

OUTAGAMIE

1516-03-71  
1516-03-00

# INDEX OF SHEETS

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- 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

TOTAL SHEETS = 34



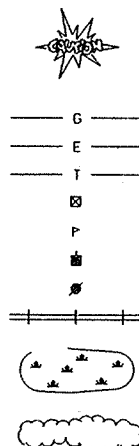
## DESIGN DESIGNATION

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

## CONVENTIONAL SIGNS

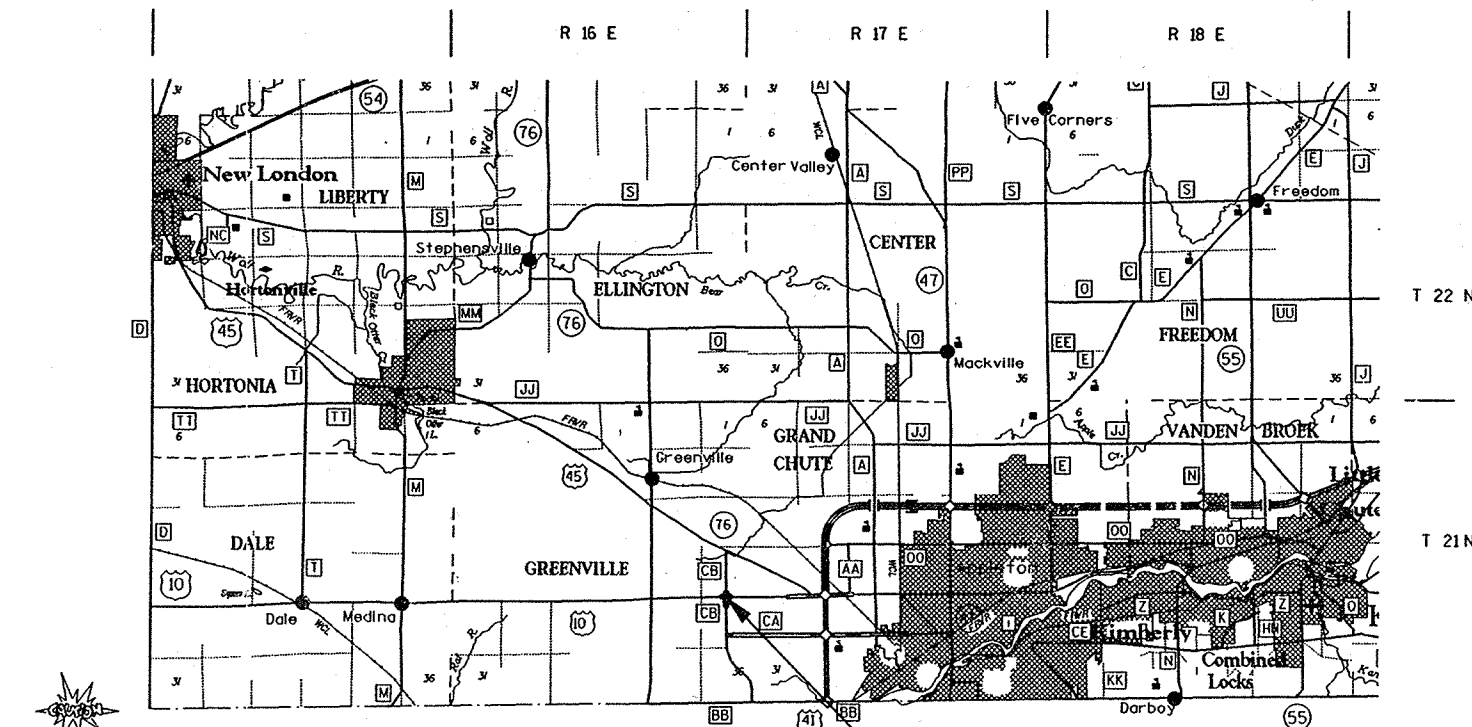
COUNTY LINE	—
CORPORATE LIMITS	—
PROPERTY LINE	— P.L. 58.1
LOT LINE	—
LIMITED EASEMENT	—
EXISTING RIGHT OF WAY	—
PROPOSED OR NEW R/W LINE	—
SURVEY LINE	—
SLOPE INTERCEPT	—
ORIGINAL GROUND	—
MARSH OR ROCK PROFILE	—
EXISTING CURVES	—
PROPOSED CURVES	—
CURVE DATA VIEW	—

COMBUSTIBLE FLUIDS	—
UNDERGROUND UTILITIES	—
GAS	—
ELECTRIC	—
TELEPHONE OR TELEGRAPH	—
SERVICE PEDESTAL	—
CABLE MARKER	—
POWER POLE	—
TELEPHONE POLE	—
RAILROAD	—
MARSH AREA	—
WOODED OR SHRUB AREA	—

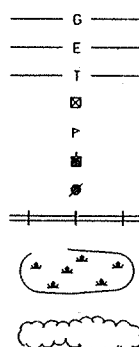


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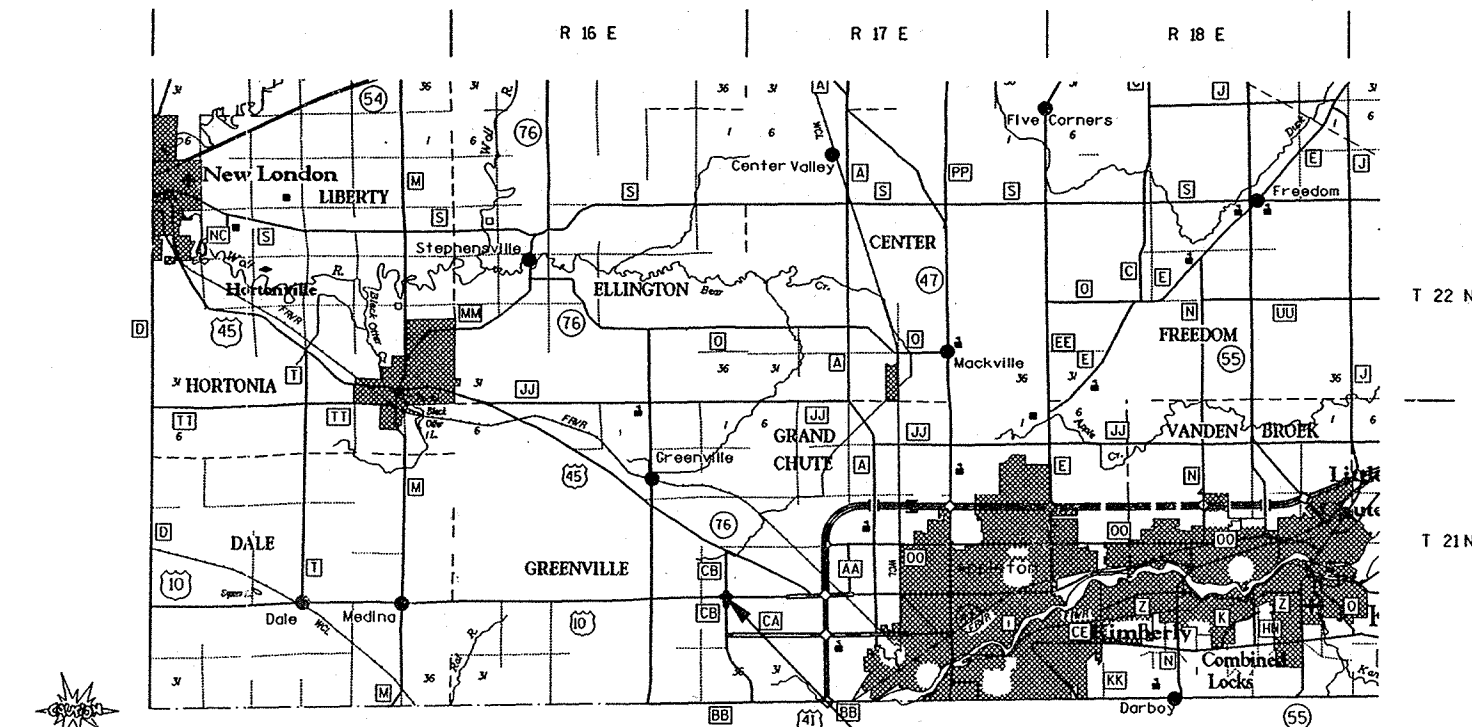


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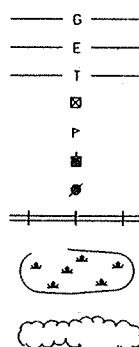


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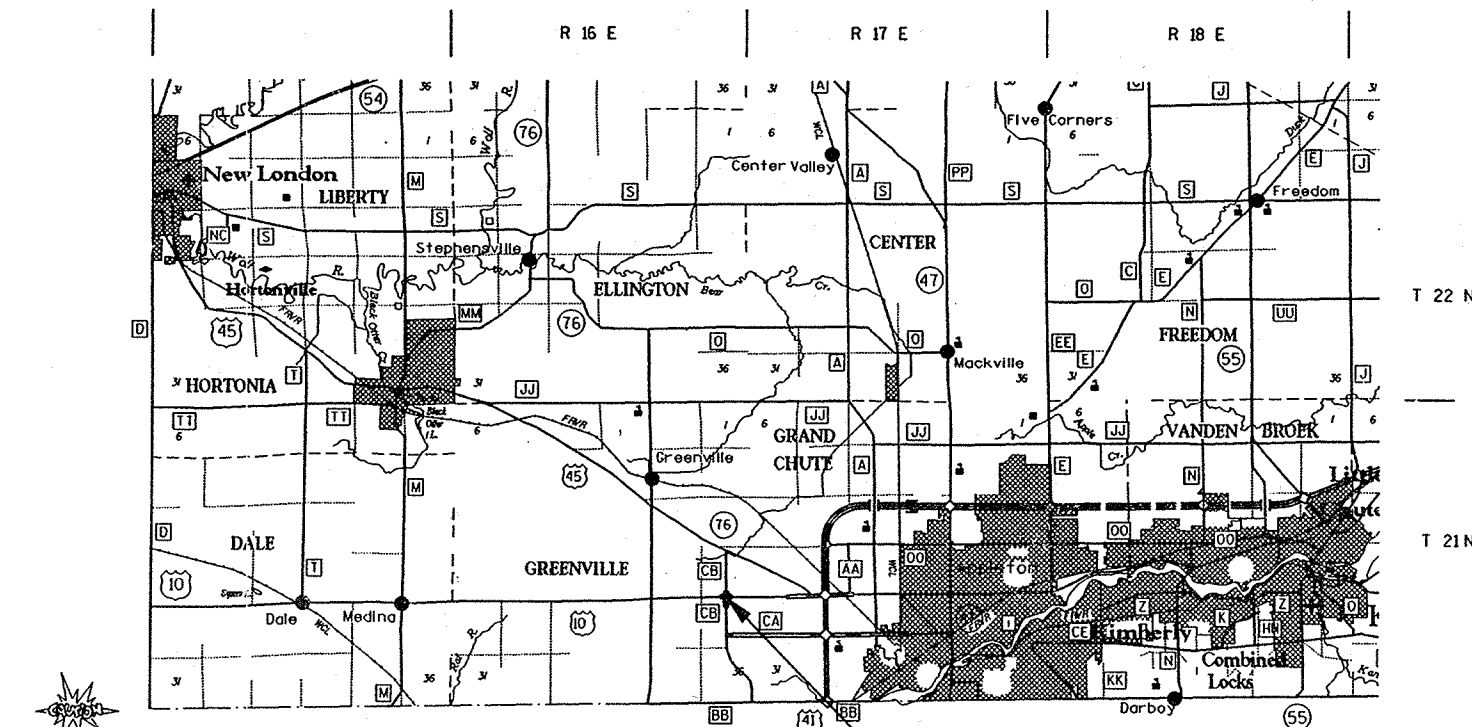


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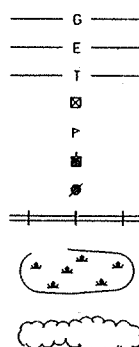


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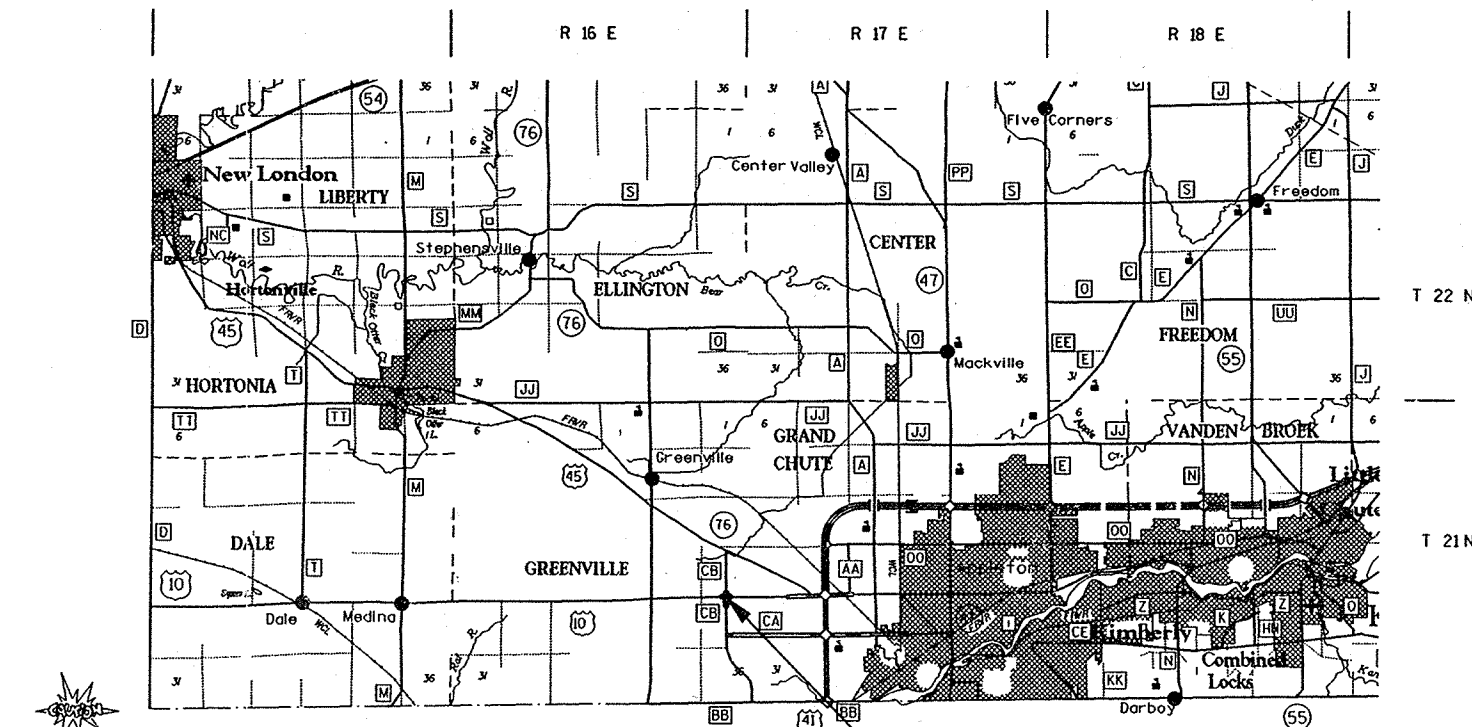


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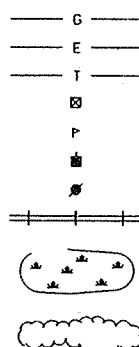


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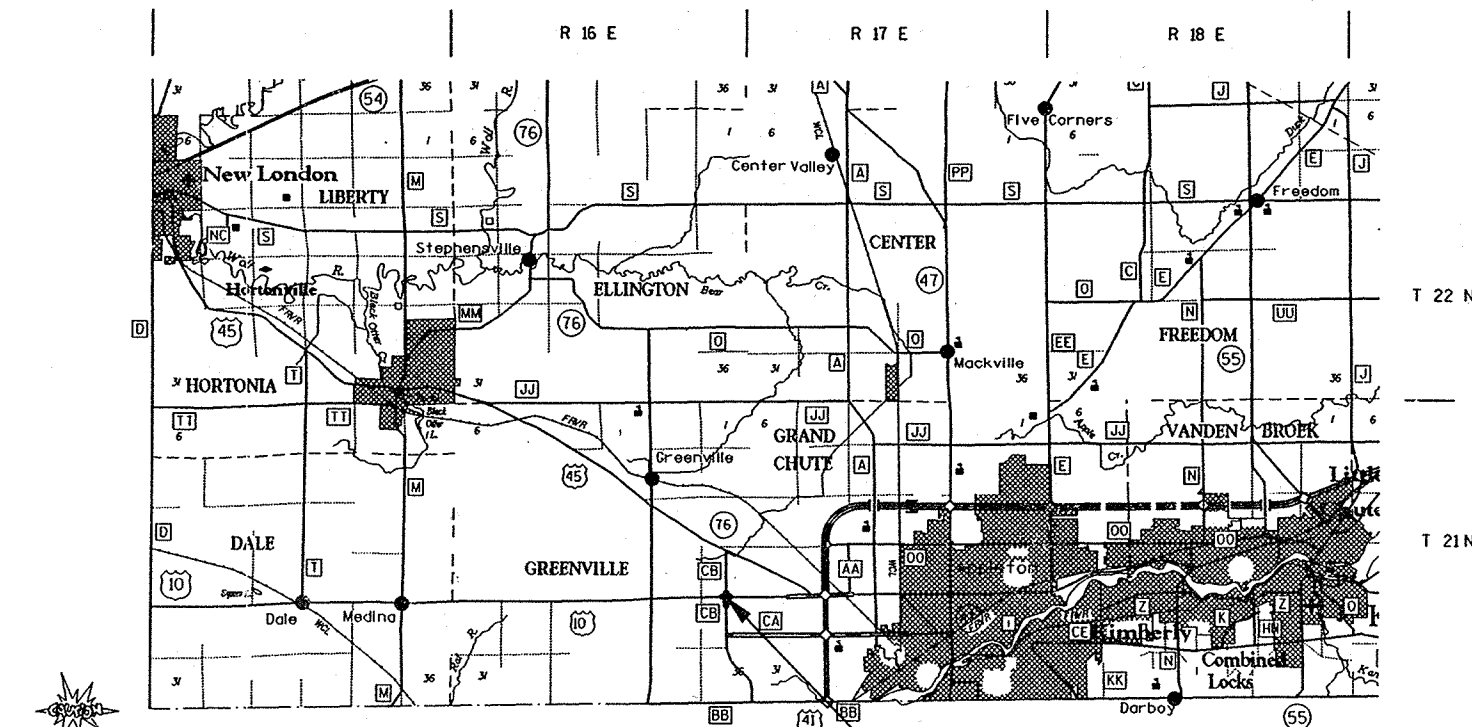


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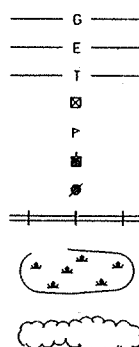


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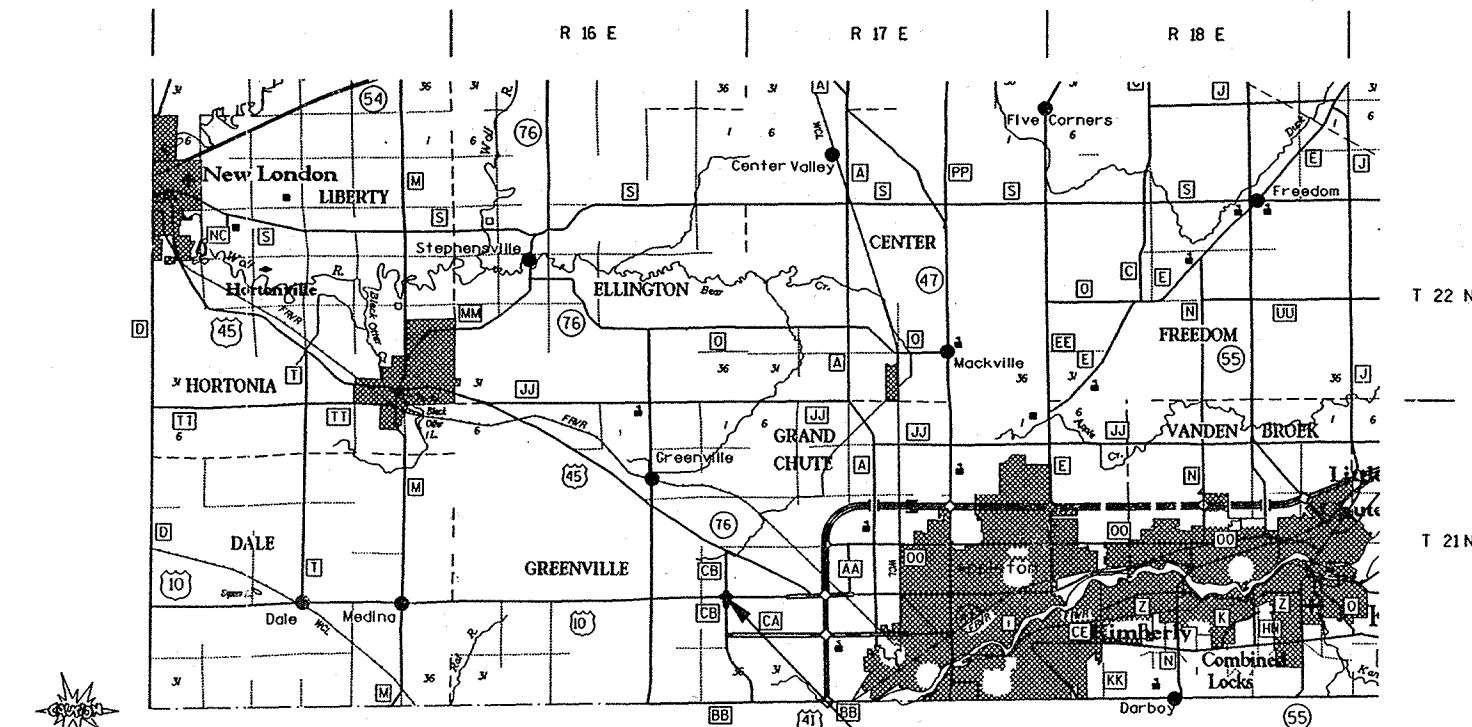


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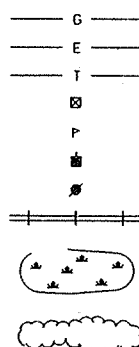


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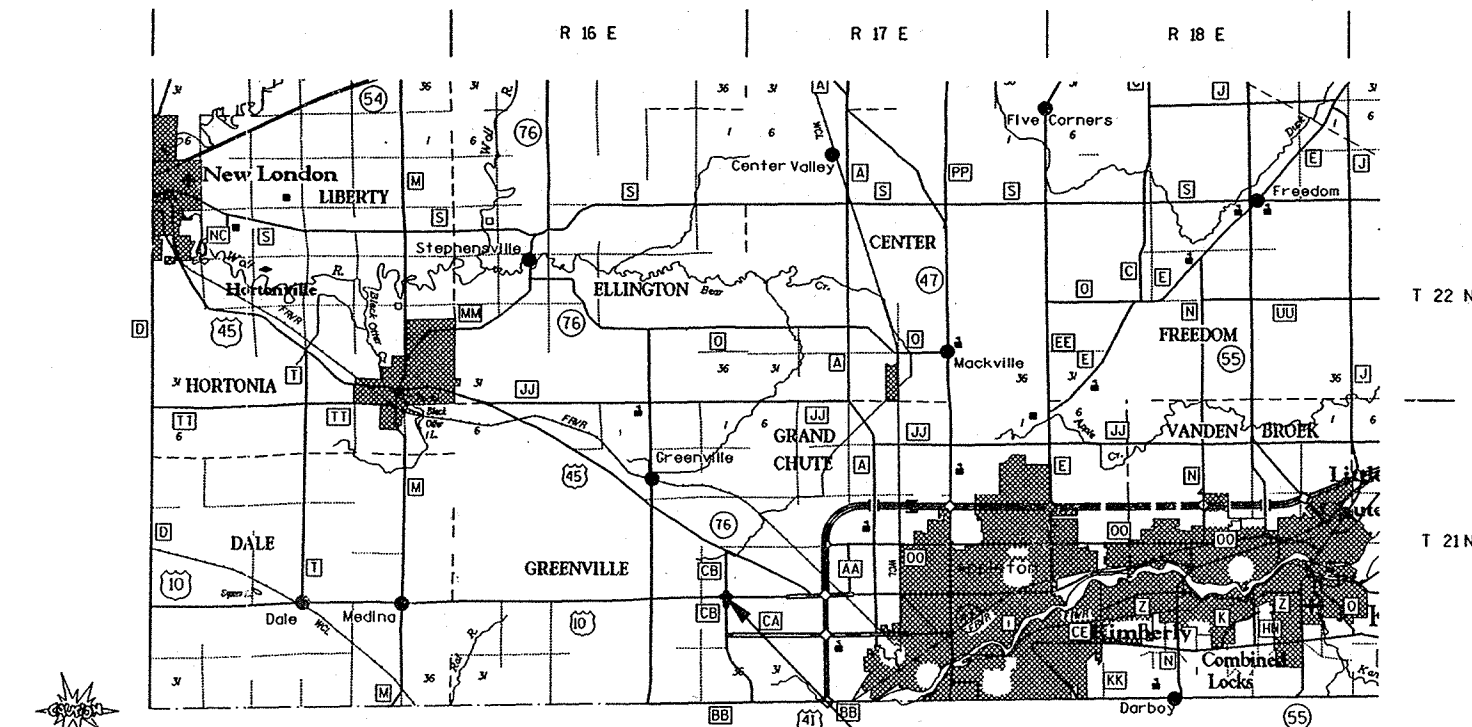


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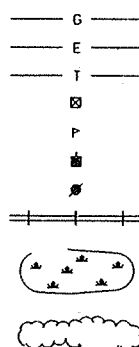


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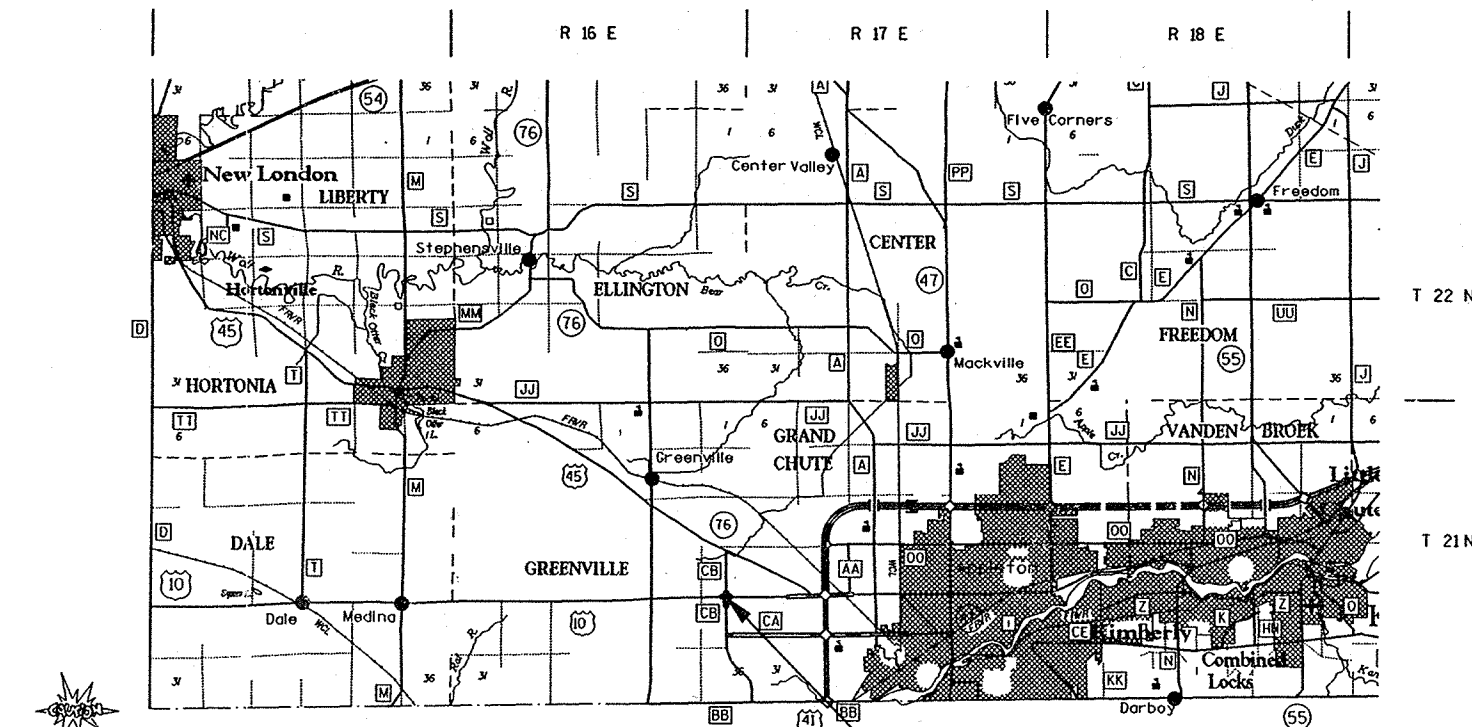


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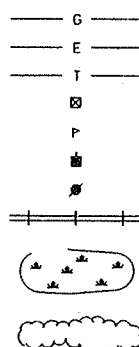


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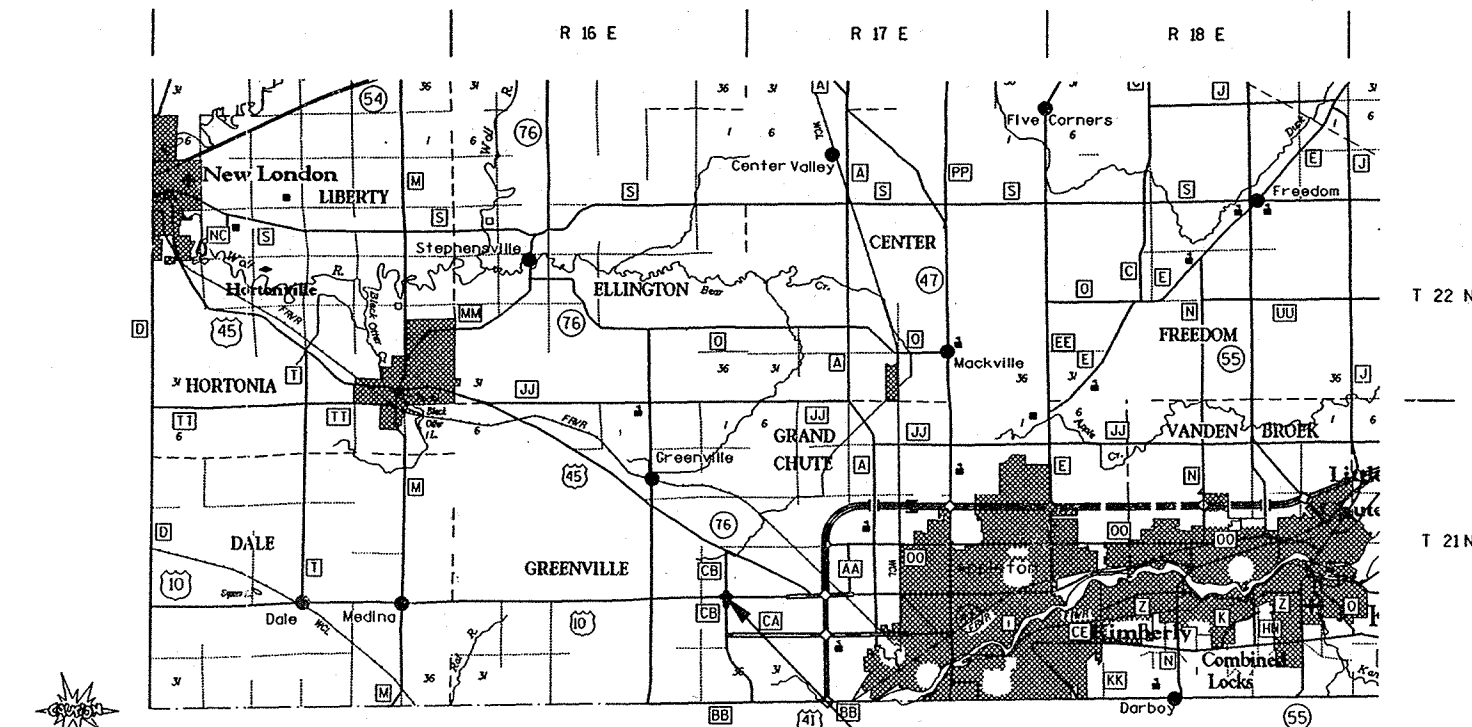


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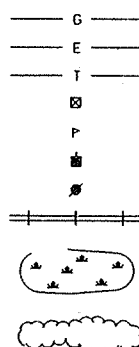


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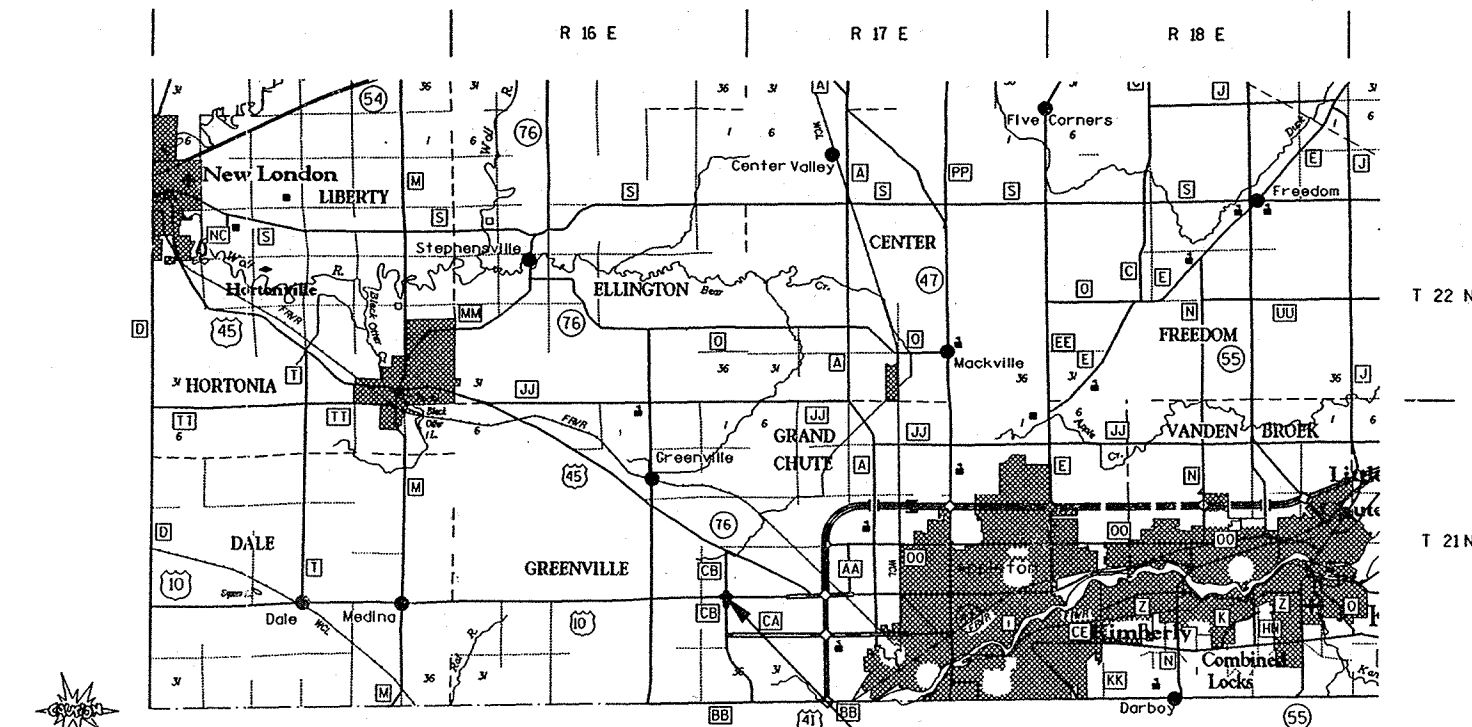


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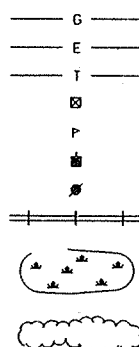


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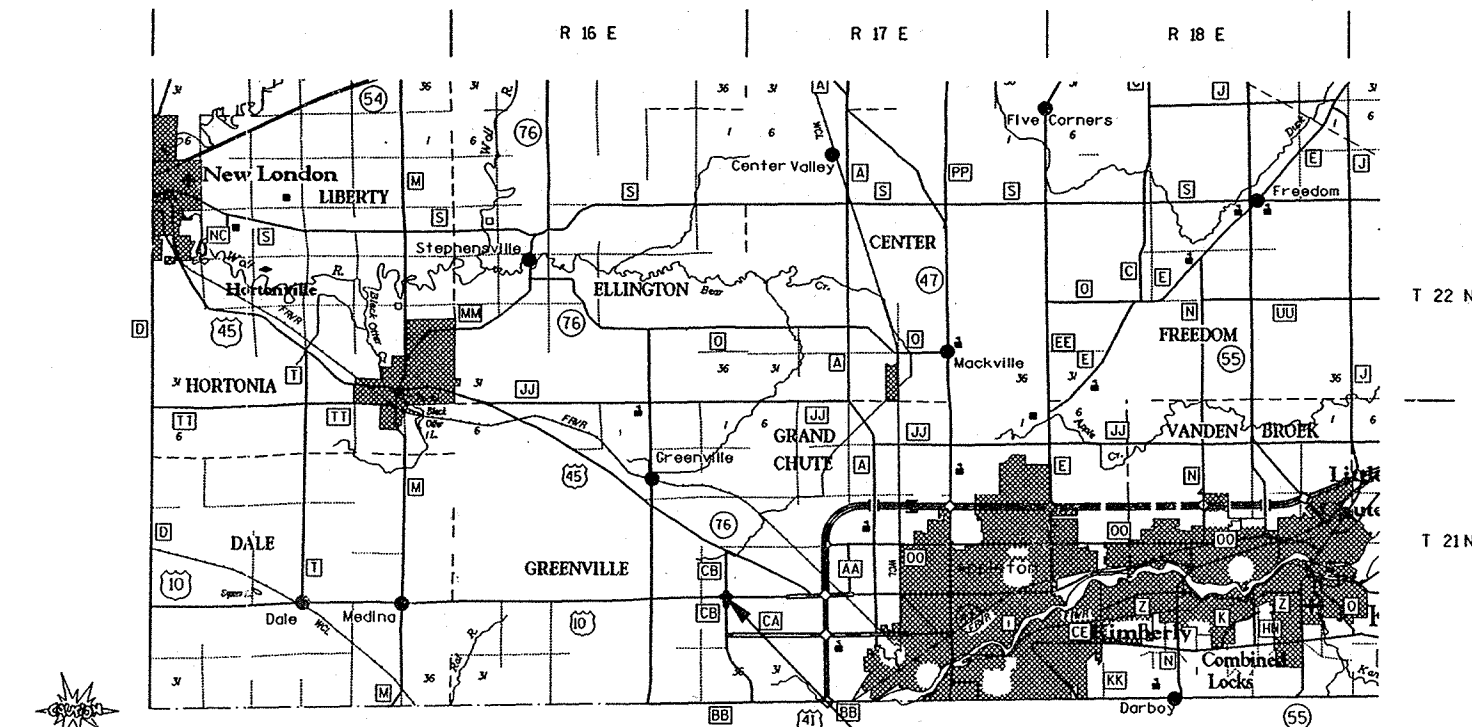


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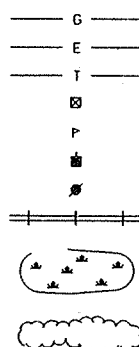


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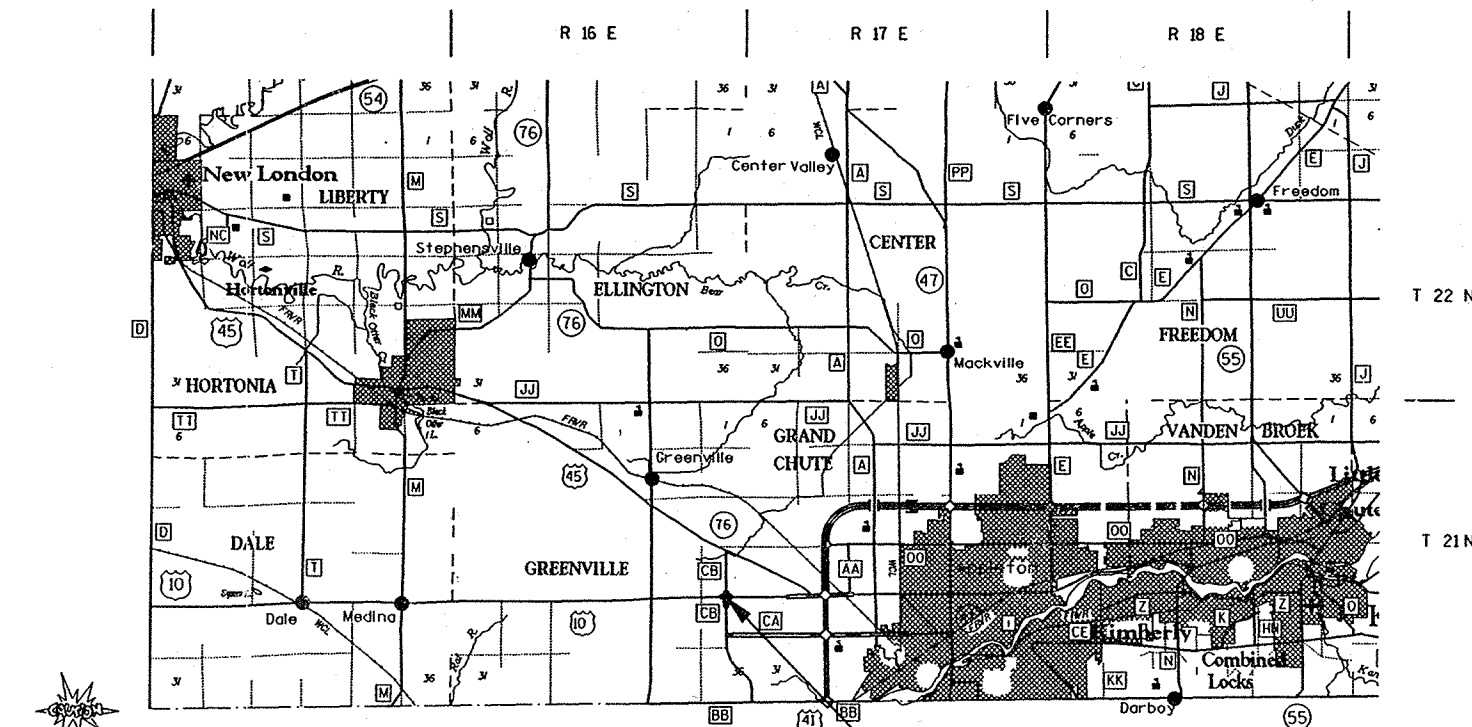


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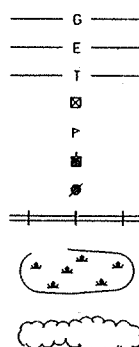


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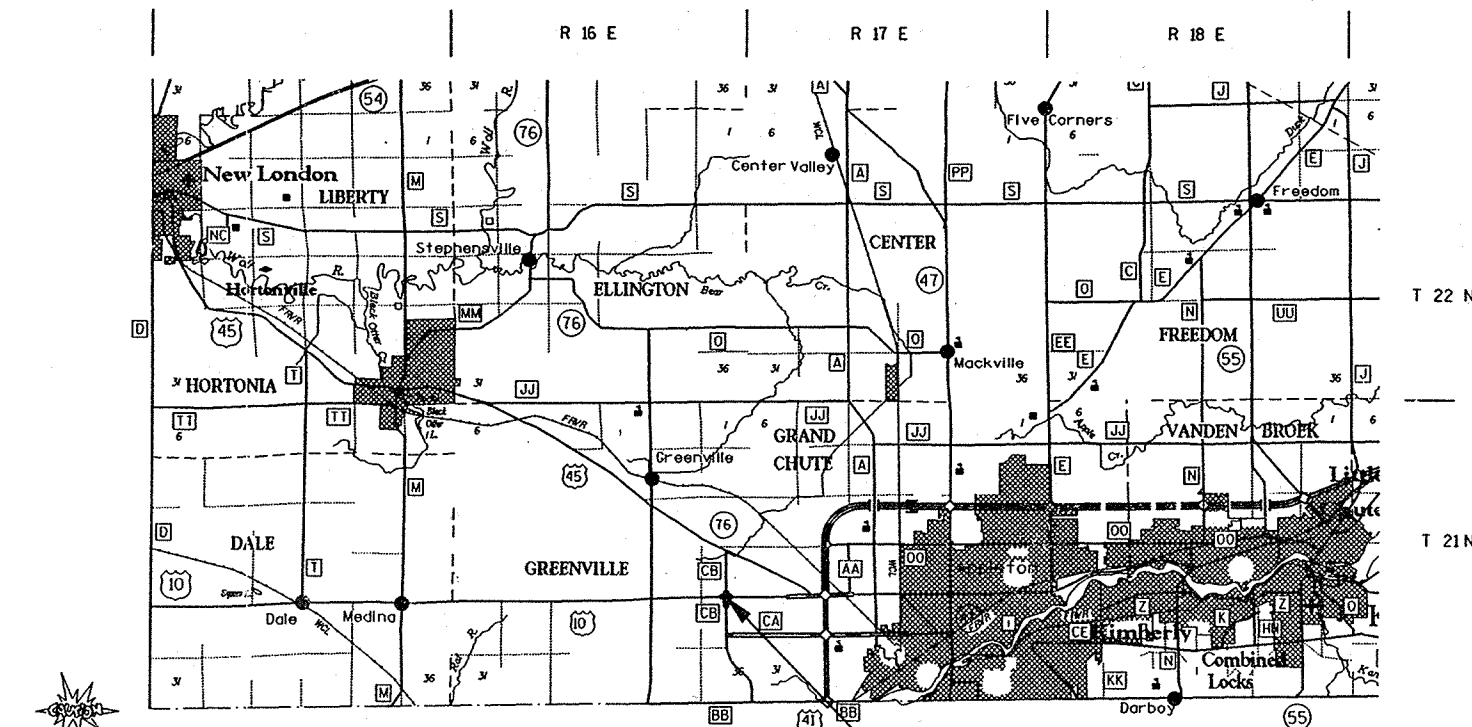


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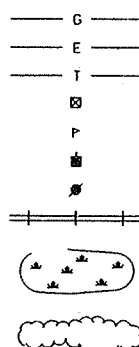


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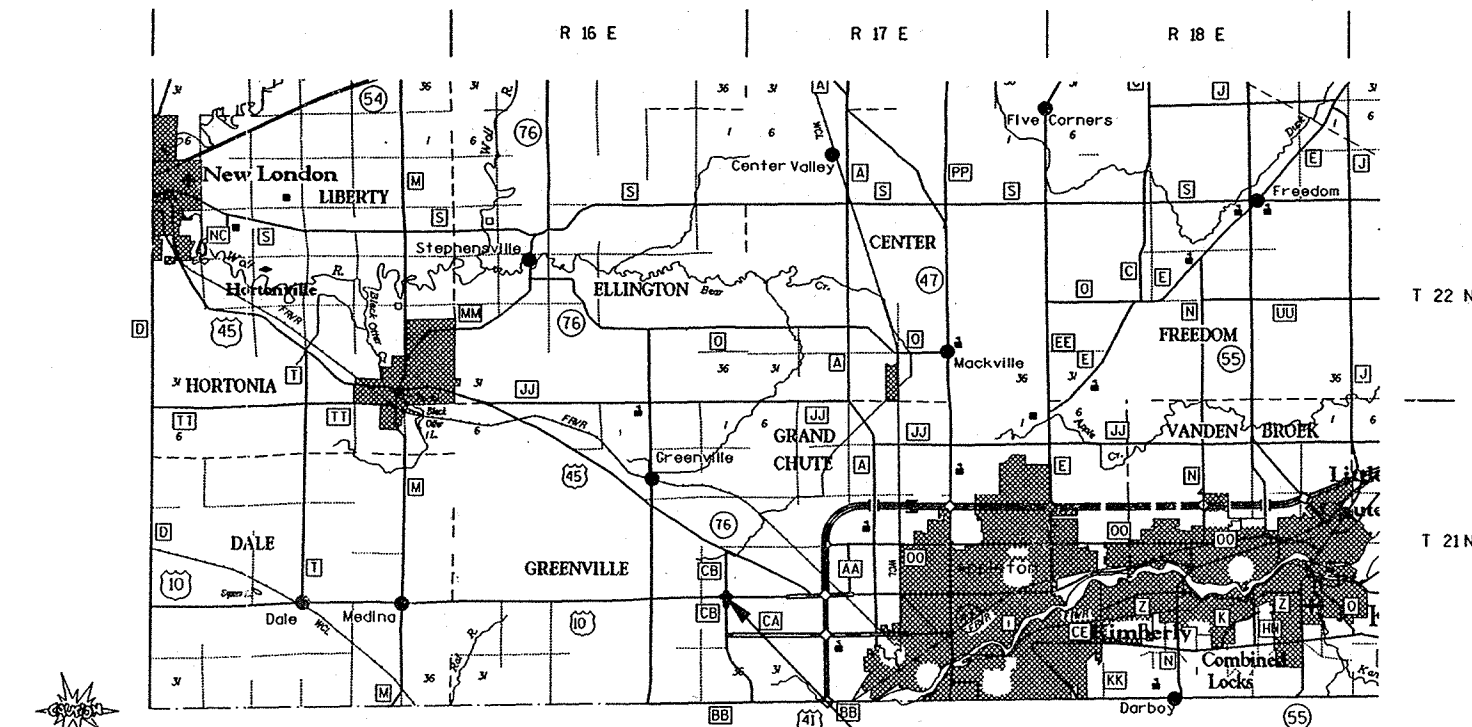


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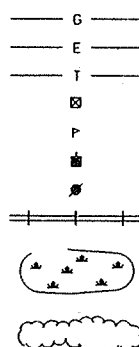


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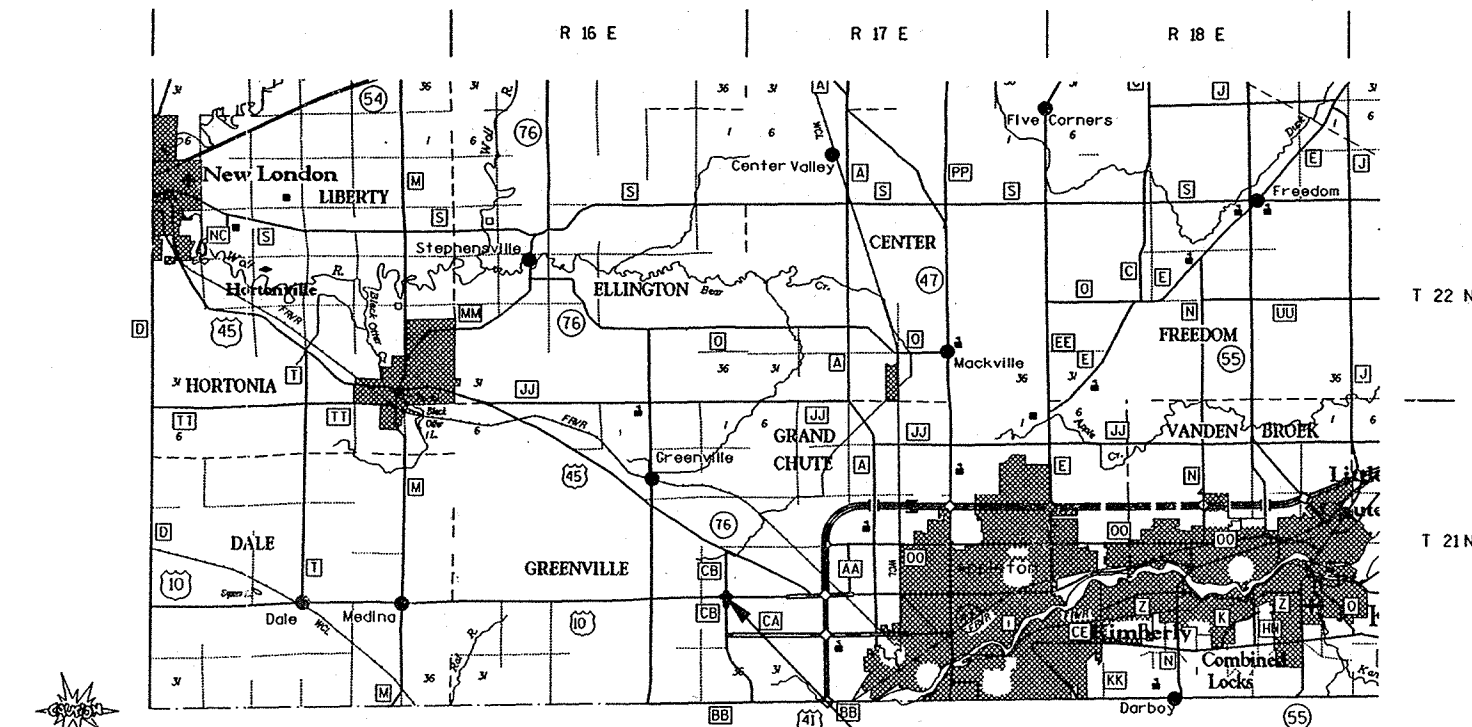


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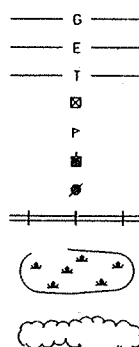


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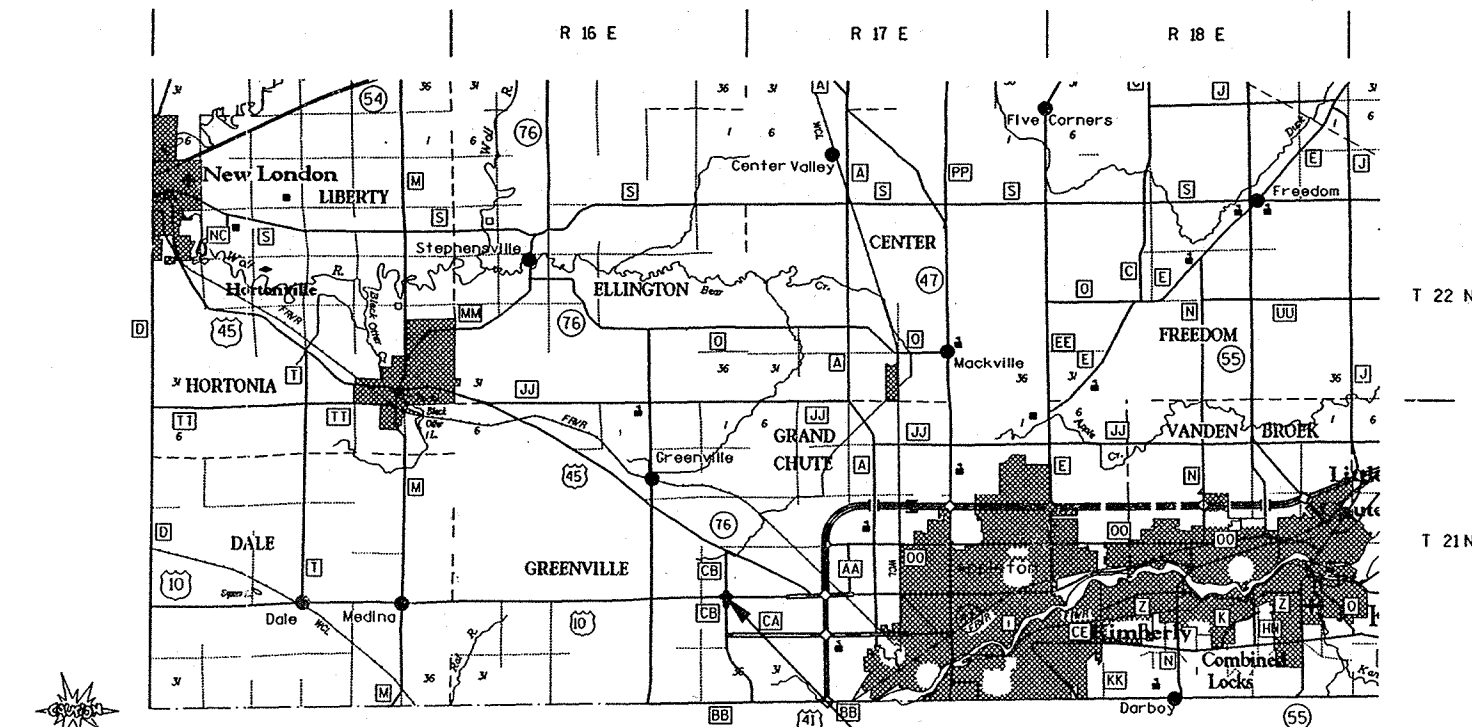


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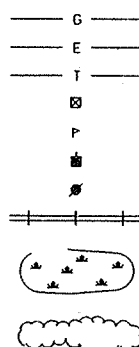


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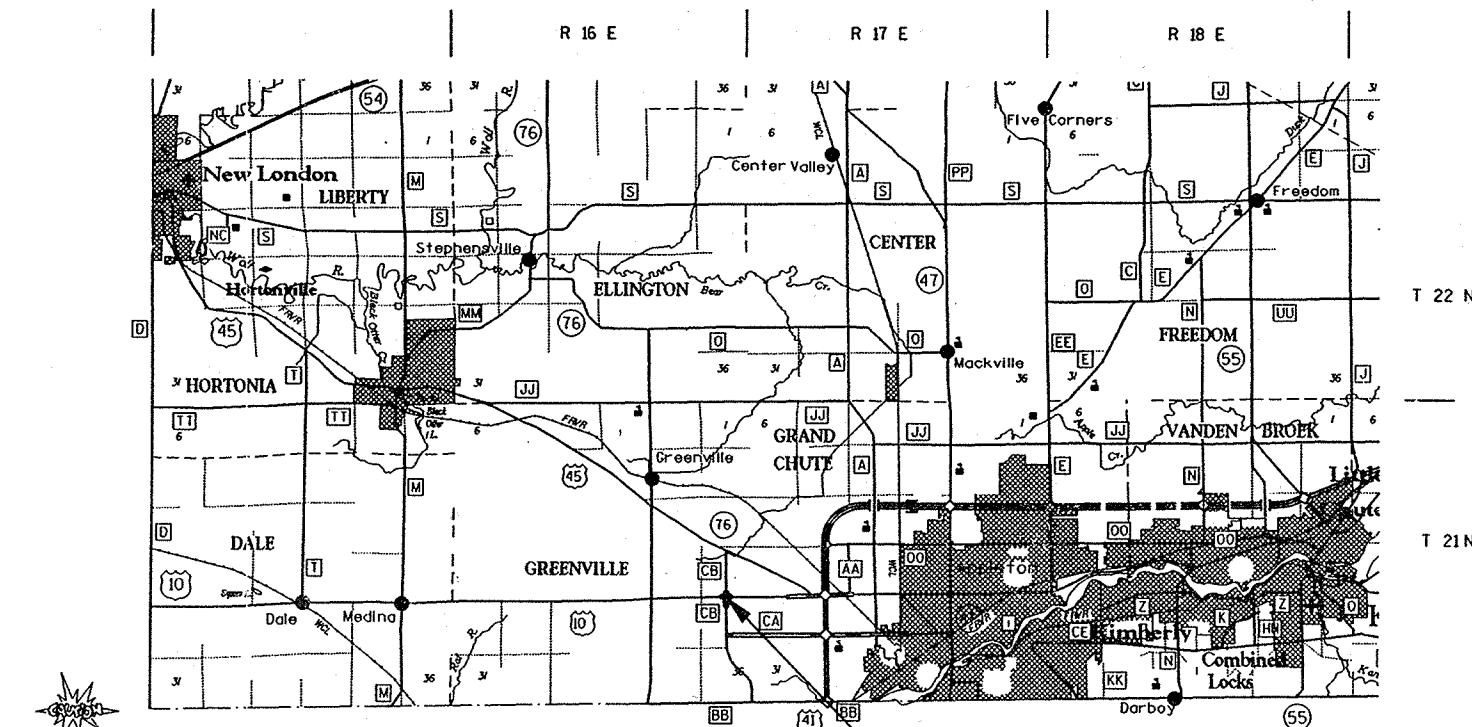


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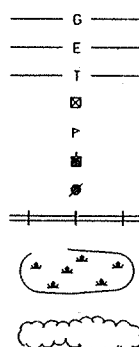


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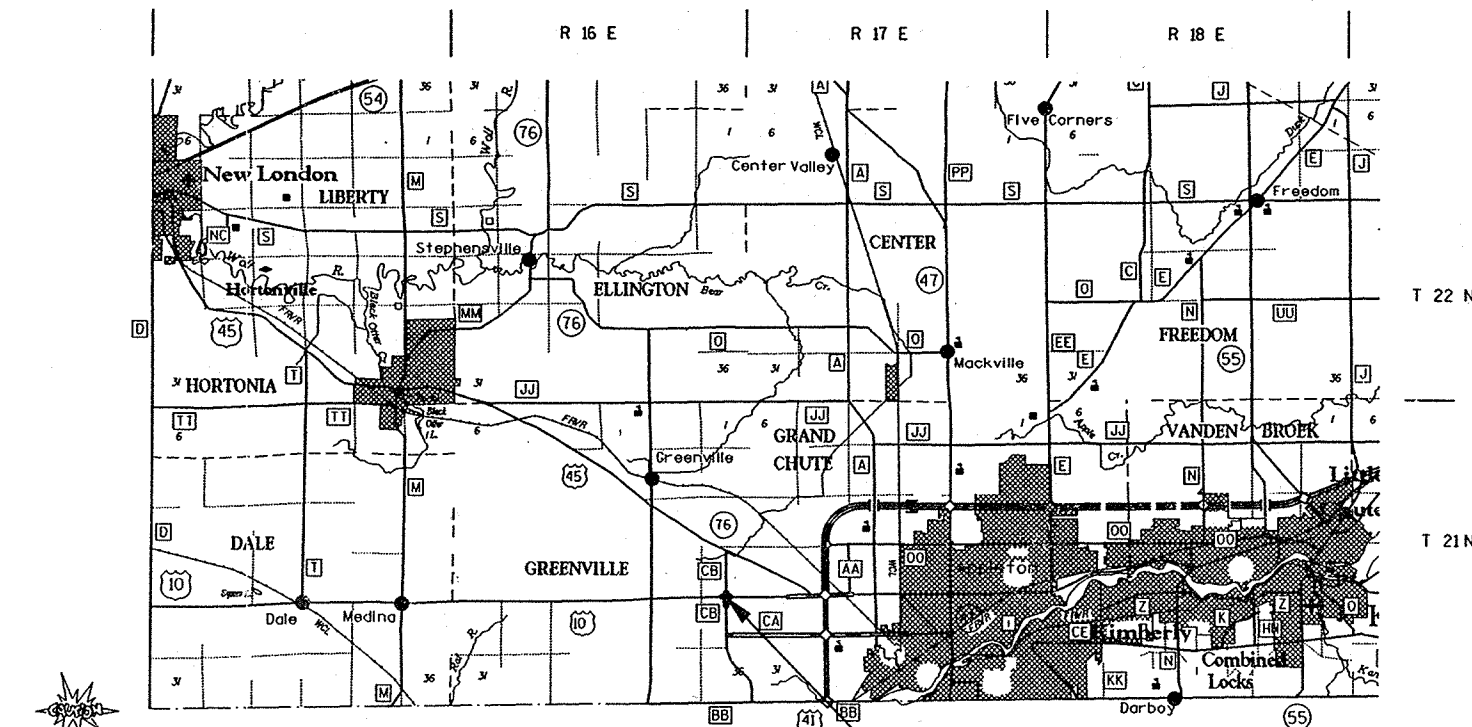


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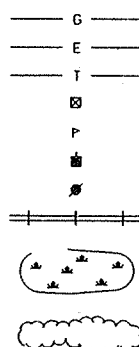


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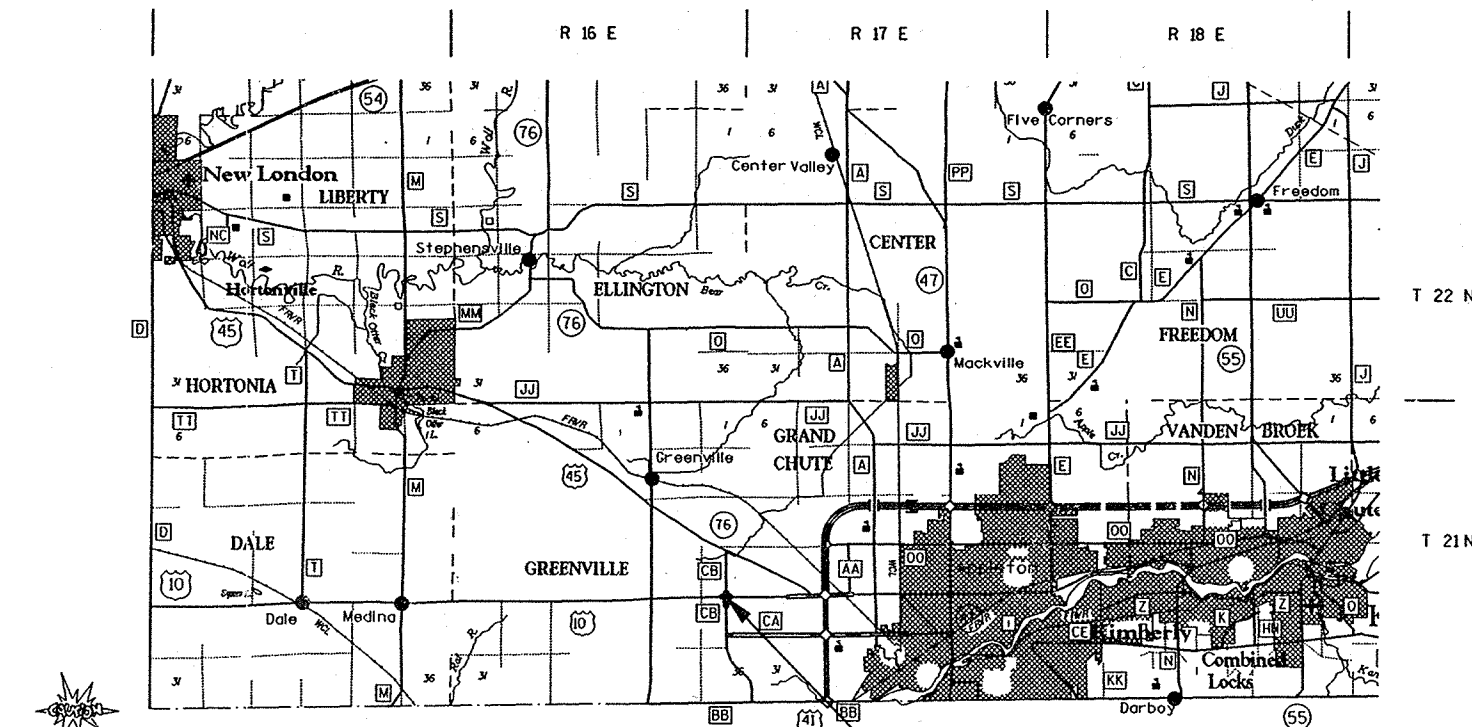


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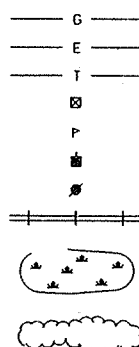


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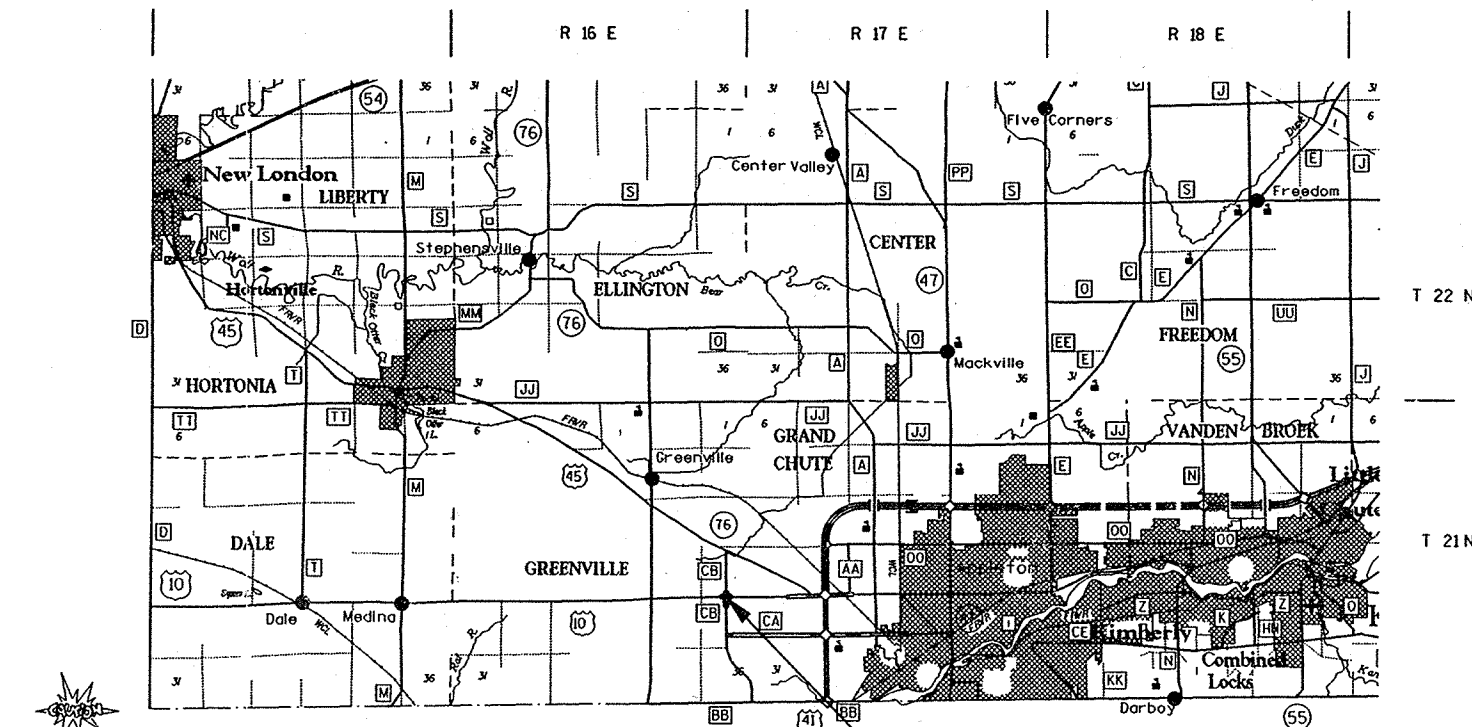


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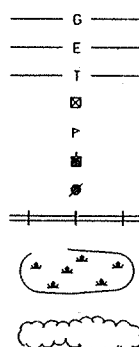


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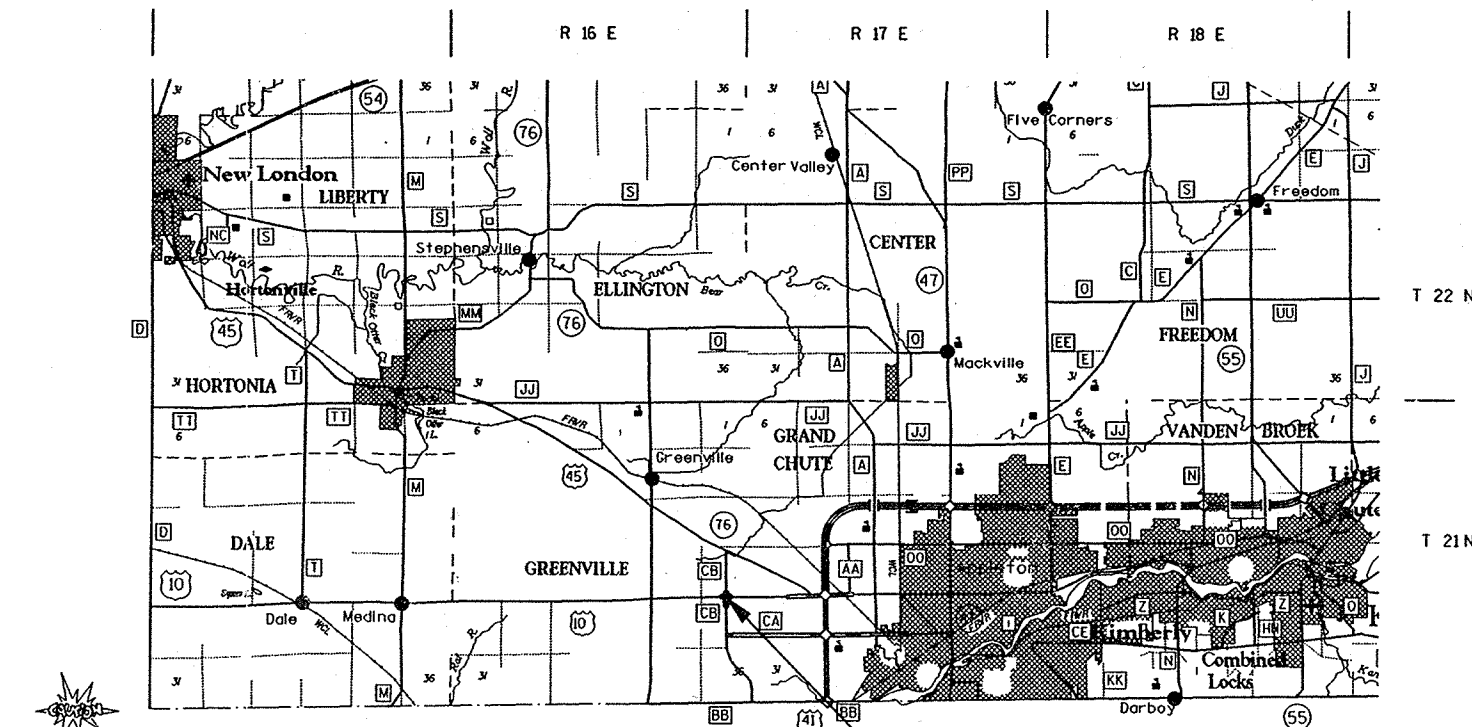


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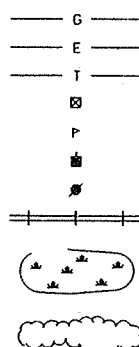


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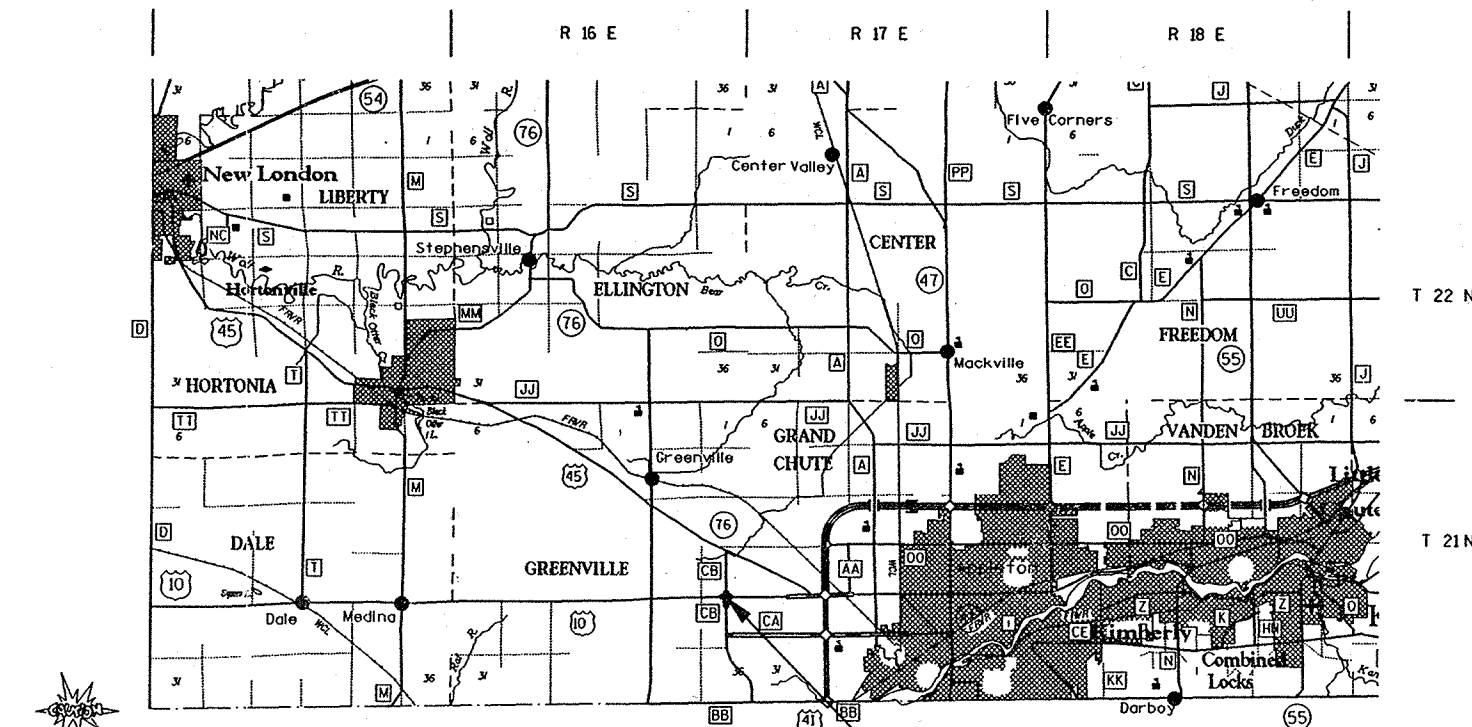


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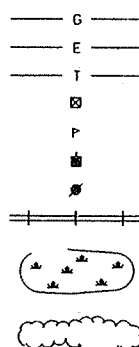


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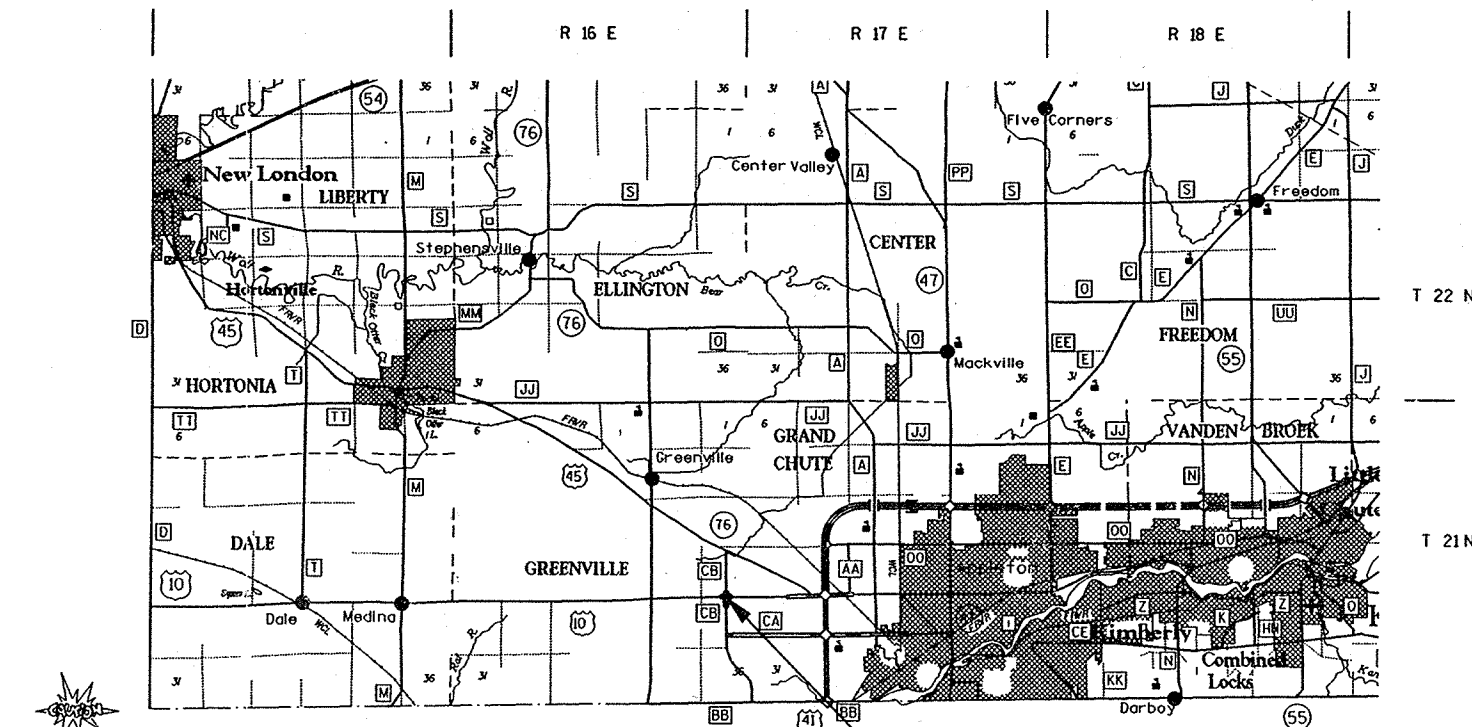


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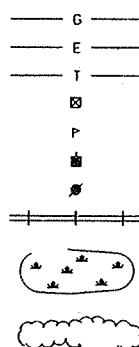


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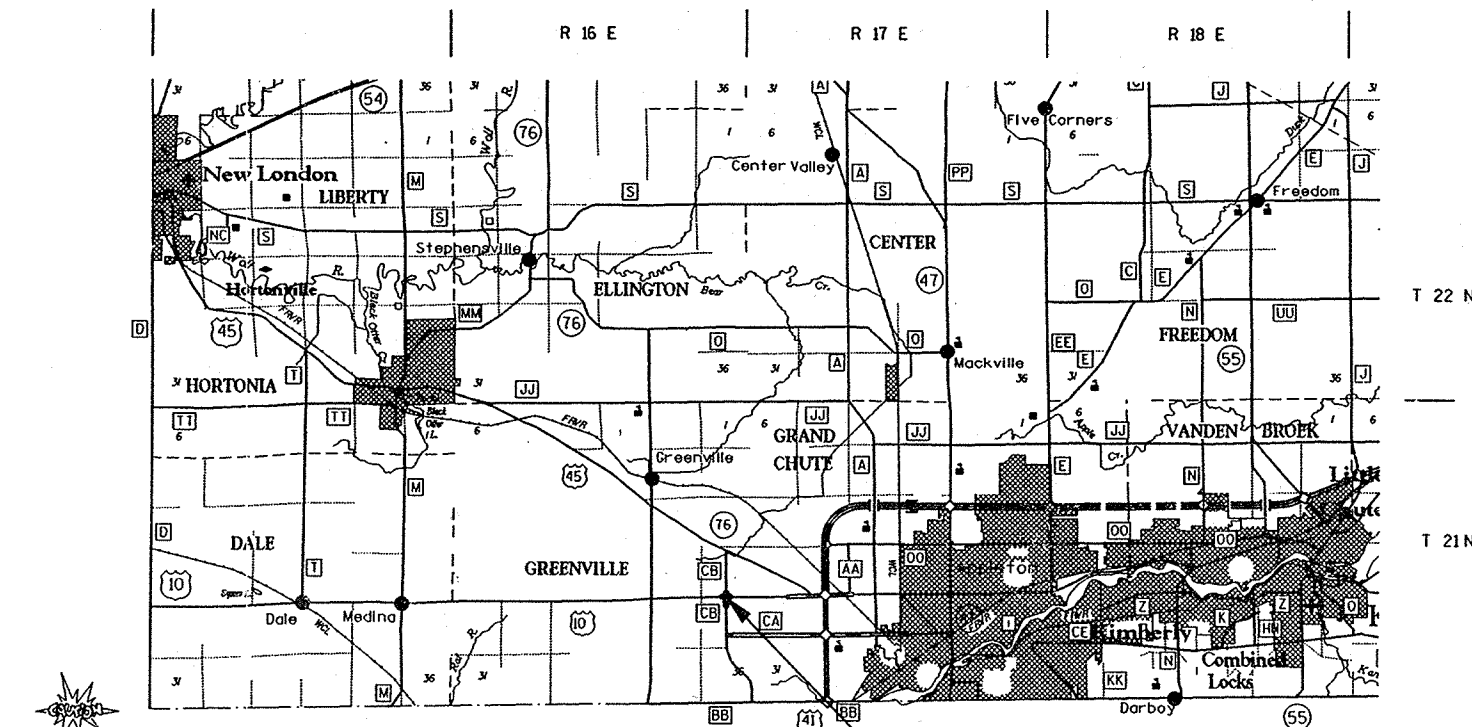


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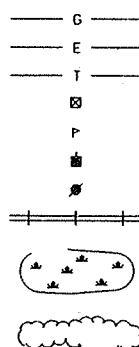


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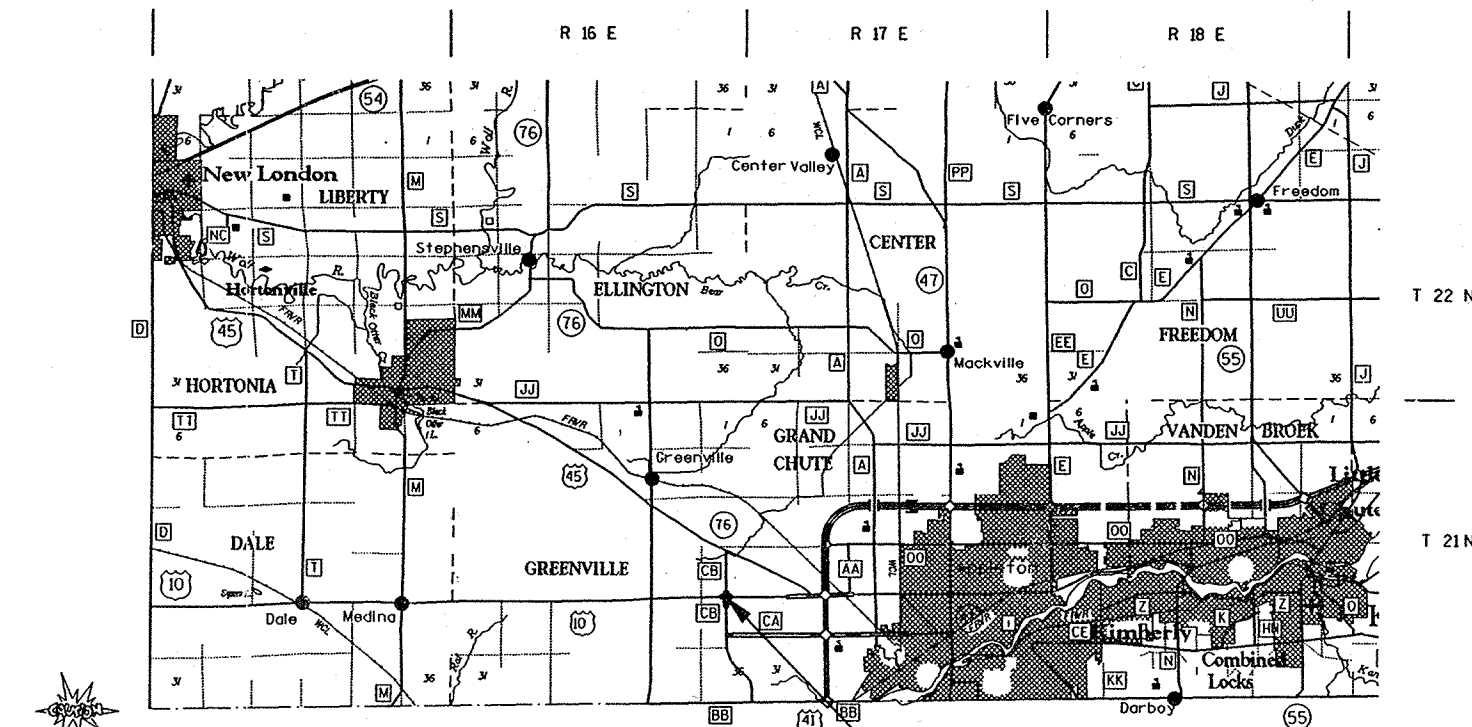


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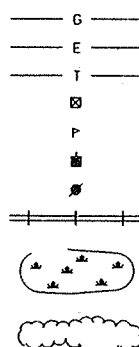


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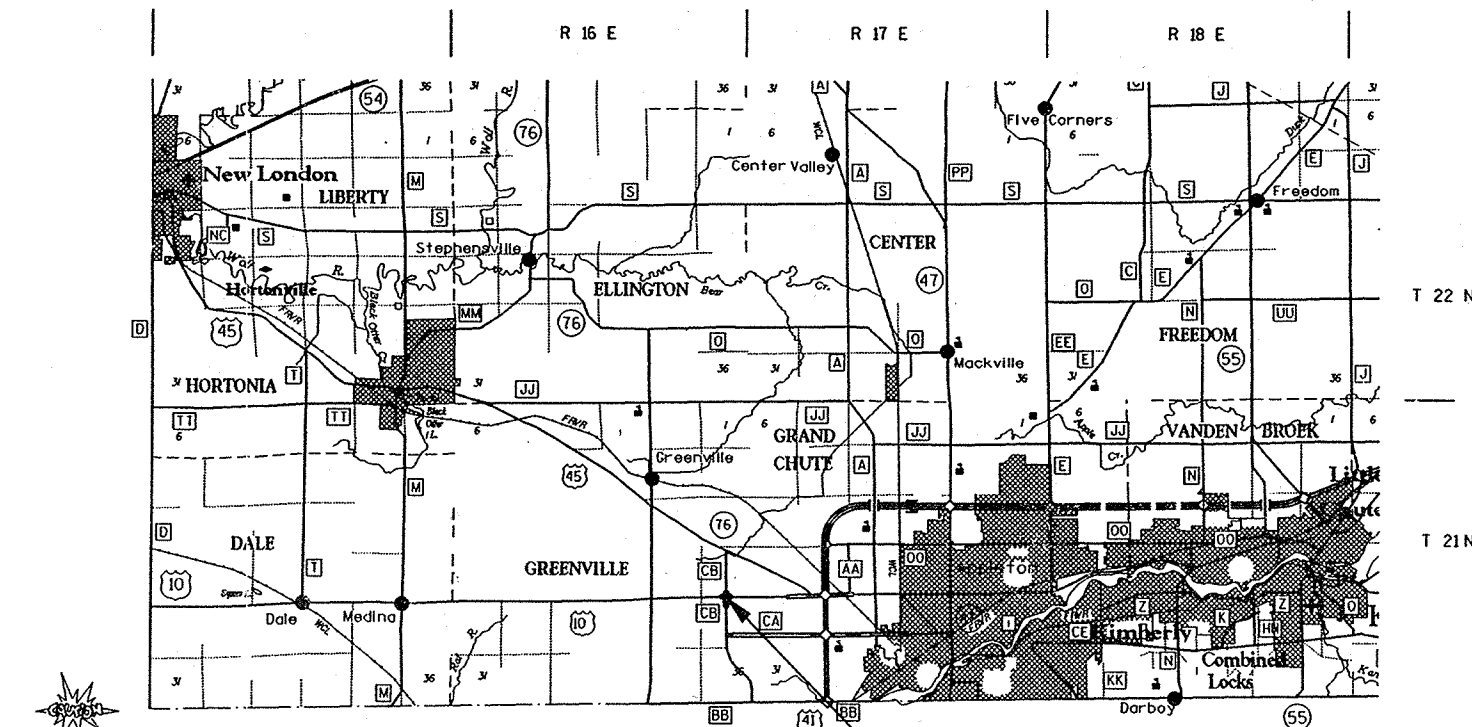


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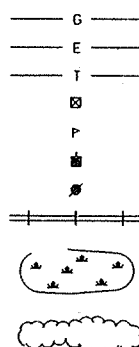


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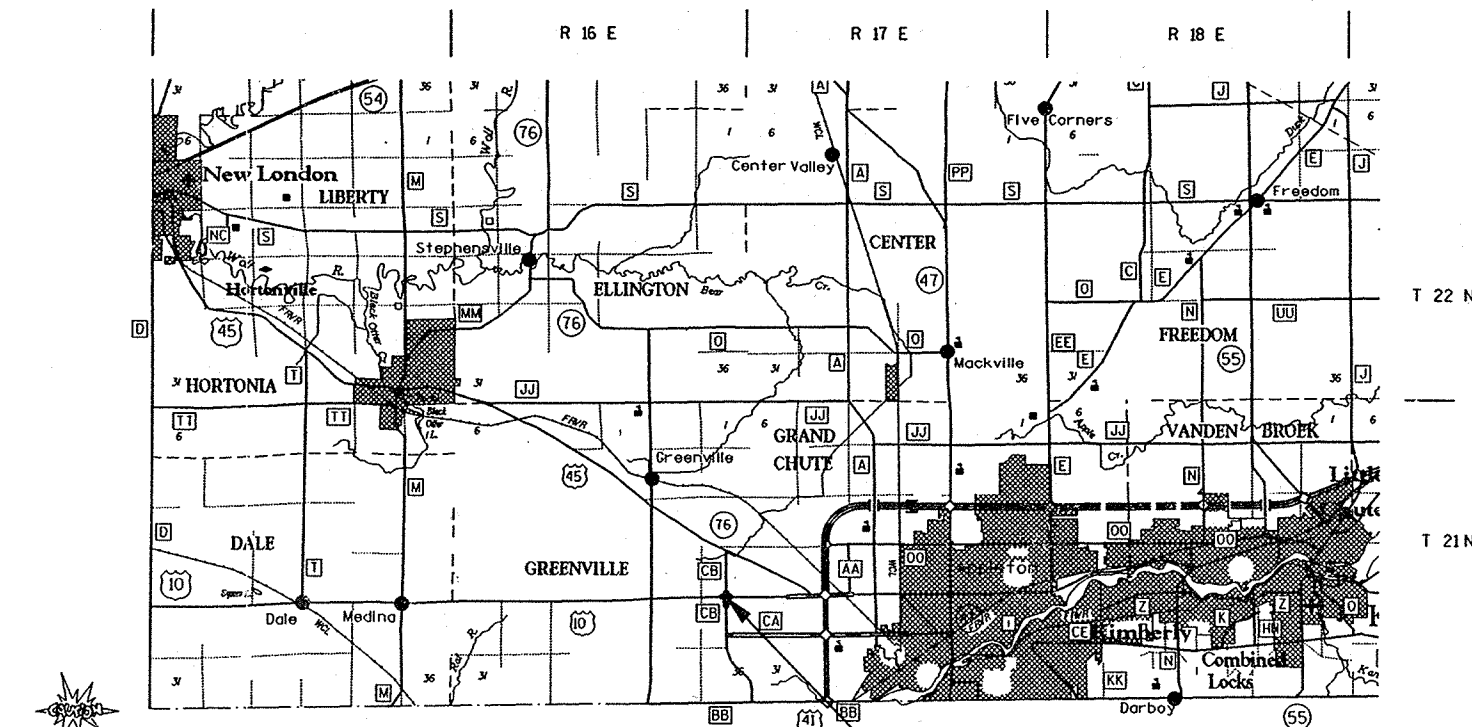


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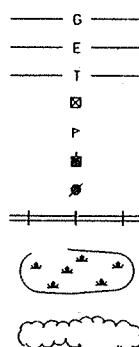


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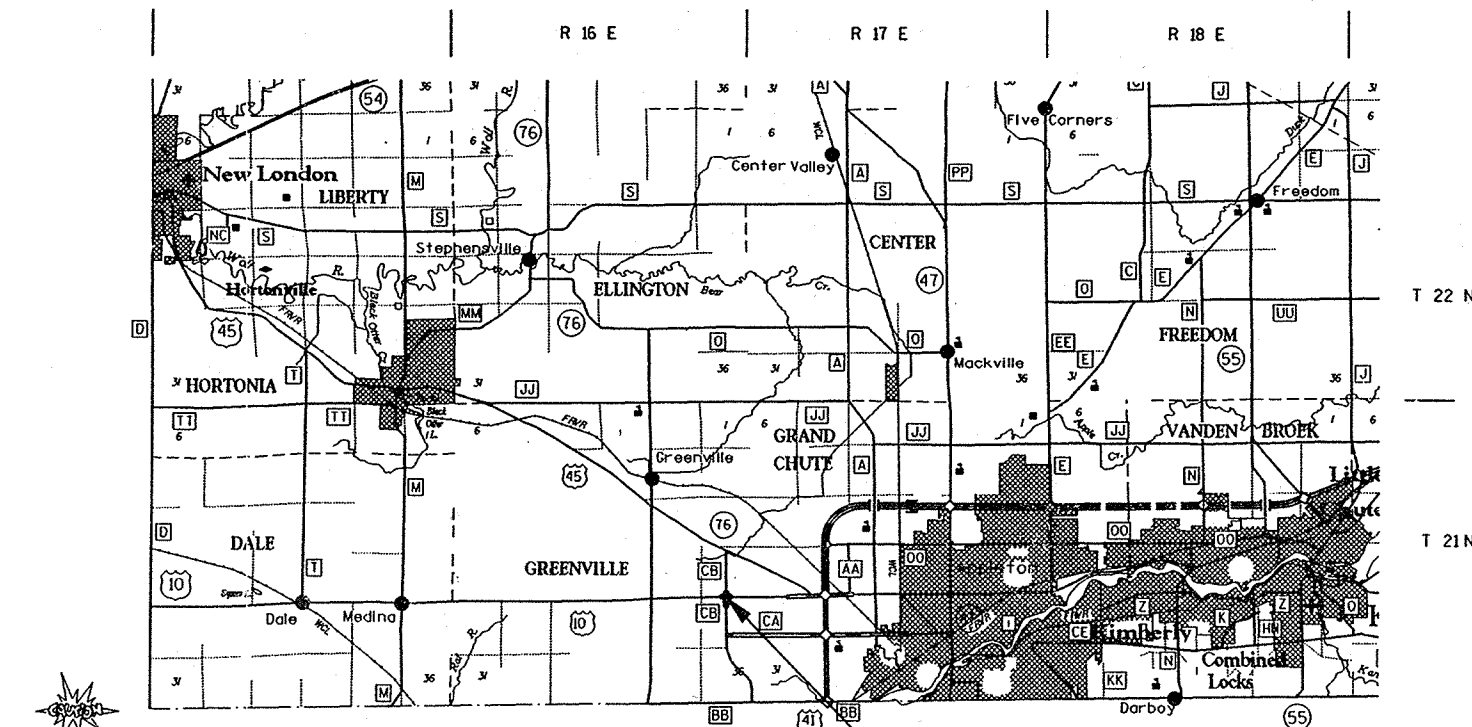


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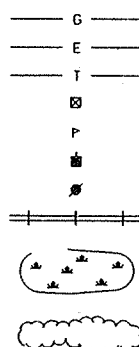


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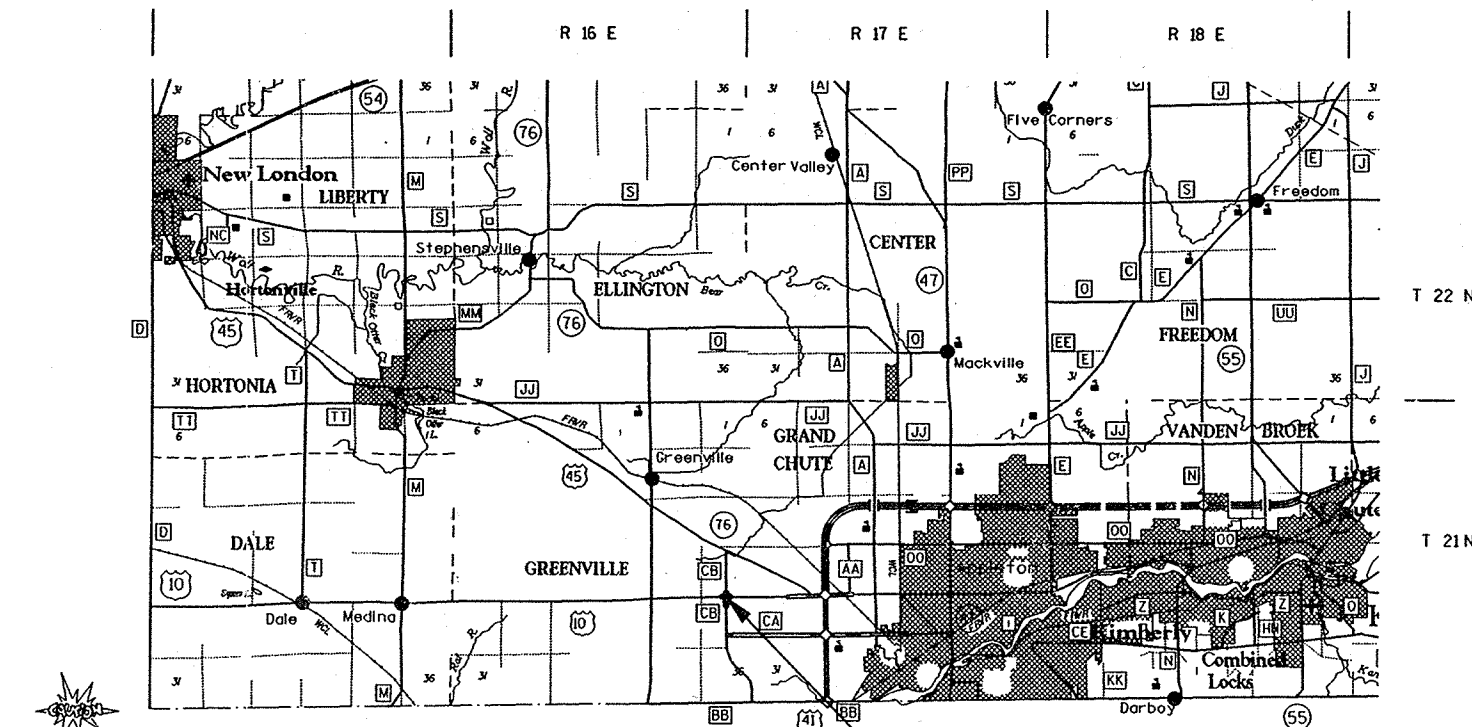


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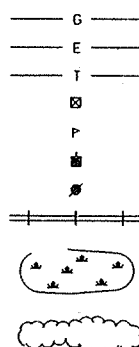


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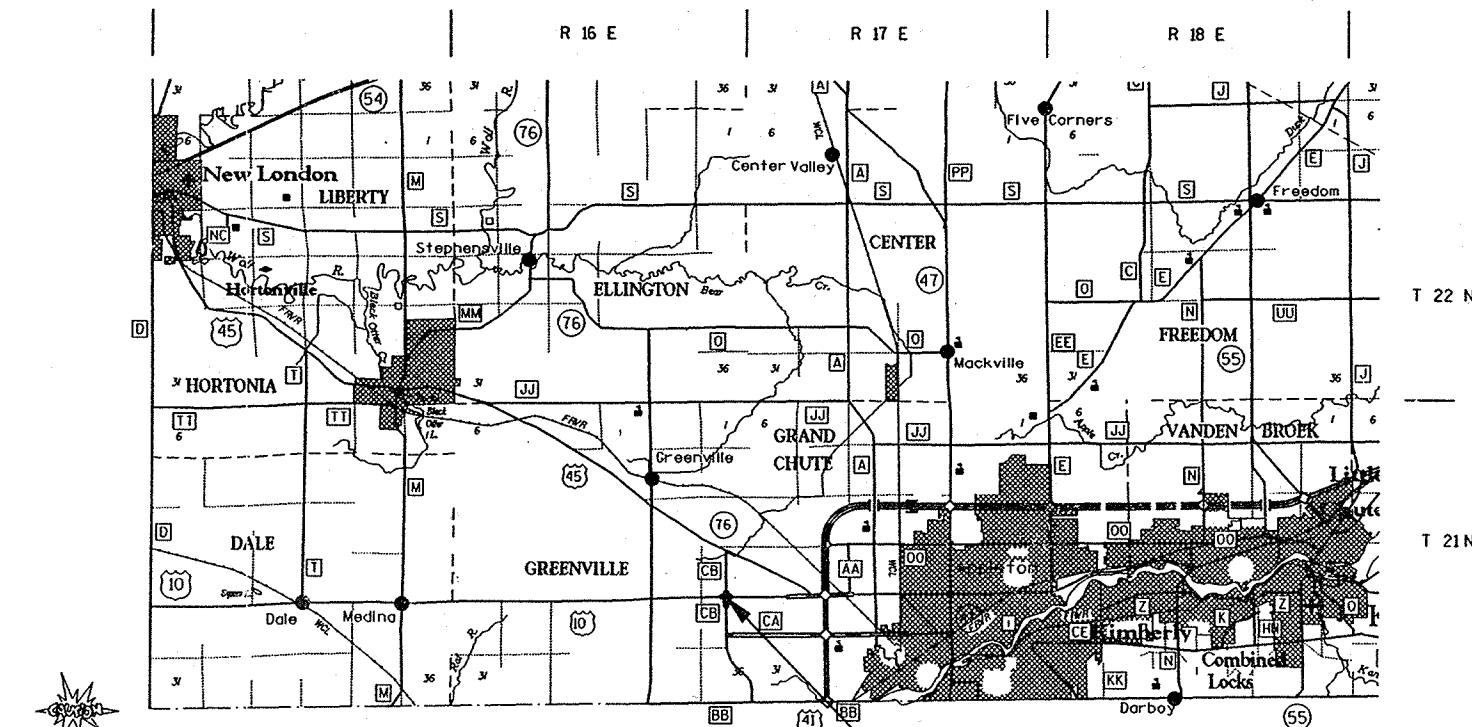


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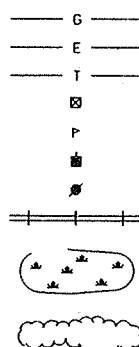


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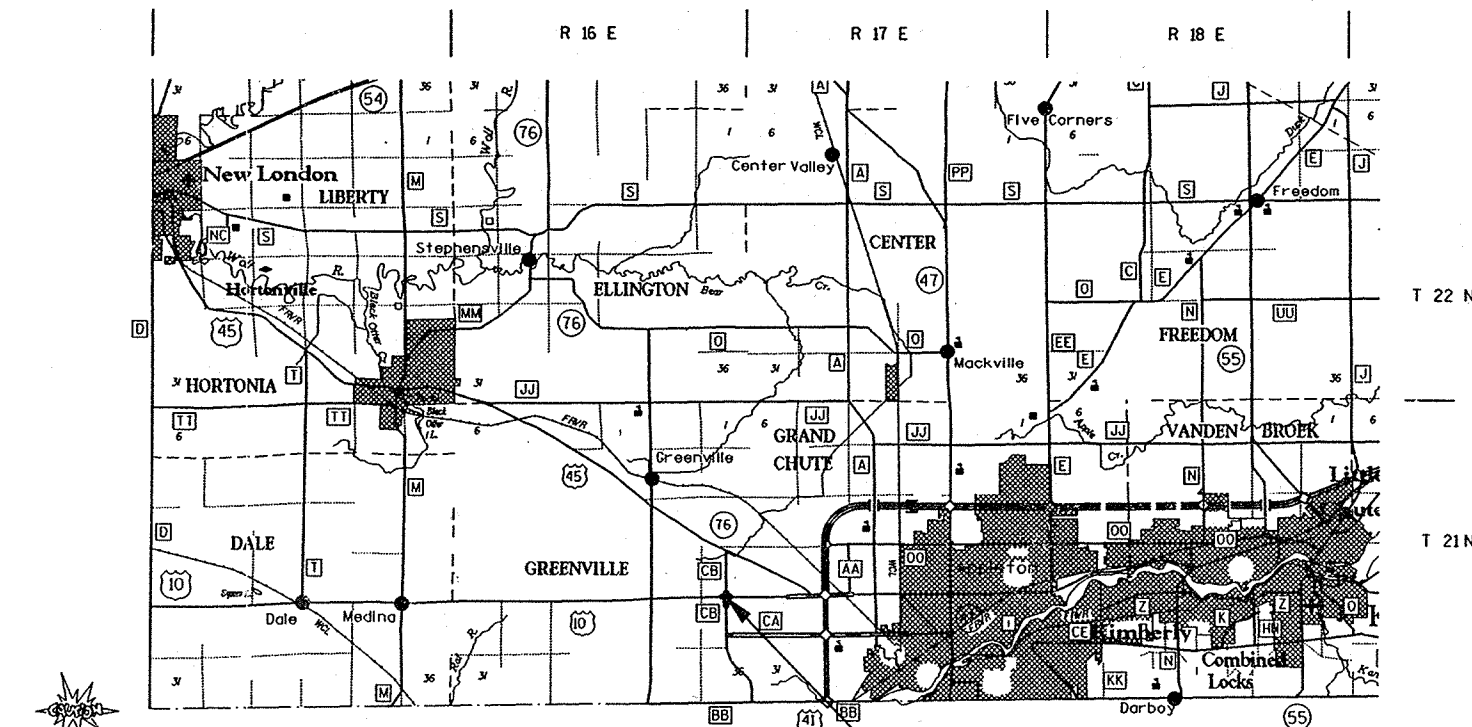


PROJECT LOCATION  
USH 10 & CTH CB INTERSECTION  
STA 260+00.04  
Y 163,941.087  
X 2,391,167.374

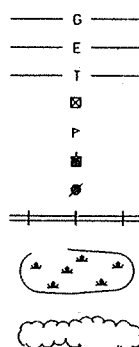


LAYOUT  
SCALE 0 1 2 MI.

PROJECT 1516-03-71 TOTAL NET LENGTH OF CENTERLINE = 0.000 MI

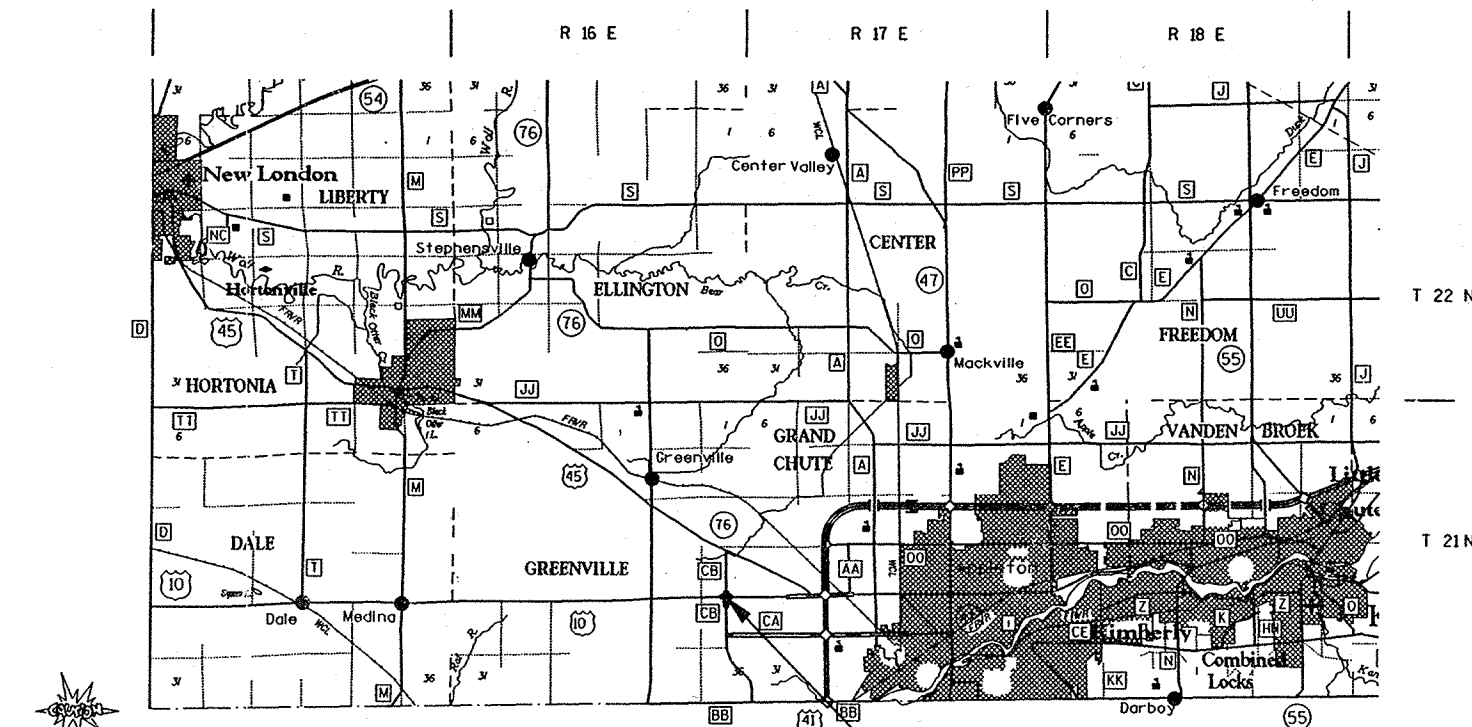


PROJECT LOCATION  
USH 10 & CTH CB INTERSECTION  
STA 260+00.04  
Y 163,941.087  
X 2,391,167.374



LAYOUT  
SCALE 0 1 2 MI.

PROJECT 1516-03-71 TOTAL NET LENGTH OF CENTERLINE = 0.000 MI



ABBREVIATIONS

CTR CENTER  
CE COMMERCIAL ENTRANCE  
SUGL SPECIAL DITCH GRADE LEFT  
SUGR SPECIAL DITCH GRADE RIGHT

STANDARD DETAIL DRAWINGS

SDD 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	SHEET 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 RADIUS 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.

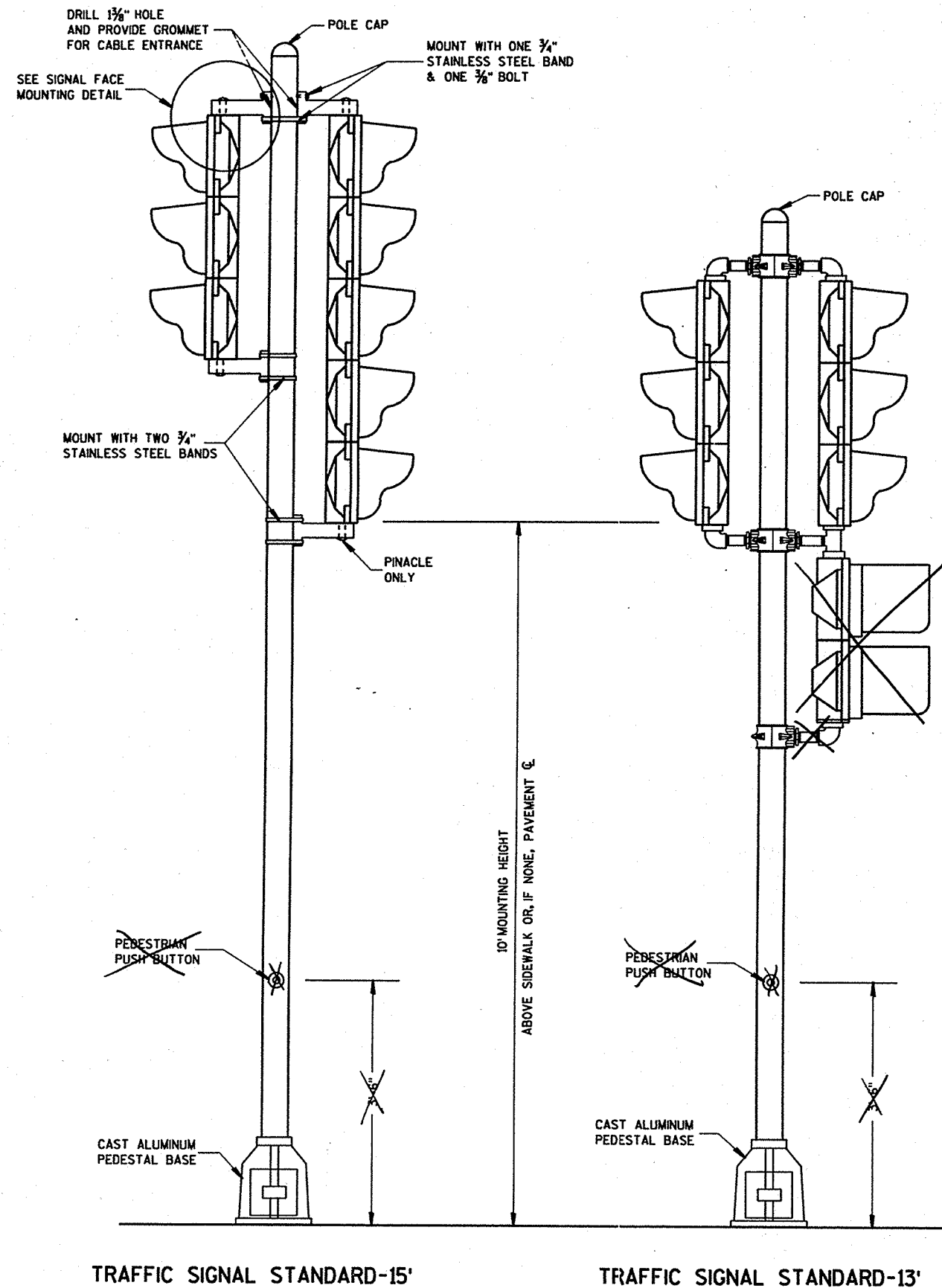


2.2

## BLDG.



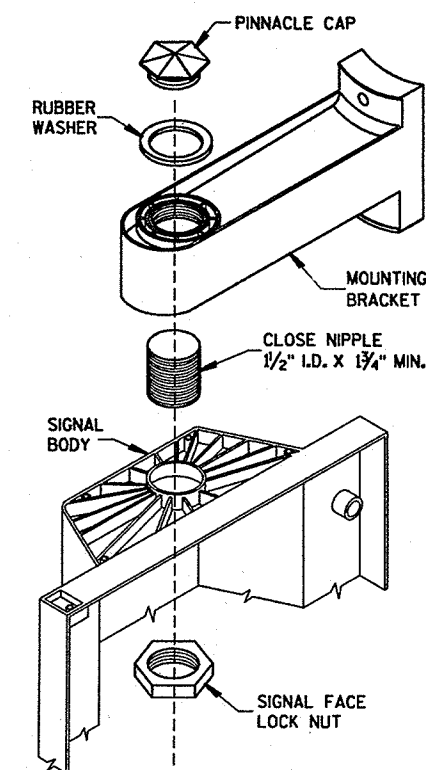
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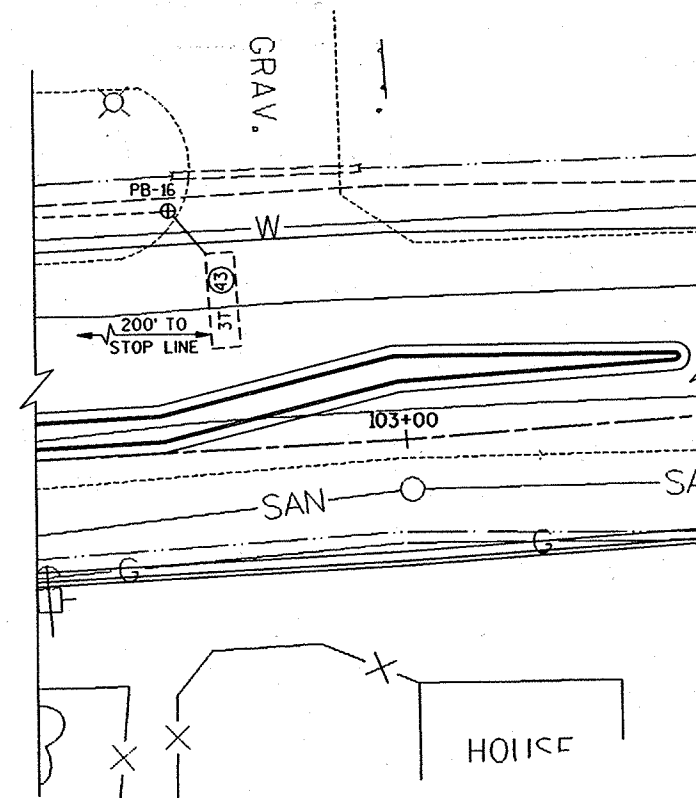
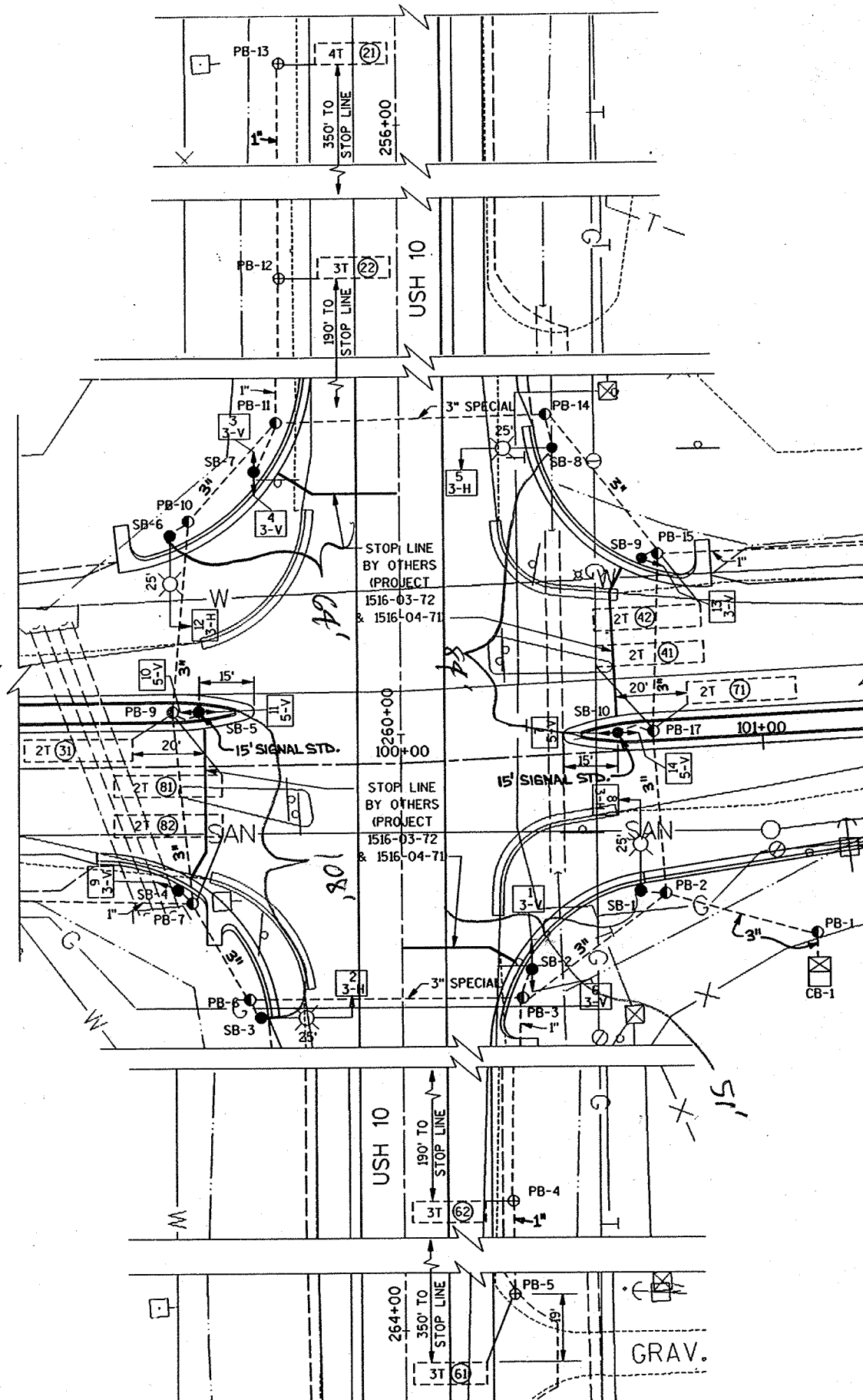
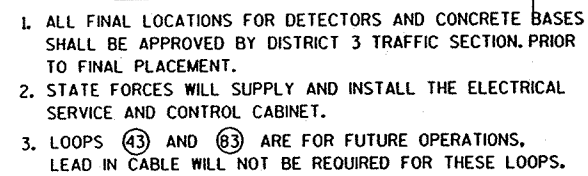
STATE PROJECT NUMBER 1-16-0-1	SHEET NO. 2.3
ALUMINUM TRAFFIC SIGNAL STANDARD 13' & 15'	

### 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



I.D. NO.

## SEQUENCE OF OPERATION

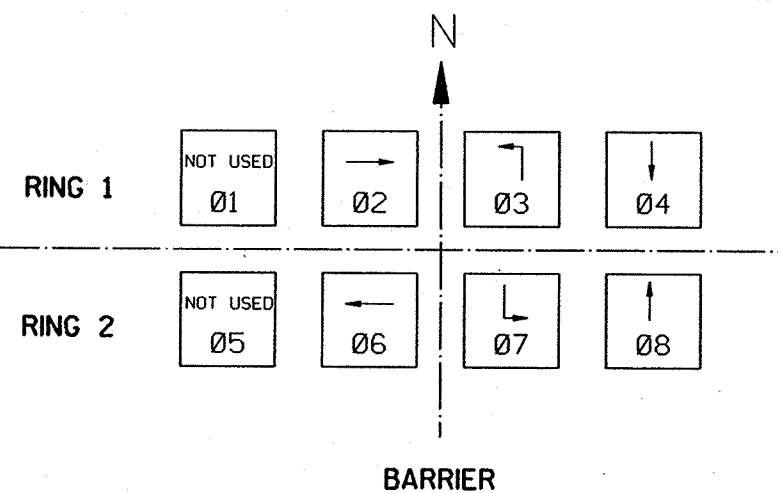
## DETECTOR LOGIC

## CONTROLLER LOGIC

RING 1	NOT USED			
	Ø1		Ø2	
	CLEAR TO		CLEAR TO	
	R/W	**	R/W	**
	Ø1		Ø2	
	Ø2		Ø3	
	Ø3		Ø4	
	Ø4		Ø5	
	Ø5		Ø6	
	Ø6		Ø7	

DETECTOR NUMBER	AMPLIFIER CHANNEL NUMBER	DETECTOR OPERATION			PHASE CALLED	PHASE EXTENDED	DETECTOR DISCONNECT	CALLING DELAY	EXTENSION STRETCH	SIZE	NUMBER OF TURNS
		CALLS AND EXTENDS	CALLS ONLY	EXTENDS ONLY							
21	1	X			Ø2	Ø2			YES	6 x 20	4
22	1	X			Ø2	Ø2				6 x 20	3
31	2	X			Ø3	Ø3				6 x 30	2
41	3	X			Ø4	Ø4				6 x 30	2
42	4	X			Ø4	Ø4		YES		6 x 30	2
43					Ø4	Ø4				6 x 20	3
61	5	X			Ø6	Ø6			YES	6 x 20	3
62	5	X			Ø6	Ø6				6 x 20	3
71	6	X			Ø7	Ø7				6 x 30	2
81	7	X			Ø8	Ø8				6 x 30	2
82	8	X			Ø8	Ø8		YES		6 x 30	2
83					Ø8	Ø8				6 x 20	3

RING 2	NOT USED			
	Ø5		Ø6	
	CLEAR TO		CLEAR TO	
	R/W	**	R/W	**
	Ø5		Ø6	
	Ø6		Ø7	
	Ø7		Ø8	
	Ø8		Ø9	
	Ø9		Ø10	
	Ø10		Ø11	



NOTE: WHEN Ø2 AND Ø6 ARE TIMING CONCURRENTLY, THEY SHALL TERMINATE TOGETHER.

## 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
Ø1	---	---
Ø2	Ø6	Ø3, Ø4, Ø7, Ø8
Ø3	Ø7, Ø8	Ø2, Ø4, Ø6
Ø4	Ø7, Ø8	Ø2, Ø3, Ø6
Ø5	---	---
Ø6	Ø2	Ø3, Ø4, Ø7, Ø8
Ø7	Ø3, Ø4	Ø2, Ø6, Ø8
Ø8	Ø3, Ø4	Ø2, Ø6, Ø7

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	

## OVERLAPS

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

## GENERAL NOTES

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

## USH 10 AND CTH CB INTERSECTION

USH 10 & CTH CB OUTAGAME CO.

SIGNAL NO.

DATE: 9/94

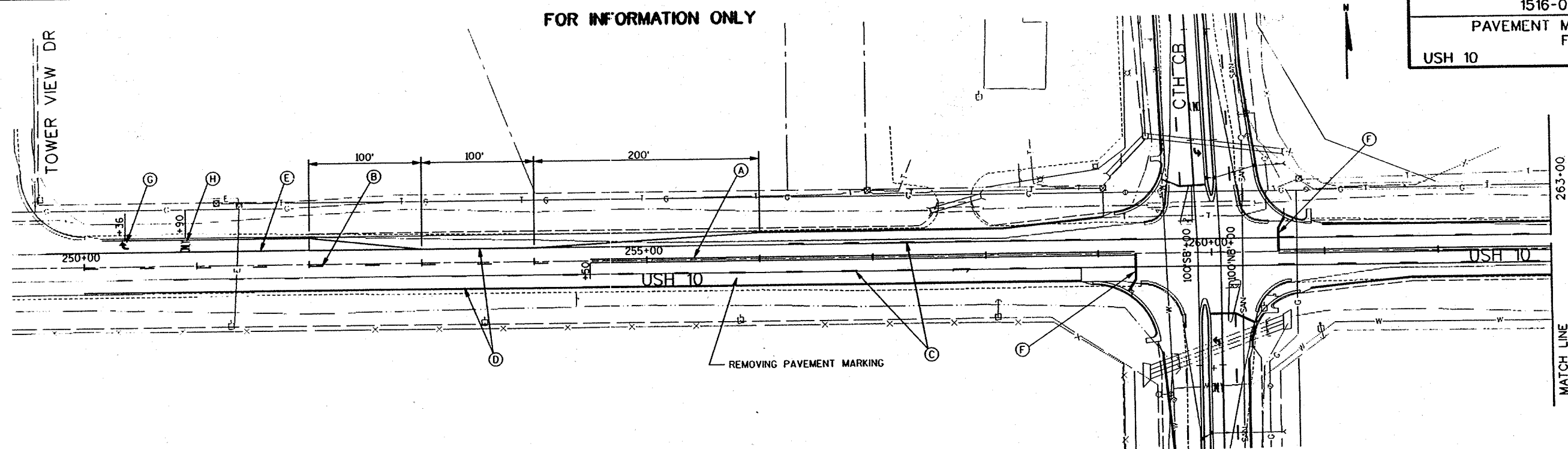
SHEET NO. 2 OF 4



# PAVEMENT MARKING PLAN FOR

USH 10 OUTAGAMIE COUNTY

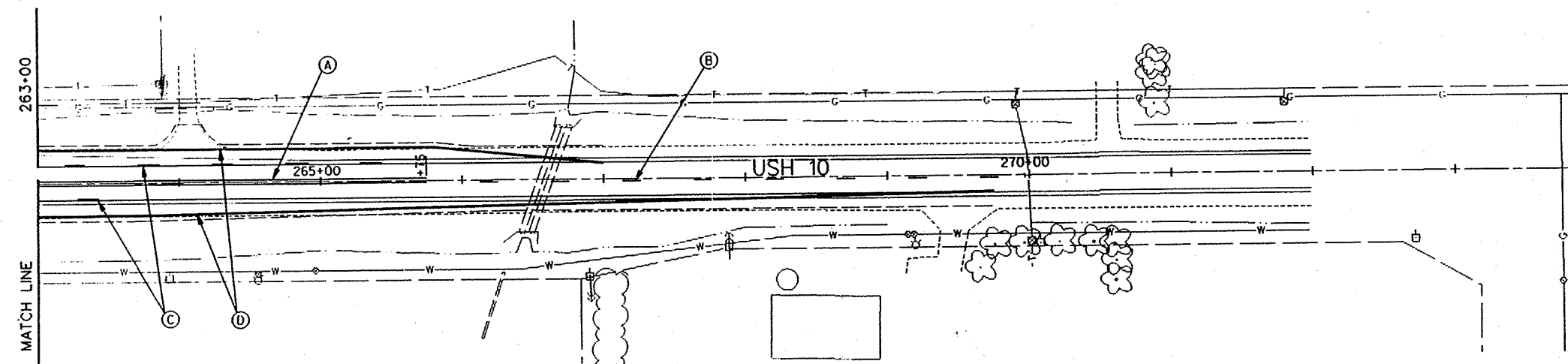
FOR INFORMATION ONLY



### LEGEND

- |  |  |
|--|--|
| (A) PAVT MARKING, <b>NO PASSING</b> ,<br>EPOXY, 4-INCH (DOUBLE YELLOW) | (E) PAVT MARKING, CHANNELIZING,<br>EPOXY, 8-INCH (WHITE) |
| (B) PAVT MARKING, CENTERLINE,<br>EPOXY, 4-INCH (DASHED YELLOW)         | (F) PAVT MARKING, STOP LINE,<br>EPOXY, 18-INCH (WHITE)   |
| (C) PAVT MARKING, LANE LINE,<br>EPOXY, 4-INCH (DASHED WHITE)           | (G) PAVT MARKING, ARROWS,<br>EPOXY, TYPE 2               |
| (D) PAVT MARKING, EDGE LINE,<br>EPOXY, 4-INCH (WHITE)                  | (H) PAVT MARKING,<br>WORDS, EPOXY                        |

FOR INFORMATION ONLY





# GENERAL SIGNING NOTES FOR TRAFFIC CONTROL

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

5. 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 (L.S.).
6. ALL TEMPORARY PAVEMENT MARKING DIAGONALLY CROSSING PERMANENT PAVEMENT SHALL BE REMOVABLE TAPE. TEMPORARY PAVEMENT MARKING PARALLEL TO PERMANENT LANES SHALL BE PAINT UNLESS OTHERWISE NOTED. ALL CONFLICTING EXISTING PAVEMENT MARKING SHALL BE REMOVED.

7. TRAFFIC CONTROL ON THIS SHEET TO BE PERFORMED UNDER PROJECT 1516-03-72.

## FOR INFORMATION ONLY

STATE PROJECT NUMBER SHEET NO

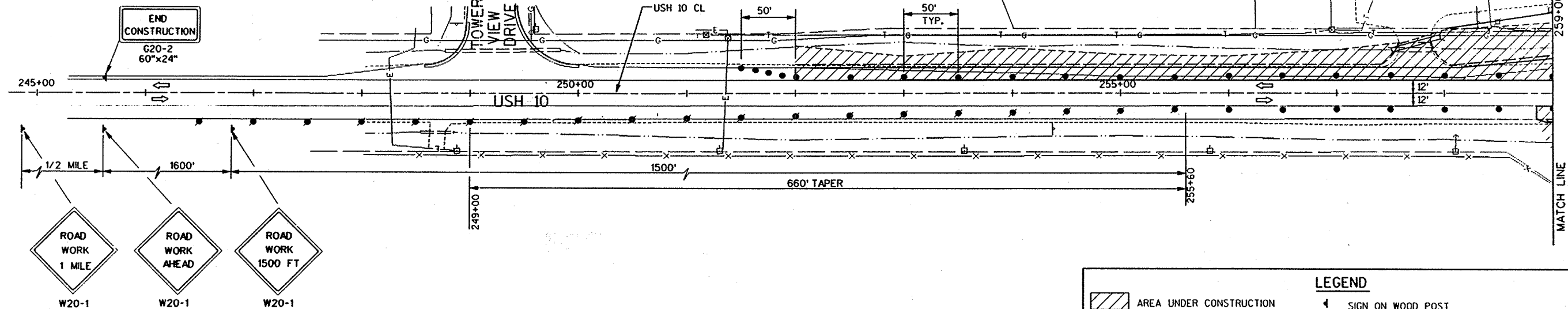
1516-03-71 2.7

TRAFFIC CONTROL PLAN

FOR

USH 10

OUTAGAMIE COUNTY

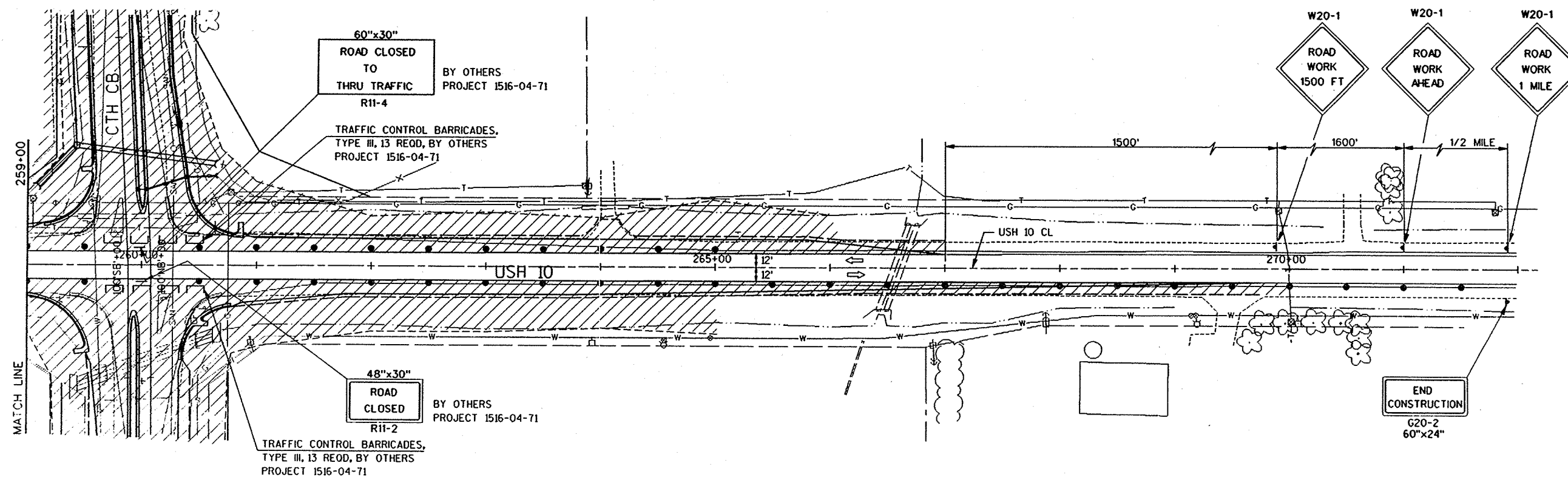


## FOR INFORMATION ONLY

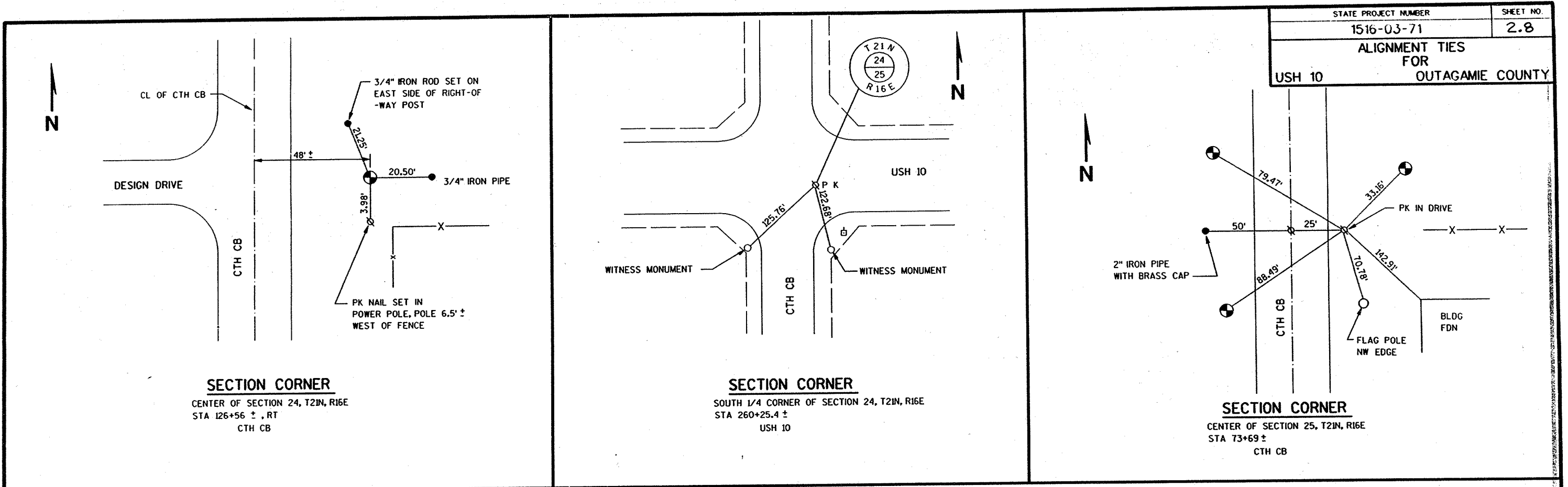
- AREA UNDER CONSTRUCTION
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH WARNING LIGHT, TYPE C
- TRAFFIC FLOW DIRECTION

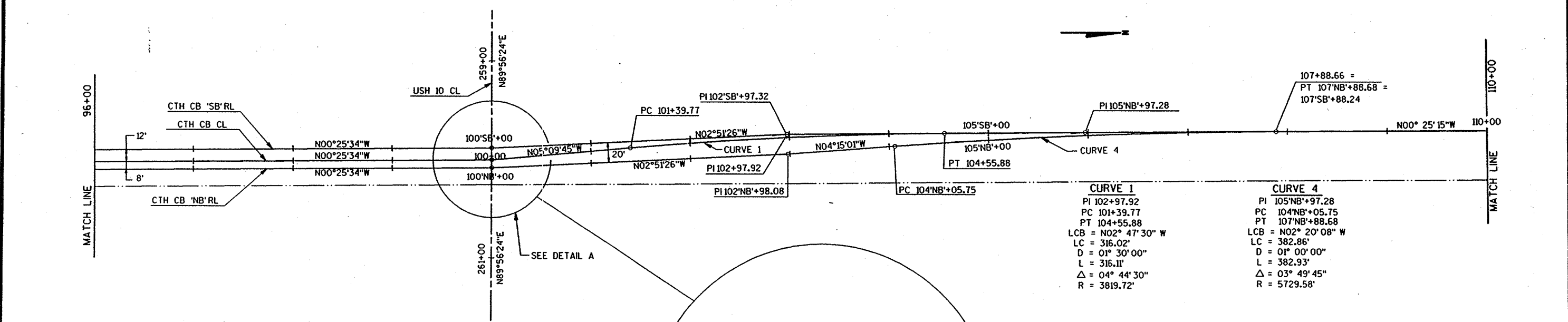
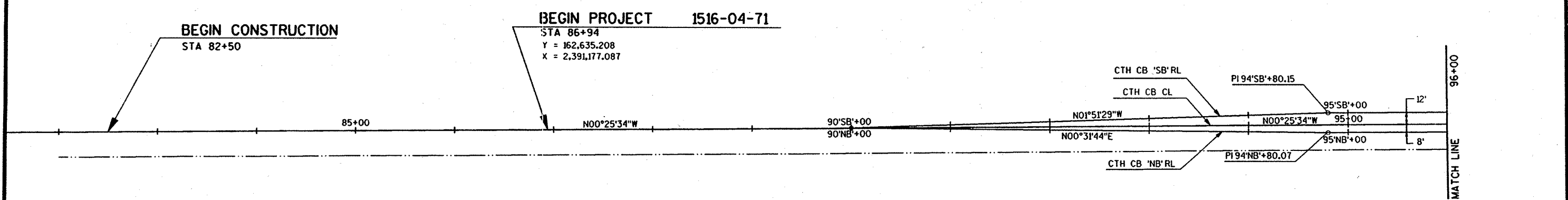
### LEGEND

- SIGN ON WOOD POST
- TRAFFIC CONTROL BARRICADE, TYPE III WITHOUT ATTACHED SIGN
- TRAFFIC CONTROL BARRICADE, TYPE III WITH ATTACHED SIGN

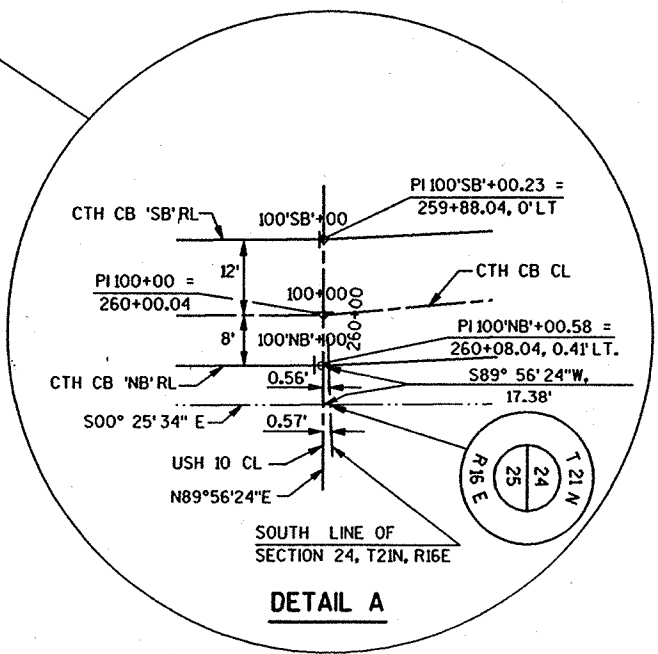


LEVELS ON : 31, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63





CURVE 1	CURVE 4
PI 102+97.92	PI 105'NB'+97.28
PC 101+39.77	PC 104'NB'+05.75
PT 104+55.88	PT 107'NB'+88.68
LCB = N02° 47' 30" W	LCB = N02° 20' 08" W
LC = 316.02'	LC = 382.86'
D = 01° 30' 00"	D = 01° 00' 00"
L = 316.11'	L = 382.93'
Δ = 04° 44' 30"	Δ = 03° 49' 45"
R = 3819.72'	R = 5729.58'



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, L.F. 1-INCH	L.F.	1,030.00	1,030.00
61334	NONMETALLIC CONDUIT, L.F. 2-INCH	L.F.	85.00	85.00
61336	NONMETALLIC CONDUIT, L.F. 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, 12 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, L.F. 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-INCH	EACH	6.00	6.00
90797	PULL BOXES, 24X36-INCH	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	1516-03-71 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

SHEET 3.1

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

TRAFFIC SIGNALS AND LUMINAIRES

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

NONMETALLIC CONDUIT

FROM	TO	1-INCH		2-INCH		3-INCH		3-INCH SPECIAL
		LF	LF	LF	LF	LF	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	P-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

CONCRETE SURFACE DRAINS

STATION	LOCATION	CY
99'SB'+25, LT	CTH CB	1.3
99'NB'+48, RT	CTH CB	1.8
260+79, LT	USH 10	1.3
100'SB'+86	CTH CB	1.3
TOTAL		5.7

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

FROM	TO	LF
CB-1	SB-8	210
CB-1	SB-3	235
CB-1	SB-1	110
SB-3	SB-6	200
TOTAL		755

ELECTRICAL WIRE,  
LIGHTING, NO. 12  
LOCATION

FROM	TO	L.F.
SB-1		90
SB-3		90
SB-6		90
SB-8		90
TOTAL		360

LOOP DETECTOR CONDUIT  
LEAD IN CABLE AND SLOTS

LOOP NO.	SIZE FT X FT	NO. OF TURNS	CONDUIT		LEAD IN		SLOTS
			1-INCH LF	WIRE LF	CABLE LF	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"	24" X 36"
EACH	EACH
6	11

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

1516-03-71

SHEET NO.

3A

MISCELLANEOUS QUANTITIES  
FOR

USH 10 OUTAGAMIE COUNTY

TRAFFIC SIGNAL  
ELECTRIC WIRE, NO. 10

FROM	TO	EQUIPMENT GROUNDING CONDUCTOR		GROUNDED CONDUCTOR	
		LF	LF	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.		12-COND.		BASE TO HEAD		BASE TO HEAD	
FROM	TO	LF	LF	NO	5 COND.	7 COND.			
	USH 10								
CB-1	SB-8	---	240	5	50	---			
SB-8	SB-7	120	---	3	20	---			
		---	---	4	20	---			
CB-1	SB-2	---	135	1	20	---			
		---	---	6	20	---			
SB-2	SB-3	105	---	2	50	---			
CTH CB									
CB-1	SB-1	---	85	8	50	---			
SB-1	SB-10	---	85	7	---	25			
		---	---	14	---	25			
SB-10	SB-9	85	---	13	20	---			
CB-1	SB-4	---	245	9	20	---			
SB-4	SB-5	---	85	10	---	25			
		---	---	11	---	25			
SB-5	SB-6	85	---	12	50	---			
TOTALS		395	875		320	100			

COLOR CODE

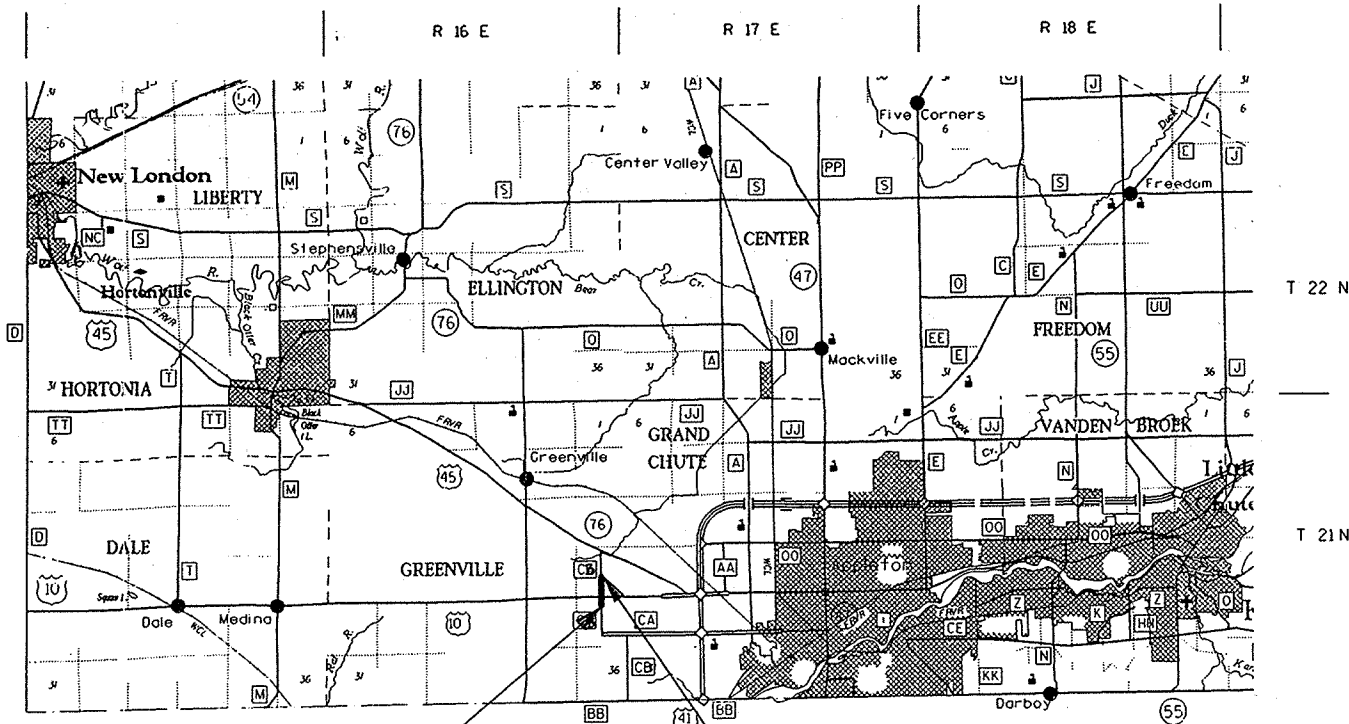
EB & NB	WB & SB
RED = RED	RED = RED W/BLACK TR.
YELLOW = ORANGE	YELLOW = ORANGE W/BLACK TR.
GREEN = GREEN	GREEN = GREEN W/BLACK TR.
GREEN ARROW = BLUE	GREEN ARROW = BLUE W/ BLACK
YELLOW ARROW = BLACK	YELLOW ARROW = WHITE W/ BLACK

LEVE 5.04 = 01.02.03.04.05.06.07.08.09.10.11.12.13.14.15.16.17.18.19.20.21.22.23.24.25.26.27.28.29.30.31.32.33.34.35.36.37.38.39.40.41.42.43.44.45.46.47.48.49.50.51.52.53.54.55.56.57.58.59.60.61.62.63

Conventional Signs and Abbreviations

SECTION LINE	AC	ACRES	R	RADIUS
QUARTER LINE	Δ	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	SHEET NUMBER	TOTAL SHEETS
2/14/95	FEDERAL PROJECT NUMBER	4.0	
PLAT OF RIGHT OF WAY REQUIRED FOR CTH CA3 (CTH CA3 - USH 10) OUTAGAMIE COUNTY			
1516-3-71/4.0			



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

7/29/94  
Date

PLAT PREPARED BY:

OMNI  
APPLETON, WISCONSIN

LARRY J. MILLER  
51474  
ATTORNEY  
Date



SCHEDULE OF LANDS & INTEREST REQUIRED

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.  
(c) INDICATES CALCULATED AREA BASED ON RECORD INFORMATION

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

PARCEL NUMBER	SHEET NUMBER	OWNER	INTEREST REQUIRED	TOTAL ACRES	R/W ACRES			TOTAL ACRES REM.	ILE ACRES	PLE ACRES
					NEW	EXIST.	TOTAL			
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. DORSFY & 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	0.36	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 GREENVILL	PLE	2.06	0.00	0.00	0.00	2.06	--	0.08
11	4.5	UNITEL	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 CA <sup>e</sup>	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

USH 10

②  
OUTAGAMIE COUNTY AIRPORT

③  
FRED J. PIETTE &  
SHIRLEY PIETTE

⑨  
MARTY J. NIKODEM &  
SUZETTE A. NIKODEM  
LOT 3

⑩  
TOWN OF GREENVILLE  
LOT 4

⑪  
UNITEL  
LOT 5

⑫  
TOWN OF GREENVILLE  
LOT 6

⑬  
N.C.S. PARTNERSHIP  
LOT 7

⑭  
N.C.S. PARTNERSHIP  
LOT 8

⑮  
MARGARET SCHROEDER, VENDOR  
RICHARD L. SCHROEDER &  
PATRICIA ANN SCHROEDER, VENDEES

CTH CA<sup>b</sup>

①  
JANSPORT INC.

②  
WISCONSIN ELECTRIC  
POWER COMPANY

CSM 1705  
LOT 1

⑦  
PAUL E. SCHROTH

⑥  
DONALD J.  
DORSEY &  
LUCILLE M.  
DORSEY  
LOT 1

⑤  
DANIEL S. RAJEK &  
KARLA S. RAJEK  
LOT 2

④  
PETER A. WESTERGARD

②  
AMERITECH

CTH CB  
⑧  
SILAS KOERNER

②  
AMERITECH  
EASEMENT

⑮  
CATHERINE SCHLIMM

GREENVILLE

REVISION DATE  
2/14/95

ROUTE  
CTH C-8

COUNTY  
OUTAGAMIE

DATE

R/W PROJECT NUMBER

SHEET  
NUMBER

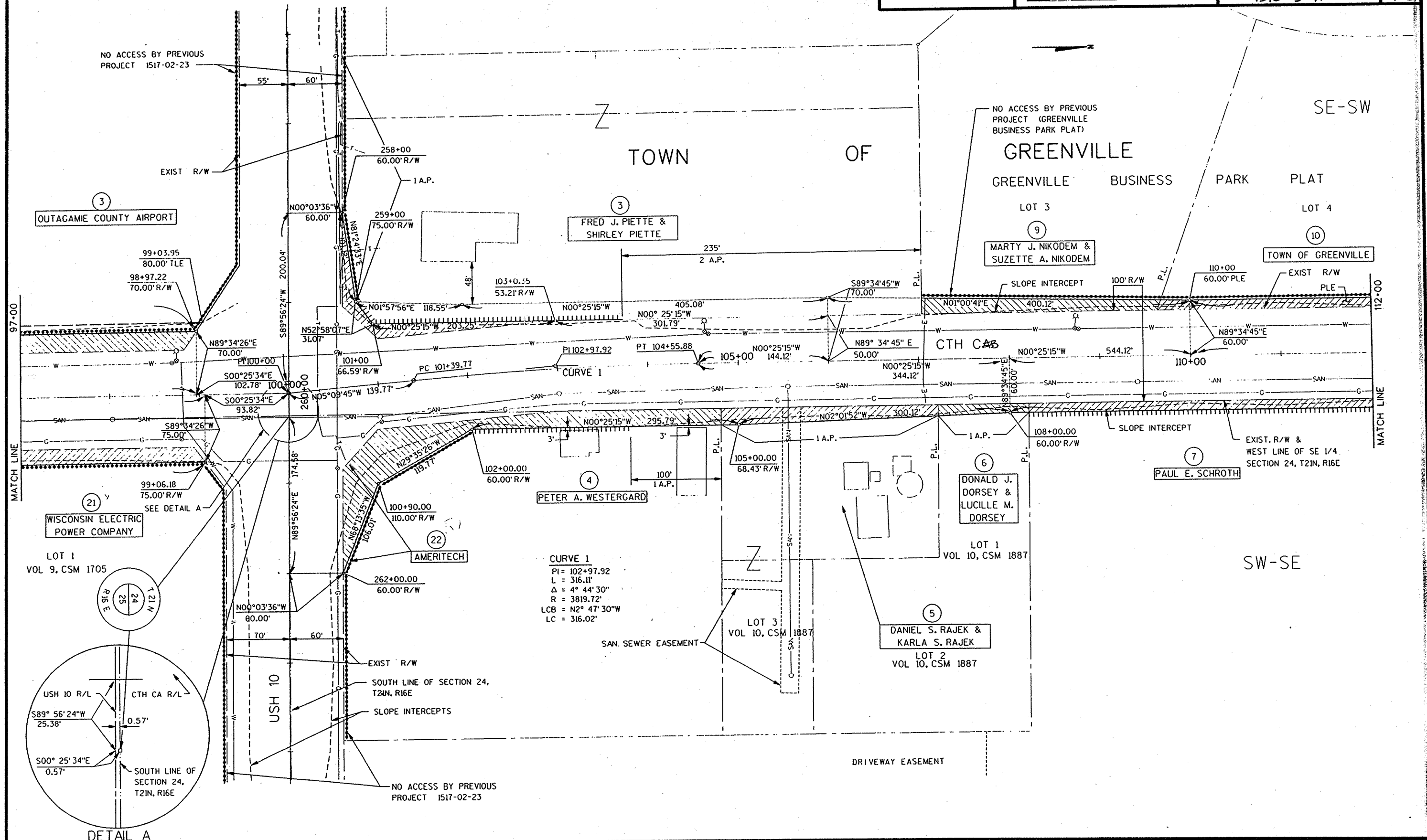
SCALE, FT.  
0 25 50 100 FT.

GRID FACTOR  
0.999935

FEDERAL PROJECT NUMBER

4.4  
4.3

1516-3-71



**LEGEND**

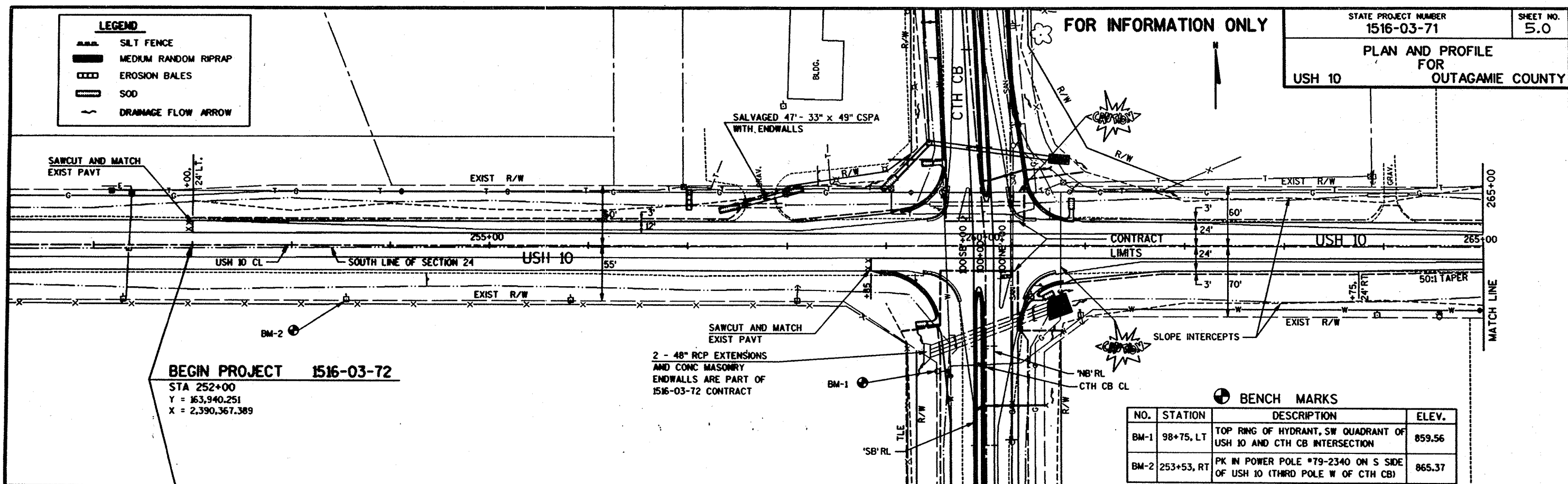
- SILT FENCE
- MEDIUM RANDOM RIPRAP
- EROSION BALES
- SOD
- DRAINAGE FLOW ARROW

FOR INFORMATION ONLY

STATE PROJECT NUMBER  
1516-03-71

SHEET NO.  
5.0

PLAN AND PROFILE  
FOR  
USH 10  
OUTAGAMIE COUNTY



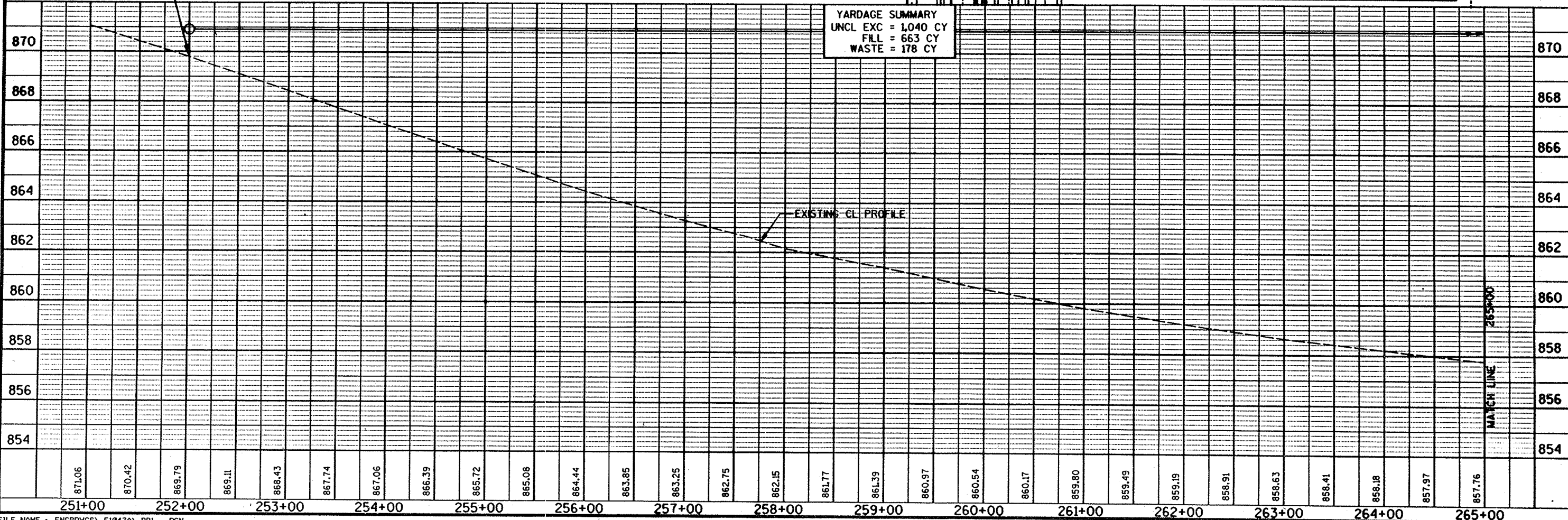
**BEGIN PROJECT 1516-03-72**  
STA 252+00  
Y = 163,940.251  
X = 2,390,367.389

2 - 48" RCP EXTENSIONS  
AND CONC MASONRY  
ENDWALLS ARE PART OF  
1516-03-72 CONTRACT

**BENCH MARKS**

NO.	STATION	DESCRIPTION	ELEV.
BM-1	98+75, LT	TOP RING OF HYDRANT, SW QUADRANT OF USH 10 AND CTH CB INTERSECTION	859.56
BM-2	253+53, RT	PK IN POWER POLE #79-2340 ON S SIDE OF USH 10 (THIRD POLE W OF CTH CB)	865.37

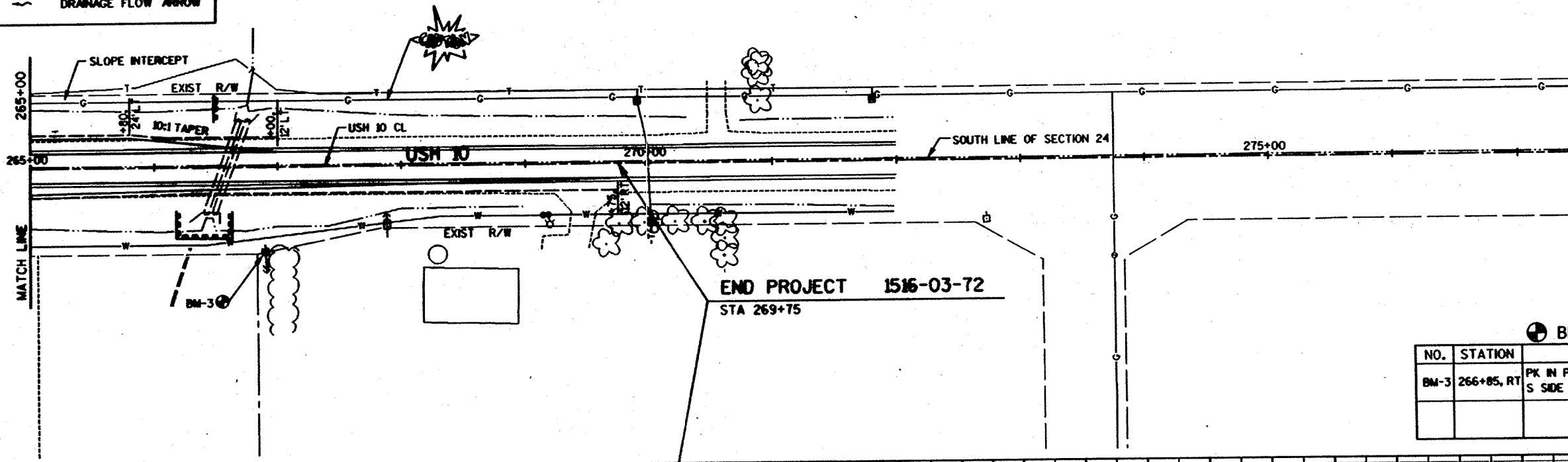
**YARDAGE SUMMARY**  
UNCL EXC = 1,040 CY  
FILL = 663 CY  
WASTE = 178 CY



FOR INFORMATION ONLY

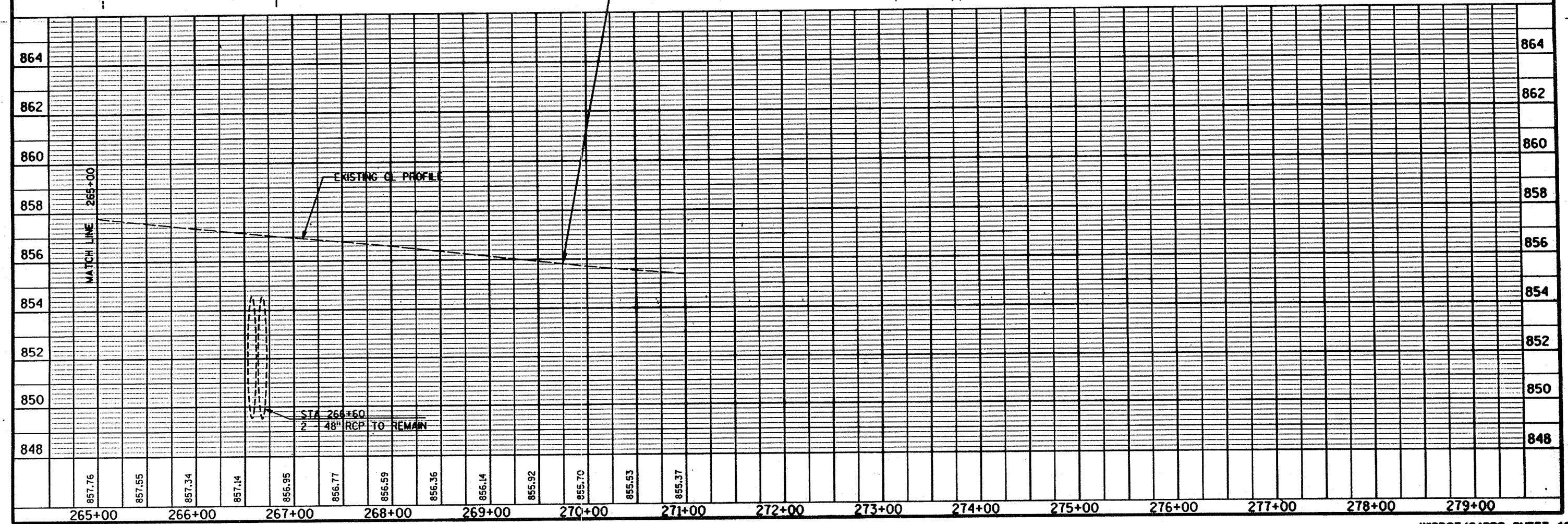
**LEGEND**

- SILT FENCE
- MEDIUM RANDOM RIPRAP
- EROSION BALES
- SOD
- DRAINAGE FLOW ARROW

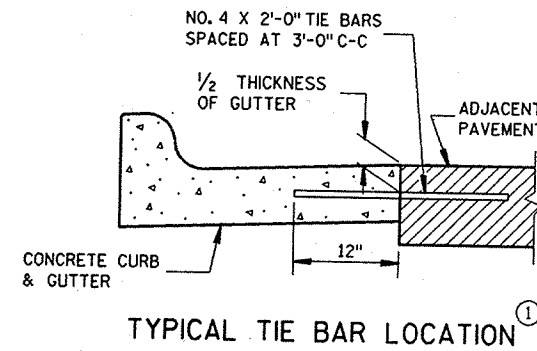
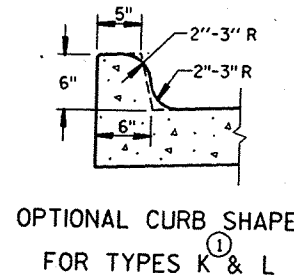
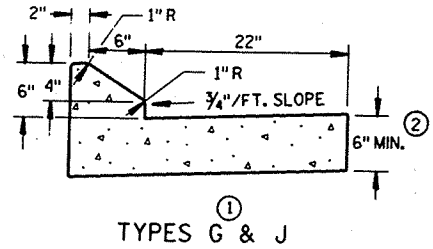
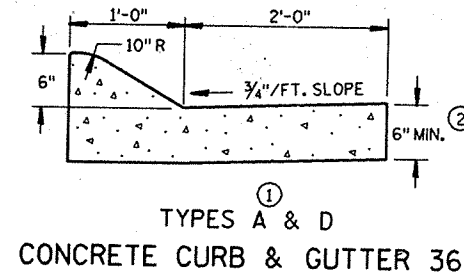
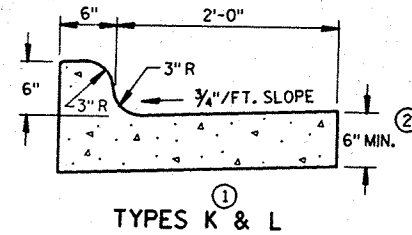
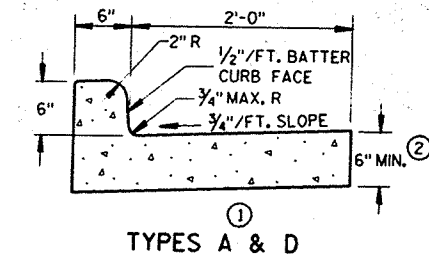


**BENCH MARKS**

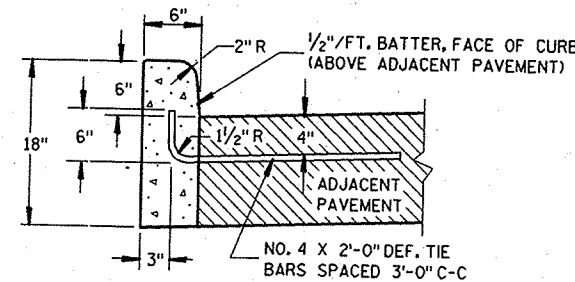
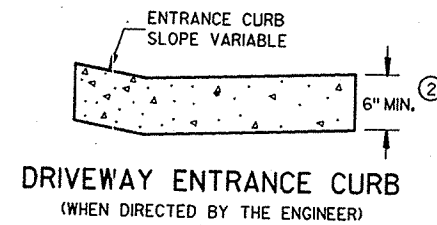
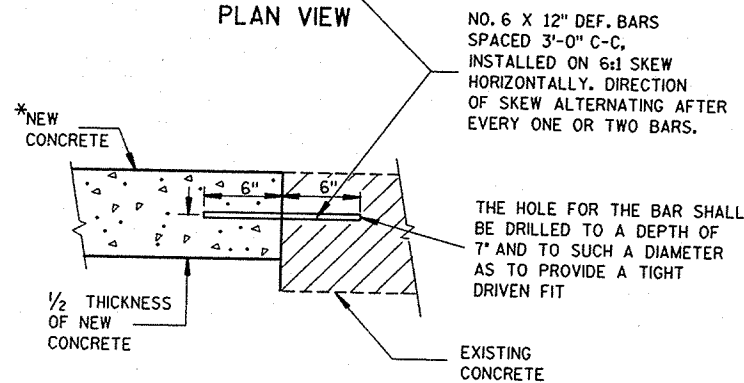
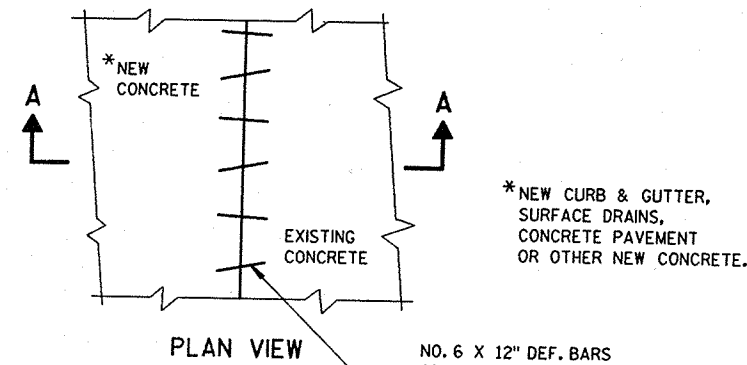
NO.	STATION	DESCRIPTION	ELEV.
BM-3	266+85, RT	PK IN POWER POLE #79-2346, S SIDE OF USH 10	855.95



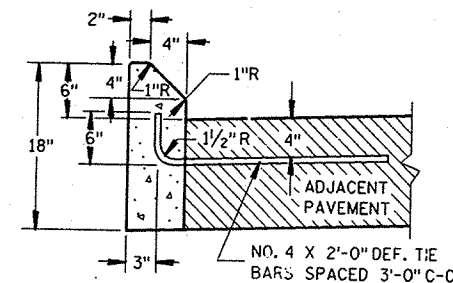
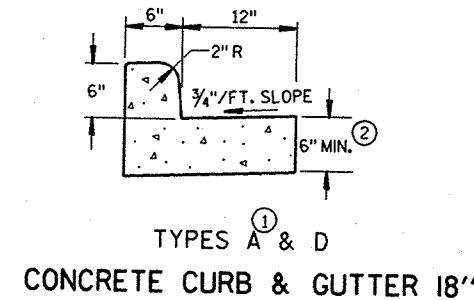




CONCRETE CURB & GUTTER 30"



CONCRETE CURB



## 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.

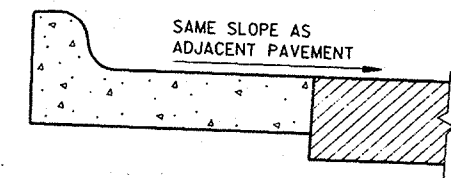
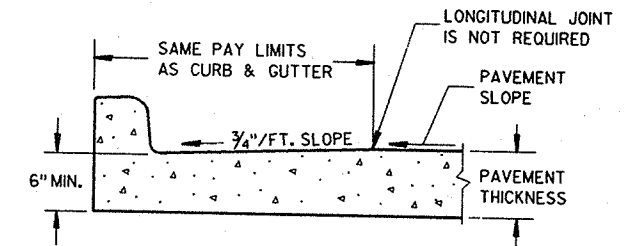
INTEGRAL CURB & GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB & GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE. TIE BARS AND A LONGITUDINAL CONSTRUCTION JOINT ARE NOT REQUIRED WITH THIS ALTERNATE.

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.



(TYPICAL FOR ALL CURB & GUTTER TYPES)

CONCRETE CURB, CONCRETE  
CURB & GUTTER AND  
PAVEMENT TIES

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

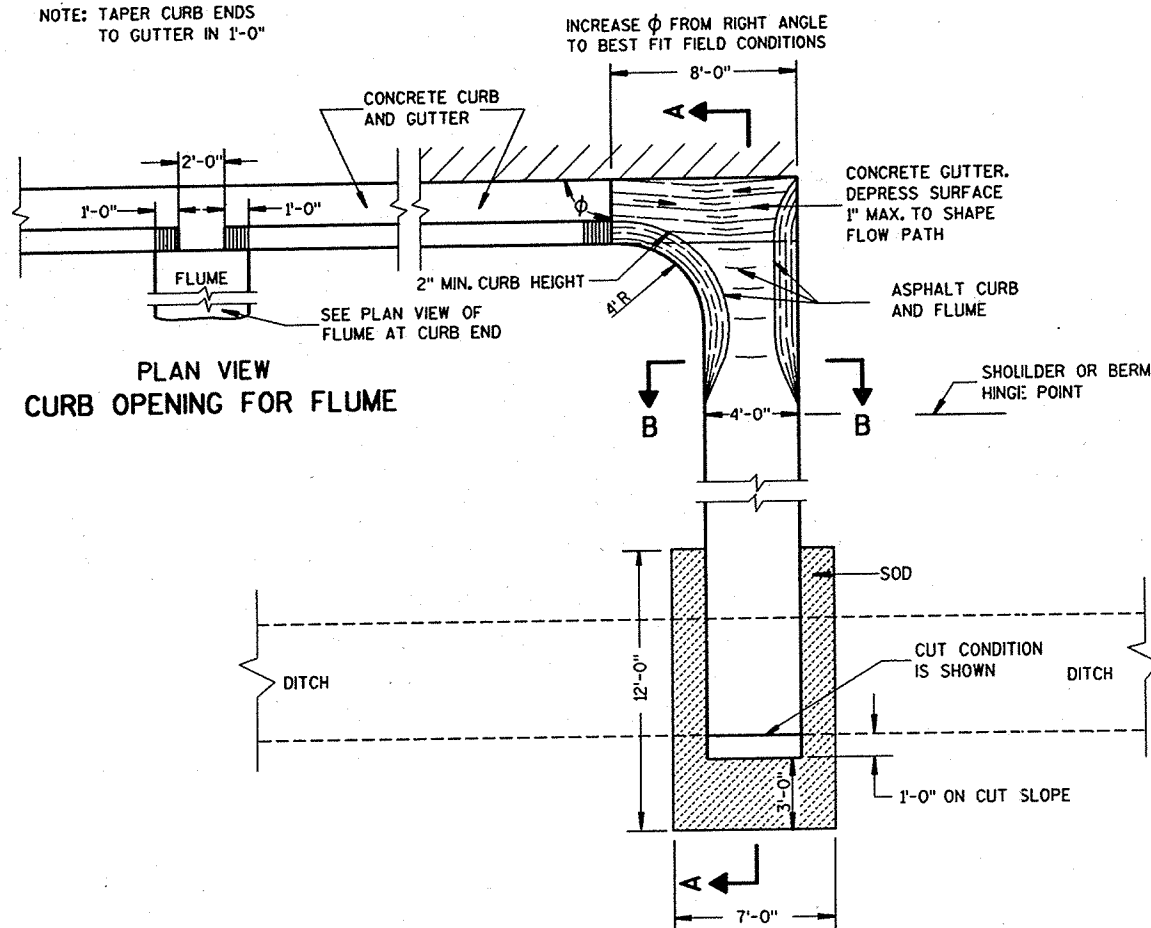
10-23-86

DATE

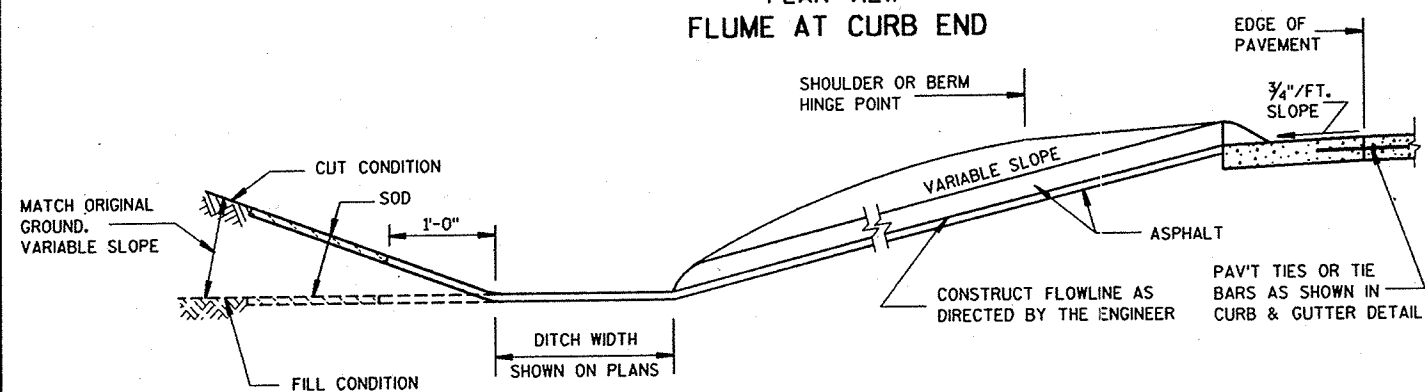
FHWA

STATE DESIGN ENGINEER FOR HWYS

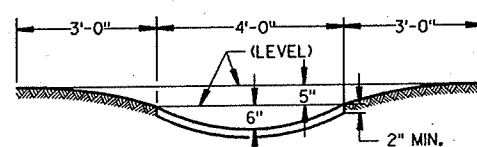
NOTE: TAPER CURB ENDS  
TO GUTTER IN 1'-0"



PLAN VIEW  
FLUME AT CURB END



SECTION A-A



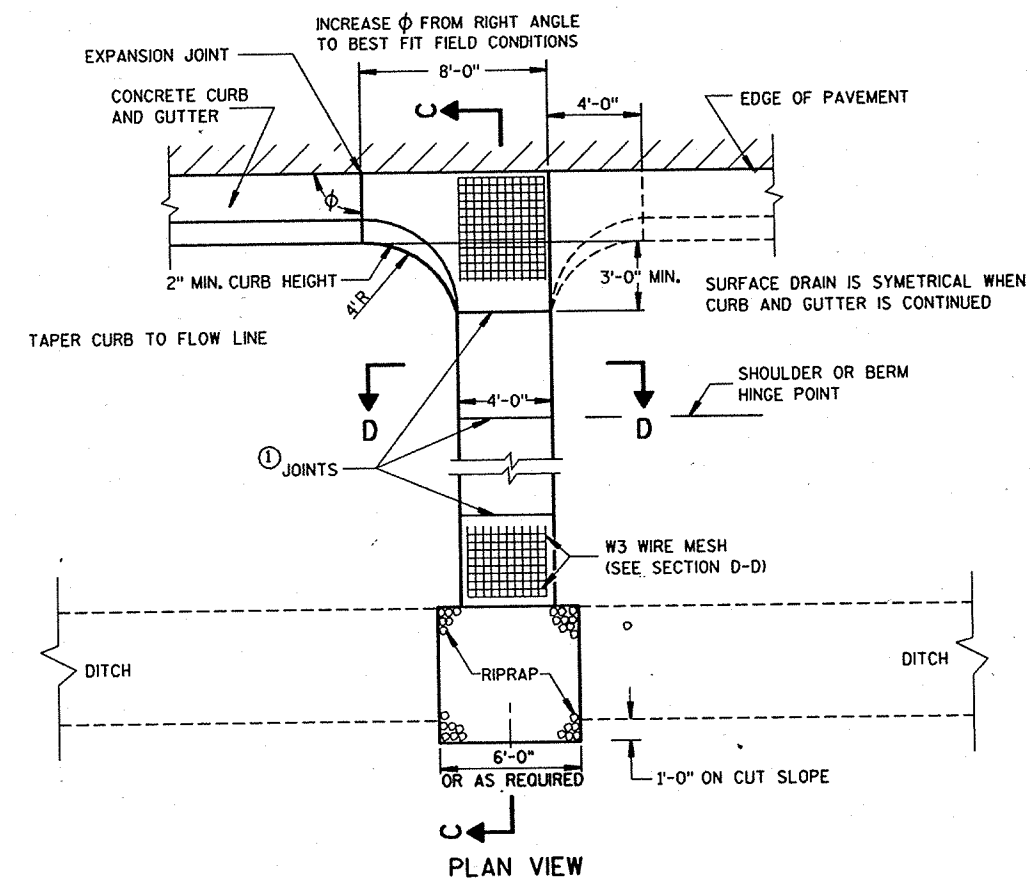
**SECTION B-B**

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

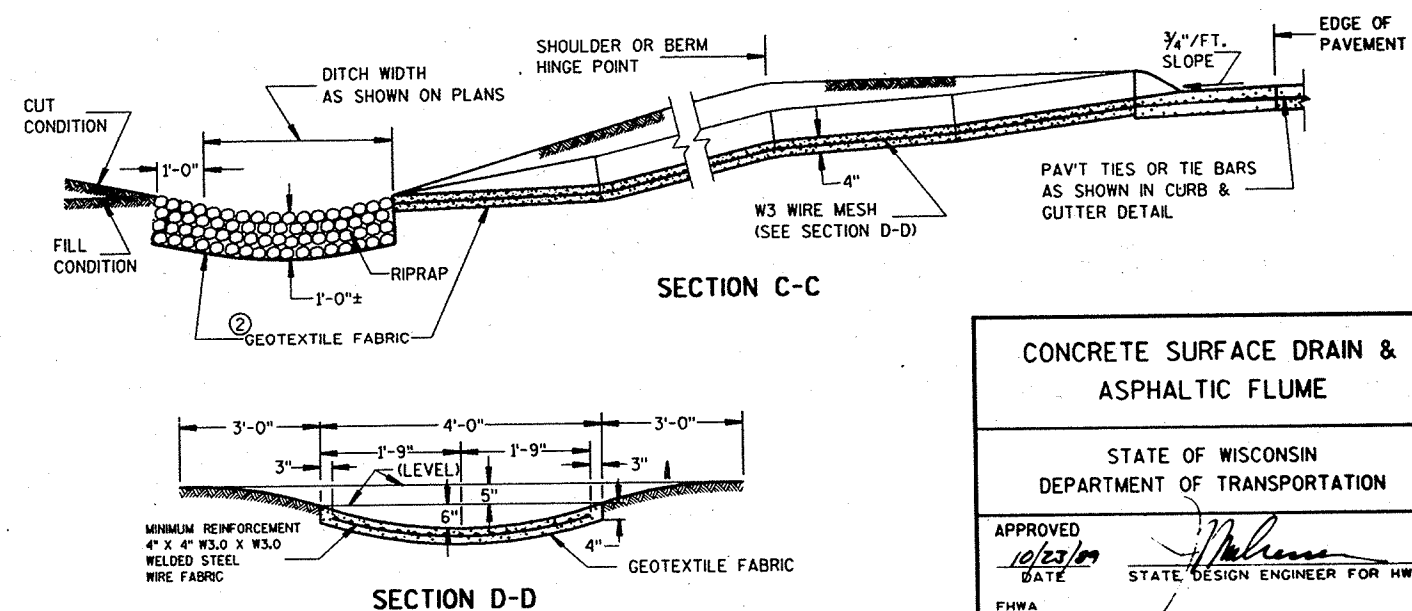
WELDED STEEL WIRE FABRIC SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

- ① JOINTS SHALL BE  $\frac{1}{8}$  TO  $\frac{1}{4}$  INCH WIDE BY  $1\frac{1}{2}$  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



SECTION C-C



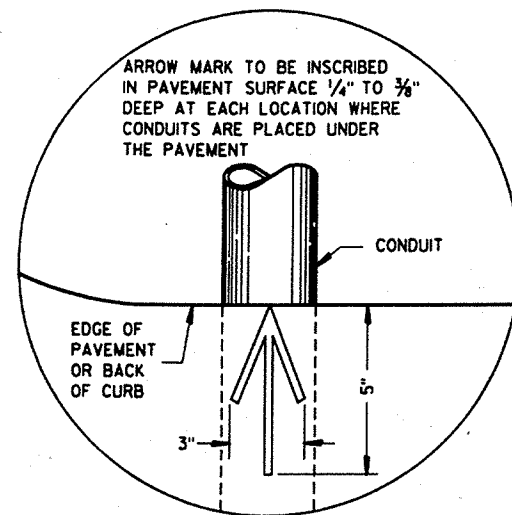
## CONCRETE SURFACE DRAIN & ASPHALTIC FLUME

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

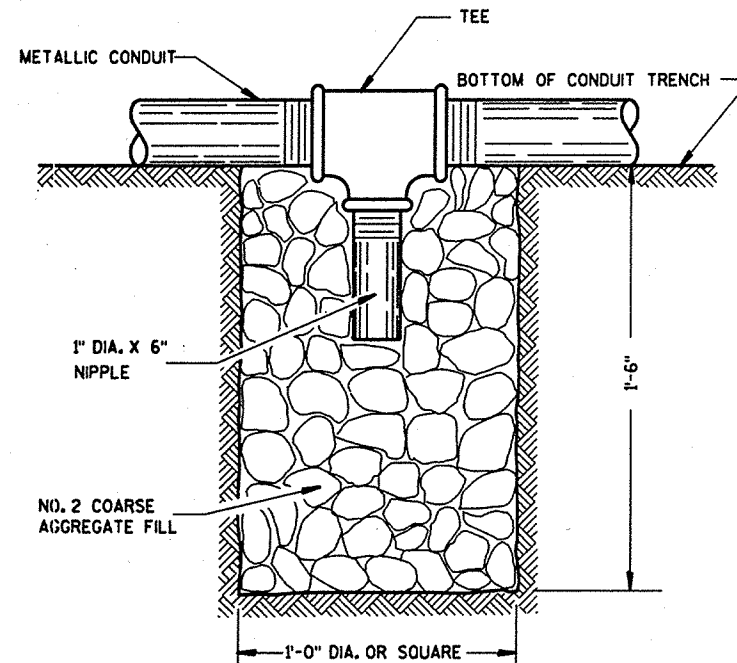
APPROVED  
10/23/89  
DATE  
FHWA

  
STATE DESIGN ENGINEER FOR HWYS



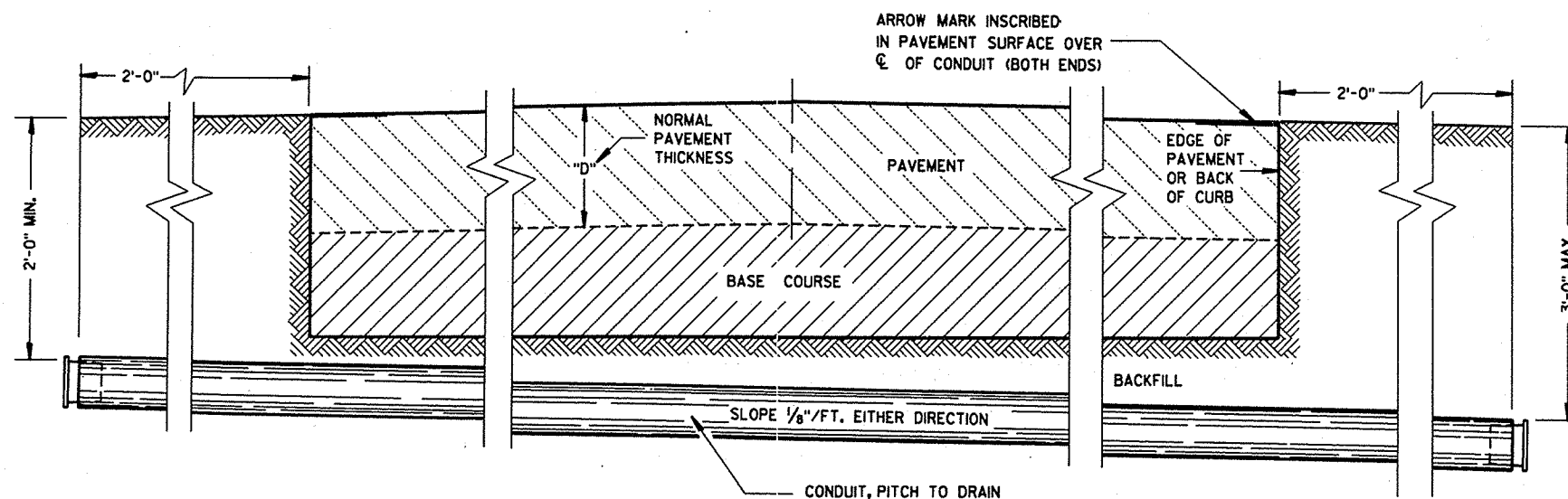


PLAN VIEW  
ARROW MARK



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  
DATE  
9/15/92  
DATE  
FWHA

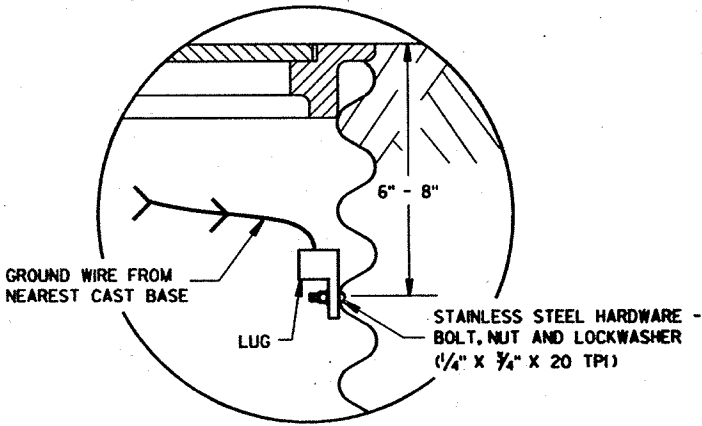
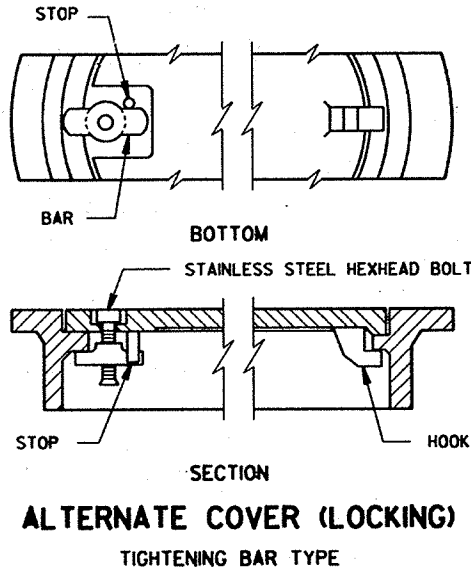
DATE  
9/15/92  
DATE  
STATE ELECTRICAL ENGR FOR HWYS  
STATE TRAFFIC ENGINEER FOR HWYS

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)



GROUNDING LUG AND LOCATION IN STEEL PULL BOXES

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.

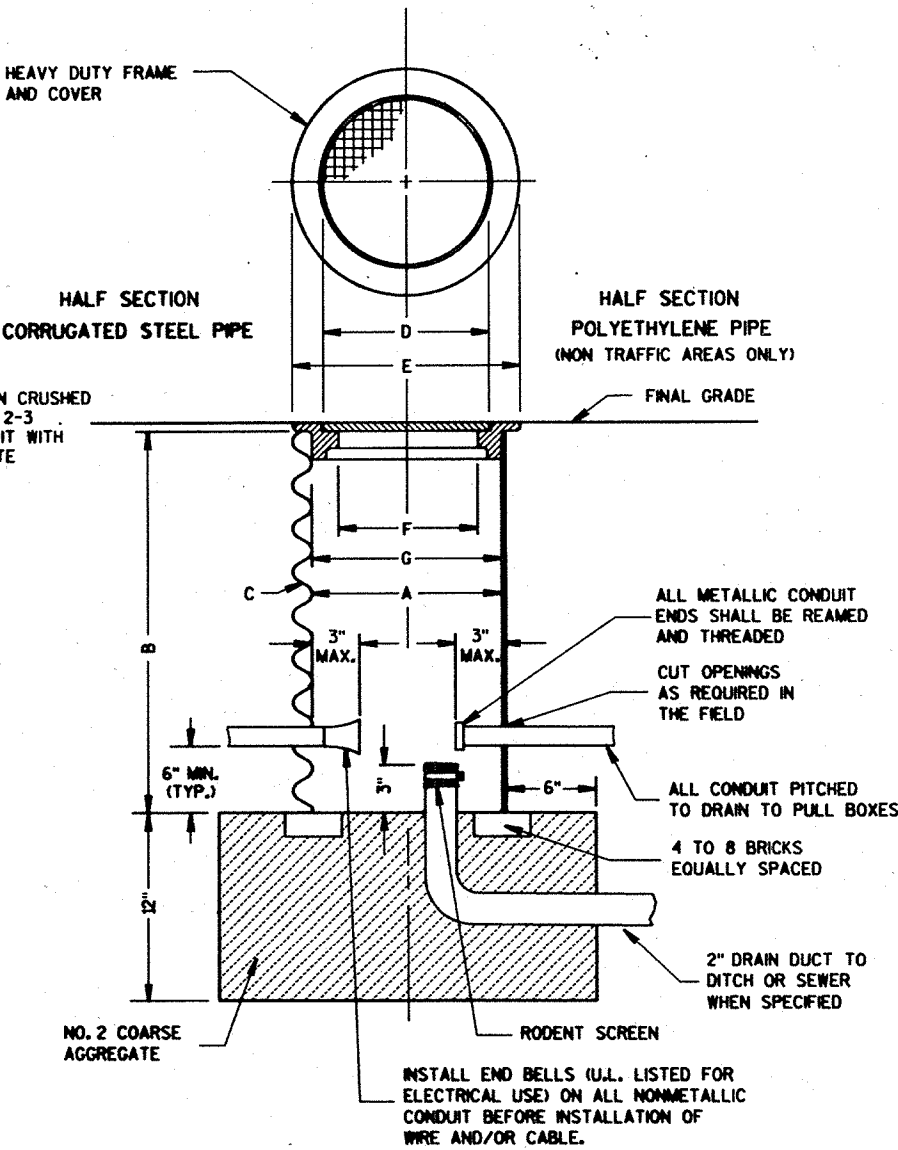
GROUNDING LUGS ARE NOT REQUIRED IN PULL BOXES WHEN VOLTAGES OF LESS THAN 50 VOLTS AC ARE THE ONLY VOLTAGES ENCOUNTERED IN THE BOXES.

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.

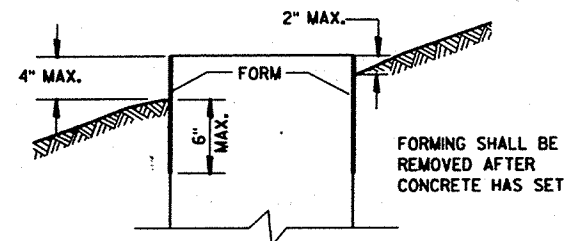
WHEN A PULL BOX IS INSTALLED IN CRUSHED AGGREGATE SHOULDERS, PLACE IT 2-3 INCHES BELOW GRADE AND COVER IT WITH 2-3 INCHES OF CRUSHED AGGREGATE



PULL BOX

PULL BOX	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 4/21/93 DATE	<i>Bahn</i> STATE ELECTRICAL ENGR FOR HWYS
4/21/93 DATE	<i>Arthur Kussch</i> STATE TRAFFIC ENGINEER FOR HWYS
FHWA	

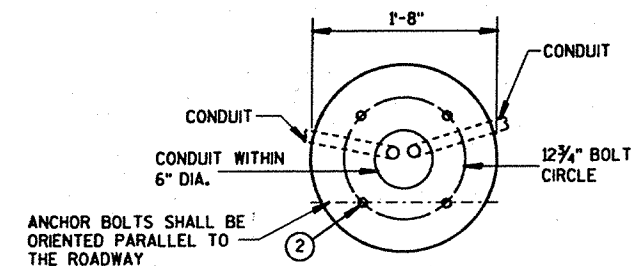
FORM DEPTH SHALL BE NO MORE THAN 6" BELOW GRADE ON THE LOWER SIDE OF BASE



FORMING DETAIL

QUANTITY REQUIREMENTS	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.



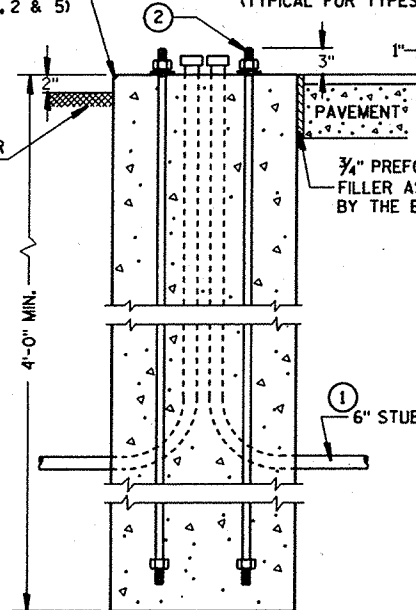
FORM ALL EXPOSED CONCRETE. PROVIDE 1" CHAMFER ALL AROUND

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

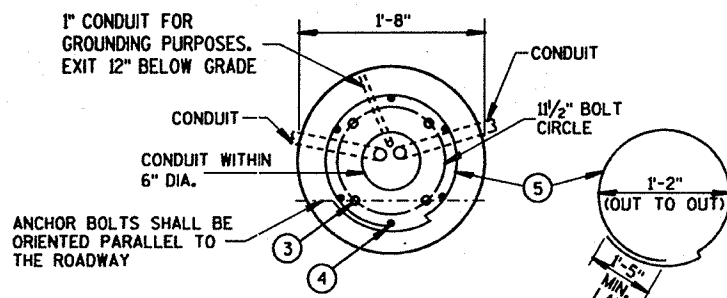
HALF SECTION IN PAVEMENT (TYPICAL FOR TYPES 1, 2 & 5)

TOPSOIL AND SEED OR CRUSHED AGGREGATE

3/4" PREFORMED FILLER AS APPROVED BY THE ENGINEER



TYPE 1



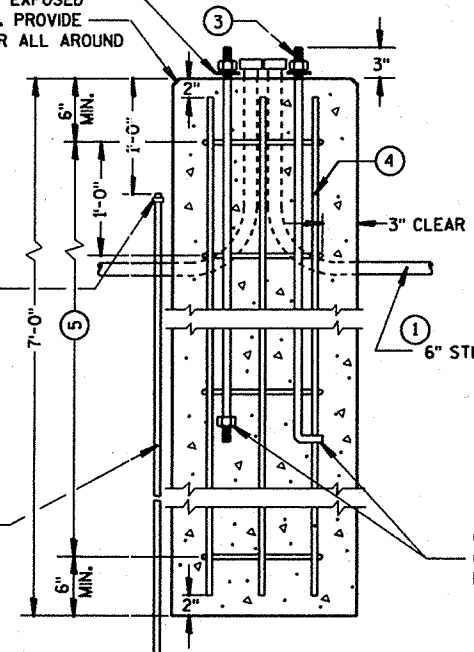
ANCHOR BOLTS SHALL BE ORIENTED PARALLEL TO THE ROADWAY

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



TYPE 2

CADWELDED CONNECTION FOR GROUNDING WIRE

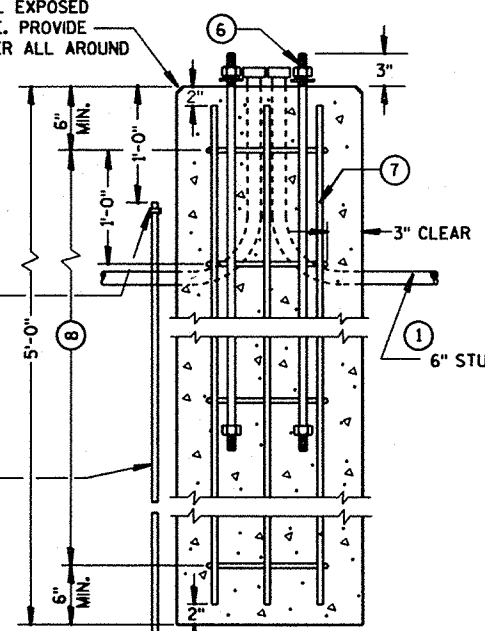
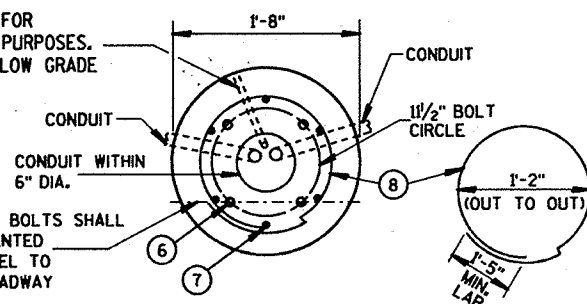
5/8" DIA. X 8'-0" COPPERCLAD GROUND ROD REQUIRED

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

FORM ALL EXPOSED CONCRETE. PROVIDE 1" CHAMFER ALL AROUND

1" CONDUIT FOR GROUNDING PURPOSES. EXIT 12" BELOW GRADE

ANCHOR BOLTS SHALL BE ORIENTED PARALLEL TO THE ROADWAY



TYPE 5

## 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

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

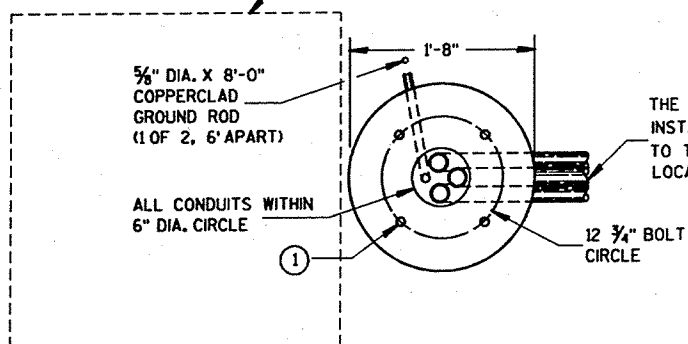
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4/21/93  
DATE  
4/21/93  
DATE

STATE ELECTRICAL ENGR FOR HWYS  
STATE TRAFFIC ENGINEER FOR HWYS

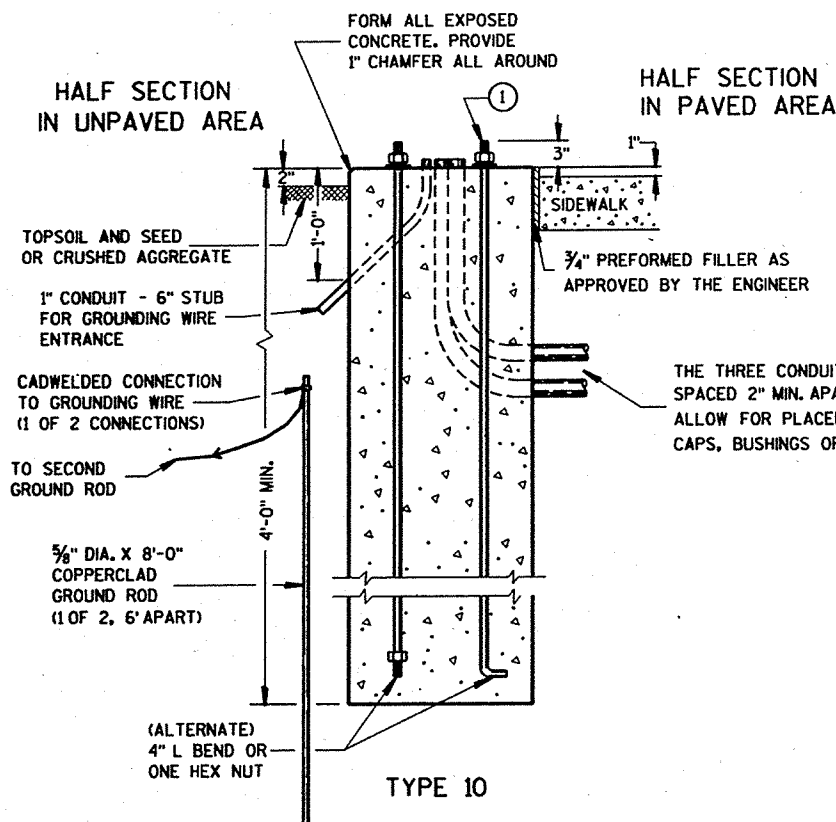
FHWA

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

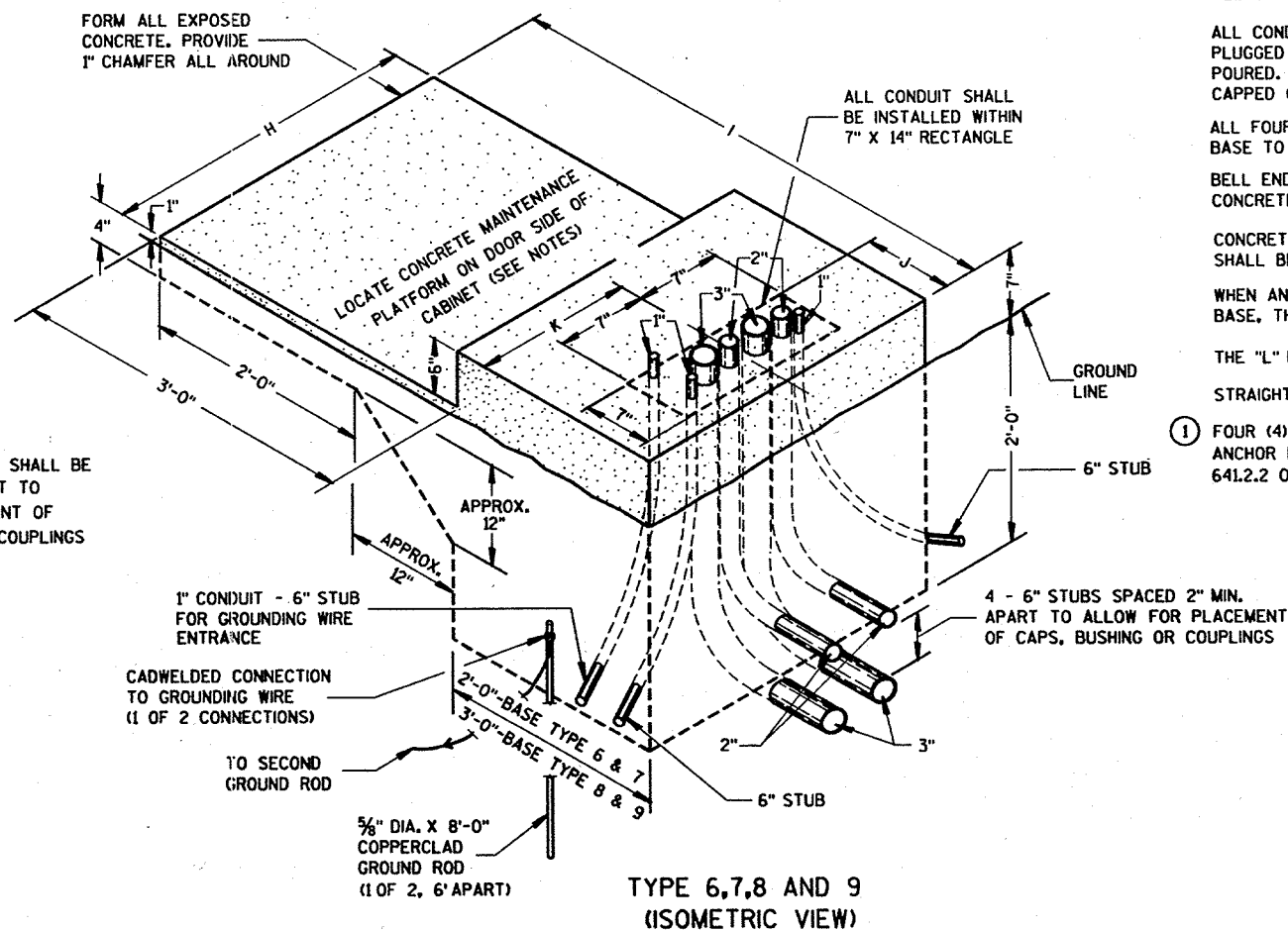
TYPICAL 3'-0" X 3'-0"  
MAINTENANCE PLATFORM.  
LOCATION TO BE DETERMINED  
IN THE FIELD.



### 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 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.

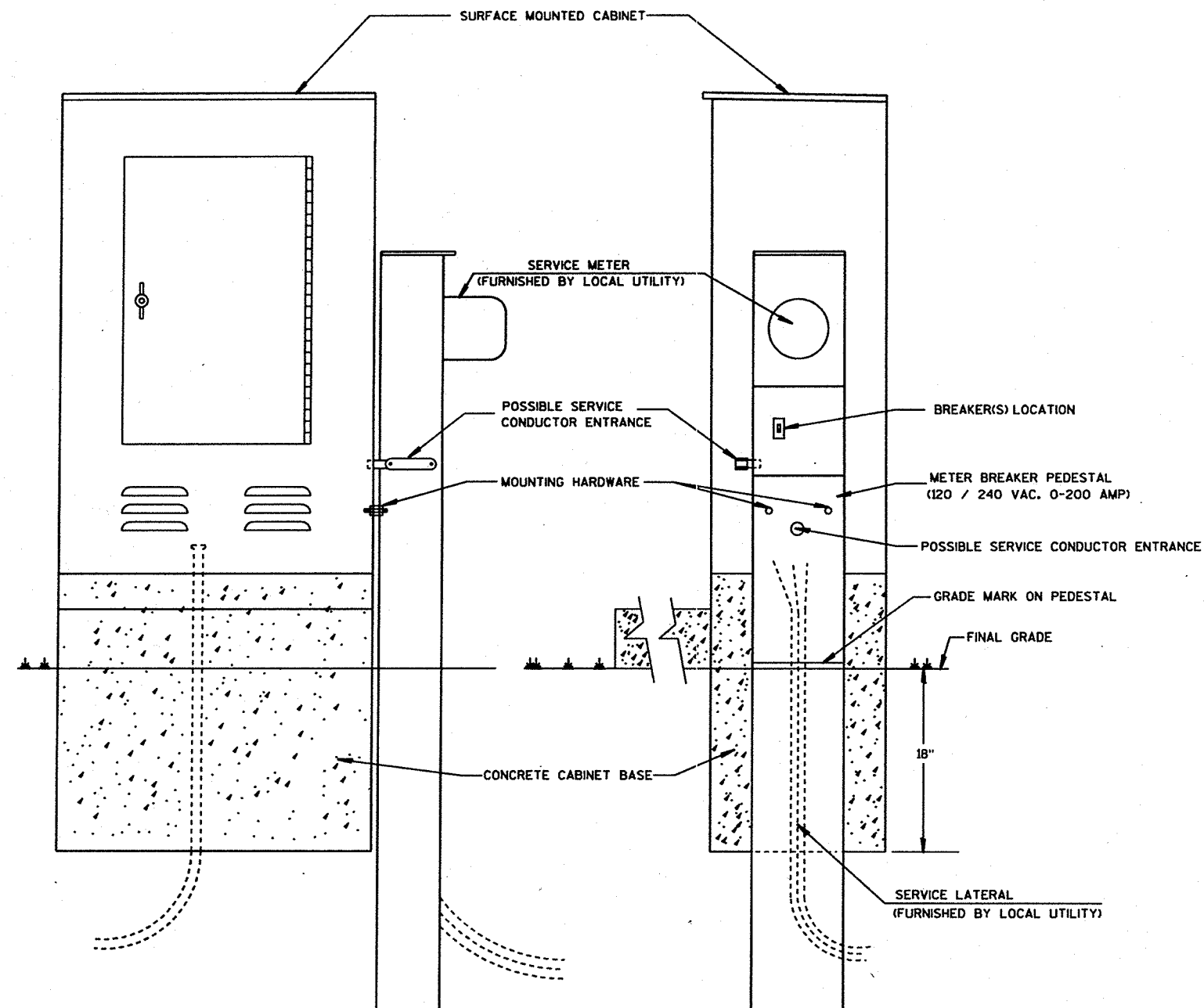
① FOUR (4) ANCHOR BOLTS, 1" DIA. X 3'-6" ANCHOR BOLTS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 640.2.9 AND 641.2.2 OF THE STANDARD SPECIFICATIONS AND IN ACCORDANCE WITH A-449.

### CONCRETE CONTROL CABINET BASES

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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



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.

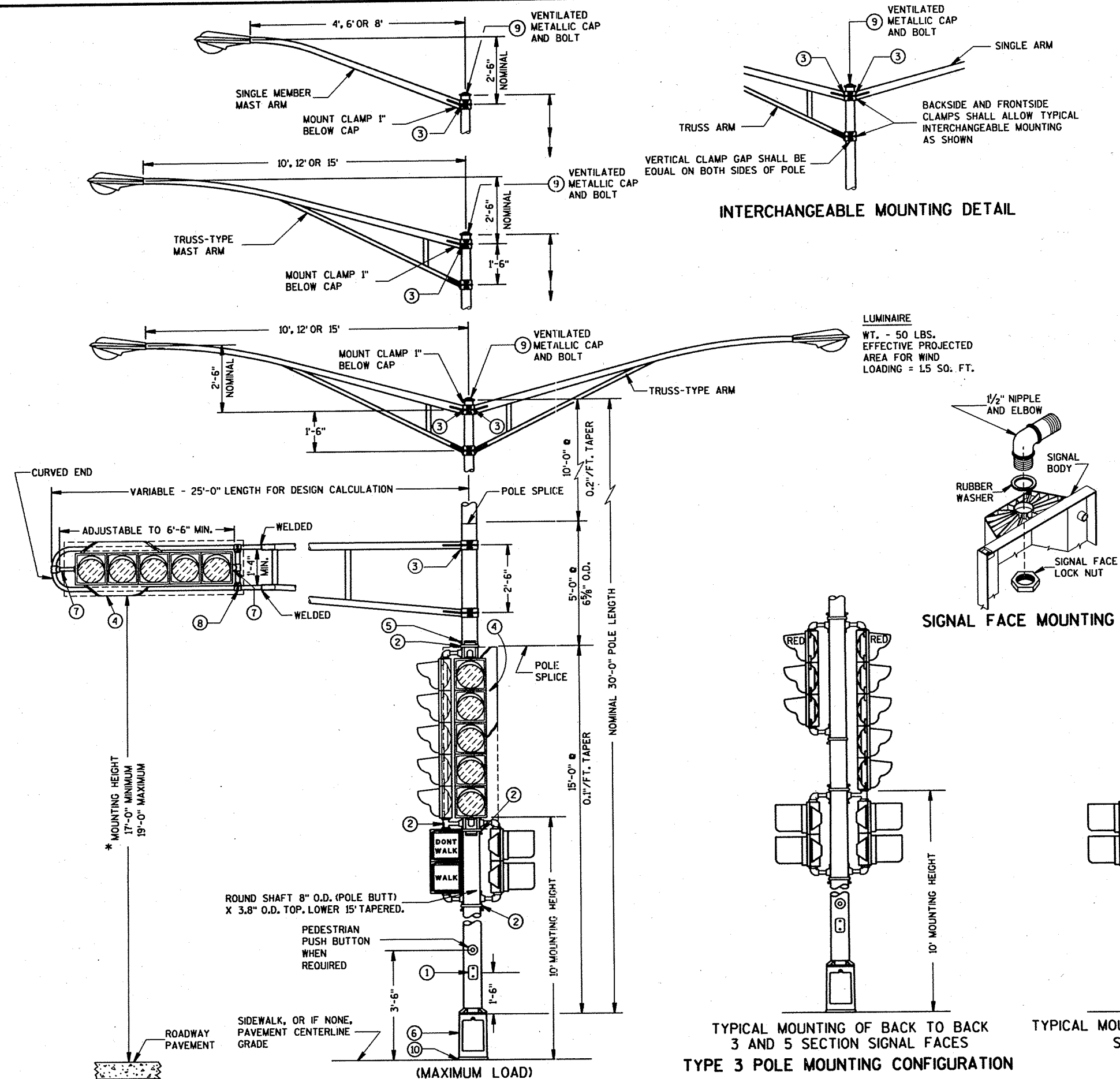
SERVICE CONDUCTOR ENTRANCES SHALL BE SIZED AS REQUIRED AND IN ACCORDANCE WITH APPROPRIATE ARTICLES OF THE LATEST ACCEPTED NATIONAL ELECTRICAL CODE.

## CABINET SERVICE INSTALLATION

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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

*Bala*  
STATE ELECTRICAL ENGR FOR HWYS  
*Chen*  
STATE TRAFFIC ENGINEER FOR HWYS



### GENERAL NOTES

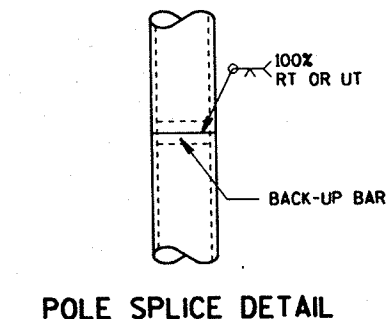
ALL LUMINAIRE POLE MOUNTINGS SHALL BE DESIGNED FOR TWIN 15' ARMS WITH LUMINAIRES.

THE SLIPFITTER END OF THE LUMINAIRE MAST ARM SHALL BE A NOMINAL 2 3/8 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 3/8" 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.

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



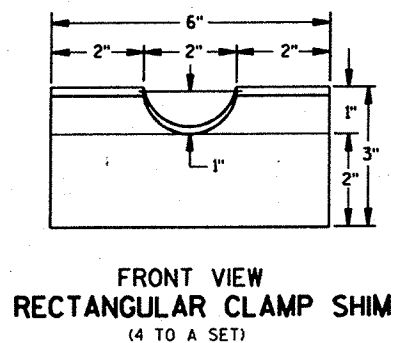
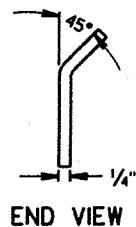
### POLE SPLICE DETAIL

NOTE:  
SHEET SDD 9 E 1-10 IS REQUIRED WHEN THIS  
DRAWING IS CALLED FOR IN THE PLANS.

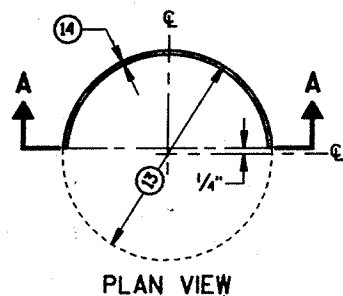
POLE MOUNTINGS FOR  
TRAFFIC SIGNALS AND  
LIGHTING UNITS, TYPE 3

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DEPARTMENT OF TRANSPORTATION

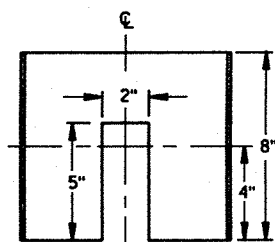
S.D.D. 9 E 1-1b



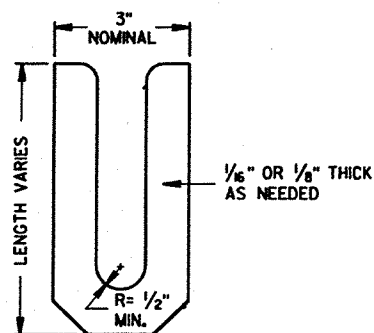
FRONT VIEW  
RECTANGULAR CLAMP SHIM  
(4 TO A SET)



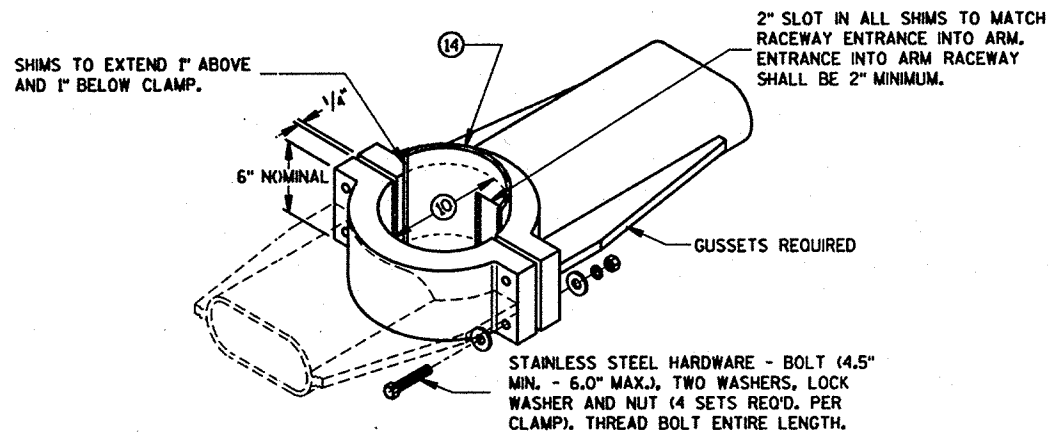
PLAN VIEW



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



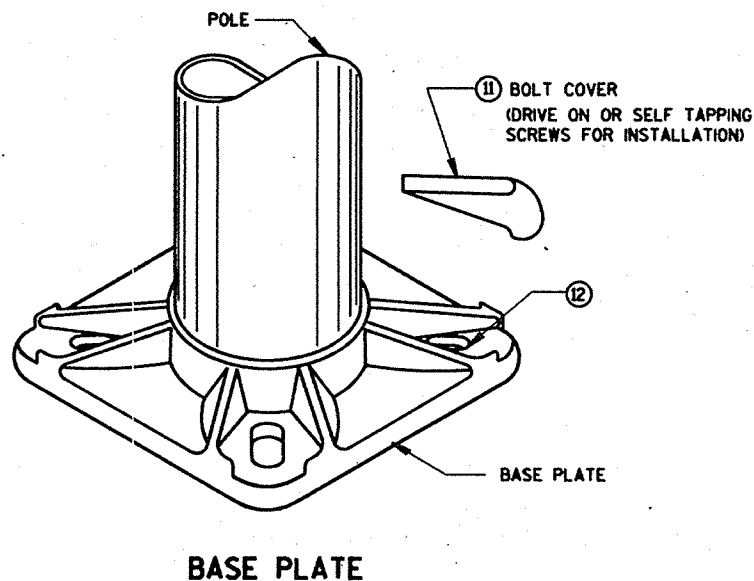
LEVELING SHIM (15)



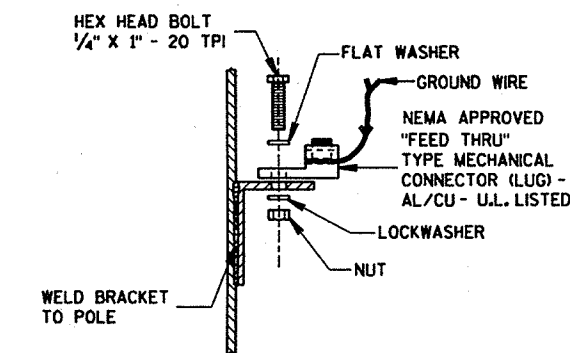
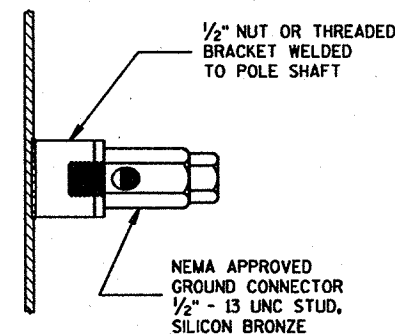
TYPICAL TROMBONE MAST ARM AND  
LUMINAIRE MAST ARM MOUNTING CLAMP

### 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 1" 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.

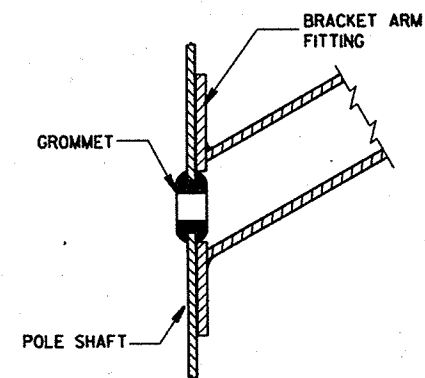


BASE PLATE

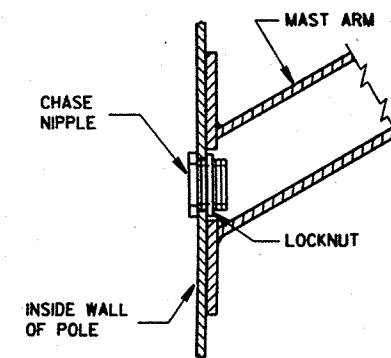


TYPICAL GROUNDING CONNECTIONS

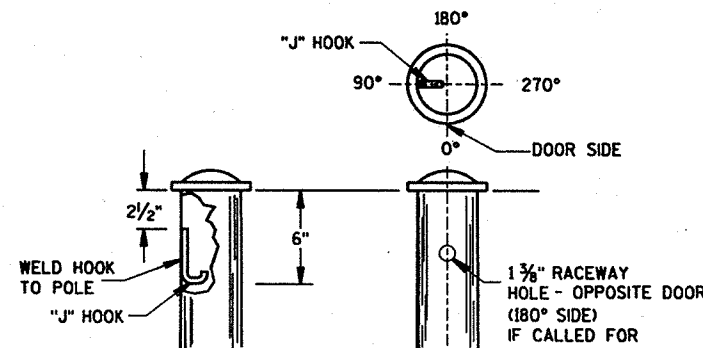
NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL



TYPICAL APPLICATION OF  
GROMMET IN POLE SHAFT



TYPICAL APPLICATION OF  
CHASE NIPPLE IN POLE SHAFT



TYPICAL "J" HOOK LOCATION

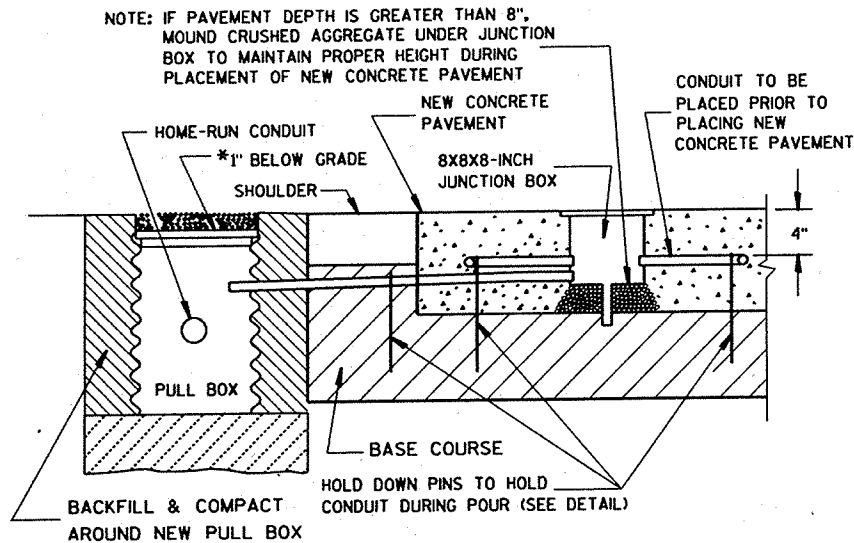
NOTE:  
THIS DRAWING IS REQUIRED WHEN DRAWINGS  
SDD 9 E 1-a, b, c, OR d IS CALLED FOR IN  
THE PLANS.

### HARDWARE DETAILS FOR POLE MOUNTINGS

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

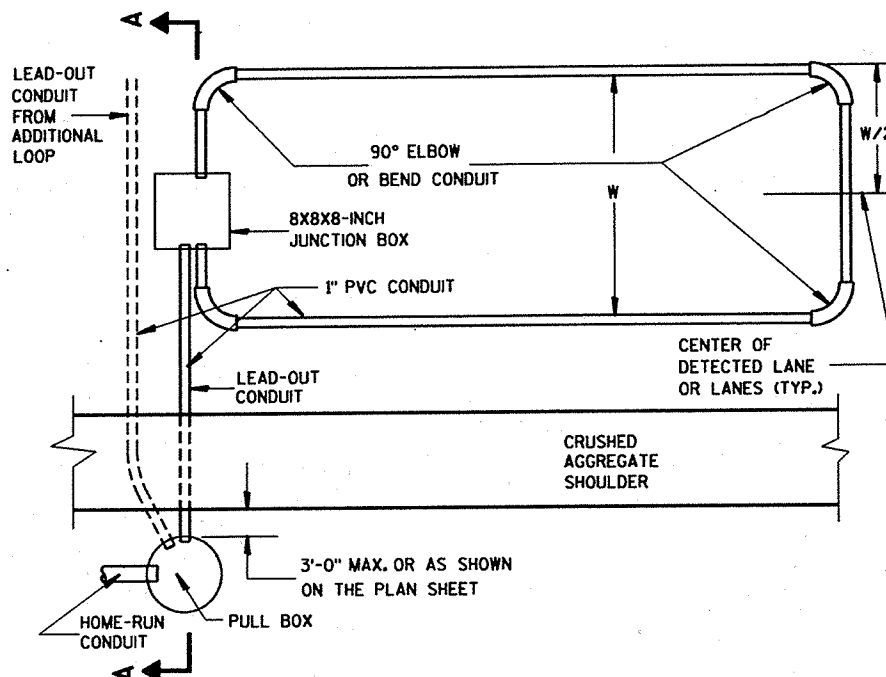
APPROVED  
9/21/93 DATE  
4/21/93 DATE  
STATE ELECTRICAL ENGR FOR HWYS  
STATE TRAFFIC ENGINEER FOR HWYS  
FHWA





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  
WITH 8X8X8-INCH JUNCTION BOX

## 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.

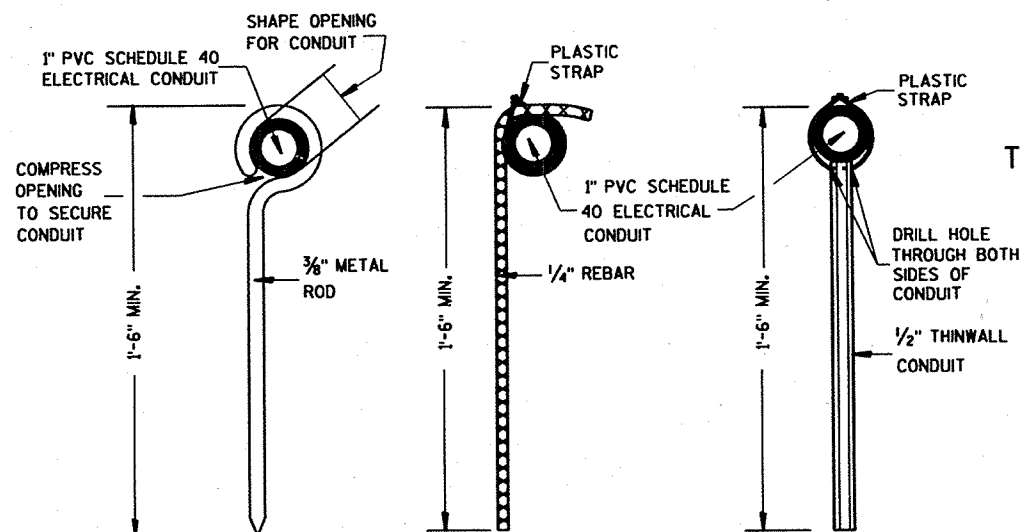
LOOP DETECTOR LEADS SHALL BE IDENTIFIED WITH THEIR ASSOCIATED LOOP BY USE OF WATERPROOF TAGS AT BOTH ENDS OF THE CABLE. A LISTING OF THE CABLE IDENTIFICATION PER INDIVIDUAL LOOP LEAD-IN SHALL BE PLACED IN THE CABINET.

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.

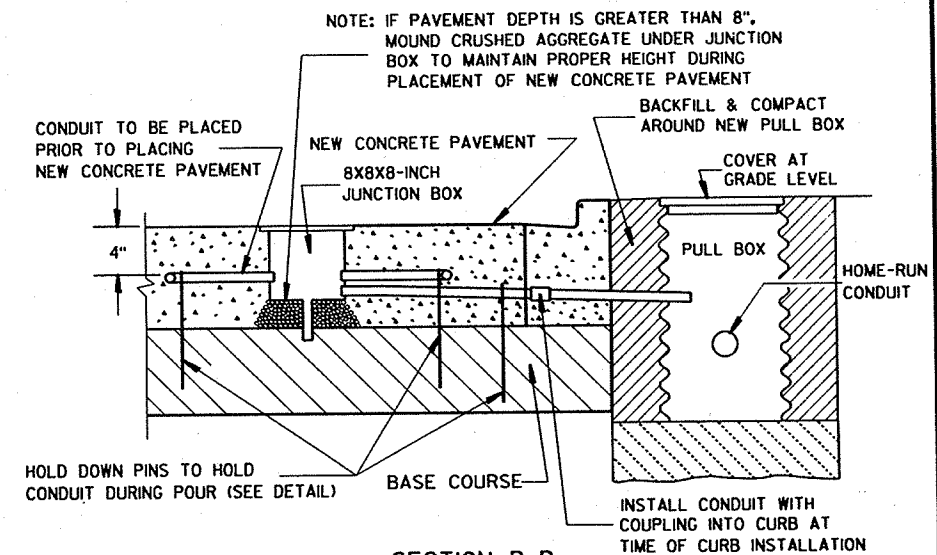
SPLICES OF LOOP WIRE TO LEAD-IN CABLE SHALL BE MADE ONLY IN PULL BOXES AT THE SIDE OF THE ROAD.

THE #12 AWG LOOP WIRE SHALL BE INSTALLED FROM THE 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.

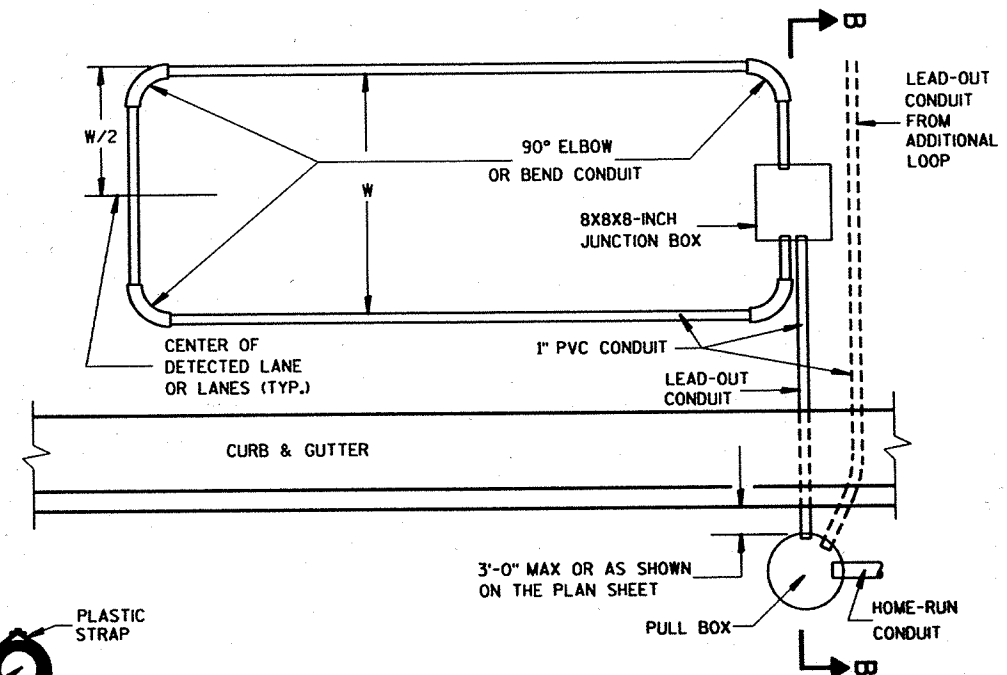
PROTECTION OF THE JUNCTION BOX AND RELATED CONDUITS SHALL BE REQUIRED AFTER INSTALLATION AND BEFORE NEW CONCRETE PAVEMENT IS POURED.



TYPICAL DETAILS FOR HOLD DOWN PINS



SECTION B-B  
CURB & GUTTER  
LOOP DETECTOR INSTALLATION DETAIL



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

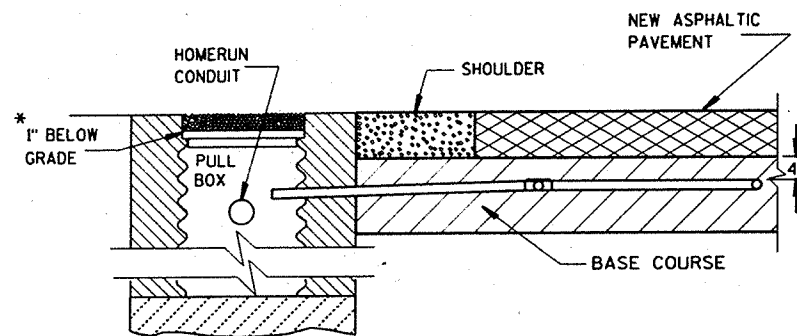
LOOP DETECTOR INSTALLED  
IN NEW CONCRETE PAVEMENT  
8X8X8-INCH JUNCTION BOX  
(MULTIPLE LEAD-OUT)

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
4/21/93  
DATE  
4/21/93  
DATE  
FWHA

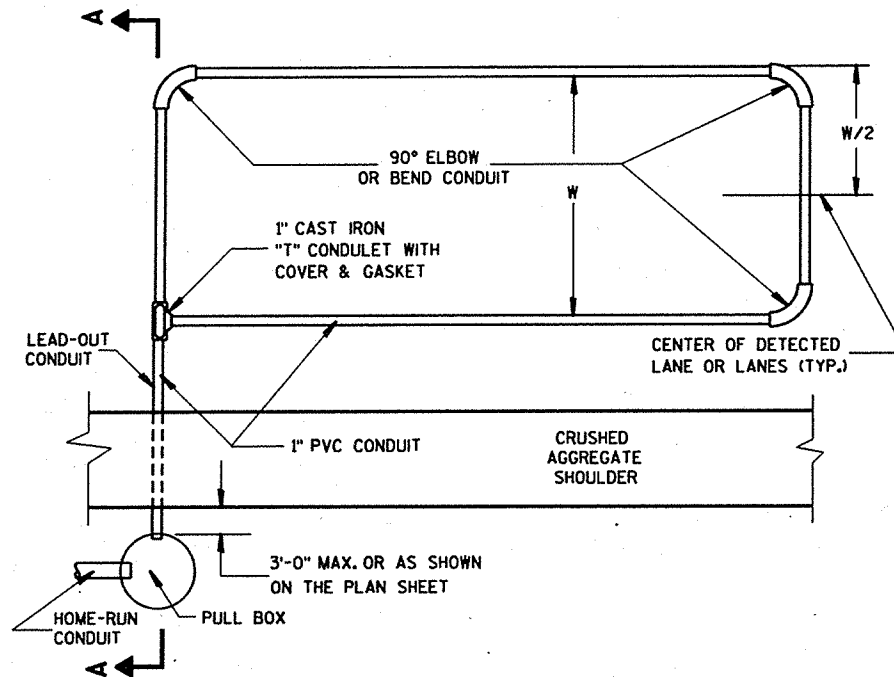
*John A. ...*  
STATE ELECTRICAL ENGR FOR HWYS

*John ...*  
STATE TRAFFIC ENGINEER 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.



TYPICAL PLAN OF LOOP DETECTOR

## GENERAL NOTES

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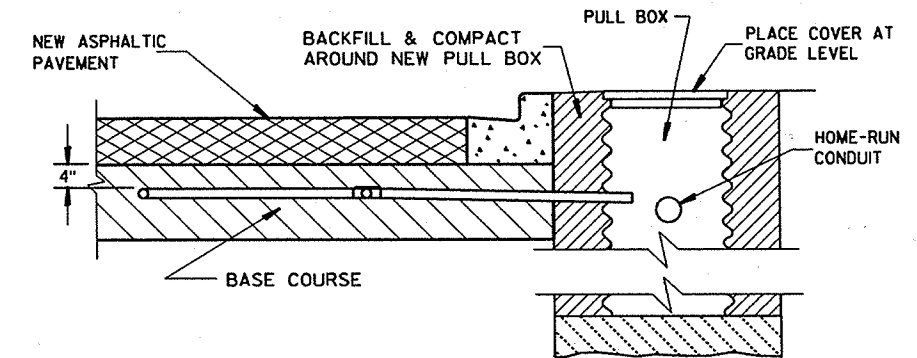
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PROTECTION OF THE CONDUIT AND CONDULET SHALL BE REQUIRED AFTER INSTALLATION AND BEFORE THE ASPHALTIC PAVEMENT IS PLACED.

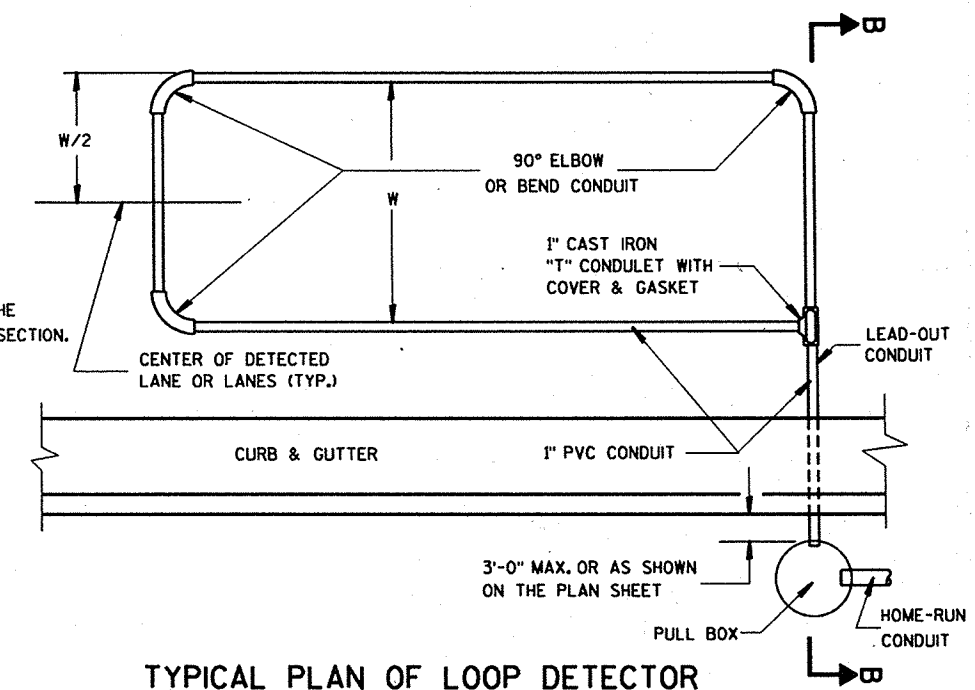
WHEN MULTIPLE LAYERS OF ASPHALTIC PAVEMENT ARE TO BE PLACED, LOOPS MAY BE INSTALLED BY SAWING A TWO INCH WIDE SLOT IN THE FIRST LAYER, DIG OUT THE ASPHALTIC MATERIAL AND BASE COURSE, PLACE THE LOOP, FILL THE SLOT WITH BASE COURSE MATERIAL AND NEW ASPHALTIC MATERIAL AND TAMP THE ASPHALTIC MATERIAL IN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

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

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

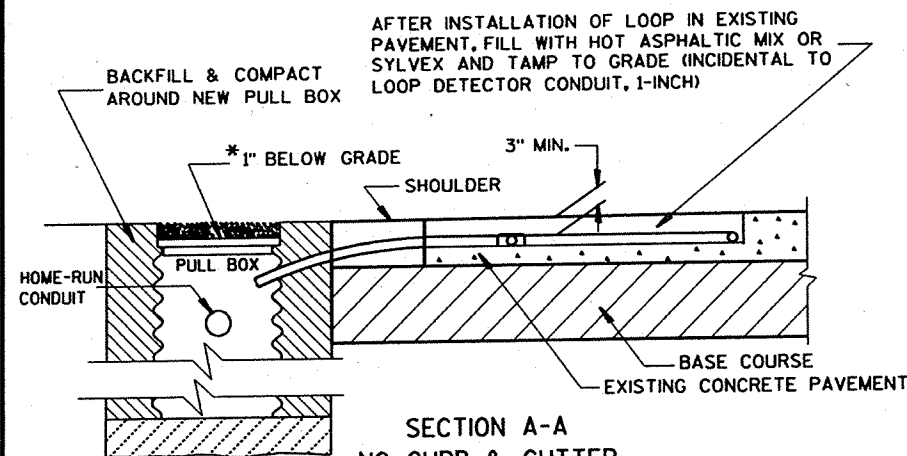
APPROVED

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DATE

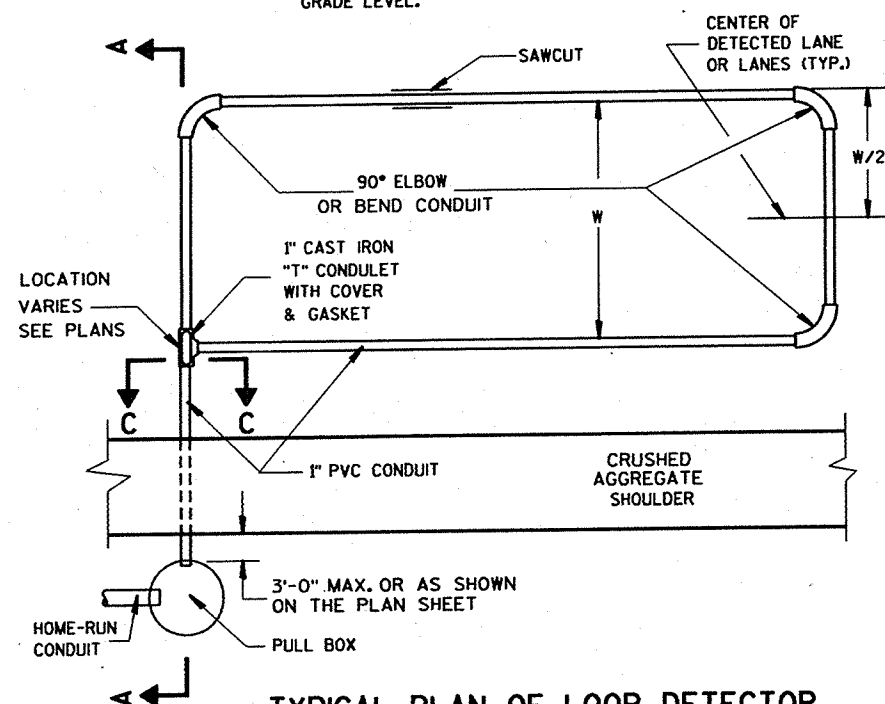
FHWA

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

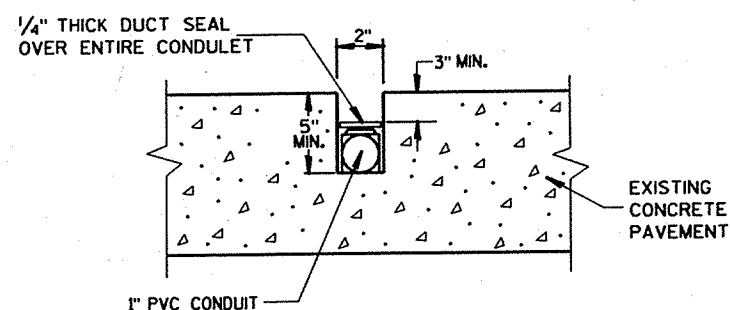


SECTION A-A  
NO CURB & GUTTER  
LOOP DETECTOR INSTALLATION DETAIL

\*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 LOOP DETECTOR



SIDE VIEW  
SECTION C-C  
LOOP DETECTOR SLOT DETAIL

## GENERAL NOTES

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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 1 INCH CONDUIT IN THE CLEANED OUT SLOT, PLACE SOME OF THE TAR OR EPOXY SEALANT IN THE SLOT TO A DEPTH OF APPROXIMATELY 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.

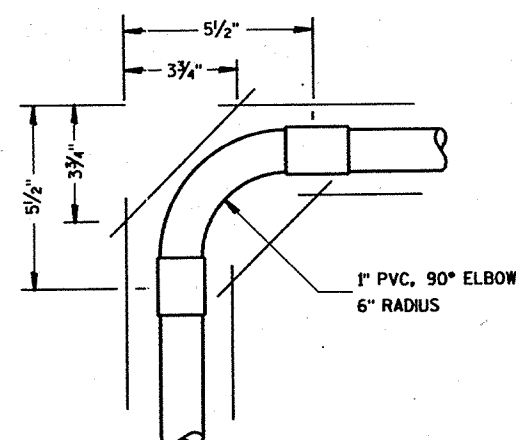
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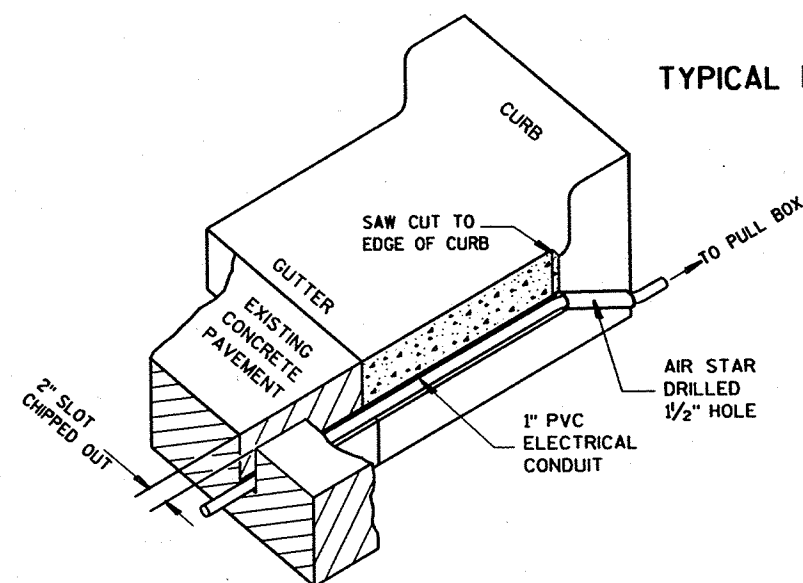
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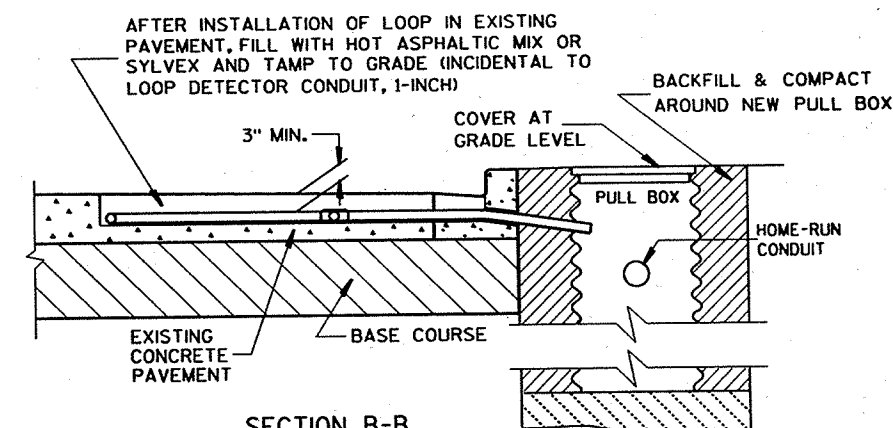
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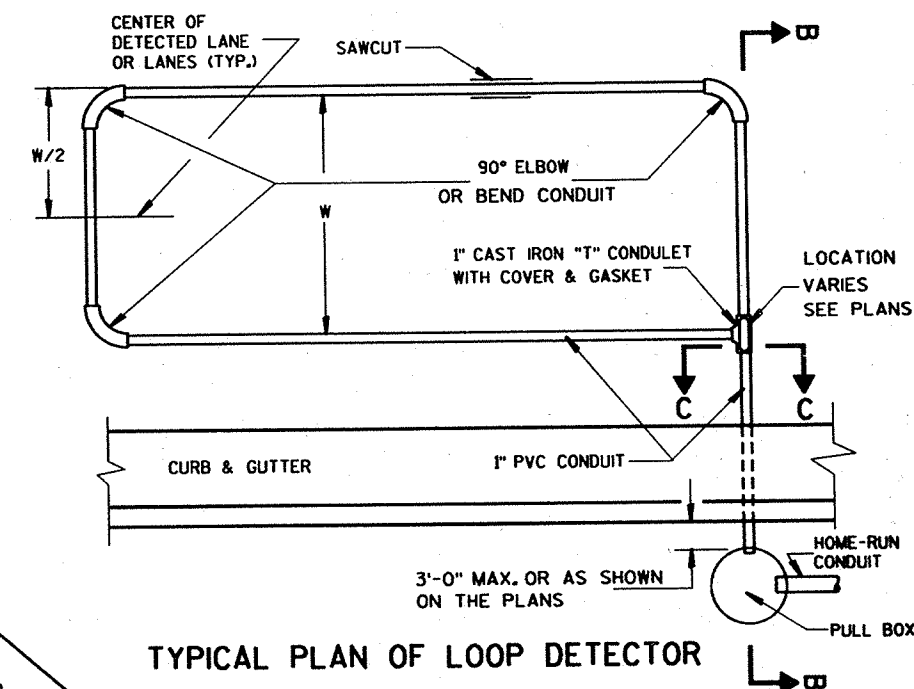
TOP VIEW  
CORNER SAW SLOT DETAIL



ISOMETRIC VIEW  
TYPICAL SAW CUT DETAIL FOR LEAD-IN CONDUIT



SECTION B-B  
CURB & GUTTER  
LOOP DETECTOR INSTALLATION DETAIL



TYPICAL PLAN OF LOOP DETECTOR

LOOP DETECTOR INSTALLED IN  
EXISTING CONCRETE PAVEMENT

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

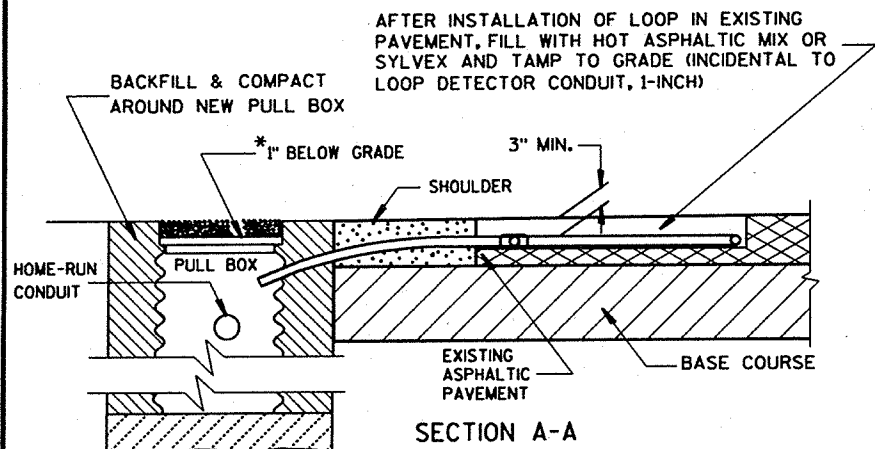
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4/21/93  
DATE

4/21/93  
DATE

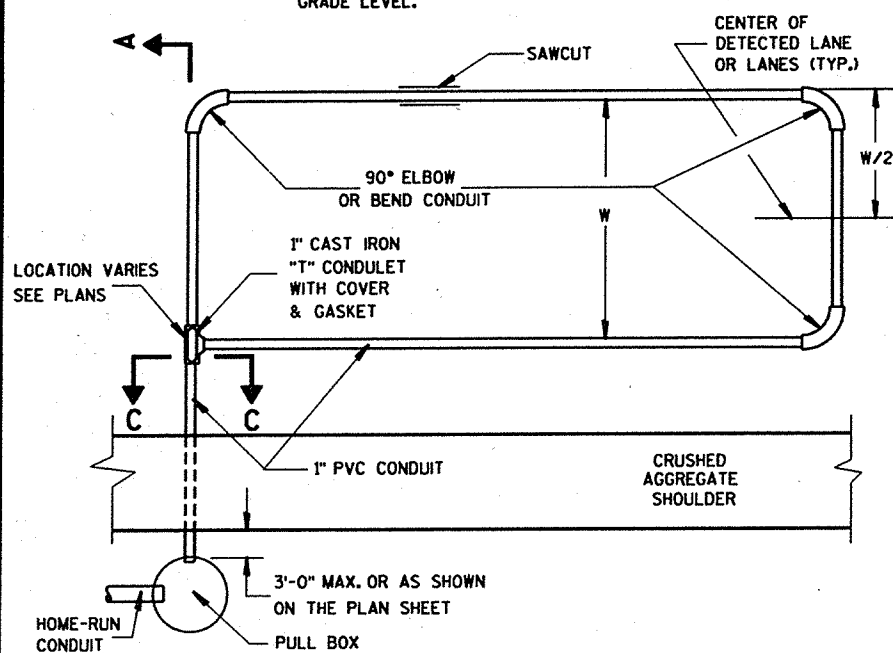
FHWA

STATE ELECTRICAL ENGR FOR HWYS  
STATE TRAFFIC ENGINEER FOR HWYS

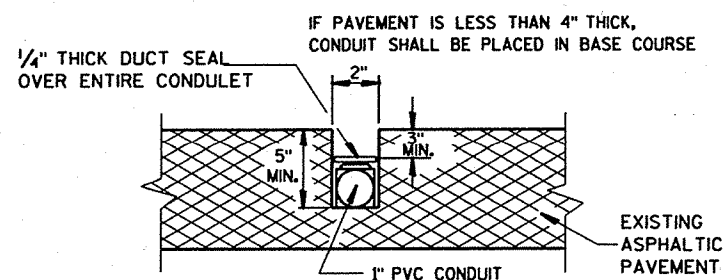


SECTION A-A  
NO CURB & GUTTER  
LOOP DETECTOR INSTALLATION DETAIL

\*RECESS PULL BOX SO THAT THE COVER IS 3\"/>



TYPICAL PLAN OF DETECTOR LOOP



SIDE VIEW  
SECTION C-C  
LOOP DETECTOR SLOT DETAIL

## GENERAL NOTES

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

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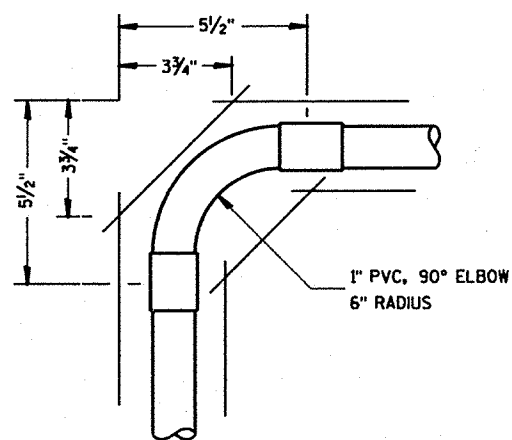
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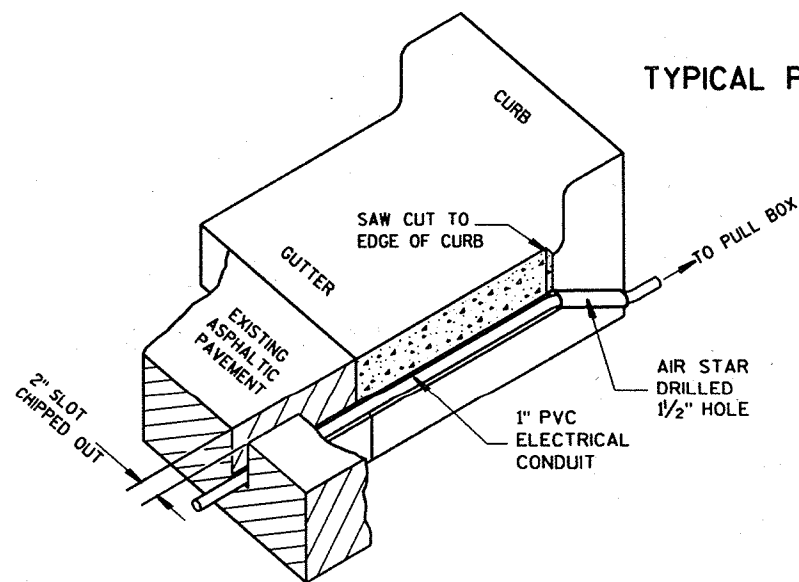
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IN THE EVENT THAT THE EXISTING PAVEMENT IS MORE THAN 5 INCHES THICK, AND THEREFORE, THE 1 INCH CONDUIT DOES NOT REQUIRE INSTALLATION BELOW THE PAVEMENT INTO THE BASE COURSE, PLACE SOME OF THE TAR OR EPOXY SEALANT IN THE SLOT TO A DEPTH OF APPROXIMATELY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

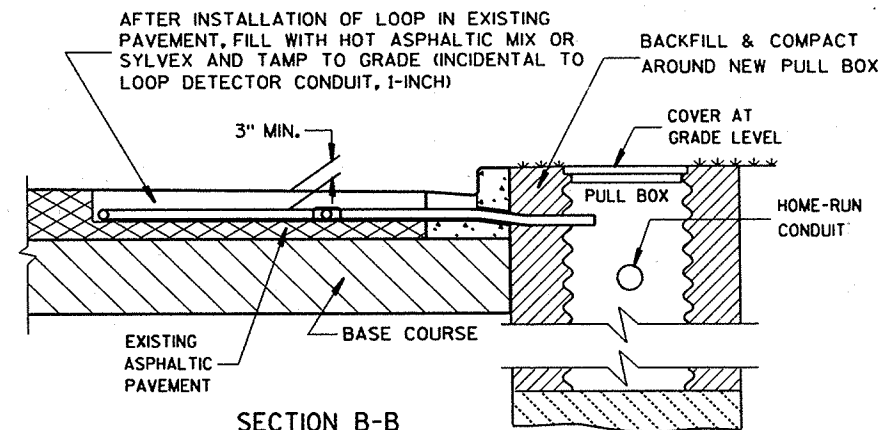
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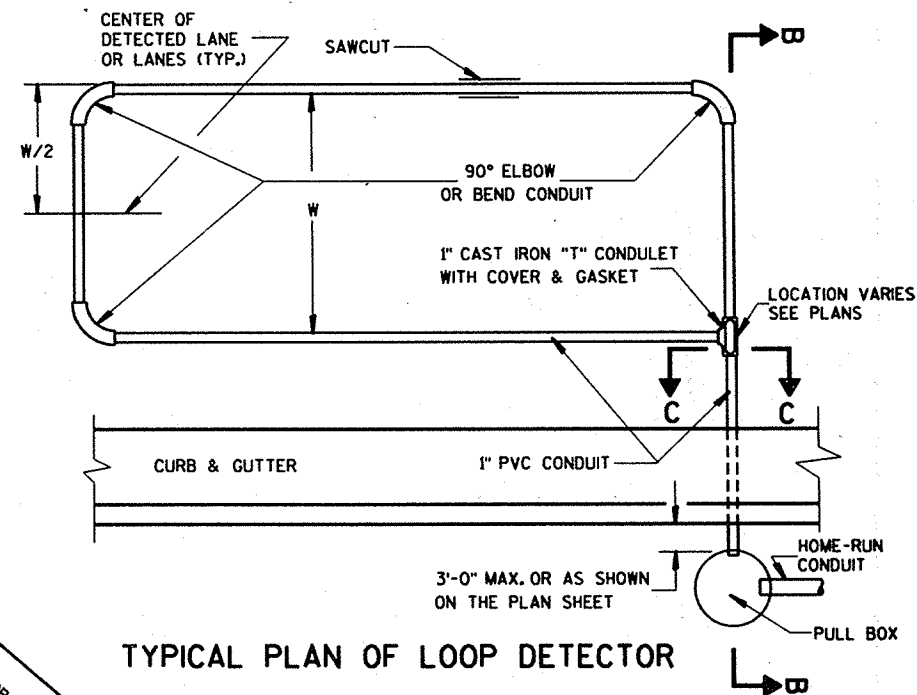
TOP VIEW  
CORNER SAW SLOT DETAIL



ISOMETRIC VIEW  
TYPICAL SAW CUT DETAIL FOR LEAD-IN CONDUIT



SECTION B-B  
CURB & GUTTER  
LOOP DETECTOR INSTALLATION DETAIL



TYPICAL PLAN OF LOOP DETECTOR

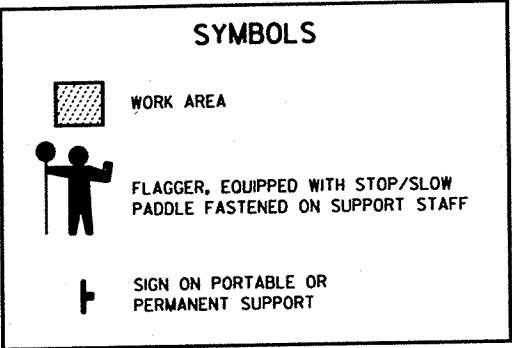
LOOP DETECTOR INSTALLED IN  
EXISTING ASPHALTIC PAVEMENT

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

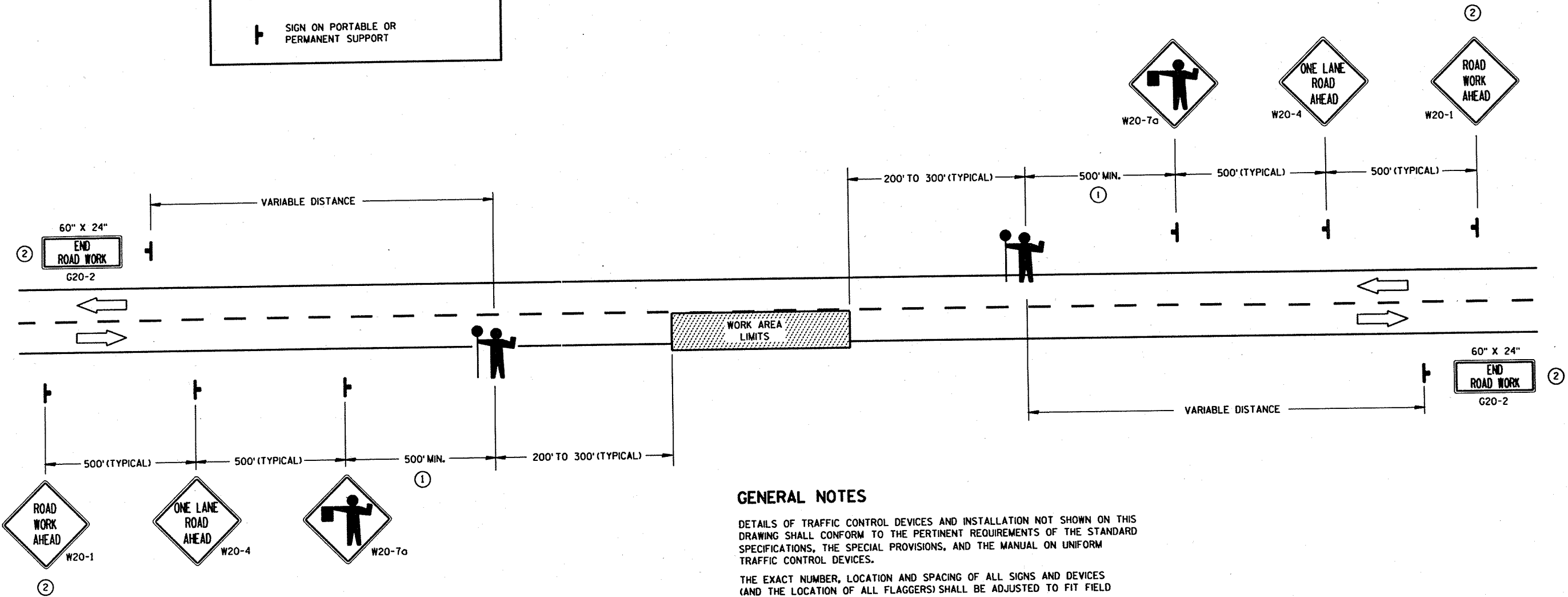
APPROVED  
4/21/93  
DATE  
4/21/93  
DATE  
FHWA

STATE ELECTRICAL ENGR FOR HWYS  
STATE TRAFFIC ENGINEER FOR HWYS

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.

- ① FOR A MOVING WORK OPERATION, SIGNING FOR BOTH DIRECTIONS SHALL BE REESTABLISHED (AS SIMULTANEOUSLY AS PRACTICAL) AT APPROXIMATELY 3500 FOOT INTERVALS IN THE MOVING WORK OPERATION OR AS DIRECTED BY THE ENGINEER.
- ② SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 2/17/94 DATE	<i>Edmund F. Rusch</i> STATE TRAFFIC ENGINEER FOR HWYS
FHWA	