

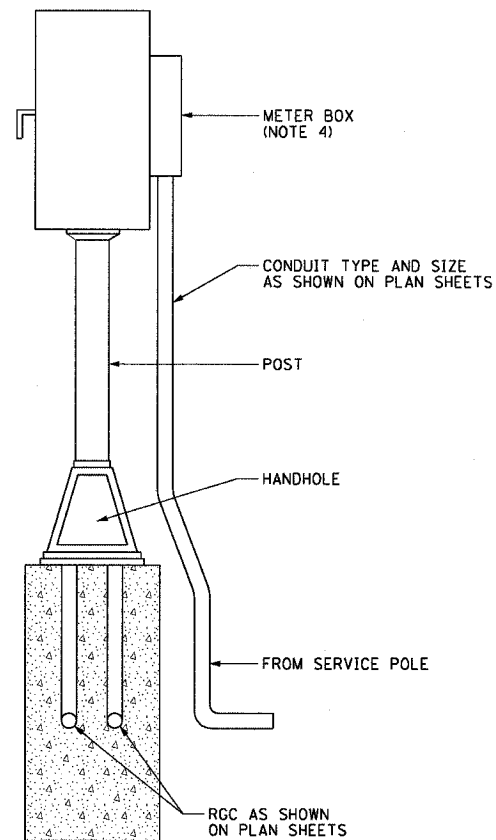
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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2003-0311	COOK	976	901A
STA.		TO STA.		
FED. ROAD DIST. NO. 1		ILLINOIS		FED. AID PROJECT

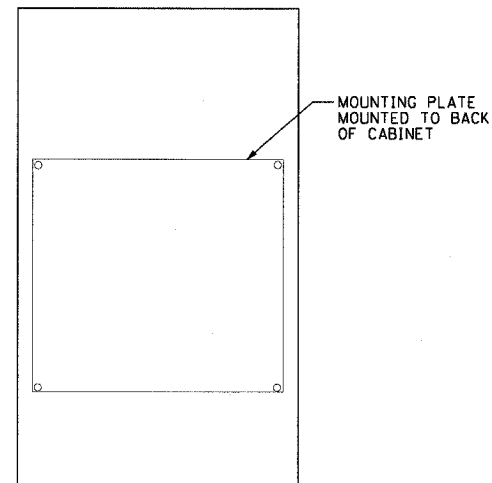
62583

**NOTES:**

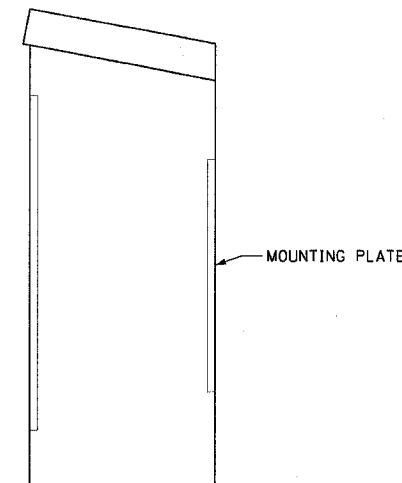
- CABINETS, CABINET POSTS AND CABINET PEDESTALS SHALL BE PRIMED AND PAINTED IN ACCORDANCE WITH SECTION T637 OF THE "STANDARD SPECIFICATIONS FOR TRAFFIC CONTROL ITEMS". THE FINAL COAT SHALL BE O'BRIEN POWDER PAINT COLOR YELLOW STONE II OR EQUIVALENT IN COLOR. THE INTERIOR SHALL BE PAINTED WHITE.
- CABINETS SHALL BE INSTALLED IN ACCORDANCE WITH APPLICABLE PORTIONS OF SECTION T400 OF THE "STANDARD SPECIFICATIONS FOR TRAFFIC CONTROL ITEMS".
- CABINET SHALL BE EQUIPPED WITH A 50 AMPERE, TWO-POLE CIRCUIT BREAKER (2 CIRCUIT BREAKERS AT LOCATIONS SERVING TWO SIGNS), A.C. R.F.I. LINE FILTERING SURGE PROTECTOR, AND CABLE MOUNTING CONNECTIONS AS INCIDENTAL TO THE COST OF THE CABINET.
- METER BOX SHALL BE MOUNTED TO SIDE OR BACK WALL OF CONTROL CABINET AS REQUIRED TO ALLOW READING OF METER FROM FRONTAGE ROAD.
- CABLES FROM METER BOX CAN PASS THROUGH SIDE WALL OF CONTROL CABINET.
- INCIDENTAL TO THE COST OF EACH CABINET THE CONTRACTOR SHALL CONSTRUCT A 130 mm (5 IN.) PCC SIDEWALK OF A RECTANGULAR AREA 915 mm (3 FEET) BY 1.25 m (4 FEET) IMMEDIATELY ADJACENT TO THE CABINET FOUNDATION ON THE SAME SIDE OF THE FOUNDATION AS THE CABINET DOOR TO PROVIDE FOOTING DURING INSTALLATION AND MAINTENANCE.
- ANCHOR BOLTS, POST, AND HANDHOLE FOR PEDESTAL BASE MOUNTED CABINETS SHALL BE CONSIDERED INCIDENTAL TO THE COST OF THE CABINET.
- THE CABINET DOOR SHALL BE HINGED ON THE RIGHT SIDE WHEN FACING THE CABINET. THE DOOR SHALL BE FURNISHED WITH A GASKET THAT SHALL FORM A WEATHER TIGHT SEAL BETWEEN THE CABINET AND DOOR. THE HINGES SHALL BE CONTINUOUS AND BOLTED TO THE CABINET AND DOOR UTILIZING 1/4-20 STAINLESS STEEL CARRIAGE BOLTS AND NY-LOCK NUTS. THE HINGES WILL BE MADE OF STAINLESS STEEL WITH A 6.35 mm (0.25 INCH) DIAMETER STAINLESS STEEL HINGE PIN. THE HINGE PIN SHALL BE CAPPED TOP AND BOTTOM BY WELD TO RENDER IT TAMPER PROOF.
- THE LATCHING MECHANISM SHALL BE A 3 POINT DRAW ROLLER TYPE. THE CENTER CATCH AND PUSHRODS SHALL BE EITHER CADMIUM OR ZINC PLATED, TYPE II CLASS I. PUSHRODS WILL BE TURNED EDGEWISE AT THE OUTWARD SUPPORTS AND SHALL BE 6.35 mm (0.25 INCH) BY 19.05 mm (0.75 INCH), MINIMUM. ROLLERS SHALL HAVE A MINIMUM DIAMETER OF 22.22 mm (0.875 INCH) AND WILL BE MADE OF NYLON. THE CENTER CATCH SHALL BE FABRICATED FROM 3.55 mm (0.14 INCH) STEEL, MINIMUM. WHEN THE DOOR IS CLOSED AND LATCHED, IT WILL BE LOCKED. THE LATCHING HANDLE SHALL HAVE A PROVISION FOR PADLOCKING IN THE CLOSED POSITION. AN OPERATING HANDLE SHALL BE FURNISHED WITH EACH LOCK. THE HANDLE WILL BE STAINLESS STEEL WITH A 19.05 mm (0.75 INCH) DIAMETER SHANK.
- THE ENCLOSURE SHALL BE EQUIPPED WITH TWO ADJUSTABLE "C" MOUNTING CHANNELS WELDED ON BOTH SIDE WALLS AND BACK WALL OF THE ENCLOSURE, ALLOWING VERSATILE POSITIONING OF SHELVES OR PANELS. MOUNTING CHANNELS SHALL BE FACTORY PAINTED SAME COLOR AS INTERIOR OF CABINET.



ESP 2 W/METER FITTING  
(NOTE 15)



ESP 2 CABINET  
(NOTE 15)



PROFILE VIEW

**NOTES CONTINUED:**

- CABINET DOOR SHALL NOT HAVE COMPARTMENT DOORS OR LOUVERS.
- ALL FIELD CABINETS SHALL BE FITTED WITH BRASS LOCKS.
- POST TOP MOUNTED CABINETS SHALL HAVE A 6.3 mm (0.25 INCH) BOTTOM OF CABINET WELDED.
- CABINET SHALL BE FABRICATED ALUMINUM NEMA TYPE 3R WITH MINIMUM THICKNESS OF .1875". MINIMUM INTERIOR CABINET SPACE SHALL BE 36"H x 20"W x 15"D.
- SEE DRAWING DT-06B FOR ADDITIONAL METER PEDESTAL DETAILS.

REVISIONS	
NAME	DATE
NEW DRAWING PER	2/11/05
REVISION	

ILLINOIS DEPARTMENT OF TRANSPORTATION  
F.A.I. 90/94 (DAN RYAN EXPRESSWAY)  
31st STREET TO I-57

METER PEDESTAL  
CABINET DETAILS  
(PART 1)

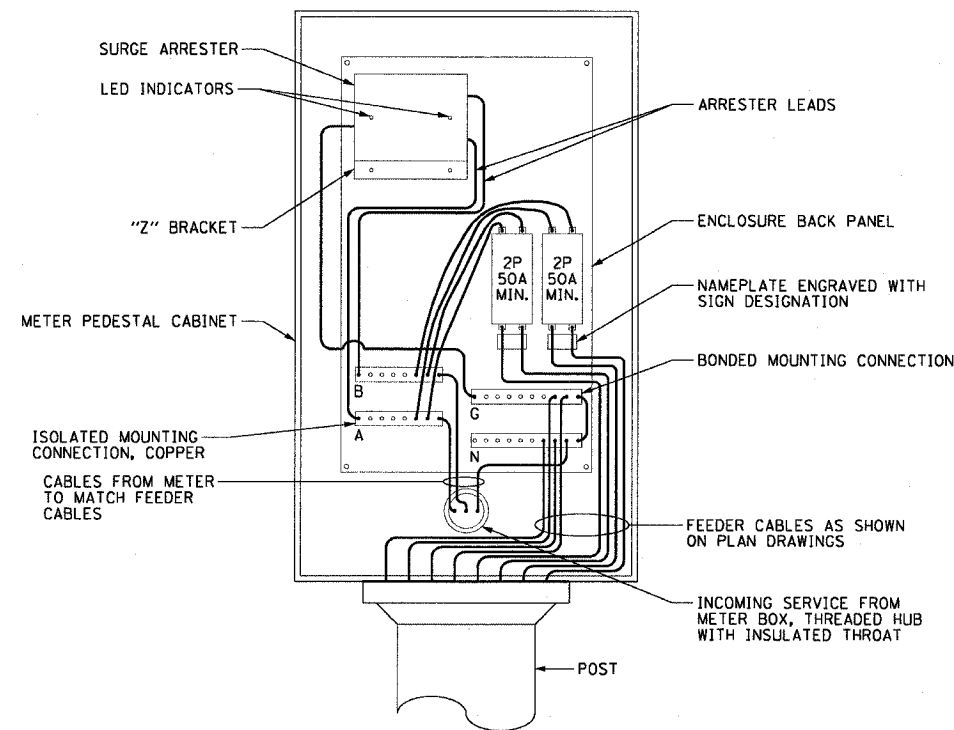
SCALE: NOT TO SCALE DRAWN BY: CJM  
DATE: October 29, 2004 CHECKED BY: BMW

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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STA.	TO STA.			
FED. ROAD DIST. NO. 1		ILLINOIS	FED. AID PROJECT	

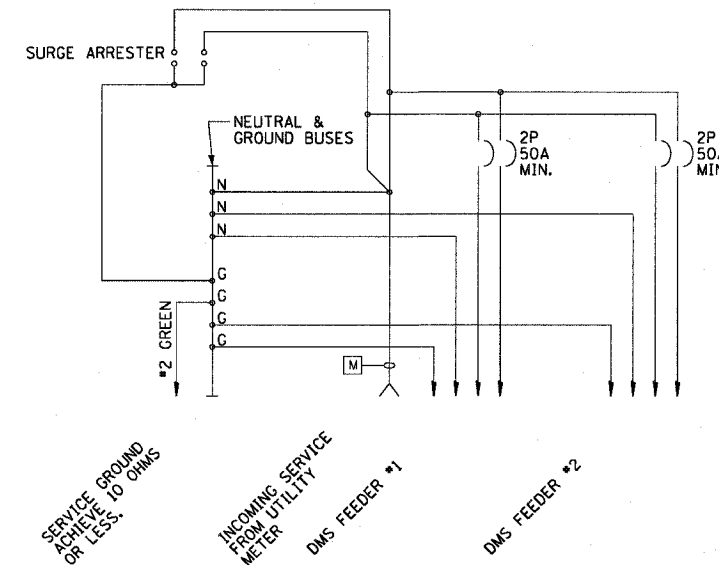
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**NOTES:**

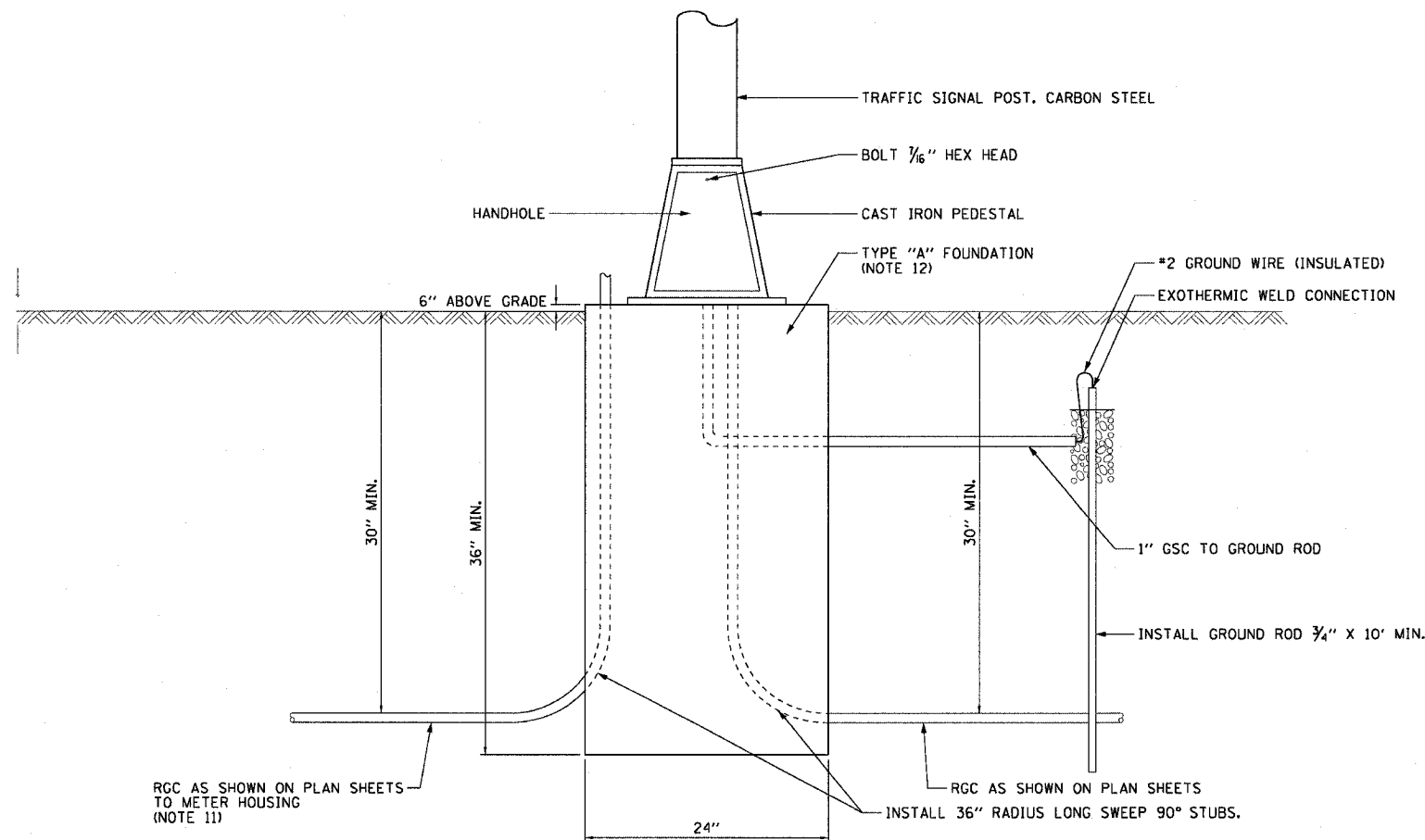
- BOND ALL GSC CONDUIT STUBS.
- GROUND ROD, GROUND WIRE, AND GROUND CONNECTIONS SHALL BE CONSIDERED INCIDENTAL TO THE COST OF THE CABINET.
- THE ELECTRIC SERVICE EQUIPMENT ASSEMBLY SHALL BE UL LABELED, SUITABLE FOR USE AS SERVICE EQUIPMENT.
- CIRCUIT BREAKERS SHALL BE THERMAL MAGNETIC BOLT-ON TYPE WITH 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. TRIP RATING TO BE 50A MINIMUM. LARGER TRIP RATING SHALL BE PROVIDED IF REQUIRED BY DMS MANUFACTURER.
- THE SURGE PROTECTOR SHALL BE SUITABLE FOR 240/120 VOLT SINGLE PHASE 60HZ AC ELECTRICAL SERVICE, WITH A SURGE ENERGY CAPABILITY OF >3600 JOULES OR BETTER AT 8/20 MICROSECONDS, RATED -40 TO 65 DEGREES C., WITH LED OPERATING INDICATORS, AND SHALL BE UL LISTED PER UL 1449, CUTLER-HAMMER CMOV 230L065XST OR APPROVED EQUAL. SURGE PROTECTOR SHALL BE WIRED FOR 120 V SERVICE. FOLLOW MANUFACTURER RECOMMENDED WIRING SPECIFICATIONS.
- 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.
- THE HEADS OF GROUND SCREWS SHALL BE PAINTED GREEN. THE HEADS OF NEUTRAL SCREWS SHALL BE PAINTED WHITE.
- A PLASTIC LAMINATED LAYOUT AND CIRCUIT DIAGRAM SHALL BE AFFIXED 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 BREAKER.
- PROVIDE ON LAYOUT AND CIRCUIT DIAGRAM A BILL OF MATERIALS USED WITH CATALOG NUMBERS.
- CONDUIT TO METER HOUSING SHALL BE ROUTED DIRECTLY TO METER HOUSING AND BYPASS THE HANDHOLE.
- TYPE "A" FOUNDATION SHALL BE INSTALLED AND PAID FOR SEPARATELY AT ALL DMS LOCATIONS EXCEPT DMS-03 AND DMS-31. AT THESE TWO LOCATIONS FOUNDATIONS WILL BE INSTALLED BY OTHERS. CONTRACTOR MUST FURNISH ANCHOR BOLTS TO FOUNDATION INSTALLER AND COORDINATE WITH THEIR WORK.



**ELECTRIC SERVICE GENERAL LAYOUT**



**SCHEMATIC DIAGRAM**



RGC AS SHOWN ON PLAN SHEETS TO METER HOUSING (NOTE 11)

RGC AS SHOWN ON PLAN SHEETS  
INSTALL 36" RADIUS LONG SWEEP 90° STUBS.

DT-06B

REVISIONS	
NAME	DATE
NEW DRAWING PER	2/11/05
REVISION	

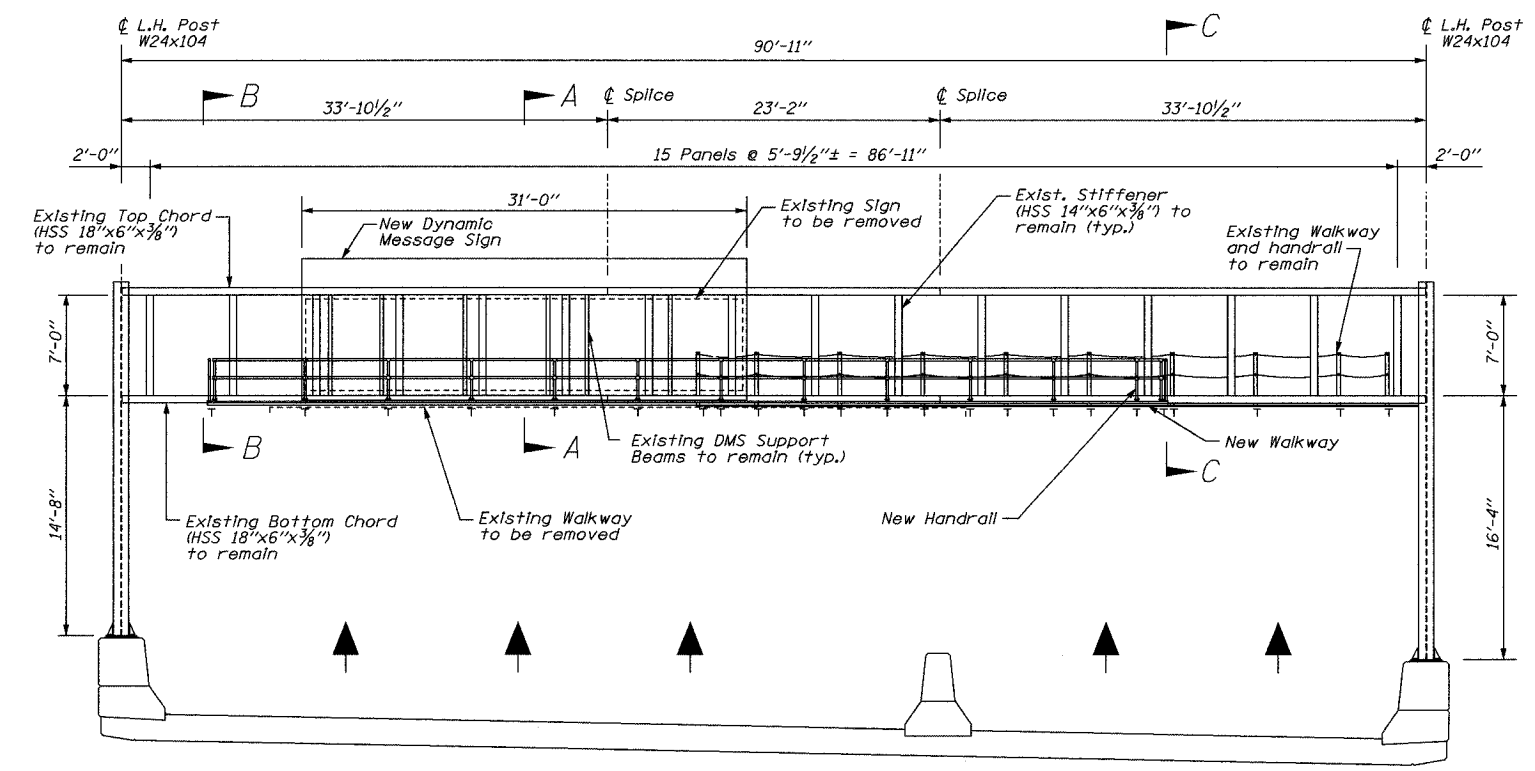
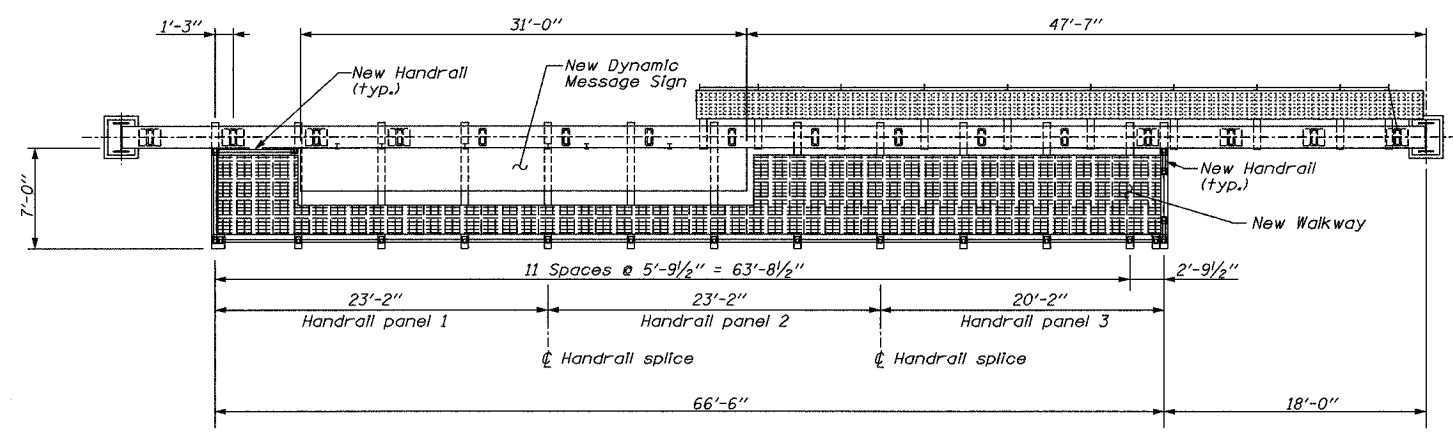
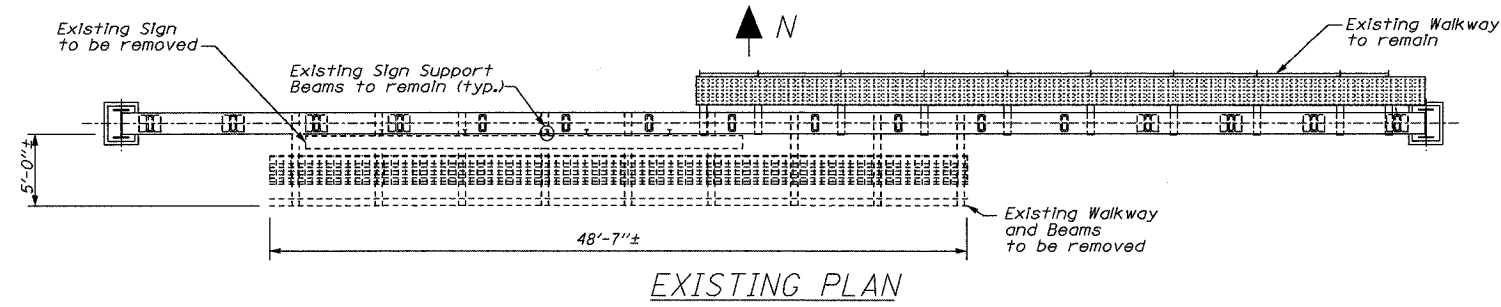
ILLINOIS DEPARTMENT OF TRANSPORTATION  
F.A.I. 90/94 (DAN RYAN EXPRESSWAY)  
31st STREET TO I-57

**METER PEDESTAL CABINET DETAILS (PART 2)**

SCALE: NOT TO SCALE  
DATE: October 29, 2004  
DRAWN BY: CJM  
CHECKED BY: BMW



F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-0311	COOK	976	903
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62583				



**GENERAL NOTES**

1. PLAN DIMENSIONS AND DETAILS RELATIVE TO THE EXISTING STRUCTURE HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. IT SHALL BE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSIONS AND DETAILS IN THE FIELD AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO ORDERING MATERIALS AND CONSTRUCTION. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN THE SCOPE OF THE WORK.
2. PRIOR TO BEGINNING FABRICATION AND/OR INSTALLATION, THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND ELEVATIONS SHOWN OR OTHERWISE INFERRED INCLUDING INTERFACING OR ABUTTING AREAS AND NOTIFY ENGINEER OF ANY CONFLICTS OR CHANGES. FAILURE TO DO SO SHALL MAKE THE CONTRACTOR RESPONSIBLE FOR ALL MISFITS OR REWORK WHICH HE MUST CORRECT, REPLACE, OR REVISE TO THE SATISFACTION OF THE OWNER OR ENGINEER AT CONTRACTOR'S SOLE EXPENSE.
3. SHOP DRAWINGS BASED ON FIELD DIMENSIONS SHALL BE SUBMITTED TO ENGINEER PRIOR TO FABRICATION.
4. WELDING: ALL WELDING TO BE CONTINUOUS UNLESS OTHERWISE SHOWN. ALL WELDING TO BE MADE IN ACCORDANCE WITH CURRENT A.W.S. SPECIFICATIONS. ALUMINUM ALLOY FILLER WIRE FOR WELDING ALUMINUM SHALL CONFORM TO ASTM B-285 ER 5356.
5. HANDRAIL: HANDRAIL PIPE SHALL BE 1 1/4" Ø SCHED 40 ASTM B241 ALLOY 6063-T6 OR 6061-T6. HANDRAIL SUPPORT PIPE SHALL BE SPACED 6'-0" MAX ON CENTER.
6. STRUCTURAL STEEL SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 270 GRADE 36 (ASTM A36) AND SHALL BE GALVANIZED IN ACCORDANCE WITH THE SPECIFICATIONS FOR ZINC (HOT-GALVANIZED) COATINGS ON PRODUCTS FABRICATED FROM ROLLED STEEL, SHAPE PLATES, BARS, AND STRIP, AASHTO M 111 (ASTM A 123).
7. HIGH STRENGTH BOLTS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M164 (ASTM A325). PROVIDE TWO WASHERS AND HEX. LOCKNUT FOR EACH BOLT. FASTENERS AND HARDWARE ITEMS SHALL BE GALVANIZED IN ACCORDANCE WITH THE SPECIFICATION FOR ZINC COATING (HOT-DIP) ON IRON AND STEEL HARDWARE, AASHTO M 232 (ASTM A 153).
8. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR DMS ATTACHMENT TO OVERHEAD SIGN STRUCTURE.

**LOADING:**

80 MPH WIND VELOCITY PLUS 30% GUST FACTOR  
WIND LOADING: 35 PSF NORMAL TO SIGN PANEL AREA  
WALKWAY LOADING: DEAD LOAD PLUS 500\* CONCENTRATED COST

DT-08

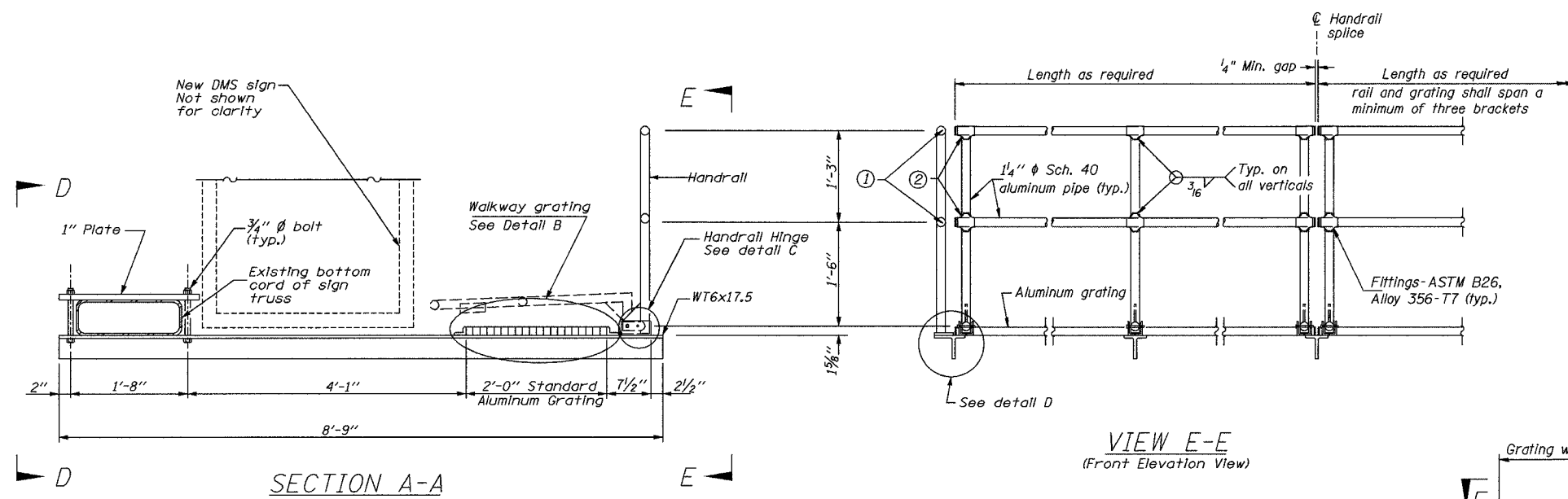
**Edwards AND Kelcey**  
ONE NORTH FRANKLIN  
CHICAGO, IL 60606  
PHONE: (312) 251-3000  
FAX: (312) 251-3015  
WEB: WWW.EKCORP.COM

**ELEVATION**  
(LOOKING NORTH)

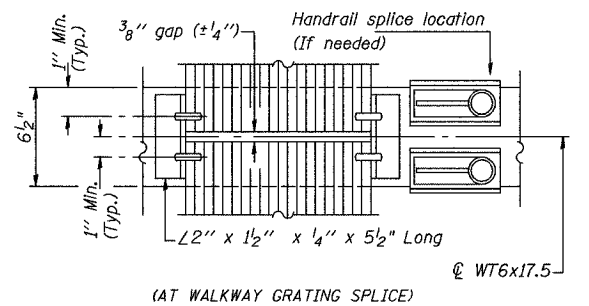
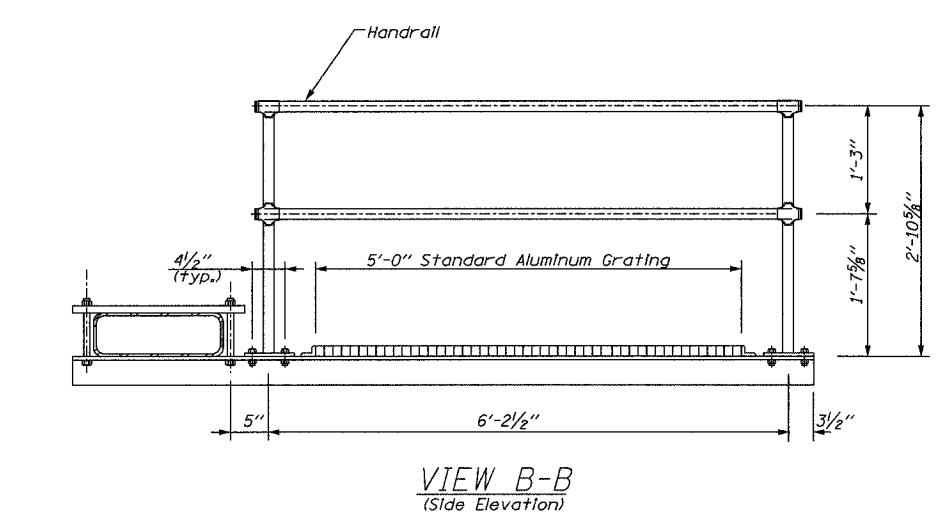
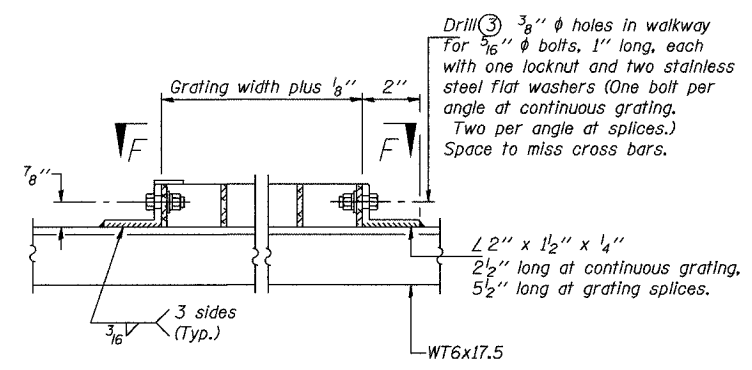
REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION F.A.I. 94/90 (DAN RYAN EXPRESSWAY) 31st STREET to I-57
NAME	DATE	
		OVERHEAD DYNAMIC MESSAGE SIGN (DMS-08) GENERAL PLAN & ELEVATION
SCALE: NONE	DRAWN BY: RLK	CHECKED BY: JAP
DATE: October 29, 2004		

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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-0311	COOK	976	904
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			
	62583			

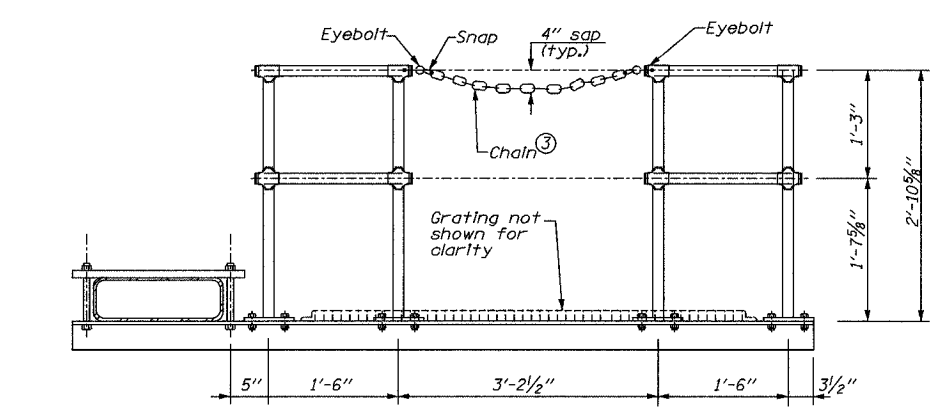


- ① Install standard force-fit end caps or weld 1/8" end plates with 1/8" c.f.w. and grind smooth. (All rail ends)
- ② Horizontal handrail member shall be continuous thru fitting. Provide 7/16" φ hole in fitting for 3/8" φ bolt. Field drill 1/16" φ hole in horizontal rail member. Provide locknut and two stainless steel washers for bolt. (Use 5/16" eyebolts in 7/16" φ holes on top rail at ends only.)



**SPECIFICATIONS FOR STANDARD ALUMINUM GRATING**

1. Main Bearing Bars shall be 3/16" x 1/2" on 1 3/8" centers and conform to ASTM B221 Alloy 6061-T6.  
Cross bars shall be 3/16" x 1/2" on 4" centers and conform to ASTM B221 Alloy 6063-T5 or 6061-T6.
- OR  
2. Aluminum Grating with modified "+" sections for main bearing bars shall meet the following requirements:  
Main bars shall conform to ASTM B221 Alloy 6061-T6 and have a minimum section modulus equal to 0.0705 in.<sup>3</sup> per bar, a depth of 1/2", spaced on 1 3/8" centers.  
Cross bars shall conform to ASTM B221 Alloy 6063-T5 or T-42 and spaced on 4" centers.
3. Drilling holes in grating may be done in shop or field, based on Contractor's preference and subject to accurate alignment.



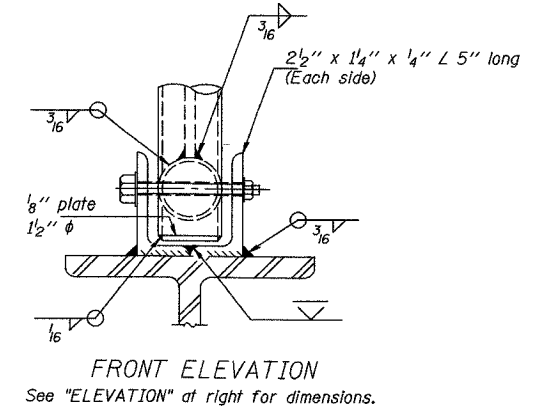
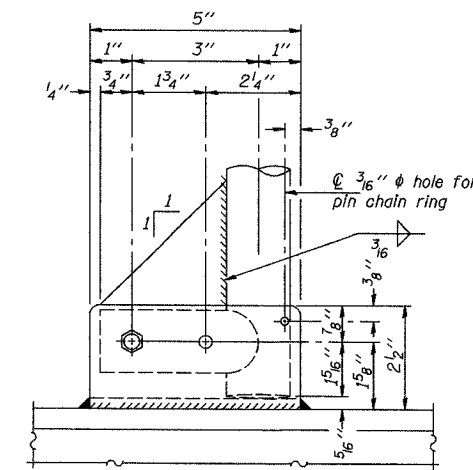
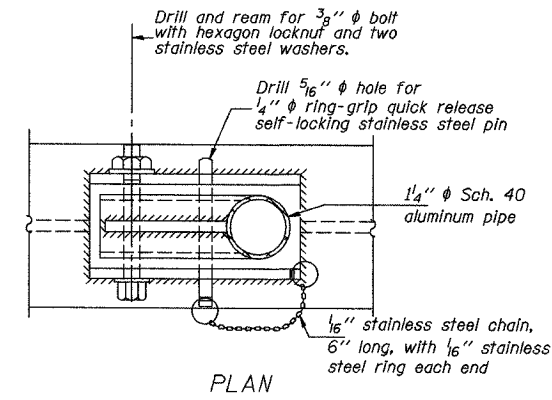
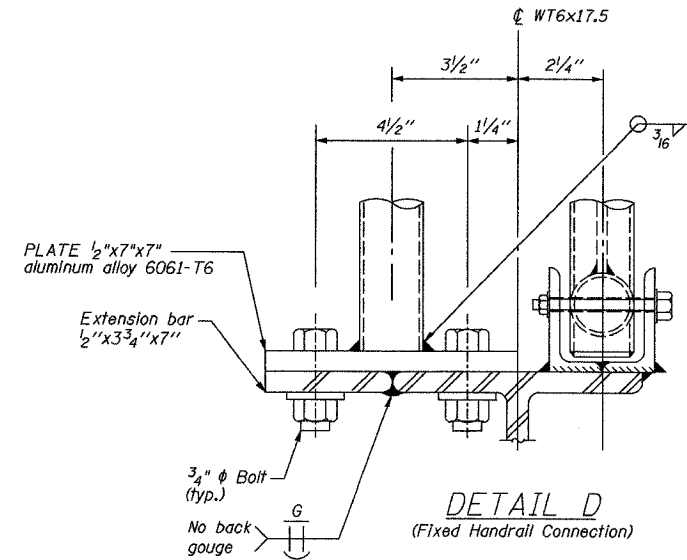
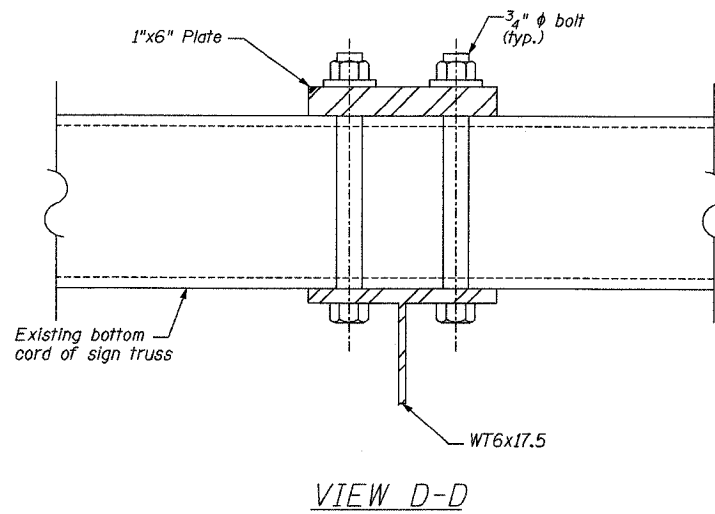
③ 3/16" galvanized steel chain, approximately 12 links per foot. Chain to be hot dip galvanized after manufacture and suitable for prolonged exterior exposure. Alternate materials may be substituted with the Engineer's approval.

REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION	
NAME	DATE	F.A.I. 94/90 (DAN RYAN EXPRESSWAY)	
		31st STREET to I-57	
		OVERHEAD DYNAMIC MESSAGE SIGN (DMS-08)	
		WALKWAY DETAILS	
		SCALE: NONE	DRAWN BY: RLK
		DATE: October 29, 2004	CHECKED BY: JAP

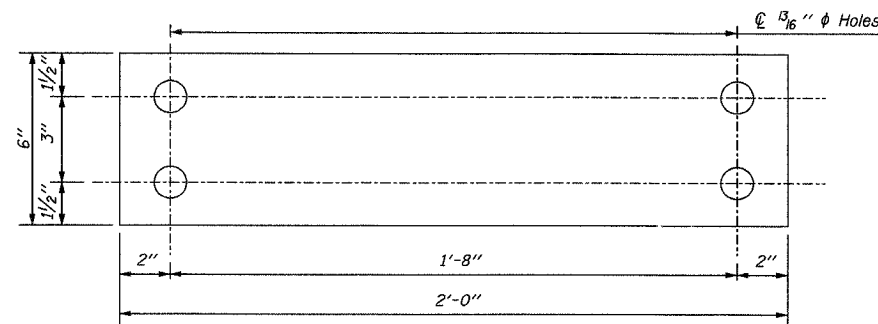
**Edwards AND Kelcey**  
ONE NORTH FRANKLIN  
CHICAGO, IL 60666  
PHONE: (312) 251-3000  
FAX: (312) 251-3015  
WEB: WWW.EKCORP.COM

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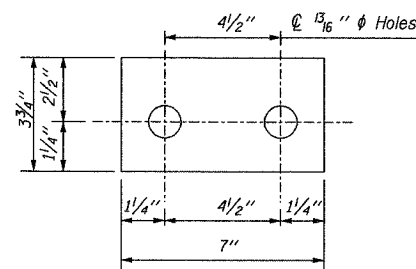
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-031I	COOK	976	105
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			
62583				



Extrusions may be used in lieu of the details shown, with approval of the Engineer.



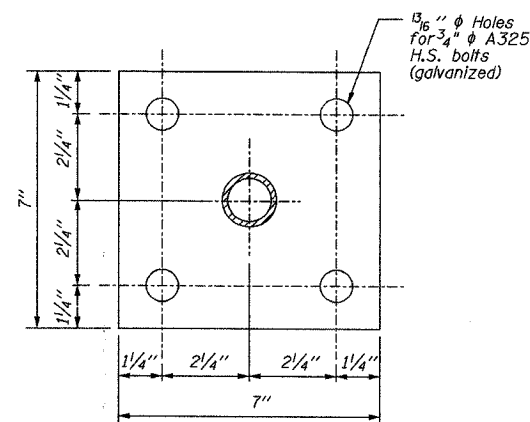
1" WALKWAY CONNECTION PLATE  
(AT WT 6X17.5 & BOTTOM CHORD)



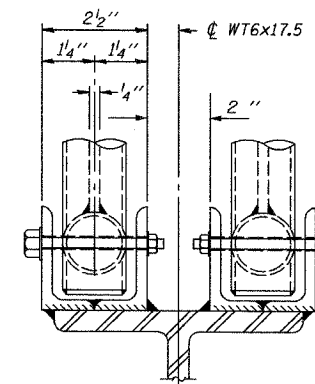
1/2" RAILING CONNECTION PLATE  
(AT WT 6X17.5 & EDGE POST)

SIDE ELEVATION

DETAIL C



1/2" ALUMINUM BASE PLATE  
(AT BOTTOM OF RAILING POST)



ELEVATION  
(At Handrail Joint)

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
31st STREET to I-57  
OVERHEAD DYNAMIC MESSAGE SIGN (DMS-08)  
CONNECTION DETAILS

SCALE: NONE  
DATE: October 29, 2004  
DRAWN BY: RLK  
CHECKED BY: JAP

DT-10

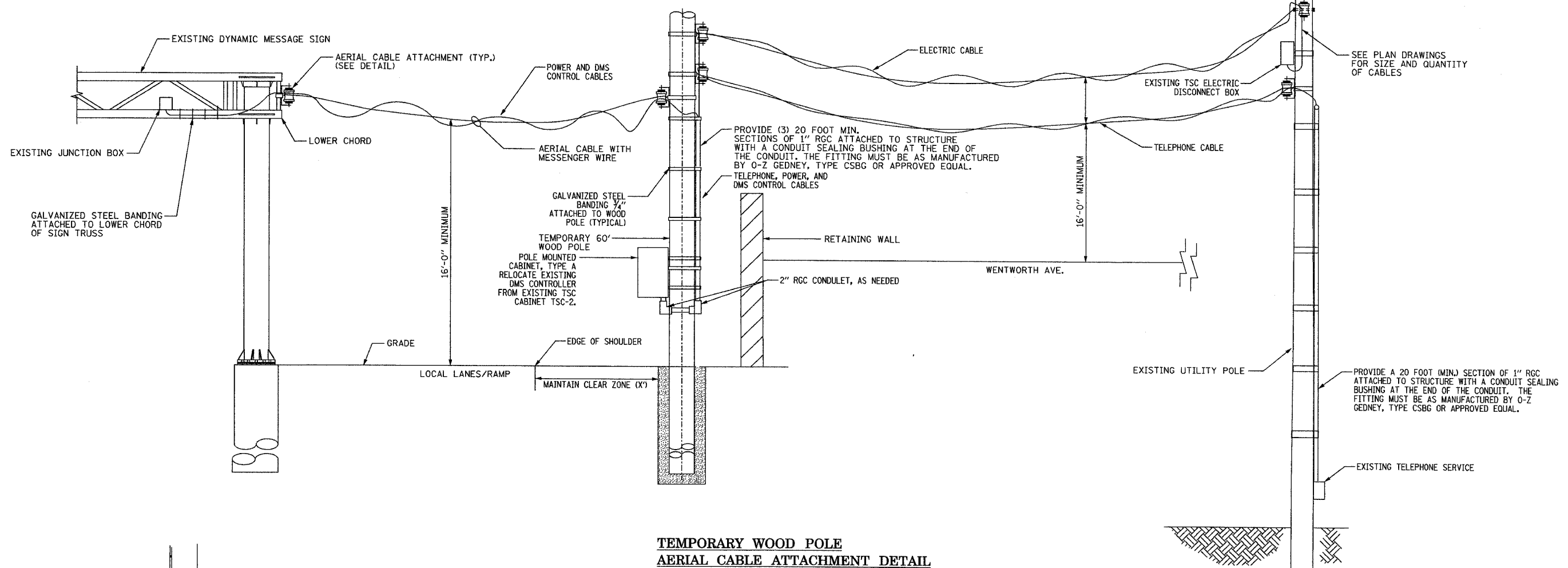
**Edwards  
AND Kelcey**  
ONE NORTH FRANKLIN  
CHICAGO, IL 60606  
PHONE: (312) 251-3000  
FAX: (312) 251-3015  
WEB: WWW.EKCORP.COM

10/15/2004 10:33:42 AM

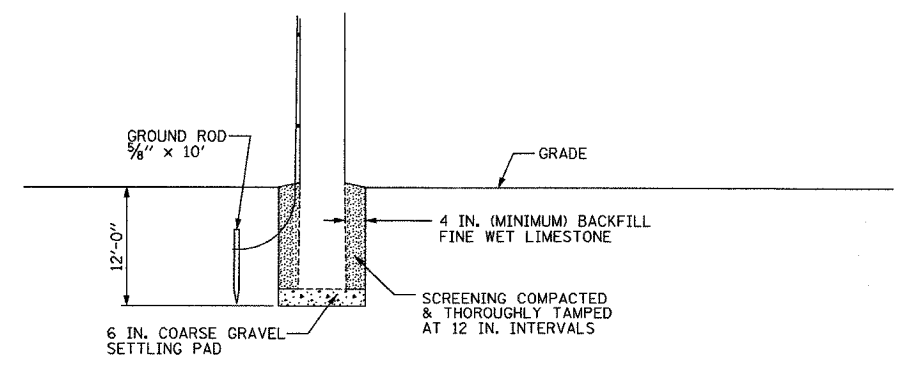
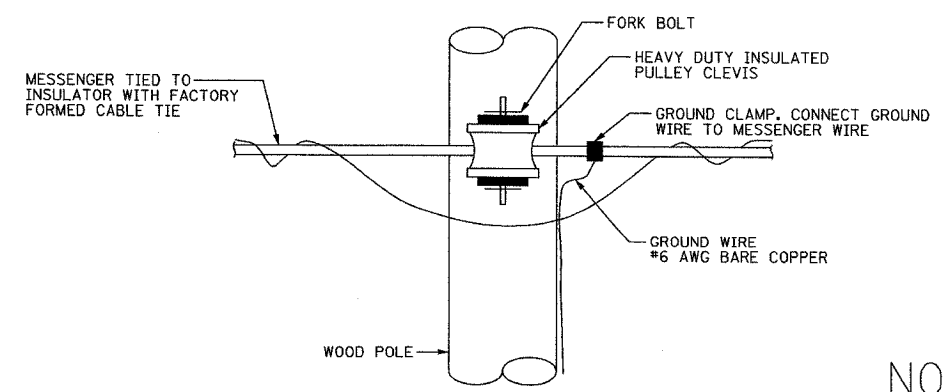
SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-0311	COOK	976	106
STA. TO STA.			
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT		
62583			

- NOTES:**
- SEE DRAWINGS ME-01 AND ME-02 FOR ELECTRICAL SYMBOLS AND ABBREVIATIONS.
  - ALL WORK SHOWN WILL BE INCLUDED WITH THE COST OF THE AERIAL CABLE.
  - HEAVY DUTY INSULATED PULLEY CLEVIS AND CLAMPS MAY BE SUBSTITUTED WITH OTHER EQUIPMENT AND MOUNTING METHOD UPON APPROVAL FROM THE ENGINEER.
  - SEE PLAN DRAWINGS FOR CABLE SIZE AND QUANTITY OF CABLE.
  - MAINTAIN EXISTING DMS UNTIL NEW DMS LOCATED APPROX. 450' NORTH OF EXISTING IS OPERATIONAL.

**TEMPORARY CONNECTION TO SIGN STRUCTURE DETAIL**



**TEMPORARY WOOD POLE  
AERIAL CABLE ATTACHMENT DETAIL**



**FOUNDATION DETAIL**

**Edwards  
AND Kelcey**  
ONE NORTH FRANKLIN  
CHICAGO, IL 60606  
PHONE: (312) 251-3000  
FAX: (312) 251-3015  
WEB: WWW.EKCORP.COM

NOT TO SCALE

REVISIONS	NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
31st STREET TO I-57  
TEMPORARY POWER FEED TO  
DYNAMIC MESSAGE SIGN DETAIL  
(57TH STREET)

SCALE: NOT TO SCALE  
DATE: October 29, 2004

DRAWN BY: CJH  
CHECKED BY: DH

DT-11

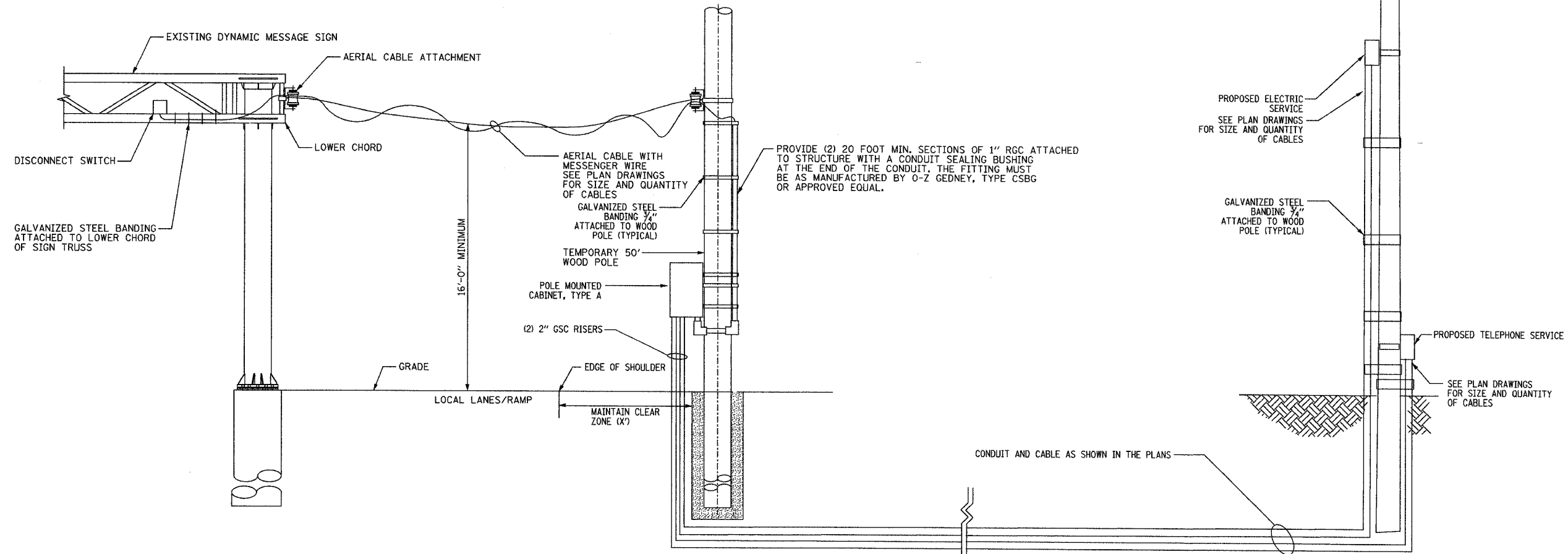
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SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-0311	COOK	976	907
STA.	TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	
62583			

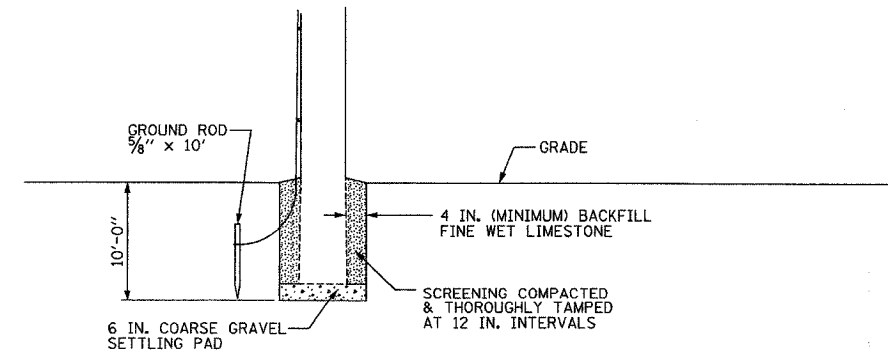
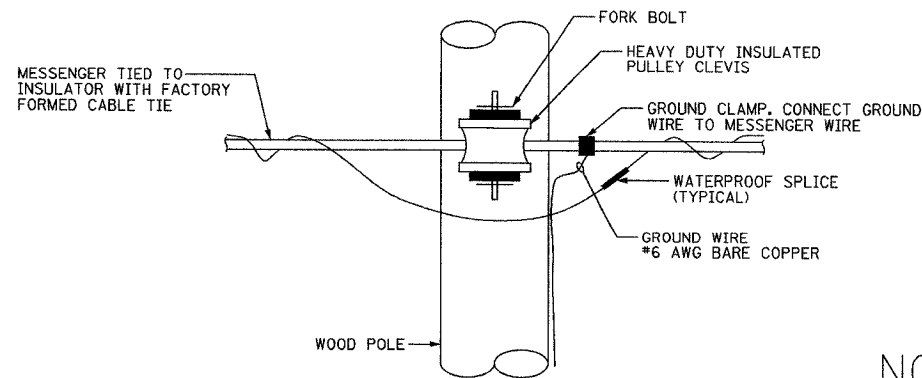
**NOTES:**

1. SEE DRAWINGS ME-01 AND ME-02 FOR ELECTRICAL SYMBOLS AND ABBREVIATIONS.
2. ALL WORK SHOWN WILL BE INCLUDED WITH THE COST OF THE AERIAL CABLE.
3. HEAVY DUTY INSULATED PULLEY CLEVIS AND CLAMPS MAY BE SUBSTITUTED WITH OTHER EQUIPMENT AND MOUNTING METHOD UPON APPROVAL FROM THE ENGINEER.
4. SEE PLAN DRAWINGS FOR CABLE SIZE AND QUANTITY OF CABLE.
5. MAINTAIN EXISTING DMS UNTIL NEW DMS LOCATED APPROX. X' NORTH OF EXISTING IS OPERATIONAL.

**TEMPORARY CONNECTION TO SIGN STRUCTURE DETAIL**



**TEMPORARY WOOD POLE  
AERIAL CABLE ATTACHMENT DETAIL**



**FOUNDATION DETAIL**

**Edwards  
AND Kelcey**  
ONE NORTH FRANKLIN  
CHICAGO, IL 60606  
PHONE: (312) 251-3000  
FAX: (312) 251-3015  
WEB: WWW.EKCORP.COM

NOT TO SCALE

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
31st STREET to I-57  
TEMPORARY POWER FEED TO  
DYNAMIC MESSAGE SIGN DETAIL  
(37TH STREET)

SCALE: NOT TO SCALE  
DATE: October 29, 2004

DRAWN BY: CJH  
CHECKED BY: DH

DT-12  
10/15/2004 03:37:42 PM

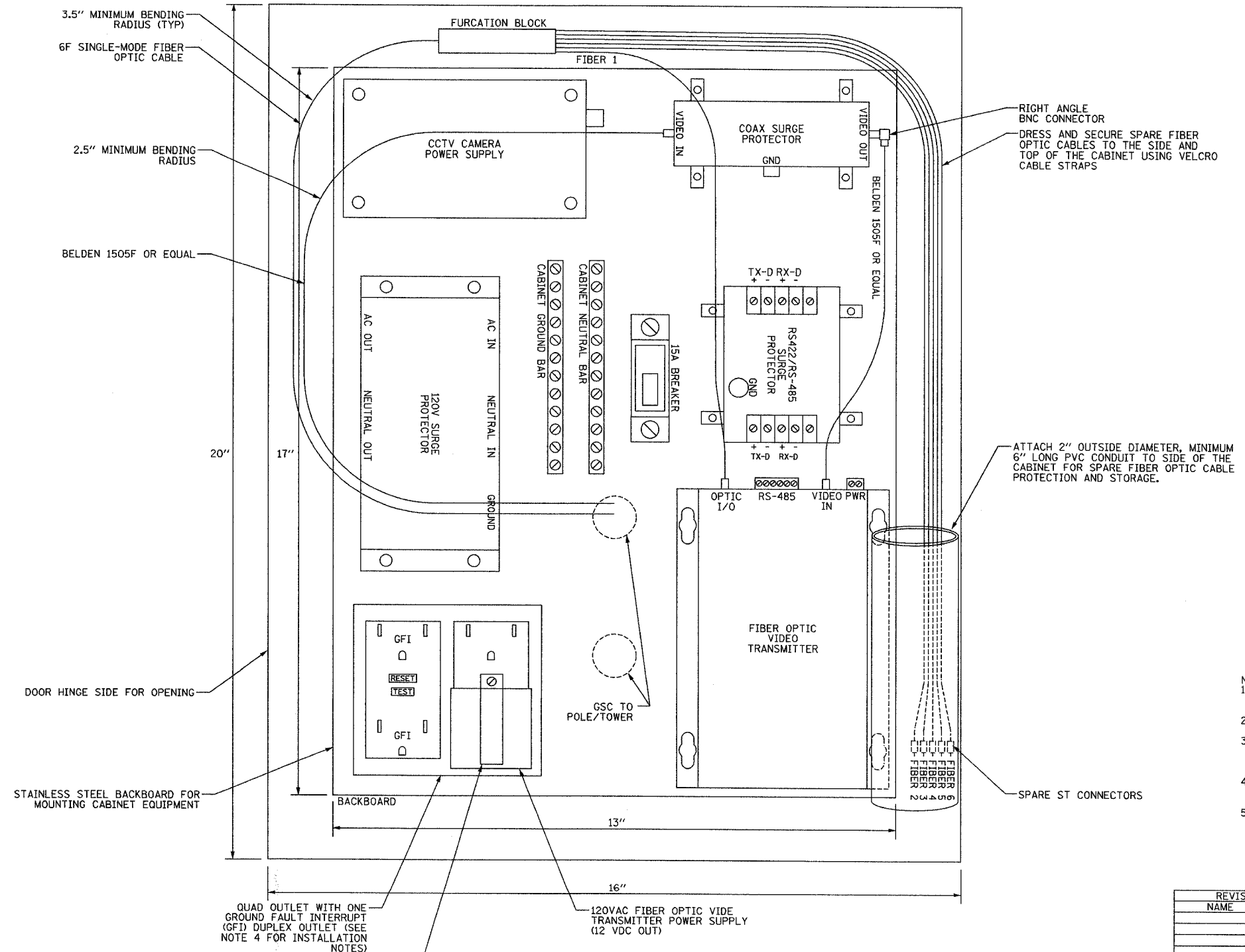


\* pgs 908-916 are Deleted \*

SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-031I	COOK	976	917
STA. TO STA.		ILLINOIS FED. AID PROJECT	
FED. ROAD DIST. NO.		62583	

FIBER NO.	COLOR
1	BLUE
2	ORANGE
3	GREEN
4	BROWN
5	SLATE
6	WHITE

FIBER OPTIC COLOR DESIGNATION



- NOTES:
1. THE CCTV CABINET SHALL BE MOUNTED ON SIDE OF LIGHT TOWER AT LOCATIONS INDICATED ON THE PLANS.
  2. ISOLATE NEUTRAL TERMINAL BLOCK FROM CABINET GROUND.
  3. CCTV CABINET SHALL BE A HOFFMAN ENCLOSURES MODEL A-20H1610SSLP OR A ELECTROMATE ENCLOSURES MODEL E-20H1610SSS OR APPROVED EQUAL.
  4. GFI DUPLEX RECEPTACLE SHALL BE INSTALLED DOWNSTREAM FROM THE NON-GFI DUPLEX RECEPTACLE.
  5. SEE CCTV SHEETS FOR CCTV POWER CABLE SIZES.

DT-13

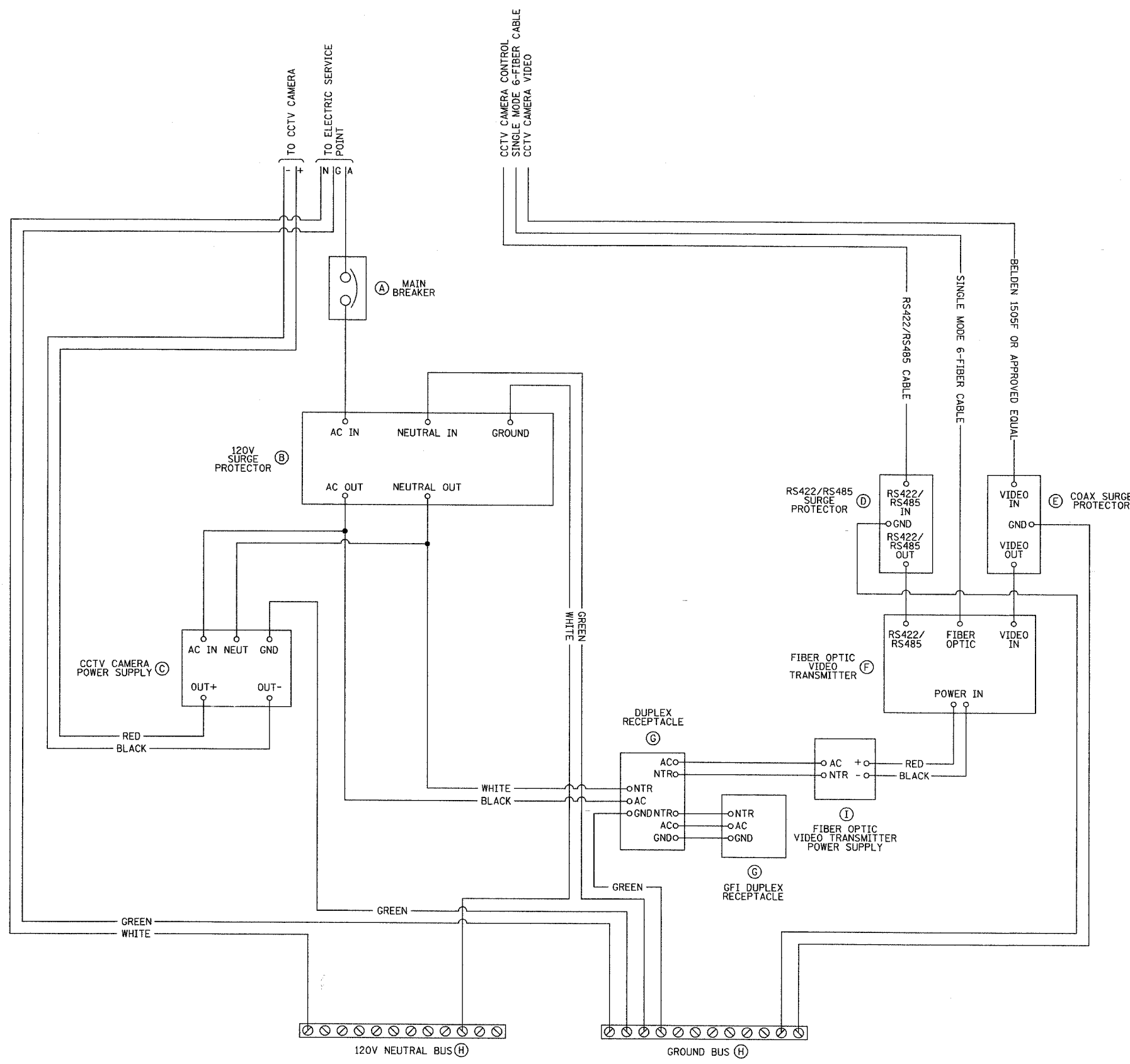
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
 31st STREET to I-57  
 CLOSED CIRCUIT TELEVISION  
 CABINET COMMUNICATIONS  
 AND WIRING DIAGRAMS  
 (SHEET 1 OF 2)  
 SCALE: NOT TO SCALE DRAWN BY: DHI  
 DATE: October 29, 2004 CHECKED BY: JEF

**Edwards AND Kelcey**  
 ONE NORTH FRANKLIN  
 CHICAGO, IL 60606  
 PHONE: (312) 251-3000  
 FAX: (312) 251-3015  
 WEB: WWW.EKCORP.COM

10/14/2004 09:24:08 AM

SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-0311	COOK	976	918
STA.	TO STA.		
FED. ROAD DIST. NO. - ILLINOIS FED. AID PROJECT			
62583			



ITEM NO.	QTY	DESCRIPTION
A	1	MAIN CIRCUIT BREAKER 2 POLE 15 AMP
B	1	120 VAC FILTERING SURGE PROTECTOR
C	1	24 VAC CCTV CAMERA POWER SUPPLY
D	1	RS422/RS485 SURGE PROTECTOR
E	1	VIDEO COAX CABLE SURGE PROTECTOR
F	1	FIBER OPTIC VIDEO TRANSMITTER
G	1	QUAD OUTLET WITH ONE GFI DUPLEX RECEPTACLE AND ONE NON-GFI DUPLEX RECEPTACLE
H	2	COPPER GROUND AND NEUTRAL BUS
I	1	12 VDC FIBER OPTIC VIDEO TRANSMITTER POWER SUPPLY

DT-14

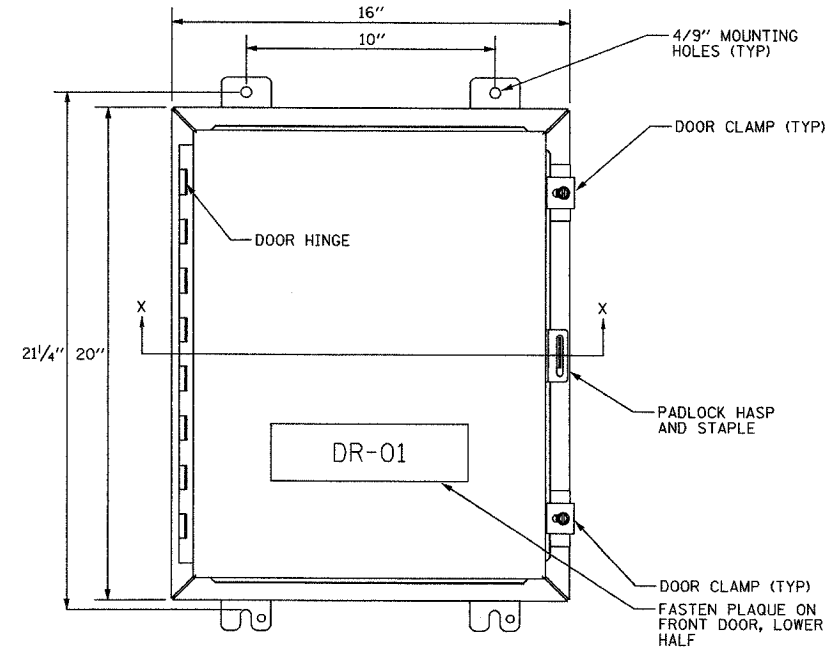
**Edwards  
AND Kelcey**  
ONE NORTH FRANKLIN  
CHICAGO, IL 60606  
PHONE: (312) 251-3000  
FAX: (312) 251-3015  
WEB: WWW.EDKORP.COM

REVISIONS	
NAME	DATE

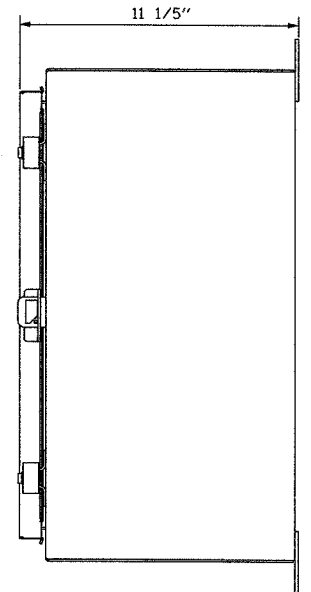
ILLINOIS DEPARTMENT OF TRANSPORTATION  
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
31st STREET to I-57  
CLOSED CIRCUIT TELEVISION  
CABINET COMMUNICATIONS  
AND WIRING DIAGRAMS  
(SHEET 2 OF 2)  
SCALE: NOT TO SCALE  
DATE: October 29, 2004  
DRAWN BY: DHI  
CHECKED BY: JEZ

P:\030019\035\1rs\cadd\102042a.rvt 10/14/2004 09:24:09 AM

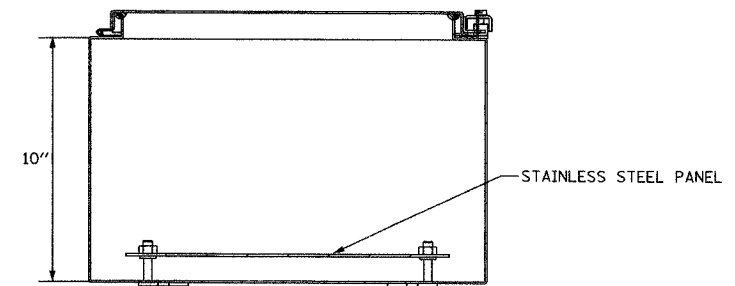
SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-0311	COOK	976	919
STA. TO STA.		ILLINOIS FED. AID PROJECT	
62583			



FRONT VIEW

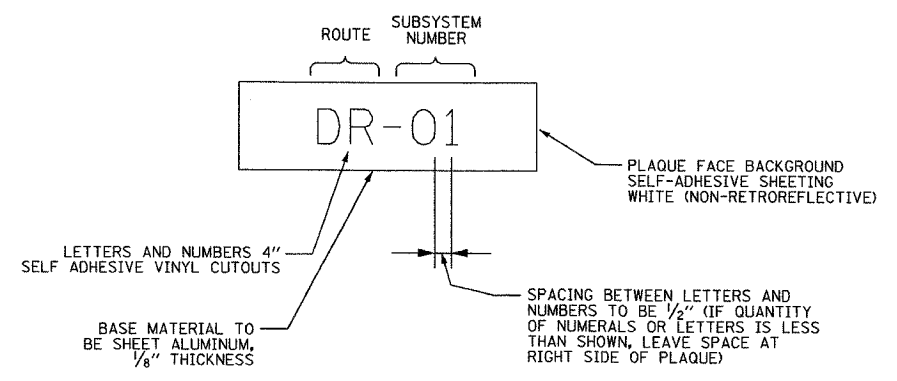


SIDE VIEW



SECTION X-X

CCTV CABINET  
DETAIL



CCTV CABINET  
IDENTIFICATION PLAQUE DETAIL

**CCTV LEGEND**  
 DR - CLOSED CIRCUIT TELEVISION (DAN RYAN)  
 CH - CLOSED CIRCUIT TELEVISION (I-57/CHEVY)  
 BF - CLOSED CIRCUIT TELEVISION (BISHOP FORD)

- NOTES:**
1. THE CCTV CABINET SHALL BE MOUNTED ON THE SIDE OF HIGH MAST LIGHT TOWER AT LOCATIONS INDICATED ON THE PLANS.
  2. CCTV CABINET SHALL BE A HOFFMAN ENCLOSURES MODEL A-20H1610SSLP OR ELECTROMATE MODEL E-20H1610SSS OR APPROVED EQUAL.
  3. SUBSYSTEM NUMBERING SCHEME TO FOLLOW CABINET IDENTIFICATION NUMBERS SHOWN ON THE CCTV SUBSYSTEM SHEETS. CONTRACTOR SHALL VERIFY NUMBERING SCHEME FOR EACH CABINET WITH THE ENGINEER BEFORE PROCURING AND INSTALLING THE IDENTIFICATION PLAQUES.

DT-15

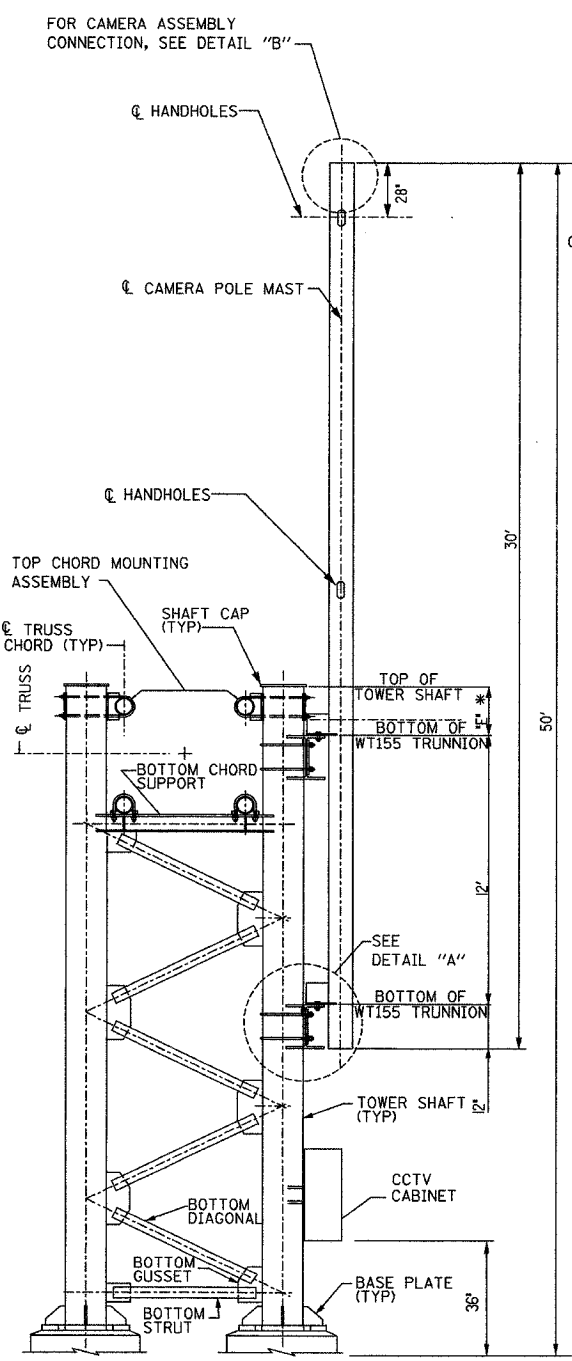
**Edwards AND Kelcey**  
 ONE NORTH FRANKLIN  
 CHICAGO, IL 60606  
 PHONE: (312) 251-3000  
 FAX: (312) 251-3015  
 WEB: WWW.EKCORP.COM

REVISIONS	
NAME	DATE

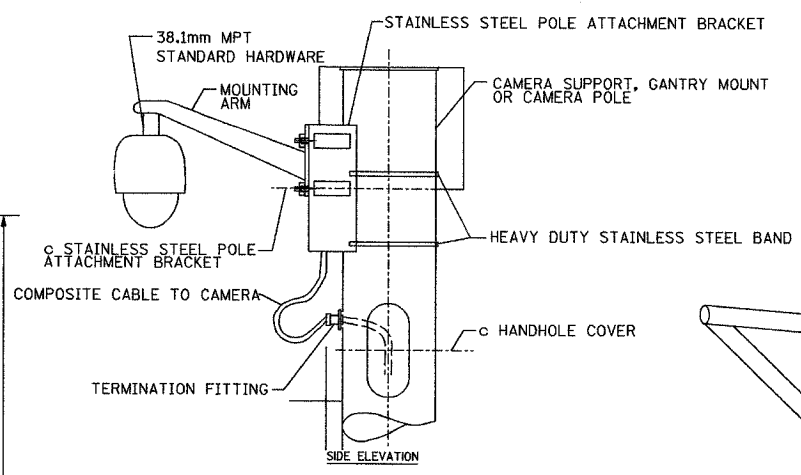
ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
 31st STREET to I-57  
 CLOSED CIRCUIT TELEVISION  
 CABINET DETAILS  
 SCALE: NOT TO SCALE  
 DATE: October 29, 2004  
 DRAWN BY: DHI  
 CHECKED BY: JEZ

P:\030019\030019\030019.dwg 10/14/2004 09:24:09 AM

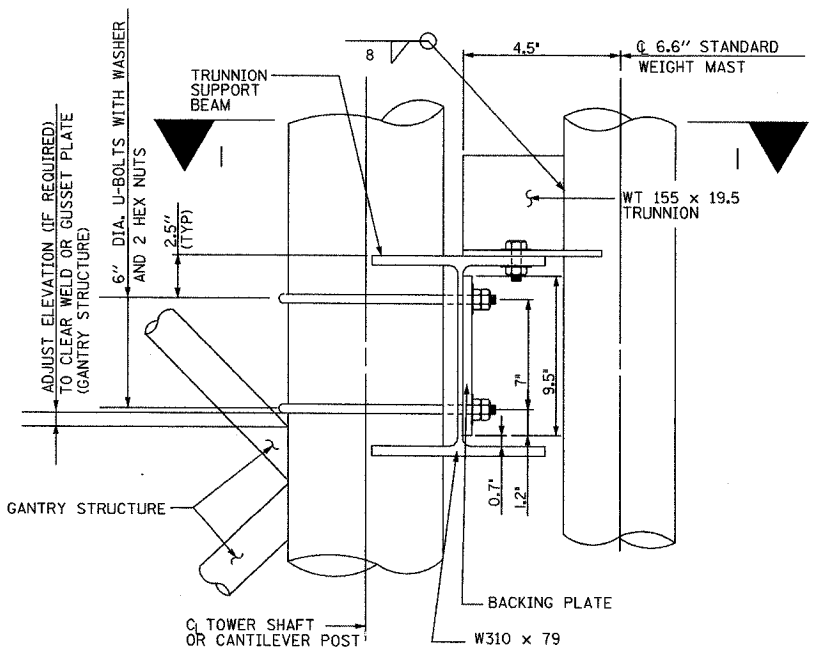
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-0311	COOK	976	420
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		
62583				



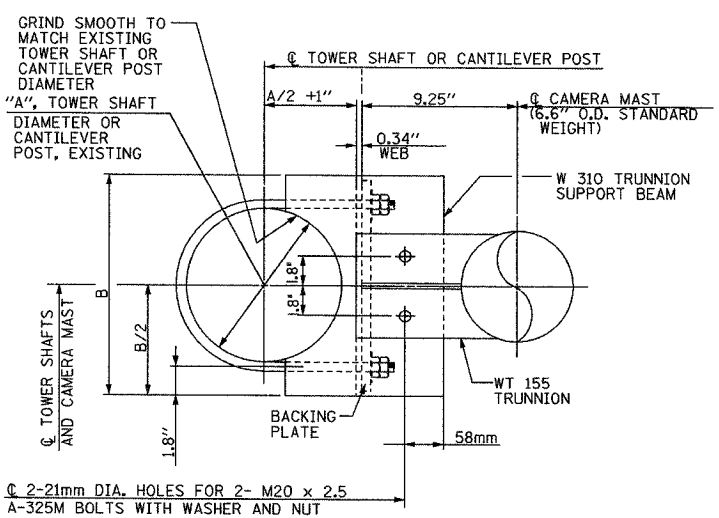
ELEVATION  
GANTRY STRUCTURE TYPE I  
DUAL TRUSS POST



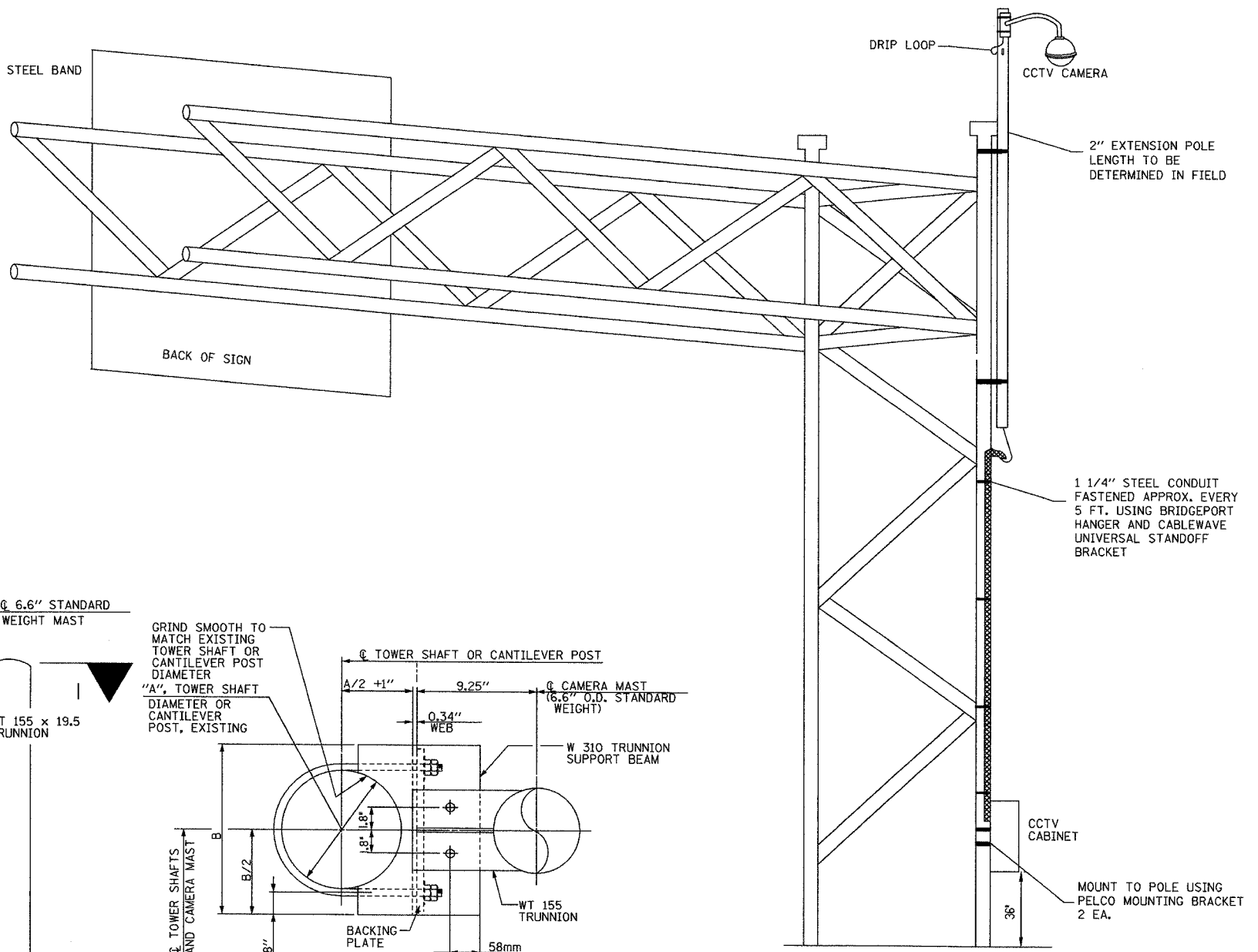
DETAIL B



DETAIL A  
SCALE 1/4"



SECTION I-I  
SCALE 1/4"



DT-16

NOTE:  
1. FOR CCTV CABINET COMMUNICATIONS AND WIRING DIAGRAM SEE DT-13 THRU DT-15.

**Edwards AND Kelcey**  
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CHICAGO, IL 60606  
PHONE: (312) 251-3000  
FAX: (312) 251-3015  
WEB: WWW.EKCORP.COM

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
31st STREET to I-57  
  
CCTV CAMERA INSTALLATION  
ON EXISTING SIGN STRUCTURE  
  
SCALE: 1"=50'  
DATE: October 29, 2004  
DRAWN BY: SD  
CHECKED BY: MJL

09/24/09 AM 10/17/2004

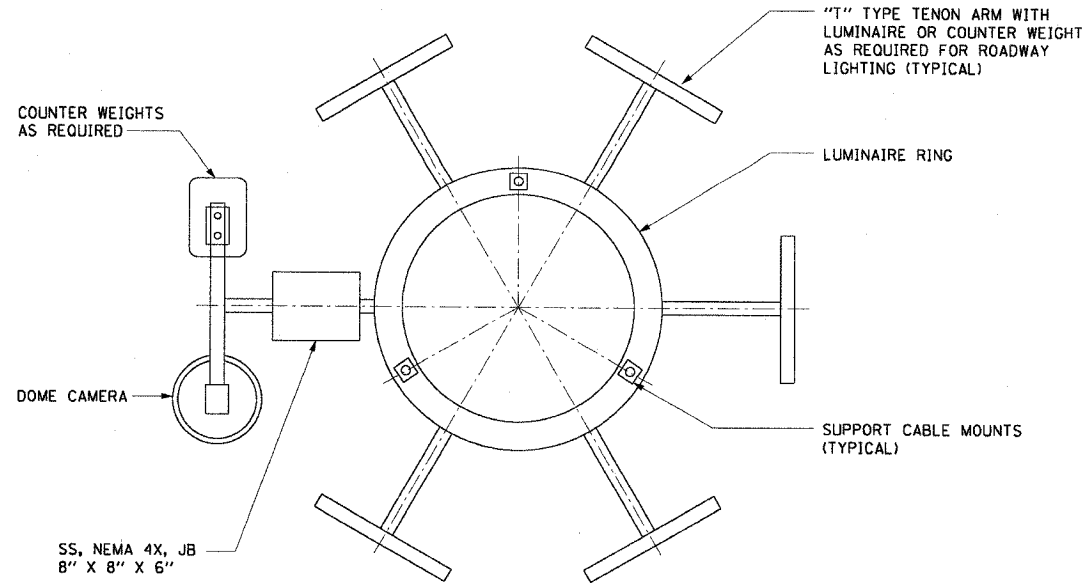
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2003-G311	COOK	976	921
STA.	TO STA.			
FED. ROAD DIST. NO. 1	ILLINOIS FED. AID PROJECT			

62583

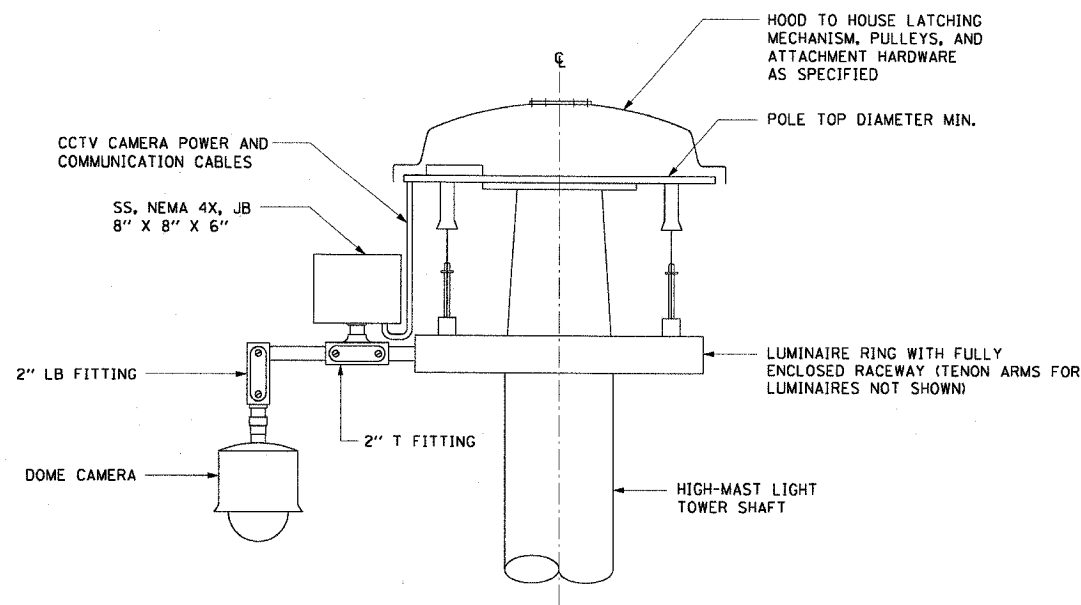
**NOTES:**

1. SEE SHEETS CCTV-01 THROUGH CCTV-34 FOR PROPOSED CCTV CAMERAS LOCATIONS.
2. HANDHOLE SHALL BE POSITIONED FACING AWAY FROM ONCOMING TRAFFIC.
3. CABINET SHALL BE BOLTED TO MOUNTING CHANNELS. SEE DRAWING DT-15 FOR CABINET DETAILS.
4. BACK OF CABINET SHALL BE PENETRATED TO ACCEPT CONDUIT STUBS IN LIGHT TOWER. ALL PENETRATIONS SHALL BE MADE WATERTIGHT.

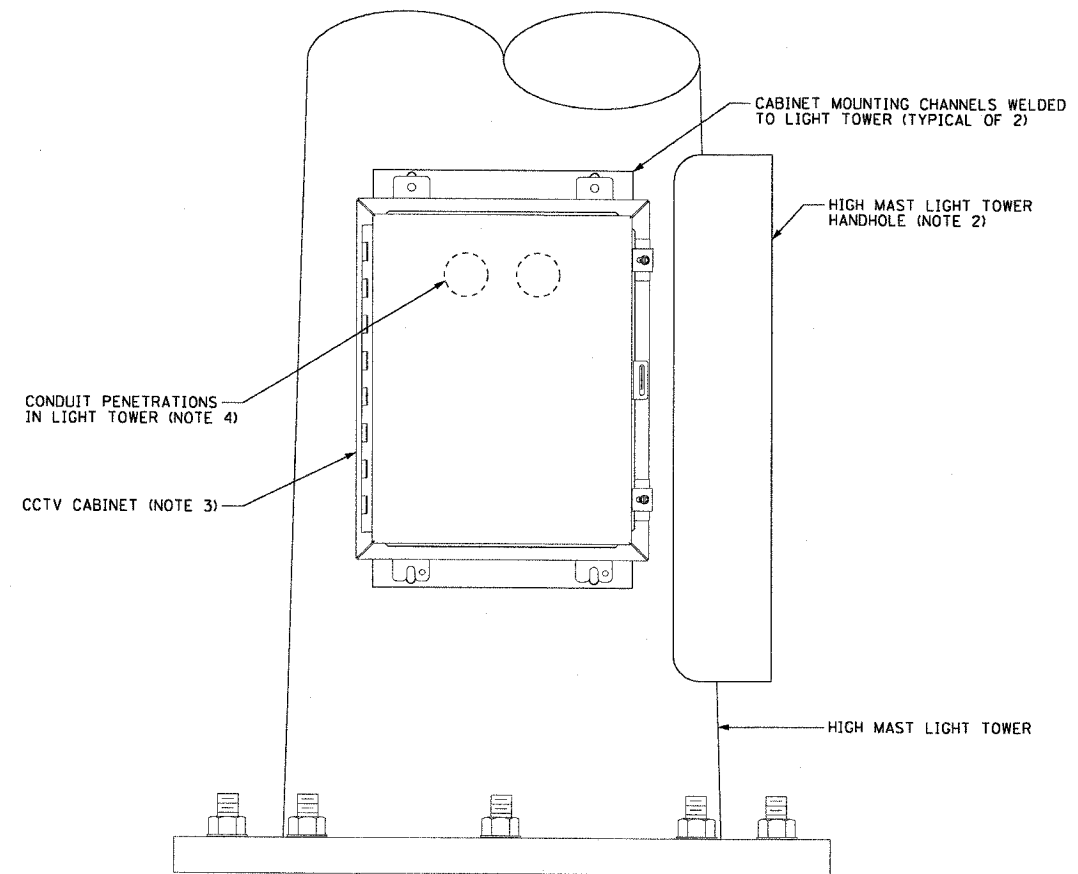
DAN RYAN EXPRESSWAY



**DOME CAMERA PLAN VIEW**  
NOT TO SCALE



**CAMERA MOUNTING DETAIL**  
NOT TO SCALE



**CABINET MOUNTING DETAIL**  
NOT TO SCALE

REVISIONS	
NAME	DATE

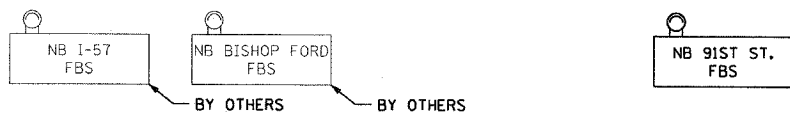
ILLINOIS DEPARTMENT OF TRANSPORTATION  
F.A.I. 90/94 (DAN RYAN EXPRESSWAY)  
31st STREET TO I-57

**CLOSED CIRCUIT TELEVISION  
HIGH-MAST LIGHTING TOWER  
MOUNTING DETAILS**

SCALE: 1"=50'  
DATE: October 29, 2004

DRAWN BY: BHP  
CHECKED BY: BMW

INBOUND SIGNS

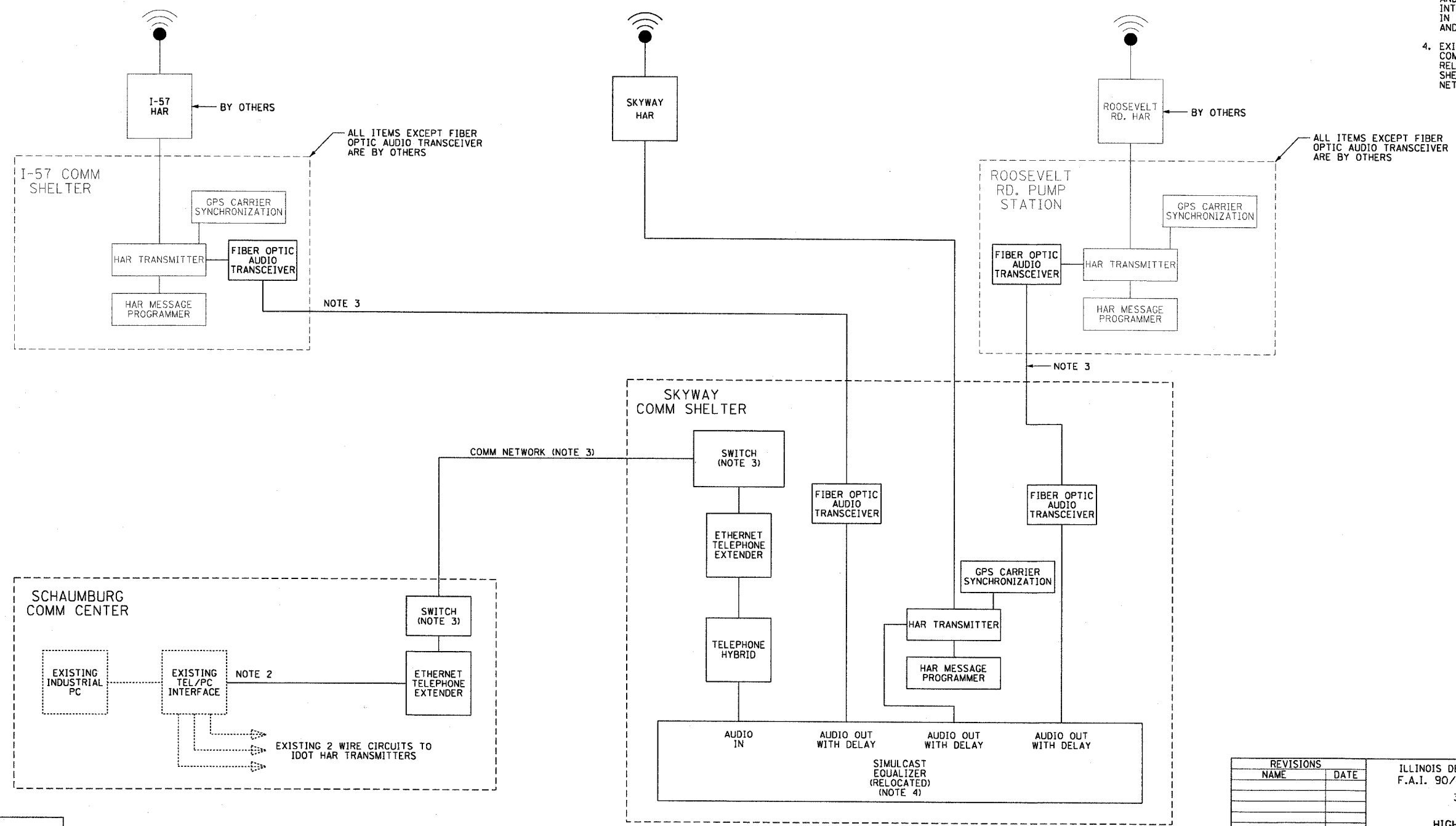


OUTBOUND SIGNS



F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2003-0311	COOK	976	922
STA.	TO STA.			
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

- 62583
- NOTES:
- SEE DRAWINGS ME-01 AND ME-02 FOR ELECTRICAL SYMBOLS AND ABBREVIATIONS.
  - EXISTING COMMUNICATION CIRCUIT CONNECTED TO SIMULCAST EQUALIZER TO BE REUSED AFTER RELOCATION OF EQUALIZER FROM THE COMMUNICATION CENTER TO THE SKYWAY COMMUNICATION SHELTER.
  - THE SWITCHES, FIBER OPTIC CABLE AND ALL COMMUNICATION NETWORK INTERFACES WILL BE AS SPECIFIED IN THE COMMUNICATION DRAWINGS AND SPECIFICATIONS.
  - EXISTING SIMULCAST EQUALIZER IN COMMUNICATION CENTER TO BE RELOCATED TO SKYWAY COMMUNICATION SHELTER ONCE THE NEW FIBER OPTIC NETWORK CONNECTIONS ARE IN PLACE.



REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.I. 90/94 (DAN RYAN EXPRESSWAY)  
 31st STREET TO I-57

HIGHWAY ADVISORY RADIO  
 SYSTEM DIAGRAM

SCALE: NONE  
 DATE: October 29, 2004

DRAWN BY: BHP  
 CHECKED BY: BMW

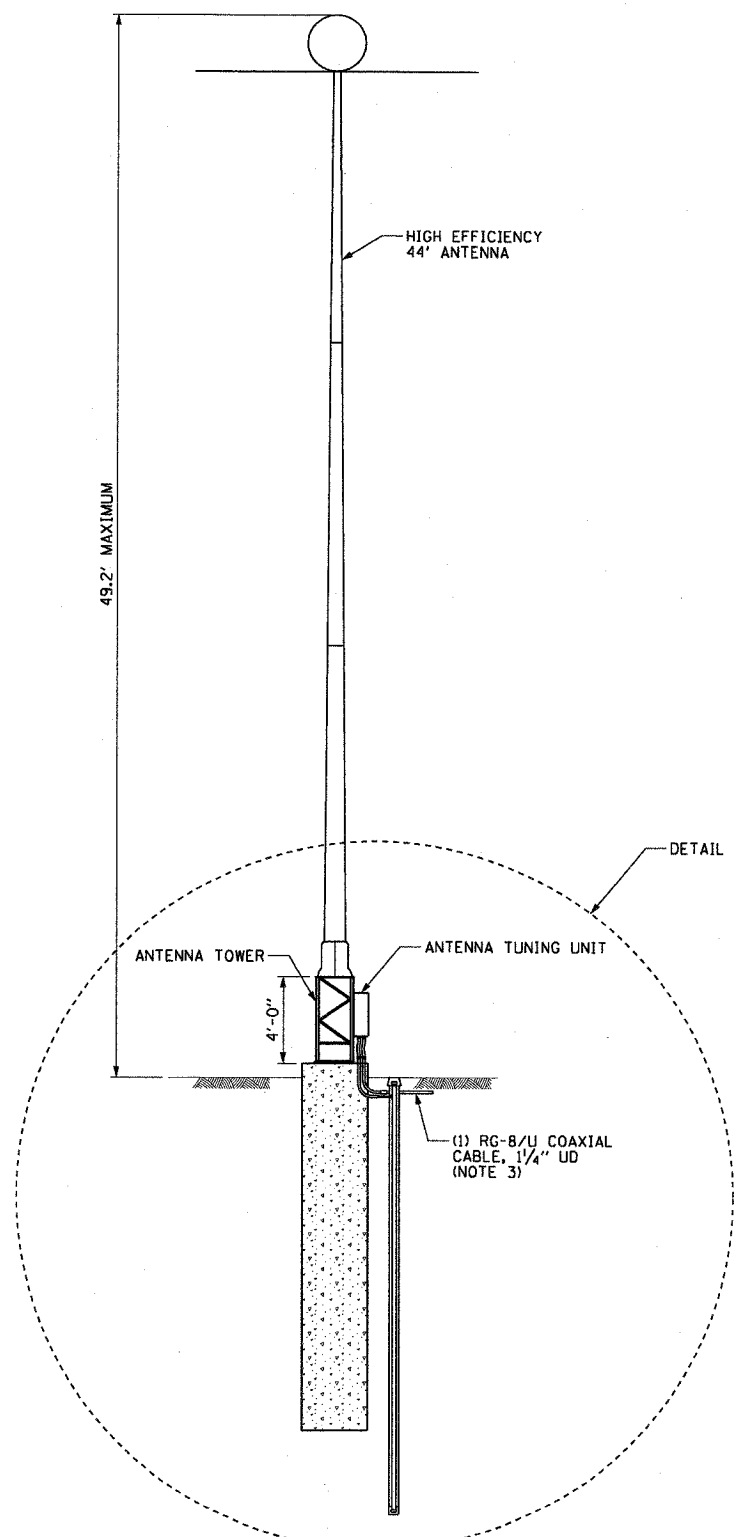
DT-18

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2003-0311	COOK	976	423
STA.	TO STA.			
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

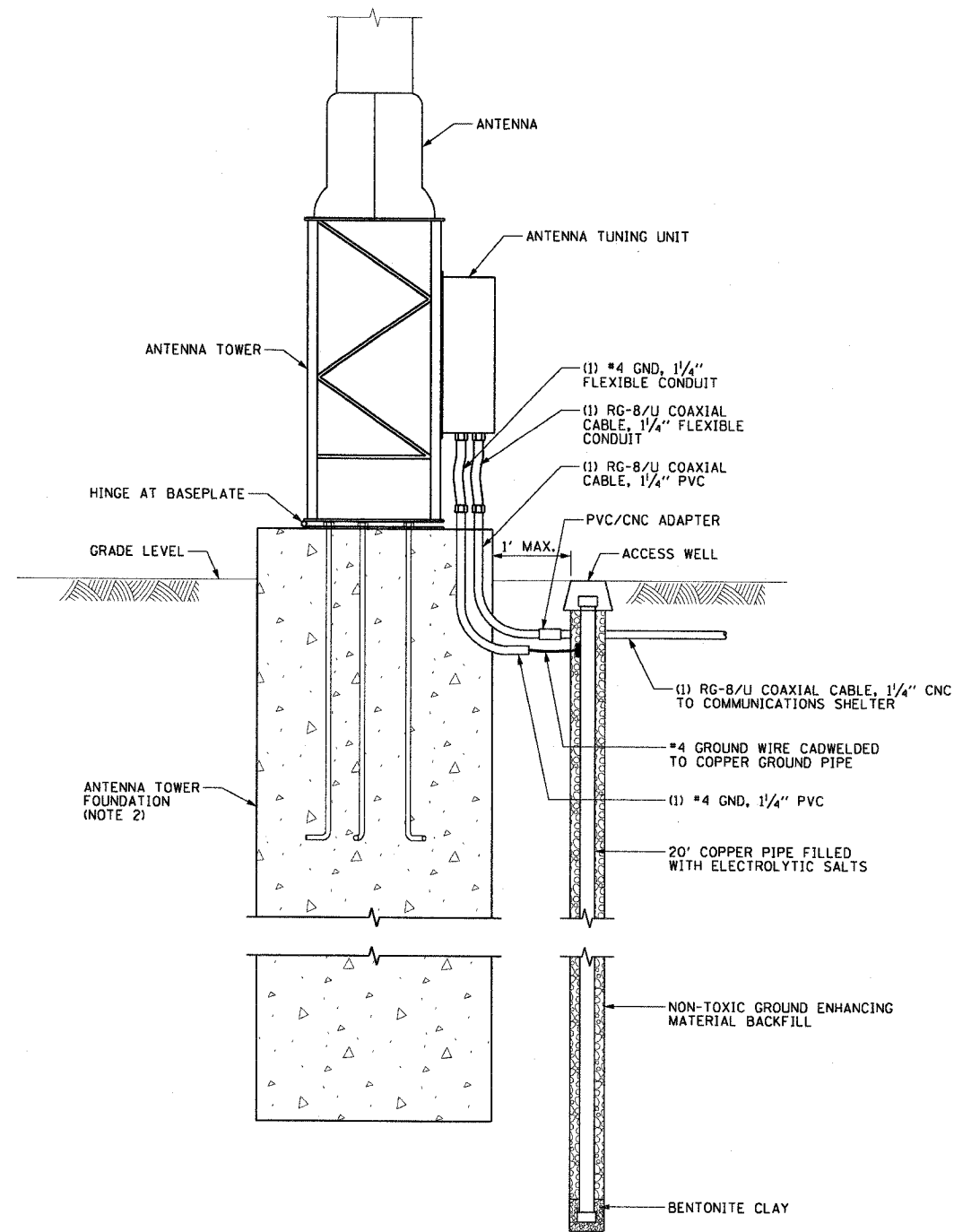
62583

**NOTES:**

1. SEE DRAWINGS ME-01 AND ME-02 FOR ELECTRICAL SYMBOLS AND ABBREVIATIONS.
2. SEE DRAWING DT-23 FOR FOUNDATION DETAILS.
3. CONDUIT AND CABLE TO COMMUNICATIONS SHELTER AS SHOWN ON THE PLAN DRAWINGS.



1 SITE LAYOUT  
NOT TO SCALE



2 ANTENNA AND GROUNDING DETAIL  
NOT TO SCALE

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
F.A.I. 90/94 (DAN RYAN EXPRESSWAY)  
31st STREET TO I-57  
HIGHWAY ADVISORY RADIO TRANSMITTER  
STATION SITE DETAILS

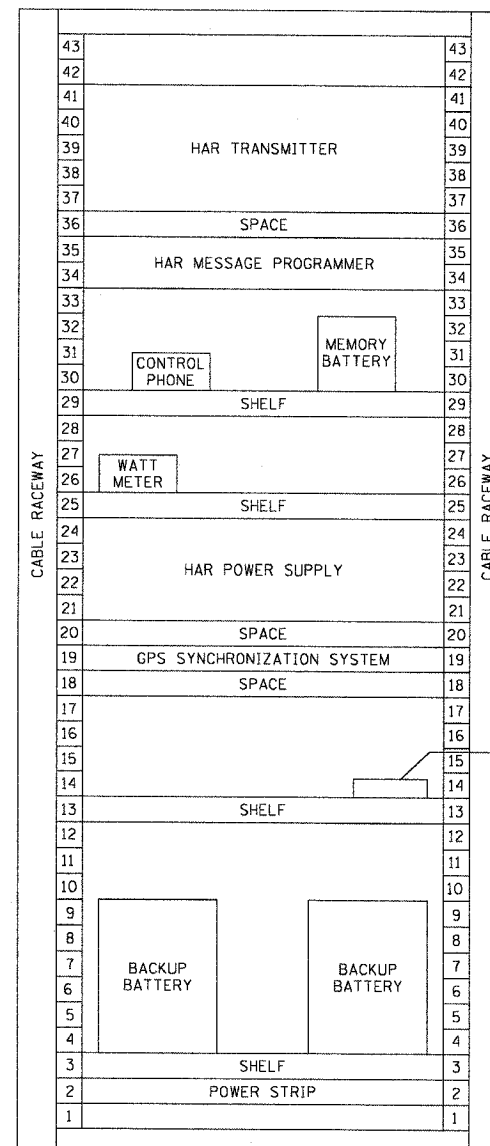
SCALE: NONE  
DATE: October 29, 2004  
DRAWN BY: CJM  
CHECKED BY: BMW

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2003-0311	COOK	976	924
STA.	TO STA.			
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

62583

**NOTES:**

- SEE DRAWINGS ME-01 AND ME-02 FOR ELECTRICAL SYMBOLS AND ABBREVIATIONS.
- ALL EQUIPMENT AND RACK MUST BE INSTALLED IN COMMUNICATIONS SHELTER AT HAR-02. CONTRACTOR MUST PROVIDE ALL NECESSARY CONDUIT, CABLE TO BRING POWER SERVICE TO THE EQUIPMENT RACK. SEE COMMUNICATIONS DRAWINGS FOR FIBER OPTIC CABLE CONNECTIONS.
- RACK LAYOUT SHOWN IS A TYPICAL CONFIGURATION AND MAY BE MODIFIED TO MEET THE APPROVED MANUFACTURERS REQUIREMENTS ASSUMING THE OVERALL SPACE ALLOTMENT IS SIMILAR.
- FIBER OPTIC AUDIO TRANSMITTER IS THE ONLY EQUIPMENT REQUIRED AT HAR-01 AND HAR-03. ALL OTHER IS EXISTING AT THESE TWO LOCATIONS.



FIBER OPTIC AUDIO TRANSMITTER  
(NOTE 4)

**2** RACK LAYOUT  
DT-20  
NOTES 2 AND 3  
NOT TO SCALE

DT-20

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
F.A.I. 90/94 (DAN RYAN EXPRESSWAY)  
31st STREET TO I-57

**HIGHWAY ADVISORY RADIO  
RACK LAYOUT DETAILS**

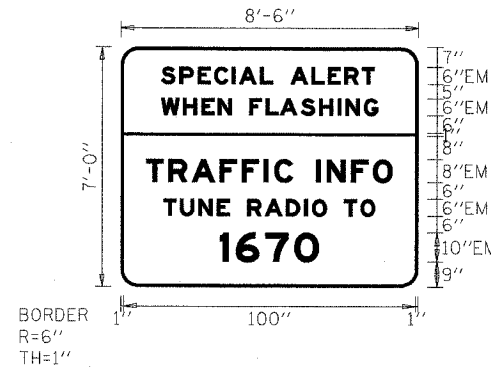
SCALE: NONE DRAWN BY: HR  
DATE: October 29, 2004 CHECKED BY: BMW



10/15/2004 08:44:48 AM



SIGN DETAIL



SIGN NUMBER	HAR
WIDTH x HEIGHT	8'-6" x 7'-0"
BORDER WIDTH	1"
CORNER RADIUS	6"
MOUNTING	GROUND MOUNT
BACKGROUND	TYPE: REFLECTIVE
TOP	COLOR: YELLOW
LEGEND/BORDER	TYPE: NON-REFLECTIVE
TOP	COLOR: BLACK
BACKGROUND	TYPE: REFLECTIVE
BOTTOM	COLOR: BLUE
LEGEND/BORDER	TYPE: REFLECTIVE
BOTTOM	COLOR: WHITE

DIMENSIONS ARE IN INCHES.TENTHS

LETTER LOCATIONS ARE PANEL EDGE TO LOWER LEFT CORNER

LETTER POSITIONS (X)													LENGTH SERIES, SIZE				
S	P	E	C	I	A	L		A	L	E	R	T				73.4	EM6
13.7	20.1	26.4	32	38.1	40.5	47.7	52.1	58.1	65.4	71	76.7	82.7					
W	H	E	N		F	L	A	S	H	I	N	G				74.5	EM6
13.8	21.3	27.6	33.3	38.1	44.1	49.7	54.5	61.7	68.1	74.4	77.1	83.4					
T	R	A	F	F	I	C		I	N	F	O					84.5	EM8
8.7	16.3	24.3	34	41.5	49	52.6	59	67	70.6	79.1	86.6						
T	U	N	E		R	A	D	I	O		T	O				72.6	EM6
14.7	20.3	26.7	33	37.4	43.4	49.4	56.6	63	65.7	70.7	76.7	82.3					
1	6	7	0													33.9	EM10
34	39.6	49.6	59.6														

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2003-0311	COOK	976	925
STA.	TO STA.			
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

62583

DT-21



REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.I. 90/94 (DAN RYAN EXPRESSWAY)  
 31st STREET TO I-57  
 HIGHWAY ADVISORY RADIO  
 FLASHING BEACON SIGN PANEL DETAILS  
 SCALE: NONE  
 DATE: October 29, 2004  
 DRAWN BY: BHP  
 CHECKED BY: BMW

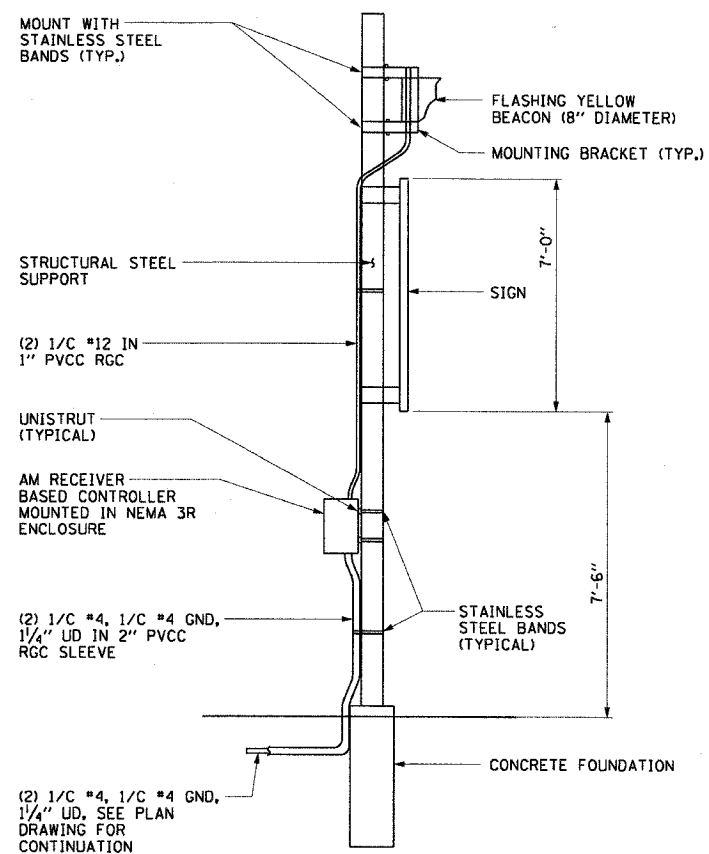
08-44-8 AM 10/15/2004

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEET SHEETS	NO.
90/94	2003-0311	COOK	976	926
STA.	TO STA.			
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

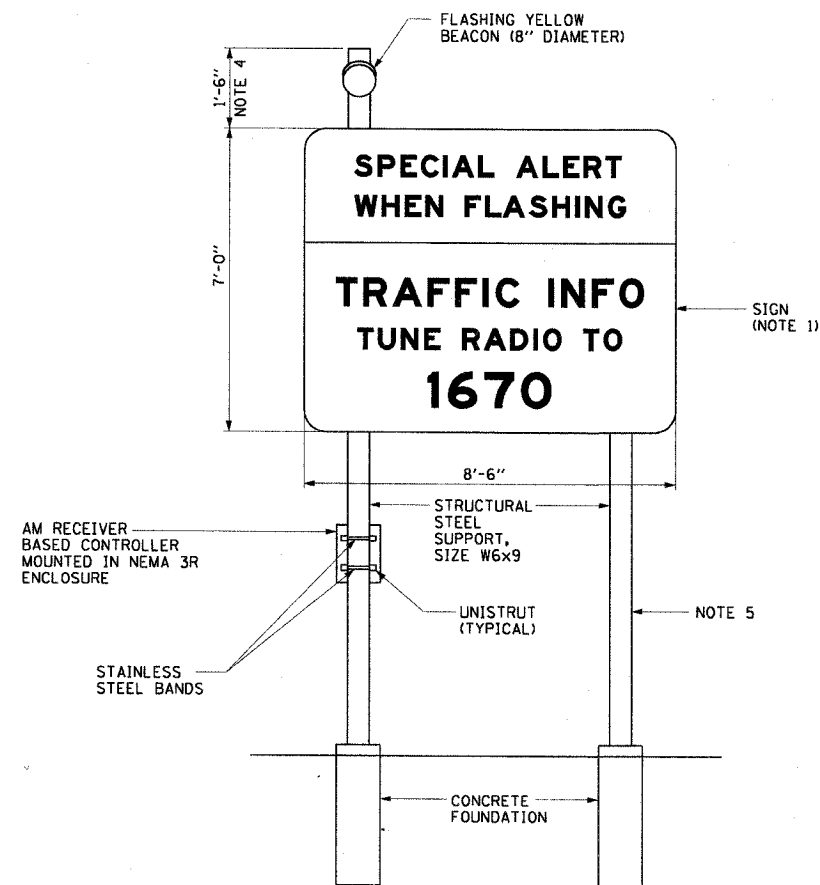
62583

**NOTES:**

1. SEE DRAWING DT-21 FOR SIGN PANEL DETAILS.
2. SEE PLAN DRAWINGS HAR-04 TO HAR-07 FOR LOCATIONS OF HIGHWAY ADVISORY RADIO FLASHER ASSEMBLY.
3. SIGN SUPPORTS, FOUNDATIONS, AND MOUNTING HARDWARE MUST COMPLY WITH IDOT SIGN STANDARDS.
4. DIMENSION IS 1'-6" MINIMUM AND MUST BE ADJUSTED TO ENSURE ADEQUATE LENGTH FOR MOUNTING THE FLASHING BEACON.
5. SIGN SUPPORT POST LENGTHS ARE TO BE DETERMINED IN THE FIELD BY THE CONTRACTOR, AND SHOULD BE BASED UPON THE DIMENSIONS SHOWN ON THIS DRAWING AND THE FINAL GRADING AT THE SIGN LOCATION.



**HIGHWAY ADVISORY RADIO FLASHER ASSEMBLY  
SIDE VIEW (TYPICAL)**  
NOT TO SCALE



**HIGHWAY ADVISORY RADIO FLASHER ASSEMBLY  
FRONT VIEW (TYPICAL)**  
NOT TO SCALE

DT-22

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
F.A.I. 90/94 (DAN RYAN EXPRESSWAY)  
31st STREET TO I-57  
HIGHWAY ADVISORY RADIO  
FLASHING BEACON SIGN  
ASSEMBLY DETAILS

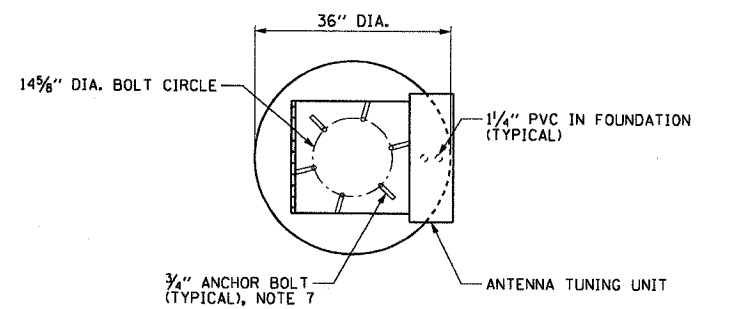
SCALE: NONE  
DATE: October 29, 2004  
DRAWN BY: BHP  
CHECKED BY: BMW

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2003-0311	COOK	976	427
STA.		TO STA.		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

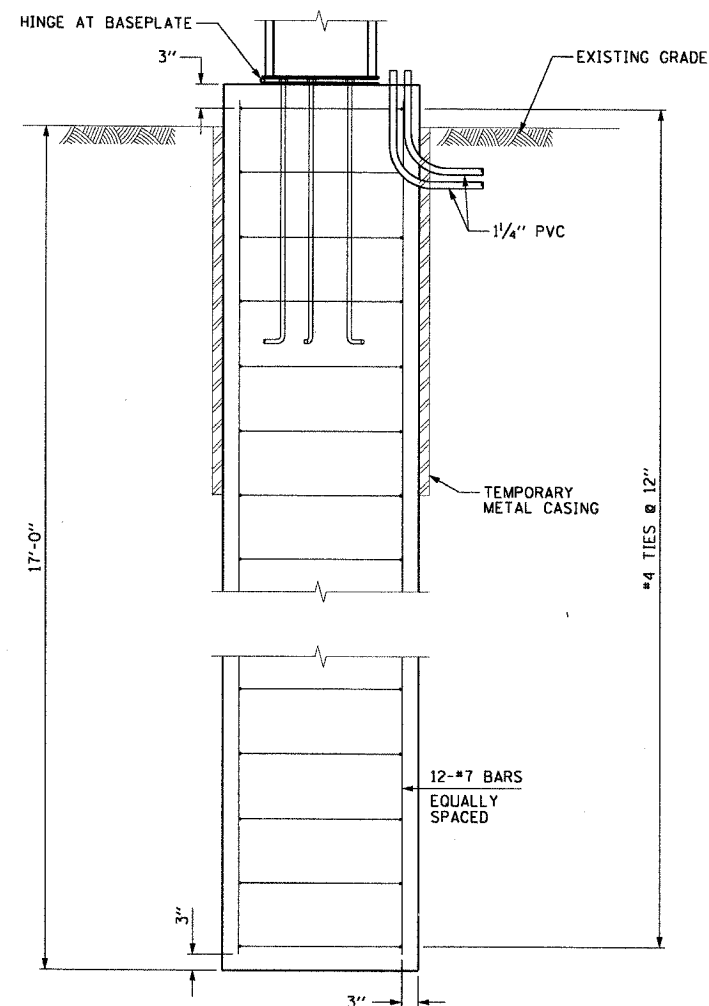
62583

**NOTES:**

- SEE DRAWINGS ME-01 AND ME-02 FOR ELECTRICAL SYMBOLS AND ABBREVIATIONS.
- CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH,  $F_c$  OF 4000 PSI AT 28 DAYS.
- THE FOUNDATION SHALL BE A MONOLITHIC POUR. NO CONSTRUCTION JOINTS WILL BE ALLOWED.
- ALL REINFORCEMENT AND DETAILING SHALL CONFORM TO ACI 318, "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE".
- REINFORCEMENT BARS SHALL BE DEFORMED BILLET STEEL BARS CONFORMING TO ASTM A 615 GRADE 60 WITH  $F = 60,000$  PSI.
- 3" CONCRETE COVER SHALL BE PROVIDED.
- A TEMPORARY CASING SHALL BE INSTALLED TO A DEPTH BELOW THE EXISTING GROUND LEVEL TO PREVENT SEEPAGE INTO THE SHAFT AND TO A DEPTH NECESSARY TO PREVENT COLLAPSE OF THE SHAFT SIDEWALLS. SEE SOIL BORING LOGS FOR GROUND WATER LEVELS AND SOIL STABILITY INFORMATION AT EACH LOCATION.
- ANCHOR BOLTS AND ANTENNA TOWER SHALL BE AS PER ANTENNA MANUFACTURER. CONTRACTOR MUST ENSURE THAT THE ANCHOR BOLTS AND ANTENNA ARE ORIENTED SUCH THAT THE ANTENNA TOWER CAN ROTATE 90 DEGREES DURING INSTALLATION WITHOUT AFFECTING TRAFFIC MOVEMENTS.



PLAN VIEW



ELEVATION

1 HAR ANTENNA FOUNDATION (ANTENNA HAR-02)  
DT-23 NOT TO SCALE

DT-23

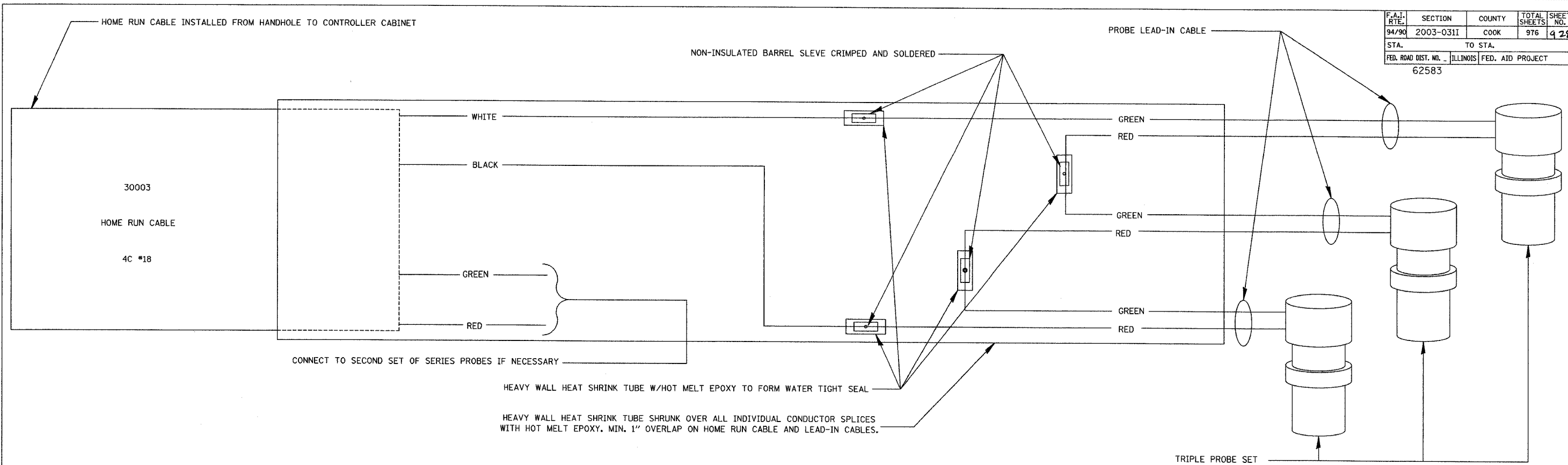
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
F.A.I. 90/94 (DAN RYAN EXPRESSWAY)  
31st STREET TO I-57

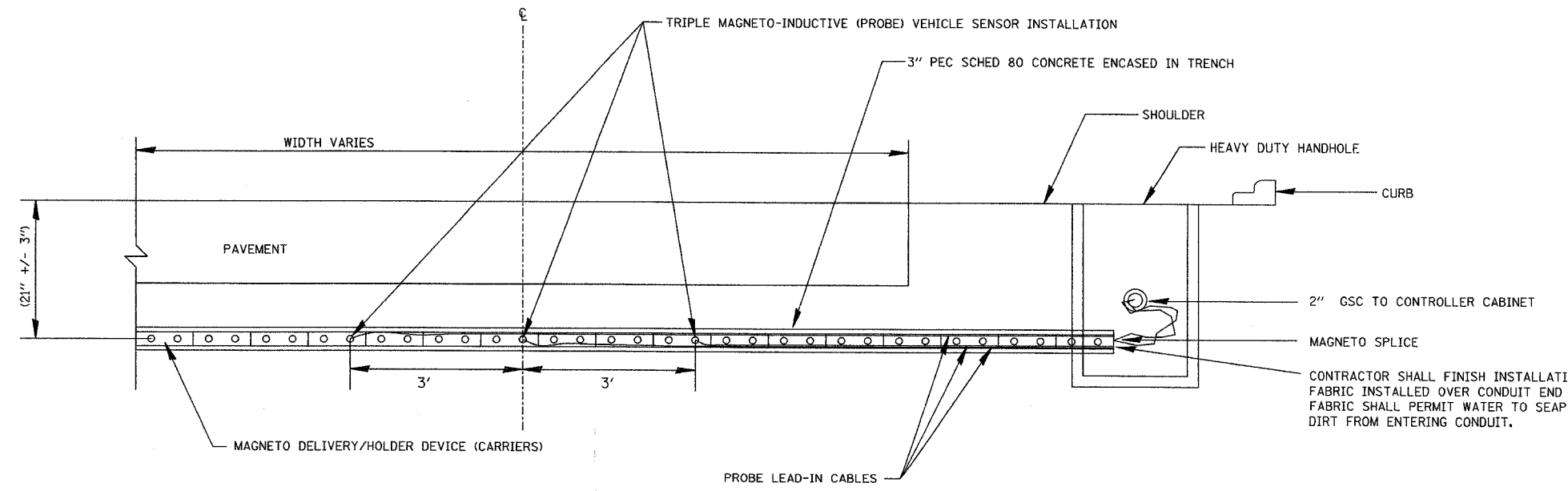
HIGHWAY ADVISORY RADIO  
ANTENNA FOUNDATION DETAILS

SCALE: NONE DRAWN BY: CJM  
DATE: October 29, 2004 CHECKED BY: BMW

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-0311	COOK	976	428
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62583				



TYPICAL TRIPLE MAGNETO-INDUCTIVE VEHICLE SENSOR SERIES SPLICING DETAIL  
SINGLE LANE EXIT & ENTRANCES



- NOTES:**
1. THE END OF THE 3" PEC OPPOSITE THE HANDHOLE SHOULD BE CAPPED.
  2. FOR 3" PEC CONCRETE ENCASED IN TRENCH DETAIL SEE SHEET DT-30.

DAN RYAN TYPICAL SINGLE LANE EXIT/ENTRANCE  
MULTI MAGNETO-INDUCTIVE VEHICLE SENSOR (PROBE) INSTALLATION

**Edwards  
and Kelcey**  
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CHICAGO, IL 60606  
PHONE: (312) 251-3000  
FAX: (312) 251-3015  
WEB: WWW.EDCORP.COM

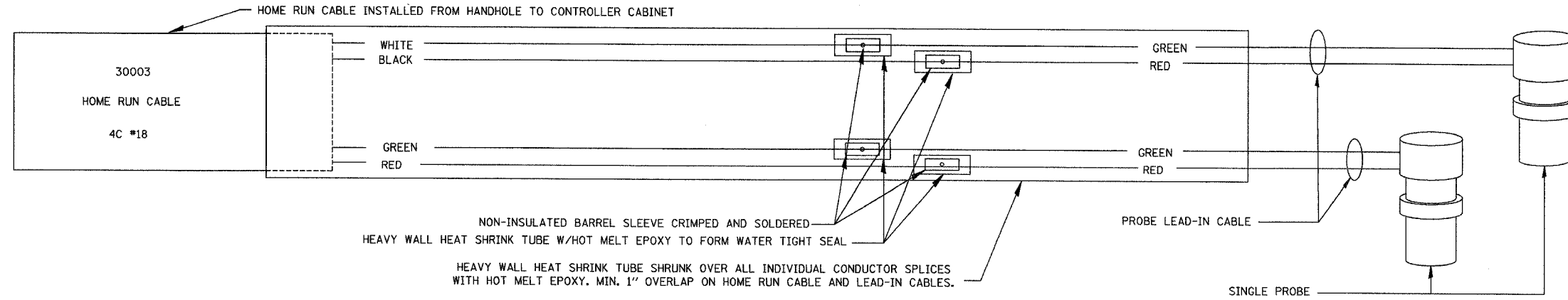
REVISIONS	NAME	DATE

DT-23A

ILLINOIS DEPARTMENT OF TRANSPORTATION  
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
31st STREET TO I-57  
TYPICAL TRIPLE MAGNETO-INDUCTIVE  
VEHICLE SENSOR (MICROLOOP) - SINGLE LANE  
EXITS & ENTRANCES INSTALLATION  
SCALE: NTS  
DATE: October 29, 2004  
DRAWN BY: NB  
CHECKED BY: CTC

10/14/2004 09:24:10 AM

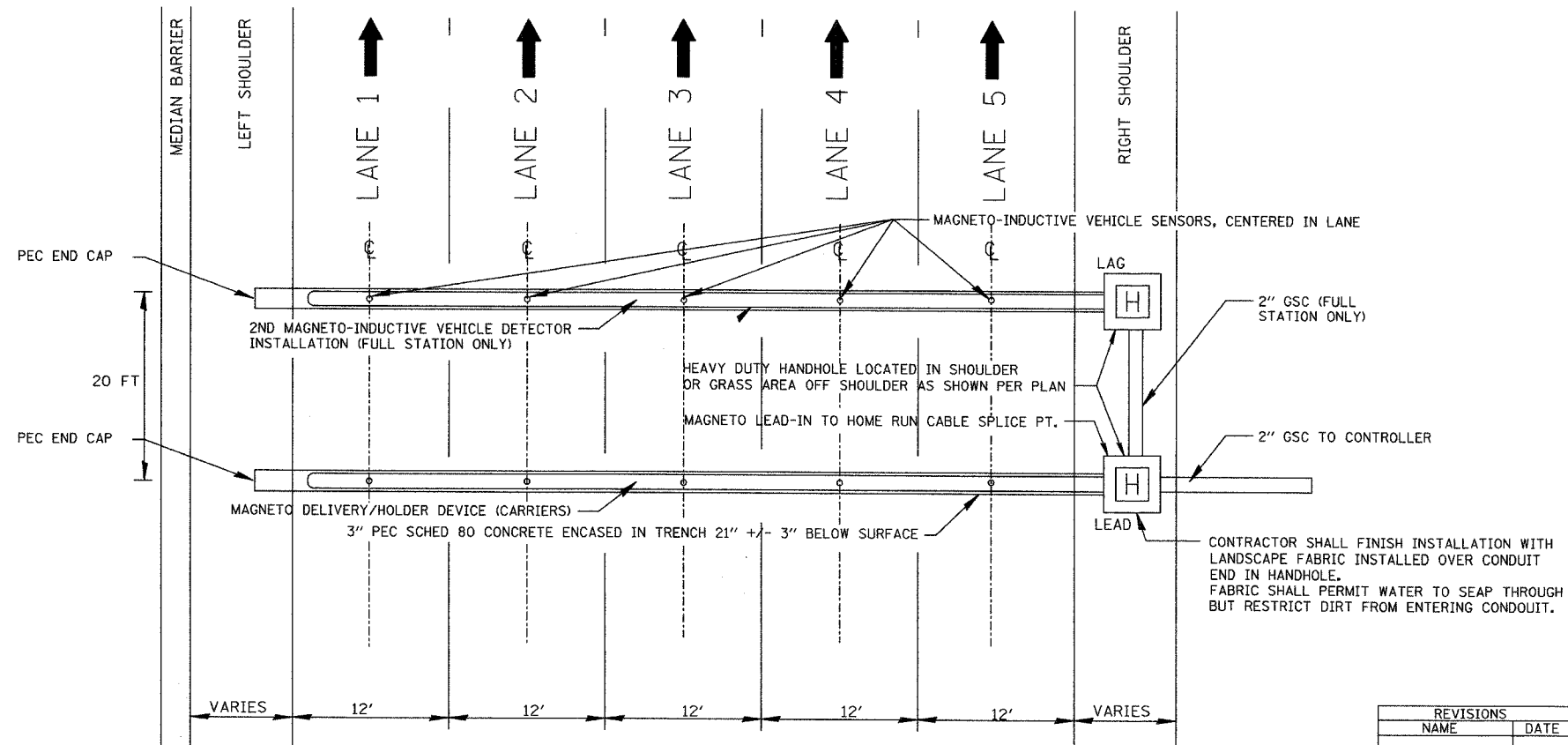
SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-0311	COOK	976	429
STA. 2003-0311 TO STA. 62583		FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT	



TYPICAL MULTIPLE MAGNETO-INDUCTIVE VEHICLE SENSOR SERIES SPLICING DETAIL  
SPEED MEASURING LAYOUT

NOTES:

1. PROBE SHALL BE POSITIONED IN THE CENTER OF EACH LANE. EXACT POSITIONING AND CONFIGURATION TO BE DETERMINED BY MANUFACTURER'S FIELD REPRESENTATIVE.
2. SUFFICIENT NUMBER OF CARRIERS TO BE INSTALLED TO COVER THE DISTANCE FROM THE HANDHOLE TO THE FARTHEST PROBE. FIRST CARRIER INSERTED SHALL BE END CAP CARRIER.
3. ANY DEVIATION IN CONDUIT ALIGNMENT SHALL BE LESS THAN 1/4 IN. PER FT.
4. CONDUIT END CAP TO BE PRESS FITTED (NO ADHESIVE). 3/8 IN. DRAINAGE HOLE TO BE DRILLED IN END CAP. HOLE TO BE POSITIONED AT BOTTOM.
5. CONDUIT TO EXTEND APPROXIMATELY 3 IN. INTO HANDHOLE.
6. LEAD PROBES SHALL USE ODD CHANNELS AND HAVE B/W WIRES; LAG PROBES SHALL USE EVEN CHANNELS AND HAVE R/G WIRES. CHANNELS SHALL BE USED IN INCREASING ORDER BEGINNING WITH LANE 1 OF NEAR LANES AND ENDING WITH OUTER-MOST LANE OF FAR LANES.
7. AT SOME NON-MAINLINE AND NON-C/D LOCATIONS, THE "LAG" PROBE SHALL NOT BE INSTALLED (SEE PLAN SHEETS).
8. FOR 3" PEC CONCRETE ENCASED IN TRENCH DETAIL SEE SHEET DT-29.



DAN RYAN TYPICAL 5 LANE CROSS SECTION WITH NON-INVASIVE  
MAGNETO-INDUCTIVE VEHICLE SENSOR (PROBE) INSTALLED IN ALL LANES

**Edwards  
AND Kelcey**  
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PHONE: (312) 251-3000  
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WEB: WWW.EDKORP.COM

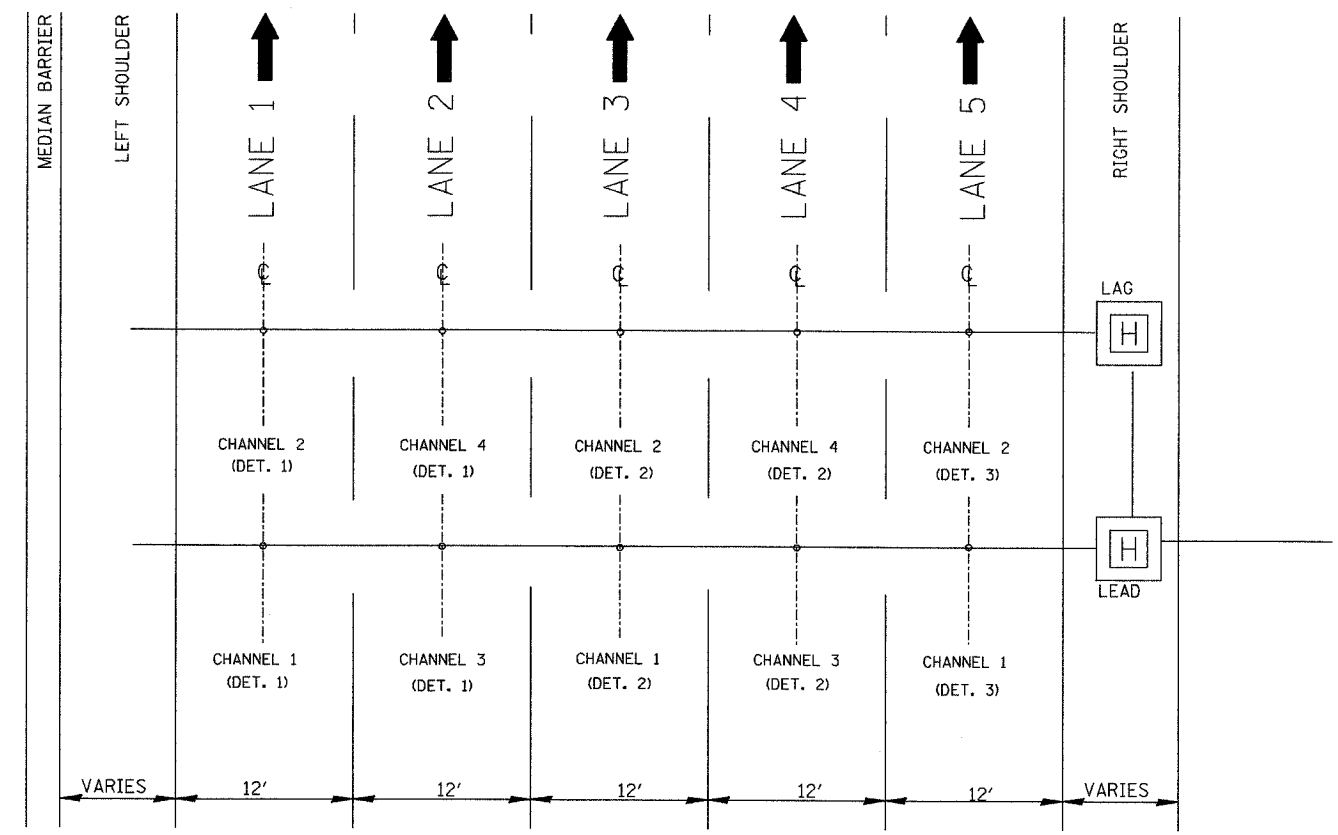
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
31st STREET TO I-57  
TYPICAL MULTIPLE MAGNETO-INDUCTIVE  
VEHICLE SENSOR (MICROLOOP) - FULL  
INSTALLATION/SPEED MEASURING LAYOUT  
(SHEET 1 OF 2)  
SCALE: NTS  
DATE: October 29, 2004  
DRAWN BY: NB  
CHECKED BY: CTC

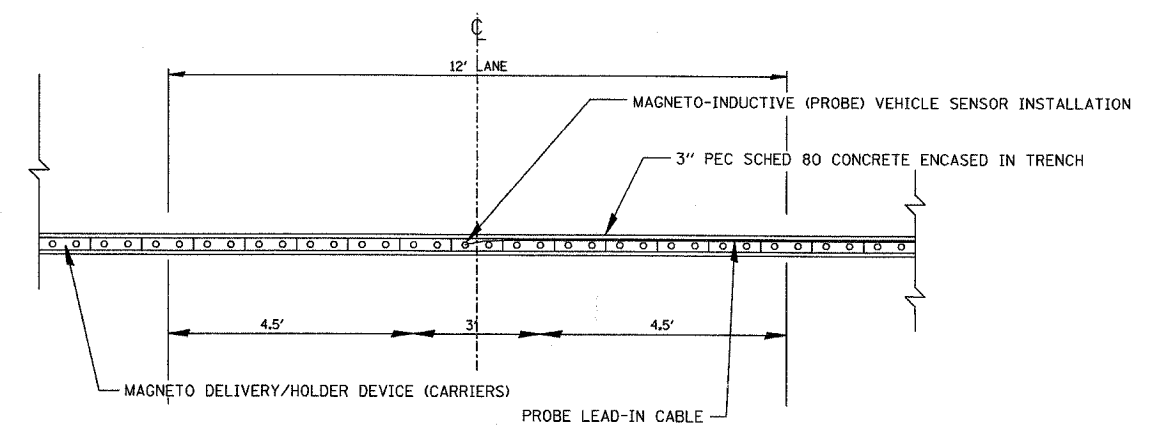
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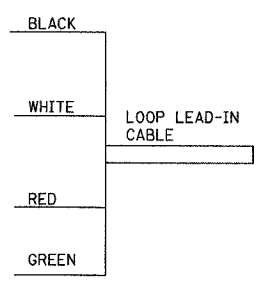
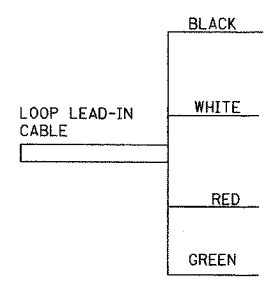
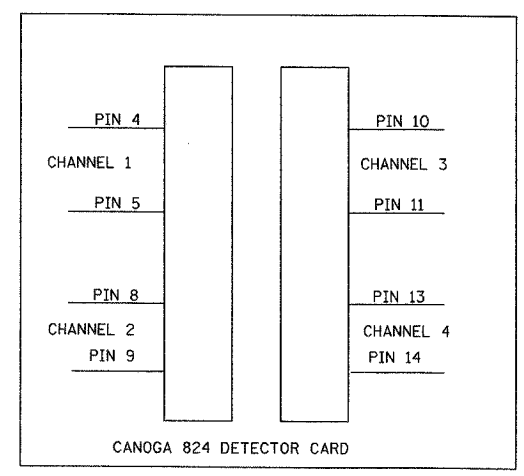
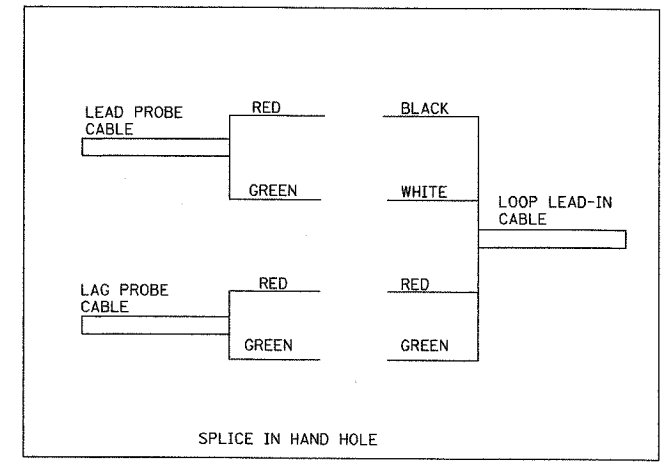
SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-03II	COOK	976	430
STA. 62583		TO STA.	
FED. ROAD DIST. NO. ILLINOIS		FED. AID PROJECT	



SAMPLE PROBE CONFIGURATION



DAN RYAN TYPICAL SPEED MEASURING DETECTOR STATION  
12' WITH DUAL MAGNETO-INDUCTIVE VEHICLE SENSOR (PROBE) INSTALLATION PER LANE



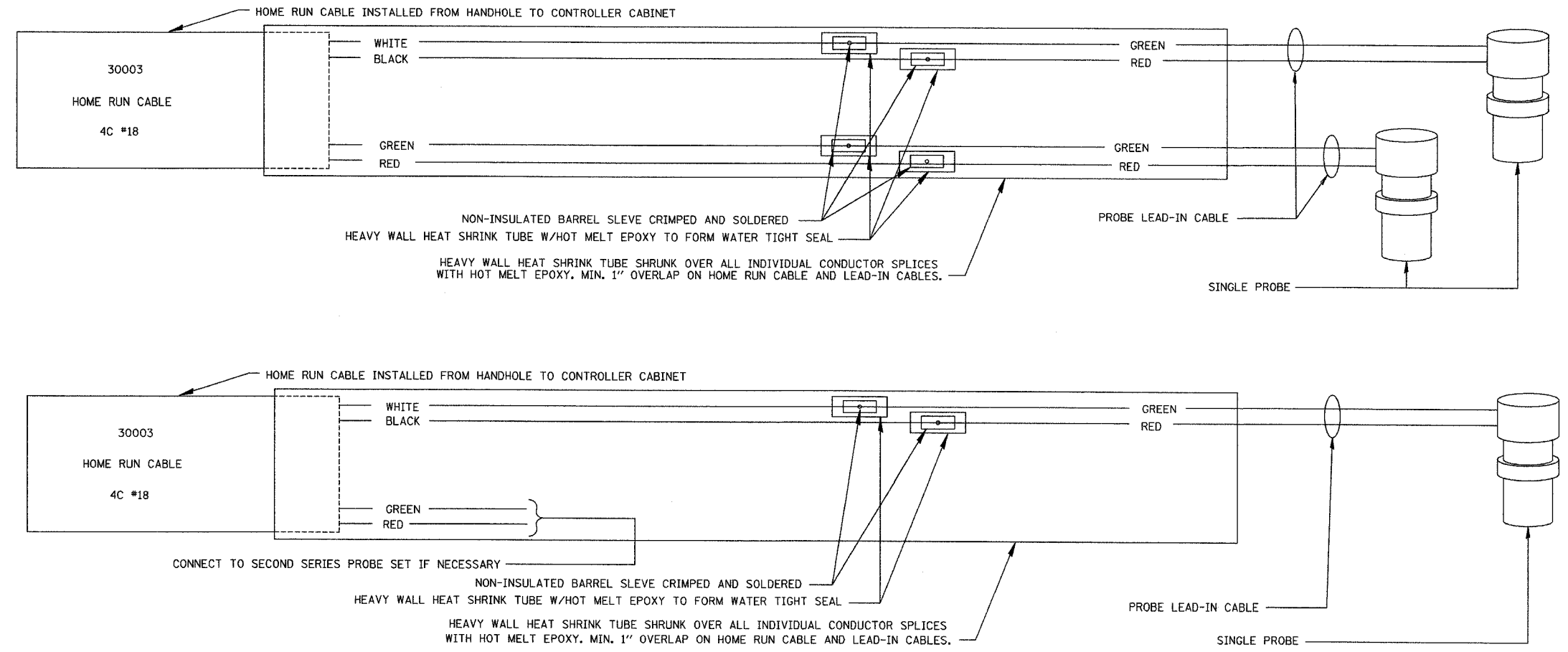
**Edwards AND Kelcey**  
 ONE NORTH FRANKLIN  
 CHICAGO, IL 60606  
 PHONE: (312) 251-3000  
 FAX: (312) 251-3015  
 WEB: WWW.EKCORP.COM

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
 31st STREET to I-57  
 TYPICAL MULTIPLE MAGNETO-INDUCTIVE  
 VEHICLE SENSOR (MICROLOOP) - FULL  
 INSTALLATION/SPEED MEASURING LAYOUT  
 (SHEET 2 OF 2)  
 SCALE: NTS  
 DATE: October 29, 2004  
 DRAWN BY: NB  
 CHECKED BY: CTC

10/14/2004 09:24:00 AM

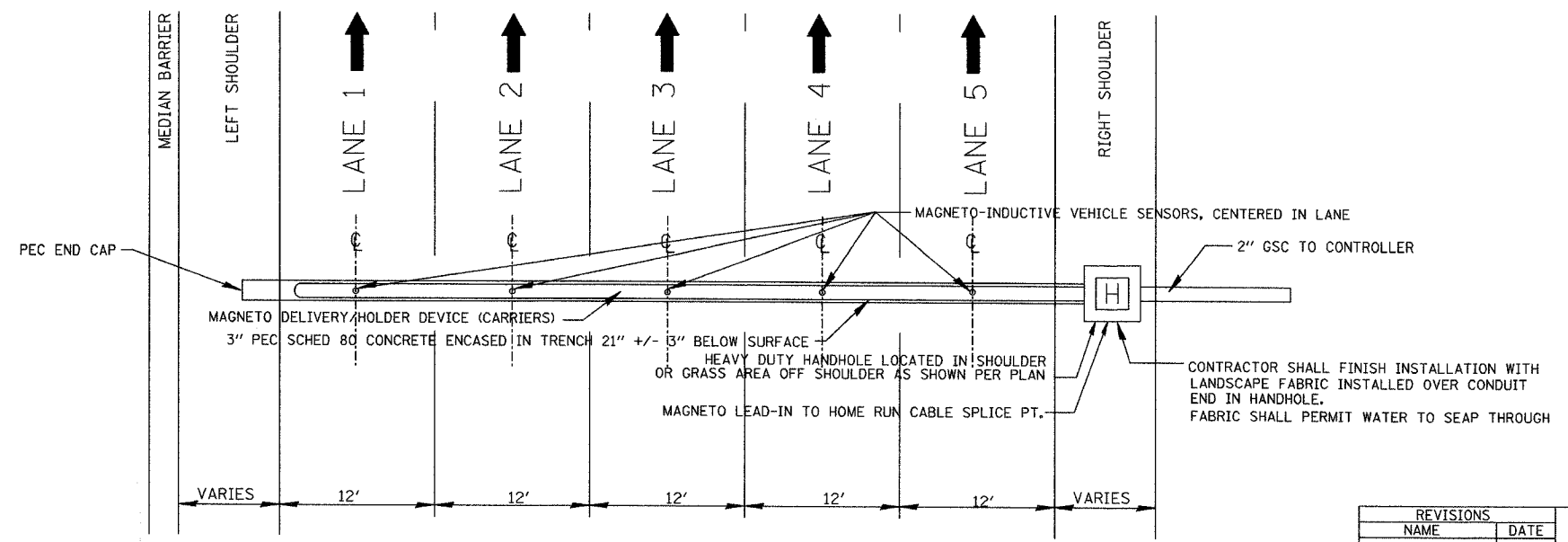
SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-031I	COOK	976	431
STA. 62583	TO STA.		
FED. ROAD DIST. NO. 62583	ILLINOIS FED. AID PROJECT		



TYPICAL MULTIPLE MAGNETO-INDUCTIVE VEHICLE SENSOR SERIES SPLICING DETAIL- STANDALONE DETECTOR STATION

NOTES:

1. PROBE SHALL BE POSITIONED IN THE CENTER OF EACH LANE. EXACT POSITIONING AND CONFIGURATION TO BE DETERMINED BY MANUFACTURER'S FIELD REPRESENTATIVE.
2. SUFFICIENT NUMBER OF CARRIERS TO BE INSTALLED TO COVER THE DISTANCE FROM THE HANDHOLE TO THE FARTHEST PROBE. FIRST CARRIER INSERTED SHALL BE END CAP CARRIER.
3. ANY DEVIATION IN CONDUIT ALIGNMENT SHALL BE LESS THAN 1/4 IN. PER FT.
4. CONDUIT END CAP TO BE PRESS FITTED (NO ADHESIVE). 3/8 IN. DRAINAGE HOLE TO BE DRILLED IN END CAP. HOLE TO BE POSITIONED AT BOTTOM.
5. CONDUIT TO EXTEND APPROXIMATELY 3 IN. INTO HANDHOLE.
6. FOR 3" PEC CONCRETE ENCASED IN TRENCH DETAIL SEE SHEET DT-29.



DAN RYAN TYPICAL 5 LANE CROSS SECTION WITH NON-INVASIVE MAGNETO-INDUCTIVE VEHICLE SENSOR (PROBE) INSTALLED IN ALL LANES

**Edwards AND Kelcey**  
 ONE NORTH FRANKLIN CHICAGO, IL 60606  
 PHONE: (312) 251-3000  
 FAX: (312) 251-3015  
 WEB: WWW.EKCORP.COM

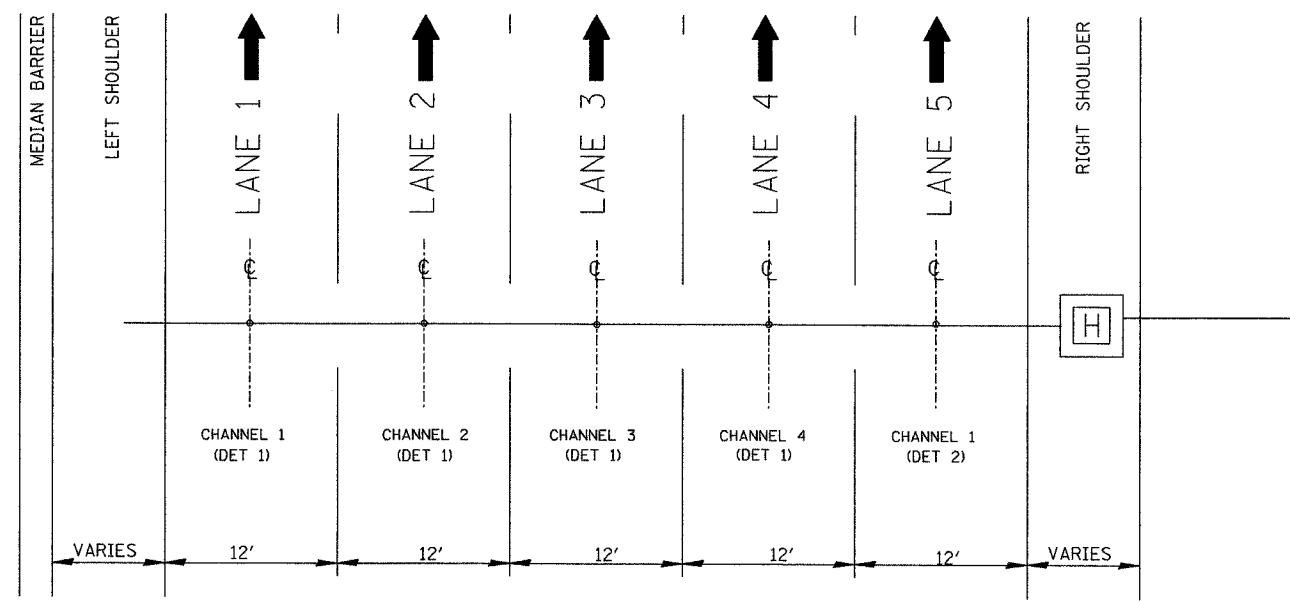
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
 31st STREET to I-57  
 TYPICAL MULTIPLE MAGNETO-INDUCTIVE VEHICLE SENSOR (MICROLOOP) - MAINLINE, MULTI LANE, STANDALONE DETECTOR STATION (SHEET 1 OF 2)  
 SCALE: NTS  
 DATE: October 29, 2004  
 DRAWN BY: NB  
 CHECKED BY: CTC

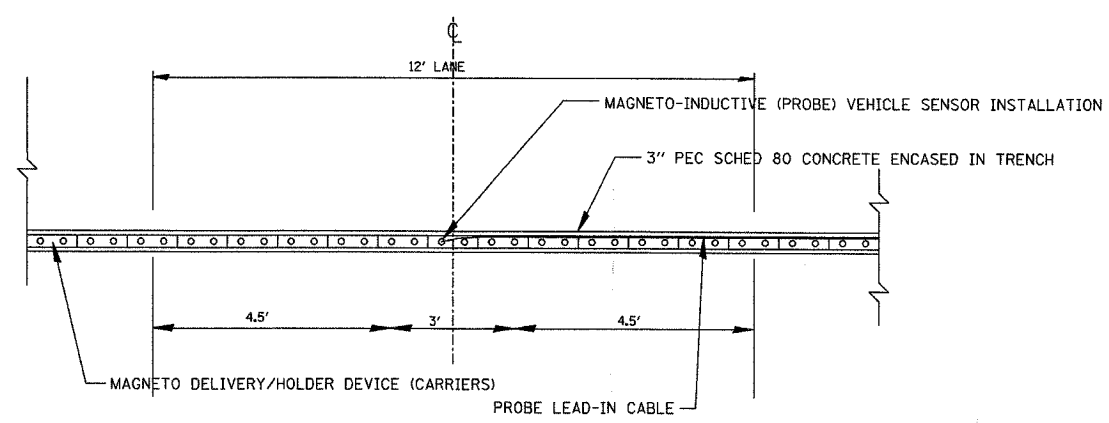
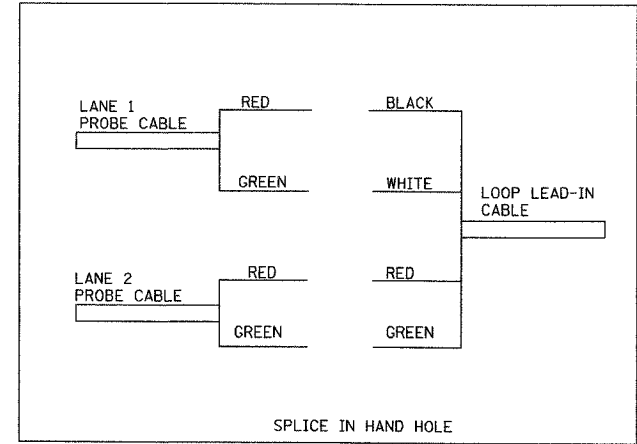
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DT-26

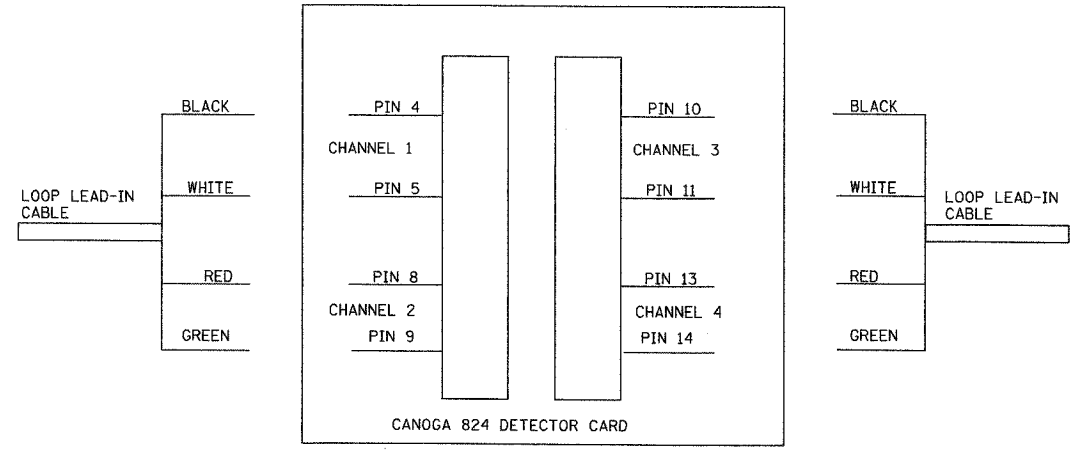
SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-031I	COOK	976	132
STA. TO STA.		FED. ROAD DIST. NO. - ILLINOIS FED. AID PROJECT	
		62583	



SAMPLE PROBE CONFIGURATION



DAN RYAN TYPICAL STAND ALONE DETECTOR STATION  
12' WITH SINGLE MAGNETO-INDUCTIVE VEHICLE SENSOR (PROBE) INSTALLATION PER LANE



**Edwards AND Kelcey**  
ONE NORTH FRANKLIN  
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FAX: (312) 251-3015  
WEB: WWW.EKCORP.COM

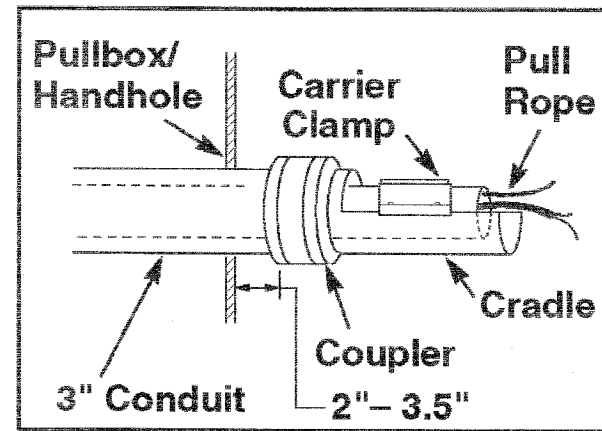
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
31st STREET to I-57  
TYPICAL MULTIPLE MAGNETO-INDUCTIVE  
VEHICLE SENSOR (MICROLOOP) - MAINLINE,  
MULTI LANE, STANDALONE DETECTOR STATION  
(SHEET 2 OF 2)  
SCALE: NTS  
DATE: October 29, 2004  
DRAWN BY: NB  
CHECKED BY: CTC

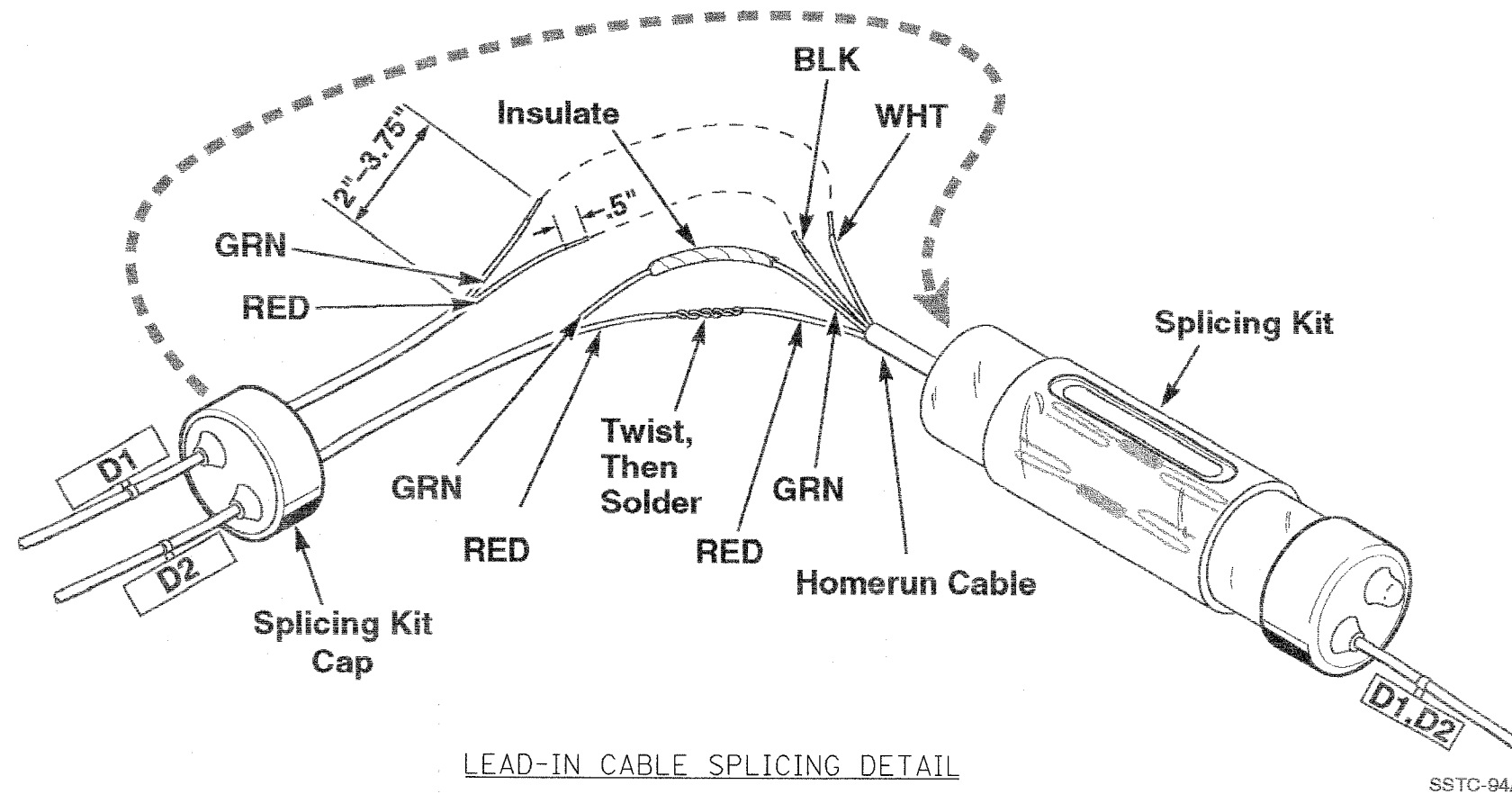
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SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-0311	COOK	976	433
STA.	TO STA.		
FED. ROAD DIST. NO. - ILLINOIS		FED. AID PROJECT	
62583			



PROBE/CARRIER INSTALLATION DETAIL



LEAD-IN CABLE SPLICING DETAIL

NOTES:

1. ALL SPLICES MUST BE SOLDERED, INSULATED, AND WATERPROOFED.
2. EACH PROBE LEAD-IN SHALL BE TAGGED WITH A PERMANENT IDENTIFICATION TAG WITH THE CORRECT NOMENCLATURE.
3. FOR MICROLOOP SPLICING DETAIL, SEE SHEETS DT 23 - 27.

DT-28

**Edwards AND Kelcey**  
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 CHICAGO, IL 60606  
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 FAX: (312) 251-3015  
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REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
 31st STREET to I-57

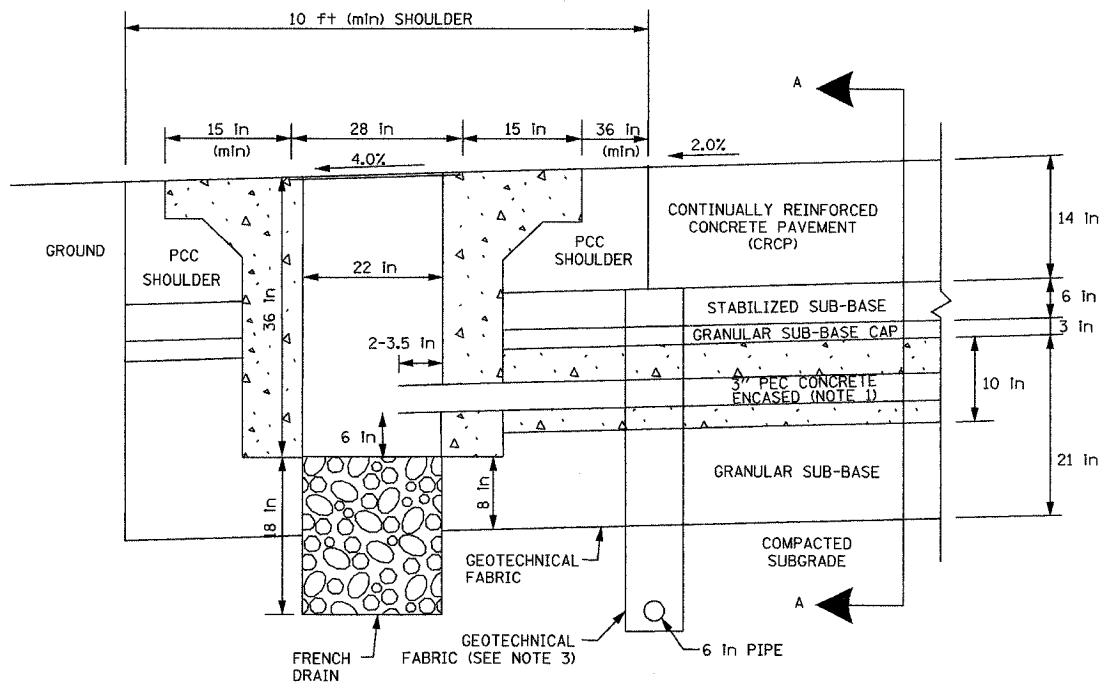
TYPICAL MAGNETO-INDUCTIVE VEHICLE  
 SENSOR (MICROLOOP) INSTALLATION DETAIL

SCALE: NTS  
 DATE: October 29, 2004

DRAWN BY: NB  
 CHECKED BY: CTC

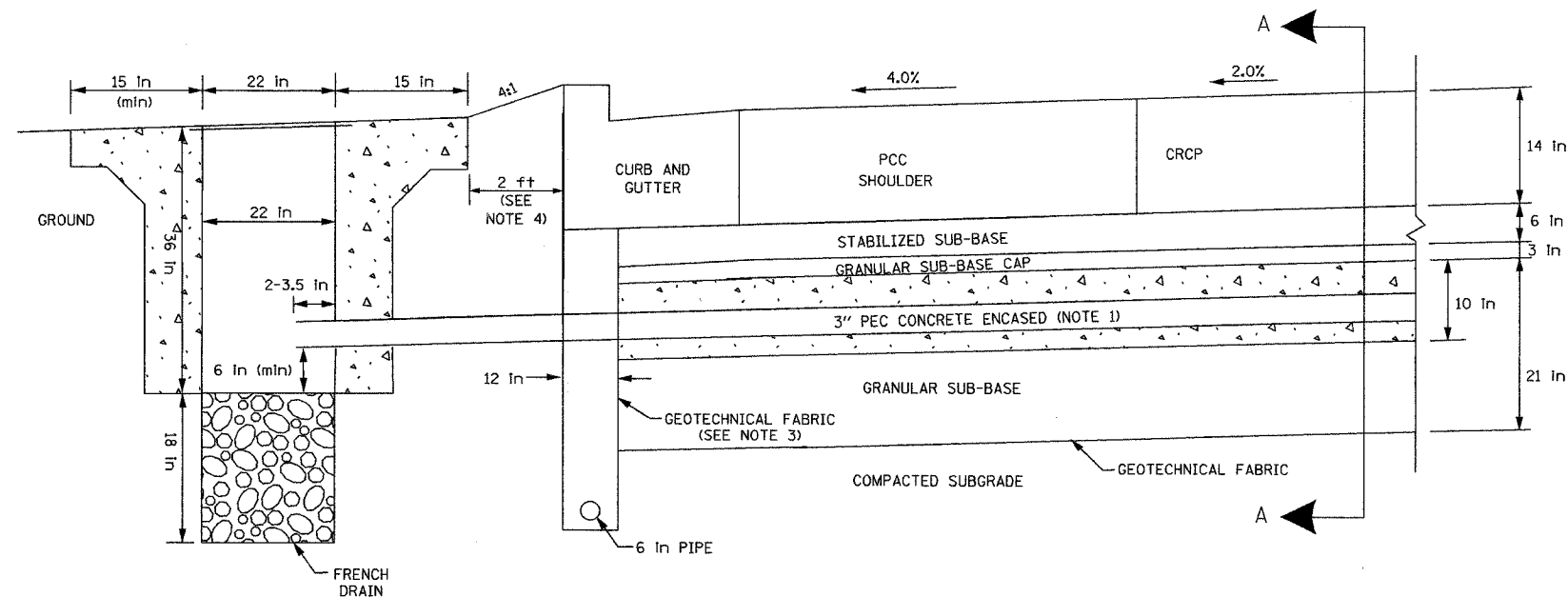
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SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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STA. TO STA.		FED. ROAD DIST. NO. - ILLINOIS FED. AID PROJECT	
		62583	

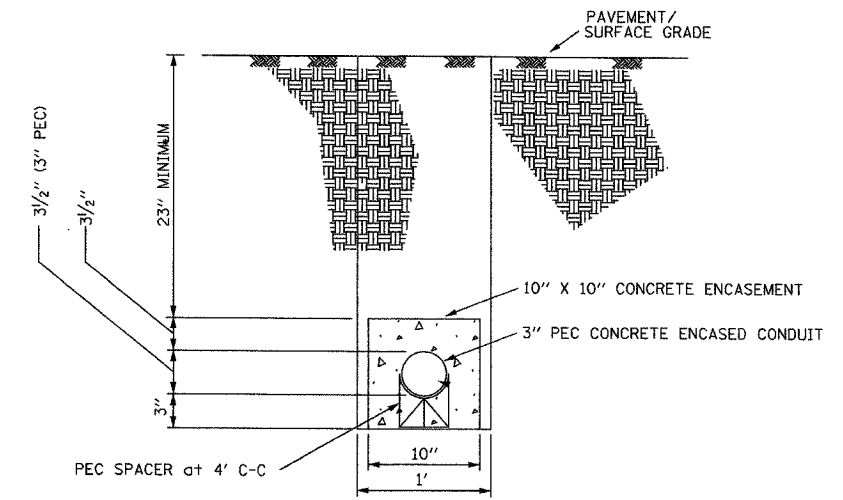


HEAVY DUTY HANDHOLE IN MAINLINE SHOULDER (TYPICAL)

- NOTES
- 3" PEC CONCRETE ENCASED CONDUIT IS REQUIRED ONLY WHERE SHOWN ON THE PLAN DRAWINGS. WHEN INSTALLED, THE CONDUIT MUST MAINTAIN THE SAME ANGLE AS THE PAVEMENT THROUGHOUT ITS ENTIRE LENGTH.
  - FOR HANDHOLE DETAIL SEE SHEET DT-47.
  - WHEN INSTALLING CONDUIT NEAR OR THROUGH UNDERDRAIN GEOTECHNICAL FABRIC, THE CONTRACTOR SHALL MAINTAIN THE INTEGRITY AND UNIFORMITY OF THE UNDERDRAIN FABRIC THROUGH OVERLAP TO THE SATISFACTION OF THE ENGINEER.
  - FOR HANDHOLE INSTALLATION BEHIND SHOULDER WITHOUT CURB, INSTALL HANDHOLE 2 FT BEHIND EDGE OF SHOULDER.



HEAVY DUTY HANDHOLE OUTSIDE MAINLINE SHOULDER (TYPICAL)



SECTION A-A  
TYPICAL 3" PEC CONCRETE ENCASED CONDUIT UNDER PAVEMENT DETAIL  
(FOR MICROLOOP INSTALLATION IN PROPOSED MAINLINE PAVEMENT)

**Edwards AND Kelcey**  
ONE NORTH FRANKLIN  
CHICAGO, IL 60606  
PHONE: (312) 251-3000  
FAX: (312) 251-3015  
WEB: WWW.EDKORP.COM

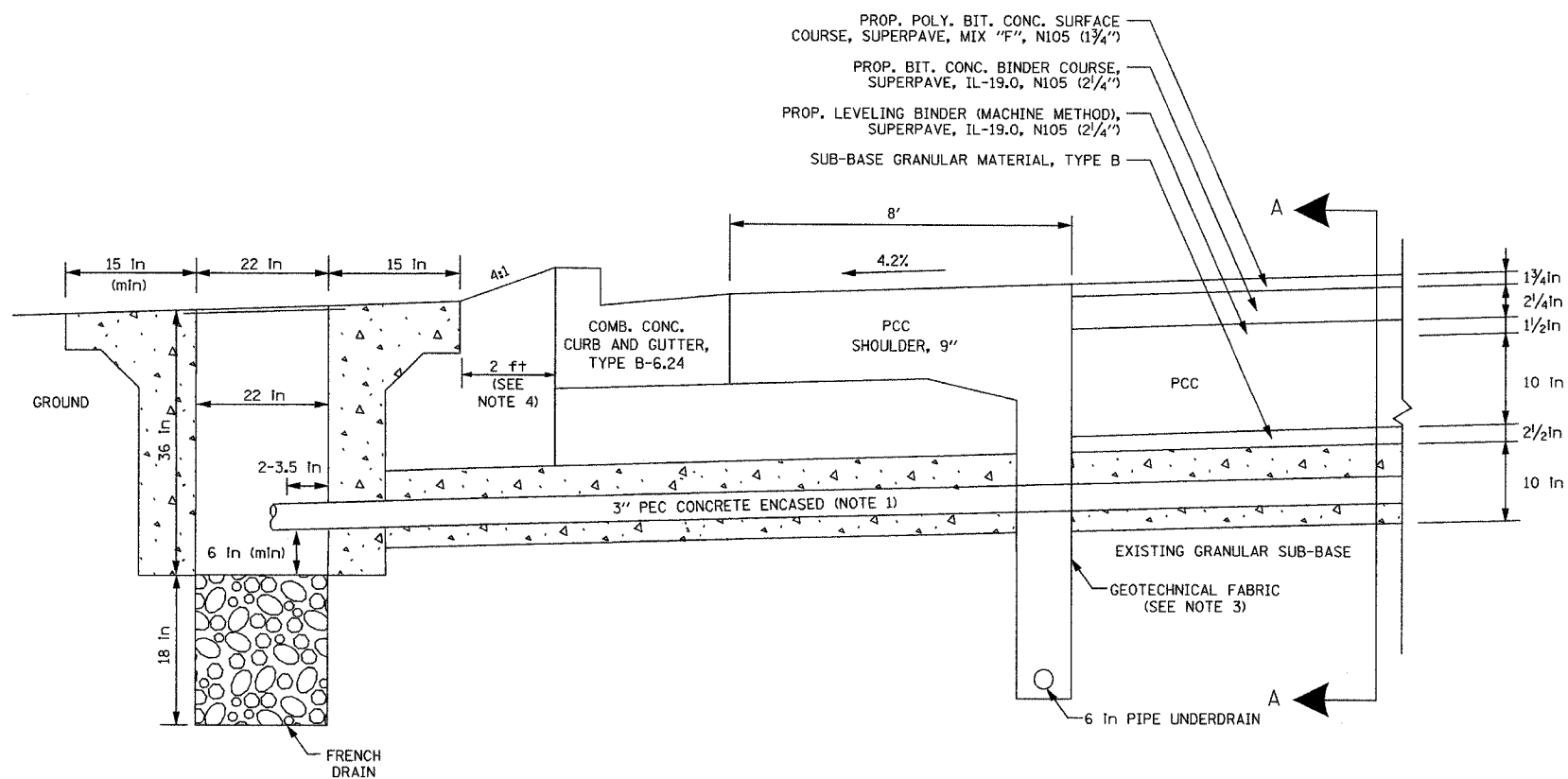
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
31st STREET to I-57  
TYPICAL HANDHOLE INSTALLATION DETAIL -  
MAINLINE SHOULDER  
SCALE: NTS  
DATE: October 29, 2004  
DRAWN BY: NB  
CHECKED BY: CTC

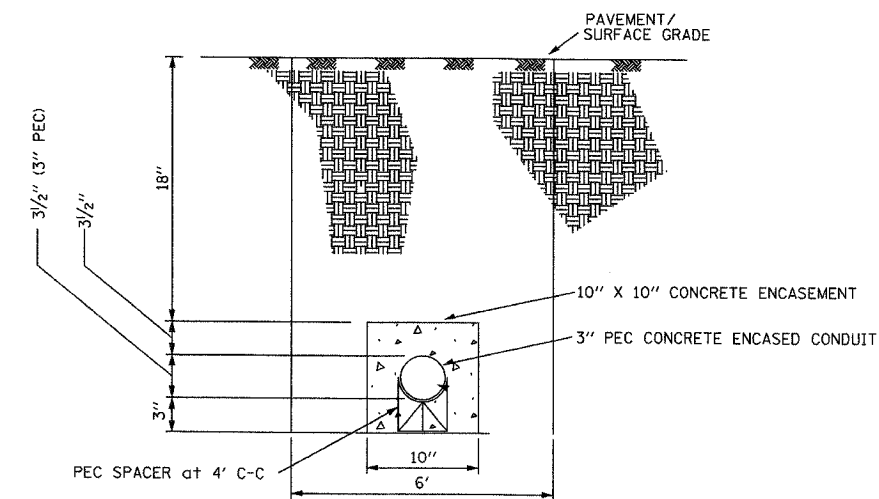
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DT-29

SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-03II	COOK	976	435
STA. 2003-03II	TO STA. COOK		
FED. ROAD DIST. NO. 62583	ILLINOIS	FED. AID PROJECT	



HEAVY DUTY HANDHOLE OUTSIDE EXISTING MAINLINE SHOULDER (TYPICAL)



SECTION A-A  
TYPICAL 3" PEC CONCRETE ENCASED CONDUIT UNDER PAVEMENT DETAIL  
(FOR MICROLOOP INSTALLATION IN EXISTING MAINLINE PAVEMENT)

THIS SHEET PROVIDED FOR REFERENCE ONLY,  
ALL WORK SHOWN TO BE BY OTHERS

NOTES

1. 3" PEC CONCRETE ENCASED CONDUIT IS REQUIRED ONLY WHERE SHOWN ON THE PLAN DRAWINGS. WHEN INSTALLED, THE CONDUIT MUST MAINTAIN THE SAME ANGLE AS THE PAVEMENT THROUGHOUT ITS ENTIRE LENGTH.
2. FOR HANDHOLE DETAIL SEE SHEET DT-47.
3. WHEN INSTALLING CONDUIT NEAR OR THROUGH UNDERDRAIN GEOTECHNICAL FABRIC, THE CONTRACTOR SHALL MAINTAIN THE INTEGRITY AND UNIFORMITY OF THE UNDERDRAIN FABRIC THROUGH OVERLAP TO THE SATISFACTION OF THE ENGINEER.
4. FOR HANDHOLE INSTALLATION BEHIND SHOULDER WITHOUT CURB, INSTALL HANDHOLE 2 FT BEHIND EDGE OF SHOULDER.

**Edwards  
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CHICAGO, IL 60606  
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REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
31st STREET to I-57

TYPICAL HANDHOLE INSTALLATION DETAIL -  
EXISTING BISHOP FORD MAINLINE SHOULDER

SCALE: NTS  
DATE: October 29, 2004

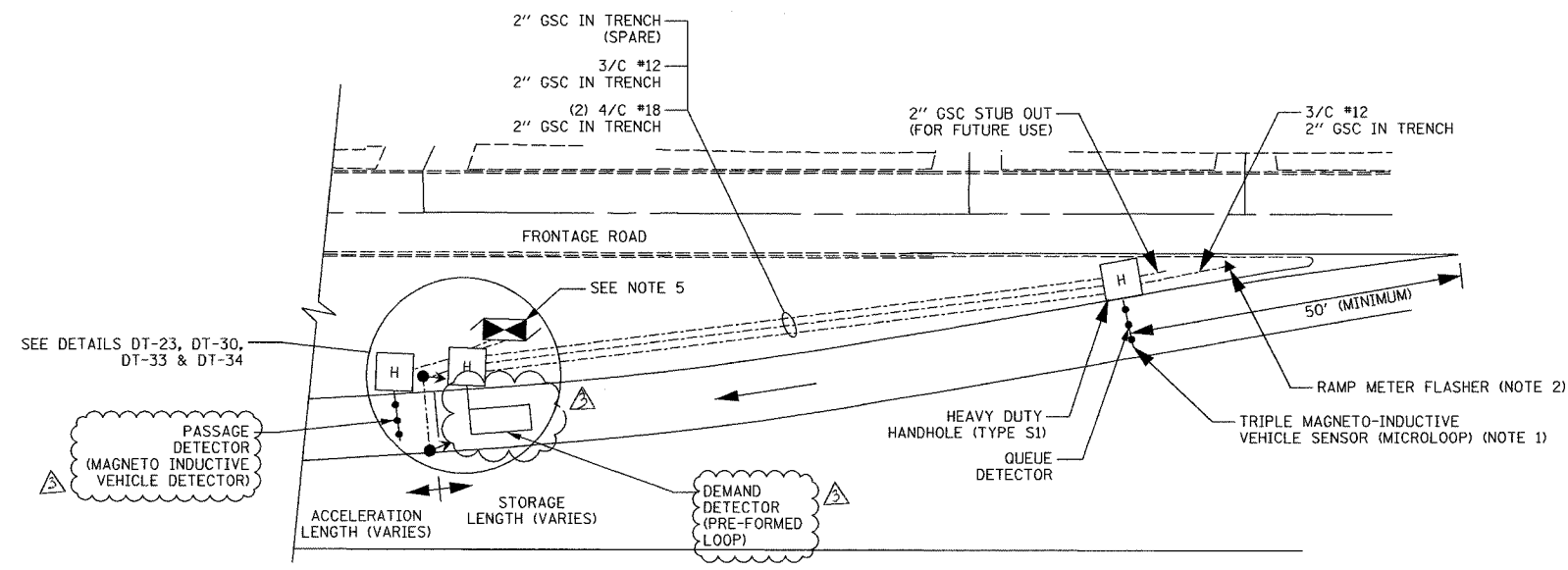
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DT-29A

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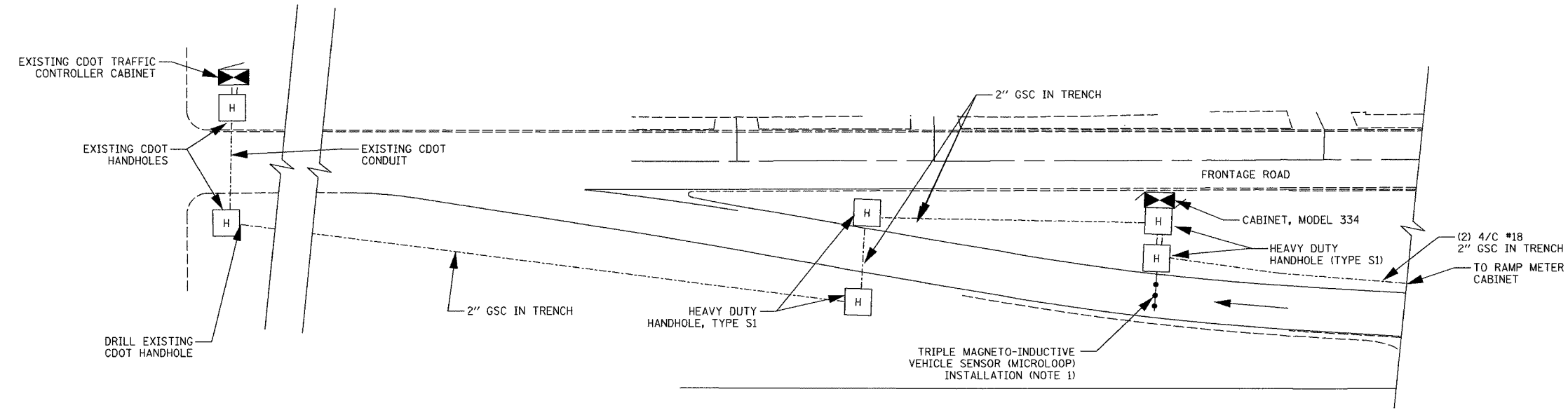
SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-0311	COOK	976	937
STA.	TO STA.		
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT		
62583			



TYPICAL ENTRANCE RAMP METER AND DETECTION SYSTEM LAYOUT

NOTES:

1. FOR TRIPLE MAGNETO-INDUCTIVE VEHICLE SENSOR (MICROLOOP) INSTALLATION, SEE DETAIL DT-23.
2. FOR RAMP METER FLASHER DETAIL, SEE DETAIL DT-35.
3. FOR RAMP METER SIGNAL POST INSTALLATION, SEE DETAILS DT-33 AND DT-34.
4. FOR TYPICAL INSTALLATION DETAILS FOR MAINLINE AND ENTRANCE/EXIT RAMP DETECTION SYSTEM WITH A COLLECTOR-DISTRIBUTOR ROAD, SEE DETAIL DT-32.
5. CABINET LOCATION AS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER. CABINET SHALL BE PLACED TO MAXIMIZE THE VIEW OF THE RAMP METER SIGNAL HEADS AND TO MINIMIZE THE CHANCE OF BEING KNOCKED DOWN.



TYPICAL EXIT RAMP DETECTION SYSTEM LAYOUT

DT-31

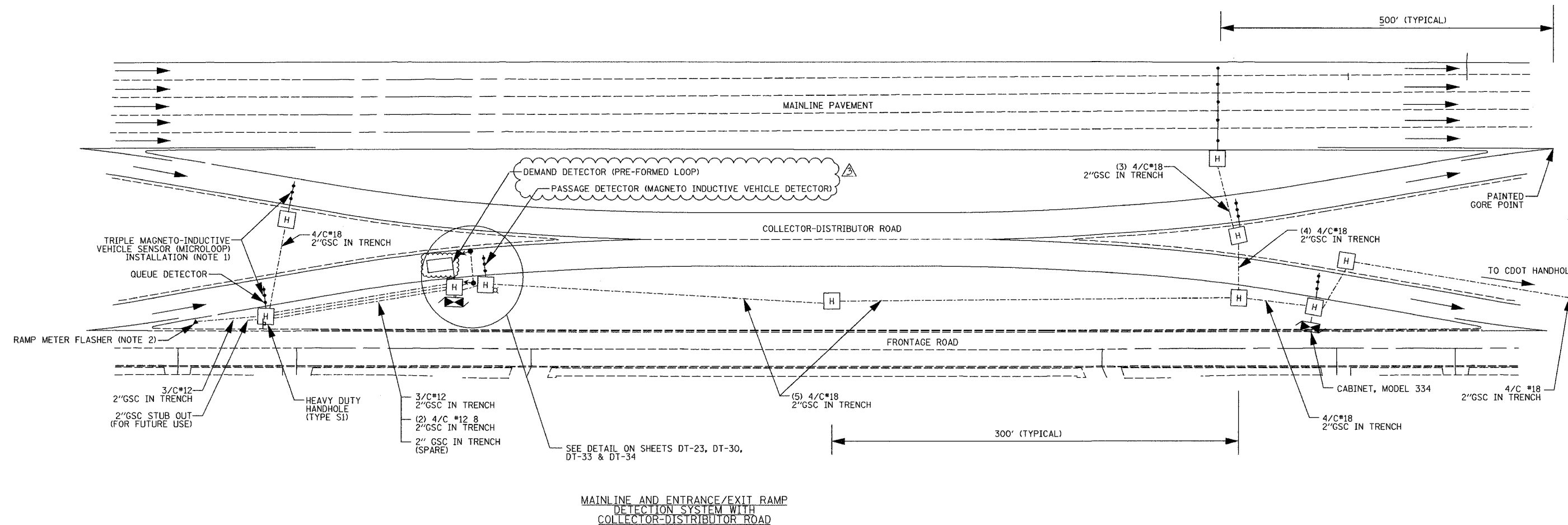
**Edwards AND Kelcey**  
 ONE NORTH FRANKLIN  
 CHICAGO, IL 60606  
 PHONE: (312) 251-3000  
 FAX: (312) 251-3015  
 WEB: WWW.EKCORP.COM

REVISIONS	
NAME	DATE
REVISION	2/11/05

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
 31st STREET TO I-57  
 RAMP METER ENTRANCE AND  
 EXIT RAMP DETECTION SYSTEM  
 INSTALLATION DETAIL  
 SCALE: NTS  
 DATE: October 29, 2004  
 DRAWN BY: NB  
 CHECKED BY: CTC

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SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-0311	COOK	976	938
STA.	TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	
62583			



NOTES:

1. FOR MAGNETO-INDUCTIVE VEHICLE SENSOR (MICROLOOP) INSTALLATION, SEE DETAILS DT-23-27.
2. FOR RAMP METER FLASHER DETAIL, SEE DETAIL DT-35
3. FOR RAMP METER SIGNAL INSTALLATION, SEE DETAILS DT-33 AND DT-34.
4. FOR TYPICAL RAMP METER ENTRANCE AND EXIT RAMP DETECTION SYSTEM INSTALLATION DETAILS WITHOUT A COLLECTOR-DISTRIBUTOR ROAD, SEE DETAIL DT-31.
5. CABINET LOCATION AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. CABINET SHALL BE PLACED TO MAXIMIZE THE VIEW OF THE RAMP METER SIGNAL HEADS AND TO MINIMIZE THE CHANCE OF BEING KNOCKED DOWN.

MAINLINE AND ENTRANCE/EXIT RAMP  
DETECTION SYSTEM WITH  
COLLECTOR-DISTRIBUTOR ROAD

DT-32

**Edwards  
AND Kelcey**  
ONE NORTH FRANKLIN  
CHICAGO, IL 60606  
PHONE: (312) 251-3000  
FAX: (312) 251-3015  
WEB: WWW.EKCORP.COM

REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION F.A.I. 94/90 (DAN RYAN EXPRESSWAY) 31st STREET to I-57  MAINLINE AND ENTRANCE/EXIT RAMP DETECTION SYSTEM WITH COLLECTOR-DISTRIBUTOR ROAD
NAME	DATE	
REVISION	2/11/05	SCALE: NTS DATE: October 29, 2004
		DRAWN BY: NB CHECKED BY: CC

02/09/2005 09:16:00 AM

SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-03II	COOK	976	939
STA.	TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	
	62583		

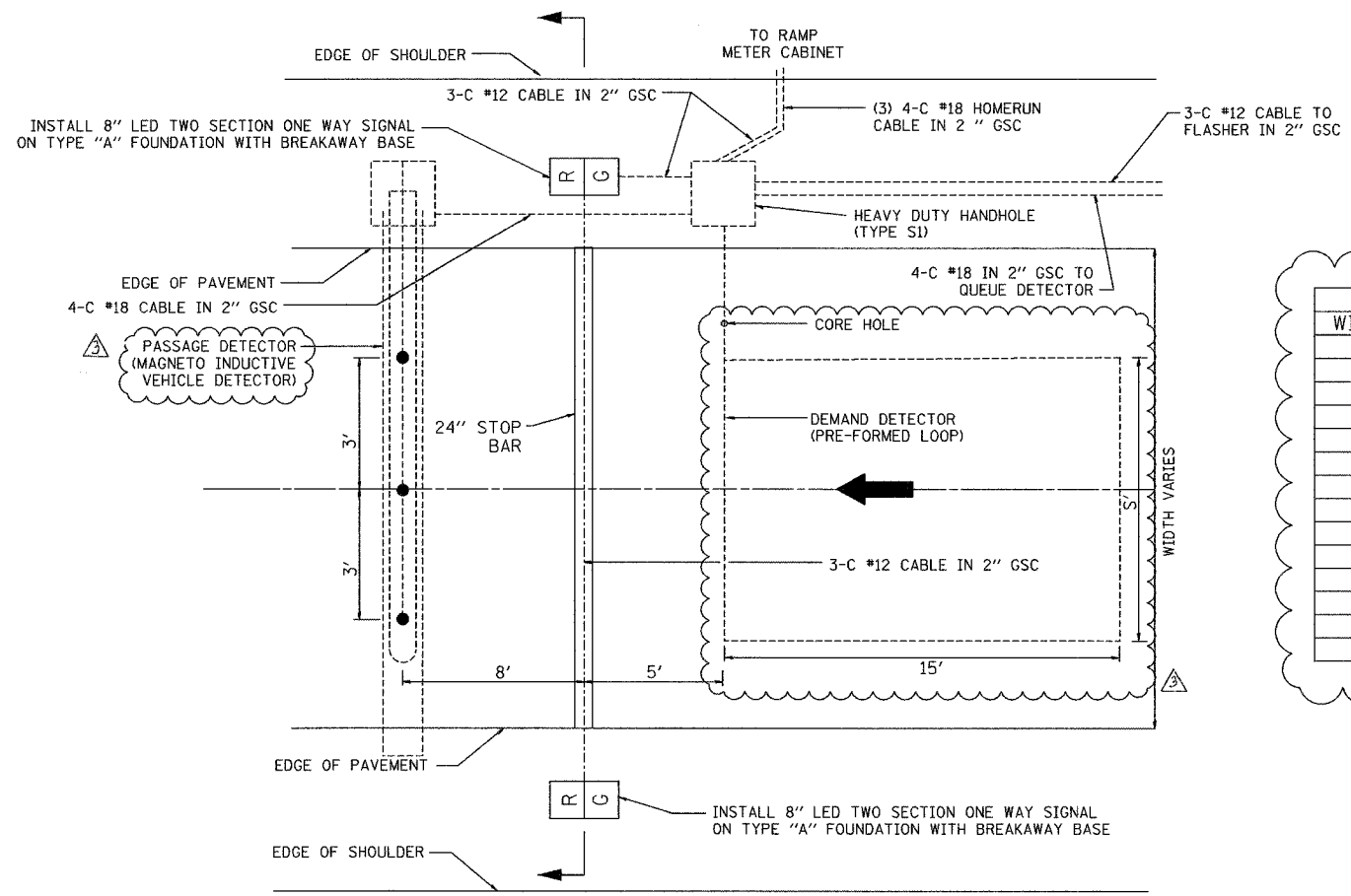
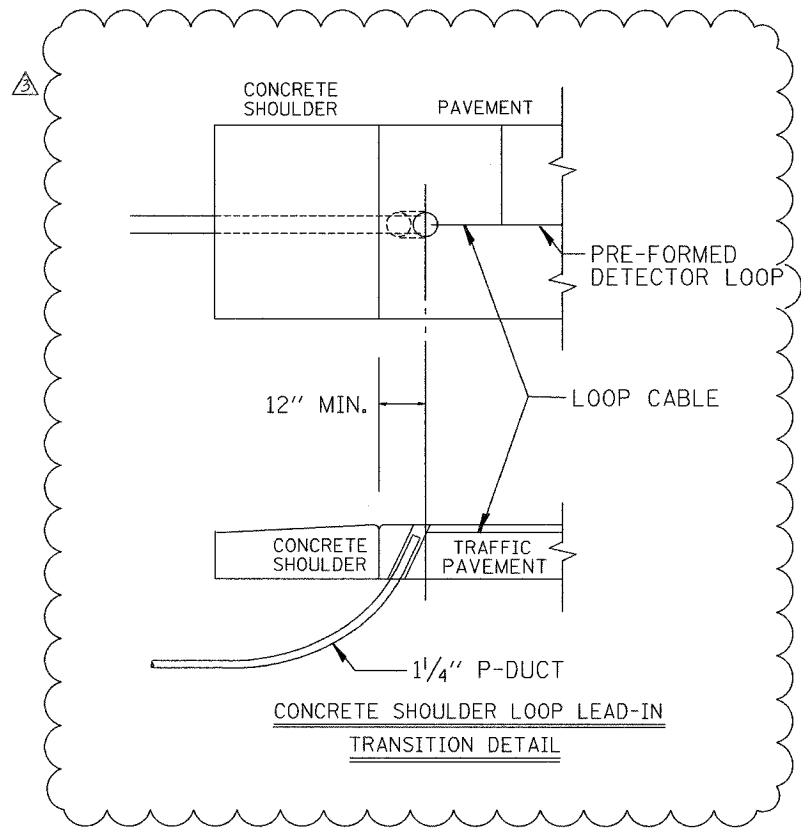
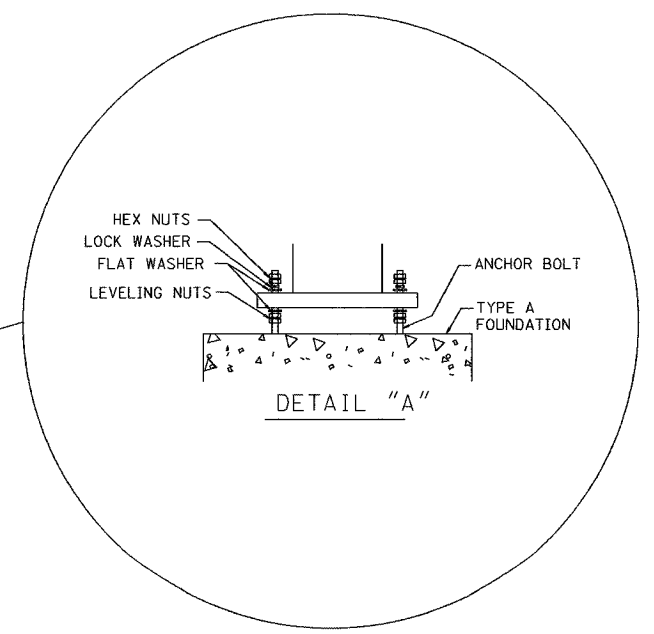
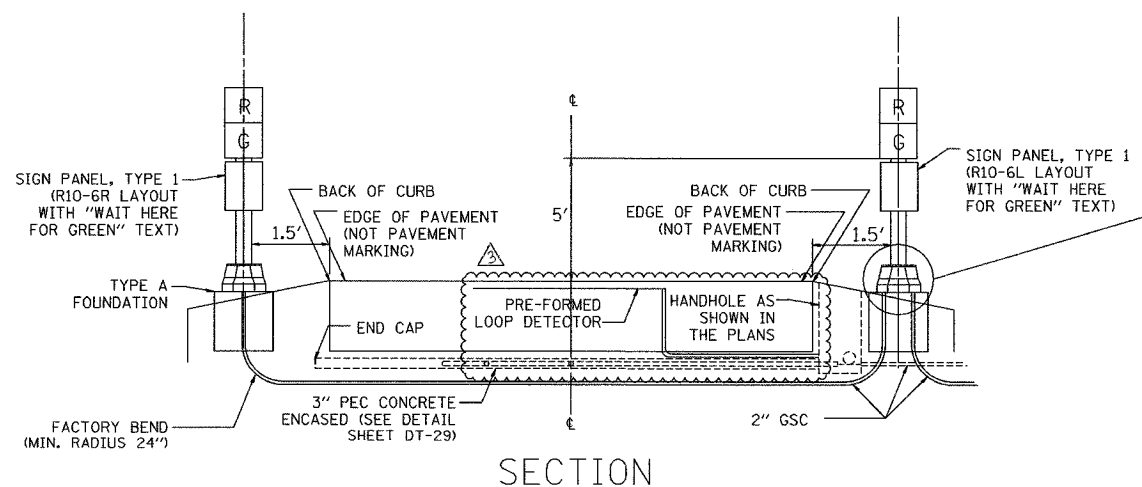


TABLE 1

WIDTH (W)	WIDTH (S)
12'	8'
13'	9'
14'	10'
15'	11'
16'	12'
17'	13'
18'	14'
19'	15'
20'	16'
21'	17'
22'	18'
23'	19'
24'	20'
25'	21'



TYPICAL SIGNAL AND LOOP LAYOUT (TYPE I)



TYPICAL BREAKWAY POLE BASE

**Edwards AND Kelcey**  
 ONE NORTH FRANKLIN  
 CHICAGO, IL 60606  
 PHONE: (312) 251-3000  
 FAX: (312) 251-3015  
 WEB: WWW.EKCORP.COM

REVISIONS	
NAME	DATE
REVISION	2/11/05

DT-33

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
 31st STREET TO I-57

TYPICAL RAMP METERING INSTALLATION  
 TYPE I (FOR RAMPS WITHOUT CURBS  
 AND GUTTERS)

SCALE: NTS  
 DATE: October 29, 2004

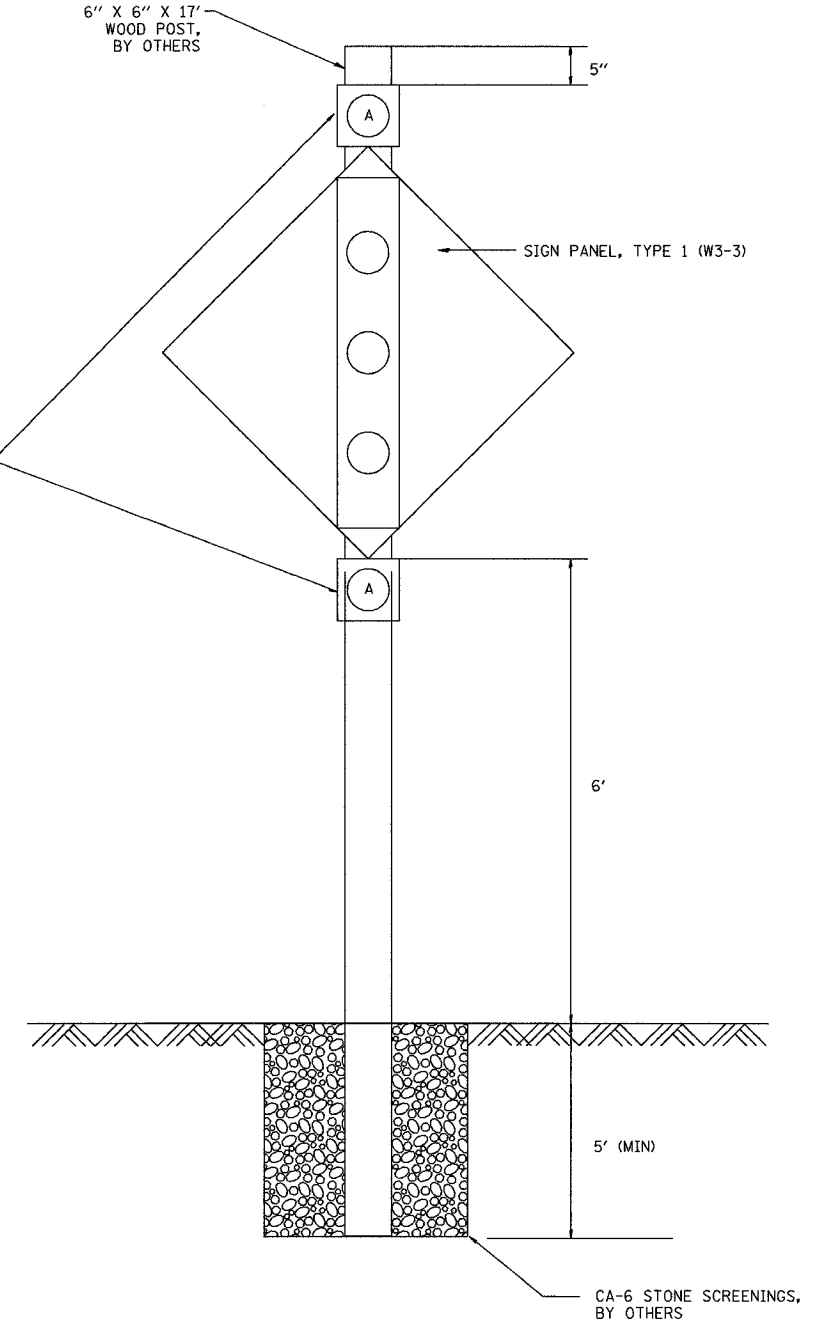
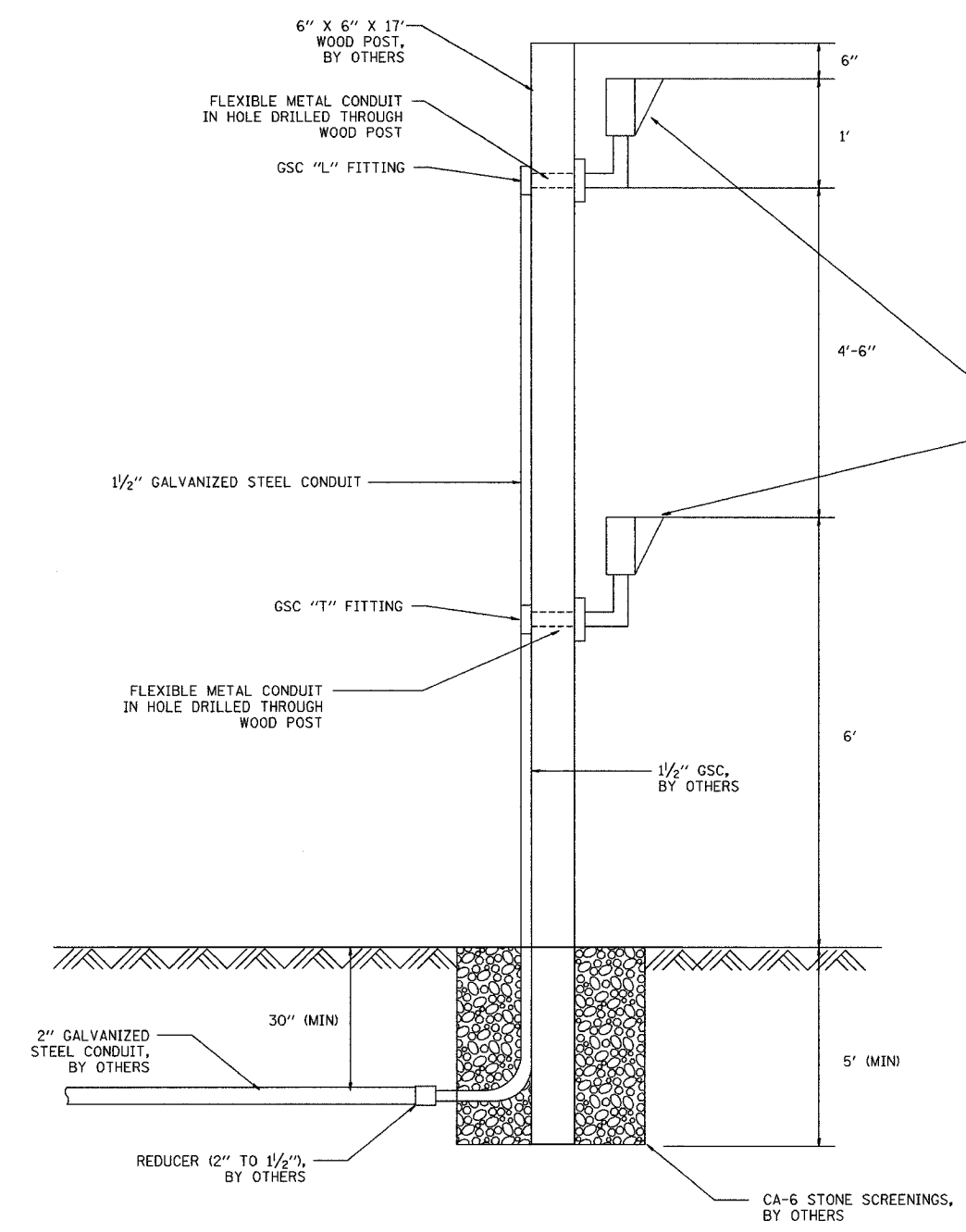
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02/09/2005 09:45:00 AM





SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-031I	COOK	976	941
STA.	TO STA.		
FED. ROAD DIST. NO. 62583	ILLINOIS FED. AID PROJECT		



- NOTES:
- SIGN WILL BE PLACED BETWEEN THE FLASHING BEACONS ON THE FRONT FACE OF WOOD POST. THE AREA WHERE THE SIGN IS TO BE INSTALLED (4'-6" DIMENSION) MUST BE KEPT FREE OF CONDUIT AND CONNECTIONS TO PREVENT INTERFERENCE WITH SIGN PLACEMENT.
  - FOR WOOD POST INSTALLATION DETAILS, SEE SECTION 730 OF THE STANDARD SPECIFICATIONS (WOOD POST TO BE INSTALLED BY OTHERS).
  - A CLEAR LAMP SPECIALLY DESIGNED FOR TRAFFIC SIGNAL SERVICE SHALL BE RATED AT 54 WATTS, 120 VOLTS.
  - CONTRACTOR SHALL SUBMIT DETAILED SHOP DRAWINGS FOR THE RAMP METER FLASHER AND SIGN MOUNTING HARDWARE FOR APPROVAL BY THE ENGINEER.
  - FOR RAMP METER FLASHER INSTALLATIONS NEAR TEMPORARY BARRIER WALL, THE WOOD POST SHALL BE INSTALLED (BY OTHERS) BETWEEN THE BARRIER AND THE IMPACT ATTENUATOR (WITH SUFFICIENT ROOM PROVIDED FOR INSTALLATION OF THE 1/2 INCH CONDUIT).

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
 31st STREET to I-57

RAMP METER  
 FLASHER DETAIL

SCALE: NTS  
 DATE: October 29, 2004

DRAWN BY: MJL  
 CHECKED BY: CTC

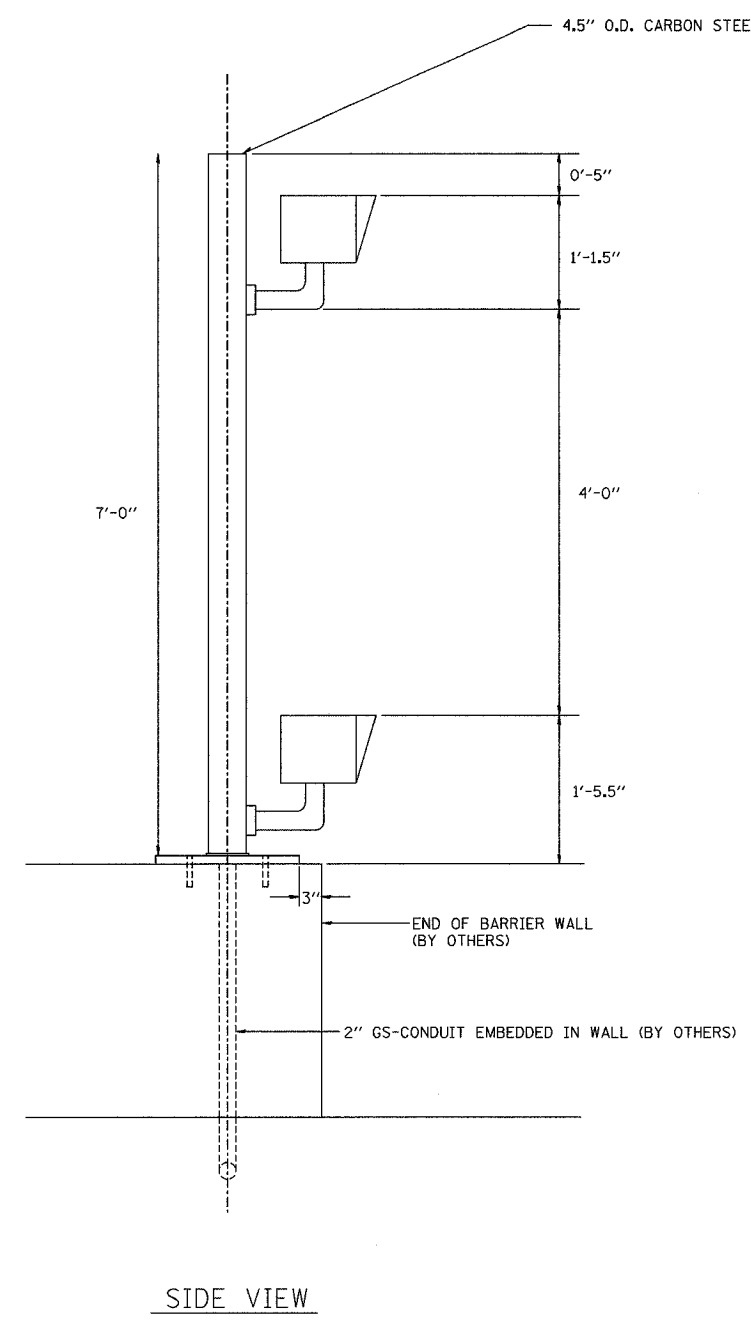
**Edwards  
 AND Kelcey**

ONE NORTH FRANKLIN  
 CHICAGO, IL 60606  
 PHONE: (312) 251-3000  
 FAX: (312) 251-3015  
 WEB: WWW.EKCORP.COM

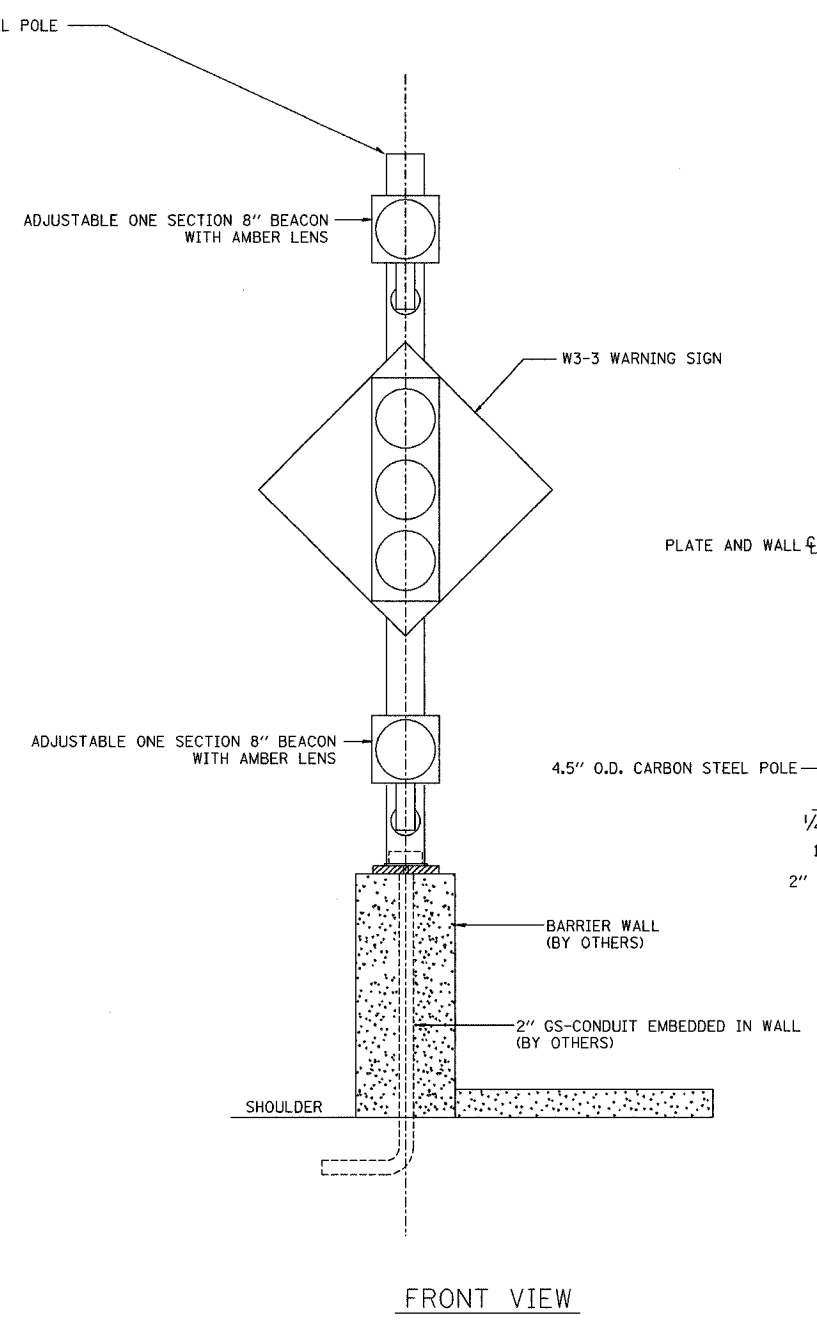
DT-35

P:\030019\03035\16s\road\dt020082e-87 11/23/2004 10:50:53 AM

SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-0311	COOK	976	942
STA.	TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	
62583			

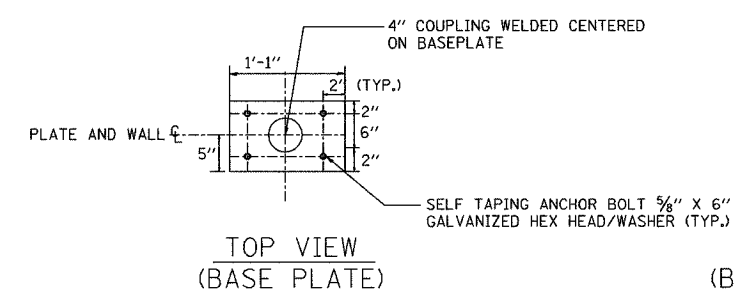


SIDE VIEW

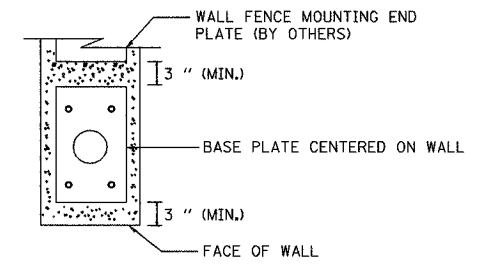


FRONT VIEW

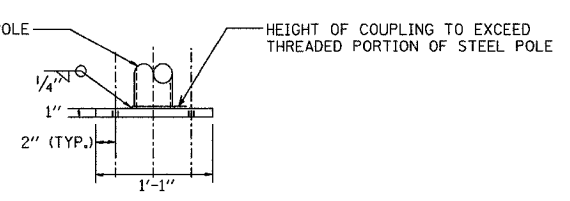
FLASHER POST ON BARRIER WALL



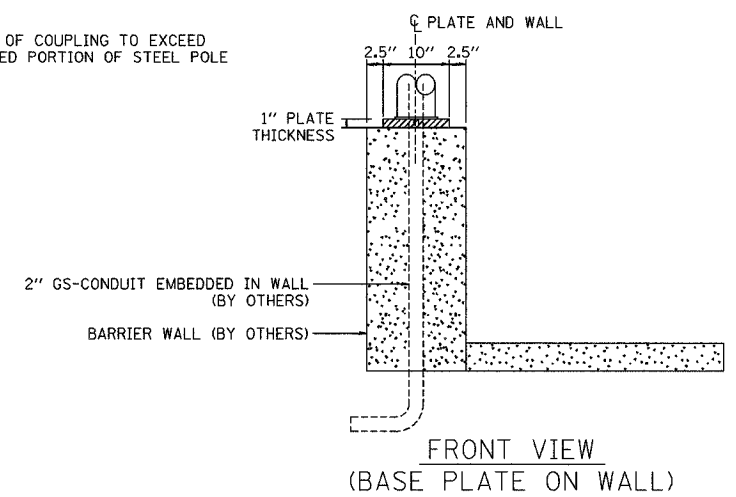
TOP VIEW (BASE PLATE)



TOP VIEW (BASE PLATE ON WALL)



SIDE VIEW (BASE PLATE)



FRONT VIEW (BASE PLATE ON WALL)

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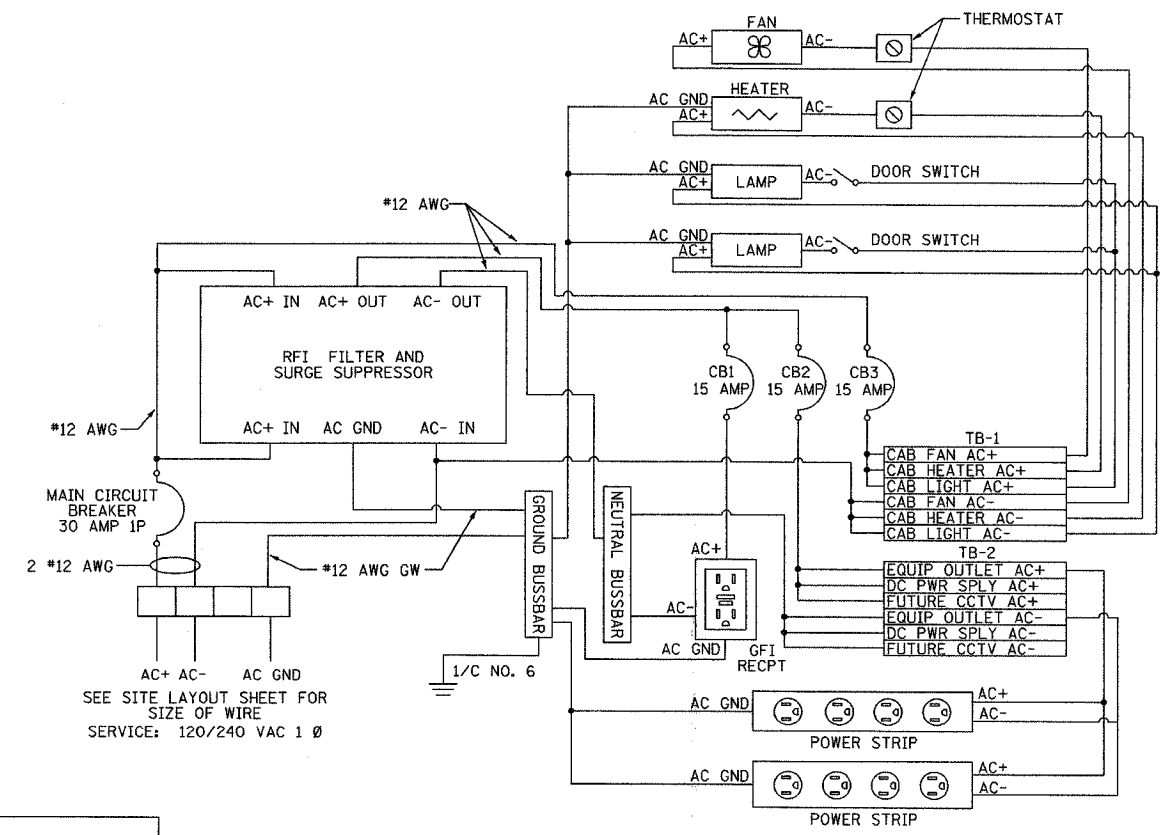
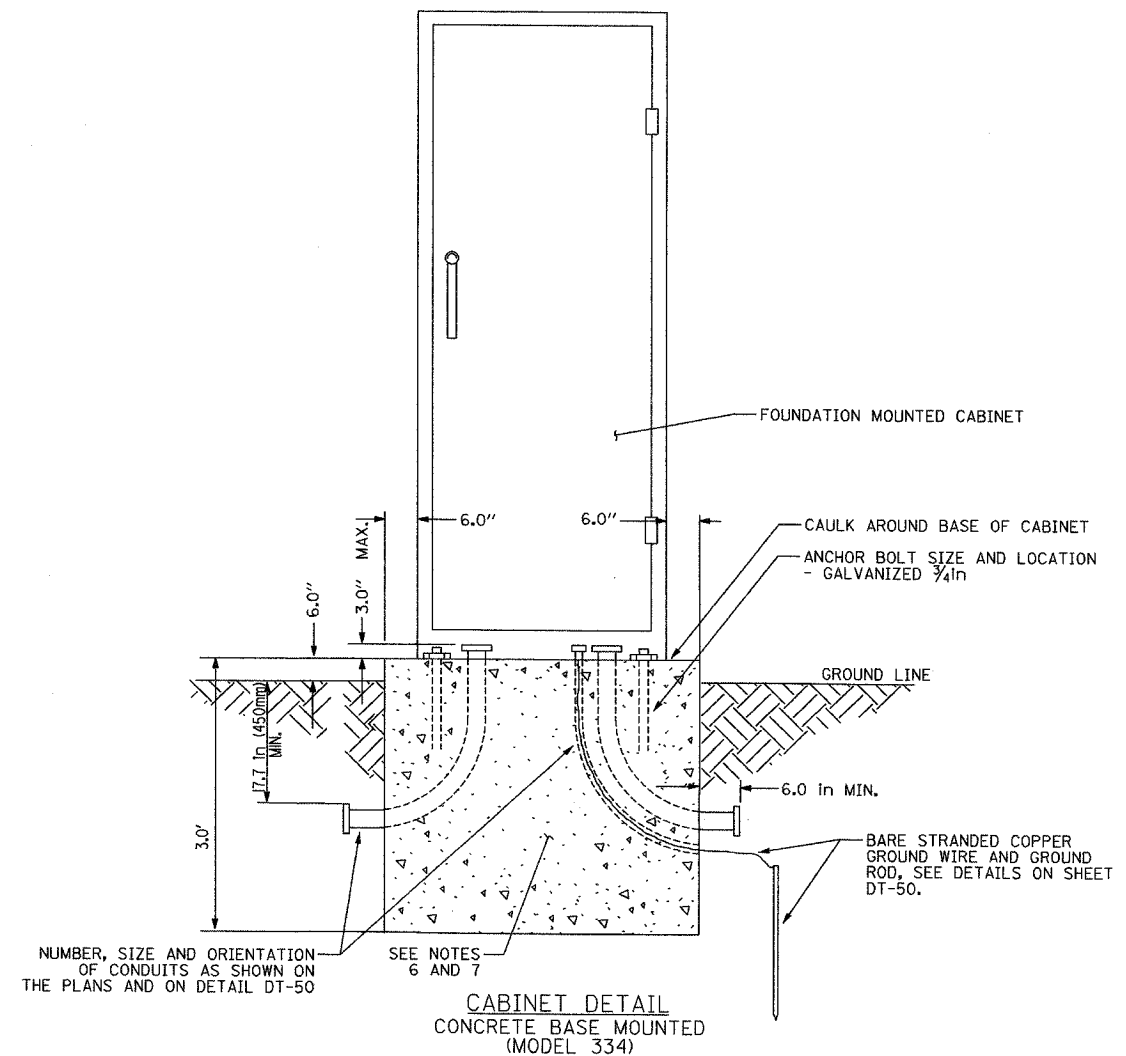
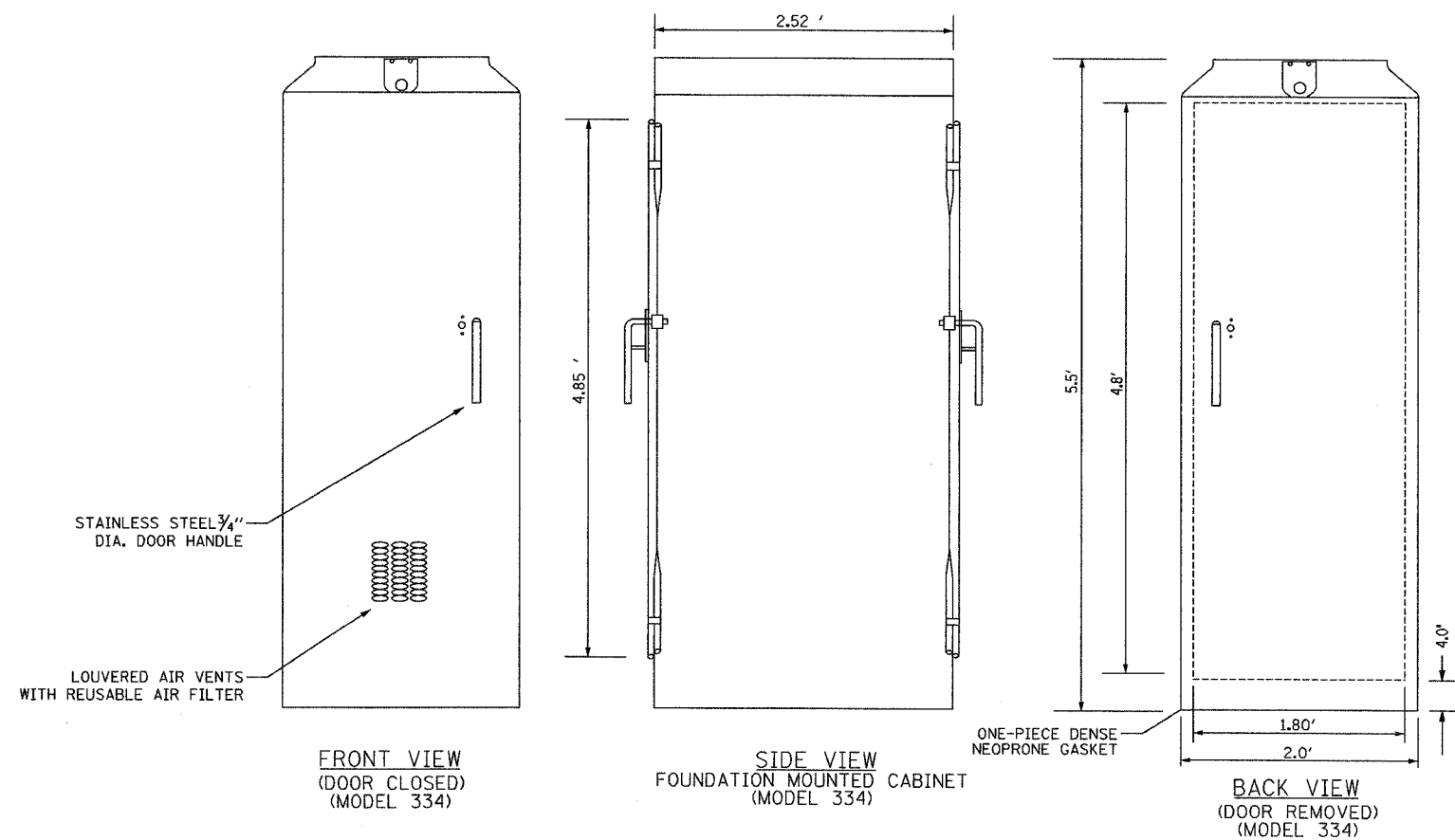
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
 31st STREET to I-57  
 RAMP METER FLASHER  
 ON BARRIER WALL DETAIL  
 SCALE: NOT TO SCALE  
 DATE: October 29, 2004  
 DRAWN BY: MJL  
 CHECKED BY: GFR

DT-35A

P:\030019\0311\18\road\17\020628a.dwg 11/23/2004 10:50:54 AM

SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-031I	COOK	976	443
STA.	TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	
62583			



NUMBER, SIZE AND ORIENTATION OF CONDUITS AS SHOWN ON THE PLANS AND ON DETAIL DT-50

**NOTES**

1. REFER TO SPECIAL PROVISIONS FOR CABINET DETAILS AND ADDITIONAL REQUIREMENTS.
2. CABINET ENTRIES INCLUDE VERTICAL ARRANGEMENT FOR MAJOR EQUIPMENT ITEMS ONLY.
3. INSTALL ADDITIONAL ITEMS ON SIDE AND BACK PANELS PER THE SPECIAL PROVISIONS.
4. THE CONTRACTOR SHALL INSTALL INSULATED BUSHINGS AND DUCT SEALANT AT ALL CONDUIT BEND TERMINATIONS IN FOUNDATIONS.
5. CONCRETE BASE TO BE FORMED AT LEAST 6.0 IN ABOVE THE GROUND SURFACE.
6. CONCRETE BASE MUST BE CAST IN PLACE.
7. ALL WORK INDICATED SHALL BE PAID FOR UNDER ITEM CABINET, MODEL 334 EXCLUSIVE OF THE CONCRETE FOUNDATION.
8. CABINET BOTTOM CONFIGURATION SHALL BE AS DIRECTED BY THE ENGINEER.

DT-36

REVISIONS	
NAME	DATE

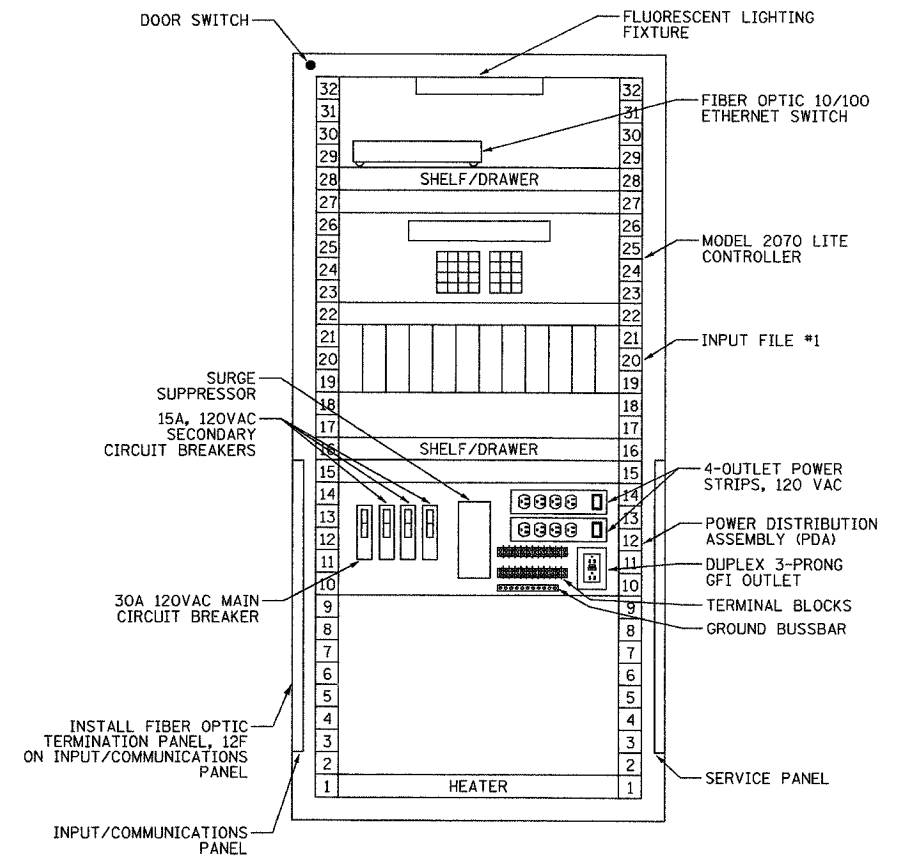
ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
 31st STREET to I-57  
 CABINET, MODEL 334 DETAILS  
 SCALE: NTS  
 DATE: October 29, 2004  
 DRAWN BY: MJL  
 CHECKED BY: GFR

**Edwards AND Kelcey**  
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 CHICAGO, IL 60606  
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 FAX: (312) 251-3015  
 WEB: WWW.EKCORP.COM

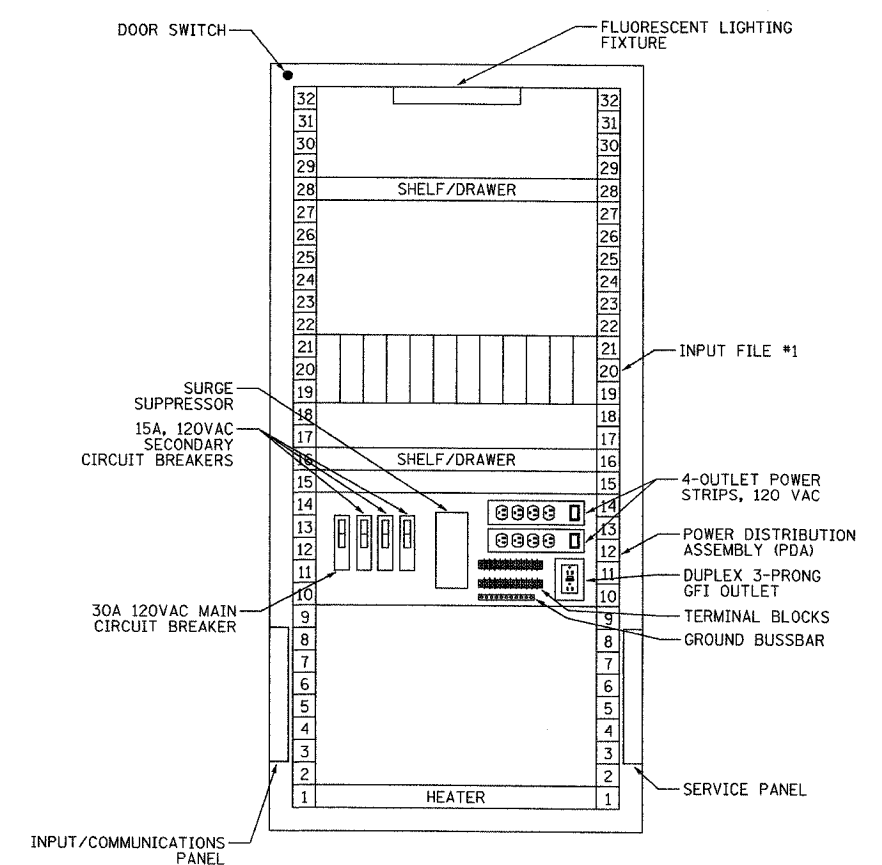
**SURVEILLANCE CABINET POWER DISTRIBUTION ASSEMBLY (PDA)**  
 NOT TO SCALE

10/15/2004 03:02:24 PM

SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-0311	COOK	976	444
STA. TO STA.		ILLINOIS FED. AID PROJECT	
62583			



RAMP METERING, SYSTEM DETECTOR,  
RAMP METERING/SYSTEM DETECTOR,  
EXIT RAMP QUEUE/SYSTEM DETECTOR  
LAYOUT FRONT VIEW (TYPICAL)  
NOT TO SCALE



EXIT RAMP QUEUE  
FRONT VIEW (TYPICAL)  
NOT TO SCALE

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CHICAGO, IL 60606  
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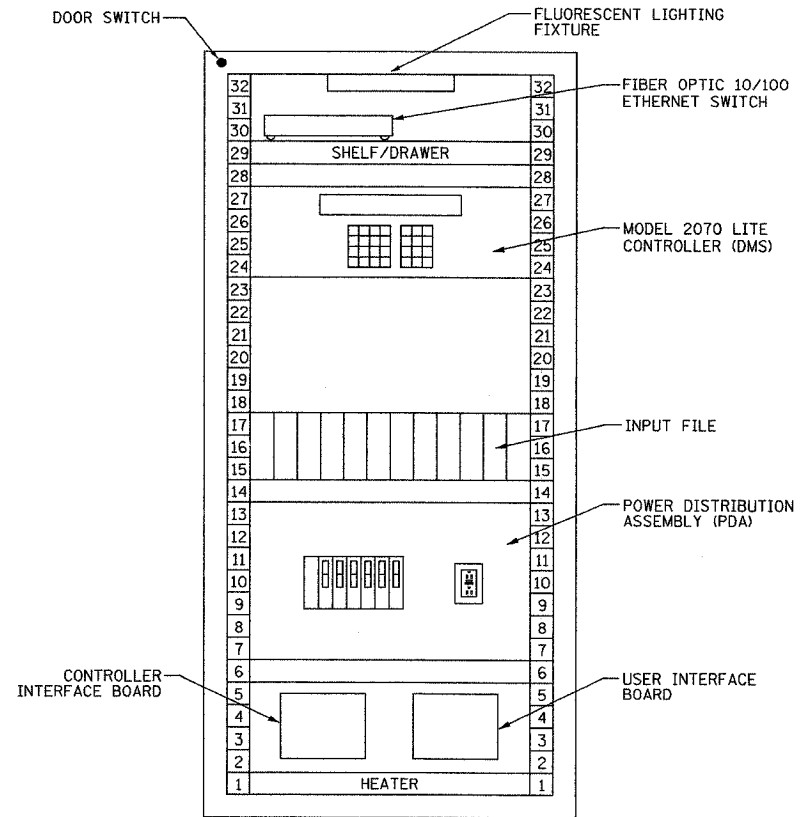
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
31st STREET to I-57  
  
CABINET, MODEL 334 - RACK LAYOUT  
(SHEET 1 OF 2)  
  
SCALE: NOT TO SCALE      DRAWN BY: DHI  
DATE: October 29, 2004      CHECKED BY: JEZ

DT-37

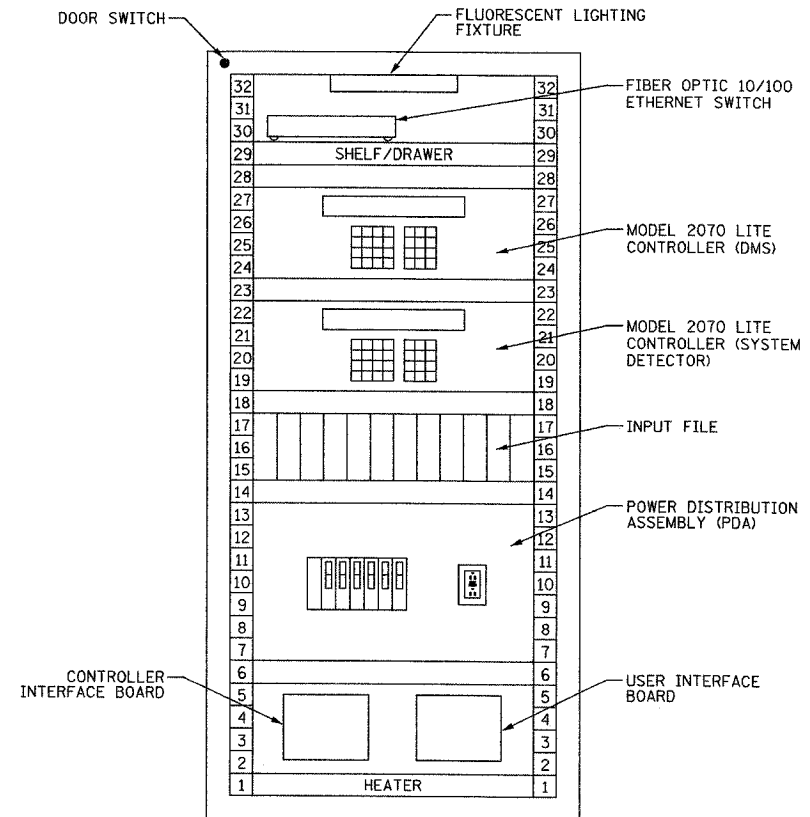
10/14/2004 09:42:28 AM

SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-0311	COOK	976	445
STA.	TO STA.		
FED. ROAD DIST. NO. - ILLINOIS	FED. AID PROJECT		
62583			



DMS/EXIT RAMP QUEUE  
FRONT VIEW (TYPICAL)  
NOT TO SCALE

CASES:  
1) DMS/EXIT RAMP QUEUE



DMS/SYSTEM DETECTOR  
FRONT VIEW (TYPICAL)  
NOT TO SCALE

CASES:  
1) DMS/SYSTEM DETECTOR

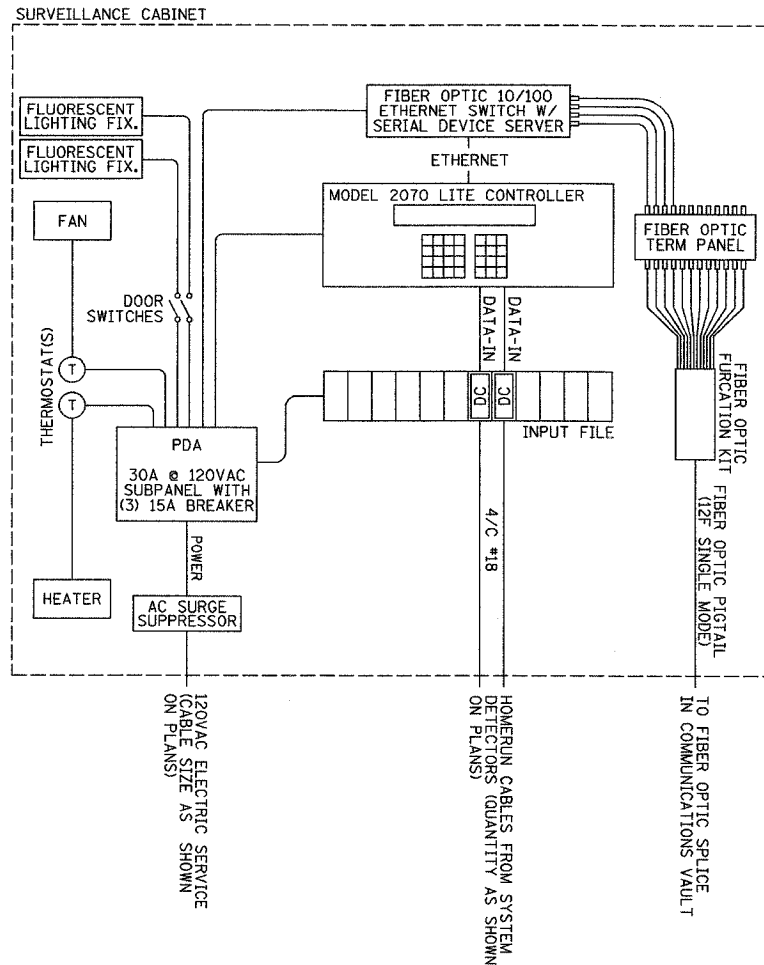
**Edwards AND Kelcey**  
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CHICAGO, IL 60606  
PHONE: (312) 251-3000  
FAX: (312) 251-3015  
WEB: WWW.EKCORP.COM

REVISIONS	
NAME	DATE

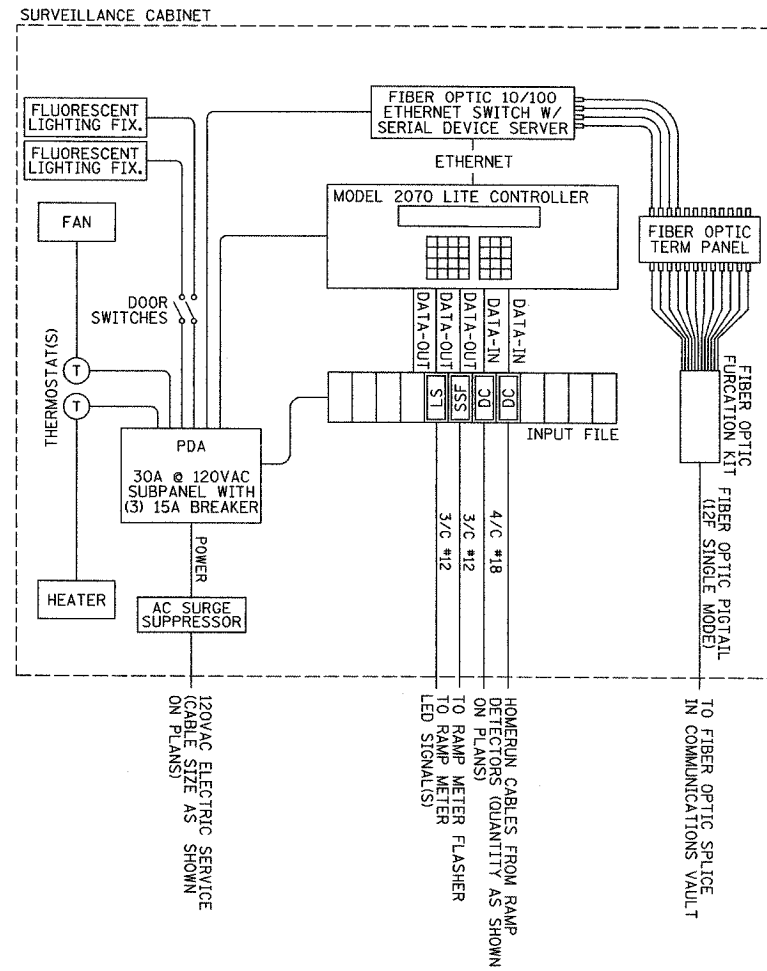
ILLINOIS DEPARTMENT OF TRANSPORTATION  
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
31st STREET to I-57  
  
CABINET, MODEL 334 - RACK LAYOUT  
(SHEET 2 OF 2)  
  
SCALE: NOT TO SCALE  
DATE: October 29, 2004  
DRAWN BY: DHI  
CHECKED BY: JEZ

DT-38

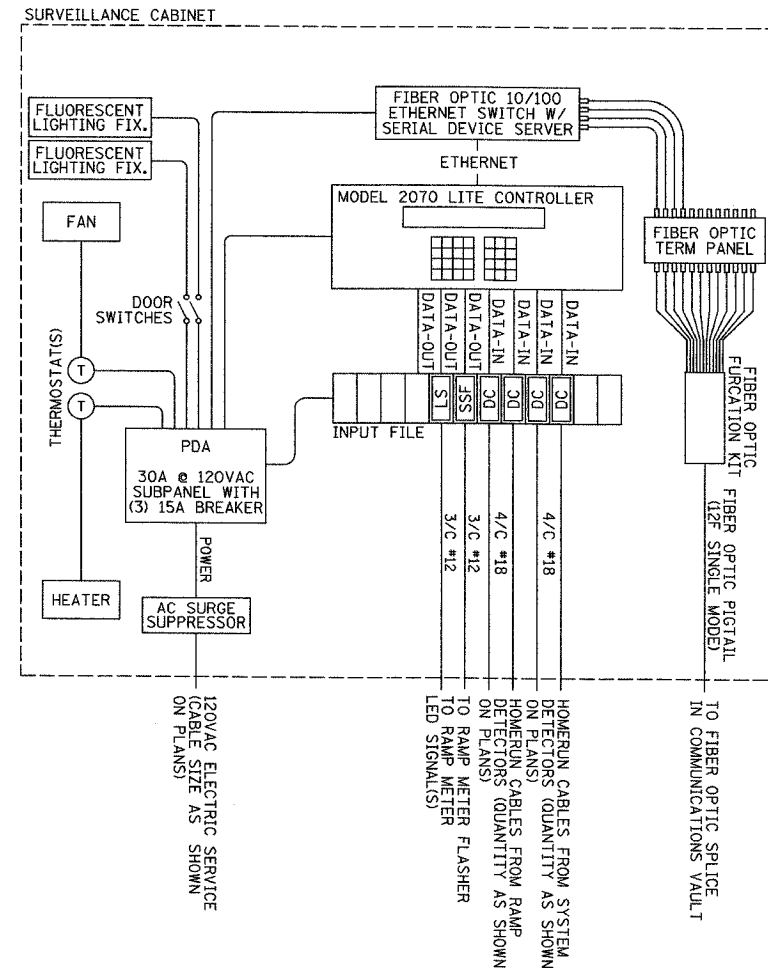
10/14/2004 09:24:28 AM



SYSTEM DETECTOR  
SINGLE LINE DIAGRAM (TYPICAL)  
NOT TO SCALE



RAMP METERING  
SINGLE LINE DIAGRAM (TYPICAL)  
NOT TO SCALE



RAMP METERING/SYSTEM DETECTOR  
SINGLE LINE DIAGRAM (TYPICAL)  
NOT TO SCALE

**Edwards  
AND Kelcey**  
ONE NORTH FRANKLIN  
CHICAGO, IL 60606  
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FAX: (312) 251-3015  
WEB: WWW.EKCORP.COM

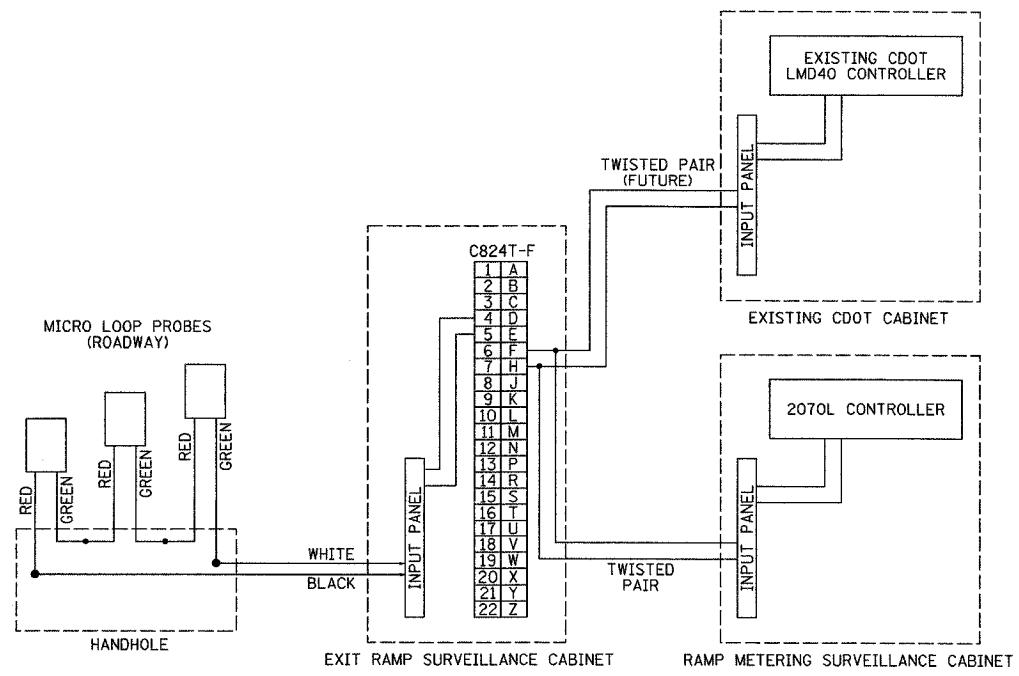
ABBREVIATIONS  
DC DETECTOR CARD  
LS LOAD SWITCH  
SSF SOLID STATE FLASHER

REVISIONS	
NAME	DATE

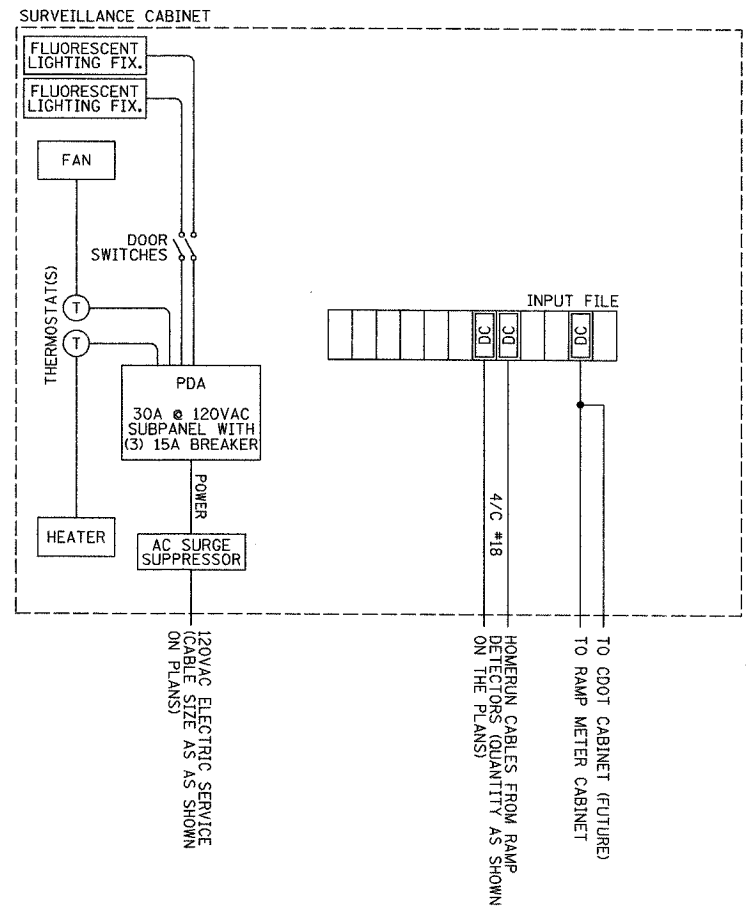
ILLINOIS DEPARTMENT OF TRANSPORTATION  
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
31st STREET to I-57  
CABINET, MODEL 334 - WIRING DETAILS  
AND SCHEMATIC (SHEET 1 OF 3)  
SCALE: NOT TO SCALE  
DATE: October 29, 2004  
DRAWN BY: DHI  
CHECKED BY: JEZ

DT-39

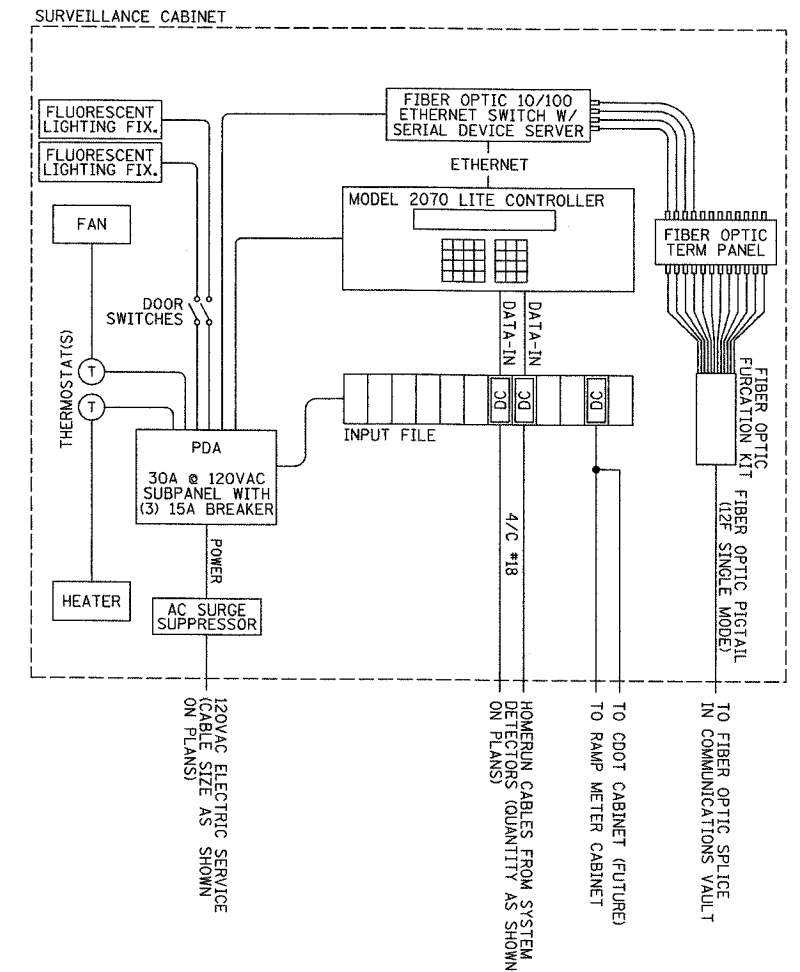
10/14/2004 09:24:30 AM



EXIT RAMP CONFIGURATION  
NOT TO SCALE



EXIT RAMP QUEUE  
LINE DIAGRAM (TYPICAL)  
NOT TO SCALE



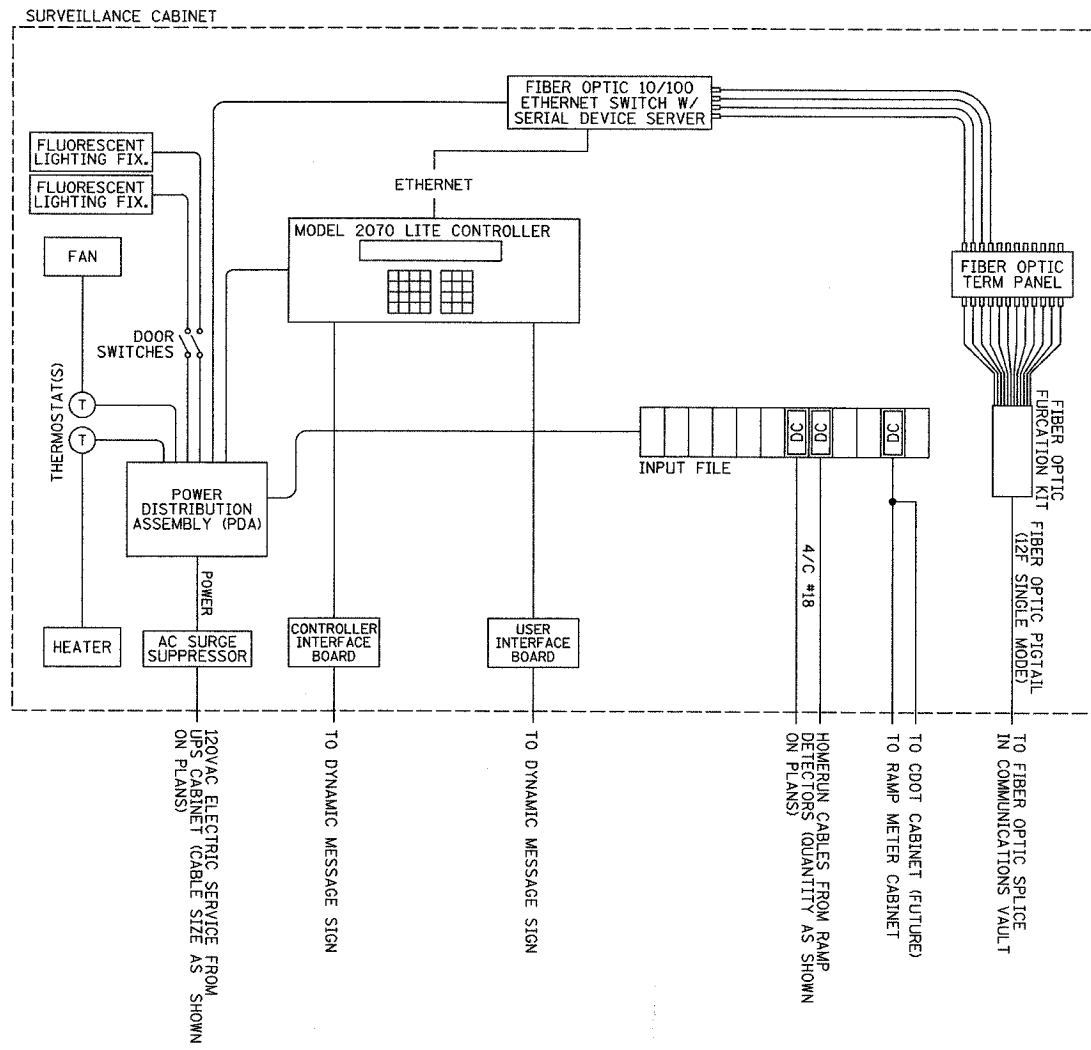
SYSTEM DETECTOR/EXIT RAMP QUEUE  
SINGLE LINE DIAGRAM (TYPICAL)  
NOT TO SCALE

ABBREVIATIONS  
DC - DETECTOR CARD  
LS - LOAD SWITCH  
SSF - SOLID STATE FLASHER

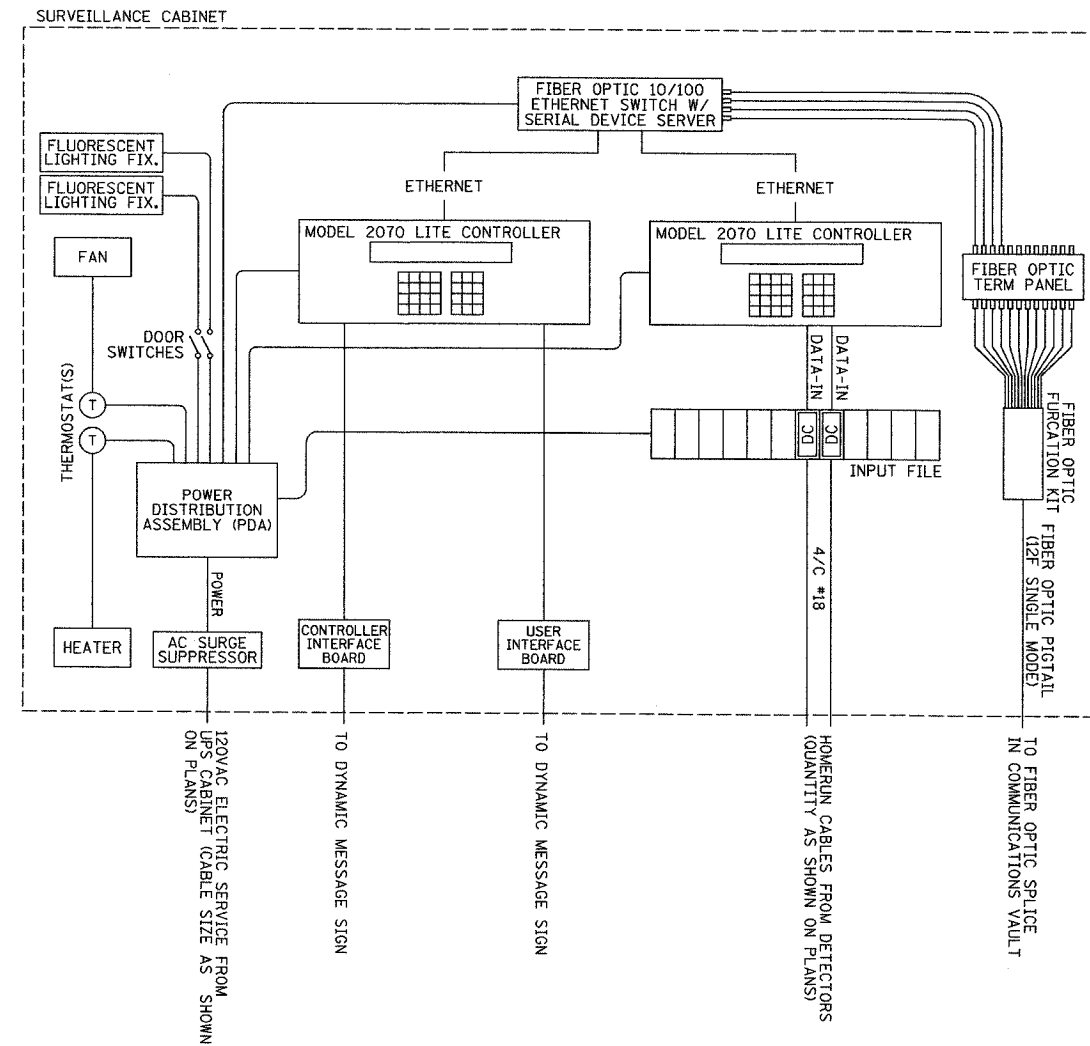
REVISIONS	NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
31st STREET to I-57  
CABINET, MODEL 334 - WIRING DETAILS  
AND SCHEMATIC (SHEET 2 OF 3)  
SCALE: NOT TO SCALE  
DATE: October 29, 2004  
DRAWN BY: DHI  
CHECKED BY: JEZ

SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-0311	COOK	976	448
STA.	TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	
62583			



DMS/EXIT RAMP QUEUE  
SINGLE LINE DIAGRAM (TYPICAL)  
NOT TO SCALE



DMS/SYSTEM DETECTOR  
SINGLE LINE DIAGRAM (TYPICAL)  
NOT TO SCALE

ABBREVIATIONS  
DC DETECTOR CARD  
LS LOAD SWITCH  
SSF SOLID STATE FLASHER

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
31st STREET to I-57  
CABINET, MODEL 334 - WIRING DETAILS  
AND SCHEMATIC (SHEET 3 OF 3)  
SCALE: NOT TO SCALE  
DATE: October 29, 2004  
DRAWN BY: DHI  
CHECKED BY: JEZ

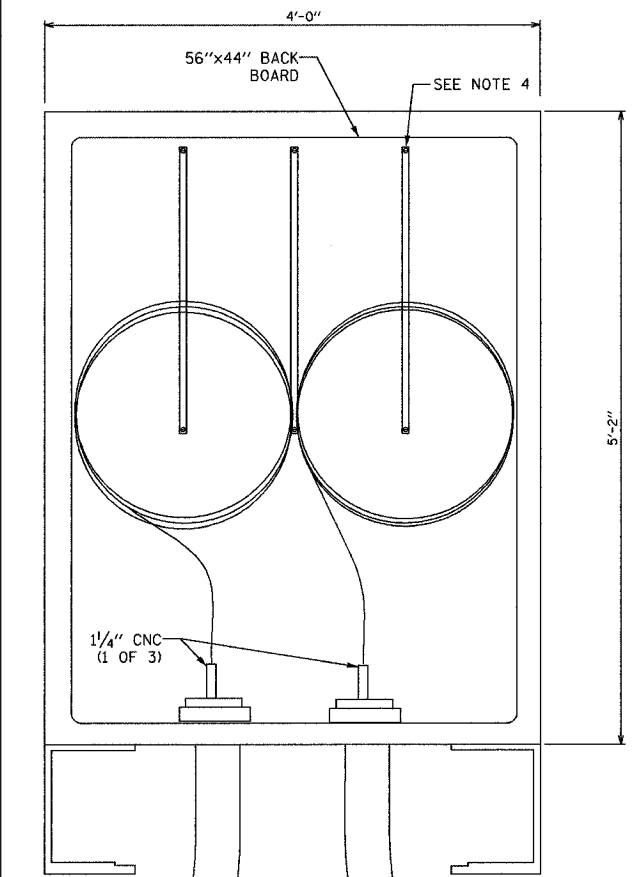
**Edwards AND Kelcey**  
ONE NORTH FRANKLIN  
CHICAGO, IL 60606  
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WEB: WWW.EKCORP.COM

DT-41

10/14/2004 09:24:30 AM



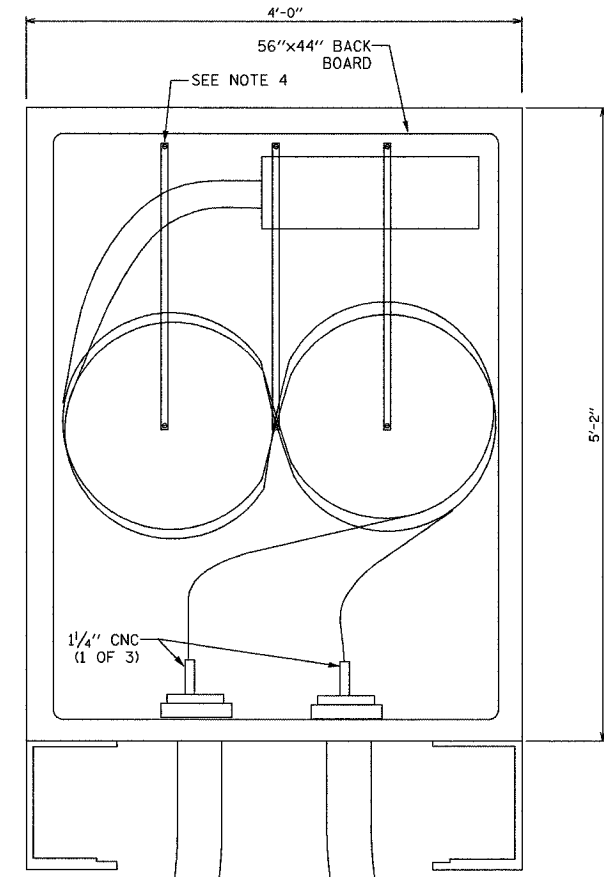
SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-0311	COOK	976	949
STA.	TO STA.		
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT		
62583			



STAINLESS STEEL TWO-DOOR TYPE 4X ENCLOSURE OR APPROVED EQUAL (62" X 48" X 12")

STAINLESS STEEL SLEEVE FACTORY BEND 4.5" OUTSIDE DIAMETER WITH 36" RADIUS

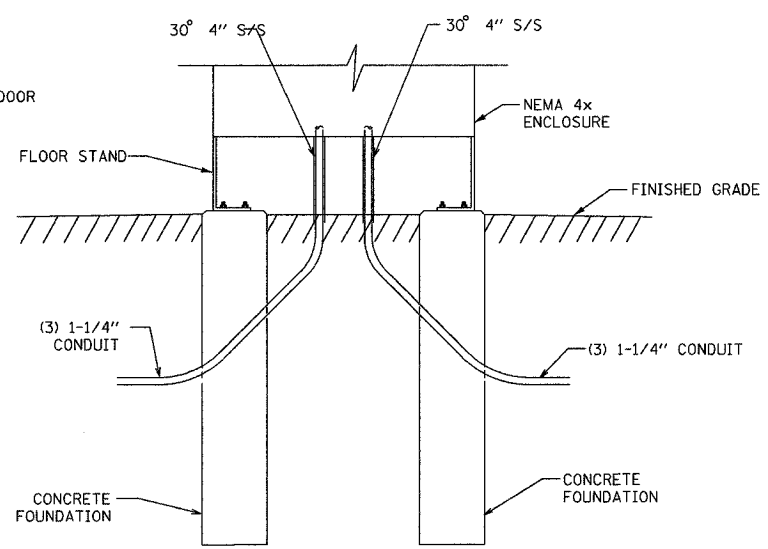
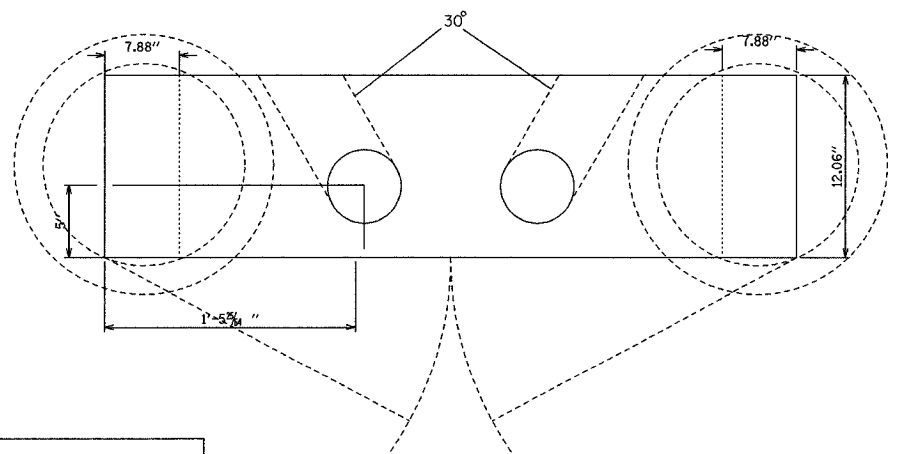
PULL POINT - NO SPLICE



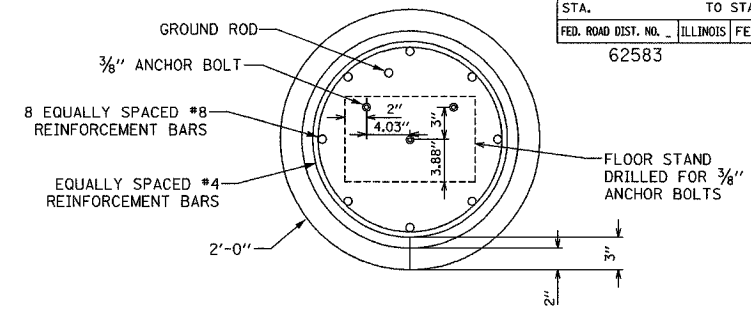
STAINLESS STEEL TWO-DOOR TYPE 4X ENCLOSURE OR APPROVED EQUAL (62" X 48" X 12")

STAINLESS STEEL SLEEVE FACTORY BEND 4.5" OUTSIDE DIAMETER WITH 36" RADIUS

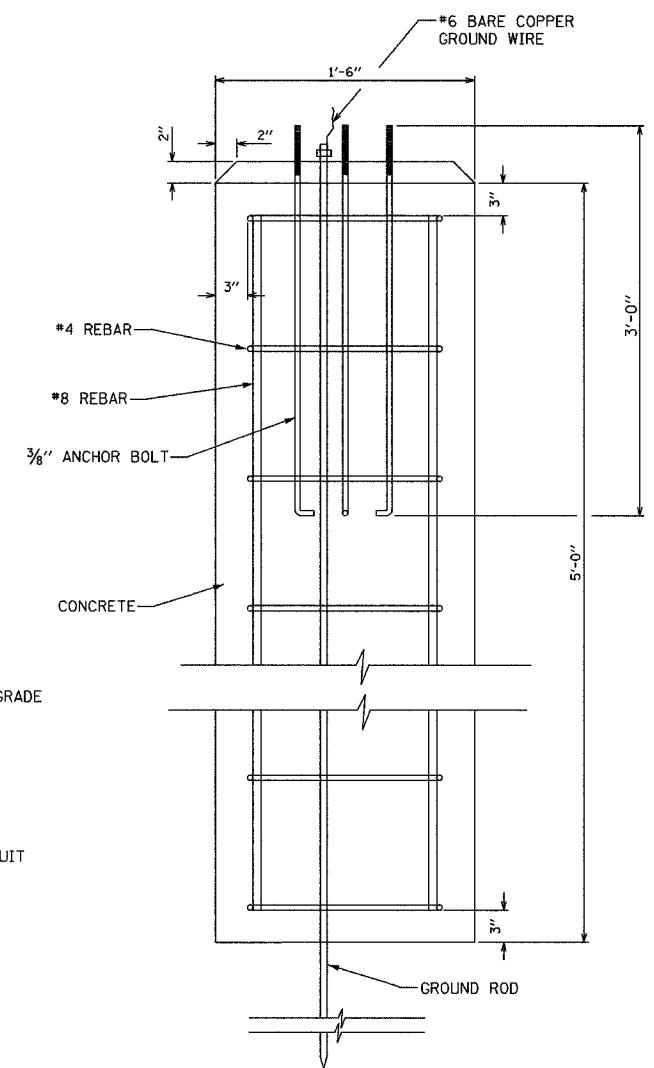
PULL POINT - WITH SPLICE



ELEVATION



PLAN PANEL FOUNDATION



ELEVATION PANEL FOUNDATION

- NOTES:
1. THREADED END OF ANCHOR BOLT GALVANIZED AT LEAST 6 INCHES.
  2. ALL METALLIC ELEMENTS SHALL BE GROUNDED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC) 2002, ARTICLE 250, GROUNDING.
  3. GROUND ROD SHALL BE PLACED IN ONE CONCRETE FOUNDATION ONLY.
  4. CONTRACTOR SHALL INSTALL STANDARD MANHOLE CABLE RACKS AND CABLE HOOKS TO HOLD CABLE IN CABINET, SECURE CABLES WITH TY-WRAPS.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
 31st STREET to I-57

PULLING PEDESTAL  
 DETAIL

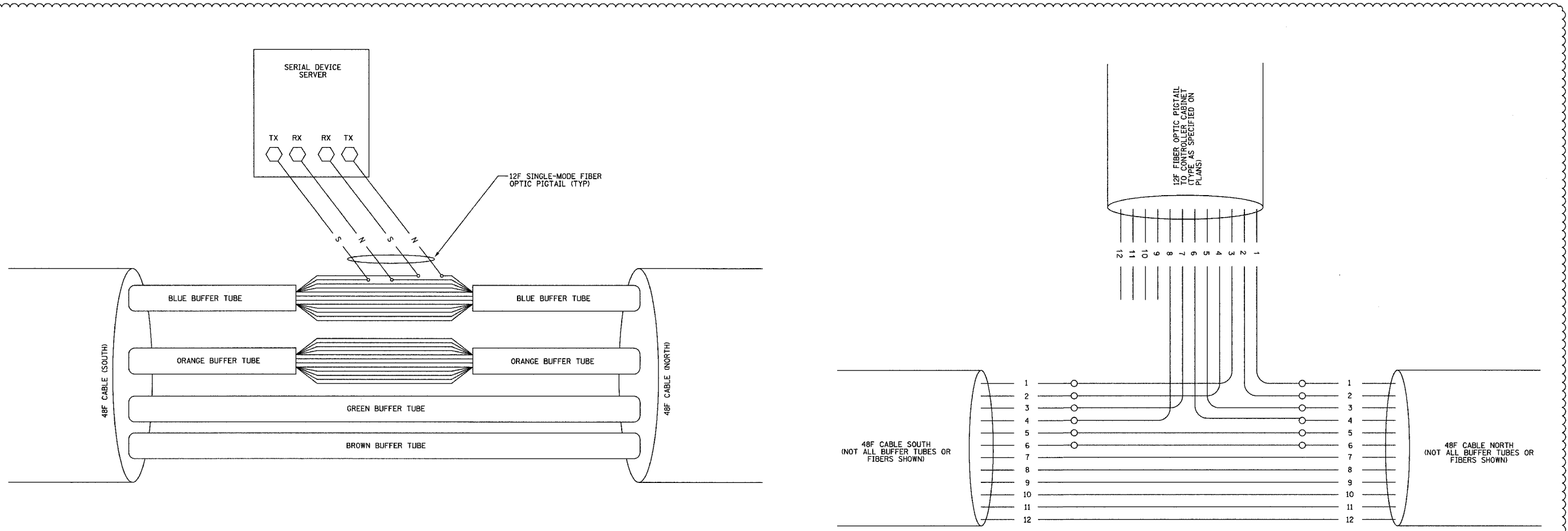
SCALE: NOT TO SCALE  
 DATE: October 29, 2004

DRAWN BY: DHI  
 CHECKED BY: JEZ

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 WEB: WWW.EKCORP.COM

DT-42

11/23/2004 10:50:55 AM



FIBERS			FUNCTION	APPLICATION DESCRIPTION
FIBER NO.	COLOR CODE			
1	BLUE	IN TX	DATA CIRCUIT	
2	ORANGE	IN RX		
3	GREEN	OUT RX		
4	BROWN	OUT TX		
5	SLATE	SPARE	FUTURE	
6	WHITE	SPARE		
7	RED	SPARE		
8	BLACK	SPARE	DMS	
9	YELLOW	IN TX		
10	VIOLET	IN RX		
11	ROSE	OUT RX		
12	AQUA	OUT TX		

STANDARD 12-FIBER CABLE CONFIGURATION

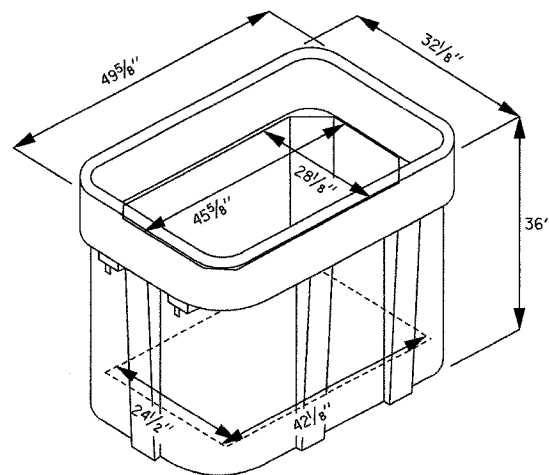
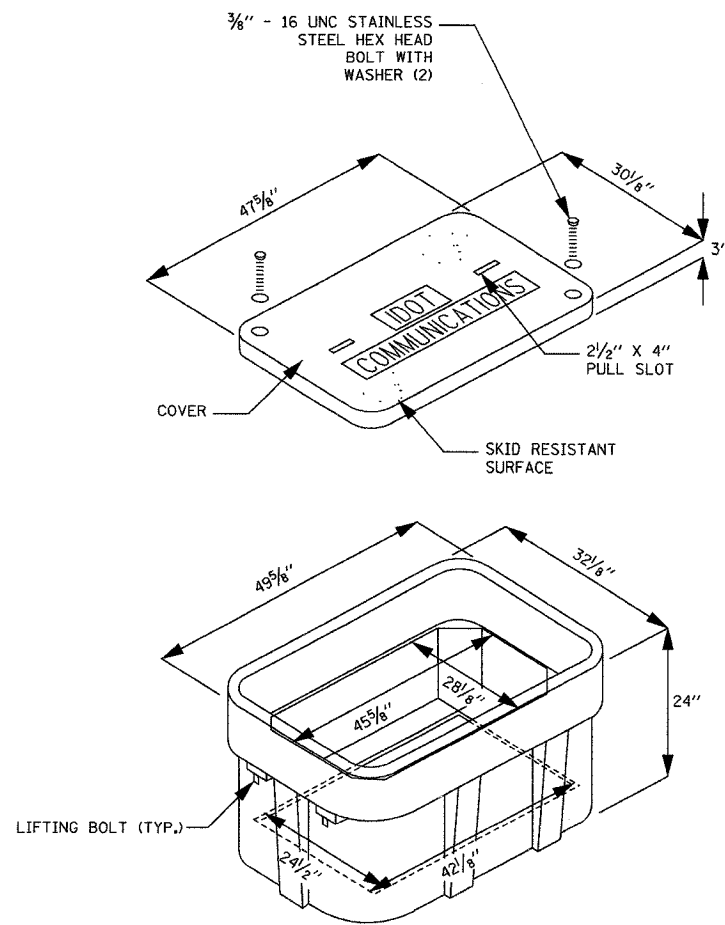
PHYSICAL SPLICE DETAILS (TYP)  
NOT TO SCALE

- NOTES
- THIS DIAGRAM IS PROVIDED FOR ILLUSTRATION PURPOSES ONLY AND DEPICTS A TYPICAL FIBER OPTIC SPLICE. FOR ACTUAL SPLICE TABLES, SEE SHEETS COMM-62 THRU COMM-69. IN CASE OF CONFLICT, SPECIFICATIONS TO GOVERN.

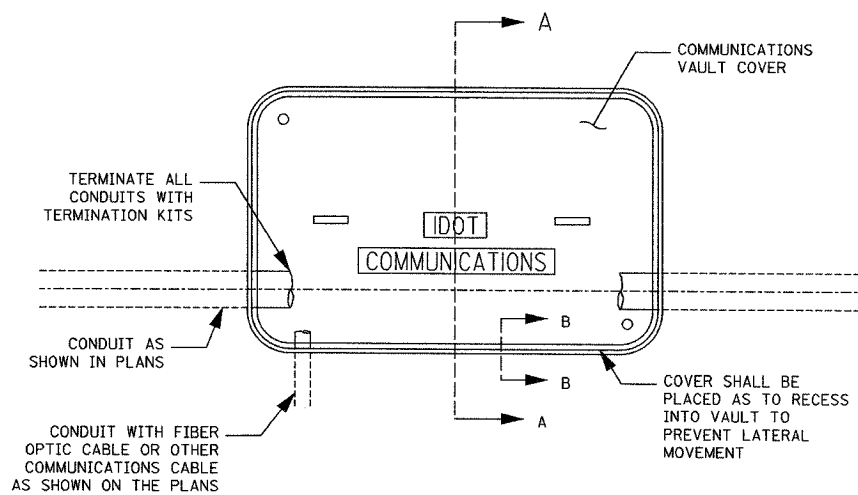
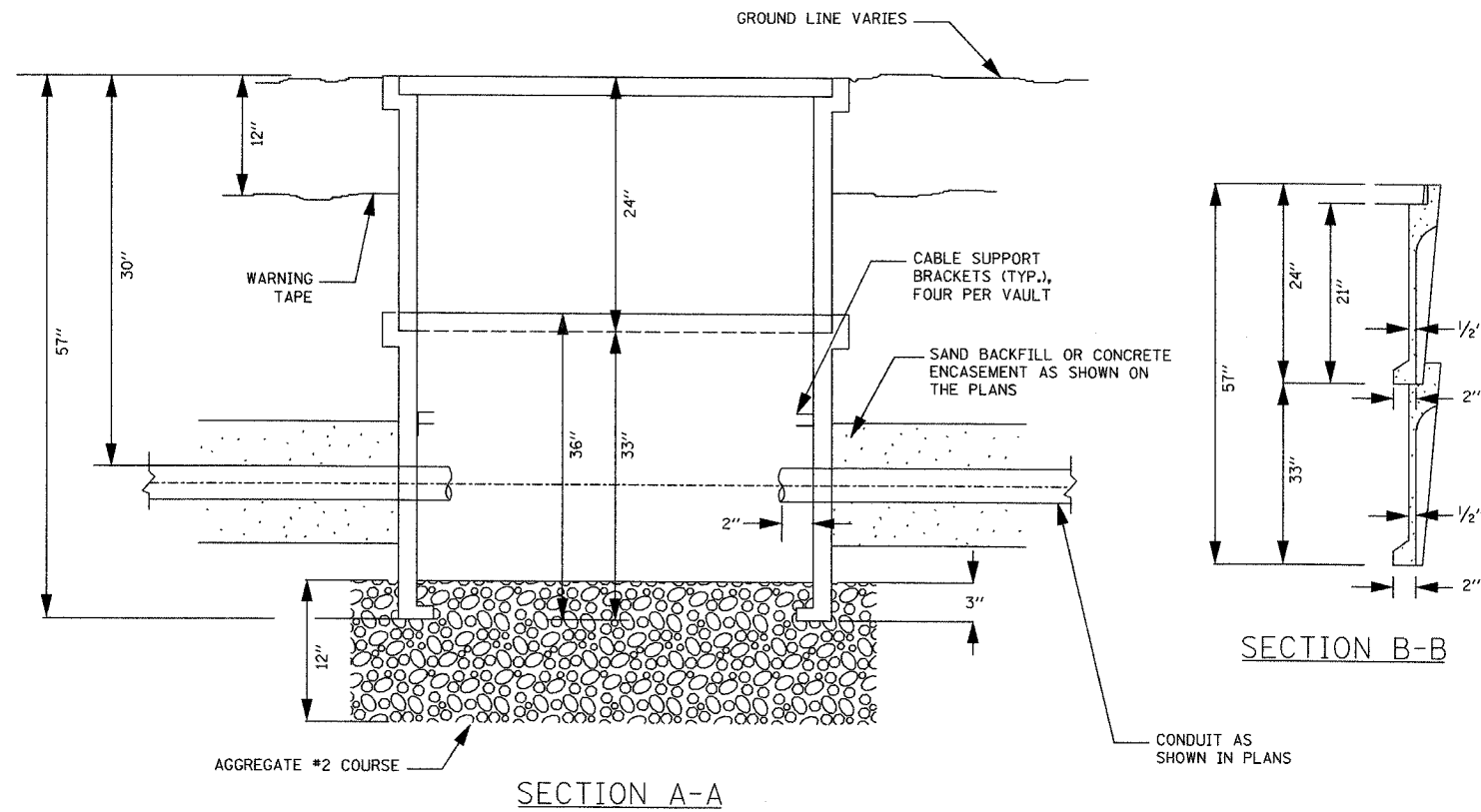
DT-43

REVISIONS	
NAME	DATE
REVISION 1	12/17/04

SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	COOK		451
STA.	TO STA. 62583		
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT		



ISOMETRIC



PLAN

NOTES:

1. BOX SHALL HAVE AN OPEN BASE.
2. COVER SHALL WITHSTAND AASHTO H 20 LOADING AND SHALL LOCK.
3. ALL OPENINGS IN STRUCTURE MUST BE MACHINED AT TIME OF FABRICATION OR PUNCH DRIVEN AT TIME OF PLACEMENT.
4. FIELD PLACEMENT OF COMMUNICATIONS VAULT SHALL BE AS DIRECTED BY THE ENGINEER.

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REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
 31st STREET TO I-57

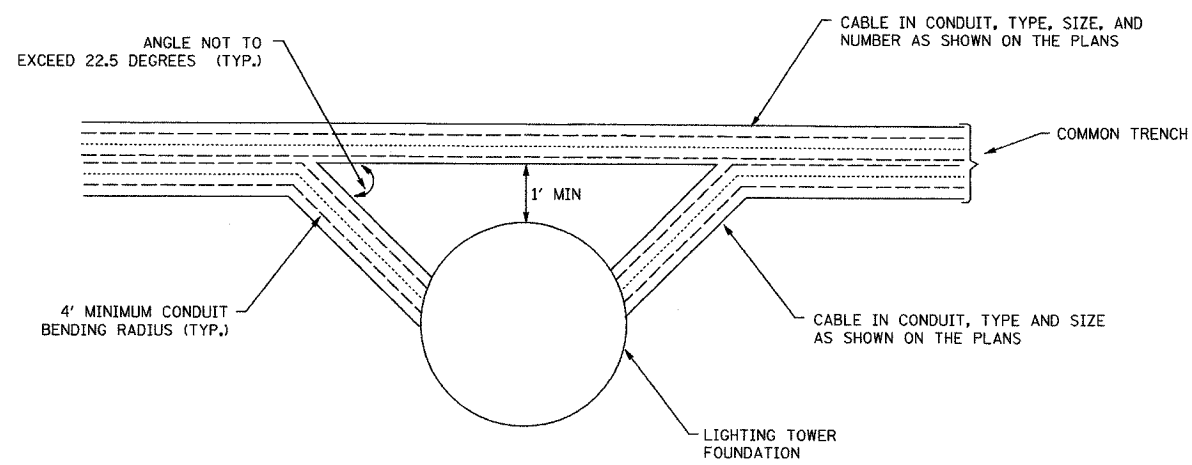
COMMUNICATIONS VAULT DETAIL  
 (HANDHOLE TYPE C1)

SCALE: NTS  
 DATE: October 29, 2004  
 DRAWN BY: MJL  
 CHECKED BY: GFR

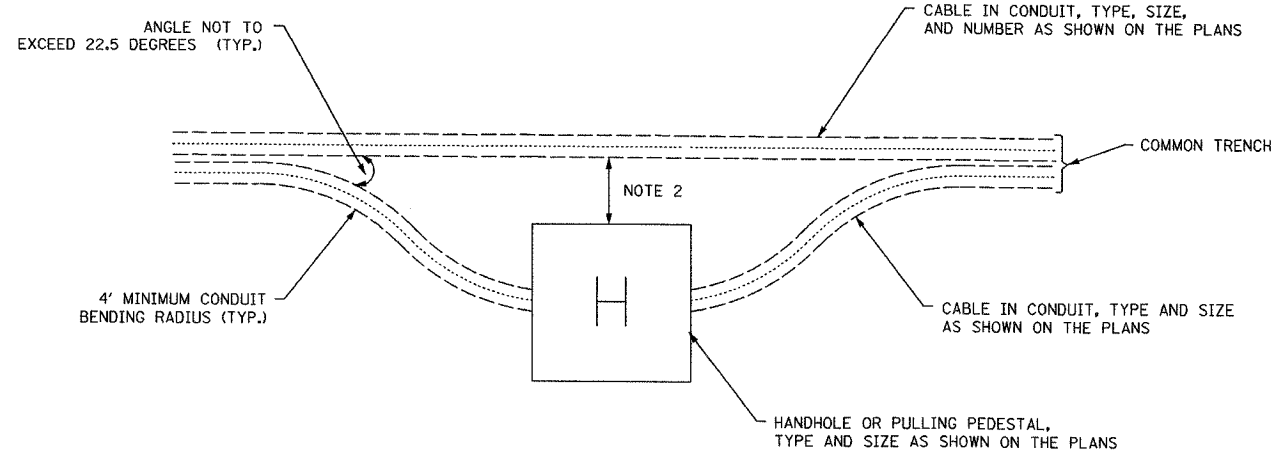
DT-44

07/15/2004 03:02:26 PM

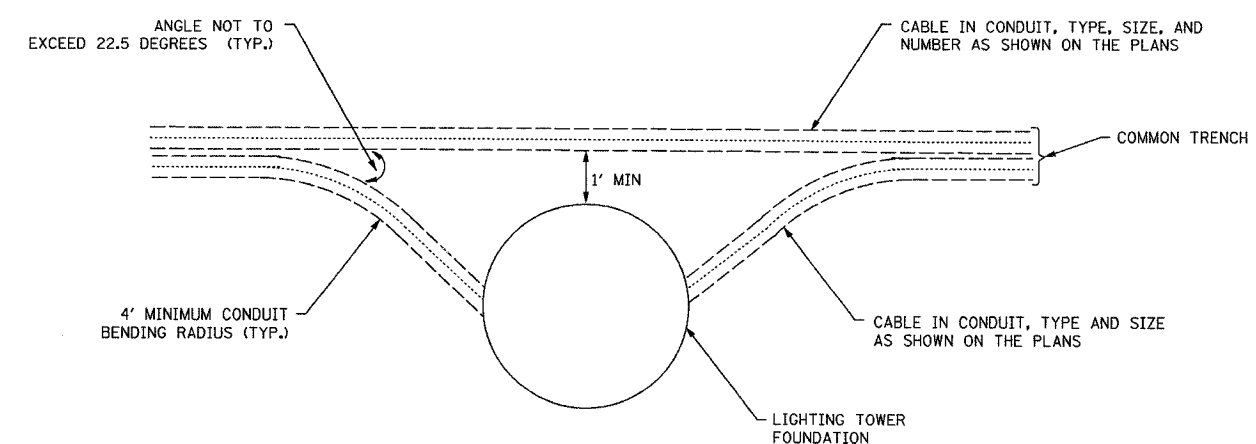
SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-031I	COOK	976	452
STA. 29+00.00	TO STA. 36+57.45		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	
62583			



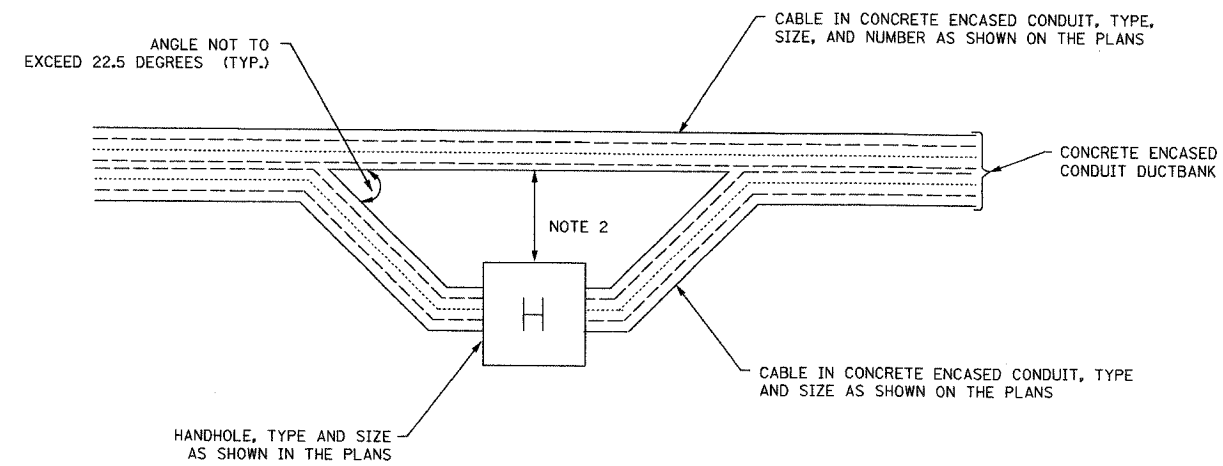
CONDUIT DUCTBANK ROUTING AROUND LIGHTING TOWER FOUNDATION (TYPICAL)



CONDUIT (IN TRENCH) ROUTING AROUND HANDHOLE OR PULLING PEDESTAL (TYPICAL)



CONDUIT (IN TRENCH) ROUTING AROUND LIGHTING TOWER FOUNDATION (TYPICAL)



CONDUIT DUCTBANK ROUTING AROUND HANDHOLE (TYPICAL)

- NOTES:
1. FOR HANDHOLE DETAIL, SEE DETAIL DT-47.
  2. CONDUIT SHALL BE INSTALLED AROUND HANDHOLE/PULLING PEDESTAL SO THAT IT DOES NOT COMPROMISE THE STRUCTURAL INTEGRITY OF EITHER THE CONDUIT OR THE HANDHOLE/PULLING PEDESTAL.
  3. FIBER OPTIC BACKBONE COMMUNICATIONS CONDUIT AND CABLE SHALL NOT BE ROUTED THROUGH ANY HANDHOLES OR LIGHTING TOWER FOUNDATIONS UNLESS OTHERWISE NOTED ON THE PLANS.
  4. ONLY FIBER OPTIC BACKBONE COMMUNICATIONS CONDUIT AND CABLE SHALL BE ROUTED THROUGH PULLING PEDESTALS UNLESS OTHERWISE NOTED ON THE PLANS.

DT-45

**Edwards AND Kelcey**  
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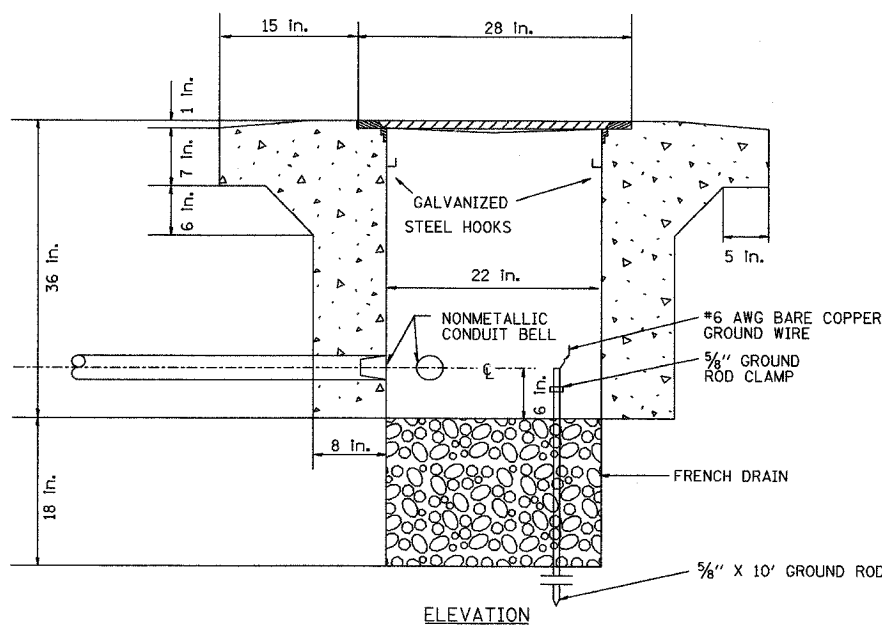
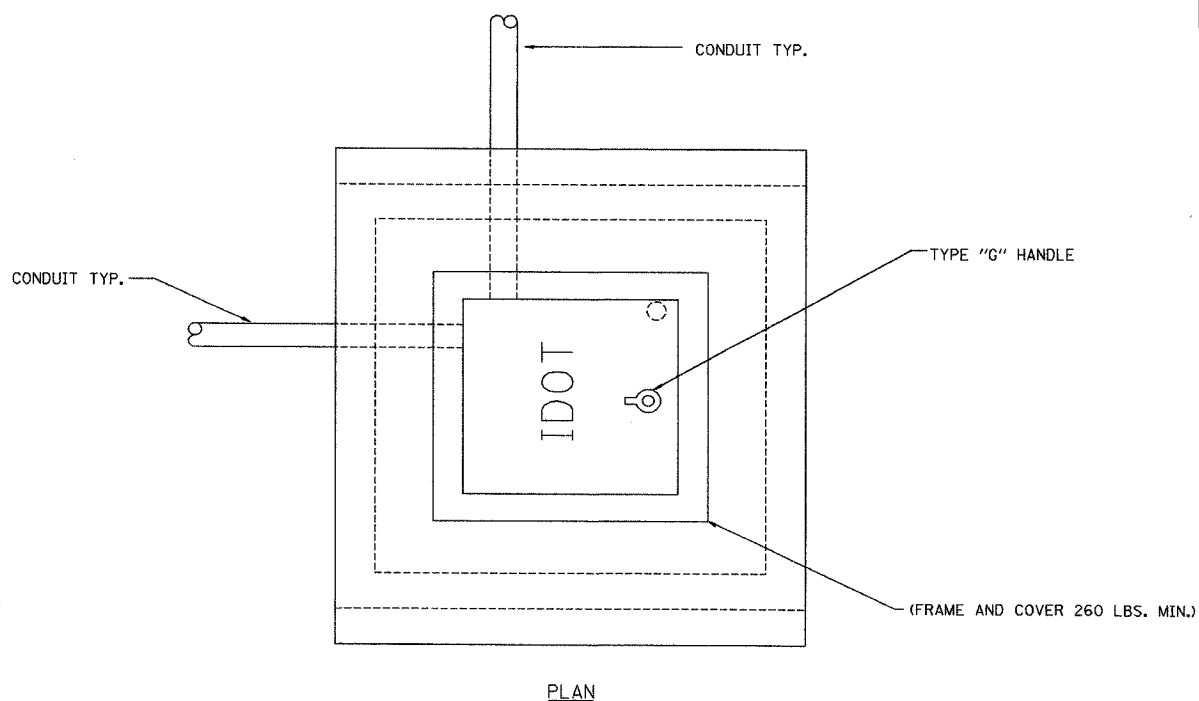
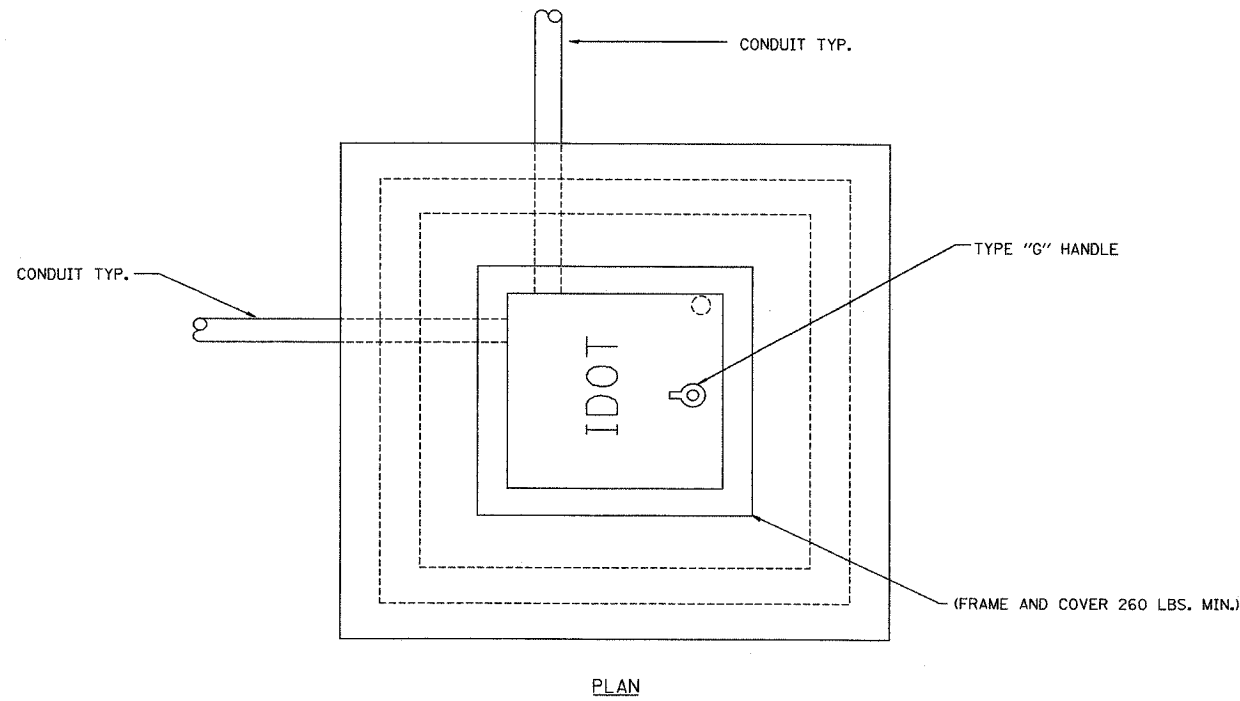
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
 31st STREET to I-57  
 COMMUNICATIONS CONDUIT  
 ROUTING DETAIL  
 SCALE: NTS  
 DATE: October 29, 2004  
 DRAWN BY: NB  
 CHECKED BY: CTC

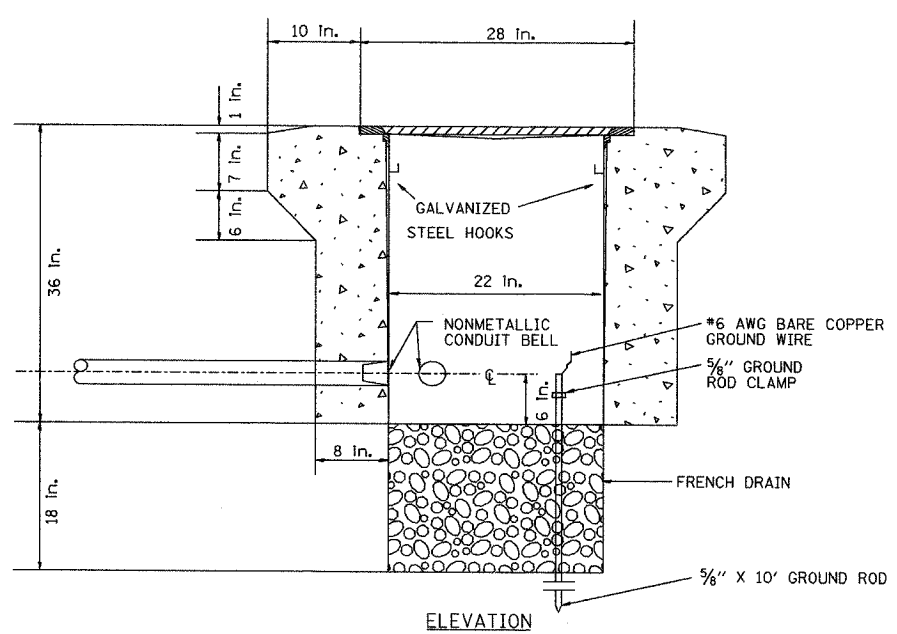
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SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-0311	COOK	976	453
STA. TO STA.			
FED. ROAD DIST. NO. - ILLINOIS		FED. AID PROJECT	
62583			

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PC CONCRETE - HEAVY DUTY HANDHOLE



PC CONCRETE - HEAVY DUTY HANDHOLE (SPECIAL)

**NOTE:**  
ALL METALLIC ELEMENTS SHALL BE GROUND IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE (NEC), SECTION 250, GROUNDING, METAL COVERS AND OTHER EXPOSED CONDUCTIVE SURFACES SHALL BE BONDED IN ACCORDANCE WITH NEC ARTICLE 250.96 (A).

DT-46

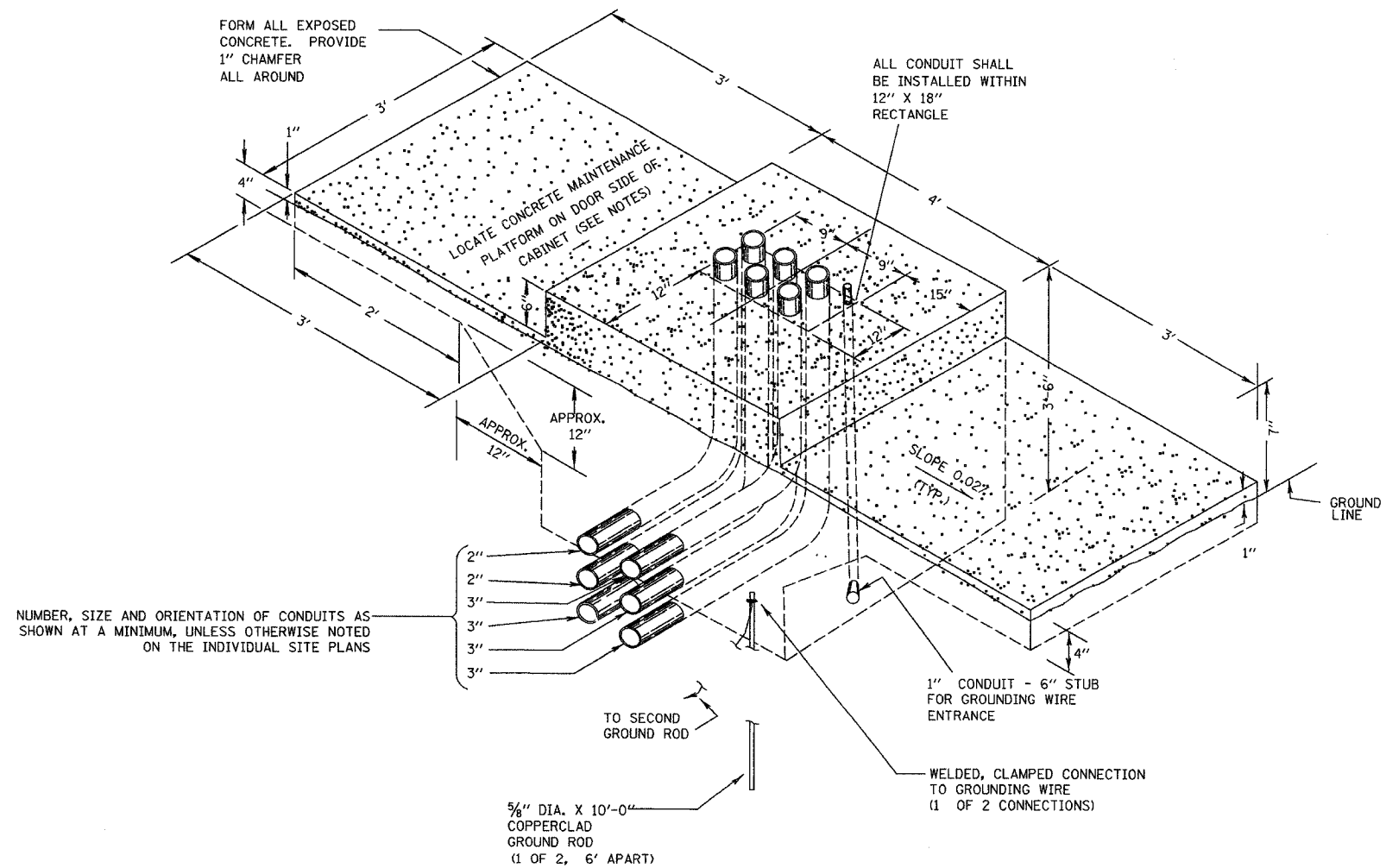
**Edwards AND Kelcey**  
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REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
31st STREET to I-57  
  
PC CONCRETE - HEAVY DUTY HANDHOLE DETAIL  
(TYPE S1)  
  
SCALE: NTS  
DATE: October 29, 2004  
DRAWN BY: CJH  
CHECKED BY: MJL

10/14/2004 09:24:31 AM

SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-031I	COOK	976	954
STA. TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	
62583			



TYPICAL DETAIL  
CONCRETE BASE, CONTROLLER CABINET

NOTES

1. INSTALL FOUR 3/4 INCH DIAMETER X 12 INCH MINIMUM LENGTH APPROVED J-BOLTS TO ANCHOR THE CABINET BASES. THE ANCHOR BOLTS SHALL BE GALVANIZED STEEL AND LOCATED AS DIRECTED BY THE ENGINEER TO PROPERLY ANCHOR THE CONTROL CABINET TO THE BASE.
2. CONTROL CABINET BASE TOP SURFACES SHALL BE TROWEL FINISHED AND LEVEL. PRIOR TO CABINET INSTALLATION. LEVELING OF TOP SURFACES AFTER CONCRETE BASE HAS CURED SHALL ONLY BE ACCOMPLISHED BY GRINDING.
3. MAINTENANCE PLATFORMS ARE NOT REQUIRED WHEN THE SURROUNDING AREA IS PAVED.
4. CONCRETE FORM DEPTH BELOW FINISHED GRADE SHALL BE 6" MAXIMUM. CONCRETE FORMS SHALL BE REMOVED AFTER CONCRETE HAS SET.
5. CONCRETE MAINTENANCE PLATFORM AND CABINET FOUNDATION FOR CABINET SHALL BE A MONOLITHIC POUR.
6. WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.
7. CONDUIT HEIGHT ABOVE THE CONCRETE BASE SHALL BE 3 INCH.
8. MINIMUM BENDING RADIUS OF CONDUIT = 6 X THE DIAMETER.
9. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.
10. CAP ALL BELOW GRADE METALLIC CONDUIT ENDS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED.
11. PLUG ALL BELOW GRADE NONMETALLIC CONDUIT ENDS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED.
12. 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.
13. ALL METALLIC CONDUIT ENDS AT TOP OF CONCRETE BASES SHALL HAVE BUSHINGS AND ALL NON METALLIC CONDUIT ENDS AT TOP OF CONCRETE BASES SHALL HAVE END BELLS.

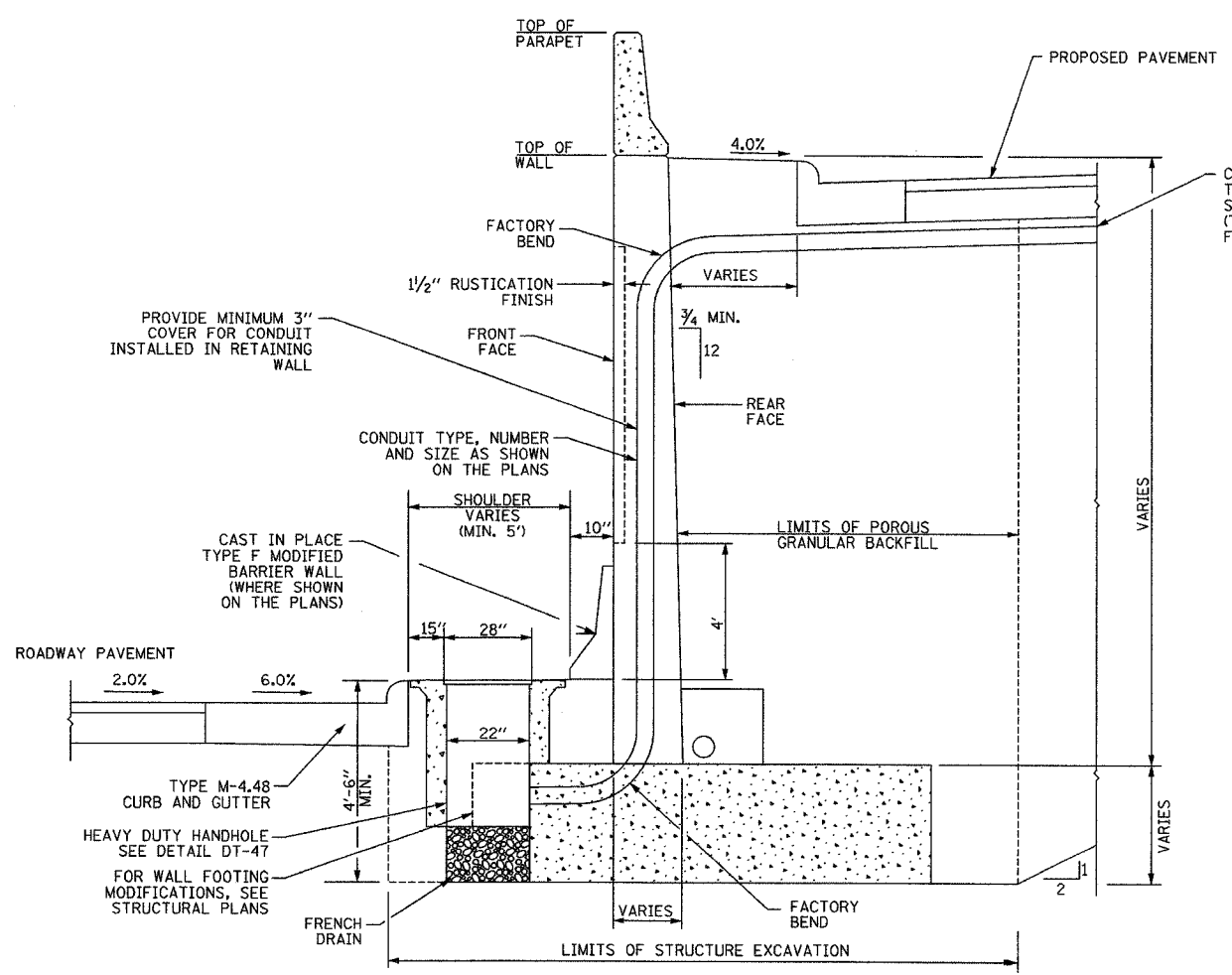
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REVISIONS	
NAME	DATE

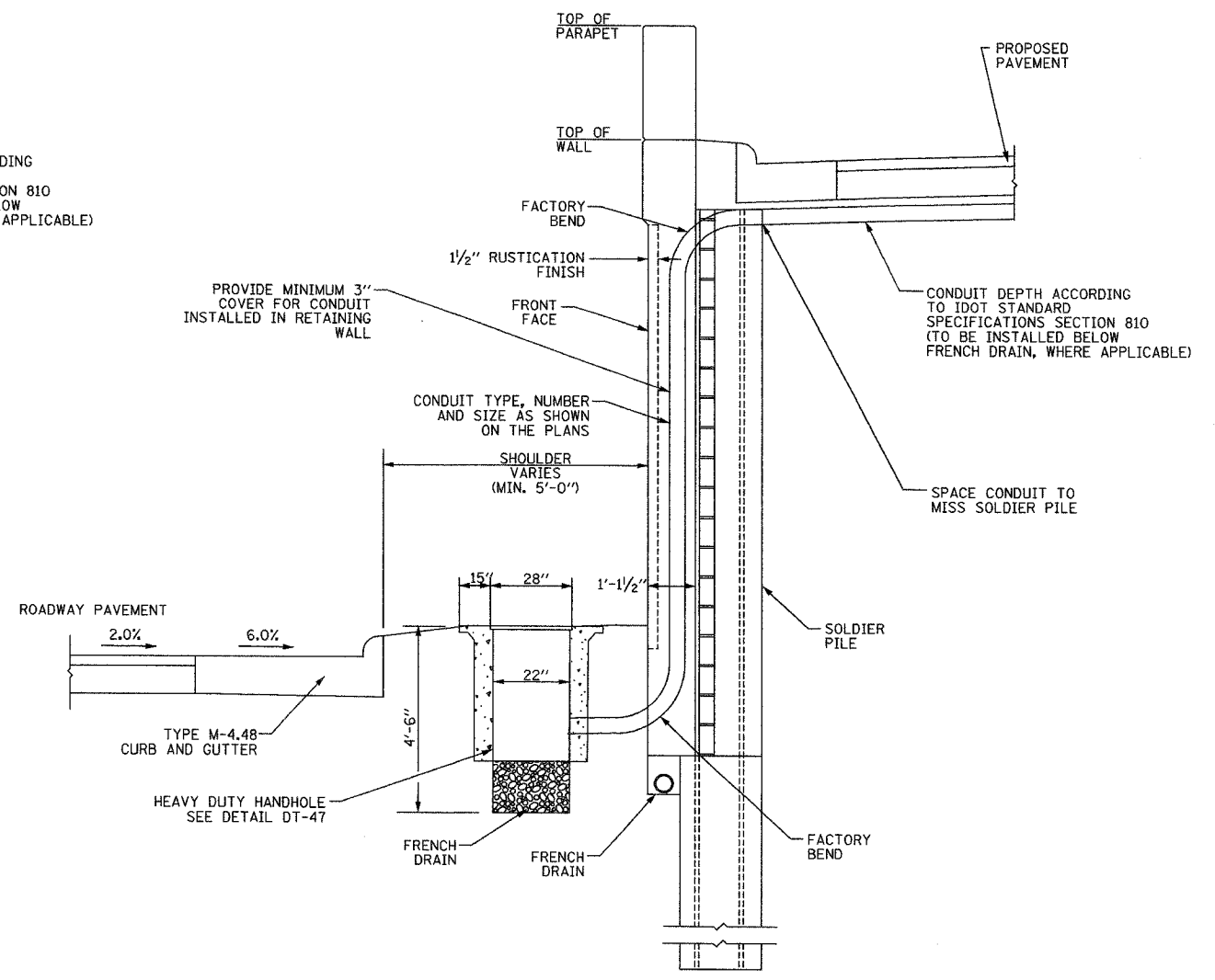
ILLINOIS DEPARTMENT OF TRANSPORTATION  
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
31st STREET to I-57  
CONCRETE FOUNDATION,  
TYPE 1 DETAIL (FOR CABINET,  
MODEL 334)  
SCALE: NTS  
DATE: October 29, 2004  
DRAWN BY: MJL  
CHECKED BY: GFR

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SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-0311	COOK	976	958
STA. 29+00.00 TO STA. 36+57.45			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	
62583			



TYPICAL SECTION NEW CANTILEVER RETAINING WALL



TYPICAL SECTION NEW SOLDIER PILE RETAINING WALL

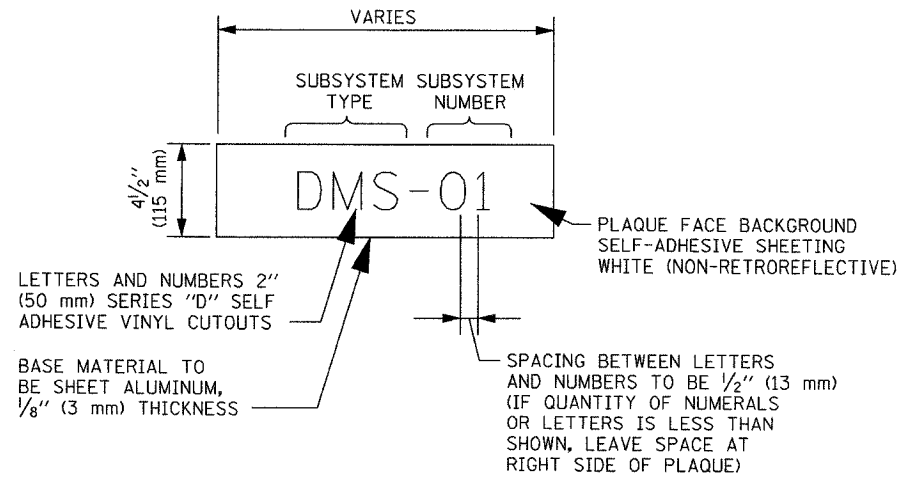
**Edwards  
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FAX (312) 251-3015  
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REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
31st STREET to I-57  
CONDUIT INSTALLATION IN BARRIER/  
RETAINING WALLS  
TYPICAL DETAIL  
SCALE: NTS  
DATE: October 29, 2004  
DRAWN BY: NB  
CHECKED BY: MJL

10/14/2004 09:24:37 AM

SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-0311	COOK	976	956
STA. TO STA.			
FED. ROAD DIST. NO. ILLINOIS		FED. AID PROJECT	
62583			



SURVEILLANCE CABINET  
IDENTIFICATION PLAQUE DETAIL

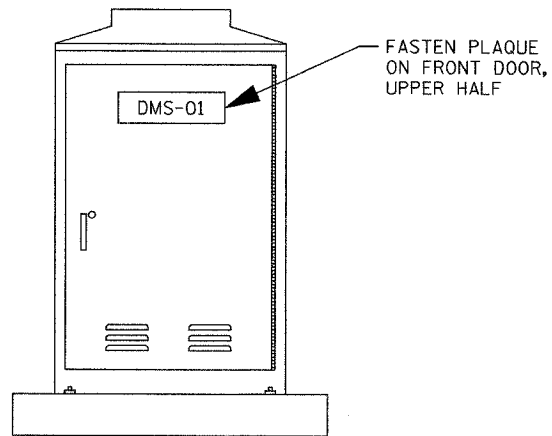
**LEGEND**

**SUBSYSTEM TYPE**

- DMS - DYNAMIC MESSAGE SIGN
- HAR - HIGHWAY ADVISORY RADIO (RAMP METER AND DETECTOR CABINET PLAQUES TO ONLY INCLUDE CABINET NUMBER)

**NOTES:**

1. SUBSYSTEM NUMBERING SCHEME TO FOLLOW CABINET IDENTIFICATION NUMBERS SHOWN ON THE DIFFERENT SUBSYSTEM SHEETS. CONTRACTOR SHALL VERIFY NUMBERING SCHEME FOR EACH CABINET WITH THE ENGINEER BEFORE PROCURING AND INSTALLING THE IDENTIFICATION PLAQUES.
2. FOR CCTV CABINET IDENTIFICATION PLAQUE DETAILS, SEE SHEET DT-15.



SURVEILLANCE CABINET  
IDENTIFICATION PLAQUE  
PLACEMENT DETAIL  
(TYPICAL ALL SURVEILLANCE CABINETS)

DT-49

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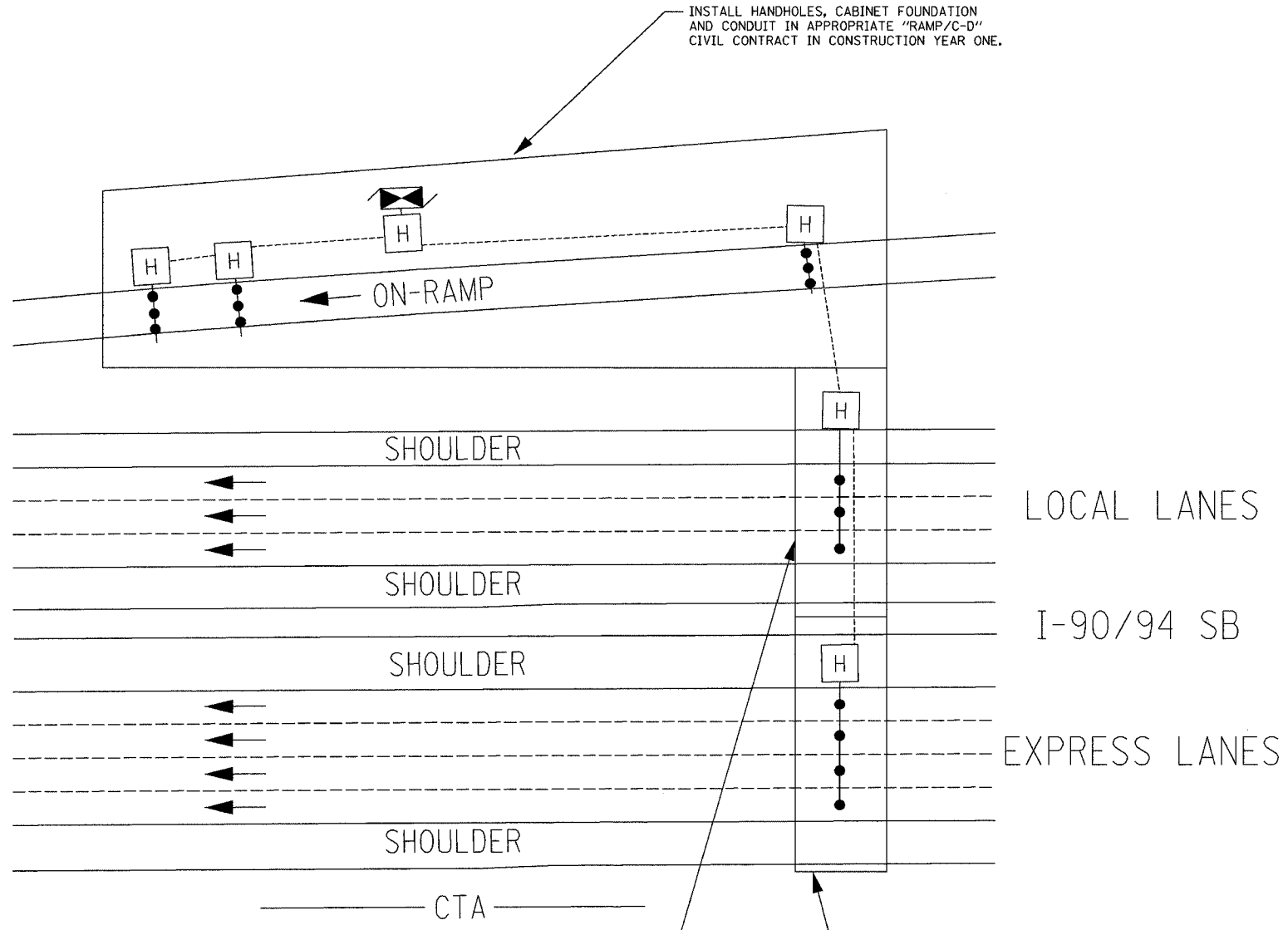
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
31st STREET to I-57  
  
COMMUNICATIONS/SURVEILLANCE  
COMPONENT IDENTIFICATION  
PLAQUE DETAIL  
  
SCALE: NTS  
DATE: October 29, 2004  
  
DRAWN BY: NB  
CHECKED BY: CTC

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SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-0311	COOK	976	957
STA.	TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	
62583			



INSTALL HANDHOLES, CABINET FOUNDATION AND CONDUIT IN APPROPRIATE "RAMP/C-D" CIVIL CONTRACT IN CONSTRUCTION YEAR ONE.

INSTALL HANDHOLES AND CONDUIT IN APPROPRIATE "LOCAL LANES" CIVIL CONTRACT IN CONSTRUCTION YEAR THREE.

INSTALL HANDHOLES AND CONDUIT IN APPROPRIATE "EXPRESS LANES" CIVIL CONTRACT IN CONSTRUCTION YEAR TWO.

NOTES:

1. DATES ARE APPROXIMATE AND VARY BY LOCATION.
2. ITS CONTRCAT 62583 AND VARIOUS CIVIL CONTRACTS WILL BE UNDER CONSTRUCTION SIMULTANEOUSLY.

CONTRACT 62583 STAGING

- 1) PRIOR TO COMPLETION OF RAMP/C-D CONTRACT, INSTALL RAMP METERING SIGNS/SIGNALS, SIGNAL CABINET AND MICROLOOP PROBES (RAMP CONDUIT ONLY), ACTIVATE RAMP METER SITE.
- 2) UPON COMPLETION OF ALL DETECTOR SITE CONDUIT AND ADJACENT PAVEMENT INSTALLATION, INSTALL MICROLOOP PROBES IN EXPRESS LANE/LOCAL LANE PAVEMENT CONDUIT AND ACTIVATE DETECTOR SITE.

CONSTRUCTION STAGING DETAIL  
(North of Skyway)

DT-50

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REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION F.A.I. 94/90 (DAN RYAN EXPRESSWAY) 31st STREET to I-57
NAME	DATE	
		LOOP STAGING DETAIL NORTH END
SCALE: NTS		DRAWN BY: MF
DATE: October 29, 2004		CHECKED BY: DH

11/23/2004 10:50:56 AM

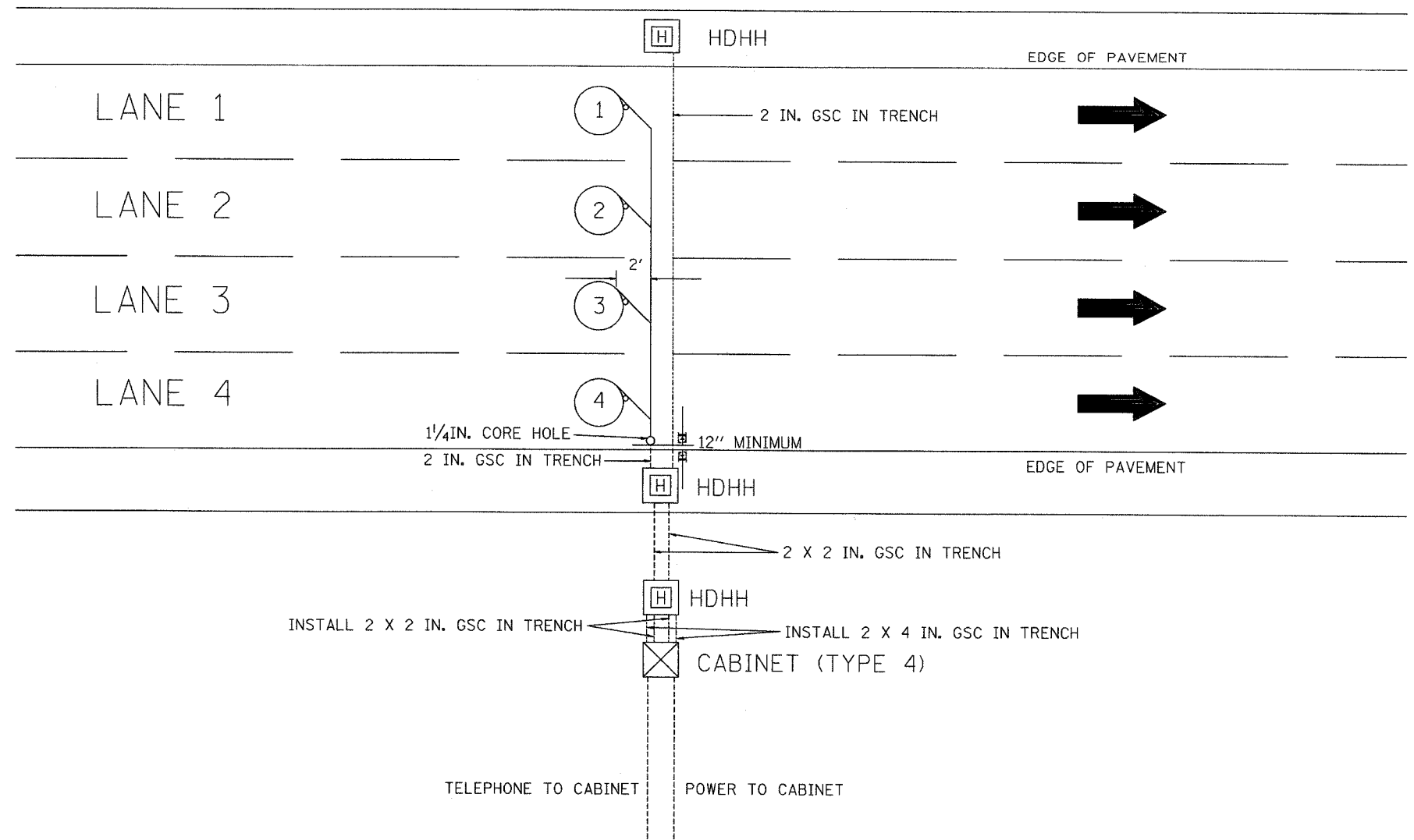




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SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-0311	COOK	976	963
STA.	TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	
62583			

NOTE: ALL MAIN LINE LOOPS ARE ROUND 6' DIA.



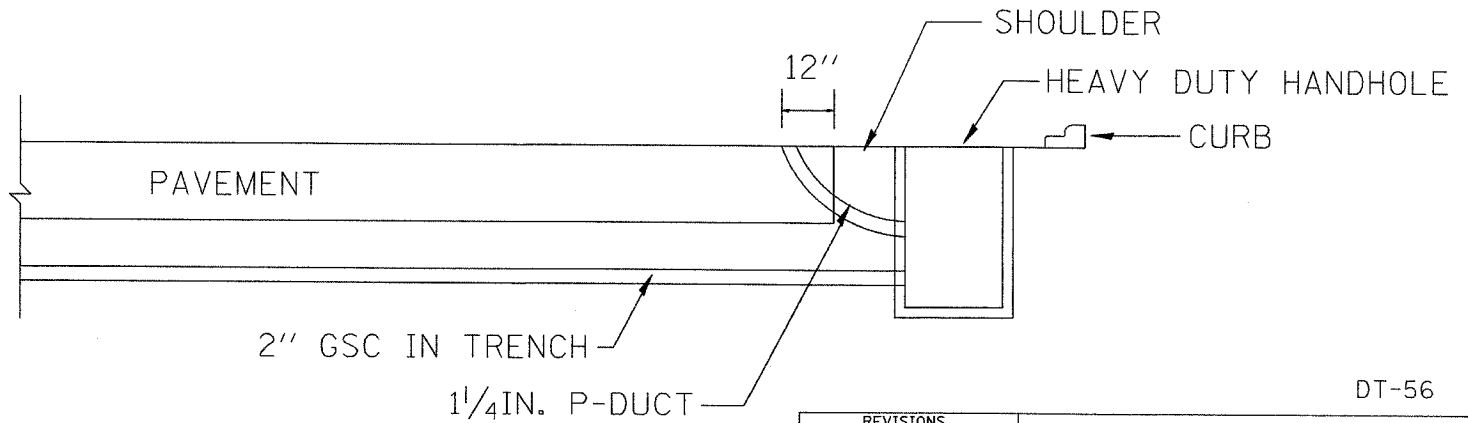
INSTALL 2 X 2 IN. GSC IN TRENCH

INSTALL 2 X 4 IN. GSC IN TRENCH

CABINET (TYPE 4)

TELEPHONE TO CABINET

POWER TO CABINET



- NOTES
1. EACH LOOP SHALL BE SPLICED TO A 4-C NO.18 TWISTED SHIELDED LEAD IN WHEN 150FT. OR MORE FROM CABINET.
  2. LOOPS SHALL BE SPLICED IN HANDHOLES ONLY, OTHERWISE WRITTEN PERMISSION SHALL BE OBTAINED FROM TSC ENGINEER.
  3. LOOPS SHALL NOT BE SPLICED IN SERIES.
  4. EACH LOOP LEAD IN SHALL BE IDENTIFIED AND PERMANENTLY COLOR CODED IN THE COREHOLE, HANDHOLE & CABINETS THRU WHICH THEY ENTER OR PASS AND TAGGED WITH THE CORRECT NOMENCLATURES.

**Edwards AND Kelcey**

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REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
31st STREET to I-57

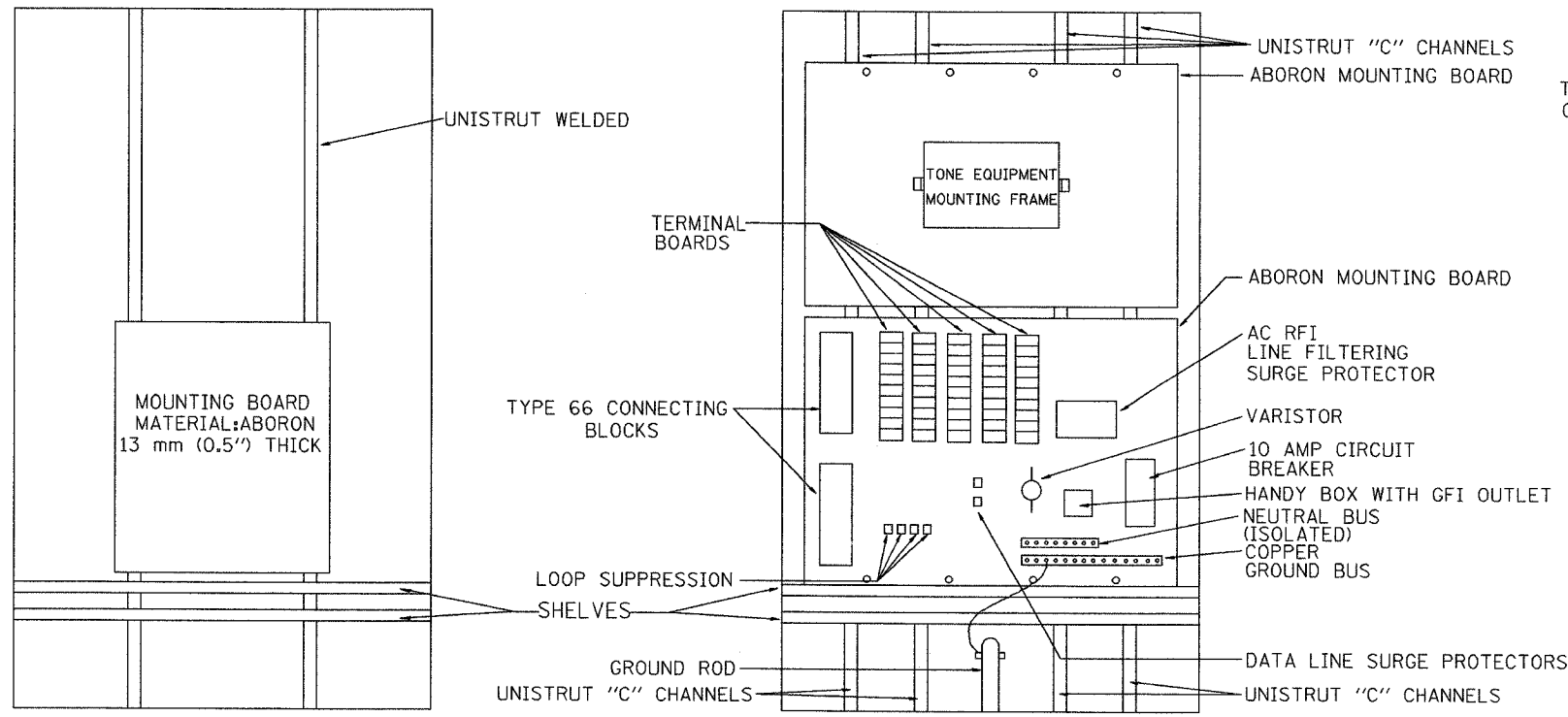
NEW CONSTRUCTION  
PRE-FORMED LOOP  
TYPICAL INSTALLATION

SCALE: NTS  
DATE: October 29, 2004

DRAWN BY: MAF  
CHECKED BY: DH

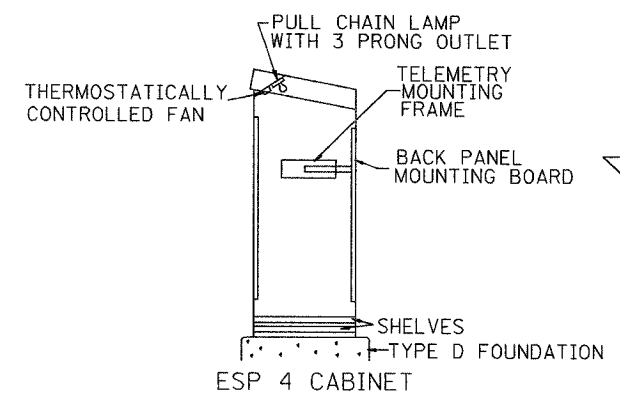
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SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-0311	COOK	976	464
STA.	TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	
62583			

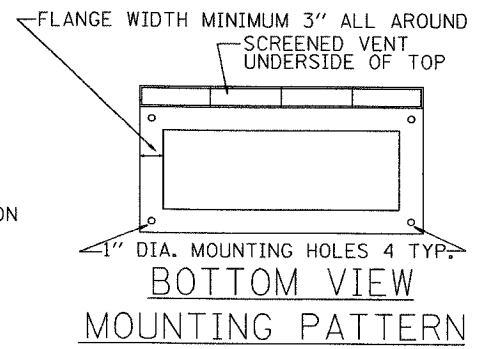


SIDE VIEW ESP 4 CABINET

FRONT VIEW ESP 4 CABINET



PROFILE VIEW



BOTTOM VIEW MOUNTING PATTERN

NOTES:

1. ALL CABINETS SHALL HAVE TERMINAL BLOCKS AND SHELVES AS SHOWN. THESE ITEMS SHALL BE CONSIDERED INCIDENTAL TO THE COST OF THE CABINET.
2. THE CABINET DOOR SHALL BE HINGED ON THE RIGHT SIDE WHEN FACING THE CABINET. THE DOOR SHALL BE FURNISHED WITH A GASKET THAT SHALL FORM A WEATHER TIGHT SEAL BETWEEN THE CABINET AND DOOR. THE HINGES SHALL BE CONTINUOUS AND BOLTED TO THE CABINET AND DOOR UTILIZING 1/4-20 STAINLESS STEEL CARRIAGE BOLTS AND NY-LOCK NUTS. THE HINGES WILL BE MADE OF STAINLESS STEEL WITH A 6.35 mm (0.25 INCH) DIAMETER STAINLESS STEEL HINGE PIN. THE HINGE PIN SHALL BE CAPPED TOP AND BOTTOM BY WELD TO RENDER IT TAMPER PROOF.
3. THE LATCHING MECHANISM SHALL BE A 3 POINT DRAW ROLLER TYPE. THE CENTER CATCH AND PUSHRODS SHALL BE EITHER CADMIUM OR ZINC PLATED, TYPE II CLASS I. PUSHRODS WILL BE TURNED EDGEWISE AT THE OUTWARD SUPPORTS AND SHALL BE 6.35 mm (0.25 INCH) BY 19.05 mm (0.75 INCH), MINIMUM. ROLLERS SHALL HAVE A MINIMUM DIAMETER OF 22.22 mm (0.875 INCH) AND WILL BE MADE OF NYLON. THE CENTER CATCH SHALL BE FABRICATED FROM 3.55 mm (0.14 INCH) STEEL, MINIMUM. WHEN THE DOOR IS CLOSED AND LATCHED, IT WILL BE LOCKED. THE LATCHING HANDLE SHALL HAVE A PROVISION FOR PADLOCKING IN THE CLOSED POSITION. AN OPERATING HANDLE SHALL BE FURNISHED WITH EACH LOCK. THE HANDLE WILL BE STAINLESS STEEL WITH A 19.05 mm (0.75 INCH) DIAMETER SHANK.
4. THE ENCLOSURE SHALL BE EQUIPPED WITH TWO "C" MOUNTING CHANNELS WELDED ON BOTH SIDE WALLS AND BACK WALL OF THE ENCLOSURE, ALLOWING VERSATILE POSITIONING OF SHELVES OR PANELS. MOUNTING CHANNELS SHALL BE FACTORY PAINTED SAME COLOR AS INTERIOR OF CABINET.
5. ALL FIELD CABINETS SHALL BE FITTED WITH BRASS LOCKS.
6. ESP TYPE 4 CABINETS FITTED WITH TWO SHELVES AS SHOWN.
7. THE CONTROL CABINET SHALL BE SET PLUMB ON THE FOUNDATION AND FASTENED TO THE ANCHOR BOLTS WITH NUTS AND WASHERS. FLAT WASHERS SHALL BE INSTALLED BELOW AND ABOVE THE BASE PLATE OF THE CONTROL CABINET. LOCKWASHERS SHALL BE INSTALLED ON TOP OF THE TOP FLAT WASHER.

DT-57

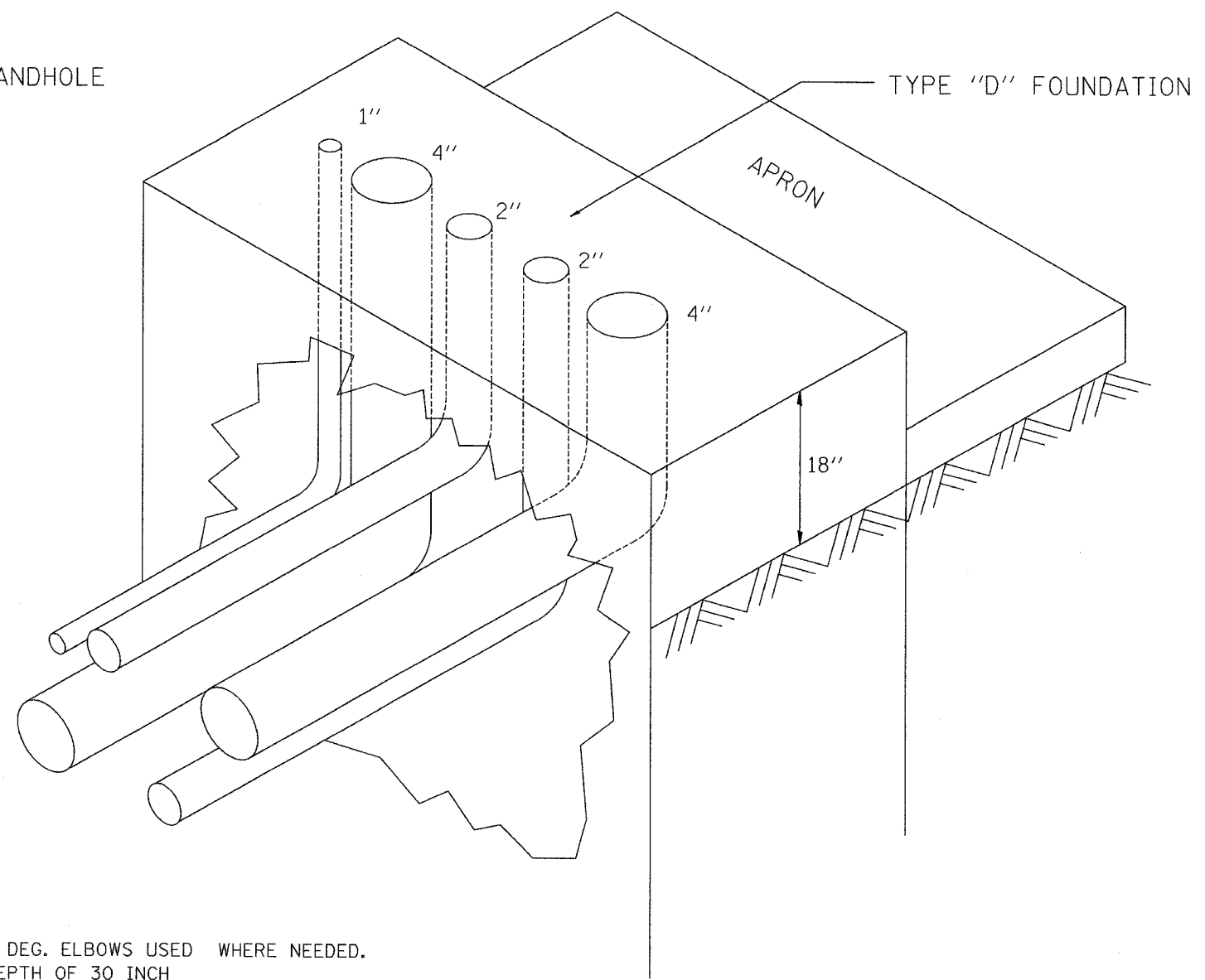
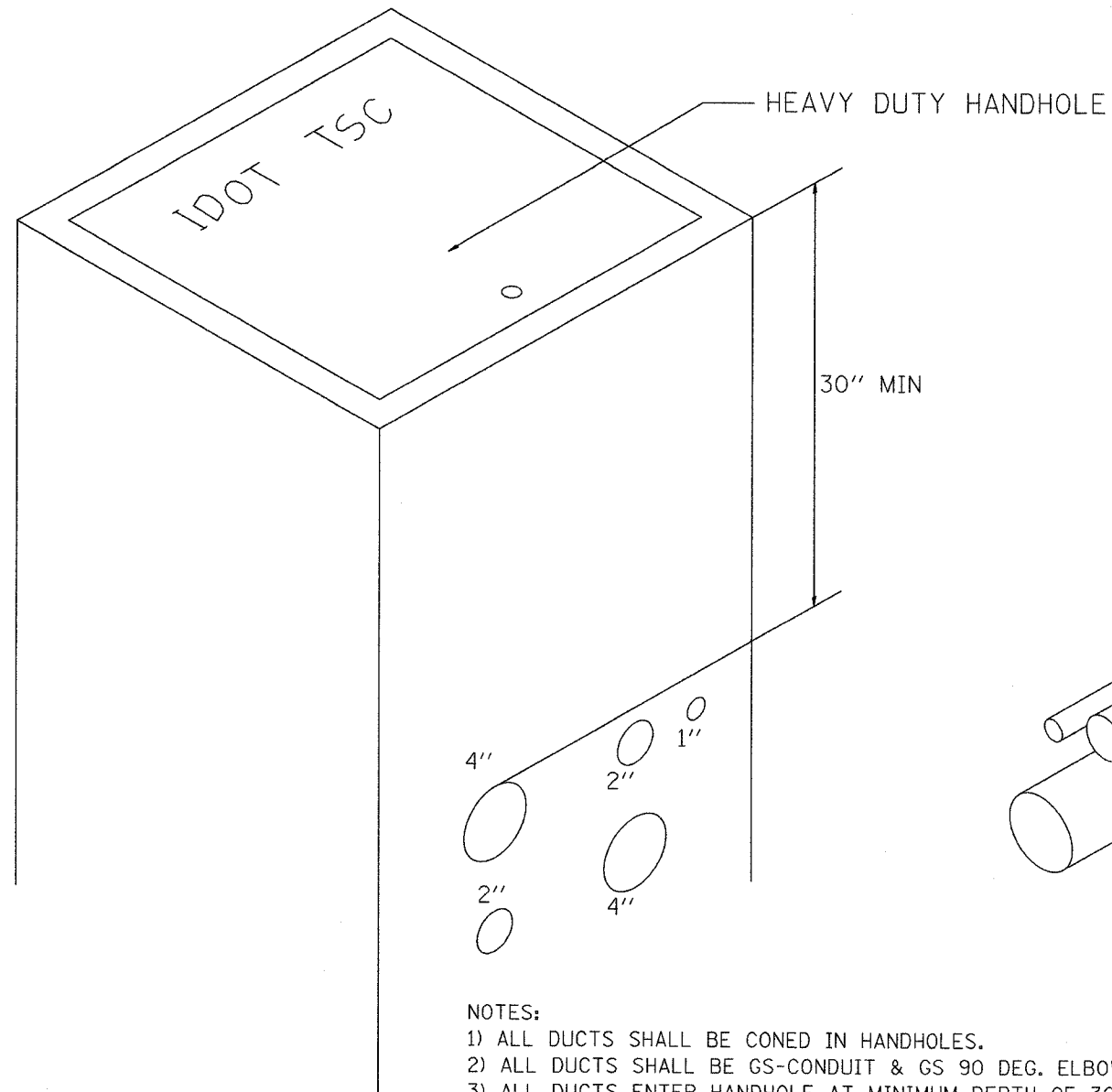
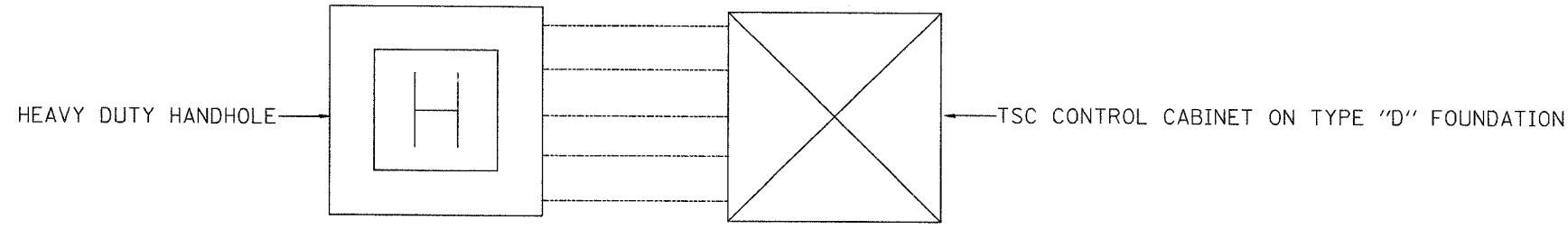
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REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
 31st STREET to I-57  
 TYPE 4 CABINET  
 DETAIL SHEET  
 SCALE: NTS  
 DATE: October 29, 2004  
 DRAWN BY: MAF  
 CHECKED BY: DH

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SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-0311	COOK	976	465
STA. 62583		TO STA.	
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	



- NOTES:
- 1) ALL DUCTS SHALL BE CONED IN HANDHOLES.
  - 2) ALL DUCTS SHALL BE GS-CONDUIT & GS 90 DEG. ELBOWS USED WHERE NEEDED.
  - 3) ALL DUCTS ENTER HANDHOLE AT MINIMUM DEPTH OF 30 INCH
  - 4) ALL HANDHOLE COVERS SHALL READ "IDOT".
  - 5) ALL CABINET HANDHOLES SHALL BE HEAVY DUTY.
  - 6) DUCTS SHALL BE CENTERED IN CABINET FOUNDATION/HANDHOLE AS SHOWN.
  - 7) CONDUITS SHALL BE SPACED 1 FOOT CENTER TO CENTER IN HEAVY DUTY HANDHOLE.
  - 8) INSTALL 3/4" X 10' COPPER CLAD STEEL GROUND ROD IN HDHH PROVIDED AS CABINET PAD. EXOTHERMIC WELD CONNECTION FROM GROUND ROD TO #6 GROUND WIRE INSULATED (GREEN).
  - 9) BOND ALL GSC CONDUITS IN CABINET FOUNDATION.
  - 10) INSTALL #6 GROUND WIRE IN 1" GSC FROM HANDHOLE TO CABINET.
  - 11) TYPE "D" FOUNDATION SHALL BE 18" FROM TOP OF FOUNDATION TO FINISH GRADE.

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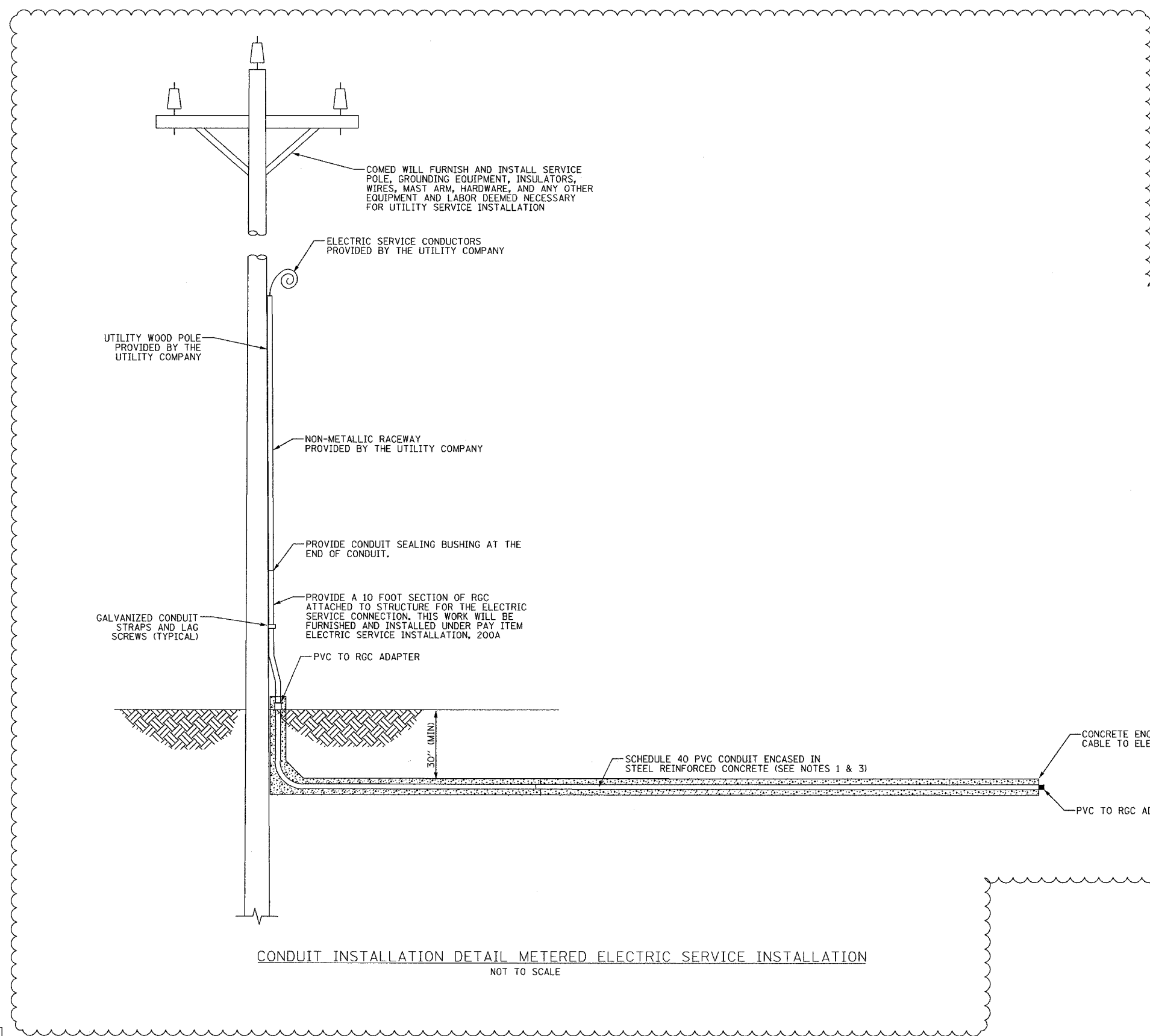
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
 31st STREET to I-57  
 CONCRETE FOUNDATION  
 TYPE D  
 SCALE: NTS  
 DATE: October 29, 2004  
 DRAWN BY: MAF  
 CHECKED BY: DH

DT-58

10/15/2004 02:19:43 PM

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-0311	COOK	976	966
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62583				



**NOTES:**

1. CONCRETE ENCASED DUCTBANK AND CABLE PAID FOR SEPARATELY.
2. ALL WORK ASSOCIATED WITH THE INSTALLATION OF THE LIGHTING CONTROLLER UTILITY SERVICE FEED MUST BE COORDINATED WITH AND APPROVED BY COMED.
3. ALL MATERIALS AND LABOR FOR THE INSTALLATION OF THE CONCRETE ENCASED DUCTBANK MUST MEET WITH ALL COMED REQUIREMENTS AND STANDARDS.
4. THE CONTRACTOR MUST PROVIDE SUFFICIENT SLACK CABLES FOR TERMINATION BY COMED.

CONDUIT INSTALLATION DETAIL METERED ELECTRIC SERVICE INSTALLATION  
NOT TO SCALE

ESD-01

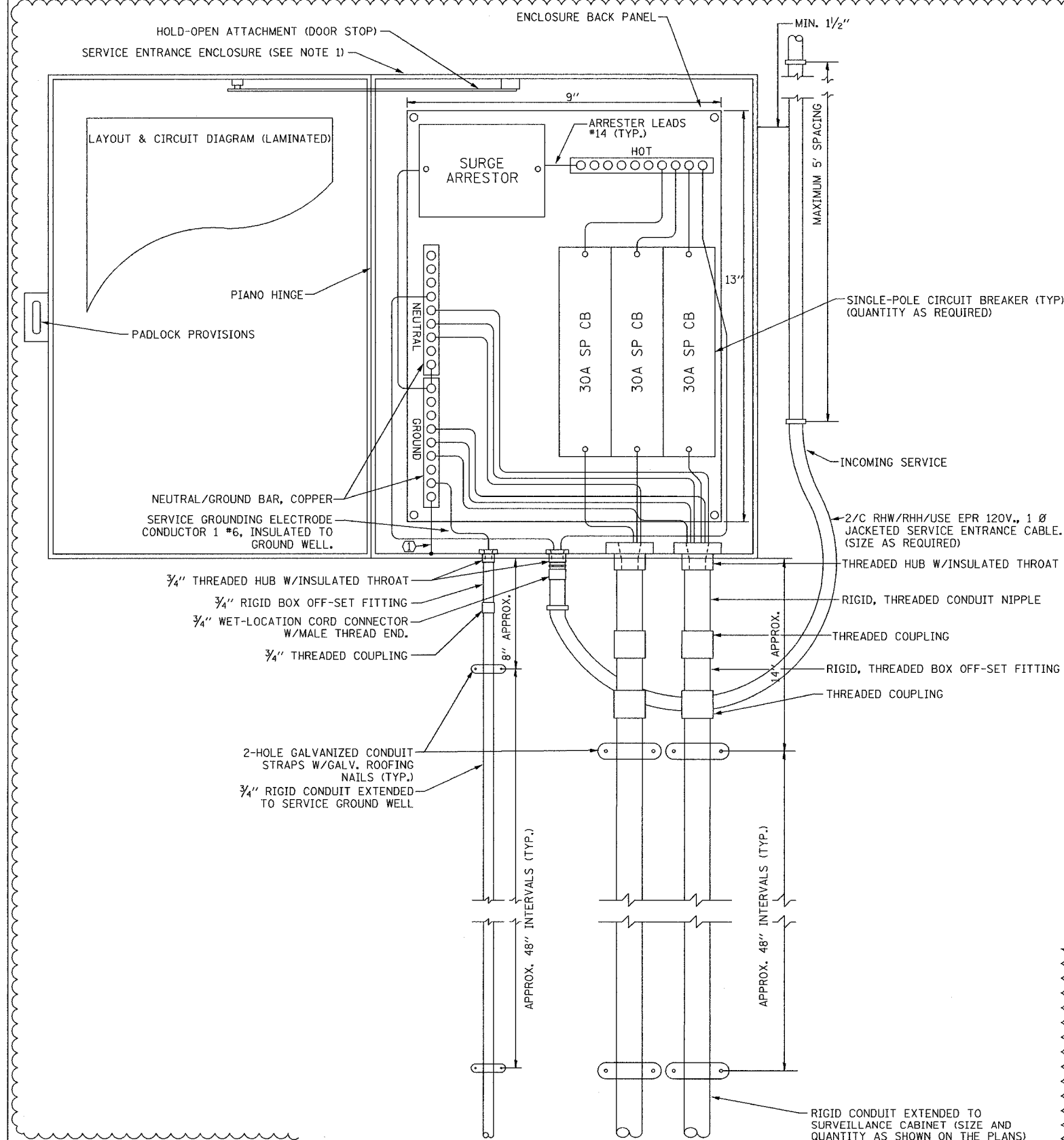
**Edwards AND Kelcey**  
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WEB: WWW.EKCORP.COM

REVISIONS	
NAME	DATE
REVISION	02/11/05

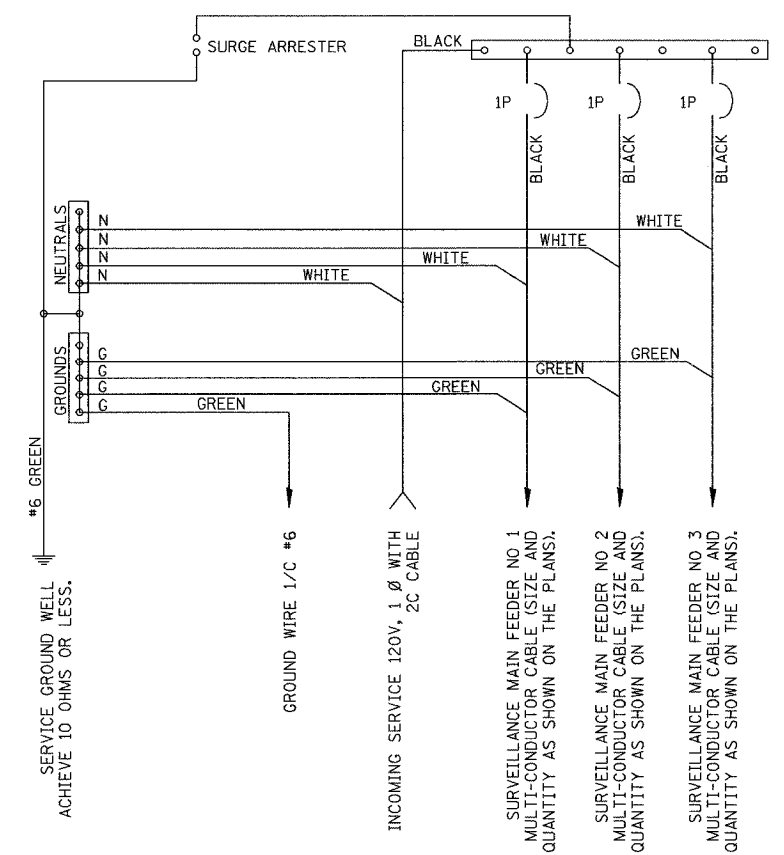
ILLINOIS DEPARTMENT OF TRANSPORTATION  
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
31st STREET to I-57  
ELECTRIC SERVICE  
INSTALLATION, 200A  
SCALE: NOT TO SCALE  
DATE: October 29, 2004  
DRAWN BY: DHI  
CHECKED BY: CS

02/09/2005 02:45 PM

F.A.I. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-0311	COOK	976	967
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62583				



120V ELECTRIC SERVICE  
GENERAL LAYOUT DIAGRAM



SCHEMATIC DIAGRAM

- NOTES:
- ELECTRIC SERVICE SHALL BE OF THE VOLTAGE INDICATED. WHERE 120-VOLT SERVICE IS INDICATED, SERVICE DROP CABLE SHALL BE INSTALLED ACCORDINGLY AND LIGHTING MAIN FEEDER CABLE SHALL BE OMITTED.
  - THE ELECTRIC SERVICE BOX SHALL BE NEMA 4X STAINLESS STEEL, NOMINALLY 16"x12"x8", WITH PIANO HINGED DOOR, STEEL BACK PANEL, FAST-ACTING STAINLESS STEEL ENCLOSURE CLAMPS, PADLOCK PROVISIONS, DOOR STOP KIT AND STEEL BACK PANEL, HOFFMAN CATALOG A-16H208SS6LP/A-16P2/A-DST0PK/C-PMK12, OR APPROVED EQUAL.
  - THE ELECTRIC SERVICE EQUIPMENT ASSEMBLY SHALL BE UL LABELED, SUITABLE FOR USE AS SERVICE EQUIPMENT.
  - 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.
  - THE SURGE PROTECTOR SHALL BE SUITABLE FOR 120 VOLT SINGLE PHASE 60HZ AC ELECTRICAL SERVICE, WITH A SURGE ENERGY CAPABILITY OF 3600 JOULES OR BETTER AT 8/20 MICROSECONDS, RATED -40 TO 65 DEGREES C., WITH LED OPERATING INDICATORS, AND SHALL BE UL LISTED PER UL 1449. SURGE PROTECTOR SHALL BE WIRED FOR 120 V SERVICE. FOLLOW MANUFACTURER RECOMMENDED WIRING SPECIFICATIONS.
  - BUS BARS, CONNECTORS AND LUGS SHALL BE COPPER, RATED FOR THE APPROPRIATE AMPACITY, 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.
  - THE 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.
  - A PLASTIC LAMINATED LAYOUT AND CIRCUIT DIAGRAM SHALL BE AFFIXED 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 BREAKER.
  - PROVIDE ON LAYOUT AND CIRCUIT DIAGRAM A BILL OF MATERIALS USED WITH CATALOG NUMBERS.
  - REFER TO T.S.C. TYPICAL DRAWING TY-1TSC-400\*20 FOR POLE MOUNTED DISCONNECT MOUNTING DETAILS.
  - CONTRACTOR SHALL EXCLUDE EXTRA 30A CIRCUIT BREAKERS AND ASSOCIATED WIRING AT LOCATIONS WHERE IT IS NOT REQUIRED. REFER TO PLAN SHEETS FOR DETAILS.

CABLE DESIGNATIONS:  
① 1/C #6 GND

**Edwards AND Kelcey**  
ONE NORTH FRANKLIN  
CHICAGO, IL 60606  
PHONE: (312) 251-3000  
FAX: (312) 251-3015  
WEB: WWW.EKCORP.COM

REVISIONS	
NAME	DATE
REVISION	02/11/05

ILLINOIS DEPARTMENT OF TRANSPORTATION  
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
31st STREET to I-57

120 VOLT ELECTRIC SERVICE  
BOX DETAIL

SCALE: NOT TO SCALE  
DATE: October 29, 2004

DRAWN BY: DHI  
CHECKED BY: CS

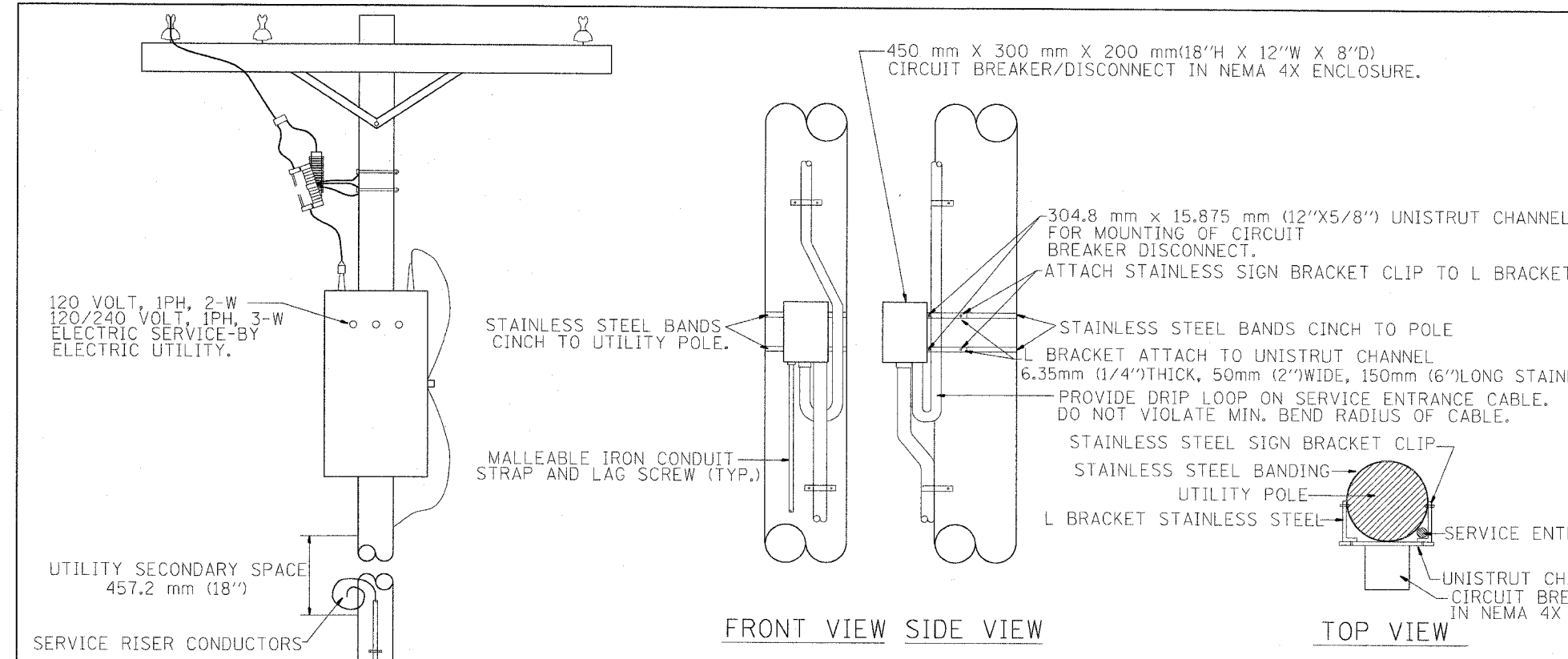
P:\03009\035\7\SCADD\ESD02004E.SHT 08/30/05 08:38:21 AM



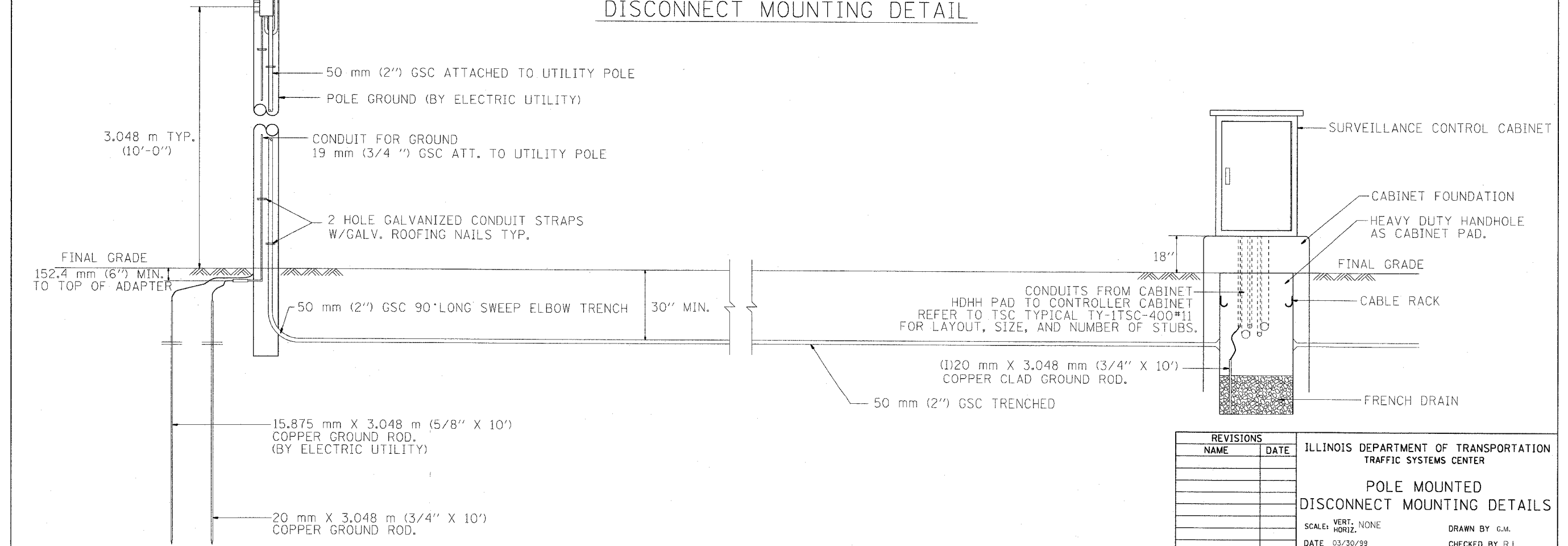
F.A.T. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
40/44	2003-034	COOK	476	468
STA.		TO STA.		
FED. ROAD DIST. NO. 4		ILLINOIS FED. AID PROJECT		62583

NOTES:

- 1.- ALL CONDUIT BUSHINGS SHALL HAVE AN ISOLATED THROAT.
- 2.- PROVIDE HEAT SHRINK BOOT AT THE TOP OF THE SERVICE ENTRANCE CABLE FOR MOISTURE PROOFING.
- 3.- ALL CONNECTIONS TO GROUND RODS SHALL BE EXOTHERMIC UNLESS OTHERWISE NOTED.
- 4.- ATTACH INCOMING ELECTRIC SERVICE CABLE TO UTILITY POLE EVERY 5 FEET USING INSULATED U-NAIL.
- 5.- PROVIDE CABLE RACK IN HANDHOLES.
- 6.- ALL CONDUCTORS SHALL BE COPPER.
- 7.- PROVIDE STAINLESS STEEL HARDWARE TO ATTACH L BRACKETS TO UNISTRUT AND TO SIGN HANGER.



NTS  
DISCONNECT MOUNTING DETAIL



REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
TRAFFIC SYSTEMS CENTER

POLE MOUNTED  
DISCONNECT MOUNTING DETAILS

SCALE: VERT. NONE  
HORIZ. NONE

DATE 03/30/99

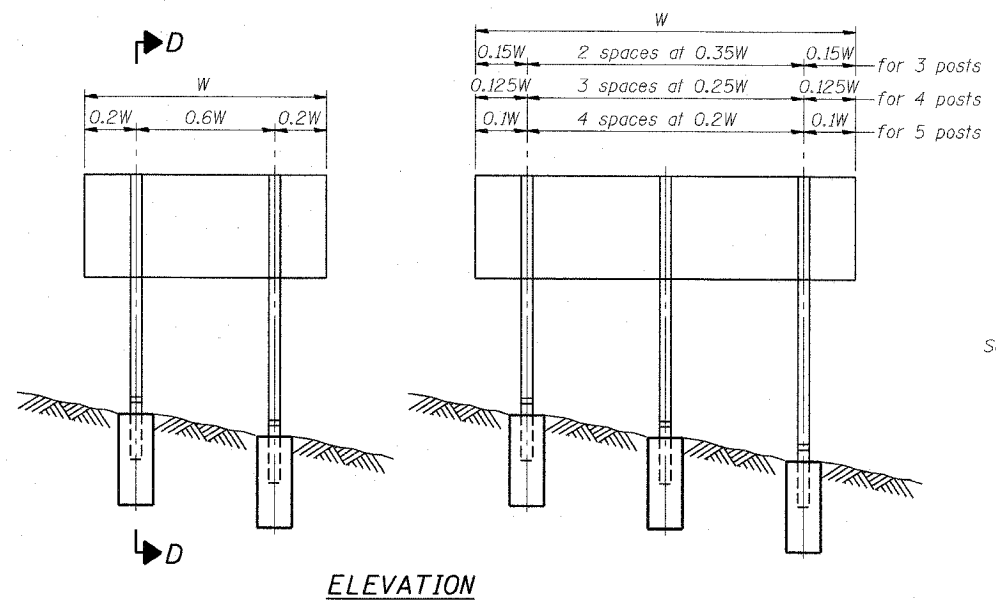
DRAWN BY G.M.  
CHECKED BY R.L.

RD= TYPMET.DGN  
RF=

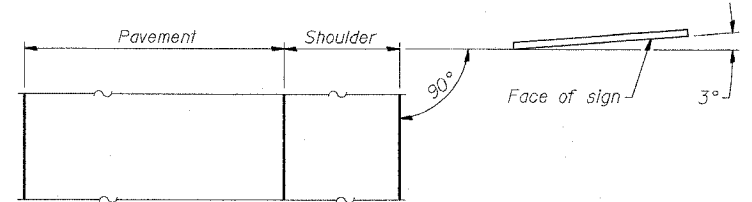
VI-40020

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

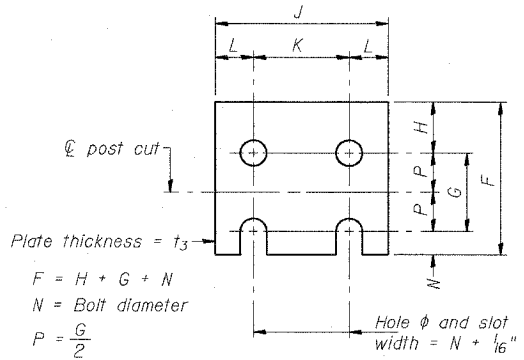
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. RTE. 90/94	2003-0311	COOK	976	469
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT-	62583	



ELEVATION



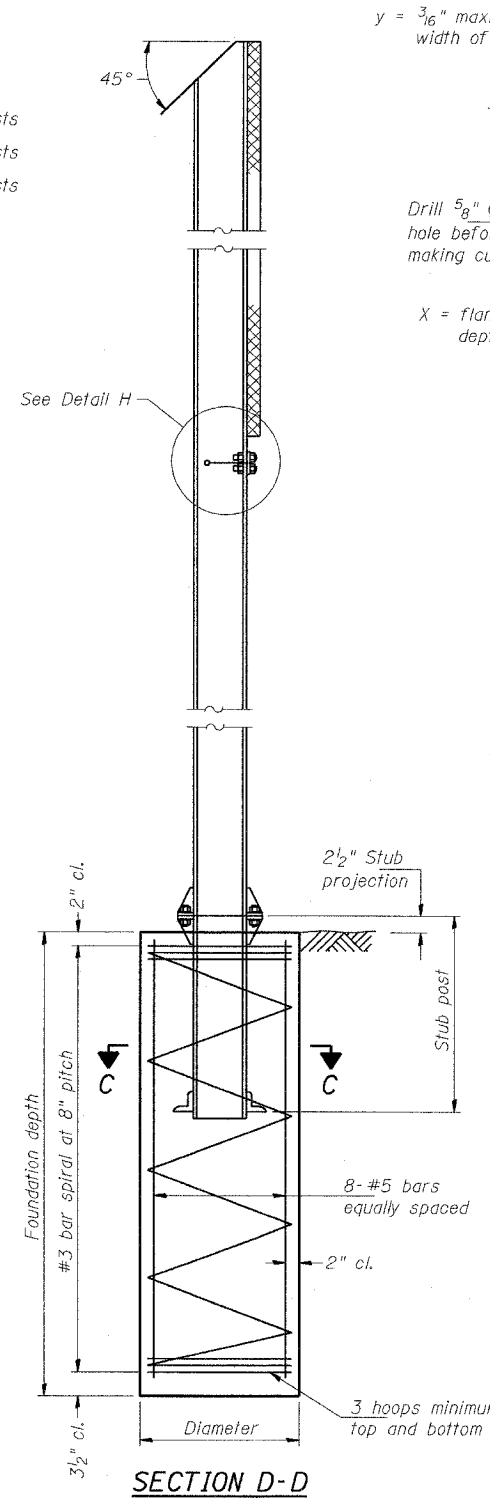
LOCATION SKETCH



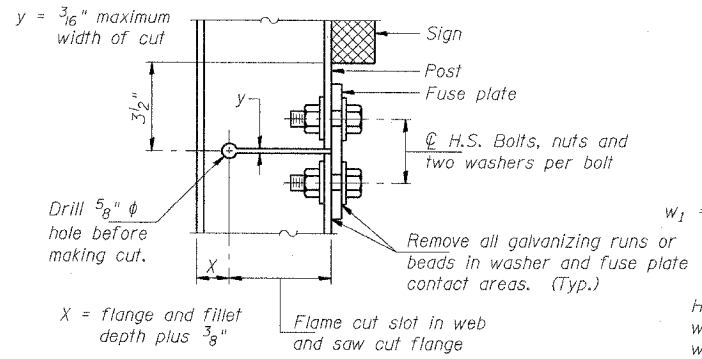
FUSE PLATE DETAIL  
(Install with notches down.)

N = Bolt Diameter	G	H
1/2"	2"	1 1/8"
5/8"	2 1/4"	1 1/4"
3/4"	2 1/2"	1 3/8"
7/8"	2 3/4"	1 1/2"
1"	3"	1 5/8"
1 1/8"	3 1/4"	1 3/4"

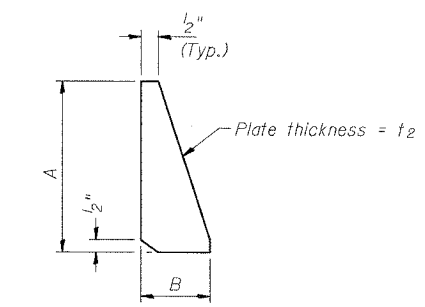
$F = H + G + N$   
 $N = \text{Bolt diameter}$   
 $P = \frac{G}{2}$



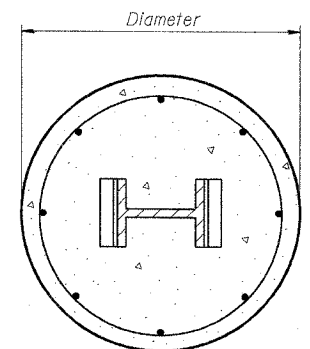
SECTION D-D



DETAIL H



STIFFENER PLATE DETAIL  
(See table for dimensions.)



SECTION C-C

GENERAL NOTES

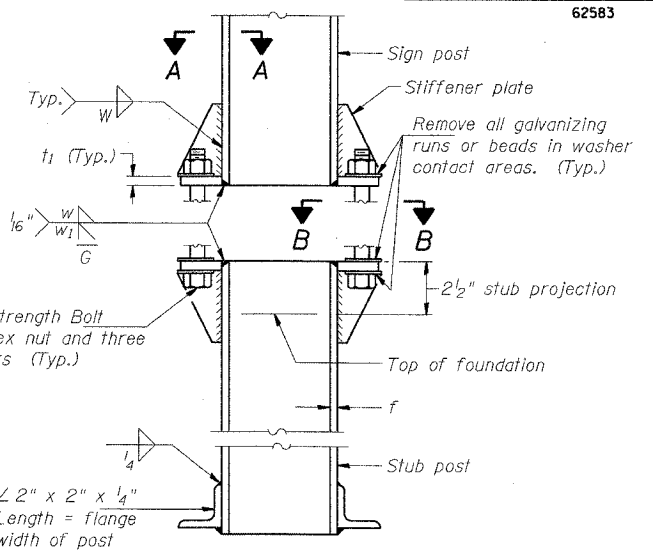
Posts shall be plumbed by using shims with post-to-stub post connection bolts snug tight only. Final tightening of all High Strength Bolts shall be in accordance with Article 505.04(f)(3), and threads at the junction of the bolt and nut shall be burred or center punched to prevent the nut from loosening.

LOADING: 80 m.p.h. wind with 30% gust factor, normal to sign.

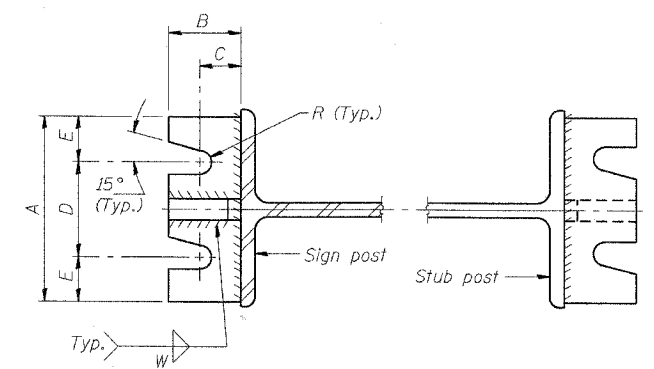
DESIGN STRESSES:  
 Structural steel - 20,000 p.s.i.  
 Reinforcing steel - 20,000 p.s.i.  
 Concrete - 1,400 p.s.i.  
 Footing soil pressure - 2,000 p.s.f.

After fabrication, the post, fuse plate and upper 6" (Minimum) of the stub post shall be hot-dip galvanized in accordance with AASHTO M111. All bolts, nuts and washers shall be hot-dip galvanized in accordance with AASHTO M232.

Work this sheet with Base Sheet BAW-A-2.

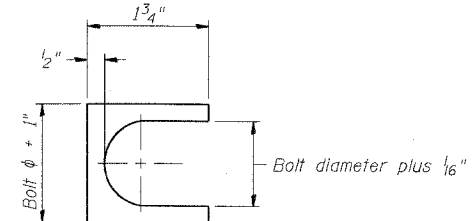


ELEVATION  
SIGN POST & STUB POST



SECTION A-A

SECTION B-B



SHIM DETAIL

Furnish two 0.01" thick and two 0.03" thick stainless steel or brass (ASTM B36) shims per post.

DESIGNED	SLW
CHECKED	PJO
DRAWN	SLW
CHECKED	PJO

EXAMINED	20
PASSED	

NUMBER	REVISION	DATE

BAW-A-1 11/1/2002

BREAK-AWAY WIDE FLANGE  
STEEL SIGN POST DETAILS

F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
31ST STREET TO I-57

\* pgs 971-976 are Deleted \*

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

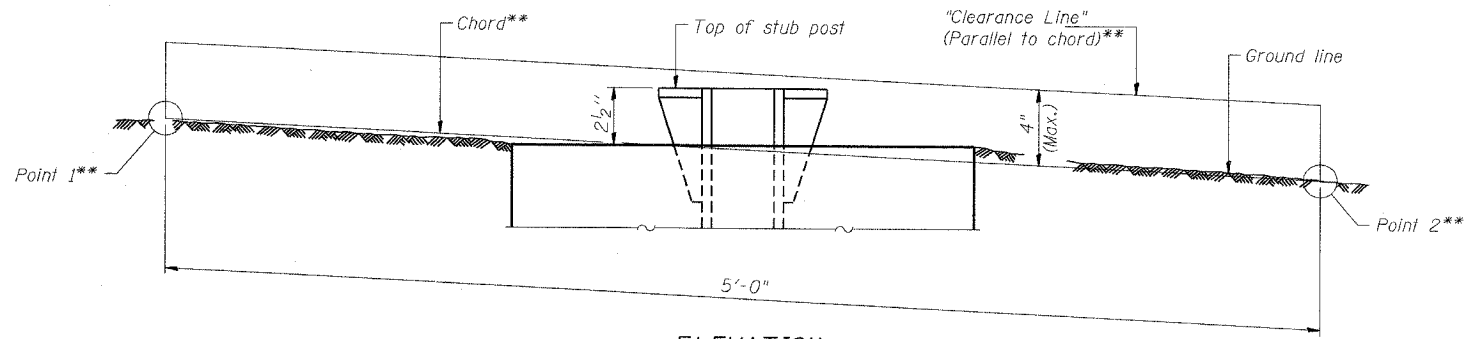
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. RTE. 94/90	2003-0311	COOK	976	970
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT-		

62583

POST	CONCRETE FOUNDATION TABLE								POST TO STUB POST CONNECTION DATA								FUSE PLATE DATA					
	Foundation			Reinforcement			Stub Post Length	Bolt Size	A	B	C	D	E	t <sub>1</sub>	t <sub>2</sub>	R	W	J	K	L	t <sub>3</sub>	
	Diameter	*Minimum Depth	Concrete (cu. yds.)	Vertical Bars Length	Bar Spirals Diameter	Bar Spirals Length																lbs. (2)
W6x9	2'-0"	6'-0"	0.70	5'-9"	1'-8 1/2"	79'-0"	78	2'-3"	5/8" x 3/4"	6"	2 1/4"	1 1/4"	3/2"	1 1/4"	3/4"	1/2"	11/32"	1/4"	4"	2 1/4"	7/8"	1/4"
W6x15	2'-0"	6'-0"	0.70	5'-9"	1'-8 1/2"	79'-0"	78	2'-6"	5/8" x 3/4"	6"	2 1/4"	1 1/4"	3/2"	1 1/4"	3/4"	1/2"	11/32"	1/4"	6"	3 1/2"	1 1/4"	3/8"
W8x18	2'-0"	6'-0"	0.70	5'-9"	1'-8 1/2"	79'-0"	78	2'-6"	3/4" x 3/4"	6"	2 1/2"	1 3/8"	3/4"	1 3/8"	1"	1/2"	13/32"	5/16"	5 1/4"	2 3/4"	1 1/4"	3/8"
W10x22	2'-6"	6'-6"	1.18	6'-3"	2'-2 1/2"	105'-0"	92	3'-0"	3/4" x 3/4"	6"	2 1/2"	1 3/8"	3/4"	1 3/8"	1"	1/2"	13/32"	5/16"	5 3/4"	2 3/4"	1 1/2"	1/2"
W10x26	2'-6"	7'-0"	1.27	6'-9"	2'-2 1/2"	112'-0"	98	3'-0"	7/8" x 4"	7"	2 3/4"	1 1/2"	4"	1 1/2"	1"	3/4"	5/32"	3/8"	5 3/4"	2 3/4"	1 1/2"	5/8"
W12x26	2'-6"	7'-9"	1.41	7'-6"	2'-2 1/2"	119'-0"	107	3'-0"	7/8" x 4"	7"	2 3/4"	1 1/2"	4"	1 1/2"	1"	3/4"	5/32"	3/8"	6 1/2"	3 1/2"	1 1/2"	5/8"
W14x30	3'-0"	7'-3"	1.90	7'-0"	2'-8 1/2"	145'-0"	113	3'-0"	7/8" x 4"	7"	2 3/4"	1 1/2"	4"	1 1/2"	1"	3/4"	5/32"	3/8"	6 3/4"	3 1/2"	1 5/8"	1/2"
W14x38	3'-0"	8'-0"	2.09	7'-9"	2'-8 1/2"	153'-0"	122	3'-6"	1" x 4 1/2"	7 1/2"	3"	1 3/4"	4"	1 3/4"	1 1/4"	3/4"	17/32"	3/8"	6 3/4"	3 1/2"	1 5/8"	1/2"
W16x45	3'-0"	8'-6"	2.23	8'-3"	2'-8 1/2"	162'-0"	130	3'-6"	1" x 4 1/2"	7 1/2"	3"	1 3/4"	4"	1 3/4"	1 1/4"	3/4"	17/32"	3/8"	7"	3 1/2"	1 3/4"	1/2"

\*Dimensional changes required for varying site conditions shall be approved by the Engineer.

POST	FUSE PLATE BOLT SIZE												
	Sign Depth												
	4'-0"	5'-0"	6'-0"	7'-0"	8'-0"	9'-0"	10'-0"	11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"
W6x9	1/2" x 1 1/2"	1/2" x 1 1/2"	1/2" x 1 1/2"	5/8" x 1 3/4"	5/8" x 1 3/4"	5/8" x 1 3/4"	---	---	---	---	---	---	---
W6x15	1/2" x 1 3/4"	1/2" x 1 3/4"	5/8" x 2"	5/8" x 2"	3/4" x 2"	3/4" x 2"	3/4" x 2"	3/4" x 2"	7/8" x 2"	7/8" x 2"	---	---	---
W8x18	1/2" x 1 3/4"	1/2" x 1 3/4"	1/2" x 1 3/4"	5/8" x 2"	5/8" x 2"	3/4" x 2"	3/4" x 2"	7/8" x 2 1/4"	7/8" x 2 1/4"	7/8" x 2 1/4"	7/8" x 2 1/4"	7/8" x 2 1/4"	7/8" x 2 1/4"
W10x22	1/2" x 2"	1/2" x 2"	1/2" x 2"	5/8" x 2"	5/8" x 2"	3/4" x 2 1/4"	3/4" x 2 1/4"	7/8" x 2 1/4"	7/8" x 2 1/4"	7/8" x 2 1/2"	1" x 2 1/2"	1" x 2 3/4"	1" x 2 3/4"
W10x26	1/2" x 2"	1/2" x 2"	1/2" x 2"	5/8" x 2 1/4"	5/8" x 2 1/4"	3/4" x 2 1/2"	3/4" x 2 1/2"	7/8" x 2 1/2"	7/8" x 2 1/2"	1" x 2 3/4"	1" x 2 3/4"	1" x 2 3/4"	1 1/8" x 3"
W12x26	---	---	---	---	---	5/8" x 2 1/4"	---	---	7/8" x 2 1/2"	7/8" x 2 1/2"	1" x 2 1/2"	1" x 2 3/4"	1" x 2 3/4"
W14x30	1/2" x 2"	1/2" x 2"	1/2" x 2"	1/2" x 2"	1/2" x 2"	5/8" x 2"	3/4" x 2 1/4"	3/4" x 2 1/4"	3/4" x 2 1/4"	7/8" x 2 1/2"	1" x 2 1/2"	1" x 2 3/4"	1" x 2 3/4"
W14x38	---	1/2" x 2"	1/2" x 2"	1/2" x 2"	1/2" x 2"	5/8" x 2 1/4"	3/4" x 2 1/4"	3/4" x 2 1/2"	3/4" x 2 1/2"	7/8" x 2 1/2"	7/8" x 2 1/2"	1" x 2 1/2"	1" x 2 3/4"
W16x45	---	---	---	1/2" x 2"	1/2" x 2"	5/8" x 2 1/4"	5/8" x 2 1/4"	3/4" x 2 1/4"	3/4" x 2 1/2"	3/4" x 2 1/2"	7/8" x 2 1/2"	7/8" x 2 1/2"	1" x 2 3/4"



ELEVATION  
GROUND LINE & STUB POST

\*\*For all "Point 1" and "Point 2" locations, "Clearance Line" must be at or above top of stub post.

- (1) Quantity includes all concrete necessary for one foundation.
- (2) Includes reinforcement bars and spiral hooping for one foundation.

DESIGNED - SLW	EXAMINED	20
CHECKED - PJO	PASSED	
DRAWN - SLW	ENGINEER OF STRUCTURAL SERVICES	
CHECKED - PJO	ENGINEER OF BRIDGES AND STRUCTURES	

NUMBER	REVISION	DATE

BREAK-AWAY WIDE FLANGE  
STEEL SIGN POST TABLES

F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
31ST STREET TO I-57