OUTAGAMIE CO.

4677-06-71

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
4677-06-71	STP 1210 (4)	1

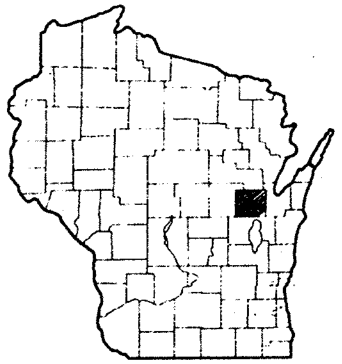
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

NORTH AVENUE AND BUCHANAN STREET INTERSECTION
VILLAGE OF LITTLE CHUTE
C.T.H. "OO"
OUTAGAMIE COUNTY

STATE PROJECT NUMBER
4677-06-71

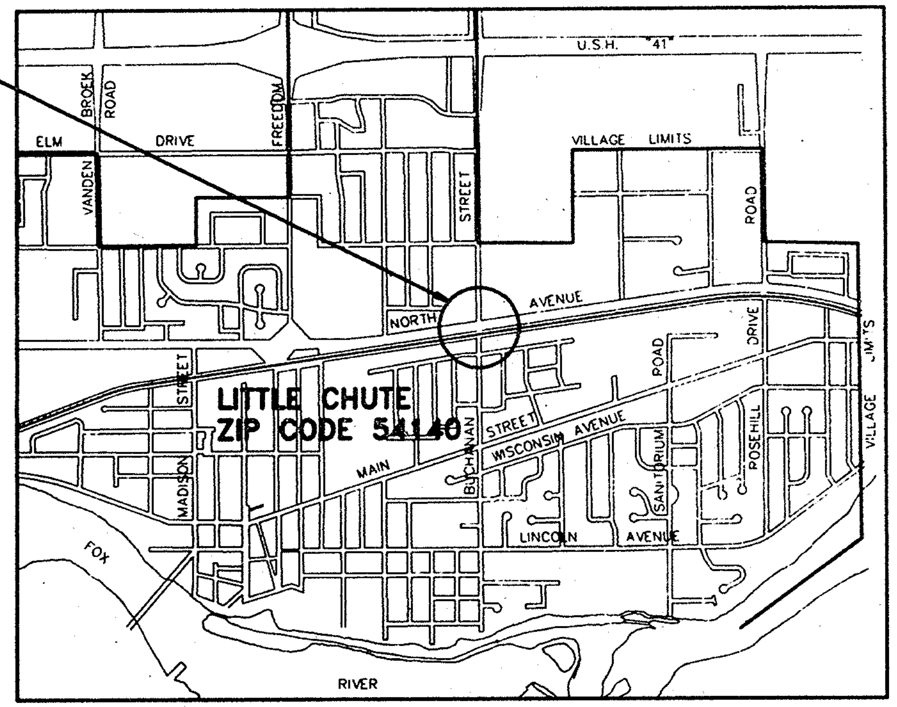
INDEX OF SHEETS



AS BUILT PLAN
NO.
SUPERVISOR AGRIS ROZITE
RESIDENT CHARLES H. GEURTS
CONTRACTOR ELMSTAR ELECTRIC
COMPLETED 8-9-94

NORTH

PROJECT LOCATION
Y = 169,900 ±
X = 2,444,650



T 21-N

R-18-E

DESIGN DESIGNATION

A.D.T. (1991)	=	10,020
A.D.T. (2010)	=	15,700
D.H.V. (2010)	=	1,570
D.	=	50-50
T.	=	4.0%
V.	=	35

CONVENTIONAL SIGNS

COUNTY LINE
CORPORATE LIMITS
PROPERTY LINE
LOT LINE
LIMITED EASEMENT
EXISTING RIGHT OF WAY
NEW RIGHT OF WAY
REFERENCE LINE
SLOPE INTERCEPT
ORIGINAL GROUND
MARSH OR ROCK PROFILE
CULVERT IN PLACE
CULVERT REQUIRED
CULVERT REQUIRED (PROFILE)

COMBUSTIBLE FLUIDS (UNDER PRESSURE)
UNDERGROUND UTILITIES
GAS — G —
ELECTRIC — E —
TELEPHONE — T —
SERVICE PEDESTAL
CABLE MARKER
POWER POLE
TELEPHONE POLE
RAILROADS
MARSH
WOODED AREA

LAYOUT
SCALE 0 1/4 MILE

TOTAL NET LENGTH OF CENTERLINE = 0.000 MI.

ACCEPTED FOR
OUTAGAMIE COUNTY

11/30/93 DATE — [signature] COMMISSIONER

ORIGINAL PLANS PREPARED BY
McMAHON ASSOCIATES INC.

WISCONSIN PROFESSIONAL ENGINEER — MICHAEL ROBERT SIMON E-25860 MENASHA WIS.

11/30/93 DATE — [signature] SIGNATURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

SURVEYOR	MCMAHON ASSOCIATES, INC.
DESIGNER	MCMAHON ASSOCIATES, INC.
DISTRICT EXAMINER	D.H. CARLSON
DISTRICT SUPERVISOR	J.C. LAMERS
PROJ. DEV. ENGINEER	
C.O. EXAMINER	Ron Calkins

APPROVED FOR DISTRICT OFFICE

DATE: 12-20-93 — [signature] SIGNATURE

00-13

00-13

00-13

00-13

STATE PROJECT NUMBER	SHEET NO.
4677-06-71	2.0

GENERAL NOTES, STANDARD ABBREVIATIONS AND SYMBOLS, SDD NUMBERS, AND UTILITIES

STANDARD ABBREVIATIONS AND SYMBOLS

∠	ANGLE
AGG.	AGGREGATE
AH	AHEAD
ASPH	ASPHALT
AVE.	AVENUE
BK	BACK
⊕	BENCH MARK
BIT.	BITUMINOUS
B.O.W.	BACK OF WALK
C.E.	COMMERCIAL ENTRANCE
C.A.B.C.	CRUSHED AGGREGATE BASE COURSE
℄ or CL	CENTERLINE
CB	CONTROLLER BASE
CONC.	CONCRETE
C.M.C.P.	CORRUGATED METAL CULVERT PIPE
C.T.H.	COUNTY TRUNK HIGHWAY
CL.	CLASS
CT.	COURT
CU.YD.	CUBIC YARD
△	DELTA
D.	DEGREE OF CURVE
D.G.	DITCH GRADE
E.	EAST
E	EXTERNAL DISTANCE
ELEV	ELEVATION
EXIST.	EXISTING
EXP.	EXPANSION
F.F.	FACE TO FACE
FL	FLOWLINE
'/	FOOT PER FOOT
GV	GAS VALVE
H	HOUSE
HYD.	FIRE HYDRANT
INL.	INLET
INV.	INVERT
JT.	JOINT
L.	LENGTH OF CURVE
L.H.F.	LEFT HAND FORWARD
L.S.	LUMP SUM
LA.	LANE
LIN. FT.	LINEAL FEET
L.V.C.	LENGTH OF VERTICAL CURVE
LT.	LEFT
MH	MANHOLE
DW	DON'T WALK
FDW	FLASHING DON'T WALK
R	RED PHASE
Y	YELLOW PHASE
G	GREEN PHASE
FR	FLASHING RED
FY	FLASHING YELLOW
MAX	MAXIMUM
MIN	MINIMUM
N	NORTH
NC	NORMAL CROWN
NO.	NUMBER
NOR.	NORMAL
P.E.	PRIVATE ENTRANCE
P.C.	POINT OF CURVATURE
P.I.	POINT OF INTERSECTION
P.O.L.	POINT ON LINE
P.T.	POINT OF TANGENCY
P.V.C.	POINT OF VERTICAL CURVATURE
P.V.I.	POINT OF VERTICAL INTERSECTION
P.V.T.	POINT OF VERTICAL TANGENCY
PB	PULL BOX
PED.	PEDESTAL
PVT.	PAVEMENT
P/L	PROPERTY LINE
RCCP	REINFORCED CONCRETE CULVERT PIPE
R	RADIUS
R.C.C.P.	REINFORCED CONCRETE CULVERT PIPE
REQ'D	REQUIRED
R.H.F.	RIGHT HAND FORWARD
R/L	REFERENCE LINE
R/W	RIGHT OF WAY
RD.	ROAD
RDWY	ROADWAY
RT.	RIGHT
S	SLOPE
S.	SOUTH
S.D.D.	STANDARD DETAIL DRAWING
SB	SIGNAL BASE
SE	SUPERELEVATION RATE
ST.	STREET
STA.	STATION
S.T.H.	STATE TRUNK HIGHWAY
SQ. FT.	SQUARE FEET
SQ. YD.	SQUARE YARD
STA.	STATION
S.W.	SIDEWALK
T	TANGENT LENGTH OF CURVE
TRANS-PAD	TRANSFORMER PAD
T/L	TRANSIT LINE
TYP.	TYPICAL
V.C.	VERTICAL CURVE
W	WALK
WV	WATER VALVE/SHUTOFF

HYDRANT W/AUXILIARY VALVE

LIGHT POLE

GENERAL NOTES

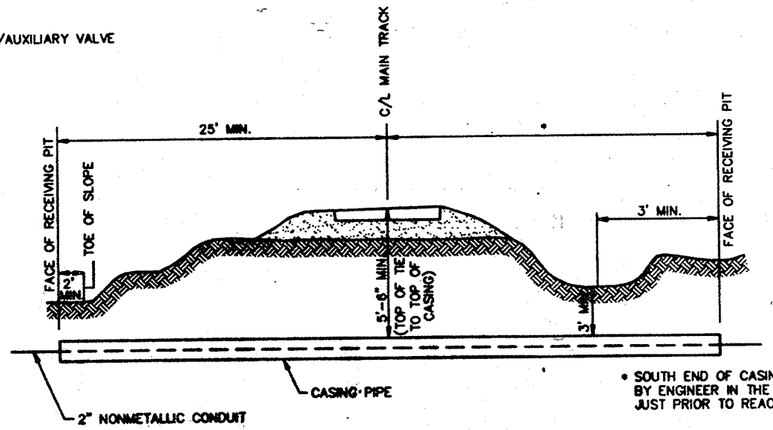
WHEN THE QUANTITY OF CRUSHED AGGREGATE BASE COURSE, AND ASPHALTIC CONCRETE PAVEMENT, TYPE MV IS MEASURED FOR PAYMENT BY THE TON, THE THICKNESS AS SHOWN ON THE PLAN IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND UPON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER IN THE FIELD.

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

CURB AND GUTTER RADII ARE SHOWN TO THE BACK OF CURB.

ALL DISTURBED AREAS WITHIN THE RIGHT OF WAY SHALL BE TOPSOILED, FERTILIZED, SEEDED AND MULCHED.

AN AGREEMENT HAS BEEN OBTAINED FROM THE RAILROAD TO INSTALL THE CABLE CROSSING UNDER THE TRACKS.



* SOUTH END OF CASING TO BE DETERMINED BY ENGINEER IN THE FIELD. CASING SHALL END JUST PRIOR TO REACHING EXISTING RAILROAD SIGNAL.

ALL MINIMUM DIMENSIONS MEASURED NORMAL TO C/L OF OUTSIDE TRACK

TYPICAL RAILROAD CROSSING DETAIL

UTILITIES / RAILROADS

AMERITECH (414) 735-3246
MR. RICK VAN BEEK
4 EAST OSPE
221 WEST WASHINGTON
P.O. BOX 2159
APPLETON, WI 54913 (TOLL FREE)
CABLE LOCATE 1-800-242-2511

WISCONSIN GAS COMPANY (414) 766-3551
MR. LYLE NEUHAUSE
601 W. NORTH STREET
LITTLE CHUTE, WI 54140

CITY OF KAUKAUNA (414) 734-1411
ELECTRIC DEPT.
MR. GARY WOLF
777 ISLAND ST.
KAUKAUNA, WI 54915

CABLEVISION OF THE FOX CITIES (414) 749-1320
MR. RANDY HAUGESTUEN
1001 KENNEDY AVENUE
KIMBERLY, WI 54136

VILLAGE OF LITTLE CHUTE (414) 788-7395
DEPT. OF PUBLIC WORKS
MR. GENE HOJAN
1940 BUCHANAN ST.
LITTLE CHUTE, WI 54140

DIGGERS HOTLINE (TOLL FREE) 1-800-242-8511

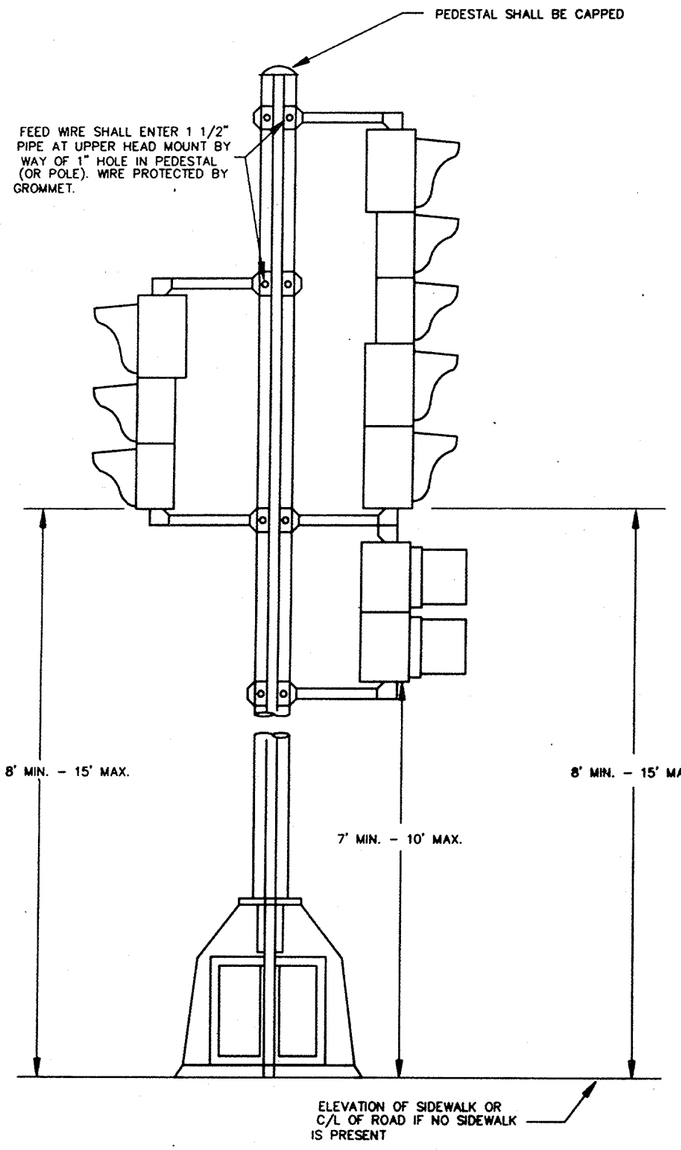
WISCONSIN CENTRAL LTD./ (715) 345-2580
FOX VALLEY AND WESTERN RAILROAD
CHIEF ENGINEER & SIGNAL COMMUNICATIONS
MR. JOHN LAMZ
1625 DEPOT STREET
P.O. BOX 348
STEVENS POINT, WI 54481

STANDARD DETAIL DRAWINGS

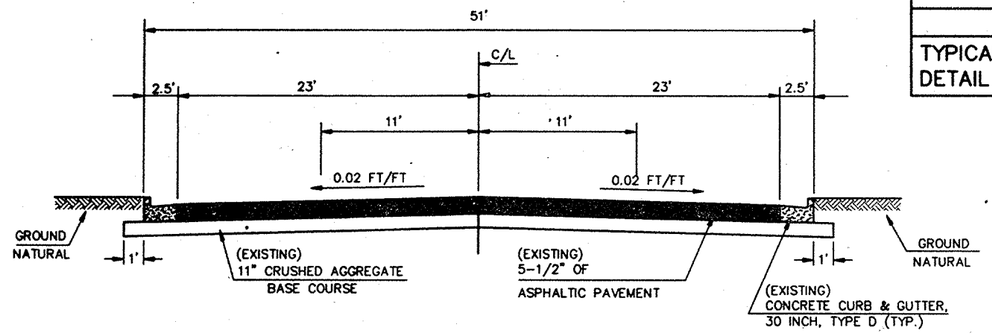
SDD No.	TITLE
8D1-11	CONCRETE CURB, CONCRETE CURB AND GUTTER AND PAVEMENT TIES
8D5-8	CURB RAMPS
9B2-5	CONDUIT
9B4-1	PULL BOX
9C2-1	CONCRETE BASES
9C3-1	CAST BASES
9C5-1	CONCRETE CONTROL CABINET BASES
9D1-1	CABINET SERVICE INSTALLATION
9D2-1	SIGNAL OR LIGHTING CONTROL CABINET
9E1-1a	POLE MOUNTINGS FOR TRAFFIC SIGNALS, TYPE 2
9E1-1e	HARDWARE DETAILS FOR POLE MOUNTINGS
9F8-1	LOOP DETECTOR PLACED IN CRUSHED AGGREGATE BASE (NEW ASPHALTIC PAVEMENT)
9F9-1	LOOP DETECTOR PLACED IN CRUSHED AGGREGATE BASE (NEW CONCRETE PAVEMENT)
15C8-5a	PAVEMENT MARKING (MAINLINE AND INTERSECTIONS)
15C9-2	PAVEMENT MARKING DETAILS FOR RAILROAD-HIGHWAY GRADE CROSSINGS
15C8-5c	PAVEMENT MARKING (STOPLINES & CROSS WALKS)

STATE PROJECT NUMBER	SHEET NO.
4677-06-71	2.1

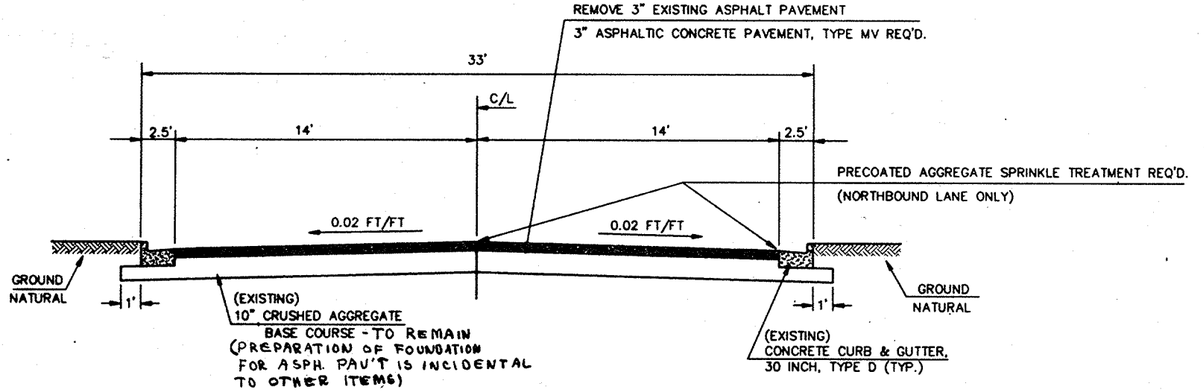
TYPICAL SECTIONS
DETAIL



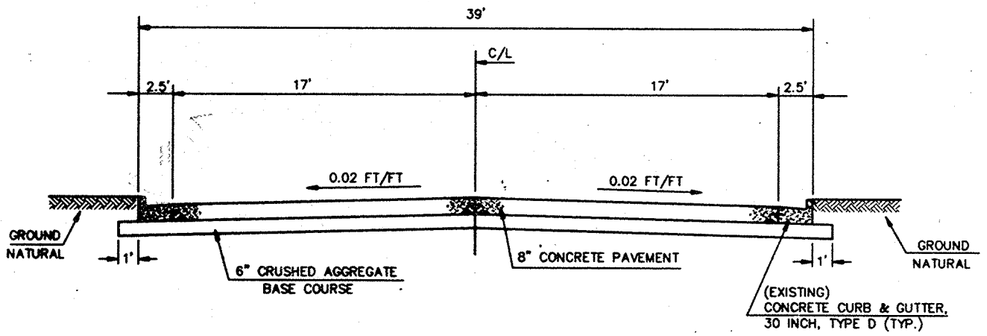
TYPICAL MOUNTING DETAIL
ADJUST TO CONDITION SHOWN ON THE PLAN
TRAFFIC SIGNAL STANDARD



TYPICAL EXISTING CROSS SECTION FOR NORTH AVENUE (C.T.H. "OO")
STA. 67+00 TO STA. 72+00



TYPICAL CROSS SECTION FOR BUCHANAN STREET
STA. 8+92 TO STA. 9+80



TYPICAL CROSS SECTION FOR BUCHANAN STREET (TO BE CONSTRUCTED BY OTHERS)
STA. 10+25 TO STA. 12+00

STATE PROJECT NUMBER	SHEET NO.
4677-06-71	2.2

TRAFFIC SIGNAL DETAIL

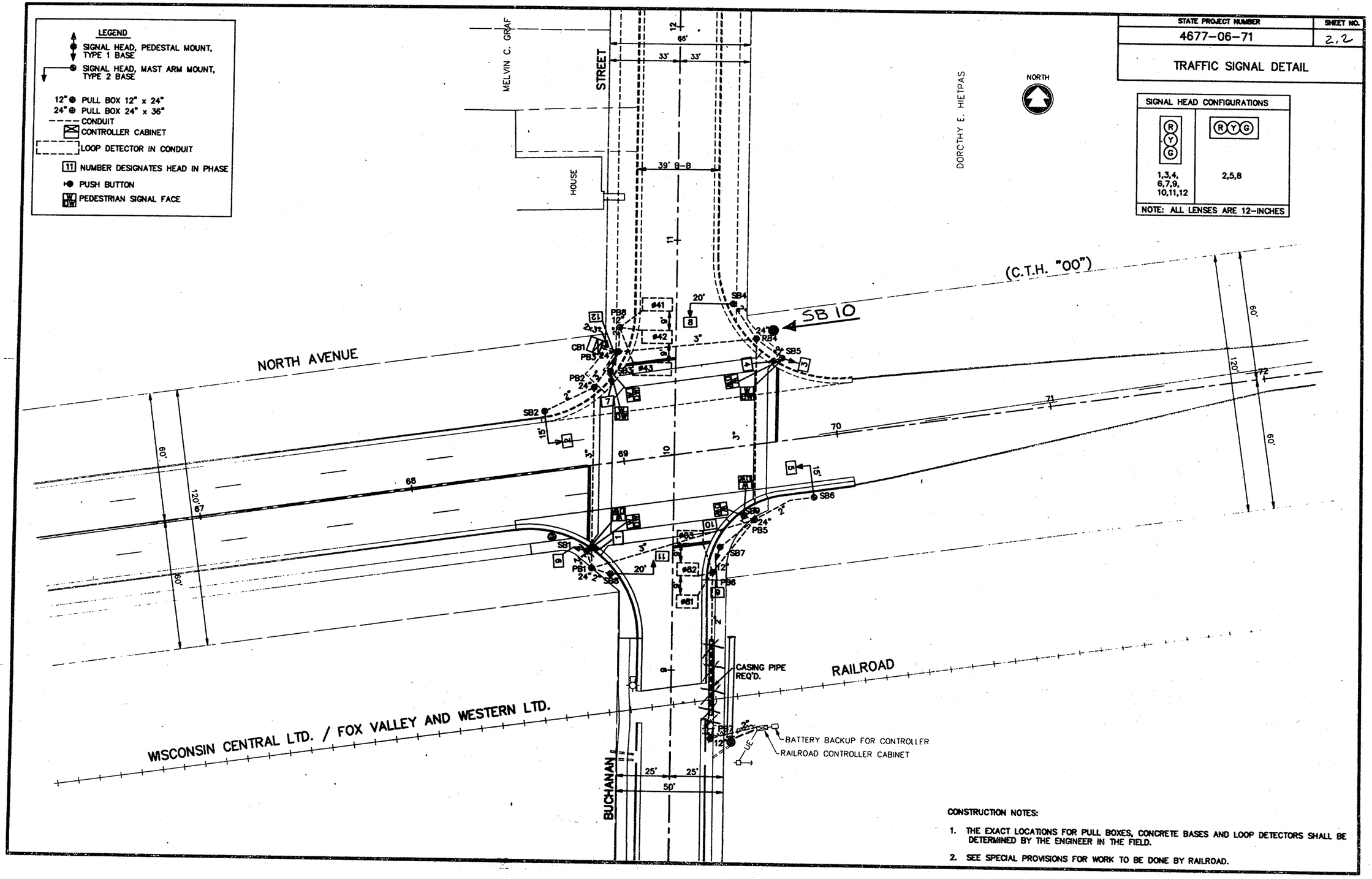
LEGEND

- SIGNAL HEAD, PEDESTAL MOUNT, TYPE 1 BASE
- SIGNAL HEAD, MAST ARM MOUNT, TYPE 2 BASE
- 12" PULL BOX 12" x 24"
- 24" PULL BOX 24" x 36"
- CONDUIT
- CONTROLLER CABINET
- LOOP DETECTOR IN CONDUIT
- 11 NUMBER DESIGNATES HEAD IN PHASE
- PUSH BUTTON
- PEDESTRIAN SIGNAL FACE

SIGNAL HEAD CONFIGURATIONS

R Y G	R Y G
1,3,4, 6,7,9, 10,11,12	2,5,8

NOTE: ALL LENSES ARE 12-INCHES



CONSTRUCTION NOTES:

1. THE EXACT LOCATIONS FOR PULL BOXES, CONCRETE BASES AND LOOP DETECTORS SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.
2. SEE SPECIAL PROVISIONS FOR WORK TO BE DONE BY RAILROAD.

STATE PROJECT NUMBER	SHEET NO.
4677-06-71	2.3

SEQUENCE OF OPERATIONS

SEQUENCE OF OPERATION

RING 1

	HEAD NUMBERS	ø1 R/W	ø1 CLEAR TO • •	ø2 R/W	ø2 CLEAR TO • •	ø3 R/W	ø3 CLEAR TO • •	ø4 R/W	ø4 CLEAR TO • •	FLASH
ø1		NOT USED				NOT USED				
ø2	1,2,3			G	Y R			R	R R	Y
ø3										
ø4	10,11,12			R	R R			G	Y R	R
ø5										
ø6	4,5,6			R	R R			R	R R	Y
ø7										
ø8	7,8,9			R	R R			R	R R	R
	ø6			DW	DW DW			DW	DW DW	
	ø2 PED			•	• DW			DW	DW DW	
	ø8			DW	DW DW			DW	DW DW	
	ø4 PED			DW	DW DW			•	• DW	

RING 2

	HEAD NUMBERS	ø5 R/W	ø5 CLEAR TO • •	ø6 R/W	ø6 CLEAR TO • •	ø7 R/W	ø7 CLEAR TO • •	ø8 R/W	ø8 CLEAR TO • •
ø1		NOT USED				NOT USED			
ø2	1,2,3			R	R R			R	R R
ø3									
ø4	10,11,12			R	R R			R	R R
ø5									
ø6	4,5,6			G	Y R			R	R R
ø7									
ø8	7,8,9			R	R R			G	Y R
	ø2 PED			DW	DW DW			DW	DW DW
	ø4 PED			DW	DW DW			DW	DW DW

N

- • WHEN CALLED TIMED STEADY WALK, FOLLOWED BY FLASHING DON'T WALK, THEN STEADY DON'T WALK
- •• 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
ø1		
ø2	6	4,8
ø3		
ø4	8	2,6
ø5		
ø6	2	4,8
ø7		
ø8	4	2,6

DETECTOR LOGIC

DETECTOR NUMBER	AMPLIFIER CHANNEL NUMBER	DETECTOR OPERATION: CALLS AND EXTENDS	DETECTOR OPERATION: CALLS ONLY	DETECTOR OPERATION: EXTENDS ONLY	PHASE CALLED	PHASE EXTENDED	DETECTOR DISCONNECT PHASE	CALLING DELAY	EXTENSION STRETCH	SIZE	NUMBER OF TURNS
41	1	X			4	4		X		6'x14'	3
42	1	X			4	4		X		6'x14'	3
43	2	X			4	4		X		6'x18'	3
81	3	X			8	8		X		6'x10'	4
82	3	X			8	8		X		6'x10'	4
83	4	X			8	8		X		6'x12'	4

RING 1: NOT USED ø1 | ø2 | NOT USED ø3 | ø4

RING 2: NOT USED ø5 | ø6 | NOT USED ø7 | ø8

BARRIER

TYPE OF INTERCONNECT	
NONE	X
TBC	
CLOSED LOOP	
HARDWIRE	
TONE (FREQ)	

TYPE OF PRE-EMPT	
NONE	
RAILROAD	X
EMERGENCY VEHICLE	

TYPE OF LIGHTING	
NONE	X
IN TRAFFIC CONTROL CABINET	
IN SEPARATE CONTROL CABINET	

CONTROLLER LOGIC

PHASE NUMBER	PHASE LOCKING	DUAL ENTRY W / ø	PHASE RECALL
1			
2	X	W / 6	X
3			
4		W / 8	
5			
6	X	W / 2	X
7			
8		W / 4	

OVERLAPS

NONE

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. IF ANY OPPOSING THRU PHASES ARE TIMING CONCURRENTLY, THEY SHALL TERMINATE TOGETHER DUE TO PERMISSIVE LEFT TURN CONFLICT.
4. WHEN A CALL FOR RAILROAD PREEMPTION IS RECEIVED:
   A. ANY GREEN INTERVAL IN EFFECT SHALL TIME A MINIMUM 7 SECOND DURATION BEFORE ENTERING THE PREEMPT SEQUENCE. ELAPSED GREEN TIME PRIOR TO THE PREEMPT CALL SHALL BE CONSIDERED IN THE MINIMUM TIME.
   B. ANY CLEARANCE INTERVAL IN EFFECT SHALL TIME ITS FULL NORMAL DURATION BEFORE ENTERING THE PREEMPT SEQUENCE.
5. UPON R.R. PREEMPTION SIGNAL SHOULD CLEAR TO ø8, CLEAR ø8, THEN GO TO A FLASH YELLOW ON C.T.H. "OO" (ø2 & ø6) AND A FLASH RED ON BUCHANAN ST. (ø4 & ø8), AFTER R.R. PREEMPTION SIGNALS SHOULD GO TO A STEADY YELLOW ON C.T.H. "OO", (ø2 & ø6) AND A STEADY RED ON BUCHANAN ST. (ø4 & ø8). NORMAL PHASING SHALL RESUME IN ø4 & ø8 SUBSEQUENT TO TERMINATION OF RAILROAD PREEMPTION.
6. TIMINGS TO BE OBTAINED FROM VILLAGE OF LITTLE CHUTE DIRECTOR OF PUBLIC WORKS.

NORTH AVENUE (CTH "OO")
AT BUCHANAN STREET

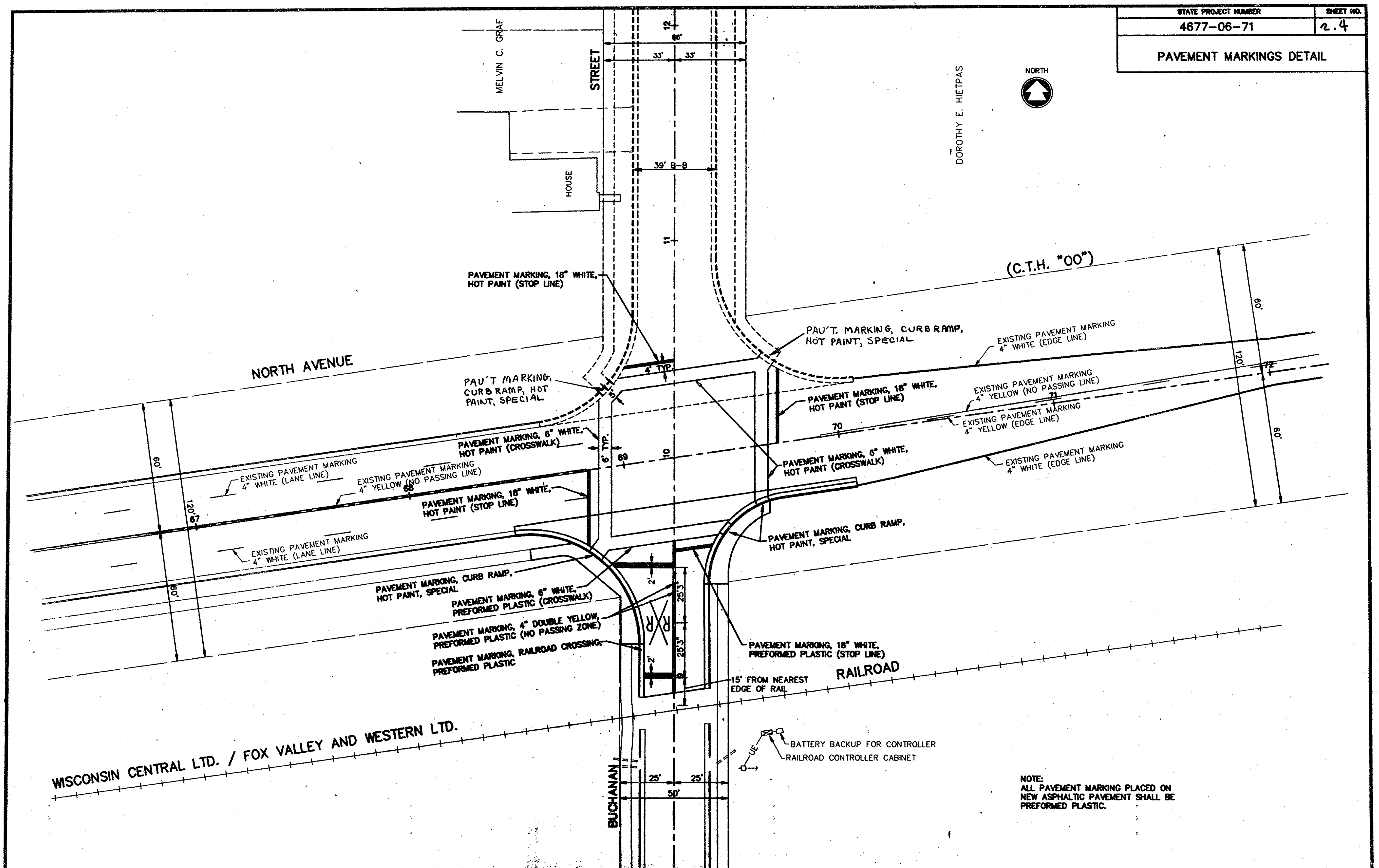
OUTAGAMIE CO.

SIGNAL NO.

DATE SHEET NO. OF

STATE PROJECT NUMBER	SHEET NO.
4677-06-71	2.4

PAVEMENT MARKINGS DETAIL



NORTH
MELVIN C. GRAF
STREET
HOUSE
DOROTHY E. HIETPAS
66'
33'
33'
39' B-B
NORTH AVENUE
(C.T.H. "OO")
PAVEMENT MARKING, 18" WHITE, HOT PAINT (STOP LINE)
PAV'T MARKING, CURB RAMP, HOT PAINT, SPECIAL
PAV'T MARKING, CURB RAMP, HOT PAINT, SPECIAL
EXISTING PAVEMENT MARKING 4" WHITE (EDGE LINE)
EXISTING PAVEMENT MARKING 4" YELLOW (NO PASSING LINE)
EXISTING PAVEMENT MARKING 4" YELLOW (EDGE LINE)
EXISTING PAVEMENT MARKING 4" WHITE (EDGE LINE)
PAVEMENT MARKING, 18" WHITE, HOT PAINT (STOP LINE)
PAVEMENT MARKING, 6" WHITE, HOT PAINT (CROSSWALK)
PAVEMENT MARKING, 6" WHITE, HOT PAINT (CROSSWALK)
4' TYP.
6' TYP.
EXISTING PAVEMENT MARKING 4" WHITE (LANE LINE)
EXISTING PAVEMENT MARKING 4" YELLOW (NO PASSING LINE)
PAVEMENT MARKING, 18" WHITE, HOT PAINT (STOP LINE)
EXISTING PAVEMENT MARKING 4" WHITE (LANE LINE)
PAVEMENT MARKING, CURB RAMP, HOT PAINT, SPECIAL
PAVEMENT MARKING, CURB RAMP, HOT PAINT, SPECIAL
PAVEMENT MARKING, 6" WHITE, PREFORMED PLASTIC (CROSSWALK)
PAVEMENT MARKING, 4" DOUBLE YELLOW, PREFORMED PLASTIC (NO PASSING ZONE)
PAVEMENT MARKING, RAILROAD CROSSING, PREFORMED PLASTIC
PAVEMENT MARKING, 18" WHITE, PREFORMED PLASTIC (STOP LINE)
15' FROM NEAREST EDGE OF RAIL
25.3'
25.3'
2'
2'
120'
60'
60'
RAILROAD
WISCONSIN CENTRAL LTD. / FOX VALLEY AND WESTERN LTD.
BATTERY BACKUP FOR CONTROLLER
RAILROAD CONTROLLER CABINET
BUCHANAN
25'
25'
50'

NOTE:
ALL PAVEMENT MARKING PLACED ON NEW ASPHALTIC PAVEMENT SHALL BE PREFORMED PLASTIC.

STATE PROJECT NUMBER	SHEET NO.
4677-06-71	2.3

SEQUENCE OF OPERATIONS

SEQUENCE OF OPERATION

RING 1

	HEAD NUMBERS	#1 CLEAR TO R/W	#1 CLEAR TO ••	#2 CLEAR TO R/W	#2 CLEAR TO ••	#3 CLEAR TO R/W	#3 CLEAR TO ••	#4 CLEAR TO R/W	#4 CLEAR TO ••	FLASH
Ø1										
Ø2	1,2,3			G Y R				R R R		Y
Ø3										
Ø4	10,11,12			R R R				G Y R		R
Ø5										
Ø6	4,5,6			R R R				R R R		Y
Ø7										
Ø8	7,8,9			R R R				R R R		R
	Ø6			DW DW DW				DW DW DW		
	Ø2 PED			• • DW				DW DW DW		
	Ø8			DW DW DW				DW DW DW		
	Ø4 PED			DW DW DW				• • DW		

RING 2

	HEAD NUMBERS	#5 CLEAR TO R/W	#5 CLEAR TO ••	#6 CLEAR TO R/W	#6 CLEAR TO ••	#7 CLEAR TO R/W	#7 CLEAR TO ••	#8 CLEAR TO R/W	#8 CLEAR TO ••
Ø1									
Ø2	1,2,3			R R R				R R R	
Ø3									
Ø4	10,11,12			R R R				R R R	
Ø5									
Ø6	4,5,6			G Y R				R R R	
Ø7									
Ø8	7,8,9			R R R				G Y R	
	Ø2 PED			DW DW DW				DW DW DW	
	Ø4 PED			DW DW DW				DW DW DW	

N

- * WHEN CALLED TIMED STEADY WALK, FOLLOWED BY FLASHING DON'T WALK, THEN STEADY DON'T WALK
- ** 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
Ø1		
Ø2	6	4,8
Ø3		
Ø4	8	2,6
Ø5		
Ø6	2	4,8
Ø7		
Ø8	4	2,6

DETECTOR LOGIC

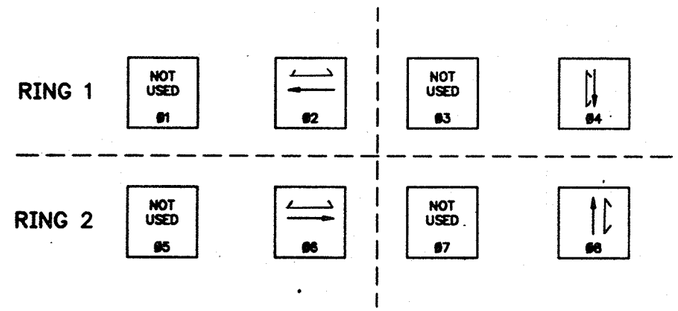
DETECTOR NUMBER	AMPLIFIER CHANNEL NUMBER	DETECTOR OPERATION: CALLS AND EXTENDS	DETECTOR OPERATION: CALLS ONLY	DETECTOR OPERATION: EXTENDS ONLY	PHASE CALLED	PHASE EXTENDED	DETECTOR DISCONNECT PHASE	CALLING DELAY	EXTENSION STRETCH	SIZE	NUMBER OF TURNS
41	1	X			4	4		X		6'x14'	3
42	1	X			4	4		X		6'x14'	3
43	2	X			4	4		X		6'x18'	3
81	3	X			8	8		X		6'x10'	4
82	3	X			8	8		X		6'x10'	4
83	4	X			8	8		X		6'x12'	4

CONTROLLER LOGIC

PHASE NUMBER	PHASE LOCKING	DUAL ENTRY W / Ø	PHASE RECALL
1			
2	X	W / 6	X
3			
4		W / 8	
5			
6	X	W / 2	X
7			
8		W / 4	

OVERLAPS

NONE



TYPE OF INTERCONNECT	
NONE	X
TBC	
CLOSED LOOP	
HARDWIRE	
TONE (FREQ)	

TYPE OF PRE-EMPT	
NONE	
RAILROAD	X
EMERGENCY VEHICLE	

TYPE OF LIGHTING	
NONE	X
IN TRAFFIC CONTROL CABINET	
IN SEPARATE CONTROL CABINET	

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. IF ANY OPPOSING THRU PHASES ARE TIMING CONCURRENTLY, THEY SHALL TERMINATE TOGETHER DUE TO PERMISSIVE LEFT TURN CONFLICT.
4. WHEN A CALL FOR RAILROAD PREEMPTION IS RECEIVED:
   A. ANY GREEN INTERVAL IN EFFECT SHALL TIME A MINIMUM 7 SECOND DURATION BEFORE ENTERING THE PREEMPT SEQUENCE. ELAPSED GREEN TIME PRIOR TO THE PREEMPT CALL SHALL BE CONSIDERED IN THE MINIMUM TIME.
   B. ANY CLEARANCE INTERVAL IN EFFECT SHALL TIME ITS FULL NORMAL DURATION BEFORE ENTERING THE PREEMPT SEQUENCE.
5. UPON R.R. PREEMPTION SIGNAL SHOULD CLEAR TO Ø8, CLEAR Ø8, THEN GO TO A FLASH YELLOW ON C.T.H. "OO" (Ø2 & Ø6) AND A FLASH RED ON BUCHANAN ST. (Ø4 & Ø8), AFTER R.R. PREEMPTION SIGNALS SHOULD GO TO A STEADY YELLOW ON C.T.H. "OO", (Ø2 & Ø6) AND A STEADY RED ON BUCHANAN ST. (Ø4 & Ø8). NORMAL PHASING SHALL RESUME IN Ø4 & Ø8 SUBSEQUENT TO TERMINATION OF RAILROAD PREEMPTION.
6. TIMINGS TO BE OBTAINED FROM VILLAGE OF LITTLE CHUTE DIRECTOR OF PUBLIC WORKS.

NORTH AVENUE (CTH "OO")
AT BUCHANAN STREET

OUTAGAMIE CO.

SIGNAL NO.

DATE SHEET NO. OF

STATE PROJECT NUMBER	SHEET NO.
4677-06-71	2.4

PAVEMENT MARKINGS DETAIL

NORTH

MELVIN C. GRAF

STREET

DOROTHY E. HIETPAS

HOUSE

12

66'

33'

33'

39' B-B

11

(C.T.H. "00")

NORTH AVENUE

PAVEMENT MARKING, 18" WHITE, HOT PAINT (STOP LINE)

PAU'T MARKING, CURB RAMP, HOT PAINT, SPECIAL

4' TYP.

EXISTING PAVEMENT MARKING 4" WHITE (EDGE LINE)

60'

120'

72

PAU'T MARKING, CURB RAMP, HOT PAINT, SPECIAL

PAVEMENT MARKING, 18" WHITE, HOT PAINT (STOP LINE)

EXISTING PAVEMENT MARKING 4" YELLOW (NO PASSING LINE)

71

70

EXISTING PAVEMENT MARKING 4" YELLOW (EDGE LINE)

PAVEMENT MARKING, 6" WHITE, HOT PAINT (CROSSWALK)

6' TYP.

69

10

EXISTING PAVEMENT MARKING 4" WHITE (LANE LINE)

EXISTING PAVEMENT MARKING 4" YELLOW (NO PASSING LINE)

68

PAVEMENT MARKING, 18" WHITE, HOT PAINT (STOP LINE)

67

EXISTING PAVEMENT MARKING 4" WHITE (LANE LINE)

EXISTING PAVEMENT MARKING 4" WHITE (EDGE LINE)

PAVEMENT MARKING, CURB RAMP, HOT PAINT, SPECIAL

PAVEMENT MARKING, 6" WHITE, PREFORMED PLASTIC (CROSSWALK)

2'

25'3"

PAVEMENT MARKING, 4" DOUBLE YELLOW, PREFORMED PLASTIC (NO PASSING ZONE)

PAVEMENT MARKING, RAILROAD CROSSING, PREFORMED PLASTIC

PAVEMENT MARKING, 18" WHITE, PREFORMED PLASTIC (STOP LINE)

15' FROM NEAREST EDGE OF RAIL

RAILROAD

WISCONSIN CENTRAL LTD. / FOX VALLEY AND WESTERN LTD.

BATTERY BACKUP FOR CONTROLLER

RAILROAD CONTROLLER CABINET

UE

BUCHANAN

25'

25'

50'

NOTE:
ALL PAVEMENT MARKING PLACED ON NEW ASPHALTIC PAVEMENT SHALL BE PREFORMED PLASTIC.

STATE PROJECT NUMBER	SHEET NO.
4677-06-71	2.5

TRAFFIC CONTROL DETAIL

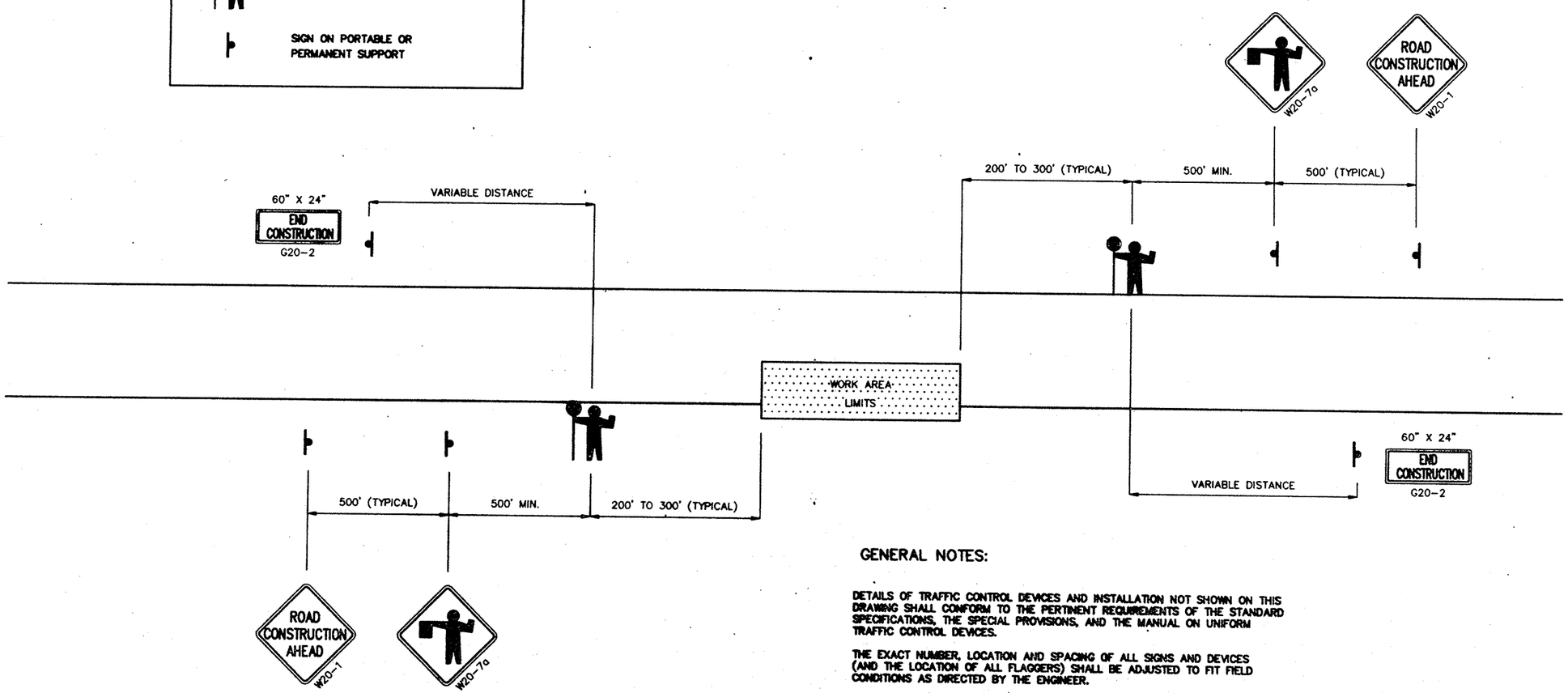
OUTAGAMIE CO.

SYMBOLS

WORK AREA

FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

SIGN ON PORTABLE OR PERMANENT SUPPORT



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.

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 SIGN SHALL BE COVERED OR REMOVED AND THE HIGHWAY RESTORED TO NORMAL OPERATION.

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

DATE 03/03/94

ESTIMATE OF QUANTITIES

ITEM	ITEM DESCRIPTION	UNIT	TOTAL	4677-06-71 QUANTITY
20402	REMOVING ASPHALTIC SURFACE	S.Y.	350.00	350.00
20405	REMOVING CURB AND GUTTER	L.F.	180.00	180.00
20406	REMOVING CONCRETE SIDEWALK	S.Y.	70.00	70.00
21301	FINISHING ROADWAY	L.S.	1.00	1.00
30404	CRUSHED AGGREGATE BASE COURSE	TON	50.00	50.00
40713	ASPHALTIC CONCRETE PAVEMENT, TYPE MV	TON	75.00	75.00
60133	CONCRETE CURB AND GUTTER, 30-INCH, TYPE D	L.F.	175.00	175.00
60205	CONCRETE SIDEWALK, 5-INCH	S.F.	870.00	870.00
61334	NONMETALLIC CONDUIT, 2-INCH	L.F.	288.00	288.00
61336	NONMETALLIC CONDUIT, 3-INCH	L.F.	36.00	36.00
61347	CONDUIT, 3-INCH, SPECIAL	L.F.	312.00	312.00
61910	MOBILIZATION	L.S.	1.00	1.00
62501	TOPSOIL	S.Y.	100.00	100.00
62702	MULCHING	S.Y.	100.00	100.00
62902	FERTILIZER, TYPE A	CWT.	6.30	6.30
63002	SEEDING	LB.	1.80	1.80
64002	POLES, TYPE 2	EACH	4.00	4.00
64012	CONCRETE BASES, TYPE 1	EACH	5.00	5.00
64013	CONCRETE BASES, TYPE 2	EACH	4.00	4.00
64301	TRAFFIC CONTROL	L.S.	1.00	1.00
64405	PAVEMENT MARKING, PREFORMED PLASTIC	L.F.	130.00	130.00
64418	PAVEMENT MARKING, RAILROAD CROSSINGS, PREFORMED PLASTIC	EACH	1.00	1.00
64422	PAVEMENT MARKING, STOP LINE, HOT PAINT, 18-INCH	L.F.	92.00	92.00
64434	PAVEMENT MARKING, STOP LINE, PREFORMED PLASTIC, 18-INCH	L.F.	17.00	17.00
64442	PAVEMENT MARKING, CROSSWALK, HOT PAINT, 6-INCH	L.F.	360.00	360.00
64454	PAVEMENT MARKING, CROSSWALK, PREFORMED PLASTIC, 6-INCH	L.F.	135.00	135.00

Sheet 3

ITEM	ITEM DESCRIPTION	UNIT	TOTAL	4677-06-71 QUANTITY
64601	SAWING EXISTING PAVEMENT	L.F.	215.00	215.00
90001	TRAFFIC SIGNAL CONTROLLER, FULLY ACTUATED, 8-PHASE, SPECIAL	EACH	1.00	1.00
90002	TRAFFIC SIGNAL STANDARDS, ALUMINUM, 13-FEET	EACH	5.00	5.00
90003	TRAFFIC SIGNAL CABLE, 16 CONDUCTOR, NO.14	L.F.	472.00	472.00
90004	CASING PIPE FOR RAILROAD CROSSING	L.F.	35.00	35.00
90005	SPRINKLE TREATMENT	S.Y.	140.00	140.00
90006	ASPHALTIC MATERIAL FOR SPRINLE TREATMENT	TON	.02	.02
90007	PAVEMENT MARKING, CURB RAMP, HOT PAINT, SPECIAL	L.F.	60.00	60.00
90008	ELECTRICAL SERVICE, TRAFFIC SIGNALS, METER BREAKER, NORTH AVE. & BUCHANAN ST.	L.S.	1.00	1.00
90402	QUALITY MANAGEMENT PROGRAM, ASPHALTIC MIXTURE	TON	75.00	75.00
90660	ELECTRICAL WIRE, TRAFFIC SIGNALS, NO. 10	L.F.	1,482.00	1,482.00
90785	CONCRETE CONTROL CABINET BASES, TYPE 9	EACH	1.00	1.00
90792	PULL BOXES, 12X24-INCH	EACH	3.00	3.00
90797	PULL BOXES, 24X36-INCH	EACH	5.00	5.00
90800	PEDESTAL BASES	EACH	5.00	5.00
90801	TRANSFORMER BASES	EACH	4.00	4.00
90813	MAST ARMS, TRAFFIC SIGNAL TROMBONE, 15-FT.	EACH	2.00	2.00
90814	MAST ARMS, TRAFFIC SIGNAL TROMBONE, 20-FT.	EACH	2.00	2.00
90817	TRAFFIC SIGNAL FACES, 3-12 VERTICAL	EACH	8.00	8.00
90823	TRAFFIC SIGNAL FACES, 3-12 HORIZONTAL	EACH	4.00	4.00
90830	PEDESTRIAN SIGNAL FACES, 12-INCH	EACH	8.00	8.00
90833	PEDESTRIAN PUSH BUTTONS	EACH	8.00	8.00
90834	TRAFFIC SIGNAL MOUNTING HARDWARE, NORTH AVE. & BUCHANAN ST.	L.S.	1.00	1.00

Sheet 31

ITEM	ITEM DESCRIPTION	UNIT	TOTAL	4677-06-71 QUANTITY
90838	BACKPLATES	EACH	12.00	12.00
90842	TRAFFIC SIGNAL CABLE, 7 CONDUCTOR, NO. 14	L.F.	1,117.00	1,117.00
90870	LOOP DETECTOR AMPLIFIER, NORTH AVE. & BUCHANAN ST.	L.S.	1.00	1.00
90871	LOOP DETECTOR CONDUIT, 1-INCH	L.F.	302.00	302.00
90872	LOOP DETECTOR WIRE	L.F.	940.00	940.00
90873	LOOP DETECTOR LEAD IN CABLE	L.F.	684.00	684.00

Sheet 3.2

STATE PROJECT NUMBER	SHEET NO.
4677-06-71	3A

MISCELLANEOUS QUANTITIES
C.T.H. "OO" AND BUCHANAN ST.
OUTAGAMIE COUNTY

SAWING EXISTING PAVEMENT

LOCATION	QUANTITY (L.F.)
8+92, BUCHANAN STREET	28
9+80, BUCHANAN STREET	162
CURB & GUTTER SIDEWALK REMOVALS	25
	215

TOPSOIL, SEED, FERTILIZER & MULCH

LOCATION	FERTILIZER, TYPE A QUANTITY (CWT.)	TOPSOIL QUANTITY (S.Y.)	MULCHING QUANTITY (S.Y.)	SEEDING QUANTITY (LBS.)
CURB AND GUTTER, CONDUIT, PULLBOX, BASE AND SIDEWALK INSTALLATION AREAS	6.3	100	100	1.8

REMOVING ASPHALTIC SURFACE

STATION TO STATION	LOCATION	QUANTITY (S.Y.)
8+92 TO 9+80	BUCHANAN STREET	350

SPRINKLE TREATMENT, ASPHALTIC MATERIAL FOR SPRINKLE TREATMENT

STATION TO STATION	LOCATION	SPRINKLE TREATMENT (S.Y.)	ASPH. MATERIAL FOR SURFACE TREATMENT (TON)
8+92 TO 9+80	BUCHANAN STREET, NORTHBOUND LANE	140	.02

CRUSHED AGGREGATE BASE COURSE

STATION TO STATION	LOCATION	QUANTITY (TON)
9+20 TO 9+80	BUCHANAN STREET PAVEMENT WIDENING - 10" MIN.	50

REMOVING CURB & GUTTER

LOCATION	QUANTITY (L.F.)
BUCHANAN STREET S.E. RADIUS	100
BUCHANAN STREET S.W. RADIUS	80
	180

REMOVING CONCRETE SIDEWALK

LOCATION	QUANTITY (S.Y.)
BUCHANAN STREET, RT.	25
BUCHANAN STREET, LT.	45
	70

CASING PIPE FOR RAILROAD CROSSING

STATION	LOCATION	QUANTITY (L.F.)
9+00	BUCHANAN STREET, RT.	~~35~~ 50

ASPHALTIC CONCRETE PAVEMENT, TYPE MV

STATION TO STATION	LOCATION	QUANTITY (TON)
8+92 TO 9+80	BUCHANAN STREET	75

CONCRETE CURB & GUTTER

LOCATION	30-INCH, TYPE D QUANTITY (L.F.)
BUCHANAN STREET, RT.	75
BUCHANAN STREET, LT.	100
	175

CONCRETE SIDEWALK, 5-INCH

LOCATION	QUANTITY (L.F.)
BUCHANAN STREET, RT.	375
BUCHANAN STREET, LT.	495
	870

STATE PROJECT NUMBER	SHEET NO.
4677-06-71	3B

MISCELLANEOUS QUANTITIES
C.T.H. "OO" AND BUCHANAN ST.
OUTAGAMIE COUNTY

PULL BOXES

NO.	STATION	LOCATION	12" X 24" (EACH)	24" X 36" (EACH)
PB 1	STA. 9+46.5	BUCHANAN ST., 38' LT.		1
PB 2	STA. 68+88	C.T.H. "OO", 36' LT.		1
PB 3	STA. 10+49	BUCHANAN ST., 26.5' LT.		1
PB 4	STA. 10+54	BUCHANAN ST., 37' RT.		1
PB 5	STA. 9+62	BUCHANAN ST., 25' RT.		1
PB 6	STA. 9+45	BUCHANAN ST., 18.5' RT.	1	
PB 7	STA. 8+68	BUCHANAN ST., 18.5' RT.	1	
PB 8	STA. 10+60	BUCHANAN ST., 26' LT.	1	
			3	5

ELECTRICAL CONDUIT

LOCATION	CONDUIT, 3-INCH, SPECIAL (L.F.)	NONMETALLIC CONDUIT, 2-INCH (L.F.)	NONMETALLIC CONDUIT, 3-INCH (L.F.)
PB3 - PB4	65		
PB4 - PB5	92		
PB5 - PB1	67		
PB1 - PB2	88		
CB1 - PB3			16 (2 x 8')
PB2 - SB2		26	
PB2 - PB3			20
PB3 - PB8		12	
PB4 - SB4		20	
PB3 - SB3		6	
PB4 - SB5		15	
PB5 - SB6		48	
PB5 - SB7		7	
PB5 - PB6		21	
PB5 - SB9		5	
PB6 - PB7		80	
PB7 - R.R. CONTROLLER		22	
PB1 - SB8		12	
PB1- SB1		14	
	312	288	36

CONCRETE BASES, PEDESTRIAN SIGNAL FACES, PEDESTRIAN PUSH BUTTONS

NO.	STATION	LOCATION	CONC. BASE, TYPE 1 (EACH)	CONC. BASE, TYPE 2 (EACH)	PED. FACE, 12-INCH (EACH)	PED. BUTTON (EACH)
SB 1	STA. 68+77.5	C.T.H. "OO", 36' RT.	1		2	2
SB 2	STA. 68+65	C.T.H. "OO", 28' LT.		1		
SB 3	STA. 10+43	BUCHANAN ST., 29' LT.	1		2	2
SB 4	STA. 10+70	BUCHANAN ST., 26.5' RT.		1		
SB 5	STA. 69+79	C.T.H. "OO", 38.5' LT.	1		2	2
SB 6	STA. 69+86	C.T.H. "OO", 28' RT.		1		
SB 7	STA. 9+56.5	BUCHANAN ST., 22' RT.	1			
SB 8	STA. 9+47	BUCHANAN ST., 27' LT.		1		
SB 9	STA. 69+52	C.T.H. "OO", 33' RT.	1		2	2
			5	4	8	8

CONCRETE CONTROL CABINET BASE, TYPE 9 AND ELECTRICAL SERVICE, TRAFFIC SIGNALS

STATION	LOCATION	CONTROL CABINET BASE (EACH)	ELECTRICAL SERVICE (EACH)
STA. 10+50	BUCHANAN ST., 37' LT.	1	1

TRAFFIC DETECTOR LOOPS

NO.	STATION	LOCATION*	LOOP DETECTOR CONDUIT, 1-INCH, (L.F.)	LOOP DETECTOR WIRE, (L.F.)	LOOP DETECTOR LEAD-IN CABLE, (L.F.)	SIZE	TURNS
Ø41	STA. 10+67	BUCHANAN ST., 8.5' LT.	55	152	22	6' X 14'	3
Ø42	STA. 10+52	BUCHANAN ST., 9' LT.	50	142	22	6' X 14'	3
Ø43	STA. 10+37	BUCHANAN ST., 11' LT.	62	174	22	6' X 18'	3
Ø81	STA. 9+35	BUCHANAN ST., 7' RT.	47	160	206	6' X 10'	4
Ø82	STA. 9+50	BUCHANAN ST., 7' RT.	40	146	206	6' X 10'	4
Ø83	STA. 9+65	BUCHANAN ST., 8' RT.	48	166	206	6' X 12'	4
			302	940	684		

* LOCATION IS TO FRONT, CENTER OF LOOP

PAVEMENT MARKING, HOT PAINT AND HOT PAINT, SPECIAL

LOCATION	HOT PAINT, STOP LINE, 18-INCH (L.F.)	HOT PAINT, SPECIAL, CURB RAMPS (L.F.)	HOT PAINT, CROSSWALK, 6-INCH (L.F.)
C.T.H. "OO" - 1 RAMP	67	12	230
BUCHANAN STREET - 4 RAMPS	25	48	130
	92	60	360

PAVEMENT MARKING, PREFORMED PLASTIC

LOCATION	STOP LINE 18-INCH (L.F.)	4-INCH (YELLOW, CENTERLINE) (L.F.)	CROSSWALK 6-INCH (L.F.)	RAILROAD CROSSINGS (EACH)
BUCHANAN ST.	17	130	135	1

TRAFFIC SIGNAL WIRE AND CABLE

FROM	TO	HEAD NO.	TRAFFIC SIGNAL CABLE, 7-CONDUCTOR, NO. 14, (L.F.)	TRAFFIC SIGNAL CABLE, 16-CONDUCTOR, NO. 14 (L.F.)	ELECTRICAL WIRE, TRAFFIC SIGNALS, NO. 10, (NEUTRAL & GROUND) (L.F.)
CB 1	SB 1	1,6		141	
CB 1	SB 2	2	73		
CB 1	SB 3	7,12		27	
CB 1	SB 4	8	112		
CB 1	SB 5	3,4		107	
CB 1	SB 6	5	238		
CB 1	SB 7	9,10		197	
CB 1	SB 8	11	153		
CB 1	SB 9		213		
CB 1	R.R. CONTROLLER		328		
CB 1	SB 2				126 (63X2)
SB 2	SB 3				108 (54X2)
SB 3	SB 4				190 (95X2)
SB 4	SB 5				76 (38X2)
SB 5	SB 6				320 (160X2)
SB 6	SB 9				80 (40X2)
SB 9	SB 7				60 (30X2)
SB 7	SB 8				184 (92X2)
SB 8	SB 1				58 (29X2)
SB 1	CB 1				280 (140X2)
			1117	472	1,482

SIGNAL POLES, MAST ARMS, BASES, SIGNAL FACES

SIGNAL NO.	BASES (EACH)	POLES (EACH)	TRAFFIC SIGNAL STANDARDS, ALUMINUM, 13-FT (EACH)	*SIGNAL FACE (EACH)	MAST ARMS, TRAFFIC SIGNAL TROMBONE, 15-FEET (EACH)	MAST ARMS, TRAFFIC SIGNAL TROMBONE, 20-FEET (EACH)
SB 1	PEDESTAL		1	TWO 3-12 V		
SB 2	TRANSFORMER	TYPE 2		ONE 3-12 H	1	
SB 3	PEDESTAL		1	TWO 3-12 V		
SB 4	TRANSFORMER	TYPE 2		ONE 3-12 H		1
SB 5	PEDESTAL		1	TWO 3-12 V	1	
SB 6	TRANSFORMER	TYPE 2		ONE 3-12 H		
SB 7	PEDESTAL		1	TWO 3-12 V		
SB 8	TRANSFORMER	TYPE 2		ONE 3-12 H		1
SB 9	PEDESTAL		1			

* ALL TRAFFIC SIGNAL FACES SHALL HAVE BACKPLATES

STATE PROJECT NUMBER	SHEET NO.
4677-06-71	5.0

CONSTRUCTION DETAIL FOR NORTH AVENUE & BUCHANAN STREET

BENCH MARK

NO.	STA.	DESC.	ELEV.
1	69+74,LT	TOP NUT OF HYDRANT	727.67

NOTES:

ELEVATIONS SHOWN ARE CENTERLINE OF PAVEMENT AND TOP FRONT EDGE OF GUTTER.

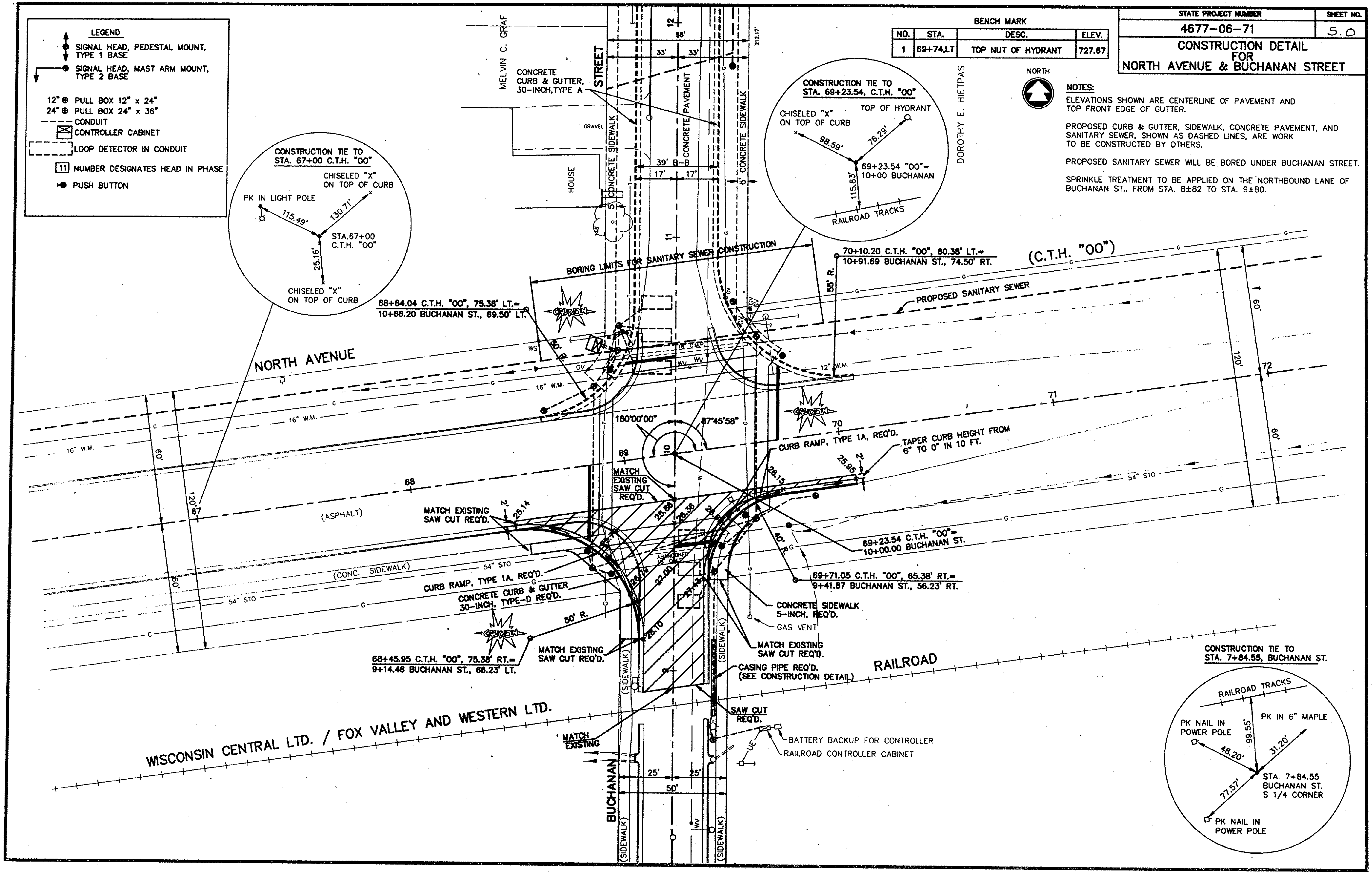
PROPOSED CURB & GUTTER, SIDEWALK, CONCRETE PAVEMENT, AND SANITARY SEWER, SHOWN AS DASHED LINES, ARE WORK TO BE CONSTRUCTED BY OTHERS.

PROPOSED SANITARY SEWER WILL BE BORED UNDER BUCHANAN STREET.

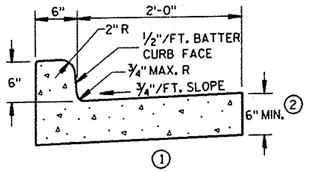
SPRINKLE TREATMENT TO BE APPLIED ON THE NORTHBOUND LANE OF BUCHANAN ST., FROM STA. 8±82 TO STA. 9±80.

LEGEND

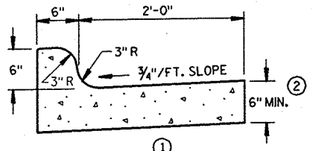
- SIGNAL HEAD, PEDESTAL MOUNT, TYPE 1 BASE
- SIGNAL HEAD, MAST ARM MOUNT, TYPE 2 BASE
- 12" ⊕ PULL BOX 12" x 24"
- 24" ⊕ PULL BOX 24" x 36"
- CONDUIT
- CONTROLLER CABINET
- LOOP DETECTOR IN CONDUIT
- [11] NUMBER DESIGNATES HEAD IN PHASE
- PUSH BUTTON



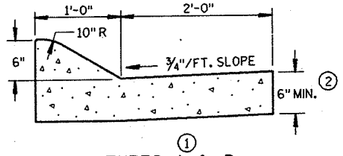
NORTH
NORTH AVENUE
(C.T.H. "OO")
BUCHANAN STREET
RAILROAD
WISCONSIN CENTRAL LTD. / FOX VALLEY AND WESTERN LTD.
MELVIN C. GRAF
DOROTHY E. HIETPAS
HOUSE
GRAVEL
CONCRETE CURB & GUTTER, 30-INCH,TYPE A
CONCRETE SIDEWALK
CONCRETE PAVEMENT
BORING LIMITS FOR SANITARY SEWER CONSTRUCTION
PROPOSED SANITARY SEWER
CONSTRUCTION TIE TO STA. 67+00 C.T.H. "OO"
PK IN LIGHT POLE
CHISELED "X" ON TOP OF CURB
STA.67+00 C.T.H. "OO"
115.49'
130.71'
25.16'
CONSTRUCTION TIE TO STA. 69+23.54, C.T.H. "OO"
TOP OF HYDRANT
98.59'
76.29'
115.83'
69+23.54 "OO"= 10+00 BUCHANAN
RAILROAD TRACKS
70+10.20 C.T.H. "OO", 80.38' LT.= 10+91.69 BUCHANAN ST., 74.50' RT.
68+64.04 C.T.H. "OO", 75.38' LT.= 10+66.20 BUCHANAN ST., 69.50' LT.
180°00'00"
87°45'58"
CURB RAMP, TYPE 1A, REQ'D.
TAPER CURB HEIGHT FROM 6" TO 0" IN 10 FT.
MATCH EXISTING SAW CUT REQ'D.
(ASPHALT)
(CONC. SIDEWALK)
CONCRETE CURB & GUTTER 30-INCH, TYPE-D REQ'D.
69+23.54 C.T.H. "OO"= 10+00.00 BUCHANAN ST.
69+71.05 C.T.H. "OO", 65.38' RT.= 9+41.87 BUCHANAN ST., 56.23' RT.
CONCRETE SIDEWALK 5-INCH, REQ'D.
GAS VENT
68+45.95 C.T.H. "OO", 75.38' RT.= 9+14.46 BUCHANAN ST., 66.23' LT.
CASING PIPE REQ'D. (SEE CONSTRUCTION DETAIL)
SAW CUT REQ'D.
BATTERY BACKUP FOR CONTROLLER
RAILROAD CONTROLLER CABINET
(SIDEWALK)
CONSTRUCTION TIE TO STA. 7+84.55, BUCHANAN ST.
PK NAIL IN POWER POLE
PK IN 6" MAPLE
99.55'
48.20'
31.20'
77.57'
STA. 7+84.55 BUCHANAN ST. S 1/4 CORNER
16" W.M.
12" W.M.
54" STO



① TYPES A & D

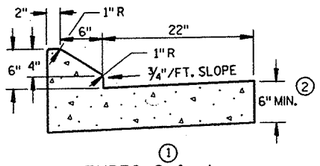


① TYPES K & L

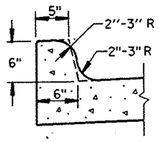


① TYPES A & D

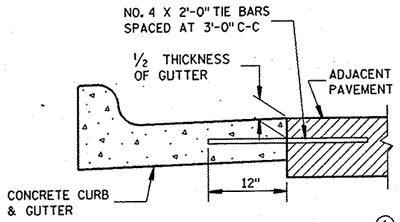
CONCRETE CURB & GUTTER 36"



① TYPES G & J



OPTIONAL CURB SHAPE FOR TYPES K ① & L



TYPICAL TIE BAR LOCATION ①

CONCRETE CURB & GUTTER 30"

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 ⅛" WIDE.

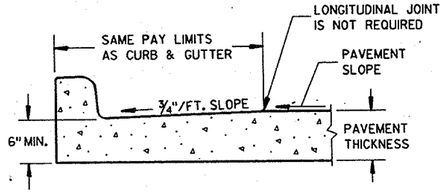
JOINTS IN INTEGRAL CURB & GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME SEALANT SPECIFIED FOR THE PAVEMENT JOINT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB & GUTTER.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE COURSE AND UNCLASSIFIED EXCAVATION LIMITS ARE TWO FEET BEHIND THE BACK OF CURBS.

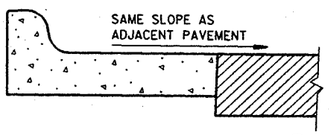
① TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G AND K.

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.

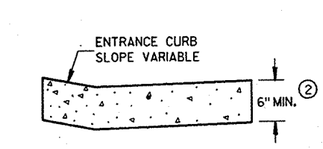
③ WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATIONS WILL BE SHOWN ELSEWHERE IN THE PLAN.



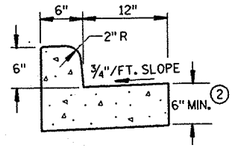
PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB & GUTTER



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

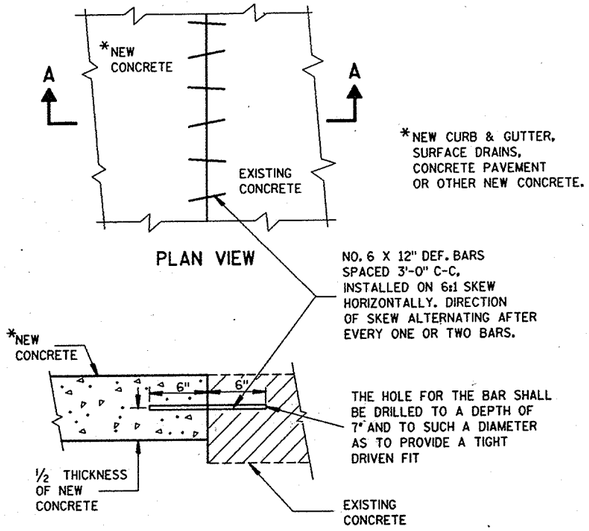


DRIVEWAY ENTRANCE CURB
(WHEN DIRECTED BY THE ENGINEER)

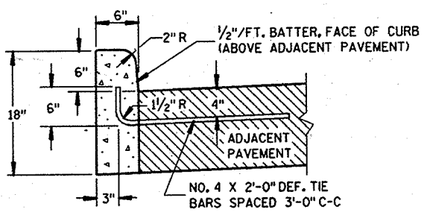


① TYPES A & D

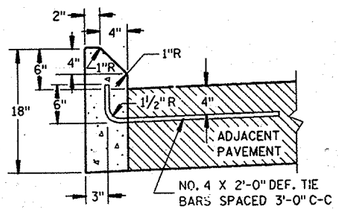
CONCRETE CURB & GUTTER 18"



SECTION A-A
PAVEMENT TIES



① TYPES A & D



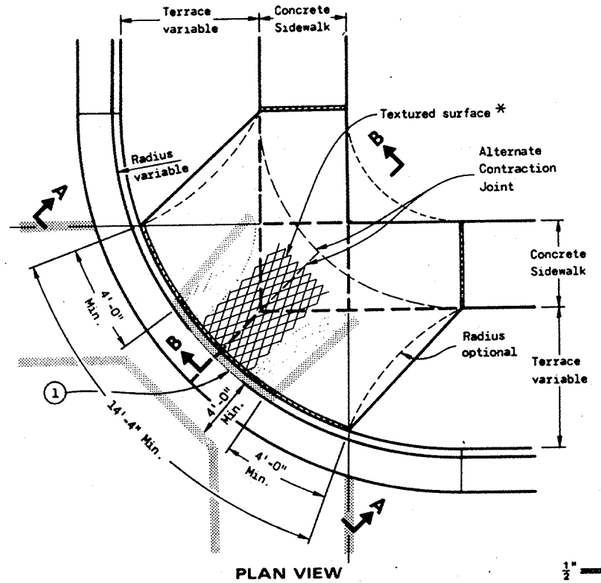
① TYPES G & J

CONCRETE CURB

CONCRETE CURB, CONCRETE CURB & GUTTER AND PAVEMENT TIES	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 10-23-86 DATE	STATE DESIGN ENGINEER FOR HWYS
FHWA	

S.D.D. 8 D 1-11

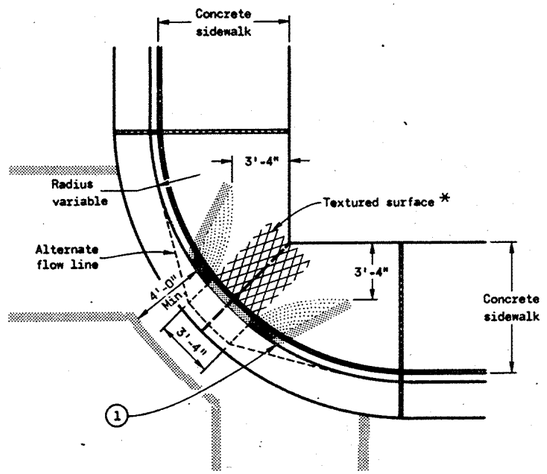
S.D.D. 8 D 1-11



PLAN VIEW

TYPE 1 RAMP

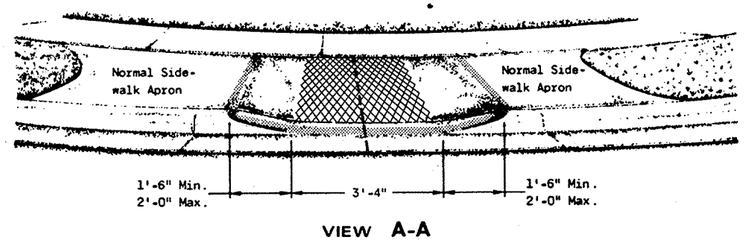
(CENTER OF CORNER RADIUS)



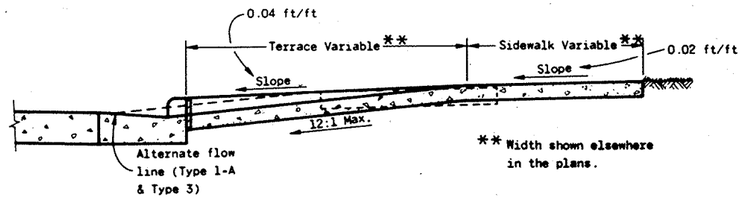
PLAN VIEW

TYPE 1-A RAMP

(NO TERRACE)



VIEW **A-A**



SECTION **B-B**

$\frac{1}{2}$" ═══ EXPANSION JOINTS - SIDEWALK

— — — CONTRACTION JOINTS

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

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.

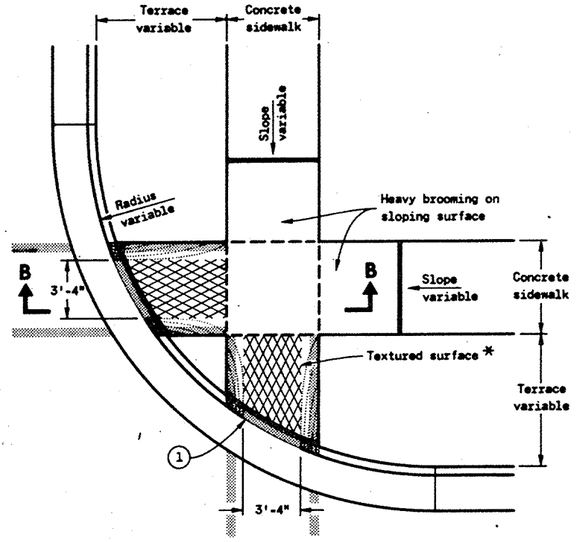
Type 1 or Type 1-A Ramps shall have a normal sidewalk apron and curb on both sides of ramp

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 municapality or the department will apply this striping unless otherwise specified in the contract.

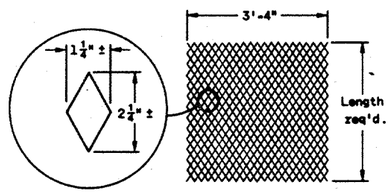
If a municapality requires the brick alternate, special details and provisions are shown elsewhere in the plans.



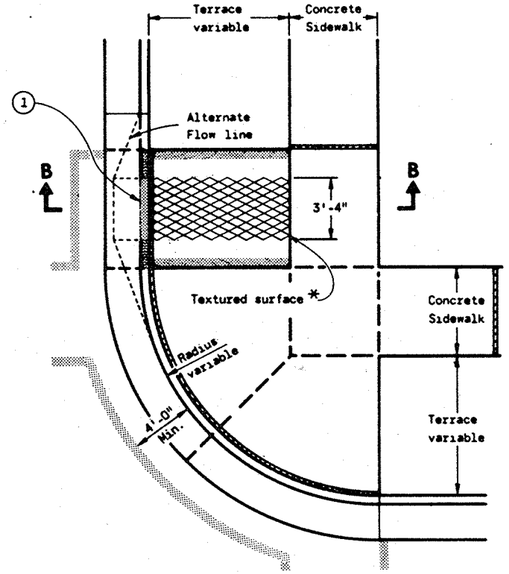
PLAN VIEW

TYPE 2 RAMP

(ON LINE WITH SIDEWALK)



DETAIL OF DIAMOND PATTERN * .



PLAN VIEW

TYPE 3 RAMP

(OUTSIDE OF CROSSWALK AREA)

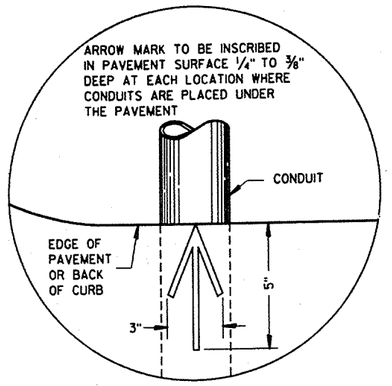
CURB RAMPS

State of Wisconsin
Department of Transportation

APPROVED 10-23-84 DATE
CHIEF DESIGN ENGINEER
FHWA

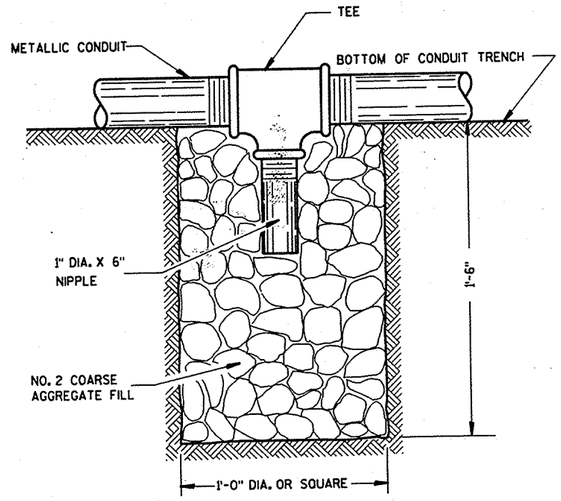
S.D.D. 8 D 5-8

S.D.D. 8 D 5-8



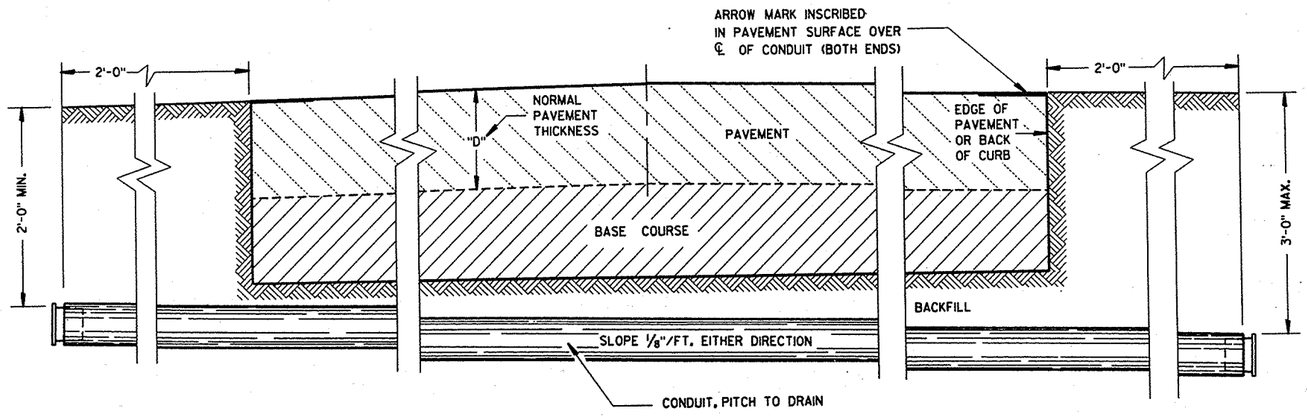
PLAN VIEW

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

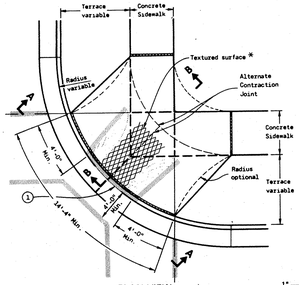
1/14/92 DATE — Dale Miller — STATE ELECTRICAL ENGR FOR HWYS

9/15/92 DATE — Gerald A. Resch — STATE TRAFFIC ENGINEER FOR HWYS

FHWA

S.D.D. 9 B 2-5

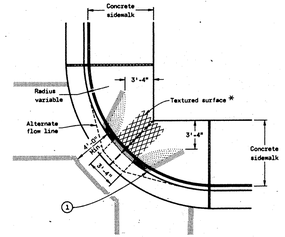
S.D.D. 9 B 2-5



PLAN VIEW

TYPE 1 RAMP

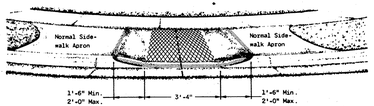
(CENTER OF CORNER RADIUS)



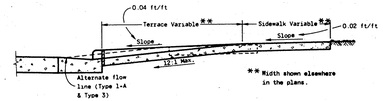
PLAN VIEW

TYPE 1-A RAMP

(NO TERRACE)



VIEW A-A



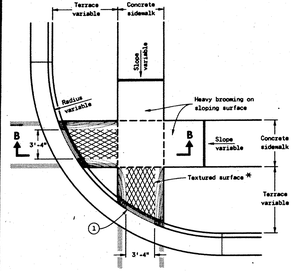
** Width shown elsewhere in the plans.

SECTION B-B

1" ——— EXPANSION JOINTS - SIDEWALK

— — — CONTRACTION JOINTS

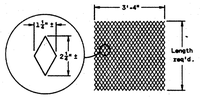
Location of joints may be varied from those shown to better fit site conditions and/or local government preference.



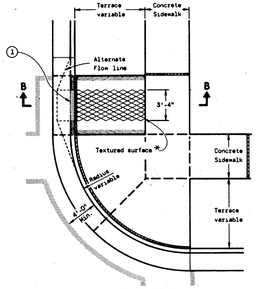
PLAN VIEW

TYPE 2 RAMP

(ON LINE WITH SIDEWALK)



DETAIL OF DIAMOND PATTERN * .



PLAN VIEW

TYPE 3 RAMP

(OUTSIDE OF CROSSWALK AREA)

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 ½ inch to ¾ inch in depth and width, oriented to provide a uniform pattern of diamond shapes measuring approximately 1½ inches in width by 2½ 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

CHIEF DESIGN ENGINEER

FHWA

S.D.D. 8 D 5-8

S.D.D. 8 D 5-8

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 SAW OR HYDRAULIC CONDUIT PUNCH. HOLE SIZE SHALL BE THE OUTSIDE DIAMETER OF THE CONDUIT THAT IS TO FIT IN THE OPENING PLUS NO MORE THAN 1/4".

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

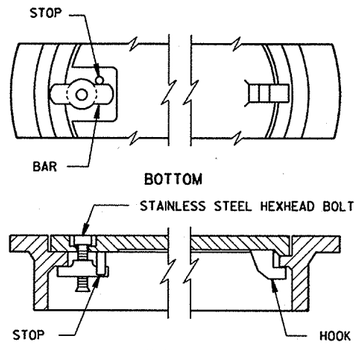
GROUNDING LUGS (MECHANICAL CONNECTORS) SHALL BE U.L. LISTED AND APPROVED FOR USE WITH COPPER WIRE. THE MECHANICAL CONNECTION (INSIDE AND OUTSIDE) TO THE PULL BOX, SHALL BE TOTALLY AND PERMANENTLY SEALED WITH A SILICONE OR RUBBERIZED CAULKING COMPOUND AS APPROVED BY THE ENGINEER.

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

DRAIN DUCT SHALL BE MEASURED AND PAID FOR SEPARATELY.

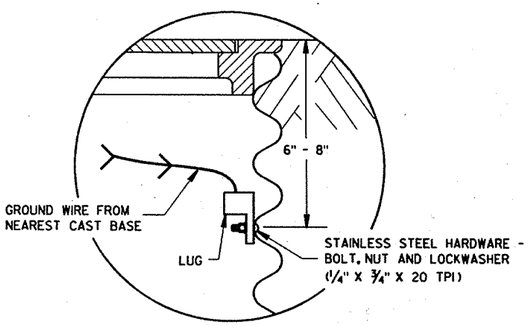
RODENT SCREEN SHALL BE 1/8" GALVANIZED STEEL MESH AND BE INSTALLED WITH A STAINLESS STEEL HOSE CLAMP OF SUFFICIENT SIZE.

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

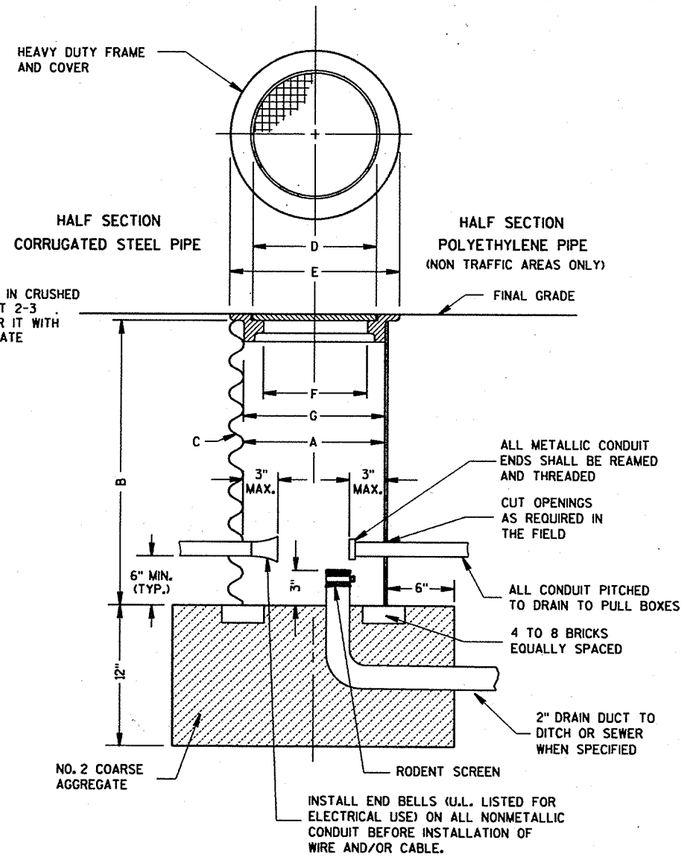


ALTERNATE COVER (LOCKING)

TIGHTENING BAR TYPE



GROUNDING LUG AND LOCATION IN STEEL PULL BOXES



PULL BOX

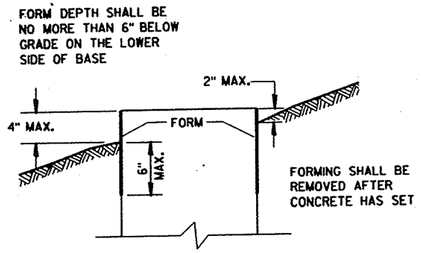
PULL BOX

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

S.D.D. 9 B 4-1

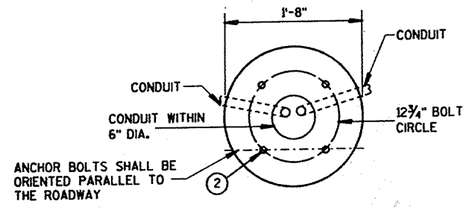
S.D.D. 9 B 4-1

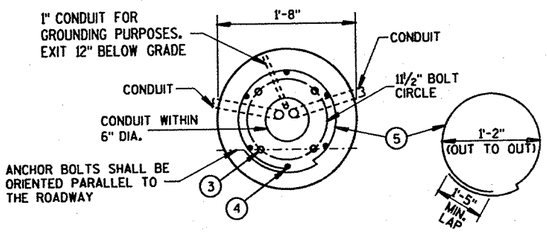


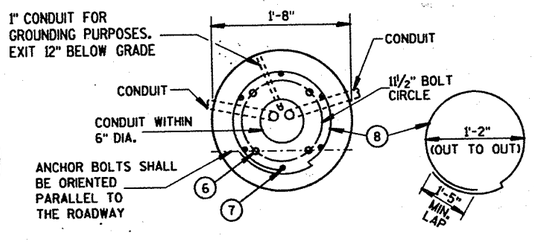
FORMING DETAIL

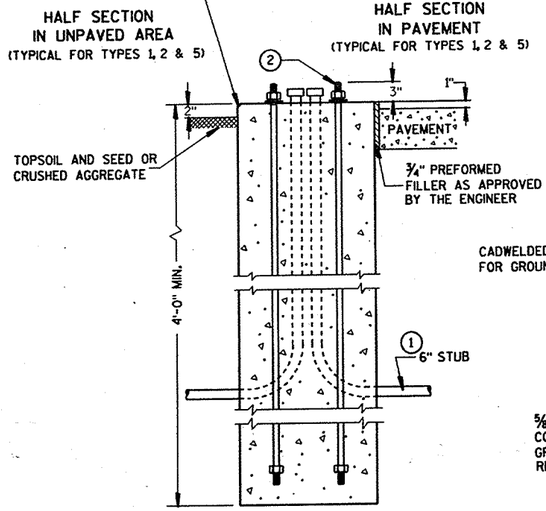
QUANTITY REQUIREMENTS	CONCRETE BASE TYPE		
	1	2	5
APPROX. CUBIC YARDS OF CONCRETE	.32	.57	.40
LBS. OF HOOP BAR STEEL	NONE	23	16
LBS. OF VERTICAL BAR STEEL	NONE	60	18

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

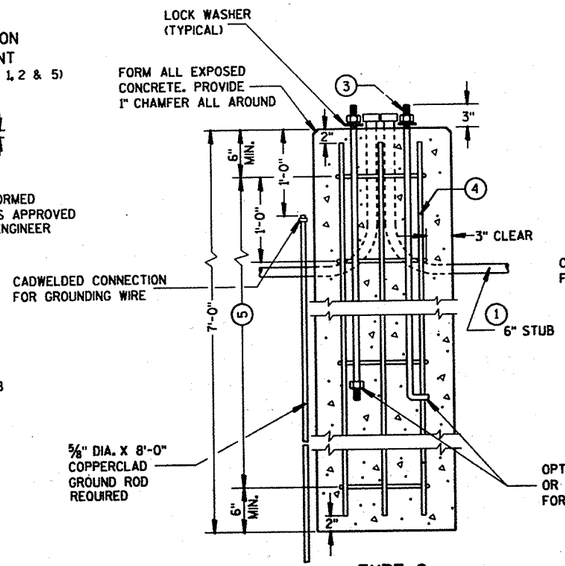




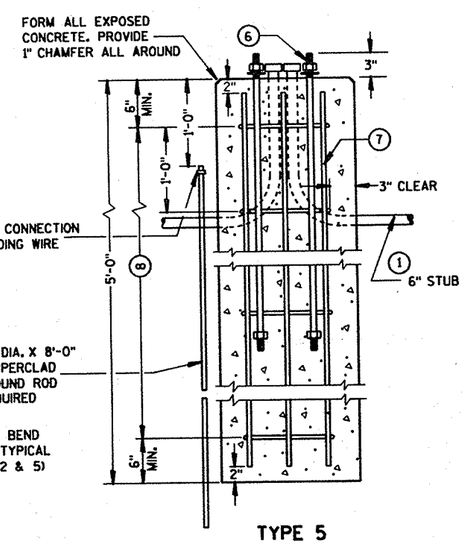




TYPE 1



TYPE 2



TYPE 5

CONCRETE BASES

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 1 FOOT 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 1 INCH 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

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DEPARTMENT OF TRANSPORTATION

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FHWA

S.D.D. 9 C 2-1

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GENERAL NOTES

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

FOUR (4) BOLTS TO BE FURNISHED WITH EACH TRANSFORMER BASE. BOLTS SHALL BE 1" DIAMETER, 4" IN LENGTH, WITH WASHERS, LOCK WASHERS AND NUTS. BOLTS, NUTS AND WASHERS SHALL BE MANUFACTURED IN ACCORDANCE WITH ASTM A-449, AND BE GALVANIZED IN ACCORDANCE WITH ASTM A-153, CLASS C.

4" BOLTS SHALL BE IN ACCORDANCE WITH SECTION 640.2.9 OF THE STANDARD SPECIFICATIONS, ASTM A-449 OR ASTM A-687 (GRADE 105).

LEVELING SHIMS, IF NEEDED, SHALL BE DESIGNED FOR THE PURPOSE AND USED UNDER CAST BASES WHEN PLUMBING POLES OR STANDARDS DURING INSTALLATION. THE USE OF WASHERS IN LIEU OF PROPER LEVELING SHIMS IS NOT ACCEPTABLE.

SHIM LENGTH SHALL BE LONG ENOUGH TO COMPLETELY COVER THE AREA UNDER THE LENGTH AND WIDTH OF THE BASE MOUNTING FLANGE.

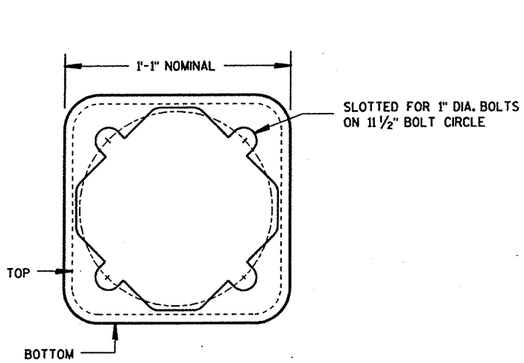
DOUBLE NUTTING IS NOT ACCEPTABLE FOR LEVELING OR MOUNTING PURPOSES.

A NEMA APPROVED AND U.L. LISTED MECHANICAL CONNECTOR (LUG) AL/CU RATED AND SIZED TO ACCEPT #10 AWG STRANDED WIRE, SHALL BE FURNISHED AND INSTALLED IN THE PEDESTAL AND TRANSFORMER BASES.

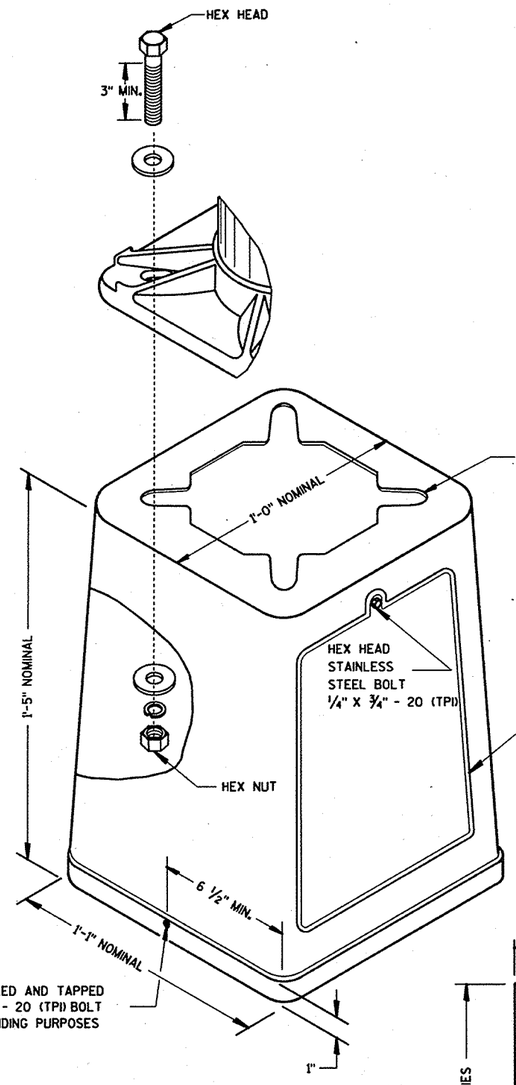
THE MECHANICAL CONNECTOR SHALL BE INSTALLED USING A 1/4" - 20 (TPI) STAINLESS STEEL HEX HEAD BOLT OF SUFFICIENT LENGTH TO FIRMLY ATTACH THE LUG TO THE BASE.

SHOULD THE MANNER OF ATTACHMENT OF THE LUG REQUIRE WASHERS, HEX NUTS, LOCK WASHER - THEY SHALL BE STAINLESS STEEL AS IS THE BOLT. THE MANNER OF ATTACHMENT SHALL NOT BLOCK ACCESSIBILITY TO WIRE PLACEMENT IN THE CONNECTOR.

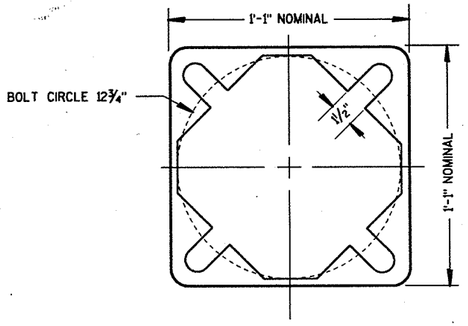
TEST REPORTS FROM AN FHWA APPROVED INDEPENDENT LABORATORY SHALL BE PROVIDED CERTIFYING THAT THE BASE HAS BEEN TESTED AND MEETS OR EXCEEDS ALL OF THE APPLICABLE 1985 AASHTO BREAKAWAY REQUIREMENTS. A STATEMENT OF CERTIFICATION FROM FHWA ATTESTING THAT SUCH TESTS HAVE BEEN ACCEPTED AND APPROVED SHALL BE SUPPLIED ALONG WITH THE BID.



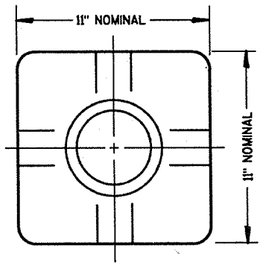
BOTTOM VIEW
(TRANSFORMER BASE)



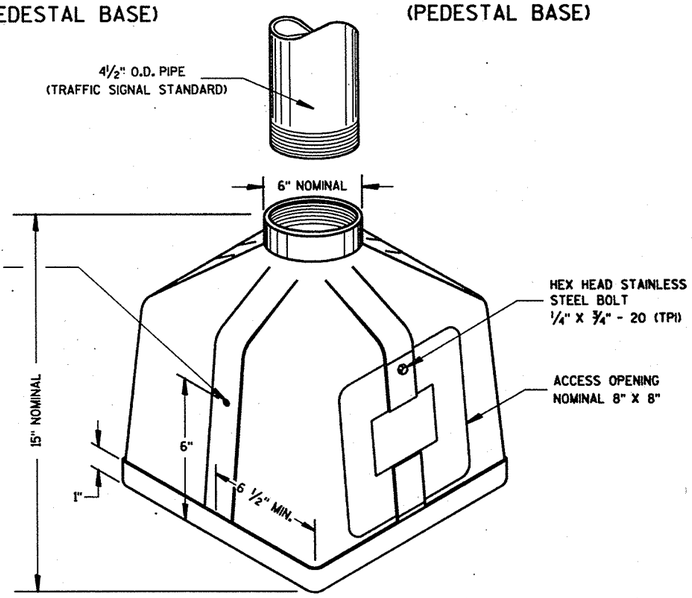
ISOMETRIC VIEW



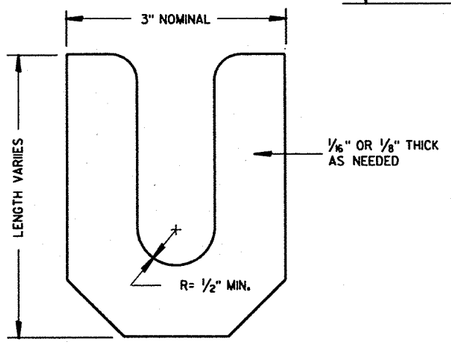
BOTTOM VIEW
(PEDESTAL BASE)



TOP VIEW
(PEDESTAL BASE)



ISOMETRIC VIEW
PEDESTAL BASE



LEVELING SHIM

TRANSFORMER BASE

INTENDED FOR USE WITH TYPE 2, 3, 4 & 5 POLES

CAST 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

S.D.D. 9 C 3-1

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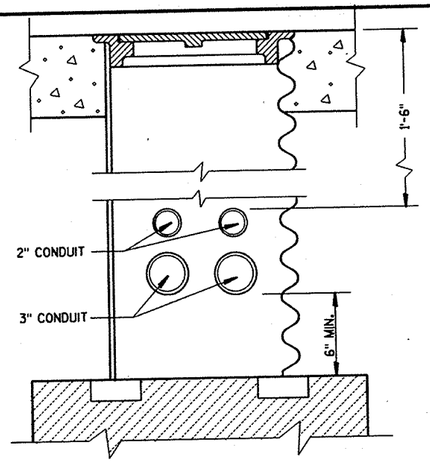
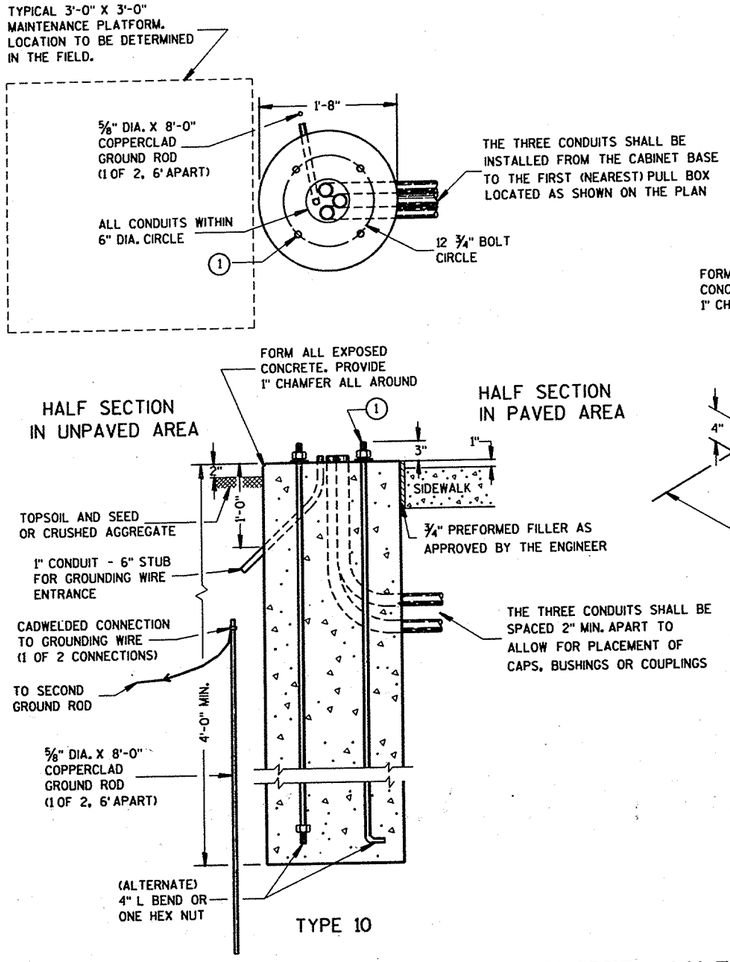
CONTROL CABINET BASE TYPE	DIMENSIONS				C.Y. CONCRETE (APPROX.)
	H	I	J	K	
TYPE 6 - 30" CABINET	34"	60"	10"	17"	.64
TYPE 7 - 38" CABINET	42"	60"	10"	21"	.93
TYPE 8 - 38" CABINET	42"	72"	12"	21"	1.29
TYPE 9 - VARIABLE	54"	72"	14"	27"	1.56
TYPE 10 - POST MOUNT	AS SHOWN				.32



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



CONCRETE CONTROL CABINET BASES

GENERAL NOTES

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

INSTALL FOUR ½ INCH MINIMUM DIAMETER X 4 INCH MINIMUM LENGTH APPROVED CONCRETE MASONRY ANCHORS TO ANCHOR THE CABINET TO TYPE 6, 7, 8, AND 9 BASES. THE ANCHOR 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.

CONCRETE CONTROL CABINET BASES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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FHWA

S.D.D. 9 C 5-1

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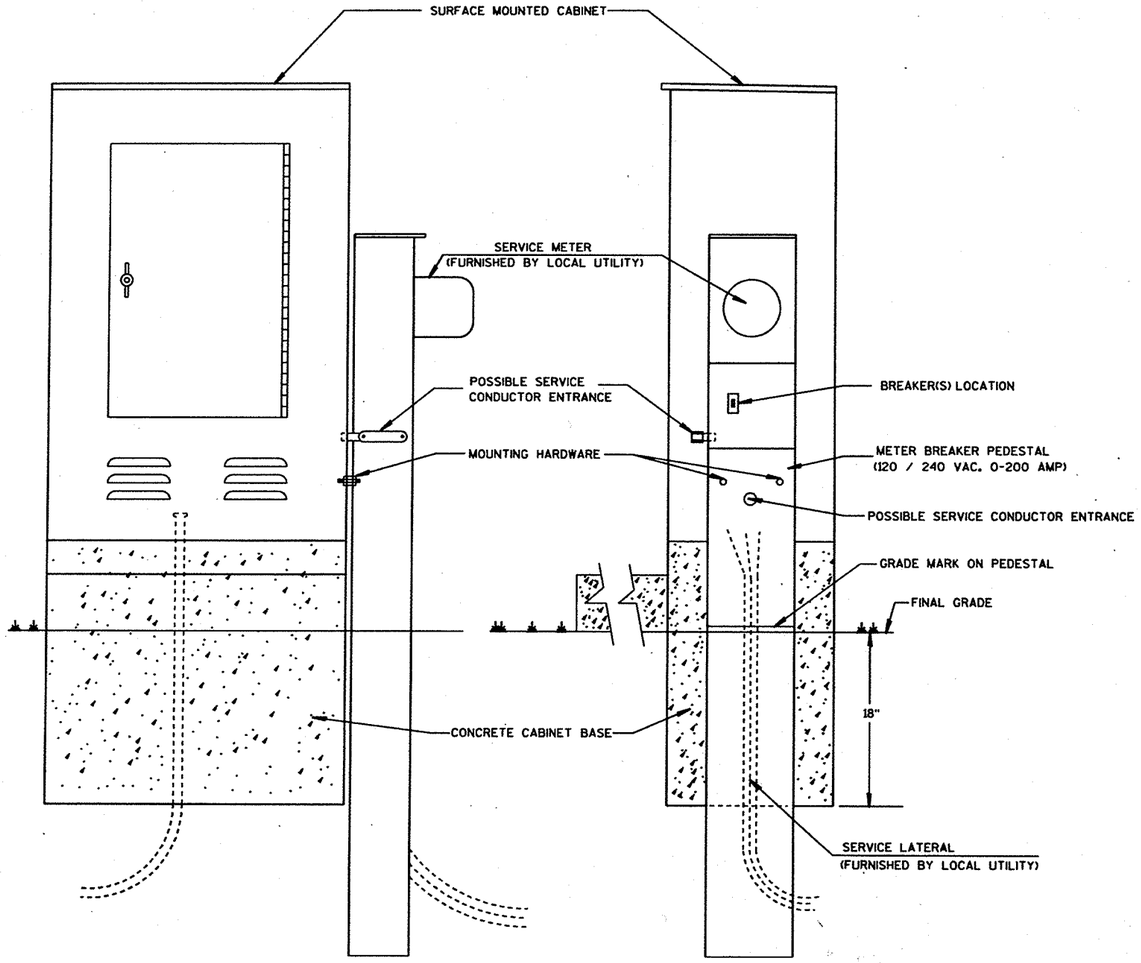

TYPICAL CABINET SERVICE INSTALLATION

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
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FHWA

S.D.D. 9 D 1-1

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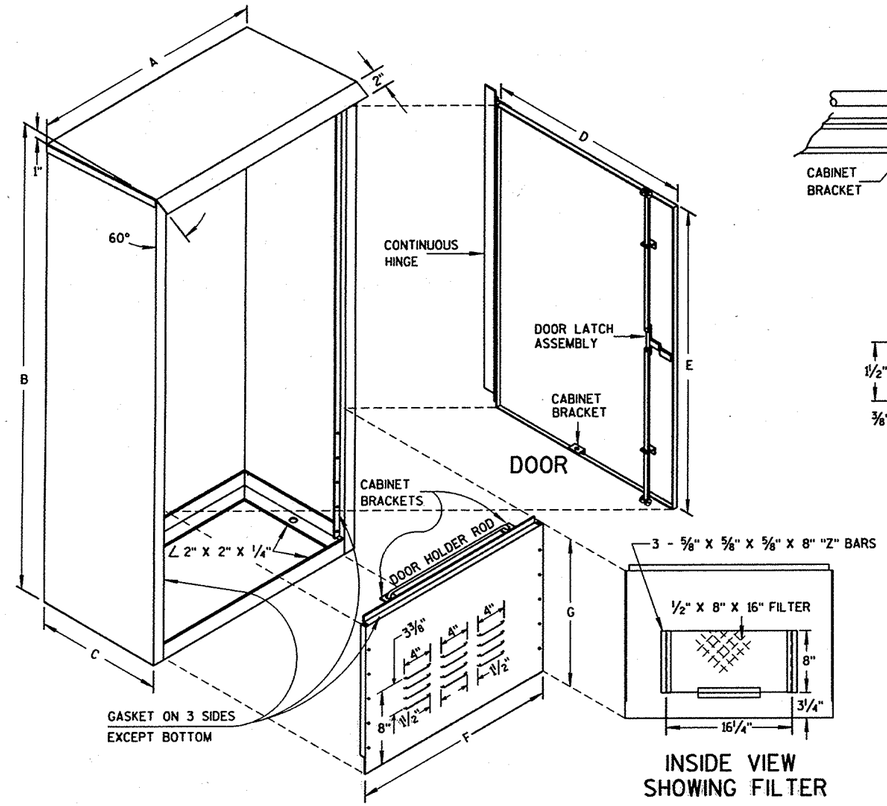
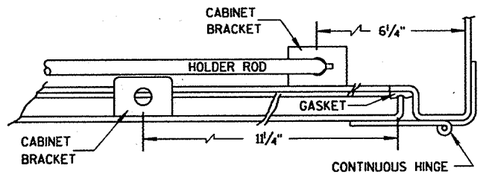
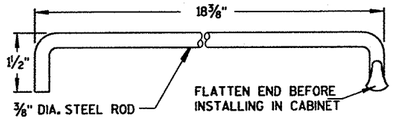


REMOVABLE COVER

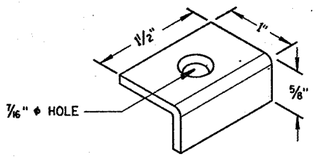
INSIDE VIEW SHOWING FILTER



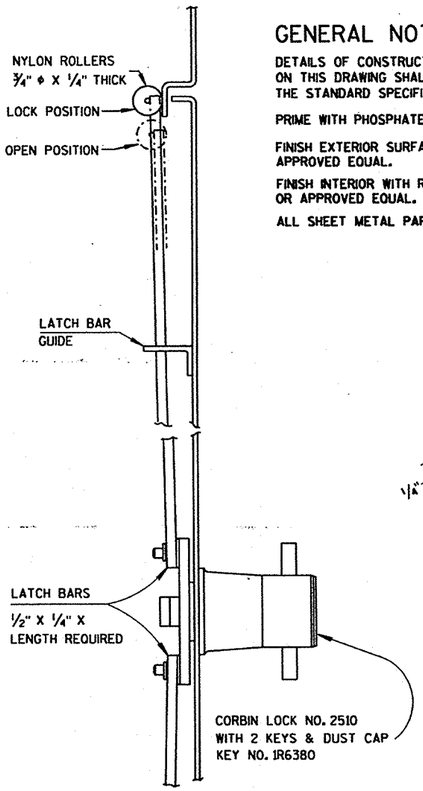
HINGE & DOOR HOLDER



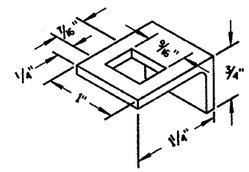
HOLDER ROD



CABINET BRACKET



LATCH ASSEMBLY



LATCH BAR GUIDE

GENERAL NOTES

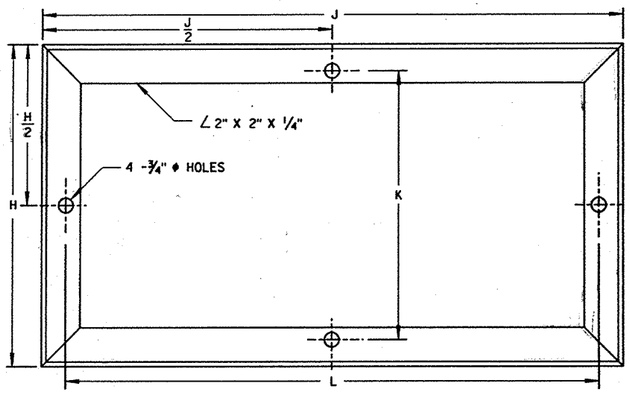
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

PRIME WITH PHOSPHATE TREATMENT AND PRIMER.

FINISH EXTERIOR SURFACES WITH RUSTOLEUM #906 SILVER GRAY OR APPROVED EQUAL.

FINISH INTERIOR WITH RUSTOLEUM #2766 HIGH GLOSS WHITE ENAMEL OR APPROVED EQUAL.

ALL SHEET METAL PARTS SHALL BE 12 GA. HRP&O.



MOUNTING BASE

TABLE OF DIMENSIONS (INCHES)

MARK	CABINET TYPE		
	3060	3860	3866
A	30	38	38
B	60	60	66
C	16 1/2	16 1/2	24
D	26 1/2	34 3/4	33 3/4
E	38 3/4	38 3/4	38 3/4
F	26 1/2	34 3/4	33 3/4
G	19	19	25
H	16 1/2	16 1/2	24
H/2	8 1/4	8 1/4	12
J	30	38	38
J/2	15	19	19
K	13 3/4	13 3/4	21 1/4
L	27 1/2	35 1/2	35 1/2

SIGNAL OR LIGHTING CONTROL CABINET

STATE OF WISCONSIN
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FHWA

S.D.D. 9 D 2-1

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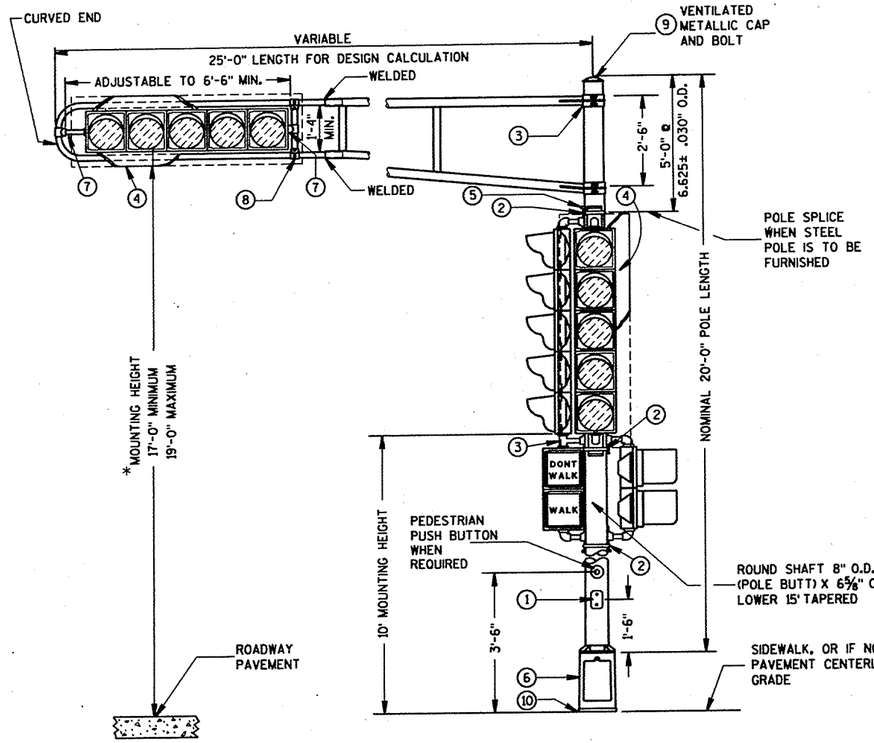
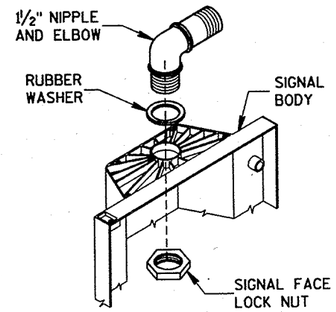
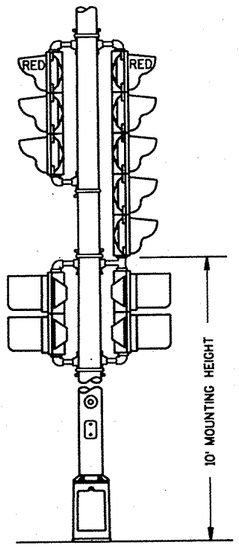


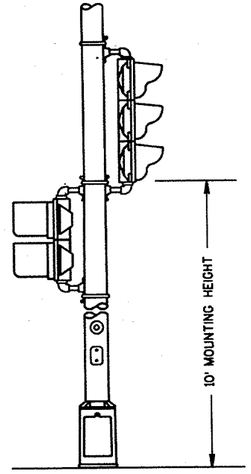
(MAXIMUM LOAD)



SIGNAL FACE MOUNTING DETAIL



TYPICAL MOUNTING OF BACK TO BACK 3 AND 5 SECTION SIGNAL FACES



TYPICAL MOUNTING OF 3 SECTION SIGNAL FACE

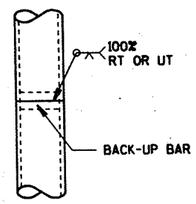
TYPE 2 POLE MOUNTING CONFIGURATION

GENERAL NOTES

1. 4" X 6" REINFORCED HANDHOLE & COVER ASSEMBLY WITH 2 (TWO) ¼" X ¾" - 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 1⅜" 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 FACES.
6. CAST ALUMINUM TRANSFORMER BASE, WHEN REQUIRED.
7. 1½" PIPE THREAD ON THE MOUNTING BRACKET NIPPLES FOR THE SIGNAL FACE. NIPPLE SHALL BE 1½" X 2".
8. VERTICAL STRUT (ADJUSTABLE). ONE (1) SET SCREW (¼" X ¾" LONG- 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) ¼" X ¾" - 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.

WELD TO BE 100% R.T. OR U.T. TESTED AS PER THE REQUIREMENTS OF AWS D 1.5-88. RECORDS OF CERTIFICATION 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.



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

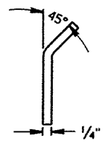
DESIGN NOTE: (WILL NOT APPEAR ON CONTRACT PLANS)
THIS DETAIL IS APPLICABLE WHEN SIGNALS ARE MOUNTED ON A TROMBONE ARM. DO NOT USE FOR LIGHTING.

POLE MOUNTINGS FOR TRAFFIC SIGNALS TYPE 2

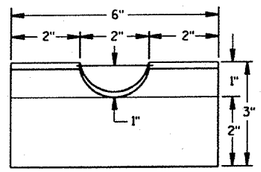
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

S.D.D. 9 E 1-1a

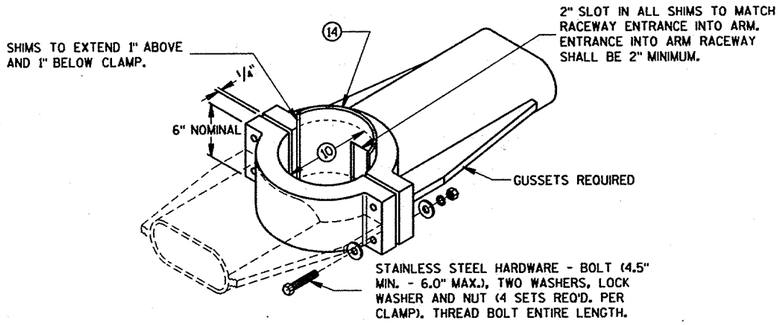
S.D.D. 9 E 1-1a



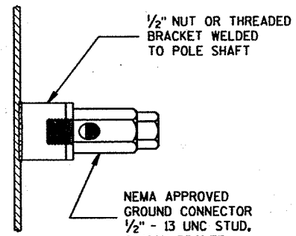
END VIEW

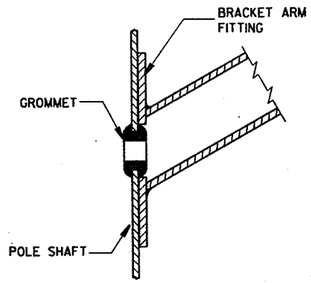


FRONT VIEW
RECTANGULAR CLAMP SHIM
(4 TO A SET)



TYPICAL TROMBONE MAST ARM AND LUMINAIRE MAST ARM MOUNTING CLAMP





TYPICAL APPLICATION OF GROMMET IN POLE SHAFT

GENERAL NOTES

(10.) 4.5" I.D. FOR LUMINAIRE MAST ARM CLAMP.
6.625" I.D. FOR TROMBONE MAST ARM CLAMP.

(11.) INDIVIDUAL BASE PLATE ANCHOR BOLT COVERS. (4 REQUIRED)

(12.) BASE PLATE SLOTTED TO ACCEPT 11" THROUGH 12" BOLT CIRCLE USING 1" DIAMETER ANCHOR BOLTS.

(13.) OUTSIDE SHIM DIAMETER - (4.5" O.D. FOR LUMINAIRE MAST ARM)
(6.625" O.D. FOR TROMBONE MAST ARM)

(14.) VARIABLE SHIM THICKNESS - (0.10", 0.25", 0.35", 0.53" OR 0.70")

SHIM THICKNESS FOR TROMBONE MAST ARMS MAY BE TYPICALLY 0.35", 0.53" OR 0.70".

SHIM THICKNESS FOR LUMINAIRE MAST ARMS MAY BE TYPICALLY 0.10", 0.25" OR 0.35".

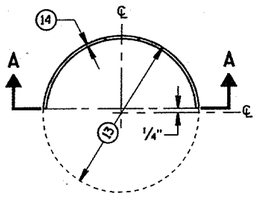
SHIM MATERIAL SHALL BE ALUMINUM ALLOY.

SHIM THICKNESS SHALL BE IMPRESSED INTO EACH SHIM. NUMERALS SHALL BE 1/4" HIGH AND LEGIBLE.

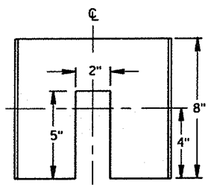
THE CONTRACTOR SHALL SUBMIT TWO COPIES OF ALL SHIM SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL.

(15.) LEVELING SHIMS, DESIGNED FOR THE PURPOSE, SHALL BE USED WHEN PLUMBING POLES. THE USE OF WASHERS IN LIEU OF PROPER LEVELING SHIMS IS NOT ACCEPTABLE. LEVELING SHIMS SHALL BE USED ONLY BETWEEN THE TOP OF THE CONCRETE BASE AND A METALLIC BASE PLATE.

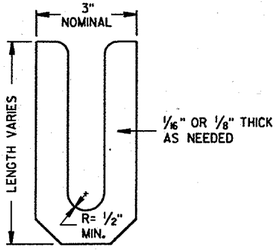
SHIM LENGTH SHALL BE LONG ENOUGH TO COMPLETELY COVER THE AREA UNDER THE LENGTH AND WIDTH OF THE BASE MOUNTING FLANGE.



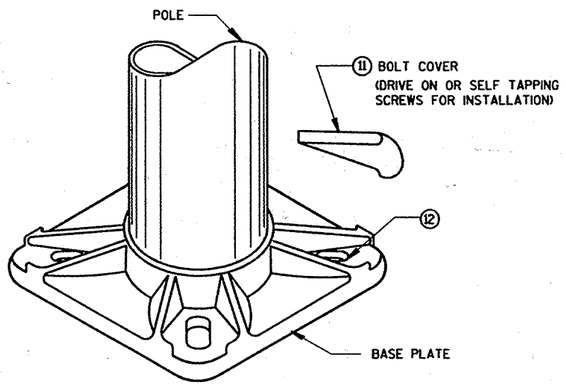
PLAN VIEW



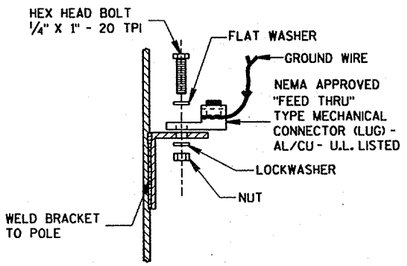
SECTION A-A
CIRCULAR CLAMP SHIM
(2 TO A SET)



LEVELING SHIM (15)

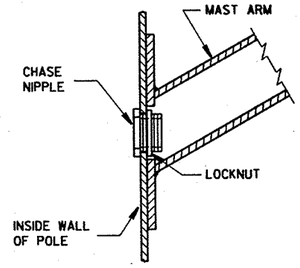


BASE PLATE

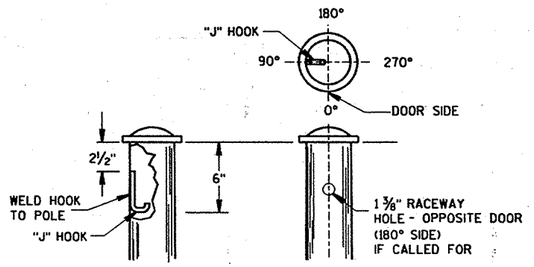


TYPICAL GROUNDING CONNECTIONS

NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL



TYPICAL APPLICATION OF CHASE NIPPLE IN POLE SHAFT



TYPICAL "J" HOOK LOCATION

NOTE:
THIS DRAWING IS REQUIRED WHEN DRAWINGS SDD 9 E 1-1a, b, c, OR d IS CALLED FOR IN THE PLANS.

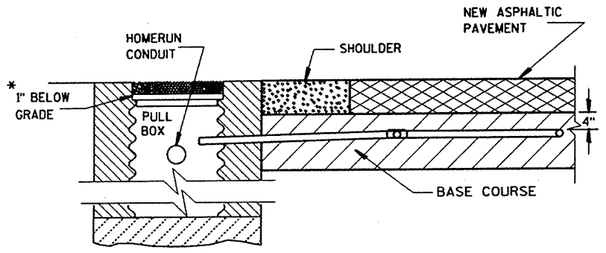
HARDWARE DETAILS FOR POLE MOUNTINGS

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

S.D.D. 9 E 1-1e

S.D.D. 9 E 1-1e

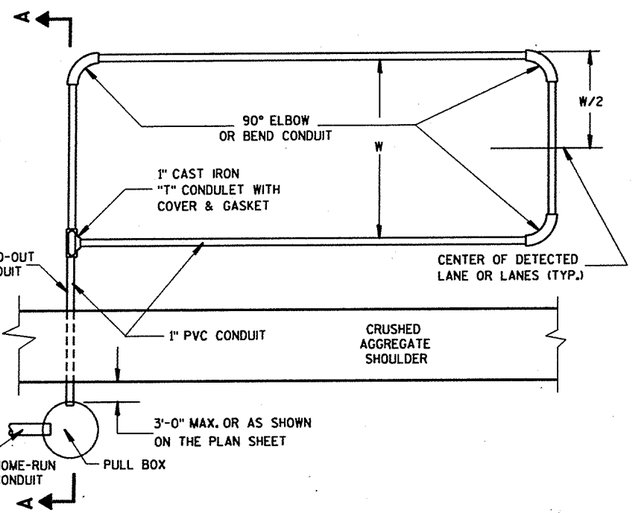


SECTION A-A

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.



TYPICAL PLAN OF LOOP DETECTOR

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.

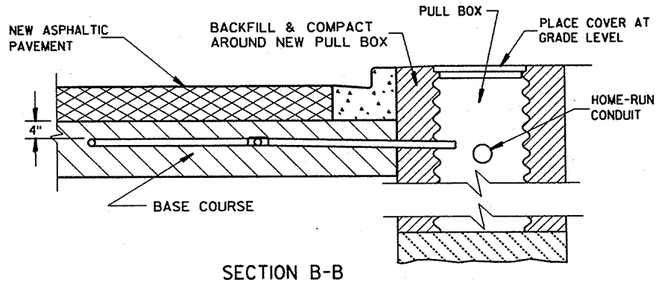
THE #12 AWG LOOP WIRE SHALL BE INSTALLED FROM THE ROADSIDE PULL BOX, THROUGH THE LOOP DUCT, BACK TO THE ROADSIDE PULL BOX, AND BE INSTALLED IN ONE, NON-SPLICED, CONTINUOUS LENGTH.

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.

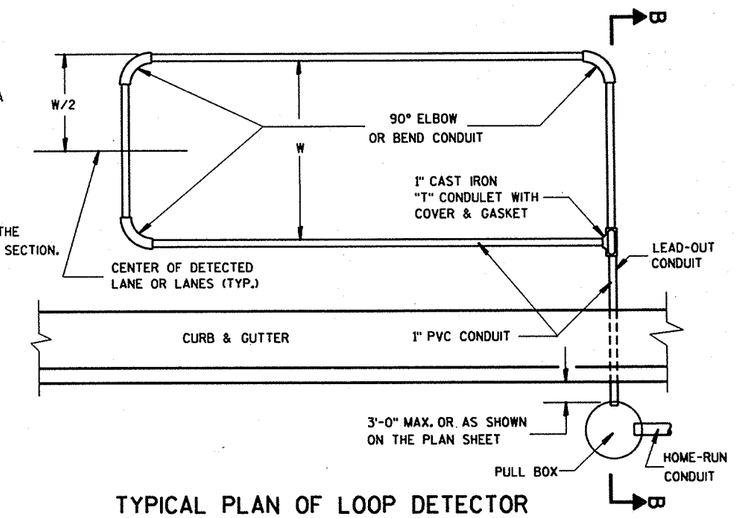
DRIVE A 1½" MAX. PK NAIL INTO THE NEW ASPHALTIC PAVEMENT AND DIRECTLY ABOVE THE CONDULET AFTER THE FINAL LAYER OF NEW ASPHALTIC PAVEMENT IS COMPLETELY INSTALLED, IF REQUIRED BY THE DISTRICT TRAFFIC SECTION.



SECTION B-B

CURB & GUTTER

LOOP DETECTOR INSTALLATION DETAIL



TYPICAL PLAN OF LOOP DETECTOR

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

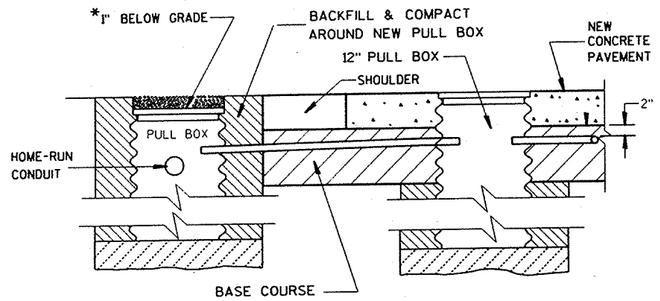
4/21/93 DATE — STATE ELECTRICAL ENGR FOR HWYS

4/21/93 DATE — STATE TRAFFIC ENGINEER FOR HWYS

FHWA

S.D.D. 9 F 8-1

S.D.D. 9 F 8-1



NO CURB & GUTTER
SECTION A-A

LOOP DETECTOR INSTALLATION DETAILS

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

GENERAL NOTES

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

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

PITCH LEAD OUT CONDUIT TO DRAIN TO ROADSIDE PULL BOX.

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

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

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

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

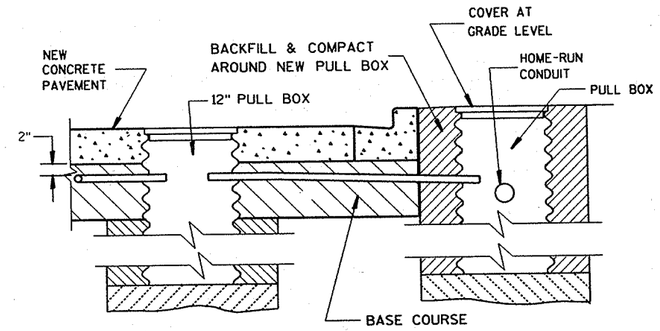
LOOP DETECTOR LEADS SHALL BE IDENTIFIED WITH THEIR ASSOCIATED LOOP BY USE OF WATERPROOF TAGS AT BOTH ENDS OF THE CABLE. A LISTING OF THE CABLE IDENTIFICATION PER INDIVIDUAL LOOP LEAD-IN SHALL BE PLACED IN THE CABINET.

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

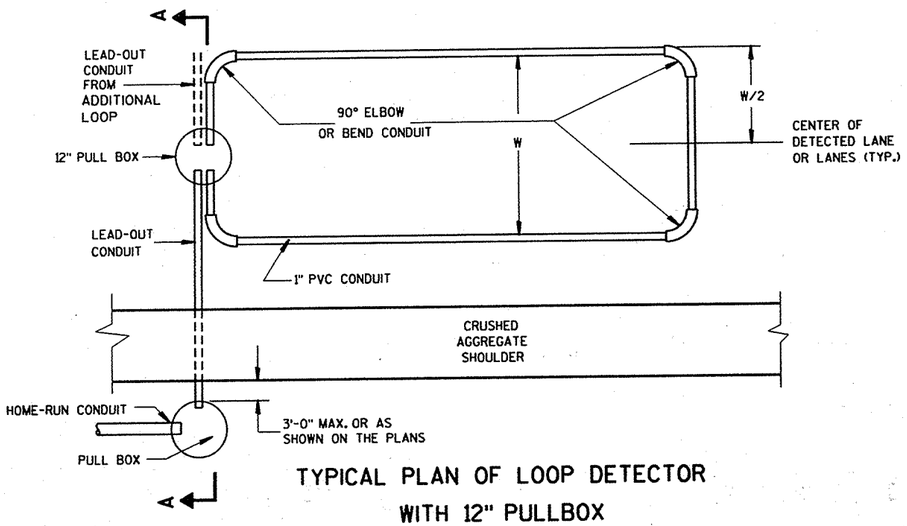
THE #12 AWG LOOP WIRE SHALL BE INSTALLED FROM THE ROADSIDE PULL BOX, THROUGH THE LOOP DUCT, BACK TO THE ROADSIDE PULL BOX, AND BE INSTALLED IN ONE, NON-SPLICED, CONTINUOUS LENGTH.

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

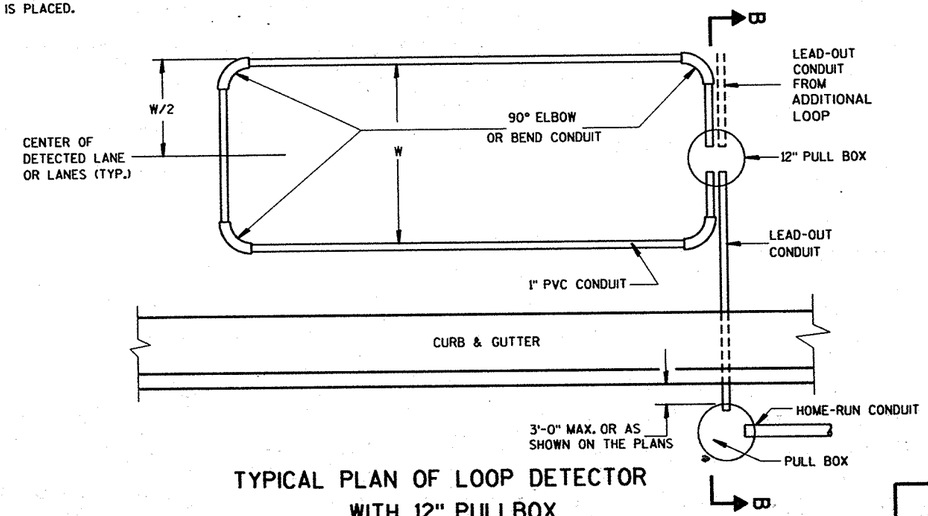


CURB & GUTTER
SECTION B-B

LOOP DETECTOR INSTALLATION DETAILS



TYPICAL PLAN OF LOOP DETECTOR
WITH 12" PULLBOX



TYPICAL PLAN OF LOOP DETECTOR
WITH 12" PULLBOX

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

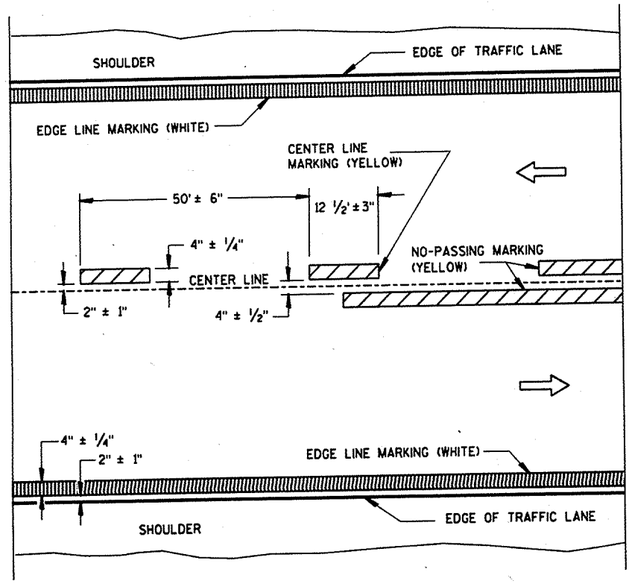
4/21/93 DATE — STATE ELECTRICAL ENGR FOR HWYS

4/21/93 DATE — STATE TRAFFIC ENGINEER FOR HWYS

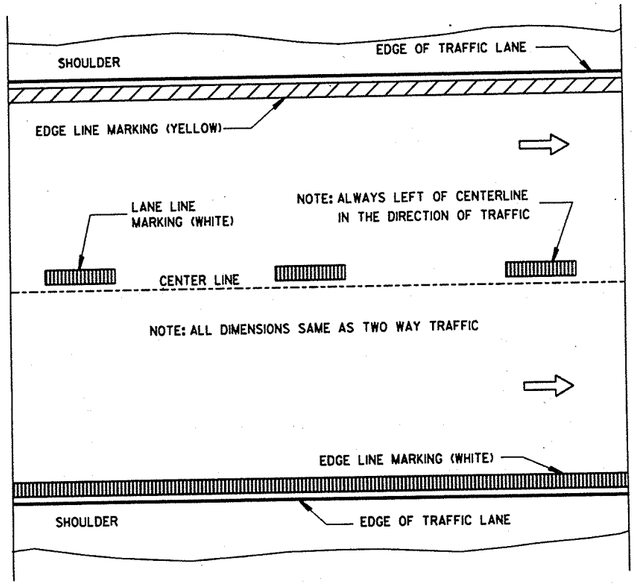
FHWA

S.D.D. 9 F 9-1

S.D.D. 9 F 9-1



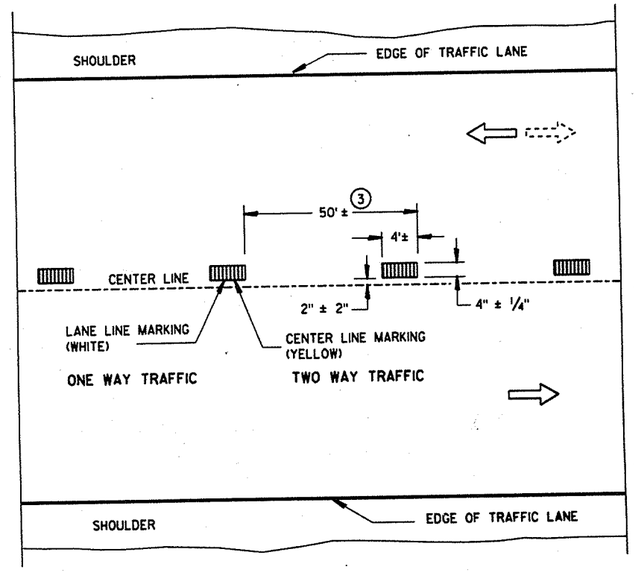
TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

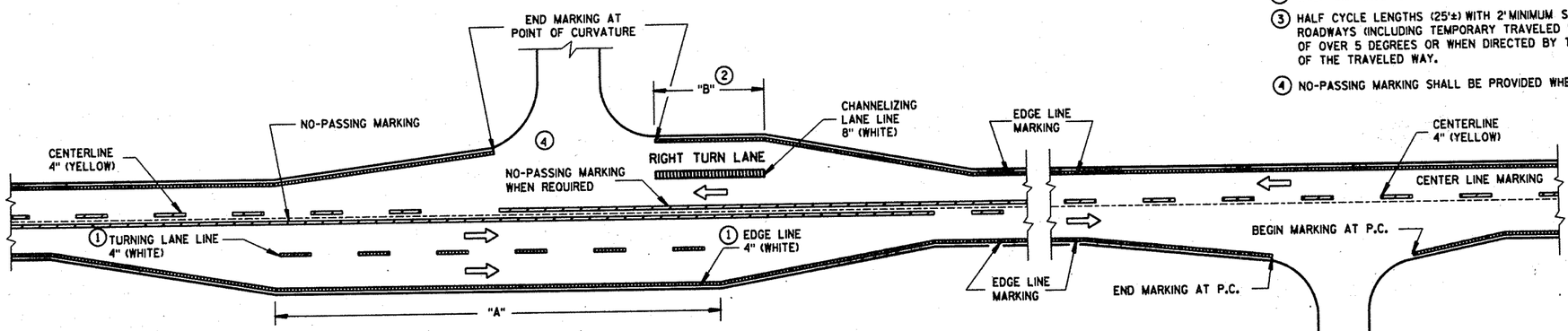
(SHOWS CYCLE FOR PERMANENT CENTER LINE MARKING)



TEMPORARY PAVEMENT MARKING

(SHOWS CYCLE FOR TEMPORARY CENTER LINE MARKING)

NOTE:
ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL



MAJOR INTERSECTION

MINOR INTERSECTION

TYPICAL PAVEMENT MARKING FOR RURAL INTERSECTIONS

GENERAL NOTES

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

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

① WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT TURNING LANE MARKING.

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

③ HALF CYCLE LENGTHS (25'±) WITH 2' MINIMUM STRIPE LENGTHS SHALL BE PROVIDED ON ROADWAYS (INCLUDING TEMPORARY TRAVELED WAYS) WITH REVERSE CURVATURE. CURVATURE OF OVER 5 DEGREES OR WHEN DIRECTED BY THE ENGINEER TO MARK UNUSUAL ALIGNMENT OF THE TRAVELED WAY.

④ NO-PASSING MARKING SHALL BE PROVIDED WHERE SIGHT DISTANCE IS DEFICIENT.

NOTE:
THIS DRAWING CONSISTS OF UP TO FOUR SHEETS. SHEET 5a MAY BE USED ALONE OR SUPPLEMENTED BY SHEET 5b, SHEET 5c AND/OR SHEET 5d AS APPLICABLE

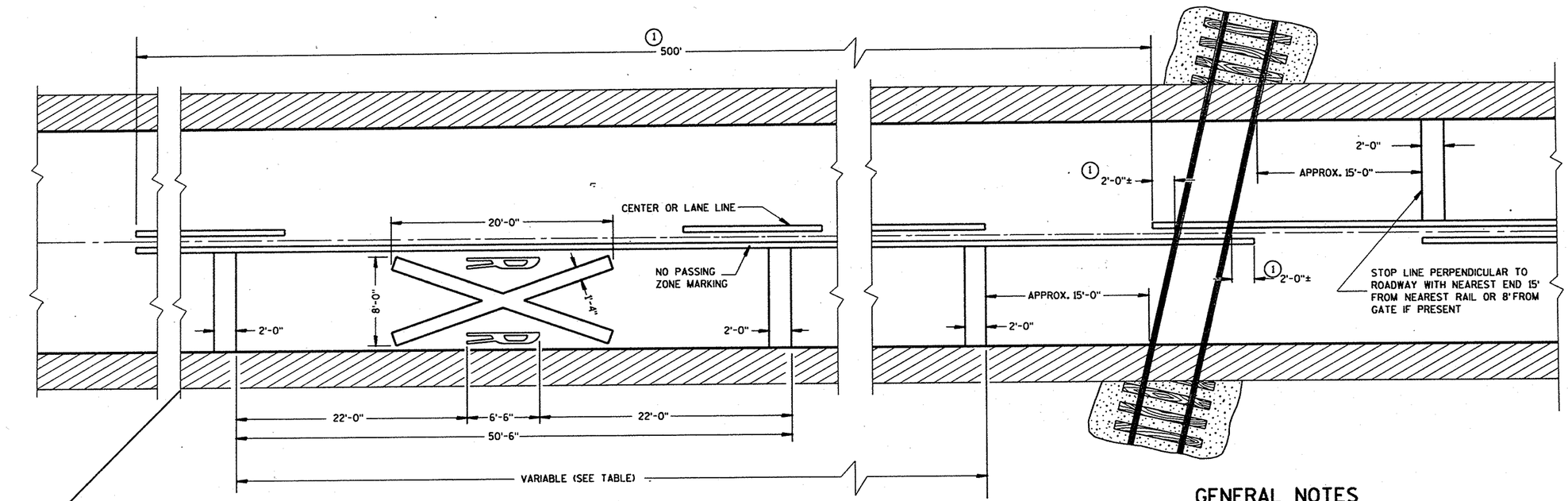
PAVEMENT MARKING (MAINLINE & INTERSECTIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

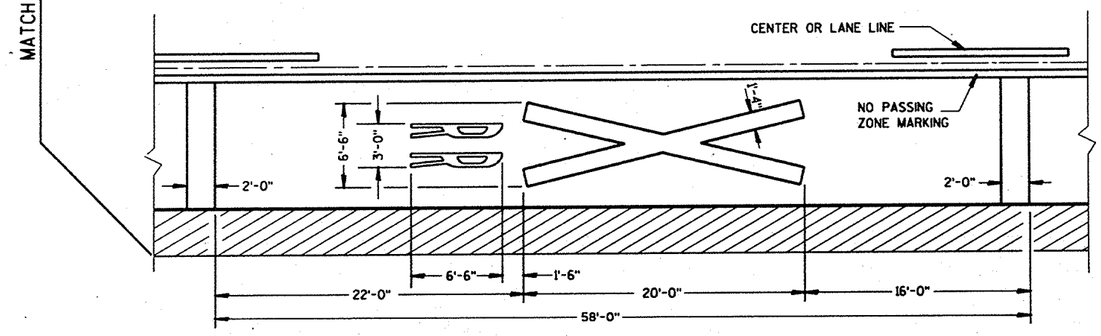
APPROVED 7/20/93 DATE
STATE TRAFFIC ENGINEER FOR HWYS
FHWA

S.D.D. 15 C 8-5a

S.D.D. 15 C 8-5a



PAVEMENT MARKING



ALTERNATE PAVEMENT MARKING

Posted Speed (M.P.H.)	Variable Dimension (Feet)
25	150
30	200
35	250
40	325
45	400
50	475
55	550

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.

THE DISTANCE FROM THE RAILROAD CROSSING MARKING TO THE NEAREST TRACK WILL VARY ACCORDING TO THE APPROACH SPEED AND THE SIGHT DISTANCE OF THE VEHICULAR TRAFFIC. DIMENSIONS SHOWN IN THE TABLE SHALL BE USED UNLESS OTHERWISE SHOWN ON THE PLANS.

A THREE-LANE ROADWAY SHOULD BE MARKED WITH A CENTERLINE FOR TWO-LANE APPROACH OPERATION ON THE APPROACH TO A CROSSING.

ON MULTI-LANE ROADS THE TRANSVERSE BANDS SHOULD EXTEND ACROSS ALL APPROACH LANES, AND INDIVIDUAL R X R SYMBOLS SHOULD BE USED IN EACH APPROACH LANE. ALL LETTERS AND SYMBOLS SHALL BE IN CONFORMANCE WITH THE "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS" (ADOPTED BY THE FEDERAL HIGHWAY ADMINISTRATION).

TRANSVERSE BANDS AND R X R SYMBOL ARE REFLECTIVE WHITE. SOLID LONGITUDINAL LINE IS REFLECTIVE YELLOW ON BIDIRECTIONAL TRAVELED WAYS AND IS OMITTED ON UNIDIRECTIONAL TRAVELED WAYS. DASHED LONGITUDINAL LINE IS REFLECTIVE YELLOW WHEN IT IS BETWEEN LANES OF TRAFFIC MOVING IN OPPOSITE DIRECTIONS AND REFLECTIVE WHITE WHEN IT IS BETWEEN LANES OF TRAFFIC MOVING IN THE SAME DIRECTION.

CENTER OR LANE LINES AND NO PASSING ZONE MARKINGS SHOWN ON THIS DRAWING ARE REQUIRED AND PAID FOR UNDER OTHER ITEMS IN THE CONTRACT.

(1) MARKING LIMITS MAY BE EXTENDED AS DIRECTED BY THE ENGINEER TO MEET ADJACENT NO PASSING ZONE MARKINGS.

PAVEMENT MARKING DETAILS FOR RAILROAD-HIGHWAY GRADE CROSSINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
3/17/92
DATE

STATE TRAFFIC ENGINEER FOR HWYS

FHWA

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