6-12-09 Letting, Item 226

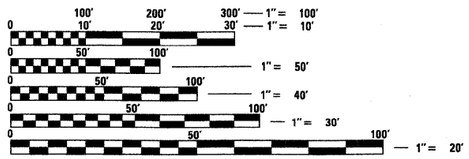
F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
XXX	2009-036 TS	WILL	13	1
FED. ROAD DIST. NO.	ILLINOIS	CONTRACT NO. 60G41		

D-91-403-09

INDEX OF SHEETS

IDOT STANDARDS:

424001–05	CURB RAMPS FOR SIDEWALKS
701001–02	OFF–RD OPERATIONS, 2L, 2W MORE THAN 15' (4.5m) AWAY
701011–02	OFF–RD MOVING OPERATIONS, 2L, 2W, DAY ONLY
701101–02	OFF–RD OPERATIONS, MULTILANE, 4.5 m (15') TO 600 mm (24") FROM PAVEMENT EDGE
701106–02	OFF–RD OPERATIONS, 2L, 2W., 4.5 m (15') TO 600 mm (24") FROM PAVEMENT EDGE
701301–03	LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
701201–03	LANE CLOSURE, 2L, 2W, DAY ONLY, FOR SPEEDS > 45 MPH
701421–02	LANE CLOSURE, MULTILANE, DAY OPERATIONS ONLY, FOR SPEEDS > 45 MPH TO 55 MPH
701501–05	URBAN LANE CLOSURE, 2L, 2W, UNDIVIDED
701701–06	URBAN LANE CLOSURE, MULTILANE INTERSECTION
701801–04	LANE CLOSURE MULTILANE 1W OR 2W CROSSWALK OR SIDEWALK CLOSURE
701901–01	TRAFFIC CONTROL DEVICES
720001–01	SIGN PANEL MOUNTING DETAILS
814001–02	HANDHOLES
814006–02	DOUBLE HANDHOLES
857001–01	STANDARD PHASE DESIGNATION DIAGRAMS AND PHASE SEQUENCES
886001–01	DETECTOR LOOP INSTALLATIONS
862001–01	UNINTERRUPTABLE POWER SUPPLY (UPS)
877001–04	STEEL MAST ARM ASSEMBLY AND POLE 16' THROUGH 55'
878001–07	CONCRETE FOUNDATION DETAILS
880001–01	SPAN WIRE MOUNTED SIGNALS AND FLASHING BEACON INSTALLATION
880006–01	TRAFFIC SIGNAL MOUNTING DETAILS



FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.L.I.E.
JOINT UTILITY LOCATING INFORMATION FOR EXCAVATORS
1–800–892–0123
OR 811

CONTRACT NO. 60G41

BUREAU OF TRAFFIC, DISTRICT ONE: STEPHEN TRAVIA / DARYLE DREW (847) 705–4420

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PLANS FOR PROPOSED FEDERAL AID HIGHWAY

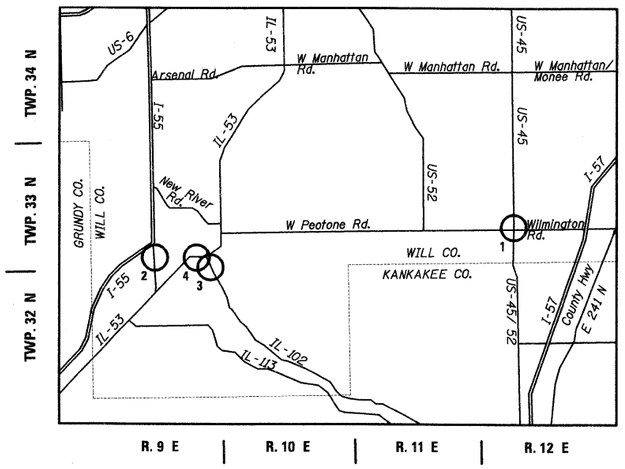
DISTRICT 1
HIGHWAY SAFETY IMPROVEMENT PROJECT
VARIOUS WILL COUNTY LOCATIONS

FAP 631 (US 45/52 @ Wilmington–Peotone Road
IL 129 @ Strip Mine Road
IL 102 @ Kahler Road
IL 53 @ 1st Street)

PROJECT HSIP-0005(670)

WILL COUNTY

SECTION 2009–036 TS
C–91–403–09



LOCATION MAP

N

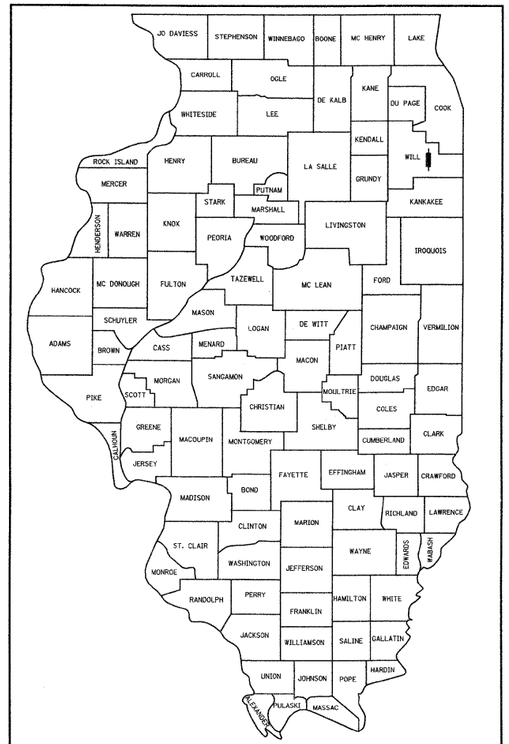
N.T.S.

LEGEND:
1. US 45/52 @ Wilmington–Peotone Road
2. IL 129 @ Strip Mine Road
3. IL 102 @ Kahler Road
4. IL 53 @ 1st Street

BRUCE P. TALBOT
062-046494
REGISTERED PROFESSIONAL ENGINEER
OF
ILLINOIS

03-18-2009

Expires: 11-30-2009



LOCATION OF SECTION INDICATED THUS: –

PREPARED BY:
CEMCON, Ltd.
Consulting Engineers, Land Surveyors & Planners
2280 White Oak Circle, Suite 100
Aurora, Illinois 60504-9675
Ph: 630.862.2100 Fax: 630.862.2199
E-Mail: cadd@cemcon.com Website: www.cemcon.com

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED March 20 20 09
Denise M. O'Keefe
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

May 8, 20 09
Charles J. Ingersoll
ENGINEER OF DESIGN AND ENVIRONMENT

May 8, 20 09
Christine M. Reed
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

GENERAL NOTES:

1. ALL CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" ADOPTED JANUARY 1, 2007 (HEREINAFTER REFEREED TO AS THE "STANDARD SPECIFICATIONS"); THE LATEST "SUPPLEMENTAL SPECIFICATIONS" AND "RECURRING SPECIAL PROVISIONS"; THE LATEST EDITION OF THE "ILLINOIS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS"; THE DETAILS IN THE PLANS AND THE SPECIAL PROVISIONS INCLUDED IN THE CONTRACT DOCUMENTS.

2. ANY REFERENCE TO THE STANDARDS THROUGHOUT THE PLANS OR SPECIAL PROVISIONS SHALL BE INTERPRETED AS THE LATEST STANDARD OF THE ILLINOIS DEPARTMENT OF TRANSPORTATION.

3. THE CONTRACTOR SHALL NOTIFY J.U.L.I.E. (1-800-892-0123) AT LEAST 10 DAYS PRIOR TO CONSTRUCTION OF THE PROPOSED IMPROVEMENTS. ALL UTILITIES MUST BE NOTIFIED AND STAKED PRIOR TO CONSTRUCTION.

4. THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE PLANS AND SHALL NOTIFY THE ENGINEER AT ONCE OF ANY DISCREPANCIES.

5. THE CONTRACTOR IS REQUIRED TO ATTEND AN ILLINOIS DEPARTMENT OF TRANSPORTATION (IDOT) PRECONSTRUCTION MEETING AND SHALL INFORM THE IDOT TRAFFIC ENGINEER BEFORE WORK COMMENCES.

6. THE CONTRACTOR SHALL KEEP PUBLIC STREET PAVEMENTS CLEAN OF DIRT AND DEBRIS.

7. THE CONTRACTOR SHALL BE RESPONSIBLE IN PROVIDING SAFE AND HEALTHFUL CONDITIONS THROUGHOUT THE CONSTRUCTION OF THE PROPOSED IMPROVEMENTS.

8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL UNDERGROUND AND SURFACE UTILITIES EVEN THOUGH THEY MAY NOT BE SHOWN ON THE PLANS. ANY UTILITY THAT IS DAMAGED DURING CONSTRUCTION SHALL BE RESTORED TO A CONDITION EQUAL TO THAT EXISTING BEFORE THE DAMAGE INCURRED. THIS WORK SHALL BE AT THE CONTRACTOR'S EXPENSE.

9. RESTORATION OF THE WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEMS AND SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS 252 AND 250, RESPECTIVELY.

10. CONTROLLER CABINETS SHALL BE PLACED SO THAT a) THE DOORS OPEN AWAY FROM THE CURB OR TRAVEL WAY., b) AND THE TRAFFIC MOVEMENTS AT THE INTERSECTION ARE VISIBLE FROM THE CONTROLLER.

11. ANY CONTROLLER CABINET WHETHER NEW OR EXISTING TO RECIEVE UPS, WILL HAVE A "L" SHAPED 4 FEET CONCRETE MAINTENANCE PAD INSTALLED. SEE PLANS FOR DETAIL. THE COST OF INSTALLATION OF CONCRETE PAD IS INCIDENTAL TO NEW CONTROLLER AND OR UPS INSTALLATIONS.

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FILE NAME = \MICROST\352072\ 02-GENNOTES	USER NAME = RDS	DESIGNED - KK	REVISED -
		DRAWN - RDS	REVISED -
	PLOT SCALE = 1"=20'	CHECKED - BPT	REVISED -
	PLOT DATE = 03-18-09	DATE - 03-18-09	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

SCALE: N.T.S. | SHEET NO. OF SHEETS | STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2009-036 TS	WILL	13	2
		CONTRACT NO. 60G41		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

			URBAN	FED/ST/WILMINGTON 90/5/5	90/10 FED/ST		FED/ST/WILMINGTON 90/5/5
				CONSTRUCTION TYPE CODE Y-031-1F			
PAY CODE NUMBER	SUMMARY OF TRAFFIC SIGNAL QUANTITIES ITEM	UNIT	TOTAL QUANTITY	IL 102 @ KAHLER RD	US 45/52 @ WILMINGTON RD	IL 129 @ STRIP MINE RD	IL 53 @ 1st ST
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	4	2			2
67100100	MOBILIZATION	L SUM	1	0.25	0.25	0.25	0.25
70102620	TRAFFIC CONTROL AND PROTECTION, STANDARD 701501	L SUM	1	0.25	0.25	0.25	0.25
70102635	TRAFFIC CONTROL AND PROTECTION, STANDARD 701701	L SUM	1	0.25	0.25	0.25	0.25
72000200	SIGN PANEL, TYPE 2	SQ FT	28	28			
* 78000400	THERMOPLASTIC PAVEMENT MARKING-LINE 6"	FOOT	300				300
* 78000600	THERMOPLASTIC PAVEMENT MARKING-LINE 12"	FOOT	159	159			
* 78000650	THERMOPLASTIC PAVEMENT MARKING-LINE 24"	FOOT	131	50			81
78300400	THERMOPLASTIC PAVEMENT MARKING REMOVAL	SQ FT	80	80			
78300500	PAINT PAVEMENT MARKING REMOVAL	SQ FT	106				106
81000700	CONDUIT IN TRENCH, 2 1/2" DIA., GALVANIZED STEEL	FOOT	27	27			
81018600	CONDUIT PUSHED, 2 1/2" DIA., GALVANIZED STEEL	FOOT	15	15			
85000200	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	4	1	1	1	1
85700200	FULL-ACTUATED CONTROLLER AND TYPE IV CABINET	EACH	1				1
85700205	FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL	EACH	1	1			
87301215	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C	FOOT	749	187			562
87301225	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	1531	449			1082
87301245	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C	FOOT	2277	1947			330
87301305	ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR	FOOT	1412	1412			
87301805	ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2C	FOOT	80				80
87502480	TRAFFIC SIGNAL POST, GALVANIZED STEEL 14 FT.	EACH	6	2			4
87502500	TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.	EACH	3	1			2
87700190	STEEL MAST ARM ASSEMBLY AND POLE, 30 FT.	EACH	2	2			
87800100	CONCRETE FOUNDATION, TYPE A	FOOT	4	4			
87800415	CONCRETE FOUNDATION, TYPE E 36-INCH DIAMETER	FOOT	30	30			
87900200	DRILL EXISTING HANDHOLE	EACH	9	9			
X8803064	SIGNAL HEAD, LED, 1-SECTION, SPAN WIRE MOUNTED, RETROFIT	EACH	8		4	4	
X8807665	SIGNAL HEAD, LED, 1-SECTION, POST MOUNTED, RETROFIT	EACH	2		0	2	
88030020	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED	EACH	10	8			2
88030050	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED	EACH	7	3			4
88030210	SIGNAL HEAD, LED, 2-FACE, 3-SECTION, BRACKET MOUNTED	EACH	1	1			
88030100	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED	EACH	2				2
88030110	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED	EACH	2				2
88102717	PEDESTRIAN SIGNAL HEAD, L.E.D, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER	EACH	2	2			
88102747	PEDESTRIAN SIGNAL HEAD, L.E.D, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER	EACH	4				4
88200210	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM	EACH	8	8			
88500100	INDUCTIVE LOOP DETECTOR	EACH	3	3			
88600100	DETECTOR LOOP, TYPE I	FOOT	298	298			
88800100	PEDESTRIAN PUSH-BUTTON	EACH	6	2			4
89502300	REMOVE ELECTRIC CABLE FROM CONDUIT	FOOT	3225	3225			
89502375	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	2	1			1
89502385	REMOVE EXISTING CONCRETE FOUNDATION	EACH	2	2			
X0301023	CONFIRMATION BEACON	EACH	2				2
X0322256	TEMPORARY INFORMATION SIGNING	SQ FT	102.8	51.4			51.4
X8050015	SERVICE INSTALLATION-POLE MOUNTED	EACH	1				1
X8730027	ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C	FOOT	434	354			80
X8730250	ELECTRIC CABLE IN CONDUIT, NO. 20 3/C, TWISTED, SHIELDED	FOOT	262	262			
X8620020	UNINTERRUPTIBLE POWER SUPPLY	EACH	2	1			1

* SPECIALTY ITEMS

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FILE NAME = \MICROST\352072\ 03-SUMMARY	USER NAME = RDS	DESIGNED - KK	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUMMARY OF QUANTITIES
		DRAWN - RDS	REVISED -		
	PLOT SCALE = 1'=20'	CHECKED - BPT	REVISED -		
	PLOT DATE = 03-18-09	DATE - 03-18-09	REVISED -		

SCALE: N.T.S. | SHEET NO. OF SHEETS | STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2009-036 TS	WILL	13	3
		CONTRACT NO. 60G41		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

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

LOOP DETECTOR NOTES

1. EACH PAIR OF LOOP WIRES SHALL BE PLACED IN A SEPARATE UNIT DUCT FROM THE EDGE OF PAVEMENT TO THE HANDHOLE. SPACING BETWEEN THE HOLES DRILLED IN THE PAVEMENT SHALL NOT BE LESS THAN 6" (150 mm). UNIT DUCT SHALL BE INCLUDED IN THE COST OF THE LOOP WIRE.

2. THE NUMBER OF LOOP TURNS SHALL BE AS RECOMMENDED BY THE AMPLIFIER MANUFACTURER. ALL ADJACENT SIDES OF THE LOOPS SHALL BE INSTALLED IN SUCH A WAY THAT THE CURRENT FLOW IS IN THE SAME DIRECTION TO REINFORCE ITS MAGNETIC FIELDS FOR SMALL VEHICLE DETECTION.

3. EACH LOOP LEAD-IN SHALL BE IDENTIFIED AND PERMANENTLY TAGGED IN THE HANDHOLE. EACH LEAD-IN CABLE TAG SHALL INDICATE THE LOCATION OF THE LOOP, LOOP ROTATION (CLOCKWISE/COUNTERCLOCKWISE), LOOP LEAD-IN DIRECTION (IN OR OUT), LOOP CABLE NUMBER AND LOCATION IN CABINET, AND NUMBER OF TURNS IN THE DETECTOR LOOPS IN WATER PROOF INK AS INDICATED ON THE DISTRICT 1 STANDARD TRAFFIC SIGNAL DESIGN DETAIL. THE CONTRACTOR SHALL MARK LOOP LOCATIONS ON RECORD DRAWINGS AND PRESENT TO THE ENGINEER AFTER FINAL INSPECTION. LOOPS SHALL BE MARKED BY LANE AND LOOP NUMBER. SEE DETAIL BELOW.

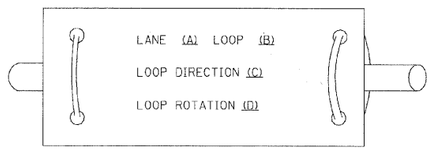
4. ALL LOOP CABLE SHALL BE FASTENED WITH PLASTIC TIE WRAP TO THE HANDHOLE HOOKS.

5. IN ASPHALT PAVEMENT, LOOPS SHOULD BE PLACED IN THE BINDER AND DIVEHOLES MARKED AT THE CURB WITH A SAW-CUT. THE SAW-CUT SHALL BE CUT IN ACCORDANCE WITH LOCAL AND E.P.A. DUST CONTROL REQUIREMENTS. DETECTOR LOOP(S) SHALL NOT BE INSTALLED IN WET CONDITIONS AND THE SAW-CUTS MUST BE FREE OF DEBRIS AND RESIDUE SUCH AS DUST AND WATER WHICH IS TO BE ACHIEVED BY THE USE OF COMPRESSED AIR, WIRE BRUSHING AND HEAT DRYING ACCORDING TO SEALANT MANUFACTURER REQUIREMENTS. THE DETECTOR WIRE SHALL BE HELD IN PLACE BY THE USE OF FORM WEDGES. WEDGES SHALL BE SPACED NO MORE THAN 18" (450 mm) APART.

6. LOOP SPLICES SHALL BE SOLDERED USING A SOLDERING IRON. BLOW TORCHES OR OTHER DEVICES WHICH OXIDIZE COPPER CABLE SHALL NOT BE ALLOWED FOR SOLDERING OPERATIONS. SEE DETAIL BELOW RIGHT.

7. PREFORMED DETECTOR LOOPS SHALL BE USED, AS SHOWN ON THE PLANS, WHERE NEW CONCRETE PAVEMENT IS PROPOSED. THE INSTALLATION OF PREFORMED LOOPS SHALL BE IN ACCORDANCE WITH THE DISTRICT 1 SPECIFICATIONS OR AS DIRECTED BY THE ENGINEER.

LOOP LEAD-IN CABLE TAG

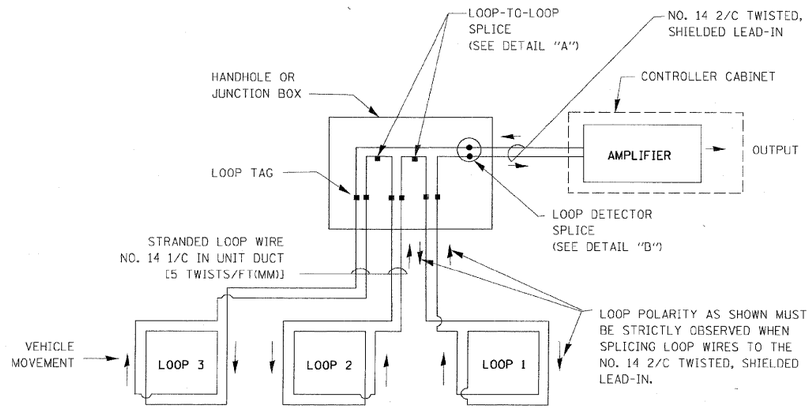


A. LANE 1 IS THE LANE CLOSEST TO THE CENTERLINE OF THE ROADWAY

B. LOOP #1 IS THE LOOP IN THE LANE CLOSEST TO THE INTERSECTION.

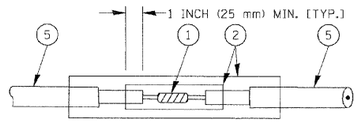
C. LABEL LOOP CABLE "IN" OR LOOP CABLE "OUT".

D. LABEL LOOP CABLE CLOCKWISE OR LOOP CABLE COUNTERCLOCKWISE.

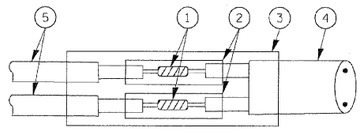


DETECTOR LOOP WIRING SCHEMATIC

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



DETAIL "A"
LOOP-TO-LOOP SPLICE



DETAIL "B"
LOOP-TO-CONTROLLER SPLICE

LOOP DETECTOR SPLICE

(1) WESTERN UNION SPLICE SOLDERED WITH ROSIN CORE FLUX. ALL EXPOSED SURFACES OF THE SOLDER SHALL BE SMOOTH.

(2) WCSMW 30/100 HEAT SHRINK TUBE, MINIMUM LENGTH 3" (75 mm), UNDERWATER GRADE.

(3) WCS 200/750 HEAT SHRINK TUBE, MINIMUM LENGHT 6" (150 mm), UNDERWATER GRADE.

(4) NO. 14 2/C TWISTED, SHIELDED CABLE.

(5) LOOP CONDUCTOR WITH FLEXIBLE PLASTIC TUBE.

REVISIONS	
NAME	DATE
CADD	5/30/00
ADD NOTE NO. 8	11/12/01
BUREAU OF TRAFFIC	1-01-02

PREPARED BY:
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ILLINOIS DEPARTMENT OF TRANSPORTATION

DISTRICT ONE
STANDARD TRAFFIC SIGNAL
DESIGN DETAILS

SCALE: VERT. NONE
HORIZ.
DATE 10/18/2002

DRAWN BY: RWP
DESIGNED BY: DAD
CHECKED BY: DAZ
SHEET 1 OF 4

10/18/2002
c:\projects\dist1\ts05.dgn
V1-TS05

REVISION DATE: 01/01/02

FILE NAME =	USER NAME = RDS	DESIGNED - KK	REVISED -
\MICROST\352072\ 04-TS05A		DRAWN - RDS	REVISED -
	PLOT SCALE = 1"=20'	CHECKED - BPT	REVISED -
	PLOT DATE = 03-18-09	DATE - 03-18-09	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

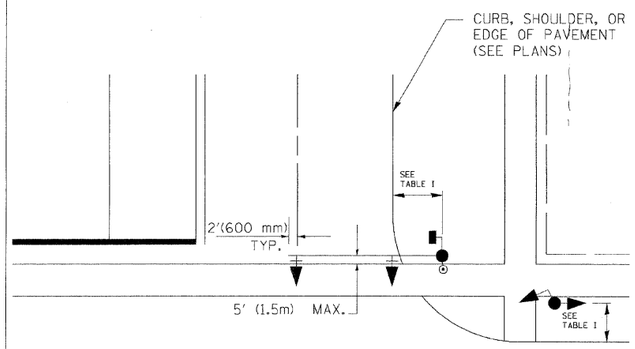
DISTRICT 1 STANDARD TRAFFIC SIGNAL DESIGN DETAILS

SCALE: N.T.S. | SHEET NO. OF SHEETS | STA. TO STA.

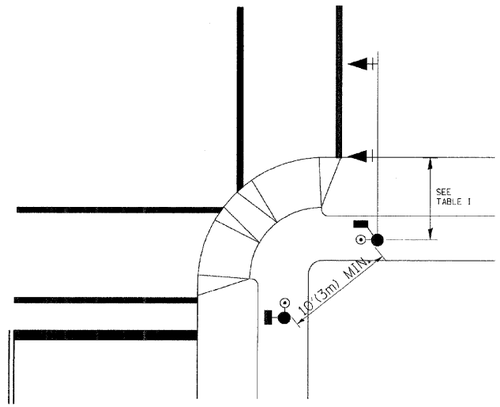
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2009-036 TS	WILL	13	4
		CONTRACT NO. 60G41		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

TRAFFIC SIGNAL MAST ARM AND POST

MAST ARM MOUNTED SIGNAL IN PROPOSED & FUTURE SIDEWALK AREA. INTERSECTION SHOWN WITH PEDESTRIAN SIGNAL AND PUSHBUTTON DETECTOR



PEDESTRIAN SIGNAL PUSHBUTTON



RECOMMENDED PUSHBUTTON LOCATIONS FOR ACCESSIBLE PEDESTRIAN SIGNALS SHALL BE IN ACCORDANCE WITH THE CURRENT MUTCD (SEE NOTE 1). TO MEET MUTCD REQUIREMENTS, PEDESTRIAN SIGNAL PUSHBUTTONS MAY HAVE TO BE MOUNTED ON A SEPARATE POST.

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

NOTES:

1. AT ACCESSIBLE PEDESTRIAN SIGNAL LOCATIONS WITH PEDESTRIAN ACTUATION, EACH PUSHBUTTON SHALL ACTIVATE BOTH THE WALK INTERVAL AND THE ACCESSIBLE PEDESTRIAN SIGNALS.

   AT ACCESSIBLE PEDESTRIAN SIGNAL LOCATIONS, PUSHBUTTONS SHOULD CLEARLY INDICATE WHICH CROSSWALK SIGNAL IS ACTUATED BY EACH PUSHBUTTON. PUSHBUTTONS AND TACTILE ARROWS SHOULD HAVE HIGH VISUAL CONTRAST (SEE THE DEPARTMENT OF JUSTICE'S AMERICANS WITH DISABILITIES ACT STANDARDS FOR ACCESSIBLE DESIGN, 1991). TACTILE ARROWS SHOULD POINT IN THE SAME DIRECTION AS THE ASSOCIATED CROSSWALK. AT CORNERS OF SIGNALIZED LOCATIONS WITH ACCESSIBLE PEDESTRIAN SIGNALS WHERE PEDESTRIAN PUSHBUTTONS ARE PROVIDED, THE PUSHBUTTONS SHOULD BE SEPARATED BY THE DISTANCE OF AT LEAST 10 FT (3m). THIS ENABLES PEDESTRIANS WHO HAVE VISUAL DISABILITIES TO DISTINGUISH AND LOCATE THE APPROPRIATE PUSHBUTTON.

   PUSHBUTTONS FOR ACCESSIBLE PEDESTRIAN SIGNALS SHOULD BE LOCATED AS FOLLOWS:

   A: ADJACENT TO A LEVEL ALL-WEATHER SURFACE TO PROVIDE ACCESS FROM A WHEELCHAIR, AND WHERE THERE IS AN ALL WEATHER SURFACE, WHEELCHAIR ACCESSIBLE ROUTE TO THE RAMP.

   B: WITHIN 5 FT (1.5m) OF THE CROSSWALK EXTENDED.

   C: WITHIN 10 FT (3m) OF THE EDGE OF CURB, SHOULDER, OR PAVEMENT.

   D: PARALLEL TO THE CROSSWALK TO BE USED (SEE MUTCD FIGURE 4E-2).

   E: NORMAL PEDESTRIAN PUSHBUTTON MOUNTING HEIGHT SHOULD BE 3.5 FT (1.05m) ABOVE ADJACENT SIDEWALK

2. PEDESTRIAN SIGNAL FACES SHALL BE MOUNTED WITH THE BOTTOM OF THE HOUSING NOT LESS THAN 8 FT (2.4m) NOR MORE THAN 10 FT (3.0m) ABOVE THE SIDEWALK LEVEL AND SO THERE IS A PEDESTRIAN INDICATION IN THE LINE OF PEDESTRIANS' VISION WHICH PERTAINS TO THE CROSSWALK BEING USED.

3. THE BOTTOM OF THE HOUSING OF A VEHICLE SIGNAL FACE, NOT MOUNTED OVER A ROADWAY, SHALL BE AT LEAST 10 FT (3.0m) BUT NOT MORE THAN 15 FT (4.5m) ABOVE THE SIDEWALK OR, ABOVE THE PAVEMENT GRADE AT THE CENTER OF THE HIGHWAY IF NO SIDEWALKS EXIST.

4. THE BOTTOM OF THE HOUSING OF A VEHICLE SIGNAL FACE, MOUNTED OVER A ROADWAY, SHALL BE ACCORDING TO CURRENT STATE STANDARDS 877001 AND 877006. (16 FT (5m) MIN., 18 FT (5.5m) MAX., FROM HIGHEST POINT OF PAVEMENT)

PEDESTRIAN SIGNAL POST

PEDESTRIAN SIGNAL HEAD AND PEDESTRIAN PUSHBUTTON DETECTOR LOCATION

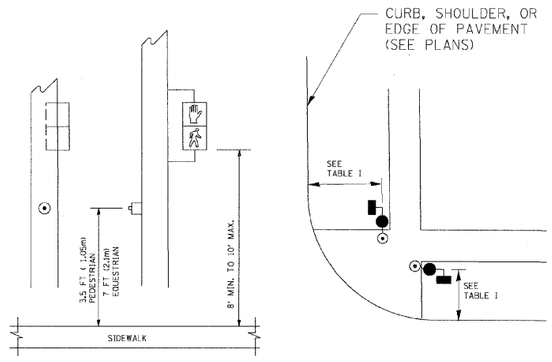


TABLE I

TRAFFIC SIGNAL EQUIPMENT	COMBINATION CONCRETE CURB AND GUTTER (MIN. DIST. FROM BACK OF CURB)	SHOULDER/NON-CURBED AREA (MIN. DIST. FROM EDGE OF PAVEMENT)
TRAFFIC SIGNAL MAST ARM POLE	6 FT (1.8m)	SHOULDER WIDTH + 2FT(0.6m), MINIMUM 10FT(3.0m)
TRAFFIC SIGNAL POST	4 FT (1.2m)	SHOULDER WIDTH + 2FT(0.6m), MINIMUM 10FT(3.0m)
PEDESTRIAN SIGNAL POST	4 FT (1.2m)	SHOULDER WIDTH + 2FT(0.6m), MINIMUM 10FT(3.0m)
PEDESTRIAN PUSHBUTTON	SEE NOTE 1	SEE NOTE 1

REVISIONS	
NAME	DATE
BUREAU OF TRAFFIC	1/01/02

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ILLINOIS DEPARTMENT OF TRANSPORTATION

DISTRICT 1
STANDARD TRAFFIC SIGNAL DESIGN DETAILS

SCALE: VERT. NONE
HORIZ.
DATE 10/18/2002

DRAWN BY: RWP
DESIGNED BY: DAD
CHECKED BY: DAZ
SHEET 2 OF 4

TS05

REVISION DATE: 01/01/02

10/18/2002
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V:\TS05

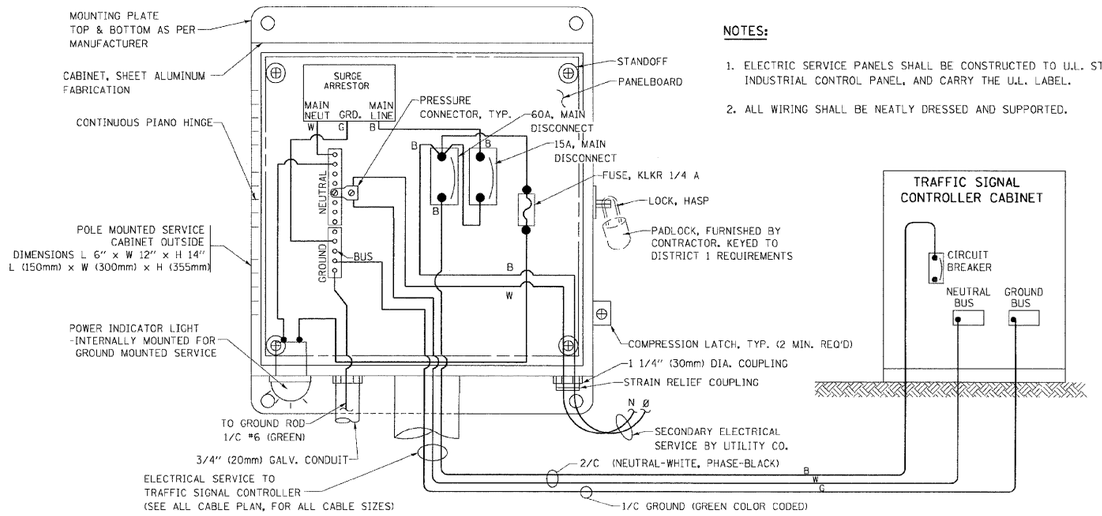
FILE NAME =	USER NAME = RDS	DESIGNED - KK	REVISED -
\MICROST\352072\ 05-TS05B		DRAWN - RDS	REVISED -
	PLOT SCALE = 1'=20'	CHECKED - BPT	REVISED -
	PLOT DATE = 03-18-09	DATE - 03-18-09	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DISTRICT 1 STANDARD TRAFFIC SIGNAL DESIGN DETAILS

SCALE: N.T.S. | SHEET NO. OF SHEETS | STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2009-036 TS	WILL	13	5
		CONTRACT NO. 60G41		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



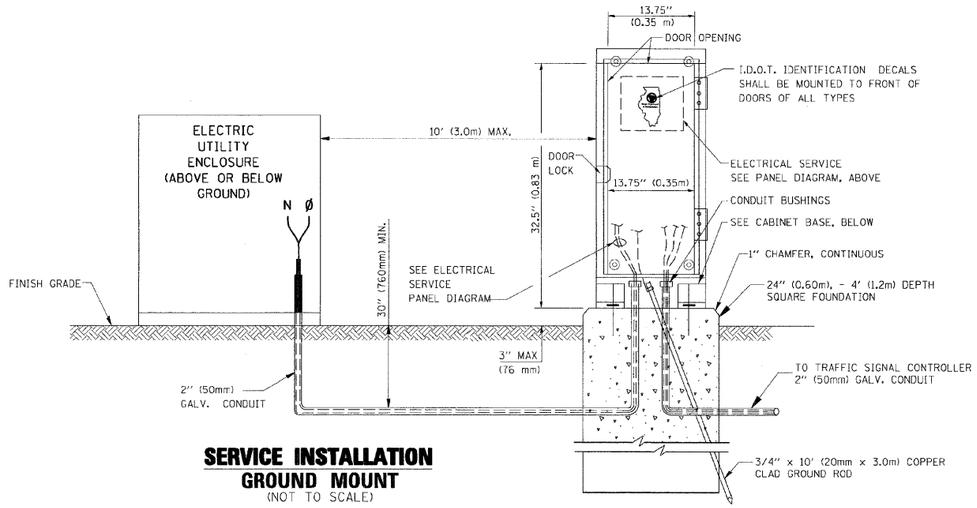
ELECTRICAL SERVICE – PANEL DIAGRAM (TYPICAL FOR POLE AND GROUND MOUNTED SERVICE)

NOTES:

1. ELECTRIC SERVICE PANELS SHALL BE CONSTRUCTED TO U.L. STD 508, INDUSTRIAL CONTROL PANEL, AND CARRY THE U.L. LABEL.
2. ALL WIRING SHALL BE NEATLY DRESSED AND SUPPORTED.

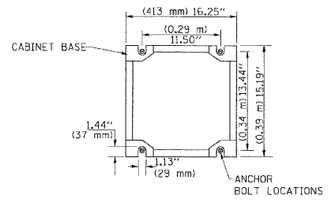
SERVICE INSTALLATION POLE MOUNT (SHOWN)

(NOT TO SCALE)



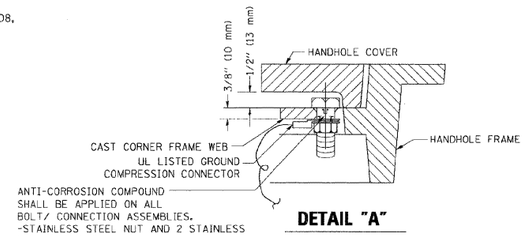
SERVICE INSTALLATION GROUND MOUNT

(NOT TO SCALE)

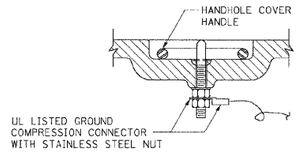


CABINET – BASE BOLT PATTERN

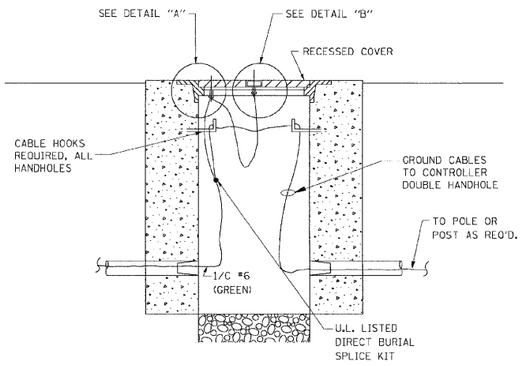
(NOT TO SCALE)



DETAIL "A"

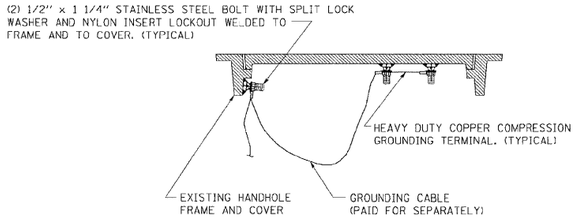


DETAIL "B"



HANDHOLE COVER & FRAME – GROUNDING DETAIL

(NOT TO SCALE)



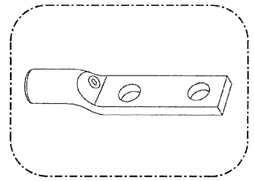
EXISTING HANDHOLE COVER & FRAME – GROUNDING DETAIL

(NOT TO SCALE)

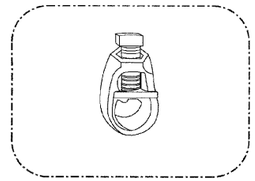
NOTES:

GROUNDING SYSTEM

1. THE GROUNDING SYSTEM SHALL CONSIST OF AN INSULATED CONDUCTOR TYPE XLP, NO. 6 A.W.G., STRANDED COPPER TO BE INSTALLED IN RACEWAYS. THE GROUNDING CABLE SHALL BE INSTALLED IN A CONTINUOUS MANNER AS SHOWN ON THE CABLE PLAN PROVIDED. ALL GROUNDING CONDUCTORS SHALL BE BONDED TO METAL ENCLOSURE (HANDHOLE, POST, MAST ARM, CONTROLLER, ETC.). GROUND ROD SHALL BE 3/4" DIA. x 10'-0" (20mm x 3.0m) LONG, COPPER CLAD. ONE GROUND ROD SHALL BE INSTALLED AT ALL POST FOUNDATIONS, POLE FOUNDATIONS, CONTROLLER CABINET FOUNDATION AND ELECTRICAL SERVICE INSTALLATION AS INDICATED ON THE CABLE PLAN. IF THERE ARE ANY SPECIAL CONDITIONS SUCH AS SUB-SURFACE CONDITIONS OR INSTALLATION PROBLEMS, THE RESIDENT ENGINEER SHALL BE NOTIFIED OR CONTACT THE BUREAU OF TRAFFIC, ILLINOIS DEPARTMENT OF TRANSPORTATION DISTRICT ONE AT (847) 705-4139.
2. THE NEUTRAL CONDUCTOR AND THE GROUND CONDUCTOR SHALL BE CONNECTED IN THE SERVICE INSTALLATION. AT NO OTHER POINT IN THE TRAFFIC SIGNAL SYSTEM SHALL THE NEUTRAL AND GROUND CONDUCTORS BE CONNECTED.
3. ALL EQUIPMENT GROUNDING CONDUCTORS SHALL TERMINATE AT THE GROUND BUS IN THE CONTROLLER CABINET.
4. THE CONTRACTOR SHALL PROVIDE A GROUND CABLE WITH CONNECTORS BETWEEN THE HANDHOLE COVER AND HANDHOLE FRAME.



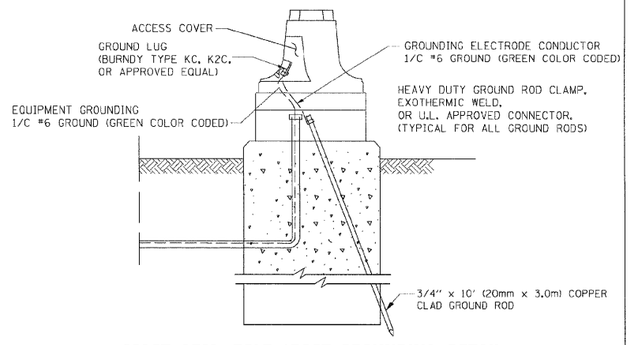
HEAVY-DUTY COMPRESSION TERMINAL (BURNDY TYPE YGHA OR APPROVED EQUAL)



3/4" (20mm) HEAVY-DUTY GROUND ROD CLAMP (BURNDY TYPE GRC OR APPROVED EUAL)

NOTES:

- ALL CLAMPS SHALL BE BRONZE OR COPPER, UL APPROVED.
- GROUND CABLE SHALL BE LOOPED OVER HOOKS IN THE HANDHOLES
  6.5' (2.0m) SLACK SHALL BE PROVIDED IN SINGLE HANDHOLES
  13' (4.0m) OF SLACK SHALL BE PROVIDED IN DOUBLE HANDHOLES.
  5' (1.4m) OF SLACK SHALL BE PROVIDED BETWEEN FRAME AND COVER.



MAST ARM POLE / POST–GROUNDING DETAIL

(NOT TO SCALE)

REVISIONS	
NAME	DATE
CADD	5/30/00
CADD	3/15/01
BUREAU OF TRAFFIC	1/01/02

ILLINOIS DEPARTMENT OF TRANSPORTATION

DISTRICT 1
STANDARD TRAFFIC SIGNAL DESIGN DETAILS

SCALE: VERT. NONE
HORIZ.
DATE 10/18/2002

DRAWN BY: RWP
DESIGNED BY: DAD
CHECKED BY: DAZ
SHEET 3 OF 4

TS05

REVISION DATE: 01/01/02

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

PREPARED BY:
CEMCON, Ltd.
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10/18/2002
c:\projects\dfstsd\ts05.dgn
V:\TS05

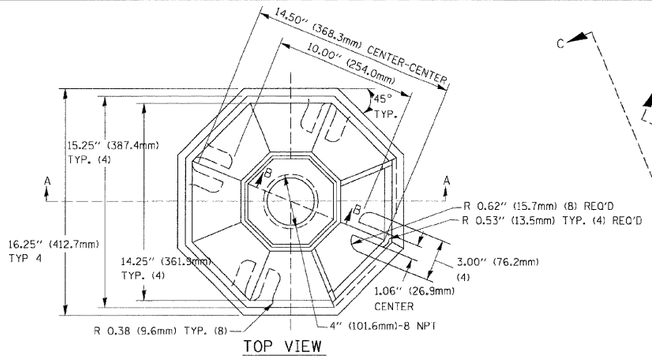
FILE NAME =	USER NAME = RDS	DESIGNED - KK	REVISED -
\MICROST\352072\ 06-TS05C		DRAWN - RDS	REVISED -
	PLOT SCALE = 1"=20'	CHECKED - BPT	REVISED -
	PLOT DATE = 03-18-09	DATE - 03-18-09	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

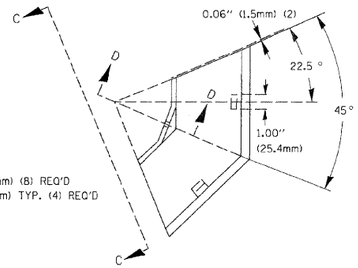
DISTRICT 1 STANDARD TRAFFIC SIGNAL DESIGN DETAILS

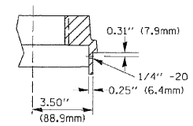
SCALE: N.T.S. | SHEET NO. OF SHEETS | STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2009-036 TS	WILL	13	6
		CONTRACT NO. 60G41		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

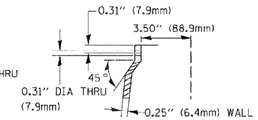


TOP VIEW

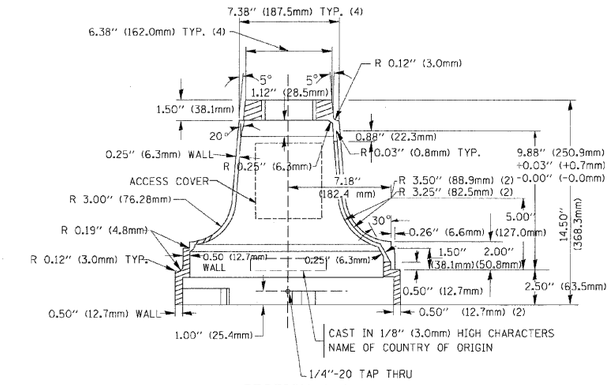




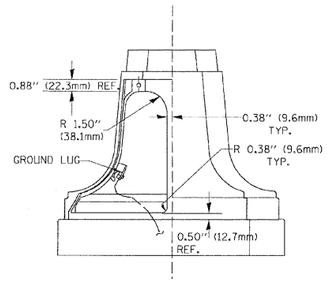
SECTION B-B



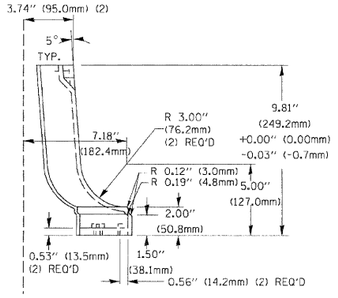
SECTION D-D



SECTION A-A

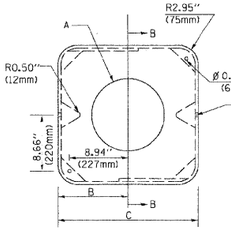


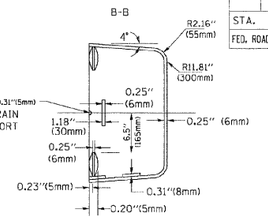
VIEW C-C



TRAFFIC SIGNAL POST - MOUNTING BASE - TYPE A

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



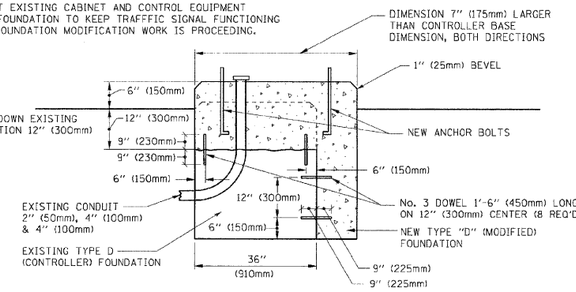


MATERIAL:
- ASTM A48 CLASS 30 GREY IRON
- ASTM A123 HOT DIPPED GALVANIZED

TYPE	A	B	C	HEIGHT	WEIGHT
I	Ø 10.125"(257mm)	9.5"(241mm)	19"(483mm)	12" (300mm)	24kg
II	Ø 11.125"(283mm)	10.75"(273mm)	21.5"(546mm)	12" (300mm)	26kg

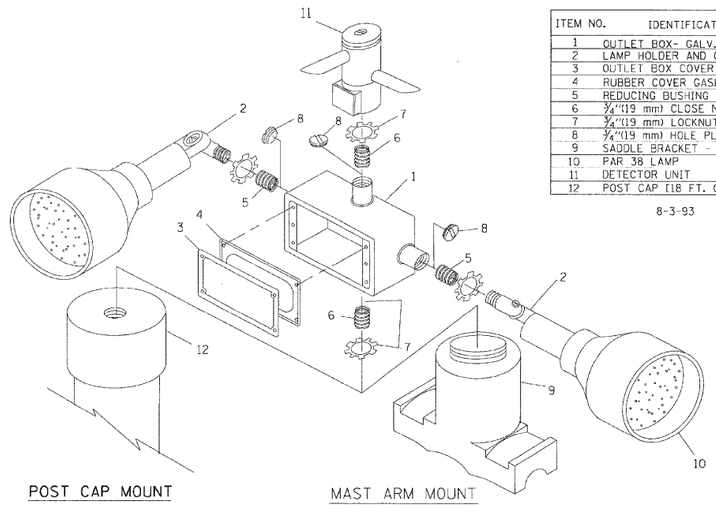
SHROUD DETAIL

NOTE:
SUPPORT EXISTING CABINET AND CONTROL EQUIPMENT ABOVE FOUNDATION TO KEEP TRAFFFIC SIGNAL FUNCTIONING WHILE FOUNDATION MODIFICATION WORK IS PROCEEDING.



MODIFY EXISTING TYPE "D" FOUNDATION

(NOT TO SCALE)



POST CAP MOUNT

MAST ARM MOUNT

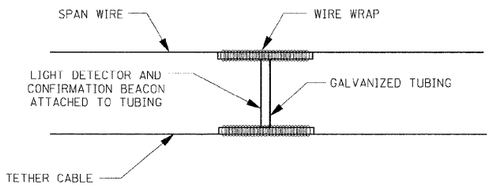
EMERGENCY VEHICLE DETECTOR WITH CONFIRMATION BEACON MOUNTING DETAIL

ITEM NO.	IDENTIFICATION
1	OUTLET BOX- GALV. 21 CU.IN. (C.000344 CU-M)
2	LAMP HOLDER AND COVER
3	OUTLET BOX COVER
4	RUBBER COVER GASKET
5	REDUCING BUSHING
6	¾"(19 mm) CLOSE NIPPLE
7	¾"(19 mm) LOCKNUT
8	¾"(19 mm) HOLE PLUG
9	SADDLE BRACKET - GALV.
10	PAR 38 LAMP
11	DETECTOR UNIT
12	POST CAP (18 FT. (5.4 m) POST MIN.)

8-3-93

NOTES:

1. ALL ELECTRICAL ITEMS, EXCEPT ITEMS *2 AND *11 SHALL BE ALUMINUM OR GALVANIZED
2. ITEM *1- OZ/GEDNEY FSX-1-50 OR EQUIVALENT
   ITEM *2- MULBERRY CON-O-SHADE LAMP SHIELD OR EQUIVALENT
   ITEM *9- "BAND-IT" SADDLE BRACKET OR EQUIVALENT
3. WHEN POST MOUNTING IS SPECIFIED, ITEM *9 SHALL NOT BE REQUIRED. THE DETECTION UNIT SHALL BE MOUNTED DIRECTLY ON TOP OF THE CAP BY DRILLING AND TAPPING A ¾"(19 mm) HOLE WITH PIPE THREADS. THE POST CAP SHALL EITHER BE SCREWED TO THE TOP OF THE POST OR A MINIMUM OF 3 TIGHTENING SCREWS SHALL BE REQUIRED ON EACH CAP.

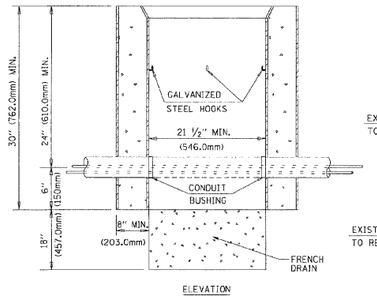


LIGHT DETECTOR AND CONFIRMATION BEACON MOUNTING FOR TEMPORARY TRAFFIC SIGNALS

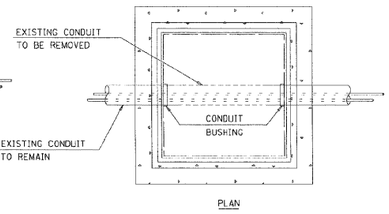
(NOT TO SCALE)

NOTES:

1. REMOVAL OF EXISTING CONDUIT FROM THE HANDHOLE AND THE INSTALLATION OF THE CONDUIT BUSHING SHALL BE INCIDENTAL TO THE HANDHOLE.



ELEVATION



PLAN

DETAIL
HANDHOLE TO INTERCEPT EXISTING CONDUIT
N.T.S.

REVISIONS	
NAME	DATE
BUREAU OF TRAFFIC	5/30/00
BUREAU OF TRAFFIC	3/15/01
BUREAU OF TRAFFIC	11/12/01
BUREAU OF TRAFFIC	1-01-02

PREPARED BY:
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ILLINOIS DEPARTMENT OF TRANSPORTATION

DISTRICT 1
STANDARD TRAFFIC SIGNAL DESIGN DETAILS

SCALE: VERT. NONE
HORIZ.
DATE 10/18/2002

DRAWN BY: RWP
DESIGNED BY: DAD
CHECKED BY: DAZ
SHEET 4 OF 4

TS05

REVISION DATE: 01/01/02

10/18/2002
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V:\TS05

FILE NAME =	USER NAME = RDS	DESIGNED - KK	REVISED -
\MICROST\352072\ 07-TS05D		DRAWN - RDS	REVISED -
	PLOT SCALE = 1'=20'	CHECKED - BPT	REVISED -
	PLOT DATE = 03-18-09	DATE - 03-18-09	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DISTRICT 1 STANDARD TRAFFIC SIGNAL DESIGN DETAILS

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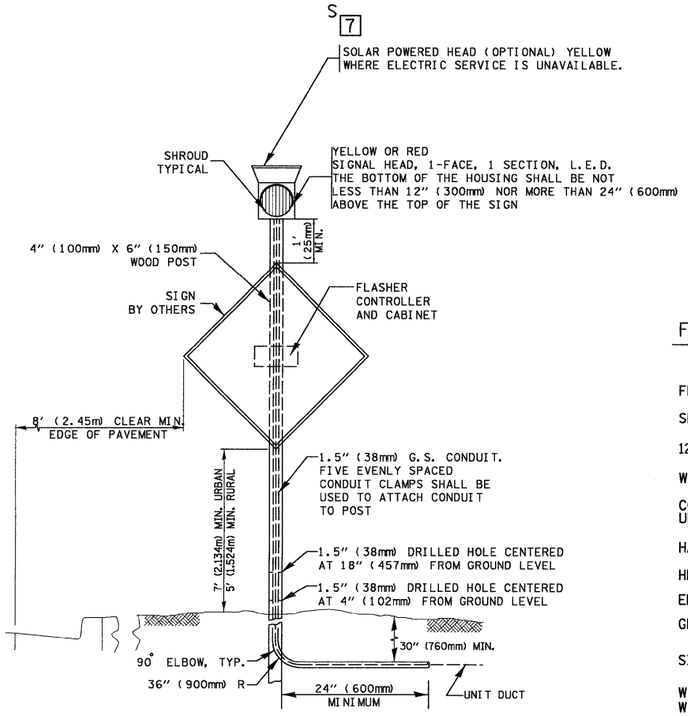
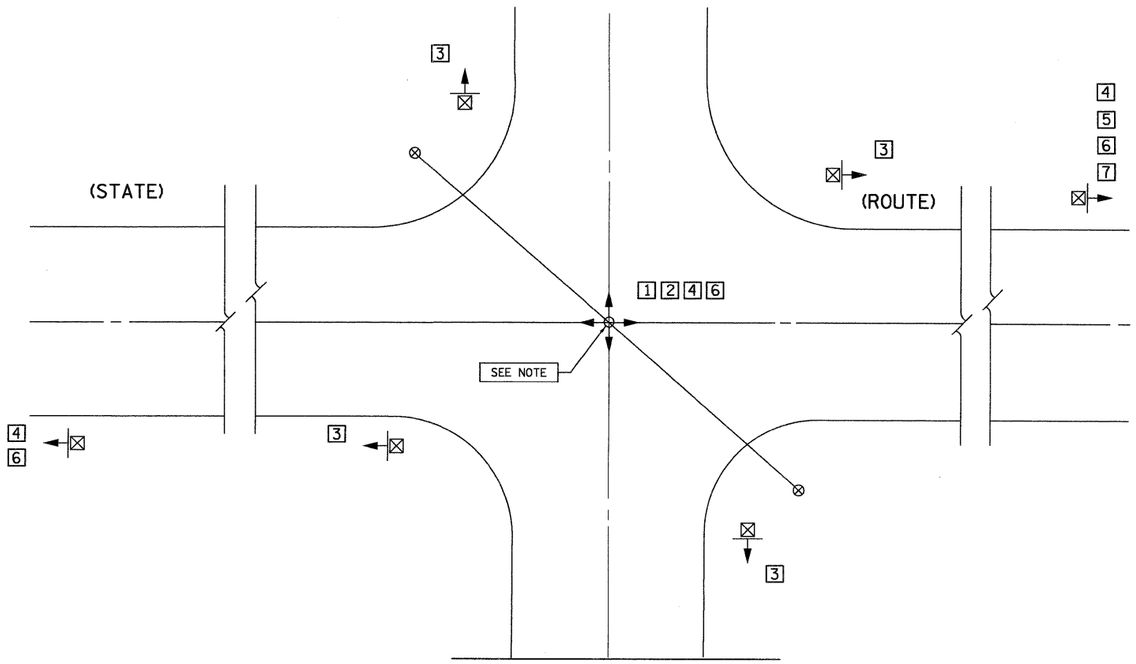
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2009-036 TS	WILL	13	7
		CONTRACT NO. 60G41		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



YELLOW – POST MOUNTED FLASHER DETAIL (TYPICAL)

FLASHER SIGNAL LEGEND

	PROPOSED	EXISTING
FLASHER CONTROL CABINET	⋈	⋈
SERVICE INSTALLATION	■	□
12" SIGNAL HEAD (LED)	→	→
WOOD POST, 4" x 6"	⊠	⊠ "E"
CONDUIT IN GROUND OR UNIT DUCT IN TRENCH	- - - - -	═══
HANDHOLE	◪	◪
HEAVY-DUTY HANDHOLE	H	H "E"
ELECTRICAL POLE	●	○
GROUND ROD	●⊣	○⊣
SIGNAL FACE WITH BACKPLATE	R	Ⓡ
W2-1 OR W2-2 WARNING SIGN W/ STREET PANEL		□
JUNCTION BOX - STAINLESS STEEL	J	

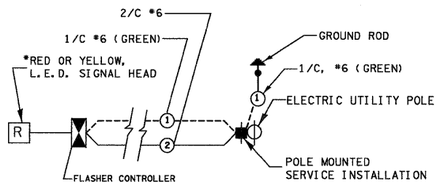


VARIOUS PLANS – TRAFFIC SIGNAL FLASHERS
N.T.S.

1 U.S. ROUTE 45/52 @ WILMINGTON/ PEOTONE RD. (VILLAGE OF PEOTONE)
2 GOVERNORS HWY. @ STUENKEL RD. (VILLAGE OF UNIVERSITY PARK)
3 U.S. ROUTE 52 @ LARAWAY RD. (CITY OF JOLIET)
4 U.S. ROUTE 6 @ PARKER RD. (VILLAGE OF MOKENA)
5 U.S. ROUTE 6 @ BRANDON RD. (CITY OF JOLIET)
6 IL. ROUTE 129 @ STRIP MINE RD. (CITY OF WILMINGTON)
7 IL. ROUTE 126 @ ESSINGTON RD. (CITY OF PLAINFIELD)

NOTES:

REMOVAL OF INCANDESCENT OPTICS ARE INCLUDED IN L.E.D. RETROFIT PAY ITEM



TYPICAL CABLE PLAN

- YELLOW FLASHER - MOUNTED IN ADVANCE OF INTERSECTION
  RED FLASHER - MOUNTED AT INTERSECTION

SCHEDULE OF QUANTITIES

ITEM	UNIT	QUANITITY
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	2
SIGNAL HEAD, L.E.D. 1-SECTION, SPAN WIRE MOUNTED, RETROFIT	EACH	8
SIGNAL HEAD, L.E.D. 1-SECTION, POST MOUNTED, RETROFIT	EACH	2

L.E.D. FLASHERS - SCHEDULE OF QUANTITIES

ITEM DESCRIPTION	1 U.S. RTE. 45/52 @ WILMINGTON PEOTONE RD.	2 GOVERNOR'S HWY @ STUENKEL ROAD	3 U.S. RTE. 52 @ LARAWAY ROAD	4 U.S. RTE. 6 @ PARKER ROAD	5 U.S. RTE. 6 @ BRANDON ROAD	6 IL. RTE. 129 @ STRIP MINE RD.	7 IL. RTE. 126 @ ESSINGTON RD.
TRAFFIC SIGNAL FLASHER 1-SECTION, L.E.D.- (RED)	4	4	4	4		4	
TRAFFIC SIGNAL FLASHER 1-SECTION, L.E.D.- (YELLOW)				□ 2	* 1	△ 2	S 1

* ADVANCED WARNING FLASHER WESTBOUND U.S. ROUTE 6 (IDOT CONTRACT)
△ ADVANCED WARNING FLASHER(S) NORTH & SOUTHBOUND IL. ROUTE 129 @ STRIP MINE RD.
□ ADVANCED WARNING FLASHER(S) EAST & WESTBOUND U.S. ROUTE 6 @ PARKER RD.
S ADVANCED WARNING FLASHER WESTBOUND (SOLAR POWERED) ON IL. ROUTE 126
▨ NOT APPLICABLE THIS LOCATION

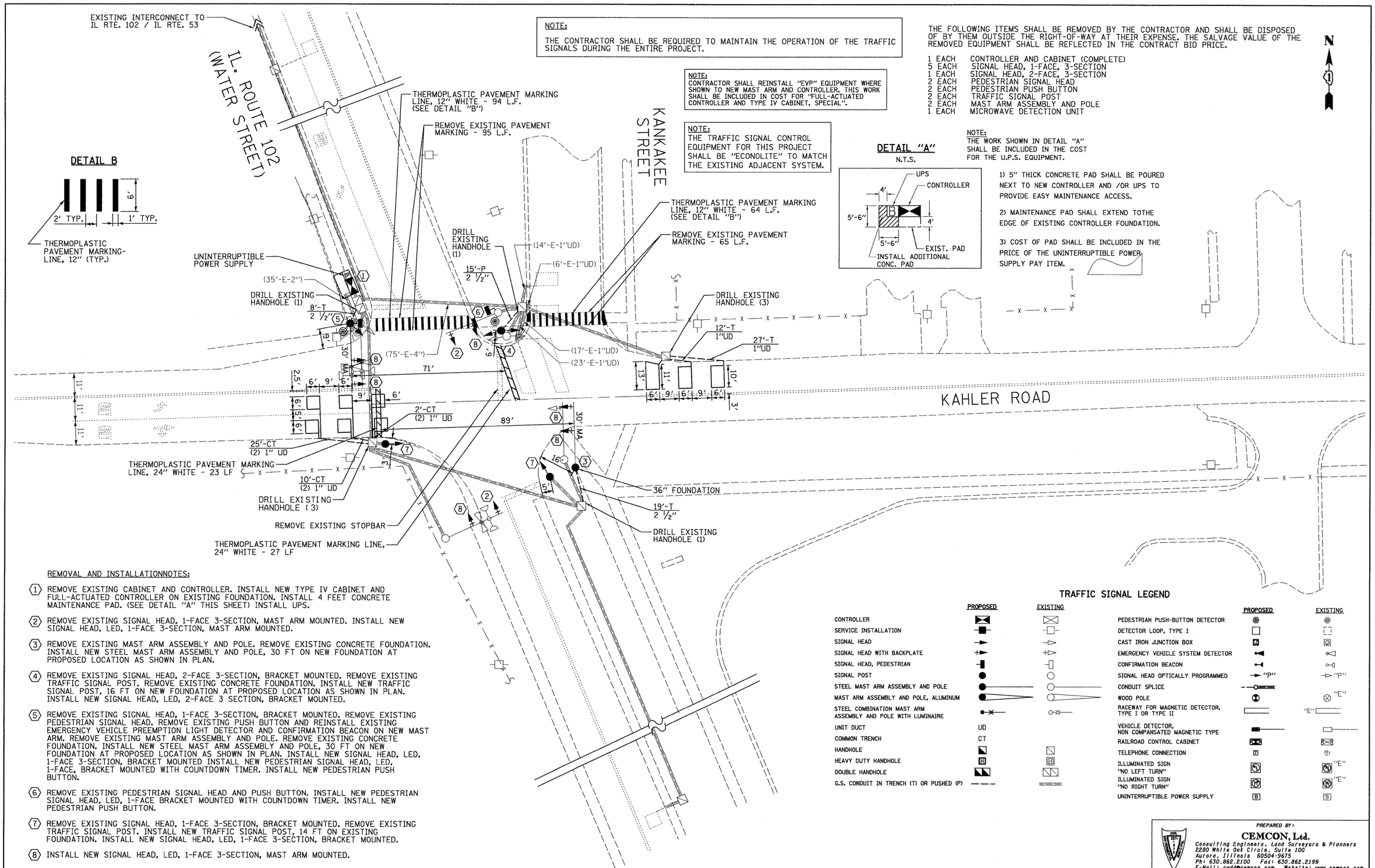
FILE NAME = \MICROST\352072\LED FLASHER LOC.DGN	USER NAME =	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = 1"=20'	CHECKED -	REVISED -
	PLOT DATE = 03-18-09	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLAN – LED TRAFFIC SIGNAL RETROFIT FLASHER LOCATIONS
U.S. ROUTE 45 /52 @ WILMINGTON /PEOTONE ROAD
U.S. ROUTE 129 @ STRIP MINE ROAD

SCALE: N.T.S. | SHEET NO. OF SHEETS | STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2009-036 TS	WILL	13	8
		CONTRACT NO. 60G41		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



REMOVAL AND INSTALLATIONNOTES:

(1) REMOVE EXISTING CABINET AND CONTROLLER. INSTALL NEW TYPE IV CABINET AND FULL-ACTUATED CONTROLLER ON EXISTING FOUNDATION. INSTALL 4 FEET CONCRETE MAINTENANCE PAD. (SEE DETAIL "A" THIS SHEET) INSTALL UPS.

(2) REMOVE EXISTING SIGNAL HEAD, 1-FACE 3-SECTION, MAST ARM MOUNTED. INSTALL NEW SIGNAL HEAD, LED, 1-FACE 3-SECTION, MAST ARM MOUNTED.

(3) REMOVE EXISTING MAST ARM ASSEMBLY AND POLE. REMOVE EXISTING CONCRETE FOUNDATION. INSTALL NEW STEEL MAST ARM ASSEMBLY AND POLE, 30 FT ON NEW FOUNDATION AT PROPOSED LOCATION AS SHOWN IN PLAN.

(4) REMOVE EXISTING SIGNAL HEAD, 2-FACE 3-SECTION, BRACKET MOUNTED. REMOVE EXISTING TRAFFIC SIGNAL POST. REMOVE EXISTING CONCRETE FOUNDATION. INSTALL NEW TRAFFIC SIGNAL POST, 16 FT ON NEW FOUNDATION AT PROPOSED LOCATION AS SHOWN IN PLAN. INSTALL NEW SIGNAL HEAD, LED, 2-FACE 3 SECTION, BRACKET MOUNTED.

(5) REMOVE EXISTING SIGNAL HEAD, 1-FACE 3-SECTION, BRACKET MOUNTED. REMOVE EXISTING PEDESTRIAN SIGNAL HEAD. REMOVE EXISTING PUSH BUTTON AND REINSTALL EXISTING EMERGENCY VEHICLE PREEMPTION LIGHT DETECTOR AND CONFIRMATION BEACON ON NEW MAST ARM. REMOVE EXISTING MAST ARM ASSEMBLY AND POLE. REMOVE EXISTING CONCRETE FOUNDATION. INSTALL NEW STEEL MAST ARM ASSEMBLY AND POLE, 30 FT ON NEW FOUNDATION AT PROPOSED LOCATION AS SHOWN IN PLAN. INSTALL NEW SIGNAL HEAD, LED, 1-FACE 3-SECTION, BRACKET MOUNTED INSTALL NEW PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER. INSTALL NEW PEDESTRIAN PUSH BUTTON.

(6) REMOVE EXISTING PEDESTRIAN SIGNAL HEAD AND PUSH BUTTON. INSTALL NEW PEDESTRIAN SIGNAL HEAD, LED, 1-FACE BRACKET MOUNTED WITH COUNTDOWN TIMER. INSTALL NEW PEDESTRIAN PUSH BUTTON.

(7) REMOVE EXISTING SIGNAL HEAD, 1-FACE 3-SECTION, BRACKET MOUNTED. REMOVE EXISTING TRAFFIC SIGNAL POST. INSTALL NEW TRAFFIC SIGNAL POST, 14 FT ON EXISTING FOUNDATION. INSTALL NEW SIGNAL HEAD, LED, 1-FACE 3-SECTION, BRACKET MOUNTED.

(8) INSTALL NEW SIGNAL HEAD, LED, 1-FACE 3-SECTION, MAST ARM MOUNTED.

TRAFFIC SIGNAL LEGEND

	PROPOSED	EXISTING
CONTROLLER		
SERVICE INSTALLATION		
SIGNAL HEAD		
SIGNAL HEAD WITH BACKPLATE		
SIGNAL HEAD, PEDESTRIAN		
SIGNAL POST		
STEEL MAST ARM ASSEMBLY AND POLE		
MAST ARM ASSEMBLY AND POLE, ALUMINUM		
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE		
UNIT DUCT	UD	
COMMON TRENCH	CT	
HANDHOLE		
HEAVY DUTY HANDHOLE	H	H
DOUBLE HANDHOLE		
G.S. CONDUIT IN TRENCH (T) OR PUSHED (P)		

	PROPOSED	EXISTING
PEDESTRIAN PUSH-BUTTON DETECTOR		
DETECTOR LOOP, TYPE I		
CAST IRON JUNCTION BOX		
EMERGENCY VEHICLE SYSTEM DETECTOR		
CONFIRMATION BEACON		
SIGNAL HEAD OPTICALLY PROGRAMMED	"P"	"P"
CONDUIT SPLICE		
WOOD POLE	"E"	
RACEWAY FOR MAGNETIC DETECTOR, TYPE I OR TYPE II		"E"
VEHICLE DETECTOR, NON COMPANSATED MAGNETIC TYPE		
RAILROAD CONTROL CABINET		
TELEPHONE CONNECTION	T	T
ILLUMINATED SIGN "NO LEFT TURN"		"E"
ILLUMINATED SIGN "NO RIGHT TURN"		"E"
UNINTERRUPTIBLE POWER SUPPLY	B	B

PREPARED BY:
CEMCON, Ltd.
Consulting Engineers, Land Surveyors & Planners
2280 White Oak Circle, Suite 100
Aurora, Illinois 60504-9675
Ph: 630.862.2100 Fax: 630.862.2199
E-Mail: cadd@cemcon.com Website: www.cemcon.com

FILE NAME = \MICROST\352072\ IL102 @ KAHLER SIG.DGN	USER NAME = RDS	DESIGNED - KK	REVISED -
		DRAWN - RDS	REVISED -
	PLOT SCALE = 1"=20'	CHECKED - BPT	REVISED -
	PLOT DATE = 03-18-09	DATE - 03-18-09	REVISED -

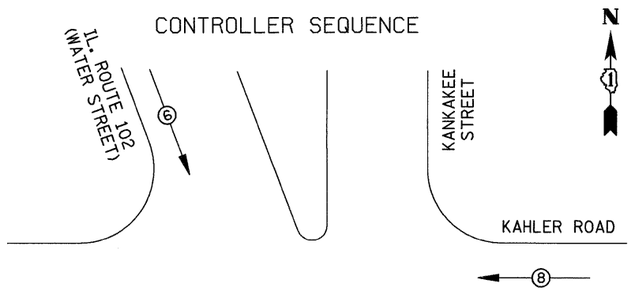
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TRAFFIC SIGNAL MODIFICATION PLAN
IL. ROUTE 102 (WATER STREET) AT KAHLER ROAD

SCALE: N.T.S. | SHEET NO. OF SHEETS | STA. TO STA.

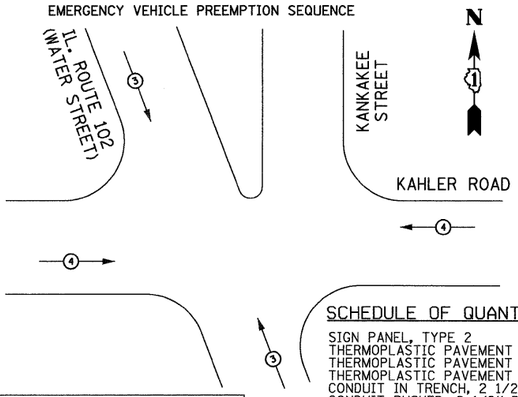
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2009-036 TS	WILL	13	9
		CONTRACT NO. 60G41		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTROLLER SEQUENCE



PHASE DESIGNATION DIAGRAM

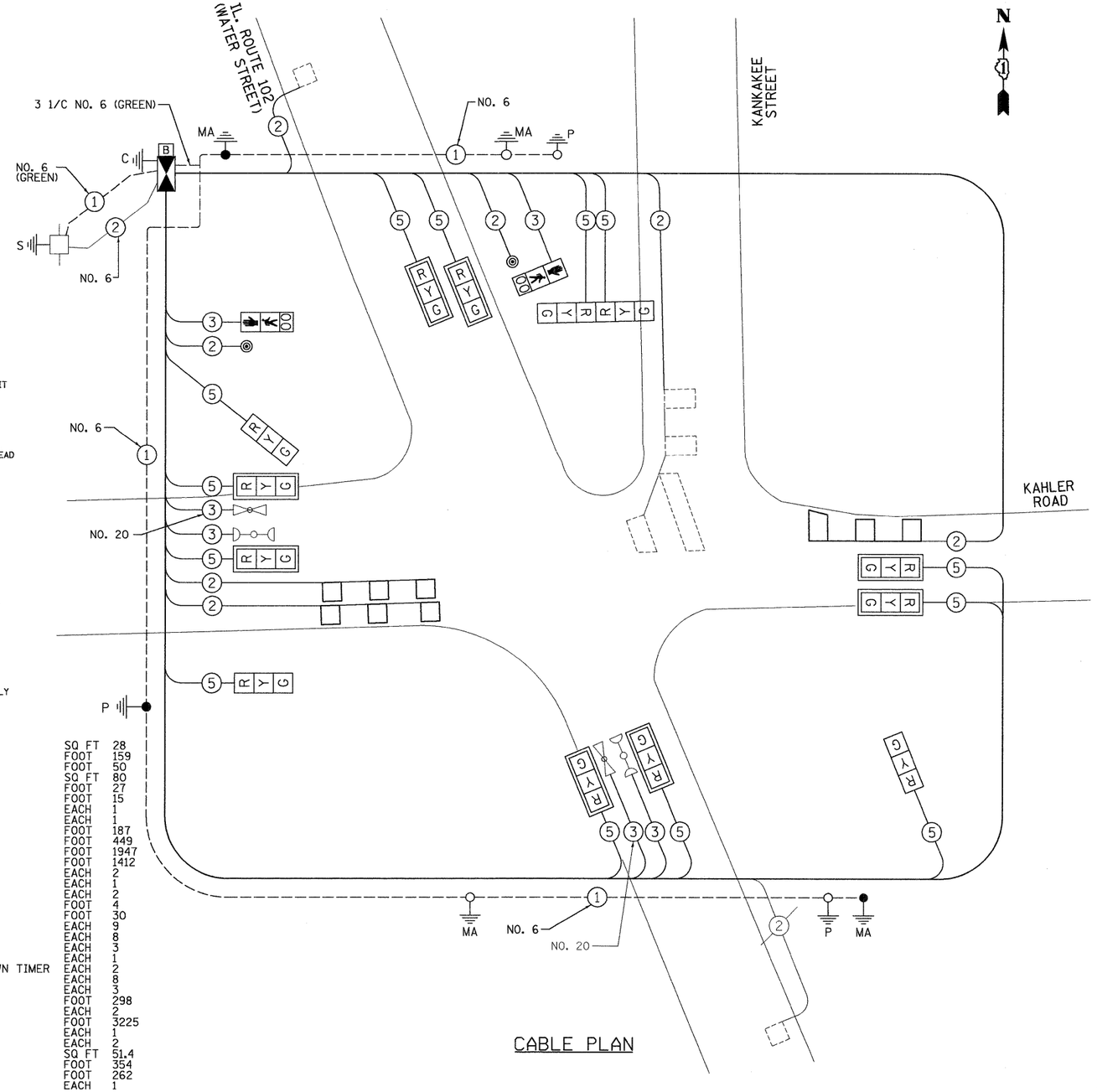
EMERGENCY VEHICLE PREEMPTION SEQUENCE



PROPOSED EMERGENCY VEHICLE PREEMPTOR		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT		

CABLE PLAN LEGEND

EXISTING	PROPOSED	
	G	8" (200mm) TRAFFIC SIGNAL SECTION
	R	12" (300mm) TRAFFIC SIGNAL SECTION
	W	12" (300mm) PEDESTRIAN SIGNAL SECTION
		12" (300mm) PEDESTRIAN SIGNAL SECTION
		CONTROLLER CABINET
		SERVICE INSTALLATION
		TELEPHONE CONNECTION
		MAGNETIC DETECTOR
		EMERGENCY VEHICLE LIGHT DETECTOR
		CONFIRMATION BEACON
		PUSH-BUTTON DETECTOR
		VEHICLE DETECTOR, INDUCTION LOOP
2	2	DENOTES NUMBER OF CONDUCTORS, ALL CABLE NO. 14 EXCEPT AS INDICATED. ALL LOOP DETECTOR CABLE TO BE SHIELDED.
1	1	GROUND CABLE IN CONDUIT NO. 6 SOLID COPPER (GREEN)
24	24	FIBER OPTIC CABLE IN CONDUIT NO. 62.5/125 2-MM12F SM12F
		SIGNAL FACE WITH BACKPLATE, "P" INDICATES PROGRAMMED HEAD
"E"	"E"	RAILROAD CONTROL CABINET
"E"		ILLUMINATED SIGN "NO LEFT TURN"
"E"		ILLUMINATED SIGN "NO RIGHT TURN"
H/C	C	GROUND ROD AT HANDHOLE (H), DOUBLE HANDHOLE (H), OR CONTROLLER (C)
P	P	GROUND ROD AT POST (P), OR MAST ARM POLE (MA)
S	S	GROUND ROD AT ELECTRIC SERVICE INSTALLATION
B	B	UNINTERRUPTIBLE POWER SUPPLY



CABLE PLAN

SCHEDULE OF QUANTITIES

SIGN PANEL, TYPE 2	SQ FT	28
THERMOPLASTIC PAVEMENT MARKING, LINE-12"	FOOT	159
THERMOPLASTIC PAVEMENT MARKING, LINE-24"	FOOT	50
THERMOPLASTIC PAVEMENT MARKING REMOVAL	SQ FT	80
CONDUIT IN TRENCH, 2 1/2" DIA., GALVANIZED STEEL	FOOT	27
CONDUIT PUSHED, 2 1/2" DIA., GALVANIZED STEEL	FOOT	15
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL	EACH	1
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C	FOOT	187
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	449
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C	FOOT	1947
ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR	FOOT	1412
TRAFFIC SIGNAL POST, GALVANIZED STEEL 14 FT.	EACH	2
TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.	EACH	1
STEEL MAST ARM ASSEMBLY AND POLE, 30 FT.	EACH	2
CONCRETE FOUNDATION, TYPE A	FOOT	4
CONCRETE FOUNDATION, TYPE E 36-INCH DIAMETER	FOOT	30
DRILL EXISTING HANDHOLE	EACH	9
SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED	EACH	8
SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED	EACH	3
SIGNAL HEAD, LED, 2-FACE, 3-SECTION, BRACKET MOUNTED	EACH	1
PEDESTRIAN SIGNAL HEAD, L.E.D., 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER	EACH	2
TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM	EACH	8
INDUCTIVE LOOP DETECTOR	EACH	3
DETECTOR LOOP, TYPE 1	FOOT	298
PEDESTRIAN PUSH-BUTTON	EACH	2
REMOVE ELECTRIC CABLE FROM CONDUIT	FOOT	3225
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
REMOVE EXISTING CONCRETE FOUNDATION	EACH	2
TEMPORARY INFORMATION SIGNING	SQ FT	51.4
ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C	FOOT	354
ELECTRIC CABLE IN CONDUIT, NO. 20 3/C, TWISTED & SHIELDED	FOOT	262
UNINTERRUPTIBLE POWER SUPPLY	EACH	1

I.D.O.T TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO. LAMPS	WATTAGE INCAND.	WATTAGE LED	%OPERATION	
SIGNAL (RED)	13	135	17	0.50	110.5
(YELLOW)	13	135	25	0.25	81.25
(GREEN)	13	135	15	0.25	48.75
ARROW		135	12	0.10	
PED. SIGNAL	2	90	25	1.00	50
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		84		0.05	
FLASHER				0.50	
ENERGY COSTS TO:				TOTAL =	390.5

FOUNDATION (DEPTH)	FT. (m)	CABLE SLACK	FT. (m)	VERTICAL	FT. (m)
TYPE A - POST	4 (1.2)	HANDHOLE	6.5 (2.0)	ALL FOUNDATIONS	3.0 (1.0)
D - CONTROLLER	4 (1.2)	DOUBLE HANDHOLE	13 (4.0)	MAST ARM (L) POLE	20.0 (6.0)
E - M. ARM POLE		SIGNAL POST	0 (0.0)	BRACKET MOUNTED	13 (4.0)
24" (600mm)	10 (3.0)	CONTROLLER CAB.	0 (0.0)	PED. PUSH-BUTTON	6 (2.0)
30" (750mm)	15 (4.6)	FIBER OPTIC	13 (4.0)	ELECTRIC SERVICE	13.5 (4.1)
		ELECTRIC SERVICE	1 (0.5)	SERVICE TO GROUND	13.5 (4.1)
		GROUND CABLE	1 (0.5)	POST MOUNTED	13 (4.0)

ENERGY SUPPLY CONTACT: _____
PHONE: _____
COMPANY: COMED

PREPARED BY:
CEMCON, Ltd.
Consulting Engineers, Land Surveyors & Planners
2280 White Oak Circle, Suite 100
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Ph: 630.862.2100 Fax: 630.862.2199
E-Mail: cadd@cemcon.com Website: www.cemcon.com

FILE NAME = \MICROST\352072\ IL102@ KAHLER CAB.DGN	USER NAME = RDS	DESIGNED - KK	REVISED -
		DRAWN - RDS	REVISED -
	PLOT SCALE = 1"=20'	CHECKED - BPT	REVISED -
	PLOT DATE = 03-18-09	DATE - 03-18-09	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCHEDULE OF QUANTITIES, CABLE PLAN AND PHASE DESIGNATION DIAGRAM
IL. ROUTE 102 (WATER STREET) AT KAHLER ROAD

SCALE: N.T.S. | SHEET NO. OF SHEETS | STA. TO STA.

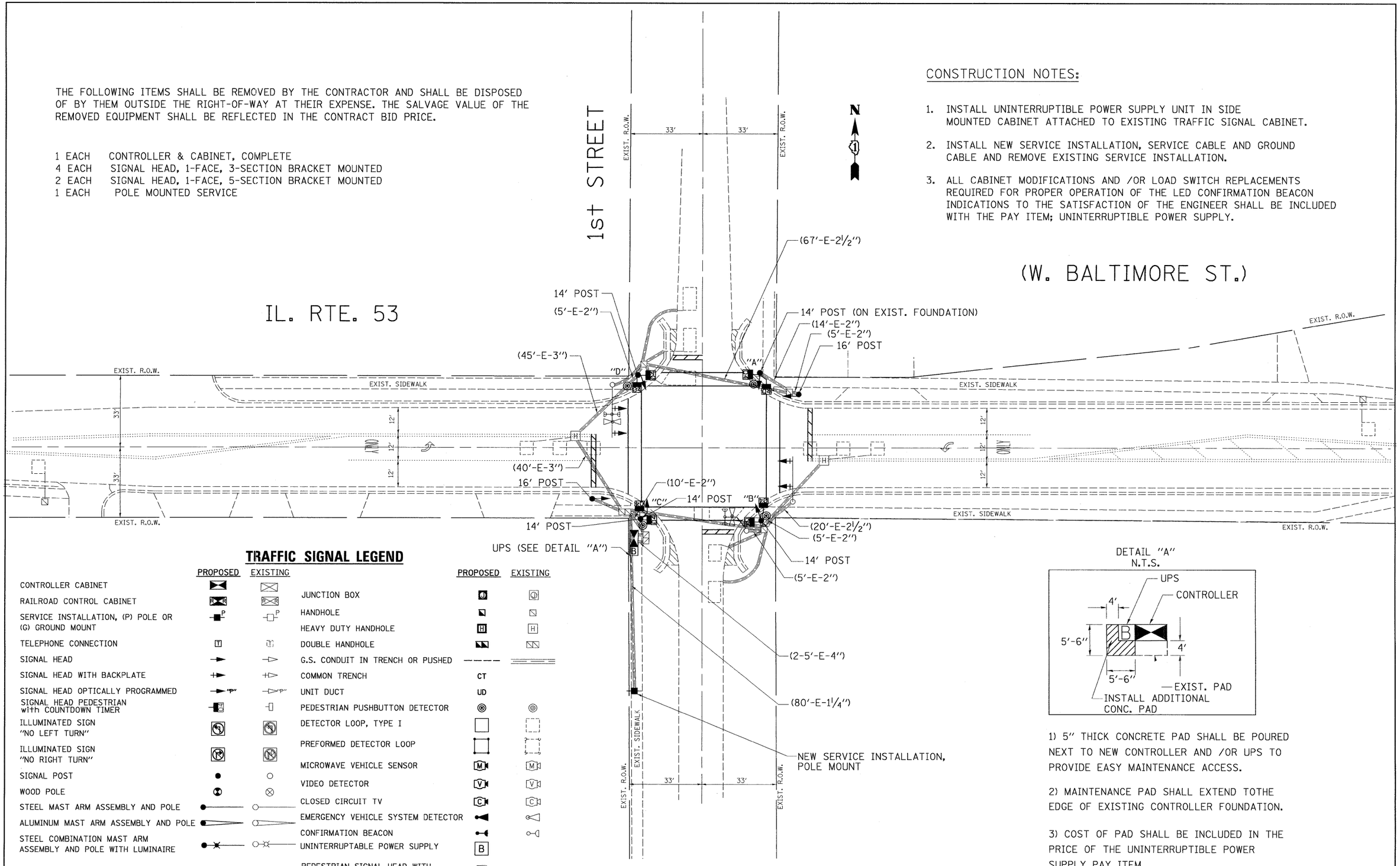
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2009-036 TS	WILL	13	10
		CONTRACT NO. 60G41		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

1 EACH CONTROLLER & CABINET, COMPLETE
4 EACH SIGNAL HEAD, 1-FACE, 3-SECTION BRACKET MOUNTED
2 EACH SIGNAL HEAD, 1-FACE, 5-SECTION BRACKET MOUNTED
1 EACH POLE MOUNTED SERVICE

CONSTRUCTION NOTES:

1. INSTALL UNINTERRUPTIBLE POWER SUPPLY UNIT IN SIDE MOUNTED CABINET ATTACHED TO EXISTING TRAFFIC SIGNAL CABINET.
2. INSTALL NEW SERVICE INSTALLATION, SERVICE CABLE AND GROUND CABLE AND REMOVE EXISTING SERVICE INSTALLATION.
3. ALL CABINET MODIFICATIONS AND /OR LOAD SWITCH REPLACEMENTS REQUIRED FOR PROPER OPERATION OF THE LED CONFIRMATION BEACON INDICATIONS TO THE SATISFACTION OF THE ENGINEER SHALL BE INCLUDED WITH THE PAY ITEM; UNINTERRUPTIBLE POWER SUPPLY.



TRAFFIC SIGNAL LEGEND

	PROPOSED	EXISTING
CONTROLLER CABINET	▬	▭
RAILROAD CONTROL CABINET	▬R	▭R
SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT	■P	□P
TELEPHONE CONNECTION	T	T
SIGNAL HEAD	►	▷
SIGNAL HEAD WITH BACKPLATE	►+	▷+
SIGNAL HEAD OPTICALLY PROGRAMMED	►"P"	▷"P"
SIGNAL HEAD PEDESTRIAN with COUNTDOWN TIMER	■	□
ILLUMINATED SIGN "NO LEFT TURN"		
ILLUMINATED SIGN "NO RIGHT TURN"		
SIGNAL POST	●	○
WOOD POLE	⊗	⊗
STEEL MAST ARM ASSEMBLY AND POLE	●—	○—
ALUMINUM MAST ARM ASSEMBLY AND POLE	●—	○—
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE	●—✳	○—✳

	PROPOSED	EXISTING
JUNCTION BOX	◐	◎
HANDHOLE	◥	◹
HEAVY DUTY HANDHOLE	H	H
DOUBLE HANDHOLE	◥◤	◹◺
G.S. CONDUIT IN TRENCH OR PUSHED	————	═══
COMMON TRENCH	CT	
UNIT DUCT	UD	
PEDESTRIAN PUSHBUTTON DETECTOR	◎	◎
DETECTOR LOOP, TYPE I	□	⬚
PREFORMED DETECTOR LOOP	□	⬚
MICROWAVE VEHICLE SENSOR	M	M
VIDEO DETECTOR	V	V
CLOSED CIRCUIT TV	C	C
EMERGENCY VEHICLE SYSTEM DETECTOR	◄	◅
CONFIRMATION BEACON	⊶	⊶
UNINTERRUPTABLE POWER SUPPLY	B	
PEDESTRIAN SIGNAL HEAD WITH COUNTDOWN TIMER	■	

DETAIL "A"
N.T.S.

1) 5" THICK CONCRETE PAD SHALL BE POURED NEXT TO NEW CONTROLLER AND /OR UPS TO PROVIDE EASY MAINTENANCE ACCESS.

2) MAINTENANCE PAD SHALL EXTEND TOTHE EDGE OF EXISTING CONTROLLER FOUNDATION.

3) COST OF PAD SHALL BE INCLUDED IN THE PRICE OF THE UNINTERRUPTIBLE POWER SUPPLY PAY ITEM.

FILE NAME = \MICROST\352072\IL 53 @ 1ST SIG.DGN	USER NAME =	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = 1"=20'	CHECKED -	REVISED -
	PLOT DATE = 03-18-09	DATE -	REVISED -

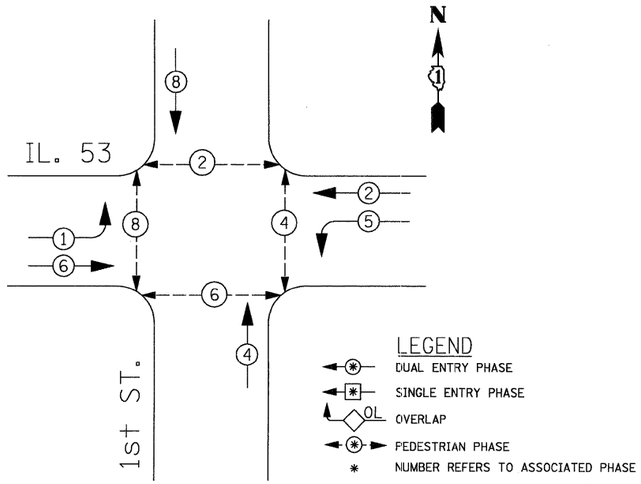
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TRAFFIC SIGNAL MODERNIZATION PLAN

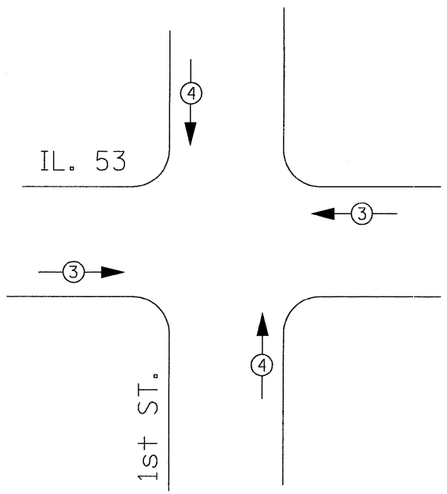
IL. RTE. 53 AT 1st ST.

SCALE: 1"=20' | SHEET NO. OF SHEETS | STA. | TO STA.

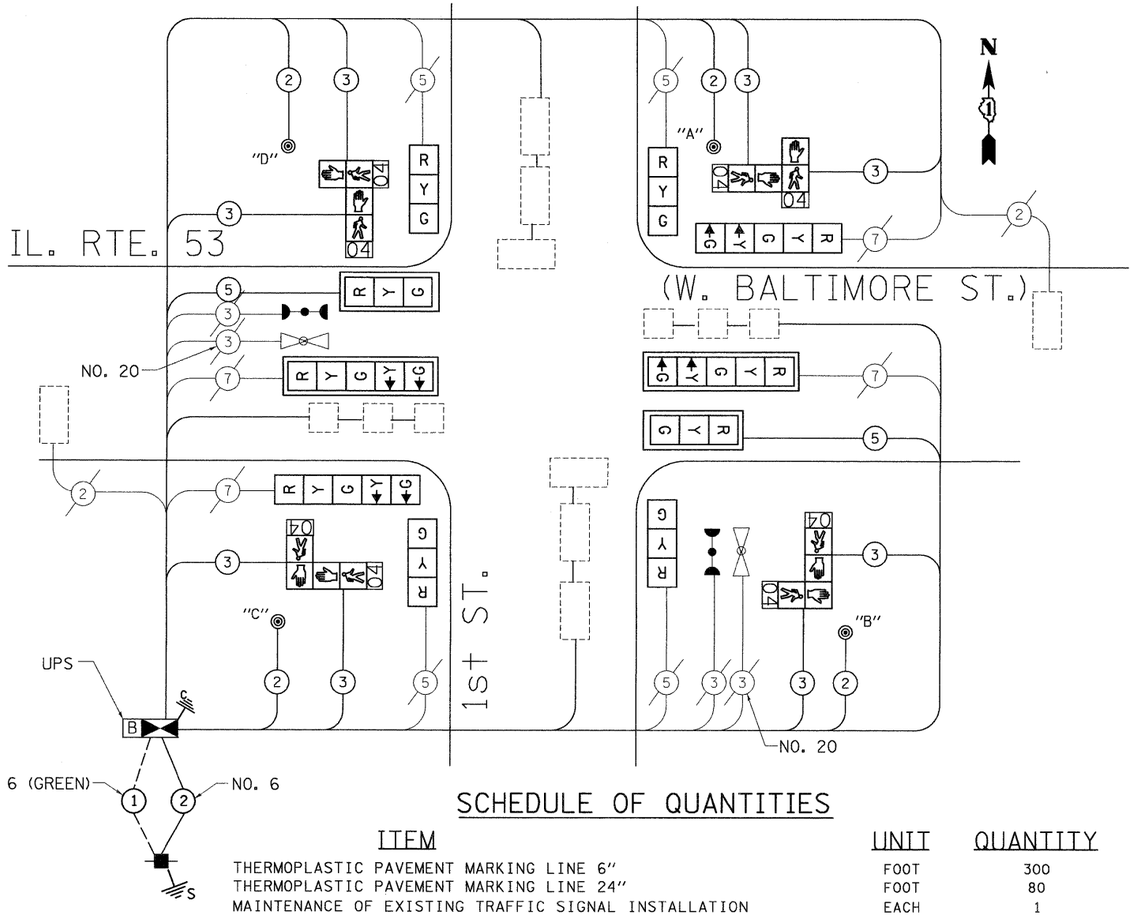
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2009-036 TS	WILL	13	11
		CONTRACT NO. 60G41		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



PHASE DESIGNATION DIAGRAM



EMERGENCY VEHICLE PREEMPTION SEQUENCE



CABLE PLAN LEGEND

	PROPOSED	EXISTING
CONTROLLER CABINET		
RAILROAD CONTROL CABINET		
SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT	P	P
TELEPHONE CONNECTION	T	T
GROUND ROD AT (C) CONTROLLER, (H)HANDHOLE, (P) POST, (M) MAST ARM, OR (S) SERVICE	C	C
FIBER OPTIC CABLE IN CONDUIT, NUMBER OF FIBERS AS NOTED	24	24
ELECTRIC CABLE IN CONDUIT, NO. 14, UNLESS OTHERWISE NOTED. NUMBER OF CONDUCTORS AS NOTED	2	2
GROUND CABLE IN CONDUIT NO. 6 COPPER (GREEN)	1	1
SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD	R Y G ←Y ←G "P"	R Y G ←Y ←G "P"
12" (300mm) RED WITH 8" (200mm) YELLOW AND GREEN TRAFFIC SIGNAL FACE		R Y G
12" (300mm) TRAFFIC SIGNAL SECTION	R	R
12" (300mm) PEDESTRIAN SIGNAL SECTION with COUNTDOWN TIMER	04	OR DW
ILLUMINATED SIGN "NO LEFT TURN"		
ILLUMINATED SIGN "NO RIGHT TURN"		
PUSHBUTTON DETECTOR		
DETECTOR LOOP		
PREFORMED DETECTOR LOOP		
MICROWAVE VEHICLE SENSOR	M	M
VIDEO DETECTOR	V	V
CLOSED CIRCUIT TV	C	C
EMERGENCY VEHICLE SYSTEM DETECTOR		
CONFIRMATION BEACON		
UNINTERRUPTABLE POWER SUPPLY	B	

SCHEDULE OF QUANTITIES

ITEM	UNIT	QUANTITY
THERMOPLASTIC PAVEMENT MARKING LINE 6"	FOOT	300
THERMOPLASTIC PAVEMENT MARKING LINE 24"	FOOT	80
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
FULL-ACTUATED CONTROLLER AND TYPE IV CABINET	EACH	1
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C	FOOT	562
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	1082
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C	FOOT	330
ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C	FOOT	80
ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2C	FOOT	80
SIGNAL HEAD, L.E.D. 1-FACE, 3 SECTION, MAST ARM MNTD.	EACH	2
SIGNAL HEAD, L.E.D. 1-FACE, 3 SECTION, BRACKET MNTD.	EACH	4
SIGNAL HEAD, L.E.D. 1-FACE, 5 SECTION, MAST ARM. MNTD.	EACH	2
SIGNAL HEAD, L.E.D. 1-FACE, 5 SECTION, BRKT. MNTD.	EACH	2
TRAFFIC SIGNAL POST, GALVANIZED STEEL 14FT.	EACH	4
TRAFFIC SIGNAL POST, GALVANIZED STEEL 16FT.	EACH	2
TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM	EACH	4
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
UNINTERRUPTIBLE POWER SUPPLY	EACH	1
SERVICE INSTALLATION, POLE MOUNTED	EACH	1
PEDESTRIAN PUSH-BUTTON	EACH	4
PEDESTRIAN SIGNAL HEAD, L.E.D., 2-FACE, BRKT. MNTD. with COUNTDOWN TIMER	EACH	4
THERMOPLASTIC PAVEMENT MARKING REMOVAL	FOOT	96
CONFIRMATION BEACON	EACH	2

PUSH BUTTON NOTES:

PUSH BUTTON "A" SHALL PLACE A CALL IN PHASES 2 AND 4
PUSH BUTTON "B" SHALL PLACE A CALL IN PHASES 4 AND 6
PUSH BUTTON "C" SHALL PLACE A CALL IN PHASES 3 AND 6
PUSH BUTTON "D" SHALL PLACE A CALL IN PHASES 2 AND 3

I.D.O.T
TRAFFIC SIGNAL INSTALLATION
ELECTRICAL SERVICE REQUIREMENTS

TYPE	NO. LAMPS	WATTAGE INCAND.	WATTAGE LED	%OPERATION	TOTAL WATTAGE
SIGNAL (RED)	10	135	17	0.50	85.00
(YELLOW)	10	135	25	0.25	62.50
(GREEN)	10	135	15	0.25	37.50
ARROW	8	135	12	0.10	9.60
PED. SIGNAL	8	90	25	1.00	200.00
CONTROLLER	1	100	100	1.00	
ILLUM. SIGN		84		0.05	100.00
FLASHER				0.50	
ENERGY COSTS TO:				TOTAL =	494.60

EMERGENCY VEHICLE PREEMPTOR		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	→ ←	↑ ↓

FOUNDATION (DEPTH)	FT. (m)	CABLE SLACK	FT. (m)	VERTICAL	FT. (m)
TYPE A - POST	4 (1.2)	HANDHOLE	6.5 (2.0)	ALL FOUNDATIONS	3.5 (1.0)
D - CONTROLLER	4 (1.2)	DOUBLE HANDHOLE	13 (4.0)	MAST ARM (L) POLE	20'+L-2=
E - M. ARM POLE		SIGNAL POST	2 (1.0)		(6m+L-0.6m)=
24" (600mm)	10 (3.0)	CONTROLLER CAB.	1 (0.5)	BRACKET MOUNTED	13 (4.0)
30" (750mm)	15 (4.6)	FIBER OPTIC	13 (4.0)	PED. PUSHBUTTON	4 (1.2)
36" (900mm)	15 (4.6)	ELECTRIC SERVICE	1 (0.5)	ELECTRIC SERVICE	13.5 (4.1)
		GROUND CABLE	1 (0.5)	SERVICE TO GROUND	13.5 (4.1)
				POST MOUNTED	6 (1.8)

ENERGY SUPPLY CONTACT:
PHONE: 708-410-5069
COMPANY: COM. EDISON

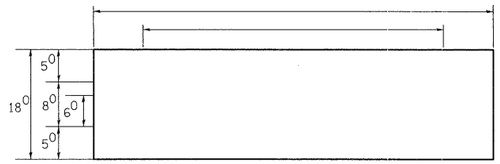
FILE NAME = \MICROST\352072\IL 53 @ 1ST CAB.DGN	USER NAME =	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = 1"=20'	CHECKED -	REVISED -
	PLOT DATE = 03-18-09	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

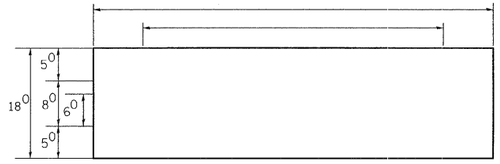
CABLE PLAN, SCHEDULE OF QUANTITIES AND PHASE DESIGNATION DIAGRAM
IL. RTE. 53 AT 1st ST.
SCALE: 1"=20' | SHEET NO. OF SHEETS | STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2009-036 TS	WILL	13	12
		CONTRACT NO. 60G41		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

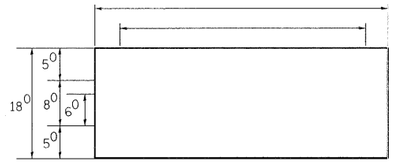
PANEL SIGN DESIGN TYPE 1



___ Sq. M. each
___ Sq. Ft. each
___ Required
Design Series __



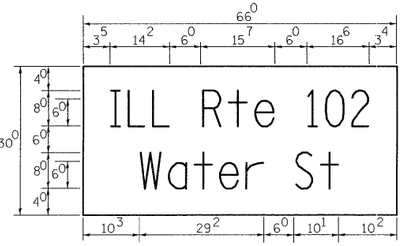
___ Sq. M. each
___ Sq. Ft. each
___ Required
Design Series __



___ Sq. M. each
___ Sq. Ft. each
___ Required
Design Series __

NOTE: SIGN DIMENSIONS ARE IN ENGLISH UNITS

PANEL SIGN DESIGN TYPE 2



___ Sq. M. each
13.75 Sq. Ft. each
2 Required
Design Series D

GENERAL NOTES

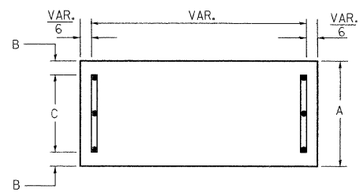
1. WHERE MAST ARM MOUNTED STREET NAME SIGNS ARE SPECIFIED, THE MAST ARM ASSEMBLY AND POLES SHALL BE DESIGNED TO SUPPORT THE LOADINGS CALLED FOR ON STANDARDS 834001, 834006 AND 834011, AS APPLICABLE, PLUS TWO (2) SIGN PANELS 2'-6" x 6'-0" MOUNTED AS SHOWN. THE DESIGN SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CURRENT "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS" AS PUBLISHED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS FOR 80 M.P.H. WIND VELOCITY.
2. ALL SIGNS SHALL HAVE A WHITE REFLECTORIZED LEGEND AND BORDER ON A GREEN REFLECTORIZED BACKGROUND, TYPE A SHEETING.
3. THE SIGN LENGTH SHOULD BE INCREASED IN 6-INCH INCREMENTS, BUT THE OVERALL LENGTH SHOULD NOT EXCEED 6'-0".
4. ALL BORDERS SHALL BE ¾" WIDE AND CORNER RADIUS SHALL BE 2-1/4 ".
5. SIGNFIX ALUMINUM CHANNEL FRAMING SYSTEM SHALL BE USED FOR ALL SIGNS ATTACHED TO SIGNAL POLES AND POSTS. LOCAL SUPPLIERS OF THE SIGNFIX ALUMINUM CHANNEL FRAMING SYSTEM ARE:
   - * A.K.T. CORPORATION, SCHAUMBURG, IL
   - * AMERICAN FABRICATION CO., CHICAGO HEIGHTS, IL
   - * TUCKER COMPANY, INC., WAUWATOSA, WI
   - * WESTERN TRAFFIC CONTROL INC., CICERO, IL

PARTS LISTING:

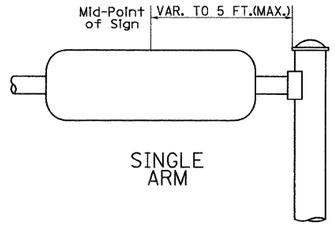
SIGN CHANNEL	PART #HPN053 (MED. CHANNEL)
SIGN SCREWS	¼" x 14 x 1" H.W.H. #3 SELF TAPPING WITH NEOPRENE WASHER
BRACKETS	PART #HPN034 (UNIVERSAL) CHANNEL CLAMPS WITH STAINLESS STEEL STRAPPING

OTHER BRANDS OF MOUNTING HARDWARE ARE ACCEPTABLE, BASED UPON THE DEPARTMENT'S APPROVAL AND COMPATIBILITY WITH THE CHANNEL/BRACKET OF THE ABOVE PRODUCT.

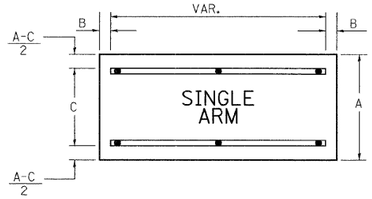
SUPPORTING CHANNELS



A	B	C
18"	2"	14"

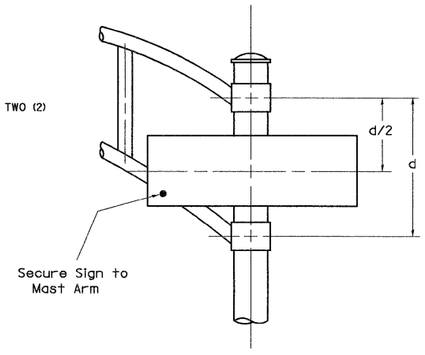


SUPPORTING CHANNELS



___ Sq. M. each
13.75 Sq. Ft. each
2 Required
Design Series D

A	B	C
18"	2"	12"
30"	2"	22"



SIGNFIX ALUMINUM CHANNEL FRAMING SYSTEM
Shall be used. See Note #5.

Upper Case To Lower Case
Spacing Chart 8-6 Inch Series "C & D"

EXAMPLE, $2^{(3)}$ DENOTES $\frac{3}{8}$"

FIRST LETTER	SECOND LETTER: a c d e g o q		b h i k l m n p r u		f w		j		s t		v y		x		z	
SERIES	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D
A W X	1^2	1^4	1^4	1^5	1^2	1^4	0^6	1^0	1^1	1^4	0^6	1^0	1^1	1^2	1^2	1^4
B	1^4	1^5	2^0	2^1	1^4	1^5	1^1	1^2	1^4	1^5	1^2	1^4	1^2	1^4	1^6	1^7
C E G	1^4	1^5	2^0	2^1	1^2	1^4	0^6	1^0	1^2	1^4	1^2	1^4	1^4	1^5	1^4	1^5
D O Q R	1^4	1^5	2^0	2^1	1^4	1^5	0^6	1^0	1^2	1^4	1^2	1^4	1^4	1^5	1^4	1^5
F	0^5	0^6	1^4	1^5	0^6	1^0	0^5	0^6	0^6	1^0	0^6	1^0	0^6	1^0	1^1	1^2
H I M N	2^0	2^1	2^2	2^4	2^0	2^1	1^4	1^5	1^6	1^7	1^6	1^7	2^0	2^1	2^0	2^1
J U	2^0	2^1	2^0	2^1	1^6	1^7	1^4	1^5	1^6	1^7	1^6	1^7	1^6	1^7	2^0	2^1
K L	1^1	1^2	1^6	1^7	1^1	1^2	0^5	0^6	1^1	1^2	1^1	1^2	1^1	1^2	1^2	1^4
P	1^2	1^4	1^4	1^5	1^2	1^4	0^5	0^6	1^1	1^2	1^1	1^2	1^2	1^4	1^2	1^4
S	1^2	1^4	1^6	1^7	1^2	1^4	0^6	1^0	1^2	1^4	1^2	1^4	1^2	1^4	1^2	1^4
T	1^1	1^2	1^6	1^7	0^6	1^0	0^6	1^0	1^1	1^2	1^1	1^2	1^1	1^2	1^2	1^4
V	0^6	1^0	1^4	1^5	1^1	1^2	0^6	1^0	1^2	1^4	1^2	1^4	1^2	1^4	1^2	1^4
Y	0^5	0^6	1^4	1^5	0^6	1^0	0^5	0^6	0^5	0^7	0^5	0^6	0^6	1^0	1^1	1^2
Z	1^6	1^7	2^2	2^4	1^6	1^7	1^2	1^4	1^6	1^7	1^6	1^7	1^6	1^7	2^0	2^1

Lower Case To Lower Case
Spacing Chart 6 Inch Series "C & D"

FIRST LETTER	SECOND LETTER: a c d e g o q		b h i k l m n p r u		f w		j		s t		v y		x		z	
SERIES	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D
a d h g i j l m n q u	1^6	1^7	2^2	2^4	1^6	1^7	1^2	1^4	1^4	1^5	1^4	1^5	1^6	1^7	1^6	1^7
b f k o p s	1^2	1^4	1^6	1^7	1^1	1^2	0^5	0^6	1^1	1^2	1^1	1^2	1^2	1^4	1^2	1^4
c e	1^2	1^4	1^6	1^7	1^2	1^4	0^6	1^0	1^2	1^4	1^2	1^4	1^2	1^4	1^2	1^4
r	0^6	1^0	1^2	1^4	0^6	1^0	0^3	0^3	0^5	0^6	0^5	0^6	0^6	1^0	0^6	1^0
t z	1^2	1^4	1^6	1^7	1^2	1^4	0^6	1^0	1^1	1^2	1^1	1^2	1^2	1^4	1^2	1^4
v y	1^1	1^2	1^4	1^5	1^1	1^2	0^5	0^6	0^6	1^0	0^6	1^0	1^1	1^2	1^1	1^2
w	1^1	1^2	1^4	1^5	1^1	1^2	0^5	0^6	1^1	1^2	1^1	1^2	1^1	1^2	1^2	1^4
x	1^2	1^4	1^6	1^7	1^1	1^2	0^5	0^6	1^1	1^2	1^1	1^2	1^1	1^2	1^2	1^4

Number To Number
Spacing Chart 8 Inch Series "C & D"

FIRST NUMBER	SECOND NUMBER: 0		1		2		3		4		5		6		7		8		9	
SERIES	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D
0 9	1^6	1^7	1^6	1^7	1^4	1^5	1^2	1^4	1^4	1^5	1^4	1^5	1^6	1^7	1^2	1^4	1^6	1^7	1^6	1^7
1	2^0	2^1	2^0	2^1	2^0	2^1	1^6	1^7	1^4	1^5	2^0	2^1	2^0	2^1	1^4	1^5	2^0	2^1	2^0	2^1
2 3 4	1^4	1^5	1^4	1^5	1^4	1^5	1^2	1^4	1^2	1^4	1^4	1^5	1^4	1^5	1^1	1^2	1^6	1^7	1^4	1^5
5	1^4	1^5	1^4	1^5	1^4	1^5	1^1	1^2	1^1	1^2	1^4	1^5	1^4	1^5	1^1	1^2	1^4	1^5	1^4	1^5
6	1^6	1^7	1^4	1^5	1^4	1^5	1^2	1^5	1^2	1^4	1^4	1^5	1^4	1^5	1^1	1^2	1^4	1^5	1^4	1^5
7	1^2	1^4	1^2	1^4	1^4	1^5	1^2	1^5	0^5	0^6	1^2	1^4	1^4	1^5	1^1	1^2	1^4	1^5	1^2	1^4
8	1^6	1^7	1^6	1^7	1^4	1^5	1^2	1^5	1^2	1^4	1^4	1^5	1^6	1^7	1^2	1^4	1^6	1^7	1^4	1^5

UPPER AND LOWER CASE LETTER WIDTHS

LETTERS	6 INCH UPPER CASE LETTERS, SERIES C	6 INCH UPPER CASE LETTERS, SERIES D	8 INCH UPPER CASE LETTERS, SERIES C	8 INCH UPPER CASE LETTERS, SERIES D	LETTERS	6 INCH LOWER CASE LETTERS, SERIES C	6 INCH LOWER CASE LETTERS, SERIES D
A	3^6	5^0	5^0	6^5	a	3^5	4^2
B	3^2	4^0	4^3	5^3	b	3^5	4^2
C	3^2	4^0	4^3	5^3	c	3^5	4^1
D	3^2	4^0	4^3	5^3	d	3^5	4^2
E	3^0	3^5	4^0	4^7	e	3^5	4^2
F	3^0	3^5	4^0	4^7	f	2^3	2^6
G	3^2	4^0	4^3	5^3	g	3^5	4^2
H	3^2	4^0	4^3	5^3	h	3^5	4^2
I	0^7	0^7	1^1	1^2	i	1^1	1^1
J	3^0	3^6	4^0	5^0	j	2^0	2^2
K	3^2	4^1	4^3	5^4	k	3^5	4^2
L	3^0	3^5	4^0	4^7	l	1^1	1^1
M	3^7	4^5	5^1	6^1	m	6^0	7^0
N	3^2	4^0	4^3	5^3	n	3^5	4^2
O	3^4	4^2	4^5	5^5	o	3^6	4^3
P	3^2	4^0	4^3	5^3	p	3^5	4^2
Q	3^4	4^2	4^5	5^5	q	3^5	4^2
R	3^2	4^0	4^3	5^3	r	2^6	3^2
S	3^2	4^0	4^3	5^3	s	3^6	4^2
T	3^0	3^5	4^0	4^7	t	2^7	3^2
U	3^2	4^0	4^3	5^3	u	3^5	4^2
V	3^5	4^4	4^7	6^0	v	4^2	4^7
W	4^4	5^2	6^0	7^0	w	5^5	6^4
X	3^4	4^0	4^5	5^3	x	4^4	5^1
Y	3^6	5^0	5^0	6^6	y	4^6	5^3
Z	3^2	4^0	4^3	5^3	z	3^6	4^3

NUMBER	6 INCH SERIES, C	6 INCH SERIES, D	8 INCH SERIES, C	8 INCH SERIES, D
1	1^2	1^4	1^5	2^0
2	3^2	4^0	4^3	5^3
3	3^2	4^0	4^3	5^3
4	3^5	4^3	4^7	5^7
5	3^2	4^0	4^3	5^3
6	3^2	4^0	4^3	5^3
7	3^2	4^0	4^3	5^3
8	3^2	4^0	4^3	5^3
9	3^2	4^0	4^3	5^3
0	3^4	4^2	4^5	5^5

PREPARED BY:
CEMCON, Ltd.
Consulting Engineers, Land Surveyors & Planners
2280 White Oak Circle, Suite 100
Aurora, Illinois 60504-9675
Ph: 630.862.2100 Fax: 630.862.2199
E-Mail: cadd@cemcon.com Website: www.cemcon.com

FILE NAME = \MICROST\352072\ ST NAME KAHLER.DGN	USER NAME = RDS	DESIGNED - KK	REVISED -
		DRAWN - RDS	REVISED -
	PLOT SCALE = 1"=20'	CHECKED - BPT	REVISED -
	PLOT DATE = 03-18-09	DATE - 03-18-09	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MAST ARM MOUNTED STREET NAME SIGN
IL. ROUTE 102 (WATER STREET) AT KAHLER ROAD

SCALE: N.T.S. | SHEET NO. OF SHEETS | STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2009-036 TS	WILL	13	13
		CONTRACT NO. 60G41		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		