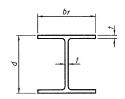
#### STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

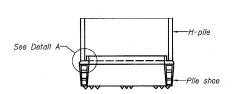
ROUTE NO.	SECTION	cor	MTY	TOTAL SHEETS	BHEET NO.
FAP 383 IL 173	134/B&B-Z/R-1	LA	KE	137	101
FED. ROAD DIS	T. NO. 7	ILLINOIS	FED. AID PR	OJECT-	

SHEET NO. 21 23 SHEETS

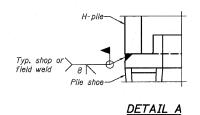


#### STEEL PILE TABLE

Designation	Depth d	Flange width b <sub>f</sub>	Web and Flange thickness t	Encasement diameter A
HP 360x174	361	378	20.4	760
360x152	356	376	17.9	760
360x132	351	373	15.6	760
360x108	346	370	12.8	760
HP 310x125	312	312	17.4	610
310x110	308	310	15.5	610
310x93	303	308	13.1	610
310x79	299	306	11.0	610
HP 250x85	254	260	14.4	610
250x62	246	256	10.7	610
HP 200x53	204	207	11.3	460



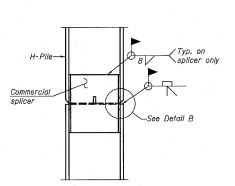
#### **ELEVATION**



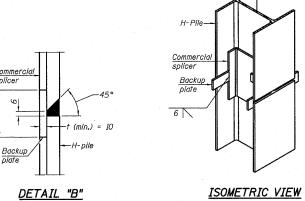
H-PILE SHOE ATTACHMENT

DESIGNED	JRF	
CHECKED	RCJ	
DRAWN	RDS	
CHECKED	JRF	

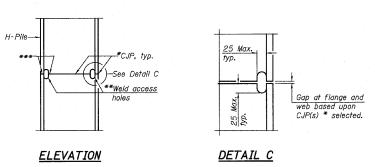
Applied Technologies



**ELEVATION** 

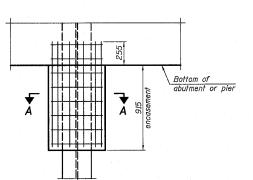


WELDED COMMERCIAL SPLICE



#### COMPLETE PENETRATION WELD SPLICE

- \* Use joint conforming to Figure 3.4 in AWS D1.1, Structure Welding Code Steel.
- \*\* Preparation per Fig. 5.2 in AWS D1.1, Structure Welding Code Steel.
- \*\*\* Interrupt welds 6mm from end of each pile.



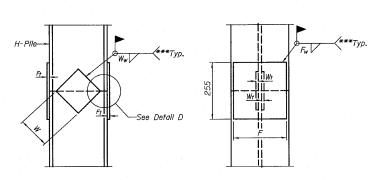
Welded wire fabric 152 x 152-MW26 x MW26 weighing 2.83 kg/m². Bend as required to fit into wall. Note: Forms for encasement may be omitted

when soil conditions permit.

**ELEVATION** 

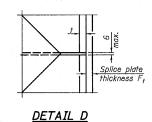
SECTION A-A

#### PILE ENCASEMENT



**ELEVATION** 

END VIEW



Note:

TIF JOUXII4	320
360x152	320
360x132	320
360x108	320
HP 310x125	255
310x110	255
310x93	255
310x79	255
HP 250v85	20

Designation	F	F <sub>t</sub>	Fw	w	W <sub>t</sub>	Ww
HP 360x174	320	25	22	195	16	13
360x152	320	22	19	195	16	13
360x132	320	19	17	195	16	13
360x108	320	16	14	195	16	13
HP 310x125	255	22	17	165	16	13
310x110	255	22	17	165	16	13
310x93	255	16	13	165	13	10
310x79	255	16	13	165	13	10
HP 250x85	205	19	14	135	13	10
250x62	205	16	14	135	13	. 10
HP 200x53	180	16	11	110	13	10

#### WELDED PLATE FIELD SPLICE

The steel H-piles shall be according to AASHTO M270 Grade 345.

If the Contractor chooses to alter the temporary cantilevered sheet piling design requirements shown on the plans, a design submittal including plan details and calculations will be required for review and acceptance by the Engineer.

All dimensions are in millimeters (mm) except as noted.

HP PILE DETAILS FAP 303 IL. ROUTE 173 OVER EAST BOAT CHANNEL SECTION 134(B&B-2)R-1 LAKE COUNTY STATION 26+271.906 STRUCTURE NO. 049-0198

## STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

SUTE NO.	SECTION	COL	UNTY	SHEETS	SHEET NO.	SHEE
FAP 3Ø3 IL 173	134@AB-2/R-1	LAKE		137	182	23 <b>S</b>
. ROAD DIS	T. NO. 7	ILLINOIS	FED. ALD PR	DJECT-		

SHEET NO. 22 23 SHEETS

#### GROUND ENGINEERING CONSULTANTS, INC. STRUCTURE BORING LOG

DATE: 9-26-01

#### GROUND ENGINEERING CONSULTANTS, INC. STRUCTURE BORING LOG

DATE: 9-27-01

ROUTE: IL-173	DESCRIPTION: Bridge B Improvement, IL-173 over E. Boat Channel	ROUTE: IL-173	DES
SECTION: FAP 303	STRUCTURE NO: 049-0056 DRILLED BY: JH	SECTION: FAP 303	STR
COUNTY: Lake	LOCATION: IL-173 over E. Boat Channel S. 12 TWP. 46N RNG. 9E	COUNTY: Lake	LOCA

ROUTE: IL-173	DESCRIPTION: Bridge B Improvement, IL-173 over E	E. Boat Channel	
SECTION: FAP 303	STRUCTURE NO: 049-0050	DRILLED BY:RE	
COUNTY: Lake	LOCATION: IL-173 over E. Boat Channel	S. 12 TWP. 46N RNG. 9E	

Boring No.         B-1           Station         m           Offset         m           Surface Elev.	E F		B L O W S	Qu kPa	<b>w</b> %	Groundwater Elev.:	3.05 I	L O W	Qu kPa	W %	Boring No.   B-1	D E P T H	B L O W S	Qu kPa	w %
304mm asphalt 152mm concrete			3				-								
FINE SAND, tr. gravel, brown, medium dense			4 -				-								
too loose	_	1.	3	-		MEDIUM TO COARSE SAND, tr. gravel &	_	12			FINE TO MEDIUM  SAND, tr. gravel & cobbles, brown, medium	7	15		
	-1.5		3			cobbles, gray, medium dense, wet	-9.0	13 16			dense	-16.5	12 12		
							-					_			
	<del></del>	_	5 6 6					<b>-</b>							
	_	_					-					_		-	
	· · -		3			·	· -	12 12 14			FINE TO MEDIUM  SAND, tr. gravel & cobbles, brown, dense		16 16 16		
	-3.0	+	2				- <u>10.5</u>	14				-18,0			
PEAT, black, soft			2 2 2		102	FINE TO MEDIUM SAND, tr. gravel &	-								
	_	_	-			cobbles, brown, medium dense	-	_							
SILTY CLAY, tr. peat & gravel, gray, stiff	4.5		2 3 4	144 B	36		-12.0	15 12 14				-19.5	14 16 14		
											END OF BORING				
	_	=	4 5 6	134 B	28		-					_			
	-						-								
SILTY CLAY, tr. sand & pravel, gray, stiff	 -6.0		4 4 4	105 B	27		-13.5	9 12				21.0			
	_	=					-								
MEDIUM TO COARSE	=		8 14 10				-								
AND, tr. gravel & cobbles, gray, medium lense, wet	-	$\equiv$					- -					_			
	-7.5		9 9 12			*.	-15.0	13 9 9				-22.5			

Boring No.   B-3	D E P T H	B L O W S	Qu kPa	<b>w</b> %	Surface Water Elev. 2.36 Groundwater Elev.: when drilling 2.59 at completion after Hrs.	D E P T H		Qu W kPa %	
304mm asphalt 152mm concrete over sand & gravel, brown, dense to loose		2 2 -			SILTY CLAY, gray, very soft		1 1 1	10 36 B	SAND & GRAVEL, Grdy, dense  SAND WITH FINE GRAVEL, brown & 17
	-1.5	2 2 3 2 3				-9.0	1	10 36 B	
SAND WITH GARVEL, groyIsh brown, loose	- <u>3.0</u>	5 3 2	-			-10.5	1 1 1	10 34 B	4 15 16 19 19 19 19 19 19 19 19 19 19 19 19 19
blackish gray, very loose	-4.5	1 1 1 2			SILTY CLAY, with sand seams, tr. gavel, gray, very stiff	-12.0	6 10 12	201 20 B	0 14 12 12 18
PEAT, tr. small gravel, black, very soft		1 1 1		131	SAND & GRAVEL, gray, dense				END OF BORING
SILTY CLAY, tr. organic gray, very soft, very wet	-6.0	1 1 1 1	10 B	34		-13.5	17 17 24		-21.0
	-7.5	1 1 1	10 B	36		-15.0	19 19 16		

SPT. (N) = Sum of last two blow values in sample. (Qu) B = Bulge S = Shear P = Penetration Test Stations, Depths, Offset, and Elevation are in Meters

SPT. (N) = Sum of last two blow values in sample. (Qu) B = Bulge S = Shear P = Penetration Test Stations, Depths, Offset, and Elevation are in Meters

 DESIGNED
 JRF

 CHECKED
 RCJ

 DRAWN
 RDS

 CHECKED
 JRF

Applied Technologies

SOIL BORING LOGS B-1 & B-3
FAP 303 IL. ROUTE 173
OVER EAST BOAT CHANNEL
SECTION 134(B&B-2)R-1
LAKE COUNTY
STATION 26+271.906
STRUCTURE NO. 049-0198

## STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	cou	NTY	TOTAL	SHEET NO.
FAP 303 IL 173	134(B&B-2)R-1	LA	KE	197	183
FED. ROAD DIST	. NO. 7	ILLINGIS	FED, AID PR	DJECT-	

SHEET NO. 23

## GROUND ENGINEERING CONSULTANTS, INC. STRUCTURE BORING LOG

DATE: 3-6-03

ROUTE: IL-173	DESCRIPTION: Bridge B Improvement, IL-173 over E. Bo	oat Channel
SECTION: FAP 303	STRUCTURE NO: 049-0056 D	DRILLED BY: Brett
COUNTY: LAKE	/ OCATION: IL-173 over E. Boat Channel	S. 12 TWP. 46N RNG. 9E

Boring No.         B-4           Station         26+           Offset         m           Surface Elev.         (m)	_	E L O W	Qu kPa	<b>W</b> %	Surface Water Elev. Groundwater Elev.: when drilling at completion after Hrs.	_ D E P T H	B L O W S	Qu kPa	w %
Asphalt pavement & base course					Vane Shear Test SU=27 kPa				
FILL, silty sand, some gravel, brown, moist, dense		N= 53		9					
	-1.5	N= 20	· · · · · ·	. 4		-9.0	N= 2	21 B	34
	-	N=		5	Vane Shear Test SU=20 kPa				
	-	3							
	-3.0	N= 4		6		-10.5	N= 6		19
FINE TO MEDIUM SAND, wet, loose	-	N=	<del> </del>	17	SILTY CLAY & SAND some gravel, gray, soft				
	-	4							
	-4.5	N=		18		-12.0			
FINE TO COARSE SAND, tr. gravel & organic, dark-gray, loose		N=		19					
SILTY CLAY, tr. gravel & organic, dark-gray, loose SILTY CLAY, tr. sand &		N=	71 B	38		_			
gravel, gray, soft  Vane Shear Test SU=31 kPa	-6.0		В			-13.5			
	-	N=	23	35					
Vane Shear Test SU=27	-	2	В						
kPa	-7.5	N=	22 B	37		-15.0			

SPT. (N) = Sum of last two blow values in sample. (Qu) B = Bulge S = Shear P = Penetration Test Stations, Depths, Offset, and Elevation are in Meters

#### GROUND ENGINEERING CONSULTANTS, INC. STRUCTURE BORING LOG

DATE: 3-6-03

ROUTE: IL-173	DESCRIPTION OF THE PROPERTY OF	0N: _Brì	idge B Improvement, IL-173 over	E. Boat Channel						
SECTION: FAP 303	STRUCTURE	. NO:_	049-0056	DRILLED E	3Y: _	Brett				
COUNTY: LAKE	LOCATION:	IL-173	over E. Boat Channel		s.	12	TWP.	46N	RNG.	9E

Boring No.         B-           Station         26           Offset         m	+	D E P	L	Qu	w	Surface Water Elev. Groundwater Elev.: when drilling at completion	_ D Е Р Т	B L O W	Qu	w
Surface Elev.	(m)	н		kPa	%	after Hrs.	_   H	s	kPa	%
Asphalt		-				Vane Shear Test SU=20	_			
Concrete		-	-			kPa	. —			
SAND & GRAVEL, brown, moist		_	N =		5		_			
		-1.5	N= 21		5		-9.0	N= 2	23 B	34
FINE TO COARSE SAND, tr. gravel, brown, moist, loose	_	-				Vane Shear Test SU=21 kPa	_		-	
		-	N= 5		5		_			
		-	N=		7				22	32
		-3.0	6			SAND, GRAVEL & SILT	-10.5	2	В	
FINE TO COARSE SAND, gray, wet, loose	<u></u> , , , , , ,	-	_			CLAY, wet, loose		N= 2		11
		_								
		-4.5	N= 2	-	15		-12.0			
PEAT, black	_	-	X N=		131					
Vane Shear Test SU=3	32	-								
kPa		-					-			
		-6.0	N = 2	57 B	33		-13.5			
Vane Shear Test SU=2 kPa SILTY CLAY, tr, sand 8		_								
gravelo, gray, soft	•	_					_			
		_	N=	29	30		-			

SPT. (N) = Sum of last two blow values in sample. (Qu) B = Bulge S = Shear P = Penetration Test Stations, Depths, Offset, and Elevation are in Meters

 DESIGNED
 JRF

 CHECKED
 RCJ

 DRAWN
 RDS

 CHECKED
 JRF

Applied Technologies

SOIL BORING LOGS B-4 & B-5

FAP 303 IL. ROUTE 173

OVER EAST BOAT CHANNEL

SECTION 134(B&B-2)R-1

LAKE COUNTY

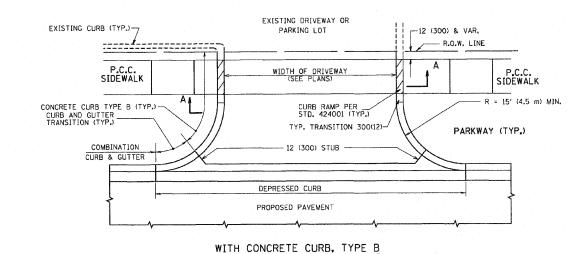
STATION 26+271.906

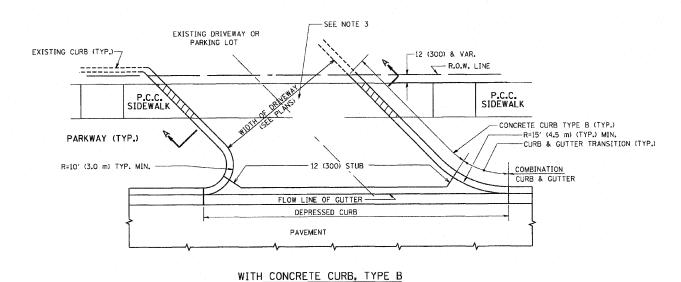
STRUCTURE NO. 049-0198

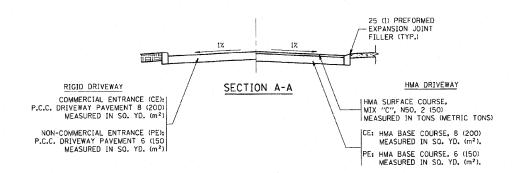
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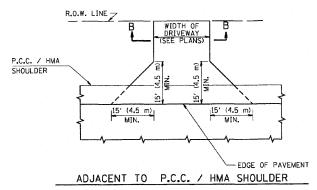
CONTRACT NO. 62037

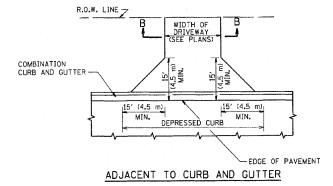
COUNTY TOTAL SHEETS NO. SECTION 303 134(B&B-2)R-1 LAKE 137 104 STA. TO STA. FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT

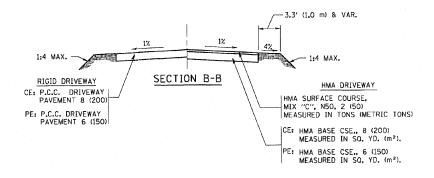












#### RURAL FIELD ENTRANCE (FE)

HMA SURFACE COURSE, MIX "C", N50, 2 (50) MEASURED IN TONS (METRIC TONS)

AGGREGATE BASE CSE., TYPE B, 8 (200) MEASURED IN SQ. YD. (m<sup>2</sup>).

#### GENERAL NOTES:

DRIVEWAY SLOPES, LOCATIONS, & GEOMETRIC LAYOUT SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE "HANDBOOK FOR POLICY ON PERMITS FOR ACCESS DRIVEWAYS TO STATE HIGHWAYS". FOR FURTHER LAYOUT REQUIREMENTS, REFER TO ILLUSTRATIONS IN THE PERMIT HANDBOOK. DRIVEWAYS SHALL BE REPLACED IN KIND, UNLESS OTHERWISE NOTED ON THE PLANS.

COMMERCIAL DRIVEWAYS SHALL BE CONSTRUCTED WITH CONCRETE CURB, TYPE B RETURNS EXCEPT WHEN THE SIDEWALK EDGE IS 4 FEET (1.2 METERS) OR LESS FROM THE BACK OF CURB, CONSTRUCT A FLARE DRIVEWAY WITHOUT CURB.

THE RESIDENT ENGINEER SHALL CONTACT THE TRAFFIC PERMIT OFFICE AT 847/ 705-4131 FOR ANY QUESTIONS ON DRIVEWAYS SHOWN IN THE PLANS; SPECIFICALLY IN REFERENCE TO ADDITIONAL AND/OR RELOCATION/REMOVAL OF A DRIVEWAY.

COMBINATION CONCRETE CURB & GUTTER SHALL BE MEASURED STRAIGHT ACROSS THE DRIVEWAY. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR THE CURB & GUTTER TRANSITION.

1 (25) PREFORMED EXPANSION JOINT FILLER WILL NOT BE PAID SEPARATELY, BUT SHALL BE CONSIDERED INCLUDED IN THE COST OF THE P.C.C. DRIVEWAY PAVEMENT OR P.C.C. SIDEWALK.

WHEN THE P.C.C. SIDEWALK EXTENDS THROUGH THE DRIVEWAY, THE THICKNESS OF THE SIDEWALK IN THE DRIVEWAY AREA SHALL BE THE SAME AS THE DRIVEWAY THICKNESS. SIDEWALK WILL BE PAID FOR AS P.C.C. SIDEWALK OF THE THICKNESS SPECIFIED. SIDEWALK CROSS SLOPE THRU DRIVEWAY AREA TO BE A MAXIMUM OF 1:50.

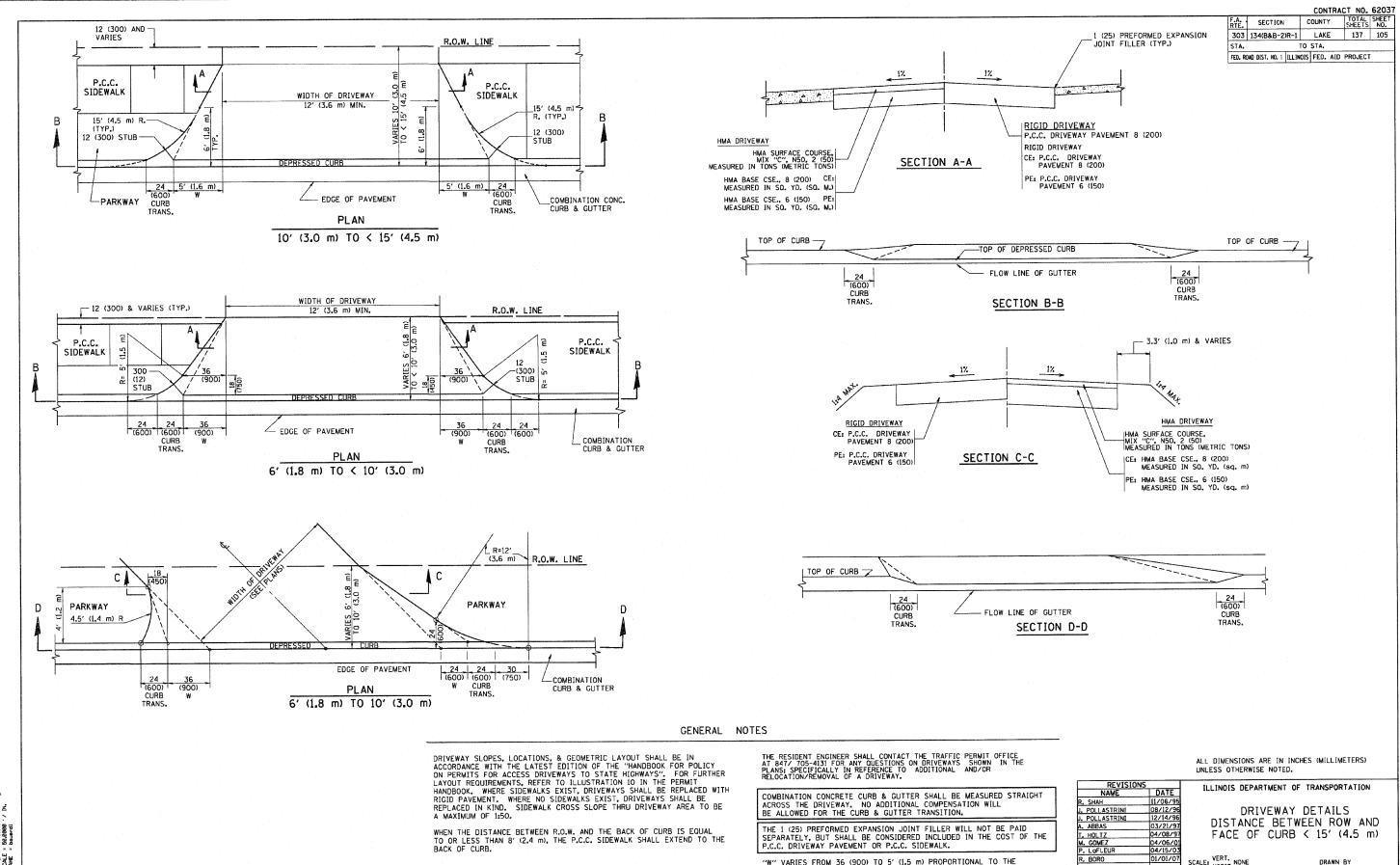
ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE NOTED

ILLINOIS DEPARTMENT OF TRANSPORTATION DRIVEWAY DETAILS J. POLLASTRINI | 08-12-96 | DISTANCE BETWEEN R.O.W. AND | 03-21-97 | FACE OF CURB & EDGE OF | 04-08-97 | O4-06-01 | SHOULDER >= 15' (4.5 m) 08-12-96 J. POLLASTRINI A. ABBAS 04-08-97 04-06-01 04-15-03 HOLTZ M. GOMEZ
P. LaFLEUR SCALE: VERT. NONE DRAWN BY

CHECKED BY BD0156-07 (BD-01)

= 6/12/2008 = ct\projects\d = 49,9999 ' / IN = bouerdl

DATE NAME SCALE NAME PLOT FILE PLOT USER



"W" VARIES FROM 36 (900) TO 5' (1.5 m) PROPORTIONAL TO THE LENGTH (L), FROM 6' (1.8 m) TO 10' (3 m).

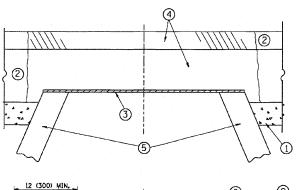
CHECKED BY

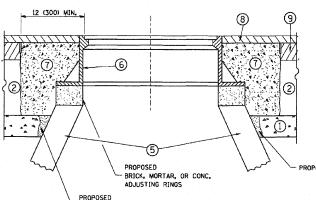
BD400-02 (BD-02)

PLOT DATE = 3/5/2 FILE NAME = KINDIN PLOT SCALE = 56,899 USER NAME = beuer

CONTRACT NO. 62037

F.A. SECTION COUNTY TOTAL SHEET NO. 303 134(B&B-2)R-1 LAKE 137 106 TO STA. FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT





EXISTING BROKEN FRAMES AND LIDS SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR AND SHALL BE REPLACED AS DIRECTED BY THE ENGINEER. REPLACEMENT FRAMES AND LIDS WILL BE PAID FOR IN ACCORDANCE WITH ARTICLE 109,00 OF THE STANDARD SPECIFICATIONS UNLESS A SEPARATE PAY ITEM HAS BEEN PROVIDED.

IF THE EXISTING LIDS ARE OPEN, THE FRAME WILL BE ADJUSTED TO THE ELEVATION OF THE MILLED PAVEMENT SURFACE PRIOR TO THE MILLING OPERATION. THE FRAME WILL NOT BE REMOVED AND COVERED BY THE METAL PLATE.

CITY OF CHICAGO CASTINGS ARE THE PROPERTY OF THE CITY AND THE CONTRACTOR SHALL NOTIFY THE CITY FOR REMOVAL AND DISPOSITION OF THE CASTINGS.

WHEN STRUCTURES ARE TO BE ADJUSTED OR RECONSTRUCTED, THE LOWERING AND RAISING OF THE FRAMES AND LIDS WILL NOT BE PAID FOR SEPARATELY BUT WILL BE INCLUDED IN THE COST OF THE CORRESPONDING PAY ITEM.

#### CONSTRUCTION PROCEDURES

#### STAGE 1 (BEFORE PAVEMENT MILLING)

- A) REMOVE A MINIMUM OF 12 (300) OF THE PAVEMENT FROM AROUND THE STRUCTURE.
- B) REMOVE THE EXISTING FRAME AND LID FROM THE STRUCTURE.

  C) COVER THE STRUCTURE OPENING WITH A 36 (900) DIAMETER METAL PLATE.
- D) BACKFILL WITH CRUSHED STONE AND A MINIMUM 11/2 (40) THICK HMA SURFACE MIX APPROVED BY THE ENGINEER.

#### STAGE 2 (AFTER PAVEMENT MILLING)

- A) REMOVE THE HMA SURFACE MIX AND CRUSHED STONE.
- B) INSTALL THE FRAME AND LID: ADJUST THE FRAME TO ITS FINAL SURFACE ELEVATION.
- C) THE SURROUNDING SPACE SHALL BE FILLED WITH CLASS SI CONCRETE, OR MMA SURFACE COURSE OR MMA BINDER COURSE TO THE ELEVATION OF THE SURFACE OF THE EXISTING BASE COURSE OR THE BINDER COURSE.

THE PROCEDURE EXPLAINED ABOVE SHALL CONFORM TO THE APPLICABLE PORTIONS OF SECTIONS 353, 406, 602, AND 603 OF THE STANDARD SPECIFICATIONS.

- 1 SUB-BASE GRANULAR MATERIAL
- 2 EXISTING PAVEMENT
- 3 36 (900) DIAMETER METAL PLATE
- PROPOSED CRUSHED STONE AND
  HMA SURFACE MIX
- 5 EXISTING STRUCTURE

REVISIONS NAME

CLASS SI CONCRETE, HMA SURFACE COURSE OR HMA BINDER COURSE

6 FRAME AND LID (SEE NOTES)

- 8 PROPOSED HMA SURFACE COURSE
- 9 PROPOSED HMA BINDER COURSE

#### LOCATION OF STRUCTURES:

THE CONTRACTOR WILL BE REQUIRED TO KEEP A RECORD OF THE LOCATIONS OF THE BURIED STRUCTURES ACCORDING TO THE STATION AND DISTANCE LEFT OR RIGHT OF THE CENTERLINE OF PAVEMENT. UPON COMPLETION OF THE WORK, THE CONTRACTOR WILL DELIVER THE RECORD TO THE ENGINEER.

BASIS OF PAYMENT: THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER EACH FOR "FRAMES AND LIDS TO BE ADJUSTED, SPECIAL" NEW FRAMES AND LIDS, WHEN SPECIFIED, WILL BE PAID FOR SEPARATELY.

DETAILS FOR FRAMES AND LIDS ADJUSTMENT

WITH MILLING

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN

ILLINOIS DEPARTMENT OF TRANSPORTATION

DETAILS FOR FRAMES AND LIDS ADJUSTMENT WITH MILLING R. WIEDEMAN R. BORO

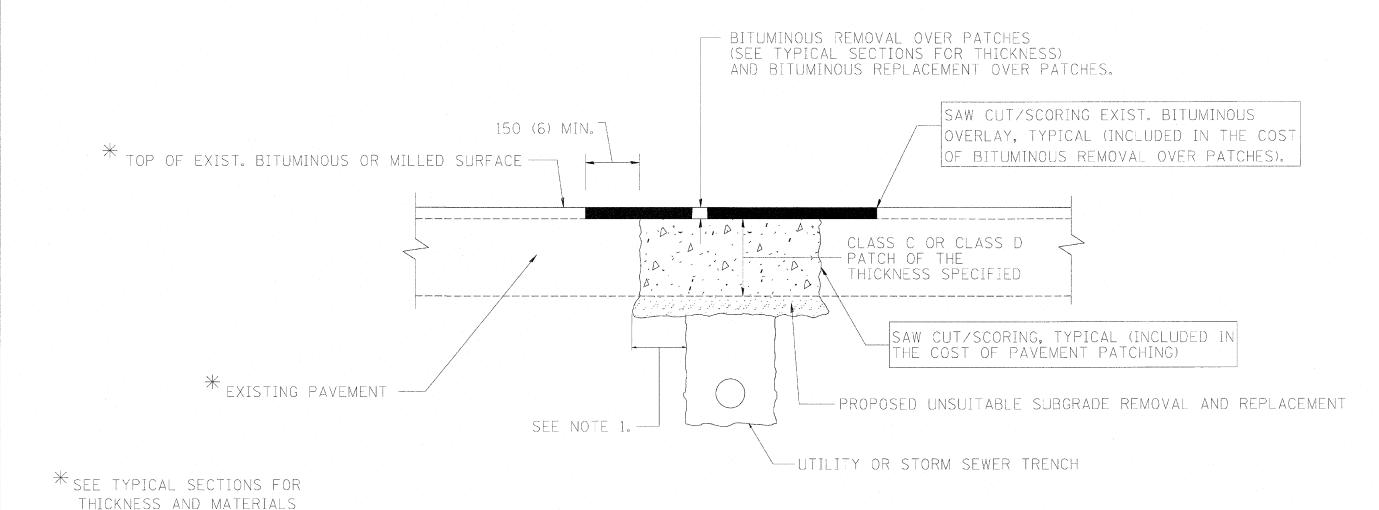
SCALE: VERT. NONE

CHECKED BY

BD600-03 (BD-8)

OATE = 3/5/2007
NAME = Kindissathbd08.d
SCALE = 58.0000 \* / IN,
NAME = beuerdl

CONTRACT NO. 62037 COUNTY TOTAL SHEETS 303 134(B&B-2)R-1 LAKE 137



#### NOTÉS:

- 1. THE WIDTH OF THE FULL DEPTH PATCH OVER A TRENCH SHALL BE 300 (12) WIDER ON EACH SIDE OF THE TRENCH.
- 2. FOR METHOD OF MEASUREMENT AND BASIS OF PAYMENT, SEE SPECIAL PROVISION "PATCHING WITH BITUMINOUS OVERLAY REMOVAL".

#### SEQUENCE OF CONSTRUCTION

- 1. REMOVE THE EXISTING BITUMINOUS MATERIAL OVER THE AREA TO BE PATCHED.
- 2. REMOVE AND REPLACE FULL DEPTH PATCHES
- 3. REPLACE BITUMINOUS MATERIAL OVER THE AREA TO BE PATCHED.

ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE SHOWN.

ILLINOIS DEPARTMENT OF TRANSPORTATION

DALGERT DAMANIA DA	٧S	REVISIO	ONS	ISIO
PAVEMENT PATCHING FO	DATE	NAME	DATE	
BITUMINOUS SURFACED	04/27/98	ART ABBAS	10/25/94	
			01/14/95	
PAVEMENT			03/23/95	
			04/24/95	

DATE 10/18/2002

CHECKED BY

PROP. PAY LIMIT OF HMA SURF. REMOVAL FULL THICKNESS OF MILLING TEMP. RAMP (NOTE "C") (NOTE "E") PROP. HMA SURFACE REMOVAL EXIST. PAVEMENT MILLED TEMPORARY RAMP (FOR BUTT JOINT AND HMA TAPER SEE DETAIL BELOW) OPTION 1 PROP. PAY LIMIT OF HMA SURF. REMOVAL FULL THICKNESS OF MILLING SAW CUT (INCLUDED IN THE COST OF HMA SURFACE (NOTE "C") PROP. HMA SURFACE REMOVAL REMOVAL - BUTT JOINT) \_1¾ (45) FOR E AND F MIX 4'-6" (1.35 m) PAY LIMIT FOR BUTT JOINT 1/2 (40) FOR C AND D MIX EXIST. HMA EXIST. PAVEMENT HMA CONSTRUCTED TEMPORARY RAMP (FOR BUTT JOINT AND HMA TAPER SEE DETAIL BELOW) OPTION 2 TYPICAL TEMPORARY RAMP HMA TAPER LENGTH SAW CUT (INCLUDED IN THE COST OF HMA SURFACE PROP. HMA SURF. CRSE. REMOVAL - BUTT JOINT) PROP. HMA BINDER CRSE. 4'-6" (1,35 m) VARIES 13/4 (45) FOR E AND F MIX PAY LIMIT FOR BUTT JOINT (NOTE "D") 11/2 (40) FOR C AND D MIX EXIST. HMA SURF. EXIST. PAVEMENT HMA SURF, REMOVAL - BUTT JOINT

BUTT JOINT AND

HMA TAPER

TYPICAL BUTT JOINT AND HMA TAPER

FOR MILLING AND RESURFACING

DATE NAME SCALE NAME

PLOT PLOT USER

CONTRACT NO. 62037

F.A. SECTION COUNTY TOTAL SHEETS NO. 303 134(B&B-2)R-1 LAKE 137 108 TO STA. FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT PROP. HMA OR PCC
SURFACE REMOVAL - BUTT JOINT
30'-0" (9.0 m) (NOTE "A") SAW CUT (INCLUDED IN THE COST OF HMA OR P.C.C. SURFACE REMOVAL - BUTT JOINT) EXIST. HMA OR PCC SURFACE 15'-0" (4.5 m) (NOTE "B") (NOTE "D") 13/4 (45) FOR E AND F MIX 11/2 (40) FOR C AND D MIX \* \* EXIST. PAVEMENT BUTT JOINT DETAIL TAPER LENGTH \* \* VARIES 13/4 (45) FOR E AND F MIX PROP. HMA BINDER CRSE. 11/2 (40) FOR C AND D MIX \* \* EXIST. PAVEMENT HMA TAPER DETAIL TYPICAL BUTT JOINT AND HMA TAPER FOR RESURFACING ONLY \* \* PC CONCRETE, HMA OR HMA RESURFACED PAVEMENT. NOTES A: MAINLINE ROADWAYS AND MAJOR SIDE ROADS. B: MINOR SIDE ROADS. C: THE TEMP. RAMP SHALL BE CONSTRUCTED IMMEDIATELY UPON REMOVAL OF THE EXISTING HMA SURFACE. D: THE BUTT JOINT SHALL BE CONSTRUCTED IMMEDIATELY PRIOR TO PLACING THE PROPOSED HMA COURSES. E: TAPER THE TEMP. RAMP AT A RATE OF 3'-0" (900 mm) PER 1 INCH (25 mm) OF MILLING THICKNESS. F: INSTALLATION AND REMOVAL OF THE 4'-6" (1.35 m) TEMP. RAMP IS INCLUDED IN COST OF HMA SURFACE REMOVAL - BUTT JOINT

G: SEE ARTICLE 406.08 AND 406.14 OF THE STANDARD SPECIFICATIONS FOR "HMA AND/OR PCC SURFACE REMOVAL, BUTT JOINT".

\* SEE TYPICAL SECTIONS FOR MILLING THICKNESS.

\*\* \* 20'-0" (6.1 m) PER 1 (25) RESURFACING (NOTE "A") 10'-0" (3.0 m) PER 1 (25) RESURFACING (NOTE "B")

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

#### BASIS OF PAYMENT:

THE BUTT JOINT WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER SOUARE YARD ISQUARE METER) FOR "HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT" OR FOR "PORTLAND CEMENT CONCRETE SURFACE REMOVAL- BUTT JOINT".

REVISIO	JNS	
NAME	DATE	
M. DE YONG	6-13-90	
M. DE YONG	7-3-90	
M. DE YONG	3-27-92	
R. SHAH	09/09/94	
R. SHAH	10/25/94	
A. ABBAS	03/21/97	
M. GOMEZ	04/06/01	
R. BORO	01/01/07	sc
		36

ILLINOIS DEPARTMENT OF TRANSPORTATION

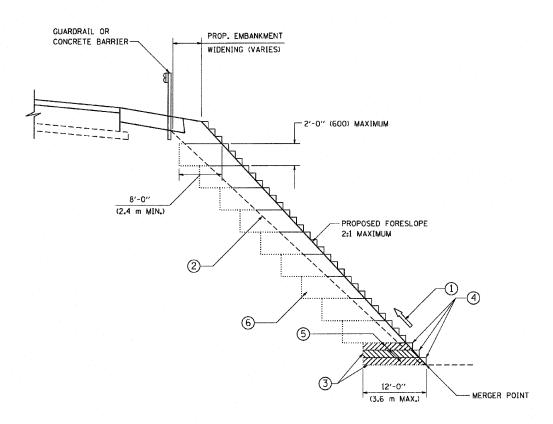
BUTT JOINT AND HMA TAPER DETAILS

SCALE: VERT. NONE

CHECKED BY

BD400-05 (VI=BD32)

COUNTY TOTAL SHEET NO. F.A. SECTION 303 | 134(B&B-2)R-1 | LAKE | 137 | 109 TO STA. FED. ROAD DIST. NO. | ILLINOIS FED. AID PROJECT



## TYPICAL BENCHING DETAIL FOR EMBANKMENT

#### NOTES:

- CONSTRUCT SUCCEEDING BENCH CUTS AND EMBANKMENT PLACEMENT AND COMPACTION FROM BOTTOM TO TOP IN STAIRSTEP FASHION.
- 2 EXISTING FORESLOPE PREPARED IN ACCORDANCE WITH ARTICLE 205.03 OF THE STANDARD SPECIFICATIONS.
- 3 BENCH CUT EXISTING SLOPE TYPICAL FOR EACH STEP.
- EQUAL 8-INCH (200) LIFTS OF EMBANKMENT COMPACTED IN ACCORDANCE WITH ARTICLE 205.05 OF THE STANDARD SPECIFICATIONS.
- EXCAVATION OF BENCH CUTS WITHIN EXISTING EMBANKMENT WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER CUBIC METER OR CUBIC YARD FOR "EARTH EXCAVATION". THIS PRICE WILL INCLUDE ALL LABOR AND MATERIAL, NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
- SLOPES SHALL BE BENCHED ACCORDING TO THIS DETAIL WHEN THE SLOPE IS STEEPER THAN 4:1 AND THE HEIGHT IS GREATER THAN 5' (1.5 m).

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

ILLINOIS DEPARTMENT OF TRANSPORTATION BENCHING DETAIL FOR EMBANKMENT WIDENING

SCALE: VERT. NONE

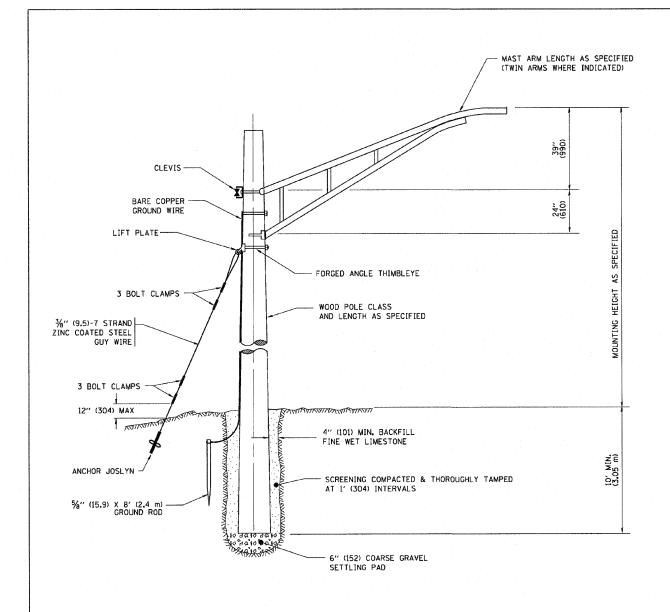
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DATE NAME SCALE NAME PLOT FILE PLOT USER

COUNTY TOTAL SHEET NO. SECTION 303 134(B&B-2)R-1 LAKE 137 110 TO STA. FED. ROAD DIST. NO. | ILLINOIS | FED. AID PROJECT

- HEAVY DUTY INSULATED PULLEY CLEVIS WOOD POLE ---MESSENGER TIED TO INSULATOR — WITH FACTORY FORMED CABLE TIE - BARE COPPER GROUND WIRE EVERY THIRD POLE TO LUMINAIRE GROUND CLAMP NEUTRAL CONDUCTOR AWG BARE COPPER GROUND WIRE PHASE CONDUCTOR WATERPROOF FUSEHOLDER & FUSE WATERPROOF INSULATION -PIERCING TAP CONNECTOR - WATERPROOF FUSEHOLDER AND SOLID NEUTRAL SLUG

TEMPORARY LIGHT POLE ATTACHMENT DETAIL



TEMPORARY LIGHT POLE DETAIL

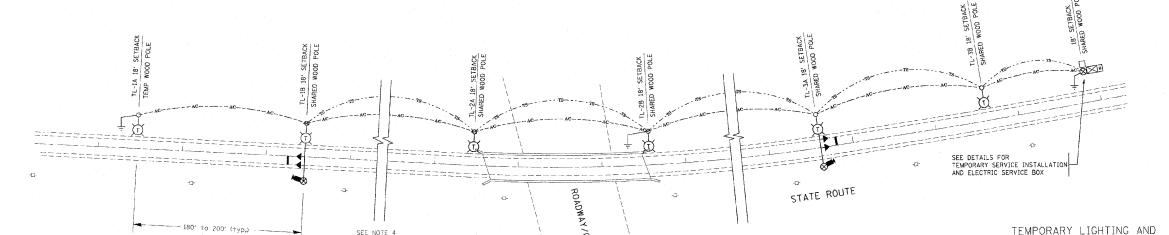
1. ALL DIMENSIONS IN INCHES (MILLIMETERS) UNLESS OTHERWISE INDICATED

ILLINOIS DEPARTMENT OF TRANSPORTATION 08/08/03 TEMPORARY LIGHT POLE DETAILS DRAWN BY CHECKED BY

PLOT DATE = 4/18/2007 FILE NAME = K3/GHETSTACKDE800.dgn PLOT SCALE = 50.000 '/ IN. USER NAME = beuerdl

BE-800

CONTRACT NO. 62037 F.A. SECTION COUNTY TOTAL SHEETS NO. 303 | 134(B&B-2)R-1 | LAKE | 137 | 111 TO STA. FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT



#### TYPICAL LAYOUT FOR TEMPORARY LIGHTING AND TRAFFIC SIGNALS NOT TO SCALE

#### GENERAL NOTES:

- CONTACT TO THE ELECTRIC UTILITY SHALL BE INITIATED BEFORE THE PRECONSTRUCTION MEETING, AND DOCUMENTATION OF CONTACT SHALL BE PRESENTED AT THAT MEETING, NO PLACEMENT OF POLES WILL BE ALLOWED WITHOUT EVIDENSE OF A SIGNED AGREEMENT WITH THE ELECTRIC UTILITY, FURNISHED TO THE ENGINEER.
- 2. UNLESS OTHERWISE INDICATED, AND EXCEPT AS OTHERWISE NOTED, THIS STANDARDIZED LAYOUT SHALL APPLY FOR BRIDGES NOT EXCEEDING A 250-FOOT SPAN, FOR BRIDGE SPANS IN EXCESS OF 250 FEET, THE POLES IMMEDIATELY ADJACENT TO THE BRIDGE SHALL BE 100-FOOT POLES (90-FOOT MOJUNTION EHEOHT), WITH 750-WATT TYPE III HIGH PRESSURE SODIUM HIGH-MAST LUMINAIRES AS APPROVED BY THE ENGINEER.
- 3. THE LAYOUT OF THE TEMPORARY EQUIPMENT WILL VARY BASED ON FIELD CONDITIONS, STAGING, UTILITY IMPACTS, AND THE ELECTRIC SERVICE LOCATION AS COORDINATED WITH THE ELECTRIC UTILITY. THE CONTRACTOR SHALL SUBMIT A PLAN INDICATING THE SETTING OF POLES, TRAFFIC SIGNALS, AND COMBINED SERVICE. THIS PLAN MUST BE APPROVED BY THE ENGINEER BEFORE ANY POLES ARE PLACED
- THE ELECTRIC SERVICE SHALL BE 240/120V. WHERE 240V SERVICE IS NOT AVAILABLE, THE CONTRACTOR MAY SUBMIT A PROPOSAL FOR 120V SERVICE, DROP CABLE, MAIN BREAKER, AND ALL OTHER SERVICE APPURTENANCES SHALL BE APPROPRIATELY RATED AND INCLUDED RECARDLESS OF THE SERVICE VOLTAGE APPLIED
- 5. THE TEMPORARY LIGHTING AND TRAFFIC SIGNAL INSTALLATION SHALL SHARE ANY COMMON ELEMENTS SUCH AS WOOD POLES, ELECTRICAL SERVICE, ELECTRIC SERVICE BOX, CABLE, ETC. THE CONTRACTOR SHALL COORDINATE TEMPORARY LIGHTING AND TRAFFIC SIGNAL INSTALL ATIONS INSTALLATIONS.
- 6. THE LIGHT POLE SETBACK FROM THE EDGE OF TRAVEL PA'EMENT SHALL BE 18 FT. UNLESS THE LIGHT POLE IS BEHIND GUARDRAIL. THE LIGHT POLES INSTALLED BEHIND THE GUARDRAIL OR BARRIER WALL SHOULD HAVE AT LEAST 8 FT. SETBACK FROM THE BACK OF THE SHOULDER AND OR AS DIRECTED BY THE ENGINEER.
- 7. EACH LIGHTING UNIT SHALL BE CONTROLLED BY A PHOTO CELL MOUNTED ON EACH LUMINAIRE WITH THE LIGHTING CIRCUIT FED FROM THE TEMPORARY SERVICE DISCONNECT BOX. OTHER MEANS OF LUMINAIRE CONTROL CAN BE CONSIDERED IF APPROVED BY THE ENGINEER.
- 8, THE CONTRACTOR SHALL SPLICE AERIAL CABLE AT THE LIGHT POLE USING HEAT SHRINKABLE CAPS WITH THE FACTORY APPLIED WATERPROOF SEALENT OR AN APPROVED UL LISTED AERIAL
- ALL AREAS DISTURBED UNDER THIS CONTRACT SHALL BE RESTORED TO THE ORIGINAL CONDITION OR BETTER, TO THE SATISFACTION OF THE ENGINEER.



SEE NOTE 4

TL-1A TEMPORARY LIGHTING UNIT NUMBER - ONE CIRCUIT A

GROUND ROD 5/8" DIA. x 10' COMBINATION LIGHTING AND TRAFFIC POLE MOUNTED ELECTRICAL SERVICE BOX 

TRAFFIC SIGNAL PLAN LEGEND

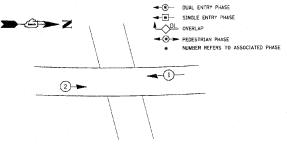
TEMPORARY WOOD POLE - NOMINAL 60 FT., CLASS 4 TEMPORARY LED TRAFFIC SIGNAL HEAD, NUMBER OF SECTION AND DISPLAY AS REQUIRED. -

TEMPORARY TRAFFIC SIGNAL SPAN WIRE, NUMBER OF CONDUCTORS AS REQUIRED. ---18----TEMPORARY TRAFFIC CONTROLLER WITH UPS AND BOTTOM PLATE MOUNTED TO WOOD POLE  $\nearrow$ B

TEMPORARY VIDEO DETECTOR

**→** ② **>** Z -5-2-0 STATE ROUTE -(5)-- K > U 0 < 2 -5-(5) ~ ~ 0 C) < 20 - 5 -0 < 2 5 ROADWAY /CREEK **1**5-TEMPORARY CABLE PLAN LEGEND TEMPORARY VIDEO DETECTOR INDICATES NUMBER OF CONDUCTORS IN CABLE, ALL CONDUCTORS TO BE NUMBER 14 AWG WIRE UNLESS OTHERWISE NOTED. -(5)-TEMPORARY CABLE PLAN (TYPICAL) R TEMPORARY TRAFFIC SIGNAL SECTION OR PEDESTRIAN SIGNAL SECTION, 12" (300 mm) NOT TO SCALE

## TEMPORARY PHASE DESIGNATION DIAGRAM LEGEND



TEMPORARY PHASE DESIGNATION DIAGRAM (TYPICAL) NOT TO SCALE

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SCALE: VERT. NONE HORIZ.		

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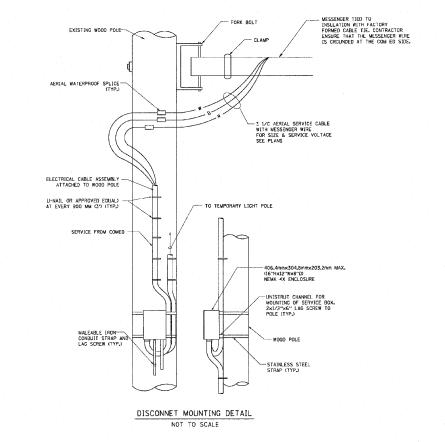
RARY LIGHTING RAFFIC SIGNALS LE LANE STAGING

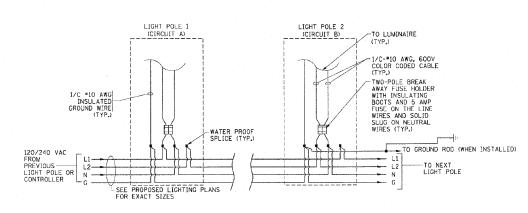
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BE-805 SHT 1 OF 3

DATE NAME SCALE NAME







LIGHT POLE WIRING DETAIL NOT TO SCALE

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	NAME	DATE	TELINOIS DEL ARTIME	11 01 11(A113) 0	(   M   1 )	211		
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				BE-805	SHT	2	OF	3

T DATE = 1/14/2010

NAME = chpw.work.PWID

F SCALE = 50.000 '/ IN.

R NAME = bouerdl

AERIAL CABLE 3-1/C NO. 2, ALUMINUM WITH MESSENGER WIRE

TO TEMPORARY\_ LIGHT POLE

ELECTRIC SERVICE --DISCONNECT BOX

EXOTHERMIC ---

10'-0'

TEMPORARY SERVICE INSTALLATION DETAIL NOT TO SCALE

TO TEMPRARY TRAFFIC SIGNAL -CONTROLLER

3-1/C NO. 2, COPPER RHW XLP — JACKETED SERVICE CABLE

3-1/C NO. 2, COPPER RHW XLP ---JACKETED SERVICE CABLE

TEMPORARY WOOD POLE - SEE DISCONNECT MOUNTING DETAIL

AFRIAL WATERPROOF SPLICE (TYP.)

SPLICE AND COIL 15' OF AERIAL SERVICE CABLE ASSEMBLY, 5-1/C NO. 2, ALUMINUM WITH MESSANGER AT THE TOP OF THE TEMPORARY WOOD POLE FOR CONNECTION BY THE ELECTRICAL SERVICE UTILITY (INCIDENTAL TO ELECTRIC SERVICE INSTALLATION).

- RIGID CONDUIT AND CONDUCTORS OR AERIAL CABLE CONNECTION TO THE TRAFFIC SIGNAL CONTROLLER AS REQUIRED BY THE ENGINEER.

- 3-1/C NO. 2, COPPER RHW XLP JACKETED SERVICE CABLE

C.E.C.F.A. APPROVED METER WHEN REQUIRED BY LITHITY

U-NAIL AT EVERY 3' (TYP.)

30'-0" MIN. OR AS REQUIRED BY THE ENGINEER

PLOT FILE PLOT USER

RTE. SECTION 303 134(B&B-2)R-1 LAKE 137 113 TO STA.

FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT

- TO TRAFFIC SIGNAL CONTROLLER

TERMINAL FOR SURGE

-INSULATED PLATE

CIRCUIT BREAKER (S)

COVER PLATE WITH OPENING FOR CIRCUIT BREAKER (S)

-LIGHTING MAIN FEEDER, (WHERE APPLICABLE), 3-1/C & 1/C GND. MULTI-CONDUCTOR CABLE

3/C COPPER RHW XLP JACKETED SERVICE ENTRANCE CABLE (FREE AIR)

TRAFFIC SIGNAL MAIN FEEDER 2-1/C & 1/C GND. MULTI-CONDUCTOR CABLE

ENGRAVED NAMEPLATES ON COVER PLATE

SERVICE NEUTRAL

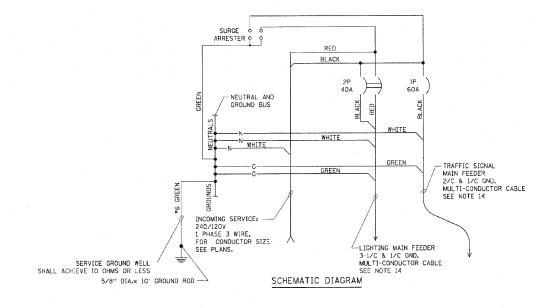
ISOLATED MOUNTING CONNECTION

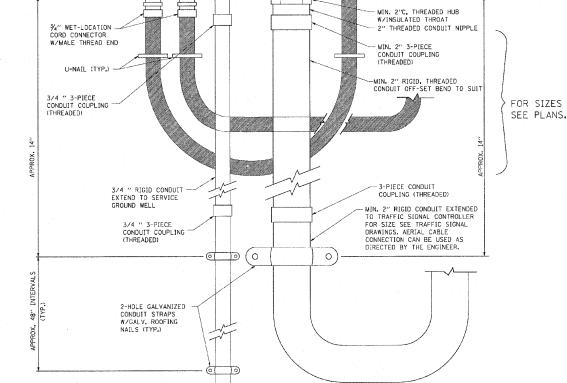
ARRESTER CONNECTION

COPPER BUS, ISOLATED FROM BACK PANEL, INSULATED BETWEEN PHASES (TYP.)

- 1. ELECTRIC SERVICE SHALL BE OF THE VOLTAGE INDICATED OR DESIGNATED BY THE ENGINEER, AND SERVICE DROP CABLE SHALL BE COMPATIBLE WITH THE SERVICE ACCORDINGLY. SOME INSTALLATIONS MAY CALL FOR SERVICE ENTRANCE EQUIPMENT SUITABLE FOR 3-WIRE SERVICE EVEN THOUGH INITIALLY WIRED FOR 2-WIRE SERVICE.
- 2. THE POLE-MOUNTED ELECTRIC SERVICE BOX SHALL BE CONFIGURED AND FULLY EQUIPPED FOR 240/120V
  3W SERVICE, COMPLETE WITH LIGHTING MAIN BREAKER
  AND TRAFFIC SIGNALS MAIN BREAKER AS REQUIRED.
- 3. THE ELECTRIC SERVICE EQUIPMENT ASSEMBLY SHALL BE UL LISTED AS SUITABLE FOR USE AS SERVICE ENTRANCE EQUIPMENT.
- 4. THE ELECTRIC SERVICE EQUIPMENT ENCLOSURE SHALL BE
  NEMA 4X STAINLESS STEEL, NOMINALLY 12"W X 16"H X 8"D, WITH
  A PLANO-HINGED DOOR, STEEL BACK PANEL, FAST-ACTING
  STAINLESS STEEL ENCLOSURE CLAMPS, PADLOCK PROVISIONS
  AND DOOR STOP, HOFFMAN CATALOG NO. A-16HI208SSGLP/A-16
  P12/A-DSTOPK/C-PMK12, OR APPROVED EQUAL.
- 5. CIRCUIT BREAKERS SHALL BE THERMAL MAGNETIC BOLT-ON TYPE WITH A MINIMUM INTERRUPTING CAPACITY OF 25,000 SYMMETRICAL AMPERES AT 240 VOLTS. THEY SHALL BE LOCKABLE IN THE "OFF" POSITION FOR COMPLIANCE WITH OSHA LOCK-OUT/ TAG-OUT REQUIREMENTS, HANDLES SHALL BE TRIP FREE.
- 6. THE SURGE PROTECTOR SHALL BE SUITABLE FOR THE SERVICE VOLTAGE SINGLE PHASE 60HZ AC, WITH A SURGE EMERGY CAPABILITY OF 2160 JOULES OR BETTER AT 8/20 MICRO-SECONDS, RATED -40 TO 60 DEGREES C., WITH LED OPERATING INDICATORS, AND SHALL BE UL LISTED PER UL 1449, CUTLER-HAMMER CMOY230L065XST OR APPROVED EQUAL.

- 7. BUS BARS, CONNECTORS, AND LUGS SHALL BE COPPER, INSULATED AND ISOLATED, AND CONFIGURED TO PREVENT SHORTED CONDITIONS FROM TIGHTENING TERMINATIONS, ETC. THE OVERALL BUS SECTION SHALL BE CONFIGURED BEHIND AN INSULATING BARRIER SHIELD WHICH IS REMOVABLE FOR ACCESS TO CONNECTIONS, OR THE ASSEMBLY SHALL BE A MANUFACTURED SPECIALTY PANELBOARD, CUTLER-HAMMER PRIZA OR APPROVED COUNTY.
- B. THE COMBINATION GROUND AND NEUTRAL BAR SHALL BE CONFIGURED WITH SEPARATE GROUND AND NEUTRAL SECTIONS AND SPARE TERMINALS AS INDICATED. THE HEADS OF GROUND SCREWS SHALL BE PAINTED GREEN. THE HEADS OF NEUTRAL SCREWS SHALL BE PAINTED WHITE. THE SERVICE NEUTRAL AND SERVICE GROUNDING ELECTRODE CONDUCTOR SHALL BE TERMINATED ADJACENT TO EACH OTHER AT THE DIVIDE BETWEEN THE SECTIONS AND WIRING SHALL BE TERMINATED ONLY UPON THE APPROPRIATE SECTION.
- 9. THE WIRING TERMINALS, INCLUDING THE GROUND/NEUTRAL BAR SHALL BE ARRANGED TO PROVIDE ADEQUATE ROOM FOR PERFORMING FIELD TERMINATIONS.
- 10. A PLASTIC LAMINATED LAYOUT AND CIRCUIT DIAGRAM SHALL BE MECHANICALLY SECURED TO THE INTERIOR SIDE OF THE ENCLOSURE DOOR.
- A 2-COLOR ENGRAVED PLASTIC NAMEPLATE, ATTACHED WITH SCREWS, AND ENGRAVED AS INDICATED, SHALL BE PROVIDED FOR EACH MAIN
- 12. LUGS AND CONNECTORS SHALL BE RATED FOR 75 C CONDUCTOR.
- 13. THE EXACT MOUNTING HEIGHT OF THE BOX SHALL BE FIELD DETERMINED TO AVOID OBSTRUCTIONS AND PUBLIC ACCESS. TYPICAL HEIGHT SHALL BE APPROXIMATELY 10 FEET ABOVE GRADE.





TO THE NEAREST LIGHTPOLE OR-AS SHOWN ON THE PLANS.

TO COMED SERVICE

ARRESTER

9

2 POLE 40 AMP

LIGHTING TRAFFIC SIGNALS

-

ENGLOSURE BACK

PANFI

SEE NOTE 6-

NEW-

HOLD-OPEN ATTACHMENT (DOOR STOP)

NEUTRAL/GROUND 1"x6"x1/4" COPPER BAR (SEE NOTE 7)

BONDED MOUNTING CONNECTION

CASE GROUNDING

SERVICE GROUNDING — ELECTRODE CONDUCTOR 1/C, INSULATED

¾4" THREADED HUB — W/INSULATED THROAT

6" DECAL ON FRONT COVER

-EXISTING

PADLOCK PROVISIONS

POLE-MOUNTED ELECTRIC SERVICE — BOX, TYPE AS INDICATED. BOX SHALL BE COMPLETE WITH STAINLESS STEEL

STRAPS AND MOUNTING ACCESSORIES AS REQUIRED FOR A SECURE, STABLE

ATTACHMENT TO THE POLE.

LAYOUT & CIRCUIT DIAGRAM

(SEE NOTE 10)

POLE-MOUNTED ELECTRIC SERVICE ENTRANCE GENERAL LAYOUT DIAGRAM NOT TO SCALE

ILLINOIS DEPARTMENT OF TRANSPORTATION DATE TEMPORARY LIGHTING AND TRAFFIC SIGNALS FOR SINGLE LANE STAGING SCALE: VERT. NONE DRAWN BY CHECKED BY

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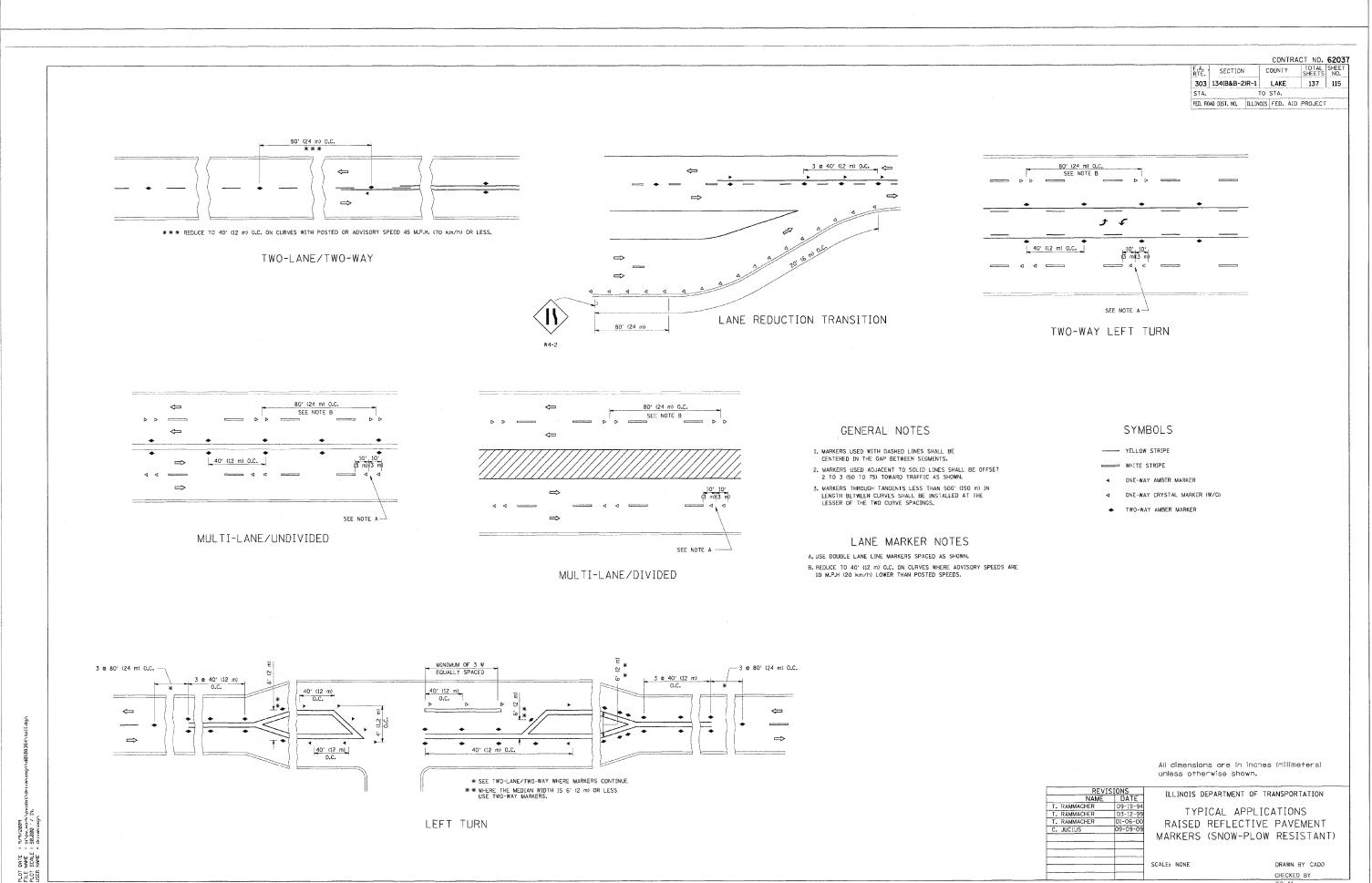
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CONTRACT NO. 62037
COUNTY TOTAL SHEET NO. SECTION 303 134(B&B-2)R-1 LAKE 137 114 TO STA. FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT ONSTRUCTION AHEAD TYPE III BARRICADES -WITH TWO FLASHING AMBER LIGHTS ON EACH. TYPE I OR TYPE II BARRICADES WITH ONE FLASHING AMBER LIGHT ON EACH, OR TYPE III BARRICADES WITH TWO FLASHING 200'± (60 m±)---AMBER LIGHTS ON EACH. DRIVEWAY STREET; SPEED 40 MPH OR LESS 200'± (60 m±) 09) COLLECTOR LIMIT> 40 MPH ( W20-1(0) ROAD CONSTRUCTION M6-4(0)-2115 M6-1(0)-2115 TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS NOTES: B. FOR A LANE CLOSURE ON A SIDE ROAD OR DRIVEWAY: A. FOR NO LANE RESTRICTION ON THE SIDE ROAD OR DRIVEWAYS USE APPLICABLE PORTIONS OF THE TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES (STD. 701501, STD. 701606 OR THE APPROPRIATE STANDARD). THE SPACING OF SIGNS AND BARRICADES SHALL BE ADJUSTED FOR FIELD CONDITIONS AS DIRECTED BY THE ENGINEER. THE DIRECTIONAL ARROW SHALL BE COVERED OR REMOVED WHEN NO LONGER CONSISTENT WITH THE 1. SIDE ROAD WITH A SPEED LIMIT OF 40 MPH (60 km/h) OR LESS AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER: O ONE ROAD CONSTRUCTION AHEAD SIGN 36 x 36 (900x900) WITH A FLASHER AND FLAG MOUNTED ON IT APPROXIMATELY 200' (60 m) IN ADVANCE C. ADVANCE WARNING SIGNS ARE TO BE OMITTED ON DRIVEWAY UNLESS OTHERWISE NOTED. b) THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE I, TYPE II OR TYPE III BARRICADES, 1/3 OF D. THE TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS SHALL BE INCIDENTAL TO THE COST OF SPECIFIED TRAFFIC THE CROSS SECTION OF THE CLOSED PORTION. CONTROL STANDARDS OR ITEMS. 2. SIDE ROAD WITH A SPEED LIMIT GREATER THAN 40 MPH (60 km/h) AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER: o) ONE ROAD CONSTRUCTION AHEAD SIGN 48 x 48 (1.2 m x 1.2 m) WITH A FLASHER MOUNTED ON IT APPROXIMATELY 500' (150 m) IN ADVANCE All dimensions are in millimeters (inches) b) THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE III BARRICADES, 1/2 OF THE CROSS SECTION OF THE CLOSED PORTION. ILLINOIS DEPARTMENT OF TRANSPORTATION TRAFFIC CONTROL AND PROTECTION 3. WHEN THE SIDE ROAD LIES BETWEEN THE BEGINNING OF THE MAINLINE SIGNING AND THE WORK ZONE, A SINGLE HEADED ARROW (MG-1) SHALL BE USED IN LIEU OF THE DOUBLE HEADED ARROW (MG-4). FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS

SCALE: NONE

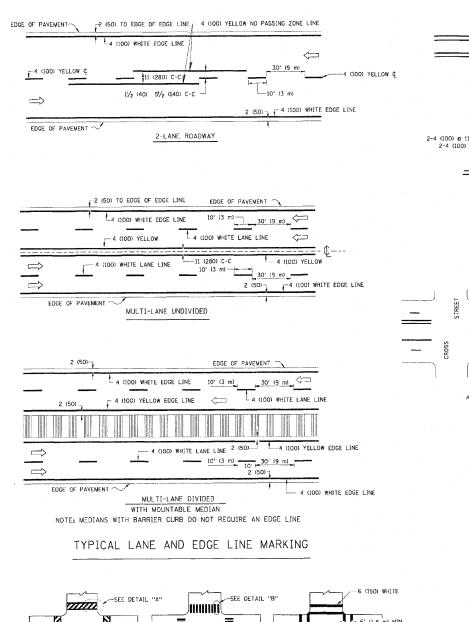
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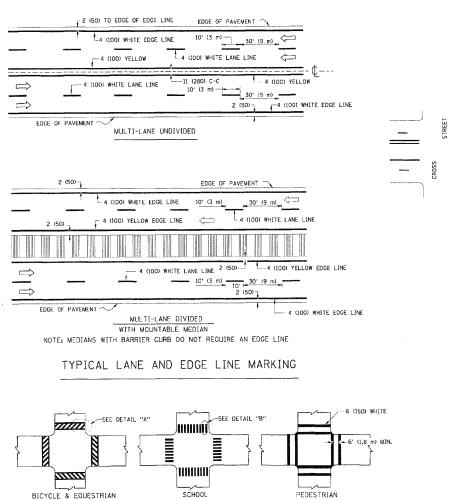
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12 (300) WHITE

TYPICAL CROSSWALK MARKING

2-4 (100) YELLOW p 11 (280) C-C-4' (1-2 m) OUTSIDE TO NO DIAGONALS OUTSIDE OF LINES \_\_\_ 2-4 (100) YELLOW @ 11 (280) C-C 4' (1.2 m) WIDE MEDIANS ONLY 12 (300) DIAGONALS — (MINIMUM 5) 2-4 (100) @ 11 (280) C-C 2-4 (100) 0 11 (280) C-C MEDIAN LENGTH FOR MEDIAN LENGTHS WHERE DIAGONAL SPACING CANNOT BE ATTAINED, USE 5 (FIVE) EQUALLY SPACED

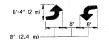
DIAGONAL LINE SPACING: 50' (15 m) C-C (LESS THAN 30MPH (50 km/h))

75' (25 m) C-C 30MPH (50 km/h) TO 45MPH (70 km/h))

150' (45 m) C-C (MORE THAN 45MPH (70 km/h))

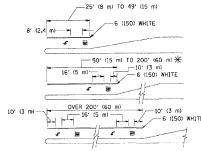
# MEDIANS OVER 4' (1.2 m) WIDE -4 (100) YELLOW LINES (5½ (140) C-C) 4 (100) YELLOW LINES (51/2 (140) C-C) -2-4 (100) YELLOW @ 11 (280) C-C

A MINIMUM OF TWO PAIRS OF TURN ARROWS SHALL BE USED, WHITE IN COLOR. ADDITIONAL PAIRS SHALL BE PLACED AT 200' (60 m) TO 300' (90 m) INTERVALS.



MEDIAN WITH TWO-WAY LEFT TURN LANE

#### TYPICAL PAINTED MEDIAN MARKING

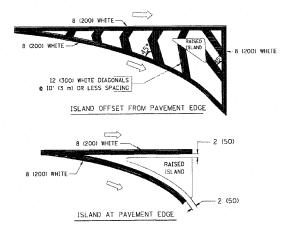


FULL SIZE LETTERS 8' (2.4 m) AND ARROWS SHALL BE USED.  $\P$  AREA = 15.6 SO. FT. (1.5 m<sup>2</sup>)  $\P$  AREA = 20.8 SO. FT. (1.9 m<sup>2</sup>)

\* TURN LANES IN EXCESS OF 400' (120 m) IN LENGTH MAY HAVE AN ADDITIONAL SET OF ARROW - "ONLY" INSTALLED MIDWAY BETWEEN THE OTHER TWO SETS OF ARROW - "ONLY".

TYPICAL LEFT (OR RIGHT) TURN LANE

#### TYPICAL TURN LANE MARKING



#### TYPICAL ISLAND MARKING

TYPE OF MARKING	WIDTH OF LINE	PATTERN	COLOR	SPACING / REMARKS
CENTERLINE ON 2 LANE PAVEMENT	4 (100)	SKIP-DASH	YELLOW	10' (3 m) LINE WITH 30' (9 m) SPACE
CENTERLINE ON MULTI-LANE UNDIVIDED PAVEMENT	2 @ 4 (100)	SOLID	YELLOW	11 (280) C-C
NO PASSING ZONE LINES: FOR ONE DIRECTION FOR BOTH DIRECTIONS	4 (100) 2 @ 4 (100)	SOLID SOLID	YELLOW YELLOW	5/2 (140) C-C FROM SKIP-DASH CENTERLINE 1( 1280) C-C OMIT SKIP-DASH CENTERLINE BETWEEN
LANE LINES	4 (100) 5 (125) ON FREEWAYS	SKIP-DASH SKIP-DASH	WHITE WHITE	10' (3 m) LINE WITH 30' (9 m) SPACE
DOTTED LINES (EXTENSIONS OF CENTER, LANE OR TURN LANE MARKINGS)	SAME AS LINE BEING EXTENDED	SKIP-DASH	SAME AS LINE BEING EXTENDED	2' (GCO) LINE WITH 6' (1.8 m) SPACE
EDGE LINES	4 (100)	SOLID	YELLOW-LEFT WHITE-RIGHT	OUTLINE MOUNTABLE MEDIANS IN YELLOW; EDGE LINES ARE NOT USED NEXT TO BARRIER CURB
TURN LANE MARKINGS	6 (150) LINE; FULL SIZE LETTERS & SYMBOLS (8' (2,4m))	SOLID	WHITE	SEE TYPICAL TURN LANE WARKING DETAIL
TWO WAY LEFT TURN MARKING	2 @ 4 (100) EACH DIRECTION	SKIP-DASH AND SOLID	YELLOW	10' (3 m) LINE WITH 30' (9 m) SPACE FOR SKIP-DASH; 5½ (140) C-C BETWEEN SOLID LINE AND SKIP-DASH LINE
	8' (2.4m) LEFT ARROW	IN PAIRS	WHITE	SEE TYPICAL TWO-WAY LEFT TURN MARKING DETAIL
CROSSWALK LINES (PEDESTRIAN) A. DIAGONALS (BIKE & EQUESTRIAN) B. LONGITUDINAL BARS (SCHOOL)	2 @ 6 (150) 12 (300) @ 45° 12 (300) @ 90°	SOLID SOLID SOLID	WHITE WHITE WHITE	NOT LESS THAN 6' (1.8 m) APART 2' (500) APART 2' (500) APART SEE TYPICAL CROSSWALK MARKING DETAILS.
STOP LINES	24 (600)	SOLID	WHITE	PLACE 4" (12 m) IN ADVANCE OF AND PARALLEL TO CROSSMALK, IF PRESENT, OTHERMISE, PLACE AT DESIRED STOPPING POINT, PARALLEL TO CROSSROAD CENTERLINE, WHERE POSSIBLE
PAINTED MEDIANS	2 @ 4 (100) WITH 12 (300) DIAGONALS	SOLID	YELLOW: TWO WAY TRAFFIC	11 (280) C-C FOR THE DOUBLE LINE
	NO DIAGONALS USED FOR 4' (1.2 m) WIDE MEDIANS		WHITE: ONE WAY TRAFFIC	SEE TYPICAL PAINTED MEDIAN MARKING.
CORE MARKING AND CHANNELIZING LINES	8 (200) WITH 12 (300) DIAGONALS @ 45°	SOLID	WHITE	DIAGONALS: 15' (4.5 m) C-C (LESS THAN 30MPH (50 km/h)) 20' (6 m) C-C 30MPH (50 km/h) TO 45MPH (70 km/h)) 30' (9 m) C-C (OVER 45MPH (70 km/h))
RAILROAD CROSSING	24 (600) TRANSVERSE LINES; "RR" IS 6' (1.8 m LETTERS; 16 (400) LINE FOR "X"	SOLID	WHITE	SEE STATE STANDARD 780001 AREA 0F: "R"-3.6 SQ. FT. (0.33 m²) EACH "X"-54.0 SQ. FT. (5.0 m²)
SHOULDER DIAGONALS	12 (300) @ 45°	SOLID	WHITE - RIGHT YELLOW - LEFT	50' (15 m) C-C (LESS THAN 30MPH (50 km/h)) 75' (25 m) C-C (30 MPH (50 km/h) TO 45MPH (70 km/h) 150' (45 m) C-C (OVER 45MPH (70 km/h))

FOR FURTHER DETAILS ON PAVEMENT MARKING REFER TO STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND STATE STANDARD 780001.

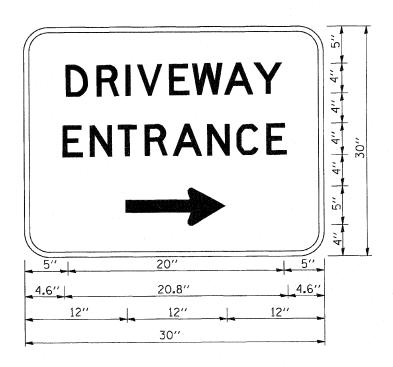
All dimensions are in inches (millimeters) unless otherwise shown.

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| CONTRACT NO. 62037 | F.A. | SECTION | COUNTY | SHEET | NO. | SHEET | SHEET | NO. | SHEET | SHEET | NO. | SHEET TO STA. FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT 68 (1700) 54 (1350) (175) (175)7 7 5 7 5 7 7 10.00 ROAD WORK (1125)EXPECT DELAYS USE APPROPRIATE MONTH AND DATE FOR CONTRACT ∠1 (25) BLACK BORDER Ž N =© BEGINS  $\times \times \times \times \times$ Ê (2.1 58 (1450) , NOTES: 1. USE BLACK LETTERING ON ORANGE BACKGROUND. 2. ERECT SIGNS IN ADVANCE OF THE LOCATION FOR THE "ROAD CONSTRUCTION AHEAD" SIGN AT LOCATIONS AS DIRECTED BY THE ENGINEER. 3. ERECT SIGN () WITH INSTALLED PANEL (2) ONE WEEK PRIOR TO THE START OF CONSTRUCTION. 4. REMOVE PANEL 2 SOON AFTER THE START OF CONSTRUCTION. 5. SEE SPECIAL PROVISION FOR "TEMPORARY INFORMATION SIGNING" FOR ADDITIONAL INFORMATION. 6. ONE SIGN ASSEMBLY EQUALS 25.70 SQ. FT. (2.3 SQ. M.) 7. SHALL BE PAID FOR AS TEMPORARY INFORMATION SIGNING. ALL DIMENSIONS ARE IN INCHES (MILLIMETERS)
UNLESS OTHERWISE SHOWN. ILLINOIS DEPARTMENT OF TRANSPORTATION | DATE = 3/8/2807 | NAME = K:\distacd\cc22.dgn | SCALE = 50.000 ' | IN, | NAME = bauerd| ARTERIAL ROAD INFORMATION SIGN CHECKED BY PLOT FILE I PLOT USER TC22



3.0" RADIUS, 0.5" BORDER, WHITE ON GREEN; REFLECTORIZED "ORIVEWAY" D; "ENTRANCE" D; STANDARD ARROW CUSTOM 12.0" x 5.0"

### NOTES:

- 1. HALF OF THE SIGNS WILL REQUIRE A LEFT HAND FACING ARROW.
- 2. TWO SIGNS SHALL BE USED AT EACH COMMERCIAL ENTRANCE PLACED BACK-TO-BACK: ONE WITH A RIGHT HAND ARROW (SHOWN) SHALL BE PLACED ON THE NEAR RIGHT SIDE THE DRIVEWAY AND ONE WITH A LEFT HAND ARROW SHALL BE PLACED ON THE FAR LEFT SIDE OF THE DRIVEWAY.
- 3. SIGNS TO BE PAID FOR AS ITEM "TEMPORARY INFORMATION SIGNING".

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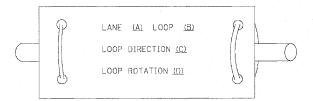
STATE	OF	ILLINOIS
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	nei/	FW/AV	ENTRANC	F SIGNING		F.A RTE.	SECTION	COUNTY	SHEETS	SHEET NO.
DRIVEWAY ENTRANCE SIGNING						303	134(B&B-2)R-1	LAKE	137	118
	100						TC-26	CONTRACT	NO. 6	52037
SCALE: NONE	SHEET NO. 1	OF 1	SHEETS	STA.	TO STA.	FED. R	DAD DIST. NO. 1 ILLINOIS FED. A	ID PROJECT		

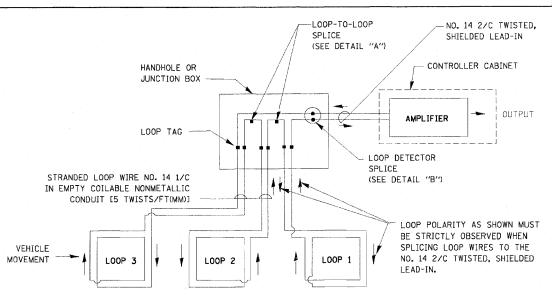
#### LOOP DETECTOR NOTES

- 1. EACH PAIR OF LOOP WIRES SHALL BE PLACED IN A SEPARATE EMPTY COILABLE NONMETALLIC CONDUIT FROM THE EDGE OF PAVEMENT TO THE HANDHOLE. SPACING BETWEEN THE HOLES DRILLED IN THE PAVEMENT SHALL NOT BE LESS THAN 6" (150 mm). EMPTY COILABLE NONMETALLIC CONDUIT SHALL BE INCLUDED IN THE COST OF THE LOOP WIRE.
- 2. THE NUMBER OF LOOP TURNS SHALL BE AS RECOMMENDED BY THE AMPLIFIER MANUFACTURER. ALL ADJACENT SIDES OF THE LOOPS SHALL BE INSTALLED IN SUCH A WAY THAT THE CURRENT FLOW IS IN THE SAME DIRECTION TO REINFORCE ITS MAGNETIC FIELDS FOR SMALL VEHICLE DETECTION.
- 3. EACH LOOP LEAD-IN SHALL BE IDENTIFIED AND PERMANENTLY TAGGED IN THE HANDHOLE. EACH LEAD-IN CABLE TAG SHALL INDICATE THE LOCATION OF THE LOOP, LOOP ROTATION (CLOCKWISE/COUNTERCLOCKWISE), LOOP LEAD-IN DIRECTION (IN OR OUT), LOOP CABLE NUMBER AND LOCATION IN CABINET, AND NUMBER OF TURNS IN THE DETECTOR LOOPS IN WATER PROOF INK AS INDICATED ON THE DISTRICT 1 STANDARD TRAFFIC SIGNAL DESIGN DETAIL. THE CONTRACTOR SHALL MARK LOOP LOCATIONS ON RECORD DRAWINGS AND PRESENT TO THE ENGINEER AFTER FINAL INSPECTION. LOOPS SHALL BE MARKED BY LANE AND LOOP NUMBER. SEE DETAIL BELOW.
- 4. ALL LOOP CABLE SHALL BE FASTENED WITH PLASTIC TIE WRAP TO THE HANDHOLE HOOKS.
- 5. IN ASPHALT PAVEMENT, LOOPS SHOULD BE PLACED IN THE BINDER AND DIVEHOLES MARKED AT THE CURB WITH A SAW-CUT. THE SAW-CUT SHALL BE CUT IN ACCORDANCE WITH LOCAL AND E.P.A. DUST CONTROL REQUIREMENTS. DETECTOR LOOP(S) SHALL NOT BE INSTALLED IN WET CONDITIONS AND THE SAW-CUTS MUST BE FREE OF DEBRIS AND RESIDUE SUCH AS DUST AND WATER WHICH IS TO BE ACHIEVED BY THE USE OF COMPRESSED AIR, WIRE BRUSHING AND HEAT DRYING ACCORDING TO SEALANT MANUFACTURER REQUIREMENTS. THE DETECTOR WIRE SHALL BE HELD IN PLACE BY THE USE OF FORM WEDGES. WEDGES SHALL BE SPACED NO MORE THAN 18" (450 mm) APART.
- 6. LOOP SPLICES SHALL BE SOLDERED USING A SOLDERING IRON. BLOW TORCHES OR OTHER DEVICES WHICH OXIDIZE COPPER CABLE SHALL NOT BE ALLOWED FOR SOLDERING OPERATIONS. SEE DETAIL BELOW RIGHT.
- 7. PREFORMED DETECTOR LOOPS SHALL BE USED, AS SHOWN ON THE PLANS, WHERE NEW CONCRETE PAVEMENT IS PROPOSED. THE INSTALLATION OF PREFORMED LOOPS SHALL BE IN ACCORDANCE WITH THE DISTRICT 1 SPECIFICATIONS OR AS DIRECTED BY THE ENGINEER.

#### LOOP LEAD-IN CABLE TAG

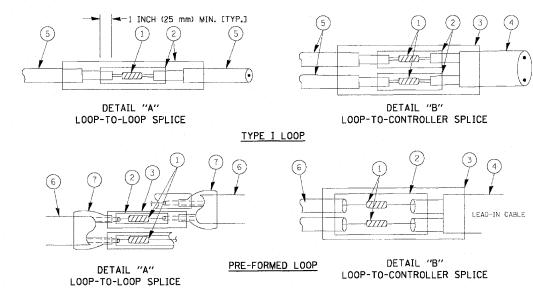


- A. LANE 1 IS THE LANE CLOSEST TO THE CENTERLINE OF THE ROADWAY
- B. LOOP \*1 IS THE LOOP IN THE LANE CLOSEST TO THE INTERSECTION.
- C. LABEL LOOP CABLE "IN" OR LOOP CABLE "OUT".
- D. LABEL LOOP CABLE CLOCKWISE OR LOOP CABLE COUNTERCLOCKWISE.



#### DETECTOR LOOP WIRING SCHEMATIC

- LOOPS SHALL BE SPLICED IN SERIES.
- SAW-CUTS SHALL BE A MINIMUM WIDTH OF 5/16" (8 mm).
- SAW-CUT DEPTHS SHALL BE 3" (75 mm). IF IN CONCRETE,
   THE SAW-CUT DEPTH SHALL BE TO THE TOP OF THE REINFORCEMENT.
- LOOP CORNERS SHALL BE DRILLED WITH A 2" (50 mm) DIAMETER CORE.



#### LOOP DETECTOR SPLICE

- WESTERN UNION SPLICE SOLDERED WITH ROSIN CORE FLUX. ALL EXPOSED SURFACES OF THE SOLDER SHALL BE SMOOTH.
- (2) WCSMW 30/100 HEAT SHRINK TUBE, MINIMUM LENGTH 3" (75 mm), UNDERWATER GRADE.
- (3) WCS 200/750 HEAT SHRINK TUBE, MINIMUM LENGHT 6" (150 mm), UNDERWATER CRADE.
- 4) NO. 14 2/C TWISTED, SHIELDED CABLE.
- 5 LOOP CONDUCTOR WITH FLEXIBLE PLASTIC TUBE.
- (6) PRE-FORMED LOOP
- 7 XL POLYOLEFIN 2 CONDUCTOR BREAKOUT SEALS. TYCO CBR-2 OR APPROVED EQUAL

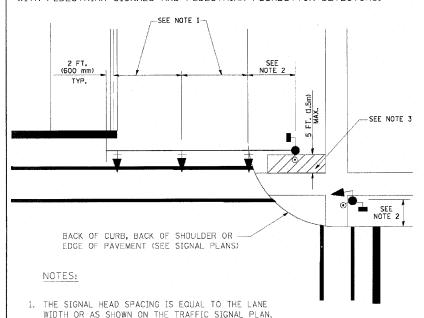
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STATE	OF	ILLINOIS
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DISTRICT ONE						F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET
						303	134(B&B-2)R-1	LAKE	137	119
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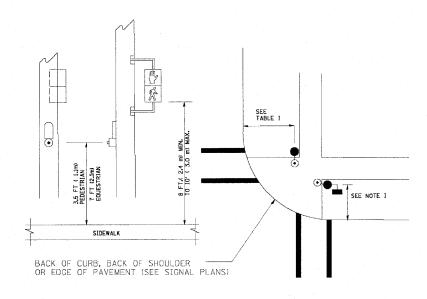
#### TRAFFIC SIGNAL MAST ARM AND SIGNAL POST

MAST ARM MOUNTED SIGNALS IN EXISTING, PROPOSED OR FUTURE SIDEWALK/BICYCLE PATH AREA. INTERSECTION SHOWN WITH PEDESTRIAN SIGNALS AND PEDESTRIAN PUSHBUTTON DETECTORS.



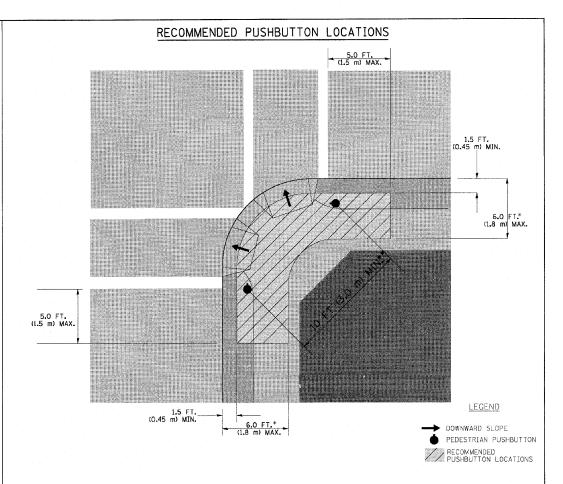
- 2. REFER TO THE TRAFFIC SIGNAL EQUIPMENT OFFSET TABLE.
- 3. PROVIDE A LEVEL ALL-WEATHER SURFACE (CONCRETE SIDEWALK, ASPHALT BICYCLE PATH SURFACE OR MATCHING MATERIAL TO THE ADJACENT SURFACE) UP TO THE MAST ARM SHAFT OR THE SIGNAL POST.
- 4. THE FACE OF THE PEDESTRIAN PUSHBUTTON SHALL BE PARALLEL TO THE CROSSWALK TO BE USED.
- 5. THE LOCATIONS AND INSTALLATION OF PEDESTRIAN SIGNAL HEADS AND PEDESTRIAN PUSHBUTTONS SHALL MEET THE REQUIREMENTS OF THE MUTCD AND INFORMATION FOUND IN THE "AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES FOR BULLDINGS AND FACILITIES."

# PEDESTRIAN SIGNAL POST AND PEDESTRIAN PUSH BUTTON POST



#### NOTES:

- 1. REFER TO THE TRAFFIC SIGNAL EQUIPMENT OFFSET TABLE.
- 2. PROVIDE A LEVEL ALL-WEATHER SURFACE (CONCRETE SIDEWALK, ASPHALT BICYCLE PATH SURFACE OR MATCHING MATERIAL TO THE ADJACENT SURFACE) UP TO THE PEDESTRIAN SIGNAL POST OR THE PEDESTRIAN PUSH BUTTON POST.
- 3. THE FACE OF THE PEDESTRIAN PUSHBUTTON SHALL BE PARALLEL TO THE CROSSWALK TO BE USED.
- 4. THE LOCATIONS AND INSTALLATION OF PEDESTRIAN SIGNAL HEADS AND PEDESTRIAN PUSHBUTTONS SHALL MEET THE REQUIREMENTS OF THE MUTCH AND INFORMATION FOUND IN THE "AMERICANS WITH DISABILITIES ACT ACCESSIBILITY CUIDELINES FOR BUILDINGS AND FACILITIES."



- \* WHERE THERE ARE CONSTRAINTS THAT MAKE IT IMPRACTICAL TO PLACE THE PEDESTRIAN PUSHBUTTON BETWEEN 1.5 FT (0.45 m) AND 6 FT ( 1.8 m) FROM THE EDGE OF THE CURB, SHOULDER, OR PAVEMENT, IT SHOULD NOT BE FURTHER THAN 10 FT (3 m) FROM THE EDGE OF CURB, SHOULDER, OR PAVEMENT.
- \*\* WHERE THERE ARE CONSTRAINTS ON A PARTICULAR CORNER THAT MAKE IT IMPRACTICAL TO PROVIDE THE 10 FT (3 m) SEPERATION BETWEEN THE TWO PEDESTRIAN PUSHBUTTONS, THE PUSHBUTTONS MAY BE PLACED CLOSER TOGETHER OR ON THE SAME POLE.

#### NOTES:

- . PEDESTRIAN SIGNAL HEADS SHALL BE MOUNTED WITH THE BOTTOM OF THE SIGNAL HOUSING INCLUDING BRACKETS NOT LESS THAN 8 FT (2.4 m) OR MORE THAN 10 FT (3 m) ABOVE SIDEWALK LEVEL, AND SHALL BE POSITIONED AND ADJUSTED TO PROVIDE MAXIMUM VISIBILITY AT THE BEGINNING OF THE CONTROLLED CROSSWALK.
- 2. THE BOTTOM OF THE SIGNAL HOUSING (INCLUDING BRACKETS) OF A VEHICULAR SIGNAL FACE THAT IS NOT LOCATED OVER A HIGHWAY SHALL BE AT LEAST 8 FT (2.4 m) BUT NOT MORE THAN 19 FT (5.8 m) ABOVE THE SIDEWALK OR, IF THERE IS NO SIDEWALK, ABOVE THE PAVEMENT GRADE AT THE CENTER OF THE ROADWAY.
- 3. THE BOTTOM OF THE SIGNAL HOUSING AND ANY RELATED ATTACHMENTS TO A SIGNAL FACE LOCATED OVER ANY PORTION OF A HIGHWAY SHALL BE ACCORDING TO CURRENT STATE STANDARDS 877001, 877002, 877006, 877011 AND 877012 WITH A MINIMUM OF 16 FT (5.0 m) AND A MAXIMUM OF 18 FT. (5.5 m) FROM THE HIGHEST POINT OF PAVEMENT.
- 4. THE BOTTOM OF THE TEMPORARY SPAN WIRE MOUNTED SIGNAL HOUSING AND ANY RELATED ATTACHMENTS TO A SIGNAL FACE LOCATED OVER ANY PORTION OF A HIGHWAY SHALL BE ACCORDING TO CURRENT STATE STANDARD 880001 WITH A MINIMUM OF 17 FT (5.18 m) FROM THE HIGHEST POINT OF PAVEMENT.
- 5. THE TOP OF THE SIGNAL HOUSING OF A SIGNAL FACE LOCATED OVER ANY PORTION OF A HIGHWAY SHALL NOT BE MORE THAN 25.6 FT (7.8 m) ABOVE THE PAVEMENT.

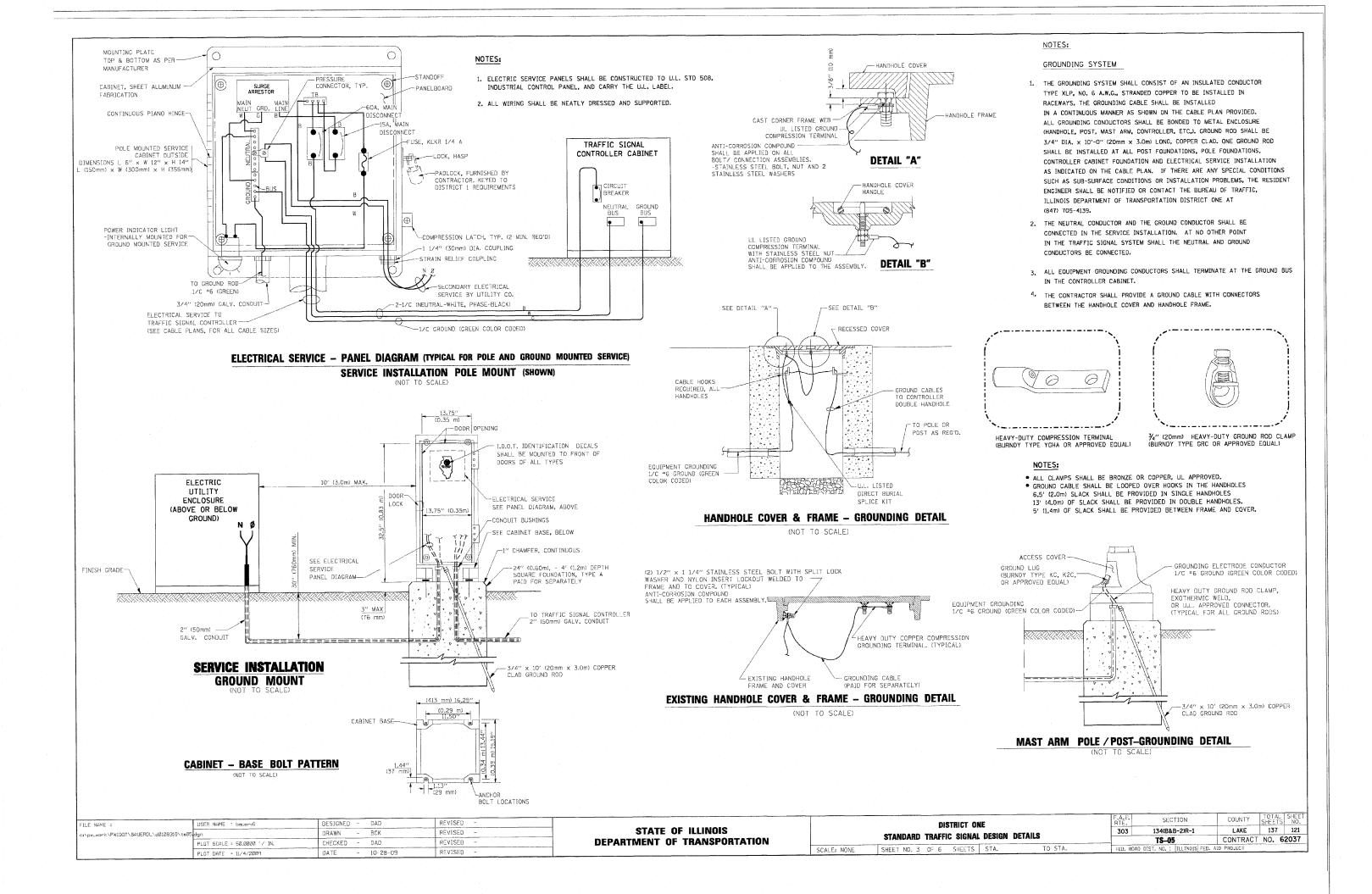
#### TRAFFIC SIGNAL EQUIPMENT OFFSET

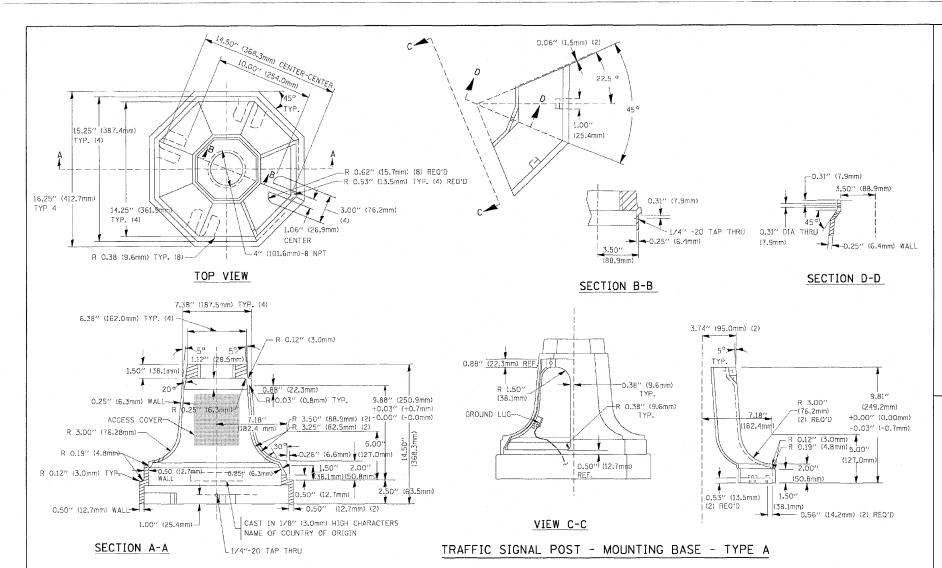
TRAFFIC SIGNAL EQUIPMENT	COMBINATION CONCRETE CURB AND GUTTER (MINIMUM DISTANCE FROM BACK OF CURB TO CENTERLINE OF FOUNDATION)	SHOULDER/NON-CURBED AREA (MINIMUM DISTANCE FROM EDGE OF PAVEMENT TO CENTERLINE OF FOUNDATION)
TRAFFIC SIGNAL MAST ARM POLE	6 FT (1.8m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
TRAFFIC SIGNAL POST	4 FT (1.2m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
PEDESTRIAN SIGNAL POST	4 FT (1.2m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
PEDESTRIAN PUSHBUTTON POST	4 FT (1.2m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
TEMPORARY WOOD POLE	6 FT (1.8m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
CONTROLLER CABINET	6 FT (1.8m) MINIMUM DISTANCE SEE NOTE 2	SHOULDER WIDTH + 6 FT (1.8m), MINIMUM 16 FT (4.9m) SEE NOTE 3.
SERVICE INSTALLATION, GROUND MOUNT	6 FT (1,8m) MINIMUM DISTANCE SEE NOTE 2	SHOULDER WIDTH + 6 FT (1.8m), MINIMUM 16 FT (4.9m) SEE NOTE 3.

#### NOTES

- 1. CONTACT THE "AREA TRAFFIC SIGNAL MAINTENANCE AND OPERATIONS ENGINEER" FOR ASSISTANCE IN LOCATING THE TRAFFIC SIGNAL EQUIPMENT WHEN THERE ARE CONFLICTS WITH DITCHES OR THE MINIMUM OFFSET DISTANCES CANNOT BE MET.
- 2. MINIMUM DISTANCE FROM THE BACK OF CURB TO THE ROADWAY SIDE OF THE FOUNDATION.
- 3. MINIMUM DISTANCE FROM THE EDGE OF PAVEMENT TO THE ROADWAY SIDE OF THE FOUNDATION.
- 4. ANY CHANGES TO THE OFFSETS OF THE FOUNDATIONS, FROM THE MINIMUM DISTANCES LISTED IN THE "TRAFFIC SIGNAL EQUIPMENT OFFSET" CHART AND THE TRAFFIC SIGNAL INSTALLATION PLAN, COULD EFFECT THE PLACEMENT OF THE SIGNAL HEADS, PEDESTRIAN SIGNAL HEADS AND THE PEDESTRIAN PUSHBUTTONS. THE SIGNAL HEAD PLACEMENT ON THE MAST ARMS SHALL REMAIN AS PER THE TRAFFIC SIGNAL INSTALLATION PLAN AND THE "TRAFFIC SIGNAL MAST ARM AND SIGNAL POST" DETAIL ABOVE. THE PROPOSED MAST ARM LENGTHS MAY NEED TO BE REVISED TO MEET THE ABOVE REQUIREMENTS. THE PEDESTRIAN SIGNAL HEADS AND PEDESTRIAN PUSHBUTTONS MUST MEET THE REQUIREMENTS UNDER THE DETAILS ON THIS SHEET.

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c:\pw_work\PWIDOT\BAUEROL\dØ108315\te05	dgn	DRAWN - BCK	REVISED -	STATE OF ILLINOIS	STANDARD TRAFFIC SIGNAL DESIGN DETAILS	303	134(B&B-2)R-1	LAKE 137 120
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1	PLOT DATE = 11/4/2009	DATE - 10-28-09	REVISED -		SCALE: NONE   SHEET NO. 2 OF 6 SHEETS   STA. TO STA.	FED. ROAL	DIST. NO. 1 ILLINOIS FED.	AID PROJECT

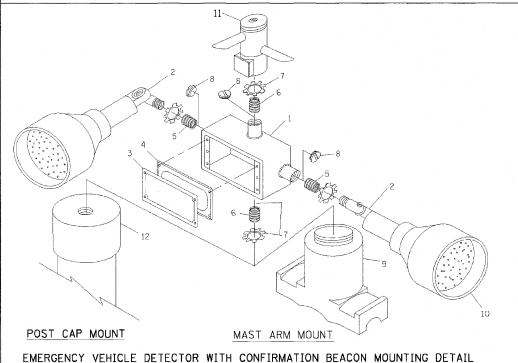




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ITEM	NO. IDENTIFICATION
1	OUTLET BOX- GALV. 21 CU.IN. (0.000344 CU-M)
2	LAMP HOLDER AND COVER
3	OUTLET BOX COVER
4	RUBBER COVER GASKET
5	REDUCING BUSHING
6	3/4"(19 mm) CLOSE NIPPLE
7	¾''(19 mm) LOCKNUT
8	3/4"(19 mm) HOLE PLUG
9	SADDLE BRACKET - GALV.
10	6 WATT PAR 38 LED FLOOD LAMP
11	DETECTOR UNIT
12	POST CAP [18 FT. (5.4 m) POST MIN.]

#### NOTES:

- ALL ELECTRICAL ITEMS, EXCEPT ITEMS \*2 AND \*11 SHALL BE ALUMINUM OR GALVANIZED
- 2. ITEM #1- OZ/GEDNEY FSX-1-50 OR EQUIVALENT
  ITEM #2- MULBERRY CON-0-SHADE LAMP SHIELD OR EQUIVALENT
  ITEM #9- "BAND-IT" SADDLE BRACKET OR EQUIVALENT
- 3. WHEN POST MOUNTING IS SPECIFIED, ITEM #9 SHALL NOT BE REQUIRED. THE DETECTION UNIT SHALL BE MOUNTED DIRECTLY ON TOP OF THE CAP BY DRILLING AND TAPPING A "Y"(19 mm) HOLE WITH PIPE THREADS. THE POST CAP SHALL EITHER BE SCREWED TO THE TOP OF THE POST OR A MINIMUM OF 3 TICHTENING SCREWS SHALL BE REQUIRED ON EACH CAP.

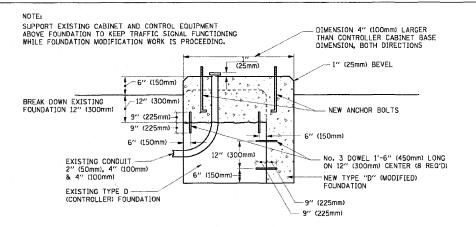
# RO.50" RO.50" (12mm) (12mm)

	A	В	С	HEIGHT	WEIGHT
	VARIES	9.5''(241mm)	19"(483mm)	7" (178mm) - 12" (300mm)	53 lbs (24kg)
	VARIES	10.75"(273mm)	21.5"(546mm)	7" (178mm) - 12" (300mm)	68 lbs (31 kg)
I	VARIES	13.0"(330mm)	26"(660mm)	7" (178mm) - 12" (300mm)	81 lbs (37 kg)
	VARIES	18.5"(470mm)	37''(940mm)	7" (178mm) - 12" (300mm)	126 lbs (57 kg)

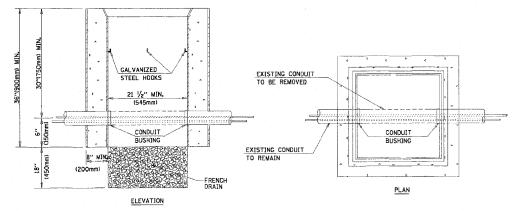
#### SHROUD

#### NOTES:

- 1, DIMENSION "A" IS EQUAL TO THE DIAMETER OF THE MAST ARM POLE AT THE TOP OF THE SHROUD. THE SHROUD SHALL BE TIGHT TO THE MAST ARM POLE.
- 2. THE SUPPLIER SHALL VERIFIED THE ABOVE DIMENSIONS BASED ON MAST ARM REQUIREMENTS.
- 3. THE HEIGHT OF THE SHROUD SHALL COVER THE ANCHOR BOLTS, NUTS AND MAST ARM POLE BASE.



#### MODIFY EXISTING TYPE "D" FOUNDATION



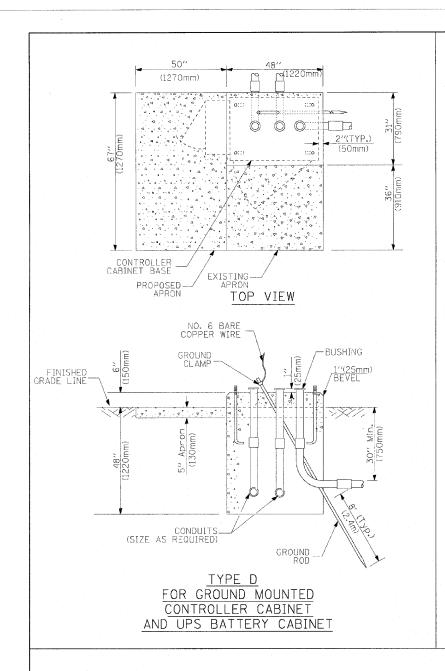
#### NOTES:

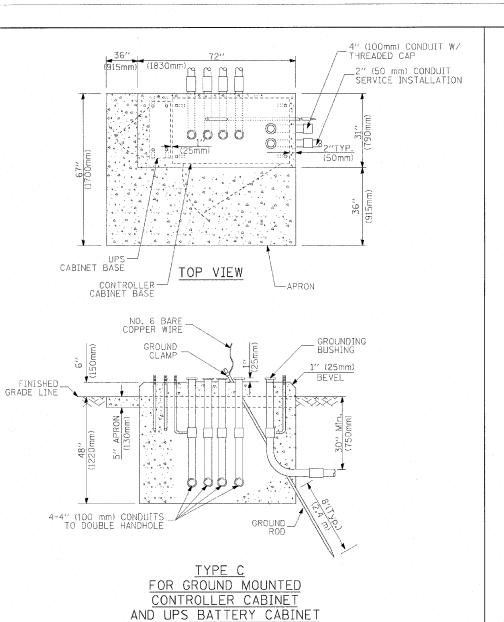
- 1. HANDHOLE CONSTRUCTED PER STATE STANDARD 814001.
- REMOVAL OF THE EXISTING CONDUIT FROM THE HANDHOLE AND THE INSTALLATION
  OF THE CONDUIT BUSHINGS SHALL BE INCIDENTAL TO THE HANDHOLE.

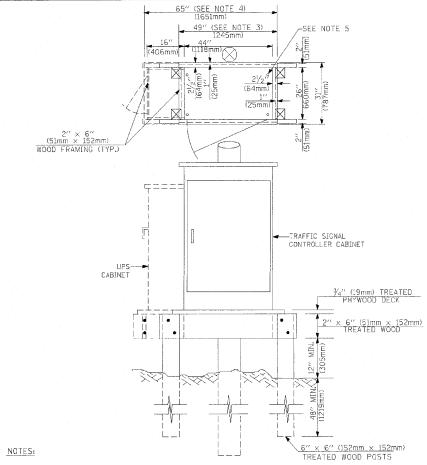
#### HANDHOLE TO INTERCEPT EXISTING CONDUIT

		DIST	RICT ON	IE		F.A.P. RTE.	SECTION	COUNTY	TOTAL. SHEETS	SHEET NO.
	STANDARD				DETAILO	303	134(B&B-2)R-1	LAKE	137	122
	SIANDARD	IKATTIG	SIGNAL	DESIGN	DETAILS		T\$-05	CONTRACT	NO. 6	2037
SCALE: NONE	SHEET NO. 4	OF 6	SHEETS	STA.	TO STA.	FED, RO	DAD DIST. NO. 1   ILLINOIS FED. A	ID PROJECT		

## STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION







- BASED ON CONTROLLER CABINET TYPE IV WITH BASE DIMENSIONS OF 26" x 44" (660mm x 1118mm).
   ADJUST PLATFORM SIZE TO FIT CABINET BASE DIMENSIONS BEING SUPPLIED.
- BASED ON UNINTERRUPTIBLE POWER SUPPLY CABINET WITH BASE DIMENSIONS OF 16" x 25" (406mm x 635mm).
   ADJUST PLATFORM SIZE TO FIT CABINET BASE DIMENSIONS BEING SUPPLIED.
- 3. PLATFORM SIZE FOR CONTROLLER CABINET TYPE IV.
- 4. PLATFORM SIZE FOR CONTROLLER CABINET TYPE IV AND UNINTERRUPTIBLE POWER SUPPLY CABINET.
- 5. DRILLED HOLES THROUGH THE PLATFORM BASE TO MATCH THE CONTROLLER CABINET BOLT TEMPLATE. FASTEN THE CONTROLLER CABINET TO THE PLATFORM WITH CARRIAGE BOLTS, WASHERS AND NUTS.
- 6. FASTEN ALL SUPPORT WOOD FRAMING TO THE WOOD POSTS WITH 2 LAG SCREWS FOR EACH CONNECTION.

#### TEMPORARY SIGNAL CONTROLLER WOOD SUPPORT PLATFORM

CABLE SLACK LENGTH	FEET	METER
HANDHOLE	6.5	2.0
DOUBLE HANDHOLE	13.0	4.0
SIGNAL POST	2.0	0.6
MAST ARM	2.0	0.6
CONTROLLER CABINET	1.5	0.5
FIBER OPTIC AT CABINET	13.0	4,0
ELECTRIC SERVICE AT (CABINET OR SERVICE LOCATION)	1.5	0.5
GROUND CABLE (SIGNAL POST, MAST ARM, CABINET)	1.5	0.5
GROUND CABLE (BETWEEN FRAME AND COVER)	5.0	1.6

CABLE SLACK

VERTICAL CABLE LENGTH	FEET	METER
MAST ARM POLE ( MAST ARM MOUNTED SIGNAL HEAD)		
(L = MAST ARM LENGTH - DISTANCE TO SIGNAL HEAD FROM END OF ARM)	20.0+L	6.0+L
BRACKET MOUNTED (MAST ARM POLE OR SIGNAL POLE)	13.0	4.0
PEDESTRIAN PUSH BUTTON	6.0	2.0
SERVICE INSTALLATION POLE MOUNT TO SERVICE DROP	13.5	4.1
SERVICE INSTALLATION POLE MOUNT TO GROUND	13.5	4.1
SERVICE INSTALLATION GROUND MOUNT	6.0	2.0
FOUNDATION (SIGNAL POST, MAST ARM POLE, CONTROLLER CABINET, SERVICE-GROUND MOUNT)	3,0	1.0

#### VERTICAL CABLE LENGTH

	6.0	2.0		
FROLLER CABINET, SERVICE-GROUND MOUNT)	3.0	1.0		
			DEPTH_C	F FOUNDAT
OADLE LENGTH				

#### MOIT

Mast Arm Length	① Foundation Depth	Foundation Diameter	Spiral Diameter	Quantity of Rebars	Size of Rebars
Less than 30' (9.1 m)	10'-0" (3.0 m)	30" (750mm)	24" (600mm)	8	6(19)
Greater than or ecual to	13'-6" (4.1 m)	30" (750mm)	24" (600mm)	8	6(19)
30' (9.1 m) and less than 40' (12.2 m)	11'-0" (3.4 m)	36" (900mm)	30" (750mm)	12	7(22)
Greater than or equal to 40' (12.2 m) and less than 50' (15.2 m)	13'-0" (4.0 m)	36" (900mm)	30" (750mm)	12	7(22)
Greater than or equal to 50' (15.2 m) and up to 55' (16.8 m)	15'-0" (4.6 m)	36" (900mm)	30" (750mm)	12	7(22)
Creater than or equal to 56' (16.8 m) and less than 65' (19.8 m)	21'-0" (6.4 m)	42" (10 <b>6</b> 0mm)	36" (900mm)	16	8(25)
Greater than or equal to 65' (19.8 m) and up to 75' (22.9 m)	25'-0" (7.6 m)	42" (1060mm)	36" (900mm)	16	8(25)

DEPTH

4'-0" (1.2m) 4'-0" (1.2m) 4'-0" (1.2m)

4'-0" (1.2m)

- 1. These foundation depths are for sites which have cohes've soils (clayey slit, sandy alay, etc.) along the length of the shaft, with an average Unconfined Compressive Strength (Qu) > 1.0 tsf (100 kpa). This strength shall be verified by boring data prior to construction or with testing by the Engineer during foundation drilling. The Bureau of Bridges & structures should be contacted for a revised design if other conditions are encountered.
- 2. Combination most arm assemblies under 55 feet (16.8 m) shall use 36" (900 mm) diameter foundations.
- 3. Combination mast arm assemblies under 56 feet (16.8 m) through 75 feet (22.9 m) shall use 42" (1060 mm) diameter foundations.
- 4. For mast arm assemblies with dual arms refer to state standard 878001.

#### DEPTH OF MAST ARM FOUNDATIONS, TYPE E

FILE NAME =	USER NAME = bauerdl	DESIGNED - DAC	REVISED -		DISTRICT ONE	F.A.P. RTE.	SECTION	COUNTY TOTAL SHEETS	SHEET NO.
c:\pw_work\PWIDGT\BAUERDL\dØ108315\tsØ5.	dgn	DRAWN - BCK	REVISED -	STATE OF ILLINOIS		303	134(B&B-2)R-1	LAKE 137	123
,	PLOT SCALE = 50.0000 '/ IN.	CHECKED - DAD	REVISED -	DEPARTMENT OF TRANSPORTATION	STANDARD TRAFFIC SIGNAL DESIGN DETAILS		TS-05	CONTRACT NO. 6	62037
	PLOT DATE = 11/4/2009	DATE - 10-28-09	REVISED -		SCALE: NONE SHEET NO. 5 OF 6 SHEETS STA. TO STA.	FED. ROAD DIS	ST. NO. 1 ILLINDIS FED. A	AID PROJECT	

FOUNDATION

TYPE A - Signal Post

SERVICE INSTALLATION, GROUND MOUNT, TYPE A - SQUARE

TYPE C - CONTROLLER W/ UPS
TYPE D - CONTROLLER

				TRAFFIC	SIGNA	. LEGEN	<u>ID</u>					
					DE VIOLEN	Futornia			DEMONAL	EVICTIVO	DDODOCES	
<u>ITEM</u>	REMOVAL	EXISTING	PROPOSED	ITEM	REMOVAL	EXISTING	PROPOSED	ITEM	REMOVAL	EXISTING	PROPOSED -	
ONTROLLER CABINET	R			EMERGENCY VEHICLE LIGHT DETECTOR	R≪	<b>«</b>	₩ ,	ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1/C, UNLESS NOTED OTHERWISE			1)	
AILROAD CONTROL CABINET			B R	CONFIRMATION BEACON	R <sub>o-Q</sub>	0-0		COAXIAL CABLE				
OMMUNICATIONS CABINET	CC	ECC	CC	HANDHOLE	R			COAXIAE CABLE				
ASTER CONTROLLER		EMC	MC	HEAVY DUTY HANDHOLE	R	H	H	VENDOR CABLE FOR CAMERA		(v)	(v)	
ASTER MASTER CONTROLLER	R	EUPS	MMC UPS	DOUBLE HANDHOLE	R			COPPER INTERCONNECT CABLE,		~ ~ ·		
NINTERRUPTIBLE POWER SUPPLY ERVICE INSTALLATION,				JUNCTION BOX	R		0	NO. 18 3 PAIR TWISTED, SHIELDED		-(6)-	6	
P) POLE OR (G) GROUND MOUNT		-D <sup>P</sup>	- <b>B</b> -	GALVANIZED STEEL CONDUIT				FIBER OPTIC CABLE NO. 62.5/125, MM12F		—(12F)—		
ELEPHONE CONNECTION P) POLE OR (G) GROUND MOUNT	R	P. T.	P .	IN TRENCH (T) OR PUSHED (P)				FIBER OPTIC CABLE		—(24F)—	(24F)	
TEEL MAST ARM ASSEMBLY AND POLE	R	<u> </u>	•	TEMPORARY SPAN WIRE, TETHER WIRE, AND CABLE	R			NO. 62.5/125, MM12F SM12F				
LUMINUM MAST ARM ASSEMBLY AND POLE	R	0		COMMON TRENCH			CT	FIBER OPTIC CABLE NO. 62.5/125, (NUMBER OF FIBERS & TYPE TO BE		-6-		
TEEL COMBINATION MAST ARM	RO-X	0-10	•	COILABLE NONMETALLIC CONDUIT (EMPTY)			CNC	NOTED ON PLANS)				
SSEMBLY AND POLE WITH LUMINAIRE	Pr			SYSTEM ITEM		S	S	GROUND ROD AT (C) CONTROLLER,  (H) HANDHOLE, (P) POST, (M) MAST ARM,		C	c <sub>i</sub> ⊪⊸	
TEEL COMBINATION MAST ARM SSEMBLY AND POLE WITH PTZ CAMERA		Q	PTZ <b>M</b>	INTERSECTION ITEM		I	IP	OR (S) SERVICE		'I		
IGNAL POST	R <sub>O</sub>	0	•	REMOVE ITEM	R			CONTROLLER CABINET AND FOUNDATION TO BE REMOVED	RCF			
EMPORARY WOOD POLE (CLASS 5 OR ETTER) 45 FOOT (13.7m) MINIMUM	P.⊗	$\otimes$	, · · •	RELOCATE ITEM	RL			STEEL MAST ADM DOLE AND	RME			
UY WIRE	R	>	<u>→</u>	ABANDON ITEM  12" (300mm) TRAFFIC SIGNAL SECTION	Α	R	R	STEEL MAST ARM POLE AND FOUNDATION TO BE REMOVED	RMF			
	R	•	•	12 (SUGNIM) TRAFFIC SIGNAL SECTION			R	ALUMINUM MAST ARM POLE AND	RMF			
IGNAL HEAD  IGNAL HEAD CONSTRUCTION STAGES		>		12" (300mm) RED WITH 8" (200mm) YELLOW AND GREEN TRAFFIC SIGNAL FACE		(R)		FOUNDATION TO BE REMOVED	<u> </u>			
NUMBERS INDICATE THE CONSTRUCTION STAGE)			- <b>-</b>	TELEON AND GREEN HATTIC SIGNAL FACE			p	STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE AND	RMF ○-¤			
IGNAL HEAD WITH BACKPLATE	+C> R	+>	+-			R	R	FOUNDATION TO BE REMOVED				
IGNAL HEAD OPTICALLY PROGRAMMED		—>′′p′′		SIGNAL FACE			G	SIGNAL POST AND FOUNDATION TO BE REMOVED	RMF <sub>O</sub>			
LASHER INSTALLATION	R O- <b>⊳</b> ″F″	O- <b>⊳</b> ″F″	<b>●→</b> "F"				<b>4</b> -Y <b>4</b> -G					
S DENOTES SOLAR POWER)	. 00						40	INTERSECTION & SAMPLING (SYSTEM) DETECTOR		IS	IS	
EDESTRIAN SIGNAL HEAD	R -		-8			R	R	SAMPLING (SYSTEM) DETECTOR		[s]	S	
EDESTRIAN PUSHBUTTON DETECTOR	R (6)	(ii)	• •	SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD			Y	EXISTING INTERSECTION LOOP DETECTOR		·=-		
CCESSIBLE PEDESTRIAN PUSHBUTTON DETECTOR	R (a) APS	- Ours		I INDICATES PROGRAMMED HEAD			₹Y	PROPOSED INTERSECTION AND SAMPLING (SYSTEM) DETEC	TOR	P		
	(©) APS	© APS				4G	<b>4</b> G	EXISTING PREFORMED INTERSECTION LOOP DETECTOR		PP		
LLUMINATED SIGN NO LEFT TURN"	<b>S</b>		9	40% (700				PROPOSED INTERSECTION AND SAMPLING (SYSTEM) DETEC	ľ OR			
LUMINATED SIGN	R			12" (300mm) PEDESTRIAN SIGNAL HEAD WALK/DON'T WALK SYMBOL		DW)		PREFORMED INTERSECTION AND SAMPLING (SYSTEM) DETECTOR		PIS	PIS	
NO RIGHT TURN"			<b>®</b>	12" (300mm) PEDESTRIAN SIGNAL HEAD				PREFORMED SAMPLING (SYSTEM) DETECTOR		PS	PS	
ETECTOR LOOP, TYPE I				INTERNATIONAL SYMBOL, OUTLINED					·	← →	66	
REFORMED DETECTOR LOOP		P	P	12" (300mm) PEDESTRIAN SIGNAL HEAD INTERNATIONAL SYMBOL, SOLID		( <b>b</b> )	*	RAILROAD	SYMBO	LS		
ICDOWAVE VEHICLE CENSOD	R			PEDESTRIAN SIGNAL HEAD, INTERNATIONAL					0111120			
ICROWAVE VEHICLE SENSOR	(M)	(M)1	M	SYMBOL, WITH COUNTDOWN TIMER		<b>(</b> €) C ( <b>\$</b> ) D	* D			EXISTING	PROPOSED	
IDEO DETECTION CAMERA	R [V]	<b>1</b>	$\bigcirc$	RADIO INTERCONNECT	- <del>    R</del> O	##+0		RAILROAD CONTROL CABINET		T T		
IDEO DETECTION ZONE					· ·		· · · · · · · · · · · · · · · · · · ·	RAILROAD CANTILEVER MAST ARM	· <del>-</del>	CX X	XOX X	
	'Ŗ			RADIO REPEATER	RERR	ERR	RR	FLASHING SIGNAL		XeX	XOX	
AN, TILT, ZOOM CAMERA	(T)	PTZ(1		DENOTES NUMBER OF CONDUCTORS, ELECTRI CABLE NO. 14, UNLESS NOTED OTHERWISE.	C	—(5)—	5					
IRELESS DETECTOR SENSOR	RW	W	W	ALL DETECTOR LOOP CABLE TO BE SHIELDE	D	~		CROSSING GATE		X <del>0</del> X>	XOX	
RELESS ACCESS POINT	R			GROUND CABLE IN CONDUIT NO. 6 SOLID COPPER (GREEN)				CROSSBUCK		<b>≥</b>	*	
NAME = USER NAME = bauerdi		IGNED - DAG/BCK	REVISED -	The second secon	B.C. W				F.A.P. RTE.	SECTION	COUNTY TOTA	
_work\PWIDOT\BAUERDL\dØ108315\te05.dgn	DRAWN - BCK   REVISED			STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION				DISTRICT ONE STANDARD TRAFFIC SIGNAL DESIGN DETAILS		303 134(B&B-2)R-1 LAKE 137   TS-05   CONTRACT NO. 62		

