	773.63	767.67	4.96
89	141+15	CTH E	MANHOLE	36.5' LT	3	J-S	774.42	767.57	5.6
90	139+60	CTH E	ENDWALL	56' LT	---	---	---	766.5	---
91	143+57.9	CTH E	CATCH BASIN	26' LT	3	H	774.86	770.02	3.84
92	143+57.9	CTH E	CATCH BASIN	26' RT	3	H	774.86	770.24	3.62
93	143+58	CTH E	MANHOLE	11' RT	1	J-S	775.05	769.85	3.95
94	146+55	CTH E	MANHOLE	11' RT	1	J-S	776.46	771.34	3.87
95	147+80	CTH E	MANHOLE	11' LT	1 S.P.	J-S	776.09	771.82	3.02
96	149+92	CTH E	CATCH BASIN	56' LT	3	C	774.1	771.1	2
97	149+92	CTH E	MANHOLE	11' LT	1 S.P.	J-S	774.51	770.4	2.86
98	150+51.81	CTH E	INLET	26' LT	3	H	773.96	770.2	2.76
99	150+61.81	CTH E	INLET	26' LT	3	H	773.96	770.09	2.87
100	150+61.81	CTH E	MANHOLE	11' LT	1 S.P.	J-S	774.23	769.8	3.18
101	150+51.81	CTH E	INLET	26' RT	3	H	773.96	770.41	2.55
102	150+61.81	CTH E	INLET	26' RT	3	H	773.96	770.31	2.65
103	152+25	CTH E	MANHOLE	11' LT	1	J-S	775.82	769.03	5.54
104	152+75	CTH E	ENDWALL	58' LT	---	---	---	768.5	---

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RANDOM RIP-RAP

LOCATION	STATION	606.0200 RIPRAP MEDIUM C.Y.	606.0300 RIPRAP HEAVY C.Y.	645.0120 GEOTEXTILE FABRIC TYPE HR S.Y.
CTH E	137+25	---	14	20
CTH E	138+90	10	---	15
CTH E	139+60	10	---	15
CTH E	152+75	10	---	15
	TOTAL	30	14	65

LANDSCAPING

STATION	LOCATION	SPV.0180.02 PULVERIZED TOPSOIL S.Y.	629.0210 FERTILIZER TYPE B CWT	627.0200 MULCHING S.Y.	630.0140 SEEDING NO. 40 LB	630.0200 TEMPORARY SEEDING LB
98+66 TO 138+12	CTH E	24630	15.8	24630	450	115
138+78 TO 153+00	CTH E	10000	6.4	10000	450	115
TOTALS		34630	22.2	34,630	900	230

SILT FENCE, DELIVERED, INSTALLED AND MAINTENANCE

LOCATION	STATION	628.1505 DELIVERED L.F.	628.1510 INSTALLED L.F.	628.1520 MAINTENANCE L.F.
CTH E	104+00 TO 105+00, RT	100	100	50
CTH E	106+00 TO 108+00, LT	200	200	100
CTH E	113+00 TO 117+00, RT	400	400	200
CTH E	130+50 TO 131+50, LT	100	100	50
CTH E	136+00 TO 138+25, LT & RT	480	480	240
CTH E	138+60 TO 141+00, LT & RT	510	510	255
CTH E	149+00 TO 153+00, LT & RT	750	750	375
UNDISTRIBUTED		200	200	100
		2740	2740	1370

EROSION MAT, DELIVERED AND INSTALLED

LOCATION	628.2005 EROSION MAT, DELIVERED CLASS I, TYPE A S.Y.	628.3005 EROSION MAT, INSTALLED CLASS I, TYPE A S.Y.
100+60 TO 101+60, LT & RT	250	250
131+00 TO 133+00, LT	250	250
136+50 TO 138+12, LT	200	200
140+25 TO 141+40, LT	300	300
152+50 TO 153+00, LT	150	150
UNDISTRIBUTED	100	100
TOTAL	1250	1250

INLET PROTECTION

LOCATION	628.7005 TYPE A EACH	628.7015 TYPE C EACH
CTH E	16	43

TRAFFIC CONTROL, DRUMS

LOCATION	SERVICE PERIOD	DRUMS EACH	643.0300 QUANTITY DAYS
CTH E	130	105	13650

NOTE:
TRAFFIC CONTROL DRUMS SHALL ONLY BE USED WITHIN THE PROJECT LIMITS.
TRAFFIC CONTROL FOR "ROAD CLOSED TO THRU TRAFFIC" SHALL BE ACCORDING TO S.D.D. 15C2-3 AND PAID FOR UNDER THE LUMP SUM ITEM.

CONSTRUCTION STAKING, STORM SEWER

STATION TO STATION	LOCATION	650.4000 EACH
101+00 TO 152+75	CTH E	104

CONSTRUCTION STAKING, SUBGRADE (50 FOOT INTERVAL)

LOCATION	STATION	650.4500 QUANTITY L.F.
CTH E	98+66 TO 153+00	5368
OAKWOOD	18+40 TO 21+64	324
BARTON	28+70 TO 30+00	130
MARYDEN	40+00 TO 41+30	130
WYDLEWOOD	90+00 TO 92+25	225
WESTHAVEN	48+70 TO 51+40	270
LAKE POINT	60+00 TO 61+00	100
GRACELAND	69+22.54 TO 70+00	77
WESTBROOK	80+00 TO 81+25	125
TOTAL		6749

CONSTRUCTION STAKING, BASE

LOCATION	STATION	650.5000 QUANTITY L.F.
CTH E	98+66 TO 101+13	247
CTH E	150+00 TO 153+00	300
OAKWOOD	18+40 TO 21+64	324
BARTON	28+70 TO 30+00	130
MARYDEN	40+00 TO 41+30	130
WYDLEWOOD	90+00 TO 92+25	225
TOTAL		1356

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PAVEMENT MARKING, EPOXY

STA-STA	LOCATION	646.0106 4-INCH YELLOW L.F.	646.0106 4-INCH (DASHED) WHITE L.F.	646.0106 4-INCH (EDGE LINE) WHITE L.F.	646.0226 8-INCH CHANNELIZING WHITE L.F.	647.0166 ARROWS TYPE 2 L.F.	647.0356 WORDS EACH	647.0556 12-INCH WHITE STOP LINE L.F.	647.0766 6-INCH WHITE CROSSWALK L.F.
98+66 TO 153+00	CTH E	10700	1900	500	365	4	4	----	----
18+40 TO 19+40	OAKWOOD	200	---	---	---	---	---	24	----
20+63 TO 21+64	OAKWOOD	200	---	---	---	---	---	24	----
29+60	BARTON	---	---	---	---	---	---	21	----
90+50	WYDLEWOOD	---	---	---	---	---	---	16	78
40+50	MARYDEN	---	---	---	---	---	---	16	66
50+50	WESTHAVEN	140	---	---	---	---	---	20	80
49+50	WESTHAVEN	140	---	---	---	---	---	20	80
60+62 TO 61+00	LAKE POINT	---	---	---	---	---	---	20	120
69+22.54 TO 69+38.54	GRACELAND	---	---	---	---	---	---	20	82
80+59 TO 81+25	WESTBROOK	---	---	---	---	---	---	15	70
TOTAL		11380	1900	500	365	4	4	196	576

2400

13780

CONSTRUCTION STAKING, CURB AND GUTTER

LOCATION	STATION	650.5500 QUANTITY L.F.
CTH E	150+00 TO 153+00	600
OAKWOOD	18+40 TO 19+40	95
OAKWOOD	20+63 TO 21+64	95
BARTON	28+90 TO 29+39	55
WYDLEWOOD	90+80 TO 92+25	320
TOTAL		1165

NOTE: RADIUS STAKING INCLUDED IN CTH E QUANTITY
NO PAYMENT SHALL BE MADE FOR CONSTRUCTION STAKING, CURB AND GUTTER IN INTEGRAL CURB AREAS

CONSTRUCTION STAKING, STRUCTURE LAYOUT

LOCATION		650.6500 L.S.
CTH E	B-70-0064	1

CONSTRUCTION STAKING, CONCRETE PAVEMENT

LOCATION	STATION	650.7000 QUANTITY L.F.
CTH E	101+13 TO 150+00	4821
WESTHAVEN	48+70 TO 49+39	69
WESTHAVEN	50+62 TO 51+40	78
LAKE POINT	60+62 TO 61+00	38
GRACELAND	69+22.54 TO 69+38.54	16
WESTEBROOK	80+59 TO 81+25	66
TOTAL		5088

NOTE: STAKING AROUND INTERSECTION INCLUDED IN CTH E QUANTITY

CONSTRUCTION STAKING, ELECTRICAL INSTALLATIONS

LOCATION	650.8500 ELECTRICAL L.S.
CTH E	1

CONSTRUCTION STAKING, PIPE CULVERTS

LOCATION	STATION	650.6000 QUANTITY EACH
CTH E	100+50, RT	1
CTH E	141+60, RT	1
TOTAL		2

CONSTRUCTION STAKING, INITIAL LAYOUT

LOCATION	STATION	650.9900 QUANTITY L.F.
CTH E	98+66 TO 153+00	5434
OAKWOOD	18+40 TO 21+64	324
BARTON	28+70 TO 30+00	130
MARYDEN	40+00 TO 41+30	130
WYDLEWOOD	90+00 TO 92+25	225
WESTHAVEN	48+70 TO 51+40	270
LAKE POINT	60+00 TO 61+00	100
GRACELAND	69+22.54 TO 70+00	77
WESTEBROOK	80+00 TO 81+25	125
TOTAL		6815

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CONDUIT RIGID NONMETALLIC SCHEDULE 80, 1-INCH

ROADWAY	LOCATION	652.0310 QUANTITY (L.F.)
CTH E	PB6 TO PB5	50
CTH E	PB9 TO PB8	60
CTH E	PB8 TO PB7	65
CTH E	PB11 TO PB10	40
CTH E	PB12 TO PB13	60
CTH E	PB13 TO PB14	47
TOTAL		322

CONDUIT RIGID NONMETALLIC SCHEDULE 80, 3-INCH

ROADWAY	LOCATION	652.0335 QUANTITY (L.F.)
CTH E	PB1 TO PB2	80
CTH E	PB1 TO PB3	85
CTH E	PB3 TO PB4	80
CTH E	PB2 TO PB4	90
CTH E	CB1 TO PB6	20
CTH E	PB6 TO SB1	10
CTH E	PB6 TO SB2	20
CTH E	PB6 TO PB9	100
CTH E	PB9 TO SB3	20
CTH E	PB9 TO SB4	15
CTH E	PB9 TO PB 11	75
CTH E	PB11 TO SB5	20
CTH E	PB11 TO SB6	10
CTH E	PB11 TO PB12	90
CTH E	PB12 TO SB7	15
CTH E	PB12 TO SB8	20
CTH E	PB12 TO PB6	70
TOTAL		820

LOOP DETECTOR INSTALLATION

DECTECTOR NUMBER	SIZE	652.0800 LOOP DETECTOR CONDUIT LF
21	6'X20'	59
22	6'X15'	63
41	6'X15'	72
42	6'X30'	89
61	6'X20'	59
62	6'X15'	63
81	6'X15'	59
82	6'X30'	122
		586

NOTE: THE CITY OF OSHKOSH SHALL APPROVE THE FINAL LOCATION OF THE LOOP DETECTORS IN THE FIELD PRIOR TO CONSTRUCTION. CONTACT DAN KUSSMAN AT 920 232-5350.

THE CITY OF OSHKOSH WILL INSTALL ALL LOOP DETECTOR WIRE AND LEAD-IN CABLES.

PULL BOX, STEEL

NAME	LOCATION	OFFSET	653.0115 12X36 INCH QUANTITY EACH	653.0135 24X36 INCH QUANTITY EACH
PB1	103+20, CTH E	40' LT	-	1
PB2	103+20, CTH E	40' RT	-	1
PB3	104+00, CTH E	40' LT	-	1
PB4	104+00, CTH E	40' RT	-	1
PB5	126+05, CTH E	105' LT	1	-
PB6	126+00, CTH E	53' LT	-	1
PB7	124+67, CTH E	30' RT	1	-
PB8	125+34, CTH E	30' RT	1	-
PB9	125+92, CTH E	48' RT	-	1
PB10	126+50, CTH E	100' RT	1	-
PB11	126+66, CTH E	42' RT	-	1
PB12	126+66, CTH E	47' LT	-	1
PB13	127+23, CTH E	30' LT	1	-
PB14	127+70, CTH E	30' LT	1	-
TOTAL			6	8

CONCRETE BASES

NAME	654.0102 TYPE 2 QUANTITY EACH	654.0105 TYPE 5 QUANTITY EACH
SB1	-	1
SB2	1	-
SB3	-	1
SB4	1	-
SB5	-	1
SB6	1	-
SB7	-	1
SB8	1	-
TOTAL	4	4

CONCRETE CONTROL CABINET BASE, TYPE 9

LOCATION	654.0215 QUANTITY EACH
NW QUADRANT OF CTH E / WESTHAVEN	1

NOTE: THE CITY OF OSHKOSH SHALL APPROVE THE FINAL LOCATION OF THE CONCRETE SLAB IN THE FIELD PRIOR TO CONSTRUCTION. CONTACT DAN KUSSMAN AT 920 232-5350.

ALL ITEMS ARE GROUP CODE 0010 UNLESS OTHERWISE NOTED

SAWING EXISTING PAVEMENT

LOCATION	STATION	690.0100 L.F.
CTH E	98+48, RT	25
CTH E	100+50, 45' RT	12
CTH E	101+43, LT	10
CTH E	102+61, RT	30
CTH E	105+13, RT	20
CTH E	106+55, RT	18
CTH E	111+34, RT	12
CTH E	111+70, RT	12
CTH E	115+94, LT	15
CTH E	117+08, LT	17
CTH E	117+91, RT	16
CTH E	120+41, LT	12
CTH E	122+09, LT	25
CTH E	123+78, LT	16
CTH E	124+95, LT	32
CTH E	127+98, LT	23
CTH E	131+70, RT	45
CTH E	133+87, RT	23
CTH E	134+72, RT	32
CTH E	143+96, RT	14
CTH E	145+39, LT	33
CTH E	146+15, LT	14
CTH E	147+63, LT	26
CTH E	151+20, RT	35
CTH E	151+92, LT	15
KIRKWOOD		26
OAKWOOD	18+40	34
OAKWOOD	21+64	34
BARTON ROAD	28+70	22
MARYDEN ROAD	41+30	22
WYLDEWOOD DRIVE	92+25	32
	TOTAL	702

PIPE UNDERDRAIN, UNPERFORATED, 6-INCH 6" PVC STORM (GROUP 0030)

STATION	LOCATION	612.0206 QUANTITY (L.F.)
101+25	CTH E	10
105+45	CTH E	40
106+95	CTH E	40
111+00	CTH E	35
111+95	CTH E	35
112+15	CTH E	60
113+20, LT	CTH E	50
116+10, LT	CTH E	55
116+75, LT	CTH E	55
117+60, RT	CTH E	40
119+60, LT	CTH E	60
131+40, RT	CTH E	50
132+25, RT	CTH E	50
133+30, RT	CTH E	50
134+20, RT	CTH E	50
135+15, RT	CTH E	50
144+80, LT	CTH E	40
145+90, LT	CTH E	40
146+35, LT	CTH E	40
146+50, LT	CTH E	40
147+90, LT	CTH E	35
148+60, LT	CTH E	50
TOTAL		975

NOTE: ACTUAL LOCATION TO BE DETERMINED BY THE ENGINEER

RECONSTRUCTING MANHOLE (GROUP 0030)

STATION	LOCATION	TYPE	611.0420 QUANTITY EACH	EXISTING ELEVATION	FINAL ELEVATION
118+93	CTH E, 32' RT	SANITARY	1	774.37	776.88
122+43	CTH E, 32' RT	SANITARY	1	772.39	775.16
136+23	CTH E, 33' RT	SANITARY	1	768.53	771.51
137+32	CTH E, 58' RT	SANITARY	1	763.28	766.39
139+25	CTH E, 59' RT	SANITARY	1	765.38	767.44
139+75	CTH E, 52' RT	SANITARY	1	768.62	770.98
140+30	CTH E, 44' RT	SANITARY	1	771.01	774.54
140+90	CTH E, 45' RT	STORM	1 (SEE NOTE)	772.88	
TOTAL			8		

NOTES: (1) RECONSTRUCT MANHOLE INCLUDES ANY BLOCKING OR KNOCK-OUTS OF THE EXISTING MANHOLE NECESSARY TO REMOVE/INSTALL DRAINAGE PIPES AS SHOWN IN THE PLAN.

(2) THE CITY OF OSHKOSH WILL PROVIDE NEW CASTINGS ON ALL SANITARY MANHOLES BETWEEN STATIONS 126+43 TO 150+32. SEE SPECIAL PROVISIONS.

ADJUSTING MANHOLE COVERS (GROUP 0030)

STATION	LOCATION	TYPE	611.8110 QUANTITY EACH	EXISTING ELEVATION	FINAL ELEVATION
103+72	CTH E, 31' RT	SANITARY	1	789.74	789.29
105+92	CTH E, 32' RT	SANITARY	1	785.96	787.91
108+28	CTH E, 35' RT	SANITARY	1	785.70	784.57
110+45	CTH E, 35' RT	SANITARY	1	784.43	783.2
111+04	CTH E, 34' RT	SANITARY	1	781.97	782.53
114+94	CTH E, 35' RT	SANITARY	1	778.19	778.96
126+43	CTH E, 32' RT	SANITARY	1	773.02	772.6
130+43	CTH E, 32' RT	SANITARY	1	769.83	771.24
133+98	CTH E, 32' RT	SANITARY	1	769.93	770.05
140+73	CTH E, 40' RT	SANITARY	1	773.23	773.36
143+07	CTH E, 39' RT	SANITARY	1	773.90	775.59
143+08	CTH E, 32' LT	SANITARY	1	774.63	774.54
144+77	CTH E, 44' LT	SANITARY	1	776.34	776.56
146+84	CTH E, 39' RT	SANITARY	1	776.35	777.24
146+86	CTH E, 43' LT	SANITARY	1	777.43	777.4
150+32	CTH E, 37' RT	SANITARY	1	773.20	774.9
TOTAL			16		

NOTE: THE CITY OF OSHKOSH WILL PROVIDE NEW CASTINGS ON ALL SANITARY MANHOLES BETWEEN STATIONS 126+43 TO 150+32. SEE SPECIAL PROVISIONS.

SAWING CONCRETE PAVEMENT, FULL DEPTH

LOCATION	690.0200 L.F.
153+00, CTH E	54
48+70, WESTHAVEN	41
51+40, WESTHAVEN	41
61+00, LAKE POINT	44
69+22.54, GRACELAND	38
81+25, WESTBROOK	32
105+13 RT, CTH E	34
106+55 RT, CTH E	24
117+08 LT, CTH E	18
117+91 RT, CTH E	16
124+95 LT, CTH E	28
132+46 RT, CTH E	22
132+94 RT, CTH E	25
133+87 RT, CTH E	20
TOTAL	437

SEALING JOINTS (GROUP CODE 0030)

LOCATION	SPV.0180.01 QUANTITY S.Y.
CTH E	28122
WESTHAVEN DRIVE	1014
LAKE PT DRIVE	424
GRACELAND ROAD	263
WESTBROOK ROAD	368
TOTAL	30191

ALL ITEMS ARE GROUP CODE 0010 UNLESS OTHERWISE NOTED

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
1	103+90	RR SPIKE IN PP 1816-211.15 (48.0' RT)	790.45

TOWN OF ALGOMA

LULLABYE ROAD

TEMPORARY LIMITED EASEMENT (TYP.)

EXISTING R/W

CONCRETE CURB AND GUTTER, INTEGRAL 30-INCH TYPE D (TYP.)

BEGIN CONCRETE PAVEMENT STA 101+13.00

18" SS

91.78 +13

91.43 +50

65' F-F

CTH E

ASPH.

CONC.

91.67 +50

92.02 +13

18" SS

ASPH.

6" IPVC LATERAL

SLOPE INTERCEPTS

MATCH LINE STA 101+75

S89°47'05"E

97 98 99 100 101

25' R

20' R

10:1 TAPER

PI 100+00.00

6" PVC LATERAL

6" PVC

21"X15"X28' CMP ARCH TO REMAIN

21X15"X40' CSPA REQ'D.

BEGIN PROJECT
STA 98+66.00
SAW CUT REQ'D.

KIRKWOOD

P.L.

LAVERNE SCHROEDER

H#2815

STA 100+50 PE, RT
REMOVE 1-12"X21"X28'
CMP ARCH

RAY W. & NELL M. LETT

H#2811

STA 101+43 PE, RT
REMOVE 1-14"X24"X28'
CMP ARCH

N

796.0 794.0 792.0 790.0 788.0 786.0 784.0 782.0

PROPOSED PROFILE

EXISTING PROFILE

-0.99%

-0.93%

VPOT STA 98+66.00
VPOT EL794.80

VPI STA 100+00.00
VPI EL793.48

794.35 794.47

793.48 793.48

792.53 792.55

98 98+20 98+40 98+60 98+80 99 99+20 99+40 99+60 99+80 100 100+20 100+40 100+60 100+80 101 101+20 101+40 101+60 10

STATE PROJECT NUMBER: 4994-01-09	HWY: CTH E	COUNTY: WINNEBAGO	PLAN AND PROFILE	SHEET NO: 30	E

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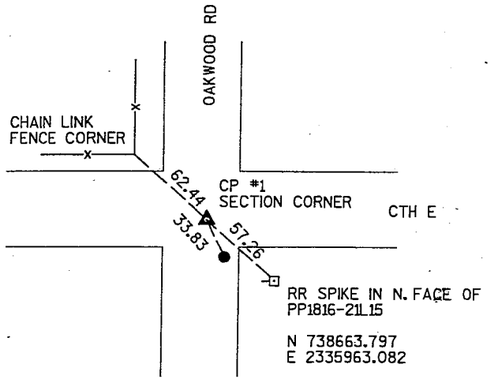
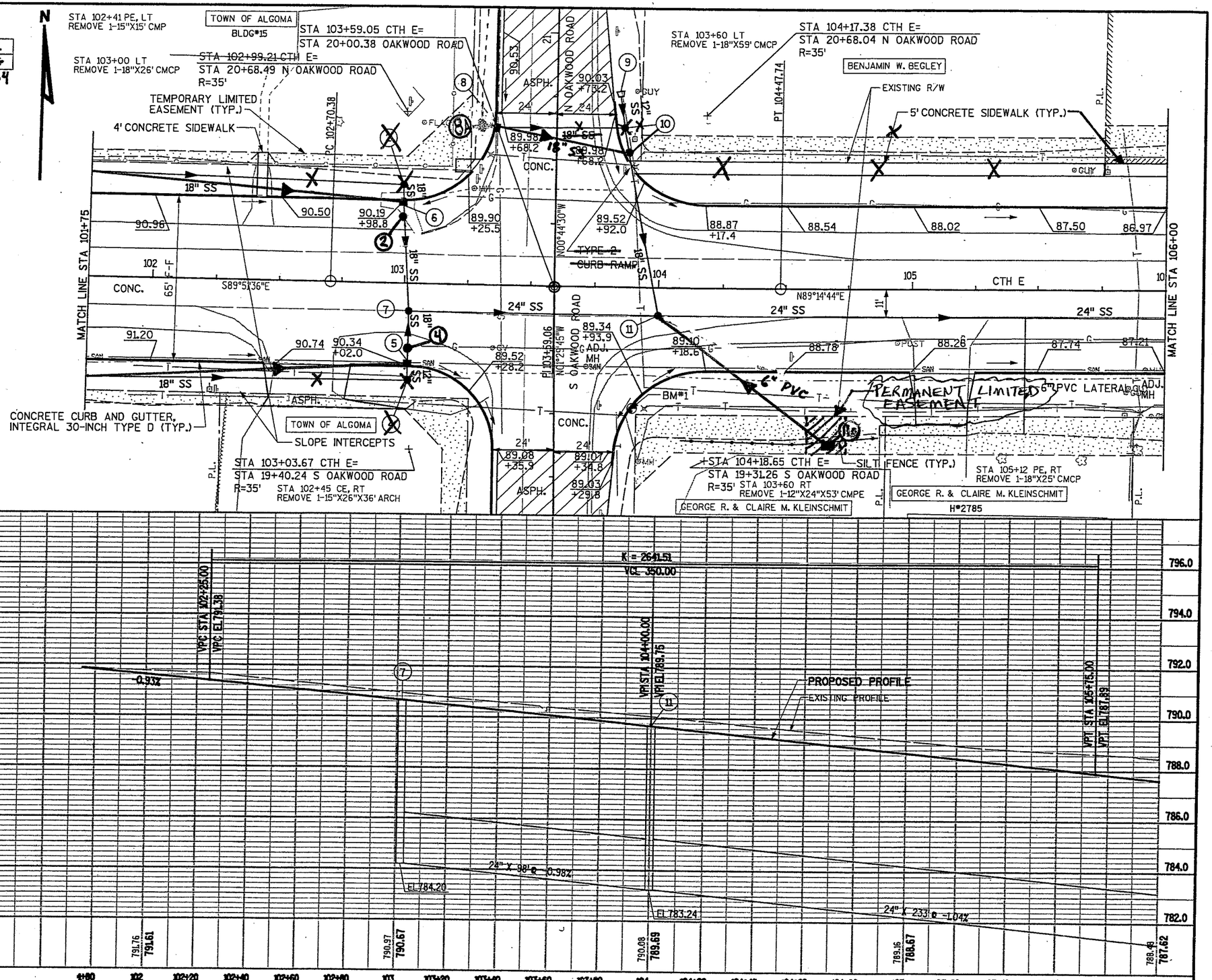
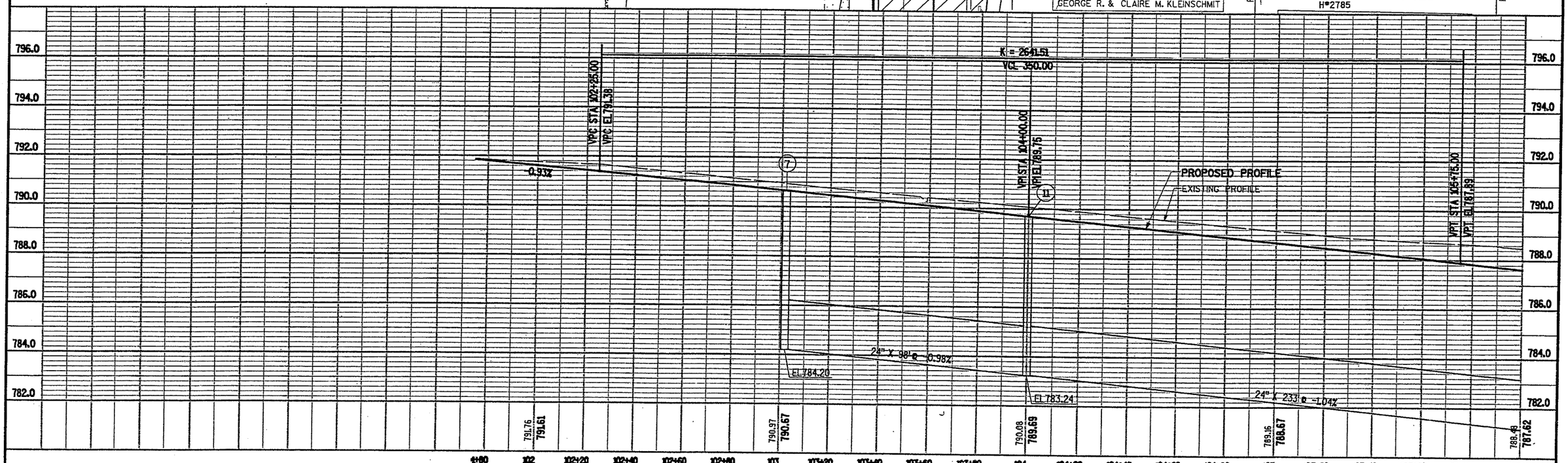
BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
1	103+90	RR SPIKE IN PP 1816-21.15 (48.0' RT)	~~790.45~~ 789.34







STATE PROJECT NUMBER: 4994-01-09	HWY: CTH E	COUNTY: WINNEBAGO	PLAN AND PROFILE	SHEET NO: 31	E

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BENCH MARKS

NO.	STATION	DESCRIPTION		ELEV.
2	107+30	PK NAIL IN PP 1816 21L44	(48.3' RT)	~~787.45~~ 787.22
3	110+42	NAIL IN PP 1816-21L37	(48.6' RT)	~~784.53~~ 784.52
4	110+18	TOP OF NW BOLT AT BOT. FLANGE ON HYDRANT (63.5' LT)		785.54

N

MIDWEST REAL ESTATE DEV.

5' CONCRETE SIDEWALK (TYP.)

STA 109+95 LT
REMOVE 1-15"X41' CMCP

PERMANENT LIMITED EASEMENT

STA 109+92.15 CTH E=
STA 90+60.78 WYLDEWOOD DRIVE
R=35'

STA 108+15.85 CTH E=
STA 30+00.00 BARTON ROAD

STA 110+44.29 CTH E=
STA 90+00.00 WYLDEWOOD DRIVE

STA 110+05 LT
REMOVE 1-10"X53' PCP

STA 110+45 LT
REMOVE 1-24"X32"X44' CMPE

STA 110+98.16 CTH E=
STA 90+62.27 WYLDEWOOD DRIVE
R=35'

SILT FENCE

CONCRETE CURB AND GUTTER, INTEGRAL 30-INCH TYPE D (TYP.)

CITY OF OSHKOSH
TOWN OF ALGOMA LINE (TYP.)

MATCH LINE STA 106+00

MATCH LINE STA 112+00

CTH E

BARTON ROAD

WYLDEWOOD DRIVE

TYPE 2 CURB RAMP

~~TYPE 2 CURB RAMP~~

ADJ. MH

6" PVC LATERAL

TEMPORARY LIMITED EASEMENT (TYP.)

SLOPE INTERCEPTS

EXISTING R/W

STA 106+66 PE, RT
REMOVE 1-18"X25' CMCP

STA 107+64.21 CTH E=
STA 29+37.97 BARTON ROAD
R=35'

STA 108+66.22 CTH E=
STA 29+39.00 BARTON ROAD
R=35'

STA 108+20 RT
REMOVE 1-18"X36' CMCP

STA 111+34 PE, RT
REMOVE 1-18"X29' CMCP

STA 111+70 PE, RT
REMOVE 1-18"X29' CMCP

JAMES & SUSAN KING
H#2763

H#16

MICHAEL L. & SHARON L. CALKINS

JASON ST. MARY
H#2671

RUTH E. THOMA
H#2645

BM#2

BM#3

BM#4

PROPOSED PROFILE

EXISTING PROFILE

24" SS

EL. 780.82

24" X 131'@ -1.07%

EL. 779.42

24" X 236'@ -1.06%

36" X 73'@ -1.07%

EL. 776.91

36" X 373'@ -1.27%

EL. 776.13

STATE PROJECT NUMBER: 4994-01-09	HWY: CTH E	COUNTY: WINNEBAGO	PLAN AND PROFILE	SHEET NO: 32	E

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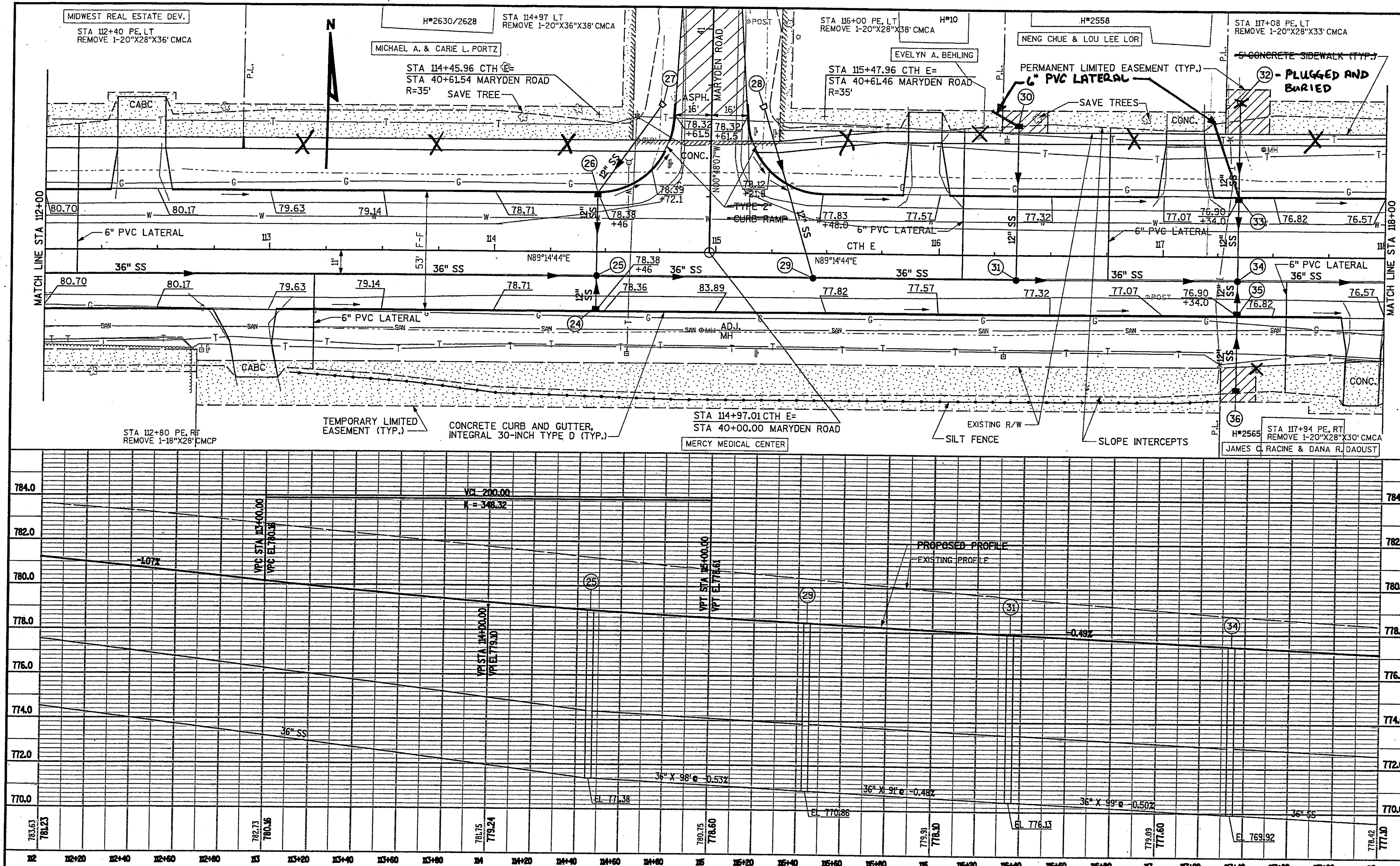
MIDWEST REAL ESTATE DEV.
STA 112+40 PE, LT
REMOVE 1-20"X28"X36' CMCA
MICHAEL A. & CARIE L. PORTZ
STA 114+97 LT
REMOVE 1-20"X36"X38' CMCA
STA 114+45.96 CTH E=
STA 40+61.54 MARYDEN ROAD
R=35'
SAVE TREE
MARYDEN ROAD
STA 116+00 PE, LT
REMOVE 1-20"X28"X38' CMCA
EVELYN A. BEHLING
STA 115+47.96 CTH E=
STA 40+61.46 MARYDEN ROAD
R=35'
NENG CHUE & LOU LEE LOR
STA 117+08 PE, LT
REMOVE 1-20"X28"X33' CMCA
PERMANENT LIMITED EASEMENT (TYP.)
6" PVC LATERAL
PLUGGED AND BURIED
SAVE TREES
MATCH LINE STA 112+00
MATCH LINE STA 118+00
6" PVC LATERAL
36" SS
CTH E
N89°14'44"E
TYPE 2 CURB RAMP
ADJ. MH
STA 112+80 PE, RT
REMOVE 1-18"X28' CMCP
TEMPORARY LIMITED EASEMENT (TYP.)
CONCRETE CURB AND GUTTER, INTEGRAL 30-INCH TYPE D (TYP.)
STA 114+97.01 CTH E=
STA 40+00.00 MARYDEN ROAD
MERCY MEDICAL CENTER
EXISTING R/W
SILT FENCE
SLOPE INTERCEPTS
STA 117+94 PE, RT
REMOVE 1-20"X28"X30' CMCA
JAMES C. RACINE & DANA R. DAOUST
VCL 200.00
K = 348.32
PROPOSED PROFILE
EXISTING PROFILE
-1.07%
-0.49%
36" X 98' @ -0.53%
36" X 91' @ -0.48%
36" X 99' @ -0.50%

STATE PROJECT NUMBER: 4994-01-09	HWY: CTH E	COUNTY: WINNEBAGO	PLAN AND PROFILE	SHEET NO: 33	E

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BENCH MARKS				H*2534
NO.	STATION	DESCRIPTION		ELEV.
5	120+61	RR SPIKE IN PP 143 BB 75	(53.0' LT)	~~775.77~~ 775.62

WARREN J. MOON TRUST

N

STA 120+40 PE, LT
REMOVE 1-20"X30"X30' CMCA

CITY OF OSHKOSH
TOWN OF ALGOMA LINE

HAVENWOOD LAKE LLC

STA 122+10 CE, LT
REMOVE 1-20"X30"X36' CMCA

STA 123+78 CE, LT
REMOVE 1-24"X36' CMCP

PERMANENT LIMITED EASEMENT

SLOPE INTERCEPTS

5' CONCRETE SIDEWALK (TYP.)

SAVE TREES

BM*5

6" PVC LATERAL

CTH E

MATCH LINE STA 118+00

MATCH LINE STA 124+00

N89°14'44"E

36" SS

42" SS

RECON. MH

CONCRETE CURB AND GUTTER, INTEGRAL 30-INCH TYPE D (TYP.)*

BEGIN 5' CONCRETE SIDEWALK, STA 118+20

PERMANENT LIMITED EASEMENT

TEMPORARY LIMITED EASEMENT (TYP.)

EXISTING R/W

COUNTY PARK LLC APARTMENTS

PROPOSED PROFILE
EXISTING PROFILE

-0.49%

36" X 284' @ -0.50%

42" X 167' @ -0.49%

42" X 127' @ -0.50%

42" X 138' @ -0.50%

EL. 768.51

EL. 767.69

EL. 767.06

778.0
776.0
774.0
772.0
770.0
768.0
766.0
764.0

STATE PROJECT NUMBER: 4994-01-09	HWY: CTH E	COUNTY: WINNEBAGO	PLAN AND PROFILE	SHEET NO: 34	E

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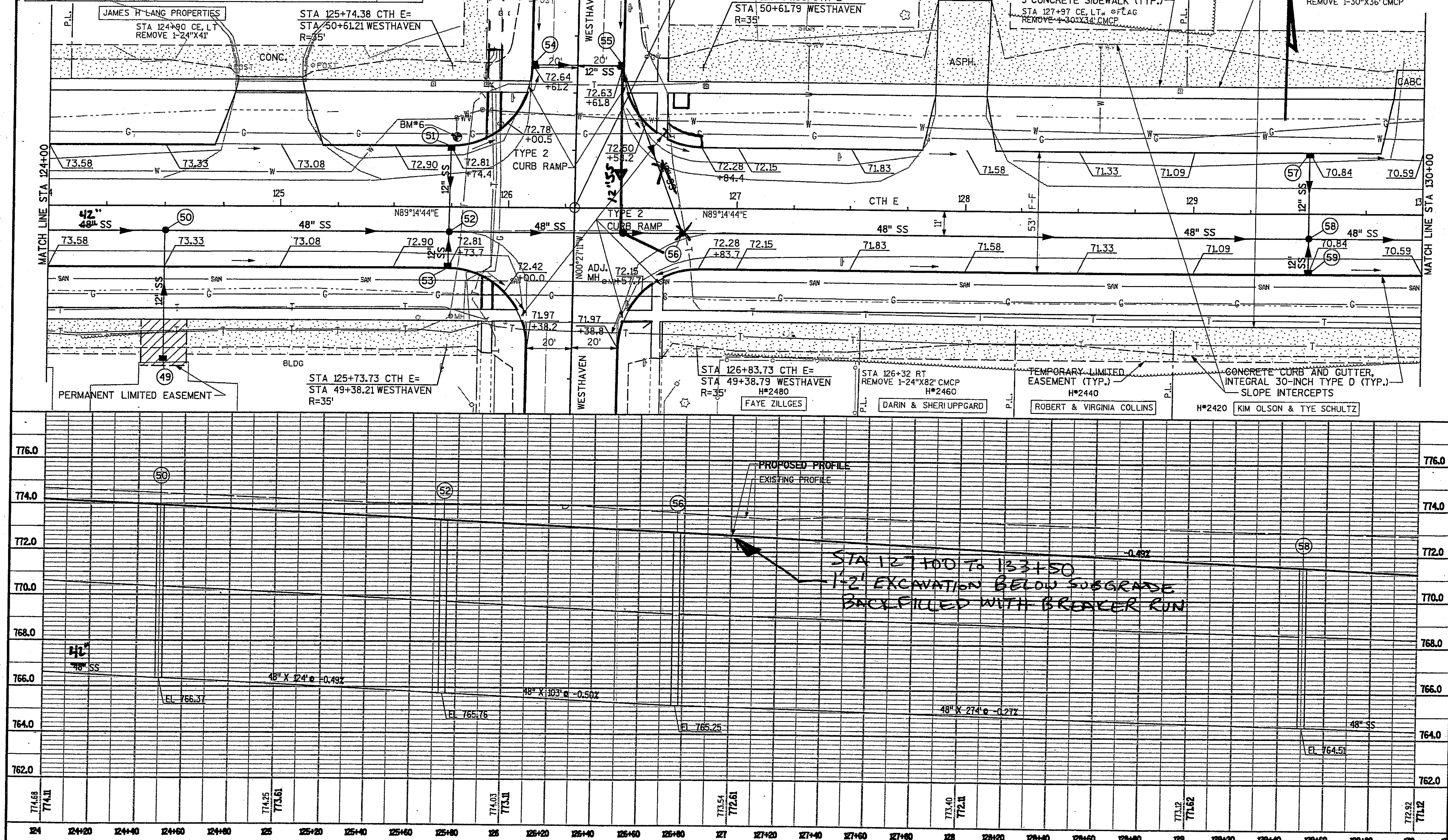
BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
6	125+77	TOP NUT OF HYDRANT (30.5' LT)	~~776.230~~ 776.15



JAMES H LANG PROPERTIES
STA 124+90 CE, LT
REMOVE 1-24"X41'
STA 125+74.38 CTH E=
STA 50+61.21 WESTHAVEN
R=35'
STA 126+29.05 CTH E=
STA 50+00.00 WESTHAVEN
STA 126+32 LT
REMOVE 1-24"X65' CMCP
STA 126+84.38 CTH E=
STA 50+61.79 WESTHAVEN
R=35'
OSHKOSH OFFICE BLGD. LLC
5' CONCRETE SIDEWALK (TYP.)
STA 127+97 CE, LT
REMOVE 1-30"X34' CMCP
EXISTING R/W
SECURITY LAND CORP.
STA 130+00 CE, LT
REMOVE 1-30"X36' CMCP
CONC.
ASPH.
WESTHAVEN
BM#6
TYPE 2
CURB RAMP
CTH E
MATCH LINE STA 124+00
MATCH LINE STA 130+00
48" SS
12" SS
N89°14'44"E
ADJ. MH
BLDG
PERMANENT LIMITED EASEMENT
STA 125+73.73 CTH E=
STA 49+38.21 WESTHAVEN
R=35'
STA 126+83.73 CTH E=
STA 49+38.79 WESTHAVEN
R=35'
FAYE ZILLGES
STA 126+32 RT
REMOVE 1-24"X82' CMCP
DARIN & SHERI UPPGARD
TEMPORARY LIMITED EASEMENT (TYP.)
ROBERT & VIRGINIA COLLINS
CONCRETE CURB AND GUTTER, INTEGRAL 30-INCH TYPE D (TYP.)
SLOPE INTERCEPTS
KIM OLSON & TYE SCHULTZ
PROPOSED PROFILE
EXISTING PROFILE
STA 127+00 To 133+50
1'-2' EXCAVATION BELOW SUBGRADE
BACKFILLED WITH BREAKER RUN
48" X 124' @ 0.49%
48" X 103' @ -0.50%
48" X 274' @ -0.27%
EL 766.37
EL 765.76
EL 765.25
EL 764.51

STATE PROJECT NUMBER: 4994-01-09	HWY: CTH E	COUNTY: WINNEBAGO	PLAN AND PROFILE	SHEET NO: 35	E

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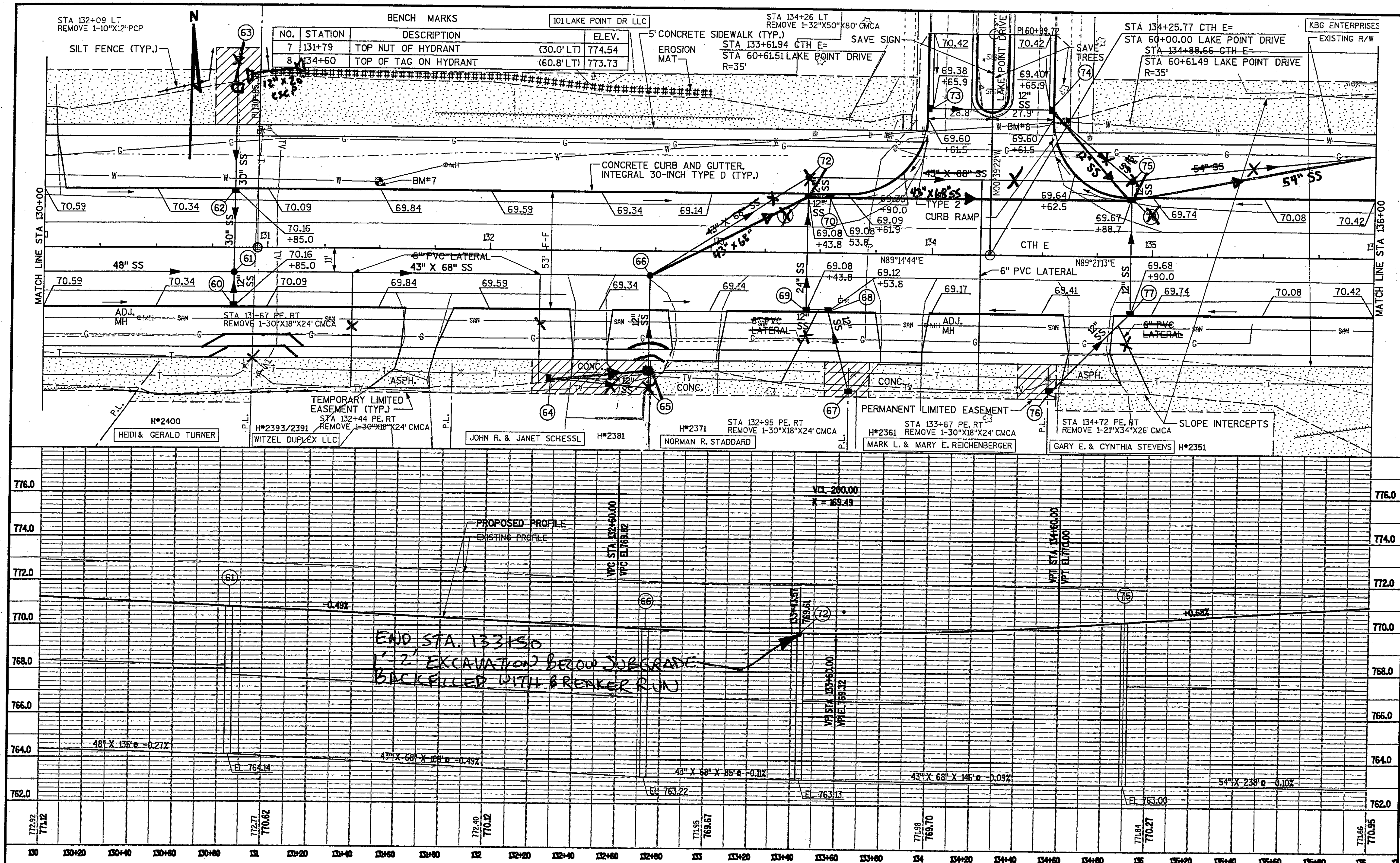
STA 132+09 LT
REMOVE 1-10"X12' PCP
SILT FENCE (TYP.)
101 LAKE POINT DR LLC
5' CONCRETE SIDEWALK (TYP.)
EROSION MAT
STA 134+26 LT
REMOVE 1-32"X50"X80' CMCA
STA 133+61.94 CTH E=
STA 60+61.51 LAKE POINT DRIVE
R=35'
SAVE SIGN
LAKE POINT DRIVE
SAVE TREES
STA 134+25.77 CTH E=
STA 60+00.00 LAKE POINT DRIVE
STA 134+88.66 CTH E=
STA 60+61.49 LAKE POINT DRIVE
R=35'
KBG ENTERPRISES
EXISTING R/W
BM#7
CONCRETE CURB AND GUTTER, INTEGRAL 30-INCH TYPE D (TYP.)
TYPE 2 CURB RAMP
43" X 68" SS
54" SS
48" SS
30" SS
12" SS
24" SS
6" PVC LATERAL
CTH E
MATCH LINE STA 130+00
MATCH LINE STA 136+00
ADJ. MH
STA 131+67 PE, RT
REMOVE 1-30"X18"X24' CMCA
TEMPORARY LIMITED EASEMENT (TYP.)
STA 132+44 PE, RT
REMOVE 1-30"X18"X24' CMCA
STA 132+95 PE, RT
REMOVE 1-30"X18"X24' CMCA
PERMANENT LIMITED EASEMENT
STA 133+87 PE, RT
REMOVE 1-30"X18"X24' CMCA
STA 134+72 PE, RT
REMOVE 1-21"X34"X26' CMCA
SLOPE INTERCEPTS
H#2400 HEIDI & GERALD TURNER
H#2393/2391 WITZEL DUPLEX LLC
JOHN R. & JANET SCHIESSL H#2381
H#2371 NORMAN R. STADDARD
H#2361 MARK L. & MARY E. REICHENBERGER
GARY E. & CYNTHIA STEVENS H#2351
PROPOSED PROFILE
EXISTING PROFILE
VCL 200.00
K = 169.49
VPC STA 132+60.00
VPC EL 769.82
VPT STA 134+60.00
VPT EL 770.00
VPI STA 133+60.00
VPI EL 769.32
-0.49%
+0.68%
END STA. 133+50
1'-2' EXCAVATION BELOW SUBGRADE
BACKFILLED WITH BREAKER RUN
48" X 135' @ -0.27%
EL 764.14
43" X 68" X 188' @ -0.49%
43" X 68" X 85' @ -0.11%
EL 763.22
EL 763.13
43" X 68" X 145' @ -0.09%
54" X 238' @ -0.10%
EL 763.00

BENCH MARKS

NO.	STATION	DESCRIPTION		ELEV.
7	131+79	TOP NUT OF HYDRANT	(30.0' LT)	774.54
8	134+60	TOP OF TAG ON HYDRANT	(60.8' LT)	773.73

STATE PROJECT NUMBER: 4994-01-09	HWY: CTH E	COUNTY: WINNEBAGO	PLAN AND PROFILE	SHEET NO: 36	E

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BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
9	138+04	SW CORNER OF PARRAPET ~~CHISELED "E" (21.1' RT)~~	~~774.31~~ 772.59 MON.

MATCH LINE STA 136+00

MATCH LINE STA 142+00

5' CONCRETE SIDEWALK

EROSION MAT (TYP.)

EXISTING R/W

REMOVE GUARD RAIL
STA 136+84 TO STA 138+02, LT AND
STA 138+83 TO STA 140+00, LT

SILT FENCE (TYP.)

TEMPORARY LIMITED EASEMENT (TYP.)

STA 140+73.55 CTH E=
STA 70+00.00 GRACELAND

STA 141+60 PE, LT
REMOVE 1-18"X30' CMCP

12"X40' CSCP

54" SS

RIPRAP HEAVY REQ'D

SEE CONTOUR SHEET FOR SEDIMENT BASIN DETAILS

RIPRAP MEDIUM REQ'D

24" SS

12" SS

H*2200 GERALD J. LAUTENSCHLAGER

EXISTING R/W

CABC

70.42 70.76 71.11 71.45 71.79

137 138 139 140 141 142

+97.34

N89°21'13"E

CONCRETE PAVEMENT APPROACH SLAB

72.40 +90.0

+88.67

72.47 72.77 73.03 73.27 73.50 73.59 +17.0 73.74 73.98

18" SS

53' F-F

CTH E

N89°21'13"E

TYPE 2 CURB RAMP

N00°50'03"W GRACELAND

73.12 +20 72.97 +46.0

73.63 +26.8 73.33 +00.8 73.74 73.98

STA 141+26.81 CTH E
STA 69+38.87 GRACELAND
R=35'

RECON. MH

ADJ. MH

BM*9

CONCRETE CURB AND GUTTER, INTEGRAL 30-INCH TYPE D (TYP.)

STRUCTURE B-70-64

8' CONCRETE SIDEWALK

SLOPE INTERCEPTS

REMOVE GUARD RAIL
STA 136+87 TO STA 138+04, RT AND
STA 138+83 TO STA 140+00, RT

STA 140+59 RT
REMOVE 1-18"X108' RCCP

72.73 +38.1 18' 72.74 +38.9 19'

72.56 +22.5 72.54 +22.5

STA 140+19.68 CTH E= SIGN
STA 69+38.13 GRACELAND
R=35' H*121
DIANNE WOLF

PERMANENT LIMITED EASEMENT

H*110 EDITH JANE WILSON

6" PVC

K = 49.54
VCL 100.00

PROPOSED PROFILE
EXISTING PROFILE

℄ ABUT. STA 138+12.34 EL 772.40

℄ ABUT. STA 138+13.34± EL 772.82

VPC STA 138+90.00 VPC EL 772.93

VPI STA 139+40.00 VPI EL 773.27

VPT STA 139+90.00 VPT EL 773.61

+0.68%

+0.48%

54" SS

EL. 762.76

NORMAL WATER EL. = 758.5±

STREAMBED EL. 757.4±

EL. 766.50

STA 138+42
STRUCTURE B-70-64
DECK WIDENING
69' CLEAR WIDTH
SEE STRUCTURE PLANS

24" 18" X 157' @ 0.68%

18" X 238' @ 0.81%

EL. 767.82

EL. 767.57

774.0 772.0 770.0 768.0 766.0 764.0 762.0 776.0

771.66 770.95 771.67 771.64 772.03 772.32 772.74 773.00 773.49 773.56 773.55 774.03 774.50 774.51

136 136+20 136+40 136+60 136+80 137 137+20 137+40 137+60 137+80 138 138+20 138+40 138+60 138+80 139 139+20 139+40 139+60 139+80 140 140+20 140+40 140+60 140+80 141 141+20 141+40 141+60 141+80 142

STATE PROJECT NUMBER: 4994-01-09	HWY: CTH E	COUNTY: WINNEBAGO	PLAN AND PROFILE	SHEET NO: 37	E

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STA 142+56.91 CTH E=
STA 80+61.51 WESTBROOK
R=35'
H#111/113
PAUL & SHERRI GETCHEL
STA 143+07 LT
REMOVE 1-18"X60' CMCP
H#110/112
DAVID, TODD & CRAIG KINDERMAN
TEMPORARY LIMITED EASEMENT (TYP.)
STA 143+57.94 CTH E=
STA 80+61.49 WESTBROOK
R=35'
EXISTING R/W
STA 145+37 PE, LT
REMOVE 1-15"X28' CMCP
H#2092
CRAIG J. & BICKEY J. KINDERMAN
SLOPE INTERCEPTS
H#2088
P.& J. WERTSCH
STA 147+62 PE, LT
REMOVE 1-15"X30' CMCP
PAUL J. BEIER
H#2064
SAVE TREE
6" PVC LATERAL
ASPH.
WESTBROOK
MATCH LINE STA 142+00
MATCH LINE STA 148+00
STA 143+07.83 CTH E=
STA 80+00.00 WESTBROOK
N00°39'26"W
ADJ. MH
BM#10
TYPE 2 CURB RAMP
CTH E
18" SS
12" SS
N89°21'13"E
F-F
53'
11'
CONCRETE CURB AND GUTTER, INTEGRAL 30-INCH TYPE D (TYP.)
SAVE TREE
H#2175
OAKHAVEN CHURCH INC.
STA 144+00 PE, RT
REMOVE 1-18"X28' CMCP
5' CONCRETE SIDEWALK
WITZEL STREET RETAIL LLC
BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
10	147+31.73	TOP OF BOLT, LEFT OF #8 IN HYDRANT #82633 (40.0' LT)	779.50

PROPOSED PROFILE
EXISTING PROFILE
+0.48%
18" SS
EL 769.85
12" X 29'-0" @ -0.50%
EL 771.34
12" SS
EL 771.82
-0.74%
K = 83.42
VCL 100.00
VPC STA 146+50.00
VPC EL 776.67
VPI STA 147+00.00
VPI EL 776.90
VPT STA 147+20.00
VPT EL 776.53
146+88.09
776.76

STATE PROJECT NUMBER: 4994-01-09	HWY: CTH E	COUNTY: WINNEBAGO	PLAN AND PROFILE	SHEET NO: 38	E

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STA 148+92 PE, LT
REMOVE 1-15"X30' CMCP

NELS H. NASLUND
H#2060

NELS H. NASLUND

STA 150+13 CE, LT
REMOVE 1-18"X30' CMCP

ARTHUR E. POMMERENING

STA 151+04 CE, LT
REMOVE 1-18"X48' CMCP

WISCONSIN PUBLIC SERVICE

ANR PIPE LINE CO.

STA 152+00 CE, LT
REMOVE 1-12"X26"X30' CMCE

N

RIPRAP MEDIUM REQ'D

SLOPE INTERCEPTS

EXISTING R/W

SILT FENCE (TYP.)

CABC

6" PVC LATERAL

12" SS

18" SS

ASPHALTIC SURFACE

NORTH TOP BACK CURB
6TH JOINT
INCLUDING JOINT
AT CONC/ASPH.

SE CORNER
INLET CASTING

MATCH LINE STA 148+00

N89°31'01"E

CTH E

CONCRETE ASPHALT

ASPHALT

ADJ. MH

30-INCH CONCRETE CURB
AND GUTTER, TYPE D (TYP.)

CP #2

SOUTH TOP BACK CURB
6TH JOINT
INCLUDING JOINT
AT CONC/ASPH.

N 738724.062
E 2340952.784

CONCRETE CURB AND GUTTER,
INTEGRAL 30-INCH TYPE D (TYP.)

TEMPORARY LIMITED
EASEMENT (TYP.)

WITZEL STREET RETAIL LLC

WAL-MART

CONTINENTAL 84 FUND

JOHN DUCHATSCHEK

END PROJECT
STA 153+00.00
SAW CUT REQ'D.

VCL 300.00'
K = 83.28

PROPOSED PROFILE
EXISTING PROFILE

VPC STA 150+00.00
VPC EL 774.67

VPI STA 151+50.00
VPI EL 773.56

VPI STA 153+00.00
VPI EL 777.85

-0.74%

12" X 212'@ -0.67%

12" X 70'@ -0.76%

18" X 163'@ -0.50%

18" X 71'@ -0.75%

EL 770.40

EL 769.84

EL 769.03

EL 768.50

STATE PROJECT NUMBER: 4994-01-09	HWY: CTH E	COUNTY: WINNEBAGO	PLAN AND PROFILE	SHEET NO: 39	E

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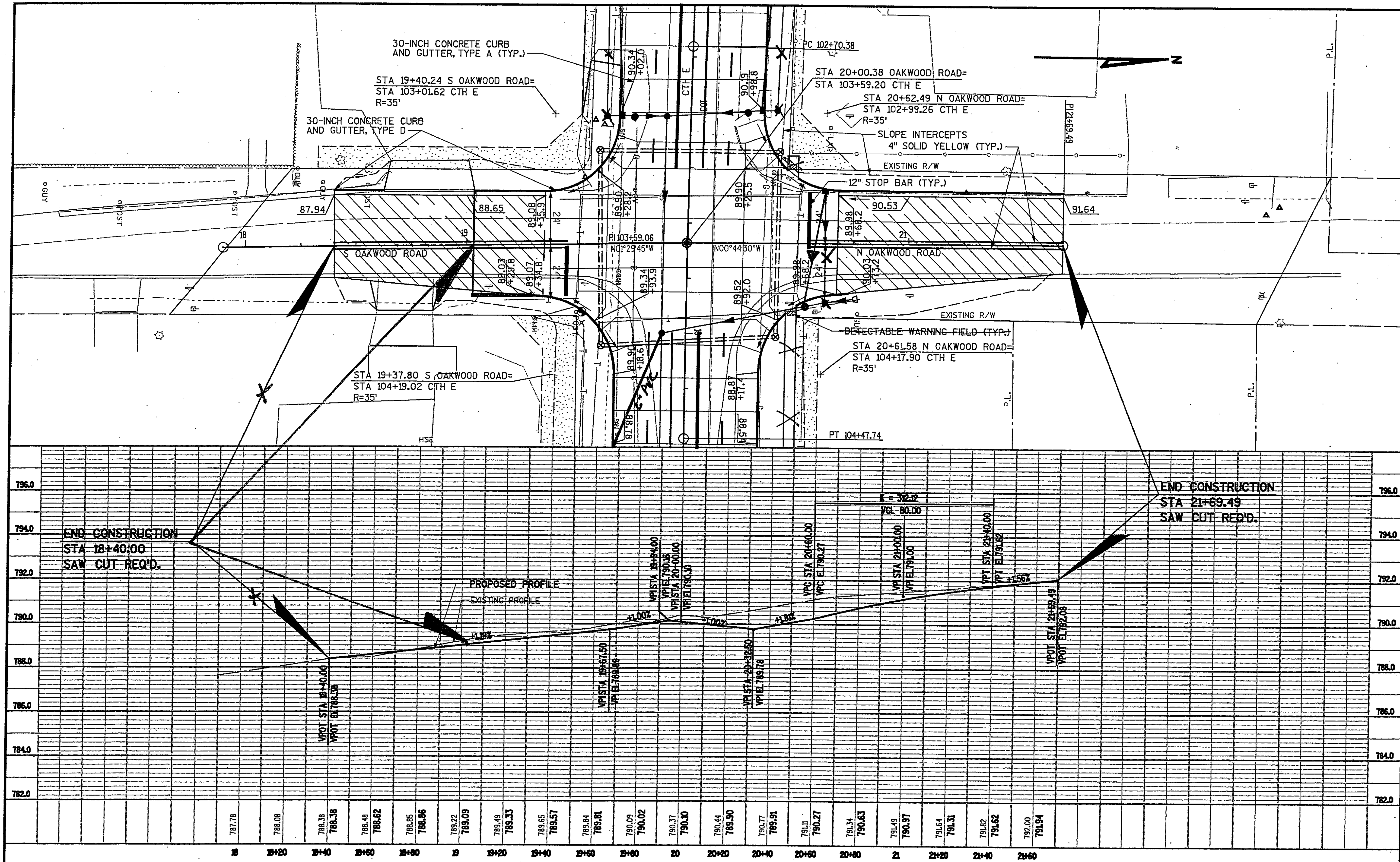
30-INCH CONCRETE CURB AND GUTTER, TYPE A (TYP.)
STA 19+40.24 S OAKWOOD ROAD=
STA 103+01.62 CTH E
R=35'
30-INCH CONCRETE CURB AND GUTTER, TYPE D
PC 102+70.38
STA 20+00.38 OAKWOOD ROAD=
STA 103+59.20 CTH E
STA 20+62.49 N OAKWOOD ROAD=
STA 102+99.26 CTH E
R=35'
SLOPE INTERCEPTS
4" SOLID YELLOW (TYP.)
EXISTING R/W
12" STOP BAR (TYP.)
CTH E
87.94
88.65
90.53
91.64
S OAKWOOD ROAD
N OAKWOOD ROAD
PI 103+59.06
N01°29'45"W
N00°44'30"W
DETECTABLE WARNING FIELD (TYP.)
STA 20+61.58 N OAKWOOD ROAD=
STA 104+17.90 CTH E
R=35'
STA 19+37.80 S OAKWOOD ROAD=
STA 104+19.02 CTH E
R=35'
PT 104+47.74
P.L.
END CONSTRUCTION
STA 18+40.00
SAW CUT REQ'D.
END CONSTRUCTION
STA 21+69.49
SAW CUT REQ'D.
PROPOSED PROFILE
EXISTING PROFILE
K = 312.12
VCL 80.00
VPOT STA 18+40.00
VPOT EL788.38
VPI STA 19+61.50
VPI EL789.69
VPI STA 19+94.00
VPI EL790.16
VPI STA 20+00.00
VPI EL790.10
VPI STA 20+32.50
VPI EL789.78
VPC STA 20+60.00
VPC EL790.27
VPI STA 21+00.00
VPI EL791.00
VPT STA 21+40.00
VPT EL791.62
VPOT STA 21+69.49
VPOT EL792.08
+1.19%
+1.00%
-1.00%
+1.81%
+1.56%
796.0
794.0
792.0
790.0
788.0
786.0
784.0
782.0
787.78
788.08
788.38 788.38
788.48 788.62
788.85 788.86
789.22 789.09
789.49 789.33
789.65 789.57
789.84 789.81
790.09 790.02
790.37 790.10
790.44 789.90
790.77 789.91
791.11 790.27
791.34 790.63
791.49 790.97
791.64 791.31
791.82 791.62
792.00 791.94
18
18+20
18+40
18+60
18+80
19
19+20
19+40
19+60
19+80
20
20+20
20+40
20+60
20+80
21
21+20
21+40
21+60

STATE PROJECT NUMBER: 4994-01-09	HWY: CTH E	COUNTY: WINNEBAGO	PLAN AND PROFILE	SHEET NO: 40	E

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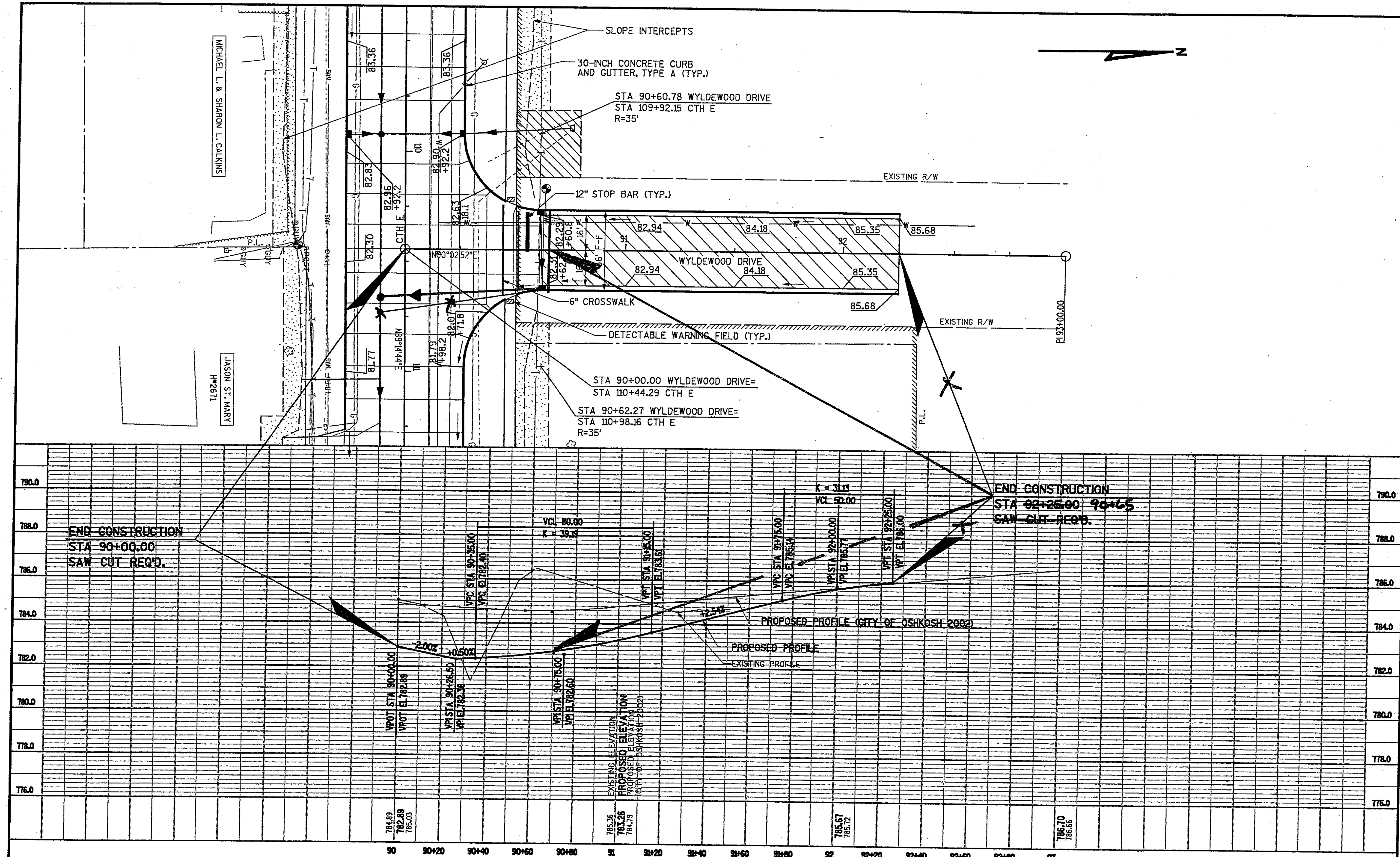

SLOPE INTERCEPTS
30-INCH CONCRETE CURB AND GUTTER, TYPE A (TYP.)
STA 90+60.78 WYLDEWOOD DRIVE
STA 109+92.15 CTH E
R=35'
EXISTING R/W
12" STOP BAR (TYP.)
MICHAEL L. & SHARON L. CALKINS
JASON ST. MARY
CTH E
WYLDEWOOD DRIVE
N50°02'52"E
6" CROSSWALK
DETECTABLE WARNING FIELD (TYP.)
STA 90+00.00 WYLDEWOOD DRIVE=
STA 110+44.29 CTH E
STA 90+62.27 WYLDEWOOD DRIVE=
STA 110+98.16 CTH E
R=35'
PI 93+00.00
P.L.
END CONSTRUCTION
STA 90+00.00
SAW CUT REQ'D.
END CONSTRUCTION
STA 92+25.00 90+65
SAW CUT REQ'D.
VCL 80.00
K = 39.19
K = 31.13
VCL 50.00
PROPOSED PROFILE (CITY OF OSHKOSH 2002)
PROPOSED PROFILE
EXISTING PROFILE
EXISTING ELEVATION
PROPOSED ELEVATION
PROPOSED ELEVATION (CITY OF OSHKOSH 2002)

STATE PROJECT NUMBER: 4994-01-09	HWY: CTH E	COUNTY: WINNEBAGO	PLAN AND PROFILE	SHEET NO: 41	E

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30-INCH CONCRETE CURB AND GUTTER, TYPE A (TYP.)

STA 49+38.21 WESTHAVEN=
STA 125+73.73 CTH E
R=35'

SLOPE INTERCEPTS

STA 50+61.21 WESTHAVEN=
STA 125+74.38 CTH E
R=35'

STA 50+00.00 WESTHAVEN=
STA 120+29.05 CTH E

EXISTING R/W

4" SOLID YELLOW (TYP.)

12" STOP BAR (TYP.)

WESTHAVEN

CTH E

6" CROSSWALK

DETECTABLE WARNING FIELD (TYP.)

STA 50+61.79 WESTHAVEN=
STA 126+84.38 CTH E=
R=35'

STA 49+38.79 WESTHAVEN=
STA 126+83.73 CTH E
R=35'

END CONSTRUCTION
STA 51+40.00
SAW CUT REQ'D.

30-INCH CONCRETE CURB AND GUTTER, TYPE A (TYP.)

STA 60+61.51 LAKE POINT DRIVE=
STA 133+61.94 CTH E
R=35'

SLOPE INTERCEPTS

STA 60+00.00 PRIVATE DRIVE=
STA 134+25.77 CTH E

12" STOP BAR (TYP.)

EXISTING R/W

LAKE POINT DRIVE

CTH E

6" CROSSWALK

DETECTABLE WARNING FIELD (TYP.)

STA 60+61.49 LAKE POINT DRIVE=
STA 134+88.66 CTH E
R=35'

END CONSTRUCTION
STA 48+70.00
SAW CUT REQ'D.

PROPOSED PROFILE
EXISTING PROFILE

K = 102.88
VCL 60.00

K = 53.22
VCL 80.00

END CONSTRUCTION
STA 61+00.00
SAW CUT REQ'D.

PROPOSED PROFILE
EXISTING PROFILE

STATE PROJECT NUMBER: 4994-01-09	HWY: CTH E	COUNTY: WINNEBAGO	PLAN AND PROFILE	SHEET NO: 12	E

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30-INCH CONCRETE CURB AND GUTTER, TYPE A (TYP.)

STA 29+37.97 BARTON ROAD=
STA 107+64.21 CTH E
R=35'

STA 30+00.00 BARTON ROAD=
STA 108+15.85 CTH E

EXISTING R/W

~~DETECTABLE WARNING FIELD (TYP.)~~

BARTON ROAD

N00°09'41"W

CTH E

30-INCH CONCRETE CURB AND GUTTER, TYPE D
STA 29+39.00 BARTON ROAD=
~~STA 108+66.22~~ CTH E
R=35'

SLOPE INTERCEPTS

P.L.

MIDWEST REAL ESTATE DEV.

30-INCH CONCRETE CURB AND GUTTER, TYPE A (TYP.)

STA 40+00.00 MARYDEN ROAD=
STA 114+97.00 CTH E
STA 40+61.54 MARYDEN ROAD=
STA 114+45.96 CTH E
R=35'

12" STOP BAR (TYP.)

MARYDEN ROAD

N00°48'07"W

EXISTING R/W

~~8" CROSSWALK~~
~~DETECTABLE WARNING FIELD (TYP.)~~
STA 40+61.46 MARYDEN ROAD=
STA 115+47.96 CTH E
R=35'

SLOPE INTERCEPTS

END CONSTRUCTION
STA 28+70.00
~~SAW CUT REQ'D.~~

K = 31.39
VCL 60.00

VPC STA 28+70.00
VPC EL784.72
VPI STA 29+00.00
VPI EL786.15
VPT STA 29+30.00
VPT EL786.00
VPOT STA 28+66.23
VPOT EL784.67
VPI STA 29+73.50
VPI EL784.79
VPOT STA 30+00.00
VPOT EL785.32

+1.42%
-0.49%
+2.00%

29+14.62
785.04

EXISTING PROFILE
PROPOSED PROFILE

785.55
785.01
786.59
785.32

END CONSTRUCTION
STA 41+30.00
~~SAW CUT REQ'D.~~

K = 23.22
VCL 60.00

VPC STA 40+10.00
VPC EL778.95
VPI STA 41+00.00
VPI EL780.15
VPT STA 41+30.00
VPT EL780.38
VPOT STA 40+00.00
VPOT EL778.62
VPI STA 40+26.50
VPI EL778.08
VPC STA 40+35.00
VPC EL778.13
VPI STA 40+50.00
VPI EL778.21
VPT STA 40+65.00
VPT EL778.76
VPOT STA 41+43.90
VPOT EL780.53

-2.00%
+0.51%
+1.93%
+1.10%

VCL 30.00
K = 9.47

EXISTING PROFILE
PROPOSED PROFILE

780.78
778.62
780.04
779.96

STATE PROJECT NUMBER: 4994-01-09	HWY: CTH E	COUNTY: WINNEBAGO	PLAN AND PROFILE	SHEET NO: 42A	E

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30-INCH CONCRETE CURB AND GUTTER, TYPE A (TYP.)

STA 70+00.00 GRACELAND=
STA 140+73.55 CTH E

STA 69+38.13 GRACELAND=
STA 140+19.68 CTH E
R=35'

SLOPE INTERCEPTS

EXISTING R/W

DETECTABLE WARNING FIELD (TYP.)

6" CROSSWALK

12" STOP BAR

GRACELAND

CTH E

EXISTING R/W

STA 69+38.87 GRACELAND=
STA 141+26.81 CTH E
R=35'

END CONSTRUCTION
STA ~~69+22.54~~ 69+35
SAW CUT REQ'D.

PROPOSED PROFILE

EXISTING PROFILE

+1.16%

+2.00%

VPOT STA 69+22.51
VPOT EL 772.92

VPI STA 69+73.50
VPI EL 773.51

VPOT STA 70+00.00
VPOT EL 774.04

30-INCH CONCRETE CURB AND GUTTER, TYPE A (TYP.)

STA 80+61.51 WESTBROOK=
STA 142+56.91 CTH E
R=35'

SLOPE INTERCEPTS

12" STOP BAR

EXISTING R/W

WESTBROOK

CTH E

6" CROSSWALK

EXISTING R/W

DETECTABLE WARNING FIELD (TYP.)

STA 80+61.49 WESTBROOK
STA 143+57.94 CTH E
R=35'

STA 80+00.00 WESTBROOK=
STA 143+07.83 CTH E

END CONSTRUCTION
STA ~~81+25.00~~ 81+19
SAW CUT REQ'D.

PROPOSED PROFILE

EXISTING PROFILE

K = 175.80
VCL 90.00

-0.72%

+2.00%

VPOT STA 80+00.00
VPOT EL 775.11

VPI STA 80+28.50
VPI EL 774.68

VPC STA 80+35.00
VPC EL 774.52

VPI STA 80+80.00
VPI EL 774.20

VPOT STA 81+25.00
VPOT EL 773.65

STATE PROJECT NUMBER: 4994-01-09	HWY: CTH E	COUNTY: WINNEBAGO	PLAN AND PROFILE	SHEET NO: 43	E

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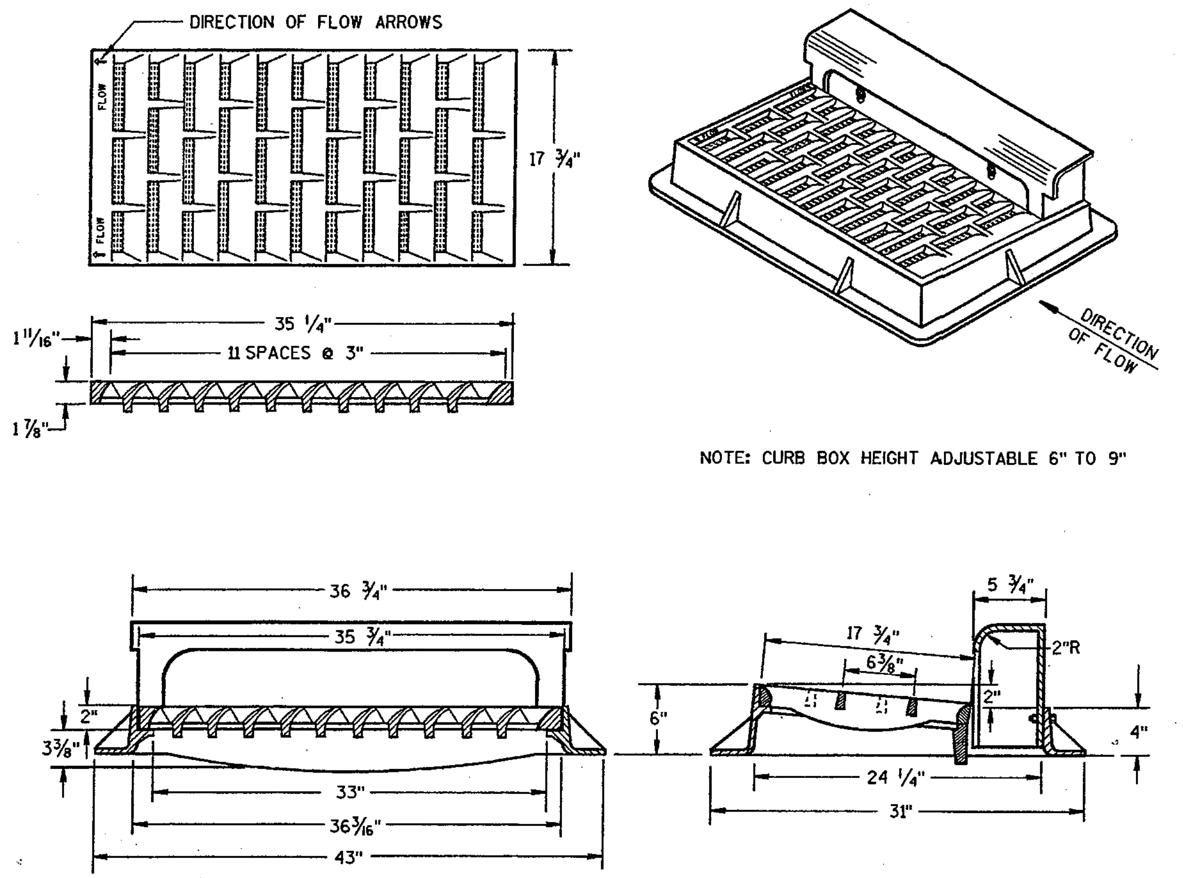
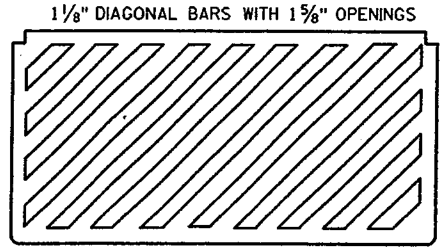
NOTE:
GRATE IS REVERSIBLE.



TYPE "H"

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

1⅛" DIAGONAL BARS WITH 1⅝" OPENINGS



SPECIAL GRATE FOR TYPE "H" COVER

(MEASURES 35 ¼" X 17 ¾" X 2")
(APPROXIMATE WEIGHT 172 LBS.)
GRATE............... 172 LBS.

(NOTED AS TYPE H-S ON DRAINAGE TABLE)

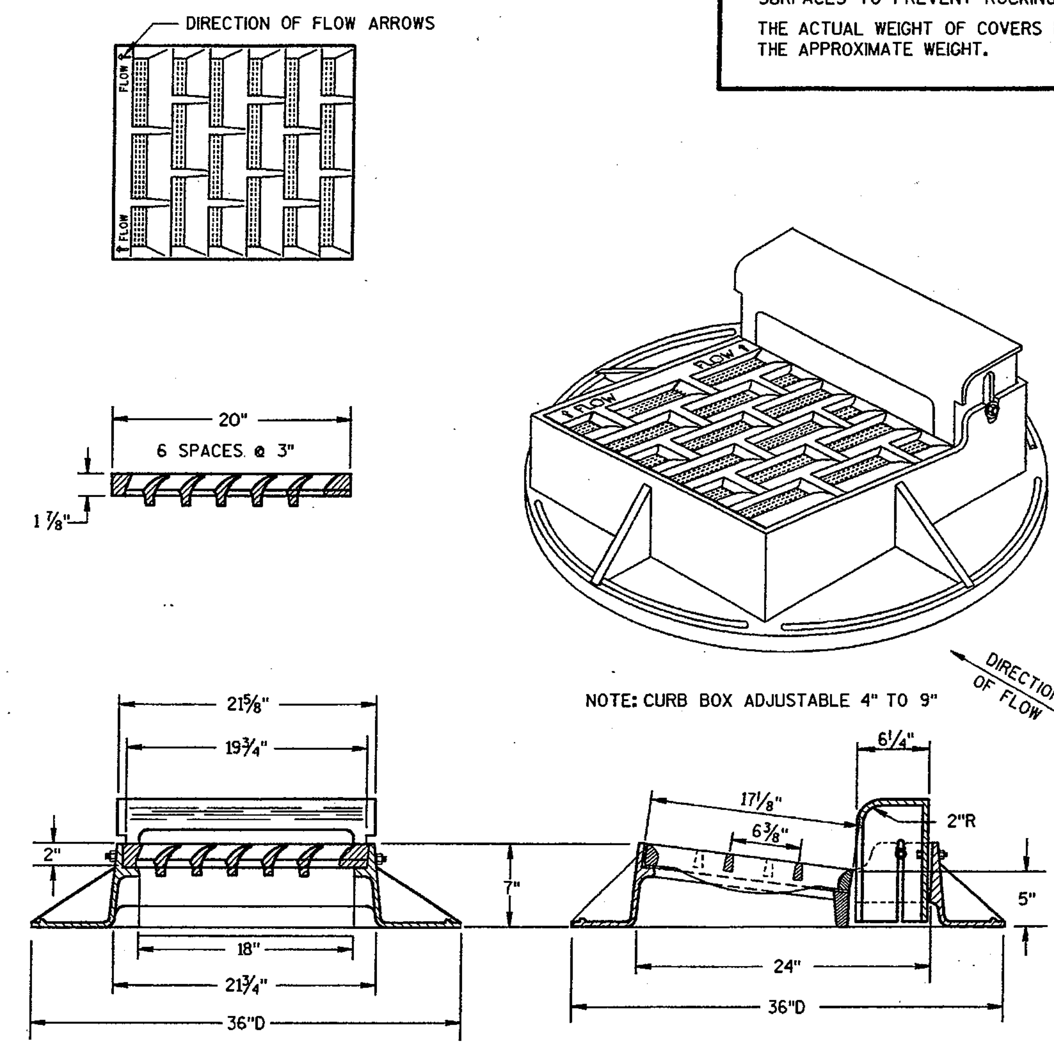
GENERAL NOTES

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 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.

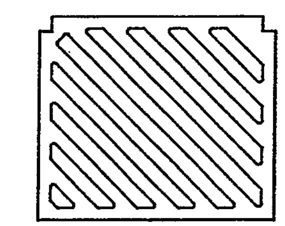


NOTE:
GRATE IS REVERSIBLE.

TYPE "A"

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

1" DIAGONAL BARS WITH 1½" OPENINGS



SPECIAL GRATE FOR TYPE "A" COVER

(MEASURES 19 ¾" X 17" X 1 ⅞"
GRATE............... 84 LBS.

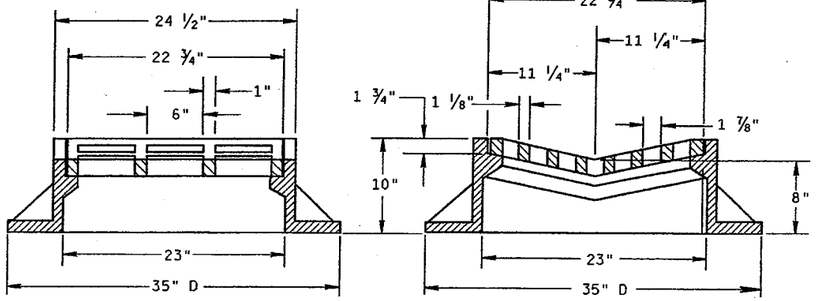
(NOTED AS TYPE A-S ON DRAINAGE TABLE)

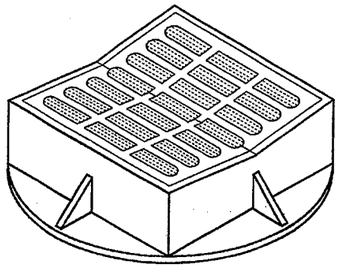
INLET COVERS
TYPE A, H, A-S, & H-S

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/04/99
DATE
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

S.D.D. 8 A 5-16a

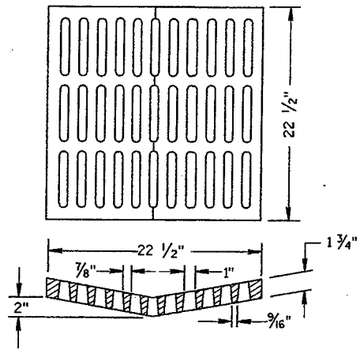




TYPE "B"

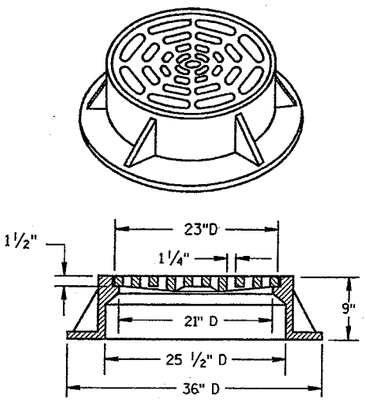
(APPROXIMATE WEIGHT 395 LBS.)

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.

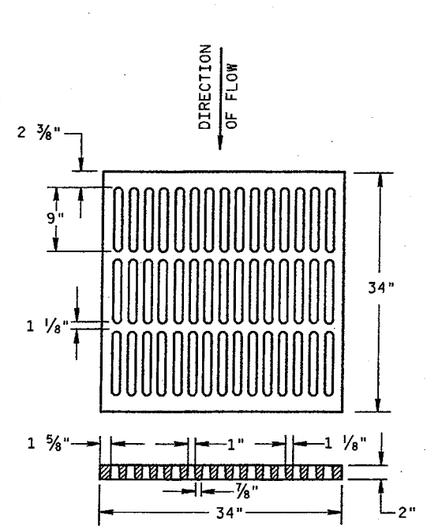
GENERAL NOTES

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.

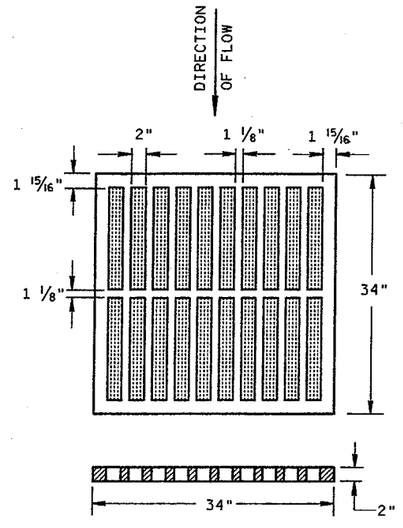
ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.

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



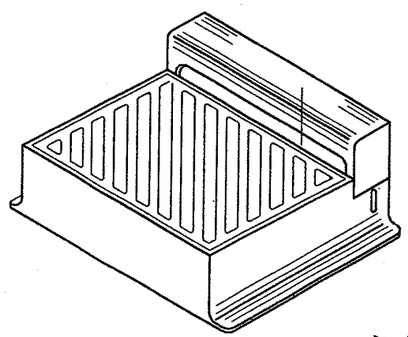
ALTERNATIVE TYPE "MS"

(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



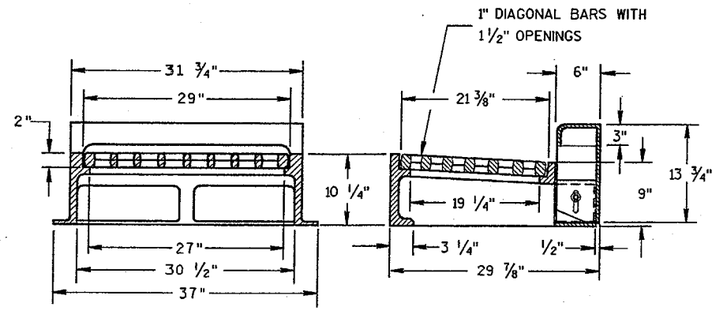
TYPE "MS"

(APPROXIMATE GRATE WEIGHT 270 LBS.)
GRATE.....270 LBS.
USE ON FREEWAYS AND EXPRESSWAYS
NOTED AS TYPE MS ON DRAINAGE TABLE



DIRECTION OF FLOW

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.

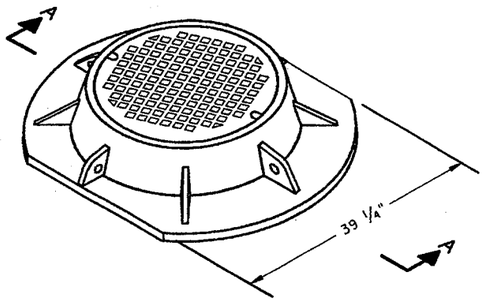
INLET COVERS
TYPE B, B-A, C, MS, MS-A, & WM

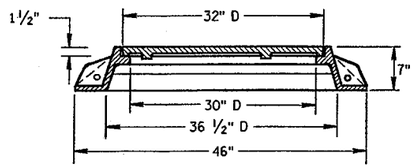
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED 10/04/99 DATE
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

S.D.D. 8 A 5-16b

S.D.D. 8 A 5-16b



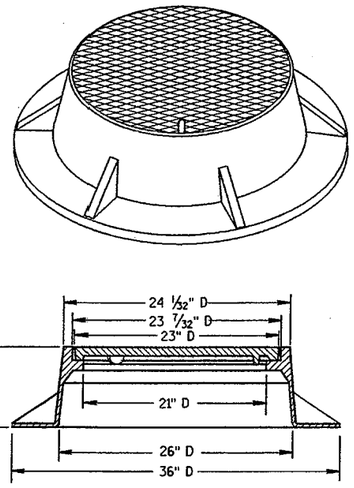


SECTION A-A

TYPE "K"

(APPROXIMATE WEIGHT 415 LBS.)

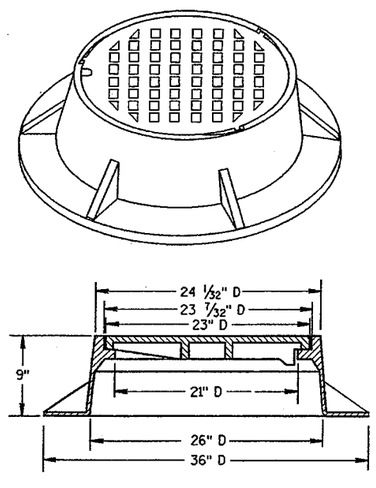
FRAME.....210 LBS.
LID.....205 LBS.



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)

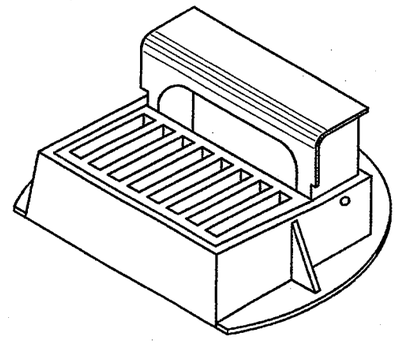
GENERAL NOTES

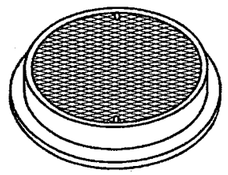
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

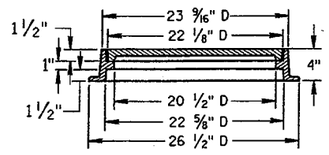
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR MANHOLE COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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.



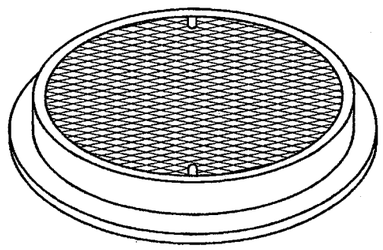


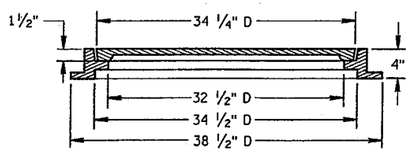


TYPE "L"

(APPROXIMATE WEIGHT 145 LBS.)

FRAME.....75*
LID.....70*

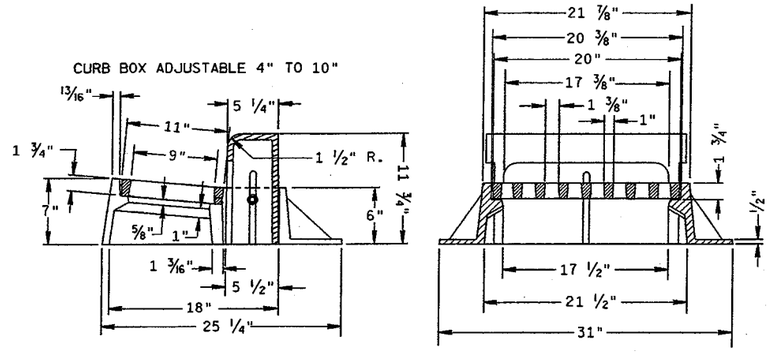




TYPE "M"

(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

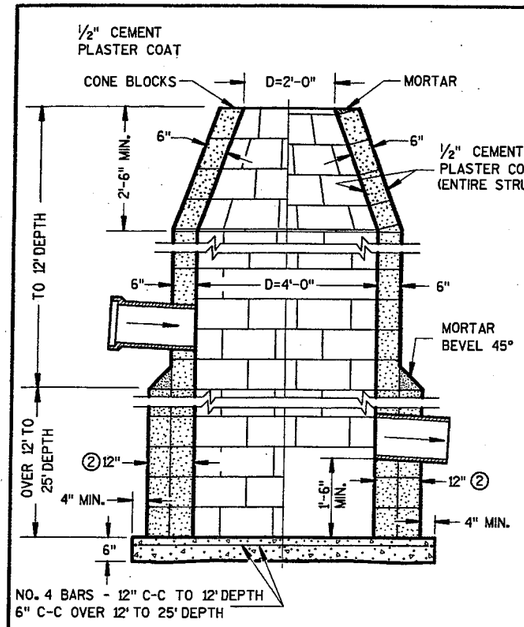
APPROVED
10/04/99
DATE

CHIEF ROADWAY DEVELOPMENT ENGINEER

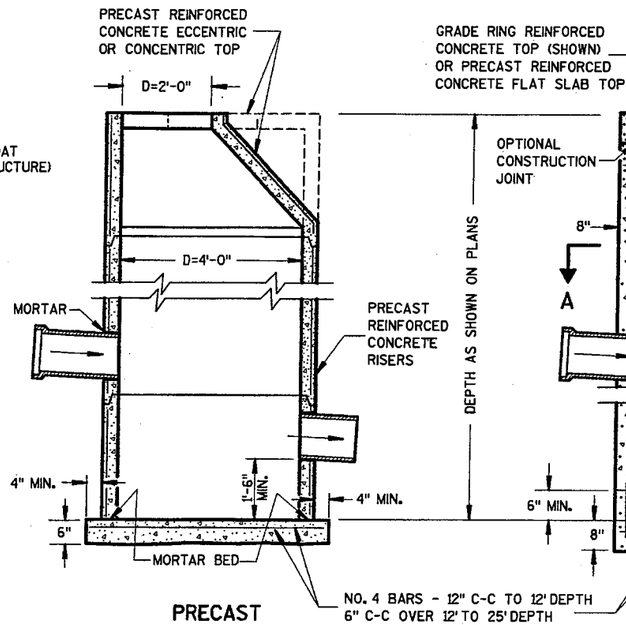
FHWA

S.D.D. 8 A 5-16d

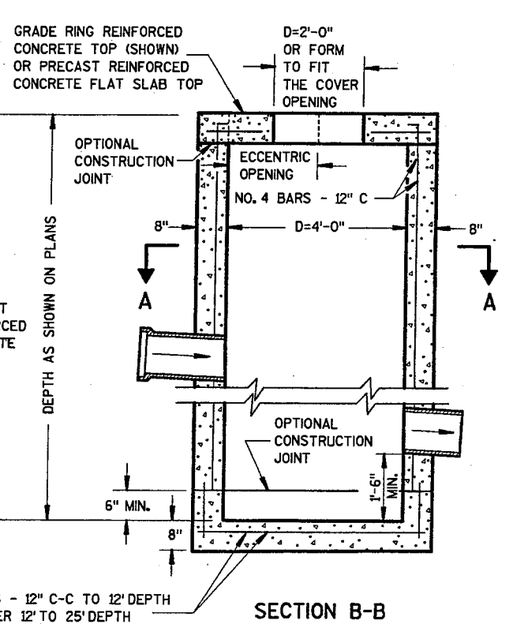
S.D.D. 8 A 5-16d



CONCRETE BLOCK

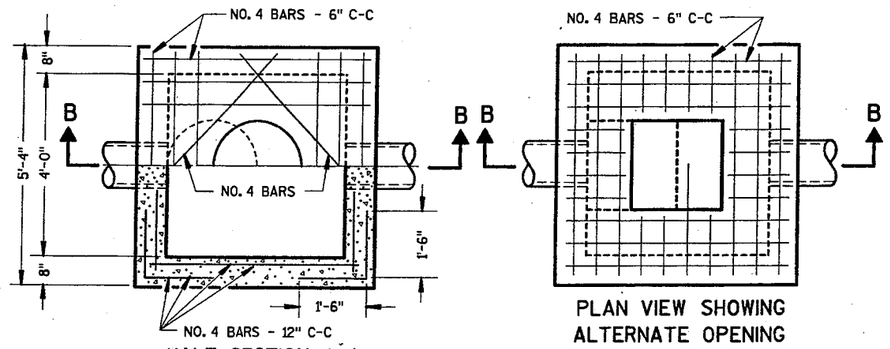


PRECAST REINFORCED CONCRETE



SECTION B-B
REINFORCED CONCRETE

CATCH BASINS, TYPE 1



HALF SECTION A-A

PLAN VIEW SHOWING ALTERNATE OPENING

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 CONCRETE CONE TOPS (ECCENTRIC OR CONCENTRIC) OR PRECAST REINFORCED CONCRETE FLAT SLAB TOPS MAY BE USED ON CONCRETE BLOCK STRUCTURES. THE CONE TOPS SHALL BE INSTALLED ON A BED OF MORTAR.

ECCENTRIC CONE TOPS MAY BE USED ON ALL STRUCTURES, AND CONCENTRIC CONE TOPS SHALL BE USED ONLY ON STRUCTURES 5 FEET OR LESS IN DEPTH, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

STEPS MEETING THE FOLLOWING REQUIREMENTS SHALL BE INSTALLED IN ALL STRUCTURES OVER 5 FEET IN DEPTH: 16 INCH C-C MAXIMUM SPACING; PROJECT A MINIMUM CLEAR DISTANCE OF 4 INCHES FROM THE WALL AT THE POINT OF EMBEDMENT; MINIMUM LENGTH OF 10 INCHES; MINIMUM WALL EMBEDMENT OF 3 INCHES. FERROUS METAL STEPS NOT PAINTED OR TREATED TO RESIST CORROSION SHALL HAVE A MINIMUM CROSS SECTIONAL DIMENSION OF 1 INCH.

STEPS OF APPROVED POLYPROPYLENE PLASTIC COATED REINFORCEMENT BAR ARE ACCEPTABLE.

CERTIFICATION SHALL BE PROVIDED THAT INSTALLED STEPS WHEN TESTED IN ACCORDANCE WITH SECTION 10 OF AASHTO T280 CAN WITHSTAND A VERTICAL LOAD OF 800 LBS. AND A HORIZONTAL LOAD OF 400 LBS.

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

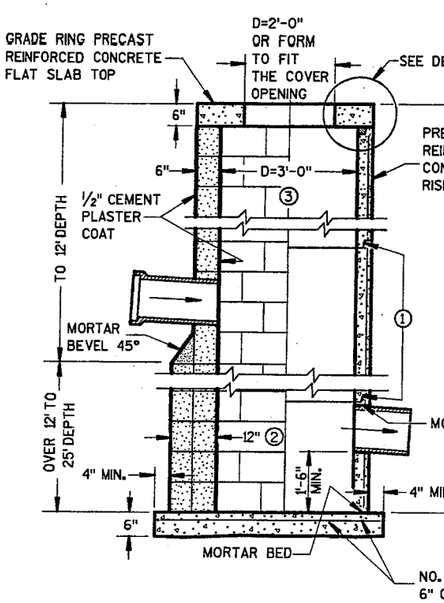
ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M199.

THE "PRECAST REINFORCED CONCRETE FLAT SLAB TOP" OPTION IS REQUIRED ON CATCH BASINS, TYPE 1 WHEN 2'X 3' OPENING INLET COVERS ARE REQUIRED.

① PRECAST REINFORCED CONCRETE RISERS SHALL BE PLACED WITH THE TONGUE DOWN WHEN GRADE RINGS ARE USED FOR THE SLAB TOP.

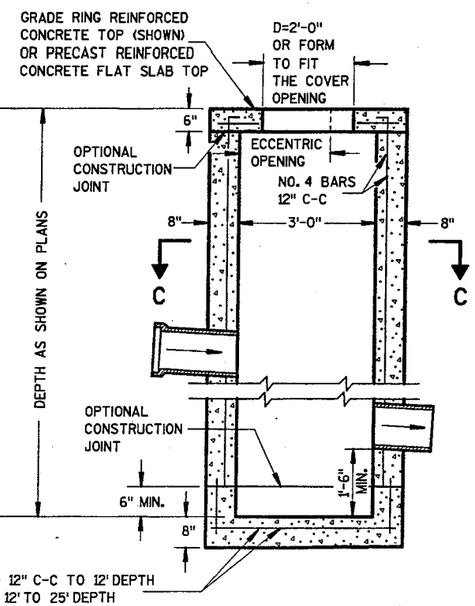
② 2 COURSES 6" BLOCK.

③ WHEN THE CONNECTING PIPES ARE 24" OR LARGER THE PRECAST CATCH BASIN MAY BE INCREASED TO 42" DIA.

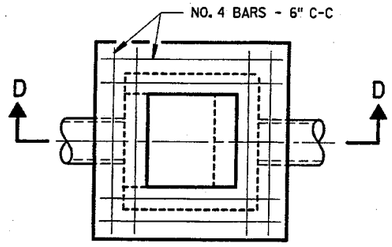


CONCRETE BLOCK

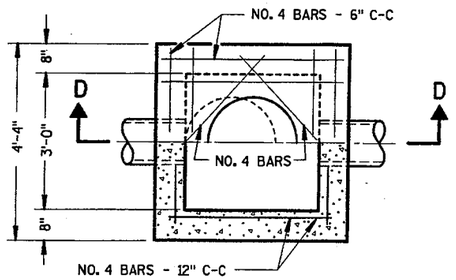
PRECAST REINFORCED CONCRETE



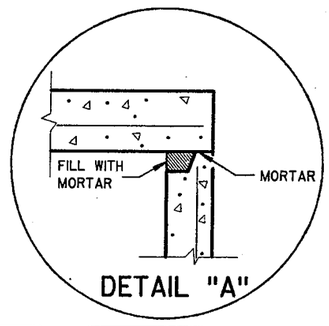
SECTION D-D
REINFORCED CONCRETE



PLAN VIEW SHOWING ALTERNATE OPENING



HALF SECTION C-C



DETAIL "A"

CATCH BASINS, TYPE 2

CATCH BASINS TYPE 1 & 2

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED 06/09/99 Roy D. Thimsen
DATE CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

S.D.D. 8 A 6-4

S.D.D. 8 A 6-4

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 undergroung 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 for Granular Backfill. This bedding shall be compacted and provide uniform support for the entire area of the base.

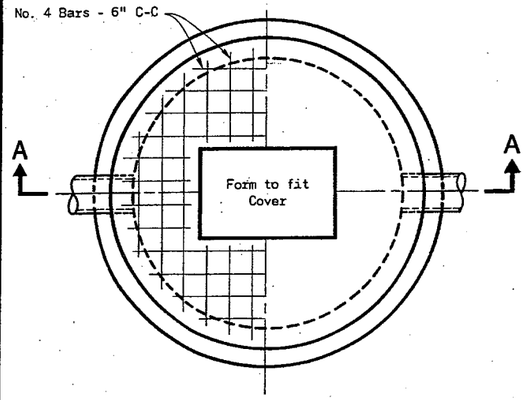
Steps meeting the following requirements shall be installed in all structures over 5 feet in depth: 16 inch C-C maximum spacing; project a minimum clear distance of 4 inches from the wall at the point of embedment; minimum length of 10 inches; minimum wall embedment of 3 inches; and be capable of supporting 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 spacification TT-P-645 or equivalent. Steps of approved Polypropylene plastic coated reinforcement bar will be acceptable.

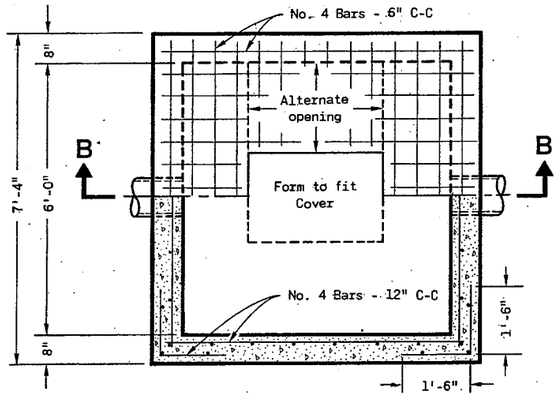
All bar steel reinforcement shall be embedded 2 inches clear unless otherwise shown or noted.

Precast Reinforced Concrete Risers shall be placed with tongue down.

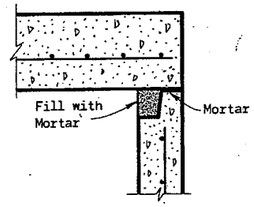
All Precast Inlet Units shall conform to the pertinent requirements of AASHTO Designation M 199.



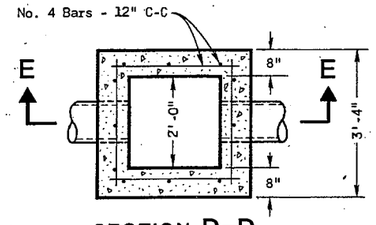
PLAN VIEW



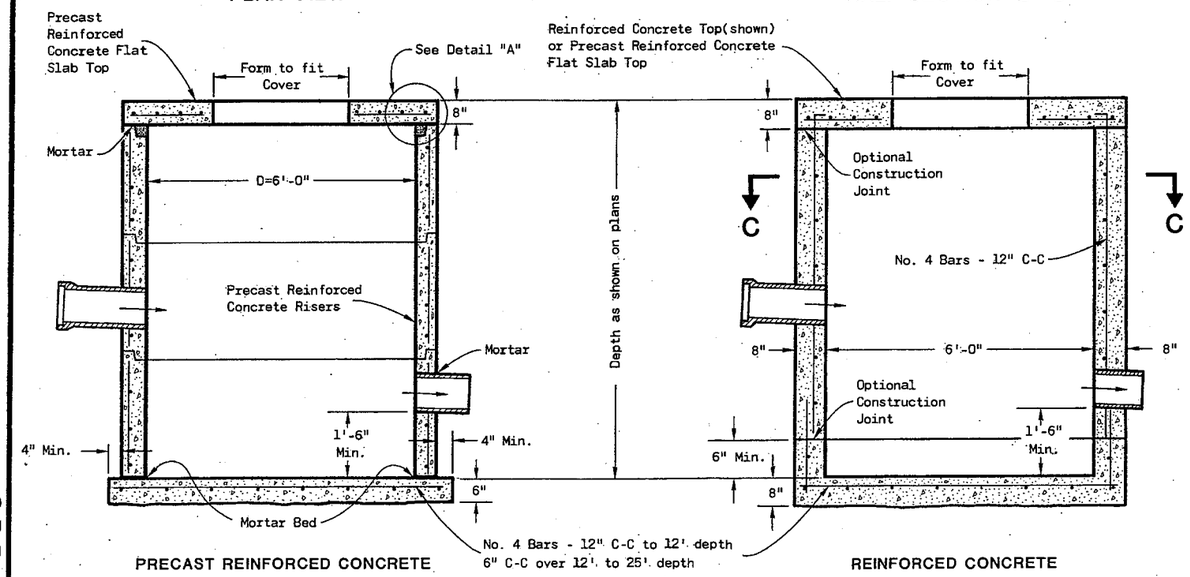
HALF SECTION C-C



DETAIL "A"



SECTION D-D



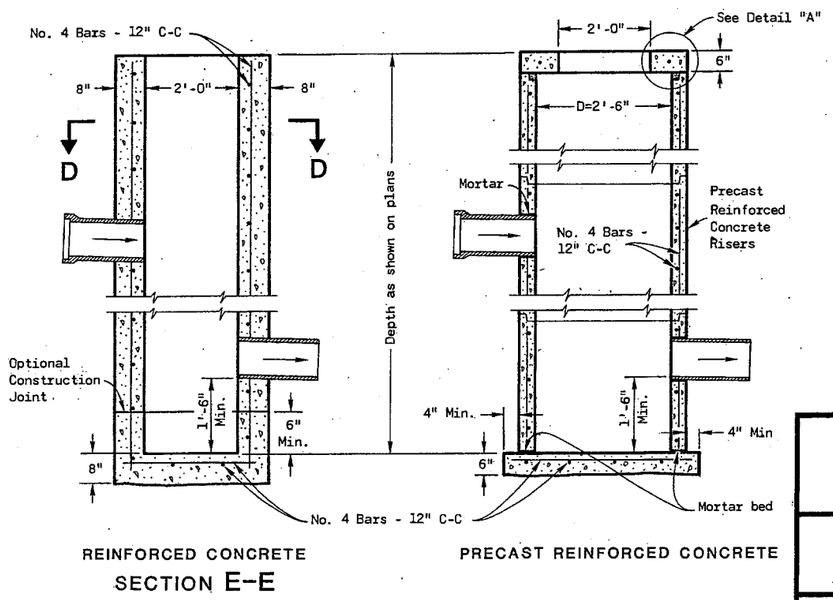
PRECAST REINFORCED CONCRETE

SECTION A-A

REINFORCED CONCRETE

SECTION B-B

CATCH BASINS TYPE 5



REINFORCED CONCRETE

SECTION E-E

PRECAST REINFORCED CONCRETE

CATCH BASINS TYPE 3

CATCH BASINS TYPE 3 & 5

State of Wisconsin
Department of Transportation

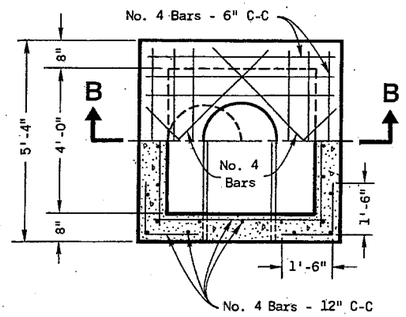
APPROVED
4-13-82
DATE

CHIEF DESIGN ENGINEER

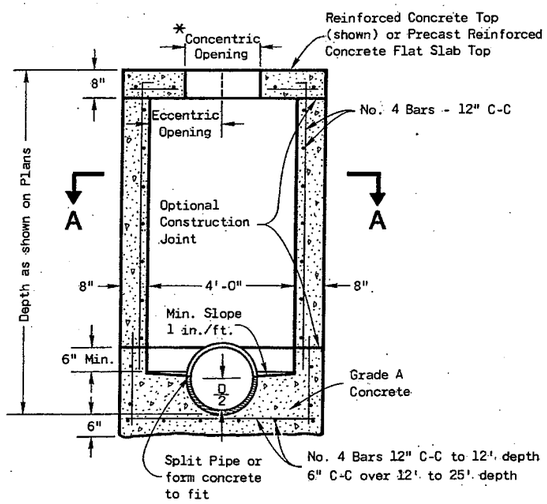
FHWA

S.D.D. 8 A 7-3

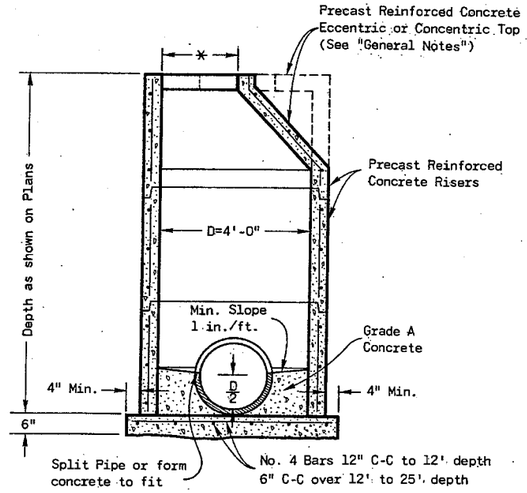
S.D.D. 8 A 7-3



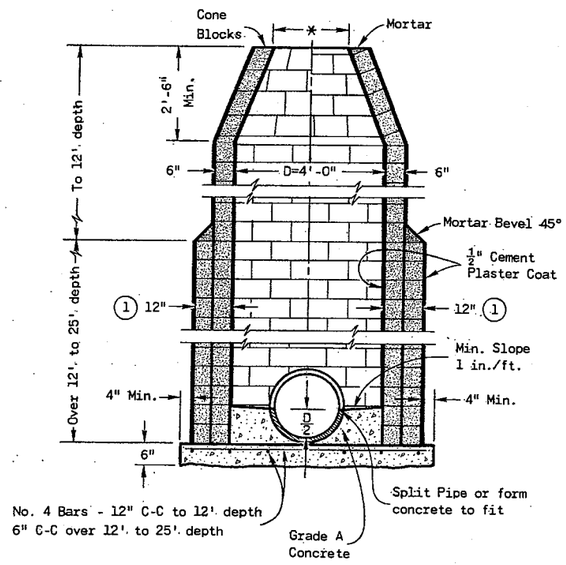
HALF SECTION **A–A**



SECTION **B–B**
REINFORCED CONCRETE



PRECAST REINFORCED CONCRETE



CONCRETE BLOCK

GENERAL NOTES

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

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

All drainage structures are designated on the plans as "Manholes 1-C", "Catch Basins 1-B", "Inlets 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 for Granular Backfill. This bedding shall be compacted and provide uniform support for the entire area of the base.

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

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

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

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

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

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

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

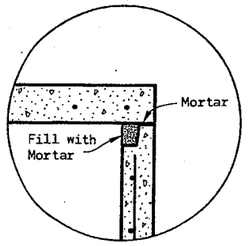
MANHOLES TYPE 1

MANHOLES TYPE 1

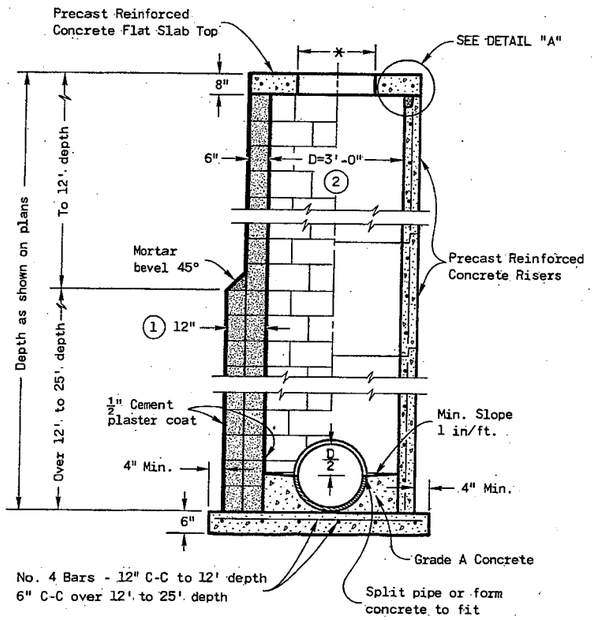
State of Wisconsin
Department of Transportation

APPROVED 4-13-82 DATE
CHIEF DESIGN ENGINEER
FHWA

S.D.D. 8 B 6-3

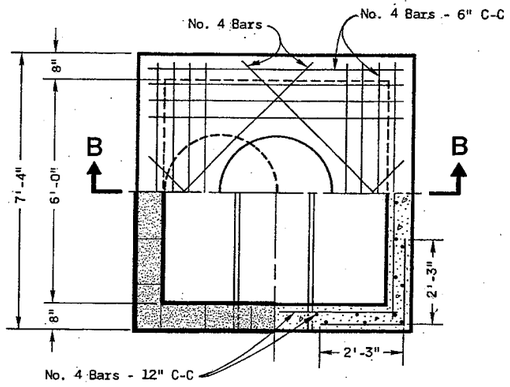


DETAIL "A"

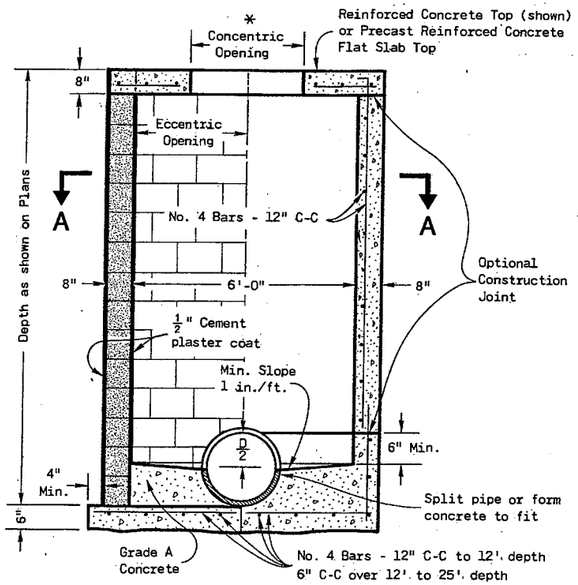


CONCRETE BLOCK ② PRECAST REINFORCED CONCRETE

MANHOLES TYPE 2

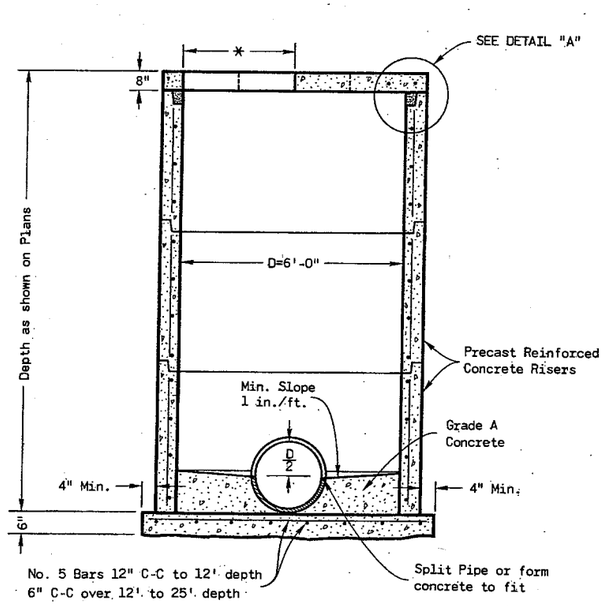


HALF SECTION A-A



SECTION B-B

CONCRETE BLOCK REINFORCED CONCRETE



PRECAST REINFORCED CONCRETE

MANHOLES TYPE 3

GENERAL NOTES

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

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

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" in depth, which meets the requirements for Granular Backfill. This bedding shall be compacted and provide uniform support for the entire area of the base.

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 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 shall be placed with tongue 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.

MANHOLES TYPE 2 & 3

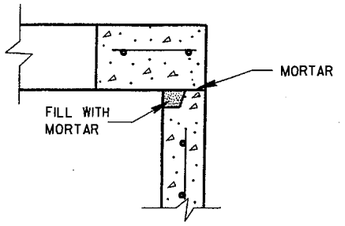
State of Wisconsin
Department of Transportation

APPROVED 4-13-82 DATE
CHIEF DESIGN ENGINEER
FHWA

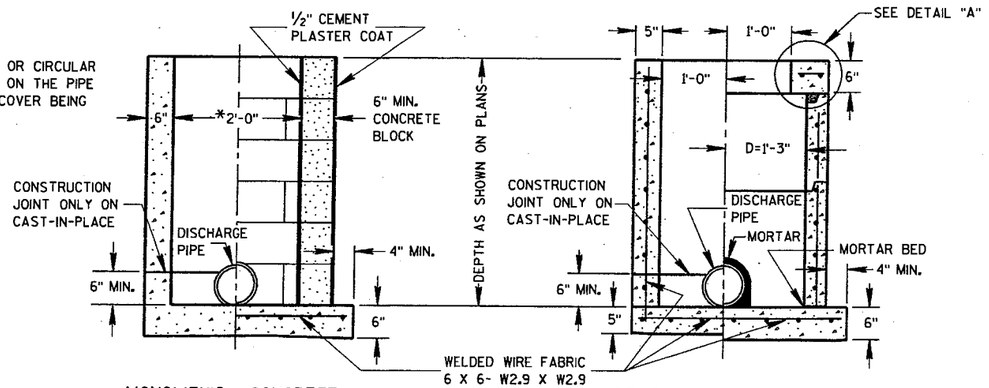
S.D.D. 8 B 7-3

S.D.D. 8 B 7-3

*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.

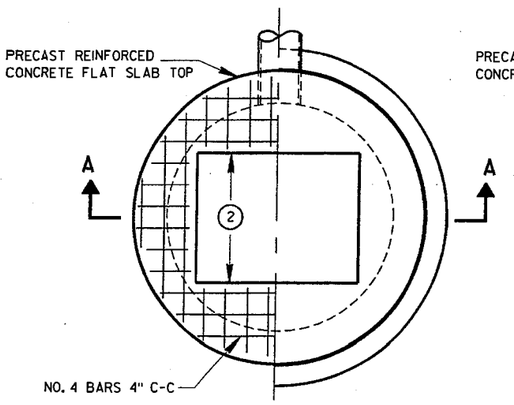
PRECAST REINFORCED CONCRETE FLAT SLAB TOPS MAY BE USED ON THE STRUCTURES. THE TOPS SHALL BE INSTALLED ON A BED OF MORTAR.

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

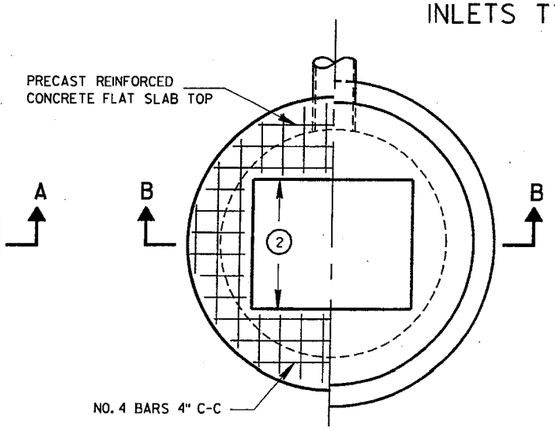
PRECAST REINFORCED CONCRETE RISERS SHALL BE PLACED WITH TONGUE DOWN.

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

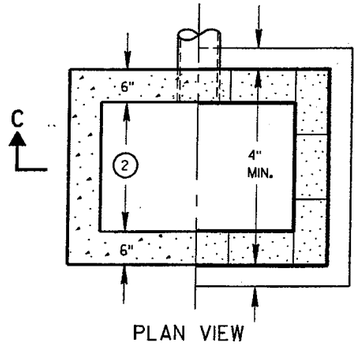
(2) USE 2'-0" OPENING FOR TYPE 1, 2 & 3 INLETS, 2'-6½" OPENING FOR TYPE 4 INLETS.



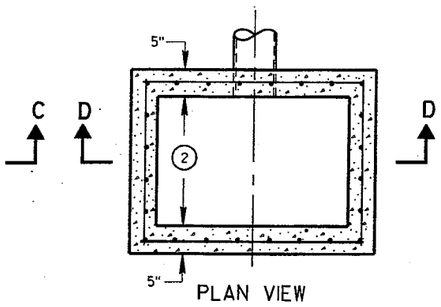
PLAN VIEW



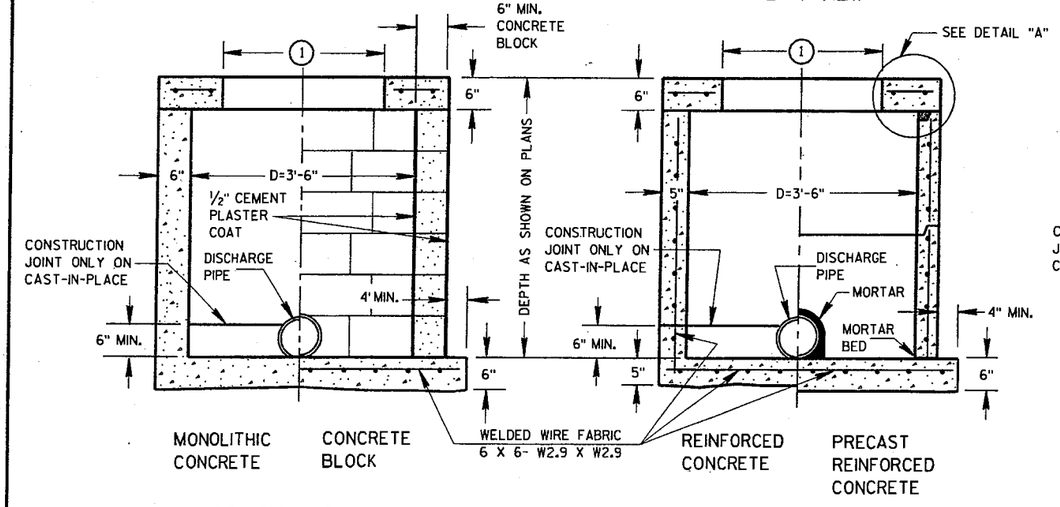
PLAN VIEW



PLAN VIEW

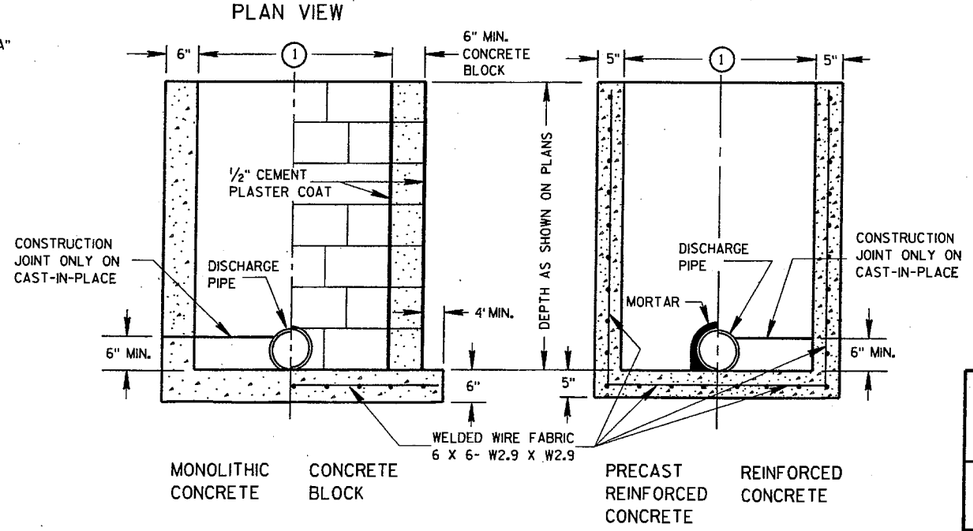


PLAN VIEW



SECTION A-A

SECTION B-B



SECTION C-C

SECTION D-D

INLETS TYPE 2, 3 & 4

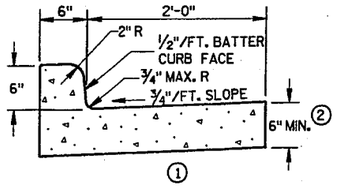
INLETS TYPE 1, 2, 3 & 4

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

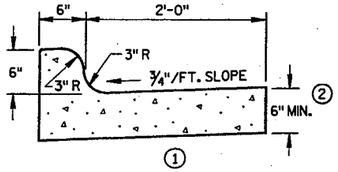
APPROVED 8/26/94 DATE
Roy L. Thinesen
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

S.D.D. 8 C 1-5

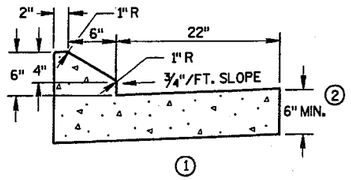
S.D.D. 8 C 1-5



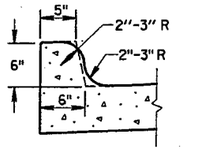
TYPES A & D



TYPES K & L

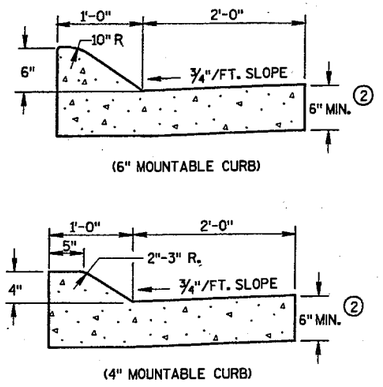


TYPES G & J



OPTIONAL CURB SHAPE
①
FOR TYPES K & L

CONCRETE CURB & GUTTER 30"



TYPES A & D

CONCRETE CURB & GUTTER 36"

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.

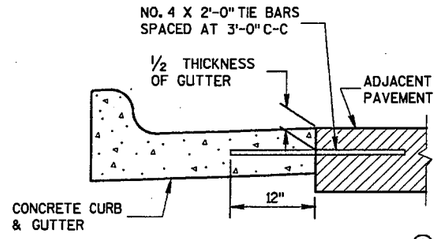
WHERE THE TRANSVERSE JOINTS IN THE PAVEMENT ARE REQUIRED TO BE SEALED, THE JOINTS IN THE INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME TYPE OF SEALANT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB AND GUTTER.

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

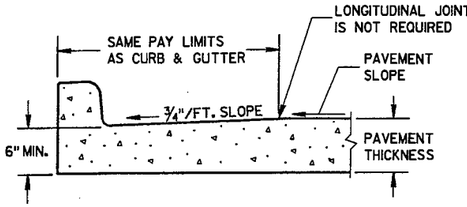
① TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G AND K.

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.

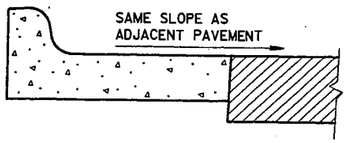
③ WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.



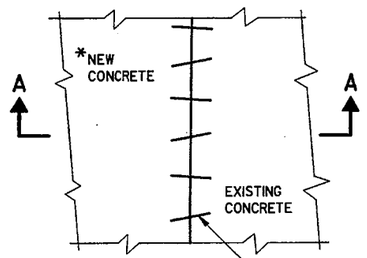
①
TYPICAL TIE BAR LOCATION



PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB & GUTTER

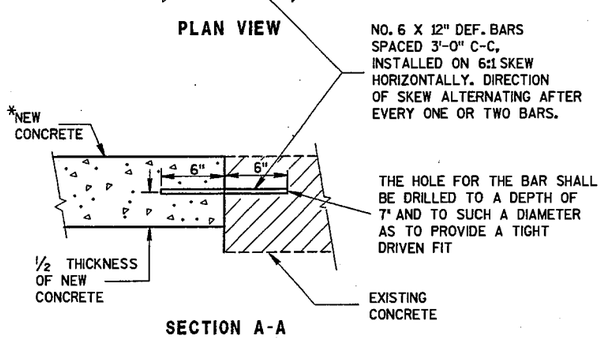


③
REVERSE SLOPE GUTTER
(TYPICAL FOR ALL CURB & GUTTER TYPES)

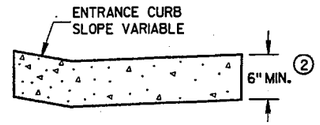


PLAN VIEW

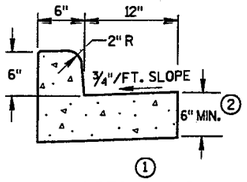
*NEW CURB & GUTTER, SURFACE DRAINS, CONCRETE PAVEMENT OR OTHER NEW CONCRETE.



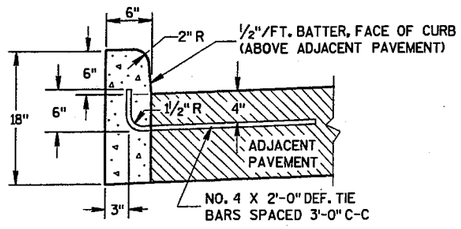
SECTION A-A
PAVEMENT TIES



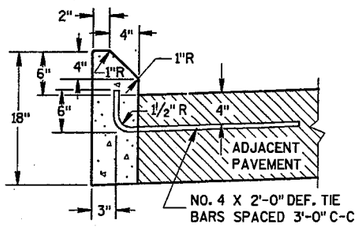
DRIVEWAY ENTRANCE CURB
(WHEN DIRECTED BY THE ENGINEER)



TYPES A & D
CONCRETE CURB & GUTTER 18"



①
TYPES A & D



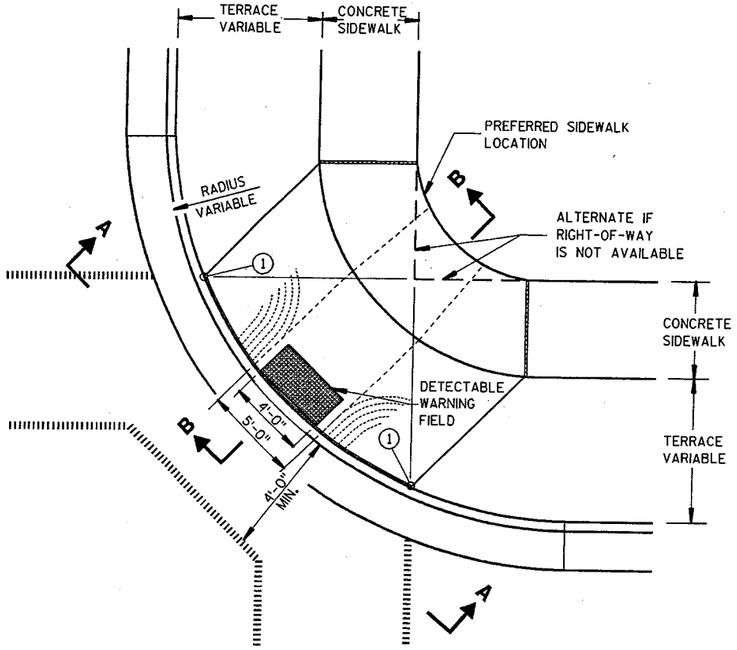
①
TYPES G & J

CONCRETE CURB

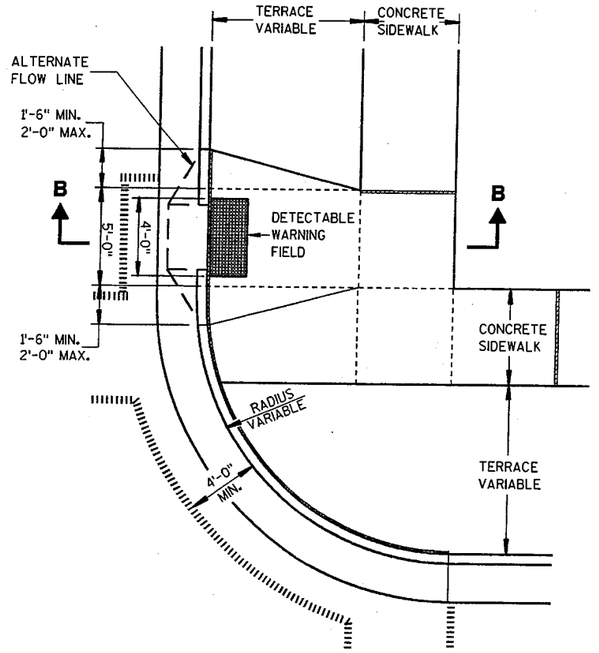
CONCRETE CURB, CONCRETE CURB & GUTTER AND PAVEMENT TIES	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 04/16/99 DATE	Roy L. Amundson CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA	

S.D.D. 8 D 1-13

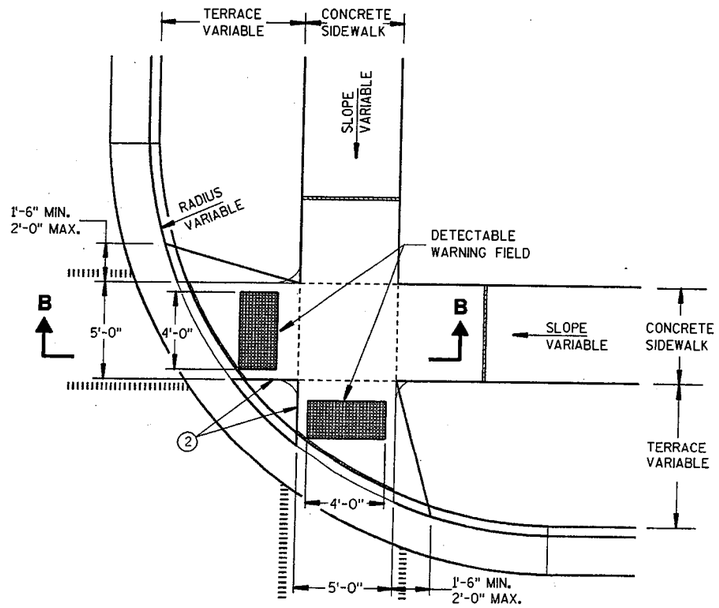
S.D.D. 8 D 1-13



PLAN VIEW
TYPE 1 RAMP
(CENTER OF CORNER RADIUS)



PLAN VIEW
TYPE 3 RAMP
(OUTSIDE OF CROSSWALK AREA)



PLAN VIEW
TYPE 2 RAMP
(ON LINE WITH SIDEWALK)

GENERAL NOTES

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

RAMPS SHALL BE BUILT AT 12H:1V OR FLATTER. WHEN NECESSARY, THE SIDEWALK ELEVATION MAY BE LOWERED TO MEET THE HIGH POINT ON THE RAMP.

TYPE 1 RAMPS SHALL HAVE A NORMAL SIDEWALK APRON AND CURB ON BOTH SIDES OF RAMP.

DETECTABLE WARNING FIELD SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS "CURB RAMP DETECTABLE WARNING FIELD". THE CONCRETE PEDESTRIAN CURB, IF NEEDED, SHALL BE MEASURED AND PAID BY THE LINEAL FOOT AS "CONCRETE CURB PEDESTRIAN". ALL OTHER CONCRETE SIDEWALK IN THE CURB RAMP AREA SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS CONCRETE SIDEWALK.

SELECT CURB RAMP DETECTABLE WARNING FIELD MATERIALS AND DEVICES FROM THE DEPARTMENT'S APPROVED MATERIALS LIST. THE COLOR OF THE DETECTABLE WARNING FIELD IS SPECIFIED ELSEWHERE AND IS INCIDENTAL TO THE BID ITEM OF "CURB RAMP DETECTABLE WARNING FIELD".

SURFACE TEXTURE OF THE RAMP SHALL BE OBTAINED BY COARSE BROOMING TRANSVERSE TO THE SLOPE OF THE RAMP.

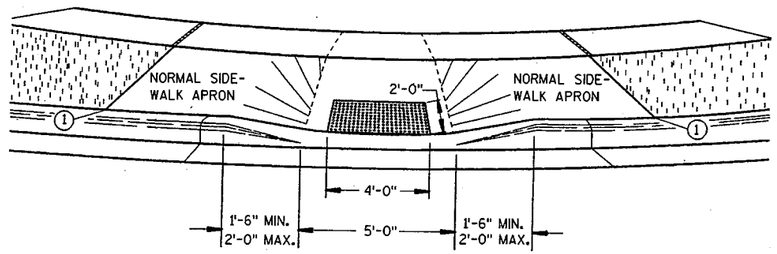
USE THE TYPE 3 RAMP ONLY WHEN A TYPE 1 OR TYPE 2 CANNOT BE ACHIEVED BECAUSE OF FIELD CONDITIONS.

(1) THIS POINT IS AN EXTENSION OF OUTSIDE EDGE OF APPROACHING SIDEWALK WHERE IT MEETS THE BACK OF CONCRETE CURB.

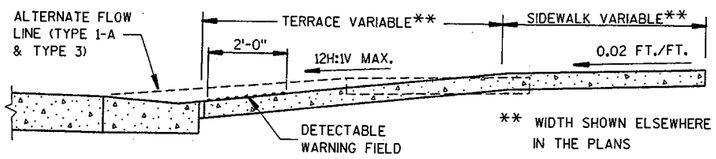
(2) WHEN THIS DISTANCE IS LESS THAN 6'-0" IT MAY BE DIFFICULT TO ACHIEVE A 12H:1V SLOPE, OR FLATTER, ON THE RAMP. REDUCE CURB HEIGHT IN TRIANGLE AREA TO ACHIEVE 12H:1V SLOPE, OR FLATTER, ON RAMP. 2" MINIMUM CURB HEIGHT.

LEGEND

- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT



VIEW A-A



SECTION B-B

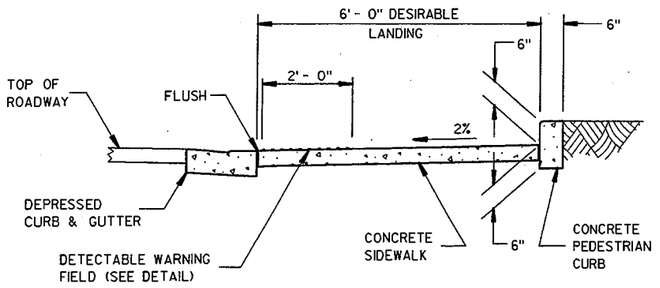
CURB RAMPS
TYPES 1, 2 AND 3

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

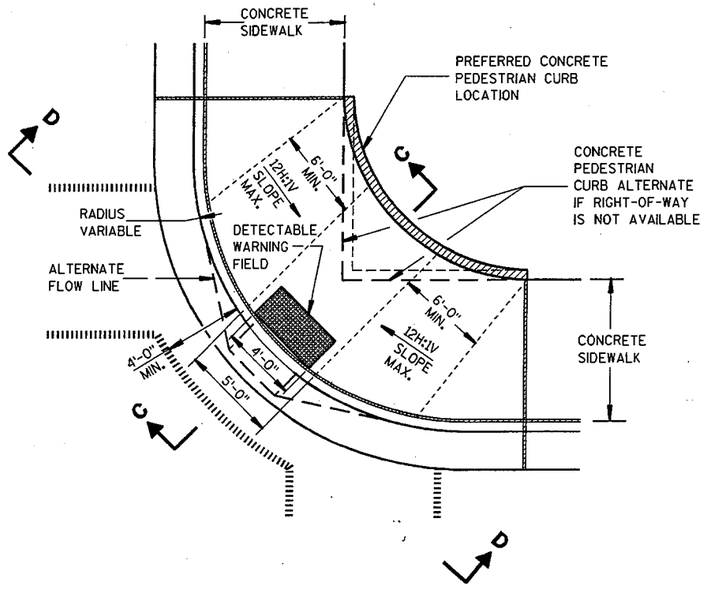
6

S.D.D. 8 D 5-9a

S.D.D. 8 D 5-9a



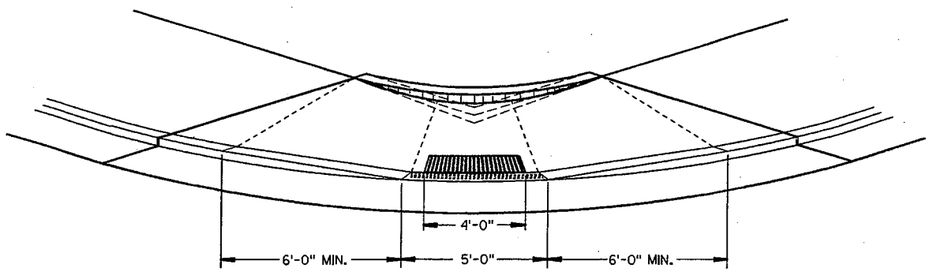
SECTION C-C



PLAN VIEW

TYPE 1-A RAMP

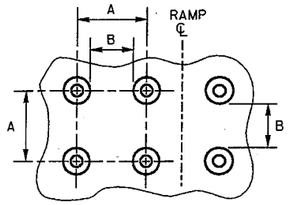
(NO TERRACE)



VIEW D-D

LEGEND

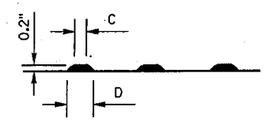
- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT



PLAN VIEW

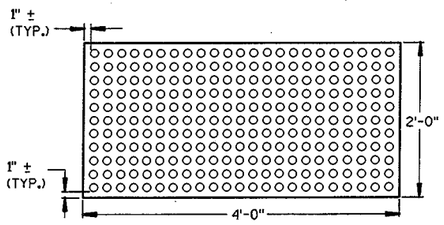
	MIN.	MAX.
A	1.6"	2.4"
B	0.65"	1.5"
C	*	*
D	0.9"	1.4"

* THE C DIMENSION IS 50% TO 65% OF THE D DIMENSION.



ELEVATION VIEW

TRUNCATED DOMES
DETECTABLE WARNING PATTERN DETAIL



PLAN VIEW

DETECTABLE WARNING FIELD (TYPICAL)

6

CURB RAMPS
TYPE 1-A

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

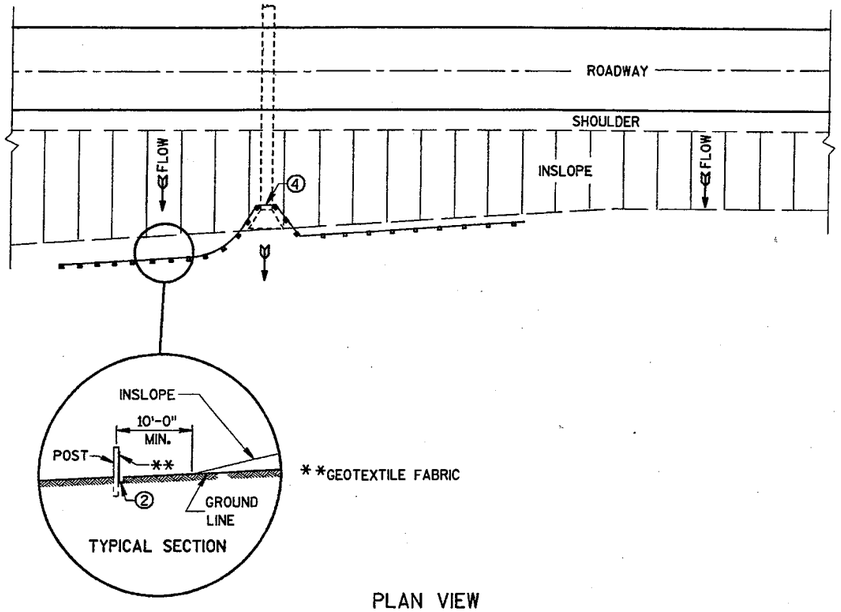
APPROVED 6/25/03
DATE

CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

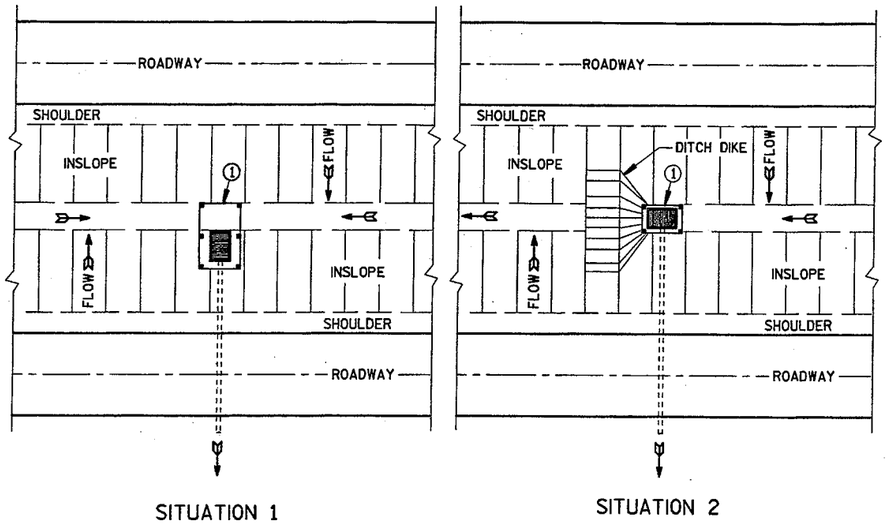
S.D.D. 8 D 5-9b

S.D.D. 8 D 5-9b



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

GENERAL NOTES

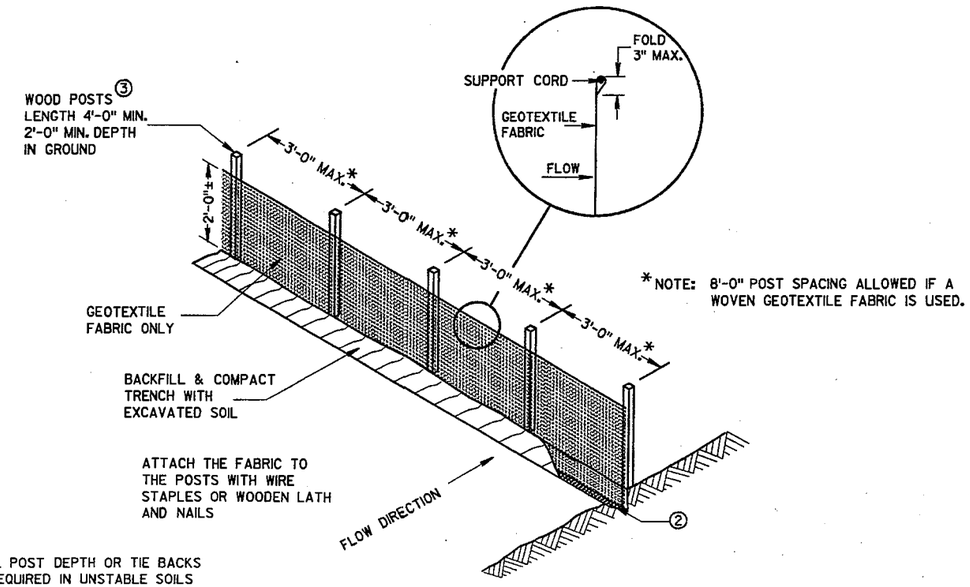
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.

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.

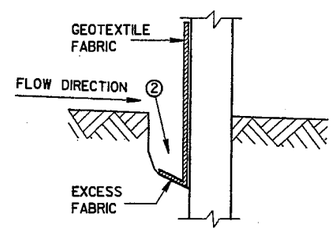
③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.

④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.

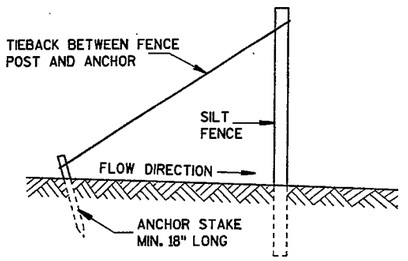


NOTE: ADDITIONAL POST DEPTH OR TIE BACKS MAY BE REQUIRED IN UNSTABLE SOILS

SILT FENCE



TRENCH DETAIL



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

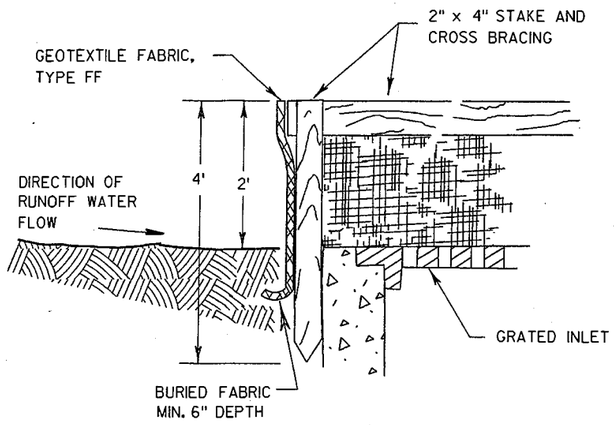
SILT FENCE

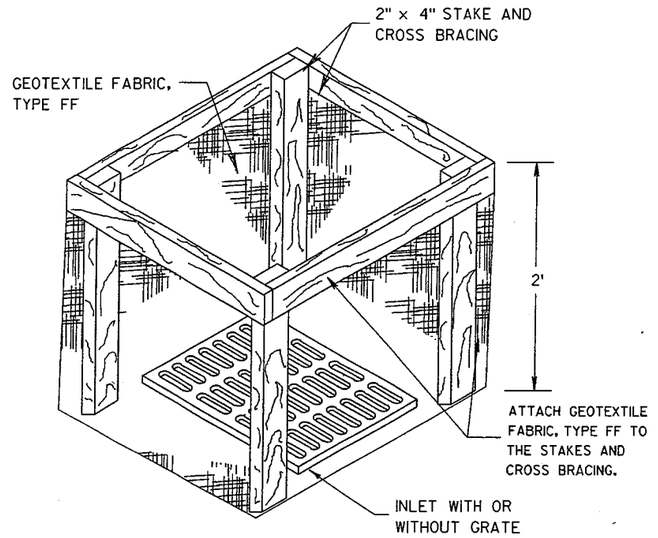
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED 03/06/00 DATE
Tony L. Hanson
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

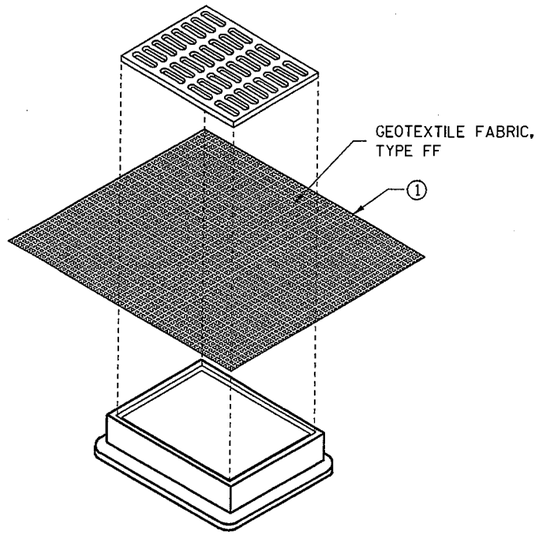
S.D.D. 8 E 9-5

S.D.D. 8 E 9-5



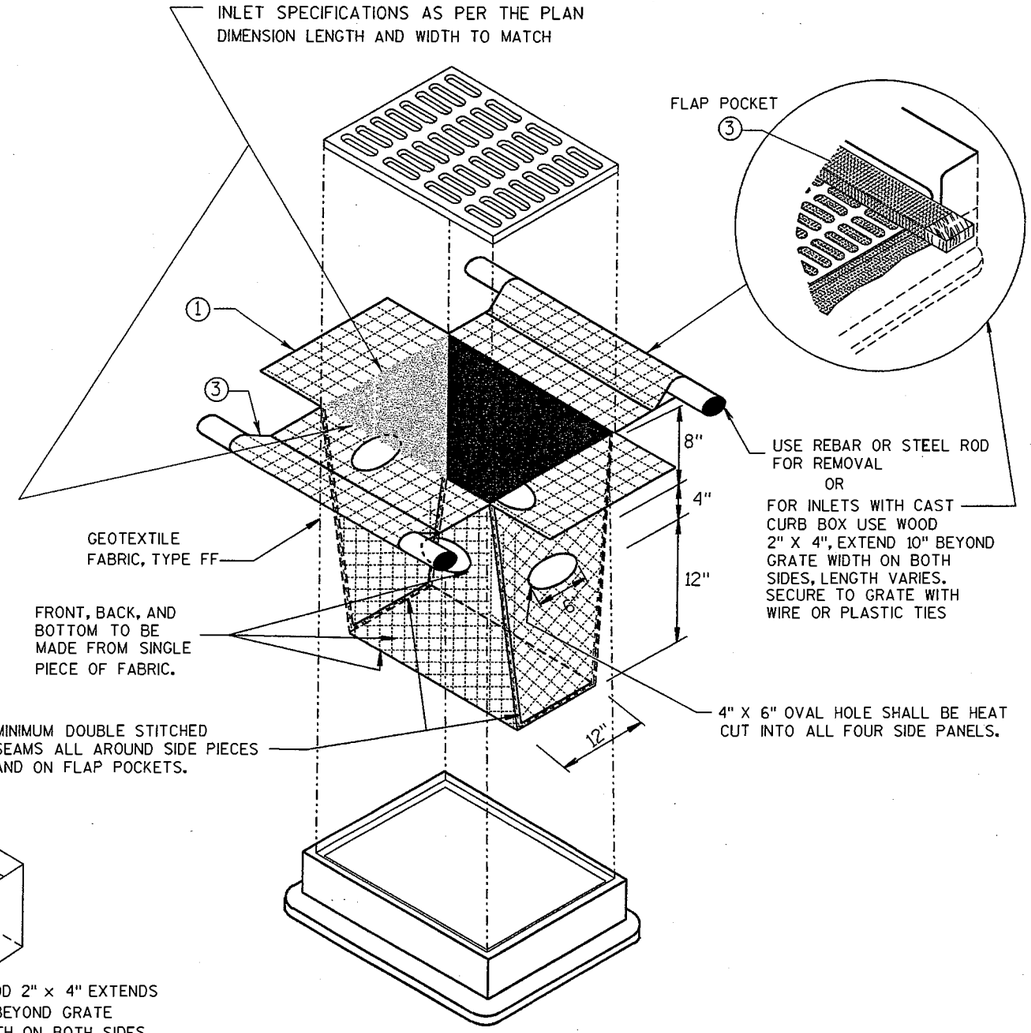


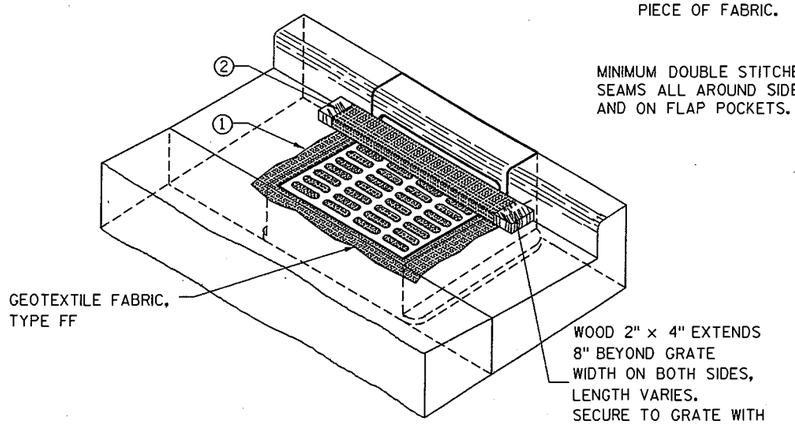
INLET PROTECTION, TYPE A



INLET PROTECTION, TYPE B (WITHOUT CURB BOX)

(CAN BE INSTALLED IN ANY INLET WITHOUT A CURB BOX)





INLET PROTECTION, TYPE C (WITH CURB BOX)

INLET PROTECTION, TYPE D

(CAN BE INSTALLED IN ANY INLET TYPE WITH OR WITHOUT A CURB BOX AS PER NOTE ②)

GENERAL NOTES

INLET PROTECTION DEVICES SHALL BE MAINTAINED OR REPLACED AT THE DIRECTION OF THE ENGINEER.

MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED.

WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.

② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.

③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.

INSTALLATION NOTES

TYPE B & C

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

TYPE D

DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE BOTTOM OF THE BAG.

INLET PROTECTION
TYPE A, B, C, AND D

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/16/02
DATE

CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

6

S.D.D. 8 E 10-2

S.D.D. 8 E 10-2

METAL APRON ENDWALLS

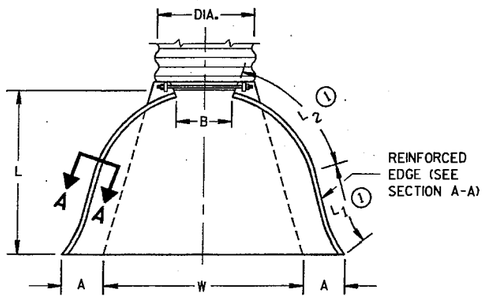
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1½")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17½	24	2½to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21¾	30	2½to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28¼	36	2½to 1	1 Pc.
21	.064	.060	9	12	6	36	18	29⅝	42	2½to 1	1 Pc.
24	.064	.075	10	13	6	41	18	37¼	48	2½to 1	1 Pc.
30	.079	.075	12	16	8	51	18	52¼	60	2½to 1	1 Pc.
36	.079	.105	14	19	9	60	24	59¾	72	2½to 1	2 Pc.
42	.109	.105	16	22	11	69	24	75⅝	84	2½to 1	2 Pc.
48	.109	.105	18	27	12	78	24	81	90	2¼to 1	3 Pc.
54	.109	.105	18	30	12	84	30	85½	102	2¼to 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	1½to 1	3 Pc.
84	.109×	.105×	18	45	12	87	—	—	138	1½to 1	3 Pc.
90	.109×	.105×	18	37	12	87	—	—	144	1½to 1	3 Pc.
96	.109×	.105×	18	35	12	87	—	—	150	1½to 1	3 Pc.

× EXCEPT CENTER PANEL SEE GENERAL NOTES

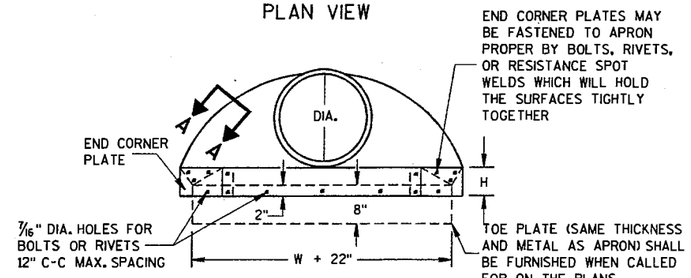
REINFORCED CONCRETE APRON ENDWALLS

PIPE DIA. (IN.)	DIMENSIONS (Inches) T	A	B	C	D	E	G	APPROX. SLOPE
12	2	4	24	48⅛	72⅛	24	2	3 to 1
15	2¼	6	27	46	73	30	2¼	3 to 1
18	2½	9	27	46	73	36	2½	3 to 1
21	2¾	9	36	37½	73½	42	2¾	3 to 1
24	3	9½	43½	30	73½	48	3	3 to 1
27	3¼	10½	49½	24	73½	54	3¼	3 to 1
30	3½	12	54	19¾	73½	60	3½	3 to 1
36	4	15	63	34¾	97¾	72	4	3 to 1
42	4½	21	63	35	98	78	4½	3 to 1
48	5	24	72	26	98	84	5	3 to 1
54	5½	27	65	*33¼-35 **98¼- 100		90	5½	2⅖ to 1
60	6	*30-35 **-	60	39	99	96	5	2 to 1
66	6½	*24-30 **-	*72-78 **-	*21-27 **-	99	102	5½	2 to 1
72	7	*24-36 **-	78	21	99	108	6	2 to 1
78	7½	*24-36 **-	78	21	99	114	6½	2 to 1
84	8	36	90½	21	111½	120	6½	1½to 1
90	8½	41	87½	24	111½	132	6½	1½to 1

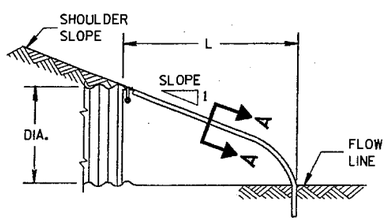
*MINIMUM
**MAXIMUM



PLAN VIEW

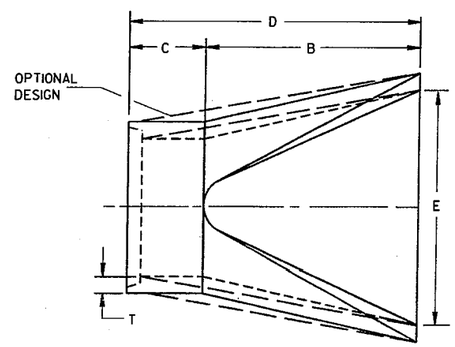


END VIEW

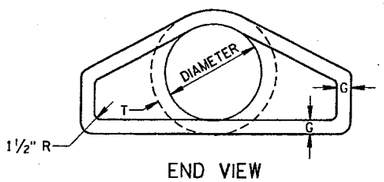


SIDE ELEVATION

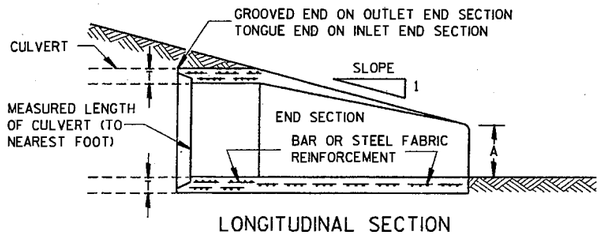
METAL ENDWALLS



PLAN

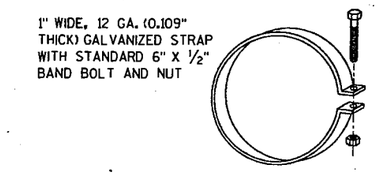


END VIEW



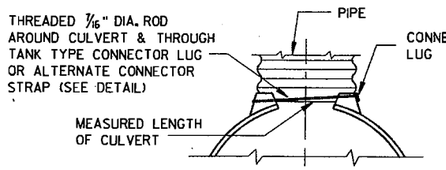
LONGITUDINAL SECTION

CONCRETE ENDWALLS

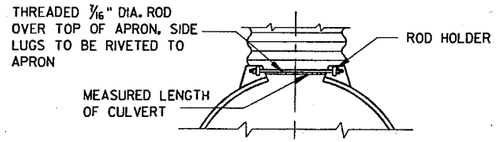


ALTERNATE FOR TYPE 1 CONNECTION

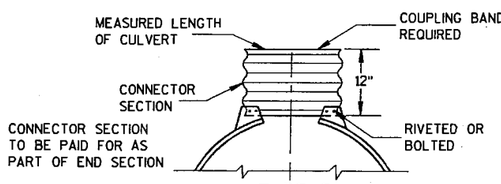
END SECTION CONNECTOR STRAP



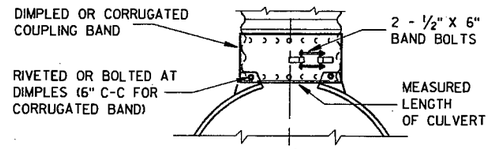
TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE



TYPE 3
FOR 42" THRU 96" CORR. PIPE



TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

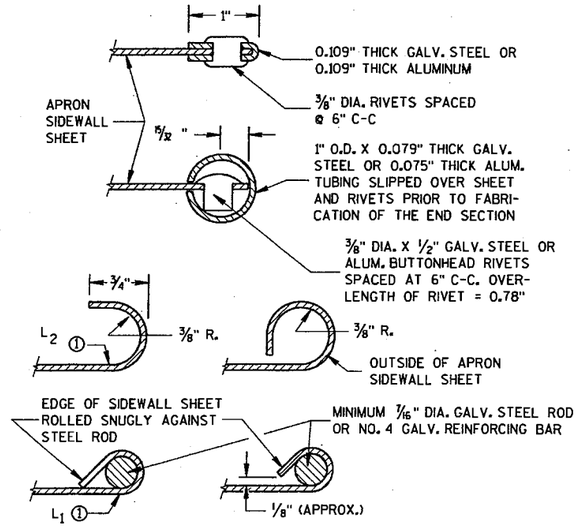
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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



SECTION A-A

GENERAL NOTES

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

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.

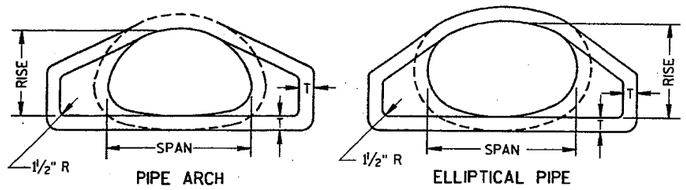
APRON ENDWALLS FOR CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

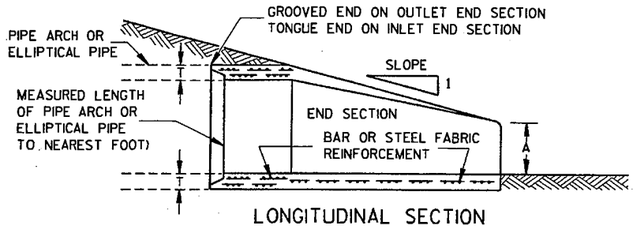
APPROVED 11/30/94 DATE
Roy L. Thiessen
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

S.D.D. 8 F 1-11

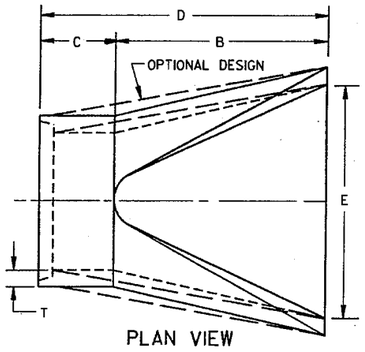
S.D.D. 8 F 1-11



END VIEW

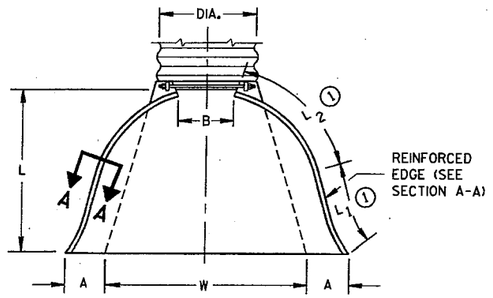


LONGITUDINAL SECTION

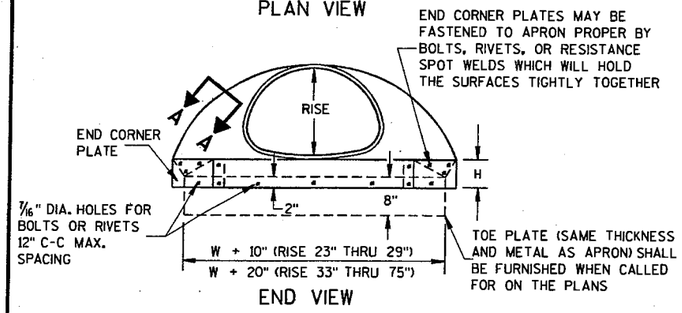


PLAN VIEW

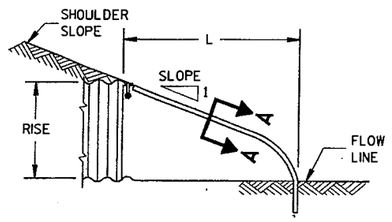
CONCRETE ENDWALLS



PLAN VIEW

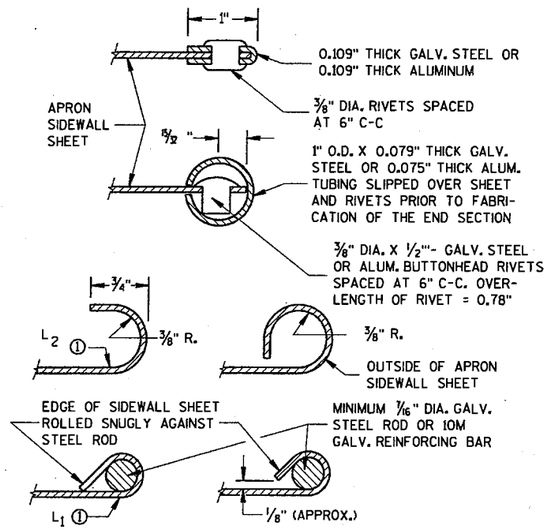


END VIEW



SIDE ELEVATION

METAL ENDWALLS



SECTION A-A

2- 2/3" X 1/2" CORRUGATIONS

EQUIV. DIA. (Inches)	(Inches) SPAN	(Inches) RISE	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
15	17	13	.064	.060	7	9	6	19	14	16	30	2½ to 1	1 Pc.
18	21	15	.064	.060	7	10	6	23	14	19 3/8	36	2½ to 1	1 Pc.
21	24	18	.064	.060	8	12	6	28	18	21 3/4	42	2½ to 1	1 Pc.
24	28	20	.064	.060	9	14	6	32	18	27 1/2	48	2½ to 1	1 Pc.
30	35	24	.079	.075	10	16	6	39	18	37 5/8	60	2½ to 1	1 Pc.
36	42	29	.079	.075	12	18	8	46	24	45 3/8	75	2½ to 1	1 Pc.
42	49	33	.109	.105	13	21	9	53	24	54 3/4	85	2½ to 1	2 Pc.
48	57	38	.109	.105	18	26	12	63	24	68	90	2½ to 1	3 Pc.
54	64	43	.109	.105	18	30	12	70	24	72 3/4	102	2¼ to 1	3 Pc.
60	71	47	.109*	.105*	18	33	12	77	30	82 1/4	114	2¼ to 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) SPAN	(Inches) RISE	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
48	53	41	.109	.105	18	26	12	63	24	72 3/4	90	2½ to 1	2 Pc.
54	60	46	.109	.105	18	30	12	70	30	82 1/4	102	2 to 1	2 Pc.
60	66	51	.109*	.105*	18	33	12	77	—	—	114	1½ to 1	3 Pc.
66	73	55	.109*	.105*	18	36	12	77	—	—	126	1½ to 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	1½ to 1	3 Pc.
84	95	67	.109*	.105*	22	34	12	77	—	—	162	1½ to 1	3 Pc.
90	103	71	.109*	.105*	22	38	12	77	—	—	174	1½ to 1	3 Pc.
96	112	75	.109*	.105*	24	40	12	77	—	—	174	1½ to 1	3 Pc.

NOTE: ALL SPLICES TO BE LAP RIVETED OR BOLTED.

* EXCEPT CENTER PANEL SEE GENERAL NOTES

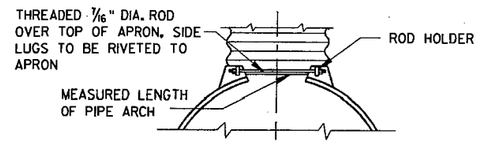
REINFORCED CONCRETE PIPE ARCH

EQUIV. DIA. (Inches)	DIMENSIONS (Inches) ** SPAN	** RISE	T	A	B	C	D	E	APPROX. SLOPE
24	29	18	3	8½	39	33	72	48	3 to 1
30	36	22	3½	9½	50	46	96	60	3 to 1
36	44	27	4	11⅛	60	36	96	72	3 to 1
42	51	31	4½	15 15/16	60	36	96	78	3 to 1
48	58	36	5	21	60	36	96	84	3 to 1
54	65	40	5½	25½	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	28½	83	19	102	144	2 to 1

REINFORCED CONCRETE ELLIPTICAL PIPE

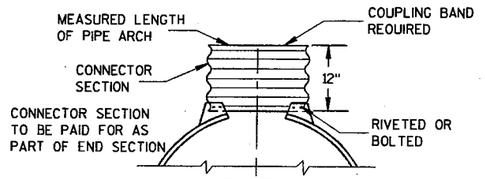
EQUIV. DIA. (Inches)	DIMENSIONS (Inches) ** SPAN	** RISE	T	A	B	C	D	E	APPROX. SLOPE
24	30	19	3¼	8½	39	33	72	48	3 to 1
30	38	24	3¾	9½	54	18	72	60	3 to 1
36	45	29	4½	11⅛	60	24	84	72	2½ to 1
42	53	34	5	15¾	60	36	96	78	2½ to 1
48	60	38	5½	21	60	36	96	84	2½ to 1
54	68	43	6	25½	60	36	96	90	2½ to 1
60	76	48	6½	30	60	36	96	96	2½ to 1

**NOMINAL SIZE



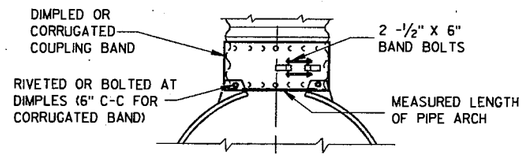
TYPE 2

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

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 VISE 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.

① 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.

APRON ENDWALLS FOR PIPE ARCH AND ELLIPTICAL PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

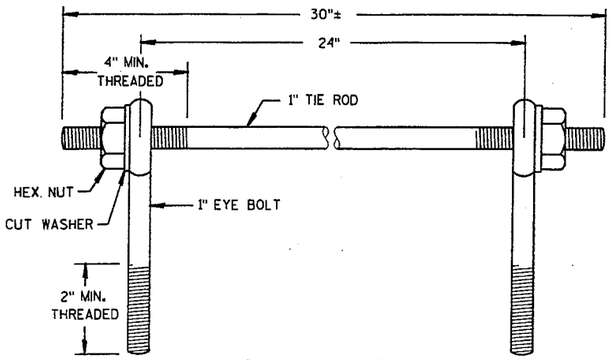
APPROVED
11/30/94
DATE

Roy L. Thimsen
CHIEF ROADWAY DEVELOPMENT ENGINEER

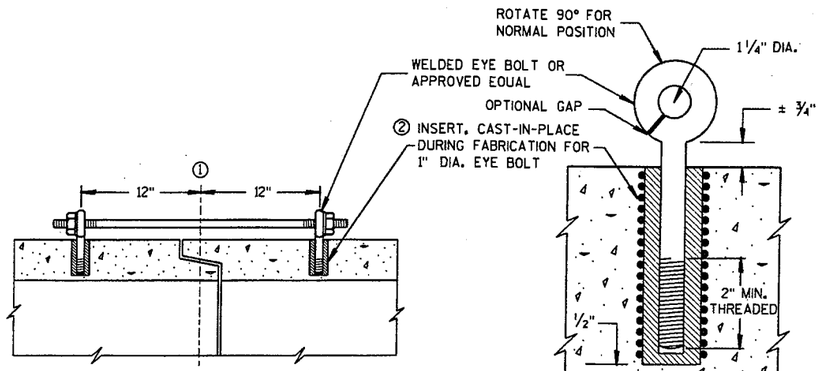
FHWA

S.D.D. 8 F 2-1

S.D.D. 8 F 2-1



EYE BOLTS AND TIE ROD



(CAST-IN-PLACE THREADED INSERT)

LONGITUDINAL SECTIONS

GENERAL NOTES

CONCRETE CULVERT PIPE SHALL BE TIED TOGETHER IN THE MANNER ILLUSTRATED BY THIS DETAIL AT LOCATIONS DESIGNATED ON THE PLAN. THE CONTRACTOR MAY USE EITHER ALTERNATE 1, 2 OR 3 FOR DRAINAGE STRUCTURES. ONLY ALTERNATE 1 AND 3 MAY BE USED FOR CATTLE PASSES. UNLESS OTHERWISE STATED IN THE CONTRACT THE MATERIALS, FABRICATION AND WORK NECESSARY TO TIE CULVERT PIPE AS INDICTED ON THE PLANS AND BY THIS DETAIL WILL BE CONSIDERED INCIDENTAL TO CILVERT PIPE, REINFORCED CONCRETE CULVERT PIPE, OR REINFORCED CONCRETE PIPE CATTLE PASS.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR JOINT TIES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

① ℄ OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.

② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

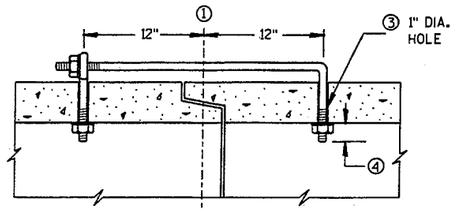
③ HOLES SHALL BE CAST-IN-PLACE OR DRILLED 12" FROM ℄ OF TONGUE AND GROOVE.

④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2".

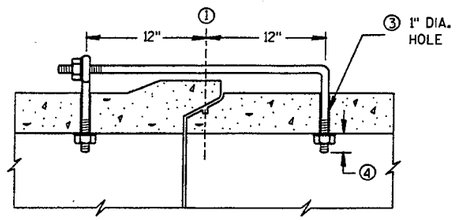
⑤ ROD DIAMETER + 1 INCH.

⑥ LENGTH ADEQUATE TO EXTEND TO WITHIN 1/2 INCH OF THE INNER SURFACE OF THE PIPE.

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 1)



(TONGUE & GROOVE PIPE)



(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

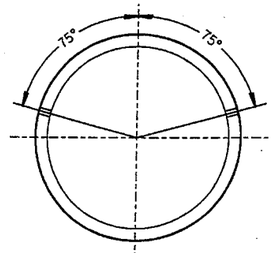
EYE BOLT DIMENSION TABLE

PIPE SIZE	L = LENGTH	
	TONGUE & GROOVE PIPE	MODIFIED BELL PIPE
18" TO 24"	4 1/2"	6 1/4"
30"	5"	7"
36"	5 1/2"	7"
42"	6"	
48"	6 1/2"	
60"	7 1/2"	
66"	8"	

ADJUSTABLE TIE ROD TABLE

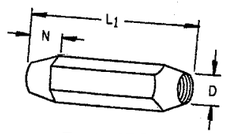
PIPE DIAMETER	TIE ROD DIAMETER	D	L_1	N
12-60	5/8	5/8	5	1/2
66-84	3/4	3/4	5	1/2
90-108	1	1	7	1 7/16

DIMENSIONS SHOWN ARE IN INCHES

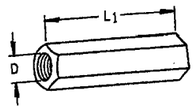


PLACEMENT OF (2) CAST-IN-PLACE INSERTS OR HOLES DURING FABRICATION FOR PIPE SECTIONS REQUIRING TIE RODS

TRANSVERSE SECTION



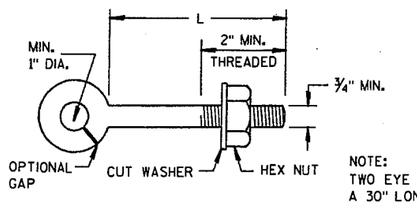
TAPERED



PLAIN

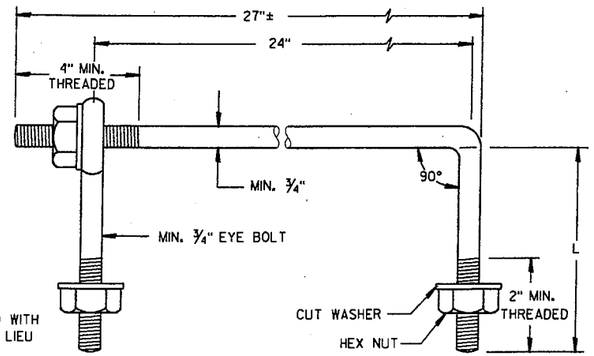
RIGHT AND LEFT THREADS

SLEEVE NUTS



EYE BOLT

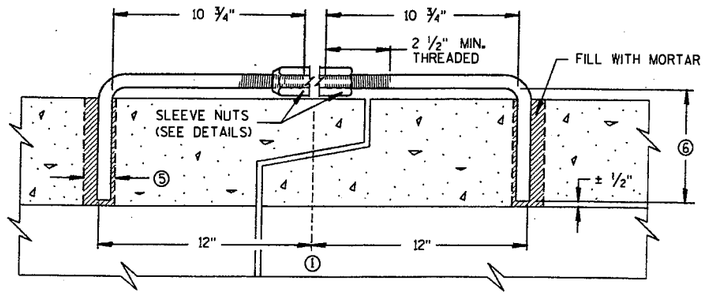
NOTE:
TWO EYE BOLTS MAY BE USED WITH A 30" LONG THREADED ROD IN LIEU OF THE 90° BENT TIE ROD.



EYE BOLT AND TIE ROD

(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 2)



LONGITUDINAL SECTION

(JOINT TIES FOR 12" TO 108" DIA. CONCRETE PIPE)

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)

JOINT TIES FOR CONCRETE PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED 9/18/92 DATE
STATE DESIGN ENGINEER FOR HWYS
FHWA

S.D.D. 8 F 4-5

S.D.D. 8 F 4-5

CLASS "B" BEDDING

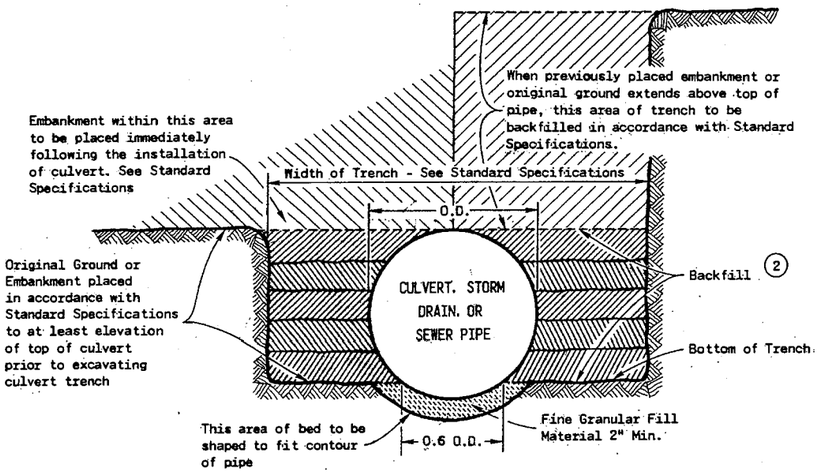
GENERAL NOTES

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

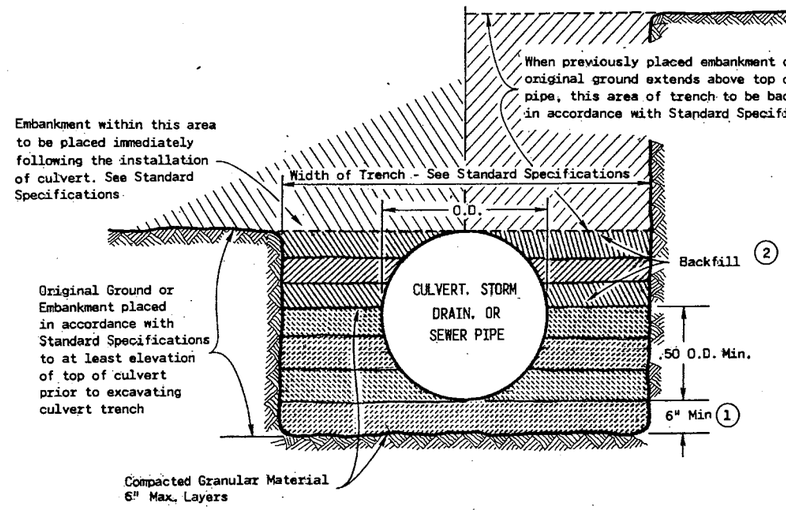
The shaped subgrade with granular foundation is an equal alternate to the granular foundation except where rock is encountered.

(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 $\frac{1}{2}$ 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

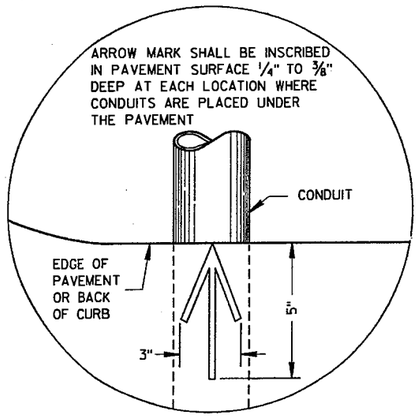
CLASS "B" BEDDING FOR CULVERT PIPE OR STORM SEWER

State of Wisconsin
Department of Transportation

APPROVED 4-7-83
DATE
CHIEF DESIGN ENGINEER
FHWA

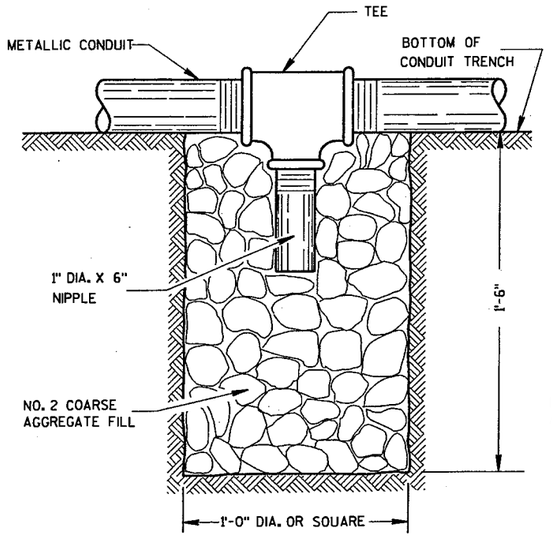
S.D.D. 8 F 5-1

S.D.D. 8 F 5-1



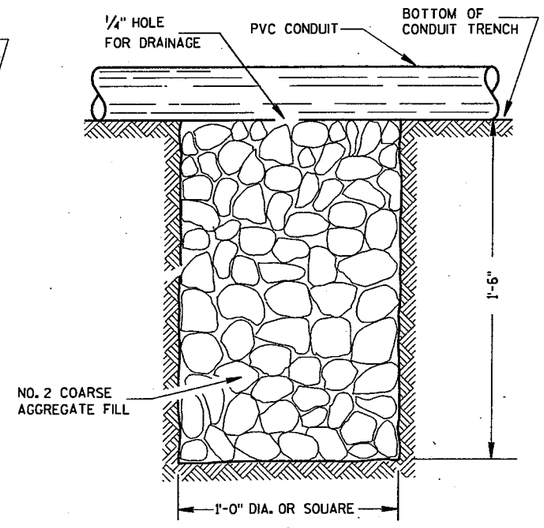
PLAN VIEW

ARROW MARK



NOTE: INSTALL AT LOCATIONS WHERE METALLIC CONDUITS CANNOT BE PITCHED TO DRAIN INTO A PULL BOX.

DRAIN SUMP FOR METALLIC CONDUIT



NOTE: INSTALL AT LOCATIONS WHERE PVC CONDUITS CANNOT BE PITCHED TO DRAIN INTO A PULL BOX.

DRAIN SUMP FOR PVC CONDUIT

GENERAL NOTES

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

METALLIC (STANDARD SPECIFICATION 652.2.2) OR NONMETALLIC (STANDARD SPECIFICATION 652.2.3) CONDUIT SHALL BE FURNISHED AND PLACED AS SHOWN.

DEPTH OF CONDUIT INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES MINIMUM AND 36 INCHES MAXIMUM.

DEPTH OF CONDUIT INSTALLED THAT IS NOT BELOW THE TRAVELED WAY SHALL BE 18 INCHES MINIMUM AND 36 INCHES MAXIMUM.

ANY EXCEPTION TO THE MAXIMUM DEPTH SHALL BE ONLY WITH THE WRITTEN APPROVAL OF THE ENGINEER.

THE TRENCH SHALL NOT BE BACKFILLED PRIOR TO INSPECTION OF THE CONDUIT.

ALL METALLIC CONDUIT RACEWAY ENDS SHALL BE REAMED AND THREADED.

ALL METALLIC CONDUIT IN WHICH WIRE OR CABLE IS TO BE INSTALLED SHALL BE BUSHED WITH APPROVED THREADED BUSHINGS BEFORE INSTALLATION OF THE WIRE OR CABLE.

ALL METALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT TO BE INSTALLED SHALL BE CAPPED WITH THREADED PROTECTIVE CAPS, AS APPROVED BY THE ENGINEER.

ALL NONMETALLIC CONDUIT SHALL BE CAPPED OR PLUGGED IMMEDIATELY AFTER INSTALLATION AND SHALL REMAIN CAPPED OR PLUGGED UNTIL WIRE/CABLES ARE INSTALLED.

NONMETALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

BENDING OF PVC ELECTRICAL CONDUIT SHALL BE ACCOMPLISHED BY USING A BLANKET OR EMERSION TYPE TANK DESIGNED FOR THE PURPOSE OF BENDING PVC ELECTRICAL CONDUIT.

ALL CUT ENDS SHALL BE TRIMMED INSIDE AND OUTSIDE TO REMOVE ALL ROUGH EDGES ON NONMETALLIC CONDUIT. (SEE NEC 347.5)

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY U.L. LISTED ADAPTER FITTINGS SHALL BE USED.

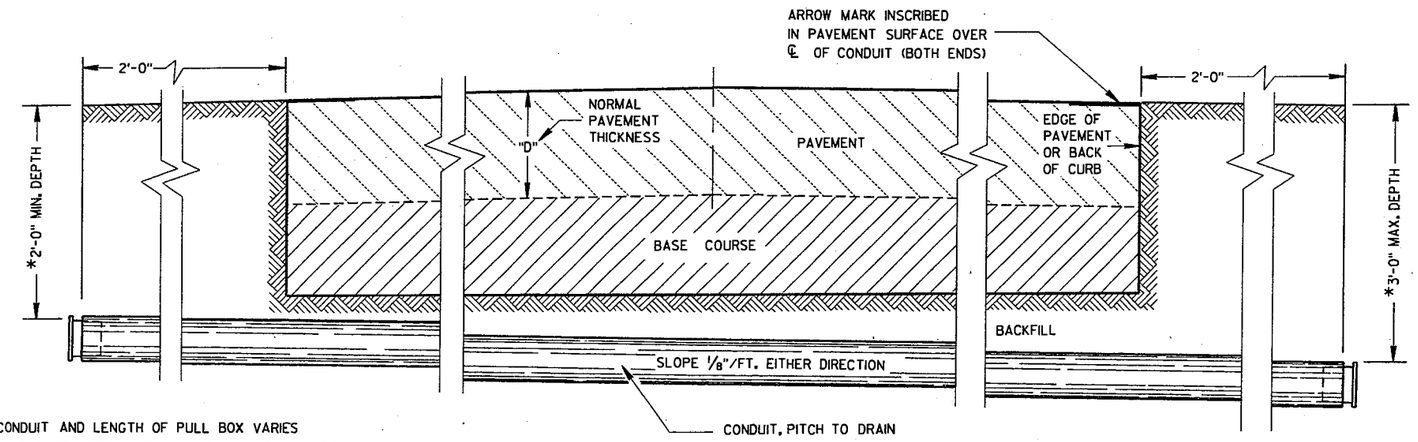
PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

ALL CONDUIT BEING FURNISHED AND INSTALLED SHALL HAVE THE U.L. LABEL FIRMLY ATTACHED.

CONDUIT RUNS SHALL BE THE SAME SIZE OF CONDUIT FROM ONE END TO THE OTHER (FROM PULL BOX TO PULL BOX-OR-JUNCTION BOX TO JUNCTION BOX-OR-BASE TO BASE, ETC.).

POLY ROPE OR A PULL WIRE SHALL BE INSTALLED AS STATED IN THE STANDARD SPECIFICATION, ITEM 652.3.1.1.

ALL CONDUIT RUNS SHALL BE STRAIGHT (WITHOUT BENDS) FROM PULL BOX TO PULL BOX, PULL BOX TO BASE AND BASE TO BASE AS SHOWN ON THE PLANS UNLESS OTHERWISE APPROVED BY THE PROJECT ENGINEER.



*DEPTH OF CONDUIT AND LENGTH OF PULL BOX VARIES WITH HEIGHT OF CURB USED. ALSO SEE PULL BOX S.D.D. 9B4

SIDE ELEVATION

DETAIL FOR CONDUIT UNDER PAVED HIGHWAYS

CONDUIT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/21/96
DATE
FHWA

STATE ELECTRICAL ENGINEER FOR HIGHWAYS

S.D.D. 9 B 2-6

S.D.D. 9 B 2-6

TABLE OF NOMINAL DIMENSIONS AND WEIGHTS

DIMENSION IN INCHES		TYPE OF PIPE									
		CORRUGATED STEEL									POLYETHYLENE SDR 32.5
PIPE DIAMETER (INSIDE)	A	12	12	12	18	18	18	24	24	24	12
PIPE LENGTH **	B	24	30	36	24	30	36	36	42	48	24
WALL THICKNESS	C	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.4
COVER	D	10 1/4	10 1/4	10 1/4	16 1/4	16 1/4	16 1/4	22 1/4	22 1/4	22 1/4	10 1/4
FRAME	E	14 1/2	14 1/2	14 1/2	20 1/2	20 1/2	20 1/2	26 1/2	26 1/2	26 1/2	14 1/2
FRAME	F	8 1/2	8 1/2	8 1/2	14 1/2	14 1/2	14 1/2	20 1/2	20 1/2	20 1/2	8 1/2
FRAME	G	11 1/2	11 1/2	11 1/2	17 1/2	17 1/2	17 1/2	23 1/2	23 1/2	23 1/2	11 1/2
WEIGHT IN POUNDS *											
FRAME AND COVER		60	60	60	110	110	110	155	155	155	60

* THE ACTUAL WEIGHT OF THE MANHOLE FRAME AND COVER MAY VARY WITHIN 5 PERCENT PLUS OR MINUS OF THE WEIGHTS SHOWN.

** NORMALLY USED LENGTHS. THE PROJECT ENGINEER SHALL DETERMINE IF PIPE LENGTHS, OTHER THAN THOSE SPECIFIED, SHALL BE USED, TO A MAXIMUM OF 48" (CONTINUOUS LENGTH, NON-SPLICED). THE ADDITIONAL LENGTH SHALL BE INCIDENTAL TO THE PULL BOX BID PRICE.

GENERAL NOTES

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

ALL FRAMES AND COVERS SHALL BE HEAVY DUTY TYPE, SUITABLE FOR VEHICULAR TRAFFIC LOADS.

PULL BOXES LOCATED IN THE ROADWAYS SHALL HAVE LOCKING COVERS.

ENTRANCE HOLES INTO PULL BOXES SHALL BE CUT WITH A CIRCULAR HOLE SAW OR HYDRAULIC CONDUIT PUNCH. HOLE SIZE SHALL BE THE OUTSIDE DIAMETER OF THE CONDUIT THAT IS TO FIT IN THE OPENING PLUS NO MORE THAN 1/4".

THE CONTRACTOR SHALL NOT INSTALL WIRE IN ANY PULL BOX UNTIL ITS INSTALLATION HAS BEEN INSPECTED AND ACCEPTED BY THE ENGINEER.

GROUNDING LUGS (MECHANICAL CONNECTORS) SHALL BE U.L. LISTED AND APPROVED FOR USE WITH COPPER WIRE. THE MECHANICAL CONNECTION (INSIDE AND OUTSIDE) TO THE PULL BOX, SHALL BE TOTALLY AND PERMANENTLY SEALED WITH A SILICONE OR RUBBERIZED CAULKING COMPOUND AS APPROVED BY THE ENGINEER.

GROUNDING LUGS ARE NOT REQUIRED IN PULL BOXES WHEN VOLTAGES OF LESS THAN 50 VOLTS AC ARE THE ONLY VOLTAGES ENCOUNTERED IN THE BOXES.

DRAIN DUCT SHALL BE MEASURED AND PAID FOR SEPARATELY.

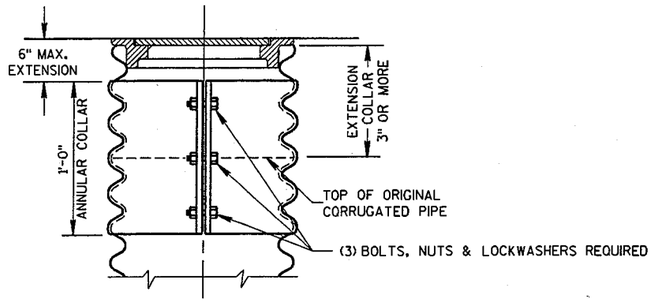
RODENT WIRE SCREEN SHALL BE 1/8" STAINLESS STEEL MESH AND BE INSTALLED WITH A STAINLESS STEEL HOSE CLAMP OF SUFFICIENT SIZE.

ALL METALLIC CONDUIT IN WHICH WIRE AND/OR CABLE IS TO BE INSTALLED, SHALL BE BUSHED BEFORE INSTALLATION OF THE WIRE AND/OR CABLE.

S.D.D. 9B2, "CONDUIT", APPLIES TO THIS DRAWING.

WHEN PULL BOXES ARE INSTALLED FOR FUTURE USE, DO NOT INSTALL THE EQUIPMENT GROUNDING LUG. THE EQUIPMENT GROUNDING LUG, THE EQUIPMENT GROUNDING ELECTRODE AND THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE REQUIRED AND INSTALLED UNDER A FUTURE WIRING CONTRACT.

IF PULL BOX EQUIPMENT GROUNDING IS REQUIRED USING AN EQUIPMENT GROUNDING ELECTRODE IN EACH PULL BOX, THE EQUIPMENT GROUNDING ELECTRODE SHALL BE 5/8" X 8'-0", COPPERCLAD AND BE EXOTHERMICALLY WELDED TO A #4 AWG, COPPER, STRANDED WIRE (BARE OR GREEN INSULATED). THE #4 AWG WIRE SHALL BE 4 FEET IN LENGTH, NEATLY COILED, TAPED AND AVAILABLE FOR USE WHEN REQUIRED.



CORRUGATED PIPE EXTENDER

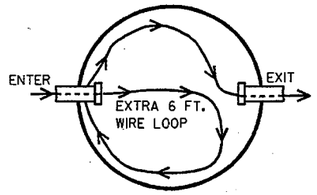
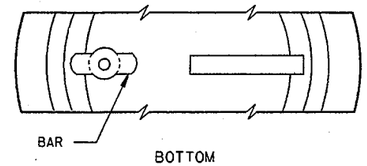
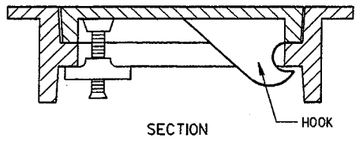


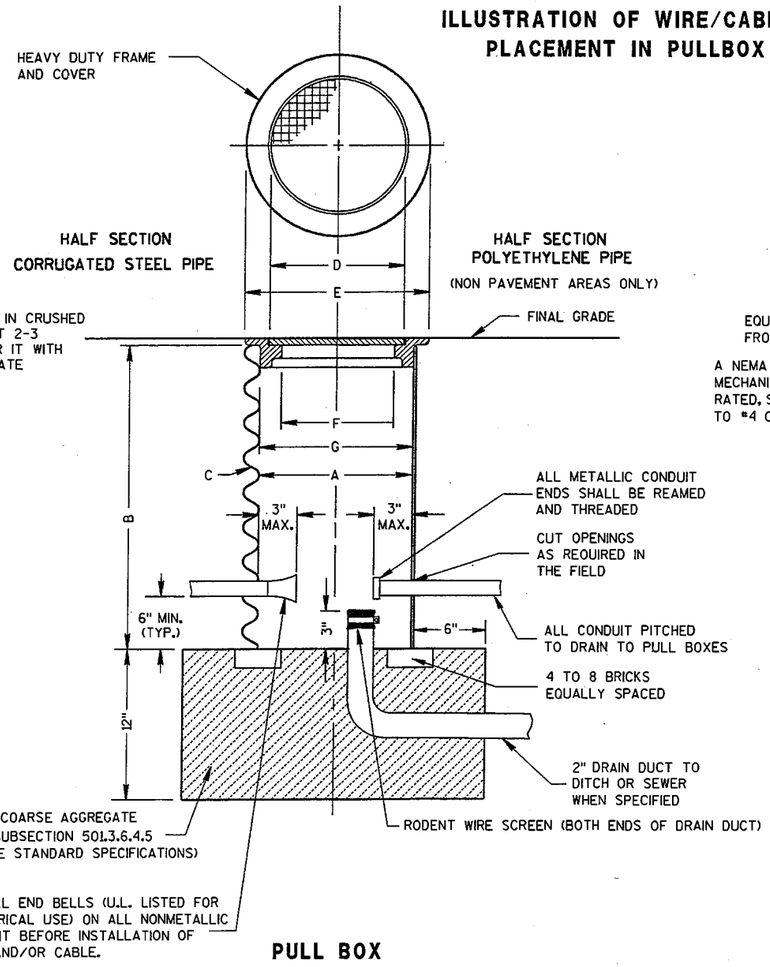
ILLUSTRATION OF WIRE/CABLE PLACEMENT IN PULLBOX



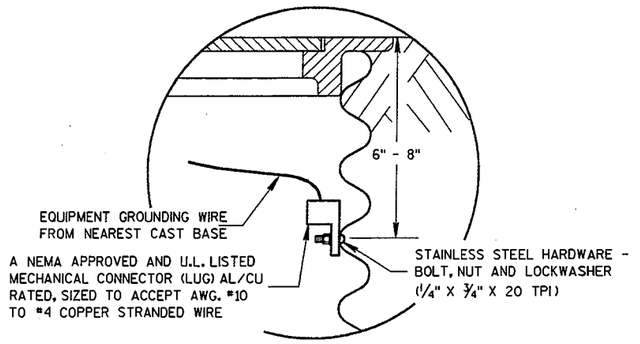


ALTERNATE COVER (LOCKING)

TIGHTENING BAR TYPE



PULL BOX



EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES

PULL BOX

STATE OF WISCONSIN
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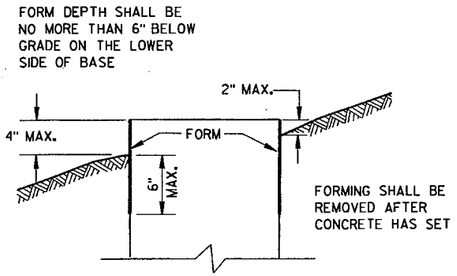
CONDUC 45



FORMING DETAIL

QUANTITY REQUIREMENTS	CONCRETE BASE TYPE		
	1	2	5
APPROX. CUBIC YARDS OF CONCRETE	0.40	0.57	0.40
LBS. OF HOOP BAR STEEL	NONE	23	16
LBS. OF VERTICAL BAR STEEL	NONE	60	18

GENERAL NOTES

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

BASES SHALL BE EXCAVATED BY USE OF A CIRCULAR AUGER.

TOP SURFACES OF CONCRETE BASES SHALL BE TROWEL FINISHED AND LEVEL.

CONDUIT SIZES AND LOCATIONS SHALL BE AS SHOWN ON THE PLANS.

THE FINAL OR TERMINATING CONCRETE BASE IN A CONDUIT RUN SHALL HAVE A 6" EXIT STUB INSTALLED FOR FUTURE CABLING USE. THE EXIT STUB SHALL BE SIZED AS USED THROUGHOUT THE CONDUIT RUN AS SHOWN AT THE ENTRANCE OF THE BASE.

MINIMUM BENDING RADIUS OF CONDUIT IS EQUAL TO 6 X THE DIAMETER.

CONDUIT HEIGHT ABOVE CONCRETE BASES SHALL BE 1 INCH. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

GENERAL NOTES (CONTINUED)

BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF CONCRETE BASES BEFORE INSTALLATION OF CABLE OR WIRE.

ENDS OF CONDUIT INSTALLED BELOW GRADE FOR FUTURE USE SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC.

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE DIRT OR FILL, THE FORM SHALL BE REMOVED BEFORE BACKFILLING AROUND THE BASE. BACKFILL SHALL BE TAMPED TIGHT AGAINST THE BARE CONCRETE BASE IN LAYERS OF 1 FOOT OR LESS.

A NO. 4 AWG, STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE (GROUND ROD) FOR TYPE 2 AND TYPE 5 BASES.

THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE FURNISHED AND INSTALLED TO ENTER THE BASE OF THE TYPE 2 AND TYPE 5 BASES THROUGH A 1 INCH CONDUIT INSTALLED FOR GROUNDING PURPOSES, LEAVING A 4 FOOT COIL OF WIRE ABOVE THE CONCRETE BASE. THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE NEATLY COILED AND THE COILS TIED TOGETHER.

ANCHOR RODS SHALL BE THREADED 12" IN LENGTH ON EACH END OF THE ROD. ANCHOR RODS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 654.2.1 AND 641.2.2 OF THE STANDARD SPECIFICATIONS, ASTM A-449, OR ASTM A-687 (GRADE 105).

WASHERS AND LOCK WASHERS ARE REQUIRED ON ALL ANCHOR RODS.

WHEN ANCHOR RODS USING THE ALTERNATE "L" BEND ARE FURNISHED, THE 4" "L" BEND SHALL BE IN ADDITION TO THE SPECIFIED ANCHOR ROD BAR LENGTH. THE "L" BEND END SHALL NOT BE THREADED.

WELDING OF THE ANCHOR RODS TO THE CAGE IS UNACCEPTABLE. TIE WIRES SHALL BE USED.

BAR STEEL REINFORCEMENT SHALL BE COATED WITH POWERED EPOXY RESIN IN ACCORDANCE WITH SECTION 505 OF THE STANDARD SPECIFICATIONS (LATEST EDITION).

(1) THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES. THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE THAT IS NOT INSTALLED BELOW THE TRAVELED WAY SHALL BE 18 INCHES. THE MAXIMUM DEPTH OF ALL CONDUIT SHALL BE 36 INCHES EXCEPT WITH WRITTEN APPROVAL BY THE ENGINEER.

(2) (4) 1" DIA. X 3'-6" ANCHOR RODS.

(3) (4) 1" DIA. X 5'-0" ANCHOR RODS.

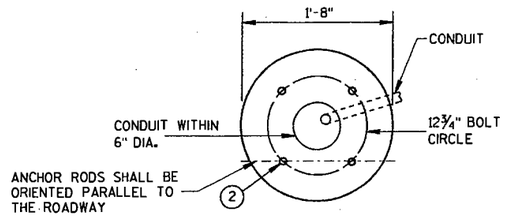
(4) (6) NO. 6 X 6'-8" BAR STEEL REINFORCEMENT.

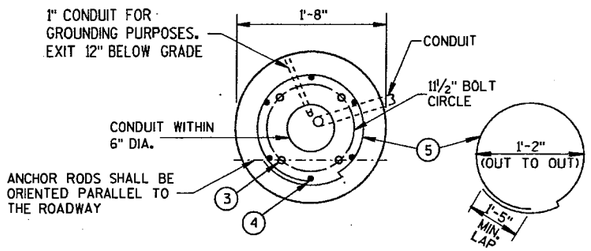
(5) (7) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.

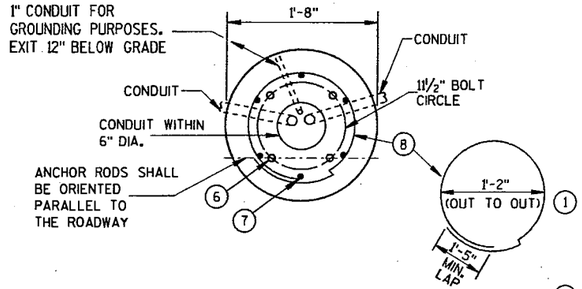
(6) (4) 1" DIA. X 3'-6" ANCHOR RODS.

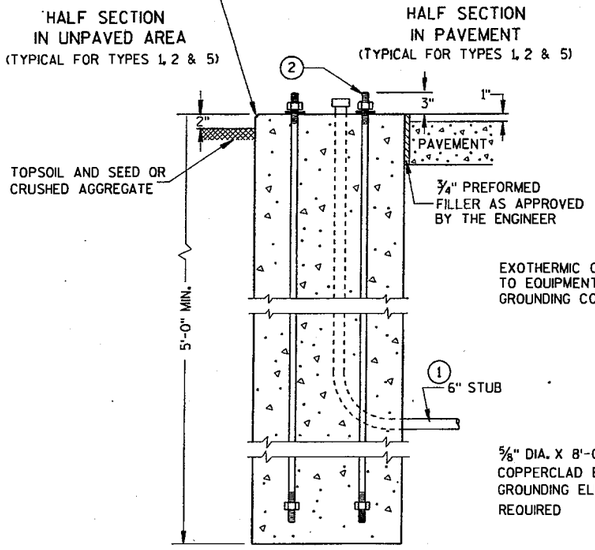
(7) (6) NO.4 X 4'-8" BAR STEEL REINFORCEMENT

(8) (5) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.

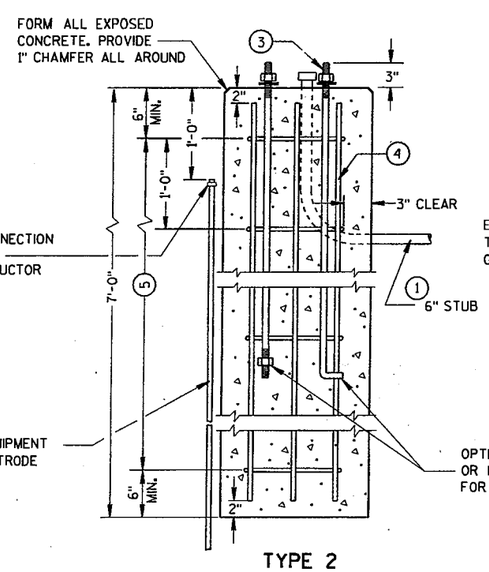








TYPE 1



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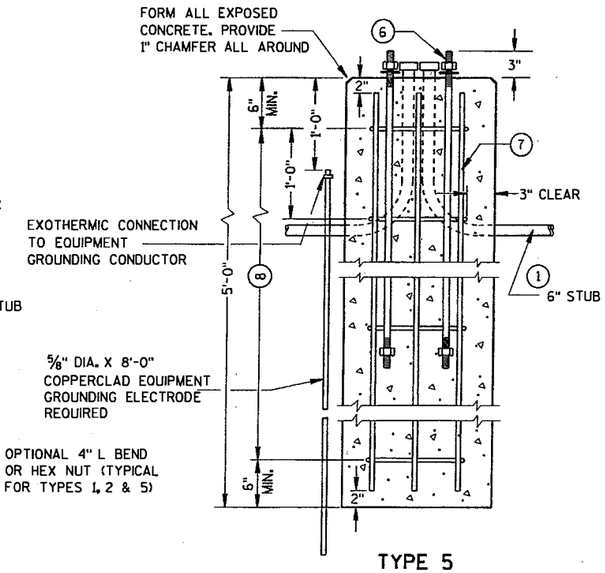

TYPE 5

CONCRETE BASES

CONCRETE BASES,
TYPES 1, 2 & 5

STATE OF WISCONSIN
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10/21/96
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FHWA

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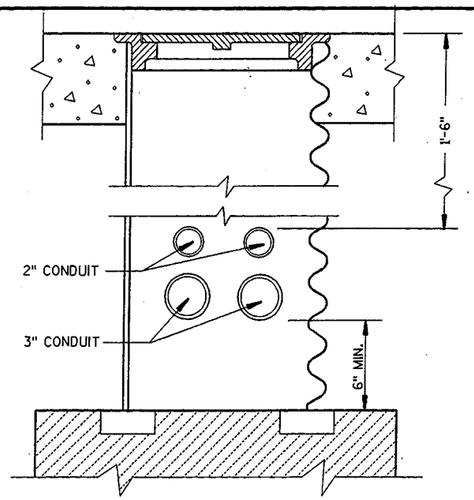
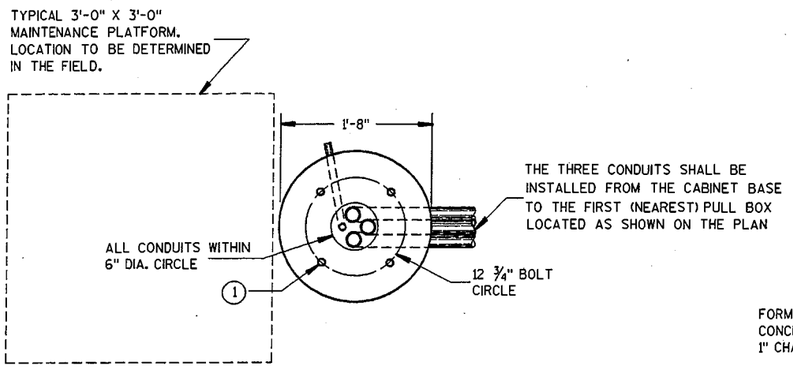
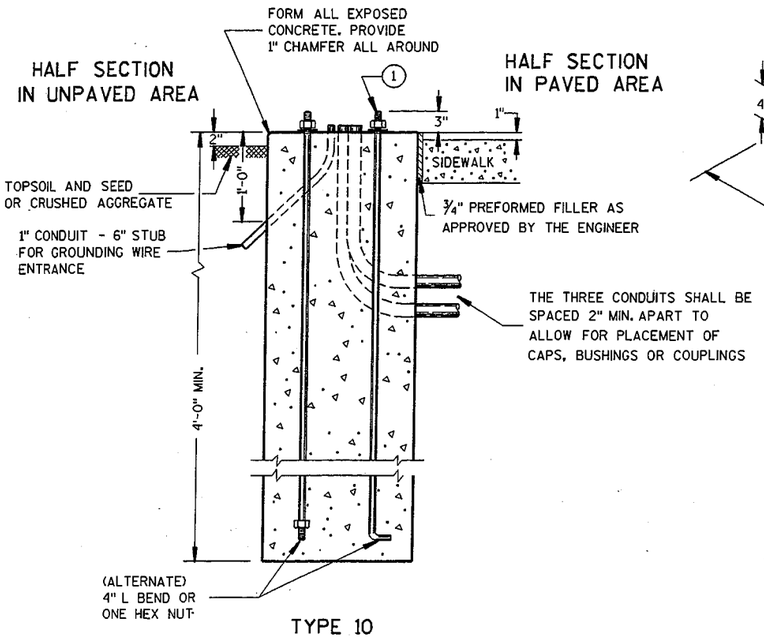
CONTROL CABINET BASE TYPE	DIMENSIONS				C.Y. CONCRETE (APPROX.)
	H	I	J	K	
TYPE 6 - 30" CABINET	34"	60"	10"	17"	.64
TYPE 7 - 38" CABINET	42"	60"	10"	21"	.93
TYPE 8 - 38" CABINET	42"	72"	12"	21"	1.29
TYPE 9 - VARIABLE	54"	72"	14"	27"	1.56
TYPE 10 - POST MOUNT	AS SHOWN				.32

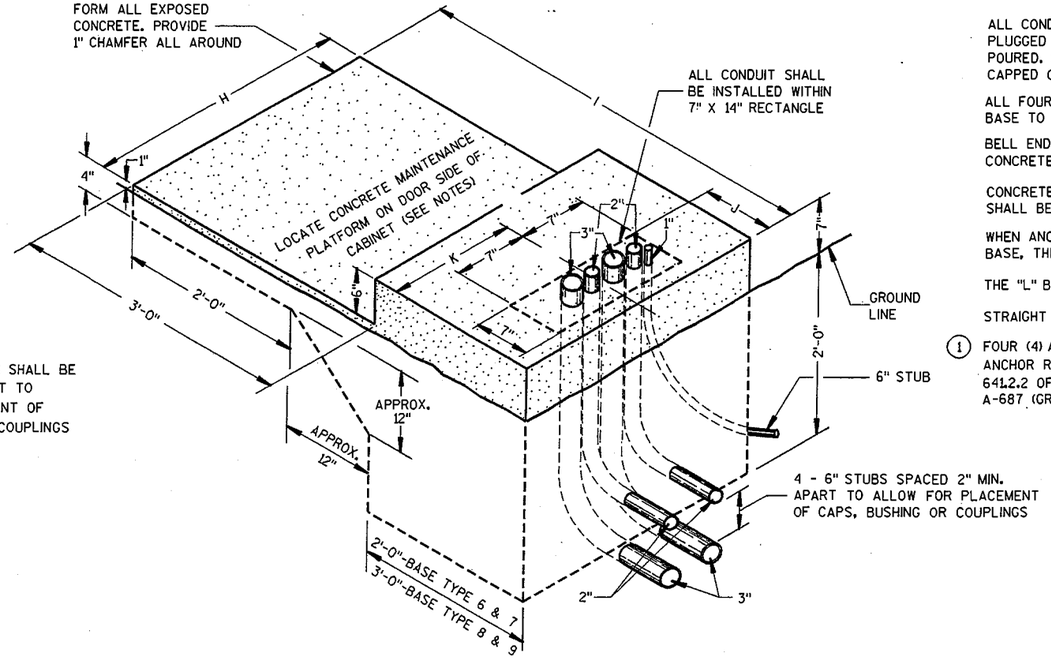


CONDUIT LOCATIONS IN 24" X 36" PULL BOX
(LEADING TO CONTROLLER CABINET BASE TYPE 6, 7, 8 AND 9)





TYPE 10



TYPE 6,7,8 AND 9
(ISOMETRIC VIEW)

GENERAL NOTES

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

INSTALL FOUR ½ INCH MINIMUM DIAMETER X 4 INCH MINIMUM LENGTH APPROVED CONCRETE MASONRY ANCHORS TO ANCHOR THE CABINET TO TYPE 6, 7, 8, AND 9 BASES. THE ANCHOR STUDS SHALL BE LOCATED AS DIRECTED BY THE ENGINEER TO PROPERLY ANCHOR THE CONTROL CABINET TO THE BASE.

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

CONDUIT HEIGHT ABOVE THE CONCRETE BASE SHALL BE 1 INCH.

DEPTH OF CONDUIT INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES MINIMUM AND 36 INCHES MAXIMUM.

DEPTH OF CONDUIT INSTALLED THAT IS NOT BELOW THE TRAVELED WAY SHALL BE 18 INCHES MINIMUM AND 36 INCHES MAXIMUM.

ANY EXCEPTION TO THE MAXIMUM DEPTH SHALL BE ONLY WITH THE WRITTEN APPROVAL OF THE ENGINEER.

CONTROL CABINET BASE TOP SURFACES SHALL BE TROWEL FINISHED AND LEVEL.

WHEN A TYPE 10 CONTROL CABINET BASE IS USED TO POST MOUNT A CONTROL CABINET, A 36" SQUARE 4" THICK CONCRETE MAINTENANCE PLATFORM SHALL BE REQUIRED ON THE DOOR SIDE OF THE CABINET. THE TOP 1 INCH SHALL BE ABOVE FINISHED GRADE AND BE BROOM FINISHED AND LEVEL.

MAINTENANCE PLATFORMS ARE NOT REQUIRED WHEN THE SURROUNDING AREA IS PAVED.

MINIMUM BENDING RADIUS OF CONDUIT = 6 X THE DIAMETER.

ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

ALL FOUR (TWO INCH AND THREE INCH) CONDUIT SHALL BE INSTALLED FROM THE CABINET BASE TO THE FIRST (NEAREST PULL BOX LOCATED AS SHOWN ON THE PLANS.

BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF THE CONCRETE BASE BEFORE INSTALLATION OF CABLE OR WIRE.

CONCRETE FORM DEPTH BELOW FINISHED GRADE SHALL BE 6" MAXIMUM. CONCRETE FORMS SHALL BE REMOVED AFTER CONCRETE HAS SET.

WHEN ANCHOR RODS USING THE ALTERNATE L BEND ARE FURNISHED FOR THE TYPE 10 BASE, THE 4" L BEND SHALL BE IN addition TO THE SPECIFIED ANCHOR ROD BAR LENGTH.

THE "L" BEND SHALL NOT BE THREADED.

STRAIGHT ANCHOR RODS SHALL BE THREADED 12" IN LENGTH ON EACH END OF THE ROD.

(1) FOUR (4) ANCHOR RODS, 1" DIA. X 3'-6"
ANCHOR RODS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 654.2.1 AND 641.2.2 OF THE STANDARD SPECIFICATIONS AND IN ACCORDANCE WITH A-449, OR ASTM. A-687 (GRADE 105).

6

CONCRETE CONTROL CABINET BASES

CONCRETE CONTROL CABINET BASES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
3/24/03
DATE
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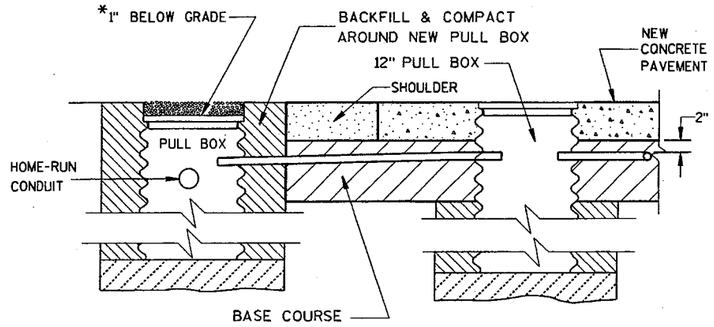


SECTION A-A

NO CURB & GUTTER

LOOP DETECTOR INSTALLATION DETAILS

*RECESS PULL BOX SO THAT THE COVER IS 3" BELOW GRADE IN SHOULDER AREAS OF CRUSHED AGGREGATE. BACKFILL OVER COVER WITH THE CRUSHED AGGREGATE TO BRING THE AREA TO GRADE LEVEL.

GENERAL NOTES

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

LOOP SIZE, LOCATION, NUMBER OF TURNS OF WIRE AND ASSOCIATED SIGNAL PHASE SHALL BE AS SHOWN ON THE PLANS.

PITCH LEAD OUT CONDUIT TO DRAIN TO ROADSIDE PULL BOX.

SPLICES SHALL BE INSTALLED BY USING CAST IN PLACE SPLICE KITS SUCH AS 3M TYPE 82A1 OR APPROVED EQUAL. NON-INSULATED BUTT SPLICES TO FIT #12 AWG STRANDED WIRE SHALL BE USED. SPLICES SHALL BE SOLDERED AND INSULATED FROM EACH OTHER AS PER INSTRUCTIONS INCLUDED IN THE SPLICE KIT.

THE GROUND RESISTANCE READING OF THE LOOP SHALL READ "INFININTY" TO GROUND ON AN OHMMETER USING A MULTIPLIER SCALE OF 1 MEGOHM AND AN INPUT RESISTANCE OF 11 MEGOHMS MINIMUM BEFORE SPLICING THE LOOP TO THE LEAD-IN CABLE.

AFTER SPLICING THE LOOP WIRE TO THE LOOP LEAD-IN CABLE, THE CONTRACTOR SHALL MEASURE INDUCTANCE, GROUND RESISTANCE AND WIRE RESISTANCE AT THE CABINET END OF THE LEAD-IN CABLE AND FURNISH A COPY OF THE READINGS TO THE PROJECT ENGINEER FOR EVALUATION.

ANTI-SIEZE LUBRICATING MATERIAL SHALL BE USED ON ALL THREADS OF THREADED ASSEMBLIES BEFORE INSTALLATION.

LOOP DETECTOR LEADS SHALL BE IDENTIFIED WITH THEIR ASSOCIATED LOOP BY USE OF WATERPROOF TAGS AT BOTH ENDS OF THE CABLE. A LISTING OF THE CABLE IDENTIFICATION PER INDIVIDUAL LOOP LEAD-IN SHALL BE PLACED IN THE CABINET.

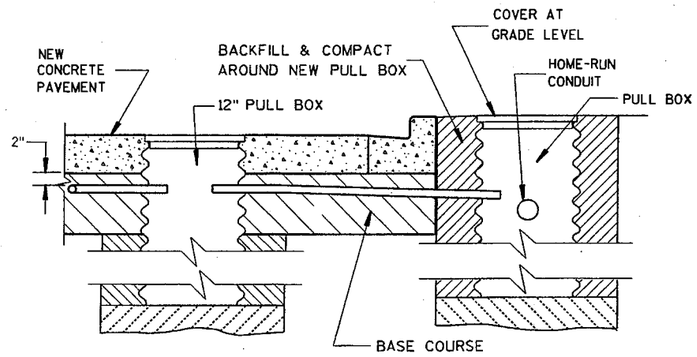
THE #12 AWG LOOP WIRE FROM THE LOOP TO THE ROADSIDE PULL BOX, SHALL BE HAND TWISTED AT LEAST 3 TWISTS PER FOOT BEFORE INSTALLATION.

SPLICES OF LOOP WIRE TO LEAD-IN CABLE SHALL BE MADE ONLY IN PULL BOXES AT THE SIDE OF THE ROAD.

THE #12 AWG LOOP WIRE SHALL BE INSTALLED FROM THE ROADSIDE PULL BOX, THROUGH THE LOOP DUCT, BACK TO THE ROADSIDE PULL BOX, AND BE INSTALLED IN ONE, NON-SPLICED, CONTINUOUS LENGTH.

PROTECTION OF THE CONDUIT, CONDULET AND PULL BOX SHALL BE REQUIRED AFTER INSTALLATION AND BEFORE THE NEW CONCRETE PAVEMENT IS PLACED.

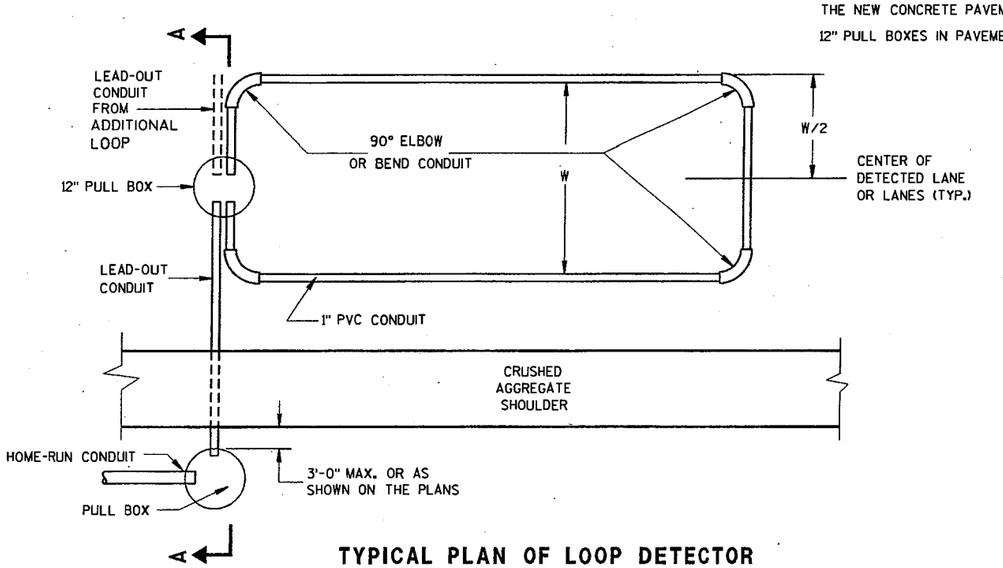
12" PULL BOXES IN PAVEMENT SHALL BE CORRUGATED STEEL ONLY.



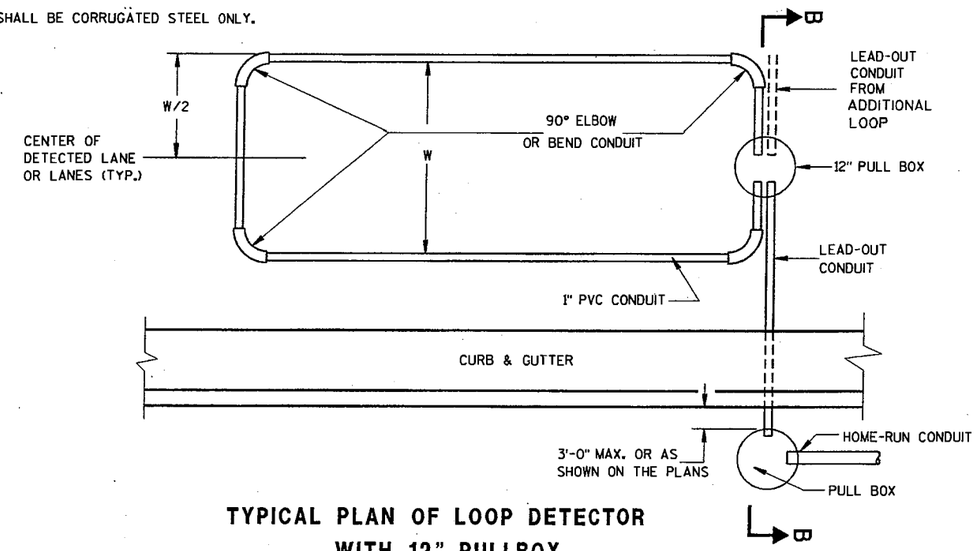
SECTION B-B

CURB & GUTTER

LOOP DETECTOR INSTALLATION DETAILS



TYPICAL PLAN OF LOOP DETECTOR WITH 12" PULLBOX



TYPICAL PLAN OF LOOP DETECTOR WITH 12" PULLBOX

LOOP DETECTOR PLACED IN CRUSHED AGGREGATE BASE (NEW CONCRETE PAVEMENT)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

10/21/96
DATE

STATE ELECTRICAL ENGINEER FOR HIGHWAYS

FHWA

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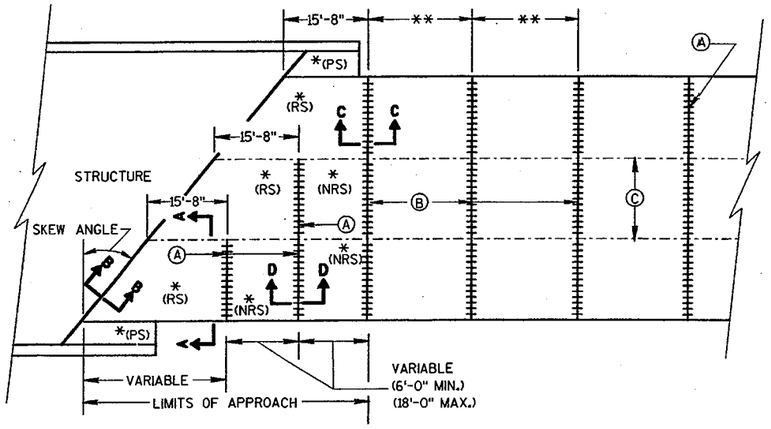
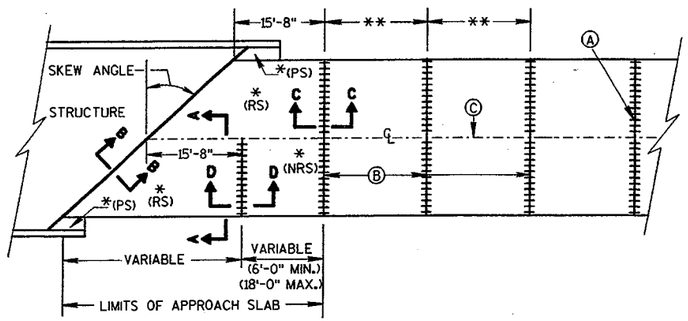
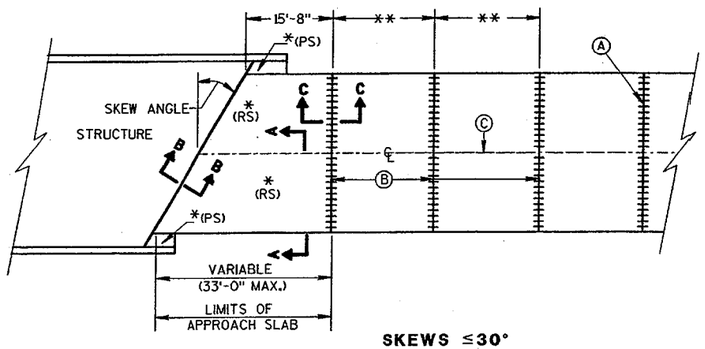


SKEWED PAVEMENT
MORE THAN 2 LANES



SKEWS >30°
(PAVEMENT WIDTH ≤30')



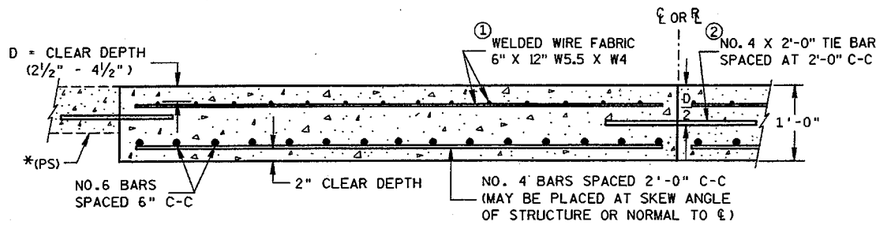
SKEWS ≤30°
(PAVEMENT WIDTH ≤30')

APPROACH SLAB AND ADJACENT PAVEMENT

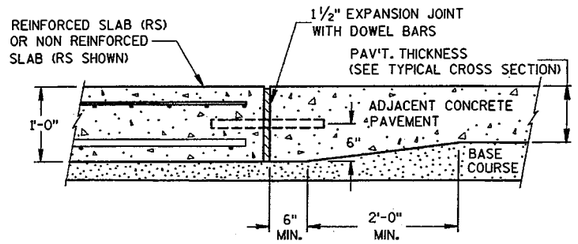
*(RS) = REINFORCED CONCRETE SLAB
*(PS) = PAVED CONCRETE SHOULDER: CONCRETE PAVEMENT, OR CONCRETE SURFACE DRAIN
(SEE DETAILS ELSEWHERE IN THE PLAN)
*(NRS) = NON-REINFORCED CONCRETE SLAB

**STANDARD TRANSVERSE JOINT SPACING
(SEE SDD 13C11 & SDD 13C12)

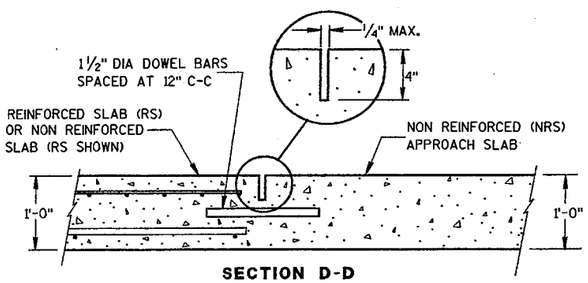
Ⓐ STANDARD CONTRACTION JOINT NORMAL OR SKEWED TO ℄ OR ℄
Ⓑ 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL OR SKEWED TO ℄ OR ℄
Ⓒ STANDARD LONGITUDINAL JOINT AND TIE BARS.



SECTION A-A
REINFORCEMENT POSITIONING DETAIL



SECTION C-C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT



SECTION D-D
CONTRACTION JOINT

GENERAL NOTES

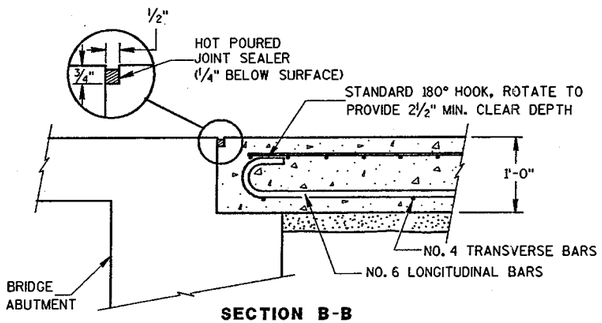
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

DOWEL BARS ARE NOT REQUIRED WHEN THE APPROACH SLAB ABUTS AN ASPHALT PAVEMENT OVER BASE COURSE.

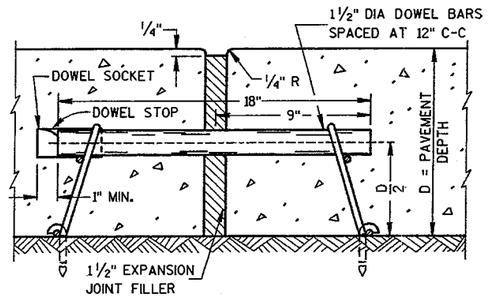
SPLICING OF NO. 6 BARS IN THE APPROACH SLAB IS PERMITTED FOR SKEWED STRUCTURES ONLY. SPLICES SHALL BE STAGGERED, WITH A MAXIMUM OF ONE SPLICE PER BAR. THE LENGTH OF LAP SHALL BE 20 INCHS.

① NO. 4 BARS SPACED AT 2'-0" C-C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS MAY BE USED FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.

② TIE BARS BETWEEN REINFORCED SLABS MAY BE OMITTED WHERE SLAB REINFORCEMENT EXTEND ACCROSS THE CENTERLINE OR REFERENCE LINE.



SECTION B-B
BEND DETAIL
BOTTOM REINFORCEMENT



EXPANSION JOINT

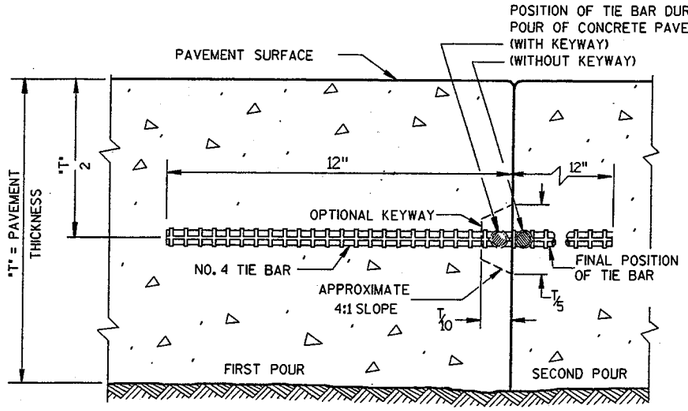
CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

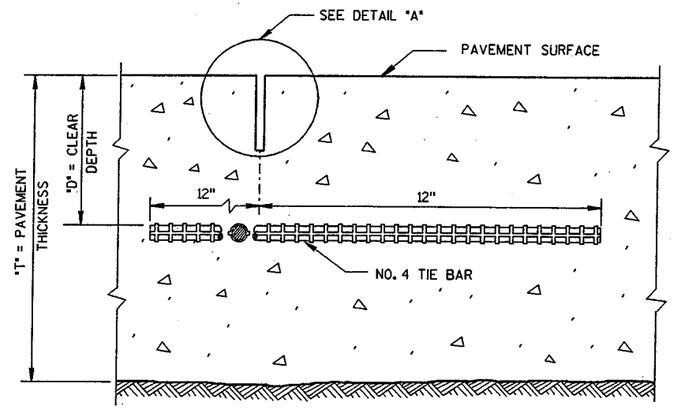
APPROVED
10-14-99
DATE
CHIEF PAVEMENTS & RESEARCH ENGINEER
FHWA

S.D.D. 13 B 2-4

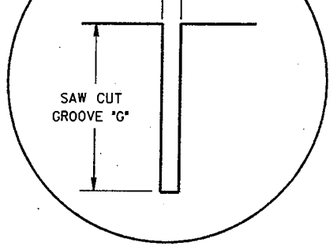
S.D.D. 13 B 2-4



CONSTRUCTION JOINT



SAWED JOINT



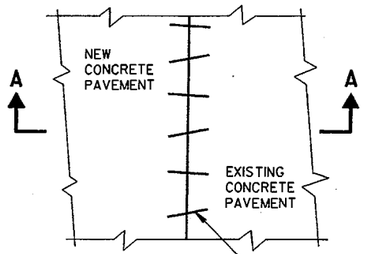
DETAIL "A"

GENERAL NOTES

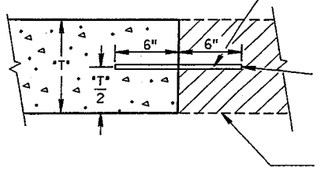
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

LONGITUDINAL JOINTS SHALL NOT BE SEALED OR FILLED.

TIE BAR SPACINGS ARE VALID ONLY FOR PAVEMENT WIDTHS IN THE TABLE. FOR WIDER PAVEMENTS, TIED CONCRETE SHOULDERS OR RAMPS, THE TIE BAR SPACING SHALL BE AS SHOWN ON THE PLANS.

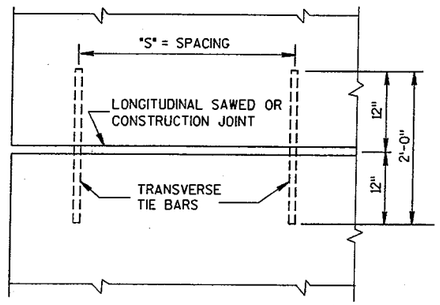


PLAN VIEW



SECTION A-A
PAVEMENT TIES

PAVEMENT THICKNESS "T"	CLEAR DEPTH "D"	SAW CUT GROOVE "G"	MAXIMUM TIE BAR SPACING "S"	
			PAVEMENT WIDTH	
			24' OR 26'	30'
6, 6 1/2"	3"±1/2"	2"	48"	42"
7, 7 1/2"	3 1/4"±1"	2 1/4"	45"	36"
8, 8 1/2"	3 3/4"±1"	2 1/2"	39"	30"
9, 9 1/2"	4 1/4"±1"	3"	33"	27"
10, 10 1/2"	4 3/4"±1"	3 1/4"	30"	24"
11, 11 1/2"	5 1/4"±1"	3 3/4"	27"	21"
12"	5 3/4"±1"	4	24"	21"



PLAN VIEW
SHOWING LOCATION OF TIE BARS

CONCRETE PAVEMENT
LONGITUDINAL JOINTS
AND PAVEMENT TIES

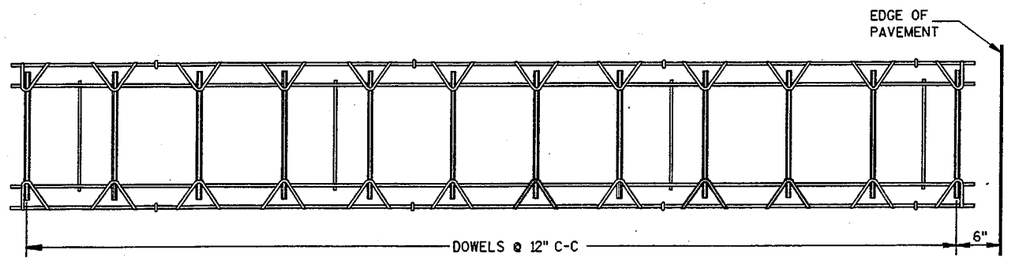
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/6/02 DATE
Bill Duckett PAVEMENT ENGINEER

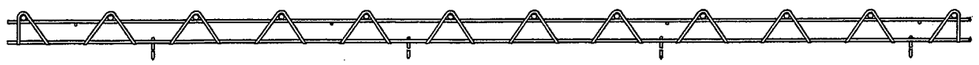
FHWA

S.D.D. 13 C 1-11

S.D.D. 13 C 1-11

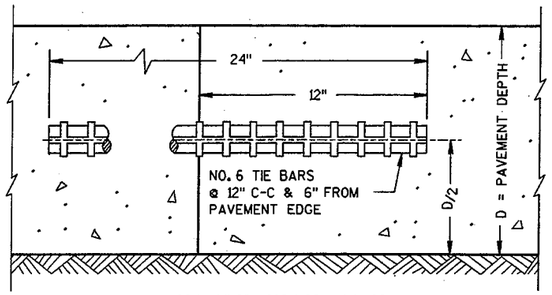


PLAN VIEW



SIDE VIEW

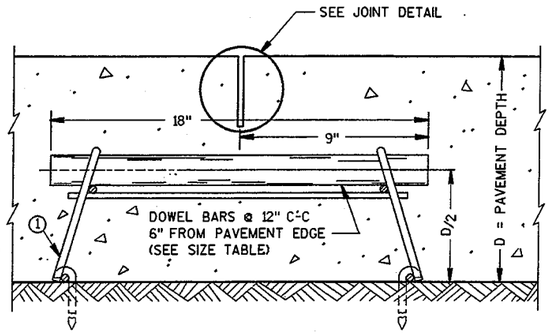
CONTRACTION JOINT DOWEL ASSEMBLY ①



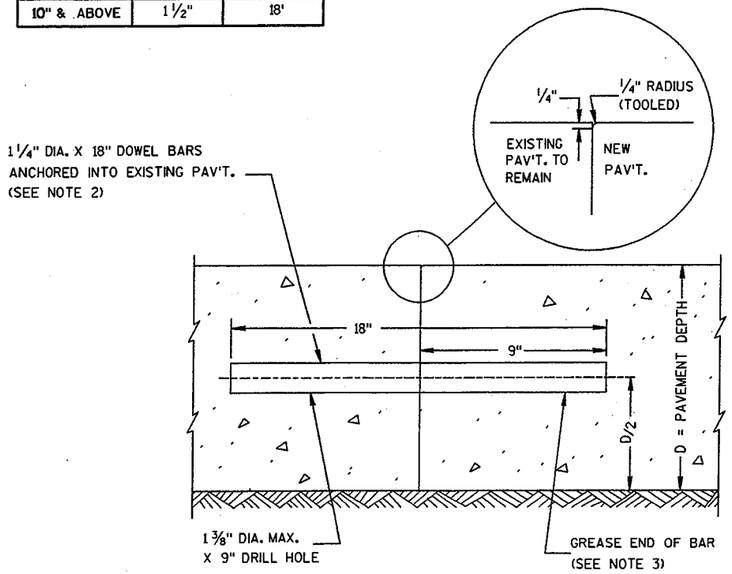
CONSTRUCTION JOINT

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
6",6 ½"	1¼"	12'
7",7 ½"	1¼"	14'
8",8 ½"	1¼"	15'
9",9 ½"	1¼"	15'
10" & ABOVE	1½"	18'

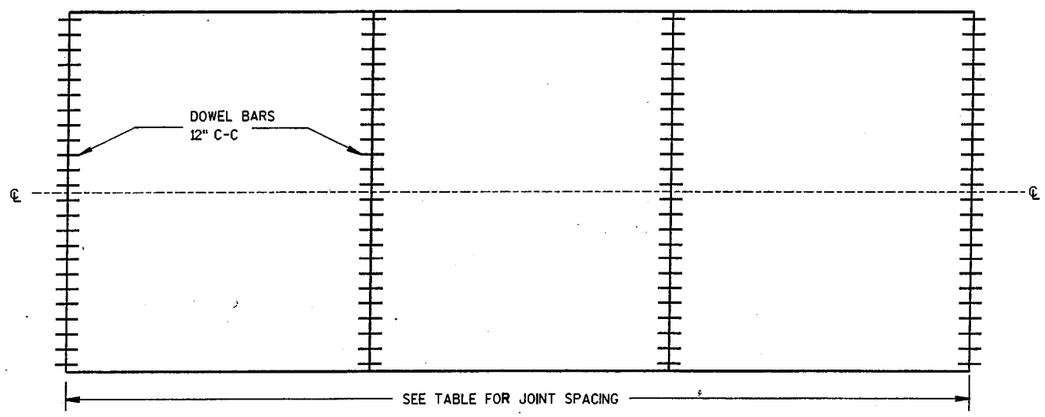


DOWELED CONTRACTION JOINT



TRANSVERSE CONTRACTION JOINTS ABUTTING EXISTING PAVEMENT

④ DOWEL BAR DETAIL



CONTRACTION JOINT LOCATIONS

GENERAL NOTES

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

CONTRACTION JOINTS

CONTRACTION JOINTS SHALL BE NORMAL TO THE CENTERLINE. THE LOCATION OF CONTRACTION JOINTS THROUGH INTERSECTIONS SHALL BE SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

CONTRACTION JOINTS SHALL NOT BE SEALED OR FILLED.

DOWEL BARS SHALL BE INSTALLED PARALLEL TO THE PAVEMENT CENTERLINE AND SURFACE.

CONSTRUCTION JOINTS

CONSTRUCTION JOINTS SHALL BE A MINIMUM OF 4 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGNED EITHER PARALLEL TO CONTRACTION JOINTS OR AT 90° TO THE CENTERLINE.

TIE BARS MAY BE INSERTED THROUGH THE HEADER BOARD AFTER THE CONCRETE HAS BEEN PLACED.

① ALTERNATIVE DESIGNS OF THE DOWEL ASSEMBLY MAY BE USED WHEN APPROVED BY THE ENGINEER. MECHANICAL DOWEL BAR IMPLANTERS MAY BE USED INSTEAD OF DOWEL ASSEMBLIES.

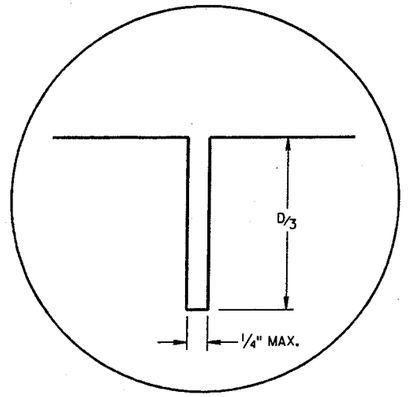
② DOWEL BARS SHALL BE ANCHORED INTO DRILL HOLES WITH AN APPROVED EPOXY GROUT.

③ THE FREE END OF DOWEL BARS SHALL RECEIVE A THIN UNIFORM COATING OF BOND BREAKING GREASE.

④ DOWEL BARS INSTALLED BY DRILLING SHALL BE SPACED 1'-3" ON CENTER. THE GROUPING OF DOWEL BARS SHALL BE CENTERED INSIDE THE SLAB BASED ON ALL THE FOLLOWING SITUATIONS:

BETWEEN THE EDGES OF PAVEMENTS WITHOUT LONGITUDINAL JOINTS OR BETWEEN THE EDGE OF PAVEMENT AND NEAREST LONGITUDINAL JOINT OR BETWEEN TWO ADJACENT LONGITUDINAL JOINTS.

THE CLEAR DISTANCE FROM THE EDGE OF PAVEMENT OR LONGITUDINAL JOINT TO THE NEAR EDGE OF DOWEL BAR NEAREST THAT EDGE OR JOINT SHALL BE A MINIMUM OF 6 INCHES AND A MAXIMUM OF 14 INCHES.



JOINT DETAIL

URBAN DOWELED CONCRETE PAVEMENT

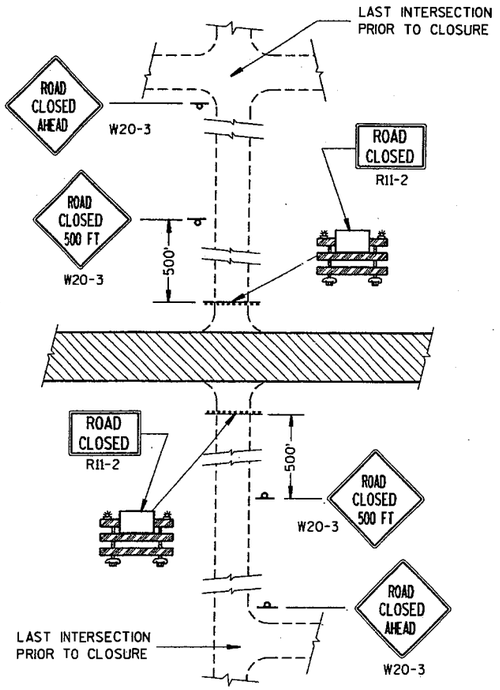
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/16/08 DATE
Bill Dickert PAVEMENT ENGINEER

FHWA

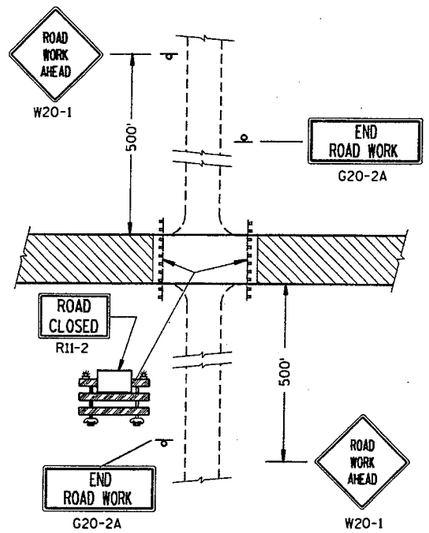
S.D.D. 13 C 13-4

S.D.D. 13 C 13-4



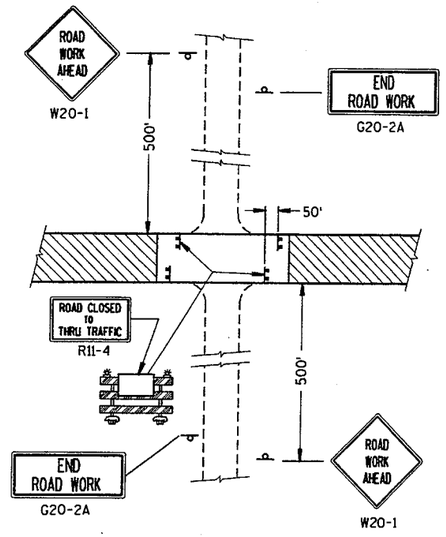
DETAIL 1

(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

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.

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL FOR FULL ROAD CLOSURES. TYPE "A" LOW INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

THE ROAD CLOSED SIGN (R11-2), ROAD CLOSED ____ MILES AHEAD SIGN (R11-3) AND THE ROAD 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.

TYPE "H" REFLECTIVE SHEETING SHALL BE USED ON ALL BARRICADES. TYPE I, II AND III, AND ON ALL R11-2, R11-3 AND R11-4 SIGNS.

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".

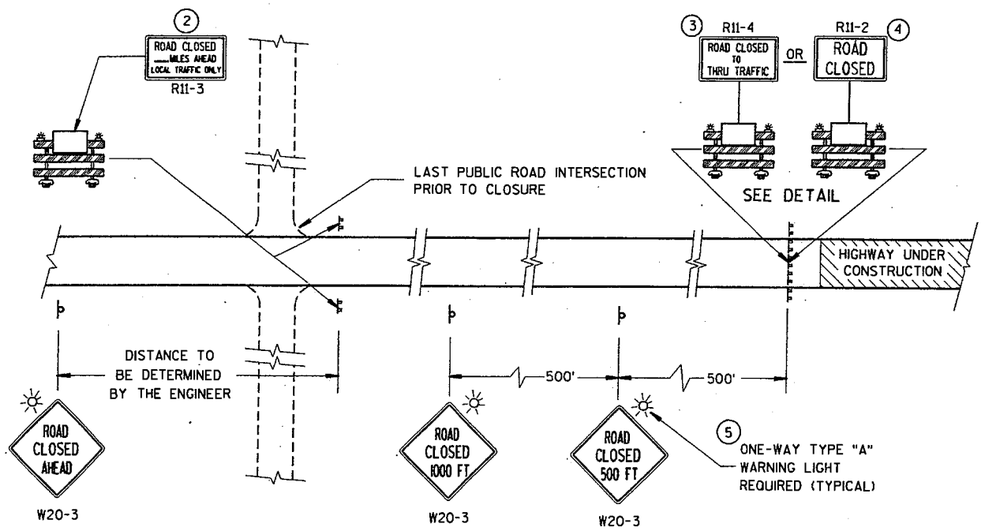
(1) TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND AT LEAST ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN.

(2) THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT INTERSECTION.

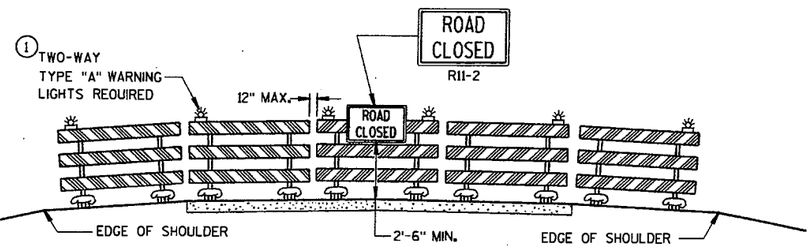
(3) FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT. SEE LANE CLOSURE BARRICADE DETAIL

(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.

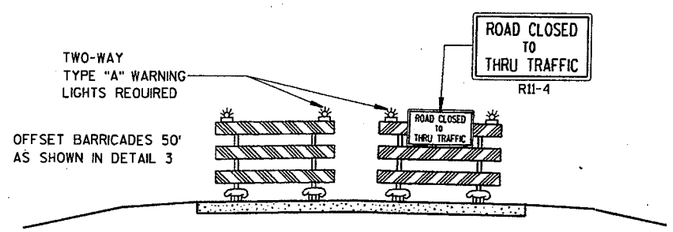


MAINLINE CLOSURE



APPROACH VIEW

ROAD CLOSURE BARRICADE DETAIL



APPROACH VIEW

LANE CLOSURE BARRICADE DETAIL

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
8-10-95
DATE
Charles J. Spang
for DIRECTOR, OFFICE OF TRAFFIC
FHWA

S.D.D. 15 C 2-3

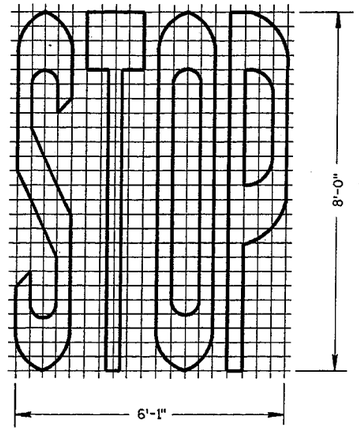
S.D.D. 15 C 2-3

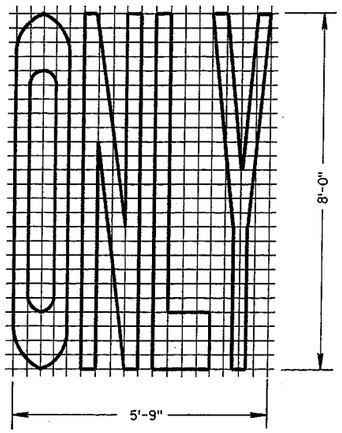
GENERAL NOTES

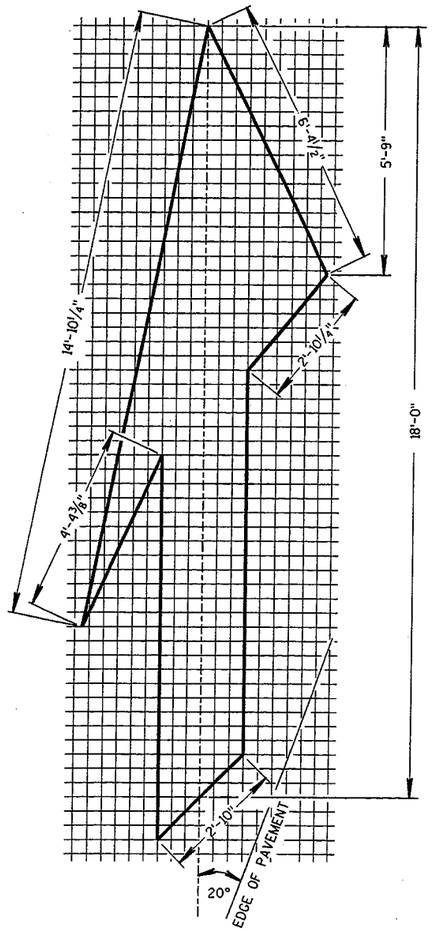
DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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.

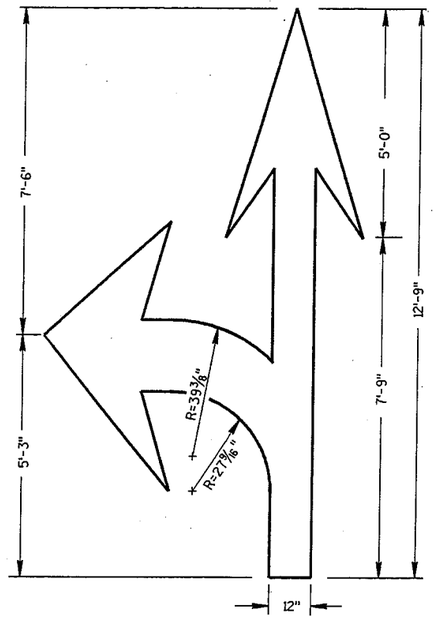
A DETAILED DRAWING OF THE HANDICAPPED PARKING SYMBOL IS ILLUSTRATED IN THE "STANDARD HIGHWAY SIGNS MANUAL" BY THE FEDERAL HIGHWAY ADMINISTRATION.



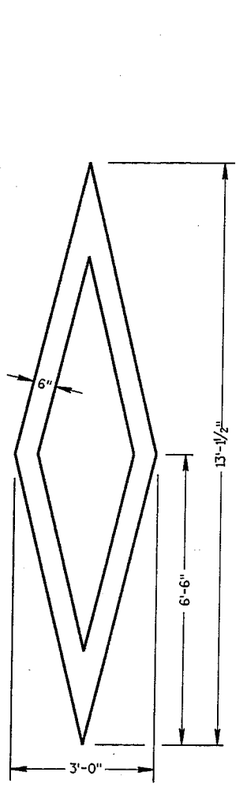


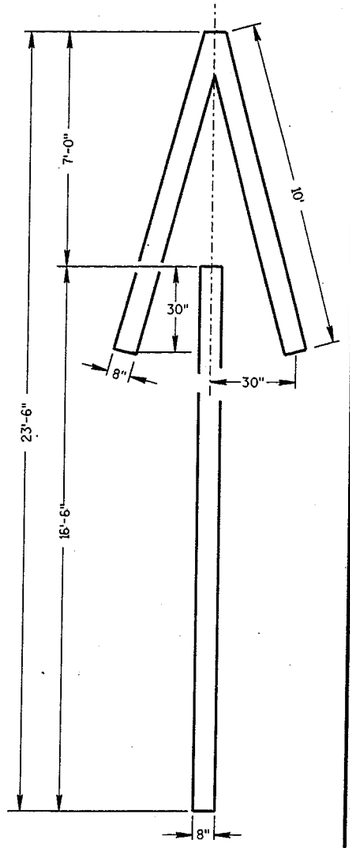


TYPE 5 LANE DROP ARROW



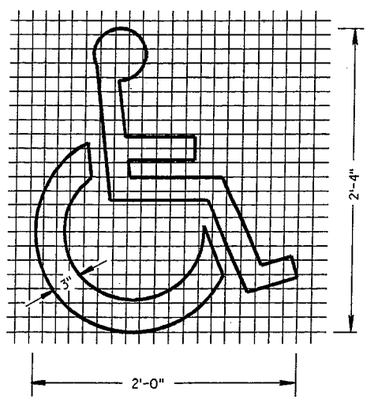
TYPE 3

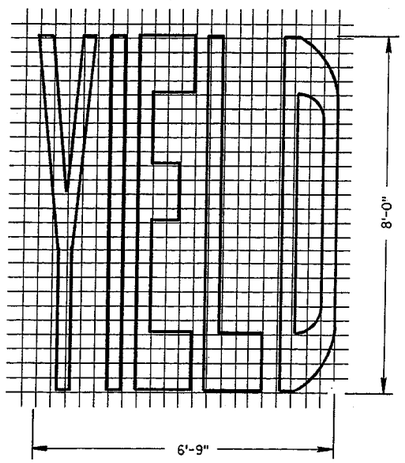


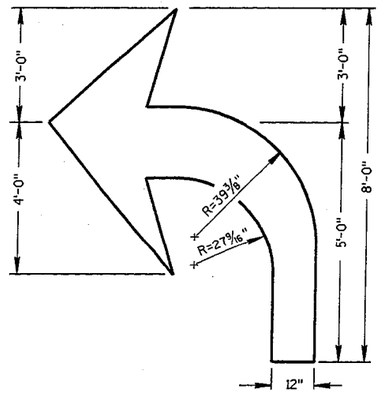


PREFERENTIAL LANE SYMBOL

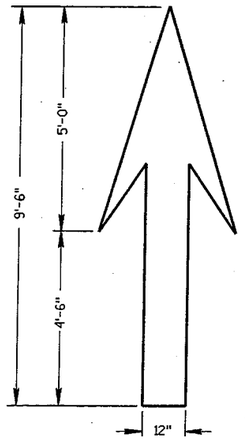
TYPE 4







TYPE 2



TYPE 1

6

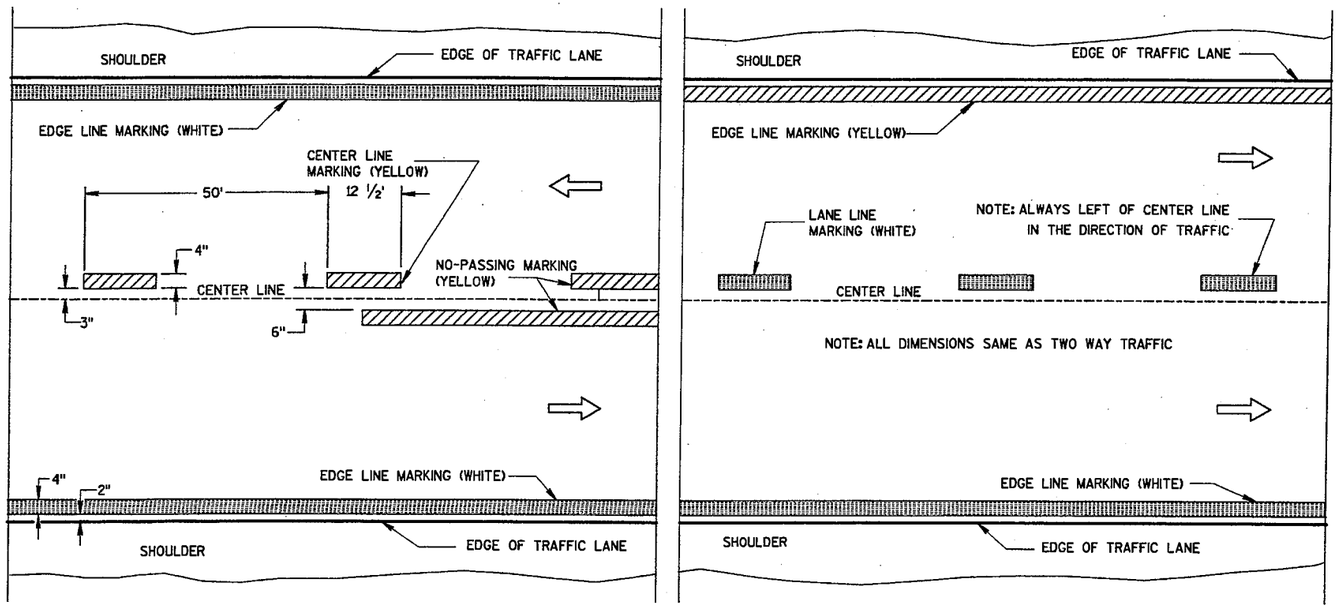
PAVEMENT MARKING SYMBOLS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
3-18-03 (DATE)
Deborah D. Kogl for (CHIEF SIGNS AND MARKING ENGINEER)
FHWA

S.D.D. 15 C 7-6a

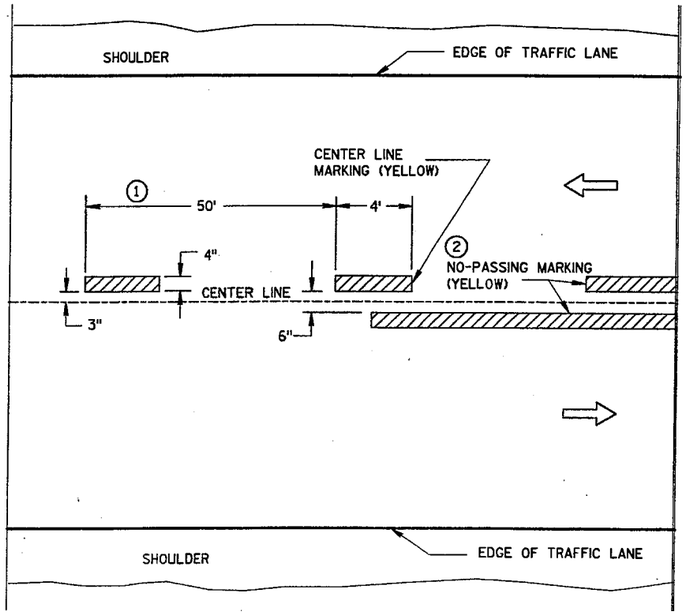
S.D.D. 15 C 7-6a



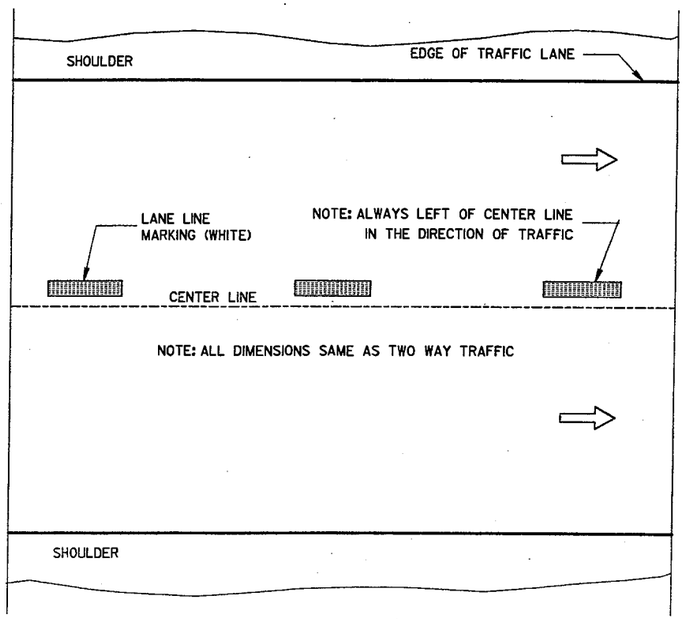
TWO WAY TRAFFIC

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

PAVEMENT MARKING
(MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
2-17-00
DATE
FHWA

Christa J. Sperry
CHIEF SIGNS AND MARKING ENGINEER

S.D.D. 15 C 8-9a

S.D.D. 15 C 8-9a

NOTES

EDGE LINES SHALL BE OMITTED THROUGH INTERSECTIONS. EDGE LINES SHALL BE CONTINUED THROUGH DRIVEWAYS.

(1) WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.

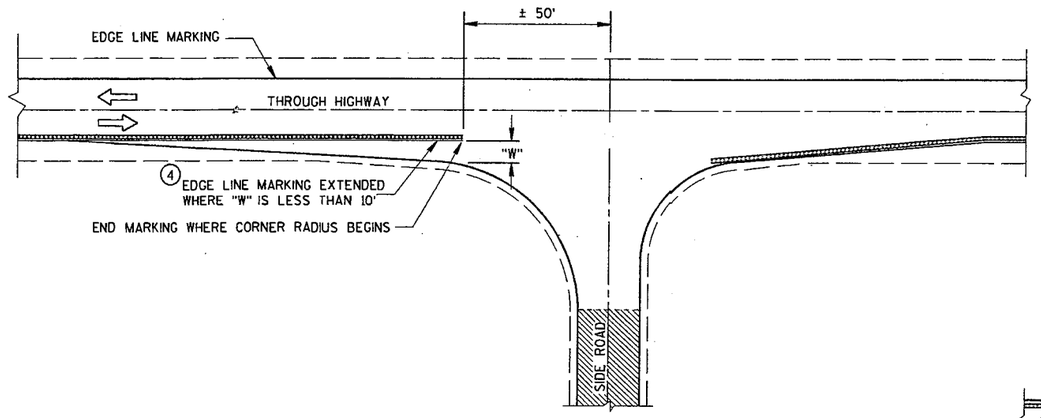
(2) WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.

(3) ALTERNATIVE MARKING SHALL BE PROVIDED WHEN SPECIFIED IN THE CONTRACT. TYPICAL SITUATIONS WHERE THIS MARKING MAY BE REQUIRED ARE WHERE THE INTERSECTION IS ON A SHARP HORIZONTAL CURVE OR CREST VERTICAL CURVE IN AN UNLIGHTED AREA SUCH THAT THE EDGE LINE MAY BE MISLEADING TO THE MOTORIST OR DISAPPEAR FROM SIGHT.

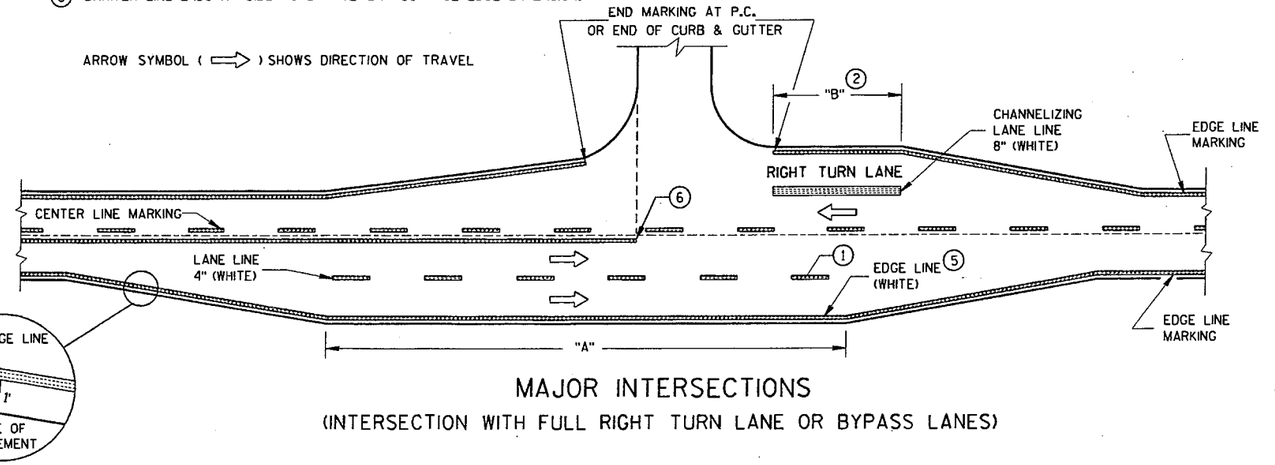
(4) LOCATE THE EDGE LINE ALONG THE TAPER WHERE "W" IS 10' OR MORE.

(5) THE EDGE LINE IN THE TAPER AREAS OF THE BYPASS LANE AND THE BYPASS LANE SHALL BE LOCATED 1-FOOT FROM EDGE OF PAVEMENT TO THE OUTSIDE EDGE OF EDGE LINE.

(6) BARRIER LINE ENDS AT SIDE ROAD PAVEMENT/SURFACE EDGE EXTENSION.

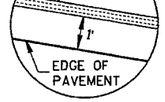


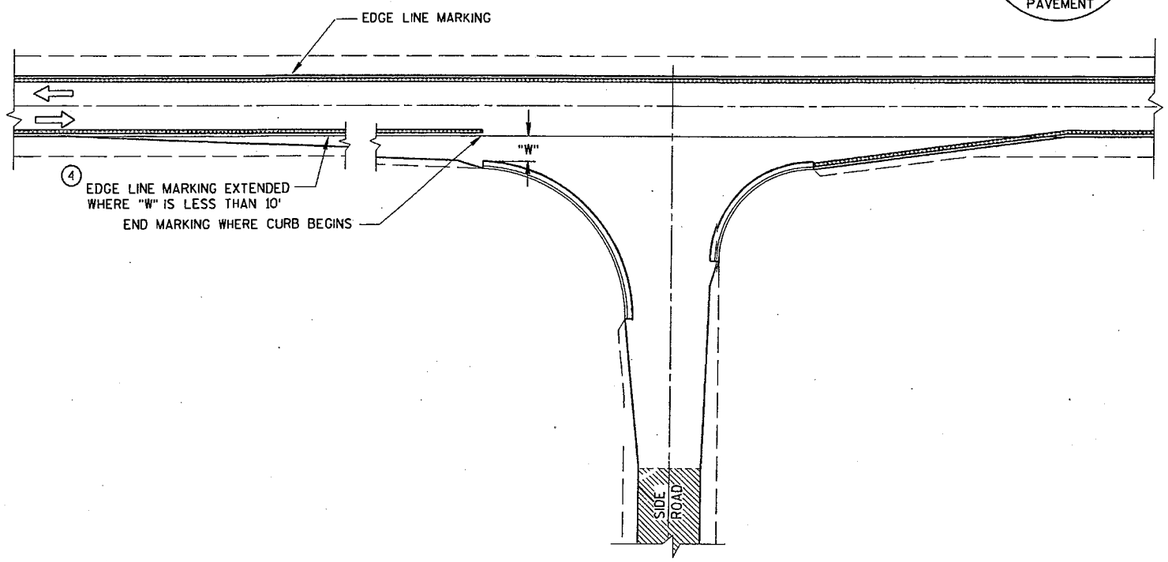
MINOR INTERSECTION WITHOUT CURBS



MAJOR INTERSECTIONS

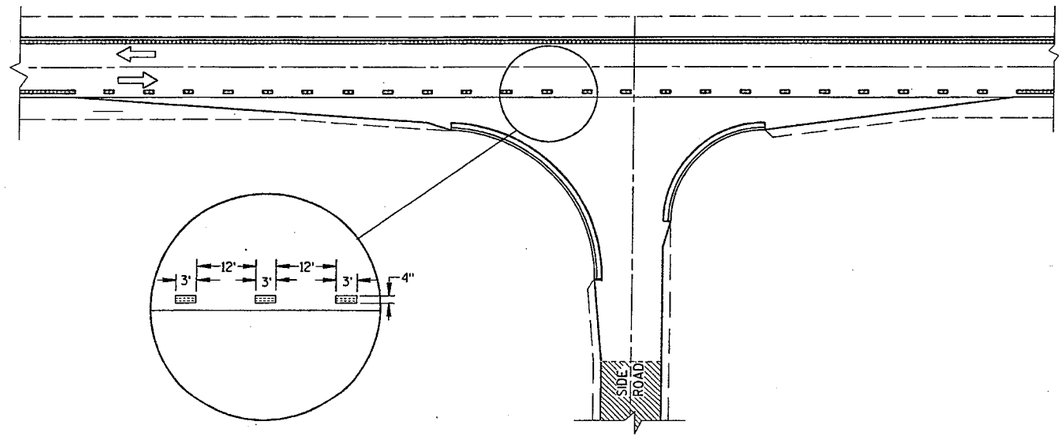
(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANES)





MINOR INTERSECTION WITH CURBS

(TYPICAL MARKING)



MINOR INTERSECTION WITH CURBS

③ (FOR SPECIAL CONDITIONS AS SPECIFIED)

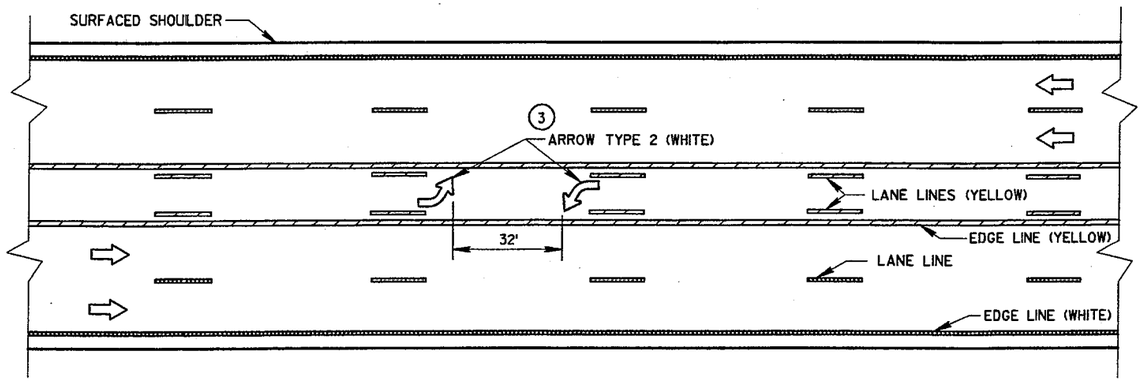
PAVEMENT MARKING
(INTERSECTIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

S.D.D. 15 C 8-9b

S.D.D. 15 C 8-9b

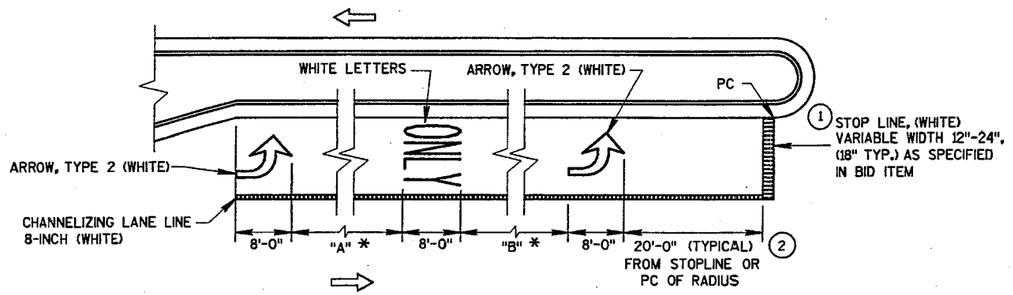
NOTE:
ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL



TWO WAY LEFT TURN LANE

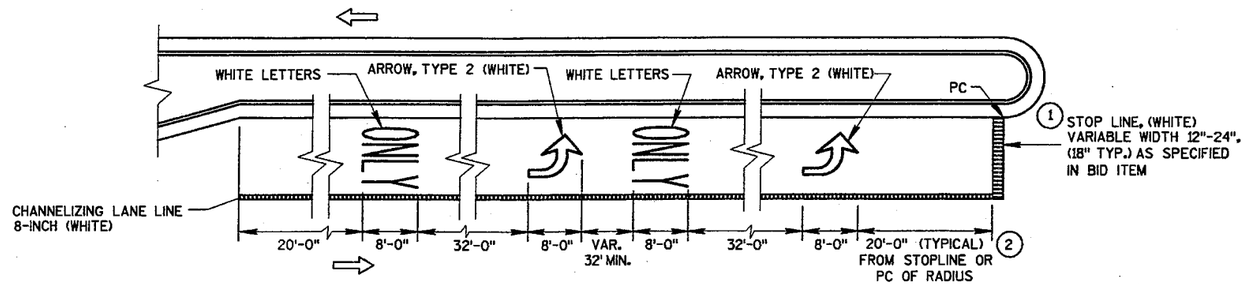
NOTES:

1. STOP BAR IS REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.
2. DISTANCE MAY BE ADJUSTED TO ACCOMODATE SHORT LEFT TURN LANES. AS APPROVED BY THE ENGINEER.
3. A SET OF ARROWS IS REQUIRED EVERY 400' OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.

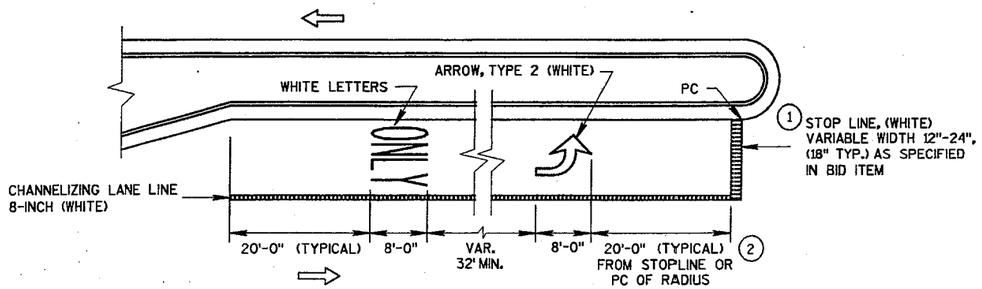


*VARIABLE, 32' MIN. "A" = "B" (TYPICAL)

LEFT TURN LANE
(LENGTH 108' TO 167')



LEFT TURN LANE
(LENGTH OVER 167')



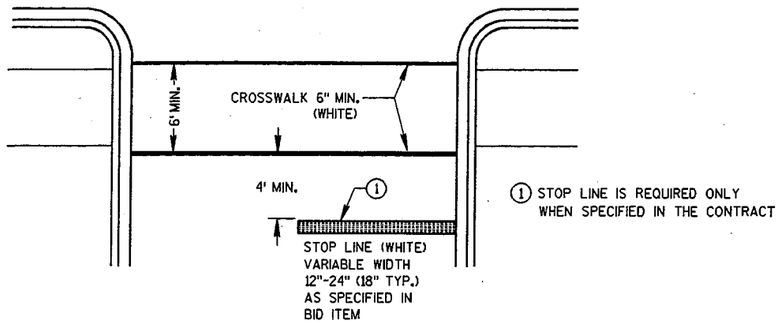
LEFT TURN LANE
(LENGTH UNDER 108')

PAVEMENT MARKING
(LEFT TURN LANE)

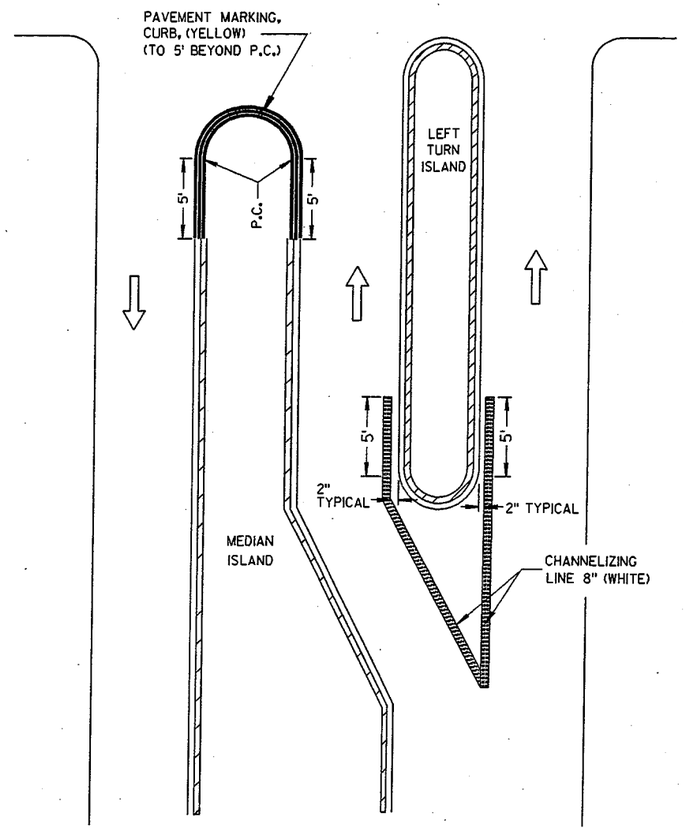
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

S.D.D. 15 C 8-9d

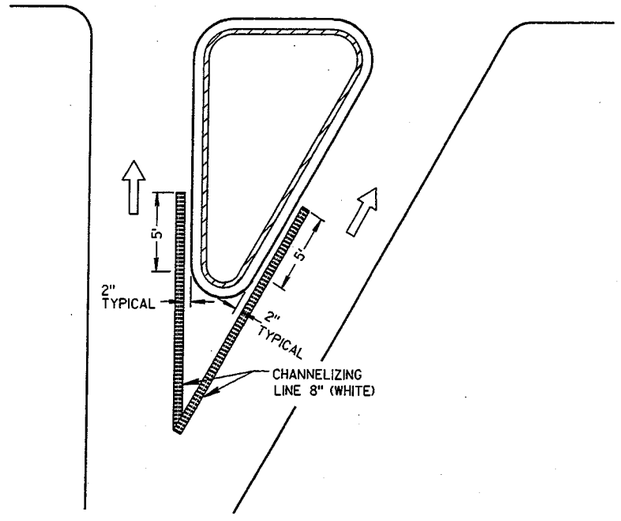
S.D.D. 15 C 8-9d



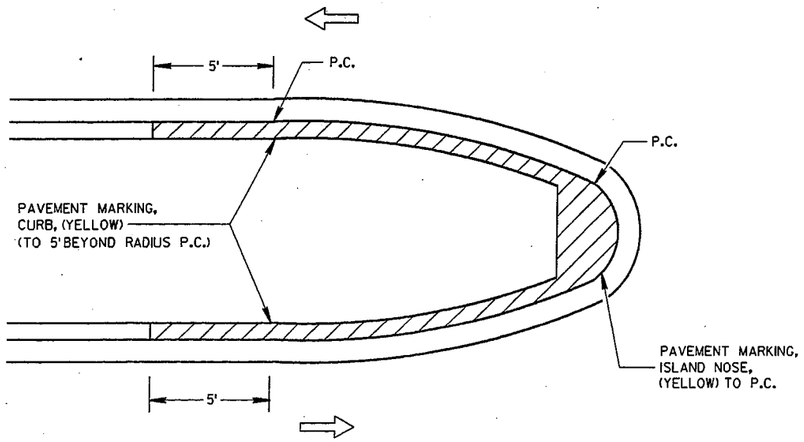
STOP LINE AND CROSSWALK



LEFT TURN & MEDIAN ISLAND



RIGHT TURN ISLAND



MEDIAN ISLAND WITH SLOPED NOSE

NOTE:
ARROW SYMBOL (⇨)
SHOWS DIRECTION OF TRAVEL

PAVEMENT MARKING
(ISLANDS, STOP LINE & CROSS WALK)

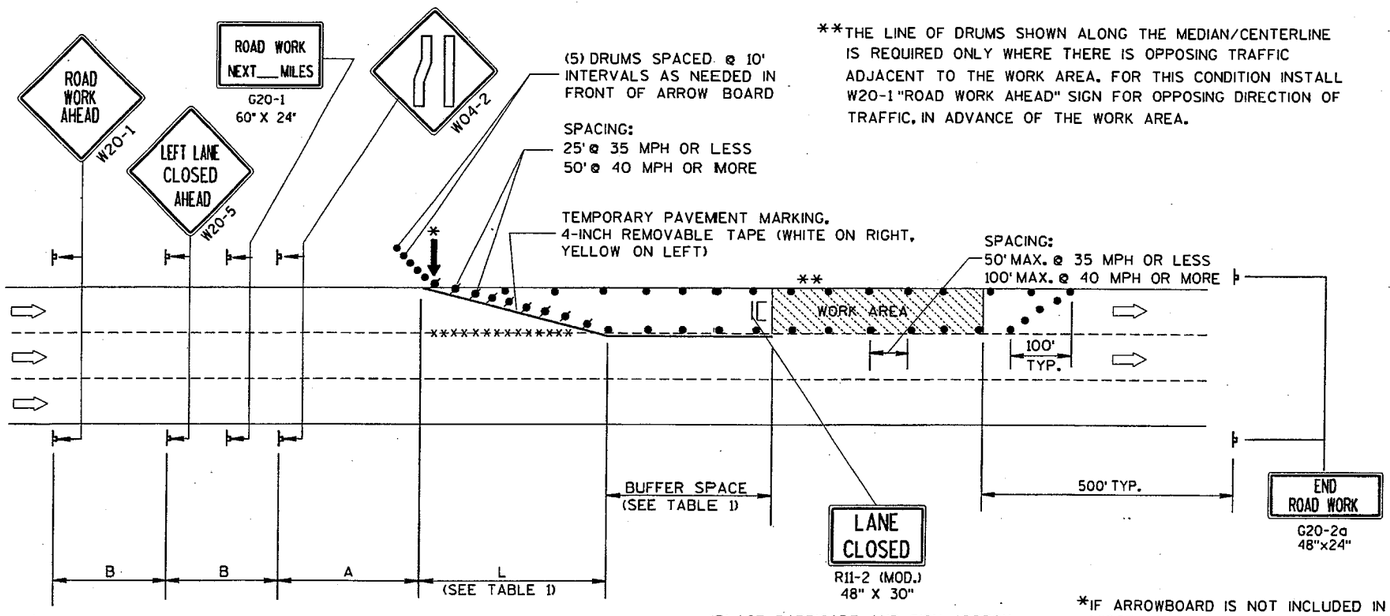
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
1-16-03 (DATE)
Deborah T. Kozel for
CHIEF SIGNS AND MARKING ENGINEER
FHWA

6

S.D.D. 15 C 8-10e

S.D.D. 15 C 8-10e



**THE LINE OF DRUMS SHOWN ALONG THE MEDIAN/CENTERLINE IS REQUIRED ONLY WHERE THERE IS OPPOSING TRAFFIC ADJACENT TO THE WORK AREA. FOR THIS CONDITION INSTALL W20-1 "ROAD WORK AHEAD" SIGN FOR OPPOSING DIRECTION OF TRAFFIC, IN ADVANCE OF THE WORK AREA.

B=400' AT 25-30 MPH
700' AT 35-40 MPH
1000' AT 45-55 MPH

A=200' AT 25-30 MPH
350' AT 35-40 MPH
500' AT 45-55 MPH

(PLACE BARRICADE AND SIGN APPROX. EVERY 1000' ACROSS THE CLOSED LANE)

*IF ARROWBOARD IS NOT INCLUDED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE A TYPE III BARRICADE WITH W01-6 SIGN IN THE LANE CLOSURE TAPER.

W01-6
48"x24"

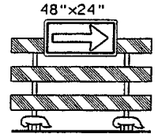


TABLE 1
TAPER AND BUFFER SPACE FOR 12' LANE WIDTH

S	L	BUFFER SPACE
25	125'	55'
30	180'	85'
35	245'	120'
40	320'	170'
45	540'	220'
50	600'	280'
55	660'	335'

FOR LANE WIDTH OTHER THAN 12':

L = WS AT 45 MPH OR GREATER

$L = \frac{WS^2}{60}$ AT 40 MPH OR LESS

L = TAPER LENGTH IN FEET

S = NON-CONSTRUCTION SPEED LIMIT (MPH)

W = WIDTH OF LANE CLOSURE

LEGEND

- DRUM WITH/WITHOUT WARNING LIGHT, TYPE C (STEADY-BURN)
- POST MOUNTED SIGN
- ARROW BOARD
- IC/C TYPE III BARRICADE (8' EQUIVALENT) AND WARNING LIGHTS, TYPE A (FLASHING) WITH/WITHOUT SIGN
- DIRECTION OF TRAFFIC FLOW
- xxxx REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)

GENERAL NOTES

THIS LANE CLOSURE DETAIL IS TYPICAL FOR CLOSING THE LEFT LANE. FOR A RIGHT LANE CLOSURE, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR ROADWAYS WITH EITHER TWO OR THREE LANES IN EACH DIRECTION.

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY DISTRICT TRAFFIC UNIT.

"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF LANE CLOSURE IS TO BE IN PLACE FOR 7 OR MORE CONTINUOUS DAYS AND NIGHTS.

ON UNDIVIDED ROADWAYS, OMIT THE SIGNS SHOWN ON LEFT SIDE OF ROAD.

W20-1, G20-1 AND G20-2A SIGNS ARE NOT REQUIRED IF THE LANE CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROWBOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROWBOARDS AND LANE CLOSURE DRUMS.

PLACE THE ARROWBOARD AS CLOSE AS POSSIBLE TO THE BEGINNING OF THE LANE CLOSURE TAPER, PREFERABLY ON THE SHOULDER OR TERRACE.

CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

BARRICADES IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION OR, FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5/23/00 DATE
Chester J. Sprang
CHIEF SIGNS AND MARKING ENGINEER
FHWA

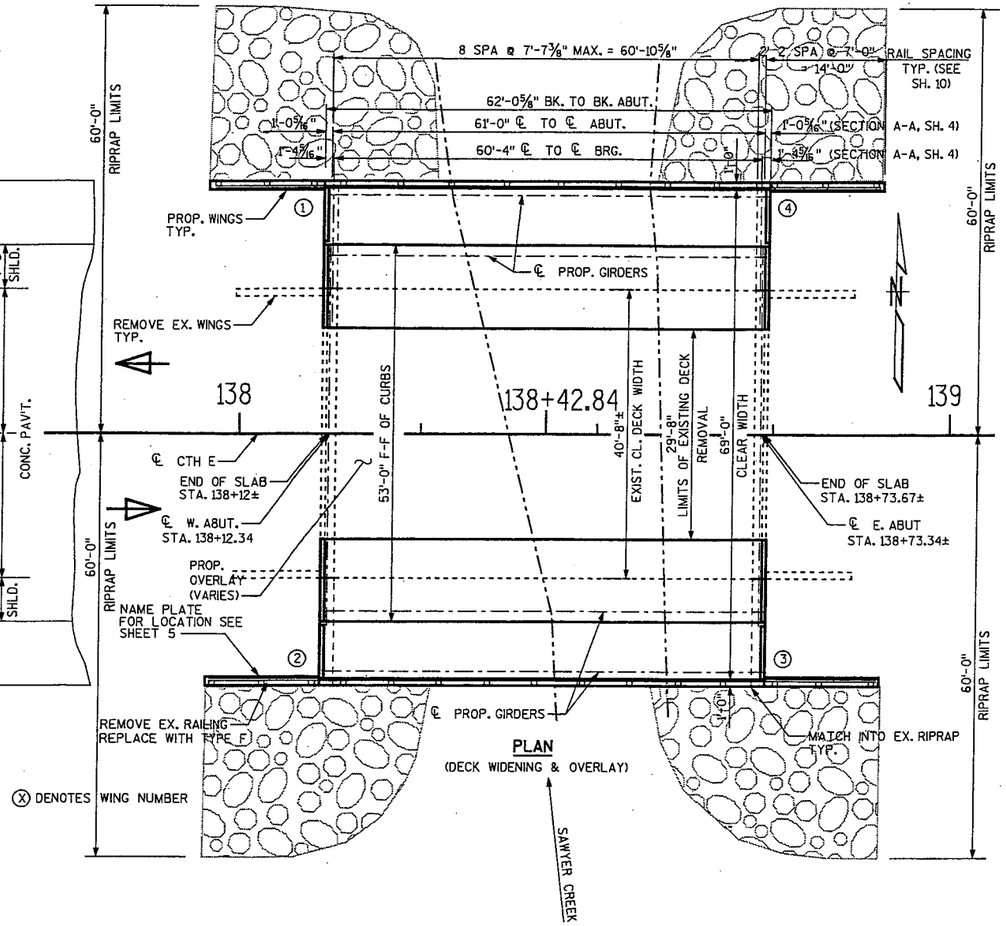
S.D.D. 15 D 20-1

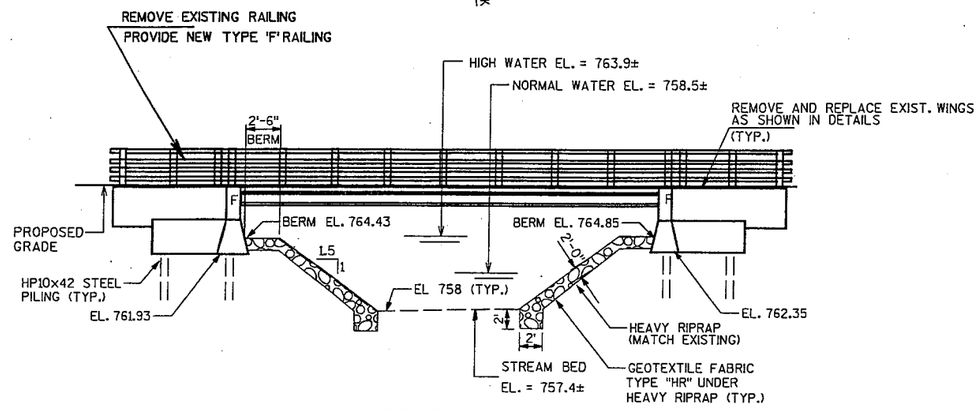
S.D.D. 15 D 20-1

STATE PROJECT NUMBER	SHEET NO.
4994-01-09	8.1

BENCH MARK

NO.	STATION	DESCRIPTION		ELEV.
9	138+04	SW CORNER OF PARAPET ~~CHISELED "B"~~	21.1' RT.	~~774.51~~ MON. 772.59





ELEVATION

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

BAR STEEL REINFORCEMENT SHALL BE IMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

THE EXISTING STRUCTURE, TO BE REHABILITATED, IS A 62.8-FOOT LONG BY 40.7-FOOT CLEAR WIDTH, SINGLE SPAN CONCRETE GIRDER BRIDGE. (B-70-0064)

ALL STATIONS AND ELEVATIONS ARE IN FEET.

ALL EXISTING DIMENSIONS AND ELEVATIONS TO BE FIELD VERIFIED.

AT THE BACK FACE OF ABUTMENT ALL EXCAVATED VOLUME NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL.

CONCRETE REMOVAL TO BE DEFINED BY A 1" DEEP SAW CUT.

A MIN. OF 1-INCH OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS".

UTILIZE EXISTING BAR STEEL REINFORCEMENT WHERE SHOWN AND EXTEND 24 BAR DIAMETERS INTO NEW WORK UNLESS OTHERWISE SPECIFIED.

CONCRETE EXPANSION BOLTS AND INSERTS TO BE FURNISHED AND PLACED BY CONTRACTOR UNDER THE PRICE BID FOR CONCRETE MASONRY.

THE EXISTING GROUNDLINE SHALL BE THE UPPER LIMIT EXCAVATION FOR STRUCTURES.

THE SLOPE OF FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH HEAVE RIPRAP TO THE EXTENT SHOWN ON THE GENERAL PLAN SHEET AND IN THE ABUTMENT DETAILS.

A MONUMENT (BENCH MARK CAP) SUPPLIED BY THE DEPARTMENT SHALL BE SET IN THE SAME WING WALL AS THE NAME PLATE.

THE MINIMUM CONCRETE HAUNCH SHALL BE 2" FOR DESIGN CALCULATIONS AND THE HAUNCH CONCRETE QUANTITY IS BASED ON AN AVERAGE HAUNCH DEPTH OF 2½" WHICH IS THE MAXIMUM HAUNCH QUANTITY FOR WHICH THE CONTRACTOR WILL BE PAID.

JOINT FILLER SHALL CONFORM TO THE REQUIREMENTS OF AASHTO DESIGNATION M153, TYPE I, II OR III OR AASHTO DESIGNATION M123.

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE TOP OF DECK ON ROADWAY AND SIDEWALKS. TK-290

ELASTOMETRIC BEARING PADS NEED NOT TO BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH AND TRUE.

THE AVERAGE OVERLAY THICKNESS ON THE EXISTING STRUCTURE = 2½" VARIATIONS TO THE NEW GRADE LINE OVER ½" MUST BE SUBMITTED FOR REVIEW BY BUREAU OF STRUCTURES.

DESIGN DATA

LIVE LOAD:
- DESIGN RATING _____ HS20
- INVENTORY RATING _____ HS23
- OPERATIONAL RATING _____ HS37
- MAXIMUM STANDARD PERMIT VEHICLE LOAD= 250 KIPS

ULTIMATE DESIGN STRESSES:
- CONCRETE MASONRY SLAB _____ f'c = 4000 psi
- ALL OTHER ___ f'c = 3500 psi
- HIGH STRENGTH BAR STEEL REINFORCEMENT _____ fy = 60,000 psi
- STRUCTURAL LOW ALLOY STEEL GRADE 345 (50) MINIMUM YIELD STRENGTH _____ fy = 50,000 psi

45" PRESTRESSED GIRDERS:
- CONCRETE MASONRY _____ f'c = 6000 psi
- PRESTRESSING STRANDS ½" DIA. WITH AN ULTIMATE TENSILE STRENGTH OF _____ 270,000 psi

FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON HP10x42 STEEL PILING (WITH PILE POINTS) DRIVEN TO A MINIMUM BEARING VALUE OF 55 TONS PER PILE. ESTIMATED PILE LENGTHS ARE 40 FEET.

LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTIONS & QUANTITIES
3. SUBSURFACE EXPLORATION
4. ABUTMENTS
5. WINGWALL DETAILS
6. 45" PRESTRESSED GIRDER DETAILS
7. DIAPHRAGM DETAILS
8. SUPERSTRUCTURE
9. SUPERSTRUCTURE DETAILS
10. TUBULAR STEEL RAILING TYPE F

TRAFFIC DATA

ADT (2000)= 8450
ADT (2004)= 9550
ADT (2024)= 14900

BRIDGE OFFICE CONTACT
GERRY ANDERSON
(608) 266-8488

WISCONSIN
JOHN A. RATHKE E-29332 GREEN BAY, WI
PROFESSIONAL ENGINEER
9/29/03

ORIGINAL PLANS PREPARED BY
MEAD & HUNT ENGINEERS ARCHITECTS SCIENTISTS PLANNERS

JOHN RATHKE, P.E.
920-496-0500

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-70-0064

CTH E OVER SAWYER CREEK

COUNTY: WINNEBAGO		TOWN/~~CITY/VILLAGE~~: ALGOMA	
DESIGN SPEC.: AASHTO 2002		LOAD: HS-20	CONST. SPEC.: 2003
DESIGNED BY: SGI	DESIGN CK'D.: RCP	DRAWN BY: SGI/HKG	PLANS CK'D.: JAR

APPROVED: Ken Hubbard 11/21/03
CHIEF STRUCTURAL DESIGN ENGINEER — DATE

GENERAL PLAN

SHEET 1 OF 10

DATE:

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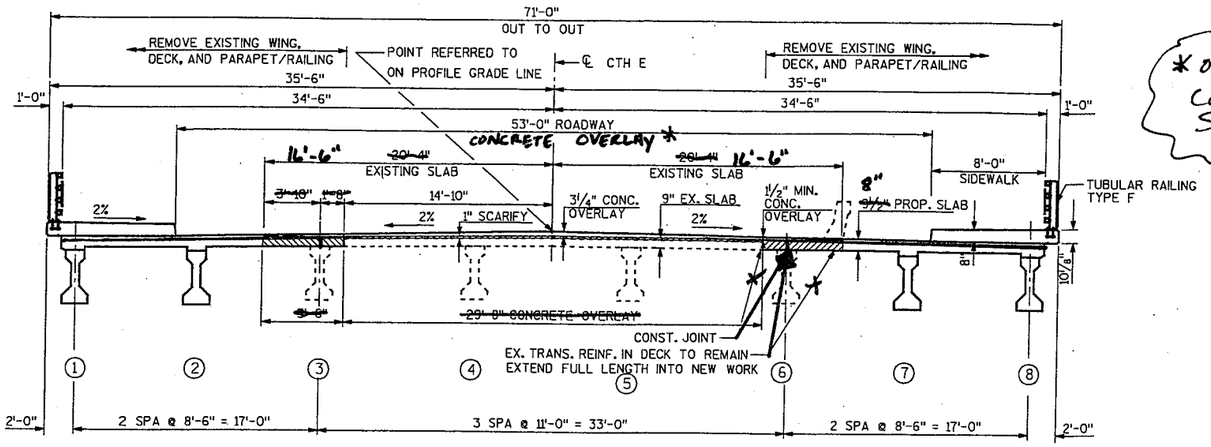
STATE PROJECT NUMBER	SHEET NO.
4994-01-09	8.2

INDICATES DECK REMOVAL

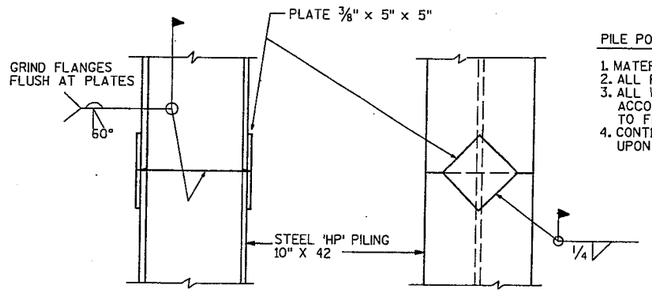


CROSS SECTION THROUGH STRUCTURE
EXISTING GIRDERS TO REMAIN
(LOOKING UPSTATION)

* OVERLAYED THE ENTIRE DECK W/TH CONCRETE CONTAINING NOVAMESH HPP SI CORPORATION, CHICKAMAUGA, GA

TOTAL ESTIMATED QUANTITIES

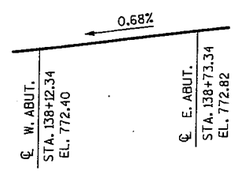
BID ITEMS	UNIT	WEST ABUT.	SUPER	EAST ABUT.	TOTALS
REMOVING OLD STRUCTURE (STATION 138+42.84)	LS	——	——	——	1
EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE B-70-64)	LS	——	——	——	1
BACKFILL STRUCTURE	CY	260	——	260	520
CONCRETE MASONRY BRIDGES	CY	37	117	37	191
PROTECTIVE SURFACE TREATMENT	SY	——	495	——	495
MASONRY ANCHORS TYPE L NO. 6 BARS	EACH	16	——	16	32
PRESTRESSED GIRDER TYPE 145-INCH	LF	——	246	——	246
BAR STEEL REINFORCEMENT HS BRIDGES	Lb	1760	——	1760	3520
BAR STEEL REINFORCEMENT HS COATED BRIDGES	Lb	1950	29940	1790	33680
BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	4	——	4	8
STEEL DIAPHRAGMS (STRUCTURE B-70-64)	EACH	——	4	——	4
CLEANING DECKS	SY	——	205	——	205
CONCRETE MASONRY OVERLAY DECKS	CY	——	14	——	14
PILING STEEL DELIVERED AND DRIVEN HP 10-INCH X 42 LB	LF	240	——	240	480
RAILING TUBULAR TYPE F (STRUCTURE B-70-64)	LS	——	——	——	1
RUBBERIZED MEMBRANE WATERPROOFING	SY	13	——	13	26
RIPRAP HEAVY	CY	120	——	120	240
PREPARATION DECKS, TYPE 1	SY	——	11	——	11
PREPARATION DECKS, TYPE 2	SY	——	5	——	5
GEOTEXTILE FABRIC TYPE HR	SY	220	——	220	440
PILE POINTS	EACH	6	——	6	12
QMP CONCRETE STRUCTURES - 5 CYLINDER	CY	37	131	37	205
QMP INCENTIVE STRENGTH CONCRETE STRUCTURES	DOL	——	——	——	1968
NON-BID ITEMS					
FILLER	SIZE	——	——	——	½",¾"



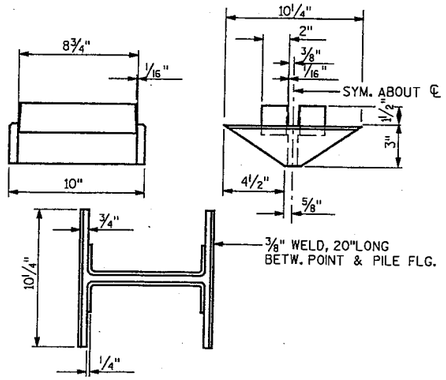
HP10x42 PILE SPLICE DETAIL

PILE POINT NOTES

1. MATERIAL = CAST STEEL (ASTM A-27-84-65-35).
2. ALL FILETS = ⅜".
3. ALL WELDS BETWEEN PILE AND POINT TO BE IN ACCORDANCE WITH AWS SPEC'S. WELD FLANGES TO FITTING ON OUTSIDE FACES.
4. CONTRACTOR MAY USE AN ALTERNATIVE DESIGN UPON APPROVAL OF THE ENGINEER.



PROFILE GRADE LINE AT ℄ OF CTH E



PILE POINT DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-70-0064

CONST. SPEC.	DRAWN BY	PLANS CK'D.
2003	SGI/HKG	RCP

CROSS SECTIONS AND QUANTITIES

SHEET 2 OF 10

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STATE PROJECT NUMBER	SHEET NO.
4994-01-09	8.3

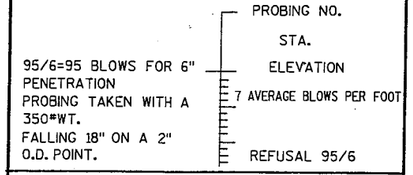
ABBREVIATIONS

F—FINE M—MEDIUM C—COARSE
WS—WEATHERED SO—SOUND

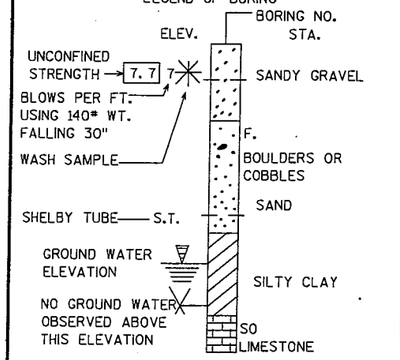
MATERIAL SYMBOLS

TOPSOIL, SILT, SANDSTONE, SAND, PEAT, LIMESTONE, GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING



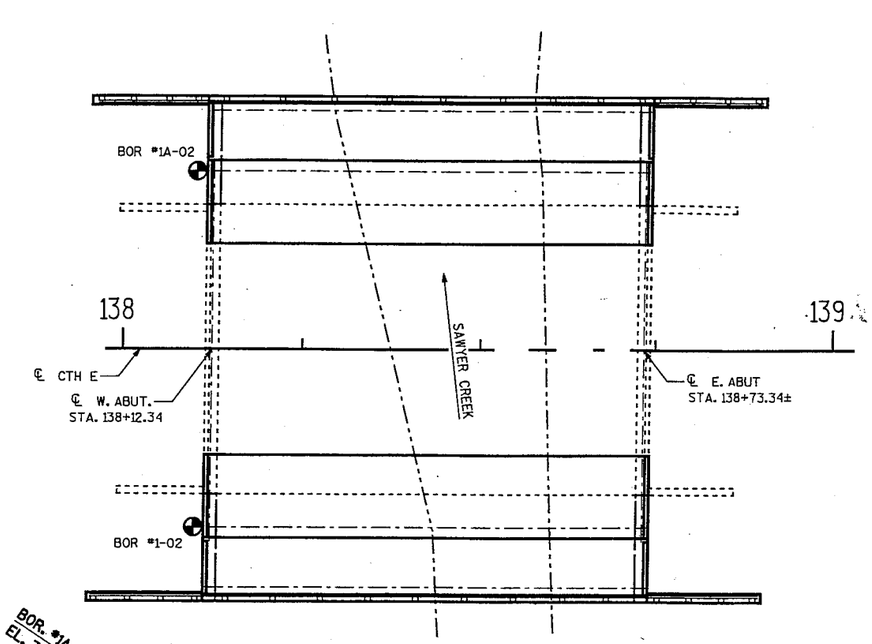
LEGEND OF BORING



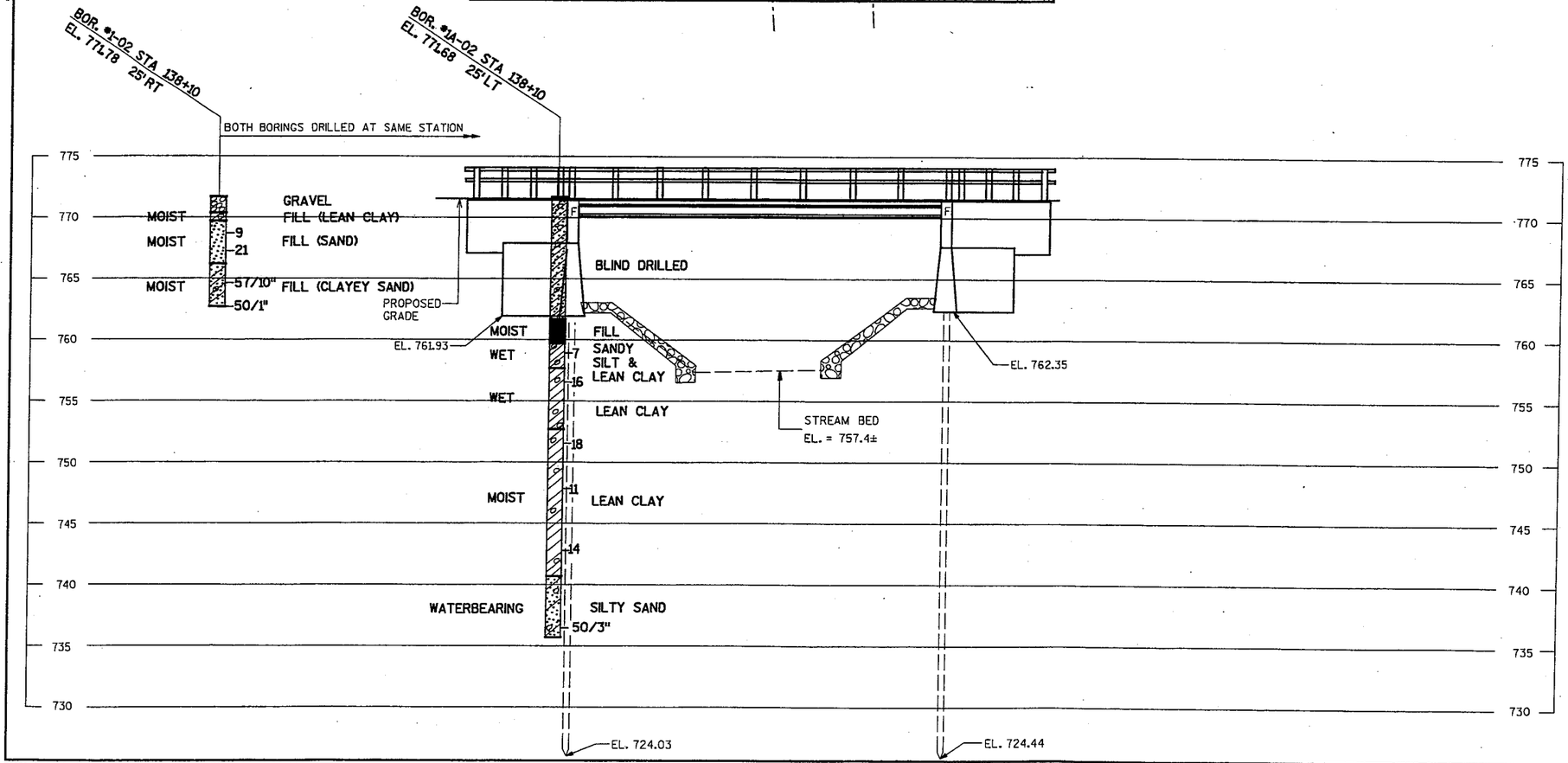
UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A O.D.X.L. 4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE DIVISION OF HIGHWAYS DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.



SOIL BORINGS BY
RIVER VALLEY TESTING CORP.
GREEN BAY, WI
ON MARCH 28, 2002.



NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-70-0064

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SUBSURFACE EXPLORATION

SHEET 3 OF 10

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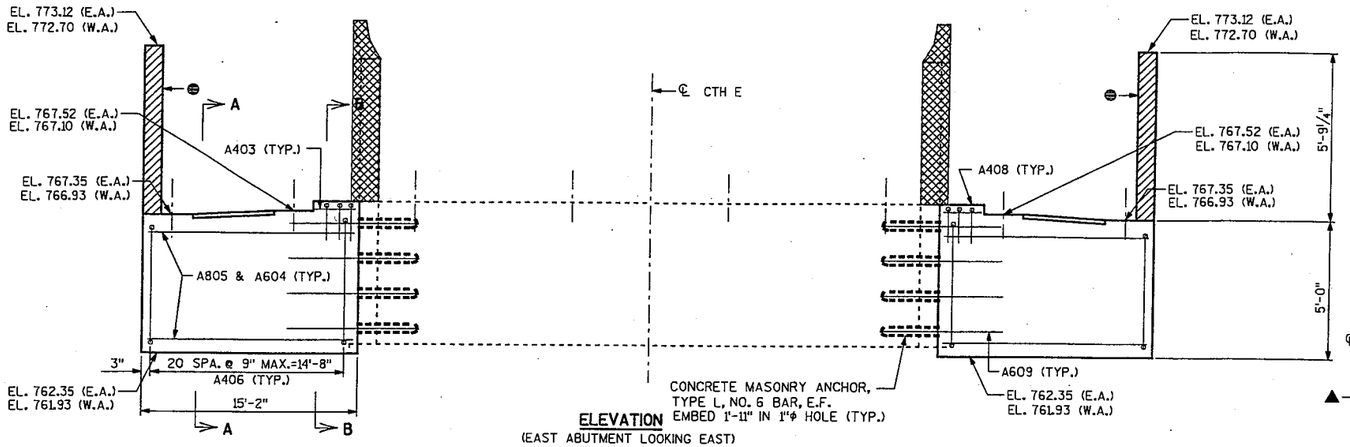
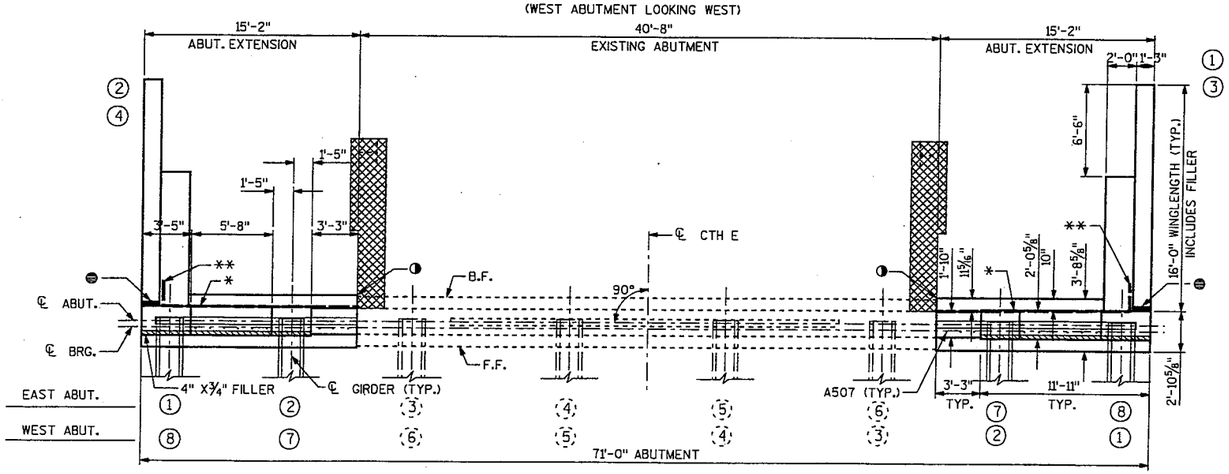
STATE PROJECT NUMBER	SHEET NO.
4994-01-09	8.4

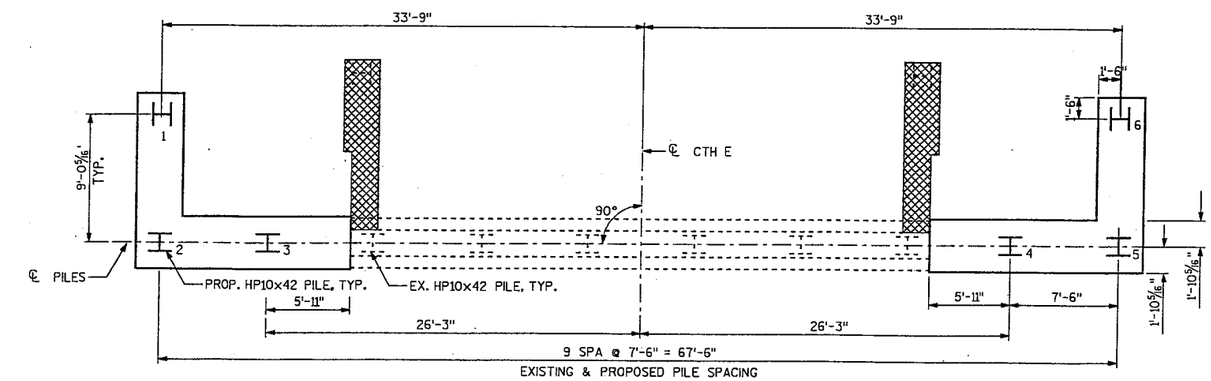
INDICATES WINGWALL AND PARAPET REMOVAL



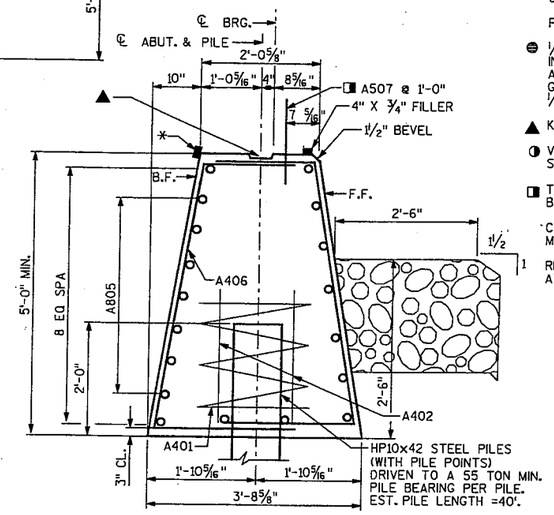
ELEVATION
(EAST ABUTMENT LOOKING EAST)
(WEST ABUTMENT LOOKING WEST)



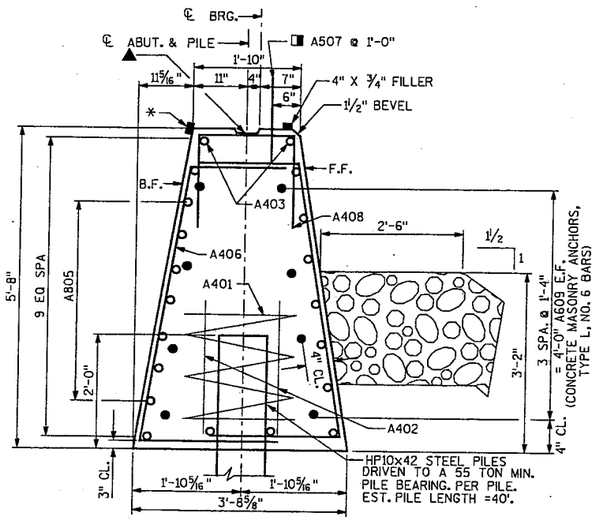
PLAN



PILE PLAN



SECTION A-A



SECTION B-B
ALL HORIZONTAL BARS NOT LABELLED ARE A604 BARS

NOTES:

RMW=RUBBERIZED MEMBRANE WATERPROOFING
B.F.=BACK FACE
F.F.=FRONT FACE
E.F.=EACH FACE
E.A.=EAST ABUTMENT
W.A.=WEST ABUTMENT

SEAL ALL VERT. AND HORIZ. JOINTS ON BACK FACE OF ABUTMMENT WITH RUBBERIZED MEMBRANE WATERPROOFING.

* 18" RMW TO EXTEND BETWEEN INSIDE FACES OF WINGS HORIZ. OVER FILLETS.

** 18" RMW TO EXTEND FROM BEAM SEAT TO BACK OF WING.

FILL/EXCAVATE TO BOTTOM OF ABUTMENT BEFORE DRIVING PILING.

FOR PILE SPLICE AND PILE POINT DETAILS SEE SHEET 2.

⊖ ½" FILLER- EXTEND FROM BEAM SEAT TO TOP OF WING. INCLUDED IN WING LENGTH. SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE.)

▲ KEYED CONST. JOINT FORMED BY SURFACED, BEVELED 2"x6".

◑ VERTICAL CONST. JOINT KEYWAY FORMED BY BEVELED 2"X8". SEAL JOINT WITH 18" RMW ON BF.

◨ THESE BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE.

CONCRETE MASONRY ANCHORS TYPE L, NO. 6 BARS, NEEDING A MINIMUM PULLOUT CAPACITY OF 26.5 KIPS. IMBED 1'-11".

REMOVE EXISTING EXTERIOR CONCRETE DIAPHRAGMS AT EACH ABUTMENT.

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ABUTMENTS

SHEET 4 OF 10

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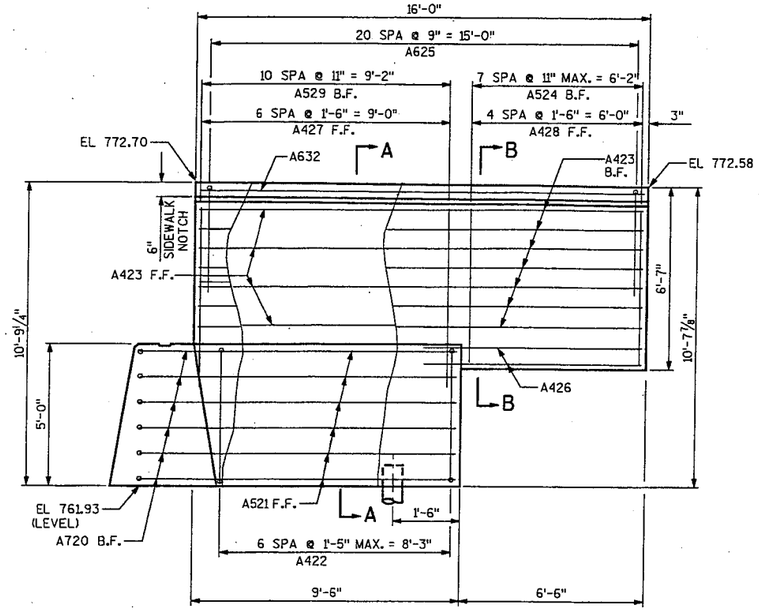
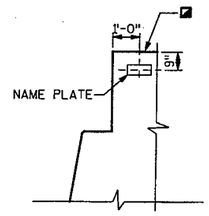
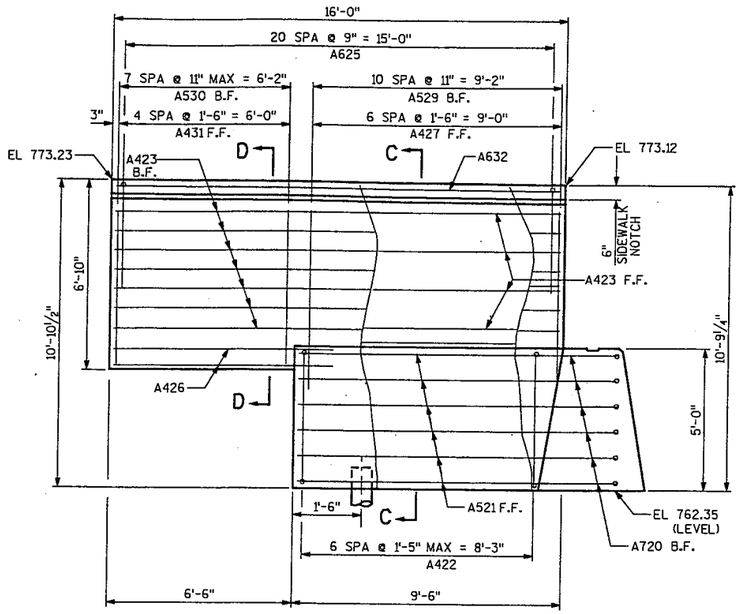
STATE PROJECT NUMBER	SHEET NO.
4994-01-09	8.5



WINGS 1& 2 ELEVATION
(ON WEST ABUT.)



NAME PLATE DETAIL
(WING 2)



WINGS 3 & 4 ELEVATION
(ON EAST ABUT.)

BILL OF BARS

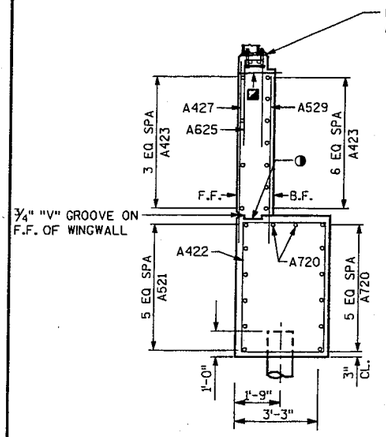
THE FIRST DIGIT OF A THREE DIGIT BAR MARK SIGNIFIES THE BAR SIZE.

DIMENSIONS IN BENDING DETAIL ARE OUT TO OUT OF BAR.

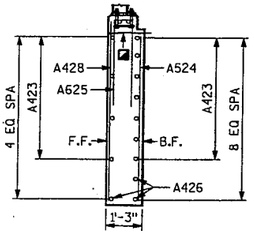
TABLE INCLUDES REINFORCEMENT FOR BOTH ABUTMENTS.

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
A401		8	28-0	X		BODY - ONE PER PILE
A402		16	2-3			BODY - TWO PER PILE
A403		8	2-11			BODY - HORIZ.
A604		44	14-10			BODY - HORIZ.
A805		28	14-10			BODY - HORIZ.
A406		168	8-4	X		BODY - STIRRUPS
A507		36	2-0			BODY - VERT.
A408		12	4-8	X		BODY - VERT.
A609		32	4-0			BODY - HORIZ.
A720	X	32	12-2	X		WING BASE HORIZ. B.F 1,2,3,4
A521	X	24	11-1			WING BASE HORIZ. F.F 1,2,3,4
A422	X	28	15-4	X		WING BASE VERT. 1,2,3,4
A423	X	44	15-7			WING TOP HORIZ. 1,2,3,4
A524	X	16	5-7			WING TOP VERT. 1,2
A625	X	84	6-6	X		WING TOP VERT. 1,2,3,4
A426	X	12	7-8			WING TOP HORIZ. 1,2,3,4
A427	X	28	6-5			WING TOP VERT. 1,2,3,4
A428	X	10	5-7			WING TOP VERT. 1,2
A529	X	44	6-5			WING TOP VERT. 1,2,3,4
A530	X	16	5-10			WING TOP VERT. 3,4
A431	X	10	5-10			WING TOP VERT. 3,4
A632	X	8	15-8			WING TOP HORIZ. 1,2,3,4

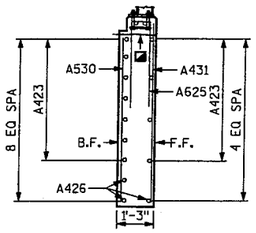
B.F. = BACK FACE
F.F. = FRONT FACE



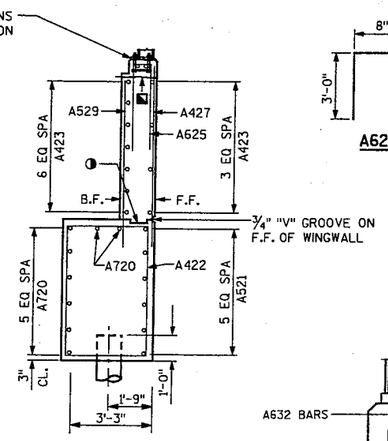
SECTION A-A



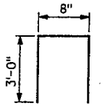
SECTION B-B



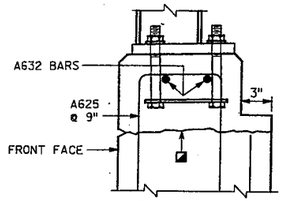
SECTION D-D



SECTION C-C



A625

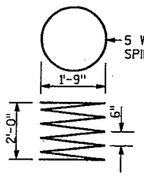


TYPE "F" RAILING WITH 3" X 6" DEEP SIDEWALK NOTCH

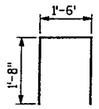
TOP OF WING DETAILS

◑ OPTIONAL CONST. JOINT FORMED BY BEVELED 2" X 6" KEYWAY WITH RMW ON BACKFACE

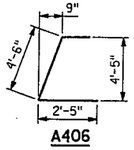
◪ CONSTRUCTION JOINT, LEAVE ROUGH. REQUIRED FOR PRESTRESSED CONCRETE SUPERSTRUCTURES. POUR CONCRETE ABOVE THIS JOINT AFTER DECK IS IN PLACE.



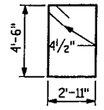
A401



A408



A406



A422

A720

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-70-0064

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WINGWALL DETAILS

SHEET 5 OF 10

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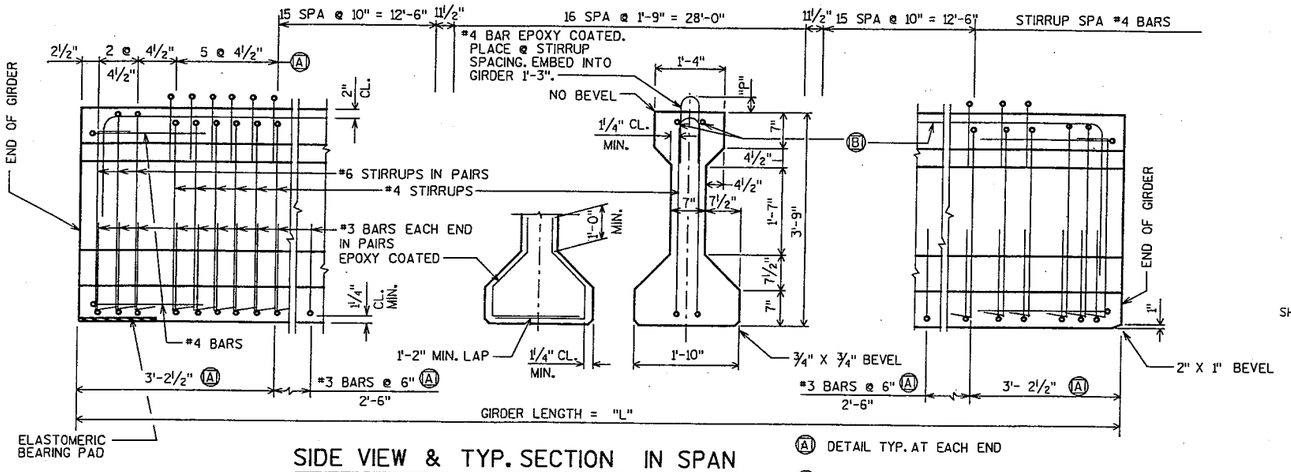
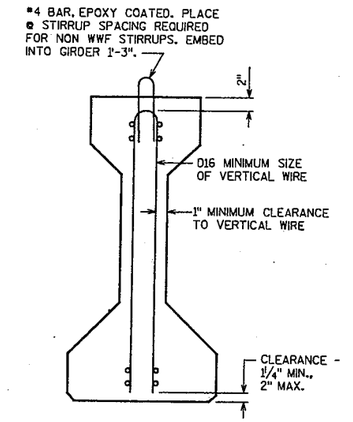
STATE PROJECT NUMBER	SHEET NO.
4994-01-09	8.6



SIDE VIEW & TYP. SECTION IN SPAN

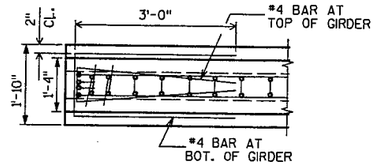
Ⓐ DETAIL TYP. AT EACH END

Ⓑ 2- #6 BARS BEND DOWN 16 BAR DIA. AT ENDS



SECTION THRU GIRDER

SHOWING WELDED WIRE FABRIC (WWF) STIRRUPS



TOP VIEW OF GIRDER ENDS

GIRDER NOTES

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY, EXCEPT THE OUTSIDE 2" OF GIRDER, WHICH SHALL BE TROWEL FINISHED.

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS.

PRESTRESSING STRANDS SHALL BE 0.5"ϕ - 7 WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 psi AND SHALL BE FLUSH WITH THE ENDS OF THE GIRDER.

BEND EACH END OF #4 STIRRUPS 4½" AND #6 STIRRUPS 6½".

FOR DIAPHRAGM INSERT & CONNECTION DETAILS SEE "STEEL DIAPHRAGM" SHEET.

ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

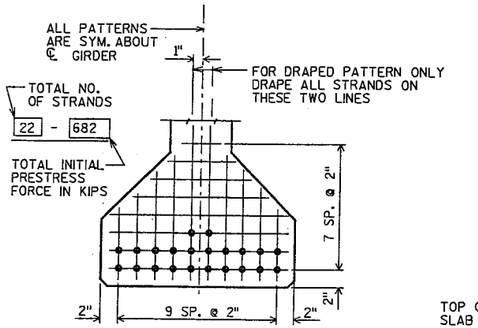
SPACING SHOWN FOR #4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT. IF THE FABRICATOR WANTS TO BUILD A BAR STEEL CAGE BY WELDING LONGITUDINAL REINFORCEMENT TO THE #4 STIRRUPS, 2 OPTIONS ARE AVAILABLE:

1. USE ASTM A706, GRADE 60 REINFORCEMENT AND THE STIRRUP SPACING AS SHOWN ON THE PLANS.
2. USE ASTM A615, GRADE 40 REINFORCEMENT AND A MODIFIED STIRRUP SPACING SUBMITTED TO AND APPROVED BY THE STRUCTURES DEVELOPMENT SECTION.

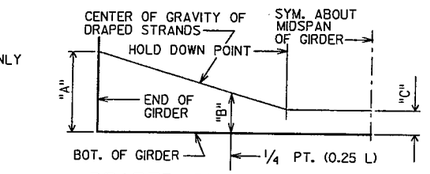
   AN ALTERNATE EQUIVALENT OF WELDED WIRE FABRIC (WWF) MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DEVELOPMENT SECTION

   WELDED WIRE FABRIC SHALL CONFORM TO THE REQUIREMENTS OF ASTM A497.

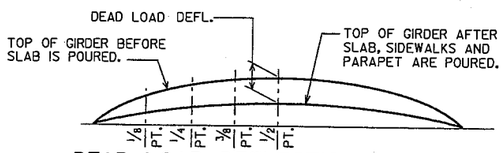
   ENDS OF STRANDS SHALL BE PAINTED WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (THIS APPLIES ONLY TO THOSE ENDS OF GIRDERS THAT ARE FINALLY EXPOSED.)



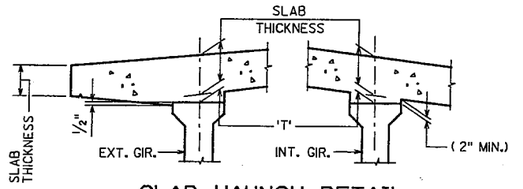
TYP. STRAND PATTERN



DRAPED STRAND PROFILE



DEAD LOAD DEFLECTION DIAGRAM



SLAB HAUNCH DETAIL

IF 2" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR. THE PLAN SLAB THICKNESS SHALL BE HELD. NOTIFY BRIDGE OFFICE FOR HAUNCH HEIGHTS OVER 4".

TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT ℄ OF SUBSTRUCTURE UNITS & AT ⅛ POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

TOP OF DECK ELEV. AT FINAL GRADE
- TOP OF GIRDER ELEVATION
+ DEAD LOAD DEFLECTION
- SLAB THICKNESS
= HAUNCH HEIGHT 'T'

NOTE:

DEAD LOAD DEFLECTIONS ARE THEORETICAL AND MAY VARY FROM ACTUAL FIELD CONDITIONS.

⁂ MINIMUM CYLINDER STRENGTH OF CONCRETE @ TIME OF TRANSFER OF PRESTRESS FORCE.

GIRDER DATA

SPAN	GIRDER LENGTH "L"	DEAD LOAD DEFL. (IN.) ⅛"	¼"	⅜"	½"	CONC. STRGTH. f'c (P.S.I.)	"P"	DIA. OF STRAND	DRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) ⁂	("A"	"B" MIN.	"B" MAX.	"C") (IN.)	UNDRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) ⁂
1	61'-4"	¼"	⅜"	½"	½"	6000	6	0.5"	22	4800	32	11	14	4		

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45" PRESTRESSED GIRDER DETAILS

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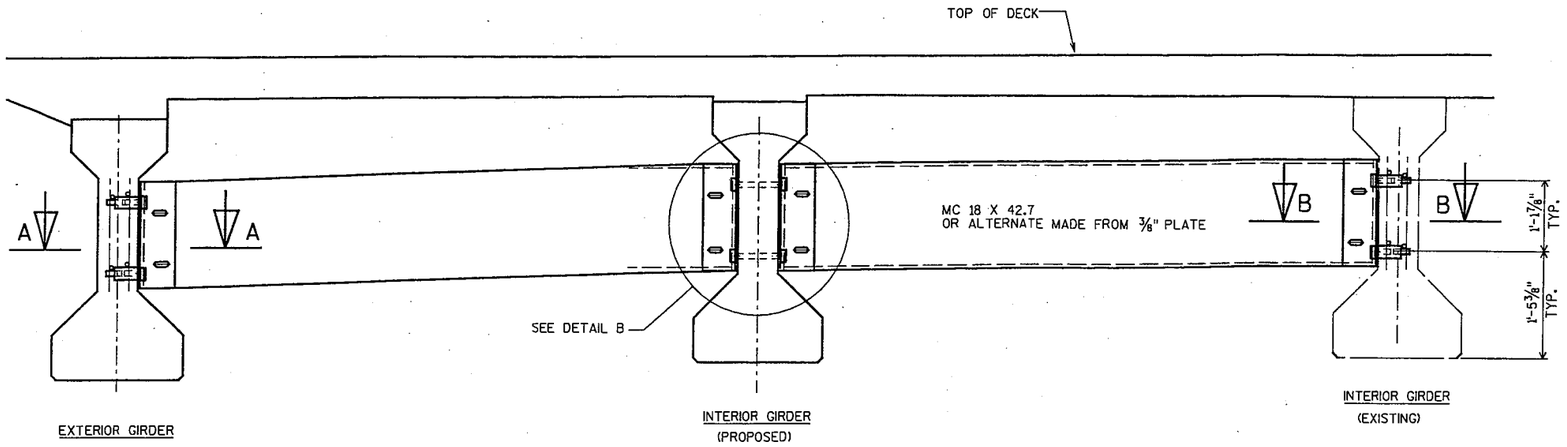
STATE PROJECT NUMBER	SHEET NO.
4994-01-09	8.7

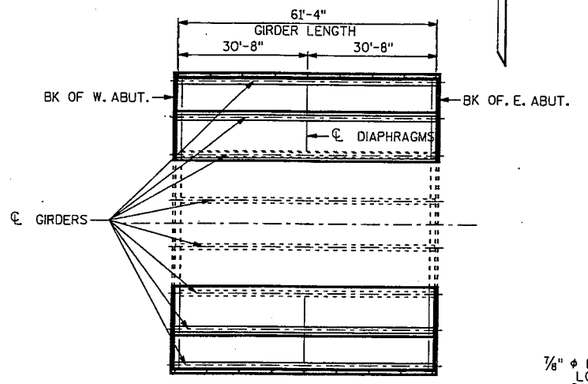


PART TRANSVERSE SECTION AT DIAPHRAGM

TOP OF DECK ELEVATIONS AT C/L OF GIRDERS

TOP OF DECK ELEVATIONS AT C/L OF GIRDERS AT EIGHTH POINTS OF SPAN

	W. ABUT.	1/8	1/4	3/8	1/2	5/8	3/4	7/8	E. ABUT.
GIRDER 1	771.73	771.78	771.84	771.89	771.94	771.99	772.05	772.10	772.15
GIRDER 2	771.90	771.95	772.01	772.06	772.11	772.16	772.22	772.27	772.32
GIRDER 3	772.07	772.12	772.18	772.23	772.28	772.33	772.39	772.43	772.49
GIRDER 4	———	———	———	———	———	———	———	———	———
GIRDER 5	———	———	———	———	———	———	———	———	———
GIRDER 6	772.07	772.12	772.18	772.23	772.28	772.33	772.39	772.43	772.49
GIRDER 7	771.90	771.95	772.01	772.06	772.11	772.16	772.22	772.27	772.32
GIRDER 8	771.73	771.78	771.84	771.89	771.94	771.99	772.05	772.10	772.15



PLAN FOR DIAPHRAGM LAYOUT

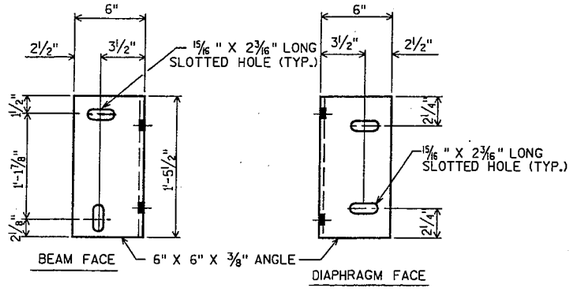
NOTES

ALL DIAPHRAGM MATERIAL AND CORED HOLES SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGM", STRUCTURE, EACH.

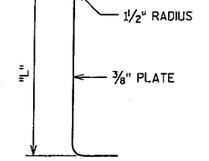
EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36. ALL BOLTS, NUTS AND WASHERS SHALL BE ASTM A325 TYPE 1.

ALL DIAPHRAGM STRUCTURAL STEEL SHOWN SHALL BE HOT-DIPPED GALVANIZED. ALL BOLTS, NUTS AND WASHERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C. GALVANIZED NUTS. SHALL BE TAPPED OVERSIZE IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A563 AND SHALL MEET THE REQUIREMENTS OF SUPPLEMENTARY REQUIREMENT S1 OF ASTM A563. LUBRICANT AND TEST FOR COATED NUTS.

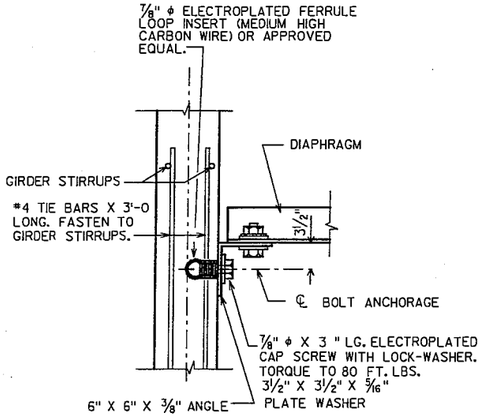


DIAPHRAGM SUPPORT



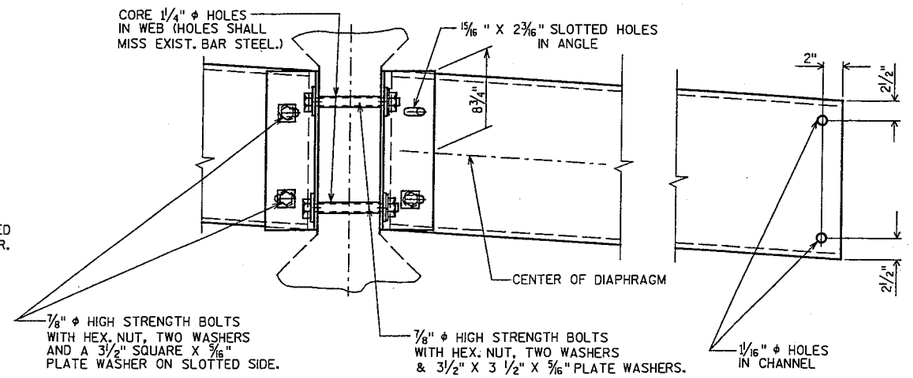
SECTION THRU ALTERNATE DIAPHRAGM

*DIM "X" = 2 1/2" FOR ALTERNATE PLATE DIAPHRAGM

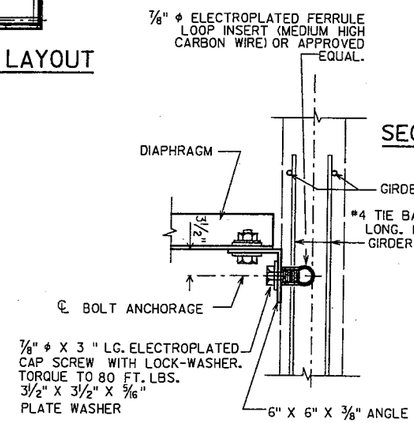


SECT. A-A

(FOR EXTERIOR ATTACHMENT)



DETAIL B



SECT. B-B

(FOR EXIST. GIRDERS)

(FOR EXTERIOR GIRS. & STAGGERED DIAPHRAGMS)

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-70-0064

CONST. SPEC. 2003	DRAWN BY SGI/HKG	PLANS CK'D. RCP

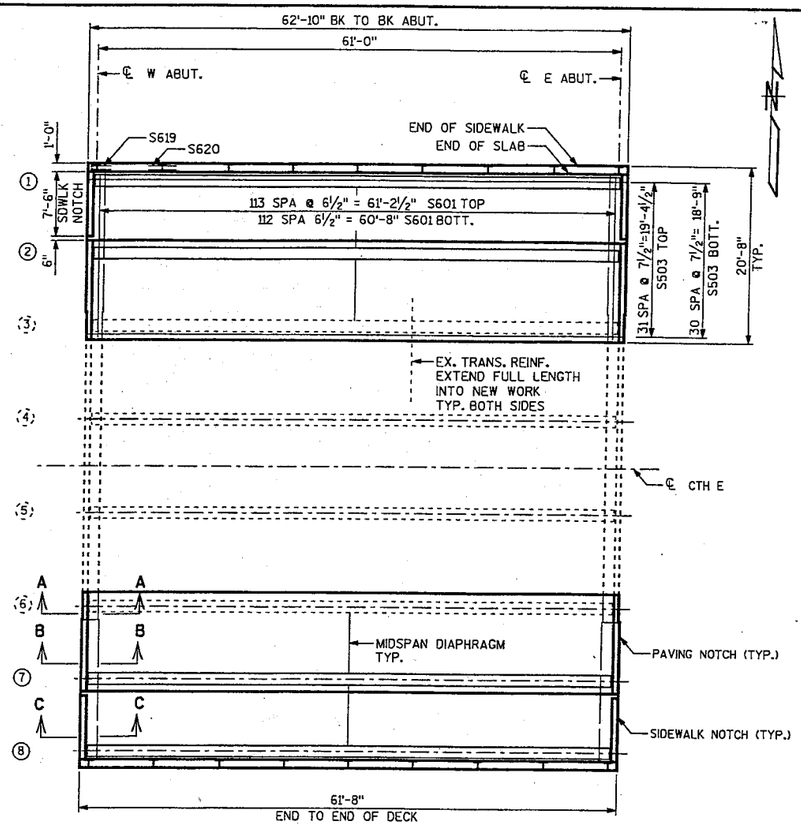
DIAPHRAGM DETAILS

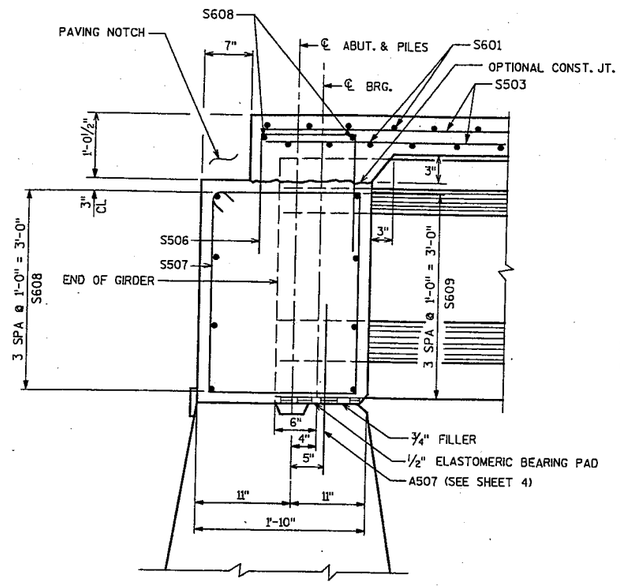
SHEET 7 OF 10

82

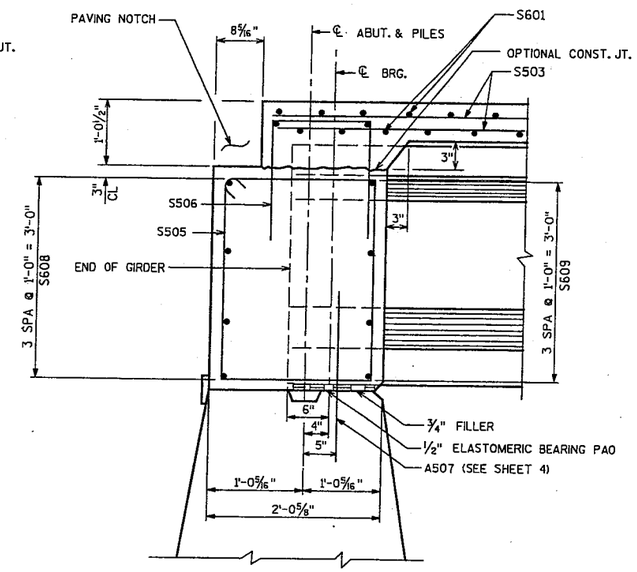
...\W70-00-01A\CthE\6diaph.dgn 9/29/2003 11:18:27 AM

STATE PROJECT NUMBER	SHEET NO.
4994-01-09	8.8

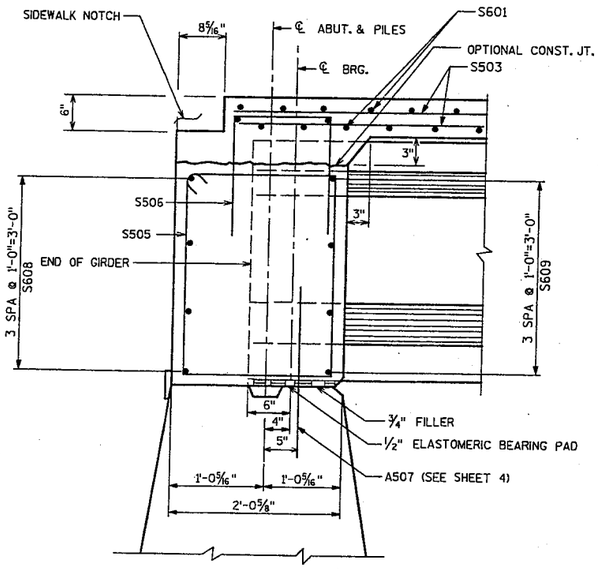




SECTION A-A



SECTION B-B



SECTION C-C

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-70-0064

CONST. SPEC.	DRAWN BY	PLANS CK'D.
2003	SGI/HKG	RCP

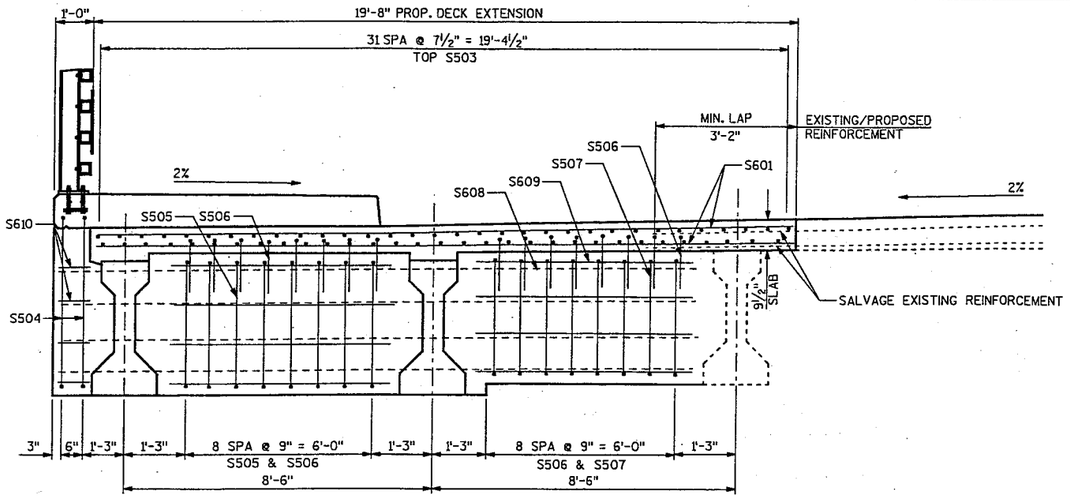
SUPERSTRUCTURE

SHEET 8 OF 10

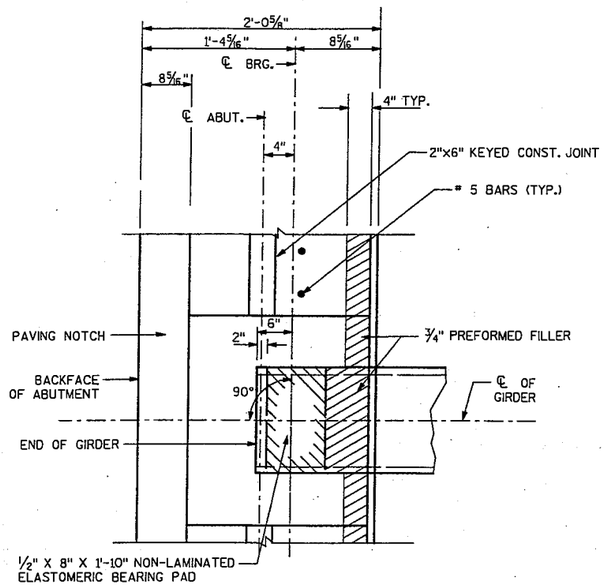
83

...\W70-00-01A\CthE\7deckdet.dgn 9/29/2003 11:18:55 AM

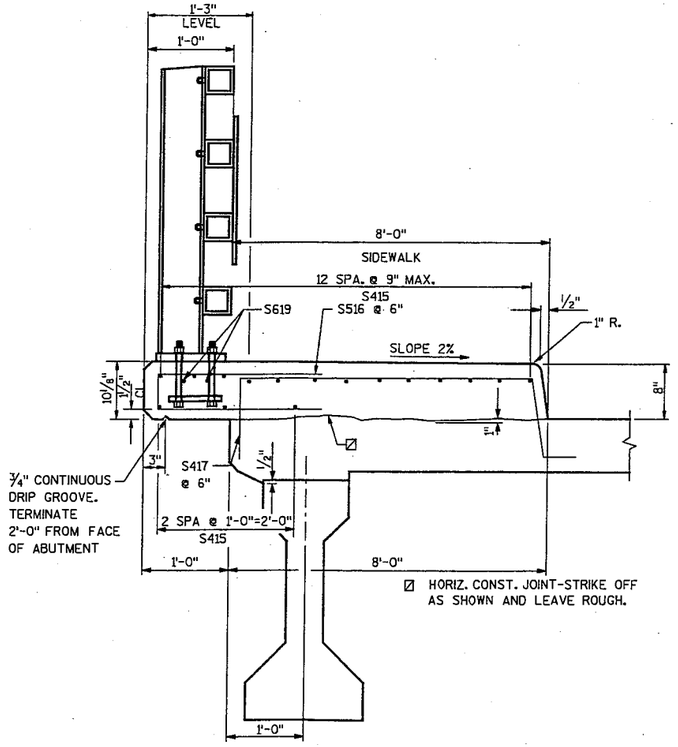
STATE PROJECT NUMBER	SHEET NO.
4994-01-09	8.9



CROSS SECTION THRU ROADWAY



BEARING PLAN



AT SIDEWALK

BILL OF BARS

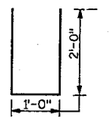
NOTE: THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.
DIMENSIONS FOR BENDING ARE OUT TO OUT OF BAR.

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	LOCATION
S601	X	454	19-4		SLAB - TRANS.
S503	X	252	32-0		SLAB - LONGIT.
S504	X	8	13-6	X	DIAPH. @ ABUT. VERT. @ ENDS
S505	X	36	11-7	X	DIAPH. @ ABUT. VERT.
S506	X	72	4-10	X	DIAPH. @ ABUT. VERT.
S507	X	36	10-0	X	DIAPH. @ ABUT. VERT.
S608	X	24	20-4		DIAPH. @ ABUT. HORIZ.
S609	X	32	6-2		DIAPH. @ ABUT. HORIZ.
S610	X	16	0-10		DIAPH. @ ABUT. HORIZ.
S415	X	64	31-6		SIDEWALK LONG. TOP & BOTT.
S516	X	246	10-9	X	SIDEWALK TRANS. TOP & BOTT.
S417	X	246	10-3	X	SIDEWALK TRANS.
S619	X	8	4-0	X	AT END RAIL POSTS
S620	X	28	4-0		AT INTERIOR RAIL POSTS

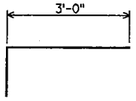
NOTE:

ALTERNATE TOP TRANSVERSE BARS IN SLAB SHALL BE SUPPORTED BY INDIVIDUAL BAR CHAIRS AT APPROXIMATELY 3'-0" CENTERS. BOTTOM LONGITUDINAL BARS SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS AT APPROXIMATELY 4'-0" CENTERS.

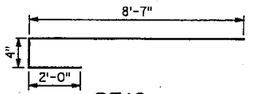
THE SLAB THICKNESS DIMENSION IS MINIMUM. ANY TOLERANCES NECESSARY TO CORRECT CONSTRUCTION DISCREPANCIES ARE TO BE (+).



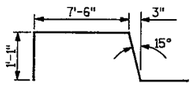
S506



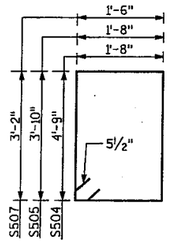
S619



S516



S417



S504, S505, S507

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-70-0064

CONST. SPEC.	DRAWN BY	PLANS CK'D.
2003	SGI/HKG	RCP

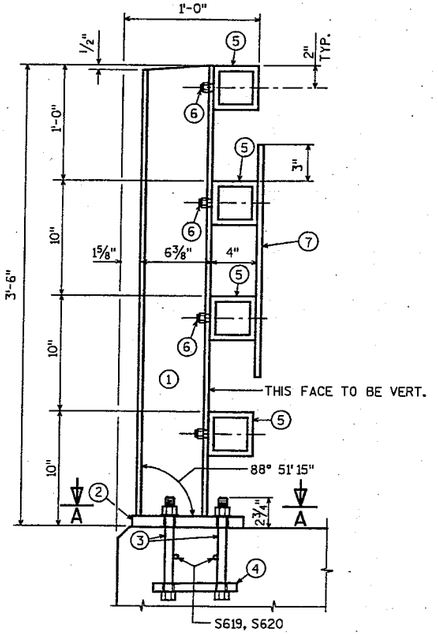
SUPERSTRUCTURE DETAILS

SHEET 9 OF 10

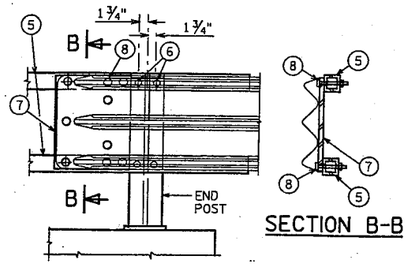
9 9

...\W70-00-01A\CthE\7Adeckdet.dgn 9/29/2003 11:18:42 AM

STATE PROJECT NUMBER	SHEET NO.
4994-01-09	8.10

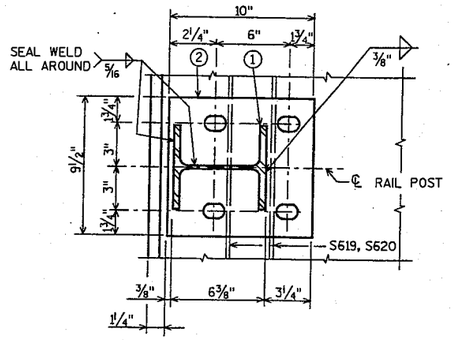


SECTION THRU RAILING ON SIDEWALK

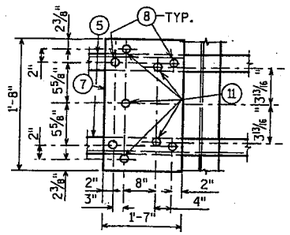


DETAIL AT END POST
(THRIE BEAM RAIL ATTACHMENT)

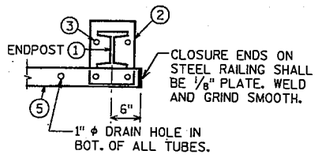
SECTION B-B



SECTION A-A



(RAIL ON SIDEWALK)



DETAIL FOR END POSTS
WITH THRIE BEAM RAIL ATTACHMENT
(END POST MAY BE LOCATED ON SUPERSTRUCTURE OR WINGWALLS)

LEGEND

1. W6 x 25 WITH 1 1/4" DIA. HOLES ON EACH SIDE OF POST FOR STUD NO. 6. CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF ROADWAY (OR SIDEWALK, AS APPLICABLE). PLACE POST VERTICAL. PLACE POSTS NORMAL TO GRADE LINE.
2. PLATE 1" x 9 1/2" x 10" WITH 1 1/16" x 1 1/2" SLOTTED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN.
3. A325 - 7/8" DIA. HEX BOLTS (GALVANIZED) WITH A325 NUT & WASHER. 14" LONG AT END POSTS AND AT POSTS ON CONCRETE SLAB SUPERSTRUCTURES WHERE THE SLAB THICKNESS IS > 15". USE 8" LONG AT ALL OTHER LOCATIONS. 4 REQ'D. PER POST. THREAD 3" AND PLACE NORMAL TO PLATE NO. 2. CHAMFER TOP OF BOLTS BEFORE THREADING.
4. 1/4" x 8" x 8" FLAT BAR WITH 15/16 " DIA. HOLES FOR ANCHOR BOLTS NO. 3
5. TS 4 x 4 x 0.25 STRUCTURAL TUBING, CONFORMING TO A.S.T.M. DESIGNATION A501 OR A500 GRADE B. ATTACH TO NO. 1 WITH STUDS NO. 6.
6. 5/8" DIA. x 1 1/2" LONG SHOP WELDED STUDS WITH HEX NUT AND 2" WASHERS (2 REQ'D. AT EACH RAIL TO POST LOCATION.)
7. PLATE 3/8" x 1'-4" (1'-7" ON SDWK.) x 1'-8". BOLT TO RAIL AS SHOWN IN DETAIL. REQUIRED AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYMMETRICALLY ABOUT TUBES NO 5.
8. 1" DIA. HOLES IN PLATE NO. 7 & TUBES NO. 5 FOR 7/8" DIA. A325 BOLTS W/HEX NUTS AND WASHERS.
9. SQUARE SLEEVE FABRICATED FROM 1/4" PLATE. PROVIDE "SLIDING FIT" WITH A MINIMUM OUT TO OUT DIMENSION OF 3 11/12 ".
10. TS 3 x 3 x 0.25 x (2'-4" AT EXPANSION JOINTS) & (1'-10" AT FIELD JOINTS) LONG. PROVIDE 1/2" DIA. SURFACE WELDS ON ALL SIDES AS SHOWN. GRIND WELDS TO FIT FREE INTO I.D. OF NO. 5. PROVIDE 3/8" DIA. x 1/2" WELDING STUDS ON TOP AND BOTTOM SURFACES AT CENTERLINE.
11. 7/8" DIA. x 1 1/2" LONG THREADED SHOP WELDED STUDS. (REQ'D. FOR SDWK. RAIL ONLY.)

GENERAL NOTES

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

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

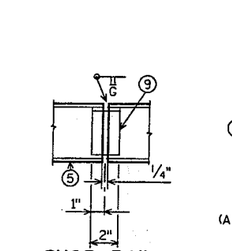
POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.

FOR RAILING NOT TO BE PAINTED, ALL MATERIAL EXCEPT ANCHORAGE DETAIL (NO. 4) SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, ALL STEEL RAILING POSTS & STEEL TUBING SHALL BE GIVEN A NO. 6 BLAST CLEANING BY S.S.P.C. SPECIFICATIONS.

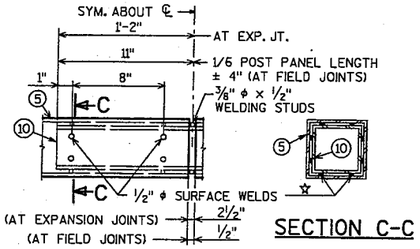
ALL MATERIALS USED IN FABRICATION SHALL BE MADE FROM MATERIALS CONFORMING TO ASTM A709 GRADE 36 UNLESS NOTED OTHERWISE.

FILL BOLT SLOT OPENINGS IN POST SHIMS AND PLATE NO. 2 WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.

STEEL POST SHIMS MAY BE USED UNDER POSTS WHERE REQ'D. FOR ALIGNMENT.

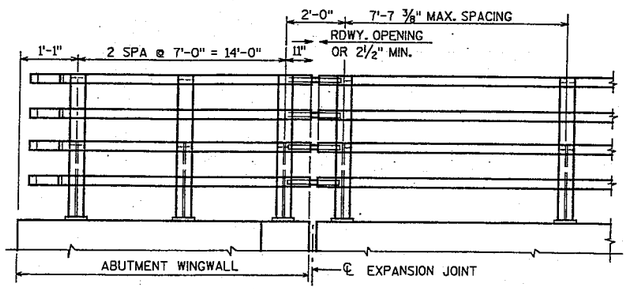


SHOP RAIL SPLICE DETAIL
(LOCATION MUST BE SHOWN ON SHOP DRAWINGS)

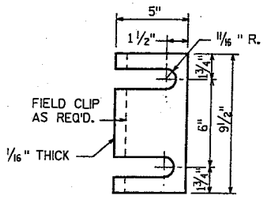


FIELD ERECTION JOINT DETAIL
☆ MIN. 5/8" FLAT SURFACE DIA. PUNCHINGS OR STUDS MAY BE USED AS AN ALTERNATE.

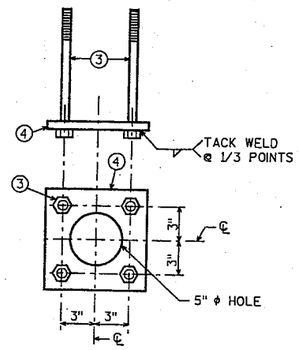
SECTION C-C



PART ELEVATION OF RAILING



POST SHIM DETAIL
(4 PER POST)



ANCHORAGE DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-70-0064

CONST. SPEC.	2003	DRAWN BY	SGI/HKG	PLANS CK'D.	RCP

TUBULAR STEEL RAILING TYPE F

SHEET 10 OF 10

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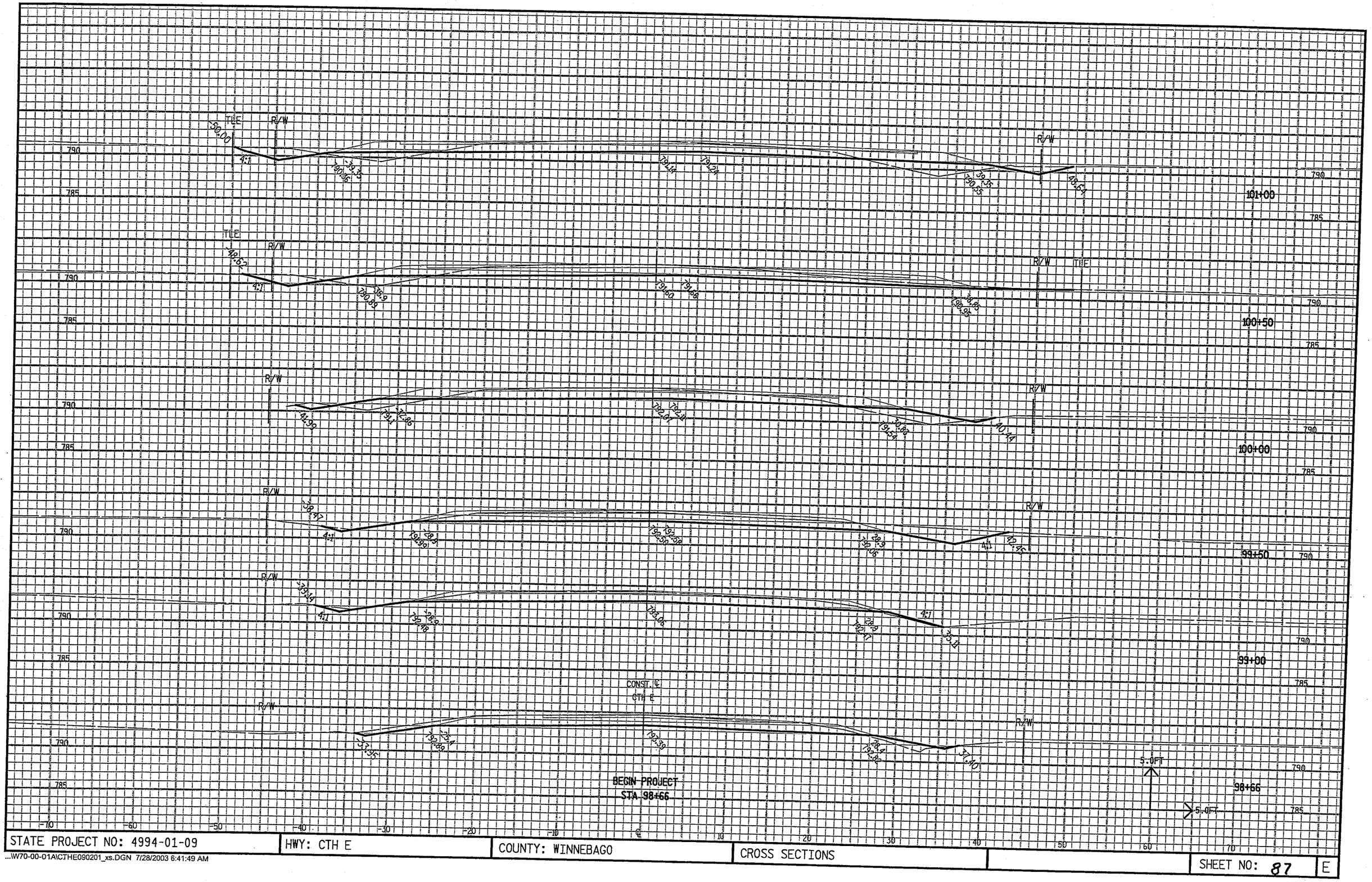
...\W70-00-01A\CthE\5parapet.dgn 9/29/2003 11:18:14 AM

EARTHWORK SUMMARY (CTH E)

STATION	END AREA CUT	END AREA FILL	END AREA EX. FILL	INCREMENTAL VOL CUT	INCREMENTAL VOL FILL	CUMULATIVE VOL CUT	CUMULATIVE VOL FILL	MASS HAUL
98+66	58	3	4					
99+00	53	3	4	70	5	70	5	65
99+50	68	0	0	113	4	183	9	174
100+00	48	15	19	108	18	290	27	264
100+50	79	7	9	118	26	408	53	355
101+00	62	17	22	131	29	539	83	456
101+50	48	31	41	102	58	641	141	500
102+00	46	51	66	87	99	727	239	488
102+50	60	30	39	98	97	825	336	489
103+00	53	33	43	105	75	930	411	519
103+50	113	9	12	153	50	1083	462	622
104+00	75	51	66	174	72	1257	534	723
104+50	73	39	50	137	108	1394	642	753
105+00	82	35	45	143	88	1538	730	808
105+50	83	38	49	153	87	1690	817	873
106+00	95	47	60	165	102	1855	919	936
106+50	103	50	65	183	116	2038	1036	1003
107+00	111	61	80	198	134	2236	1170	1066
107+50	113	56	72	207	141	2443	1311	1132
108+00	125	28	36	220	101	2664	1411	1252
108+50	101	29	38	209	69	2872	1480	1393
109+00	119	25	32	203	65	3075	1545	1531
109+50	131	22	29	231	56	3307	1601	1706
110+00	126	41	53	238	76	3545	1677	1868
110+50	167	19	25	271	73	3816	1750	2067
111+00	152	8	11	295	33	4111	1783	2328
111+50	169	4	5	297	14	4408	1797	2610
112+00	175	4	5	318	9	4726	1806	2920
112+50	215	2	2	361	6	5087	1813	3274
113+00	211	0	0	395	2	5482	1815	3667
113+50	206	9	12	386	11	5868	1826	4042
114+00	193	28	37	369	45	6238	1871	4366
114+50	161	39	51	328	81	6565	1953	4612
115+00	169	44	57	305	100	6870	2053	4817
115+50	128	59	77	275	124	7145	2177	4968
116+00	133	46	60	241	127	7386	2304	5082
116+50	106	71	93	221	141	7607	2445	5162
117+00	108	56	73	198	154	7805	2599	5206
117+50	90	90	118	183	177	7988	2776	5213
118+00	94	58	76	170	179	8158	2955	5203
118+50	84	80	104	164	166	8322	3121	5201
119+00	77	77	100	148	189	8471	3310	5160
119+50	74	69	90	139	176	8610	3487	5123
120+00	73	77	100	135	176	8745	3663	5083
120+50	74	64	83	136	170	8881	3832	5049
121+00	64	105	136	128	203	9009	4035	4974
121+50	58	139	181	113	293	9123	4328	4794
122+00	60	102	133	109	290	9232	4619	4613
122+50	52	161	209	103	317	9335	4936	4400
123+00	51	155	201	95	380	9430	5316	4114
123+50	50	142	185	93	358	9523	5674	3849
124+00	50	168	219	92	374	9615	6048	3567
124+50	53	126	164	95	354	9709	6402	3308
125+00	65	70	91	108	235	9818	6637	3181
125+50	95	67	87	148	164	9966	6801	3165

STATION	END AREA CUT	END AREA FILL	END AREA EX. FILL	INCREMENTAL VOL CUT	INCREMENTAL VOL FILL	CUMULATIVE VOL CUT	CUMULATIVE VOL FILL	MASS HAUL
126+00	73	80	104	156	177	10122	6978	3144
126+50	75	19	25	137	119	10258	7097	3161
127+00	74	110	143	137	155	10396	7252	3143
127+50	82	110	143	144	265	10540	7518	3022
128+00	121	47	61	189	190	10729	7707	3021
128+50	97	118	153	202	199	10931	7906	3024
129+00	99	144	187	181	315	11112	8222	2890
129+50	108	136	177	192	337	11304	8559	2745
130+00	127	43	56	217	216	11521	8775	2746
130+50	122	150	196	230	233	11751	9008	2743
131+00	130	161	210	234	375	11985	9383	2602
131+50	168	171	222	276	400	12261	9784	2477
132+00	145	155	201	289	392	12550	10175	2374
132+50	159	77	100	281	278	12830	10454	2377
133+00	158	64	83	293	169	13124	10622	2501
133+50	145	104	135	281	201	13404	10824	2581
134+00	170	40	52	292	173	13696	10997	2699
134+50	140	59	77	287	120	13983	11117	2866
135+00	100	202	262	223	315	14206	11431	2775
135+50	68	262	341	156	559	14362	11990	2372
136+00	51	327	425	111	709	14472	12699	1773
136+50	38	348	452	83	812	14555	13512	1043
137+00	27	244	317	60	713	14615	14224	391
137+50	15	170	221	39	499	14654	14723	-69
138+00	10	311	404	23	579	14677	15302	-625
138+12	29	548	712	9	248	14686	15550	-865
138+73.86	30	631	820	0	0	14686	15550	
139+00	14	333	433	21	607	14707	16157	-1450
139+50	14	166	216	26	601	14733	16758	-2025
140+00	21	214	278	32	458	14765	17216	-2451
140+50	18	216	281	36	518	14801	17734	-2933
141+00	11	223	289	27	528	14828	18262	-3433
141+50	20	193	251	29	501	14857	18762	-3905
142+00	28	174	226	44	442	14901	19204	-4303
142+50	37	124	161	60	358	14962	19562	-4601
143+00	48	78	102	79	243	15040	19805	-4765
143+50	55	84	110	95	196	15135	20001	-4866
144+00	78	43	56	123	153	15257	20154	-4897
144+50	120	25	33	183	82	15441	20236	-4796
145+00	137	12	16	237	45	15678	20281	-4603
145+50	158	5	6	273	20	15951	20302	-4351
146+00	132	3	3	269	9	16219	20310	-4091
146+50	77	10	13	194	15	16414	20325	-3912
147+00	49	23	30	117	39	16531	20365	-3834
147+50	65	25	32	106	57	16637	20422	-3785
148+00	59	29	37	114	64	16751	20486	-3735
148+50	50	32	42	101	73	16852	20560	-3708
149+00	52	32	42	95	78	16947	20638	-3691
149+50	45	55	72	90	105	17037	20743	-3706
150+00	49	74	96	87	155	17123	20899	-3775
150+50	58	114	149	99	227	17223	21125	-3903
151+00	71	111	145	119	272	17342	21397	-4055
151+50	52	189	246	114	362	17456	21759	-4303
152+00	27	210	273	73	481	17529	22240	-4711
152+50	7	274	357	32	583	17561	22823	-5262
153+00	17	304	396	23	697	17583	23519	-5936



STATE PROJECT NO: 4994-01-09	HWY: CTH E	COUNTY: WINNEBAGO	CROSS SECTIONS		SHEET NO: 87	E

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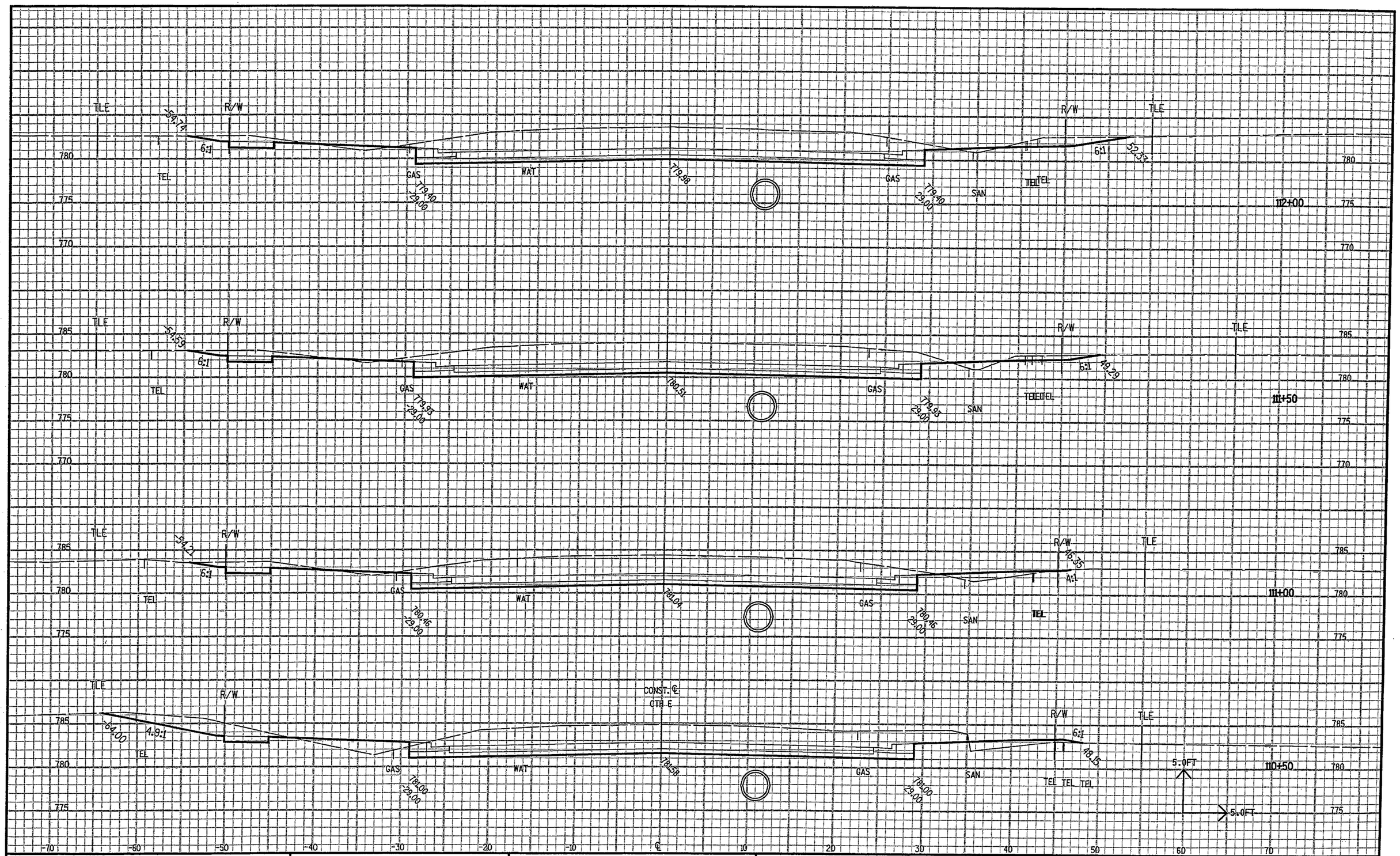

STATE PROJECT NO: 4994-01-09	HWY: CTH E	COUNTY: WINNEBAGO	CROSS SECTIONS		SHEET NO: 92	E

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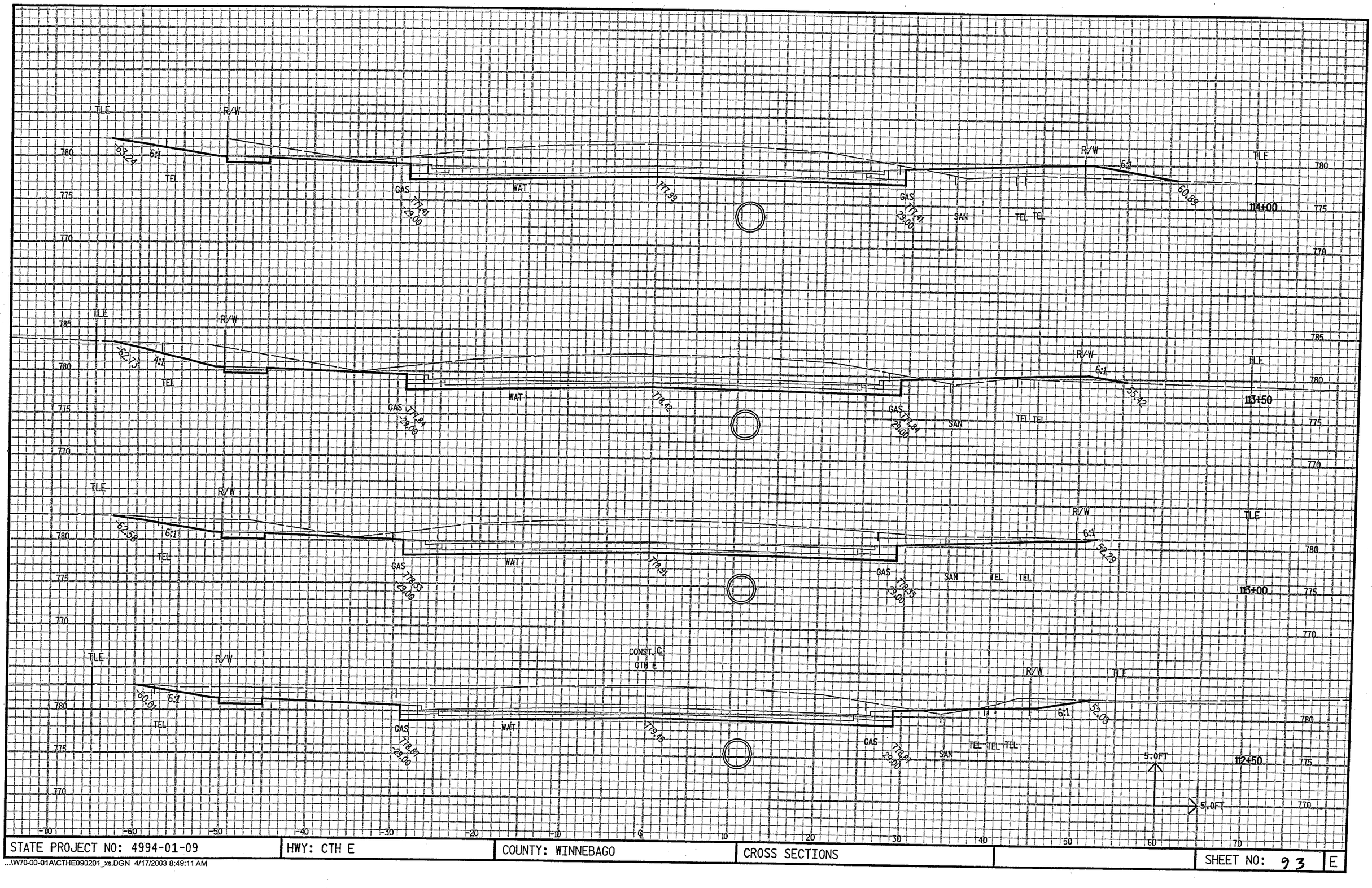

STATE PROJECT NO: 4994-01-09	HWY: CTH E	COUNTY: WINNEBAGO	CROSS SECTIONS		SHEET NO: 93	E

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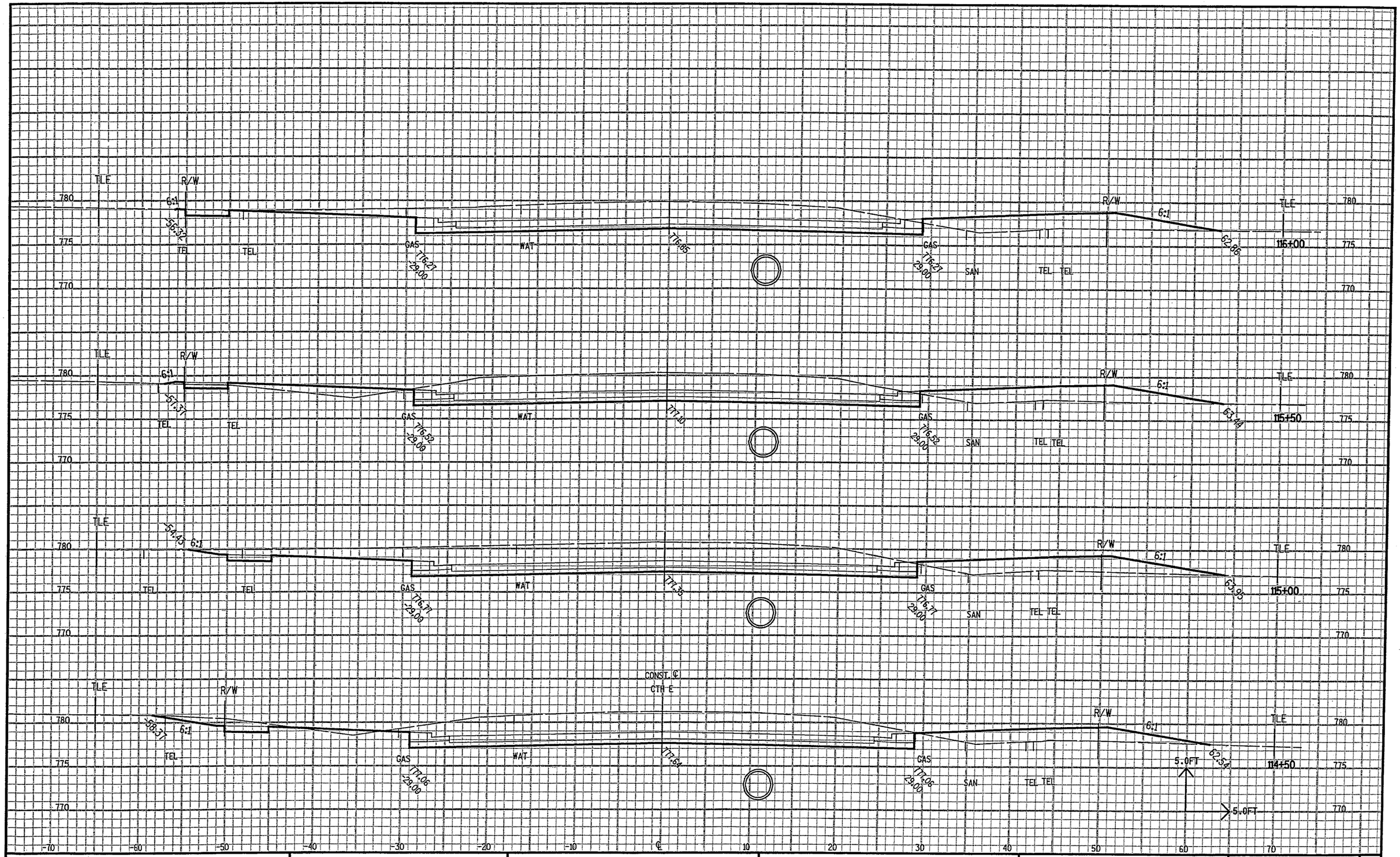

STATE PROJECT NO: 4994-01-09	HWY: CTH E	COUNTY: WINNEBAGO	CROSS SECTIONS		SHEET NO: 94 E

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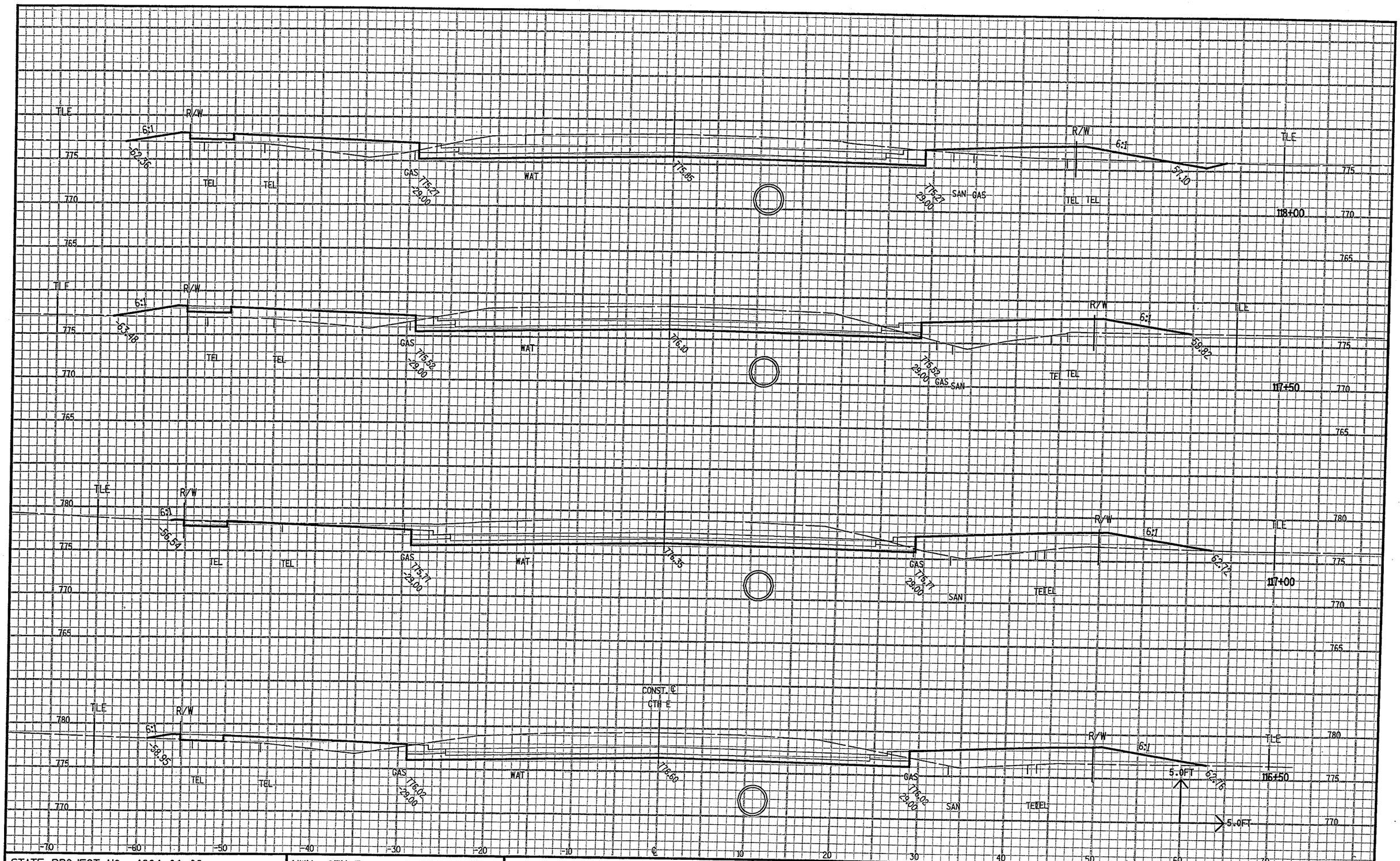

STATE PROJECT NO: 4994-01-09	HWY: CTH E	COUNTY: WINNEBAGO	CROSS SECTIONS		SHEET NO: 95 E

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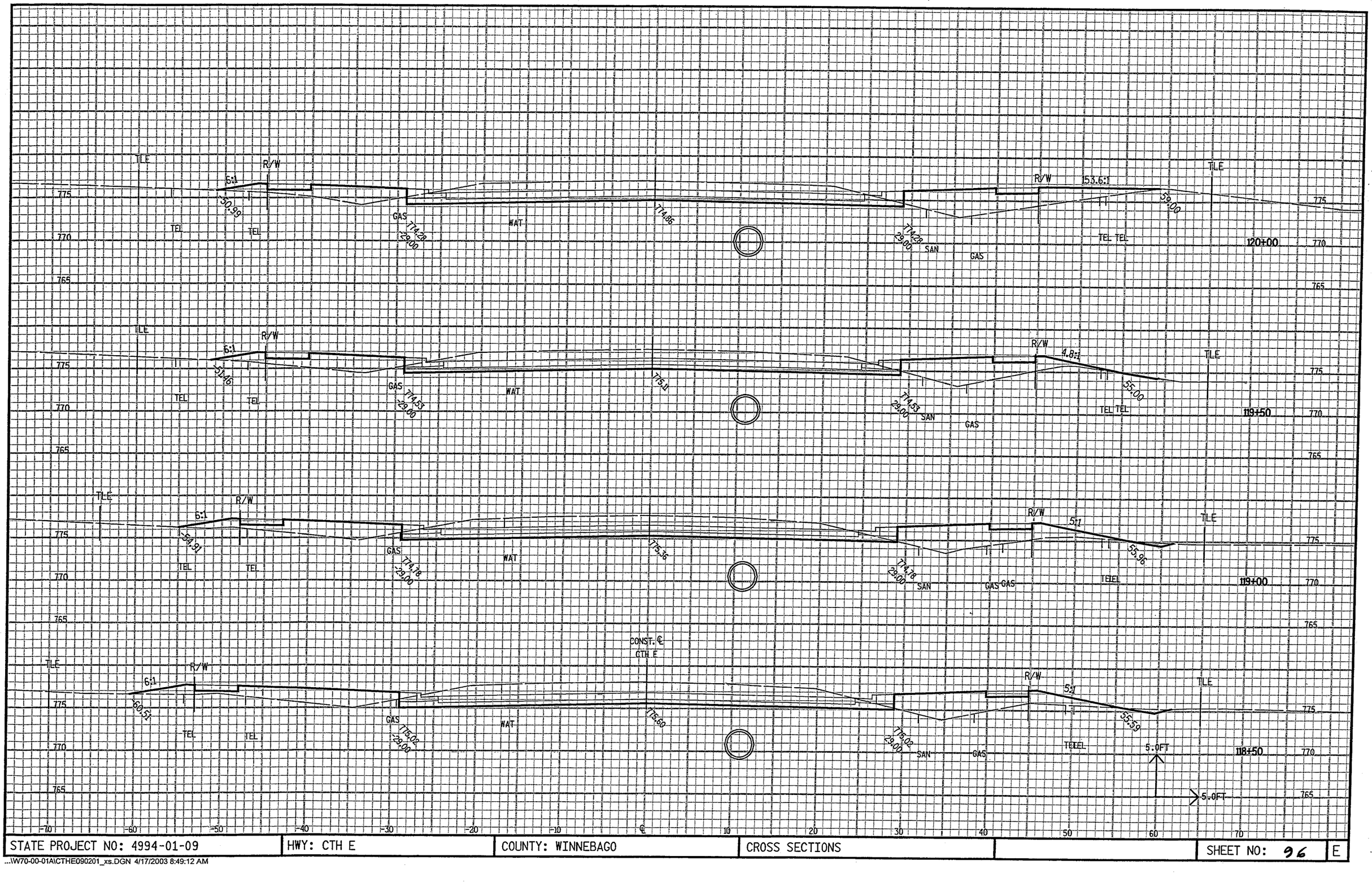

STATE PROJECT NO: 4994-01-09	HWY: CTH E	COUNTY: WINNEBAGO	CROSS SECTIONS		SHEET NO: 96	E

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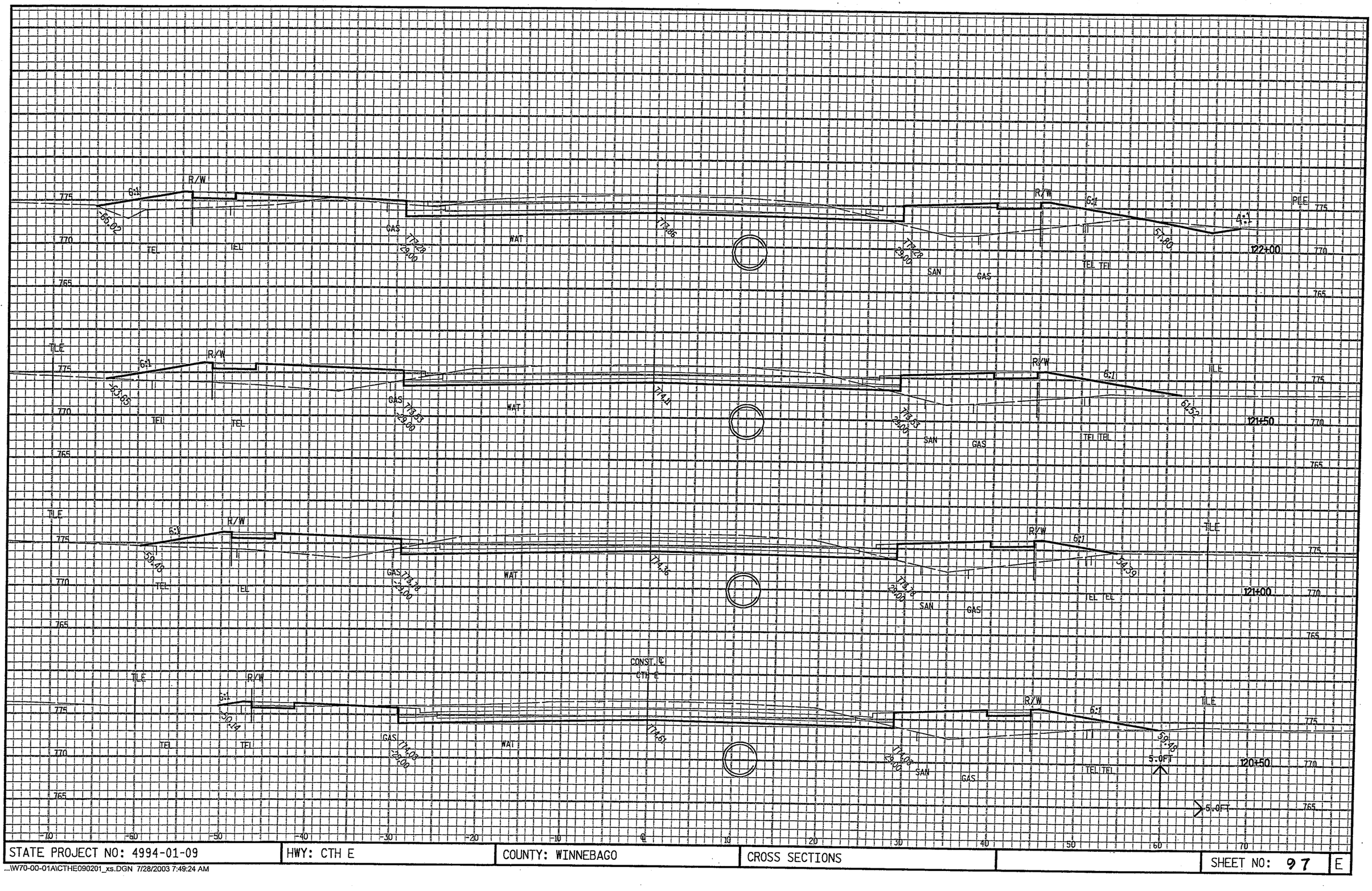

STATE PROJECT NO: 4994-01-09	HWY: CTH E	COUNTY: WINNEBAGO	CROSS SECTIONS		SHEET NO: 97	E

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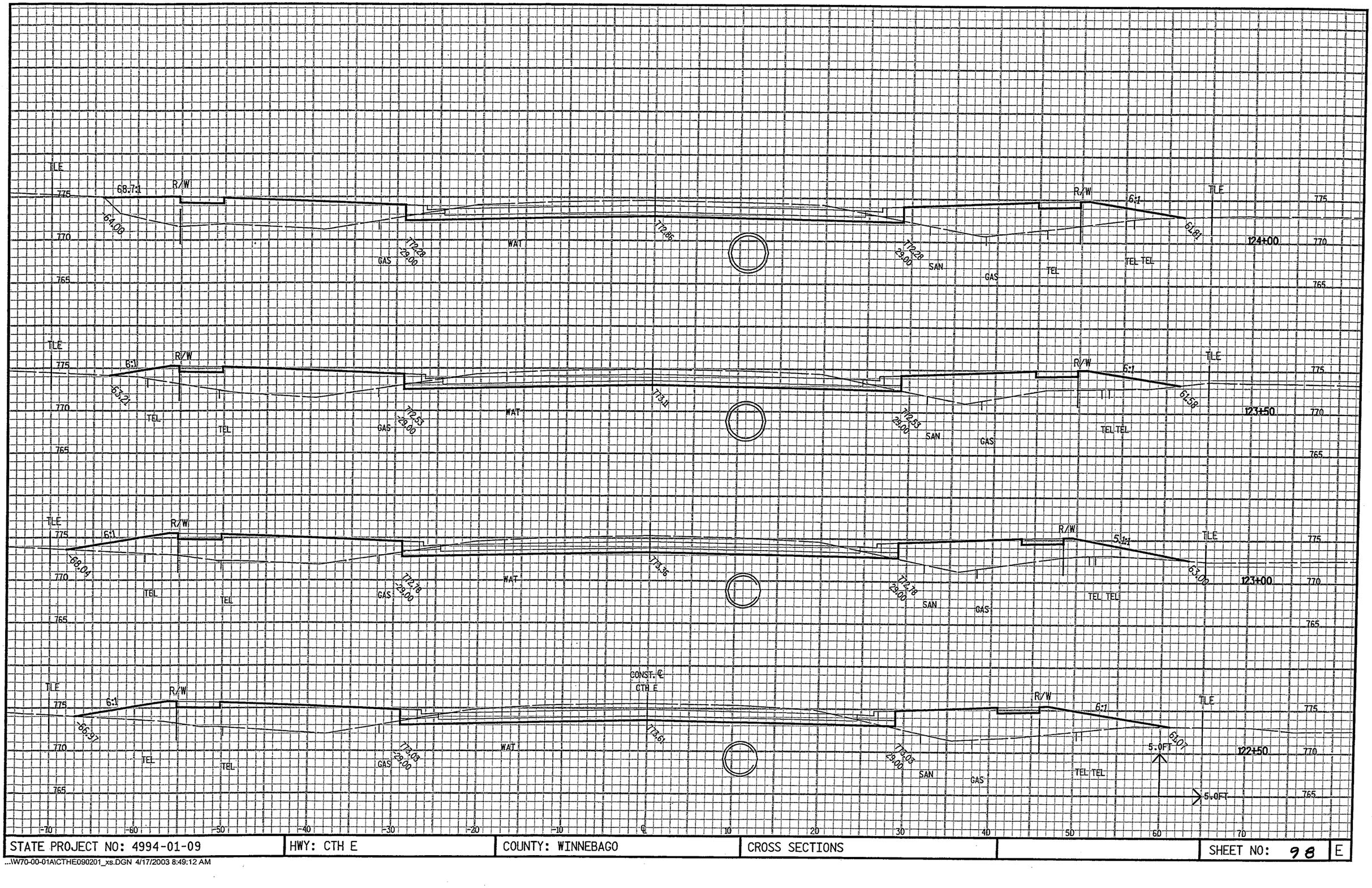

STATE PROJECT NO: 4994-01-09	HWY: CTH E	COUNTY: WINNEBAGO	CROSS SECTIONS		SHEET NO: 98	E

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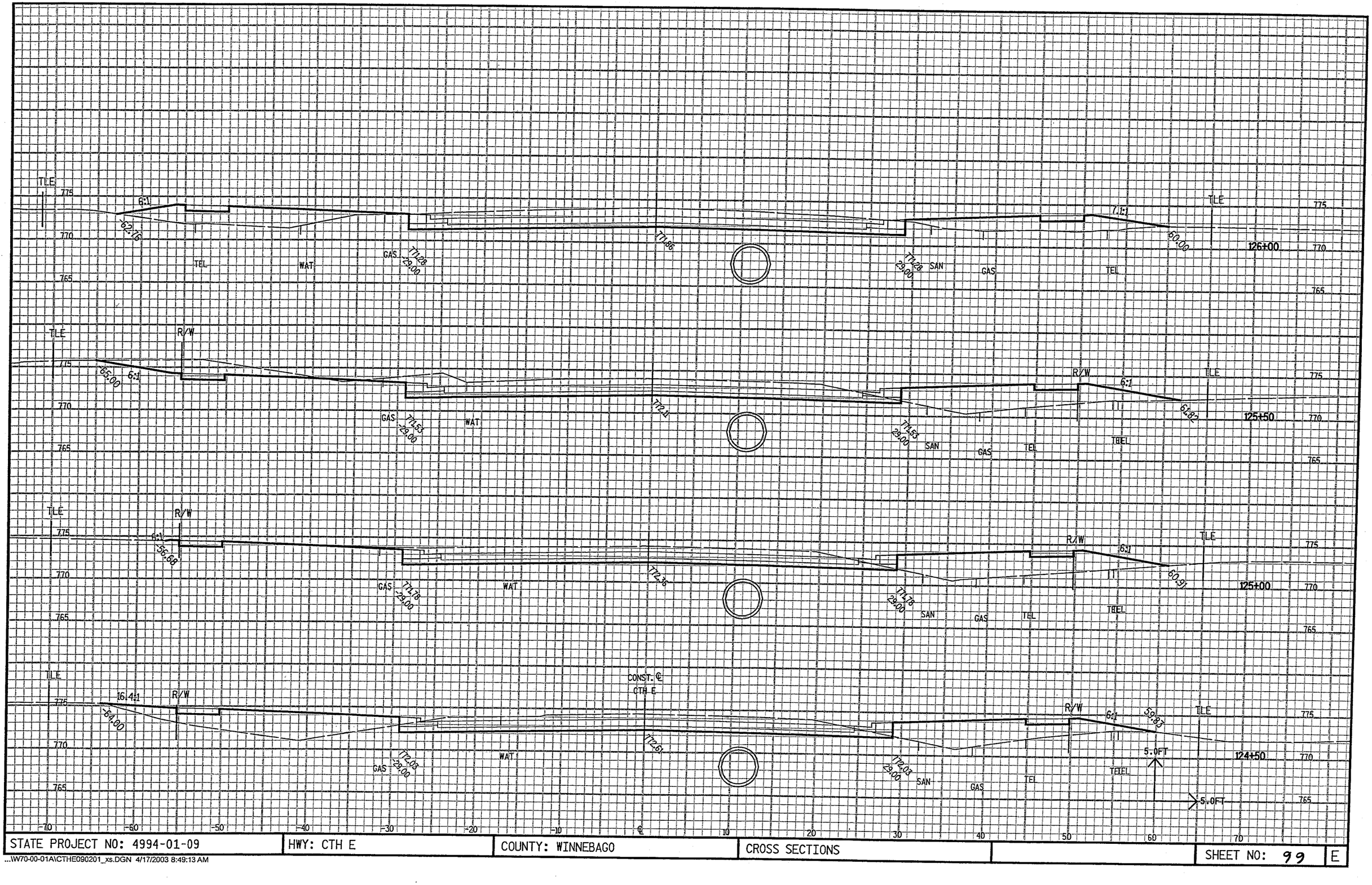
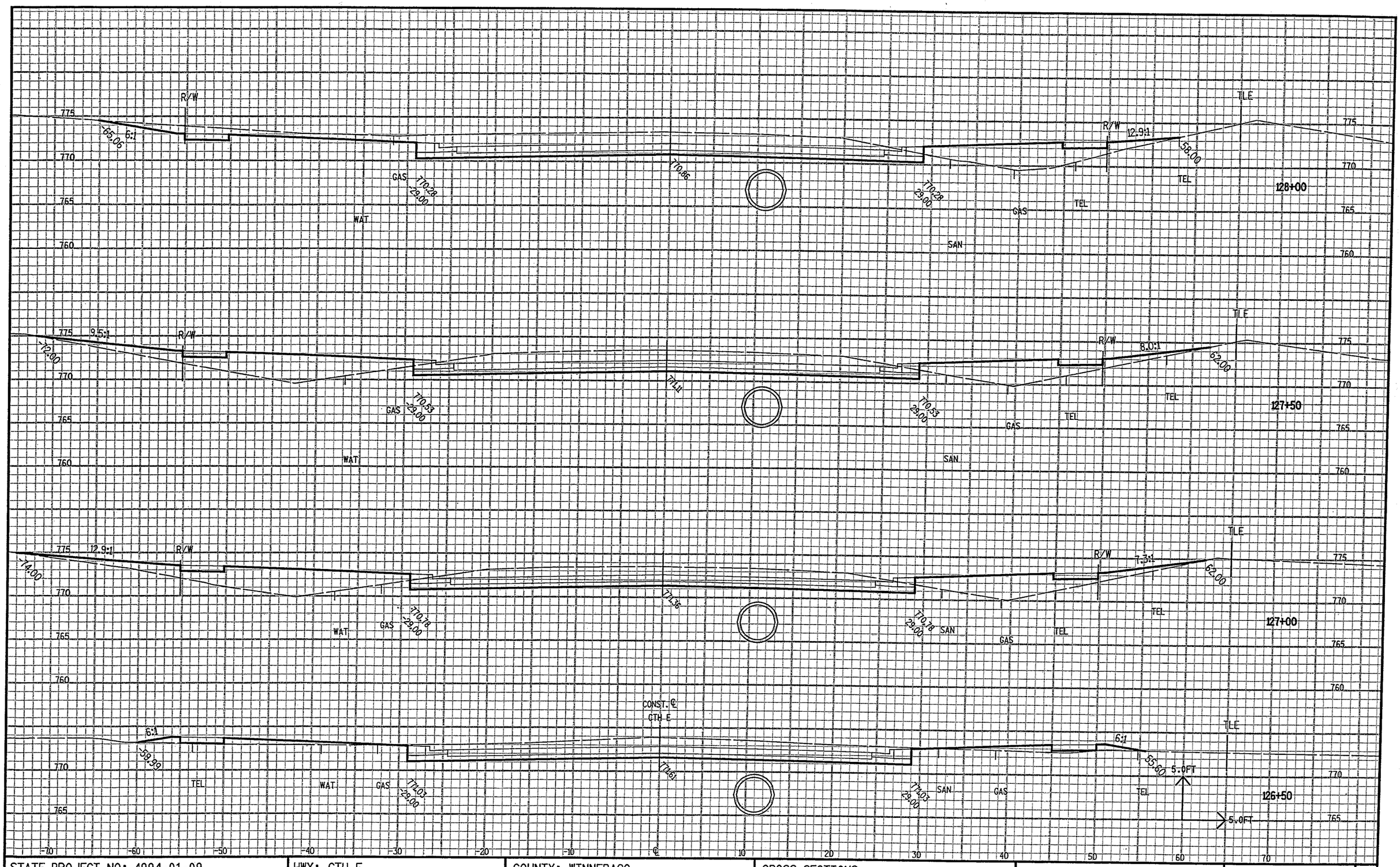


STATE PROJECT NO: 4994-01-09	HWY: CTH E	COUNTY: WINNEBAGO	CROSS SECTIONS		SHEET NO: 99	E

...\W70-00-01A\CTHE090201_xs.DGN 4/17/2003 8:49:13 AM



STATE PROJECT NO: 4994-01-09	HWY: CTH E	COUNTY: WINNEBAGO	CROSS SECTIONS		SHEET NO: 100	E

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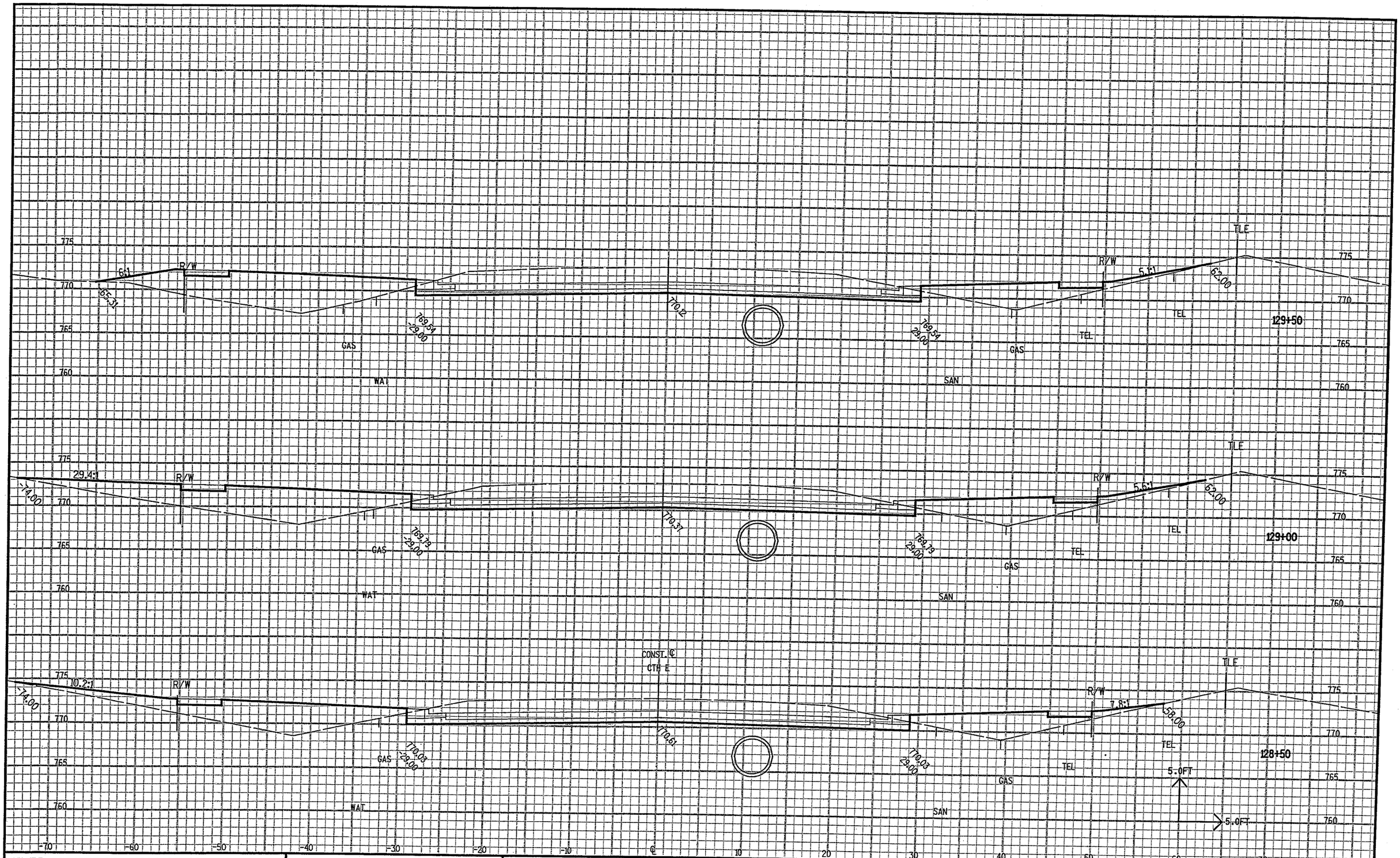

STATE PROJECT NO: 4994-01-09	HWY: CTH E	COUNTY: WINNEBAGO	CROSS SECTIONS		SHEET NO: 101	E

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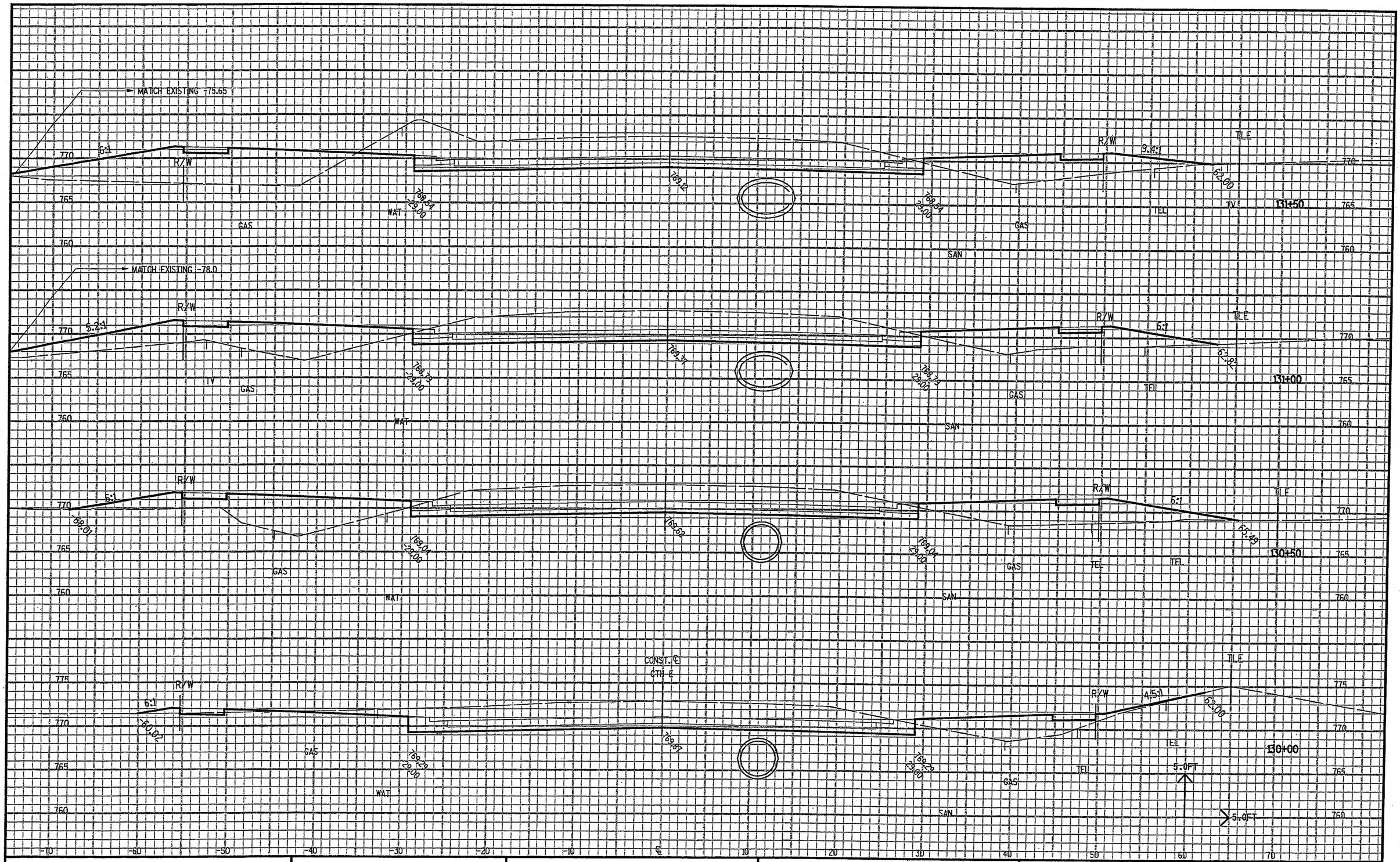
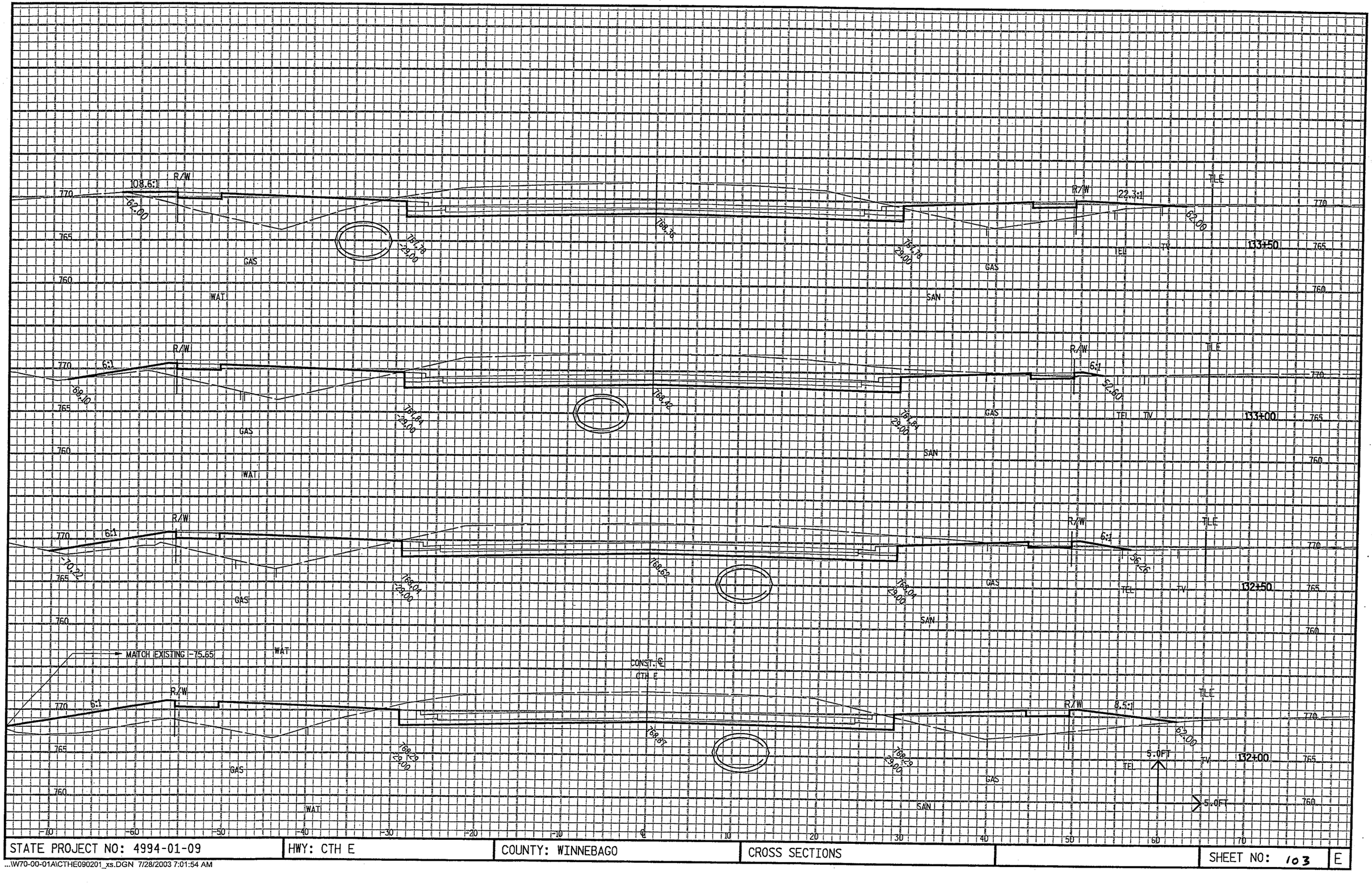


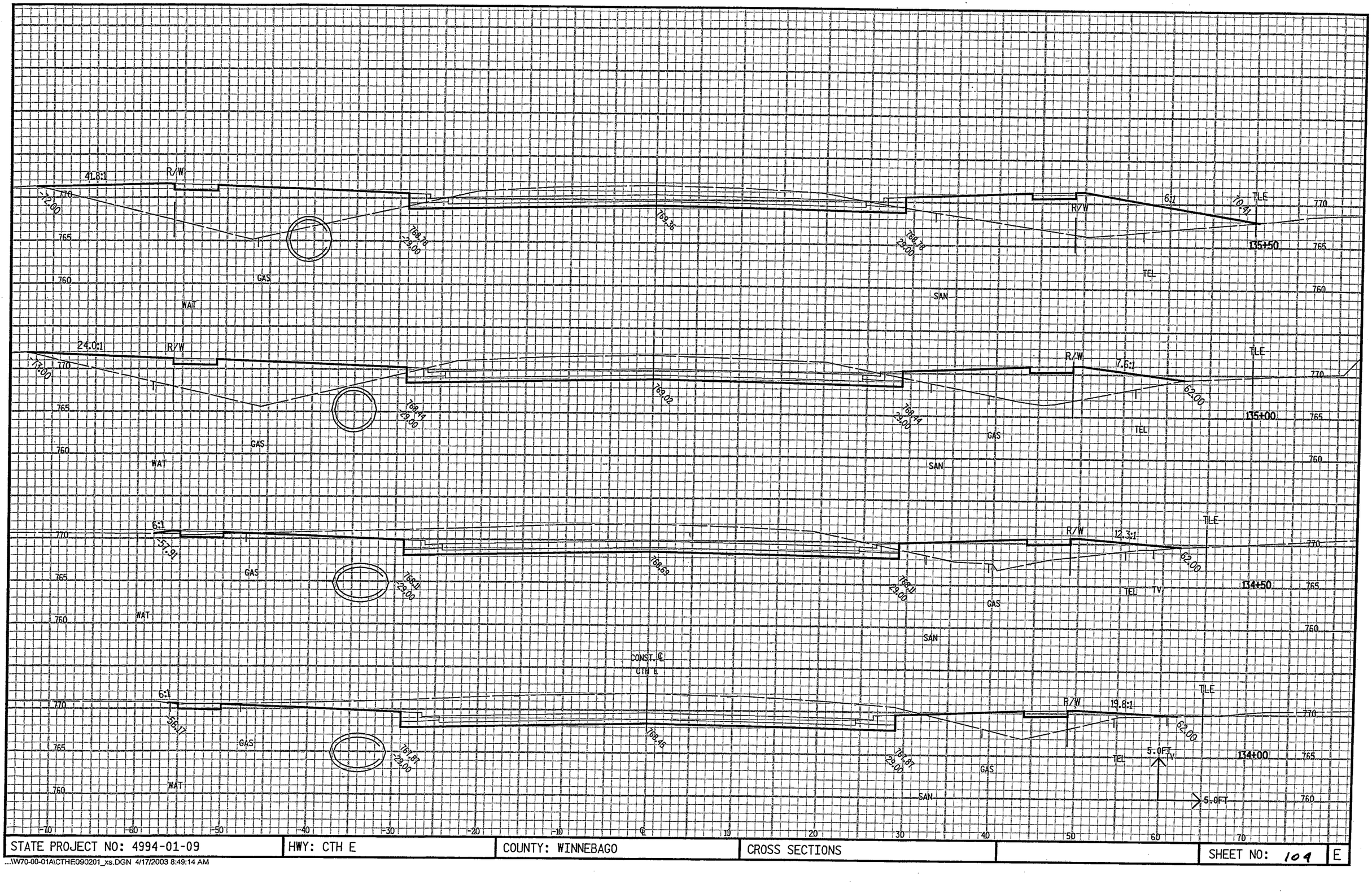
STATE PROJECT NO: 4994-01-09	HWY: CTH E	COUNTY: WINNEBAGO	CROSS SECTIONS		SHEET NO: 102	E

...\W70-00-01A\CTHE090201_xs.DGN 7/28/2003 6:58:30 AM



STATE PROJECT NO: 4994-01-09	HWY: CTH E	COUNTY: WINNEBAGO	CROSS SECTIONS		SHEET NO: 103	E

...\W70-00-01A\CTHE090201_xs.DGN 7/28/2003 7:01:54 AM



STATE PROJECT NO: 4994-01-09	HWY: CTH E	COUNTY: WINNEBAGO	CROSS SECTIONS		SHEET NO: 104	E

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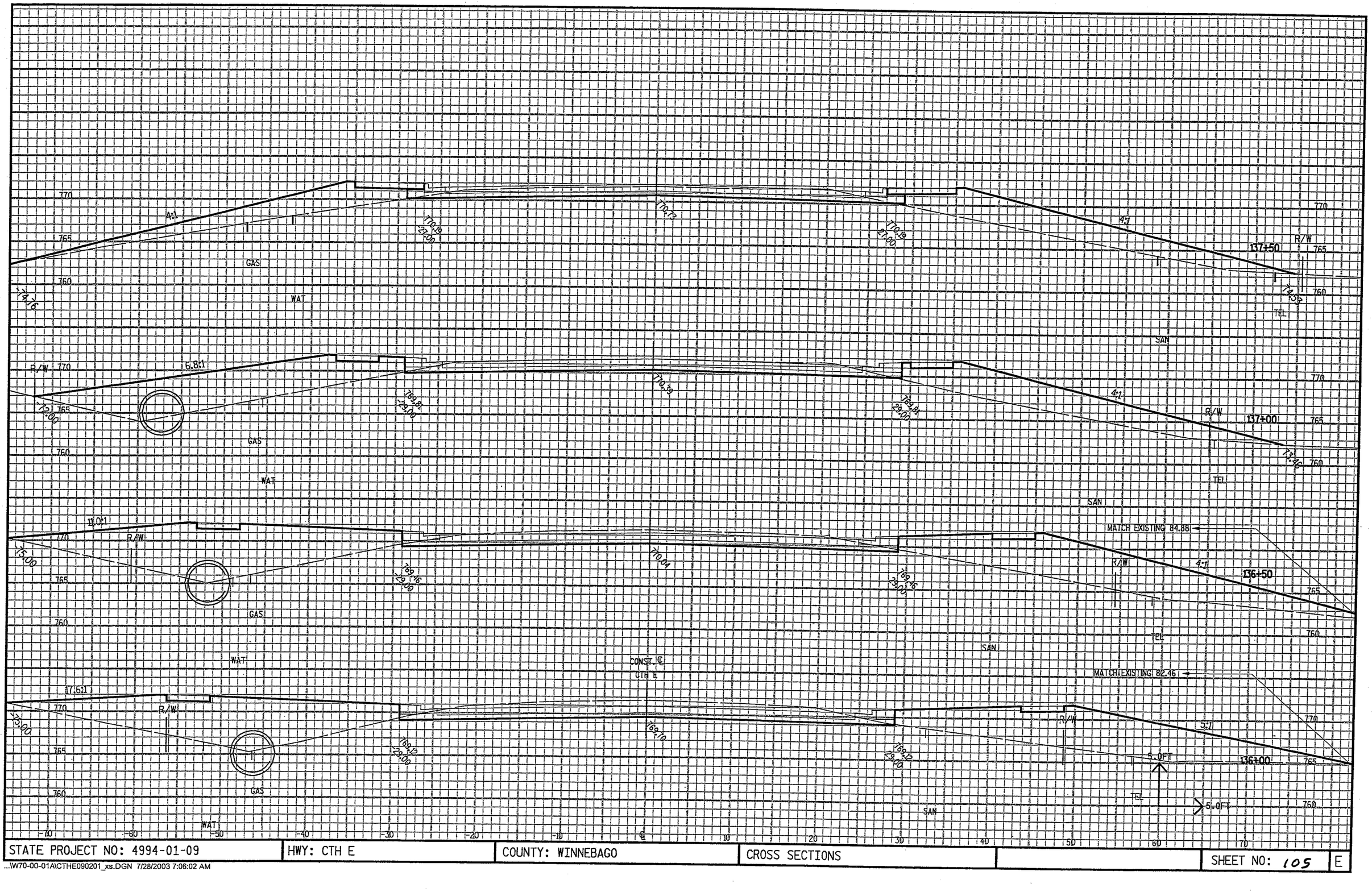

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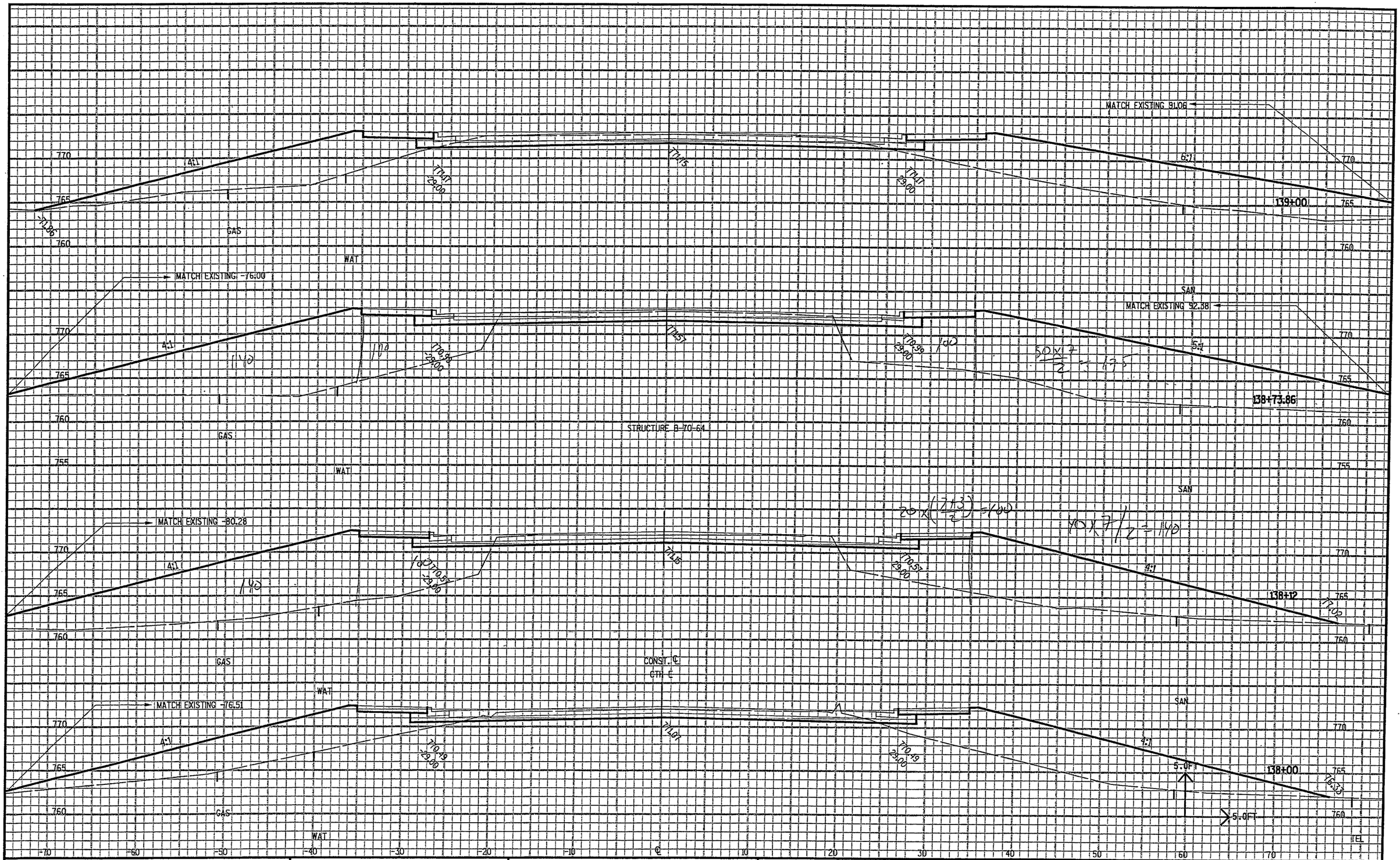
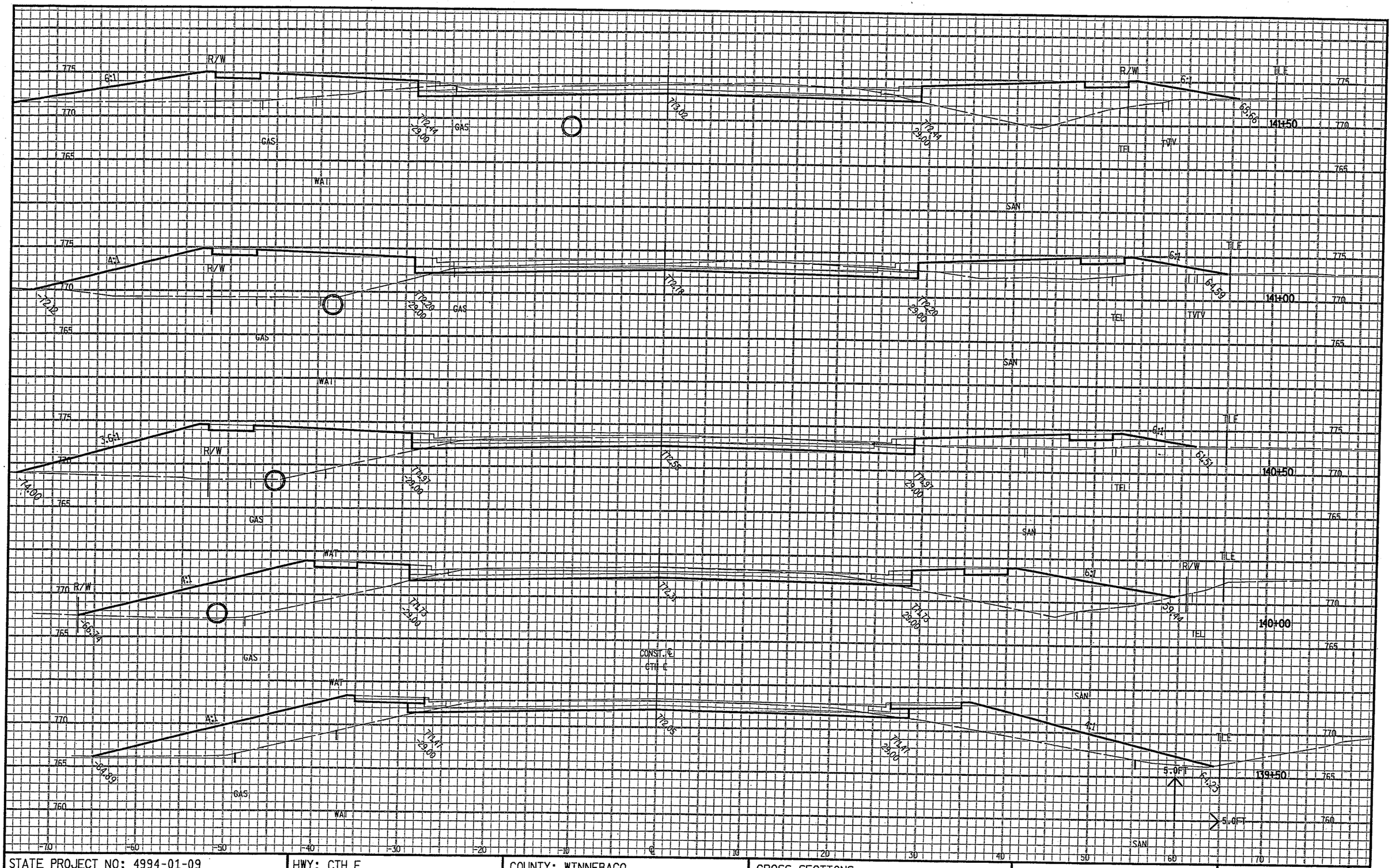


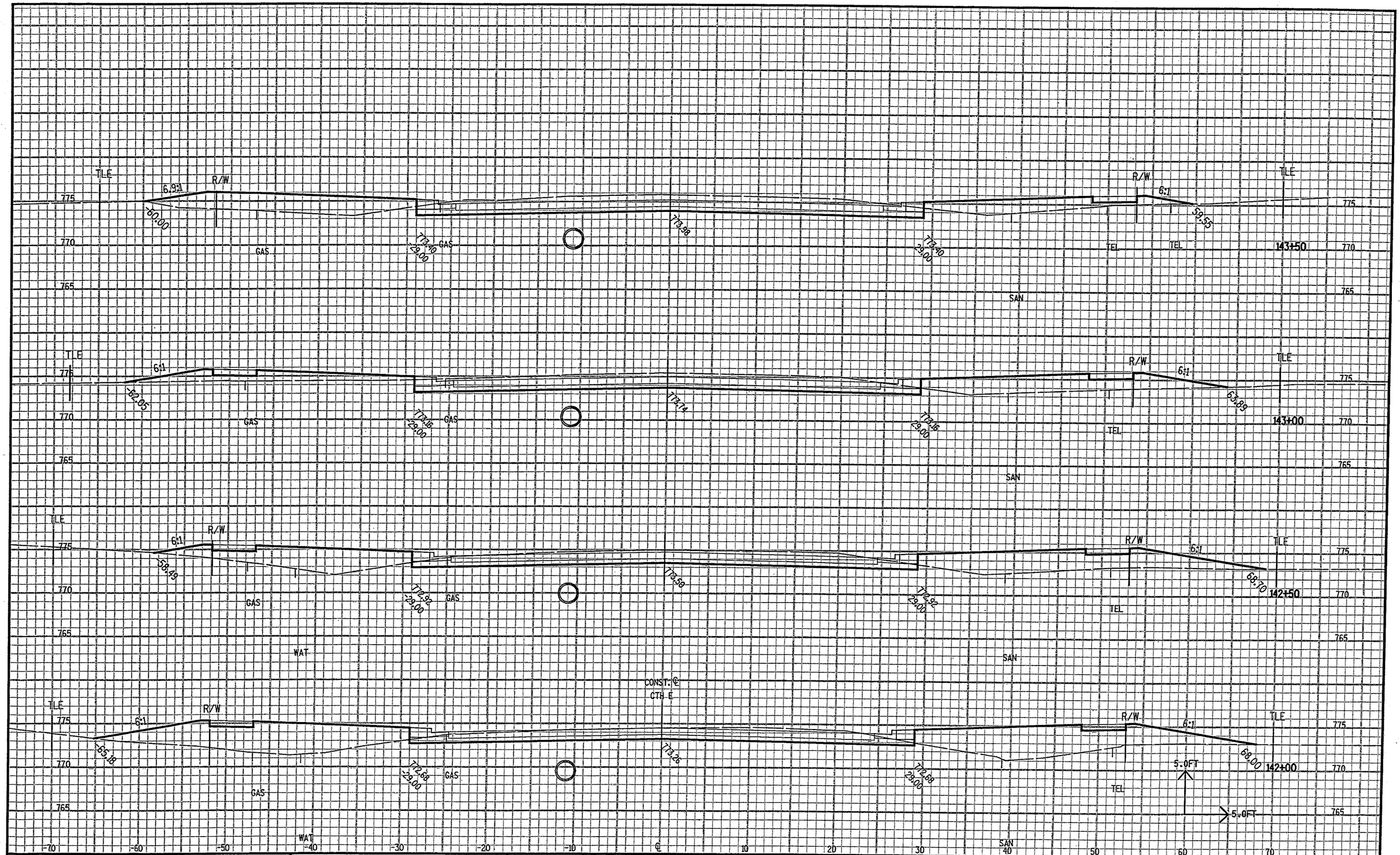
STATE PROJECT NO: 4994-01-09	HWY: CTH E	COUNTY: WINNEBAGO	CROSS SECTIONS	SAN	SHEET NO: 106	E

...\W70-00-01A\CTHE090201_xs.DGN 7/28/2003 7:15:39 AM



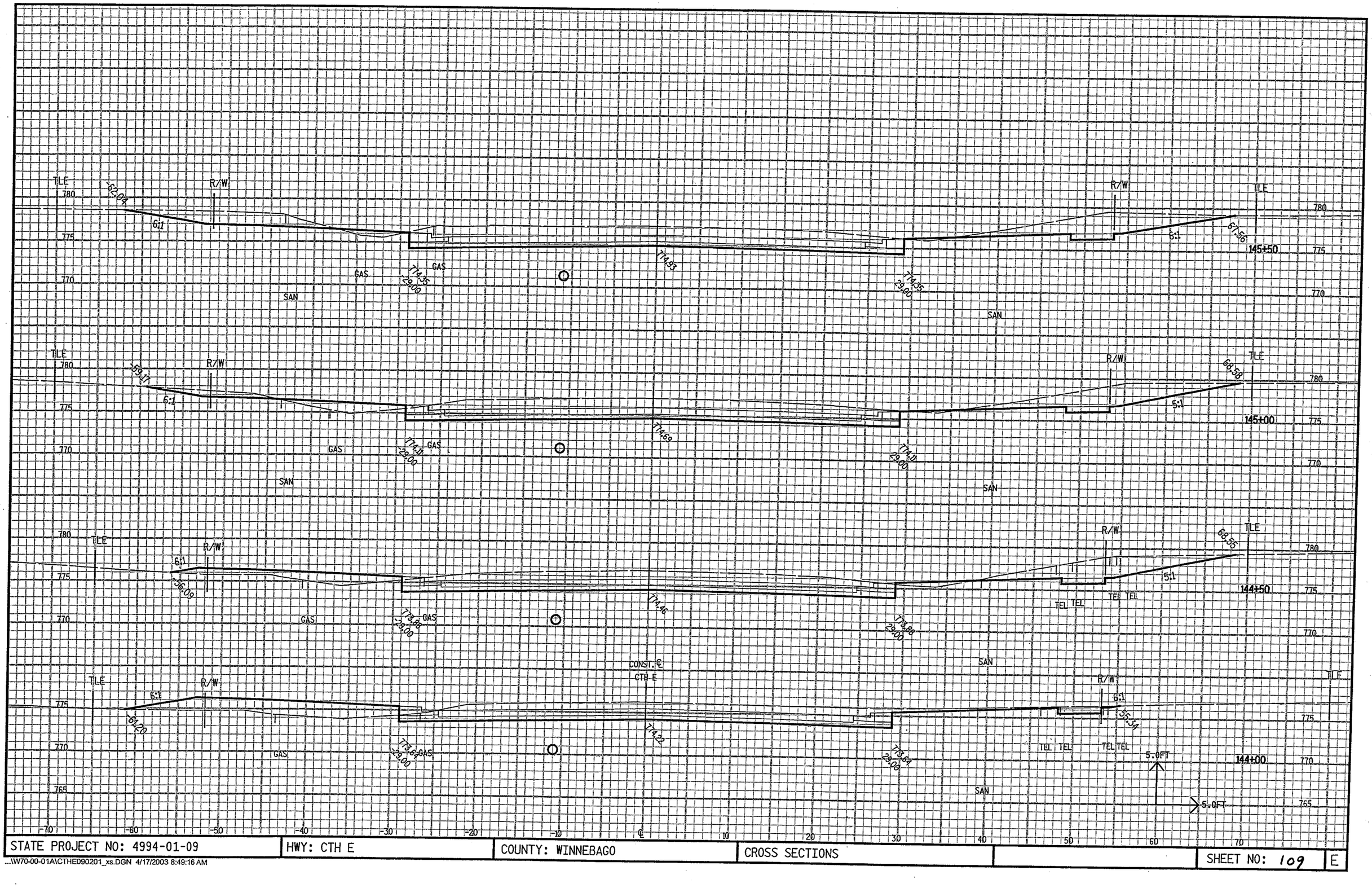
STATE PROJECT NO: 4994-01-09	HWY: CTH E	COUNTY: WINNEBAGO	CROSS SECTIONS		SHEET NO: 107	E

...\W70-00-01A\CTHE090201_xs.DGN 7/28/2003 7:18:24 AM



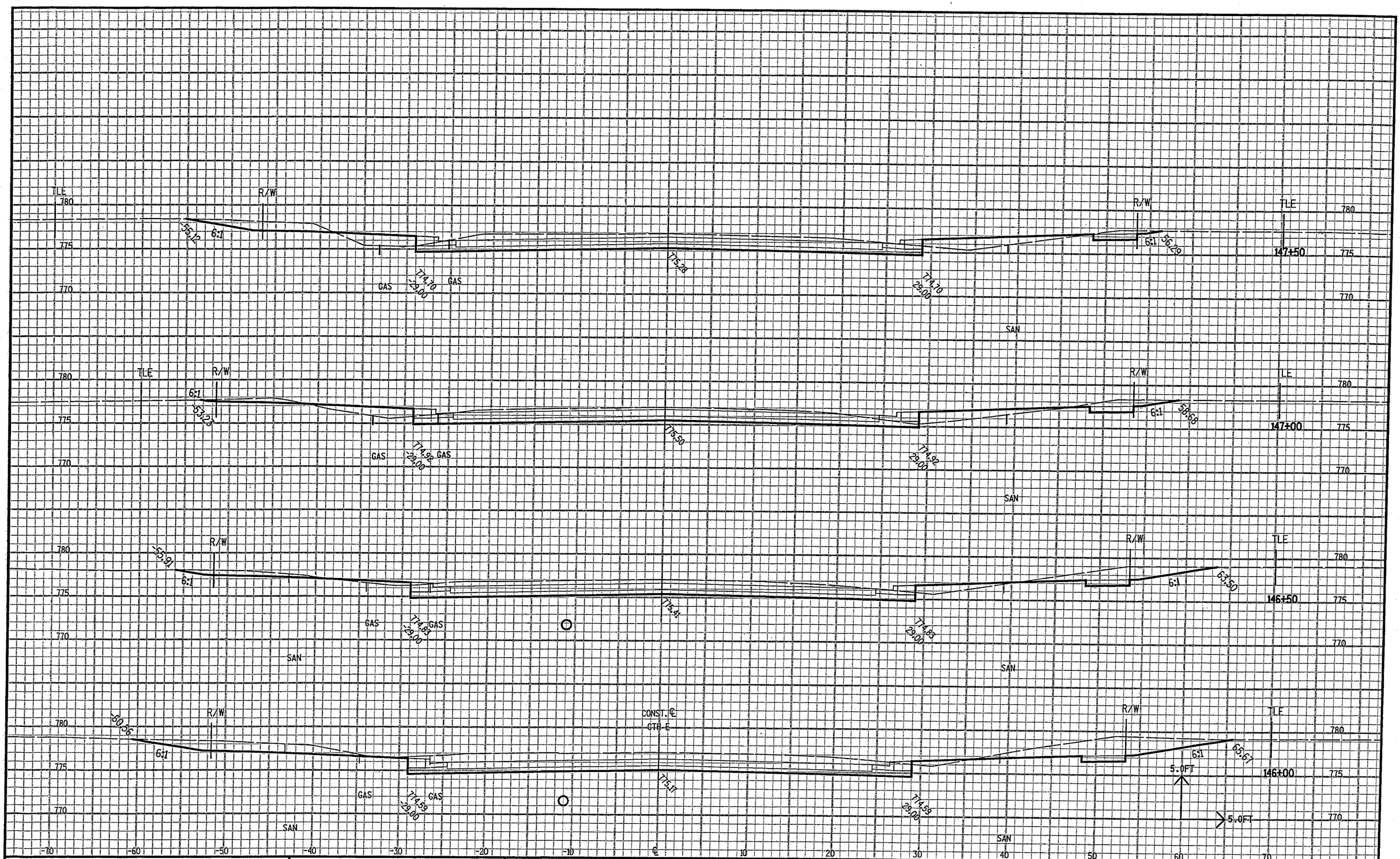
STATE PROJECT NO: 4994-01-09	HWY: CTH E	COUNTY: WINNEBAGO	CROSS SECTIONS		SHEET NO: 108	E

...\W70-00-01A\CTHE090201_xs.DGN 4/17/2003 8:49:16 AM



STATE PROJECT NO: 4994-01-09	HWY: CTH E	COUNTY: WINNEBAGO	CROSS SECTIONS		SHEET NO: 109	E

...\W70-00-01A\CTHE090201_xs.DGN 4/17/2003 8:49:16 AM



STATE PROJECT NO: 4994-01-09	HWY: CTH E	COUNTY: WINNEBAGO	CROSS SECTIONS		SHEET NO: 110	E

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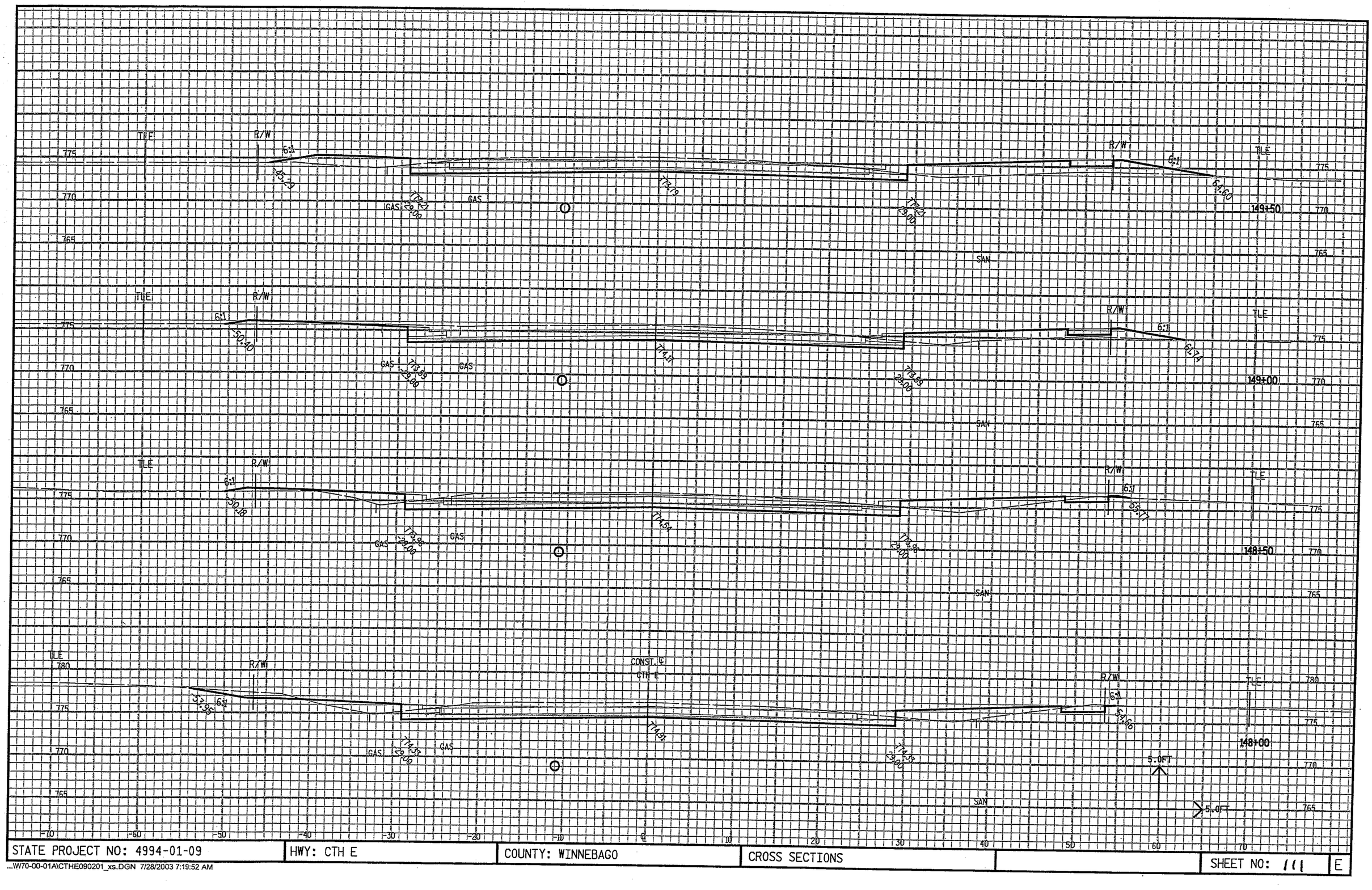
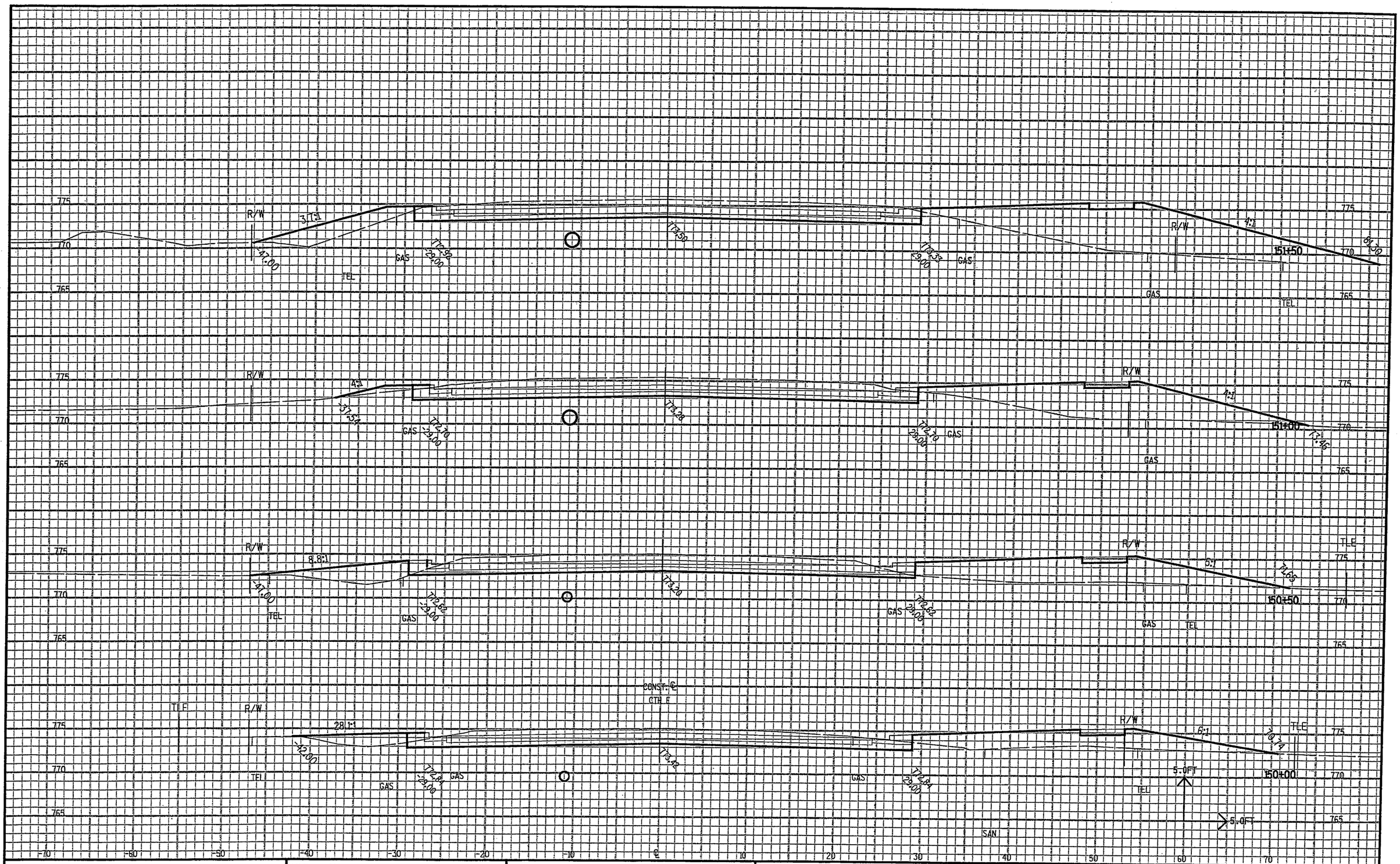


STATE PROJECT NO: 4994-01-09	HWY: CTH E	COUNTY: WINNEBAGO	CROSS SECTIONS		SHEET NO: 111 E

...\W70-00-01A\CTHE090201_xs.DGN 7/28/2003 7:19:52 AM



STATE PROJECT NO: 4994-01-09	HWY: CTH E	COUNTY: WINNEBAGO	CROSS SECTIONS		SHEET NO: 112	E

...\W70-00-01A\CTHE090201_xs.DGN 7/28/2003 7:24:37 AM

END PROJECT
STA 153+00

153+50

MATCH EXISTING 90.5

3:1
-34.12
775.86
-29.00
776.44
775.86
29.00
4:1
R/W
153+00
TEL

MATCH EXISTING 91.5

3:1
-42.03
774.58
-29.00
773.16
774.58
29.00
4:1
R/W
152+50
TEL

CONST. ℄
CTH E

5.9:1
-47.00
773.60
-29.00
774.18
773.60
29.00
3:1
R/W
5.0FT
5.0FT
152+00
TEL

-70 -60 -50 -40 -30 -20 -10 ℄ 10 20 30 40 50 60 70

STATE PROJECT NO: 4994-01-09	HWY: CTH E	COUNTY: WINNEBAGO	CROSS SECTIONS		SHEET NO: 113	E

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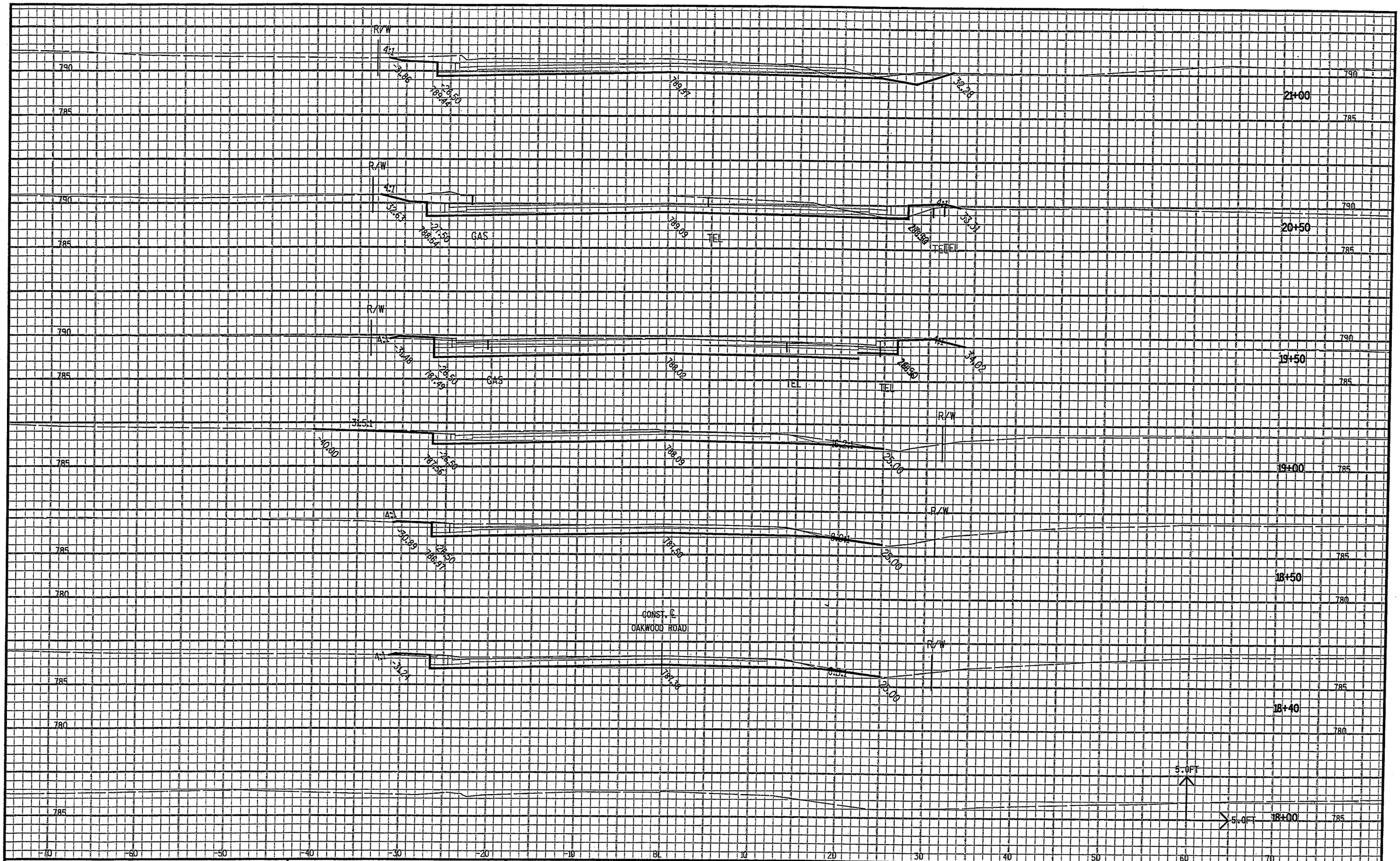

STATE PROJECT NO: 4994-01-09	HWY: OAKWOOD ROAD	COUNTY: WINNEBAGO	CROSS SECTIONS	SHEET NO: 119	E

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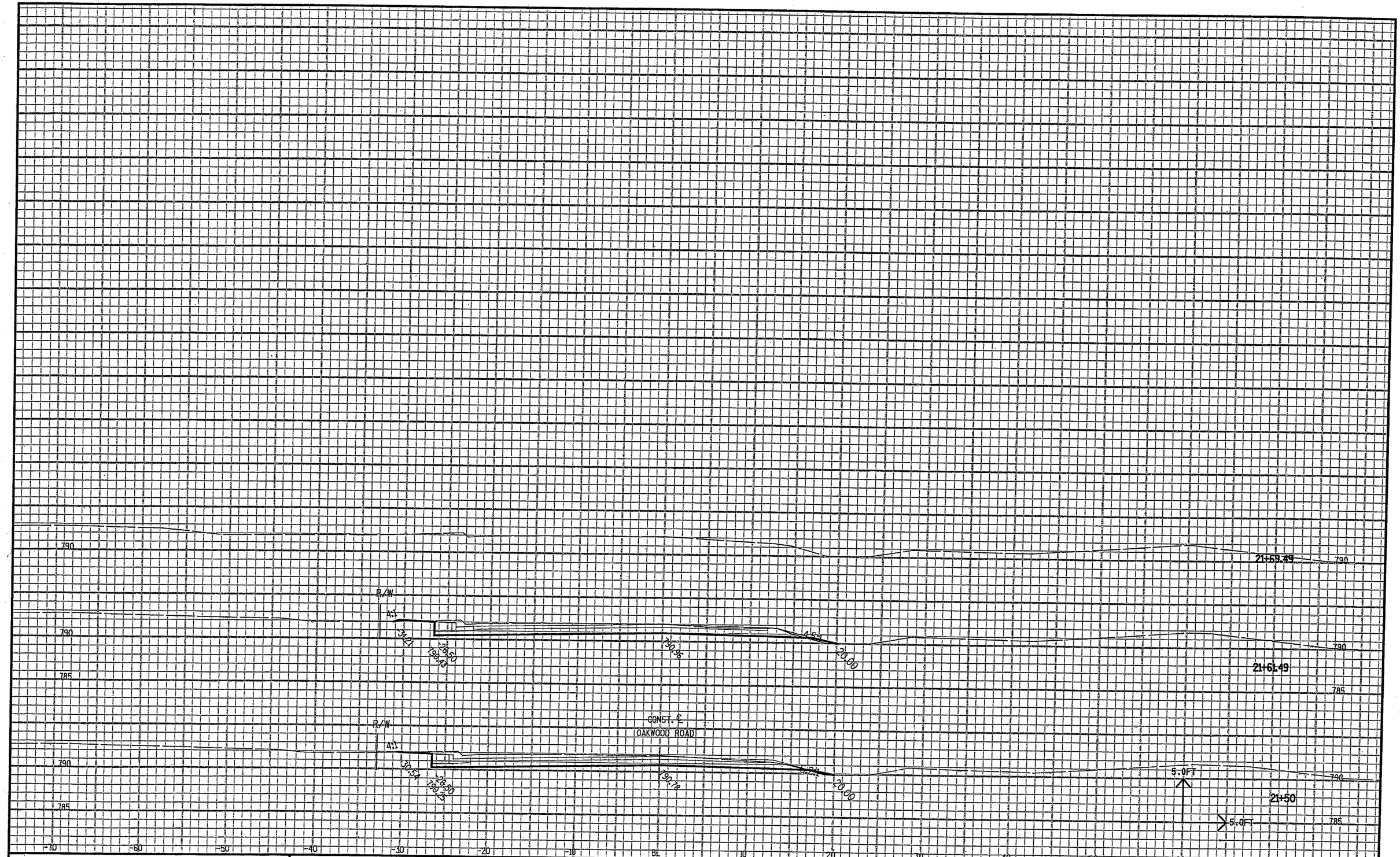

STATE PROJECT NO: 4994-01-09	HWY: OAKWOOD ROAD	COUNTY: WINNEBAGO	CROSS SECTIONS	SHEET NO: 115	E

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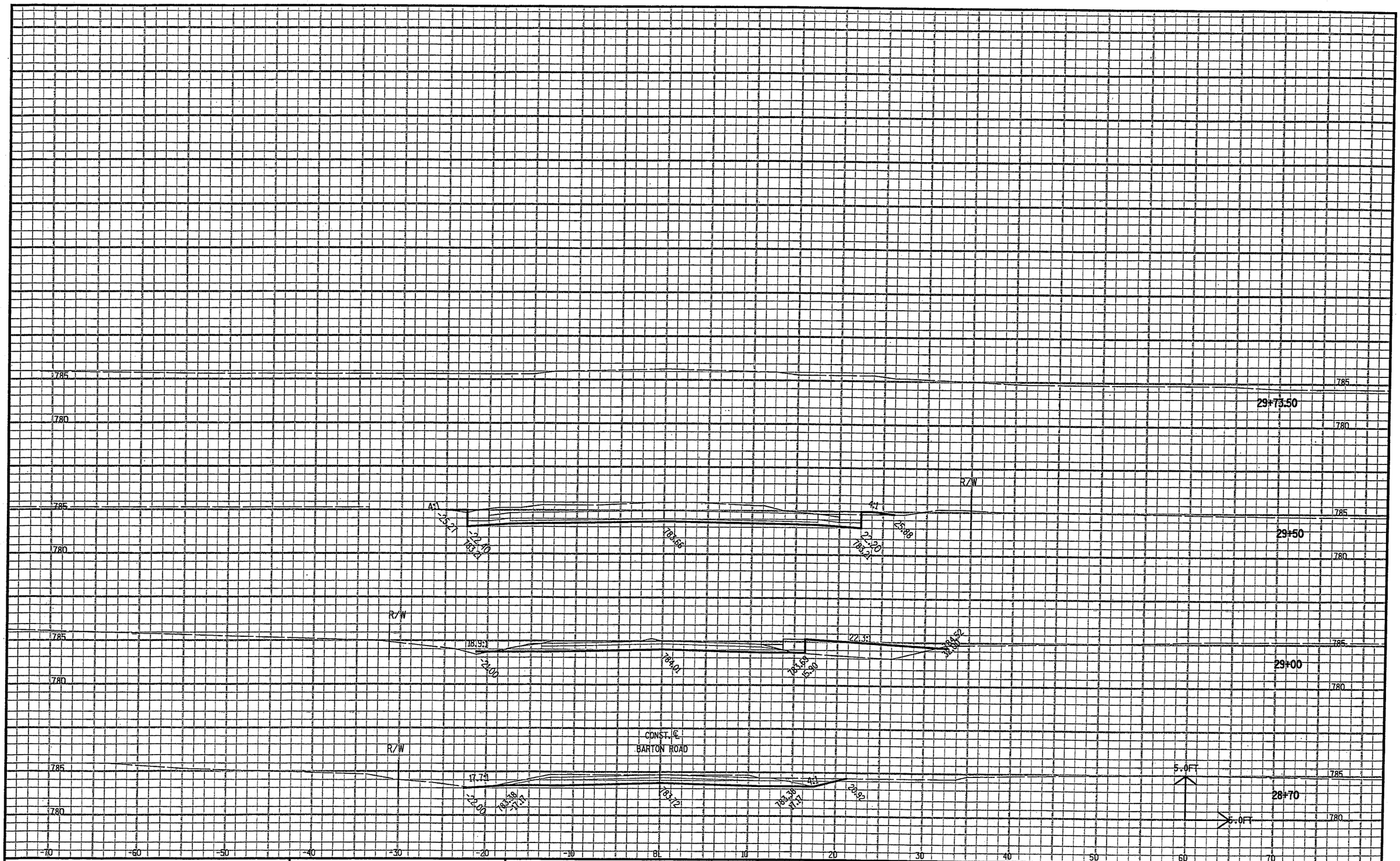

STATE PROJECT NO: 4994-01-09	HWY: BARTON ROAD	COUNTY: WINNEBAGO	CROSS SECTIONS	SHEET NO: 116	E

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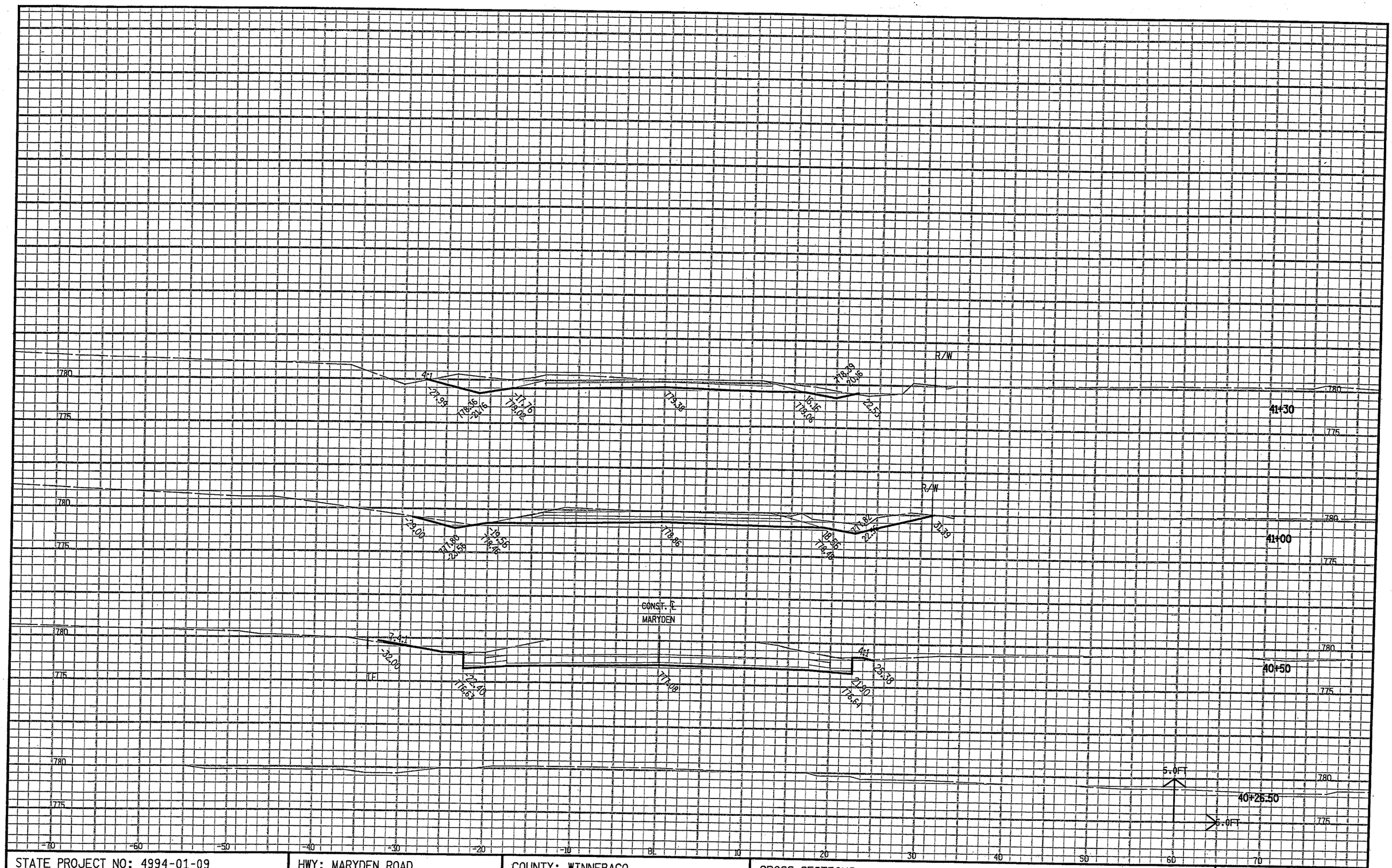
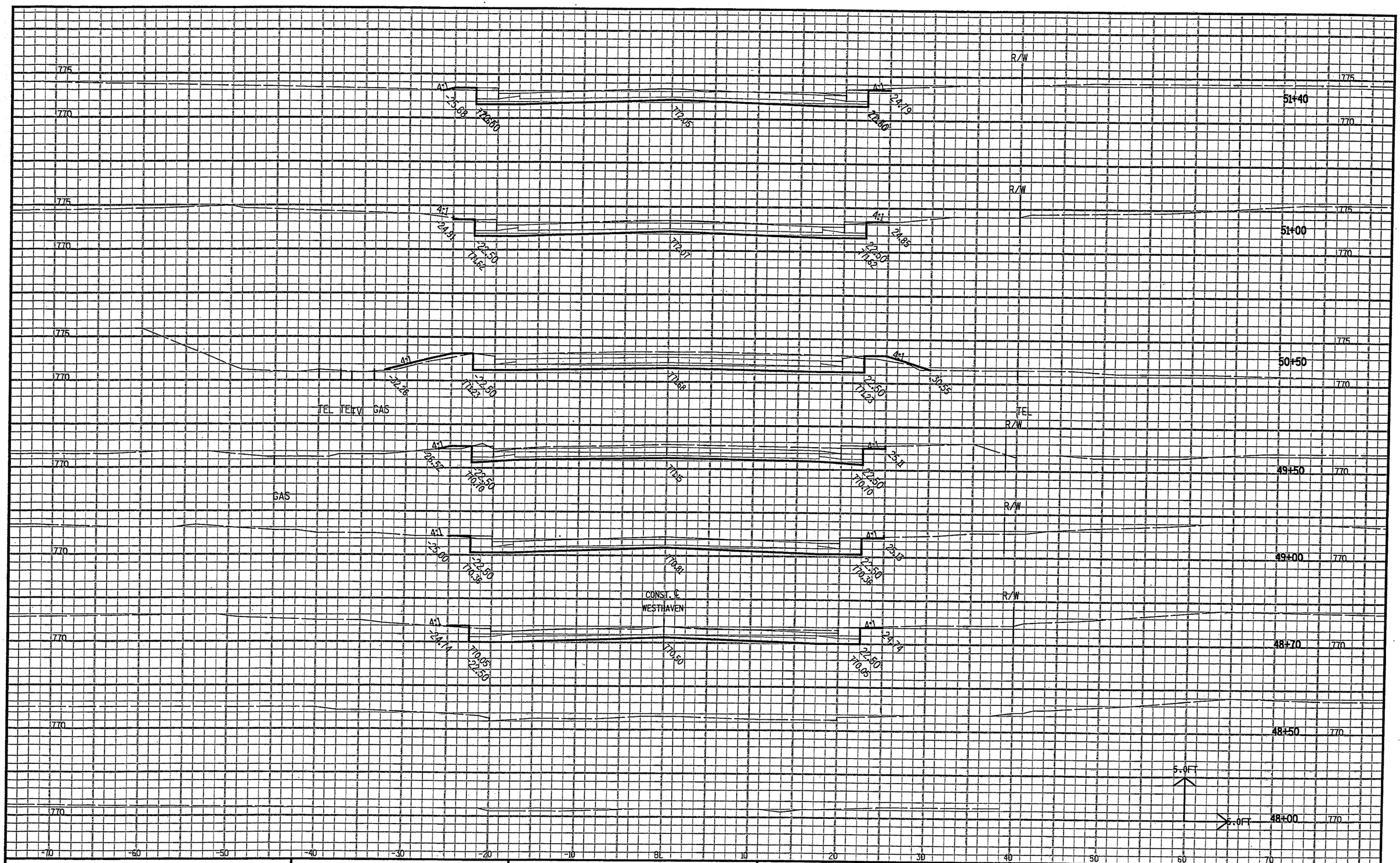


STATE PROJECT NO: 4994-01-09	HWY: MARYDEN ROAD	COUNTY: WINNEBAGO	CROSS SECTIONS	SHEET NO: 117	E

...\CTHE\CTE090205_XS.DGN 7/31/2003 4:39:13 PM



STATE PROJECT NO: 4994-01-09	HWY: WESTHAVEN	COUNTY: WINNEBAGO	CROSS SECTIONS	SHEET NO: 118	E

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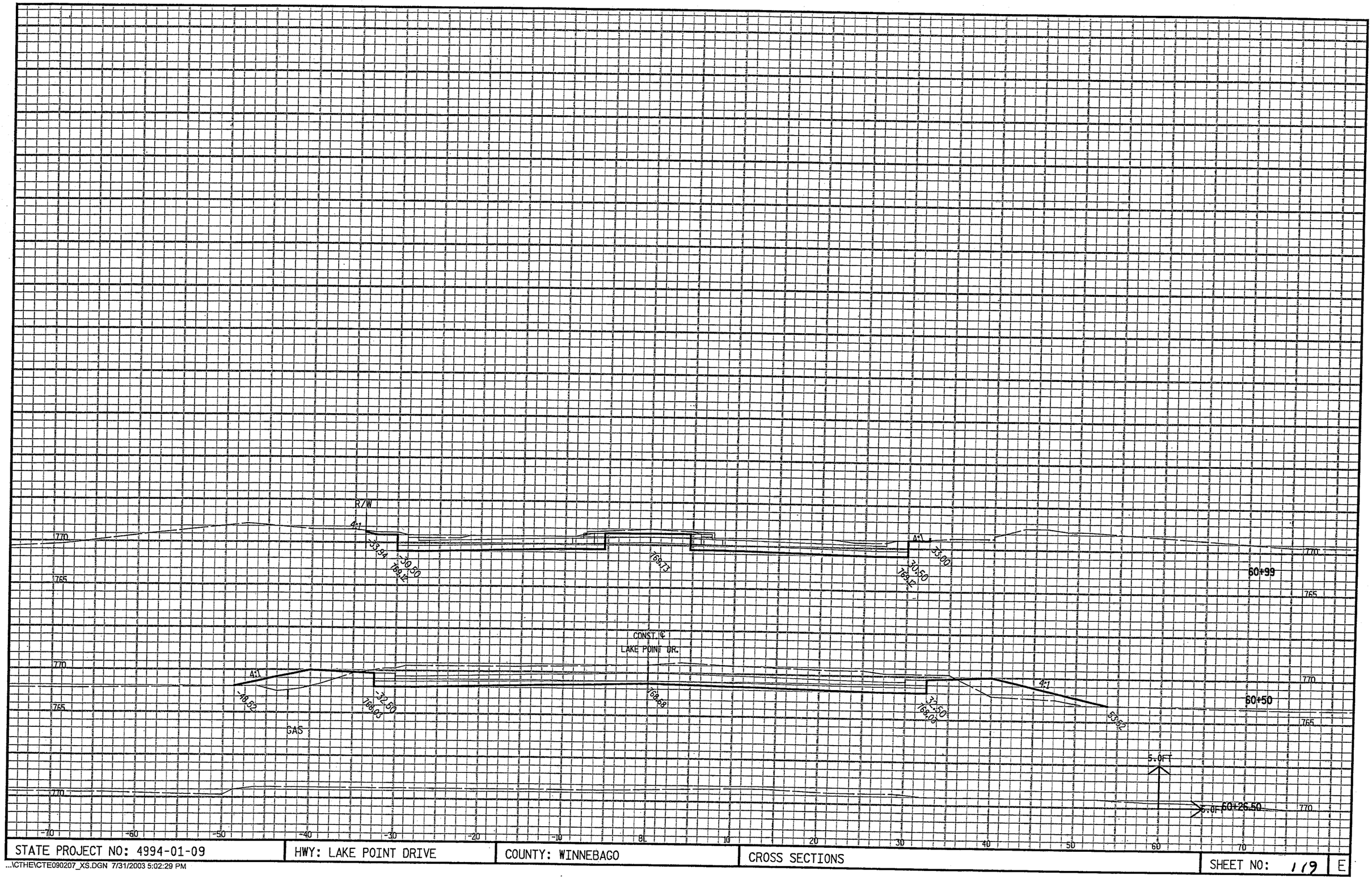
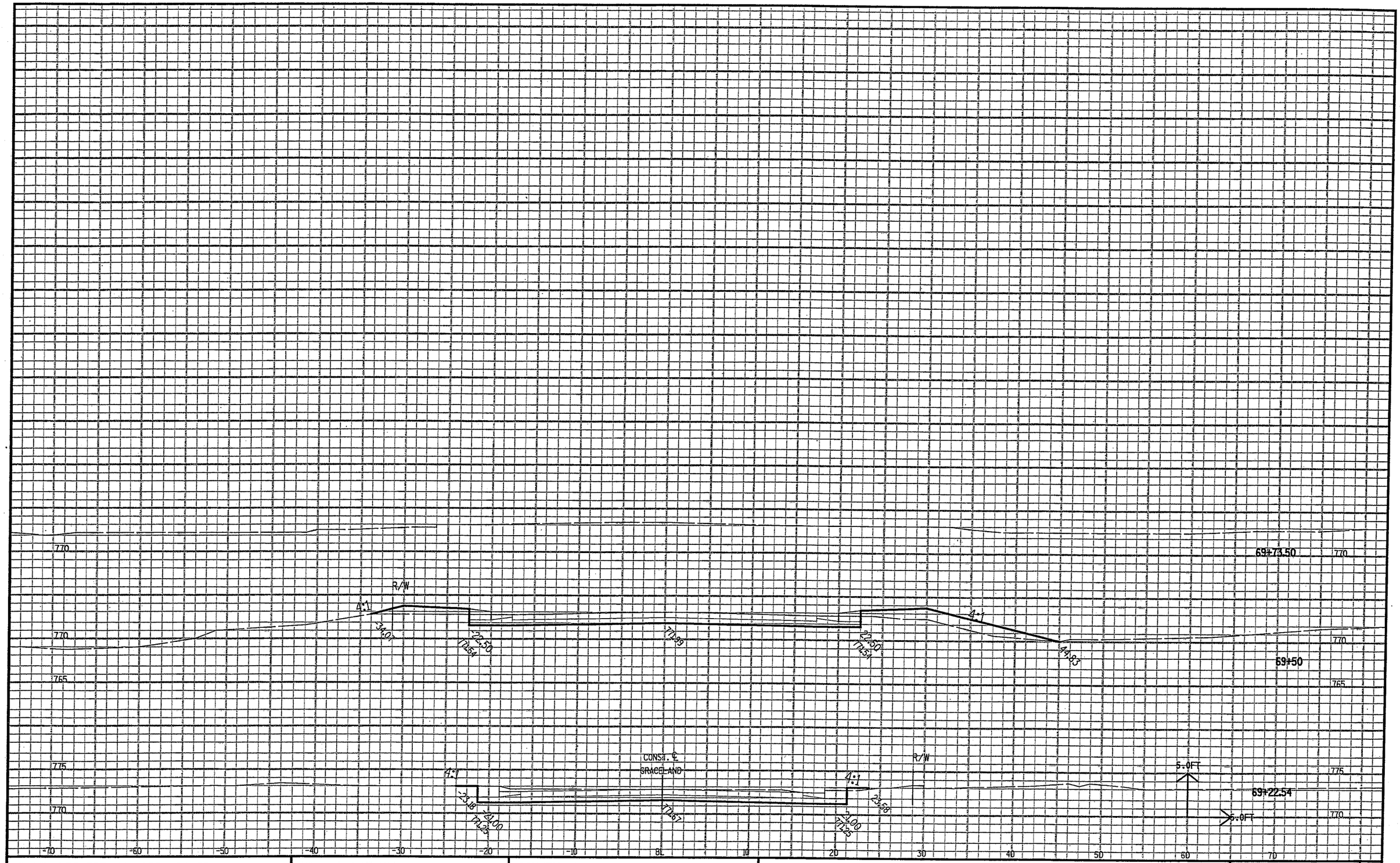


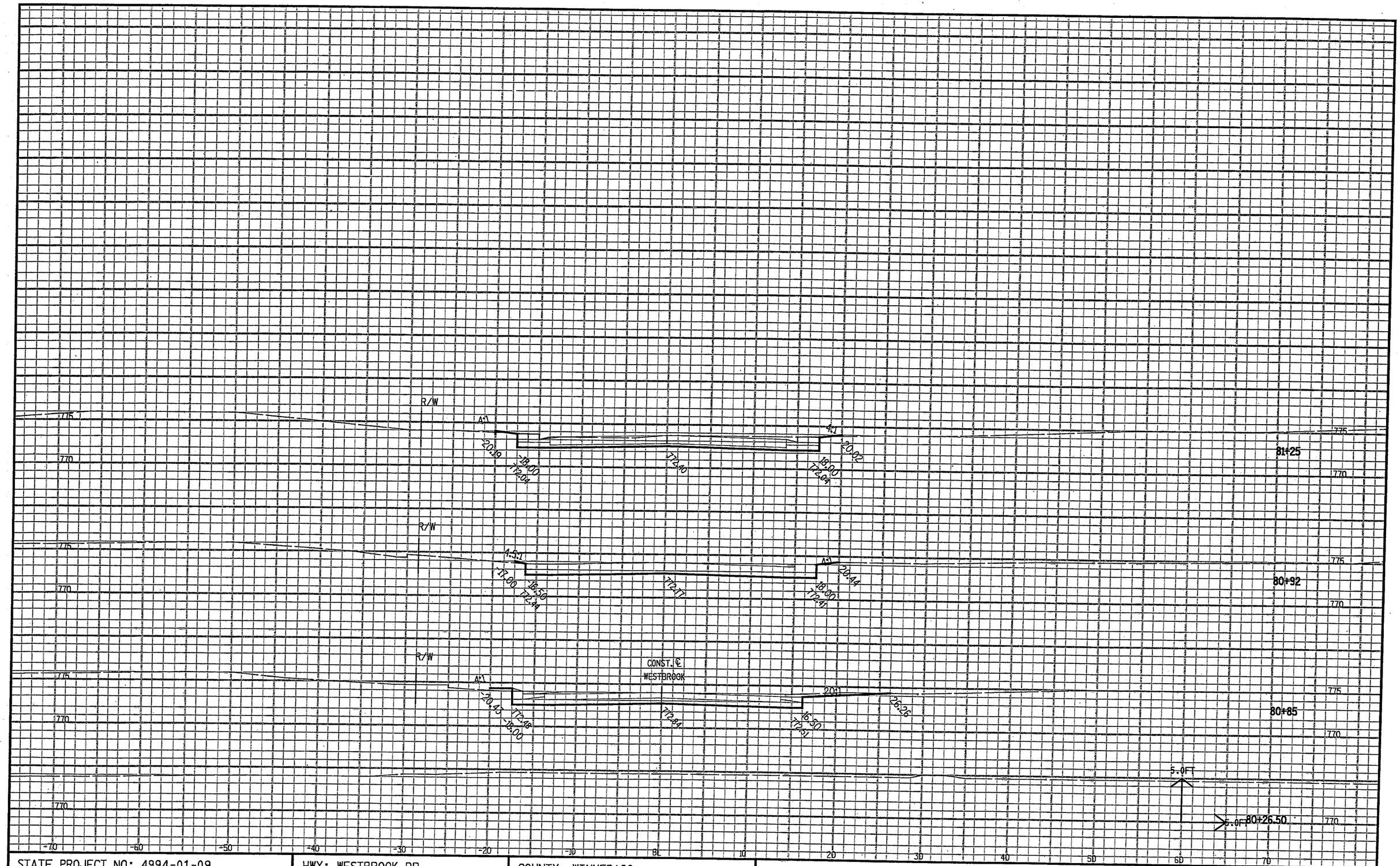
STATE PROJECT NO: 4994-01-09	HWY: LAKE POINT DRIVE	COUNTY: WINNEBAGO	CROSS SECTIONS	SHEET NO: 119	E

...\CTHE\CTE090207_XS.DGN 7/31/2003 5:02:29 PM



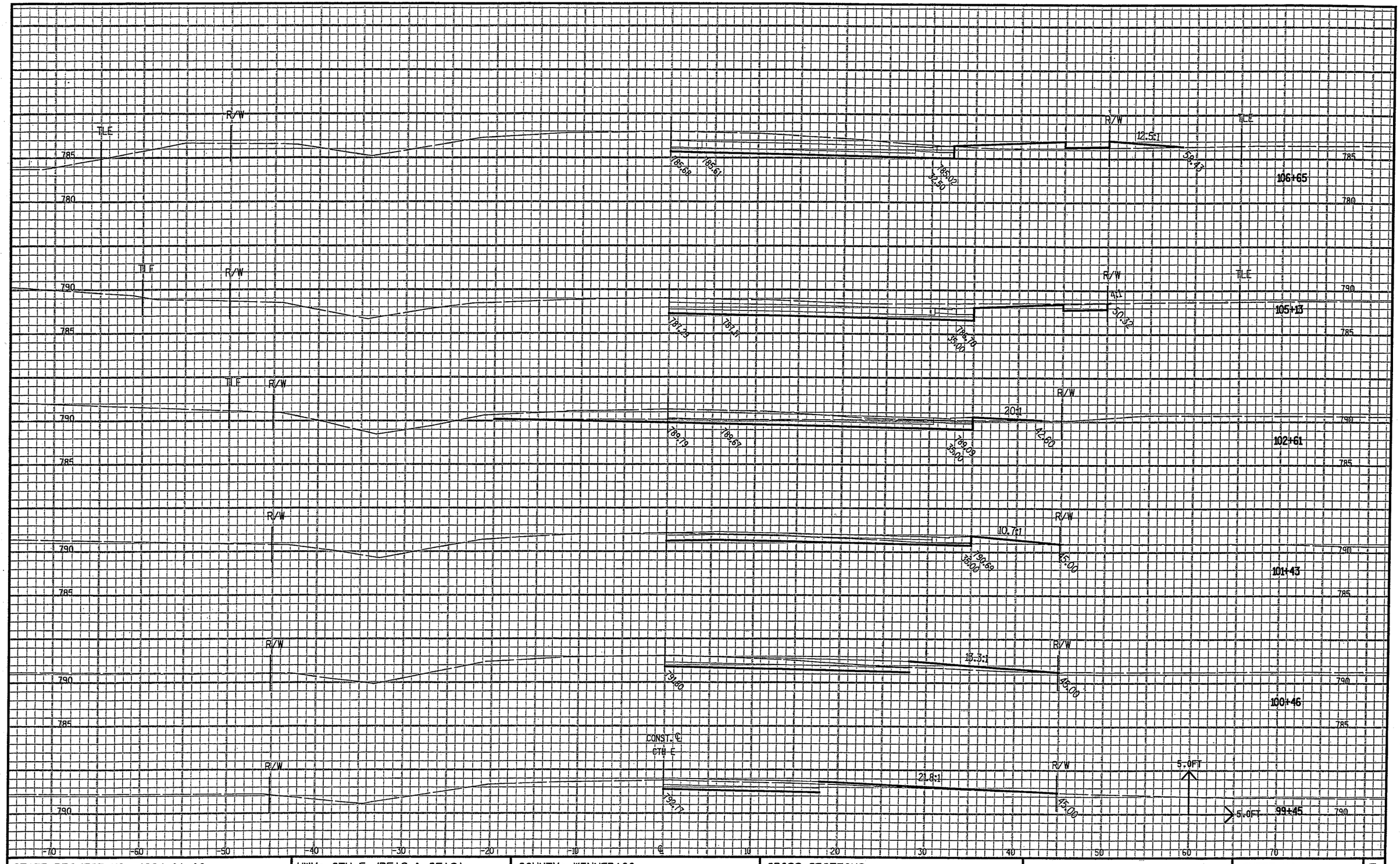
STATE PROJECT NO: 4994-01-09	HWY: GRACELAND	COUNTY: WINNEBAGO	CROSS SECTIONS	SHEET NO: 120	E

...\CTHE\CTE090208_XS.DGN 7/31/2003 5:04:45 PM



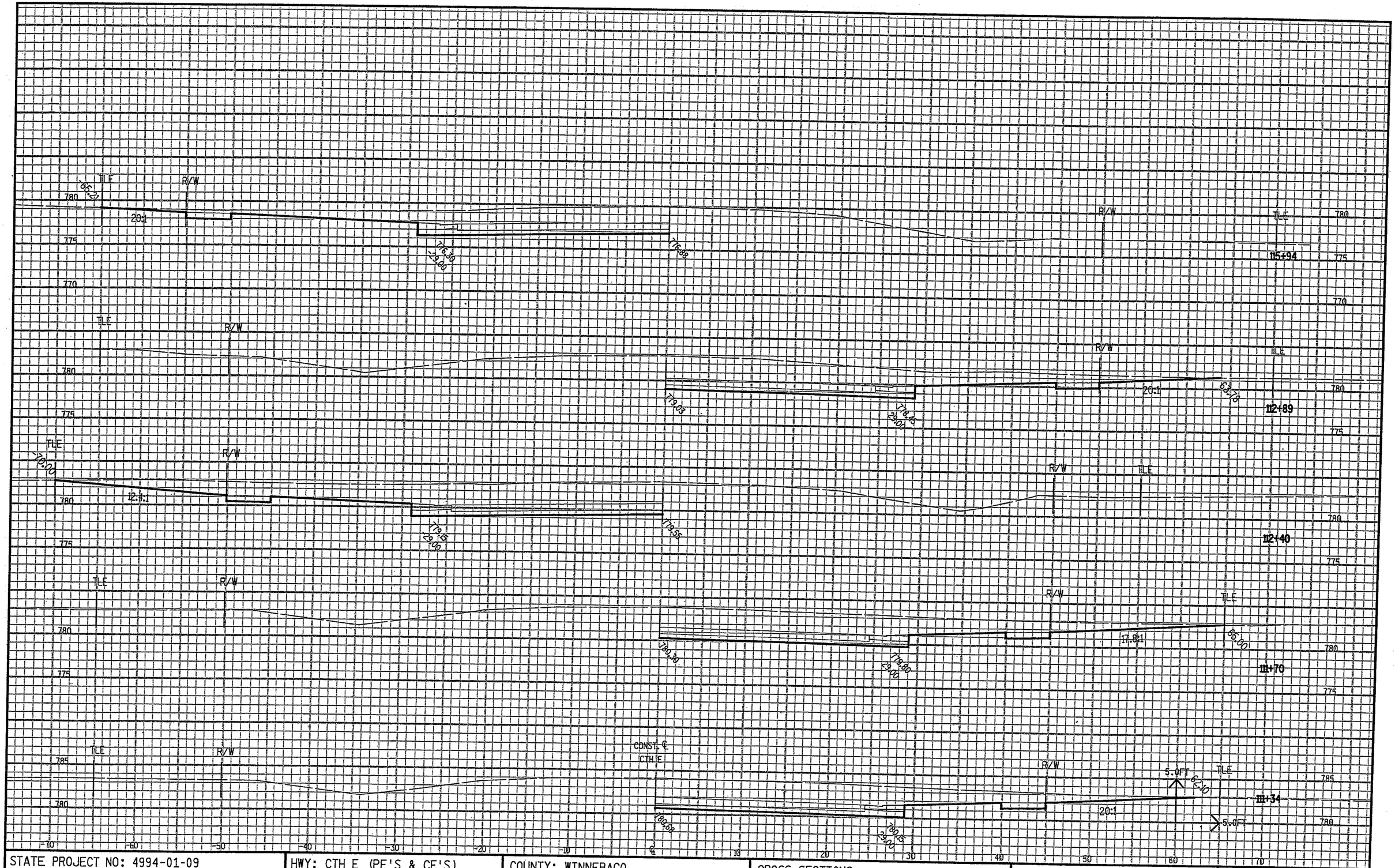
STATE PROJECT NO: 4994-01-09	HWY: WESTBROOK DR	COUNTY: WINNEBAGO	CROSS SECTIONS	SHEET NO: 121	E

...\CTHE\CTE090209_XS.DGN 7/31/2003 5:07:48 PM



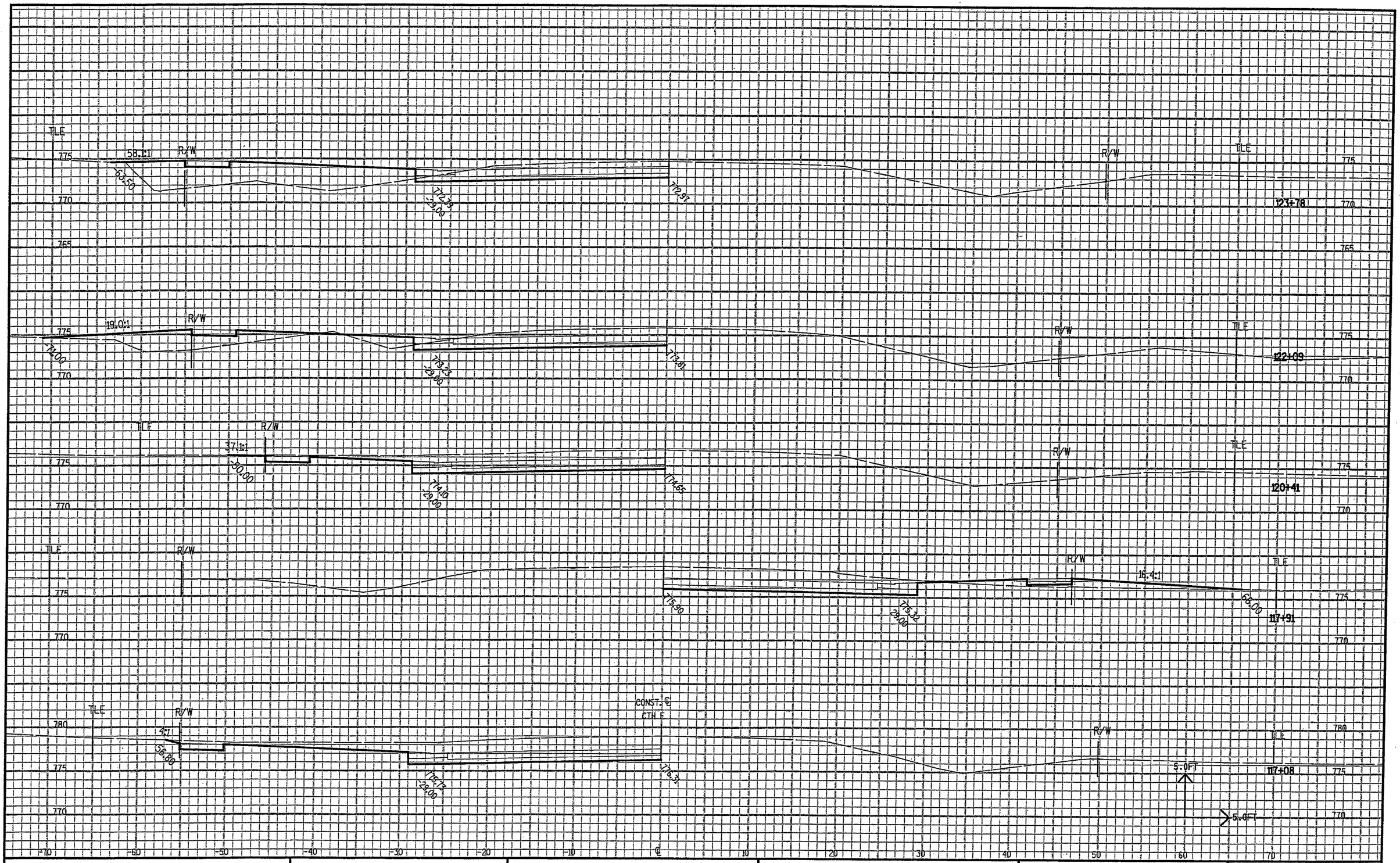
STATE PROJECT NO: 4994-01-09	HWY: CTH E (PE'S & CE'S)	COUNTY: WINNEBAGO	CROSS SECTIONS		SHEET NO: 122 E

...\W70-00-01A\CTHE090202_XS.DGN 8/1/2003 7:16:00 AM



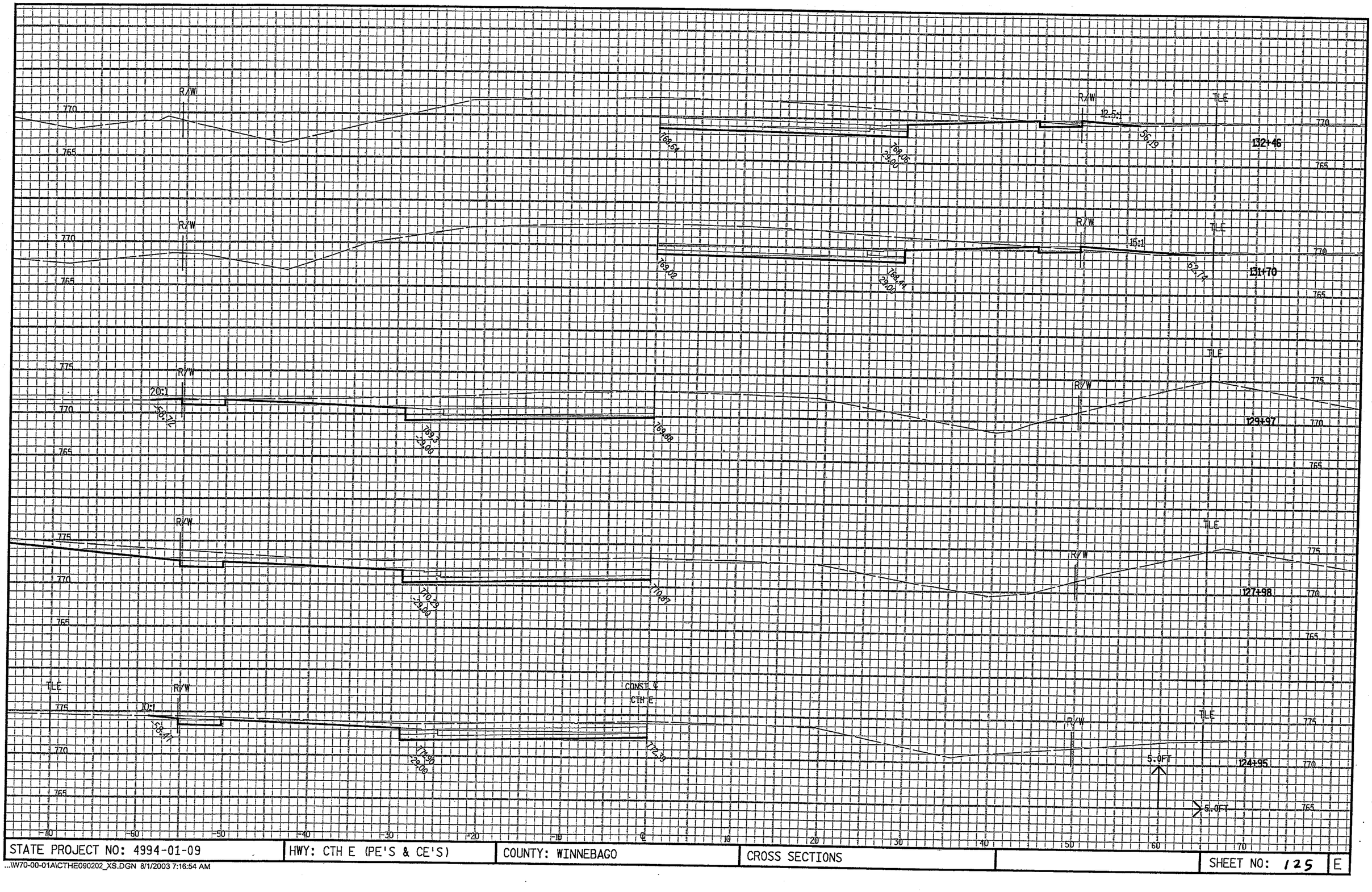
STATE PROJECT NO: 4994-01-09	HWY: CTH E (PE'S & CE'S)	COUNTY: WINNEBAGO	CROSS SECTIONS		SHEET NO: 123	E

...\W70-00-01A\CTHE090202_XS.DGN 8/1/2003 7:16:08 AM



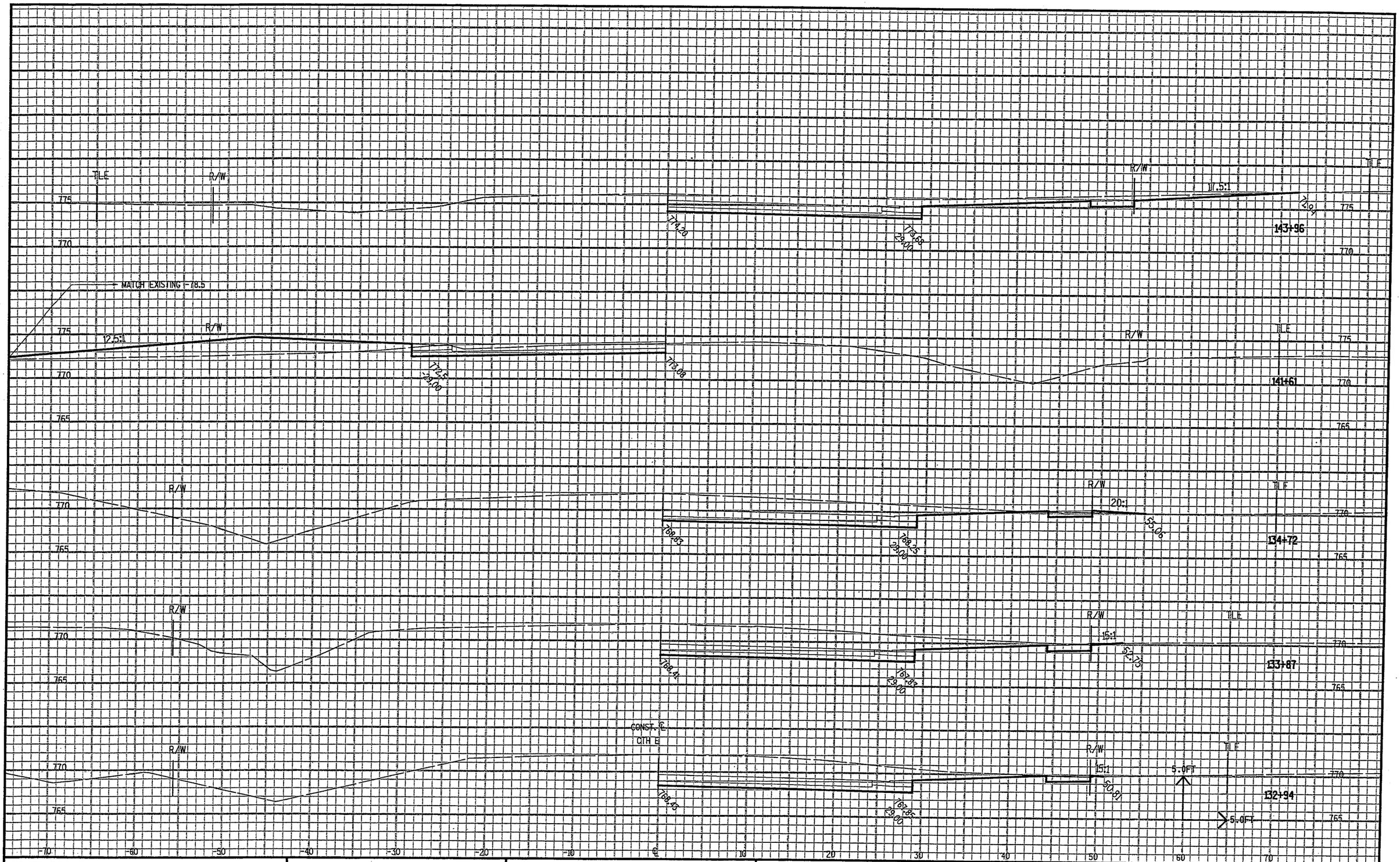
STATE PROJECT NO: 4994-01-09	HWY: CTH E (PE'S & CE'S)	COUNTY: WINNEBAGO	CROSS SECTIONS		SHEET NO: 129	E

...\W70-00-01A\CTHE090202_XS.DGN 8/1/2003 7:16:44 AM



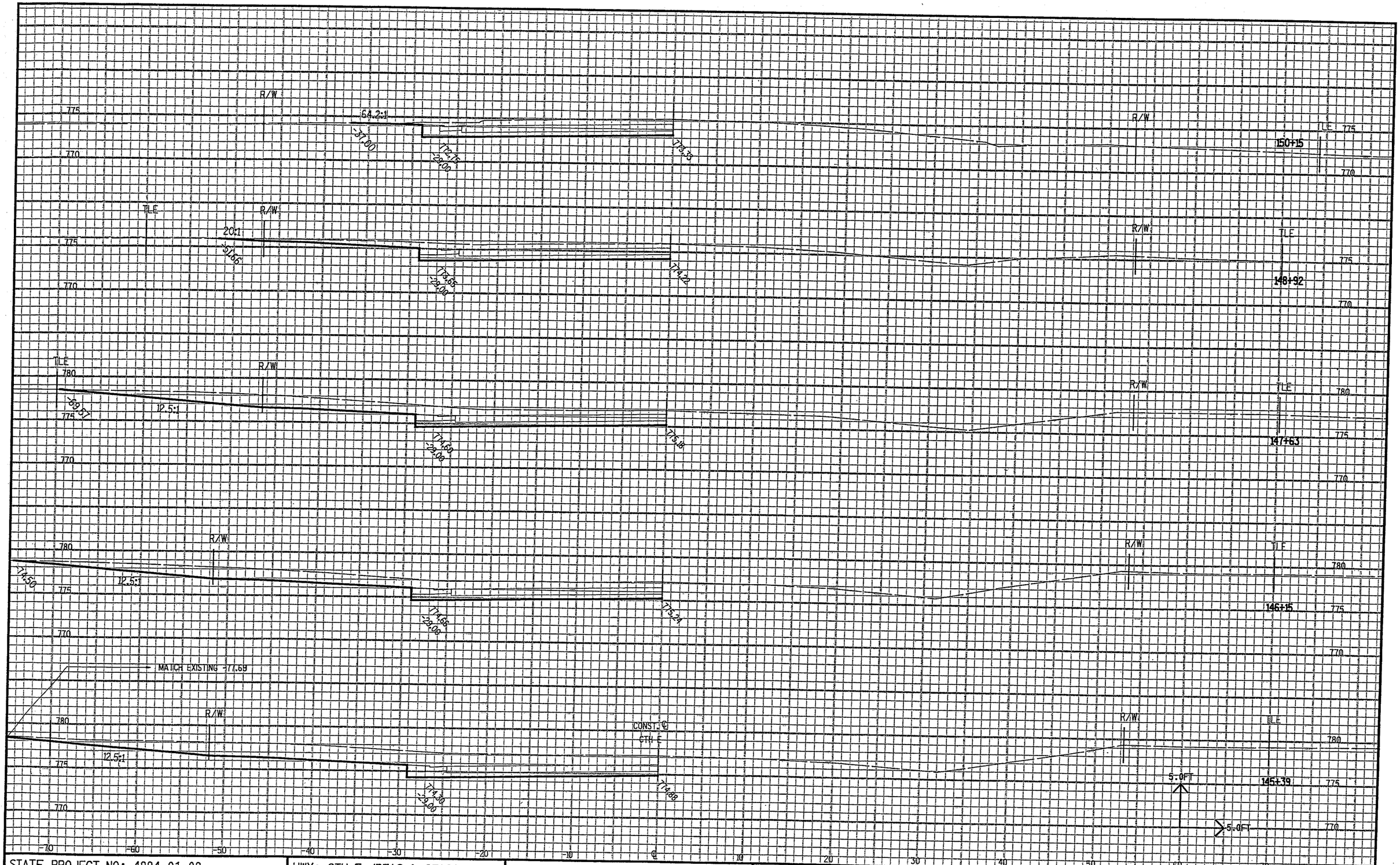
STATE PROJECT NO: 4994-01-09	HWY: CTH E (PE'S & CE'S)	COUNTY: WINNEBAGO	CROSS SECTIONS		SHEET NO: 125	E

...\W70-00-01A\CTHE090202_XS.DGN 8/1/2003 7:16:54 AM



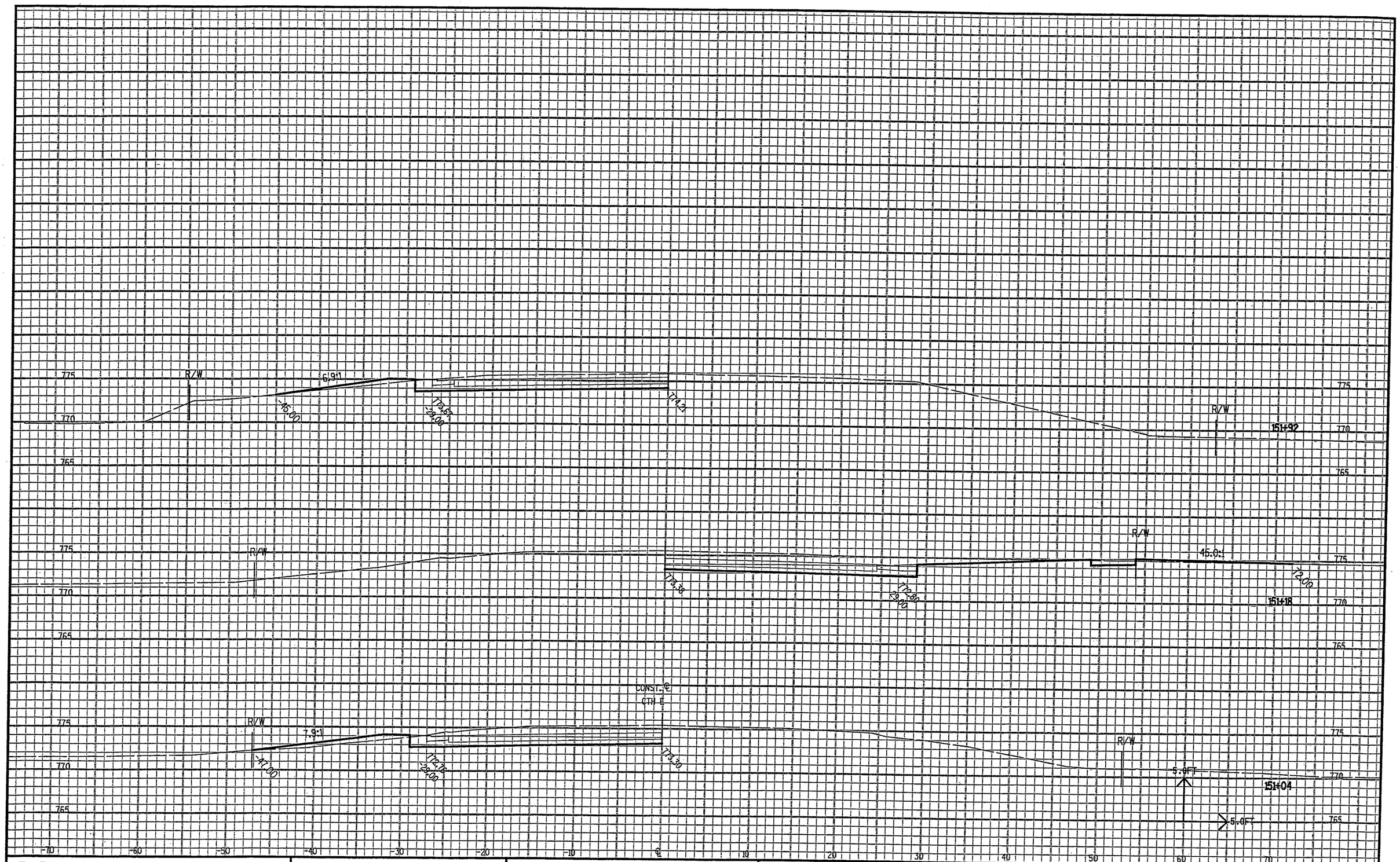
STATE PROJECT NO: 4994-01-09	HWY: CTH E (PE'S & CE'S)	COUNTY: WINNEBAGO	CROSS SECTIONS		SHEET NO: 126	E

...\W70-00-01A\CTHE090202_XS.DGN 8/1/2003 7:17:06 AM



STATE PROJECT NO: 4994-01-09	HWY: CTH E (PE'S & CE'S)	COUNTY: WINNEBAGO	CROSS SECTIONS		SHEET NO: 127	E

...\W70-00-01A\CTHE090202_XS.DGN 8/1/2003 7:17:14 AM



STATE PROJECT NO: 4994-01-09	HWY: CTH E (PE'S & CE'S)	COUNTY: WINNEBAGO	CROSS SECTIONS		SHEET NO: 128	E

...\W70-00-01A\CTHE090202_XS.DGN 8/1/2003 7:17:25 AM