

Madison, Wisconsin

# CITY OF MADISON

## CITY ENGINEERING DIVISION

### DEPARTMENT OF PUBLIC WORKS

#### PLAN OF PROPOSED IMPROVEMENT

PUBLIC IMPROVEMENT PROJECT APPROVED

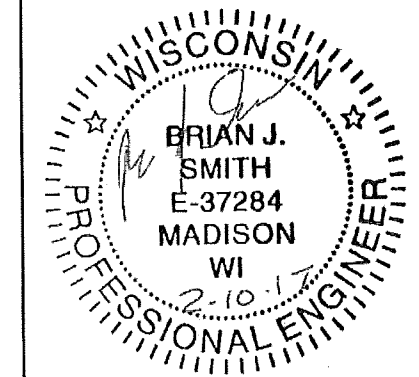
MARCH 15, 2016

BY THE COMMON COUNCIL  
OF MADISON, WISCONSIN

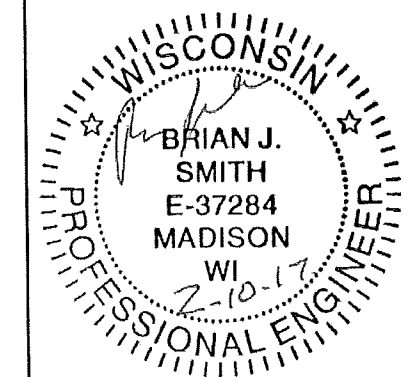
PUBLIC IMPROVEMENT DESIGN  
APPROVED BY:

*Philip Bachman* 2-10-17  
City Engineer Date

ELECTRICAL  
DESIGNED BY:



PAVEMENT MARKINGS  
DESIGNED BY:



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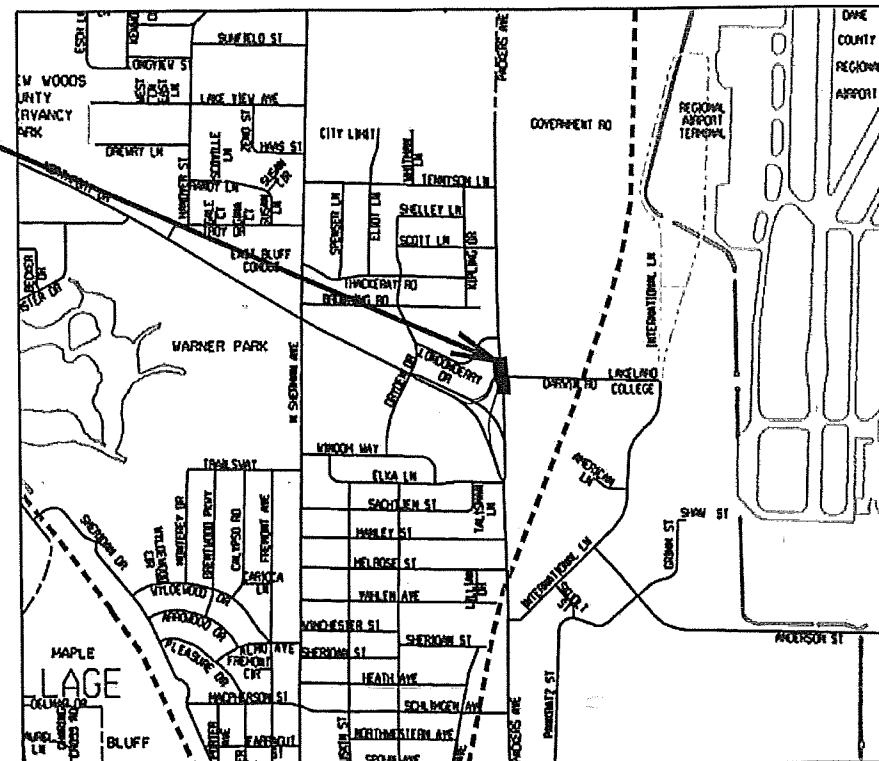
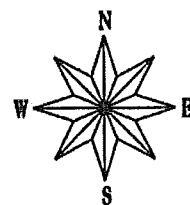
SHEET NO.	TITLE
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E0	ELECTRICAL PLANS
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## DARWIN ROAD AND PACKERS AVENUE TRAFFIC SIGNAL ASSESSMENT DISTRICT

CITY PROJECT NO. 17449

CONTRACT NO. 7692

PROJECT  
LOCATION



CONVENTIONAL SIGNS	
FIELD VERIFY ALL UTILITY LOCATIONS	
GAS	G
STORM SEWER	ST
SANITARY SEWER	SAH
WATER	W
OVERHEAD ELECTRIC	OH
BURIED ELECTRIC	E
LIGHT POLE	

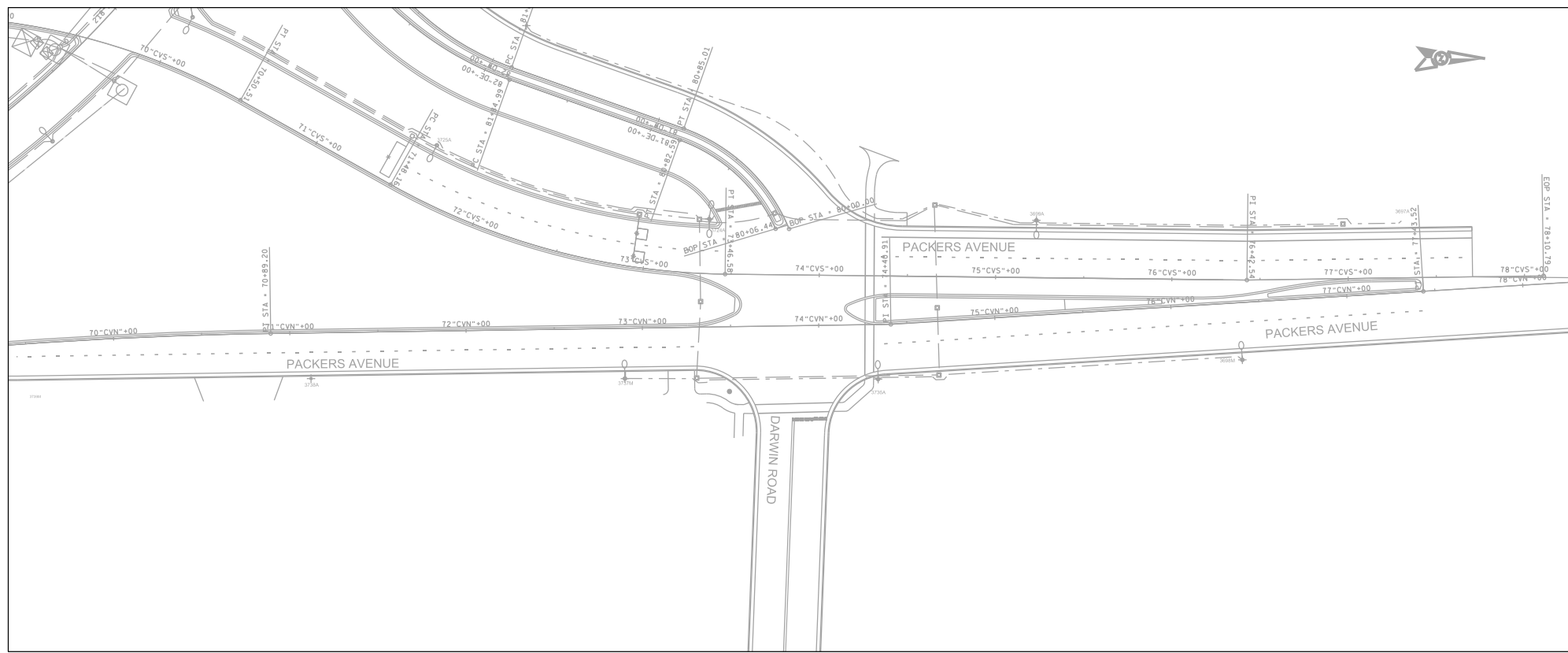
PLOT SCALE: \_\_\_\_\_  
PLOT NAME: \_\_\_\_\_  
REV. DATE: \_\_\_\_\_  
ORIGINATOR: CITY OF MADISON - STREETS DIVISION

ELECTRICAL SHEET

GENERAL ELECTRIC NOTES CITY OF MADISON

GENERAL ELECTRIC NOTES:

1. ALL LOCATIONS ARE APPROXIMATE. THE TRAFFIC ENGINEER SHALL APPROVE FINAL LOCATIONS, INCLUDING SETBACK, IN THE FIELD AFTER CONTRACTOR SURVEYS STAKING. THE CONTRACTOR SHALL NOTIFY JERRY SCHIPPA (267-1969) CITY TRAFFIC ENGINEERING, AT LEAST 24-HOURS IN ADVANCE OF NEEDING CONDUIT OR BASE LOCATIONS MARKED.
2. BASES INSTALLED IN TERRACE SHALL BE 4' FROM FACE OF CURB UNLESS OTHERWISE NOTED. SUBJECT TO NOTE 1 ABOVE.
3. THE CONTRACTOR SHALL DO ALL WORK IN ACCORDANCE WITH "CITY OF MADISON STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 2016 EDITION" AND ALL ADDENDUMS THERETO. ALL CONDUIT SHALL BE PVC, SCHEDULE 80 UNDER PAVEMENT OR SCHEDULE 40 OTHERWISE. PULL WIRE REQUIRED AS PER STANDARD SPECIFICATIONS.
4. THE CONTRACTOR SHALL CALL MIKE CHRISTOPH (266-9031) AT THE TRAFFIC ENGINEERING SHOP AT LEAST 24-HOURS IN ADVANCE OF POURING BASES, INSTALLING HANDHOLES OR BURYING CONDUIT TO ARRANGE FOR INSPECTION.
5. ANY WORK COMPLETED WITHOUT INSPECTION IS SUBJECT TO REJECTION.
6. EXISTING STREETLIGHTS SHALL BE IN SERVICE EACH AND EVERY NIGHT.
7. TRAVEL LANE CLOSURES SHALL ONLY OCCUR ON WEEKDAYS BETWEEN 8:30 A.M. AND 4:00 P.M. AND ANYTIME ON WEEKENDS. ALL LANE CLOSURES OF PACKERS AVE SHALL REQUIRE AN ELECTRONIC, FLASHING ARROWBOARD. FLASHING ARROW BOARD COST INCLUDED IN BID ITEM 10701 TRAFFIC CONTROL.
8. ALL SIGNING AND BARRICADING SHALL CONFORM WITH THE FEDERAL HIGHWAYS ADMINISTRATIONS "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) AND THE CITY OF MADISON STANDARDS FOR SIDEWALK AND BIKEWAY CLOSURES AND THE STATE OF WISCONSIN STANDARD DETAIL DRAWING S.D.D 15D3.
9. THE CONTRACTOR SHALL ARRANGE FOR PICK UP OF THE FOLLOWING CITY FURNISHED MATERIALS, WHICH SHOULD BE ARRANGED FOR PICKUP BY CALLING DENNIS ROWE, TRAFFIC ENGINEERING SHOP, 266-9034 1120 SAYLE ST., AT LEAST 24-HOURS PRIOR TO NEEDING MATERIALS:
  - (24) 3/4" BY 19" ANCHOR BOLTS FOR TYPE G BASE
  - (8) 1 1/4" BY 48" ANCHOR BOLTS FOR LB-8 BASE



LEGEND

- ⊙ NEW LB-8 BASE
- ⊙ NEW TYPE G BASE
- ⌋ NEW PEDESTRIAN SIGNAL FACE
- ⌋ NEW TROMBONE ARM
- ⌋ NEW DETECTOR LOOP (6X20)
- ⌋ NEW DETECTOR LOOP (6X6)
- SIGNAL CONDUIT
- ⊠ NEW TYPE 1 HANDHOLD
- ⊠ NEW TYPE 3 HANDHOLE
- ⊠ NEW TYPE 5 HANDHOLE
- ⊠ NEW TYPE 7 HANDHOLE
- ➔ NEW SIGNAL FACE
- ⊠ NEW CONTROLLER CABINET
- ⊠ EXISTING POLE WITH LIGHT
- EXISTING SIGNAL CONDUIT
- ⊠ EXISTING HANDHOLE
- EXISTING ELECTRICAL CONDUIT

PLOT SCALE:

PLOT NAME:

REV. DATE:

ORIGINATOR: CITY OF MADISON, TRAFFIC ENG. DIV.

ELECTRICAL SHEET

DARWIN RD/PACKERS AVE CITY OF MADISON



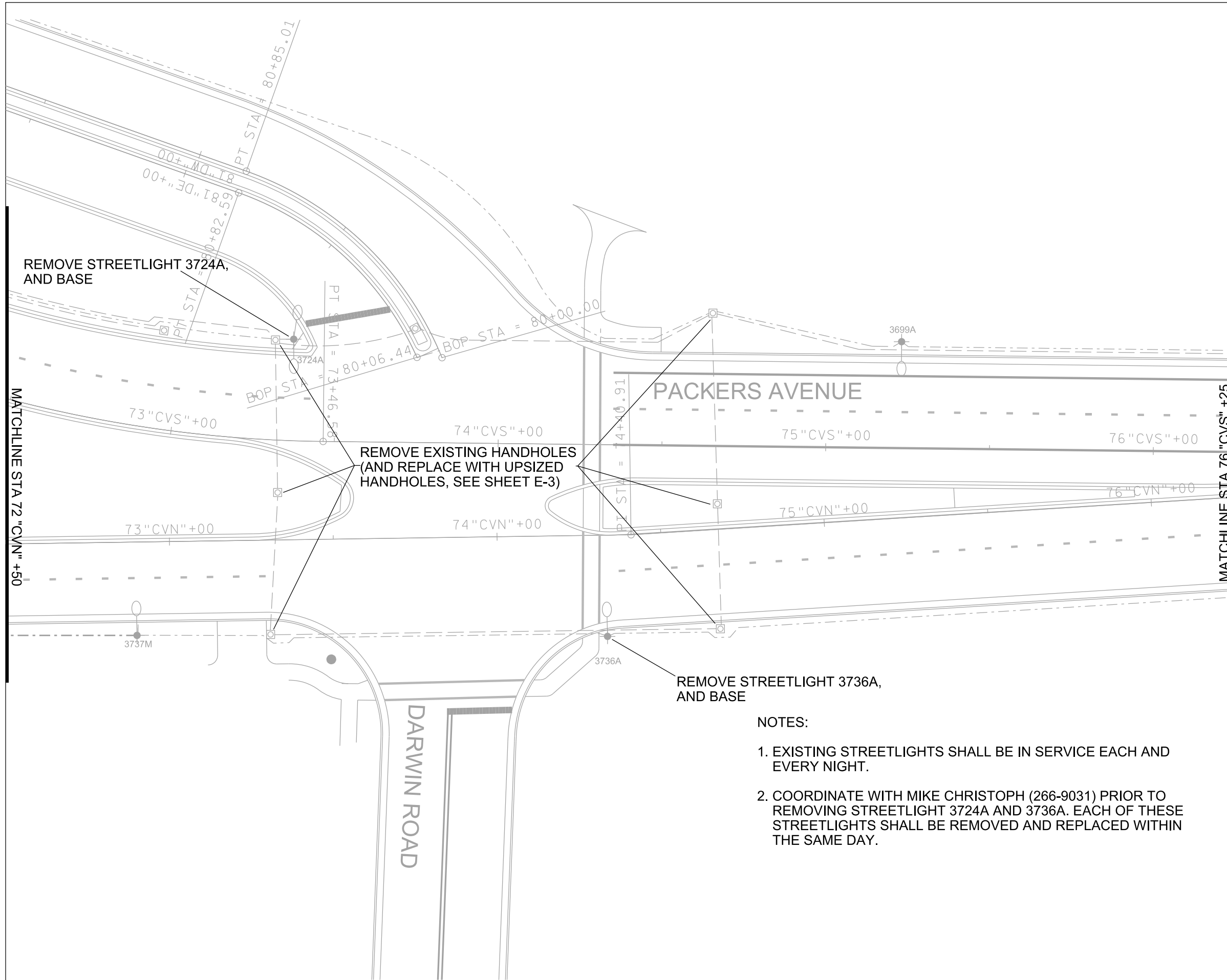
SCALE: 1" = 30'

PLOT SCALE:

PLOT NAME:

REV. DATE:

ORIGINATOR: CITY OF MADISON, TRAFFIC ENG. DIV.



REMOVE STREETLIGHT 3724A, AND BASE

REMOVE EXISTING HANDHOLES (AND REPLACE WITH UPSIZED HANDHOLES, SEE SHEET E-3)

REMOVE STREETLIGHT 3736A, AND BASE

NOTES:

1. EXISTING STREETLIGHTS SHALL BE IN SERVICE EACH AND EVERY NIGHT.
2. COORDINATE WITH MIKE CHRISTOPH (266-9031) PRIOR TO REMOVING STREETLIGHT 3724A AND 3736A. EACH OF THESE STREETLIGHTS SHALL BE REMOVED AND REPLACED WITHIN THE SAME DAY.

ELECTRICAL SHEET

NB PACKERS AVE

CITY OF MADISON



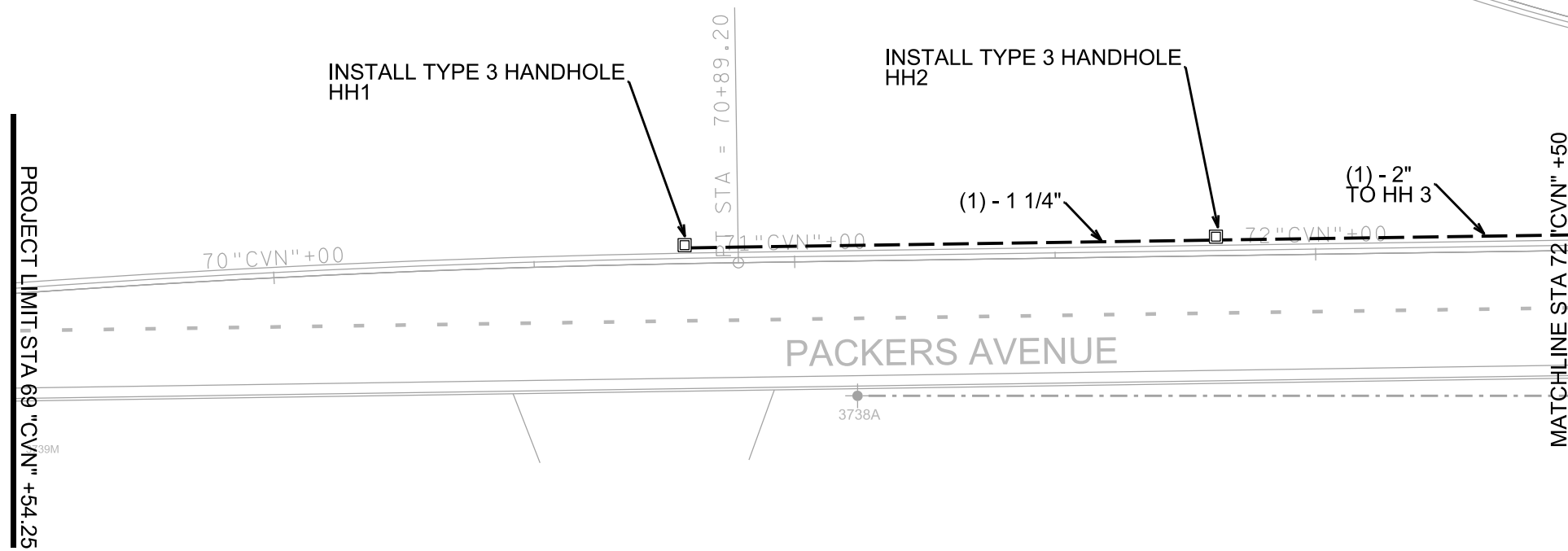
SCALE: 1" = 30'

PLOT SCALE:

PLOT NAME:

REV. DATE:

ORIGINATOR: CITY OF MADISON, TRAFFIC ENG. DIV.



NOTES:

- 1. (X) - X" INDICATES (QUANTITY) AND SIZE OF CONDUIT TO BE INSTALLED BY CONTRACTOR.

ELECTRICAL SHEET

DARWIN RD/PACKERS AVE CITY OF MADISON



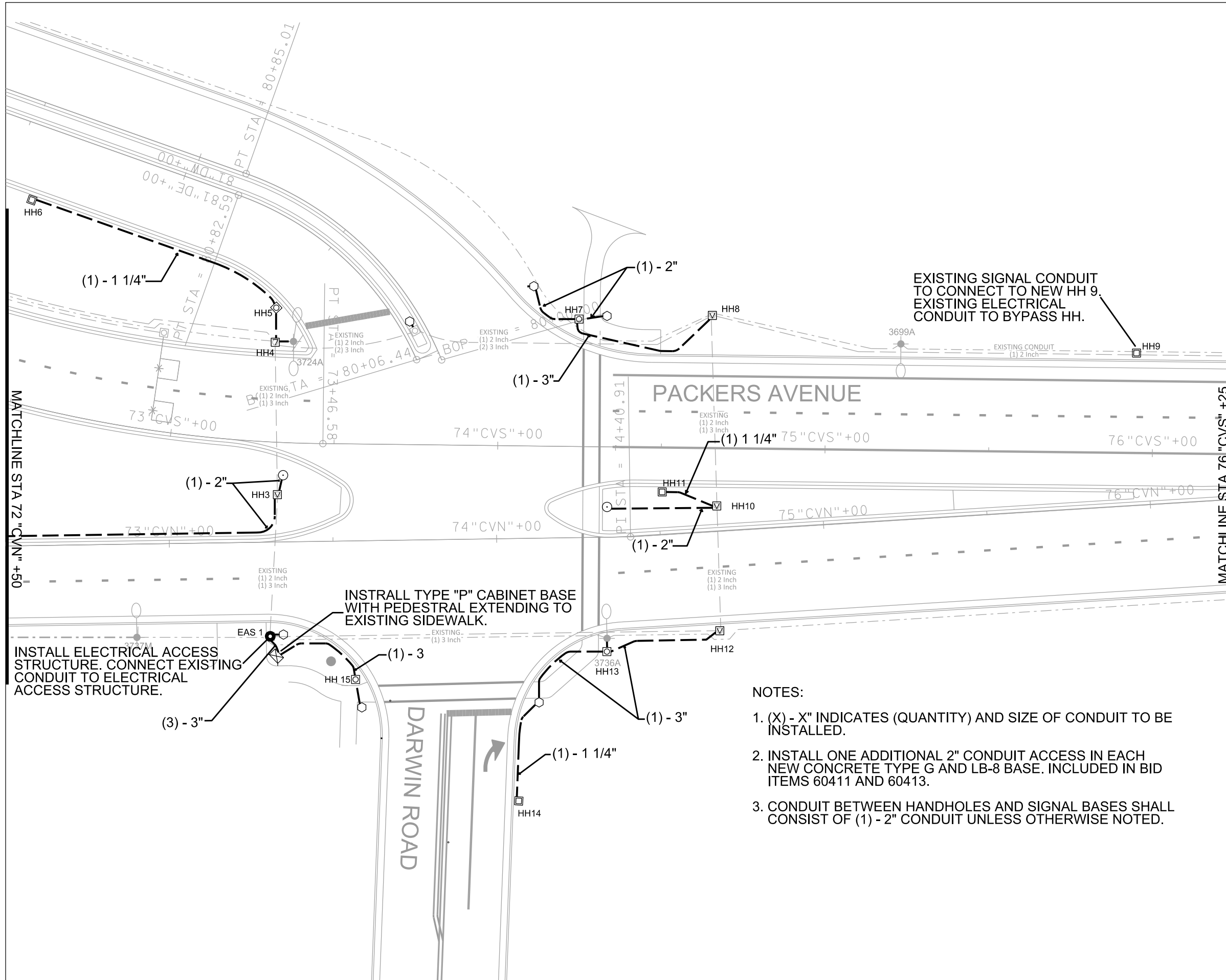
SCALE: 1" = 30'

PLOT SCALE:

PLOT NAME:

REV. DATE:

ORIGINATOR: CITY OF MADISON, TRAFFIC ENG. DIV.



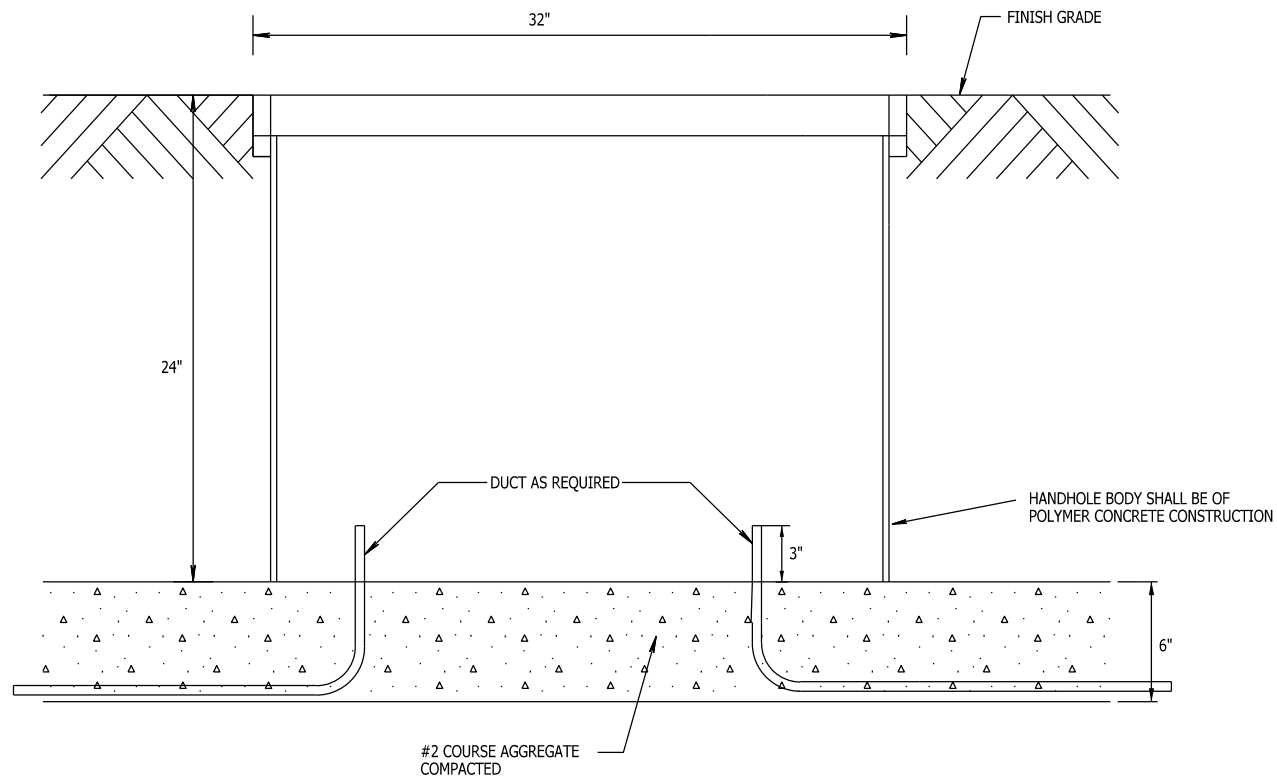
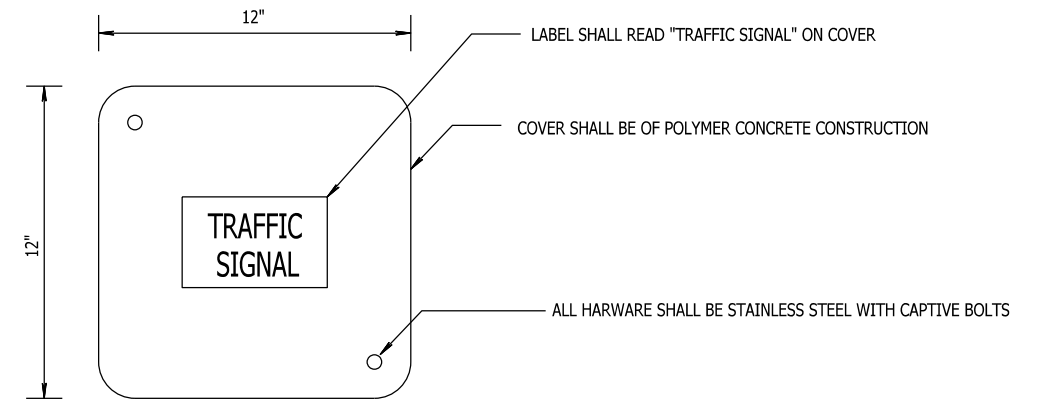
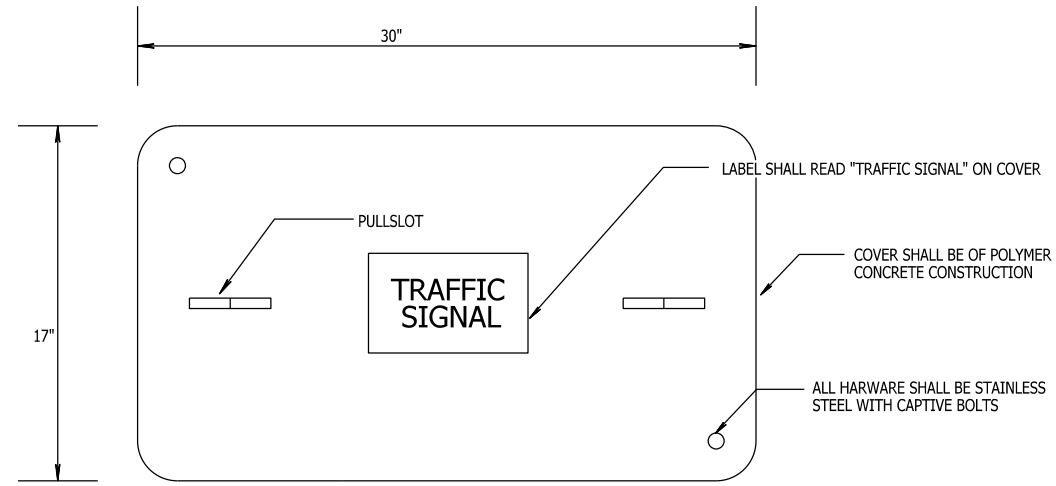
EXISTING SIGNAL CONDUIT TO CONNECT TO NEW HH 9.  
EXISTING ELECTRICAL CONDUIT TO BYPASS HH.

INSTALL TYPE "P" CABINET BASE WITH PEDESTAL EXTENDING TO EXISTING SIDEWALK.

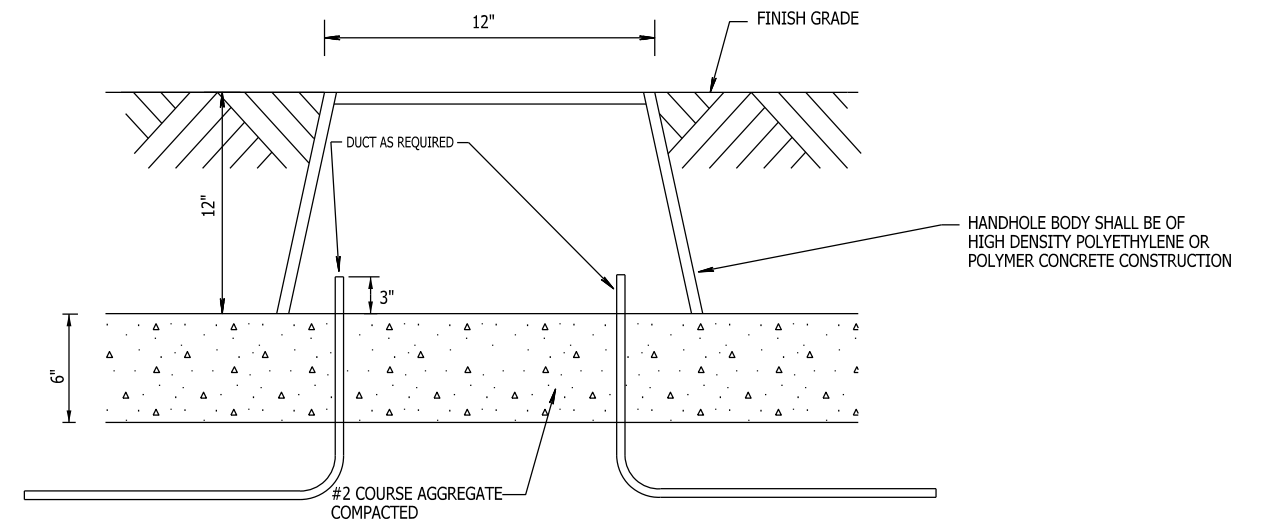
INSTALL ELECTRICAL ACCESS STRUCTURE. CONNECT EXISTING CONDUIT TO ELECTRICAL ACCESS STRUCTURE.

NOTES:

1. (X) - X" INDICATES (QUANTITY) AND SIZE OF CONDUIT TO BE INSTALLED.
2. INSTALL ONE ADDITIONAL 2" CONDUIT ACCESS IN EACH NEW CONCRETE TYPE G AND LB-8 BASE. INCLUDED IN BID ITEMS 60411 AND 60413.
3. CONDUIT BETWEEN HANDHOLES AND SIGNAL BASES SHALL CONSIST OF (1) - 2" CONDUIT UNLESS OTHERWISE NOTED.



**TYPE I HANDHOLE DETAIL**  
SCALE: NONE



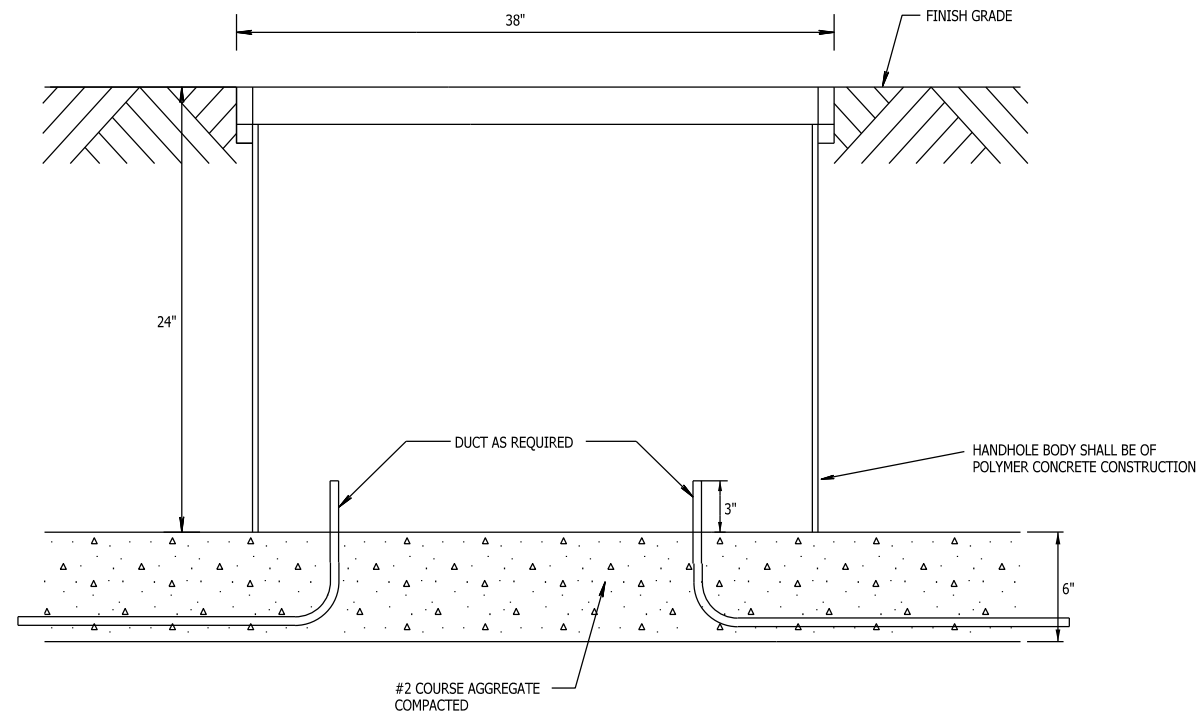
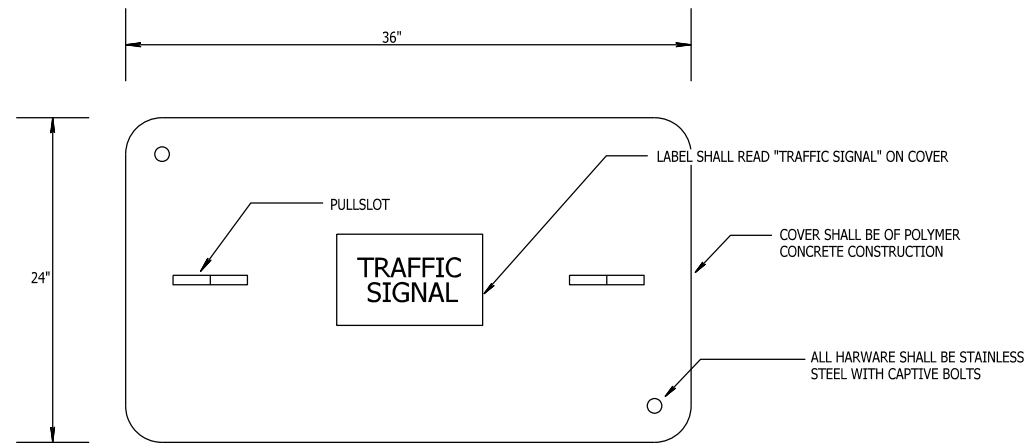
**TYPE III HANDHOLE DETAIL**  
SCALE: NONE

PLOT SCALE:

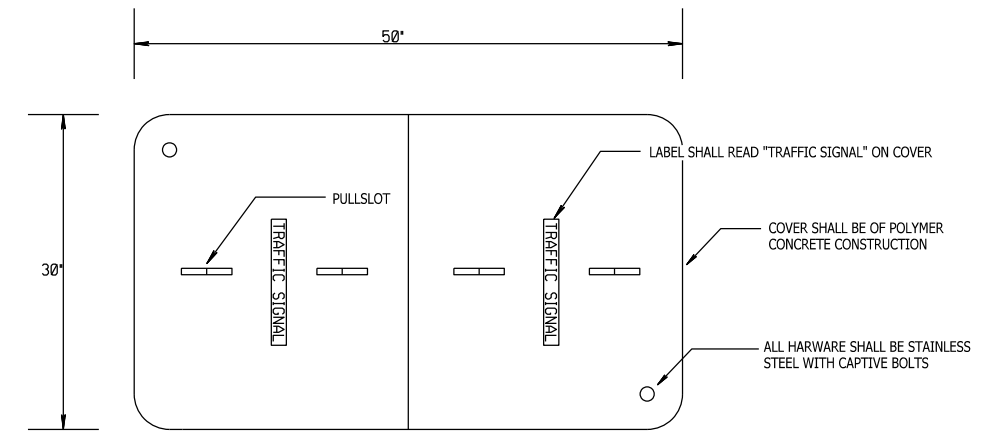
PLOT NAME:

REV. DATE:

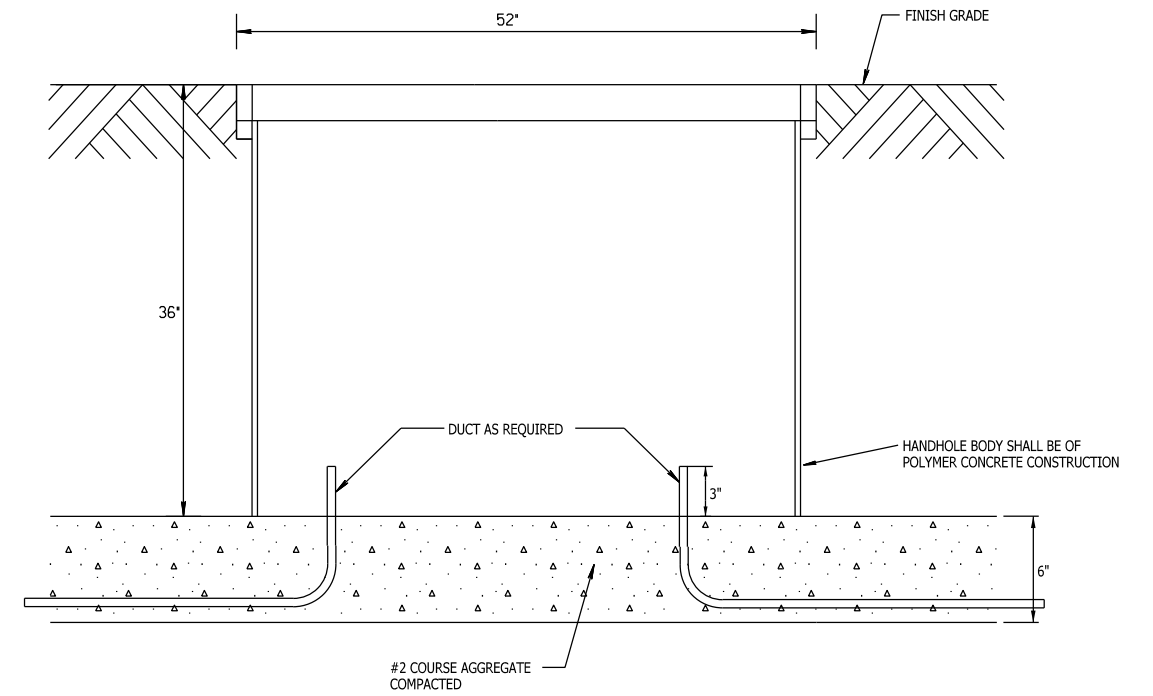
ORIGINATOR: CITY OF MADISON, TRAFFIC ENG. DIV.



**TYPE V HANDHOLE DETAIL**  
SCALE: NONE



•15,000 LBS MAXIMUM LOAD OVER A 10'X10'  
TEST AREA RATING FOR COVER AND BOX



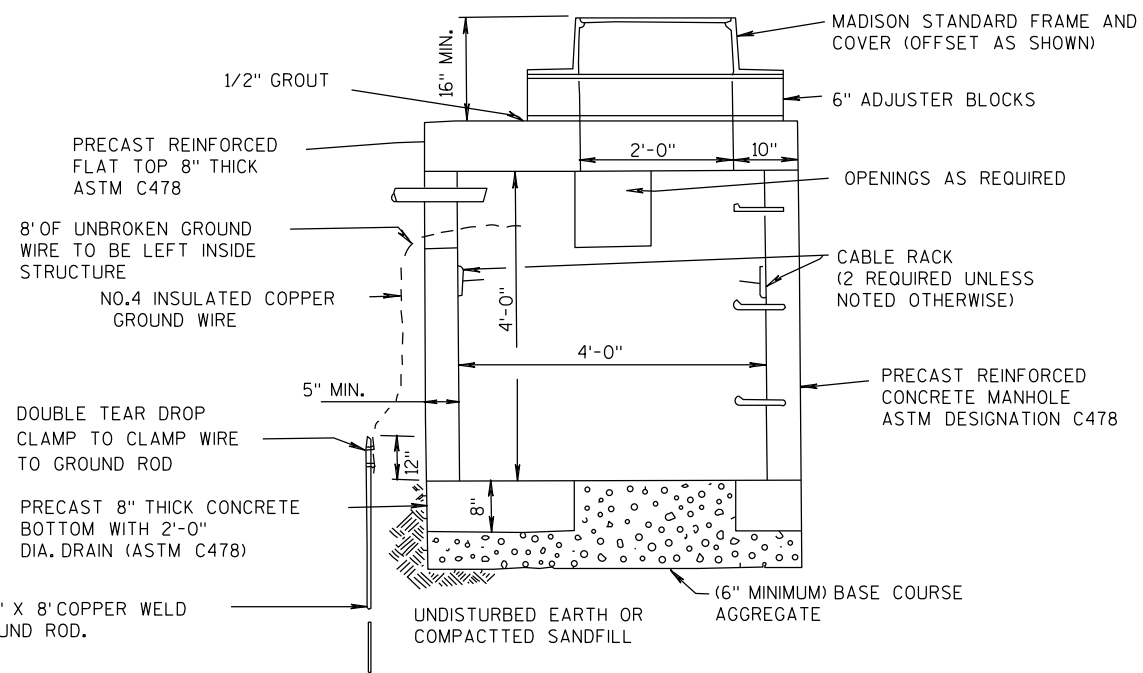
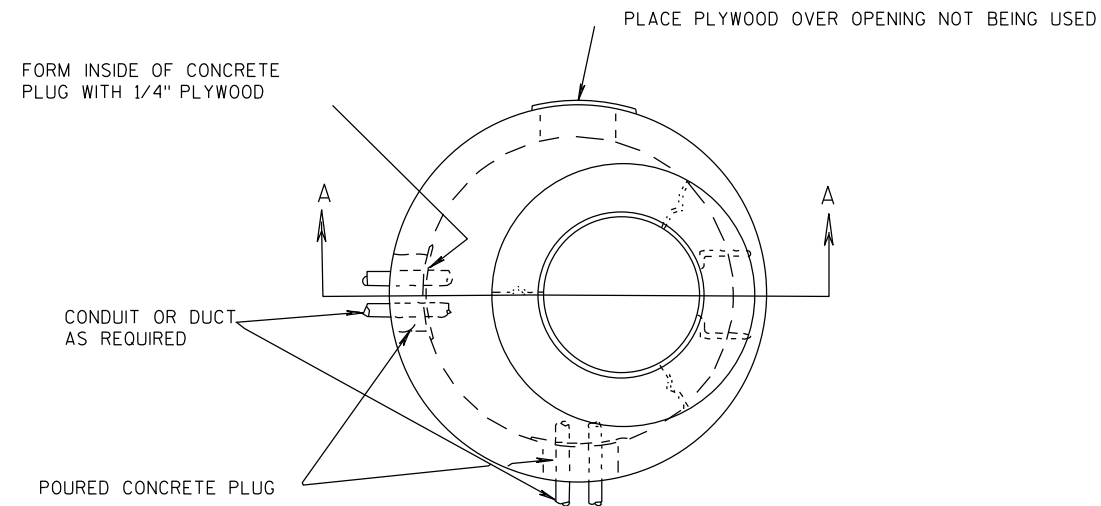
**TYPE VII HANDHOLE DETAIL**  
SCALE: NONE

PLOT SCALE:

PLOT NAME:

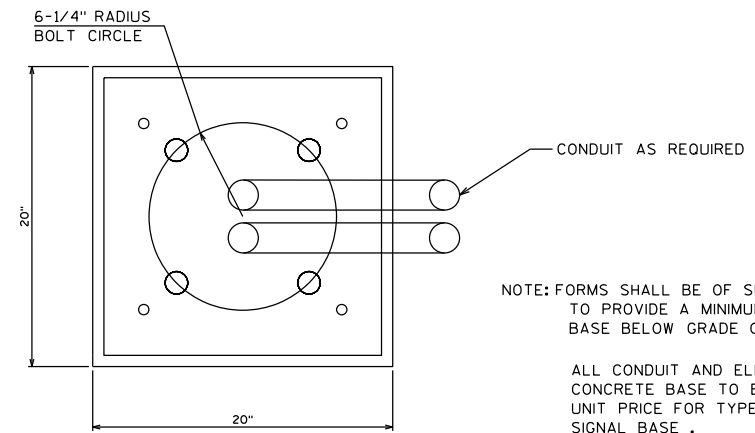
REV. DATE:

ORIGINATOR: CITY OF MADISON, TRAFFIC ENG. DIV.



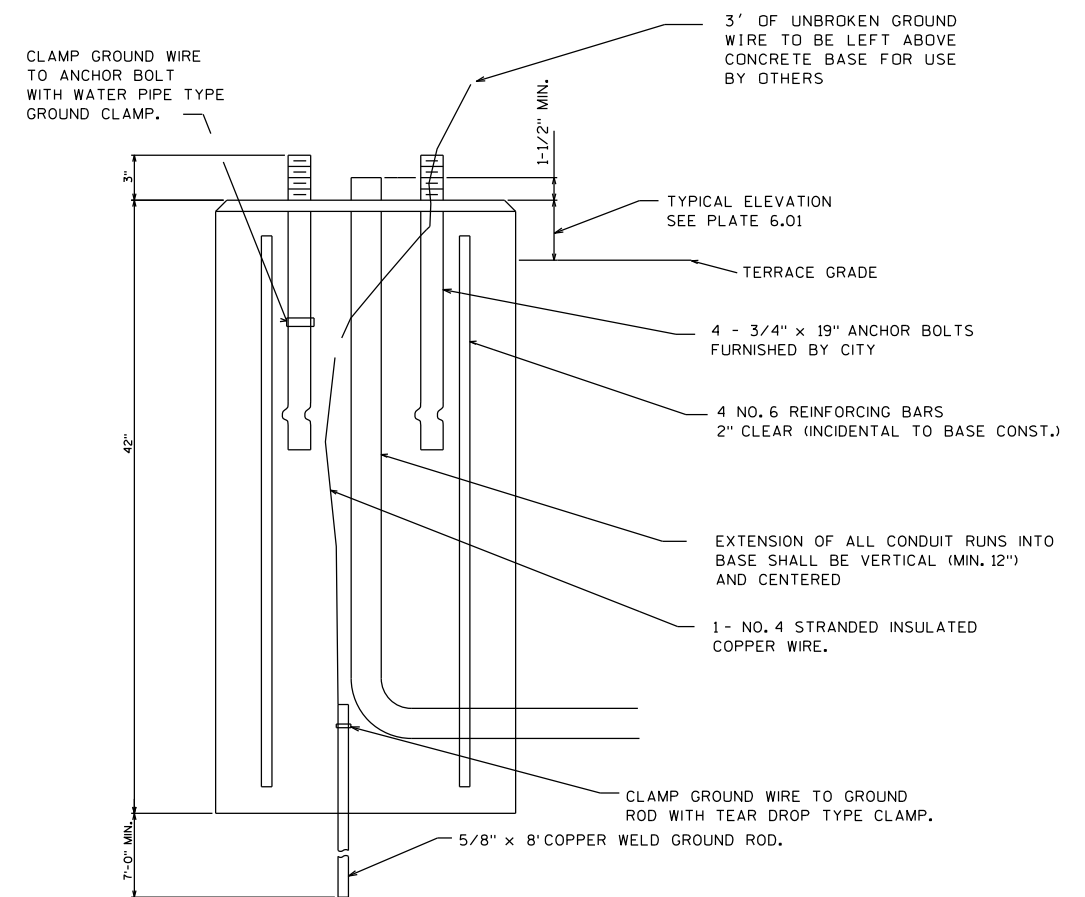
SECTION A-A

**ELECTRICAL ACCESS STRUCTURE DETAIL**  
 SCALE: NONE



NOTE: FORMS SHALL BE OF SUFFICIENT DEPTH TO PROVIDE A MINIMUM OF 12" OF FORMED BASE BELOW GRADE ON THE LOW SIDE.

ALL CONDUIT AND ELBOWS SHOWN IN CONCRETE BASE TO BE INCLUDED IN UNIT PRICE FOR TYPE "G" TRAFFIC SIGNAL BASE .



**TYPE G BASE DETAIL**  
 SCALE: NONE

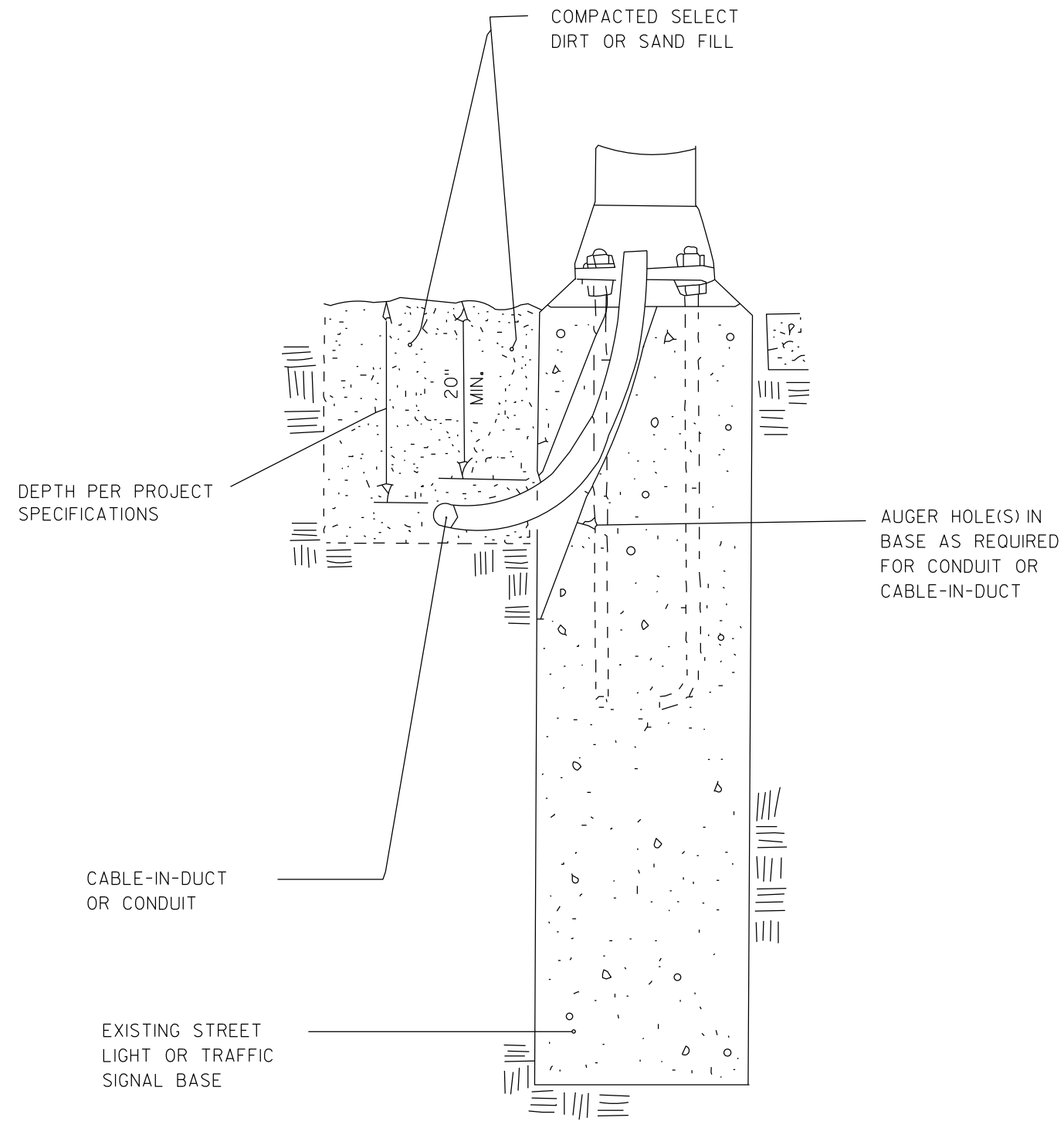
PLOT SCALE:

PLOT NAME:

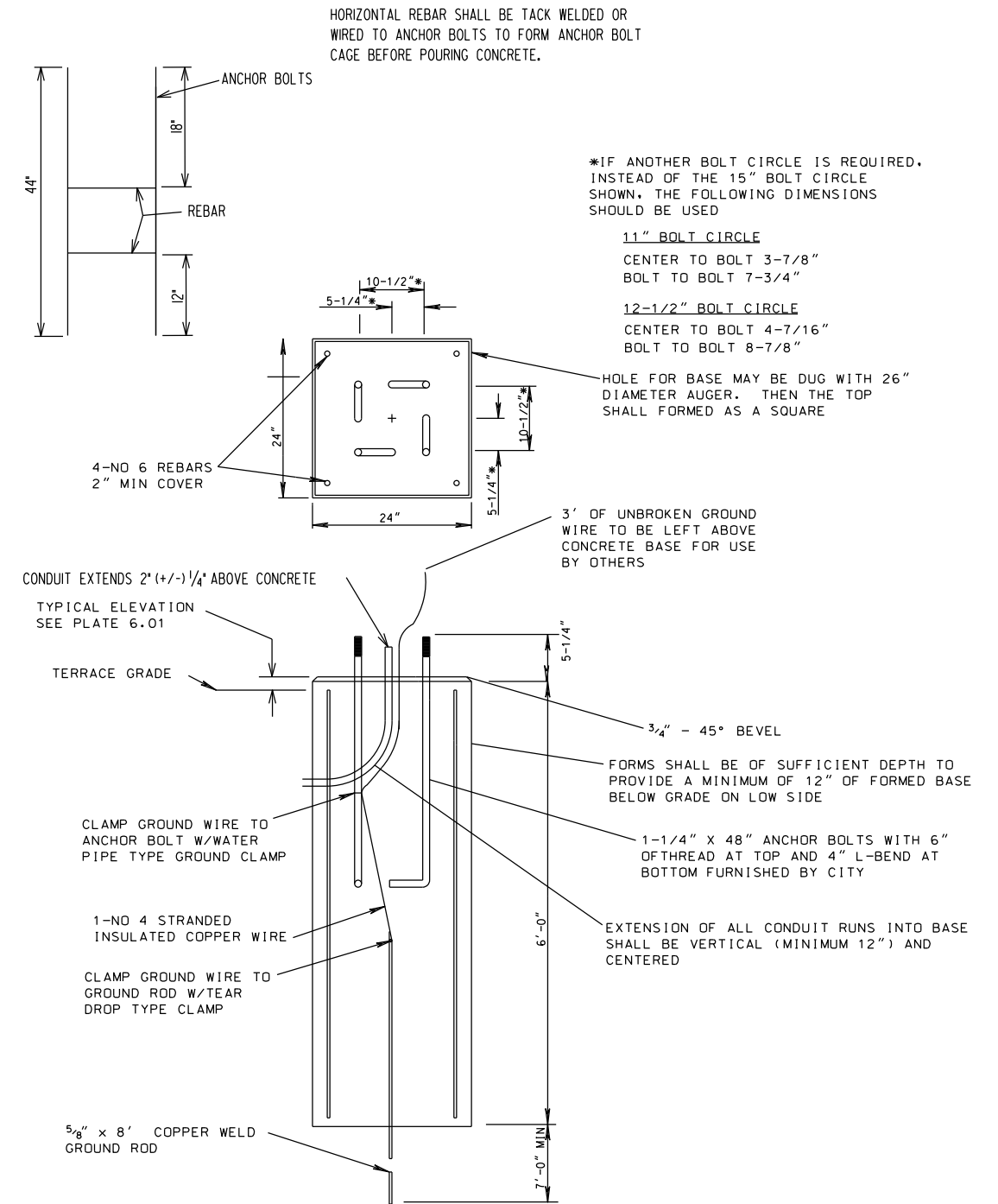
REV. DATE:

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**AUGERING INTO EXISTING BASE DETAIL**  
SCALE: NONE



**LB-8 BASE DETAIL**  
SCALE: NONE

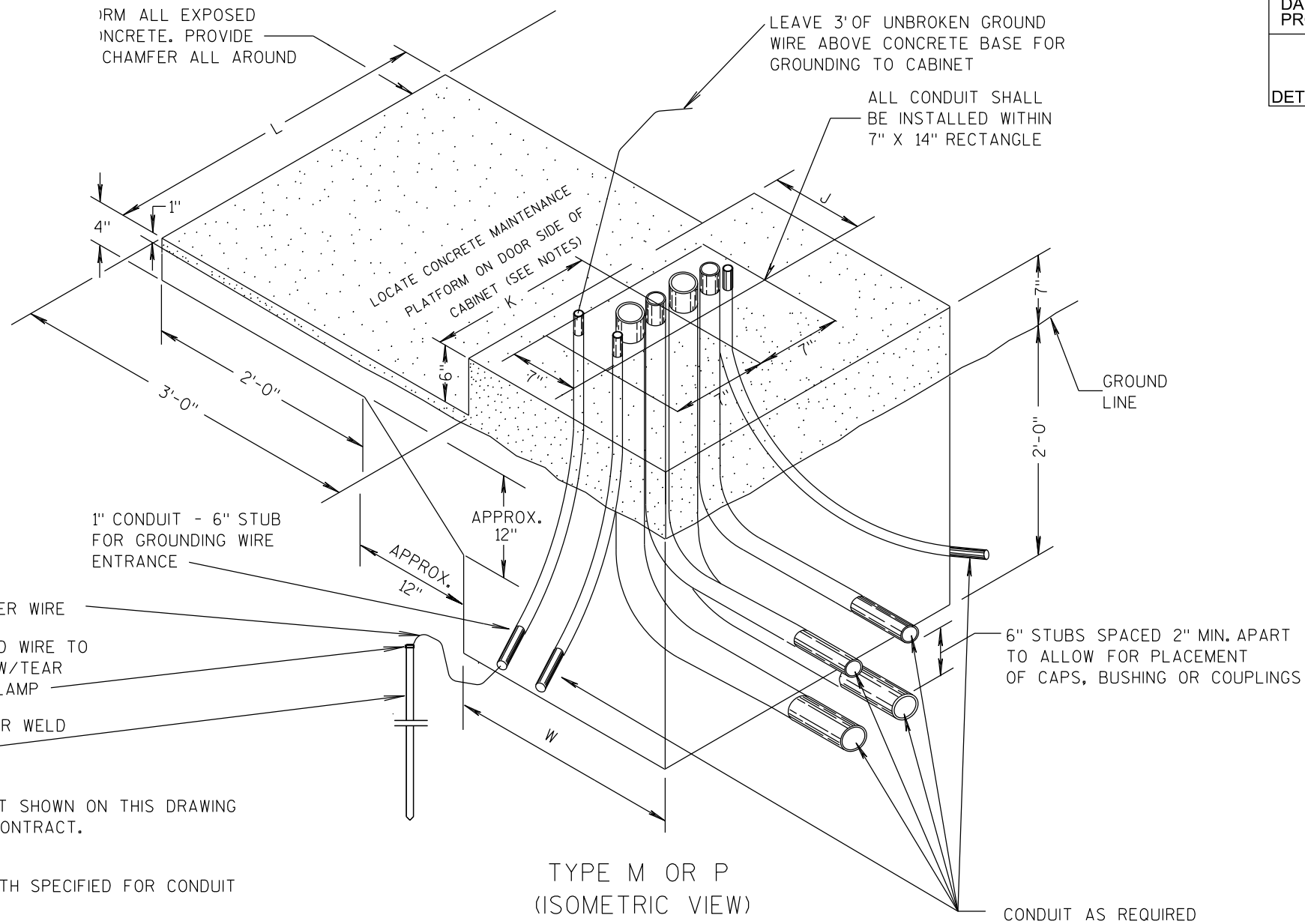
PLOT SCALE:

PLOT NAME:

REV. DATE:

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CONTROL CABINET BASE TYPE	DIMENSIONS				C.Y. CONCRETE (APPROX.)
	L	W	J	K	
TYPE M	40"	30"	12"	20"	.823
TYPE P	48"	30"	16"	24"	1.179
TYPE M MODIFIED	-	-	-	-	-
TYPE P MODIFIED	-	-	-	-	-
TYPE OTHER	-	-	-	-	-



GENERAL NOTES

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

ALL CONDUIT SHALL BE PVC, SCHEDULE 40

DEPTH OF CONDUIT EXITING THE BASE SHALL MATCH THE DEPTH SPECIFIED FOR CONDUIT INSTALLATION.

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.

MAINTENANCE PLATFORM SHALL NOT BE INSTALLED WHEN THE SURROUNDING AREA IS PAVED.

MINIMUM BENDING RADIUS OF CONDUIT = 6 X THE DIAMETER.

ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED OR PLUGGED IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

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

CONDUITS SHALL EXIT THE BASE IN THE DIRECTION OF THE STRUCTURE IT IS TERMINATING INTO.

MAINTENANCE PLATFORM SIZE MAY VARY ON ACCOUNT OF CONDITIONS. VERIFY THE MAINTENANCE PLATFORM SIZE WITH ENGINEER PRIOR TO POURING BASE.

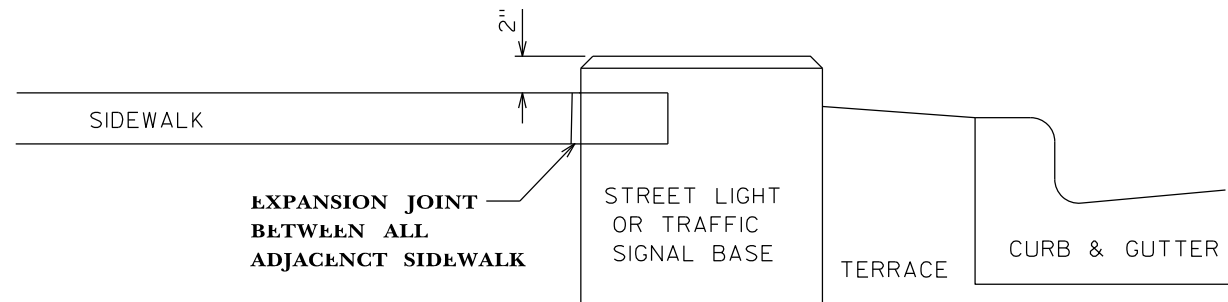
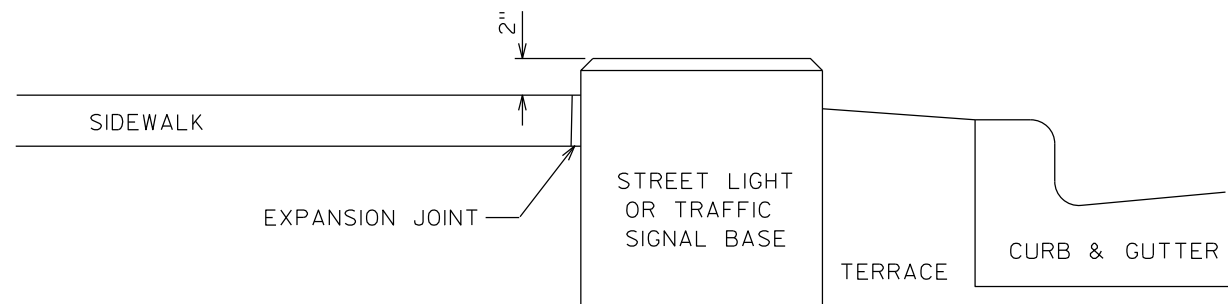
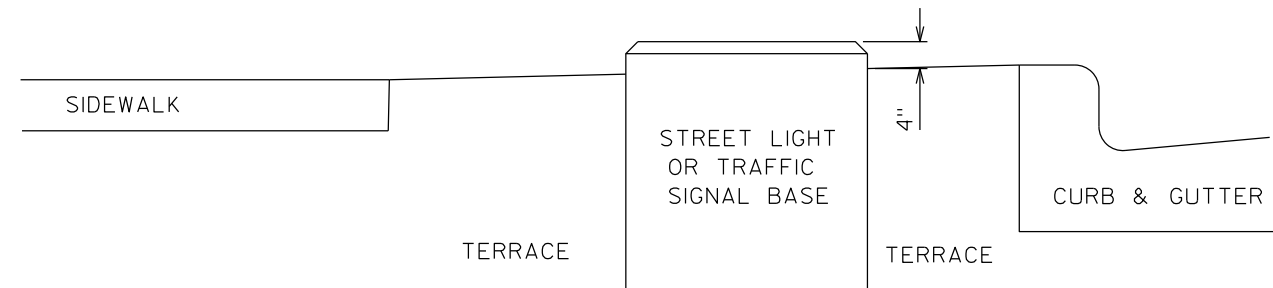
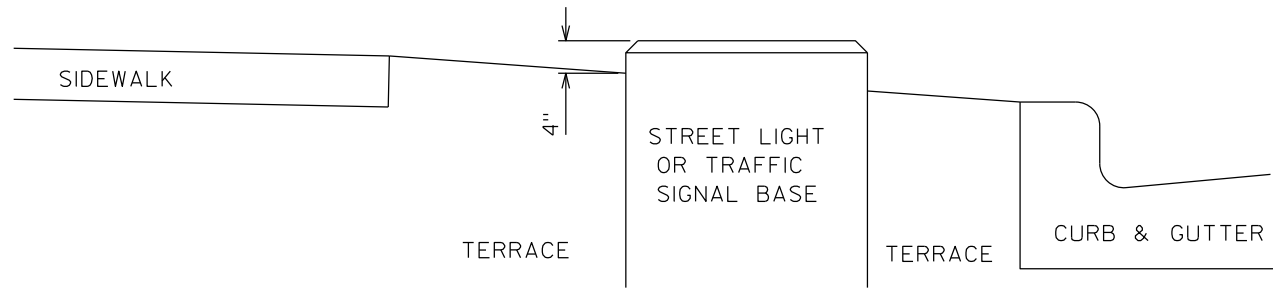
CONCRETE CONTROL CABINET BASES

PLOT SCALE:

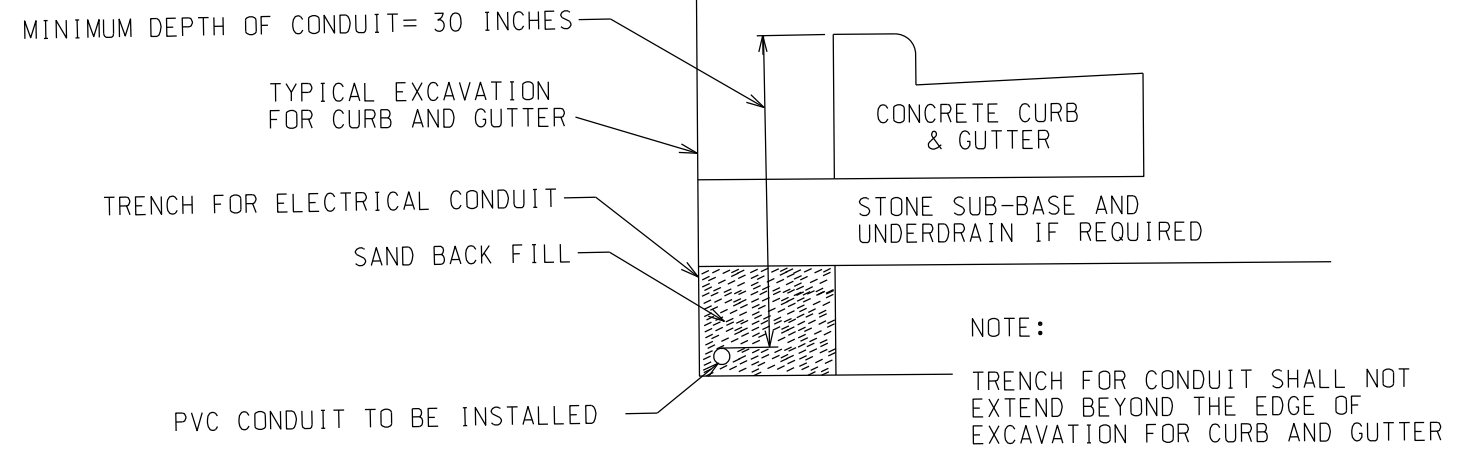
PLOT NAME:

REV. DATE:

ORIGINATOR: CITY OF MADISON, TRAFFIC ENG. DIV.



**CONCRETE BASE DETAIL**  
 SCALE: NONE



**CONDUIT PARALLEL TO CURB DETAIL**  
 SCALE: NONE

PLOT SCALE:

PLOT NAME:

REV. DATE:

ORIGINATOR: CITY OF MADISON, TRAFFIC ENG. DIV.

ELECTRICAL SHEET

REMOVALS

STATION-STATION	LOCATION	20323 REMOVE CONCRETE SIDEWALK AND DRIVE SF	60427 REMOVE ELECTRICAL HANDHOLE EACH
CVN 74+26 - 74+31	NE CORNER	18	-
CVN 74+11 - 74+13	NE CORNER	15	-
CVN 73+53 - 73+55	SE CORNER	14	-
DE 80+12 - 80+21	MEDIAN	27	-
CVS 74+66.25	8' RT	-	1
CVS 74+66.25	14.5' LT	-	1
CVS 73+32	4.5' LT	-	1
CVS 73+32	13.5' LT	-	1
CVN 73+31	6.5' RT	-	1
CVN 74+67.5	4.5' RT	-	1
PROJECT TOTALS		74	6

CONCRETE SIDEWALK

STATION-STATION	30301 5-INCH CONCRETE SIDEWALK SF	30340 Curb Ramp Detectable Warning Field SF	COMMENTS
CVN 74+26 - CVN 74+31	18	8	NE CORNER
CVN 74+10 - CVN 74+12	15	8	NE CORNER
CVN 73+55 - CVN 73+60	14	8	SE CORNER
DE 80+12 - 80+21	20.75	-	MEDIAN
PROJECT TOTALS	67.75	24	

PAVEMENT MARKING

STREET NAME	STATION	60801 PAVEMENT MARKING EPOXY, DOUBLE LINE, 4- INCH (LF)	60803 PAVEMENT MARKING EPOXY, LINE, 8-INCH (LF)	60812 PAVEMENT MARKING EPOXY, CROSSWALK, 6- INCH (LF)	60818 PAVEMENT MARKING EPOXY, STOP LINE, 24- INCH (LF)	60829 PAVEMENT MARKING EPOXY, SYMBOL, LEFT ARROW EACH	60830 PAVEMENT MARKING EPOXY, SYMBOL, RIGHT ARROW EACH	60832 PAVEMENT MARKING EPOXY, SYMBOL, STRAIGHT & LEFT ARROW EACH	60834 PAVEMENT MARKING EPOXY, WORD ONLY EACH	60880 PAVEMENT MARKING REMOVAL, 4-INCH (LF)	60886 PAVEMENT MARKING REMOVAL, 4-INCH DOUBLE LINE (LF)
SB PACKERS AVE	CVS 74+85	-	-	-	-	1	-	-	-	-	-
SB PACKERS AVE	CVS 74+35	-	-	-	40	-	-	-	-	-	-
SB PACKERS AVE	CVS 74+26	-	-	42	-	-	-	-	-	-	-
SB PACKERS AVE	CVS 74+31	-	-	41	-	-	-	-	-	-	-
SB PACKERS AVE	CVS 75+43	-	-	-	-	-	-	1	-	-	-
EB NORTHPORT	DE 80+22	-	-	-	27	-	-	-	-	-	-
NB PACKERS AVE	CVN 73+35	-	-	-	24	-	-	-	-	-	-
WB DARWIN AVE	APPROACH	70	60	85	24	-	1	1	1	50	30
NB PACKERS AVE	CVN 74+26	-	-	30	-	-	-	-	-	-	-
NB PACKERS AVE	CVN 74+31	-	-	27	-	-	-	-	-	-	-
NB PACKERS AVE	CVN 73+35 TO CVN 74+32	-	-	-	-	-	-	-	-	30	-
SB PACKERS AVE	CVS 74+50 TO CVS 74+34	-	-	-	-	-	-	-	-	20	-
PROJECT TOTALS		70	60	225	115	1	1	1	2	100	30

PLOT SCALE:

PLOT NAME:

REV. DATE:

ORIGINATOR: CITY OF MADISON, TRAFFIC ENG. DIV.

ELECTRICAL CONDUIT

From	To	Furnish and Install PVC Schedule (40) Conduit					60241 Gopher Raceway for Electrical Conduit (LF)	Comment
		60223 3" OT (LF)	60224 3" (LF)	60231 2" OT (LF)	60232 2" (LF)	60233 1 1/4" OT (LF)		
CC 1	EAS 1	4.5	9	-	-	-	-	
EAS 1	TS 1	-	-	1.5	-	-	-	
HH 3	HH 2	-	-	158.5	-	-	-	
HH 2	HH 1	-	-	-	-	99.5	-	
HH 3	TS 2	-	-	4	-	-	-	
HH 4	HH 5	-	-	7.5	-	-	-	
HH 5	HH 6	-	-	-	-	80.5	-	
HH*	TS 3	-	-	-	-	-	-	
HH 4	SL 3724A	-	-	3	-	-	-	
HH 8	HH 7	-	47	-	-	-	24	
HH 7	TS 5	-	-	-	6.25	-	5.5	
HH 7	TS 4	-	-	17.5	-	-	-	
HH 10	TS 6	-	-	31	-	-	-	
HH 10	HH 11	-	-	-	-	15	-	
HH 12	HH 13	33.5	-	-	-	-	-	
HH 13	SL 3736A	-	-	2	-	-	-	
HH 13	TS 7	28.5	-	-	-	-	-	
TS 7	HH 14	-	-	-	-	30	-	
HH 15	TS 8	-	-	6	-	-	-	
CC 1	HH 15	28.5	-	-	-	-	-	
PROJECT TOTALS		95	56	231	6.25	225	29.5	

INSTALL ELECTRICAL HANDHOLE

STRUCTURE	STATION	OFFSET	INSTALL ELECTRICAL HANDHOLE					
			60441 AUGER INTO EXISTING HANDHOLE EACH	60701 ELECTRICAL ACCESS STRUCTURE EACH	60702 TYPE 1 HANDHOLE EACH	60704 TYPE 3 HANDHOLE EACH	60706 TYPE 5 HANDHOLE EACH	TYPE 7 HANDHOLE EACH
HH 9	CVS 75+95	2' LT	-	-	-	1	-	-
HH 10	CVS 74+66.25	8' RT	-	-	-	-	1	-
HH 8	CVS 74+66.25	14.5' LT	-	-	-	-	1	-
HH 11	CVS 74+50	2' RT	-	-	-	1	-	-
HH 7	CVS 74+24.5	8.5' LT	-	-	1	-	-	-
HH 4	CVS 73+32	4.5' LT	-	-	-	-	-	1
HH 5	CVS 73+32	15' LT	-	-	1	-	-	-
HH 3	CVS 73+32	13.5 RT	-	-	-	-	1	-
HH 6	DE 81+42	2' RT	-	-	-	1	-	-
HH 1	CVN 70+78.5	2' LT	-	-	-	1	-	-
HH 2	CVN 71+81	2' LT	-	-	-	1	-	-
EAS 1	CVN 73+30.75	5' RT	-	1	-	-	-	-
HH 15	CVN 73+56	6' RT	-	-	1	-	-	-
HH 13	CVN 74+33	7' RT	-	-	1	-	-	-
HH 12	CVN 74+67.5	2' RT	-	-	-	-	1	-
HH 14	CVN 74+09	79 RT	-	-	-	1	-	-
SL 3736A	CVN 74+33	3' RT	1	-	-	-	-	-
PROJECT TOTALS			1	1	4	6	4	1

NOTES: OT - OPEN TRENCH METHOD  
HH - HANDHOLE  
TS - TRAFFIC SIGNAL BASE  
CC - CONTROLLER CABINET  
EAS - ELECTRICAL ACCESS STRUCTURE  
\* USE EXISTING HANDHOLE IN WEST APPROACH.

CONCRETE BASES

STRUCTURE	STATION	OFFSET	CONCRETE BASES		
			60411 TYPE G EACH	60413 TYPE P EACH	60407 TYPE LB-8 EACH
TS1	CVN 73+34	17.75 RT	1	-	-
TS2	CVS 73+34	20.5 RT	-	-	1
TS3	CVS 73+73	24.5 LT	1	-	-
TS4	CVS 74+11	38 LT	1	-	-
TS5	CVS 74+34	29.33 LT	1	-	-
TS6	CVS 74+34	29.25 RT	-	-	1
TS7	CVN 74+13	40 RT	1	-	-
TS8	CVN 73+59	39 RT	1	-	-
CC1	CVN 73+34	24 RT	-	1	-
PROJECT TOTALS:			6	1	2

PLOT SCALE:

PLOT NAME:

REV. DATE:

ORIGINATOR: CITY OF MADISON, TRAFFIC ENG. DIV.

PAVEMENT MARKING

DARWIN RD/PACKERS AVE CITY OF MADISON

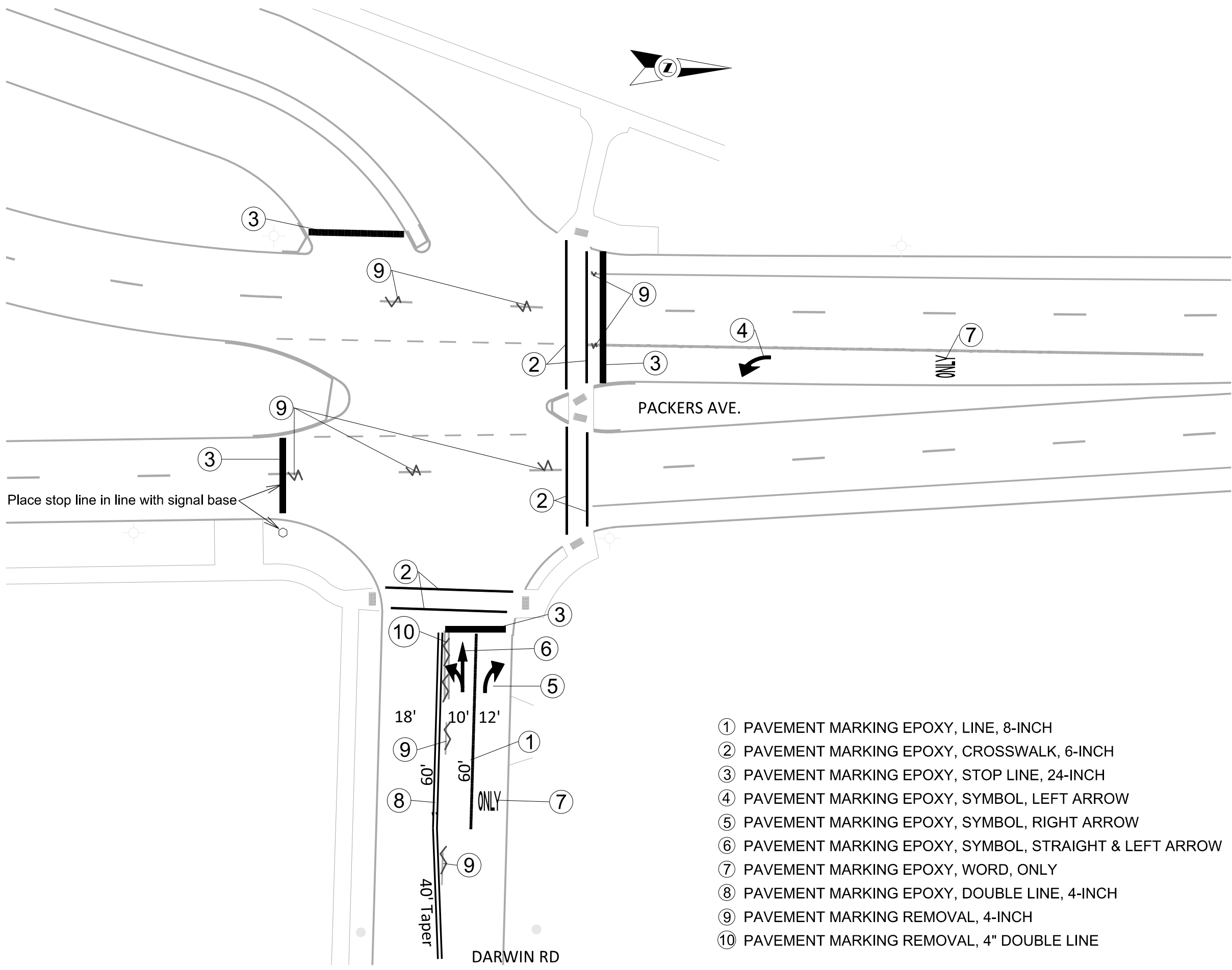


PLOT SCALE:

PLOT NAME:

REV. DATE:

ORIGINATOR: CITY OF MADISON, TRAFFIC ENG. DIV.



- ① PAVEMENT MARKING EPOXY, LINE, 8-INCH
- ② PAVEMENT MARKING EPOXY, CROSSWALK, 6-INCH
- ③ PAVEMENT MARKING EPOXY, STOP LINE, 24-INCH
- ④ PAVEMENT MARKING EPOXY, SYMBOL, LEFT ARROW
- ⑤ PAVEMENT MARKING EPOXY, SYMBOL, RIGHT ARROW
- ⑥ PAVEMENT MARKING EPOXY, SYMBOL, STRAIGHT & LEFT ARROW
- ⑦ PAVEMENT MARKING EPOXY, WORD, ONLY
- ⑧ PAVEMENT MARKING EPOXY, DOUBLE LINE, 4-INCH
- ⑨ PAVEMENT MARKING REMOVAL, 4-INCH
- ⑩ PAVEMENT MARKING REMOVAL, 4" DOUBLE LINE