

<p>INDEX OF SHEETS</p> <p>Sheet No. 1 Title Sheet No. 2-2.9 Typical Sections and Details Sheet No. 3&3.1 Estimate of Quantities Sheet No. 3A Miscellaneous Quantities Sheet No. 4-4.3 Right of Way Plat Sheet No. 5&5.1 Plan and Profile Sheet No. 6-6.13 Standard Detail Drawings Sheet No. — Sign Plates Sheet No. — Structure Plans Sheet No. — Computer Earthwork Data Sheet No. — Cross Sections</p> <p>TOTAL SHEETS = 34</p>	<p>STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION PLAN OF PROPOSED IMPROVEMENT</p> <p>USH 10 AND CTH CB INTERSECTION</p> <p>USH 10 OUTAGAMIE COUNTY</p> <p>STATE PROJECT NUMBER 1516-03-71</p> <p style="text-align: center;">N</p> <p style="text-align: right;">CB-4</p> <p>DESIGN DESIGNATION</p> <table border="0"> <tr> <td>ADT (1994)</td> <td>=</td> <td>10,050</td> </tr> <tr> <td>ADT</td> <td>=</td> <td>12,300 (2004)</td> </tr> <tr> <td>DHV</td> <td>=</td> <td>1,300 (2004)</td> </tr> <tr> <td>D</td> <td>=</td> <td>60-40</td> </tr> <tr> <td>T (ADT)</td> <td>=</td> <td>11.4%</td> </tr> <tr> <td>DESIGN SPEED</td> <td>=</td> <td>45 MPH</td> </tr> <tr> <td>ESALS</td> <td>=</td> <td>1,102,300</td> </tr> </table> <p>CONVENTIONAL SIGNS</p> <table border="0"> <tr> <td>COUNTY LINE</td> <td>COMBUSTIBLE FLUIDS</td> </tr> <tr> <td>CORPORATE LIMITS</td> <td>UNDERGROUND UTILITIES</td> </tr> <tr> <td>PROPERTY LINE</td> <td>GAS</td> </tr> <tr> <td>LOT LINE</td> <td>ELECTRIC</td> </tr> <tr> <td>LIMITED EASEMENT</td> <td>TELEPHONE OR TELEGRAPH</td> </tr> <tr> <td>EXISTING RIGHT OF WAY</td> <td>SERVICE PEDESTAL</td> </tr> <tr> <td>PROPOSED OR NEW R/W LINE</td> <td>CABLE MARKER</td> </tr> <tr> <td>SHRVEY LINE</td> <td>POWER POLE</td> </tr> <tr> <td>SCOPE INTERCEPT</td> <td>TELEPHONE POLE</td> </tr> <tr> <td>ORIGINAL GROUND</td> <td>RAILROAD</td> </tr> <tr> <td>MARSH OR ROCK PROFILE</td> <td>MARSH AREA</td> </tr> <tr> <td>EXISTING COVERED</td> <td>WOODED OR SHRUB AREA</td> </tr> <tr> <td>PROPOSED COVERED</td> <td></td> </tr> <tr> <td>BY-2 or Pipe</td> <td></td> </tr> <tr> <td>COVERED BY-2 or Pipe</td> <td></td> </tr> </table> <p>1516-03-71 1516-03-00</p>	ADT (1994)	=	10,050	ADT	=	12,300 (2004)	DHV	=	1,300 (2004)	D	=	60-40	T (ADT)	=	11.4%	DESIGN SPEED	=	45 MPH	ESALS	=	1,102,300	COUNTY LINE	COMBUSTIBLE FLUIDS	CORPORATE LIMITS	UNDERGROUND UTILITIES	PROPERTY LINE	GAS	LOT LINE	ELECTRIC	LIMITED EASEMENT	TELEPHONE OR TELEGRAPH	EXISTING RIGHT OF WAY	SERVICE PEDESTAL	PROPOSED OR NEW R/W LINE	CABLE MARKER	SHRVEY LINE	POWER POLE	SCOPE INTERCEPT	TELEPHONE POLE	ORIGINAL GROUND	RAILROAD	MARSH OR ROCK PROFILE	MARSH AREA	EXISTING COVERED	WOODED OR SHRUB AREA	PROPOSED COVERED		BY-2 or Pipe		COVERED BY-2 or Pipe		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">STATE PROJECT</td> <td style="width: 50%;">FEDERAL PROJECT</td> </tr> <tr> <td>1516-03-71</td> <td>STP 019(89)</td> </tr> <tr> <td></td> <td>1</td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> </table> <p>PROJECT LOCATION</p> <p>USH 10 & CTH CB INTERSECTION STA 260+00.04 Y 163,941.087 X 2,391,167.374</p> <p>LAYOUT</p> <p>SCALE 0 1 2 MI.</p> <p>PROJECT 1516-03-71 TOTAL NET LENGTH OF CENTERLINE = 0.000 MI</p> <p>CB-4</p> <p>NOTE: ALL COORDINATES ON THIS PLAN ARE REFERENCED FROM WISCONSIN COORDINATE SYSTEM, CENTRAL ZONE.</p> <p>ACCEPTED FOR OUTAGAMIE COUNTY 3/8/95 <i>John L. Johnson</i> (Date) (Signature)</p> <p>ORIGINAL PLANS PREPARED BY OMNI ASSOCIATES APPLETON, WISCONSIN PHILIP T. ROBERT (Signature)</p> <p>3/8/95 <i>Philip T. Robert</i> (Date) (Signature)</p> <p>STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION</p> <p>PREPARED BY</p> <table border="0"> <tr> <td>Surveyor</td> <td>OMNI ASSOCIATES</td> </tr> <tr> <td>Designer</td> <td>OMNI ASSOCIATES</td> </tr> <tr> <td>District Examiner</td> <td>D. CARLSON</td> </tr> <tr> <td>District Supervisor</td> <td>J. LAMERS</td> </tr> <tr> <td>C.O. Coordinator</td> <td></td> </tr> <tr> <td>C.O. Examiner</td> <td>N.R. AFFELDT</td> </tr> </table> <p>APPROVED FOR DISTRICT OFFICE</p> <p>DATE: 7/1/75 <i>John L. Johnson</i> (Signature)</p> <p>AUTHORIZED FOR CENTRAL OFFICE TRAFFIC</p> <p>DATE: <i>John L. Johnson</i> (Signature)</p> <p>APPROVED FOR CENTRAL OFFICE DESIGN</p> <p>DATE: 4/26/95 <i>John L. Johnson</i> (Signature)</p> <p>CB-4</p>	STATE PROJECT	FEDERAL PROJECT	1516-03-71	STP 019(89)		1					Surveyor	OMNI ASSOCIATES	Designer	OMNI ASSOCIATES	District Examiner	D. CARLSON	District Supervisor	J. LAMERS	C.O. Coordinator		C.O. Examiner	N.R. AFFELDT
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ABBREVIATIONS

CIR CENTER
CE COMMERCIAL ENTRANCE
SDGL SPECIAL DITCH GRADE LEFT
SDGR SPECIAL DITCH GRADE RIGHT

STANDARD DETAIL DRAWINGS

SHEET NUMBER	TITLE
8D1-11	CONCRETE CURB, CONCRETE CURB & GUTTER AND PAVEMENT TIES
8D4-3	CONCRETE SURFACE DRAIN & ASPHALTIC FLUME
9B2-5	CONDUIT
9B4-1	PULL BOX
9C2-1	CONCRETE BASES
9C5-1	CONCRETE CONTROL CABINET BASES
9D1-1	CABINET SERVICE INSTALLATION
9E1-1B	POLE MOUNTINGS FOR TRAFFIC SIGNALS AND LIGHTING UNITS TYPE 3
9E1-1E	HARDWARE DETAILS FOR POLE MOUNTINGS
9E3-1	NON-FREEWAY LIGHTING UNIT POLE WIRING
9F8-1	LOOP DETECTOR PLACED IN CRUSHED AGGREGATE BASE (NEW ASPHALTIC PAVEMENT)
9F12-1	LOOP DETECTOR INSTALLED IN EXISTING CONCRETE PAVEMENT
9F13-1	LOOP DETECTOR INSTALLED IN EXISTING ASPHALTIC PAVEMENT
15C12-2	TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)

UTILITIES

ELECTRIC WISCONSIN ELECTRIC POWER COMPANY
P.O. BOX 1699
APPLETON, WISCONSIN 54913
ATTN: MR. JAMES JACOBS
TELEPHONE: (414) 735-8445

TELEPHONE AMERITECH
221 W. WASHINGTON STREET
FOURTH FLOOR, OSPE
APPLETON, WISCONSIN 54911
ATTN: MR. JOHN STUMPF
CABLE LOCATE: (414) 735-3250

GAS WISCONSIN NATURAL GAS COMPANY
800 SOUTH LYNNDALE DRIVE
APPLETON, WISCONSIN 54912
ATTN: MR. DAVID BROOKS
TELEPHONE: (414) 735-8357

WATER AND SANITARY SEWER TOWN OF GREENVILLE
P.O. BOX 60
GREENVILLE, WISCONSIN 54942
ATTN: MR. DON SCHINKE
TELEPHONE: (414) 757-5151

DIGGERS HOTLINE CABLE LOCATE
TELEPHONE: (800) 242-8511 (TOLL FREE)

DNR LIAISON MS. KELLEY O'CONNOR
WDNR - LAKE MICHIGAN DISTRICT
1125 N. MILITARY AVENUE
GREEN BAY, WISCONSIN 54307-0448
TELEPHONE: (414) 492-5819

COUNTY SURVEYOR OR SURVEYS CONTACT PERSON
MR. FRANK M. CHARLESWORTH - OUTAGAMIE COUNTY
OUTAGAMIE COUNTY COURT HOUSE
410 S. WALNUT STREET
APPLETON, WISCONSIN 54911
TELEPHONE: (414) 832-5255

STATE PROJECT NUMBER	HEET NO
1516-03-71	2.0

GENERAL NOTES, UTILITIES,
& STANDARD DETAIL DRAWINGS
USH 10 OUTAGAMIE COUNTY

GENERAL NOTES

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.

CURB HEIGHTS AT THE ENDS OF CURB AND GUTTER SHALL BE TAPERED FROM 6 TO 0 INCHES IN 3 FEET, WHERE APPLICABLE.

36-INCH CURB AND GUTTER RADII SHOWN ARE TO THE FLANGELINE.

ALL SIGNS WHICH ARE REMOVED FOR THIS PROJECT SHALL BECOME THE PROPERTY OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION. CONTRACTOR SHALL COORDINATE WITH THE WISCONSIN DEPARTMENT OF TRANSPORTATION FOR A LOCATION TO PLACE REMOVED SIGNS.

CURVE DATA BASED ON ARC DEFINITION.

BEARINGS SHOWN ON THIS PLAN ARE GRID BEARINGS.

DISTANCES SHOWN ON THIS PLAN ARE GROUND DISTANCES.

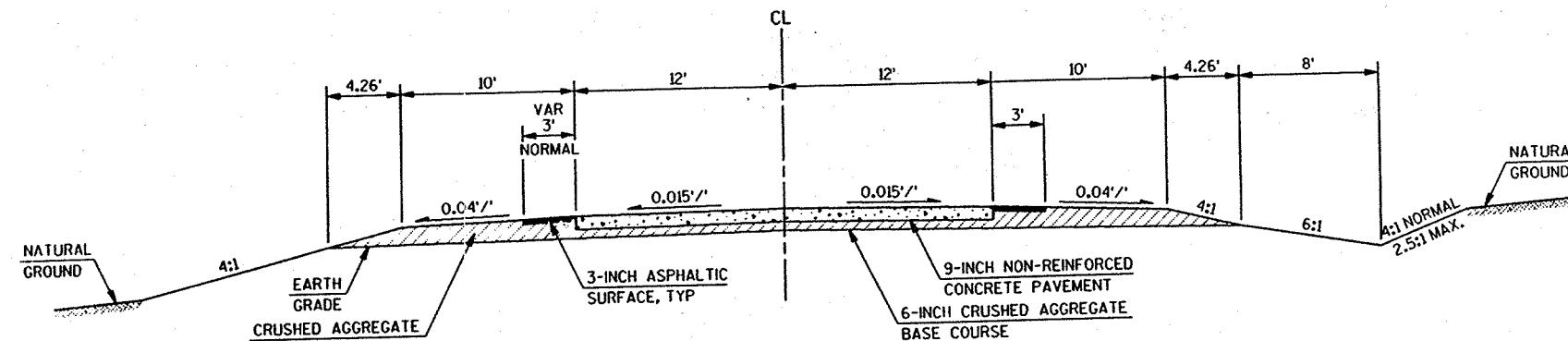
CONVERSION FACTOR = 0.999935

PLAN ELEVATIONS = USGS DATUM.

ALL COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COORDINATE SYSTEM, CENTRAL ZONE.

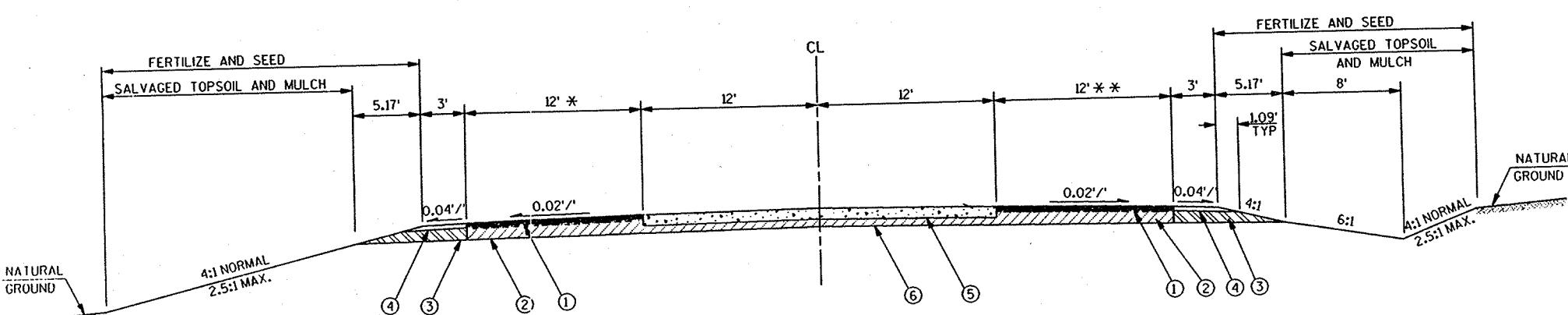
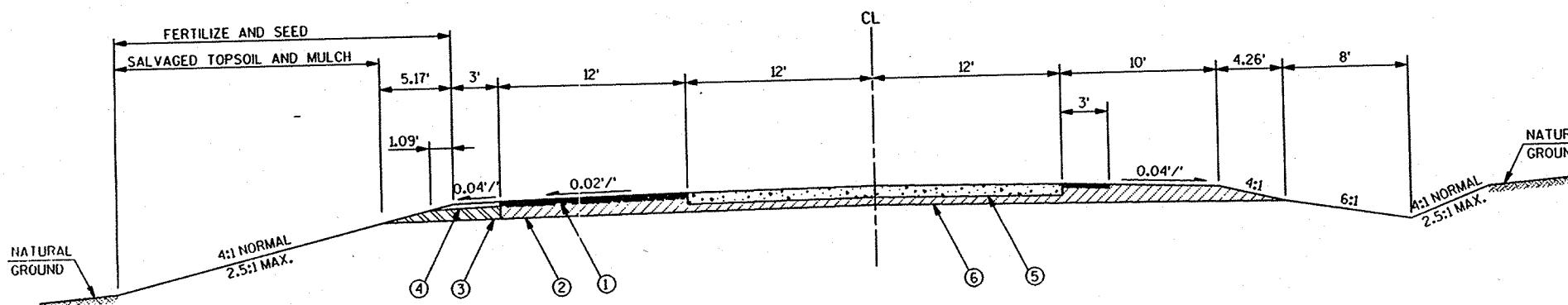
EROSION CONTROL GENERAL NOTE

RUNOFF COEFFICIENT FOR THIS PROJECT: EXISTING PAVEMENT 0.85, EXISTING SLOPES 0.30; NEW PAVEMENT 0.90, NEW SLOPES 0.38. TOTAL PROJECT AREA 4.9 ACRES. TOTAL AREA DISTURBED 2.3 ACRES.



LEGEND

- ① 4 1/2-INCH ASPHALTIC CONCRETE PAVEMENT, TYPE HV (1 1/2-INCH UPPER COURSE OVER 2 - 1 1/2-INCH LOWER COURSES)
- ② 10 1/2-INCH EXISTING CRUSHED AGGREGATE BASE COURSE TO REMAIN IN PLACE
- ③ CRUSHED AGGREGATE BASE COURSE
- ④ CRUSHED AGGREGATE BASE COURSE, SHOULDERS
- ⑤ 9-INCH EXISTING CONCRETE PAVEMENT
- ⑥ 6-INCH EXISTING CRUSHED AGGREGATE BASE COURSE



STA 258+85 TO 269+75
* STA 265+80 TO 267+00 VARIES FROM 12' TO 0'
** STA 263+75 TO 269+75 VARIES FROM 12' TO 0'
FOR INFORMATION ONLY

PAVING DETAILS
FOR
USH 10 & CTH CB OUTAGAMIE COUNTY

BLDG.

GRADING, BASE COURSE
AND PAVING BY OTHERS
(PROJECT 1516-03-72)

CONTRACT LIMITS
FOR C&G AND SURF.DRAINS

CTR 60'R,
99'SB+16.82, 93.70'LT =
258+94.87, 84.00'RT

CONC SURFACE
DRAIN REOD

36" C & G,
TYPE D
REQ'D.

SAWCUT AND
MATCH EXIST
PAV.

X X X +85

860.73

259+00

860.64

+25

860.52

24'

860.31

26'

860.19

34'

860.34

34'

860.50

34'

860.48

34'

860.31

34'

860.25

34'

860.37

34'

860.63

24'

860.85

24'

861.09

24'

861.33

24'

861.09

24'

861.23

24'

860.99

24'

860.42

24'

860.75

24'

860.24

24'

860.55

24'

860.84

24'

860.23

24'

860.52

24'

860.81

24'

860.20

24'

860.59

24'

860.88

24'

860.27

24'

860.56

24'

860.85

24'

860.24

24'

860.53

24'

860.82

24'

860.21

24'

860.52

24'

860.81

24'

860.20

24'

860.51

24'

860.80

24'

860.19

24'

860.58

24'

860.87

24'

860.26

24'

860.55

24'

860.84

24'

860.23

24'

860.53

24'

860.82

24'

860.22

24'

860.51

24'

860.80

24'

860.21

24'

860.50

24'

860.79

24'

860.28

24'

860.57

24'

860.86

24'

860.25

24'

860.54

24'

860.83

24'

860.22

24'

860.53

24'

860.82

24'

860.21

24'

860.52

24'

860.81

24'

860.20

24'

860.51

24'

860.80

24'

860.20

24'

860.50

24'

860.79

24'

860.28

24'

860.57

24'

860.86

24'

860.25

24'

860.54

24'

860.83

24'

860.22

24'

860.53

24'

860.82

24'

860.21

24'

860.52

24'

860.81

24'

860.20

24'

860.51

24'

860.80

24'

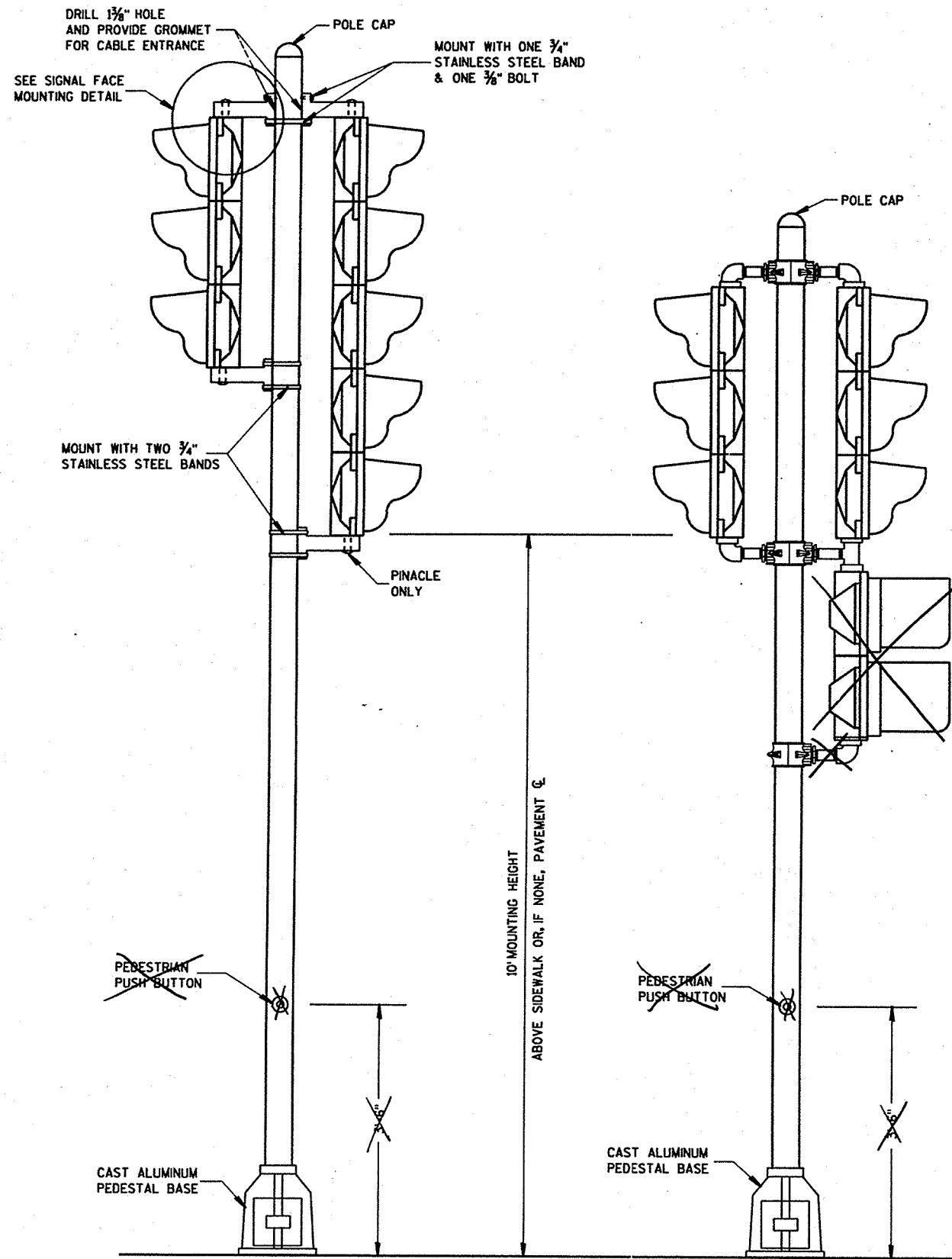
860.20

24'

860.50

STATE PROJECT NUMBER
P-16-01-11
SHEET NO.
2.3

ALUMINUM
TRAFFIC SIGNAL STANDARD 13' & 15'

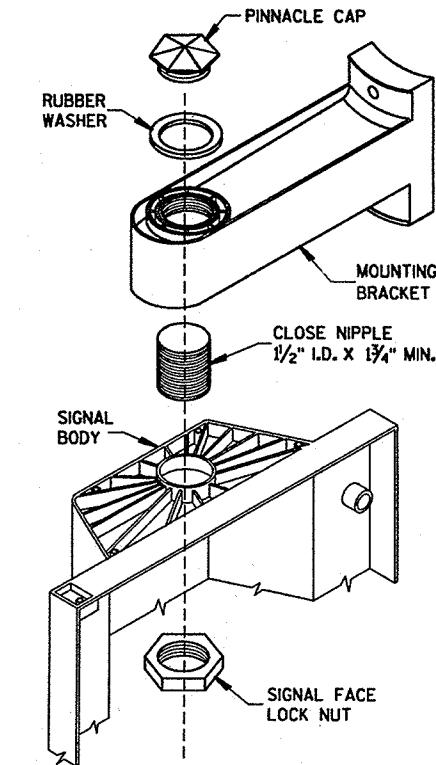


TRAFFIC SIGNAL STANDARD-15'

TRAFFIC SIGNAL STANDARD-13'

GENERAL NOTES

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

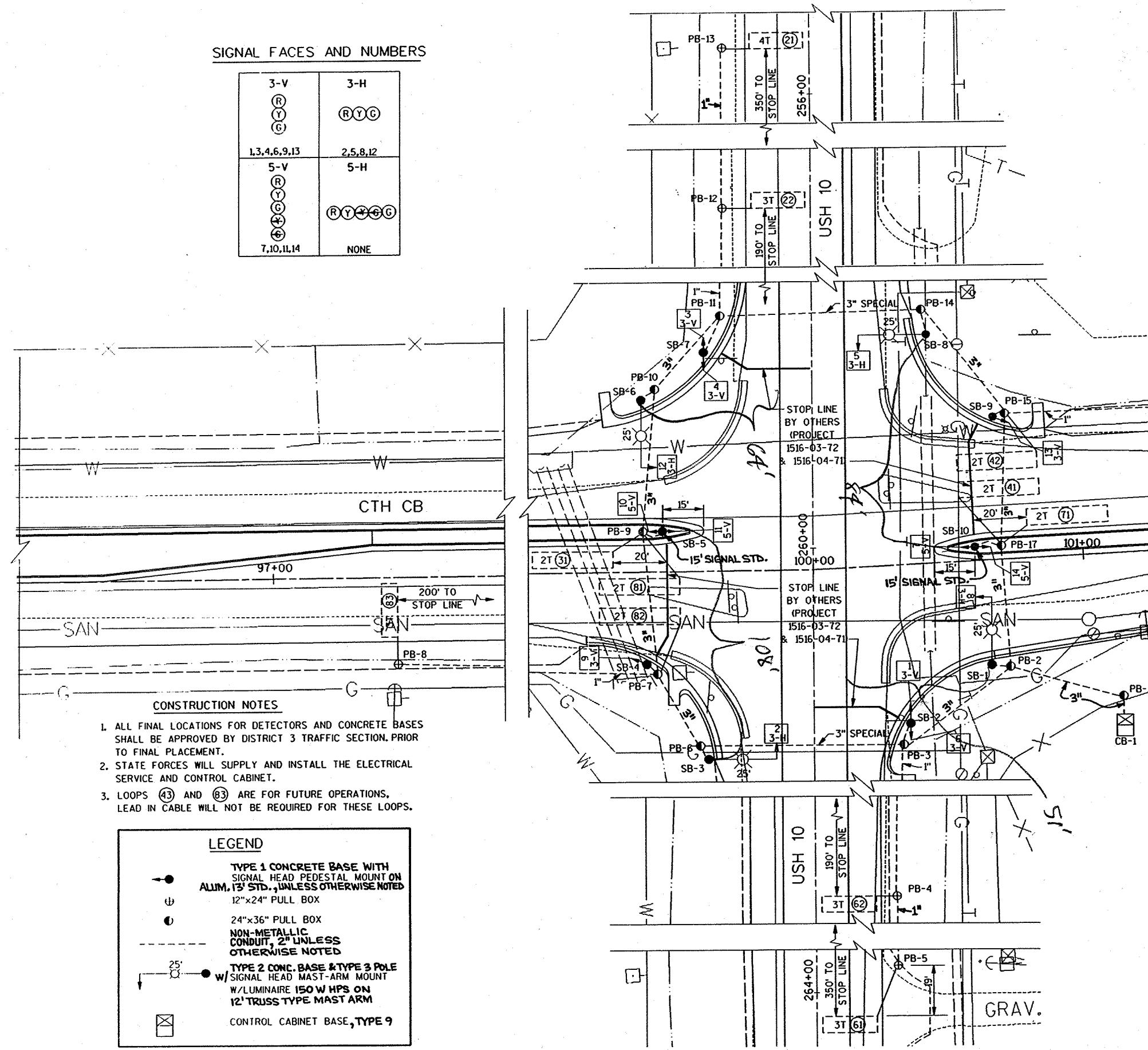


SIGNAL FACE MOUNTING DETAIL

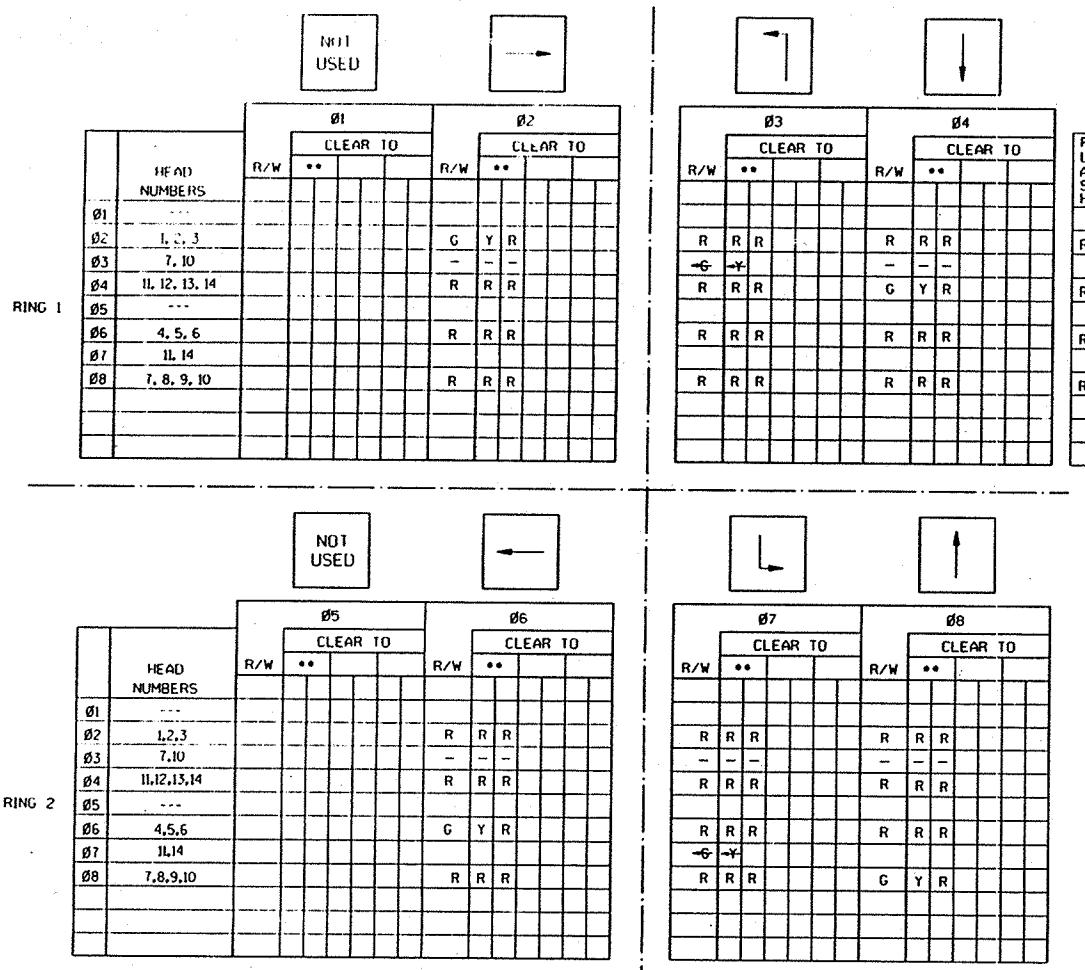
STATE PROJECT NUMBER	1516-03-71	SHEET NO.	2.4
TRAFFIC SIGNAL PLAN FOR OUTAGAMIE COUNTY			
USH 10		OUTAGAMIE COUNTY	
TRAFFIC CONTROL SIGNALS USH 10 & CTH CB			
SIGNAL NO.	SCALE 0 20 FT.		
WISCONSIN DEPARTMENT OF TRANSPORTATION			
APPROVAL RECOMMENDED			
Date _____	DISTRICT TRAFFIC ENGINEER		
APPROVED			
Date _____	STATE TRAFFIC ENGINEER		
I.D. NO. _____			

SIGNAL FACES AND NUMBERS

3-V (R) (Y) (G)	3-H (R Y G)
1,3,4,6,9,13	2,5,8,12
5-V (R) (Y) (G) (Y) (G)	5-H (R Y G G)
7,10,11,14	NONE



SEQUENCE OF OPERATION



BARRIER

** CLEARANCE TO A PHASE IN CONFLICT WITH THIS PHASE ON (SEE CHART 1 BELOW)

CHART 1

PHASE ON	NON-CONFLICTING PHASE ALLOWED TO TIME CONCURRENTLY	PHASES IN CONFLICT WITH PHASE ON
01	---	----
02	06	03, 04, 07, 08
03	01, 08	02, 04, 06
04	01, 08	02, 03, 06
05	---	----
06	02	03, 04, 07, 08
07	03, 04	02, 06, 08
08	03, 04	02, 06, 07

TYPE OF INTERCONNECT	
None	
TBC	✗
CLOSED LOOP	
HARDWIRE	
TONE (FREQ)	

TYPE OF PRE-EMPT	
None	
RAILROAD	✗
EMERGENCY VEHICLE	

TYPE OF LIGHTING	
None	
IN TRAFFIC CONTROL CABINET	✗
IN SEPARATE CONTROL CABINET	

GENERAL NOTES

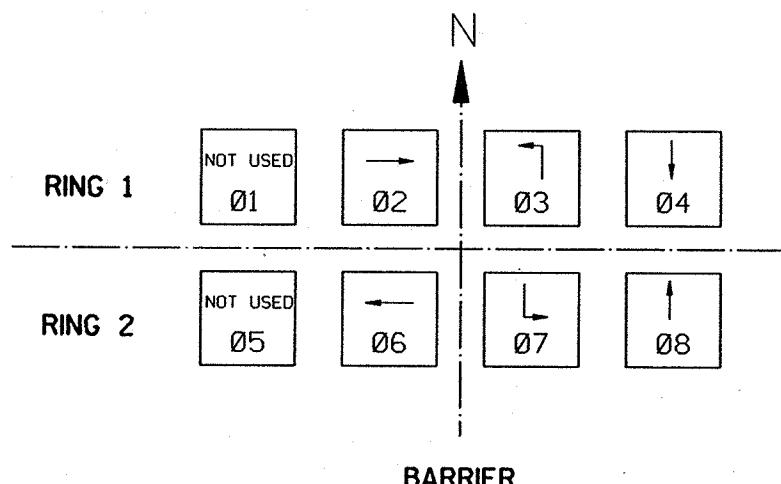
1. ANY ACTUATED PHASE FOR WHICH THERE IS NO CALL SHALL BE SKIPPED.
2. WHEN ONE PHASE IS ON ALONE, ANY NON-CONFLICTING PHASE MAY START TIMING CONCURRENTLY WITHOUT A CLEARANCE INTERVAL. (SEE CHART 1 AT LEFT.)
3. PROVIDE FOR HAND OPERATION.

STATE PROJECT NUMBER	1516-03-71	SHEET NO.	2.5
SEQUENCE OF OPERATION		USH 10 OUTAGAMIE COUNTY	

CONTROLLER LOGIC

PHASE NUMBER	PHASE LOCKING	PHASE RECALL	DUAL ENTRY
01			
02		MIN.	
03		W/8	
04		W/8	
05			
06		MIN.	
07		W/4	
08		W/4	

NOTE: WHEN 02 AND 06 ARE TIMING CONCURRENTLY, THEY SHALL TERMINATE TOGETHER.



BARRIER

OVERLAPS

0.L. "A" =
0.L. "B" =
0.L. "C" =
0.L. "D" =

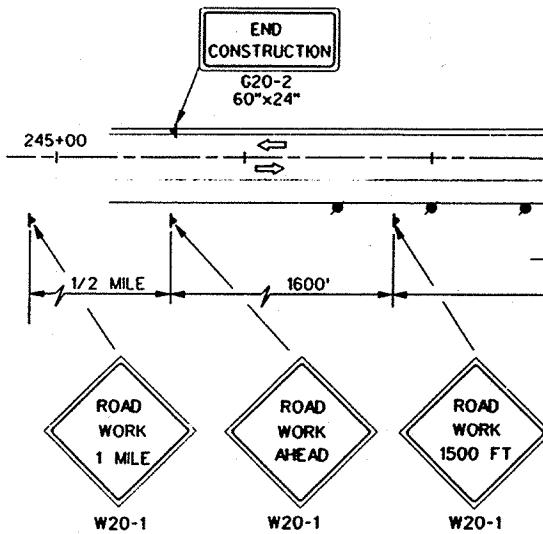
USH 10 AND CTH CB INTERSECTION

USH 10 & CTH CB	OUTAGAMIE CO.
SIGNAL NO.	

DATE: 9/94 SHEET NO. 2 OF 4

GENERAL SIGNING NOTES FOR TRAFFIC CONTROL

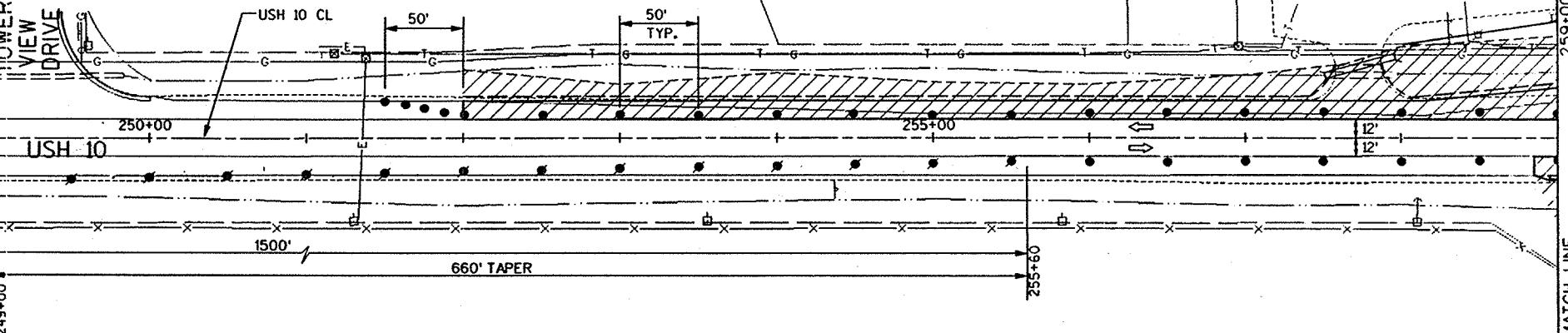
- ALL SIGNS SHALL BE 48" x 48" UNLESS OTHERWISE NOTED.
- A FLAGGER MAY BE REQUIRED WHERE CONSTRUCTION VEHICLES ENTER OR LEAVE "WORK ZONES" IF WARRANTED BY CONDITIONS AND/OR AS DIRECTED BY THE ENGINEER.
- ALL SIGN LOCATIONS ARE APPROXIMATE. THE ACTUAL LOCATIONS WILL BE DETERMINED BY THE ENGINEER IN THE FIELD.
- "W0" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.



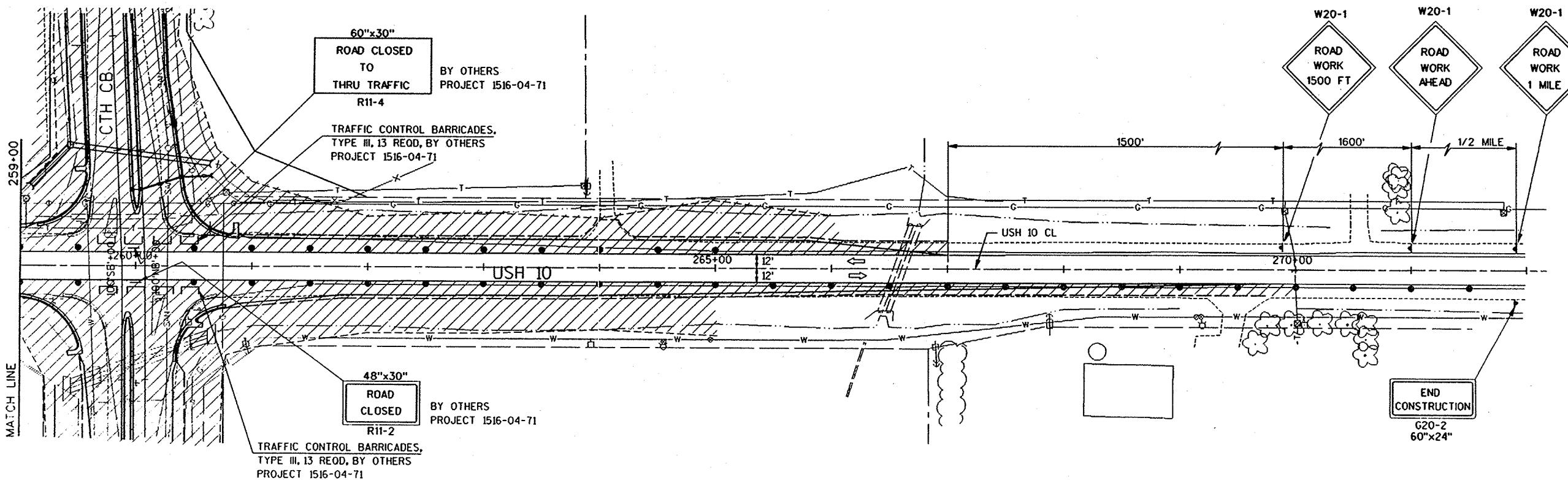
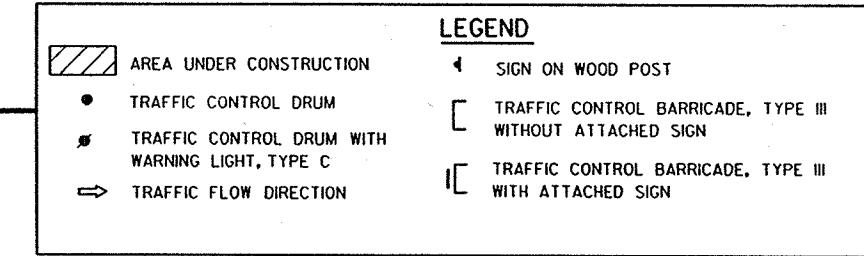
FOR INFORMATION ONLY

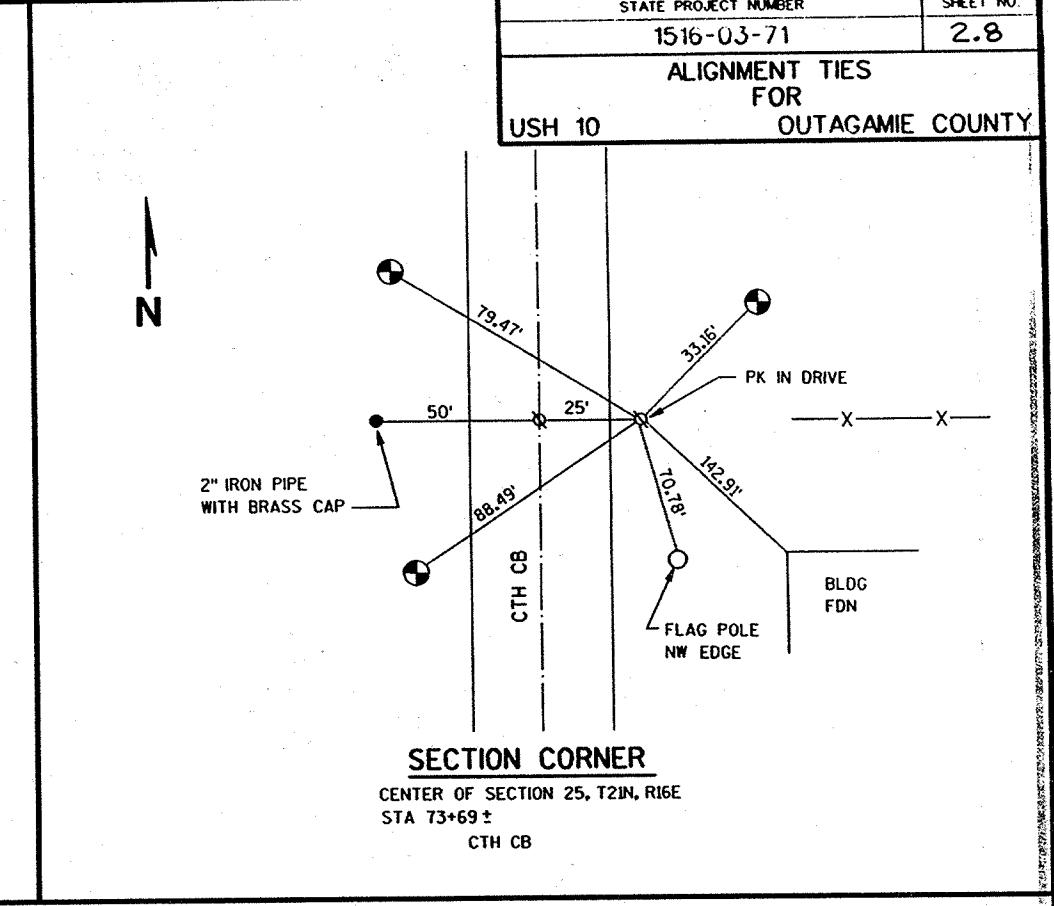
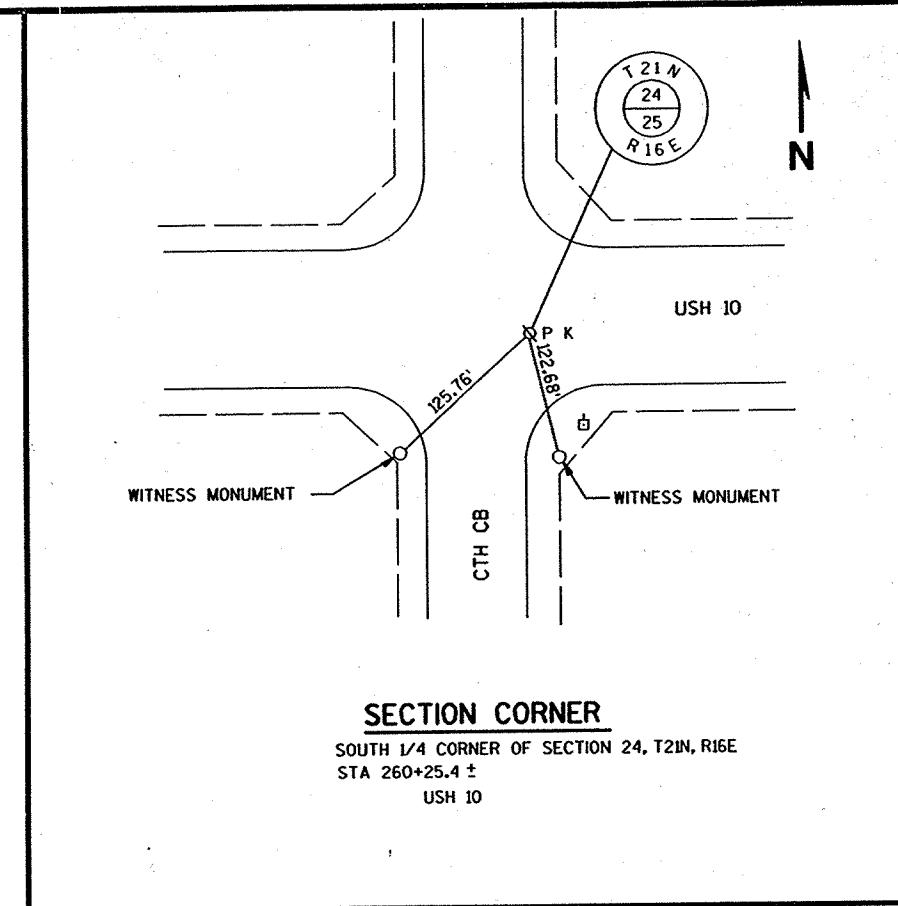
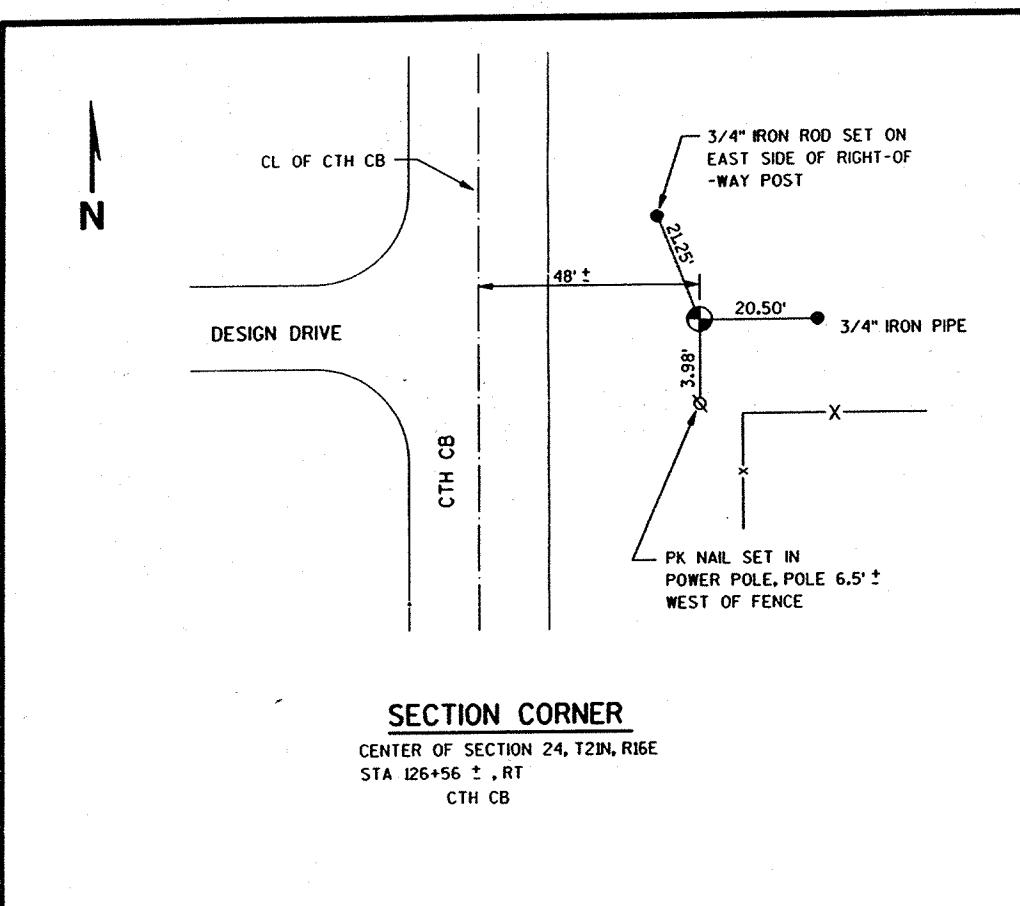
- TRAFFIC CONTROL SIGNS AND TRAFFIC SIGNALS SHALL BE COVERED OR REMOVED WHEN NOT APPLICABLE OR AS DIRECTED BY THE ENGINEER. THE COST FOR COVERING SIGNS SHALL BE INCIDENTAL TO TRAFFIC CONTROL (I.S.).
- TRAFFIC CONTROL ON THIS SHEET TO BE PERFORMED UNDER PROJECT 1516-03-72.

STATE PROJECT NUMBER 1516-03-71 SHEET NO 2.7
TRAFFIC CONTROL PLAN FOR USH 10 OUTAGAMIE COUNTY



FOR INFORMATION ONLY





EGEND
BERNTSEN MONUMENT
PK NAIL
IRON PIPE

FILE NAME : ENR0005X F1047AND13A SIGN
FILE SCALF : 1/10 FILE DATE : 2/95

BEGIN CONSTRUCTION

STA 82+50

BEGIN PROJECT 1516-04-7

STA 86+94
Y = 162,635.208
X = 2,391,177.08

85*

1

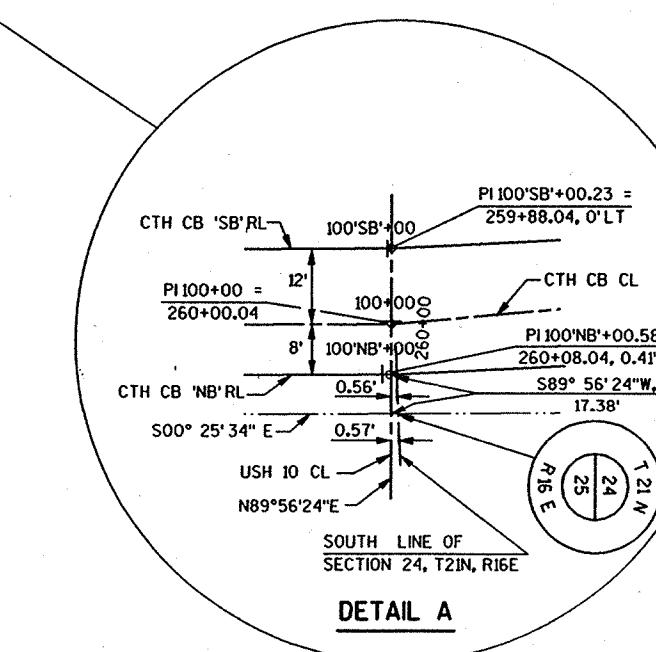
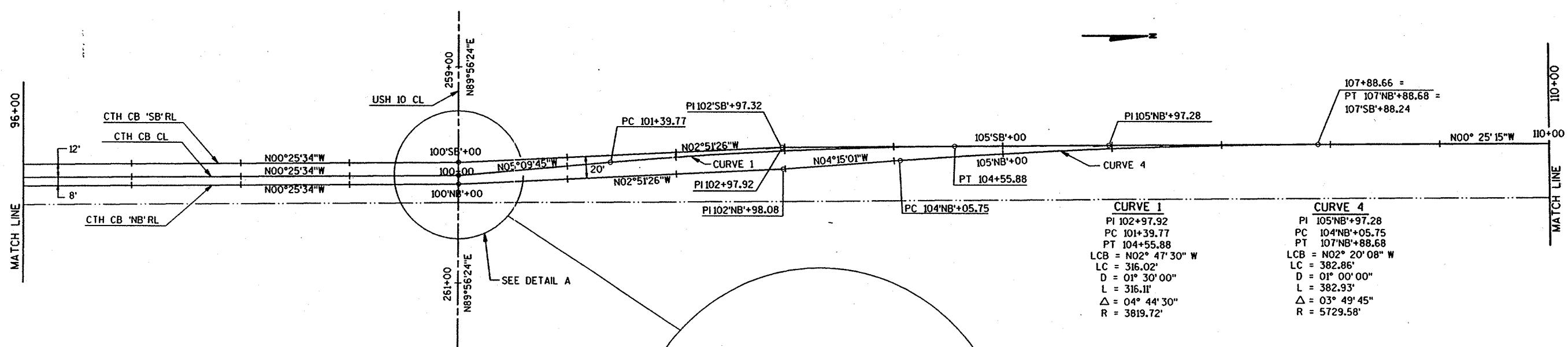
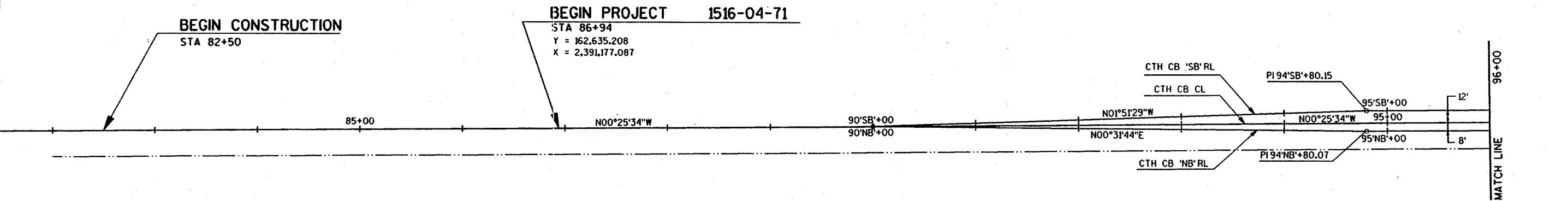
8

1000

111

SHEET NO
2.9

ALIGNMENT PLAN
FOR
OUTAGAMIE



DATE 05/03/95

ESTIMATE OF QUANTITIES

ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1516-03-71	
				QUANTITY	
41534 CONCRETE SURFACE DRAINS	C.Y.	5.70	5.70		
60170 CONCRETE CURB AND GUTTER, 36-INCH, TYPE D	L.F.	300.00	300.00		
61331 NONMETALLIC CONDUIT, 1-INCH	L.F.	1,030.00	1,030.00		
61334 NONMETALLIC CONDUIT, 2-INCH	L.F.	85.00	85.00		
61336 NONMETALLIC CONDUIT, 3-INCH	L.F.	420.00	420.00		
61347 CONDUIT, 3-INCH, SPECIAL	L.F.	150.00	150.00		
61910 MOBILIZATION	L.S.	1.00	1.00		
64003 POLES, TYPE 3	EACH	4.00	4.00		
64012 CONCRETE BASES, TYPE 1	EACH	6.00	6.00		
64013 CONCRETE BASES, TYPE 2	EACH	4.00	4.00		
64032 LUMINAIRES, 150 WATTS, HIGH PRESSURE SODIUM	EACH	4.00	4.00		
64056 MAST ARMS, TRUSS TYPE, 12-FOOT	EACH	4.00	4.00		
64075 ELECTRICAL WIRE, LIGHTING, NO. 12	L.F.	360.00	360.00		
64301 TRAFFIC CONTROL	L.S.	1.00	1.00		
90001 TRAFFIC SIGNAL STANDARDS, ALUMINUM, 13-FT	EACH	4.00	4.00		
90002 TRAFFIC SIGNAL STANDARDS, ALUMINUM, 15-FT	EACH	2.00	2.00		
90003 LIGHTING CABLE, 2 CONDUCTOR, NO. 12 UF, WITH GROUND	L.F.	755.00	755.00		
90660 ELECTRICAL WIRE, TRAFFIC SIGNALS, NO. 10	L.F.	1,640.00	1,640.00		
90785 CONCRETE CONTROL CABINET BASES, TYPE 9	EACH	1.00	1.00		
90792 PULL BOXES, 12X24-1INCH	EACH	6.00	6.00		
90797 PULL BOXES, 24X36-1INCH	EACH	11.00	11.00		
90800 PEDESTAL BASES	EACH	6.00	6.00		
90801 TRANSFORMER BASES	EACH	4.00	4.00		
90815 MAST ARMS, TRAFFIC SIGNAL TROMBONE, 25-FT.	EACH	4.00	4.00		
90817 TRAFFIC SIGNAL FACES, 3-12 VERTICAL	EACH	6.00	6.00		

SHEET 3

ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
90819	TRAFFIC SIGNAL FACES, 5-12 VERTICAL	EACH	4.00	4.00
90823	TRAFFIC SIGNAL FACES, 3-12 HORIZONTAL	EACH	4.00	4.00
90834	TRAFFIC SIGNAL MOUNTING HARDWARE, USH 10 & CTH CB	L.S.	1.00	1.00
90838	BACKPLATES	EACH	14.00	14.00
90841	TRAFFIC SIGNAL CABLE, 5 CONDUCTOR, NO. 14	L.F.	320.00	320.00

90842	TRAFFIC SIGNAL CABLE, 7 CONDUCTOR, NO. 14	L.F.	495.00	495.00
90844	TRAFFIC SIGNAL CABLE, 12 CONDUCTOR, NO. 14	L.F.	875.00	875.00
90869	LOOP DETECTOR SLOTS	L.F.	196.00	196.00
90871	LOOP DETECTOR CONDUIT, 1-INCH	L.F.	920.00	920.00
90872	LOOP DETECTOR WIRE	L.F.	2,204.00	2,204.00

90873	LOOP DETECTOR LEAD IN CABLE	L.F.	2,800.00	2,800.00
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SHEET 3.1

TRAFFIC SIGNALS AND LUMINAIRES

PEDESTAL BASES EACH	TRANSFORMER BASES EACH	STANDARDS		STANDARDS		POLES TYPE 3 EACH	MAST TROMBONE EACH	ARM 25 FT EACH	LUMINAIRE 12 FT TRUSS	LUMINAIRES 150 WATTS HPS	FACES			
		ALUMINUM EACH	13 FT EACH	ALUMINUM EACH	15 FT EACH						3-12 VERT EACH	3-12 HORIZ EACH	5-12 VERT EACH	BACKPLATES EACH
6	4	4	2	4	4	4	4	4	4	4	6	4	4	14

NONMETALLIC CONDUIT

FROM	TO	3-INCH			
		1-INCH LF	2-INCH LF	3-INCH LF	SPECIAL LF
CB	PB-1	---	---	10	---
PB-1	PB-2	---	---	43	---
PB-2	SB-1	---	7	---	---
PB-2	PB-3	---	---	50	---
PB-3	SB-2	---	8	---	---
PB-3	PB-4	176	---	---	---
PB-4	PB-5	141	---	---	---
PB-3	PB-6	---	---	75	---
PB-6	SB-3	---	6	---	---
PB-6	PB-7	---	---	30	---
PB-7	SB-4	---	5	---	---
PB-7	PB-8	196	---	---	---
PB-7	PB-9	---	---	53	---
PB-9	SB-5	---	8	---	---
PB-9	PB-10	---	---	53	---
PB-10	SB-6	---	7	---	---
PB-10	PB-11	---	---	36	---
PB-11	SB-7	---	15	---	---
PB-11	PB-12	170	---	---	---
PB-12	PB-13	160	---	---	---
PB-11	PB-14	---	---	75	---
PB-14	SB-8	---	10	---	---
PB-14	PB-15	---	---	50	---
PB-15	SB-9	---	5	---	---
PB-15	PB-16	187	---	---	---
PB-15	PB-17	---	---	50	---
PB-17	SB-10	---	14	---	---
PB-17	PB-2	---	---	45	---
TOTALS		1.030	85	420	150

CONCRETE BASES AND CONCRETE CONTROL CABINET BASES

TYPE 1 EACH	TYPE 2 EACH	TYPE 9 EACH
6	4	1

LIGHTING CABLE, 2 CONDUCTOR, NO. 12 LF, WITH GROUND

FROM TO LF

SB-1 SB-8 210

SB-1 SB-3 235

SB-1 SB-1 110

SB-3 SB-6 200

ELECTRICAL WIRE, LIGHTING, NO. 12

LOCATION L.F.

SB-1 90

SB-3 90

SB-6 90

SB-8 90

TOTAL 755

360

LOOP DETECTOR CONDUIT LEAD IN CABLE AND SLOTS

LOOP NO.	SIZE FT X FT	NO. OF TURNS	CONDUIT 1-INCH LF	LEAD IN WIRE LF	CABLE LF	SLOTS LF
21	6 X 20	3	63	178	440	54
22	6 X 20	4	63	230	600	54
31	6 X 30	2	90	180	259	---
41	6 X 30	2	95	190	96	---
42	6 X 30	2	90	180	146	---
43	6 X 20	3	62	176	---	---
61	6 X 20	3	60	172	280	52
62	6 X 20	3	72	196	418	36
71	6 X 30	2	84	168	96	---
81	6 X 30	2	90	180	259	---
82	6 X 30	2	91	182	206	---
83	6 X 20	3	60	172	---	---
TOTALS		920	2.204	2.800	196	

PULL BOXES

12" X 24" EACH

24" X 36" EACH

6 11

CONCRETE SURFACE DRAINS

CONCRETE CURB & GUTTER, 36-INCH, TYPE D

STATION TO STATION LOCATION LF

99'NB'+16 - 99'NB'+76, RT USH 10 72

99'SB'+22 - 99'SB'+76, LT USH 10 86

100'SB'+24 - 100'SB'+87, LT USH 10 72

100'NB'+24 - 100'NB'+66, RT USH 10 70

TOTAL 300

STATE PROJECT NUMBER		SHEET NO.
1516-03-71		3A
MISCELLANEOUS QUANTITIES FOR OUTAGAMIE COUNTY		USH 10

TRAFFIC SIGNAL ELECTRIC WIRE, NO. 10

EQUIPMENT GROUNDING CONDUCTOR		GROUNDED CONDUCTOR	
FROM	TO	LF	LF
CB	SB-1	65	65
SB-1	PB-2	10	---
SB-1	SB-2	70	70
SB-2	PB-3	10	---
SB-2	SB-3	90	90
SB-3	PB-6	10	---
SB-3	SB-4	40	40
SB-4	PB-7	5	---
SB-4	SB-5	70	70
SB-5	PB-9	10	---
SB-5	SB-6	70	70
SB-6	PB-10	10	---
SB-6	SB-7	60	60
SB-7	PB-11	15	---
SB-7	SB-8	100	100
SB-8	PB-14	10	---
SB-8	SB-9	65	65
SB-9	PB-15	5	---
SB-9	SB-10	70	70
SB-10	PB-17	15	---
SB-10	SB-1	70	70
TOTALS		870	770

TRAFFIC SIGNAL CABLE

TRAFFIC SIGNAL CABLE NO. 14

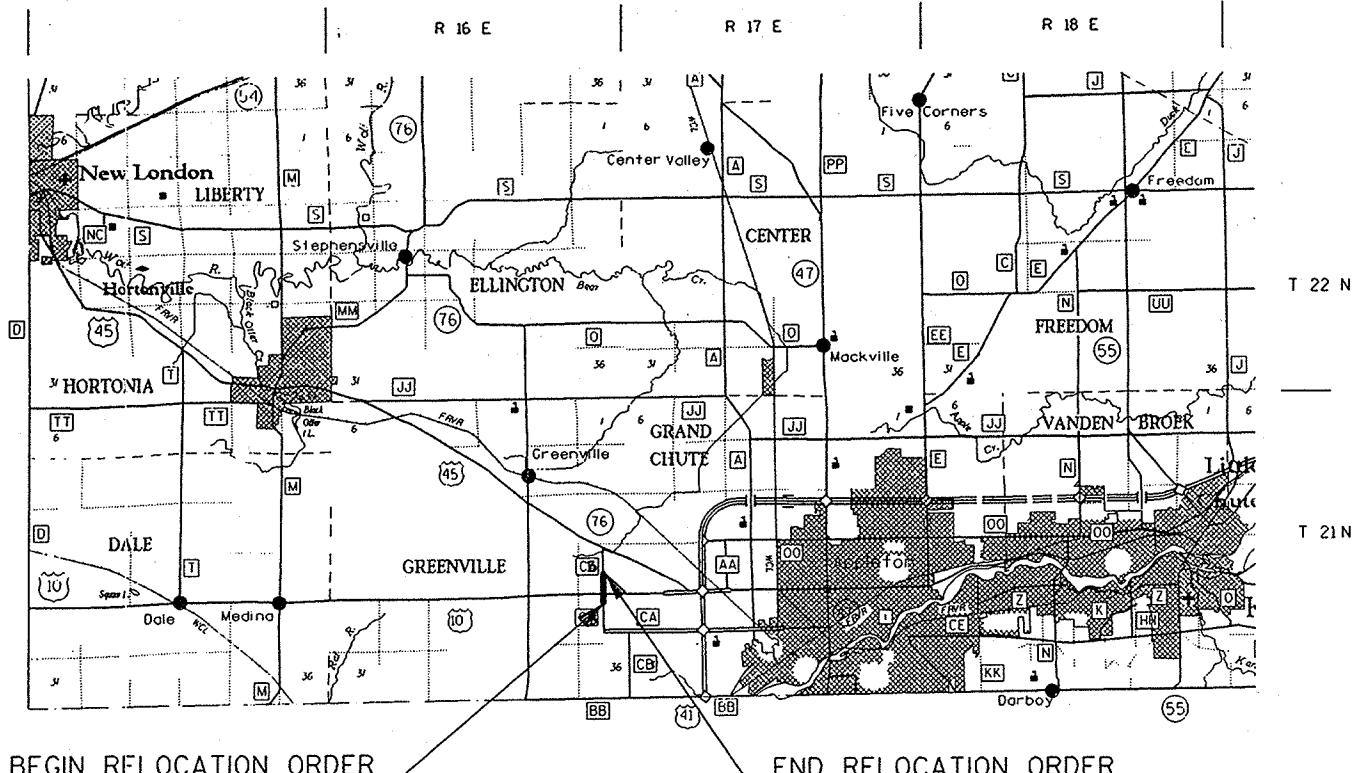
7-COND. LF		12-COND. LF	HEAD NO	5 COND. LF	BASE TO HEAD	7 COND. LF
USH 10						
CB-1	SB-8	---	240	5	50	---
SB-8	SB-7	120	---	3	20	---
CB-1	SB-2	---	135	1	20	---
SB-2	SB-3	105	---	6	20	---
CTH CB						
CB-1	SB-1	---	85	8	50	---
SB-1	SB-10	---	85	7	25	---
SB-10	SB-9	85	---	14	25</td	

Conventional Signs and Abbreviations

SECTION LINE	AC	ACRES	R	RADIUS
QUARTER LINE	△	CENTRAL ANGLE	R.	RANGE
TOWNSHIP AND RANGE LINE	COR.	CORNER	R/L	REFERENCE LINE
PROPOSED OR NEW CENTERLINE	CTH	COUNTY TRUNK HIGHWAY	R/W	RIGHT OF WAY
PROPOSED OR NEW R/W LINE	D	DEGREE OF CURVE	S	SOUTH
EXISTING R/W LINE	E	EAST	SEC	SECTION
LOT LINE	L	LENGTH OF CURVE	SL	SECTION LINE
PROPERTY LINE	LC	LONG CHORD	SO FT	SQUARE FEET
SLOPE INTERCEPTS	LCB	LONG CHORD BEARING	STA	STATION
R/W POINT	MI	MILE	T.	TOWN
FENCE	N	NORTH	T.	TANGENT LENGTH OF CURVE
SECTION OR QUARTER CORNER	PC	POINT OF CURVATURE	TLE	TEMPORARY LIMITED EASEMENT
POWER POLE	PI	POINT OF INTERSECTION	USH	UNITED STATES HIGHWAY
TELEPHONE PEDESTAL	PT	POINT OF TANGENCY	W	WEST
UNDERGROUND TELEPHONE CABLE	PLE	PERMANENT LIMITED EASEMENT		
TEMPORARY LIMITED EASEMENT				
NO ACCESS (BY ACQUISITION)				
NO ACCESS (BY STATUTORY AUTHORITY)				
NO ACCESS (BY PREVIOUS PROJECT)				

REVISION DATE	R/W PROJECT NUMBER	SHET NUMBER	TOTAL SHEETS
2/14/95	FEDERAL PROJECT NUMBER	4.0	
PLAT OF RIGHT OF WAY REQUIRED FOR CTH CAB (CTH CAB - USH 10) OUTAGAMIE COUNTY			
1516-3-71 / 4.0			

N



BEGIN RELOCATION ORDER

STA 82+50
881.10'N OF AND 31.53'W OF THE
CENTER OF SECTION 25, T21N, R16E

END RELOCATION ORDER

STA 144+32.37
874.63'S OF AND 54.37'E OF THE N 1/4
CORNER OF SECTION 24, T21N, R16E.

Notes

BEARING ORIENTATION

RIGHT OF WAY BEARINGS ARE ORIENTED TO THE WEST LINE OF THE SE 1/4 OF SECTION 25, T21N, R16E, WITH THE BEARINGS ESTABLISHED AS N00° 25' 34" W. THE DIFFERENCE BETWEEN PLAT BEARINGS REPRESENTS PLANE ANGLES IN DEGREES, MINUTES, AND SECONDS.

RIGHT OF WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS REFERENCED TO THE U.S. PUBLIC LAND SURVEY OR OTHER SURVEYS OF PUBLIC RECORD. OTHER INFORMATION IS PROVIDED TO SUPPLEMENT THE BASIC PERIMETER DESCRIPTION AND SHALL NOT BE CONSTRUED TO PREVAIL OVER THE PERIMETER DESCRIPTION.

AREAS SHOWN IN THE TOTAL ACRES COLUMN MAY BE APPROXIMATE AND ARE DERIVED FROM TAX ROLLS OR OTHER AVAILABLE SOURCES AND MAY NOT INCLUDE LANDS OF THE OWNER WHICH ARE NOT CONTIGUOUS TO THE AREA TO BE ACQUIRED.

LAYOUT
SCALE 0 2 MI.
TOTAL NET LENGTH OF CENTERLINE - 0.90 MI.

APPROVED FOR
7/29/95 *Wm. B. Brumley*

PLAT PREPARED BY:

OMNI
ASSOCIATES
APPLETON, WISCONSIN

LAND SURVEYOR
LARRY J. MILLER
S-1474
APPLETON
WIS.
Date
11/23/95
Date

SCHEDULE OF LANDS & INTEREST REQUIRED

ACRES SHOWN IN THE TOTAL ACRES COLUMN MAY BE APPROXIMATE AND ARE DERIVED FROM TAX ROLLS OR OTHER AVAILABLE SOURCES AND MAY NOT INCLUDE LANDS OF THE OWNER WHICH ARE NOT CONTIGUOUS TO THE AREA TO BE ACQUIRED.
(c) INDICATES CALCULATED AREA, BASED ON RECORD INFORMATION

REVISION DATE	ROUTE	COUNTY	DATE	R/W PROJECT NUMBER	HEET NUMBER
2/14/95	CTH C8	OUTAGAMIE		FEDERAL PROJECT NUMBER	
				1516-3-71	4.1

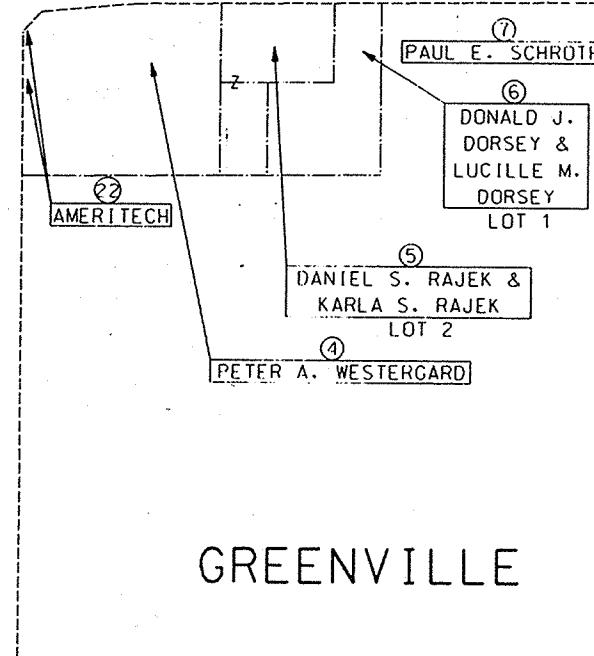
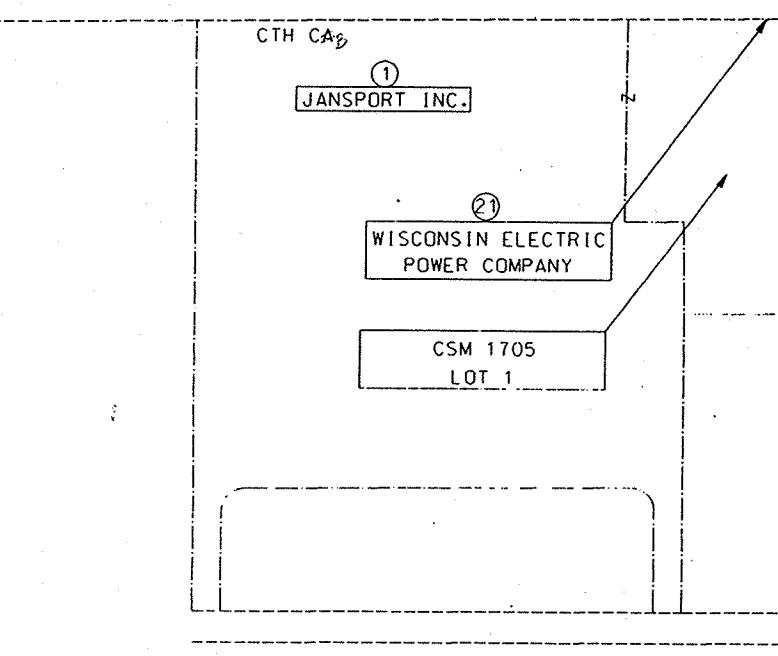
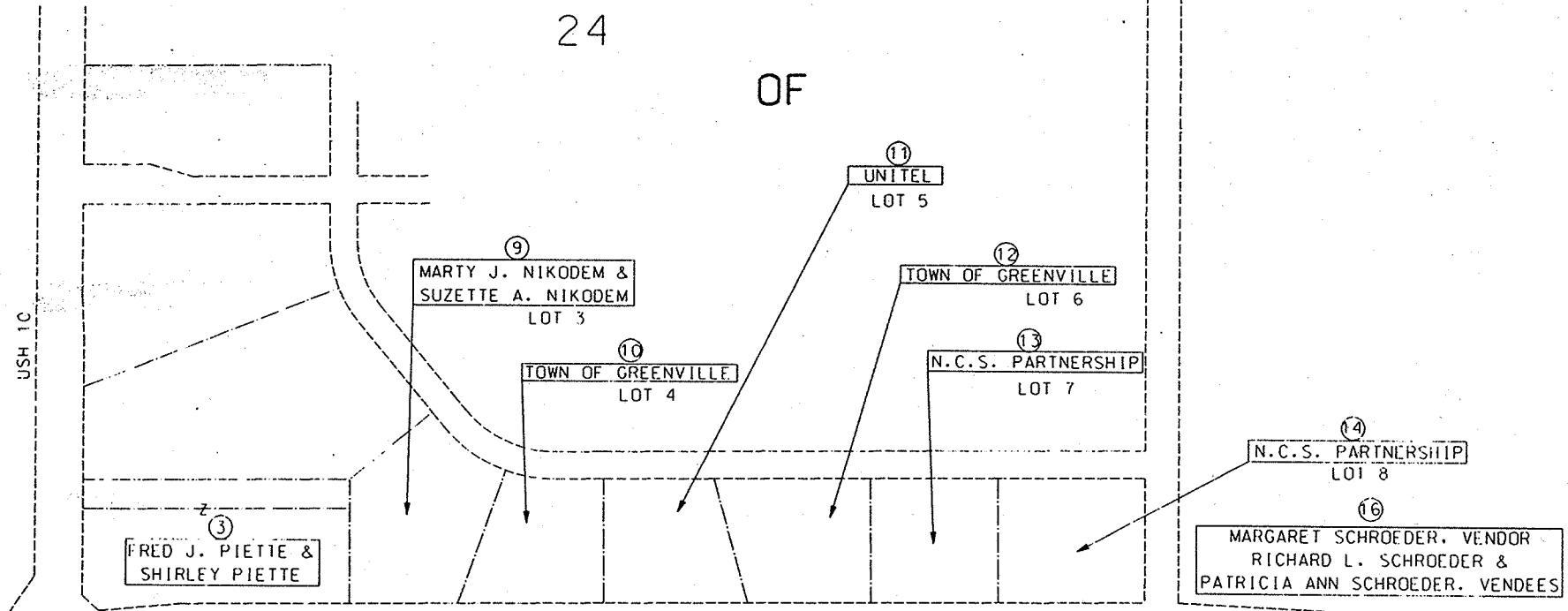
PARCEL SHEET NUMBER	OWNER	INTEREST REQUIRED	TOTAL ACRES	R/W ACRES			TOTAL ACRES		
				NEW	EXIST.	TOTAL	REM.	ILE	PLE
1	4.3	JANSPORT, INC.	FEE TITLE	34.01	0.48	0.00	0.48	33.53	--
2	4.3	OUTAGAMIE COUNTY AIRPORT	FEE TITLE & F.L.E.	1449.10	0.77	0.00	0.77	1448.33	0.18
3	4.4	FRED J. PIETTE & SHIRLEY PIETTE	FEE TITLE & ACCESS RIGHTS	4.46 (c)	0.07	0.00	0.35	4.39	--
4	4.4	PETER A. WESTERGARD	FEE TITLE & ACCESS RIGHTS	3.42 (c)	0.27	0.00	0.27	3.15	--
5	4.4	DANIEL S. RAJEK & KARLA S. RAJEK	FEE TITLE & ACCESS RIGHTS	1.12	0.09	0.00	0.09	1.03	--
6	4.4	DONALD J. DORSEY & LUCILLE M. DORSEY	FEE TITLE & ACCESS RIGHTS	1.31	0.03	0.00	0.03	1.28	--
7	4.4	PAUL F. SCHROTH	FEE TITLE & ACCESS RIGHTS	49.45	0.12	0.00	0.12	49.33	--
8	4.5	SILAS KOERNER	FEE TITLE & ACCESS RIGHTS	80.00	0.56	0.00	0.36	79.64	--
9	4.4	MARTY J. NIKODEM & SUZETTE A. NIKODEM	FEE TITLE	2.83	0.08	0.00	0.08	2.75	--
10	4.4	TOWN OF GREENVILLE	PLE	2.06	0.00	0.00	0.00	2.06	0.08
11	4.5	UNITLE	FEE TITLE	2.10	0.08	0.00	0.08	2.02	--
12	4.5	TOWN OF GREENVILLE	FEE TITLE	2.31	0.07	0.00	0.07	2.24	--
13	4.5	N.C.S. PARTNERSHIP	FEE TITLE	2.10	0.07	0.00	0.07	2.03	--
14	4.5	N.C.S. PARTNERSHIP	FEE TITLE	2.42	0.08	0.00	0.08	2.34	--
15	4.6.4.7	CATHERINE SCHLIMM	FEE TITLE & ACCESS RIGHTS	92.97	0.51	0.00	0.51	92.46	--
16	4.6.4.7	MARGARET SCHROEDER, VENDOR RICHARD L. SCHROEDER & PATRICIA ANN SCHROEDER, VENDEES	FEE TITLE & ACCESS RIGHTS	74.24	0.48	0.00	0.48	73.76	--
21	--	WISCONSIN ELECTRIC POWER COMPANY	RELEASE OF RIGHTS	--	--	--	--	--	--
22	--	AMERITECH	RELEASE OF RIGHTS	--	--	--	--	--	--

REVISION DATE 2/14/95	ROUTE CTH C ₂	COUNTY OUTAGAMIE	DATE	R/W PROJECT NUMBER	SHEET NUMBER
	SCALE, FT. 0 100 200 400 FT.	GRID FACTOR 0.999935		FEDERAL PROJECT NUMBER 1516-3-71	4.2 4.2

25
TOWN

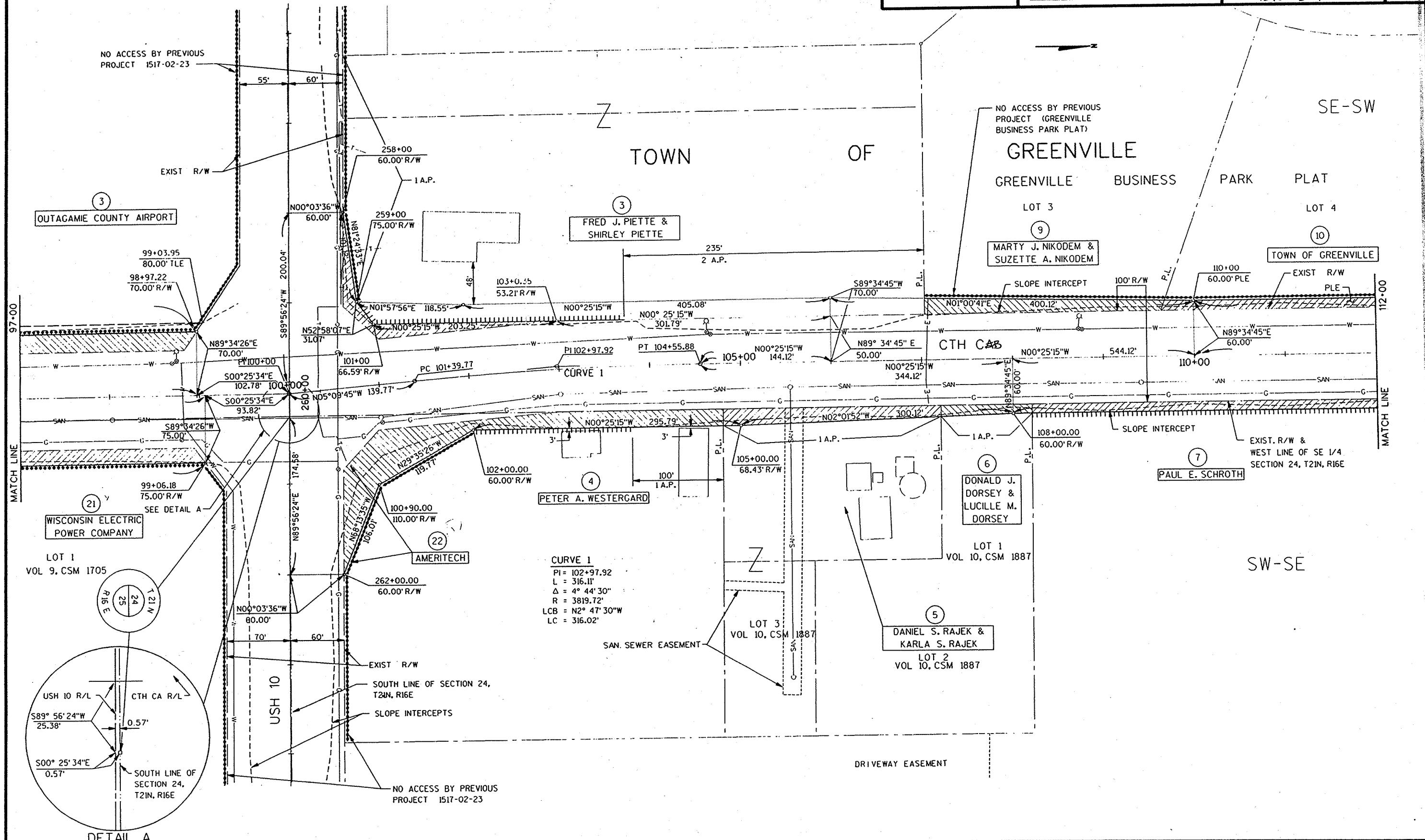
24

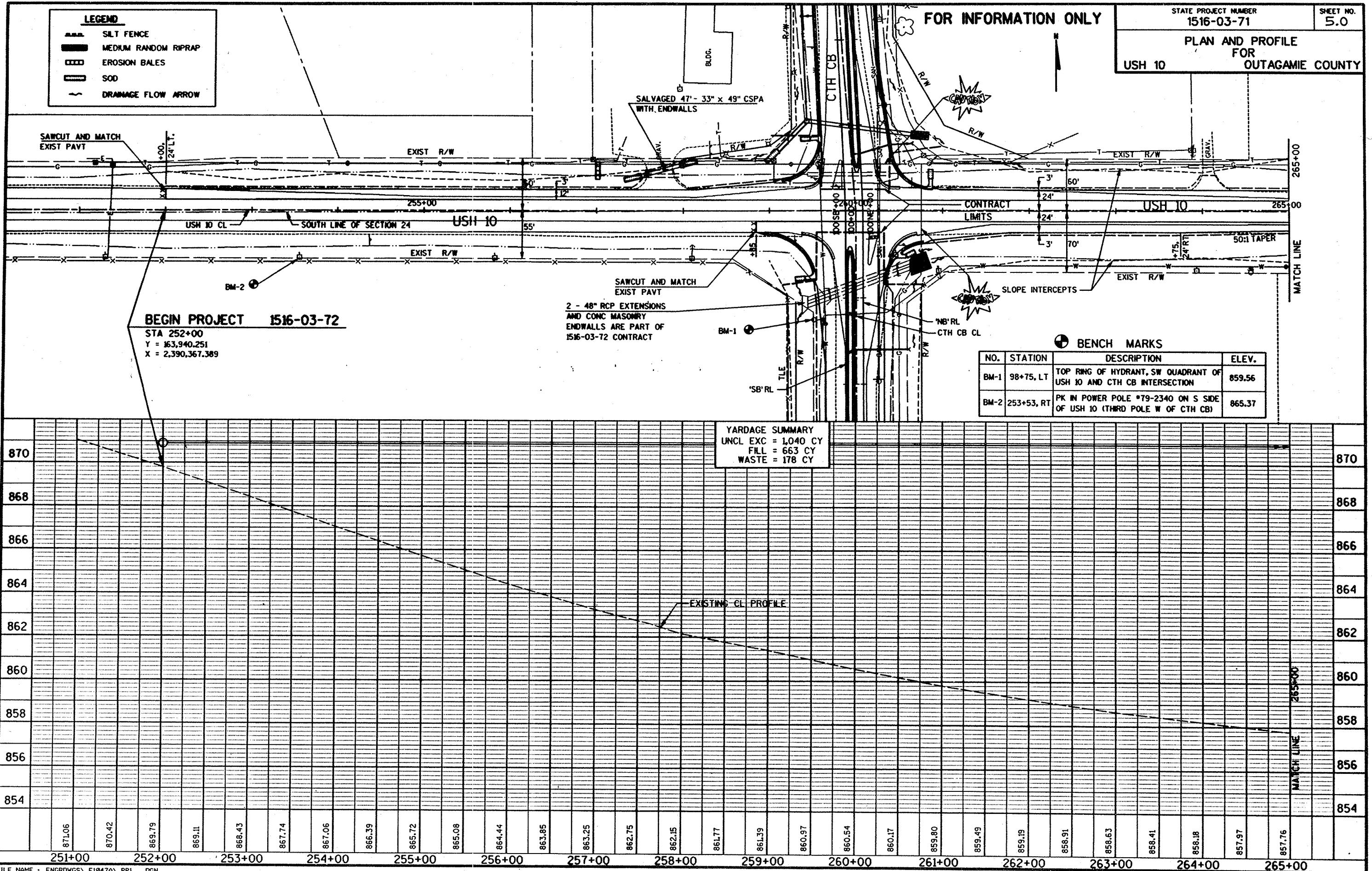
OF



GREENVILLE

REVISION DATE 2/14/95	ROUTE CTH C18	COUNTY OUTAGAMIE	DATE	R/W PROJECT NUMBER	HEET NUMBER
	SCALE, FT.	GRID FACTOR		FEDERAL PROJECT NUMBER	4.4
	0 25 50 100 FT.	0.999935		1516-3-71	4.3





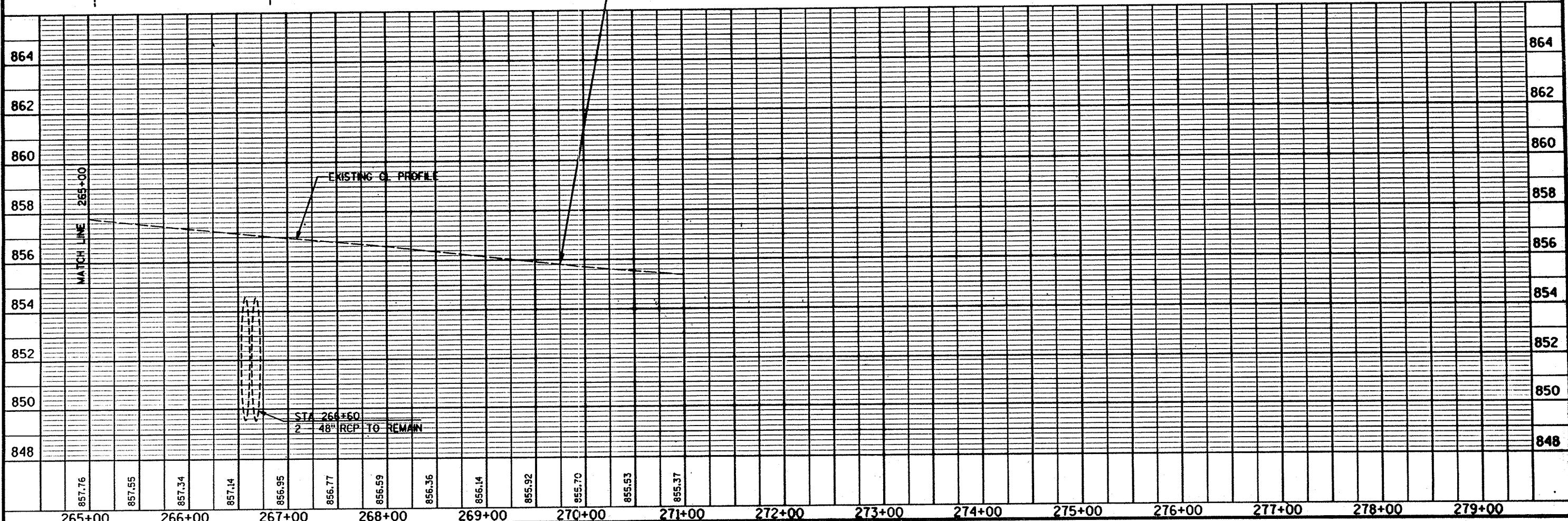
LEGEND

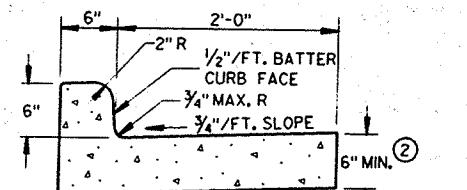
SILT FENCE
MEDIUM RANDOM RIPRAP
EROSION BALES
SOD
DRAINAGE FLOW ARROW

FOR INFORMATION ONLY

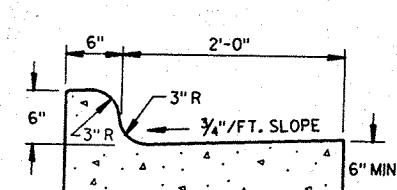
STATE PROJECT NUMBER 1516-03-71	HEET NO. 5.1
PLAN AND PROFILE FOR OUTAGAMIE COUNTY	

BENCH MARKS			
NO.	STATION	DESCRIPTION	ELEV.
BM-3	266+85, RT	PK IN POWER POLE #79-2346, S SIDE OF USH 10	855.95

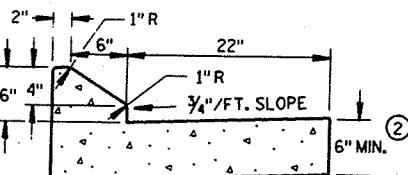




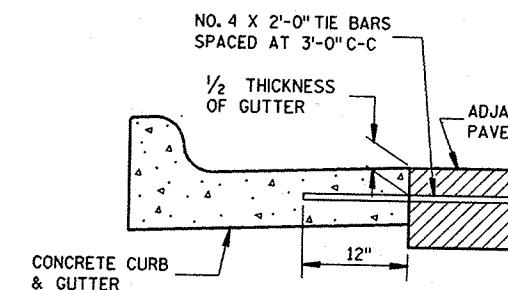
① TYPES A & D



① TYPES K & L

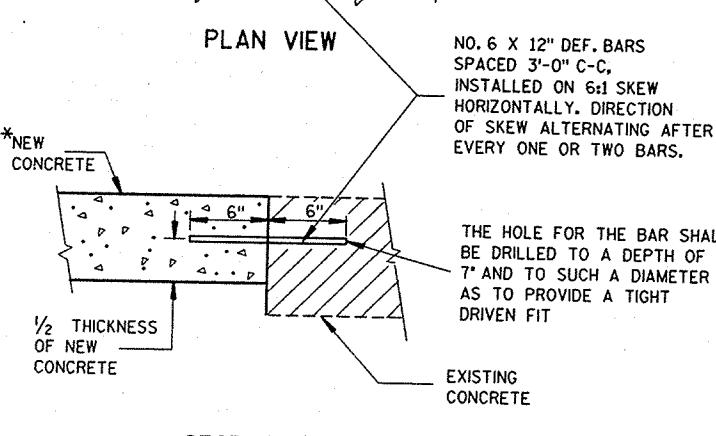
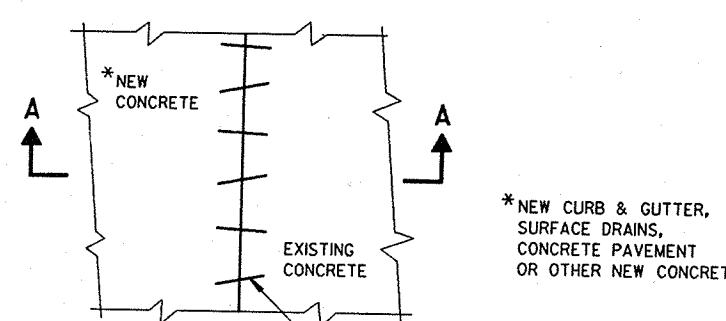
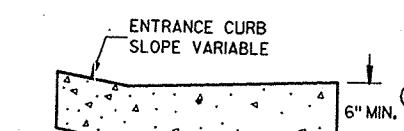
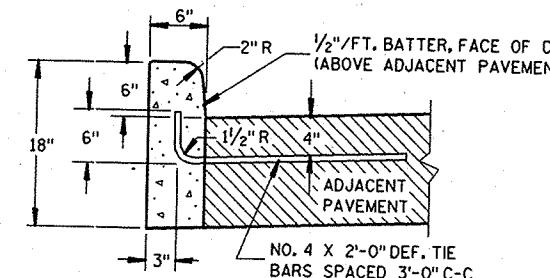


① TYPES G & J

OPTIONAL CURB SHAPE
FOR TYPES K & L

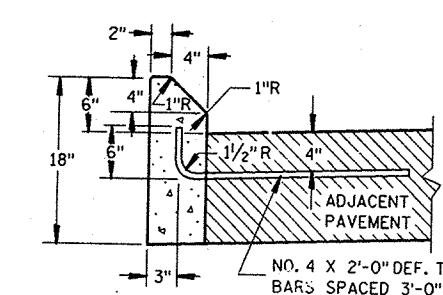
TYPICAL TIE BAR LOCATION ①

CONCRETE CURB & GUTTER 30"

SECTION A-A
PAVEMENT TIESDRIVEWAY 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

GENERAL NOTES

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

SEALANT IS NOT REQUIRED IN THE JOINTS OF CONCRETE CURB OR CONCRETE CURB & GUTTER EXCEPT AS REQUIRED FOR INTEGRAL GUTTER.

PAVEMENT TIES ARE REQUIRED, WHEN INCLUDED IN THE CONTRACT, WHERE CONCRETE CURB, CONCRETE CURB AND GUTTER OR CONCRETE PAVEMENT IS PLACED ADJACENT TO EXISTING CONCRETE.

PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.4 OF THE STANDARD SPECIFICATIONS.

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.

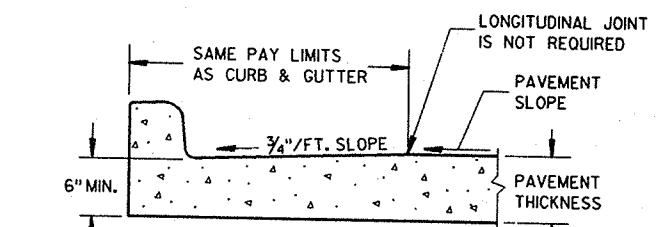
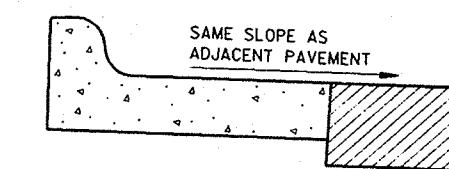
JOINTS IN INTEGRAL CURB & GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME SEALANT SPECIFIED FOR THE PAVEMENT JOINT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB & GUTTER.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE COURSE AND UNCLASSIFIED EXCAVATION LIMITS ARE TWO FEET 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 LOCATIONS WILL BE SHOWN ELSEWHERE IN THE PLAN.

PARTIAL SECTION OF PAVEMENT
WITH INTEGRAL CURB & GUTTER③ REVERSE SLOPE GUTTER
(TYPICAL FOR ALL CURB & GUTTER TYPES)

CONCRETE CURB, CONCRETE
CURB & GUTTER AND
PAVEMENT TIES

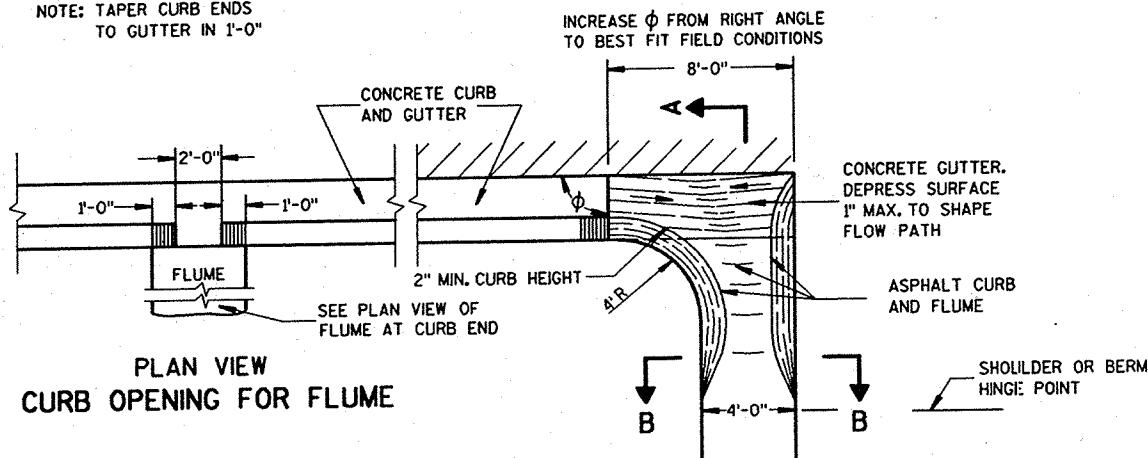
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10-23-86
DATE
FHWA

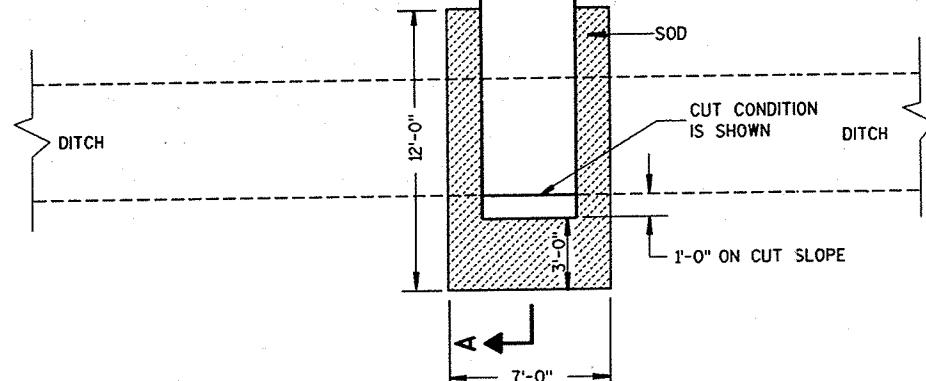
STATE DESIGN ENGINEER FOR HWYS

ASPHALTIC FLUME

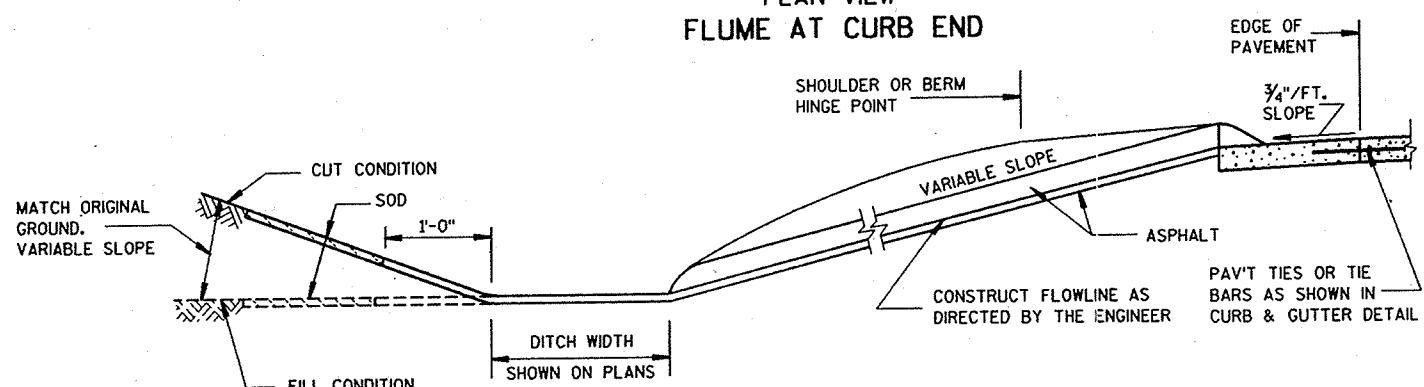
NOTE: TAPER CURB ENDS
TO GUTTER IN 1'-0"



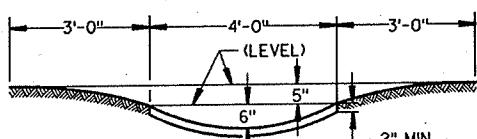
PLAN VIEW
CURB OPENING FOR FLUME



PLAN VIEW
FLUME AT CURB END



SECTION A-A



SECTION B-B

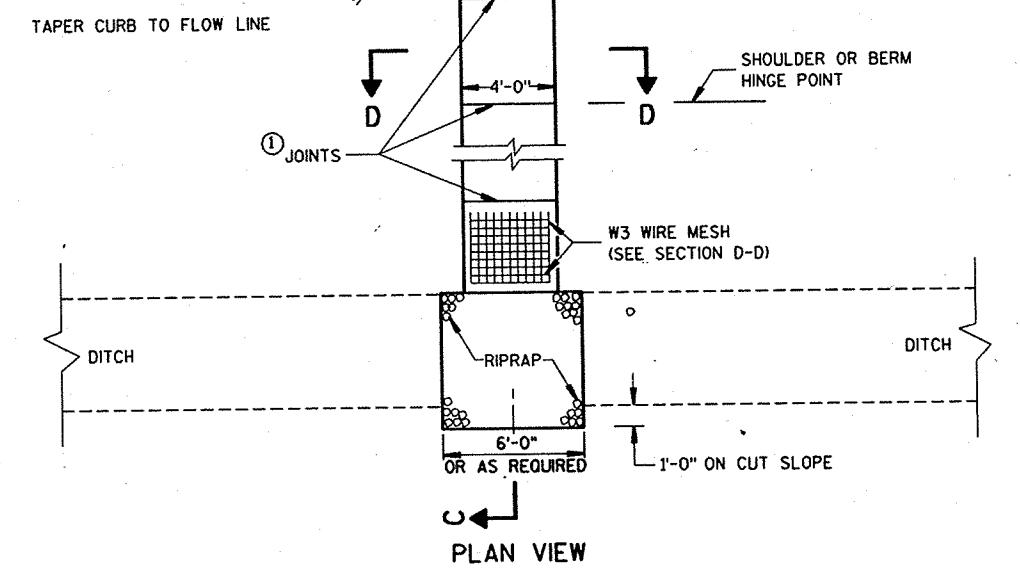
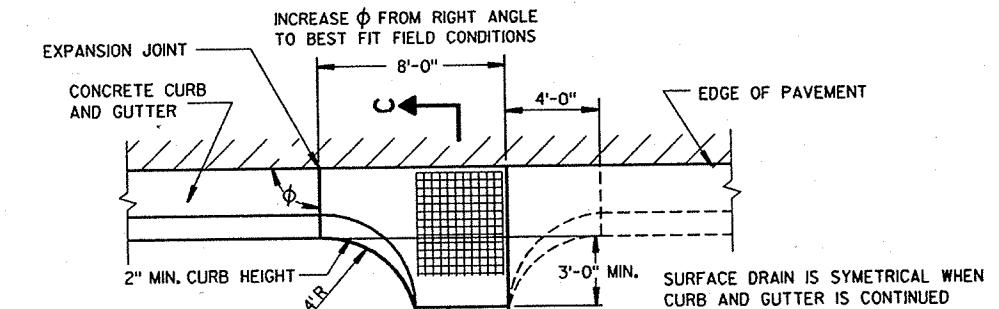
GENERAL NOTES

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

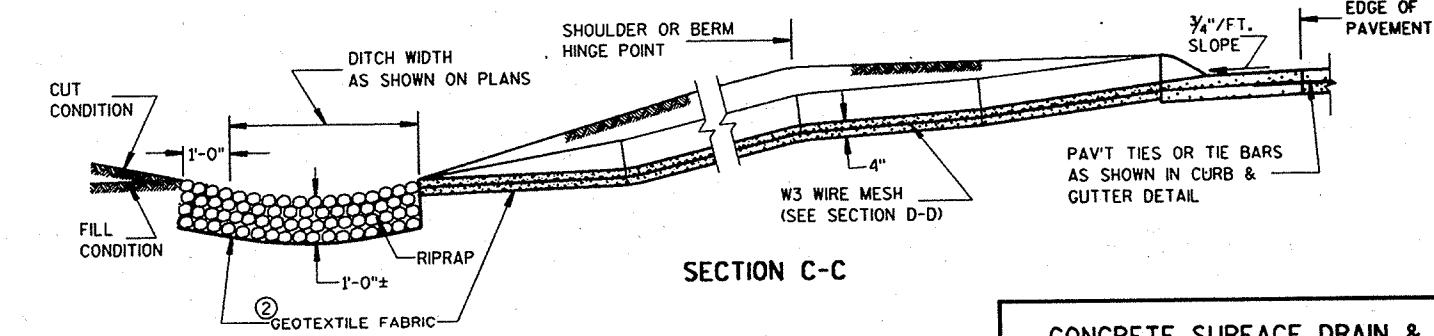
WELDED STEEL WIRE FABRIC SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

- ① JOINTS SHALL BE $\frac{1}{8}$ TO $\frac{1}{4}$ INCH WIDE BY $\frac{1}{2}$ INCHES DEEP AND SPACED AT UNIFORM INTERVALS OF APPROXIMATELY 4 FEET.
- ② GEOTEXTILE FABRIC TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.
- ③ CONCRETE SURFACE DRAIN WITHOUT CURB AND GUTTER MAY BE USED ON BACKSLOPES WHEN SPECIFIED

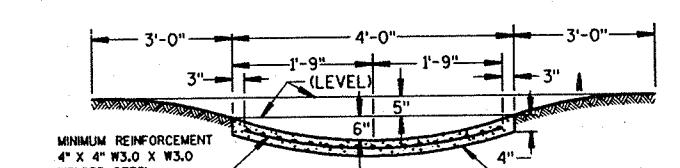
③ CONCRETE SURFACE DRAIN



PLAN VIEW



SECTION C-C



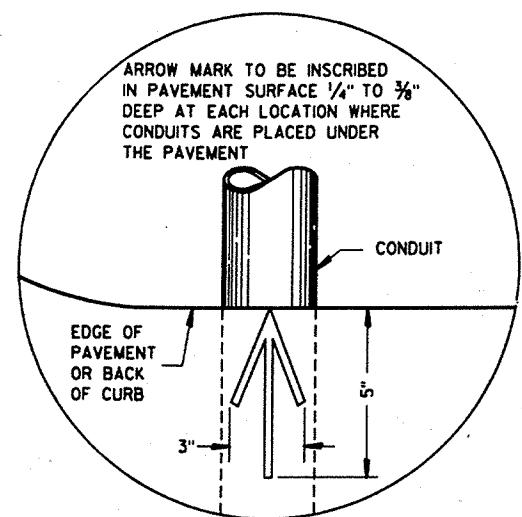
SECTION D-D

CONCRETE SURFACE DRAIN & ASPHALTIC FLUME

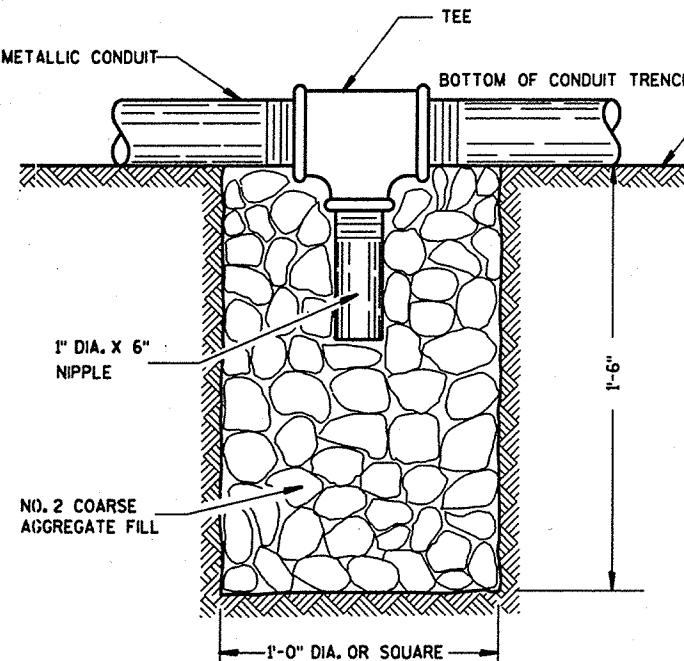
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/23/09
DATE
STATE DESIGN ENGINEER FOR HWYS
FHWA

S.D.D. 8 D 4-3

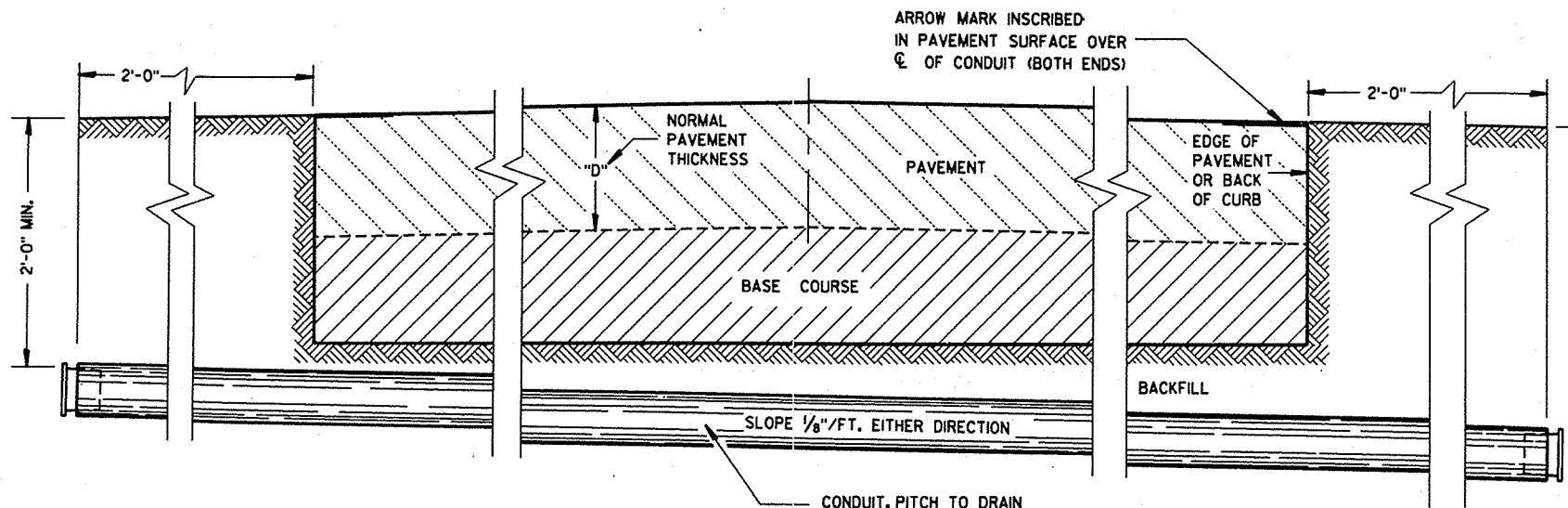


PLAN VIEW
ARROW MARK



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

DRAIN SUMP FOR CONDUIT



SIDE ELEVATION
DETAIL FOR CONDUIT UNDER PAVED HIGHWAYS

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 613.2.2) OR NONMETALLIC (STANDARD SPECIFICATION 613.2.3) 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.

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

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 PIPE FROM ONE END TO THE OTHER (FROM PULL BOX TO PULL BOX-OR-JUNCTION BOX TO JUNCTION BOX).

A #12 GAUGE, GALVANIZED PULL WIRE SHALL BE INSTALLED IN EACH RUN OF CONDUIT THAT DOES NOT RECEIVE CABLE OR WIRE UNDER THIS CONTRACT. THE PULL WIRE SHALL BE DOUBLED BACK 2 FEET AT EACH END CAP OF THE CONDUIT RUN.

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

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.

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

CONDUIT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED	<i>John Miller</i>
DATE	9/15/92
STATE ELECTRICAL ENGR FOR HWYS	
APPROVED	<i>John Miller</i>
DATE	9/15/92
STATE TRAFFIC ENGINEER FOR HWYS	
FHWA	

TABLE OF NOMINAL DIMENSIONS AND WEIGHTS

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

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.

POLYETHYLENE PULL BOXES SHALL NOT BE INSTALLED IN CONCRETE OR ASPHALTIC PAVEMENT. PULL BOXES LOCATED IN THE ROADWAY SHALL HAVE LOCKING COVERS.

ENTRANCE HOLES INTO PULL BOXES SHALL BE CUT WITH A CIRCULAR HOLE SA
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 $\frac{1}{4}$ ".

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

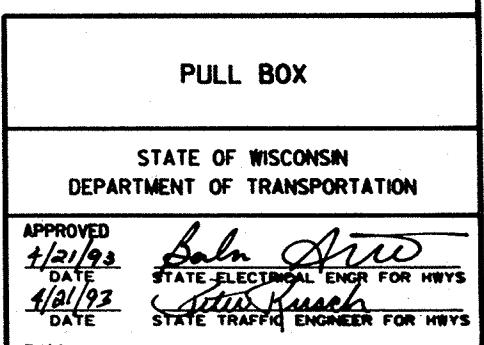
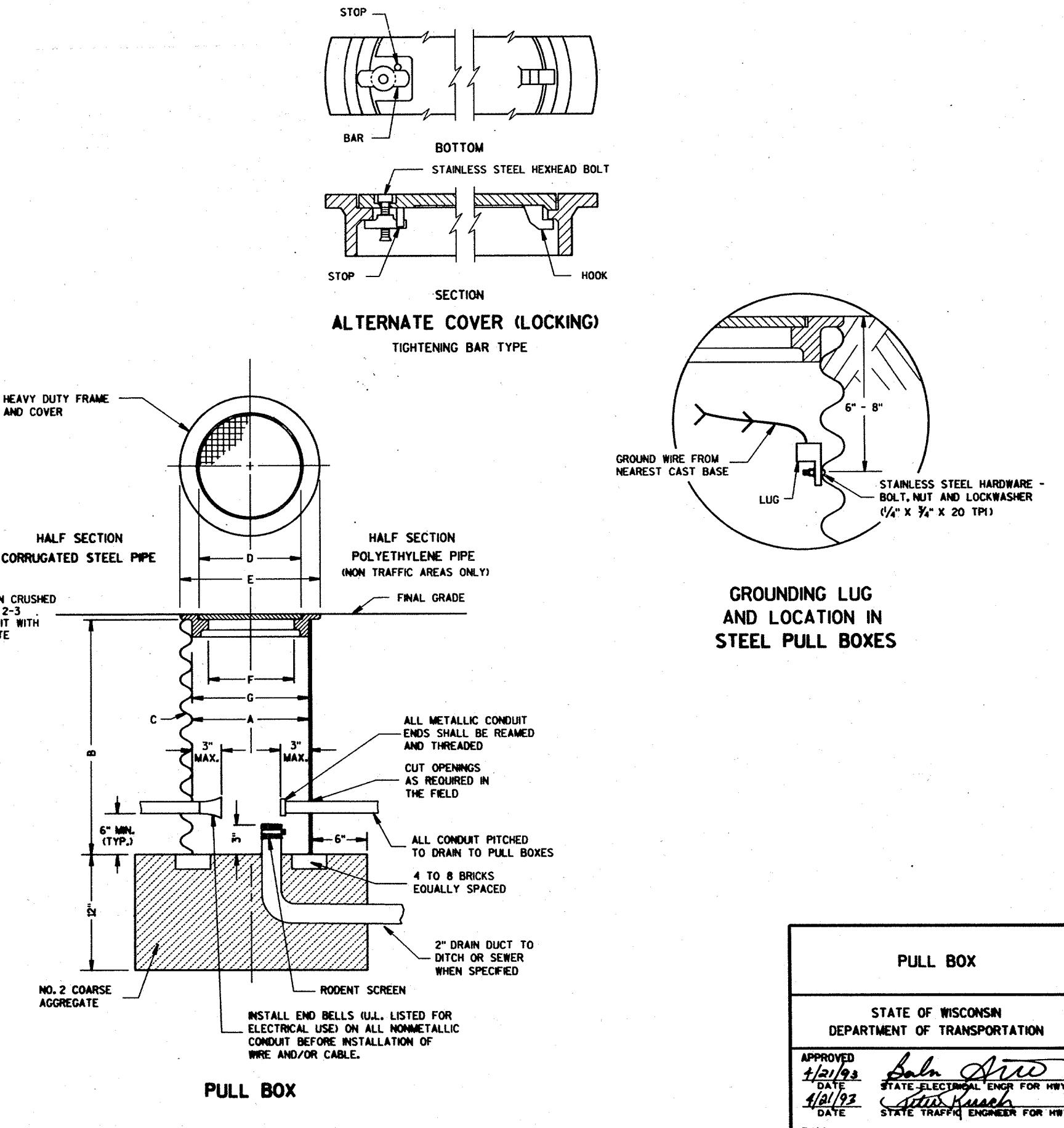
GROUNDING LUGS (MECHANICAL CONNECTORS) SHALL BE U.L. LISTED AND APPROVED FOR USE WITH COPPER WIRE. THE MECHANICAL CONNECTION (INSIDE AND OUTSIDE) TO THE PULL BOX, SHALL BE TOTALLY AND PERMANENTLY SEALED WITH A SILICONE OR RUBBERIZED CAULKING COMPOUND AS APPROVED BY THE ENGINEER.

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

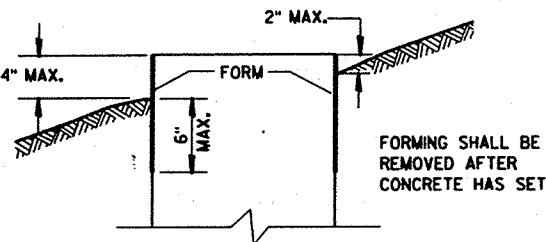
DRAIN DUCT SHALL BE MEASURED AND PAID FOR SEPARATELY.
RODENT SCREEN SHALL BE 1/4" GALVANIZED STEEL MESH AND BE INSTALLED WITH A

ROUGED SCREEN SHALL BE $\frac{1}{8}$ INCH GALVANIZED STEEL WIRE, AND BE INSTALLED
STAINLESS STEEL HOSE CLAMP OF SUFFICIENT SIZE.

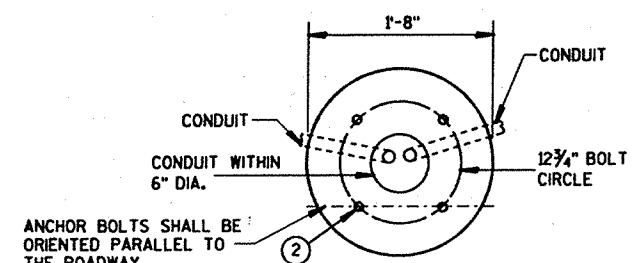
ALL METALLIC CONDUIT IN WHICH WIRE AND/OR CABLE IS TO BE INSTALLED,
SHALL BE PUSHED BEFORE INSTALLATION OF THE WIRE AND/OR CABLE.



FORM DEPTH SHALL BE
NO MORE THAN 6" BELOW
GRADE ON THE LOWER
SIDE OF BASE



FORMING DETAIL



FORM ALL EXPOSED
CONCRETE. PROVIDE
1" CHAMFER ALL AROUND

HALF SECTION
IN UNPAVED AREA
(TYPICAL FOR TYPES 1, 2 & 5)

TOPSOIL AND SEED OR
CRUSHED AGGREGATE

HALF SECTION
IN PAVEMENT
(TYPICAL FOR TYPES 1, 2 & 5)

TOPSOIL AND SEED OR
CRUSHED AGGREGATE
3/4" PREFORMED
FILLER AS APPROVED
BY THE ENGINEER

LOCK WASHER
(TYPICAL)

FORM ALL EXPOSED
CONCRETE. PROVIDE
1" CHAMFER ALL AROUND

CADWELDED CONNECTION
FOR GROUNDING WIRE

5/8" DIA. X 8'-0"
COPPERCLAD
GROUND ROD
REQUIRED

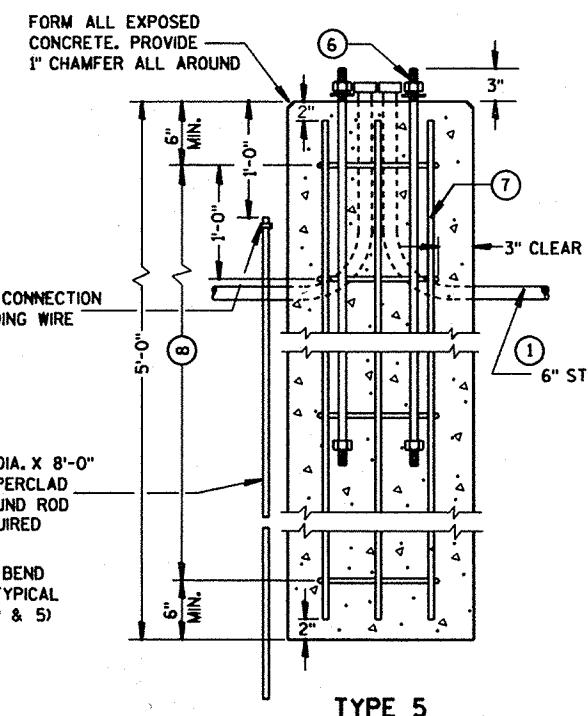
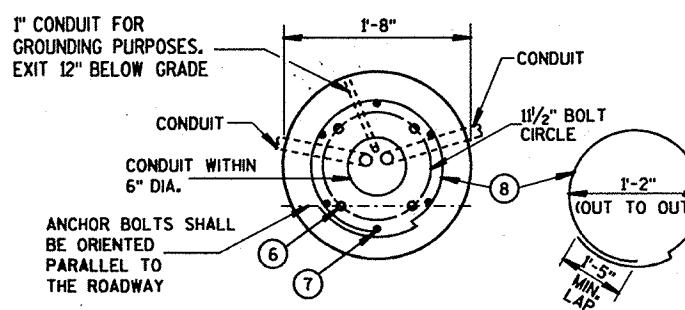
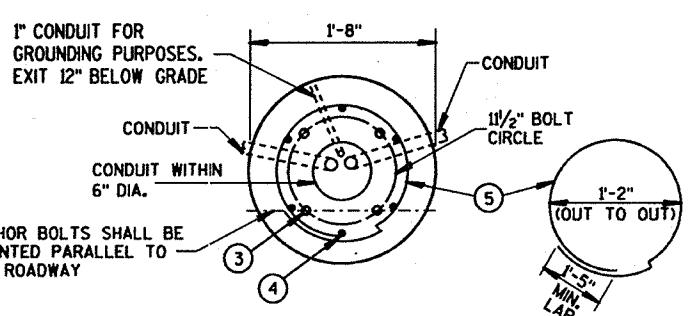
OPTIONAL 4" L BEND
OR HEX NUT (TYPICAL
FOR TYPES 1, 2 & 5)

TYPE 1

CONCRETE BASES

QUANTITY REQUIREMENTS	CONCRETE BASE TYPE		
	1	2	5
APPROX. CUBIC YARDS OF CONCRETE	.32	.57	.40
LBS. OF HOOP BAR STEEL	NONE	23	16
LBS. OF VERTICAL BAR STEEL	NONE	60	18

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



TYPE 2

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.

MINIMUM BENDING RADIUS OF CONDUIT = 6 X THE DIAMETER.

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

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 CONDUITS IN WHICH WIRE OR CABLE IS NOT INSTALLED
SHALL BE PLUGGED.

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.

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 1FOOT OR LESS.

A NO. 6 AWG, STRANDED COPPER GROUNDING WIRE SHALL BE CADWELDED
TO THE GROUND ROD FOR TYPE 2 AND TYPE 5 BASES.

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

ANCHOR BOLTS SHALL BE THREADED 8" IN LENGTH ON EACH END OF THE BOLT,
AND BE MANUFACTURED IN ACCORDANCE WITH SECTION 640.2.9 OF THE
STANDARD SPECIFICATIONS, ASTM A-449, OR ASTM A-687 (GRADE 105).

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

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 BOLTS.

③ (4) 1" DIA. X 5'-0" ANCHOR BOLTS.

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 BOLTS.

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

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

CONCRETE BASES

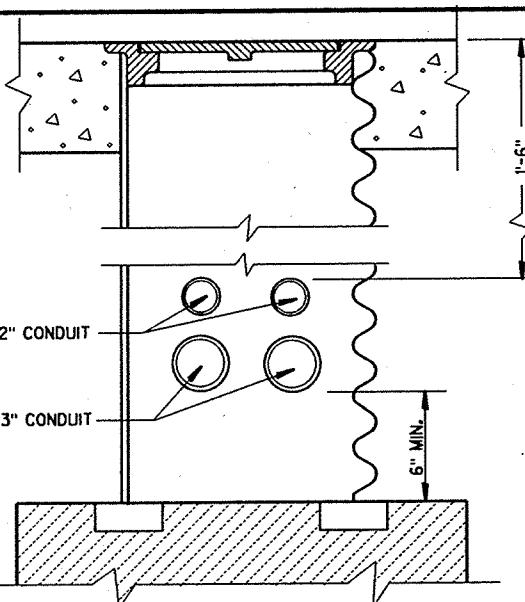
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4/21/93
DATE
4/21/93
DATE
FHWA

John Smith
STATE ELECTRICAL ENGR FOR HWYS
John Smith
STATE TRAFFIC ENGINEER FOR HWYS

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

TYPICAL 3'-0" X 3'-0"
MAINTENANCE PLATFORM.
LOCATION TO BE DETERMINED
IN THE FIELD.



GENERAL NOTES

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

INSTALL FOUR $\frac{1}{2}$ 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
BOLTS 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.

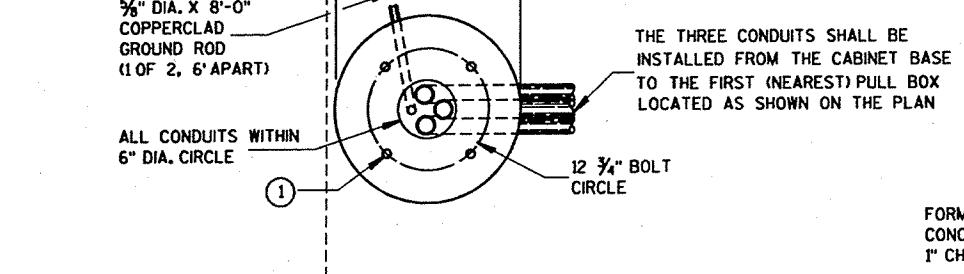
CONCRETE FORM DEPTH BELOW FINISHED GRADE SHALL BE 6" MAXIMUM. CONCRETE FORMS
SHALL BE REMOVED AFTER CONCRETE HAS SET.

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

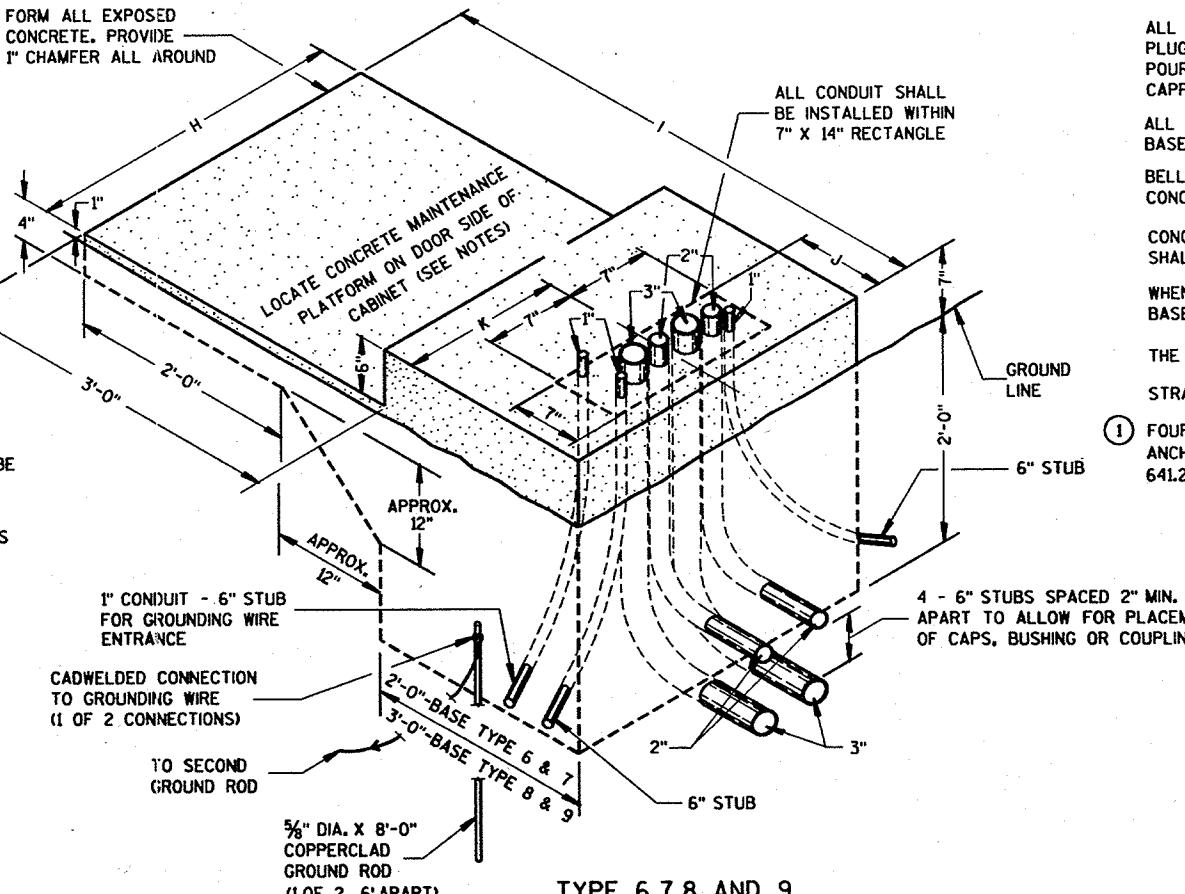
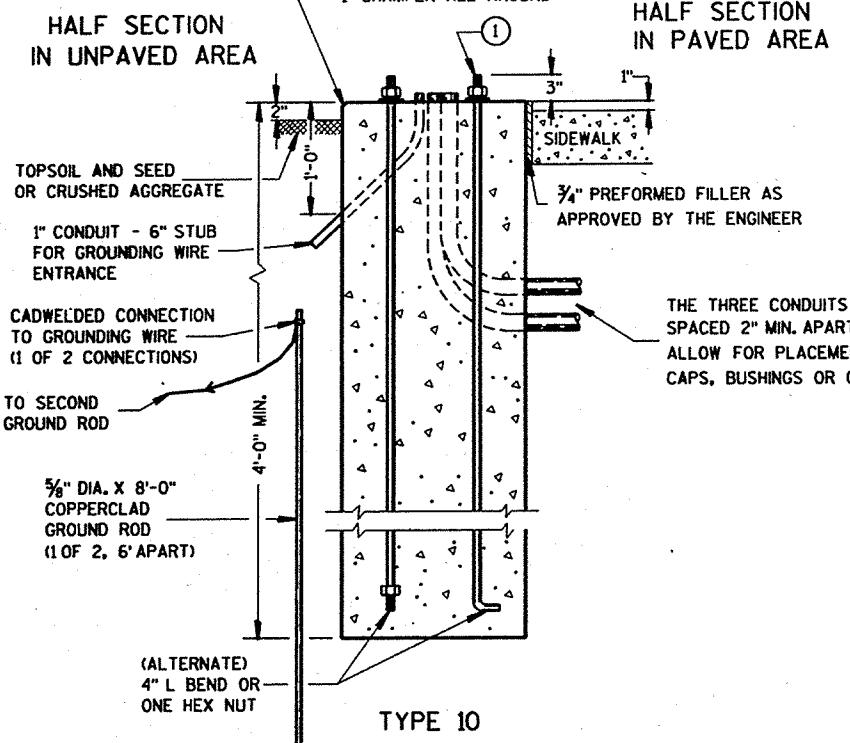
THE "L" BEND SHALL NOT BE THREADED.

STRAIGHT ANCHOR BOLTS SHALL BE THREADED 8" IN LENGTH ON EACH END OF THE BOLT.

① FOUR (4) ANCHOR BOLTS, 1" DIA. X 3'-6"
ANCHOR BOLTS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 640.2.9 AND
641.2.2 OF THE STANDARD SPECIFICATIONS AND IN ACCORDANCE WITH A-449.



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

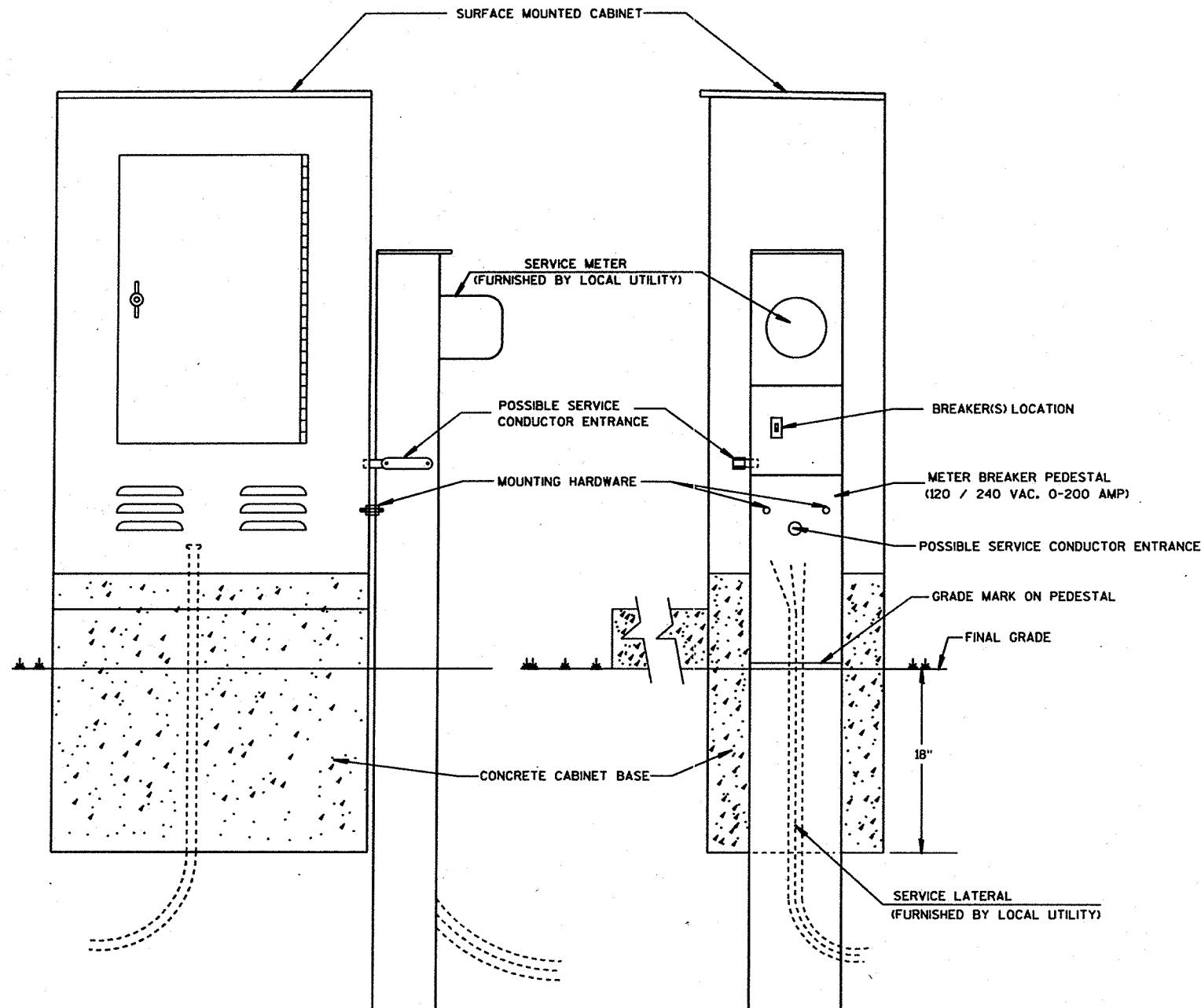


CONCRETE CONTROL CABINET BASES

CONCRETE CONTROL CABINET BASES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4/21/93
DATE
STATE ELECTRICAL ENGR FOR HWYS
4/21/93
DATE
STATE TRAFFIC ENGINEER FOR HWYS
FHWA



TYPICAL CABINET SERVICE INSTALLATION

S.D.D. 9 D 1-1

GENERAL NOTES

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

THE EXACT LOCATION OF THE METER BREAKER PEDESTAL SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

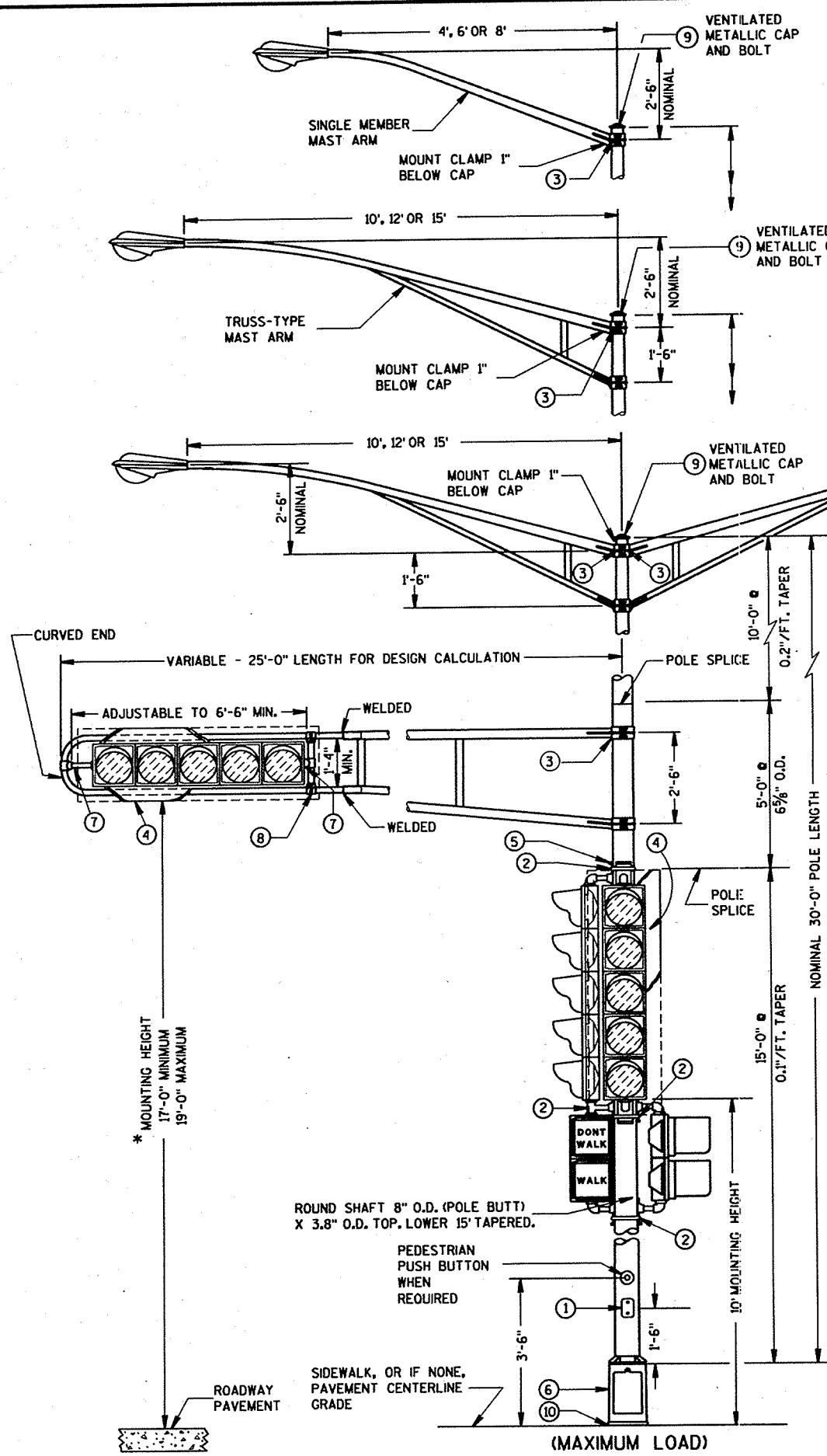
THE TYPE OF CONCRETE CABINET BASE TO BE INSTALLED SHALL BE AS CALLED FOR IN THE PLANS.

SERVICE CONDUCTOR ENTRANCES SHALL BE RIGID CONDUIT, NIPPLES AND/OR CONDULETS AS REQUIRED.

SERVICE CONDUCTOR ENTRANCES SHALL BE SIZED AS REQUIRED AND IN ACCORDANCE WITH APPROPRIATE ARTICLES OF THE LATEST ACCEPTED NATIONAL ELECTRICAL CODE.

CABINET SERVICE INSTALLATION	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 4/21/93 DATE	<i>Brian J. Smith</i> STATE ELECTRICAL ENGR FOR HWYS 4/21/93 DATE <i>Steve Smith</i> STATE TRAFFIC ENGINEER FOR HWYS FHWA

S.D.D. 9 D 1-1



GENERAL NOTES

ALL LUMINAIRE POLE MOUNTINGS SHALL BE DESIGNED FOR TWIN 15' ARMS WITH LUMINAIRES.

THE SLIPFITTER END OF THE LUMINAIRE MAST ARM SHALL BE A NOMINAL 2 1/8 INCHES IN OUTSIDE DIAMETER. THE STRAIGHT PORTION OF THE SLIPFITTER END OF THE LUMINAIRE MAST ARM SHALL BE A NOMINAL 12 INCHES IN LENGTH.

① 4" X 6" REINFORCED HANDHOLE & COVER ASSEMBLY WITH 2 (TWO) 1/4" X 3/4" - 20 TPI HEX HEAD STAINLESS STEEL BOLTS.

② SIGNAL FACE MOUNTING BRACKETS, MOUNT WITH CAP SCREWS AND BANDING. (SEE SPECIAL PROVISIONS).

③ GROMMETS, 1" CHASE NIPPLES OR 1" CLOSE CONDUIT NIPPLES WITH BUSHINGS SHALL BE PROVIDED FOR 1 1/8" HOLE IN POLE SHAFT FOR WIRING.

④ BACKBOARDS ARE REQUIRED AT ALL TIMES ON TROMBONE MAST ARM MOUNTED SIGNAL FACES. VERTICAL MOUNTED SIGNAL FACES WITH BACKBOARDS REQUIRED ARE LOCATED AS SHOWN ON THE PLANS. BACKBOARDS ARE REQUIRED TO SURROUND SIGNAL FACES. BACKBOARDS SHALL EXTEND 5" BEYOND EXTREMITIES OF THE SIGNAL FACE.

⑤ POLE MOUNTED SIGNAL FACES SHALL REQUIRE 1 OR MORE MOUNTING SPACERS UNDER THE TOP MOUNTING BRACKET(S) AS REQUIRED, TO PLUMB THE SIGNAL FACE.

⑥ CAST ALUMINUM TRANSFORMER BASE, WHEN REQUIRED.

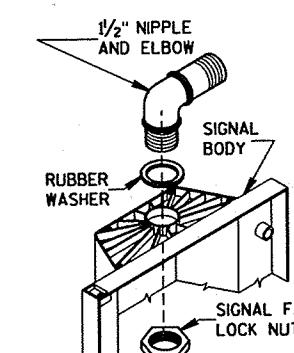
⑦ 1/2" PIPE THREAD ON THE MOUNTING BRACKET NIPPLES FOR THE SIGNAL FACE. NIPPLE SHALL BE 1/2" X 2".

⑧ VERTICAL STRUT (ADJUSTABLE). ONE (1) SET SCREW (1/4" X 3/4" - 20 TPI, STAINLESS STEEL, HEX HEAD) INTO EACH ARM MEMBER IF STRUT IS THE SLIDING TYPE.

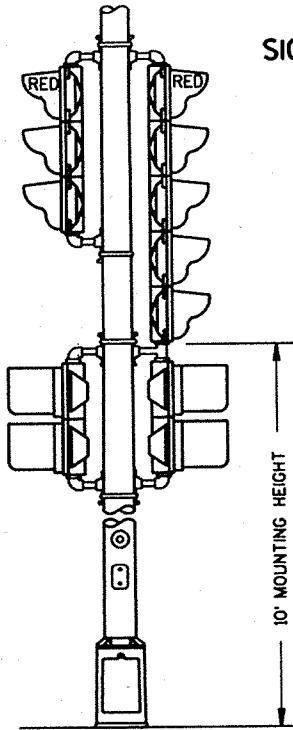
⑨ FURNISH AND INSTALL VENTILATED, CAST, METALLIC (ALUMINUM ALLOY CAPS. FASTEN CAPS WITH ONE (1) 1/4" X 3/4" - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.

⑩ SHIMMING, IF NEEDED, SHALL BE LOCATED BETWEEN THE CONCRETE FOUNDATION AND THE TRANSFORMER BASE.

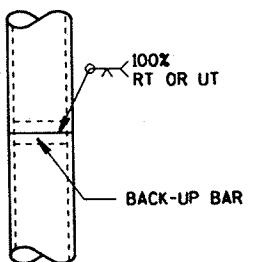
* MOUNTING HEIGHT LIMITATION DIMENSIONS OF THE TROMBONE MAST ARM WILL BE DEPENDENT UPON THE USE/NON-USE OF A TRANSFORMER BASE.



SIGNAL FACE MOUNTING DETAIL



WELD TO BE 100% R.T. OR U.T. TESTED AS PER THE REQUIREMENTS OF AWS D 15-88. RECORDS OF COMPLIANCE OF SUCH TESTING SHALL BE FURNISHED TO THE PROJECT ENGINEER FOR APPROVAL PRIOR TO SHIPMENT OF THE POLES. VERIFICATION AND APPROVAL OF THE TESTING CERTIFICATION FROM THE MANUFACTURER SHALL BE COMPLETED BY THE CENTRAL OFFICE BRIDGE SECTION.

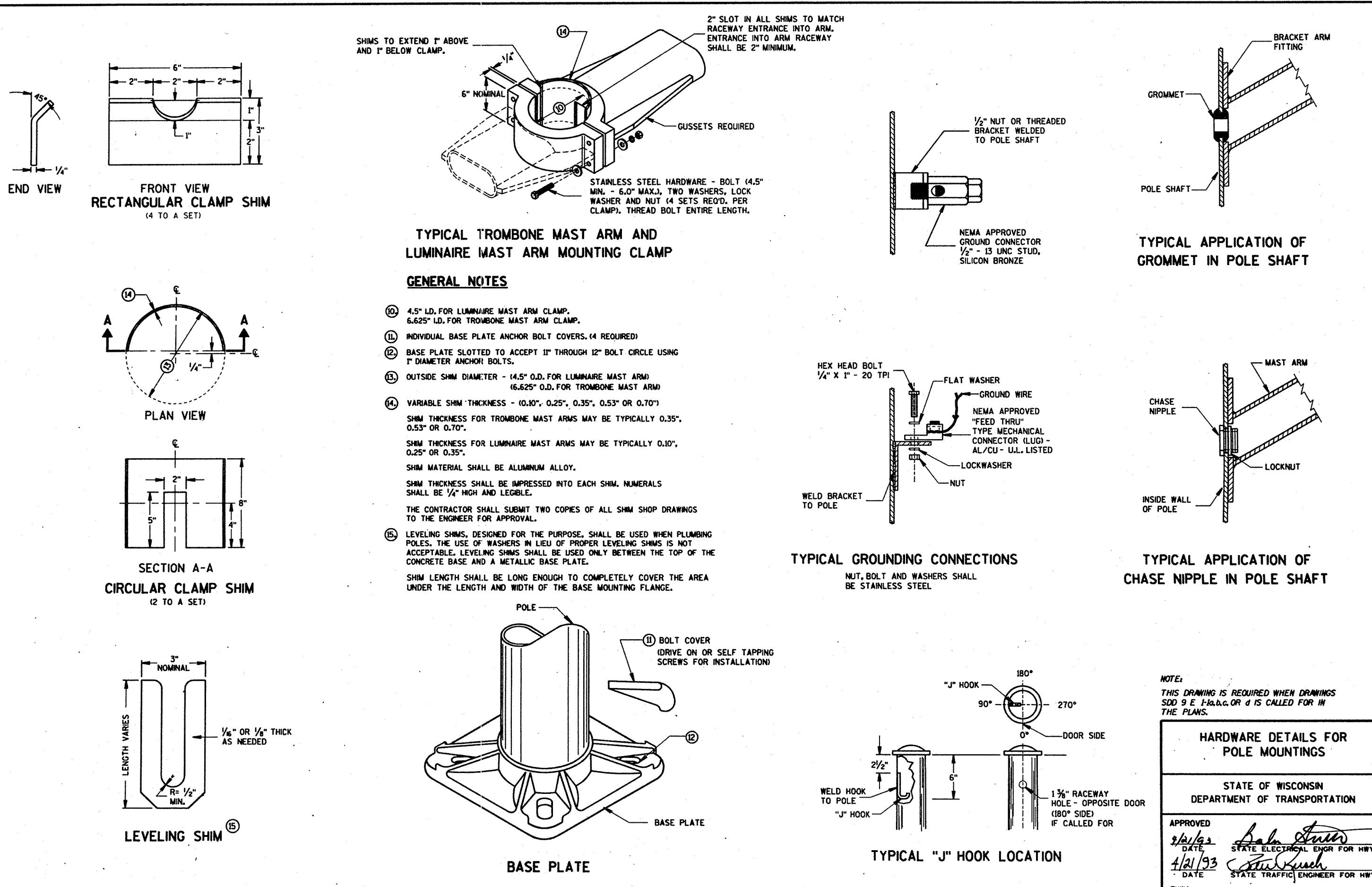


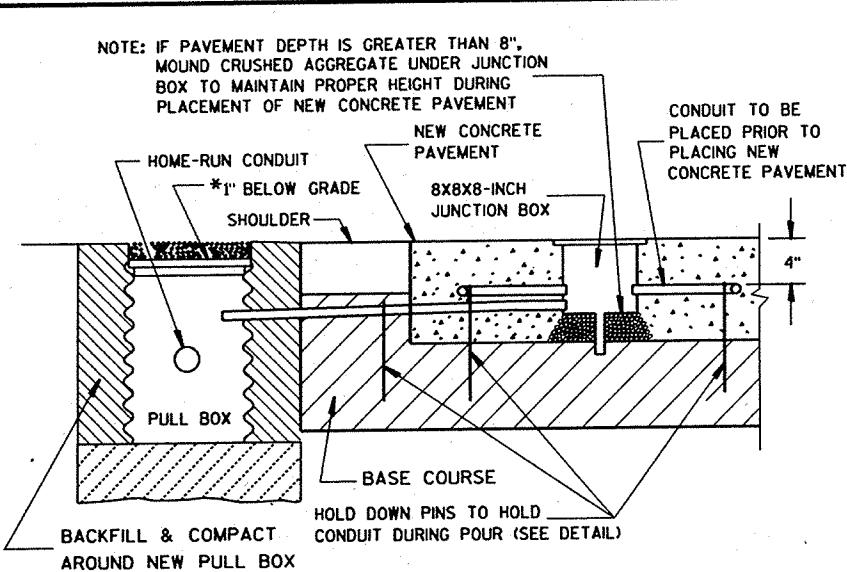
POLE SPLICE DETAIL

NOTE:
SHEET SOD 9 E 1-1b IS REQUIRED WHEN THIS DRAWING IS CALLED FOR IN THE PLANS.

POLE MOUNTINGS FOR TRAFFIC SIGNALS AND LIGHTING UNITS, TYPE 3

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION





SECTION A-A
NO CURB & GUTTER

LOOP DETECTOR INSTALLATION DETAIL

*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 "INFINITY" TO GROUND ON AN OHMMETER USING A MULTIPLIER SCALE OF 1MEG OHM AND AN INPUT RESISTANCE OF 11MEG OHMS 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.

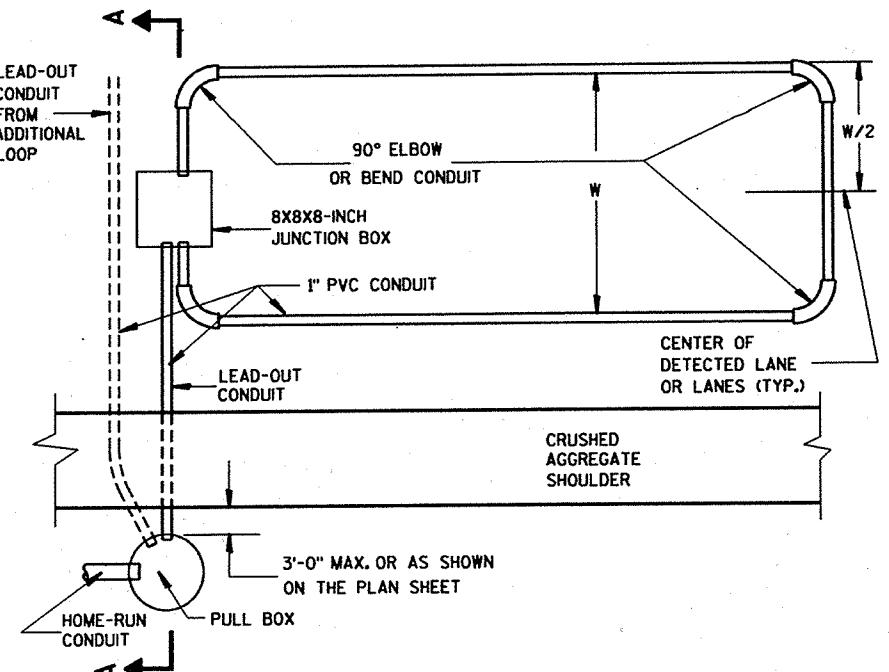
LOOP DETECTOR LEADS SHALL BE IDENTIFIED WITH THEIR ASSOCIATED LOOP BY USE OF WATERPROOF TAGS AT BOTH ENDS OF THE CABLE. A LISTING OF THE CABLE IDENTIFICATION PER INDIVIDUAL LOOP LEAD-IN SHALL BE PLACED IN THE CABINET.

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

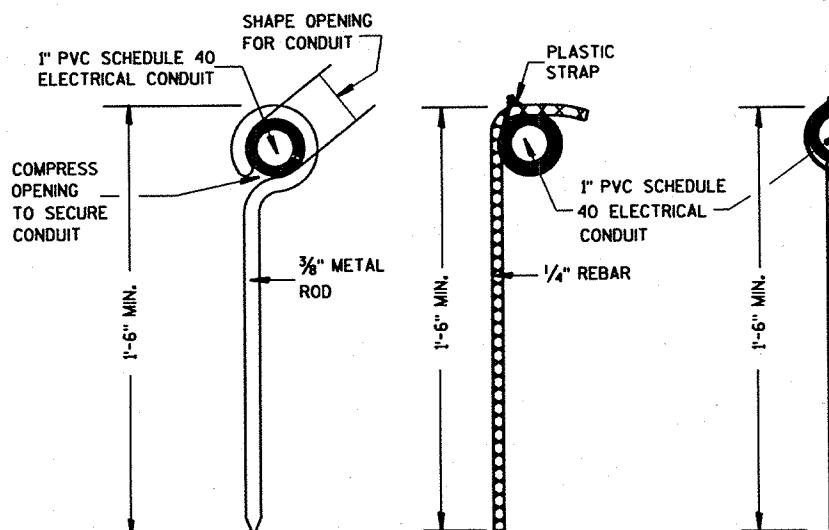
SPlices of loop wire to lead-in cable shall be made only in pull boxes at the side of the road.

THE #12 AWG LOOP WIRE SHALL BE INSTALLED FROM THE ROAD SIDE PULL BOX, THROUGH THE JUNCTION BOX, THROUGH THE LOOP CONDUIT, BACK TO THE ROADSIDE PULL BOX, AND BE INSTALLED IN ONE, NON-SPliced CONTINUOUS LENGTH.

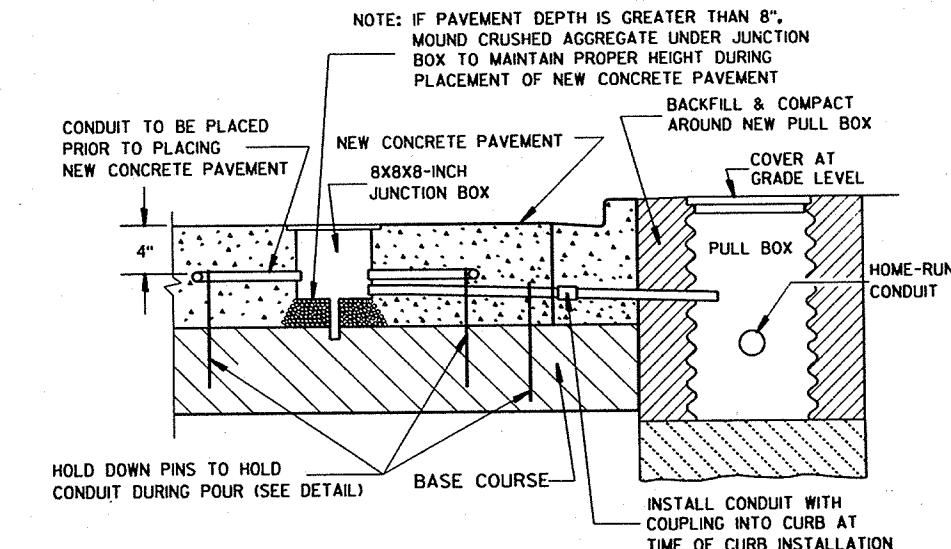
PROTECTION OF THE JUNCTION BOX AND RELATED CONDUITS SHALL BE REQUIRED AFTER INSTALLATION AND BEFORE NEW CONCRETE PAVEMENT IS POURED.



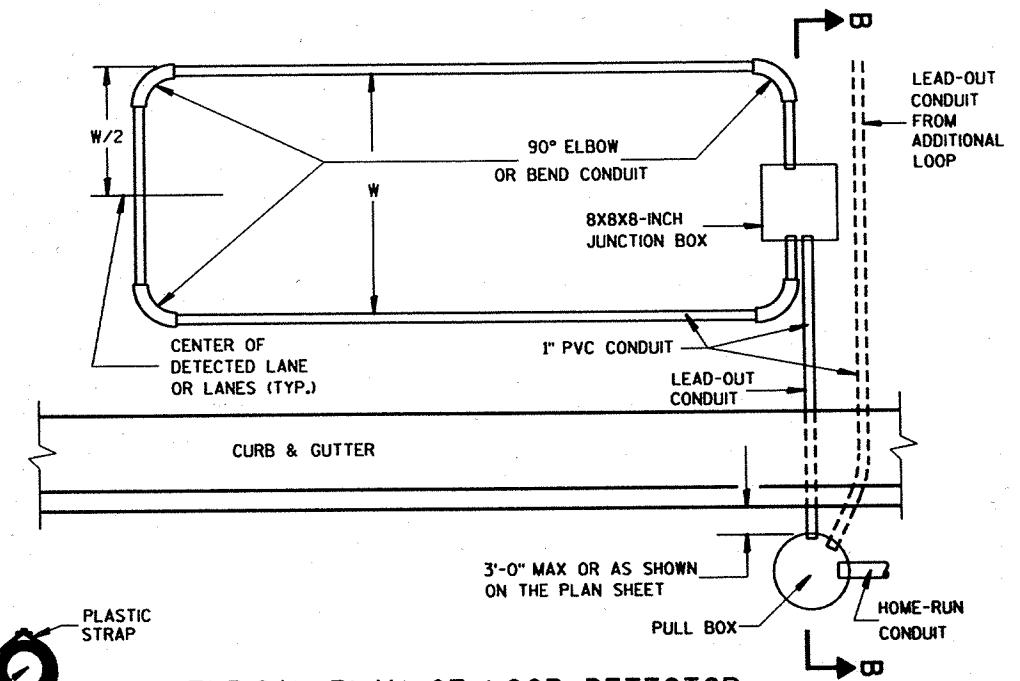
TYPICAL PLAN OF LOOP DETECTOR
WITH 8X8X8-INCH JUNCTION BOX



TYPICAL DETAILS FOR HOLD DOWN PINS



SECTION B-B
CURB & GUTTER
LOOP DETECTOR INSTALLATION DETAIL



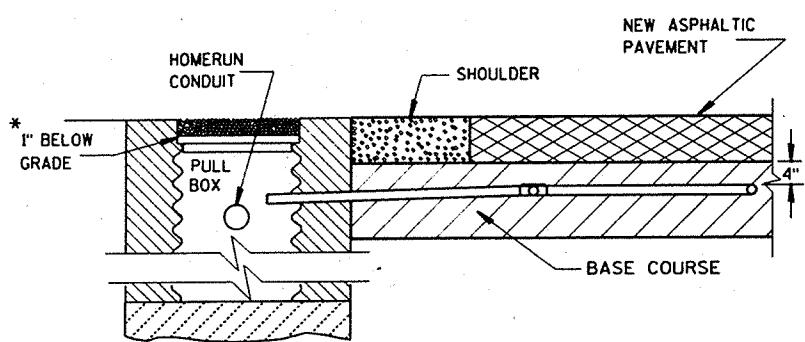
TYPICAL PLAN OF LOOP DETECTOR
WITH 8X8X8-INCH JUNCTION BOX

LOOP DETECTOR INSTALLED
IN NEW CONCRETE PAVEMENT
8X8X8-INCH JUNCTION BOX
(MULTIPLE LEAD-OUT)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4/21/93
DATE
4/21/93
DATE
FHWA

STATE ELECTRICAL ENGR FOR HWYS
STATE TRAFFIC ENGR FOR HWYS



SECTION A-A
NO CURB & GUTTER
DETECTOR LOOP INSTALLATION DETAIL

*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 "INFINITY" 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 TURNS 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.

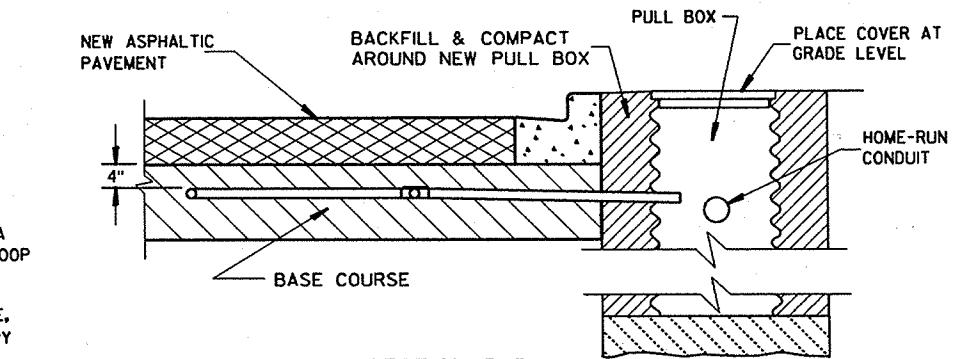
THE #12 AWG LOOP WIRE SHALL BE INSTALLED FROM THE ROADSIDE PULL BOX, THROUGH THE LOOP DUCT, BACK TO THE ROADSIDE PULL BOX, AND BE INSTALLED IN ONE, NON-SPliced, CONTINUOUS LENGTH.

PROTECTION OF THE CONDUIT AND CONDULET SHALL BE REQUIRED AFTER INSTALLATION AND BEFORE THE ASPHALTIC PAVEMENT IS PLACED.

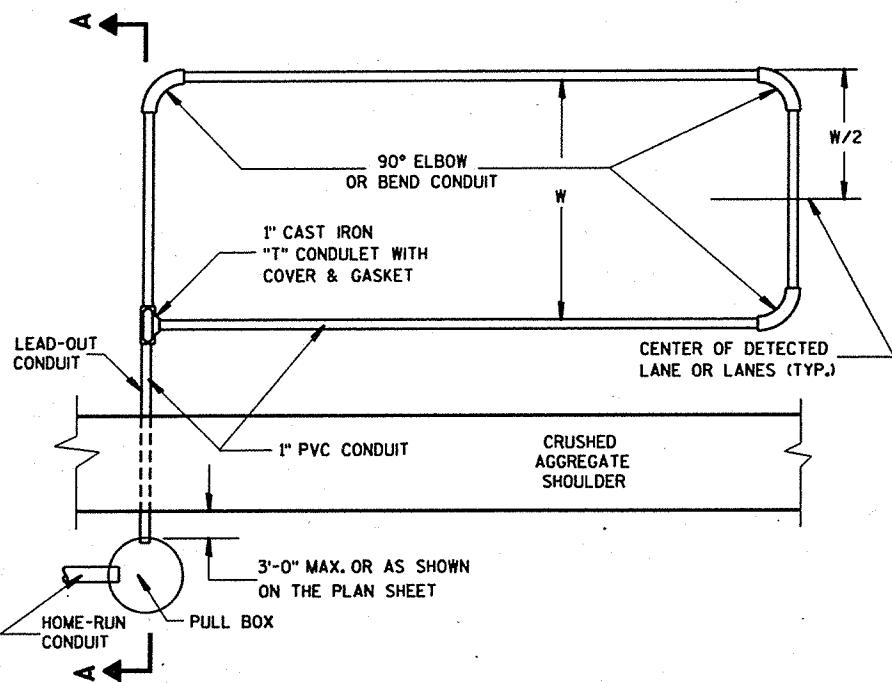
WHEN MULTIPLE LAYERS OF ASPHALTIC PAVEMENT ARE TO BE PLACED, LOOPS MAY BE INSTALLED BY SAWING A TWO INCH WIDE SLOT IN THE FIRST LAYER, DIG OUT THE ASPHALTIC MATERIAL AND BASE COURSE, PLACE THE LOOP, FILL THE SLOT WITH BASE COURSE MATERIAL AND NEW ASPHALTIC MATERIAL AND TAMP THE ASPHALTIC MATERIAL IN PLACE.

SHOULD TRAFFIC BE ALLOWED TO USE THE AREA OF ROADWAY WITH THE NEWLY INSTALLED LOOP BEFORE THE PLACEMENT OF THE NEXT LAYER OF ASPHALTIC PAVEMENT, THE SLOT SHALL BE SEALED AS STATED IN THE SPECIAL PROVISIONS.

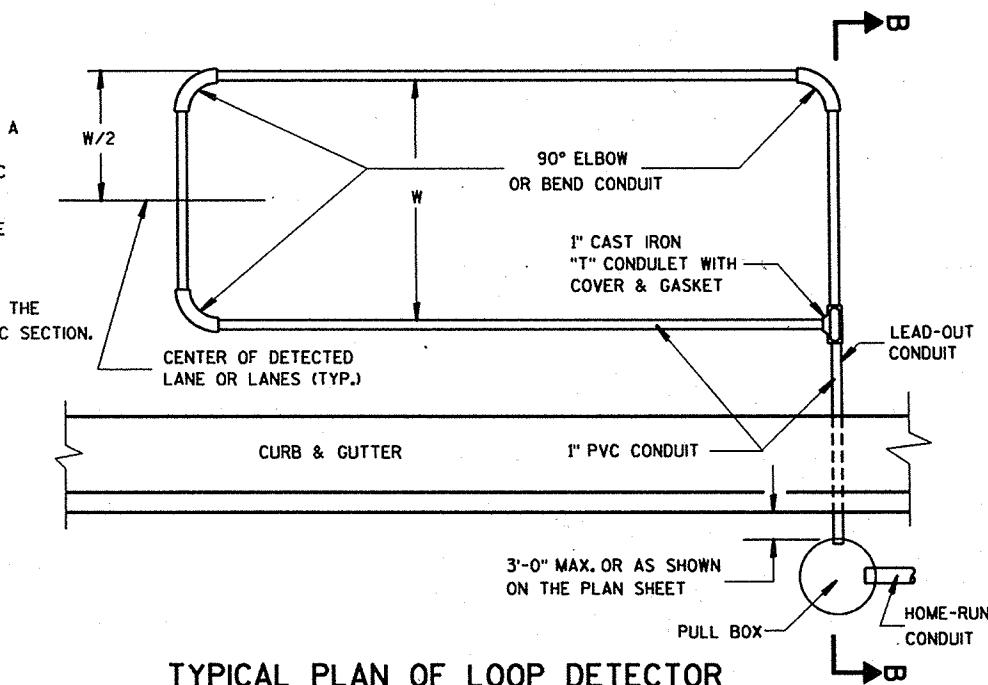
DRIVE A 1 1/2" MAX. PK NAIL INTO THE NEW ASPHALTIC PAVEMENT AND DIRECTLY ABOVE THE CONDULET AFTER THE FINAL LAYER OF NEW ASPHALTIC PAVEMENT IS COMPLETELY INSTALLED, IF REQUIRED BY THE DISTRICT TRAFFIC SECTION.



SECTION B-B
CURB & GUTTER
LOOP DETECTOR INSTALLATION DETAIL



TYPICAL PLAN OF LOOP DETECTOR



TYPICAL PLAN OF LOOP DETECTOR

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

4/21/93

DATE

Peter J. Rusch

STATE ELECTRICAL ENGR FOR HWYS

STATE TRAFFIC ENGINEER FOR HWYS

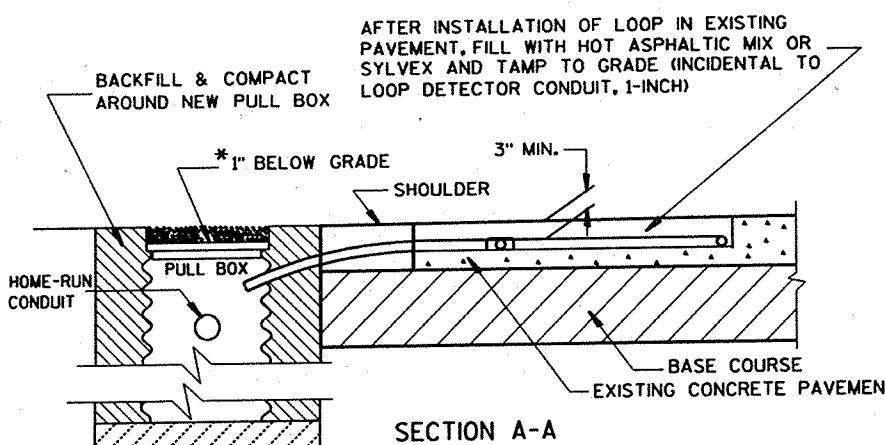
4/21/93

DATE

Peter J. Rusch

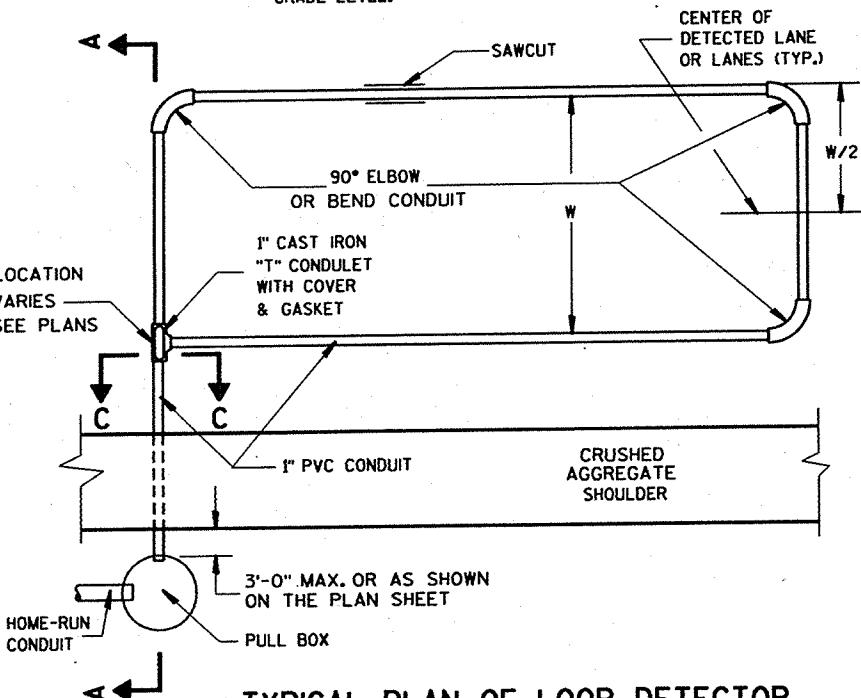
STATE TRAFFIC ENGINEER FOR HWYS

FHWA

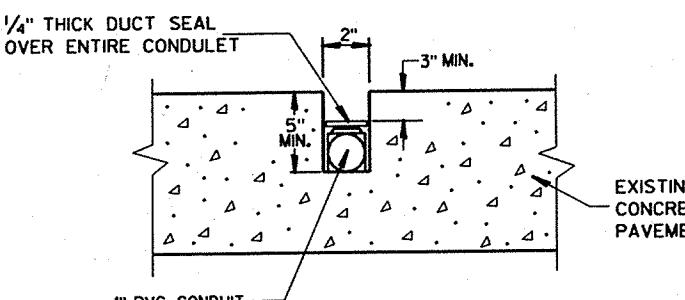


SECTION A-A
NO CURB & GUTTER
LOOP DETECTOR INSTALLATION DETAIL

*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.



Typical Plan of Loop Detector



SIDE VIEW
SECTION C-C
LOOP DETECTOR SLOT DETAIL

GENERAL NOTES

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

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PITCH LEAD OUT CONDUIT TO DRAIN TO ROADSIDE PULL BOX.

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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.

IN THE EVENT EPOXY IS USED AS A LOOP SLOT FILLER, THE SLOT SHALL BE TOTALLY CLEAN AND DRY BEFORE ITS INSTALLATION.

BEFORE PLACING THE 1INCH CONDUIT IN THE CLEANED OUT SLOT, PLACE SOME OF THE TAR OR EPOXY SEALANT IN THE SLOT TO A DEPTH OF APPROXIMATELY $\frac{1}{2}$ INCH.

ONCE THE 2" LOOP SLOT HAS BEEN CHIPPED OUT, THE LOOP INSTALLATION SHALL BE COMPLETED PRIOR TO OPENING THE LANE(S) TO TRAFFIC.

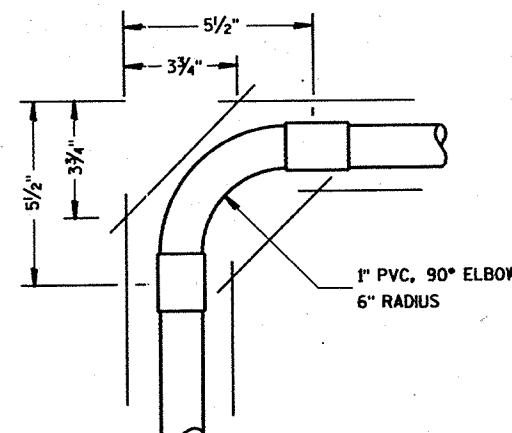
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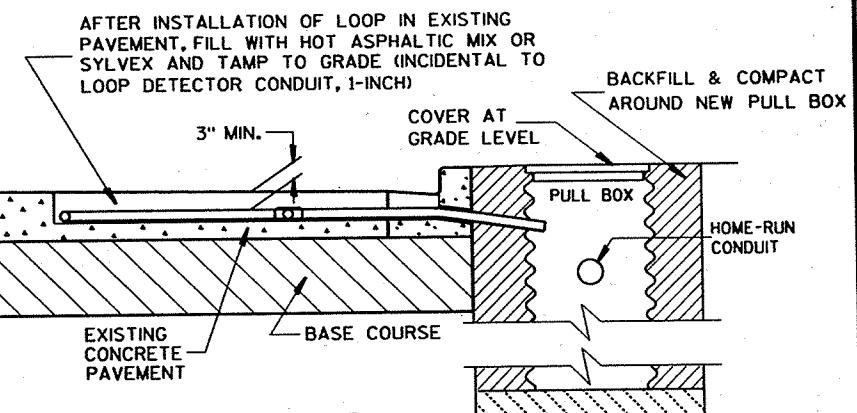
THE #12 AWG LOOP WIRE FROM THE LOOP TO THE ROADSIDE PULL BOX, SHALL BE HAND TWISTED AT LEAST 3 TURNS PER FOOT BEFORE INSTALLATION.

SPlices of loop wire to lead-in cable shall be made only in pull boxes at the side of the road.

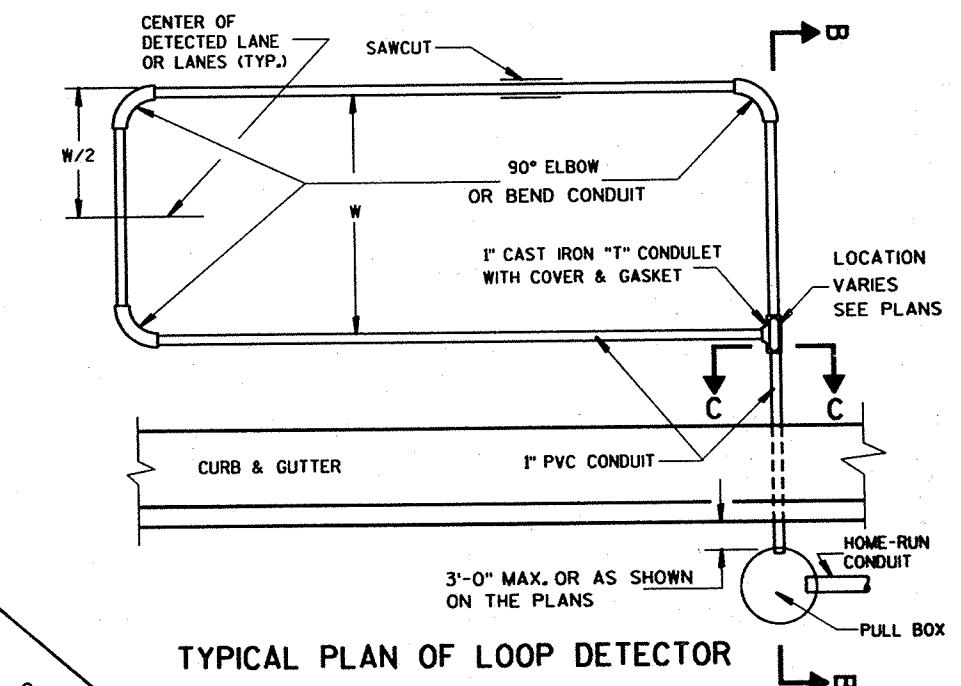
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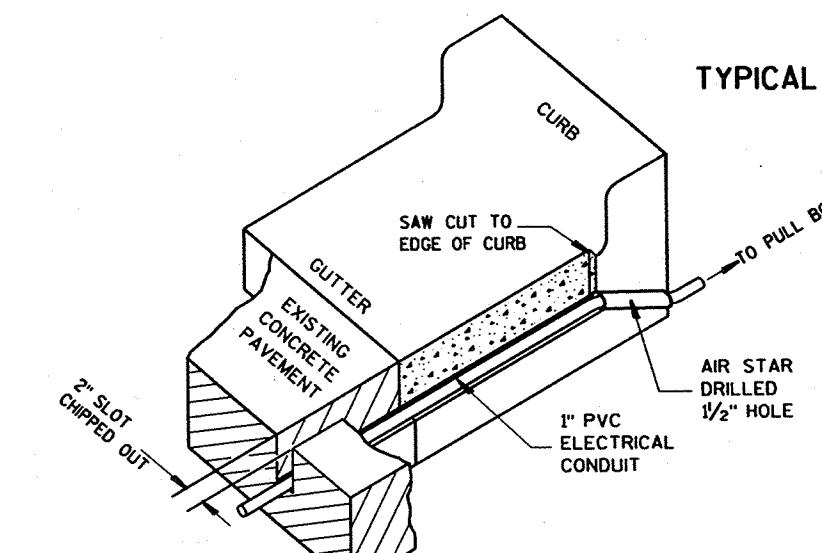
TOP VIEW
CORNER SAW SLOT DETAIL



SECTION B-B
CURB & GUTTER
LOOP DETECTOR INSTALLATION DETAIL



Typical Plan of Loop Detector



ISOMETRIC VIEW
TYPICAL SAW CUT DETAIL FOR LEAD-IN CONDUIT

LOOP DETECTOR INSTALLED IN EXISTING CONCRETE PAVEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

4/21/93

DATE

4/21/93

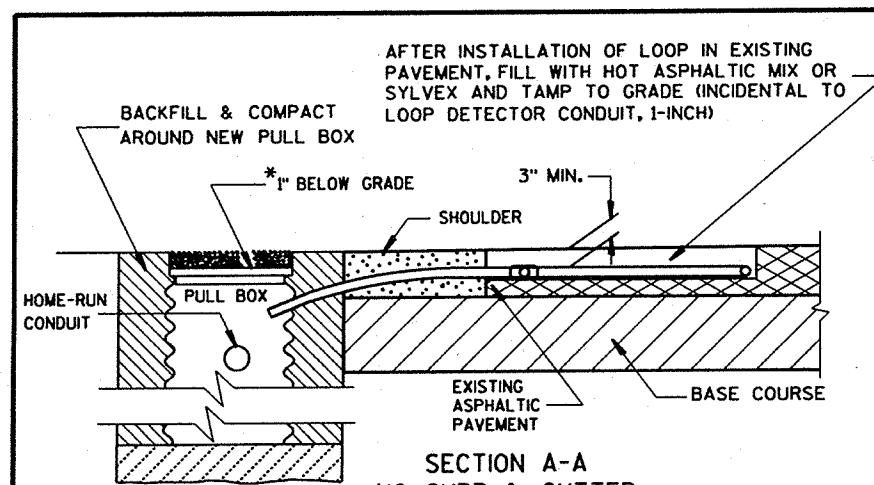
DATE

4/21/93

DATE

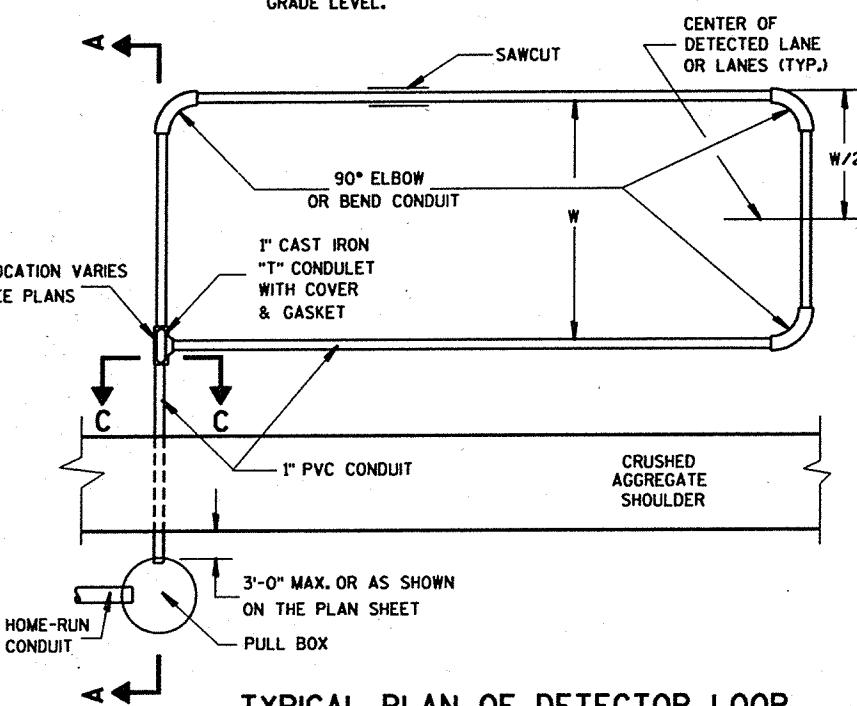
FHWA

Bela Jura
STATE ELECTRICAL ENGR FOR HWYS
John Kuech
STATE TRAFFIC ENGINEER FOR HWYS

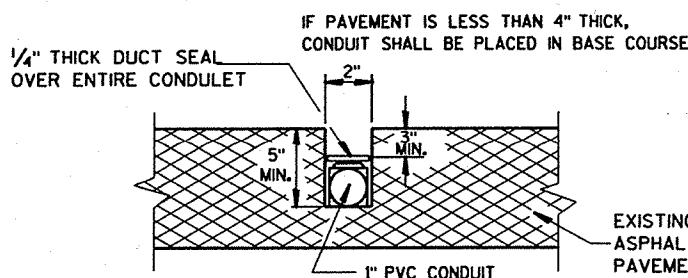


SECTION A-A
NO CURB & GUTTER
LOOP DETECTOR INSTALLATION DETAIL

*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.



TYPICAL PLAN OF DETECTOR LOOP



SIDE VIEW
SECTION C-C
LOOP DETECTOR SLOT DETAIL

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 "INFINITY" TO GROUND ON AN OHMMETER USING A MULTIPLIER SCALE OF 1MEGOMH AND AN INPUT RESISTANCE OF 11MEGOMHS 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.

IN THE EVENT EPOXY IS USED AS A LOOP SLOT FILLER, THE SLOT SHALL BE TOTALLY CLEAN AND DRY BEFORE ITS INSTALLATION.

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.

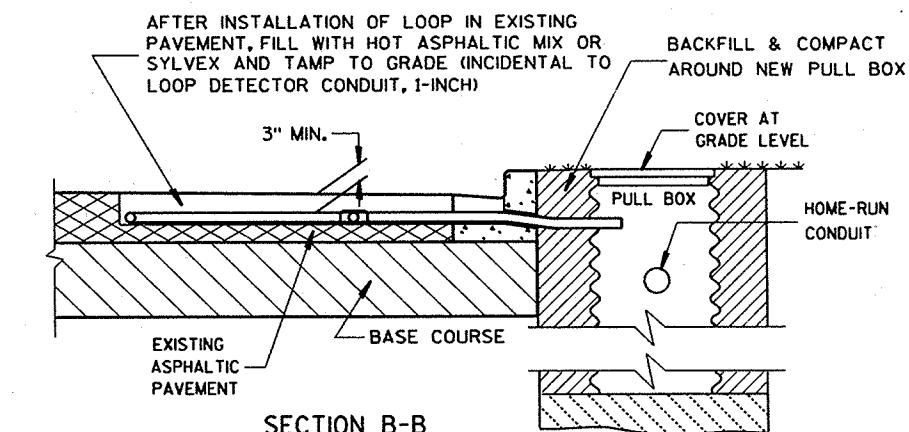
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SPlices of loop wire to lead-in cable shall be made only in pull boxes at the side of the road.

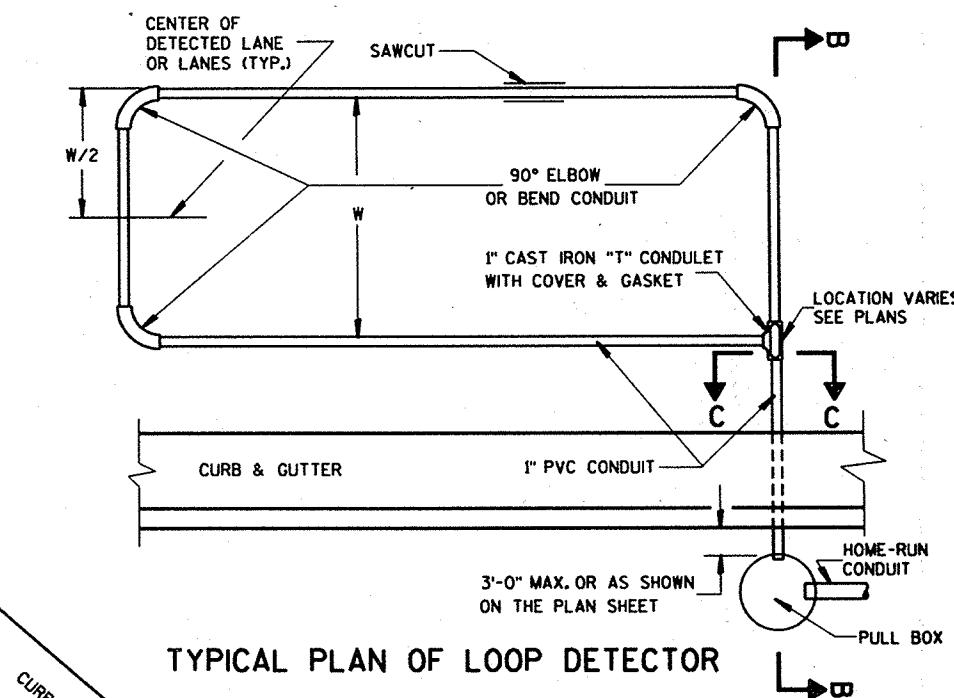
THE #12 AWG LOOP WIRE SHALL BE INSTALLED FROM THE ROADSIDE PULL BOX, THROUGH THE LOOP CONDUIT, BACK TO THE ROADSIDE PULL BOX, AND BE INSTALLED IN ONE, NON-SPliced, CONTINUOUS LENGTH.

IN THE EVENT THAT THE EXISTING PAVEMENT IS MORE THAN 5 INCHES THICK, AND THEREFORE, THE 1INCH CONDUIT DOES NOT REQUIRE INSTALLATION BELOW THE PAVEMENT INTO THE BASE COURSE, PLACE SOME OF THE TAR OR EPOXY SEALANT IN THE SLOT TO A DEPTH OF APPROXIMATELY 1/2 INCH BEFORE INSTALLATION OF THE CONDUIT. IF THE CONDUIT MUST BE PLACED IN THE BASE COURSE, DO NOT PLACE THE TAR OR EPOXY SEALANT IN THE SLOT.

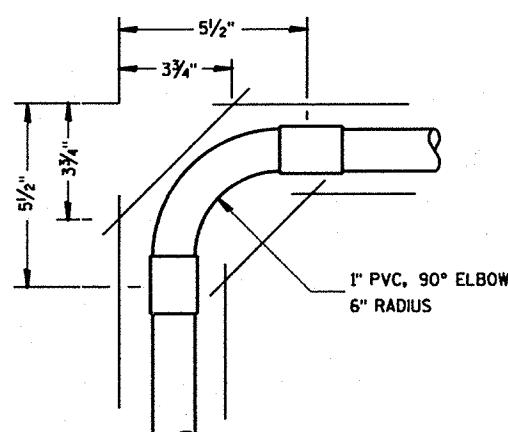
ONCE THE 2" LOOP SLOT HAS BEEN CHIPPED OUT, THE LOOP INSTALLATION SHALL BE COMPLETED PRIOR TO OPENING THE LANE(S) TO TRAFFIC.



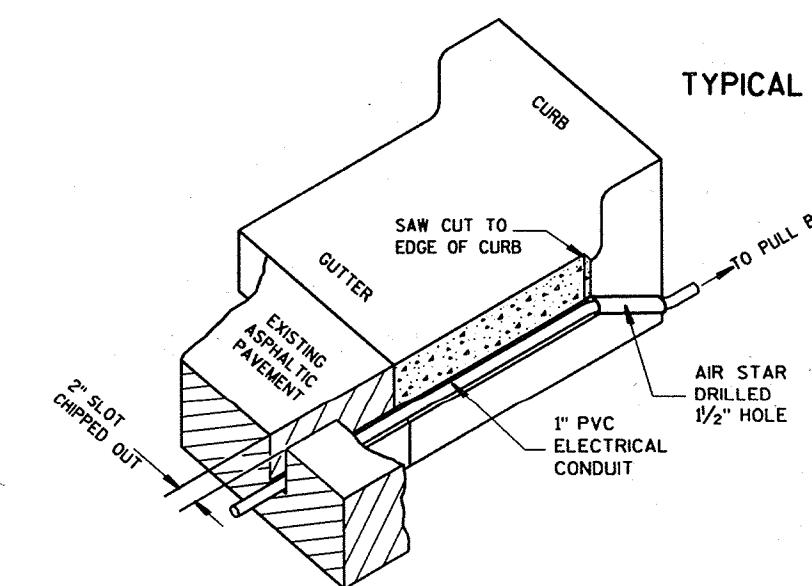
SECTION B-B
CURB & GUTTER
LOOP DETECTOR INSTALLATION DETAIL



TYPICAL PLAN OF LOOP DETECTOR



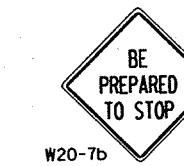
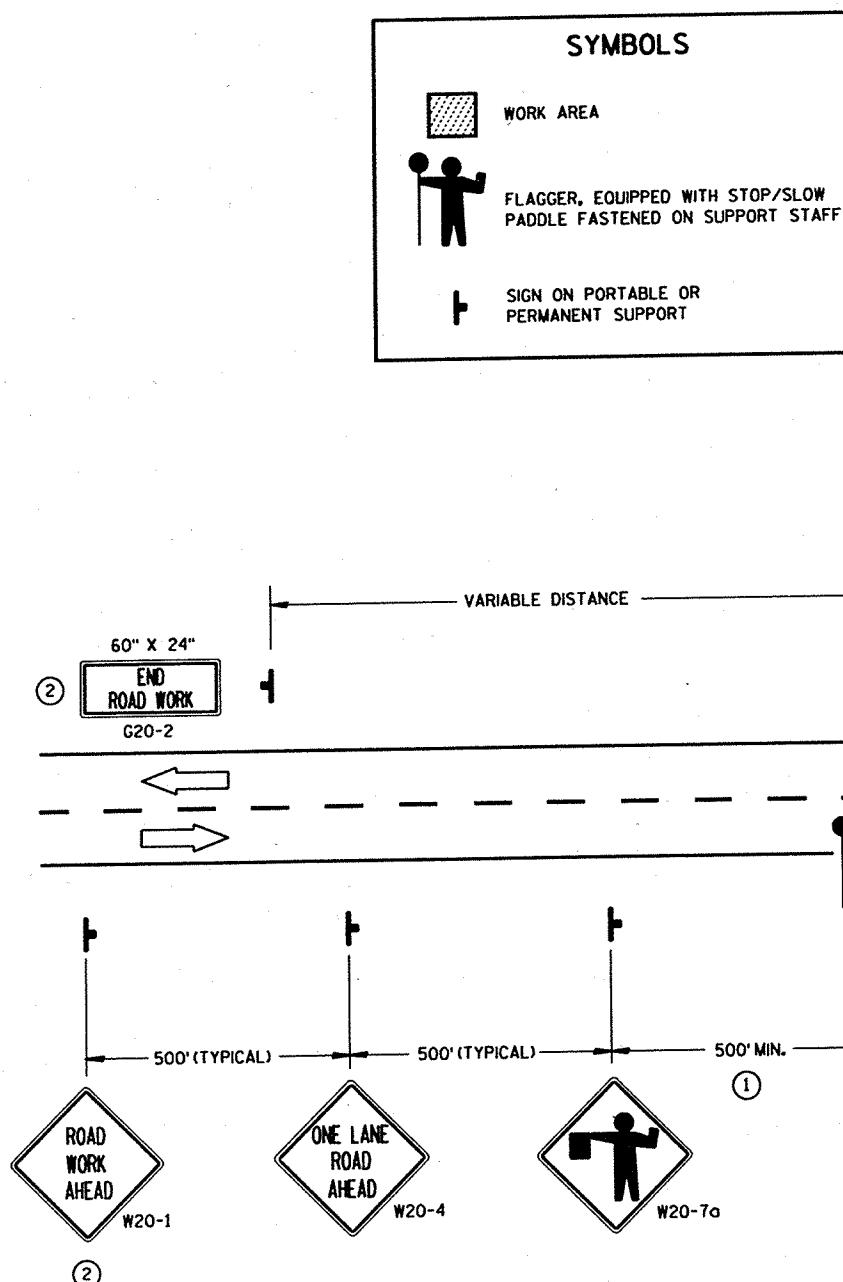
TOP VIEW
CORNER SAW SLOT DETAIL



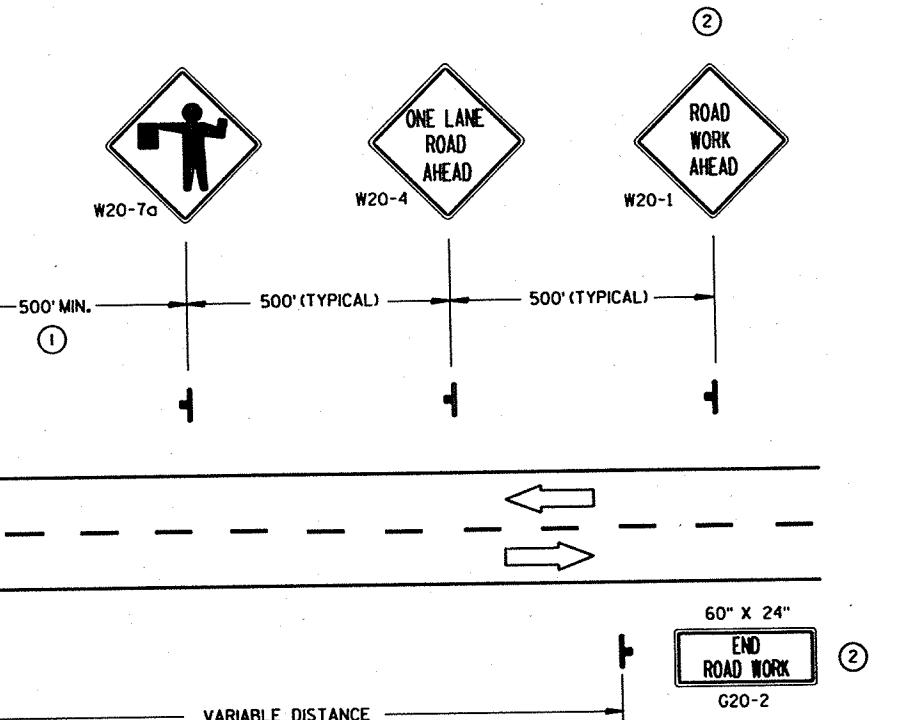
ISOMETRIC VIEW
TYPICAL SAW CUT DETAIL FOR LEAD-IN CONDUIT

LOOP DETECTOR INSTALLED IN EXISTING ASPHALTIC PAVEMENT	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	<i>John A. Steiner</i>
DATE	4/21/93
STATE ELECTRICAL ENGR FOR HWYS	
STATE TRAFFIC ENGINEER FOR HWYS	<i>Peter Busch</i>
DATE	4/21/93
FHWA	

TWO-LANE ROADWAY



USE OF THE "BE PREPARED TO STOP" SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7a AND W20-4 SIGNS. A 500' TYPICAL SPACING SHALL BE PROVIDED BETWEEN THE SIGNS.



GENERAL NOTES

DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

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

THE FIRST ADVANCE WARNING SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

WHEN A SIDE ROAD OR RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS DIRECTED BY THE ENGINEER.

FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT, THE "FLAGGER AHEAD", "THE ROAD WORK AHEAD" AND THE "ONE LANE ROAD AHEAD" SIGNS SHALL BE COVERED OR REMOVED AND THE HIGHWAY RESTORED TO NORMAL OPERATION.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
2/17/94 *John G. Rusch*
DATE
STATE TRAFFIC ENGINEER FOR HWYS
FHWA