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TOTAL SHEETS = 48



STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

S.T.H. 47 - SEYMORE BUILT PLAN

FRENCH RD - SEYMORE

NO.

C.T.H. "G"

OUTAGAMIE COUNTY

STATE PROJECT NUMBER
6007-1- 74

SUPERVISOR Agri's Rozite
RESIDENT Bill Wegner
CONTRACTOR Murphy Construction Co.
COMPLETED August 22, 1989

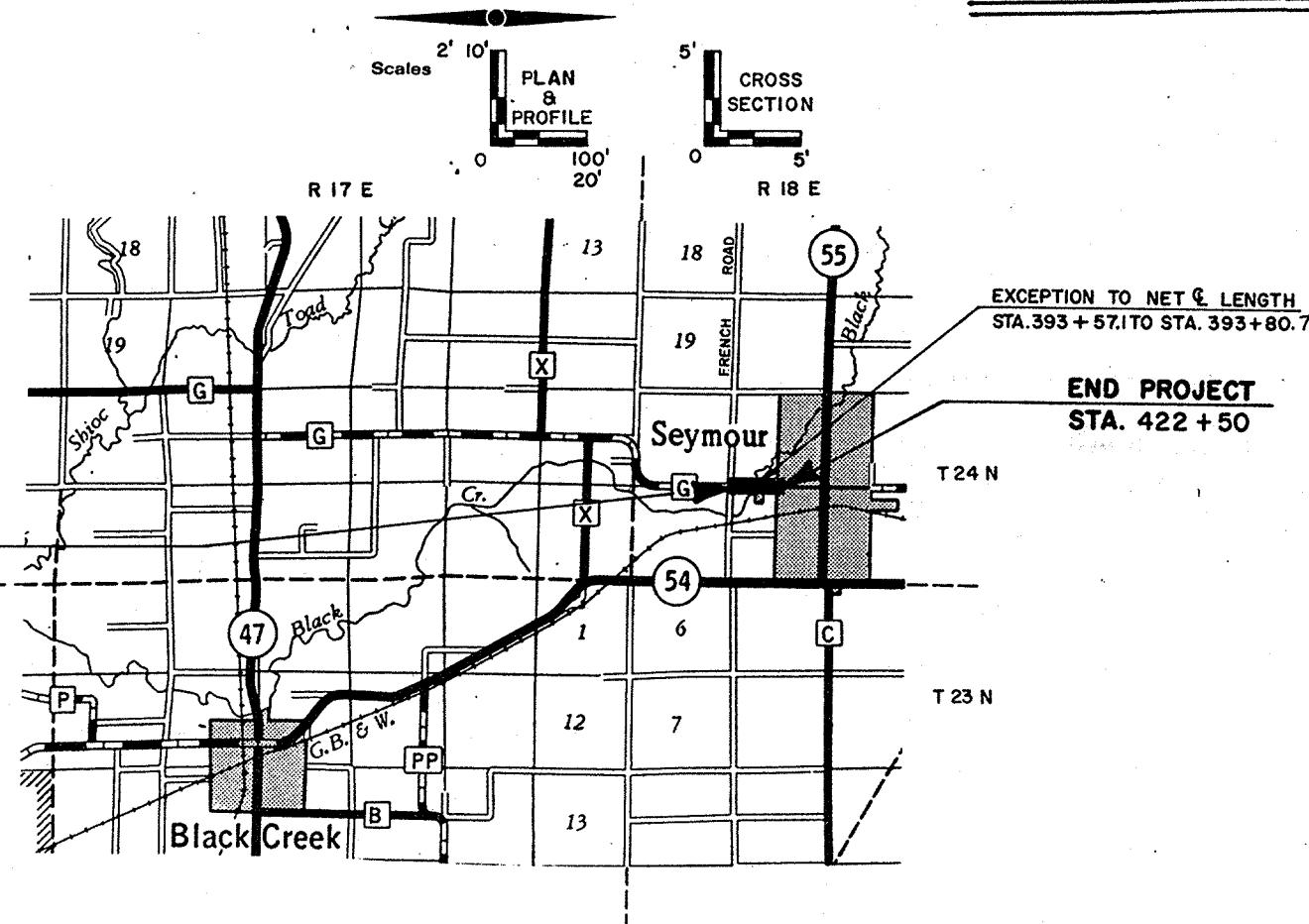
"AS BUILT"

Design Designation

A.D.T. 1986 = C.T.H. "X"
A.D.T. 2006 = 1210
D.H.V. = 2180
D. = 330
T. = 60/40
V. = 8 %
= 50 M.P.H.

BEGIN PROJECT
STA. 380 +00

X = 2,430,400 (± 200) *
Y. = 253,000 (± 200) *



* COORDINATES SCALED FROM U.S.G.S. TOPOGRAPHIC MAP SEYMORE, 7.5 MINUTE, WISCONSIN, QUADRANGLE FOR IDENTIFICATION ONLY.

Conventional Signs

County Line	— — — —
Township or Range Line	— — — —
Section Line	— — — —
Corporate or City Limits	
Property line	— — — —
Lot Line	— — — —
Existing Right of Way Line	— — — —
New Right of Way Line	— — — —
Base or Survey Line	— — — —
Slope Intercept	— — — —
Existing Roadway or	— — — —
Private Entrance	— — — —

Caution Symbol (Combustible fluids under pressure)	
Railroads	++ + + +
Fence	X (TYPE) X
Culverts in Place	— — — —
Culverts Required	— — — —
Power Pole	■
Telephone or Telegraph Pole	●
Right of Way Markers	▲
Marsh	
Wooded Area	
Grade Elevation	— — — —

Layout
Scale 0 1 2 Mi.

Total Net Length of Centerline = 0.800 Mi. RURAL

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
6007 - 1 - 73	RS 1360(4)	2
6007 - 1 - 74	RS 1360(4)	1

APPROVED FOR
OUTAGAMIE COUNTY
BY
8-5-85
(Date) (Signature of Official)

ORIGINAL
PLANS PREPARED BY

Foth & Van Dyke
Engineering/Architectural Division
© 1984 FOTH & VAN DYKE and Assoc. Inc.
2737 S. Ridge Road
P. O. Box 19012
Green Bay, WI 54307-9012
414/497-2500



STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

Surveyor F.B.V.D. District Checker
Designer F.B.V.D. C.O. Checker
District Supervisor J.E.F. C.O. Coordinator

Approved:
Date 10/2/88
District Transportation Director

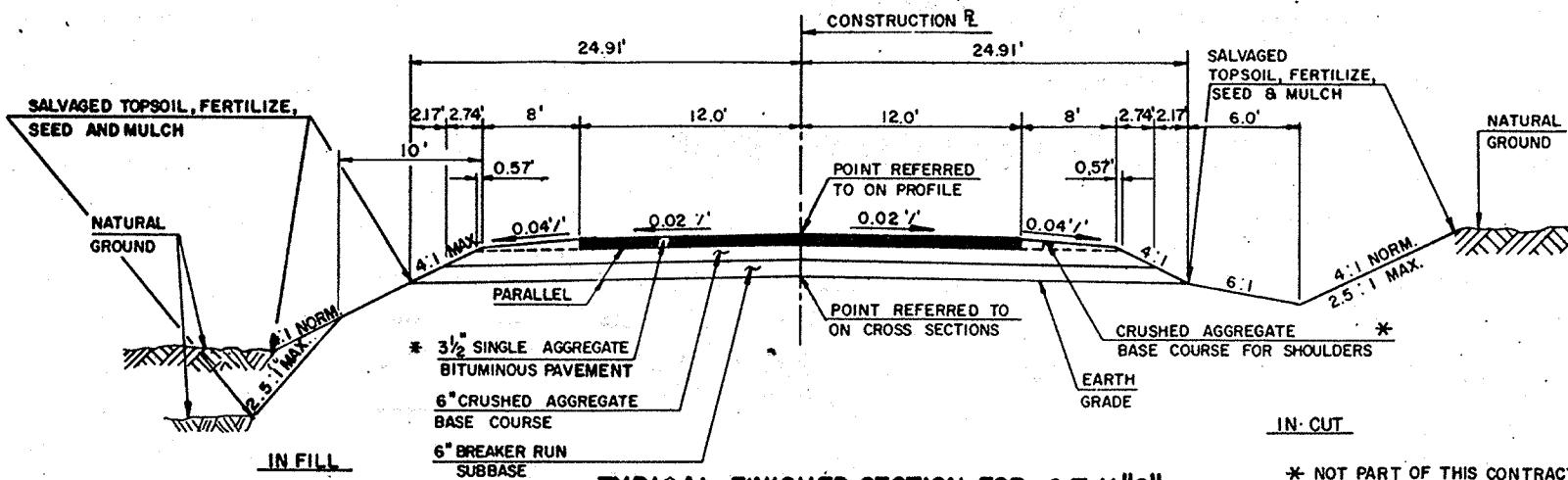
Approved:
Date 11/3/88
STATE DESIGN ENGINEER FOR HIGHWAYS

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
REGION 5 WISCONSIN DIVISION

Approved:
Date Division Administrator

G-16

STATE PROJECT NUMBER	SHEET NO.
6007-1-73/74	2
TYPICAL SECTIONS, GENERAL NOTES, STANDARD DETAIL DRAWINGS AND UTILITIES FOR C.T.H. "G" OUTAGAMIE CO.	



TYPICAL FINISHED SECTION FOR C.T.H."G"

STA. 380+00-398+60 LT.
STA. 380+00-408+80 RT.

GENERAL NOTES

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

THE UTILITIES SHALL ADJUST THEIR FACILITIES TO FIT THE NEW HIGHWAY CONSTRUCTION.

INLET AND DISCHARGE ELEVATIONS SHOWN ON THE PLAN SHEETS ARE APPROXIMATE AND SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD. EXACT LOCATION OF THE MAINLINE, SIDE ROAD, PRIVATE AND FIELD ENTRANCE CULVERT PIPES SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

CUBIC YARDS OF FILL AS SHOWN ON THE PLAN SHEETS PERTAINS TO EMBANKMENT CONSTRUCTED FROM UNCLASSIFIED EXCAVATION. THE VOLUME OF THE FILL WAS EXPANDED BY 33% TO 43% TO DETERMINE THE AMOUNT OF MATERIAL NECESSARY TO COMPLETE THE EMBANKMENT.

WHEN THE QUANTITY OF THE ITEM OF BASE COURSE OR SUBBASE COURSE IS MEASURED BY THE TON, THE DEPTH OF THICKNESS AS SHOWN ON THE PLAN IS APPROXIMATE. THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.

DISTURBED AREAS WITHIN THE RIGHT OF WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, ARE TO BE FERTILIZED, SEDED, AND MULCHED AS DIRECTED BY THE ENGINEER.

SEED MIXTURE SHALL BE NO. 4 IN CURB AND GUTTER AREAS, NO. 2 IN RURAL AREAS. CURB AND GUTTER RADII ARE SHOWN TO THE FRONT FACE OF CURB.

CURB HEIGHTS AT THE END OF CURB AND GUTTER SHALL BE TAPERED FROM 2 INCHES TO 6 INCHES IN 5 FEET.

CURB RAMP OPENINGS AS SHOWN ON THE PLAN ARE APPROXIMATE. THE EXACT LOCATIONS SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

FINAL MARKING AND SIGNING TO BE DONE BY OUTAGAMIE COUNTY.

THE EXACT LOCATION AND LIMITS OF THE SILT FENCE SHALL BE AS DIRECTED BY THE ENGINEER.

SILT FENCE SHALL MEET THE MATERIAL SPECIFICATIONS FOR SANDY SOIL.

CONSTR. PERMITS FOR P.E. CONSTRUCTION HAVE BEEN OBTAINED, WHICH RIGHTS SHALL BE EXTENDED TO THE CONTRACTORS.

COUNTY SURVEYOR OR SURVEYS CONTACT PERSON

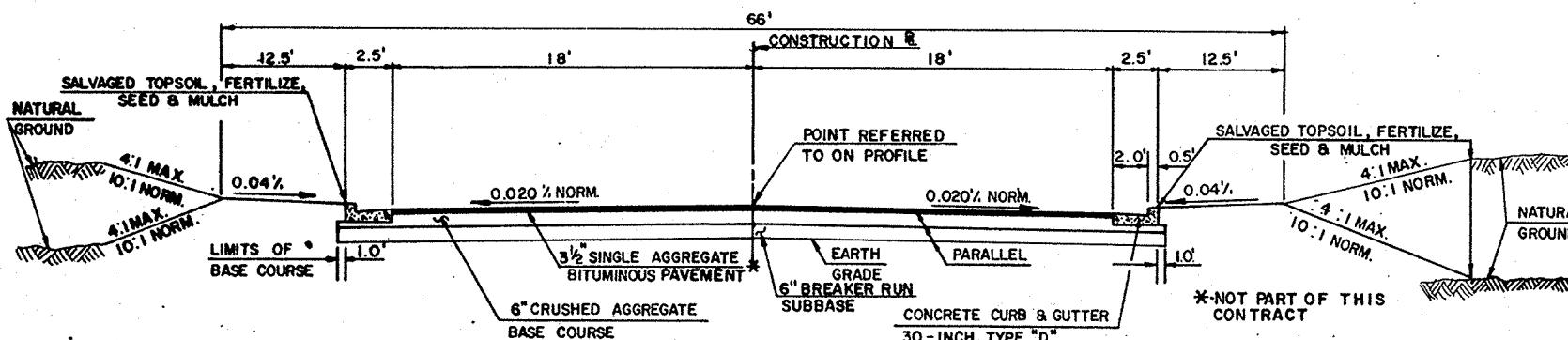
FRANK CHARLESWORTH, JR. - OUTAGAMIE CO.

ZONING ADMINISTRATOR

410 SOUTH WALNUT STREET

APPLETON, WISCONSIN 54166

PHONE: 414-735-5255



TYPICAL SECTION FOR C.T.H. "G"

STA. 411+55 - 421+47 LT.
STA. 408+80 - 422+50 RT.

STANDARD DETAIL DRAWINGS

CONCRETE CURB, CONCRETE CURB AND GUTTER AND PAVEMENT TIES	8D1 - 11
CURB RAMPS	8D5 - 8
EROSION MAT	8E7 - 1
TYPICAL INSTALLATIONS OF EROSION BALES	8E8 - 1
SILT FENCE	8E9 - 3
APRON ENDWALLS FOR CULVERT PIPE	8F1 - 10a
AT-GRADE SIDE ROAD INTERSECTIONS, TYPES "B" AND "C"	9A1 - 7a
MANHOLES, TYPE 1	8B6 - 3
INLETS, TYPE 1, 2 & 3	8C1 - 4
MANHOLE AND INLET COVERS	8A5 - 6a & c
CONSTRUCTION BARRICADES AND STANDARD SIGNS	15C1 - 7
TRAFFIC CONTROL FOR TEMPORARY ROAD CLOSURES IN RURAL AREAS (HIGHWAY UNDER CONSTRUCTION CLOSED TO TRAFFIC)	15C3 - 1

UTILITIES

WISCONSIN ELECTRIC POWER COMPANY

TELEPHONE 1-414-735-8445

100 WEST LAWRENCE STREET

APPLETON, WISCONSIN 54911

ATTENTION: MR. N. P. SCHEMM

DIGGERS HOTLINE

TELEPHONE 1-800-242-8511

GENERAL TELEPHONE COMPANY OF WISCONSIN

TELEPHONE 1-414-793-4549

3203 LINCOLN AVENUE

TWO RIVERS, WISCONSIN 54241

ATTENTION: MR. R. J. DUCKETT, SUPERVISOR-NETWORK FACILITIES

DIGGERS HOTLINE

TELEPHONE 1-800-242-8511

WISCONSIN GAS COMPANY

TELEPHONE 1-715-432-2800

1921 SOUTH 8th STREET

P.O. BOX 789

WISCONSIN RAPIDS, WISCONSIN 54494

ATTENTION: MR. DEAN SULLIVAN

DEPARTMENT OF PUBLIC WORKS

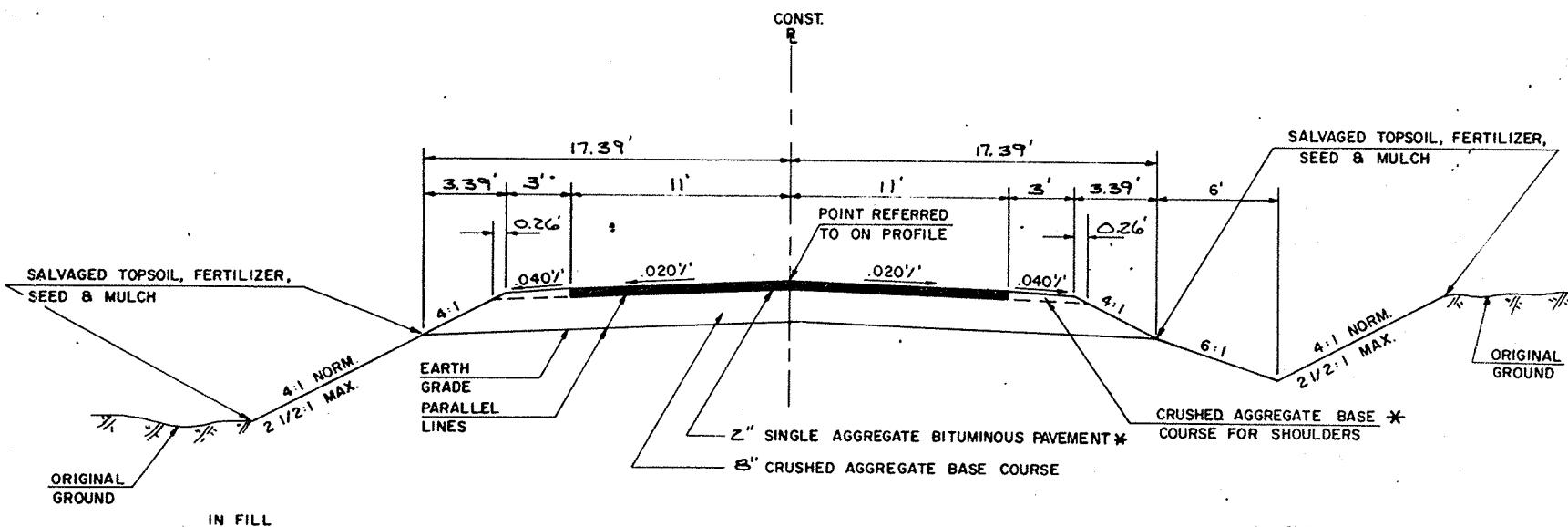
TELEPHONE 1-414-833-2397

800 WEST PEARL STREET

SEYMORE, WISCONSIN 654165

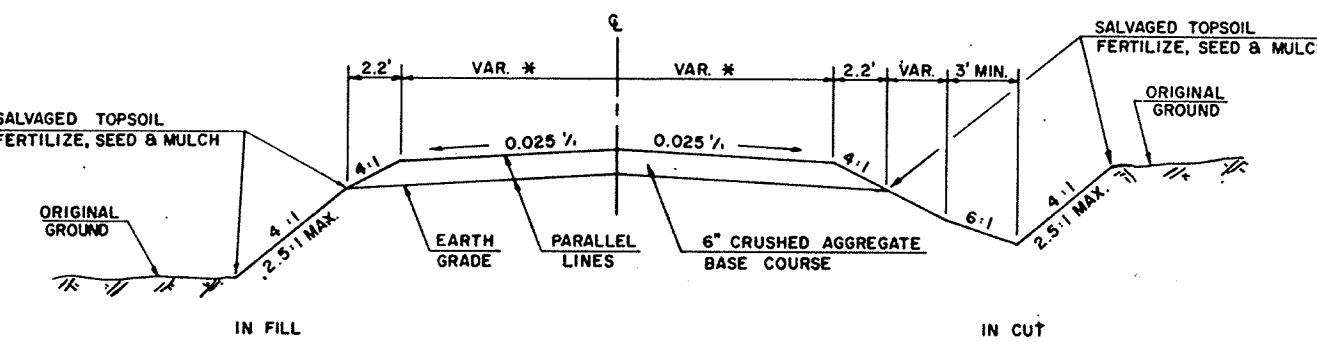
ATTENTION: MR. EARL GOSSE

STATE PROJECT NUMBER		SHEET NO.
6007-1-73/74		2.1
DETAILS		
C.T.H.	"G"	OUTAGAMIE CO.



* NOT PART OF THIS CONTRACT

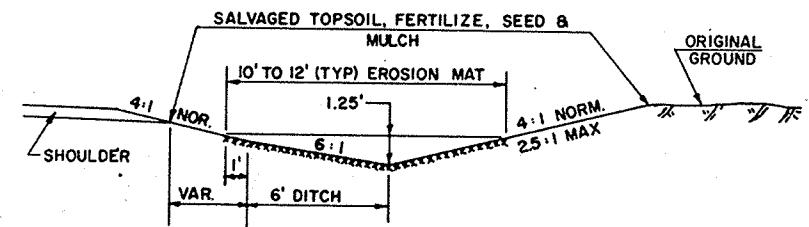
TYPICAL FINISHED SECTION
SIDE ROADS



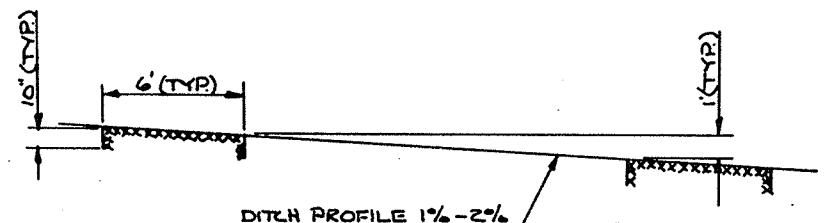
IN FILE

* 1/2 EXIST. WIDTH (8' MIN. FOR P.E., 10' MIN. FOR F.E.)

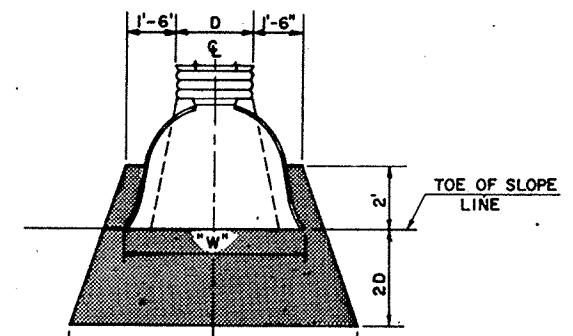
TYPICAL CROSS SECTION FOR PRIVATE & FIELD ENTRANCES



TYPICAL INSTALLATION FOR EROSION MAT



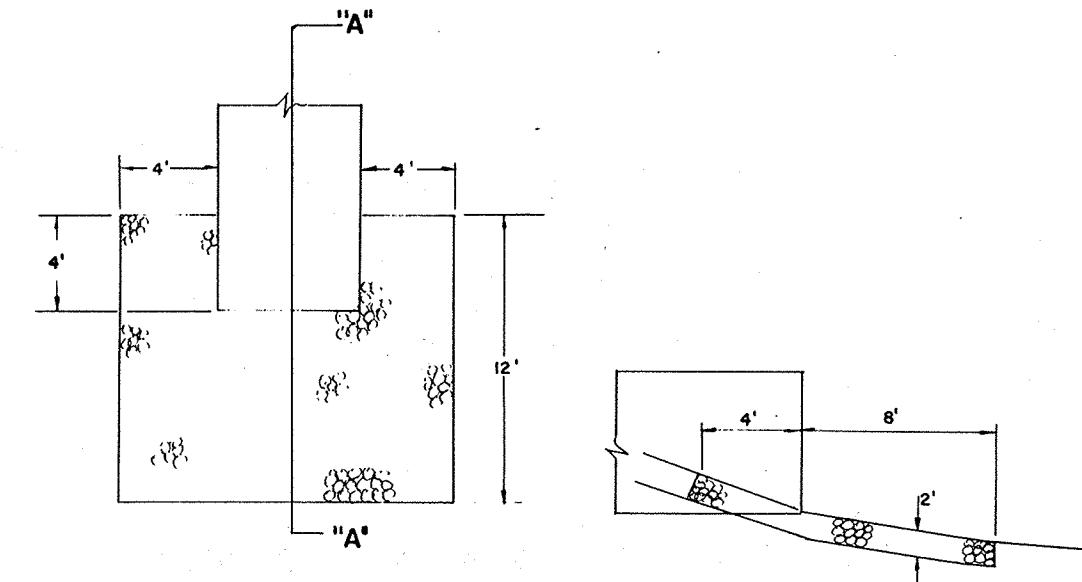
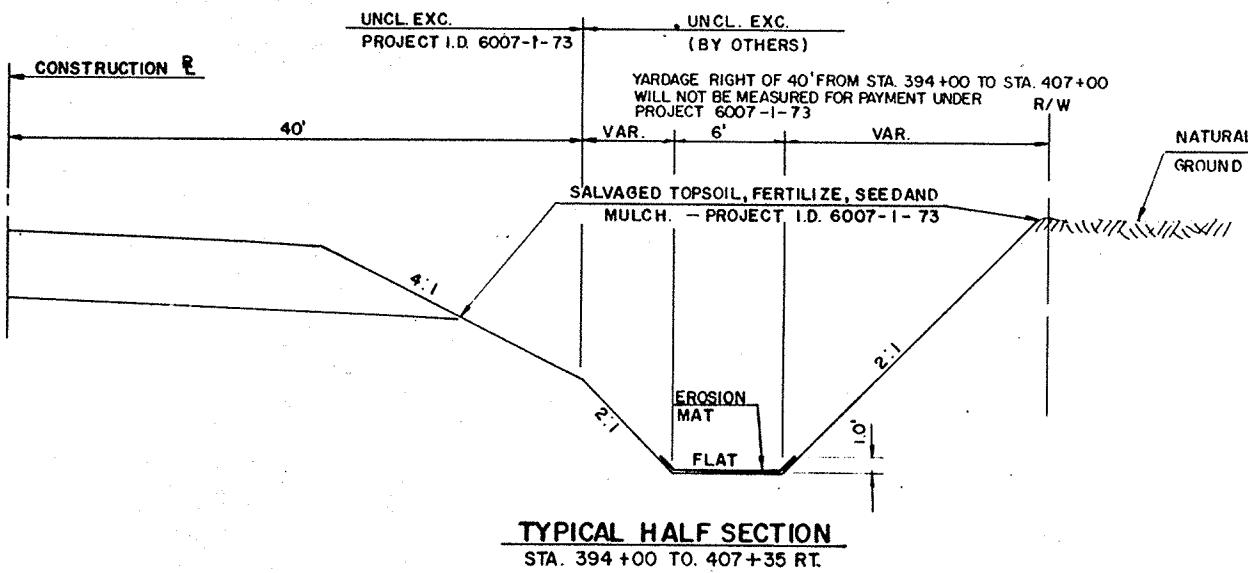
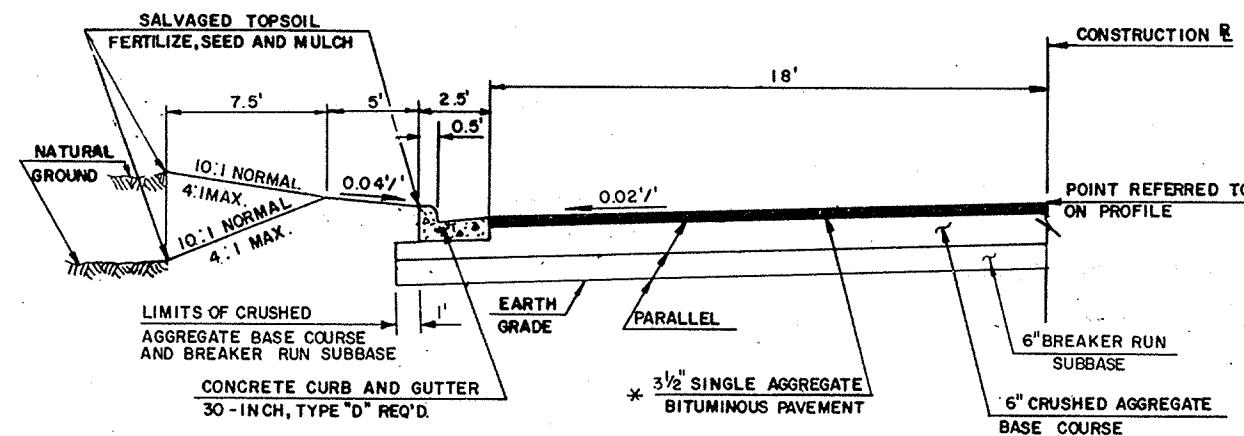
EROSION MAT DITCH CHECKS



PLACE SOD AS SHOWN OR AS DIRECTED
BY THE ENGINEER IN THE FIELD.

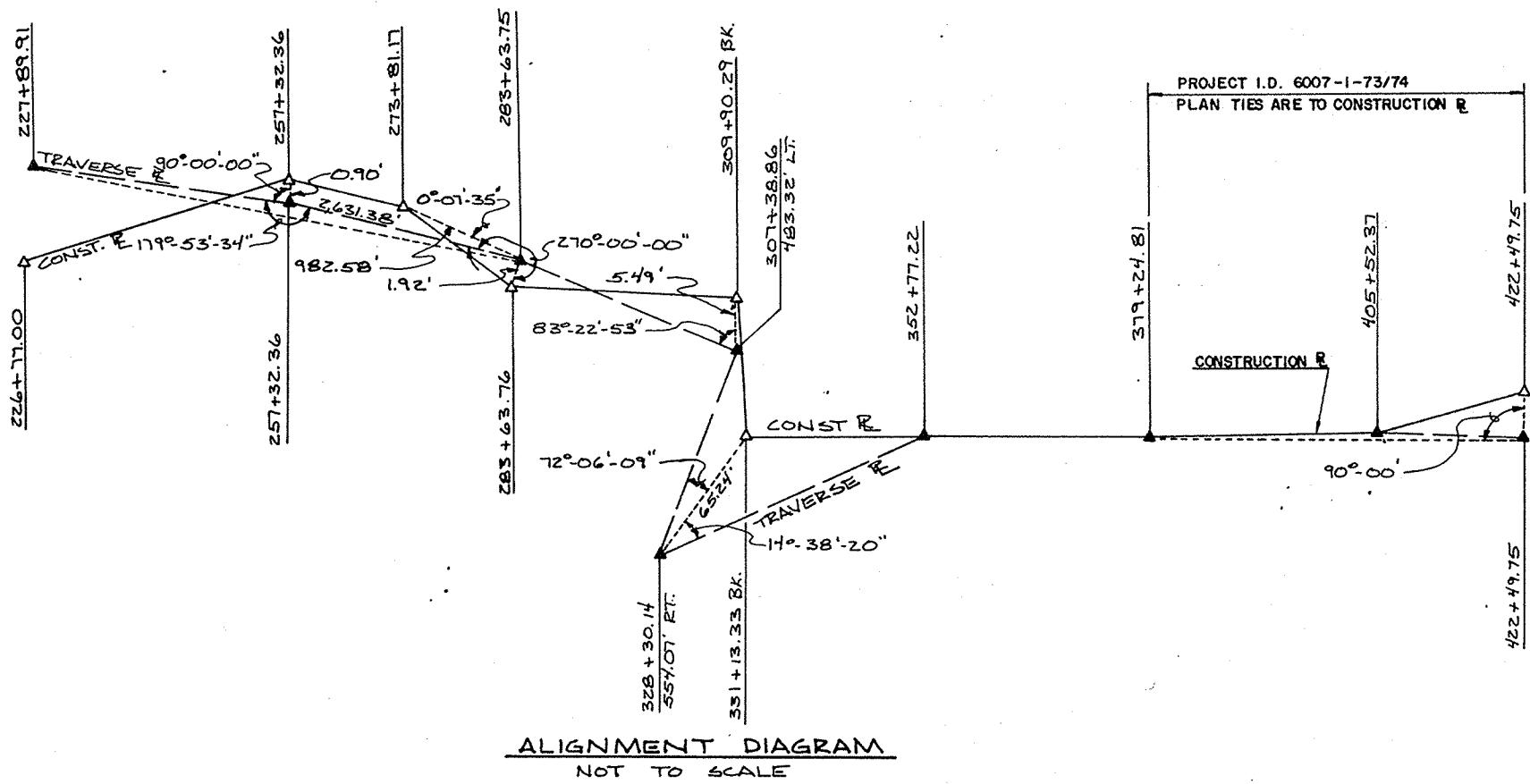
SOD AT PIPE END
CONCRETE OR METAL

STATE PROJECT NUMBER	SHEET NO.
6007-1-73/74	22
CONSTRUCTION DETAILS FOR	
C.T.H. "G"	OUTAGAMIE CO.

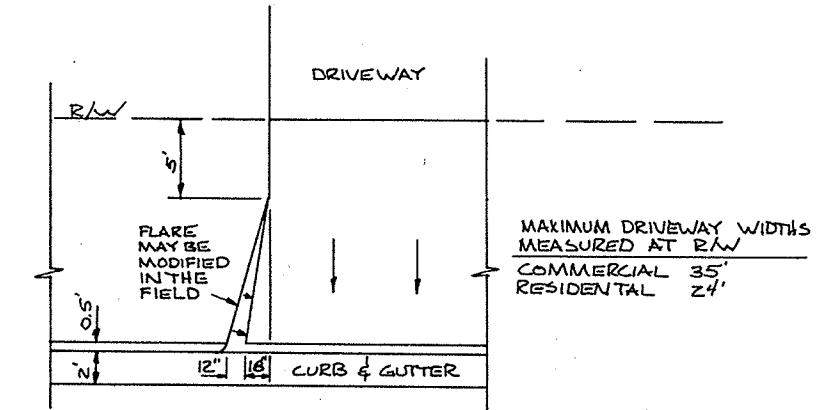


SECTION "A" - "A"

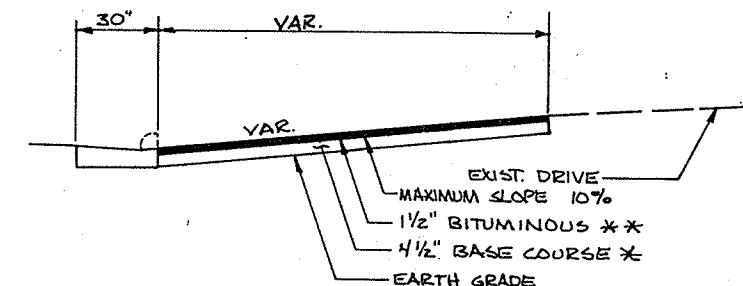
STATE PROJECT NUMBER	SHEET NO.
007-1-73/74	23
DETAILS	
"G"	OUTAGAMIE CO.



ALIGNMENT DIAGRAM
NOT TO SCALE



TYPICAL DRIVEWAY ENTRANCE
PLAN
URBAN SECTION



TYPICAL DRIVEWAY ENTRANCE
PROFILE
URBAN SECTION ~~IS~~ NOT PART OF THIS CONTRACT

DATE 01/05/89

ESTIMATE OF QUANTITIES

ITEM	ITEM DESCRIPTION	UNIT	TOTAL	6007-01-74 QUANTITY
52260	REINFORCED CONCRETE APRON ENDWALLS FOR CULVERT PIPE, 12-INCH	EACH	1.00	1.00
60133	CONCRETE CURB AND GUTTER, 30-INCH, TYPE D	L.F.	3,635.00	3,635.00
60825	REINFORCED CONCRETE PIPE, CLASS III, STORM SEWER, 12-INCH	L.F.	273.00	273.00
61110	MANHOLES, TYPE 1	EACH	1.00	1.00
61121	INLETS, TYPE 1	EACH	3.00	3.00
61122	INLETS, TYPE 3	EACH	6.00	6.00
61151	MANHOLE COVERS, TYPE J	EACH	1.00	1.00
61161	INLET COVERS, TYPE A	EACH	3.00	3.00
61167	INLET COVERS, TYPE H	EACH	6.00	6.00
61182	ADJUSTING MANHOLE COVERS	EACH	4.00	4.00
611910	MOBILIZATION	L.S.	1.00	1.00
900001	PRODUCING AND HAULING BREAKER RUN SUBBASE COURSE	TON	7,100.00	7,100.00
900002	PRODUCING AND HAULING CRUSHED AGGREGATE BASE COURSE	TON	7,700.00	7,700.00

SHEET 5

INLETS, MANHOLES, AND COVERS 6007-1-74										
STRUCTURE NUMBER	LOCATION	DISTANCE LT./RT.	STRUCTURE	TYPE	COVER	GRATE	EDGE OF PAVEMENT ELEV.	FLOWLINE ELEVATION	DEPTH (FEET)	REMARKS
1	401+50	20.5'LT.	INLET	1	A	LT.	780.27	704.09	5.1	
3	420+43	20.5'LT.	INLET	3	H	LT.	783.32	778.32	4.0	
5	420+60	20.5'RT.	INLET	3	H	RT.	783.37	778.57	4.8	
6	420+43	24'RT.	MANHOLE	1	J	---	783.70	777.80	4.7	CONSTRUCT OVER EXISTING STORM SEWER
7	415+60	20.5'LT.	INLET	3	H	LT.	781.85	777.95	2.9	
8	415+60	20.5'RT.	INLET	3	H	RT.	781.85	777.55	3.3	
10	412+46	20.5'LT.	INLET	1	A	LT.	780.90	776.92	2.9	
12	410+60	20.5'LT.	INLET	3	H	LT.	780.34	776.54	2.8	
13	410+60	20.5'RT.	INLET	3	H	RT.	780.34	776.14	3.2	
15	408+80	20.5'LT.	INLET	1	A	RT.	781.24	776.16	4.0	

STATE PROJECT NUMBER	SHEET NO.
6007-1-74	3A
MISCELLANEOUS QUANTITIES FOR	

C.T.H. "G"

OUTAGAMIE CO.

STORM SEWER 6007-1-74								
LOCATION FROM	LOCATION TO	SIZE INCH	LENGTH FEET	TYPE	CLASS	ELEVATION INLET	DISCHARGE	REMARKS
1	2	12"	80	R.C.P.	III	774.09	772.50	1-12" R.C. ENDWALL, REQ'D.
3	4	12"	10	R.C.P.	III	778.32	778.20	
5	6	12"	15	R.C.P.	III	778.57	778.13	
7	8	12"	36	R.C.P.	III	777.95	777.55	
8	9	12"	4	R.C.P.	III	777.55	777.50	*
10	11	12"	44	R.C.P.	III	776.92	776.48	*
12	13	12"	36	R.C.P.	III	776.54	776.14	
13	14	12"	4	R.C.P.	III	776.14	776.00	*
15	16	12"	44	R.C.P.	III	776.16	775.72	*

*-CONNECT TO EXISTING STORM SEWER LEAD

ADJUSTING MANHOLE COVERS 6007-1-74

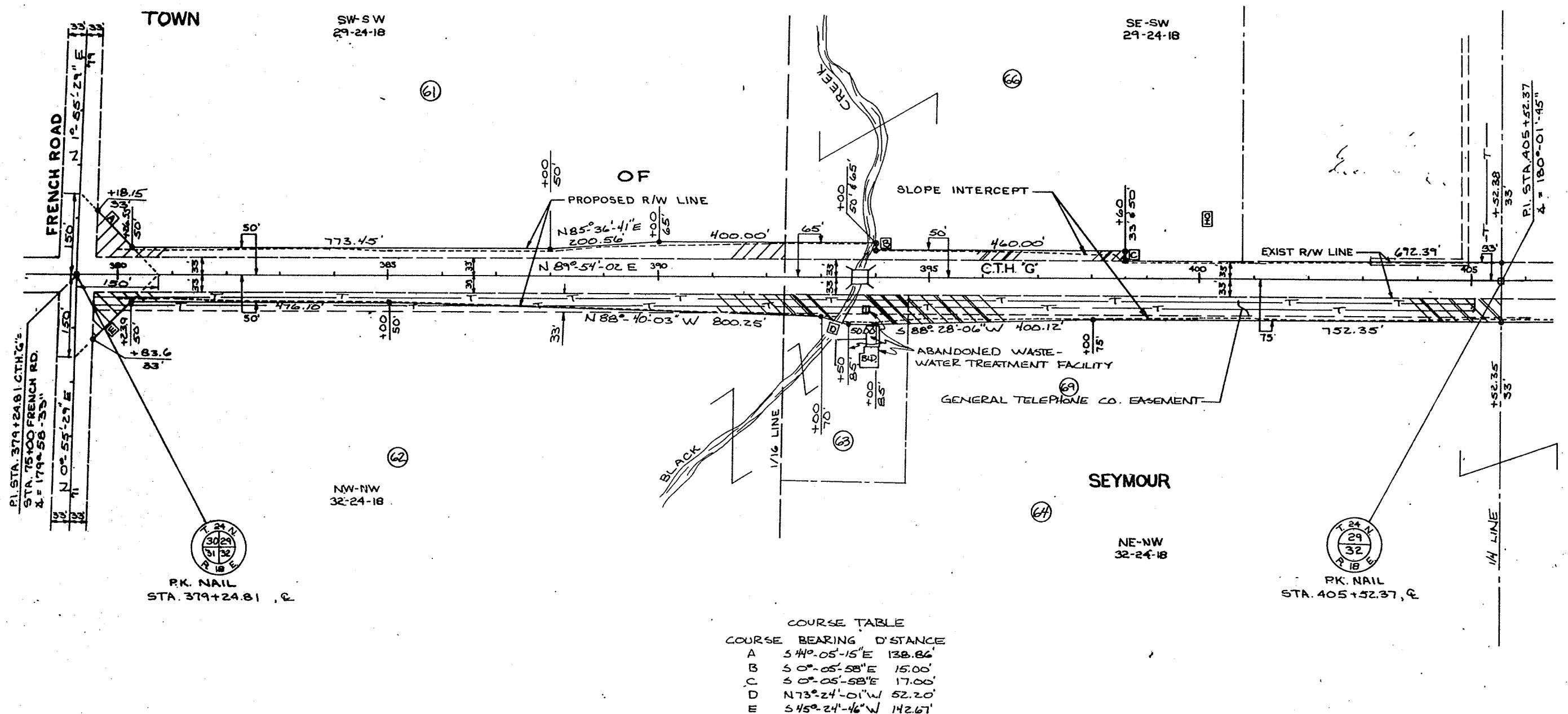
LOCATION	TYPE	EACH
394+00 ± L	SANITARY	1 *
398+00 ± L	SANITARY	1 *
402+00 ± L	SANITARY	1 *
405+25, 16' LEFT	SANITARY	1 *
406+94, CENTERLINE	SANITARY	1 *
406+94, 16' LEFT	SANITARY	1 *
406+94, 44' RIGHT	SANITARY	1 *
407+76, 16' LEFT	SANITARY	1 *
408+80, 24' RIGHT	STORM	1
410+24, CENTERLINE	SANITARY	1 *
410+60, 24' RIGHT	STORM	1
412+01, 16' LEFT	SANITARY	1 *
412+46, 24' RIGHT	SANITARY	1 *
414+08, CENTERLINE	SANITARY	1 *
415+60, 24' RIGHT	STORM	1
415+78, 16' LEFT	SANITARY	1 *
418+10, CENTERLINE	SANITARY	1 *
420+25, 12' LEFT	SANITARY	1 *
420+44, 7' LEFT	STORM	1

* BY OTHERS

CONCRETE GURB AND GUTTER 30-INCH, TYPE "D" 6007-1-74

LOCATION	LIN. FT.
398+60 - 421+47 LEFT	2,272
408+80 - 422+50 RIGHT	1,363

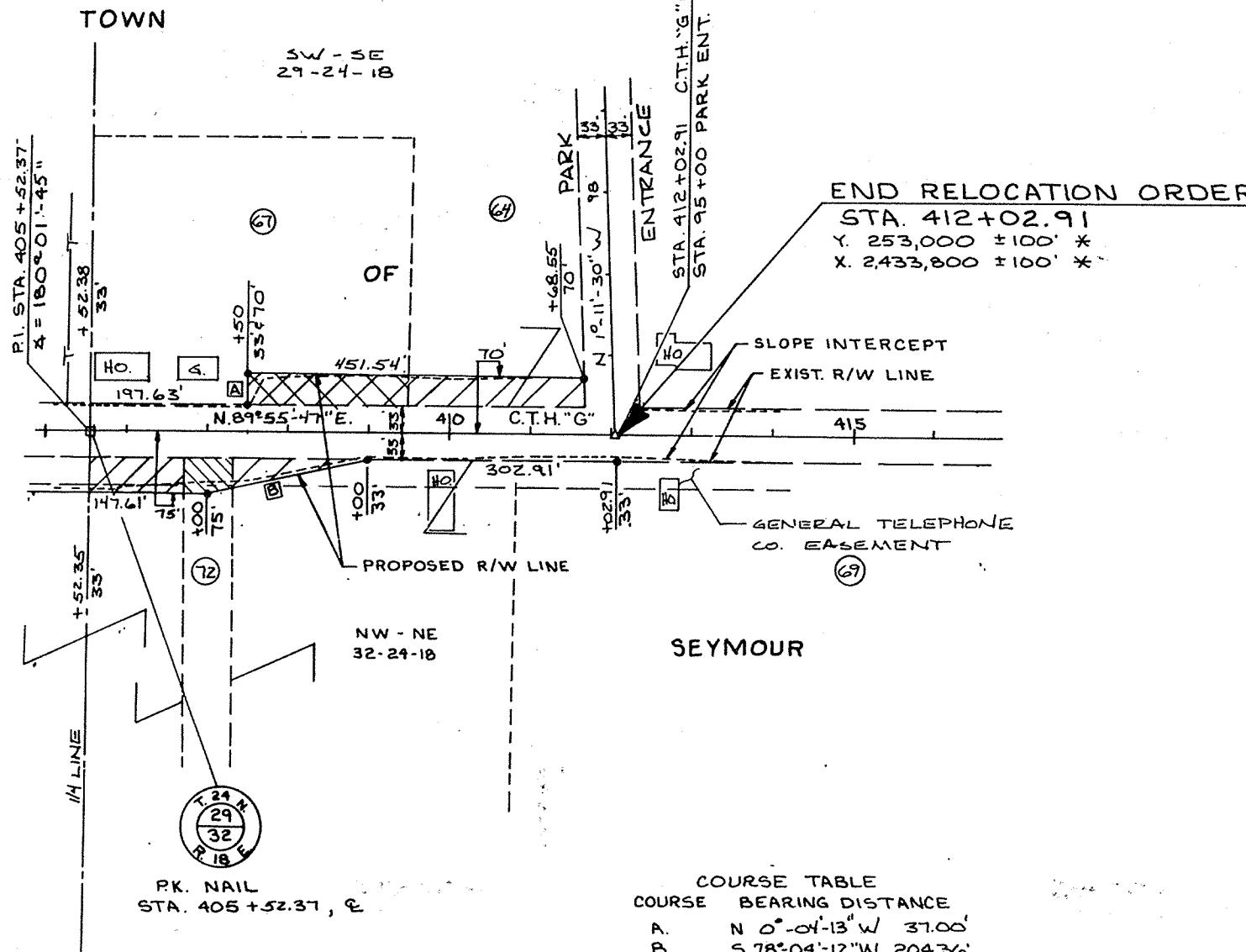
REVISION DATE	ROUTE <u>CTH 'G'</u>	COUNTY <u>OUTAGAMIE</u>	DATE	R/W PROJECT NUMBER <u>6007-1-00</u>	SHEET NUMBER
	0 SCALE, FT. 100 200			FEDERAL PROJECT NUMBER <u>6007-1-73,74</u>	<u>4</u>

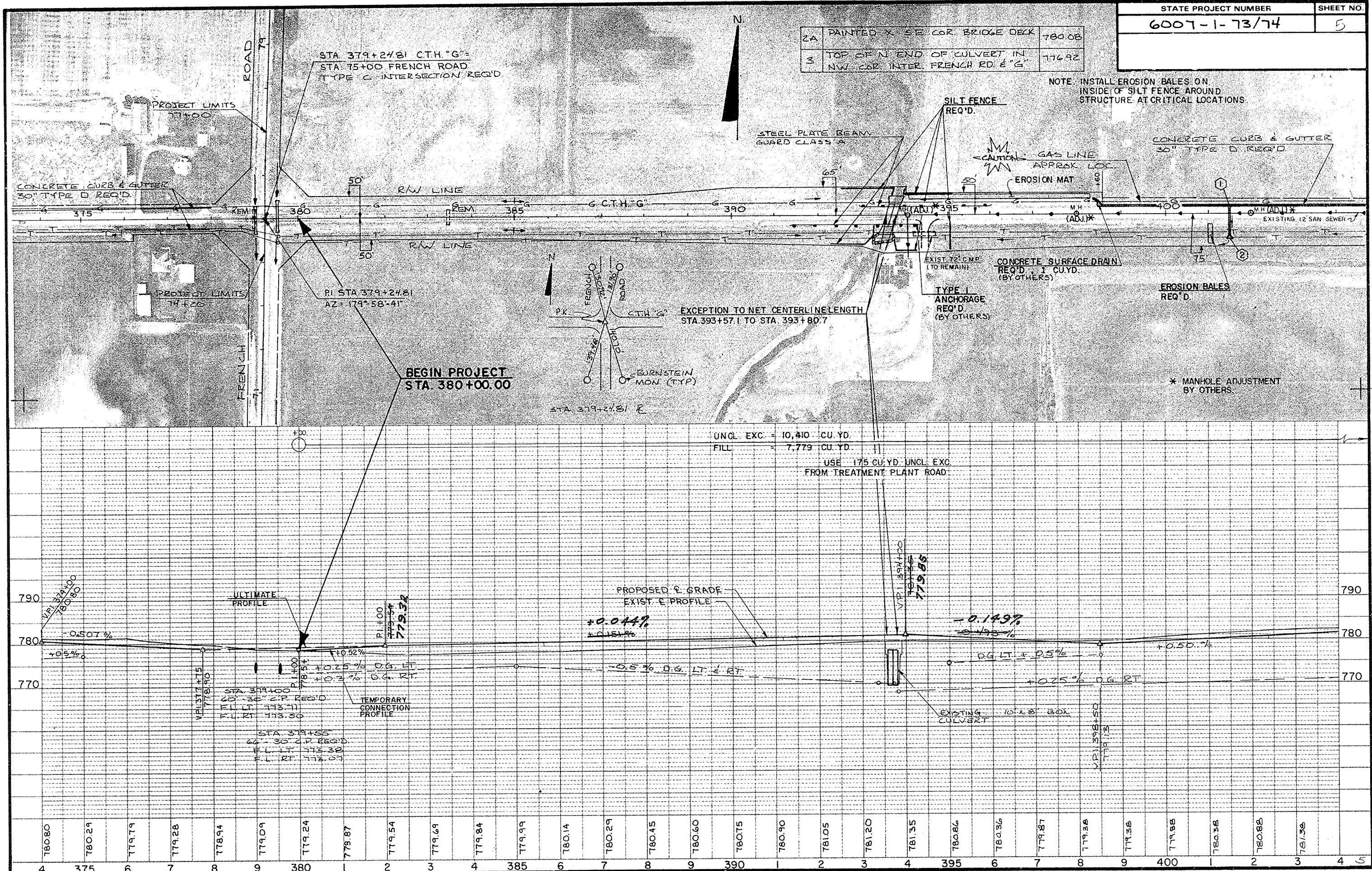


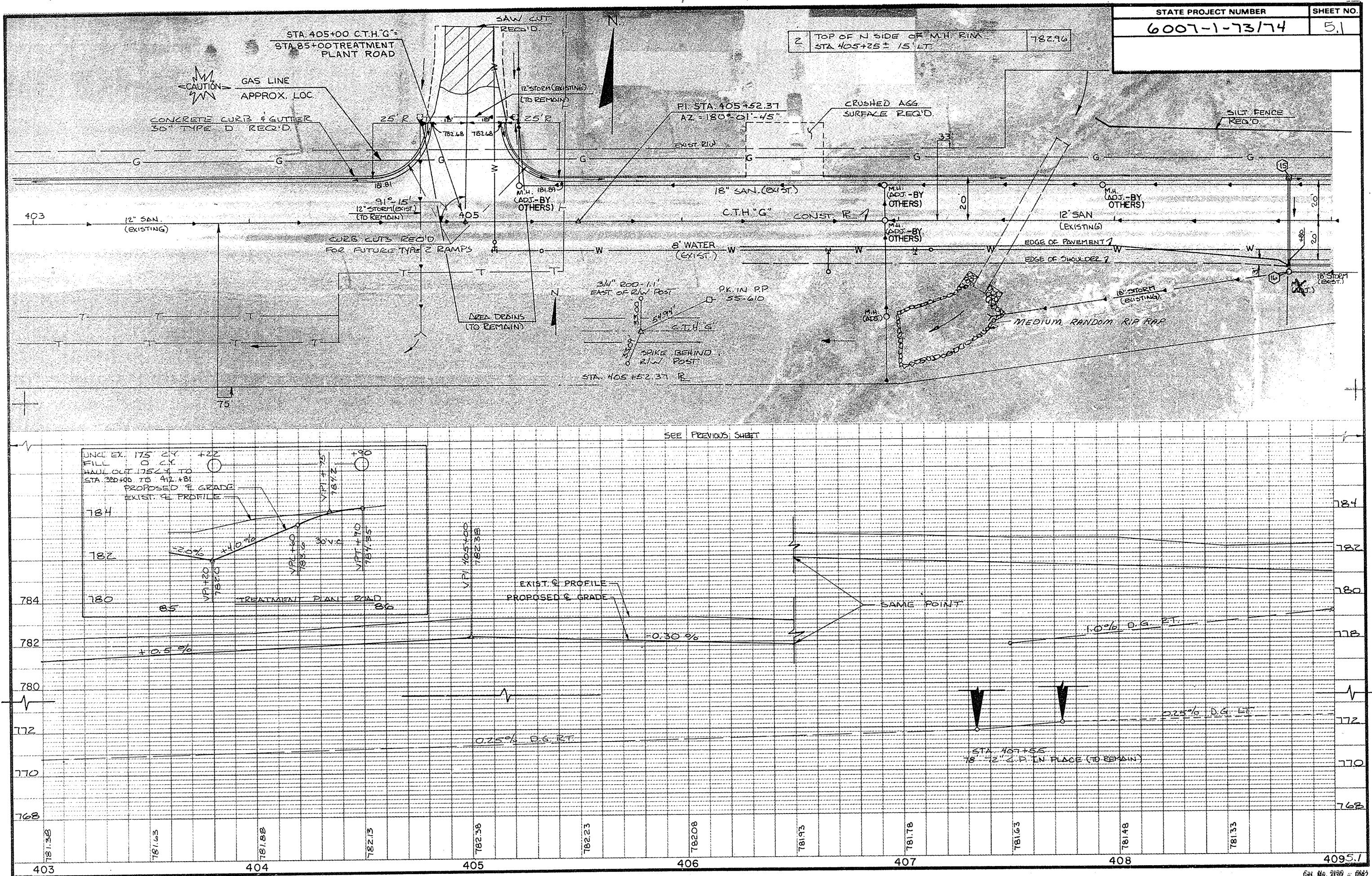
COURSE TABLE

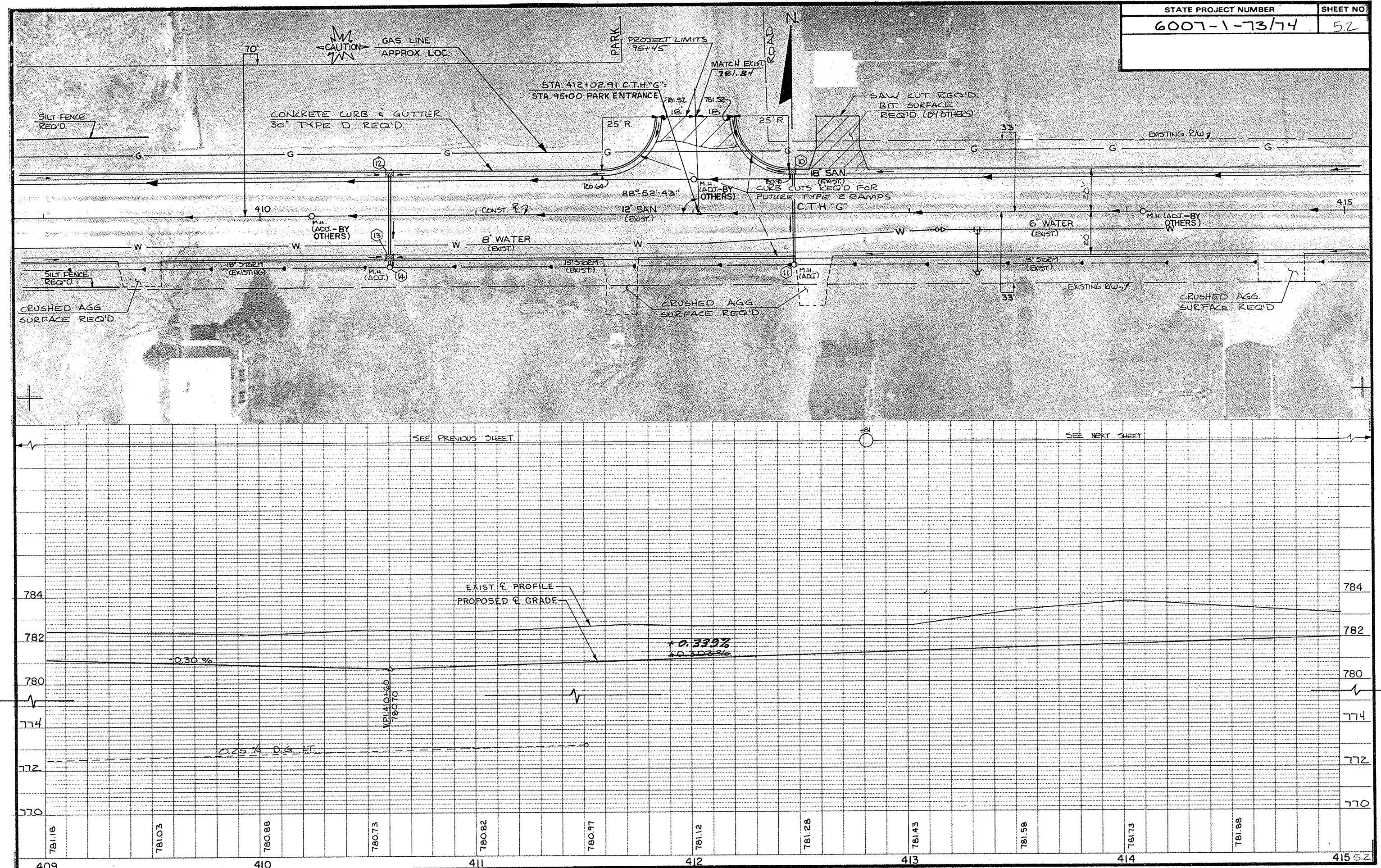
COURSE	BEARING	D'STANCE
A	S 44°-05'-15"E	138.86'
B	S 0°-05'-58"E	15.00'
C	S 0°-05'-58"E	17.00'
D	N 73°-24'-01"W	52.20'
E	S 45°-24'-46"W	142.67'

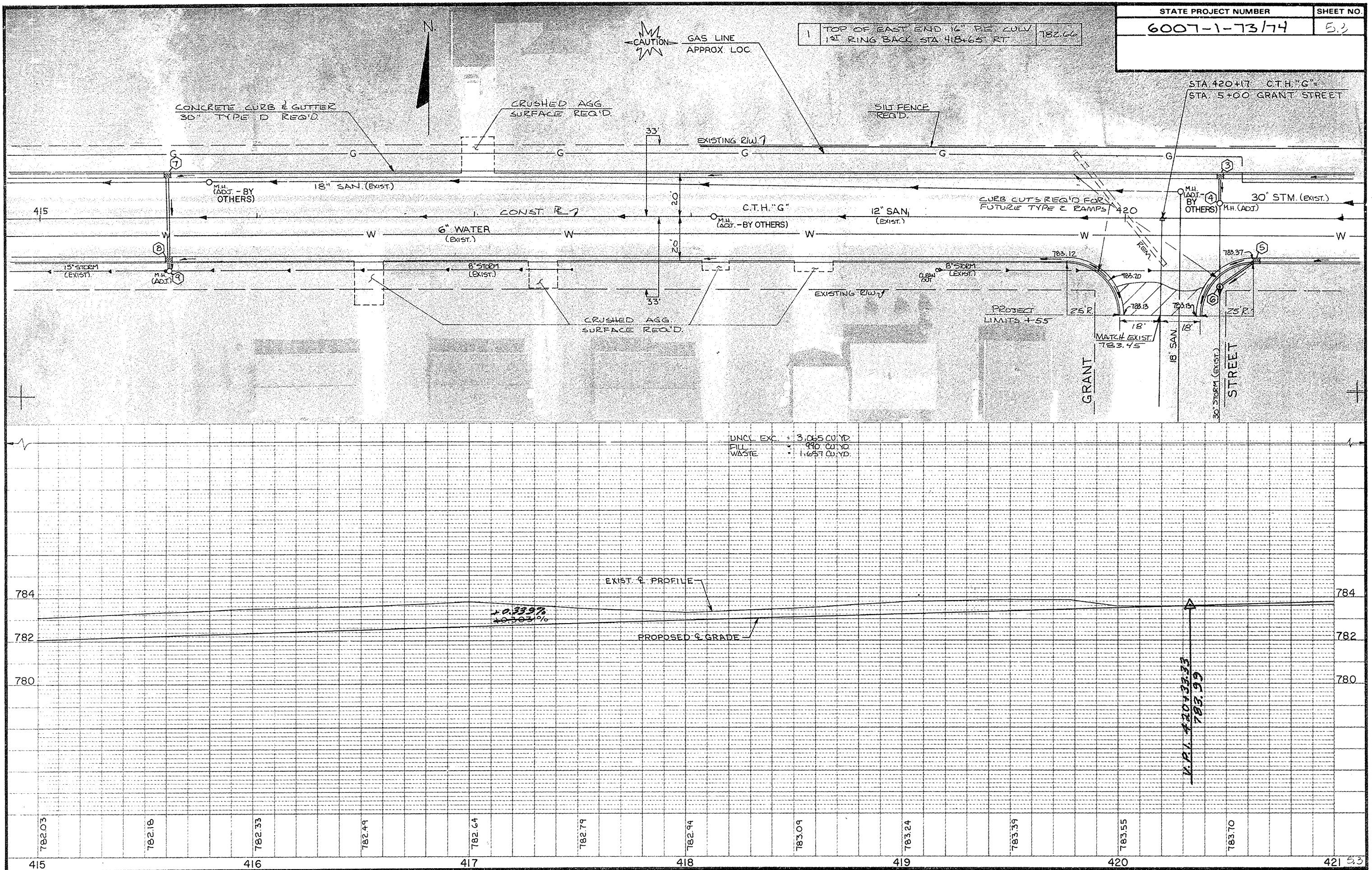
REVISION DATE	ROUTE	COUNTY	DATE	R/W PROJECT NUMBER	SHEET NUMBER
	C.T.H. "G"	OUTAGAMIE		6007-1-00	
	0 SCALE, FT.	100	200	FEDERAL PROJECT NUMBER 6007-1-73,74 4.1	4.14



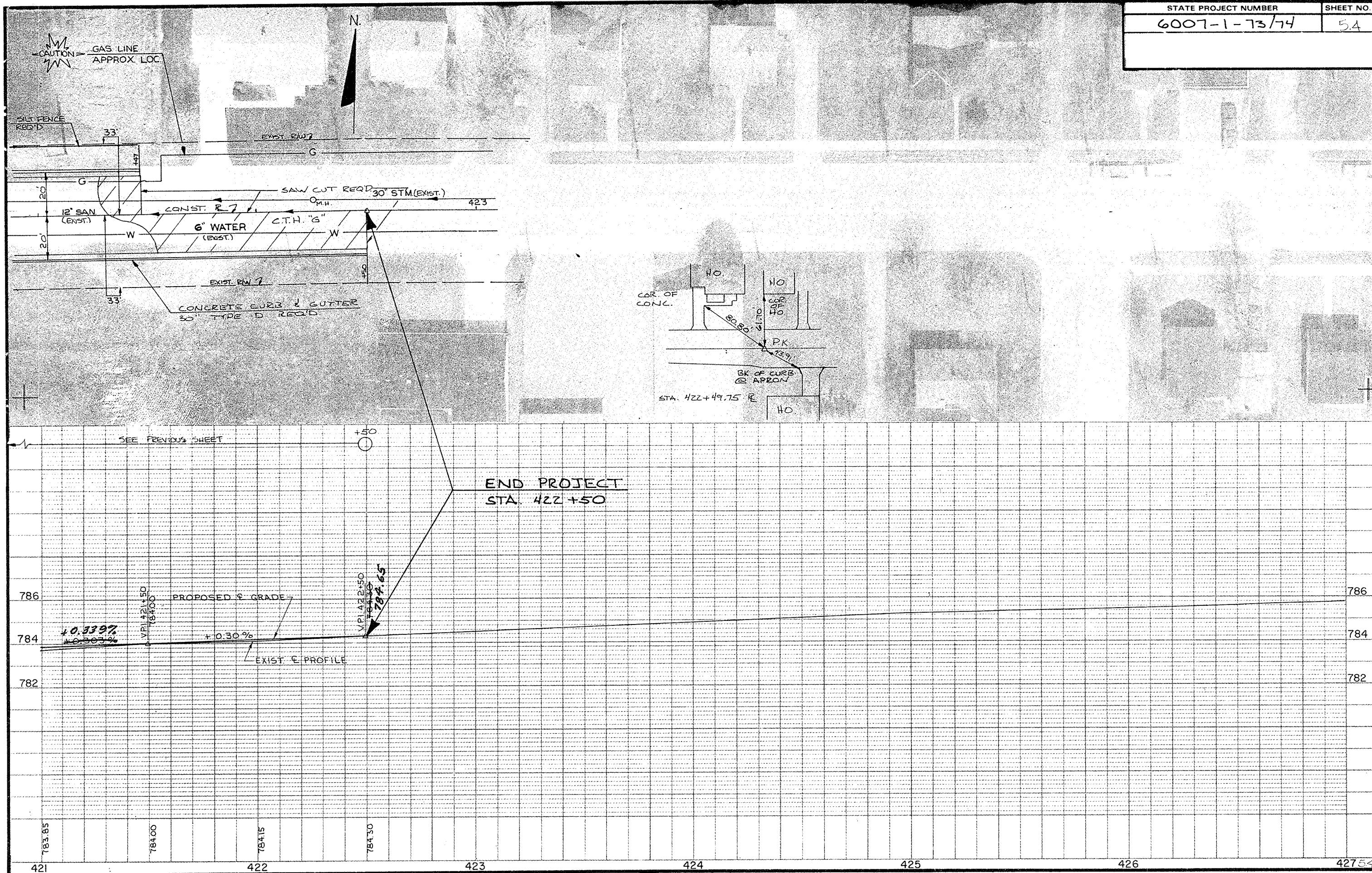


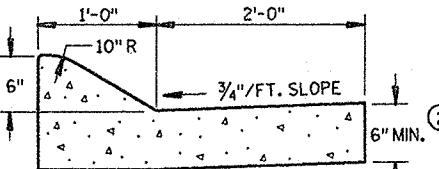
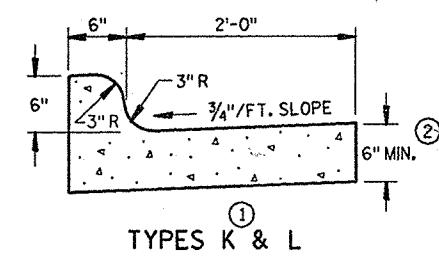
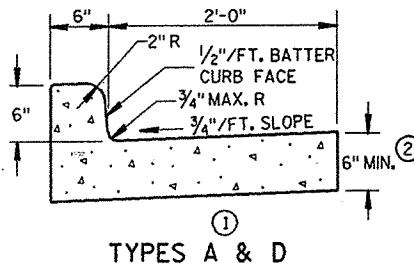




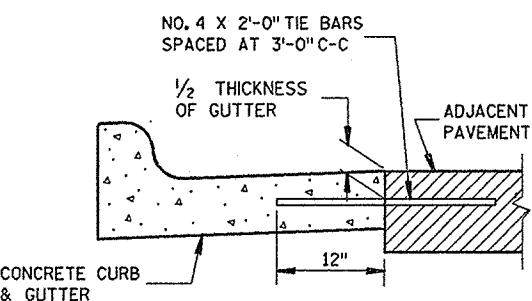
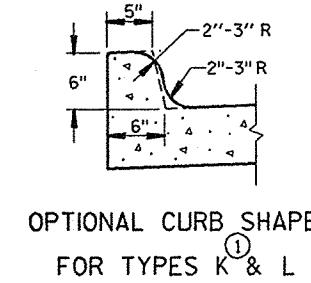
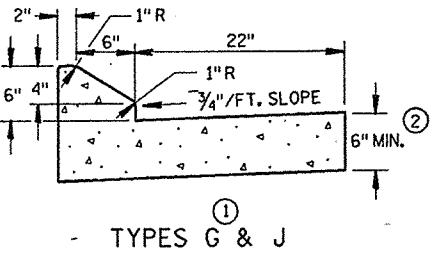


STATE PROJECT NUMBER	SHEET NO.
6007-1-73/74	5.4



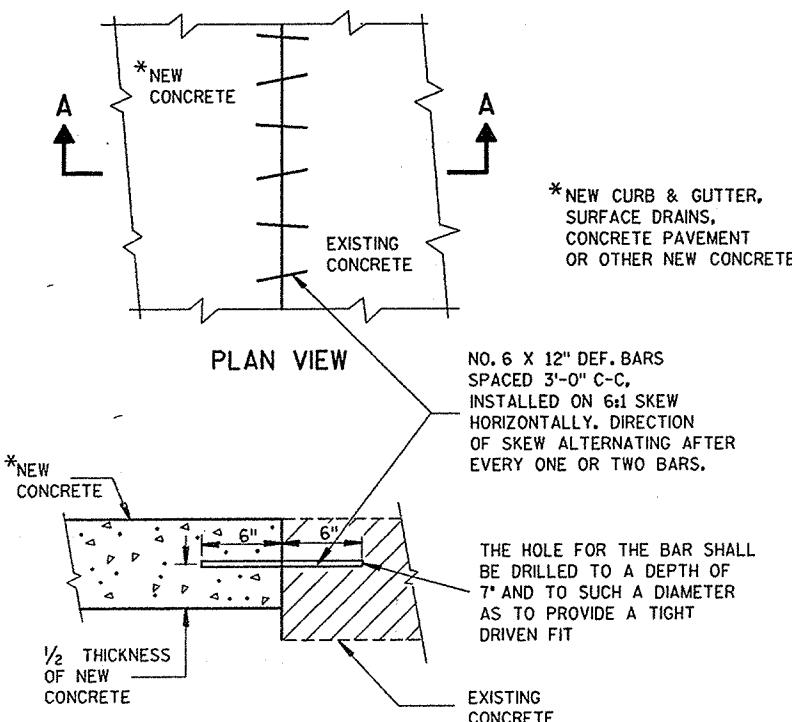


① TYPES A & D
② TYPES K & L
CONCRETE CURB & GUTTER 36"

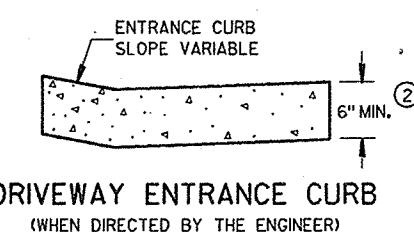


① TYPICAL TIE BAR LOCATION

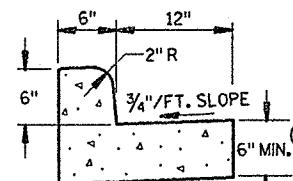
CONCRETE CURB & GUTTER 30"



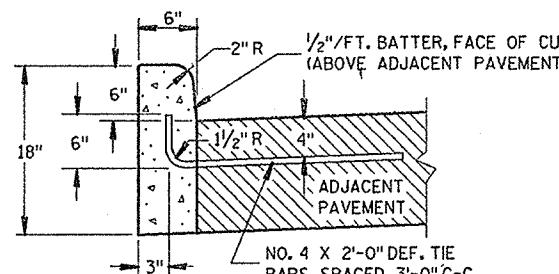
SECTION A-A
PAVEMENT TIES



① DRIVEWAY ENTRANCE CURB
(WHEN DIRECTED BY THE ENGINEER)

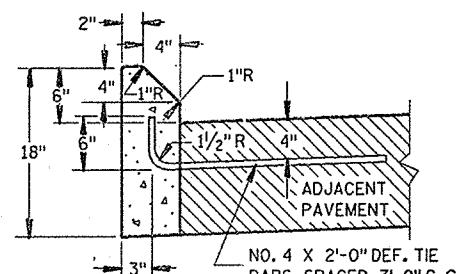


① TYPES A & D
CONCRETE CURB & GUTTER 18"

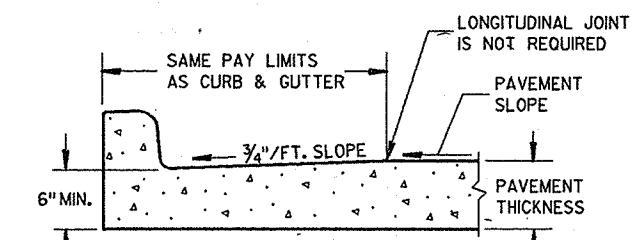


① TYPES A & D

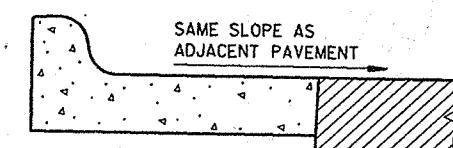
CONCRETE CURB



① TYPES G & J



PARTIAL SECTION OF PAVEMENT
WITH INTEGRAL CURB & GUTTER

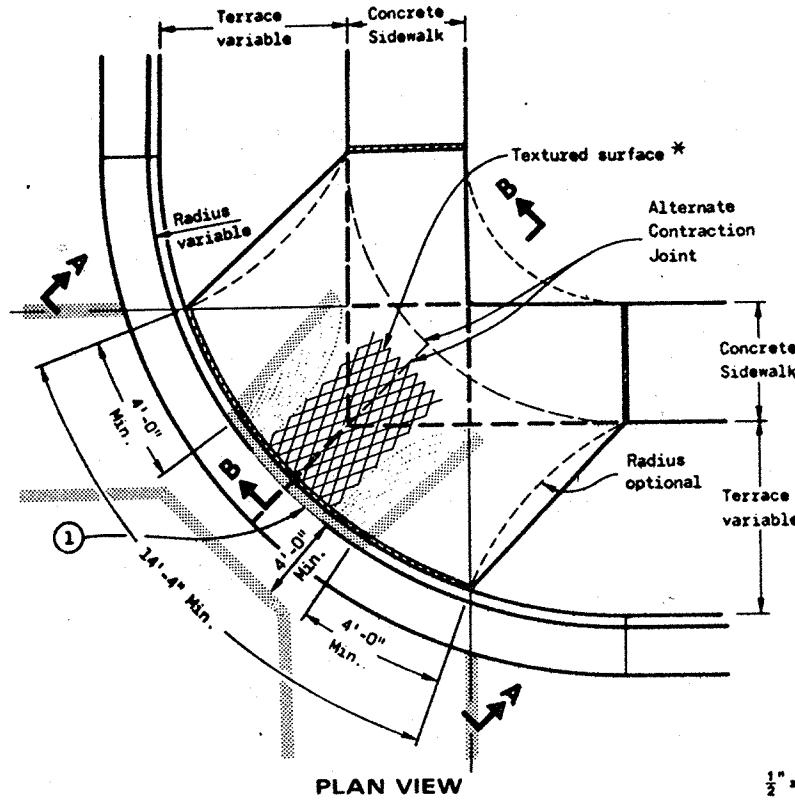


③ REVERSE SLOPE GUTTER
(TYPICAL FOR ALL CURB & GUTTER TYPES)

CONCRETE CURB, CONCRETE
CURB & GUTTER AND
PAVEMENT TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

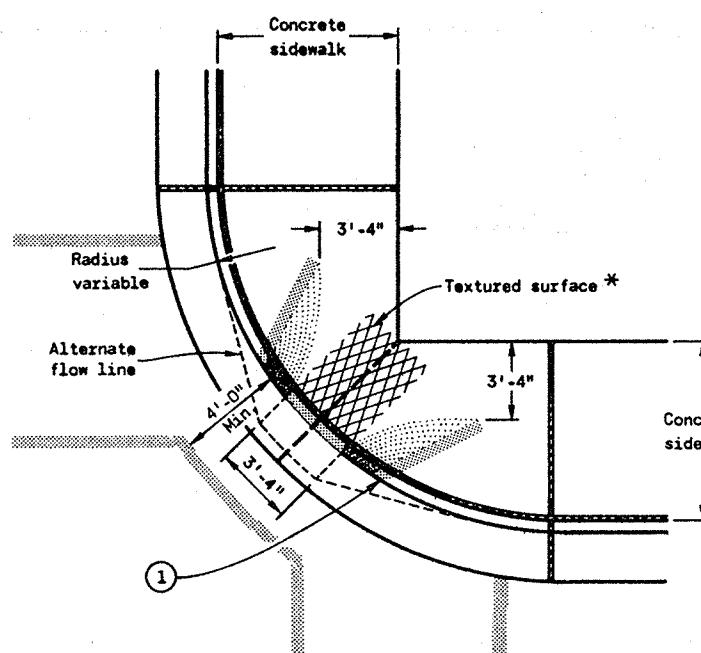
APPROVED
10-23-86
DATE
STATE DESIGN ENGINEER FOR HWYS
F.H.W.A.
D.J. Strand



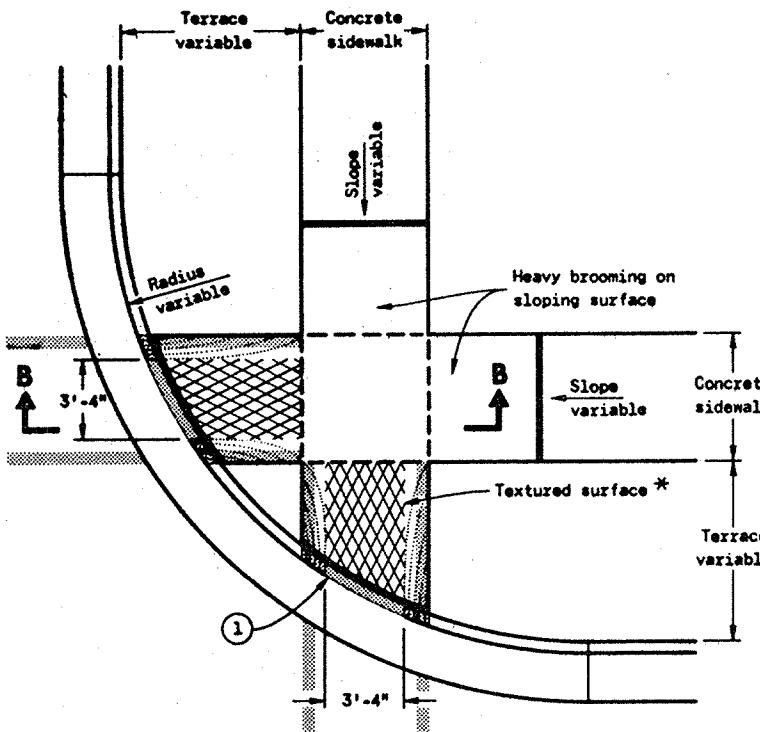
PLAN VIEW
TYPE 1 RAMP
(CENTER OF CORNER RADIUS)

1" ----- EXPANSION JOINTS - SIDEWALK
2" ----- CONTRACTION JOINTS

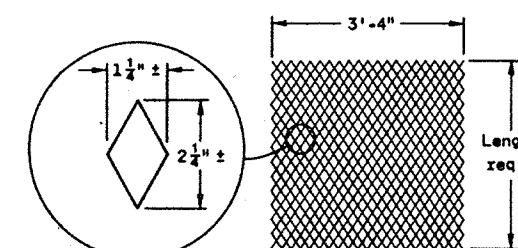
Location of joints may be varied
from those shown to better fit
site conditions and/or local
government preference.



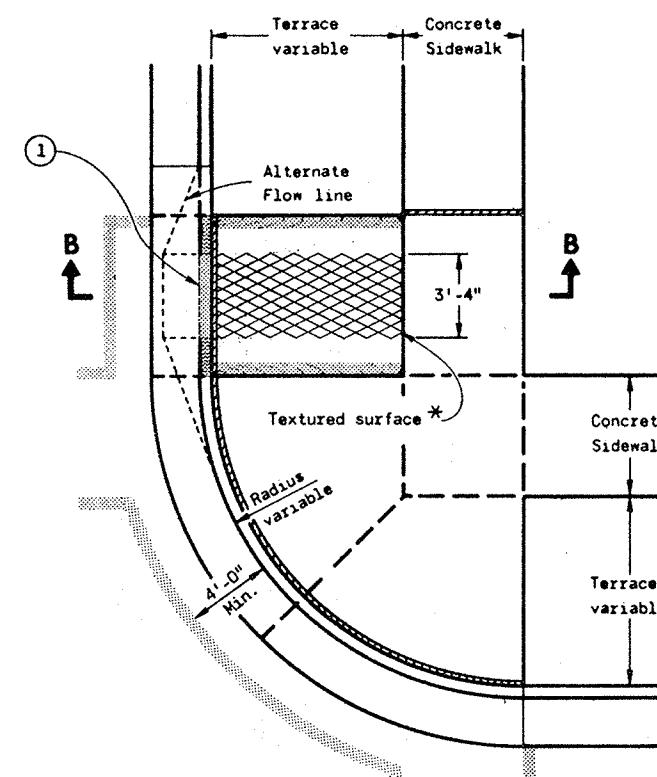
PLAN VIEW
TYPE 1-A RAMP
(NO TERRACE)



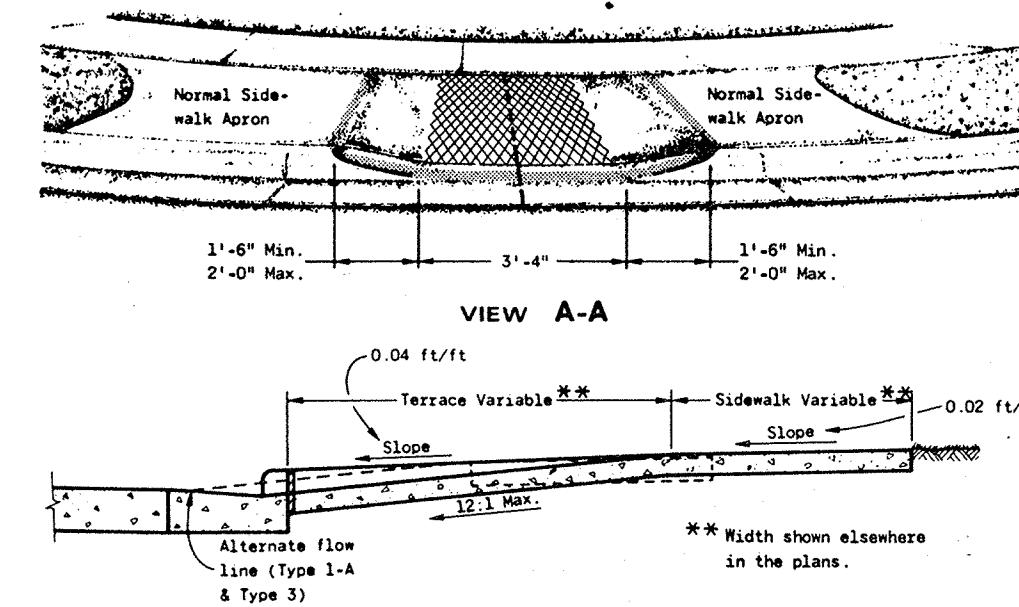
PLAN VIEW
TYPE 2 RAMP
(ON LINE WITH SIDEWALK)



DETAIL OF DIAMOND PATTERN *



PLAN VIEW
TYPE 3 RAMP
(OUTSIDE OF CROSSWALK AREA)



SECTION B-B

** Width shown elsewhere
in the plans.

GENERAL NOTES

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

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

Type 1 or Type 1-A Ramps shall have a normal sidewalk apron and curb on both sides of ramp.

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

Surface texturing shall consist of linear impressions approximately $\frac{1}{4}$ inch to $\frac{3}{8}$ inch in depth and width, oriented to provide a uniform pattern of diamond shapes measuring approximately $1\frac{1}{4}$ inches in width by $2\frac{1}{4}$ inches in length, with the length being parallel to the direction of pedestrian movement. This surface texture may be achieved by impressing and removing a piece of expanded metal regular industrial mesh into the surface of the ramp while the concrete is in a plastic state.

1 The ramp shall be bordered on both sides and on the curb line with a 4 inch wide yellow stripe or with brick of a contrasting color. Normally the paint stripe alternate will be used. The municipality or the department will apply this striping unless otherwise specified in the contract.

If a municipality requires the brick alternate, special details and provisions are shown elsewhere in the plans.

CURB RAMPS

State of Wisconsin
Department of Transportation

APPROVED

10-23-84

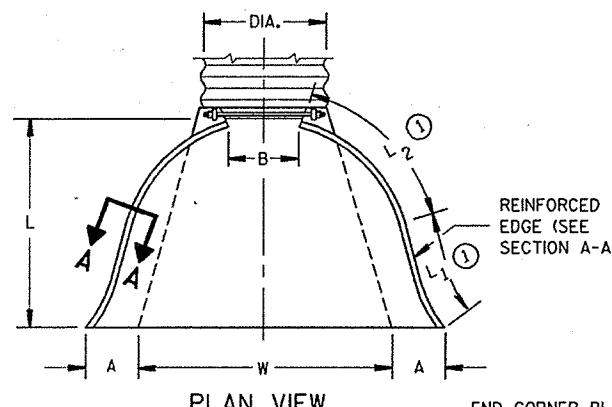
DATE

D. Strand
CHIEF DESIGN ENGINEER

FHWA

METAL APRON ENDWALLS									
PIPE DIA. (IN.)	MIN. THICK. (inches) STEEL ALUM.	DIMENSIONS (inches)						APPROX. SLOPE	BODY
		A ($\pm 1"$)	B (MAX.)	H ($\pm 1\frac{1}{2}"$)	L ($\pm 1\frac{1}{2}"$)	L ₁ ($\frac{1}{2}"$)	L ₂ ($\frac{1}{2}"$)		
12	.064 .060	6	6	21	12	17 $\frac{1}{2}$	24	2 $\frac{1}{2}$ to 1	1Pc.
15	.064 .060	7	8	26	14	21 $\frac{1}{4}$	30	2 $\frac{1}{2}$ to 1	1Pc.
18	.064 .060	8	10	31	15	28 $\frac{1}{4}$	36	2 $\frac{1}{2}$ to 1	1Pc.
21	.064 .060	9	12	36	18	29 $\frac{1}{8}$	42	2 $\frac{1}{2}$ to 1	1Pc.
24	.079 .075	10	13	41	18	37 $\frac{1}{4}$	48	2 $\frac{1}{2}$ to 1	1Pc.
30	.079 .075	12	16	51	18	52 $\frac{1}{4}$	60	2 $\frac{1}{2}$ to 1	1Pc.
36	.109 .105	14	19	60	24	59 $\frac{1}{4}$	72	2 $\frac{1}{2}$ to 1	12 Pcs.
42	.109 .105	16	22	69	24	75 $\frac{1}{8}$	84	2 $\frac{1}{2}$ to 1	12 Pcs.
48	.109 .105	18	27	78	24	81	90	2 $\frac{1}{4}$ to 1	13 Pcs.
54	.109 .105	18	30	84	30	85 $\frac{1}{2}$	102	2 $\frac{1}{4}$ to 1	13 Pcs.
60	.109X .105X	18	33	12	87	—	114	2 to 1	3 Pcs.
66	.109X .105X	18	36	12	87	—	120	2 to 1	3 Pcs.
72	.109X .105X	18	39	12	87	—	126	2 to 1	3 Pcs.
78	.109X .105X	18	42	12	87	—	132	1 $\frac{1}{2}$ to 1	13 Pcs.
84	.109X .105X	18	45	12	87	—	138	1 $\frac{1}{2}$ to 1	13 Pcs.
90	.109X .105X	18	37	12	87	—	144	1 $\frac{1}{2}$ to 1	13 Pcs.
96	.109X .105X	18	35	12	87	—	150	1 $\frac{1}{2}$ to 1	13 Pcs.

* EXCEPT CENTER PANEL
SEE GENERAL NOTES



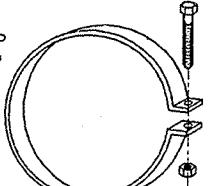
PLAN VIEW

REINFORCED CONCRETE APRON ENDWALLS							
PIPE DIA. (IN.)	DIMENSIONS (inches)						APPROX. SLOPE
	T	A	B	C	D	E	
12	2	4	24	48 $\frac{1}{8}$	72 $\frac{1}{8}$	24	2 to 1
15	2 $\frac{1}{4}$	6	27	46	73	30	2 $\frac{1}{4}$ to 1
18	2 $\frac{1}{2}$	8	27	46	73	36	2 $\frac{1}{2}$ to 1
21	2 $\frac{3}{4}$	9	36	37 $\frac{1}{2}$	73 $\frac{1}{2}$	42	2 $\frac{1}{2}$ to 1
24	3	9 $\frac{1}{2}$	43 $\frac{1}{2}$	30	73 $\frac{1}{2}$	48	3 to 1
27	3 $\frac{1}{4}$	10 $\frac{1}{2}$	49 $\frac{1}{2}$	24	73 $\frac{1}{2}$	54	3 to 1
30	3 $\frac{1}{2}$	12	54	19 $\frac{1}{4}$	73 $\frac{1}{2}$	60	3 to 1
36	4	15	63	34 $\frac{1}{4}$	97 $\frac{1}{4}$	72	3 to 1
42	4 $\frac{1}{2}$	21	63	35	98	78	4 $\frac{1}{2}$ to 1
48	5	24	72	26	98	84	5 to 1
54	5 $\frac{1}{2}$	27	65	33 $\frac{1}{4}$ -35	98 $\frac{1}{4}$ -100	90	5 $\frac{1}{2}$ to 1
60	6	30-35	60	39	99	96	5 to 1
66	6 $\frac{1}{2}$	34-36	72-78	21-27	99	102	5 $\frac{1}{2}$ to 1
72	7	34-36	78	21	99	108	6 to 1
78	7 $\frac{1}{2}$	34-36	78	21	99	114	6 $\frac{1}{2}$ to 1
84	8	36	90 $\frac{1}{2}$	21	11 $\frac{1}{2}$	120	6 $\frac{1}{2}$ to 1
90	8 $\frac{1}{2}$	41	87 $\frac{1}{2}$	24	11 $\frac{1}{2}$	132	6 $\frac{1}{2}$ to 1

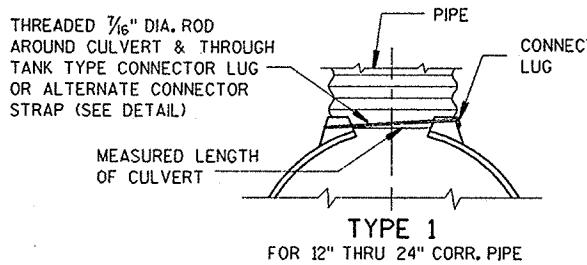
*MINIMUM

**MAXIMUM

1" WIDE, 12 GA. (0.109" THICK) GALVANIZED STRAP
WITH STANDARD 6" X 1 $\frac{1}{2}$ " BAND BOLT AND NUT



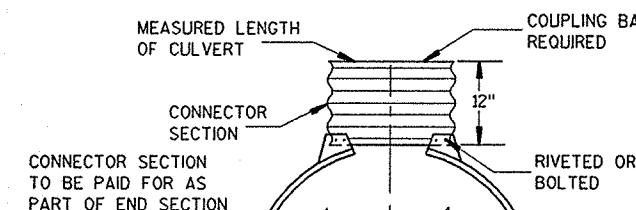
ALTERNATE FOR TYPE 1 CONNECTION END SECTION CONNECTOR STRAP



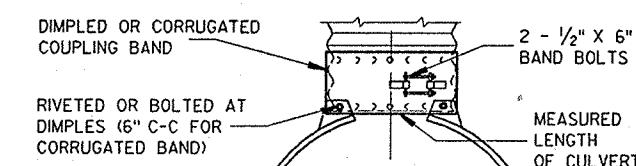
TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE



TYPE 3
FOR 42" THRU 96" CORR. PIPE



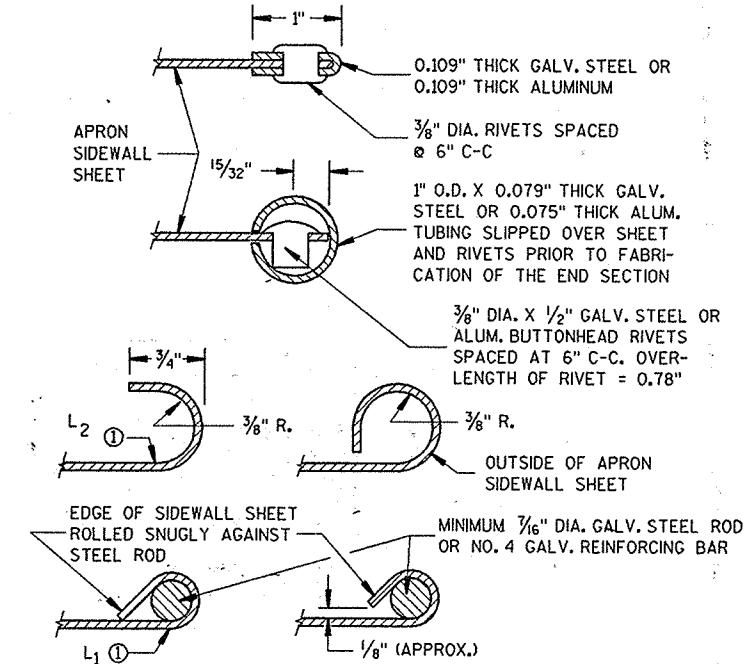
TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

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.



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.

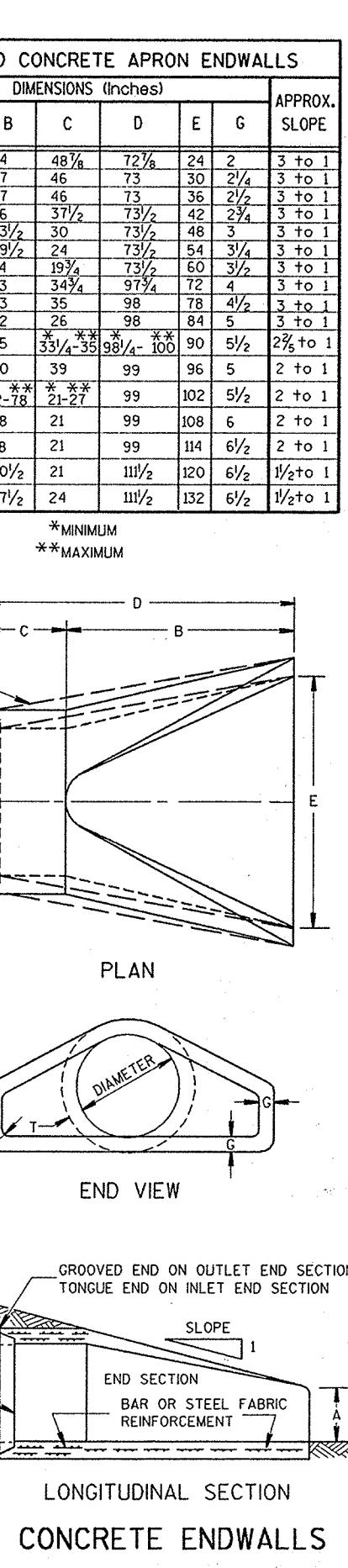
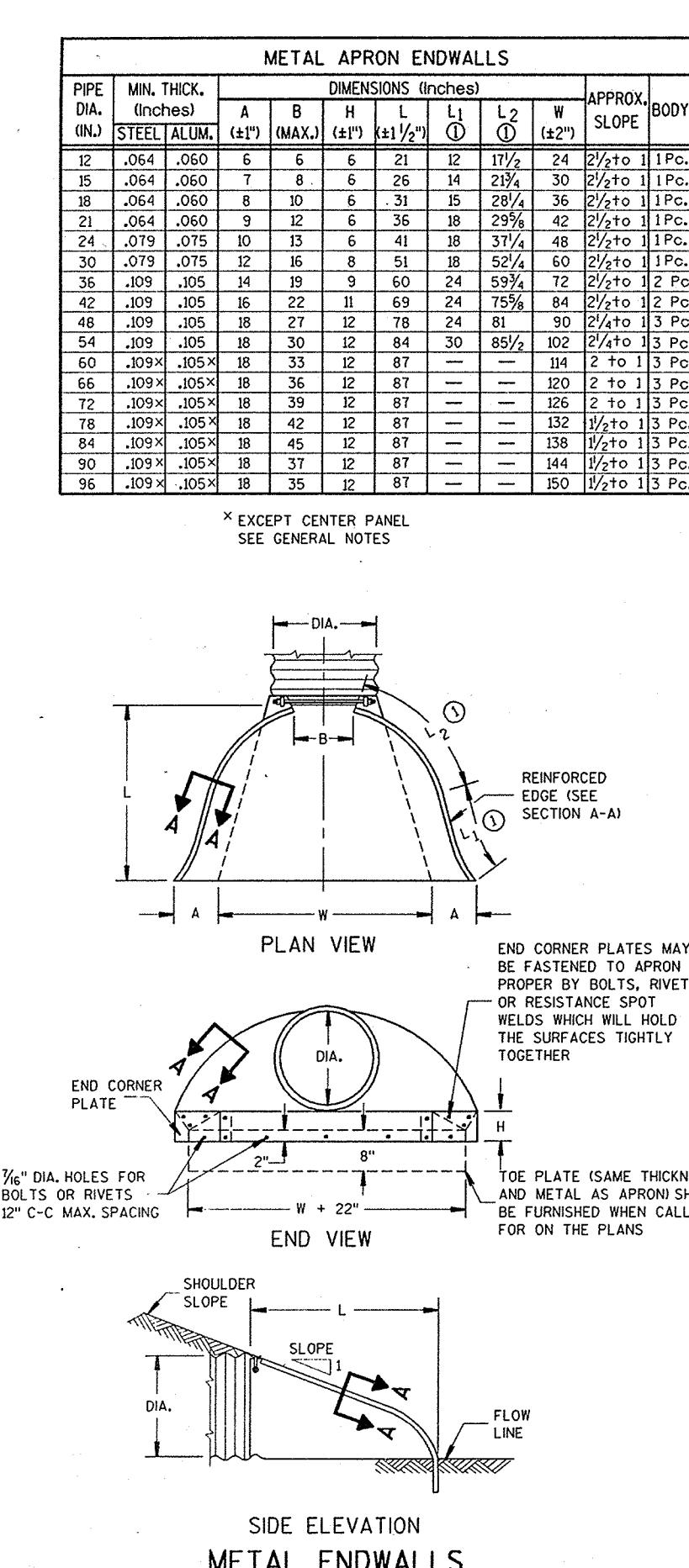
CONCRETE CULVERT ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL
OR ALUMINUM CULVERT PIPE OR VISE VERA. GALVANIZED STEEL OR
ALUMINUM ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE
OF THE SAME METAL.

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.

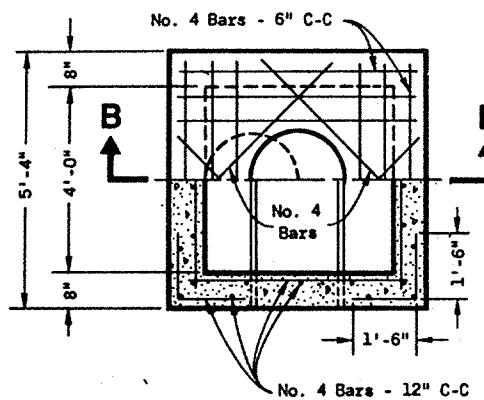
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT
TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT
TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

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

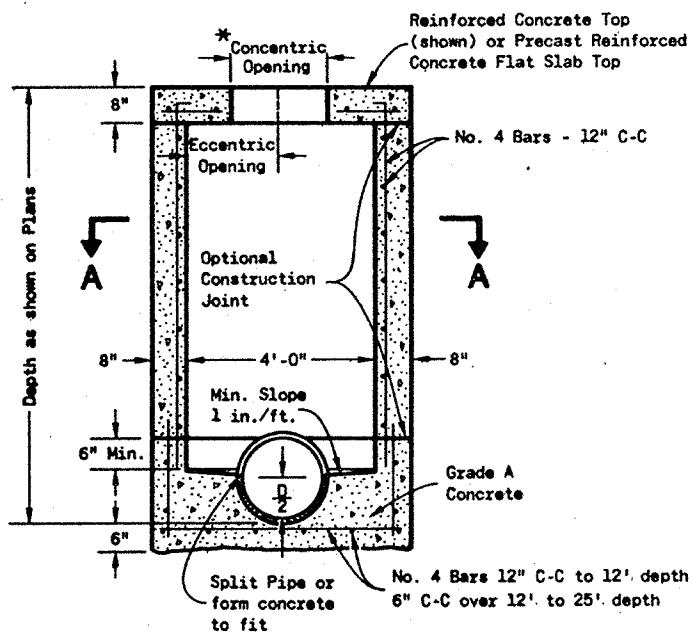
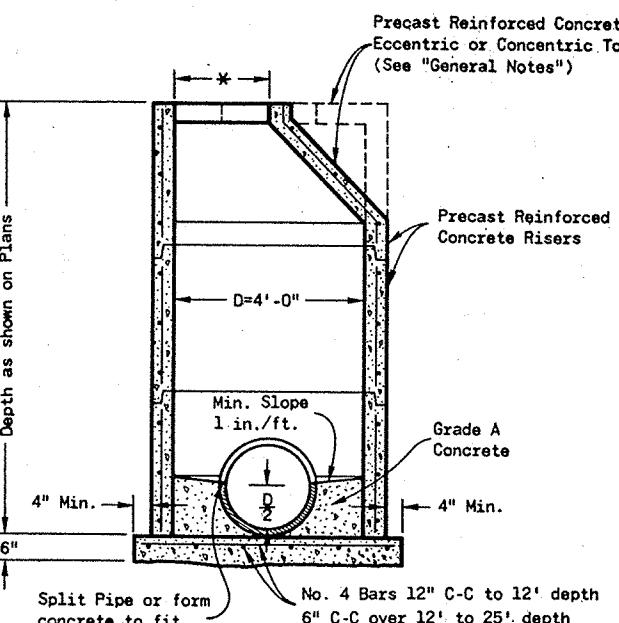


CONNECTION DETAILS

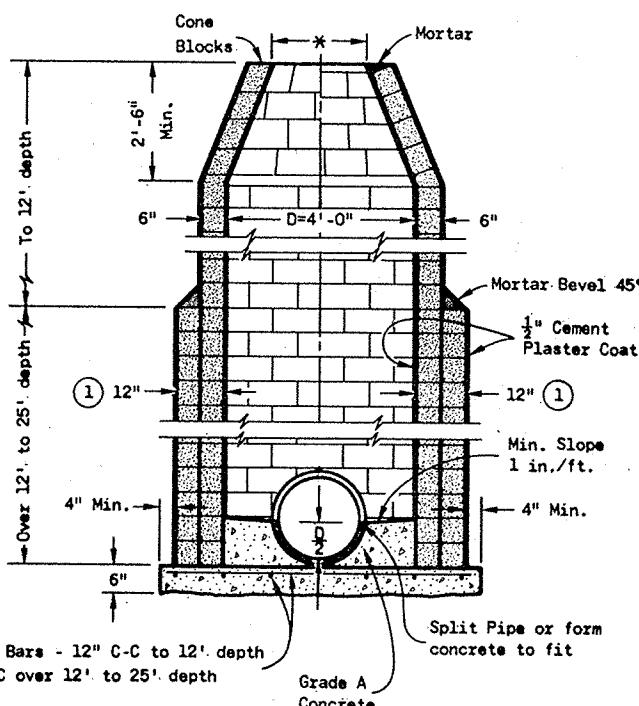
APRON ENDWALLS FOR CULVERT PIPE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 12/17/87	STATE DESIGN ENGINEER FOR HWYS R. C. Carlson
FHWA	



HALF SECTION A-A

SECTION B-B
REINFORCED CONCRETE

PRECAST REINFORCED CONCRETE



CONCRETE BLOCK

MANHOLES 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 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.

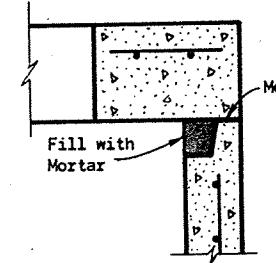
Precast Reinforced Concrete Risers may be placed with tongue up or down.

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.

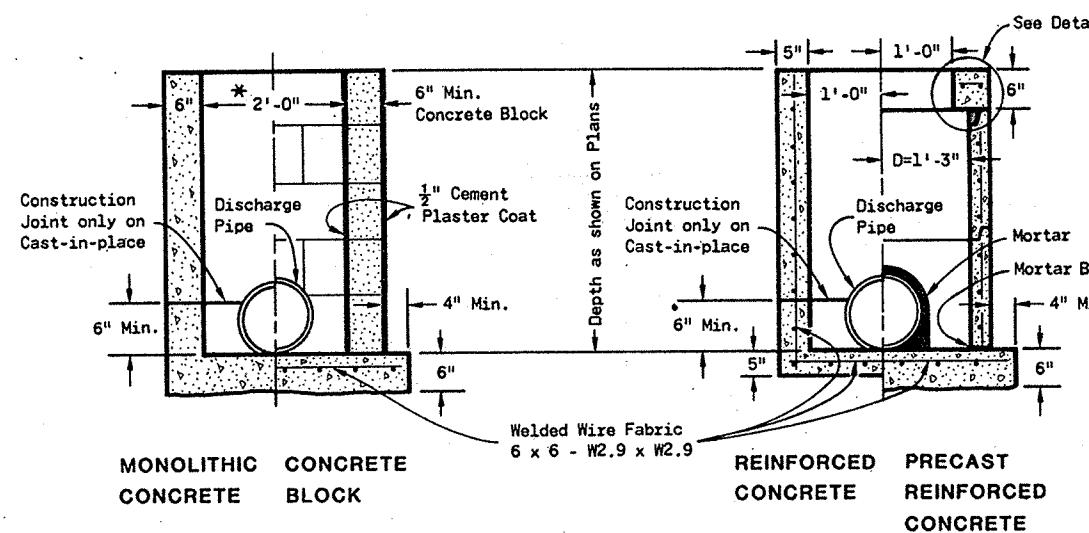
① 2 courses 6" block.

MANHOLES TYPE 1	
State of Wisconsin	
Department of Transportation	
APPROVED	4-13-82
DATE	<i>D. J. St. John</i>
CHIEF DESIGN ENGINEER	
FHWA	

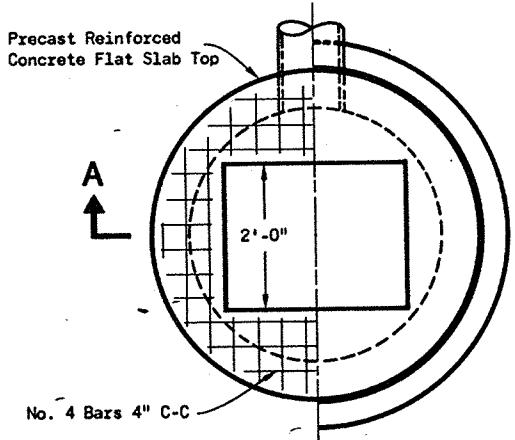


DETAIL "A"

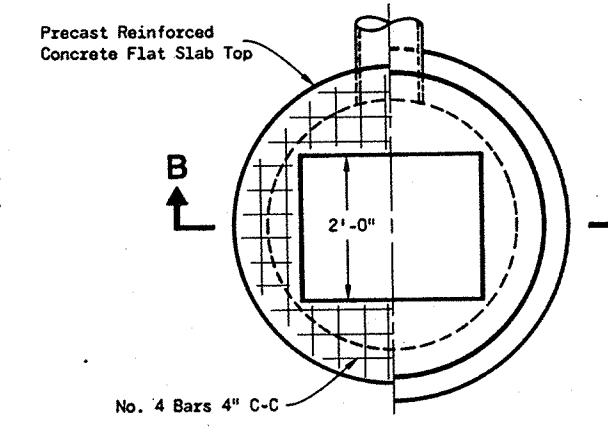
* Selection of square or circular design will be based on the pipe sizes and the Inlet Cover being utilized.



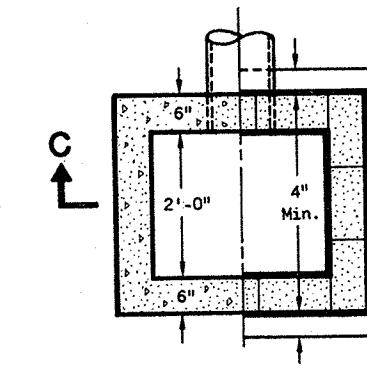
INLETS TYPE 1



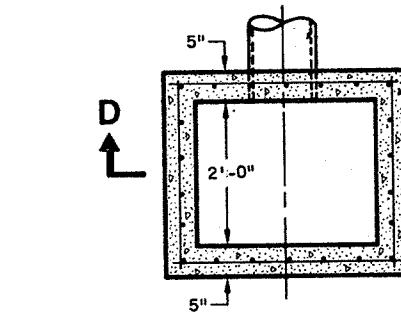
PLAN VIEW



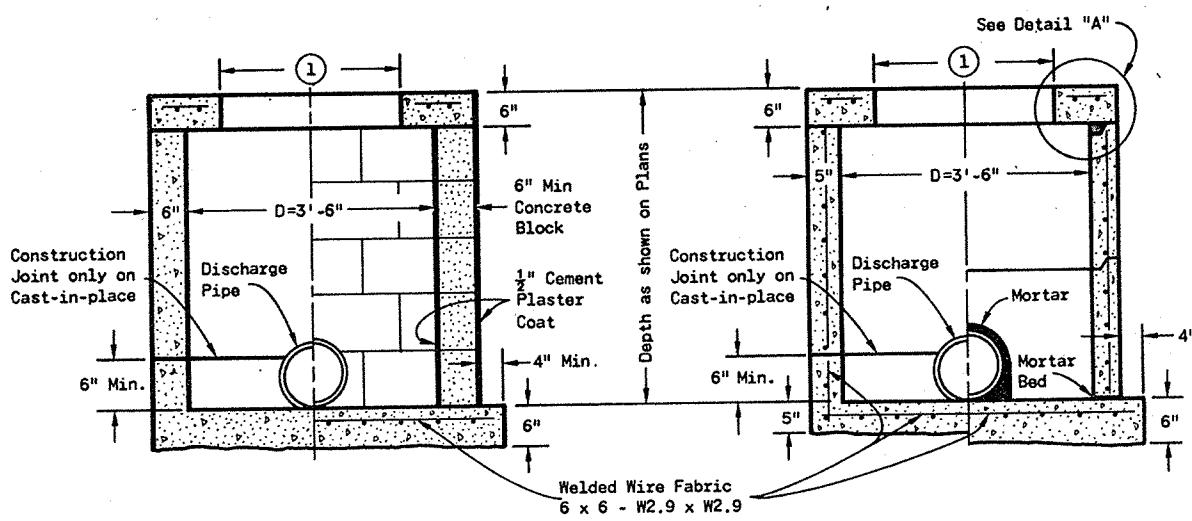
PLAN VIEW



PLAN VIEW



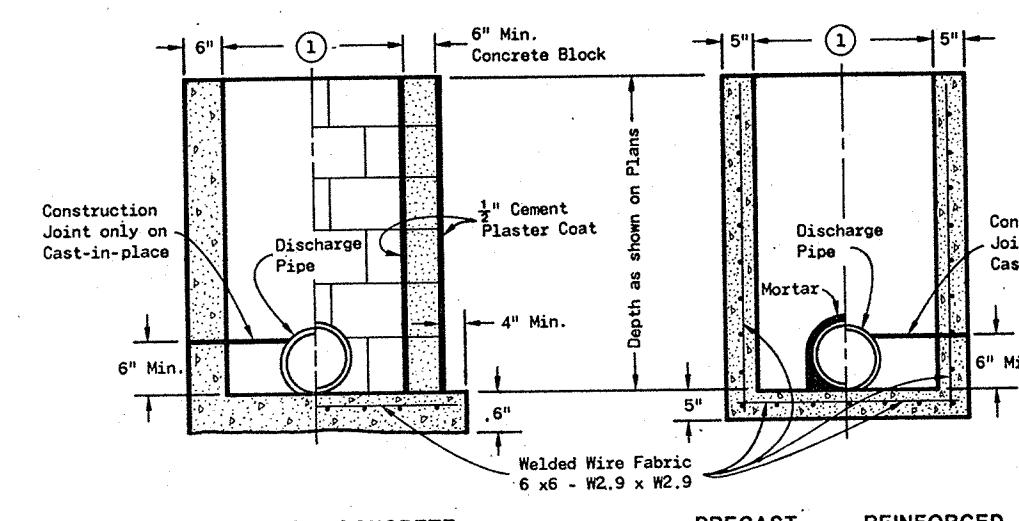
PLAN VIEW



MONOLITHIC CONCRETE BLOCK

REINFORCED CONCRETE PRECAST REINFORCED CONCRETE

SECTION A-A



MONOLITHIC CONCRETE BLOCK

PRECAST REINFORCED CONCRETE REINFORCED CONCRETE

SECTION B-B

INLETS TYPE 2 & 3

GENERAL NOTES

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

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

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

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

All Bar Steel reinforcement shall be embedded 2 inches clear unless otherwise shown or noted.

Precast Reinforced Concrete Risers shall be placed with tongue down.

① Use 2'-6" opening for Type 2 Inlets and 3'-0" opening for Type 3 Inlets.

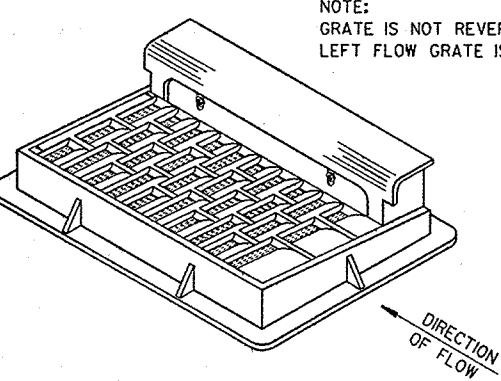
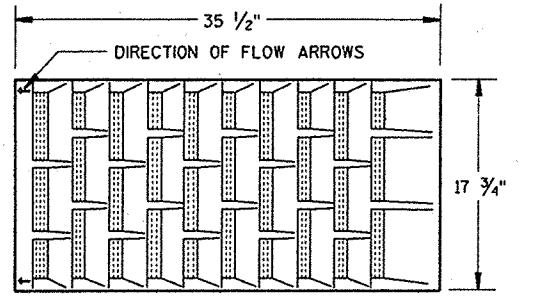
INLETS TYPE 1, 2 & 3

State of Wisconsin
Department of Transportation

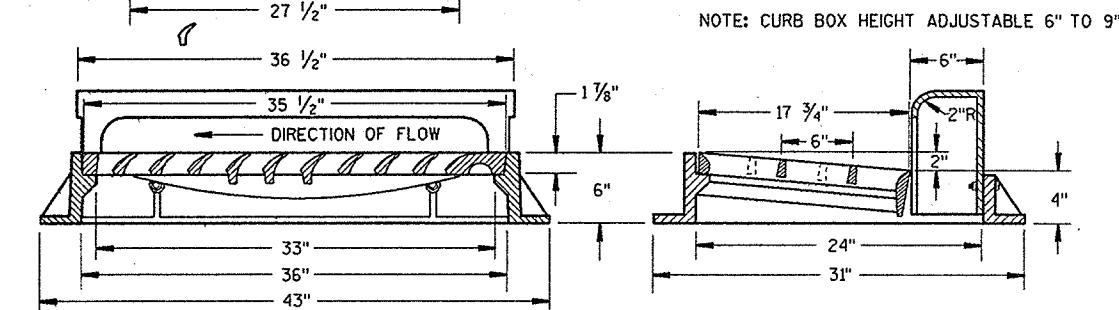
APPROVED
4-13-82
DATE
FHWA

D. J. Strand
CHIEF DESIGN ENGINEER

S.D.D. 8 C 1-4

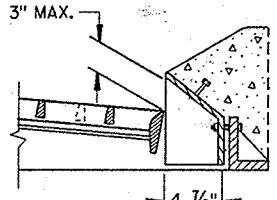
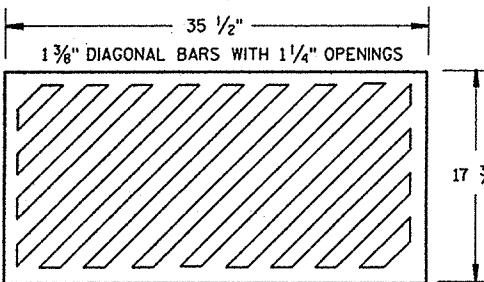


3 3/8" 8 SPACES @ 3 1/8" 5 3/4"
1 1/8" 27 1/2"



TYPE "H"

(APPROXIMATE WEIGHT 510 LBS.)

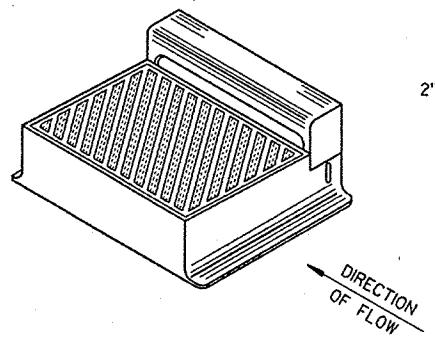


SPECIAL GRATE NO. 1

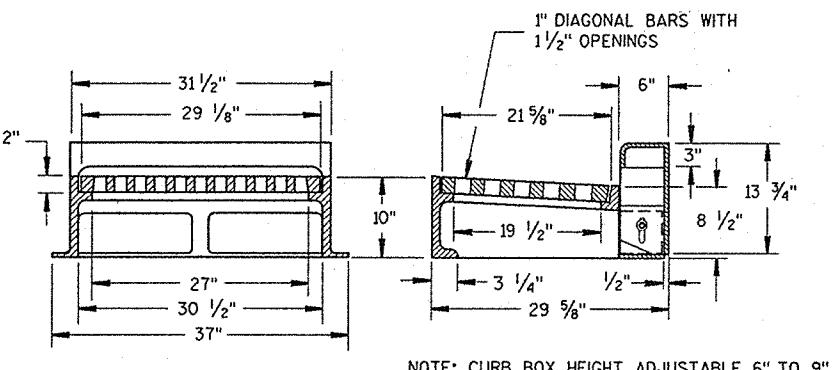
(APPROXIMATE WEIGHT 175 LBS.)

(NOTE AS TYPE HI ON DRAINAGE TABLE)

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

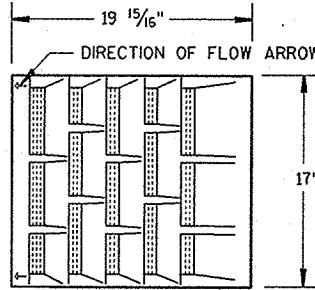


DIAGONAL SLOTS SHALL BE ORIENTED
TO THE DIRECTION OF FLOW AS ILLUSTRATED.
GRATES ARE MANUFACTURED TO BE REVERSIBLE.



TYPE "WM"

(APPROXIMATE WEIGHT 650 LBS.)



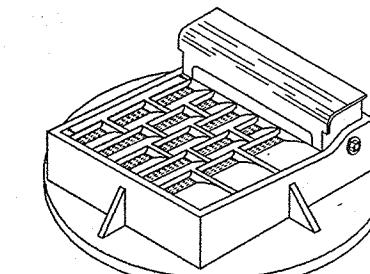
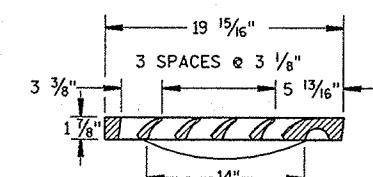
GENERAL NOTES

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

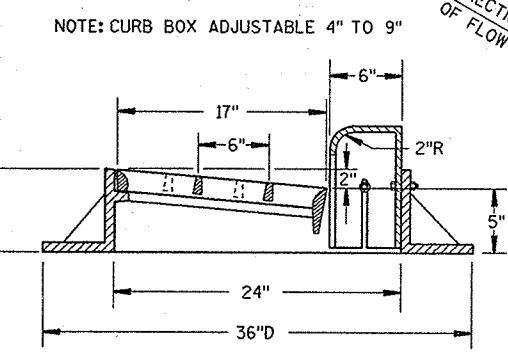
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL CATCH BASIN, MANHOLE AND INLET COVERS WHICH ARE PLACED IN VEHICULAR TRAFFIC AREAS SHALL BE "NON-ROCKING" TYPE.

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

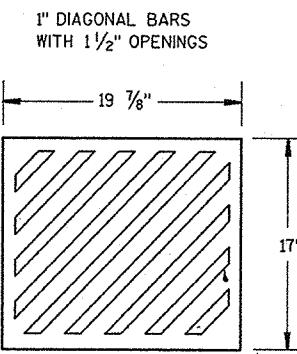


NOTE:
GRATE IS NOT REVERSIBLE
LEFT FLOW GRATE IS SHOWN



TYPE "A"

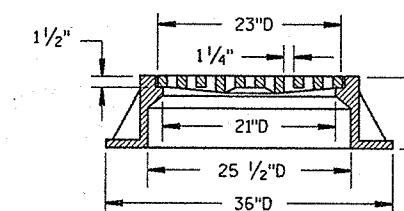
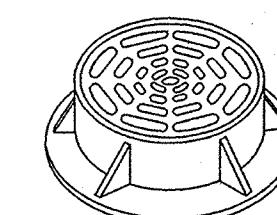
(APPROXIMATE WEIGHT 410 LBS.)



SPECIAL GRATE NO. 1

(APPROXIMATE WEIGHT 85 LBS.)

(NOTE AS TYPE A1 ON DRAINAGE TABLE)



TYPE "C"

(APPROXIMATE WEIGHT 365 LBS.)

INLET COVERS

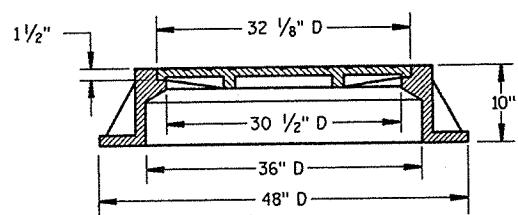
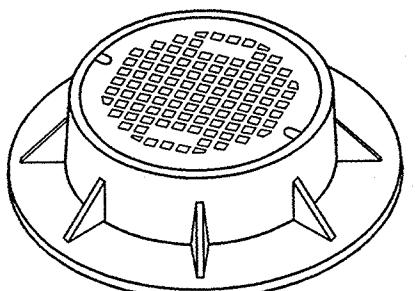
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8-11-88

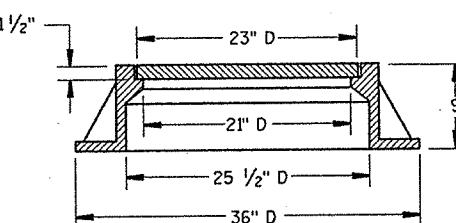
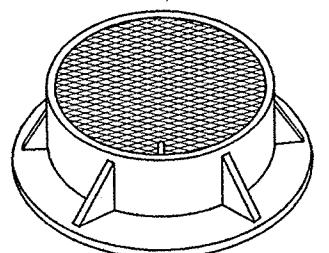
DATE

RP Baker
STATE DESIGN ENGINEER FOR HWYS
FHWA



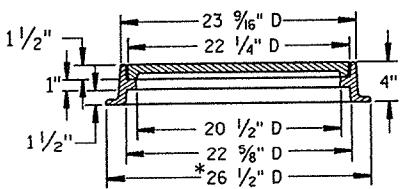
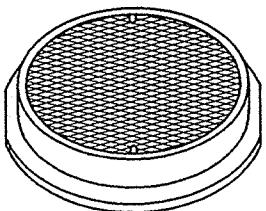
TYPE "K"

(APPROXIMATE WEIGHT 775 LBS.)



TYPE "J"

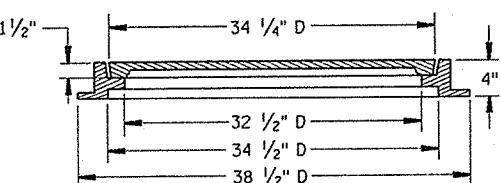
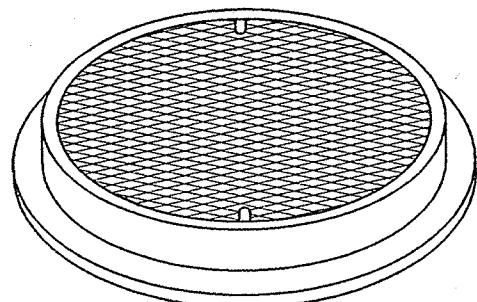
(APPROXIMATE WEIGHT 395 LBS.)



* * THIS DIMENSION IS 25 1/2" ON BEVELED SIDE

TYPE "L"

(APPROXIMATE WEIGHT 146 LBS.)



TYPE "M"

(APPROXIMATE WEIGHT 385 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 MANHOLE COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL COVERS PLACED IN VEHICULAR TRAFFIC AREAS SHALL BE "NON-ROCKING" TYPE.

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

MANHOLE COVERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8-11-88
DATE
FHWA
STATE DESIGN ENGINEER FOR HWYS
R.C. [Signature]

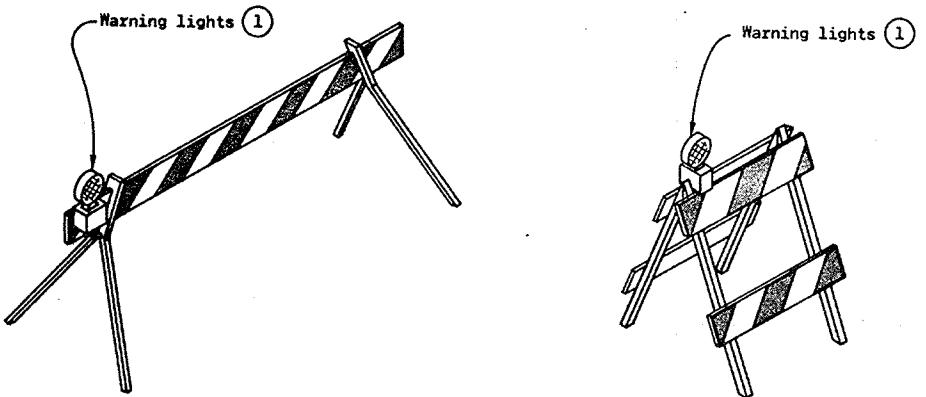
S.D.D. 8 A 5-6c

TABLE OF BARRICADE CHARACTERISTICS

BARRICADE TYPE	I	II	III
Height	3' Minimum	5' Minimum	
* Rail Width	8" Minimum to 12" Maximum		
Rail Length	2' Minimum	4' Minimum	
** Stripe Width	6" at 45° Angle		
Stripe Colors	Reflectorized Orange & White		

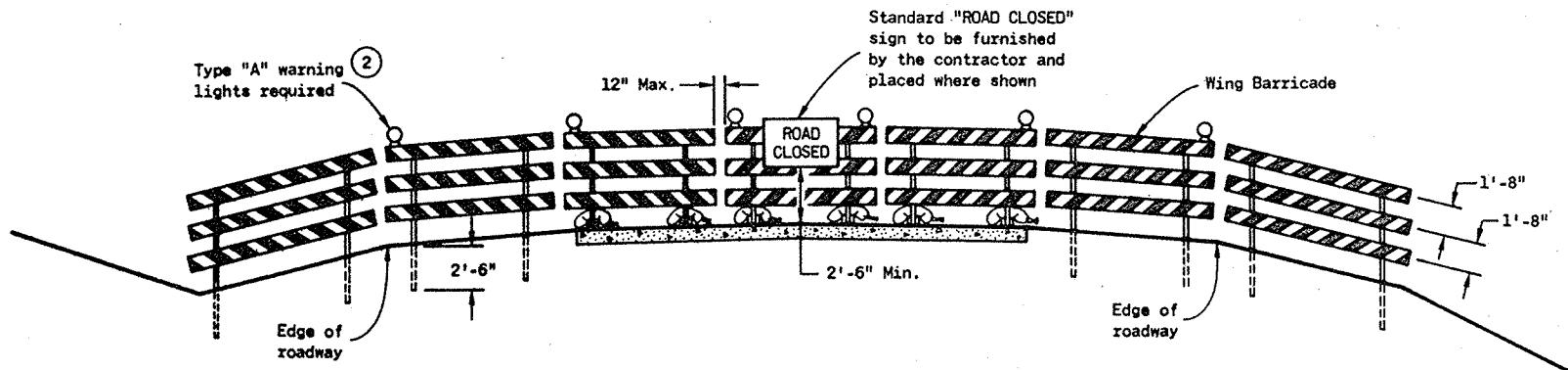
* Nominal dimensions when barricade is constructed of lumber.

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



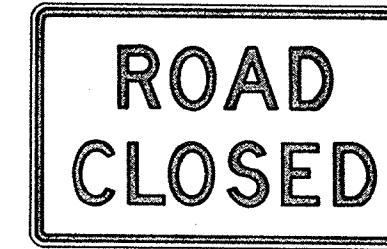
TYPICAL TYPE I BARRICADE

TYPICAL TYPE II BARRICADE



TYPICAL INSTALLATION SHOWING TYPE III BARRICADE

CONSTRUCTION BARRICADES



R11-2

48" x 30"

Black Lettering on Reflective
White Background

Letter Series "D"
Letter height 8"



W20-3

48" x 48"

Black Lettering on Reflective
Orange Background

Letter Series "D"
Letter height 7"

STANDARD SIGNS - TYPE II

GENERAL NOTES

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

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

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

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

Each barricade shall have the name and telephone number of a person responsible for 24 hour emergency service printed in letters at least $\frac{3}{4}$ inch in height on the barricade rails. Prior to May 1, 1983, such information may be shown on either front or back faces of the barricade rails. After May 1, 1983, all printed information or identification markings shall be shown only on the back side of barricade rails.

Type I Barricades may include other unstriped horizontal panels necessary to provide stability.

On high speed expressways or in other situations where barricades may be susceptible to overturning in the wind, sandbags should be used for ballasting. Sandbags may be placed on lower parts of the frame or stays to provide the required ballast but shall not be placed on top of any striped rail.

(1) Unless otherwise provided elsewhere in the contract, warning lights are required on all barricades which will be located near traffic operations during periods of inclement weather or hours of darkness. Barricades used to shield isolated hazards shall be equipped with Type "A" (low intensity - flashing) lights unless Type "B" (high intensity - flashing) lights are specified elsewhere in the contract documents. Barricades used for channelization or delineation of the travel path shall be equipped with Type "C" (steady burn) lights except for the initial barricade(s) in sequence, which shall be equipped with Type "A" or "B" lights as previously noted.

(2) 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.

CONSTRUCTION BARRICADES
& STANDARD SIGNS

State of Wisconsin
Department of Transportation

APPROVED
9-14-81
DATE
FHWA

D. A. Strand
CHIEF DESIGN ENGINEER