F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
*	**	KANKAKEE	33	-
STA.		TO STA.		
		ILLINOIS		

* FAP 840 (IL 50) & FAP 631 (IL 102)
** D-3 OPERATION GREENLIGHT 1997
D60-025-95

HIGHWAY STANDARDS

701006 OFF-ROAD OPERATIONS, 2L 2W, 4.5m (15') TO 600mm (24") AWAY, FOR SPEEDS MORE THAN 45 MPH
701101 OFF-ROAD OPERATIONS, MULTILANE, LESS THAN 4.5m (15') AWAY, FOR SPEEDS MORE THAN 45 MPH
701201 LANE CLOSURE, 2L, 2W, DAY ONLY ON-ROAD TO 600 mm (24 INCH) OFF-ROAD, FOR SPEEDS MORE THAN 45 MPH
701301 LANE CLOSURE, 2L, 2W SHORT TIME OPERATIONS, FOR SPEEDS MORE THAN 45 MPH
701401 LANE CLOSURE, MULTILANE, FOR SPEEDS MORE THAN 45 MPH
701501 LANE CLOSURE MULTILANE 1W 2W, DAY OR NIGHT OPERATIONS, FOR SPEEDS LESS THAN 45 MPH
701606 LANE CLOSURE MULTILANE 2W WITH MOUNTABLE MEDIAN, FOR SPEEDS LESS THAN 45 MPH
701701 LANE CLOSURE MULTILANE INTERSECTION, FOR SPEEDS LESS THAN 45 MPH
701801 LANE CLOSURE MULTILANE 1W OR 2W CROSSWALK OR SIDEWALK CLOSURE, FOR SPEEDS LESS THAN 45 MPH
702001 TRAFFIC CONTROL DEVICES
720001 SIGN PANEL MOUNTING DETAILS
813001 JUNCTION BOXES
814001 CONCRETE HANDHOLES
814006 DOUBLE HANDHOLES
838001 CONCRETE FOUNDATIONS DETAILS
839001 TRAFFIC SIGNALS MOUNTING DETAILS
846001 DETECTOR LOOP INSTALLATIONS
846006 TYPICAL LAYOUT FOR DETECTION LOOPS
857001 STANDARD PHASE DESIGNATION DIAGRAMS AND PHASE SEQUENCES

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33	INTERCONNECT PLAN- ILLINOIS ROUTE 102

MICROFILMED _____
REEL NUMBER _____
AWARDED _____
RESIDENT ENGINEER _____
AS BUILT CHANGES WERE MADE _____
ON THE FOLLOWING SHEETS _____

DISTRICT NO. 3 (815) 434-6131

PROJECT ENGINEER: BRUCE HUCKER
SQUAD LEADER: DAN DEVINE
TOWNSHIP: VILLAGE OF BRADLEY & VILLAGE OF BOURBONNAIS

MATTHEW A. GAUNTT, TRANSPORTATION ENGINEER
ILLINOIS REGISTERED PROFESSIONAL ENGINEER NO. 062-050146
LICENSE EXPIRES 11-30-97

CONTRACT NO. 86779

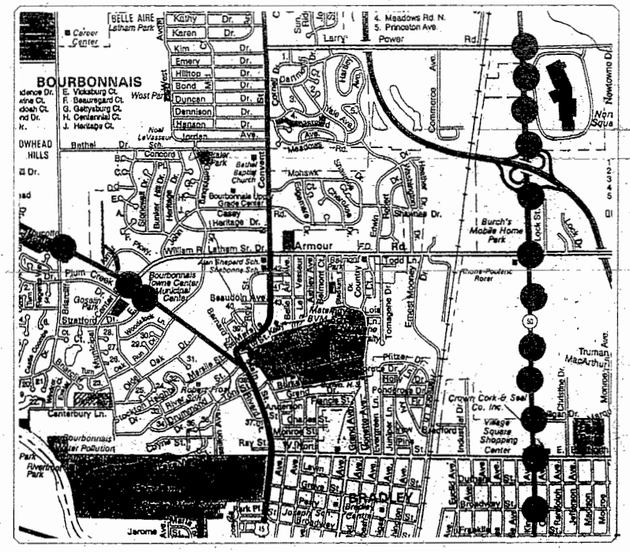
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

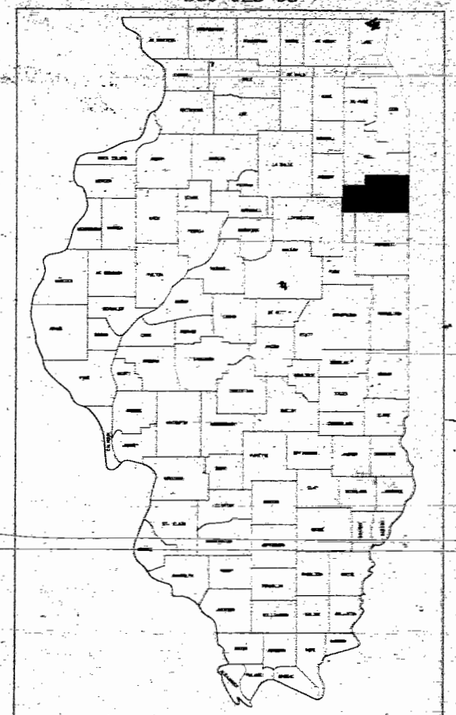
PLANS FOR PROPOSED
FEDERAL AID HIGHWAY

FAP 840 (IL-50) & FAP 631 (IL102)
D-3 OPERATION GREENLIGHT 1997
KANKAKEE COUNTY

TRAFFIC SIGNAL IMPROVEMENTS

C-93-078-97
SITE LOCATION





LOCATION OF PROJECT COUNTY INDICATED THUS: ■

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED March 27, 1997
DISTRICT ENGINEER

19
ENGINEER OF PROJECT DEVELOPMENT AND IMPLEMENTATION

May 9, 1997
ENGINEER OF DESIGN AND ENVIRONMENT

May 9, 1997
DIRECTOR OF HIGHWAYS

0 2 4 6 8 10 15 20 25 1cm=2.5m

0 2 4 6 8 10 15 20 25 30 1cm=2.5m

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.

D C B A 0 A B C D

URBAN
Y031-1F

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		KANKAKEE	33	3
STA.		TO STA.		
		ILLINOIS		

CODE NUMBER △	PAY ITEM	UNIT	TOTAL QTY.	IL ROUTE 50 & BROADWAY STREET	IL ROUTE 50 & NORTH STREET	IL ROUTE 50 & MULLIGAN DRIVE	IL ROUTE 50 & LOWE'S DRIVE	IL ROUTE 50 & K-MART DRIVE	IL ROUTE 50 & WAL-MART DRIVE	IL ROUTE 50 & ARMOUR ROAD	IL ROUTE 50 & SOUTH RAMP I-57	IL ROUTE 50 & NORTH RAMP I-57	IL ROUTE 50 & NORTHFIELD SOUTH	IL ROUTE 50 & NORTHFIELD NORTH	IL ROUTE 50 & LARRY POWER ROAD	INTERCONNECT LOWE'S TO K-MART	INTERCONNECT WAL-MART TO ARMOUR	IL ROUTE 102 & BRIARCLIFF LANE	IL ROUTE 102 & W. LATHAM DRIVE	IL ROUTE 102 & STRATFORD DRIVE	INTERCONNECT W. LATHAM TO STRATFORD	GENERAL
70100800	TRAFFIC CONTROL AND PROTECTION, STANDARD 701401	L. SUM	1																			
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L. SUM	1																			
70102620	TRAFFIC CONTROL AND PROTECTION, STANDARD 701501	L. SUM	1																			
70102625	TRAFFIC CONTROL AND PROTECTION, STANDARD 701606	L. SUM	1																			
70102635	TRAFFIC CONTROL AND PROTECTION, STANDARD 701701	L. SUM	1																			
70102640	TRAFFIC CONTROL AND PROTECTION, STANDARD 701801	L. SUM	1																			
72400100	REMOVE SIGN PANEL ASSEMBLY - TYPE A	EACH	8	2															4	2		
81306100	JUCTION BOX SPECIAL	EACH	4																2	2		
81400100	HANDHOLE	EACH	13	2	2	3										3	2					
83900200	DRILL EXISTING HANDHOLE	EACH	26	4	6	2										3	5		2	2	2	
84020160	SIGNAL HEAD, POLYCARBONATE, 1-FACE, 3-SECTION, BRACKET MOUNTED	EACH	12	4	2	4														2		
84020170	SIGNAL HEAD, POLYCARBONATE, 1-FACE, 3-SECTION, MAST ARM MOUNTED	EACH	12	2	2	2													4	2		
84020270	SIGNAL HEAD, POLYCARBONATE, 1-FACE, 5-SECTION, BRACKET MOUNTED	EACH	25	2	4	2			2	1			2	2				2	6	2		
84020280	SIGNAL HEAD, POLYCARBONATE, 1-FACE, 5-SECTION, MAST ARM MOUNTED	EACH	24	2	4	2			2	1			3	2				2	2	2		
84102200	PEDESTRIAN SIGNAL HEAD, POLYCARBONATE, 1-FACE, BRACKET MOUNTED	EACH	16 △	8																8		
84200100	TRAFFIC SIGNAL BACKPLATE	EACH	49	10	12				4				3	2				2	8	5		
84600100	INDUCTIVE LOOP DETECTOR	EACH	78	6	2	2				14 △				10 △				16	16	12		
85700200	FULL-ACTUATED CONTROLLER AND TYPE IV CABINET	EACH	6	1					1					1				1	1	1		
85700500	FULL-ACTUATED CONTROLLER IN EXISTING CABINET	EACH	6		1	1					1	1	1	1								
86000100	MASTER CONTROLLER	EACH	2					1														
86200100	PEDESTRIAN PUSH BUTTON	EACH	6	4																2		
86400100	TRANSCEIVER - FIBER OPTIC	EACH	6				1	1	1	1												
86700200	SERVICE INSTALLATION, TYPE B	EACH	1	1																		
87301250	RELOCATE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	5	1	4																	
87302210	MODIFY EXISTING CONTROLLER CABINET	EACH	9		1	1	1	1		1	1	1	1	1								
87302215	MODIFY EXISTING CONTROLLER FOUNDATION	EACH	6	1					1						1			1				
87302375	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	152 △	33	9	15			8	2	1	1	1	6	16			9	23	25		
M4240125	PORTLAND CEMENT CONCRETE SIDEWALK 125MM	SQ. M	1		1																	
M7200100	SIGN PANEL TYPE 1	SQ. MET	1.82	0.1															1.12	0.6		
M7240710	RELOCATE SIGN PANEL - TYPE1	SQ. MET	1.2	1.2																		
M7800540	PREFORMED PLASTIC PAVEMENT MARKINGS, LINE 600MM, TYPE C	METER	13		13																	
M7830300	PREFORMED PLASTIC PAVEMENT MARKINGS REMOVAL	SQ. MET	11.4		11.4																	
M8100260	CONDUIT IN TRENCH, 50MM DIA., PVC	METER	1134.2	77.5	91	130.2										348.2	206		87	90.6	103.7	
M8100270	CONDUIT IN TRENCH, 65MM DIA., PVC	METER	21.5	2	19.5																	
M8101050	CONDUIT PUSHED, 50MM DIA., GALVANIZED STEEL	METER	169.4	62.6	56	40.9										9.9						
M8241210	ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 2C	METER	128	128																		
M8241220	ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 3C	METER	138	138																		
M8241240	ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 5C	METER	144.15	69		75.15																
M8241250	ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 7C	METER	753.45	69	169	75.15			105										224.7	110.6		
M8241300	ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR	METER	2051.7	262.7	211	143.3												685.2	481.4	268.4		
M8241800	ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2C	METER	7	7																		
M8250050	FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125, 12F	METER	925.2													398.7	268.4				258.7	
M8320090	TRAFFIC SIGNAL POST, 4.25 METER	EACH	2																	2		
M8320110	TRAFFIC SIGNAL POST, 4.85 METER	EACH	18	2	4	2			2									2	4	2		
M8380100	CONCRETE FOUNDATION, TYPE A	METER	20	2	4	2			2									2	4	4		
M8470100	DETECTOR LOOP, TYPE I	METER	800.1	147	13	35.3												295.8	95	214		
M8680100	TRENCH AND BACKFILL FOR ELECTRICAL WORK	METER	1072.7	83.5	110.5	130.2										348.2	206			90.6	103.7	
M8730230	REMOVE ELECTRIC CABLE FROM CONDUIT	METER	2221.65	456		75.15			105									685.2	408.9	379	112.4	
M8730235	REMOVE AND REINSTALL ELECTRIC CABLE FROM CONDUIT	METER	3262.16	200	369	113.7										139	140	377	1407.6	515.86		
X0321978	MODIFY EXISTING MAST ARM BASE	EACH	43		4	2		3	3	4	3	3	4	3	4			4	4	2		
M7290100	METAL POST - TYPE A	METER	8	8																		
87302385	REMOVE EXISTING CONCRETE FOUNDATIONS	EACH	22	4	4	2			2									2	4	4		

△

NO.	DATE	REVISIONS	BY	CHECKED

ILLINOIS DEPARTMENT OF TRANSPORTATION
VILLAGE OF BRADLEY /BOURBONNAIS, ILLINOIS

SUMMARY OF QUANTITIES FOR
ILLINOIS ROUTE 50 & 102

BUCHER, WILLIS & RATLIFF CORPORATION
75 EXECUTIVE DRIVE SUITE 103 AURORA, ILLINOIS 60504 630-898-0010

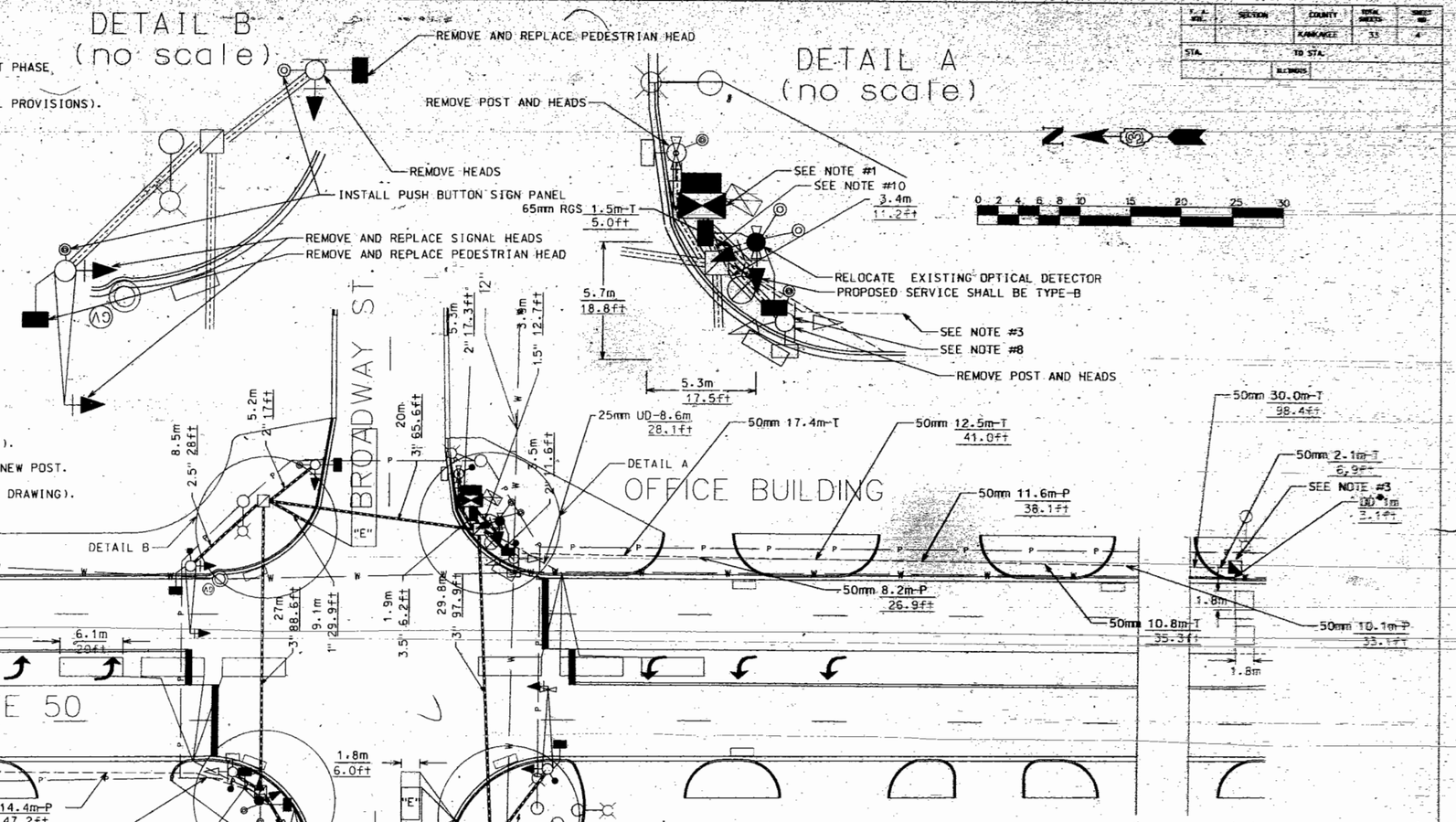
DESIGNED BY	GS	DATE	03/97	PROJECT NO.	
DRAWN BY	GS	DATE	03/97	JOB NO.	95314.20
CHECKED BY	MAG	DATE	03/97	SCALE NONE	SHEET 3 OF 33

7-21-97

D C B A 0 A B C D

CONSTRUCTION NOTES:

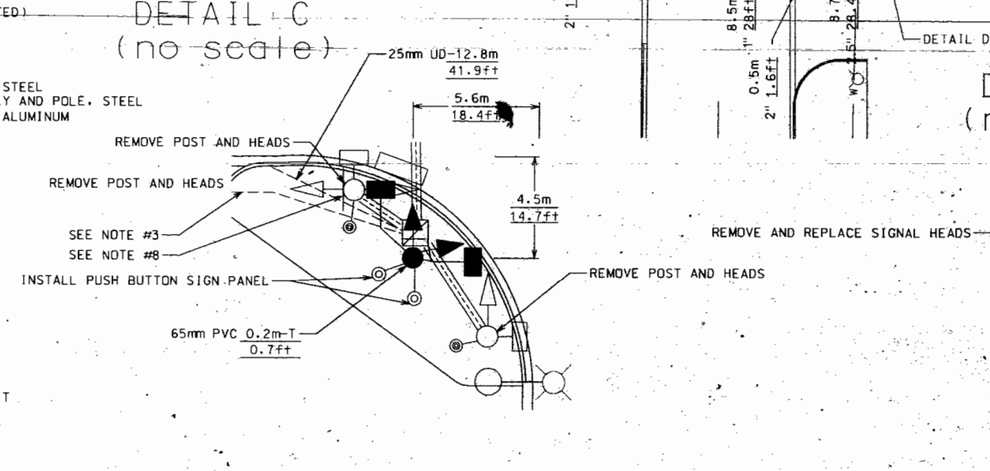
1. REMOVE THE EXISTING TRAFFIC SIGNAL CONTROLLER , CABINET AND SERVICE. INSTALL A NEW EIGHT PHASE FULL-ACTUATED CONTROLLER AND TYPE IV CABINET ON THE EXISTING FOUNDATION. THE NEW CABINET SHALL BE MODIFIED BY THE SUPPLIER TO FIT THE EXISTING FOUNDATION BOLT PATTERN (SEE SPECIAL PROVISIONS). THE EXISTING CONTROLLER AND CABINET SHALL BE SALVAGED TO THE VILLLAGE OF BRADLEY.
2. REMOVETHE EXISTING TWO POSTS ON THE NORTHWEST CORNER AND REPLACE WITH A SINGLE POST (SEE DETAIL C).REMOVE EXISTING SIGNAL HEADS & PUSHBUTTONS AND SALVAGE TO THE VILLAGE OF BRADLEY. INSTALL NEW EQUIPMENT AS SHOWN. RELOCATE EXISTING TYPE I SIGN PANELS.
3. SB AND NB FAR DETECTOR LOOPS AND HANDHOLES SHALL BE INSTALLED AT 94.0 m (308').
4. THE CONTRACTOR SHALL REMOVE EXISTING AND INSTALL NEW INDUCTIVE LOOP DETECTORS (6 TOTAL).
5. THE MAST ARMS ON THE NORTHEAST AND SOUTHWEST CORNERS ARE TO REMAIN. THE SIGNALS ON THE MAST ARMS SHALL BE REPLACED (SEE DETAIL D & B).
6. REMOVE THE EXISTING TWO POSTS ON THE SOUTHEAST CORNER AND REPLACE WITH A SINGLE POST (SEE DETAIL A). REMOVE EXISTING SIGNAL HEADS & PUSHBUTTONS AND SALVAGE TO THE VILLAGE OF BRADLEY. RELOCATE EXISTING OPTICAL DETECTOR (SEE DETAIL A). INSTALL NEW EQUIPMENT AS SHOWN. RELOCATE EXISTING TYPE I SIGN PANELS.
7. THE CONTRACTOR SHALL INSTALL SIGN PLATES FOR ALL PEDESTRIAN PUSH BUTTONS (R10-4b, 9" x 12").
8. INSTALL METAL SIGN POST AT LOCATION OF REMOVED SIGNAL POST. RELOCATE STOP SIGN PANELS TO NEW POST.
9. THE CONTRACTOR SHALL INSTALL THREE 1.8m x 6.0m DETECTOR LOOPS FOR SB AND NB LEFT TURN (SEE DRAWING).
10. THE CONTRACTOR SHALL REMOVE AND REPLACE SERVICE AND SERVICE CABLE AS SHOWN ON CABLE PLANS.

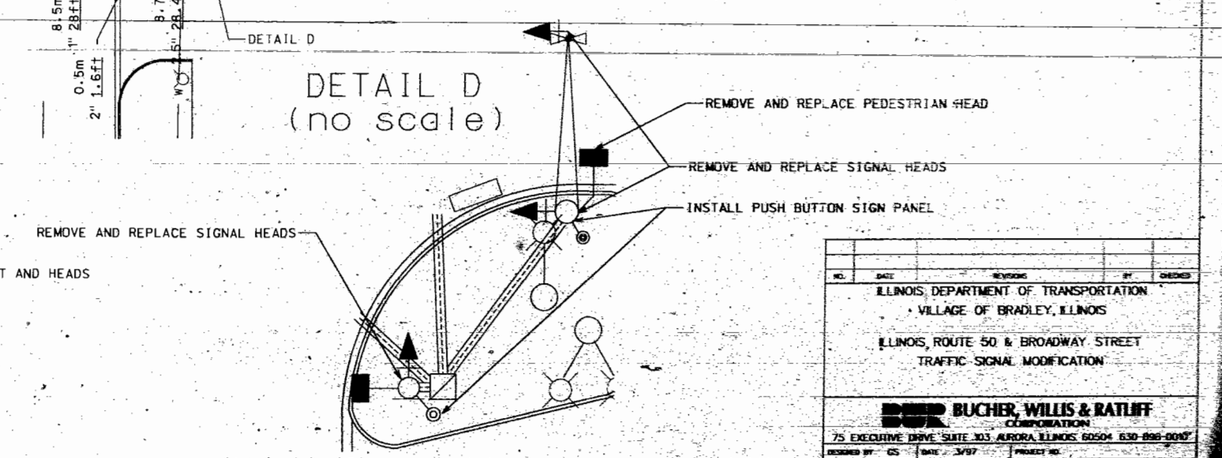


11. THE CONTRACTOR SHALL REPLACE THE EXISTING EB DETECTOR LOOP WITH TWO 1.8m x 4.6m. THE EXISTING LOOP WIRE SHALL BE REMOVED AND EXISTING SAW CUT SHALL BE CLEANED AND SEALED.

TRAFFIC SIGNAL LEGEND

EXISTING	PROPOSED	
		CONTROLLER
		SERVICE INSTALLATION (AS NOTED)
		SIGNAL HEAD
		SIGNAL HEAD WITH BACKPLATE
		SIGNAL HEAD, PEDESTRIAN
		SIGNAL POST
		MAST ARM ASSEMBLY AND POLE, STEEL
		COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL
		MAST ARM ASSEMBLY AND POLE, ALUMINUM
		CONCRETE HANDHOLE
		HEAVY DUTY HANDHOLE
		JUNCTION BOX
		DOUBLE HANDHOLE
		CONDUIT IN TRENCH OR PUSHED
		CONCRETE MANHOLE
		LIGHTING UNIT
"E"		DETECTOR LOOP
"E"		QUADRUPOLE LOOP
	CT	COMMON TRENCH
	ST	SPECIAL TRENCH
		TREE
		UTILITY POLE
"E"		WOOD POLE
		SIDEWALK RAMPS
		FIRE HYDRANT
		PEDESTRIAN PUSH BUTTON
		INTERCONNECT CABLE IN CONDUIT
		OPTICAL DETECTOR





F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		KANKAKEE	33	4
STA.	TO STA.			
		ILLINOIS		

NO.	DATE	REVISIONS	BY	CHECKED

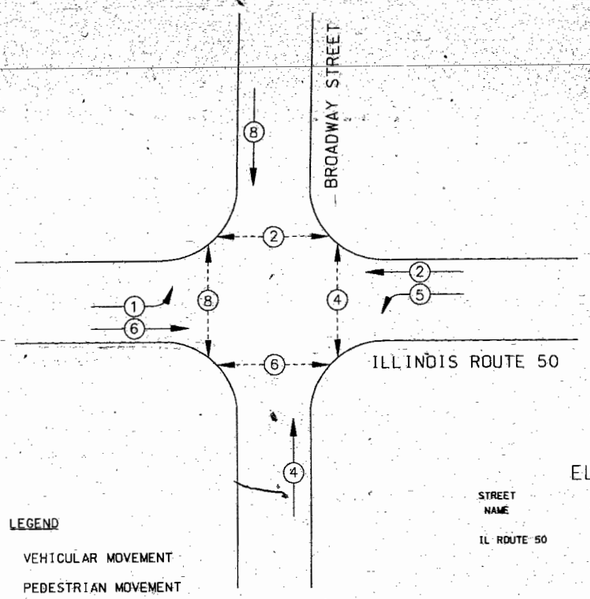
ILLINOIS DEPARTMENT OF TRANSPORTATION
VILLAGE OF BRADLEY, ILLINOIS

ILLINOIS ROUTE 50 & BROADWAY STREET
TRAFFIC SIGNAL MODIFICATION

BUCHER, WILLIS & RATLIFF CORPORATION
75 EXECUTIVE DRIVE SUITE 103 AURORA ILLINOIS 60504 630-898-0010

DESIGNED BY GS	DATE 3/97	PROJECT NO.		
DRAWN BY GS	DATE 3/97	JOB NO. 95374.20		
CHECKED BY MAC	DATE 3/97	SCALE 1cm=2.5m	SHEET 4 OF 33	

REFERRING TO STANDARD 857001, THE VEHICULAR AND PEDESTRIAN PHASES USED ARE DESIGNATED BELOW



REMOVAL SCHEDULE

LOCATION	ITEM
NB MAST ARM	3-FACE SIGNAL HEAD (1)
NB MAST ARM	5-FACE SIGNAL HEAD (1)
NB MAST ARM	PEDESTRIAN HEAD (1)
NW CORNER	4-FACE SIGNAL HEAD (1)
NW CORNER	3-FACE SIGNAL HEAD (2)
NW CORNER	PEDESTRIAN HEAD (2)
NW CORNER	PEDESTRIAN PUSH BUTTON (2)
SW CORNER	PEDESTRIAN PUSH BUTTON (1)
SW CORNER	3-FACE SIGNAL HEAD (2)
SW CORNER	PEDESTRIAN HEAD (1)
SW CORNER	CONTROLLER (1)
SB MAST ARM	3-FACE SIGNAL HEAD (2)
SE CORNER	3-FACE SIGNAL HEAD (3)
SE CORNER	PEDESTRIAN HEAD (2)
SE CORNER	PEDESTRIAN PUSH BUTTON (2)
NE CORNER	3-FACE SIGNAL HEAD (2)
NE CORNER	PEDESTRIAN PUSH BUTTON (1)
NE CORNER	PEDESTRIAN HEAD (1)
CONTROLLER	INDUCTUVE LOOP DETECTOR

ELECTRICAL LOAD INFORMATION

STREET NAME	COMPONENT	NUMBER	WATTAGE	BURN TIME (%) EACH
IL ROUTE 50	RED	6	135	50
	YELLOW	6	135	5
	GREEN	6	135	45
	YELLOW AR.	4	135	5
	GREEN AR.	4	135	5
	WALK	4	116	5
	DON'T WALK	4	116	95
BROADWAY	RED	4	135	60
	YELLOW	4	135	5
	GREEN	4	135	35
	WALK	4	116	5
	DON'T WALK	4	116	95
	CONTROLLER	1	6	100
	VEHICLE DETECTOR	13	4	100
	OPTICAL DETECTOR	2	3	100

LEGEND

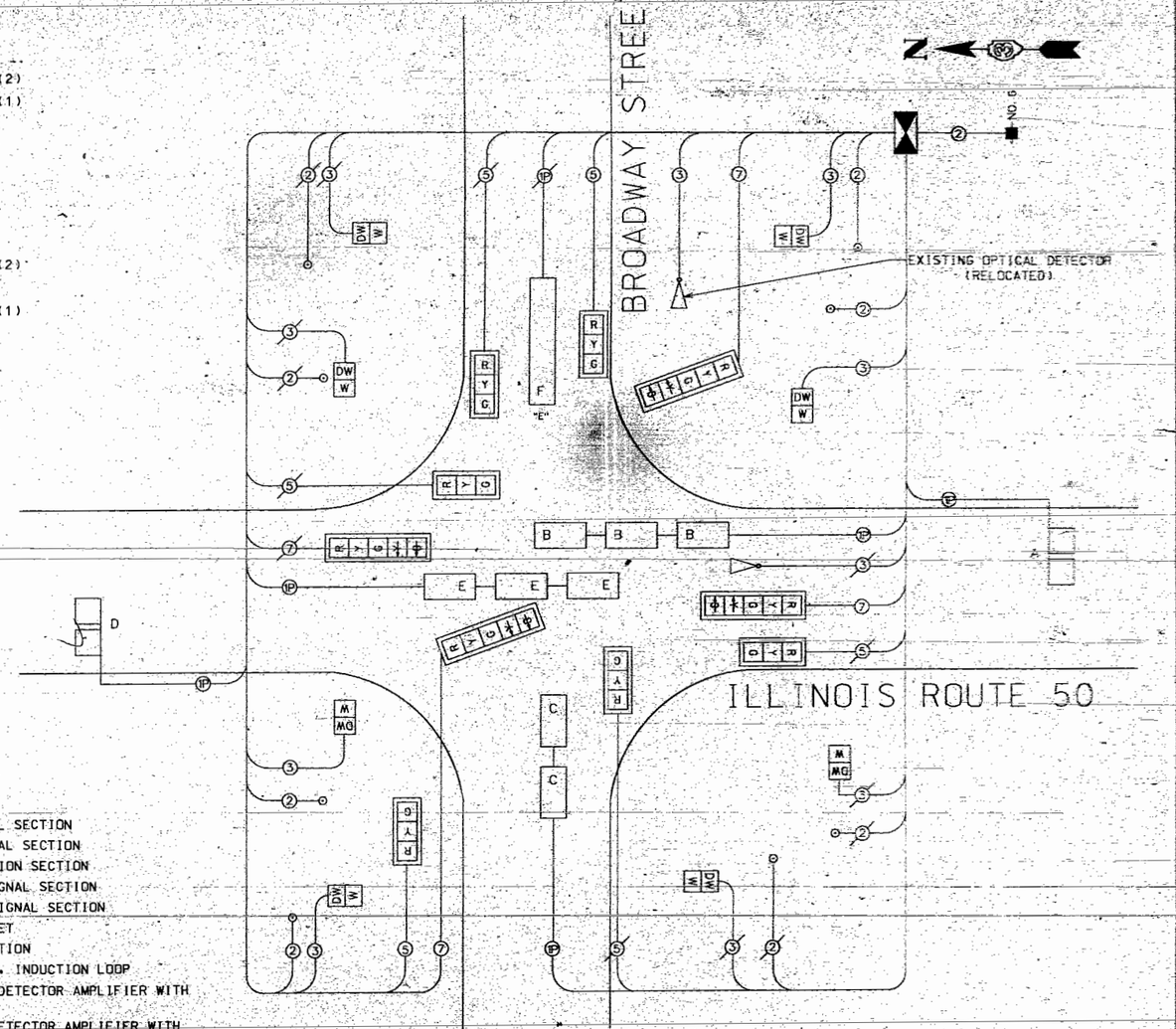
- VEHICULAR MOVEMENT
- PEDESTRIAN MOVEMENT
- NUMBER REFERS TO ASSOCIATED PHASE

SCHEDULE OF QUANTITIES

ITEM	UNIT	QTY.
HANDHOLE	EACH	2
DRILL EXISTING HANDHOLE	EACH	4
SIGNAL HEAD, POLYCARBONATE, 1-FAGE, 3-SECTION, BRACKET MOUNTED	EACH	4
SIGNAL HEAD, POLYCARBONATE, 1-FACE, 3-SECTION, MAST ARM MOUNTED	EACH	2
SIGNAL HEAD, POLYCARBONATE, 1-FACE, 5-SECTION, BRACKET MOUNTED	EACH	2
SIGNAL HEAD, POLYCARBONATE, 1-FACE, 5-SECTION MAST ARM MOUNTED	EACH	2
FULL-ACTUATED CONTROLLER AND TYPE IV CABINET	EACH	1
MODIFY EXISTING CONTROLLER FOUNDATION	EACH	1
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	33 △
SERVICE INSTALLATION TYPE B	EACH	1
PEDESTRIAN SIGNAL HEAD, POLYCARBONATE, 1-FACE, BRACKET MOUNTED	EACH	8
PEDESTRIAN PUSH-BUTTON	EACH	4
SIGN PANEL TYPE 1	SQ. MET	0.1
INDUCTIVE LOOP DETECTOR	EACH	6
DETECTOR LOOP TYPE 1	METER	181
TRAFFIC SIGNAL BACKPLATE	EACH	10
CONDUIT PUSHED 50mm (2") Dia RGS	METER	62.6
CONDUIT IN TRENCH 50mm (2") Dia PVC	METER	137.5
CONDUIT IN TRENCH 65mm (2.5") Dia PVC	METER	2.0
ELECTRIC CABLE IN CONDUIT, SIGNAL No.14, 2/C	METER	128
ELECTRIC CABLE IN CONDUIT, SIGNAL No.14, 3/C	METER	138
ELECTRIC CABLE IN CONDUIT, SIGNAL No.14, 5/C	METER	69
ELECTRIC CABLE IN CONDUIT, SIGNAL No.14, 7/C	METER	69
ELECTRIC CABLE IN CONDUIT, SIGNAL No.14, 1 PAIR	METER	262.7
ELECTRIC CABLE IN CONDUIT, SERVICE No.6, 2/C	METER	7
CONCRETE FOUNDATION TYPE-A △	METER	2
TRAFFIC SIGNAL POST, PGS 4.9m (16')	EACH	2
REMOVE SIGN PANEL ASSEMBLY-TYPE A	EACH	2
REMOVE SIGN PANEL-TYPE1	SQ. MET	1.2
TRENCH AND BACKFILL FOR ELECTRICAL WORK	METER	83.5
REMOVE ELECTRIC CABLE FROM CONDUIT	METER	456
REMOVE AND REINSTALL ELECTRIC CABLE FROM CONDUIT	METER	200
METAL POST-TYPE A	METER	8.0 △
RELOCATE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1.0 △

CABLE PLAN LEGEND

EXISTING	PROPOSED	
G	G	8" TRAFFIC SIGNAL SECTION
R	R	12" TRAFFIC SIGNAL SECTION
		12" DUAL INDICATION SECTION
DW	DW	9" PEDESTRIAN SIGNAL SECTION
DW	DW	12" PEDESTRIAN SIGNAL SECTION
		CONTROLLER CABINET
		SERVICE INSTALLATION
"E"		VEHICLE DETECTOR, INDUCTION LOOP
S "E"	S	"S" INDICATES A DETECTOR AMPLIFIER WITH SYSTEM OUTPUT
SO "E"	SO	"SO" INDICATES DETECTOR AMPLIFIER WITH SYSTEM OUTPUT, BUT NO CALL TO A PHASE.
		PUSHBUTTON DETECTOR
		OPTICAL DETECTOR
		LIGHTING UNIT
		ELECTRIC CABLE IN CONDUIT
		* DENOTES NUMBER OF CONDUCTORS
		#P DENOTES NUMBER OF PAIRS IN TWISTED SHIELDED CABLE
		ALL CABLE NO. 14 EXCEPT AS INDICATED
		"C" DENOTES COAXIAL CABLE
R Y G	"P" R Y G	SIGNAL FACE WITH BACKPLATE "P" INDICATES PROGRAMMED
R Y G	"P" R Y G	SIGNAL FACE WITHOUT BACKPLATE "P" INDICATES PROGRAMMED



LOOP LABEL CHART

LOOP SYSTEM	LABEL	NO. OF TURNS	INDUCTANCE (uH)	FREQUENCY (HERTZ)
A	Φ 2 NB FAR	4	321	34042
B	Φ 5 NB LT (3)	4	281	36385
C	Φ 4 EB (2)	4	243	39126
D	Φ 6 SB FAR	4	323	33937
E	Φ 1 SB LT (3)	4	313	34475
F	Φ 8 WB	–	–	–

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		KANKAKEE	33	5
STA.	TO STA.			
		ILLINOIS		

NO.	DATE	REVISIONS	BY	CHECKED

ILLINOIS DEPARTMENT OF TRANSPORTATION
VILLAGE OF BRADLEY, ILLINOIS

ILLINOIS ROUTE 50 & BROADWAY STREET
CABLE PLAN

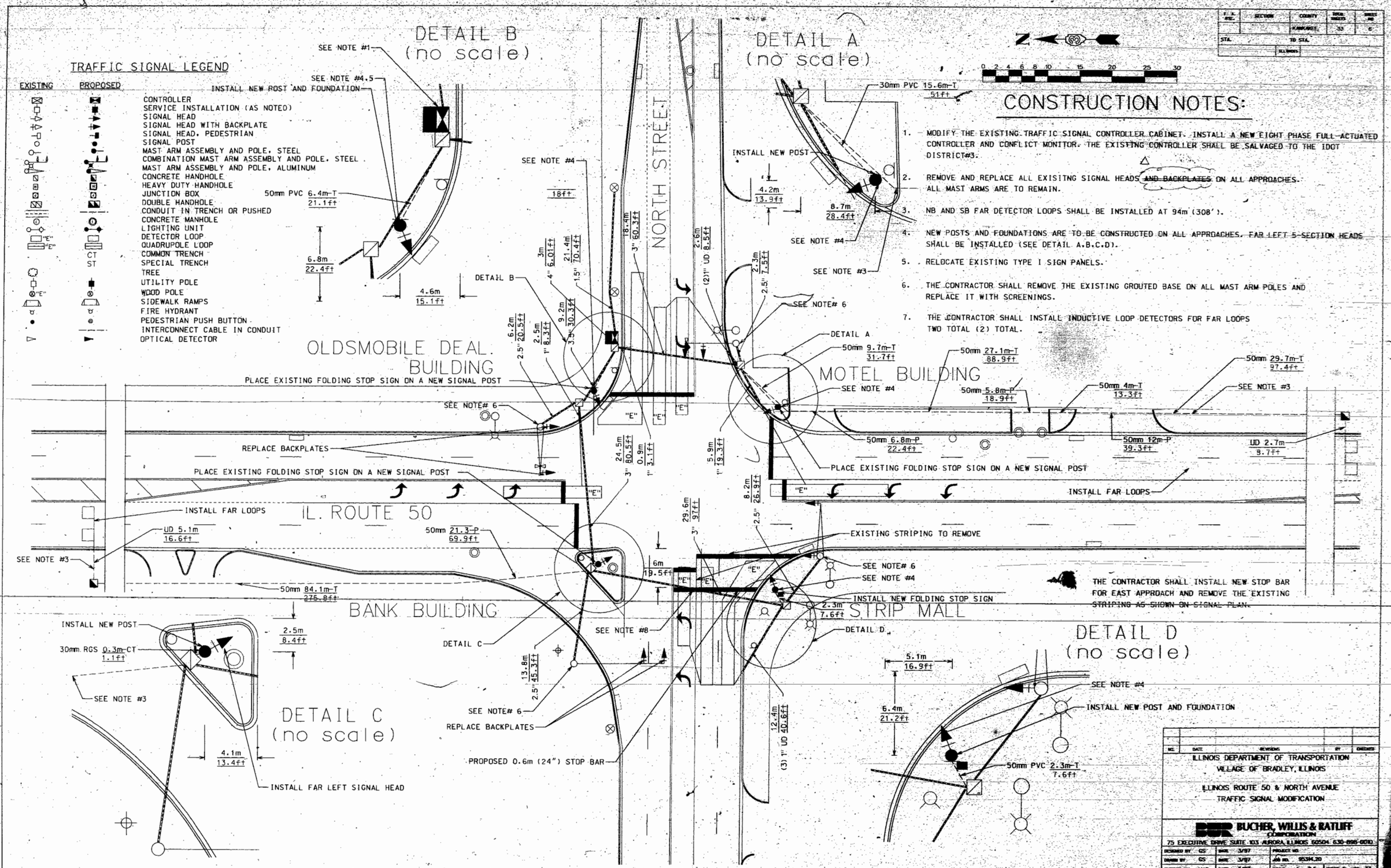
BUCHER, WILLIS & RATLIFF CORPORATION
75 EXECUTIVE DRIVE SUITE 103 AURORA, ILLINOIS 60504 630-896-0070

DESIGNED BY GS	DATE 3/97	PROJECT NO.	
DRAWN BY GS	DATE 3/97	JOB NO. 95394.20	
CHECKED BY MAC	DATE 3/97	SCALE NONE	SHEET 5 OF 33

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		KANKAKEE	33	6
STA.		TO STA.		
		ILLINOIS		

TRAFFIC SIGNAL LEGEND

EXISTING	PROPOSED	
		CONTROLLER
		SERVICE INSTALLATION (AS NOTED)
		SIGNAL HEAD
		SIGNAL HEAD WITH BACKPLATE
		SIGNAL HEAD, PEDESTRIAN
		SIGNAL POST
		MAST ARM ASSEMBLY AND POLE, STEEL
		COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL
		MAST ARM ASSEMBLY AND POLE, ALUMINUM
		CONCRETE HANDHOLE
		HEAVY DUTY HANDHOLE
		JUNCTION BOX
		DOUBLE HANDHOLE
		CONDUIT IN TRENCH OR PUSHED
		CONCRETE MANHOLE
		LIGHTING UNIT
"E" "E"		DETECTOR LOOP
		QUADRUPOLE LOOP
	CT	COMMON TRENCH
	ST	SPECIAL TRENCH
		TREE
"E"		UTILITY POLE
		WOOD POLE
		SIDEWALK RAMPS
		FIRE HYDRANT
		PEDESTRIAN PUSH BUTTON
		INTERCONNECT CABLE IN CONDUIT
		OPTICAL DETECTOR



CONSTRUCTION NOTES:

1. MODIFY THE EXISTING TRAFFIC SIGNAL CONTROLLER CABINET. INSTALL A NEW EIGHT PHASE FULL ACTUATED CONTROLLER AND CONFLICT MONITOR. THE EXISTING CONTROLLER SHALL BE SALVAGED TO THE IDOT DISTRICT#3.
2. REMOVE AND REPLACE ALL EXISITNG SIGNAL HEADS ~~AND BACKPLATES~~ ON ALL APPROACHES. ALL MAST ARMS ARE TO REMAIN.
3. NB AND SB FAR DETECTOR LOOPS SHALL BE INSTALLED AT 94m (308').
4. NEW POSTS AND FOUNDATIONS ARE TO BE CONSTRUCTED ON ALL APPROACHES. FAR LEFT 5-SECTION HEADS SHALL BE INSTALLED (SEE DETAIL A,B,C,D).
5. RELOCATE EXISTING TYPE I SIGN PANELS.
6. THE CONTRACTOR SHALL REMOVE THE EXISTING GROUTED BASE ON ALL MAST ARM POLES AND REPLACE IT WITH SCREENINGS.
7. THE CONTRACTOR SHALL INSTALL INDUCTIVE LOOP DETECTORS FOR FAR LOOPS TWO TOTAL (2) TOTAL.

NO.	DATE	REVISIONS	BY	CHECKED

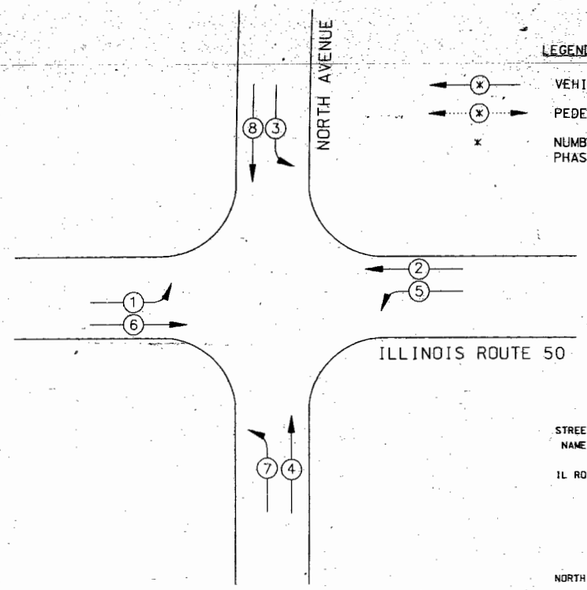
ILLINOIS DEPARTMENT OF TRANSPORTATION
VILLAGE OF BRADLEY, ILLINOIS

ILLINOIS ROUTE 50 & NORTH AVENUE
TRAFFIC SIGNAL MODIFICATION

BUCHER, WILLIS & RATLIFF CORPORATION
75 EXECUTIVE DRIVE SUITE 103 AURORA, ILLINOIS 60504 630-896-6010

DESIGNED BY GS	DATE 3/97	PROJECT NO.	
DRAWN BY GS	DATE 3/97	JOB NO. 953M.20	
CHECKED BY MAC	DATE 3/97	SCALE 1cm=2.5m	SHEET 6 OF 33

REFERRING TO STANDARD 857001, THE VEHICULAR AND PEDESTRIAN PHASES USED ARE DESIGNATED BELOW



LEGEND

- VEHICULAR MOVEMENT
- PEDESTRIAN MOVEMENT
- NUMBER REFERS TO ASSOCIATED PHASE

REMOVAL SCHEDULE

LOCATION	ITEM
NB MAST ARM	3-FACE SIGNAL BACKPLATE
NB MAST ARM	5-FACE SIGNAL BACKPLATE
NW CORNER	CONTROLLER (1)
EB MAST ARM	3-FACE SIGNAL BACKPLATE
EB MAST ARM	5-FACE SIGNAL BACKPLATE
WB MAST ARM	3-FACE SIGNAL BACKPLATE
WB MAST ARM	5-FACE SIGNAL BACKPLATE
SB MAST ARM	3-FACE SIGNAL BACKPLATE
SB MAST ARM	5-FACE SIGNAL BACKPLATE

ELECTRICAL LOAD INFORMATION

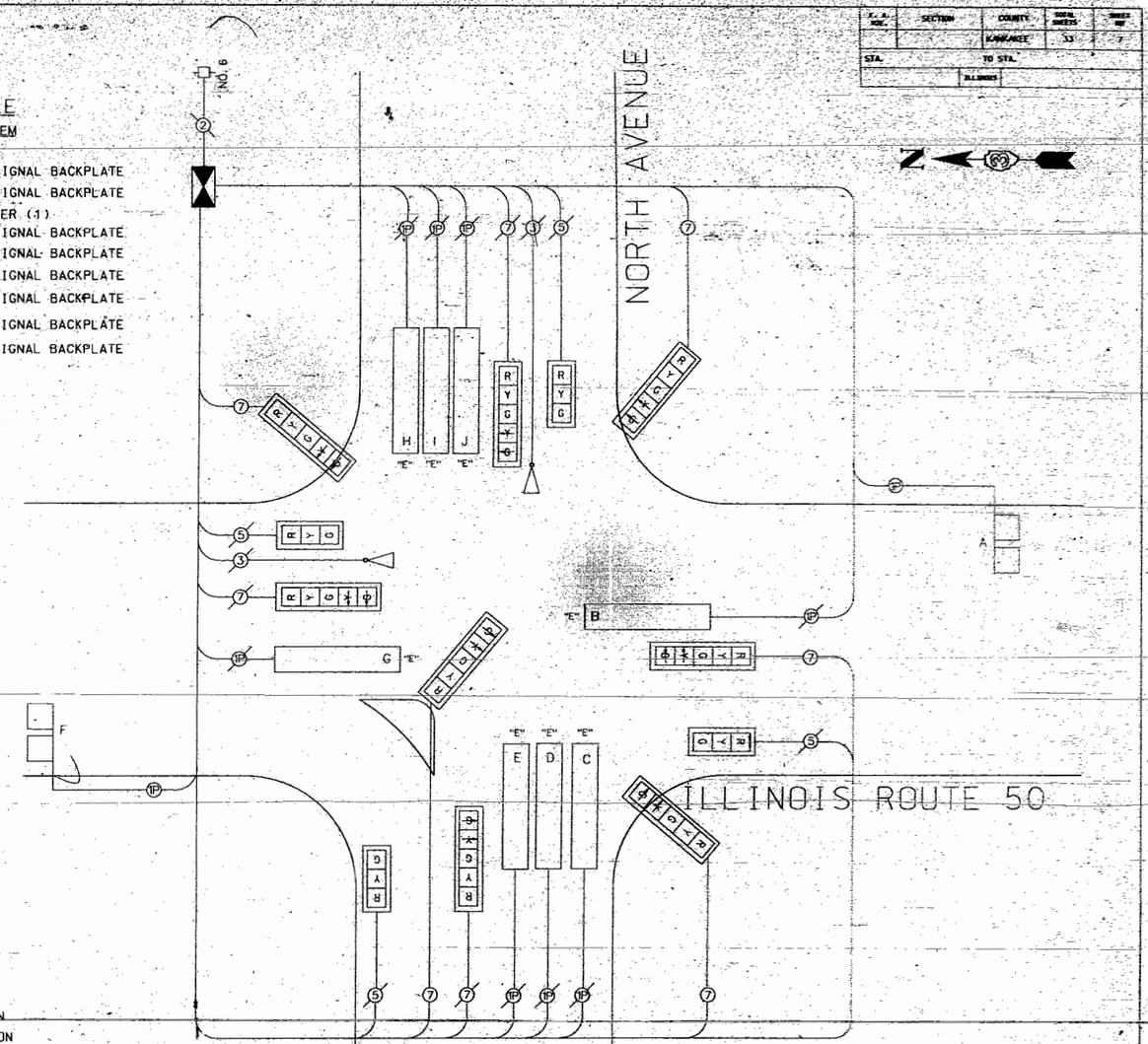
STREET NAME	COMPONENT	NUMBER	WATTAGE	BURN TIME (%) EACH
IL ROUTE 50	RED	6	135	55
	YELLOW	6	135	5
	GREEN	6	135	40
	YELLOW AR.	4	135	5
	GREEN AR.	4	135	5
NORTH AVE.	RED	6	135	65
	YELLOW	6	135	5
	GREEN	6	135	30
	YELLOW AR.	4	135	5
	GREEN AR.	4	135	5
	CONTROLLER	1	6	100
	VEHICLE DETECTOR	12	4	100
	OPTICAL DETECTOR	2	3	100

SCHEDULE OF QUANTITIES

ITEM	UNIT	QTY.
MODIFY EXISTING CONTROLLER CABINET	EACH	1
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	9
FULL-ACTUATED CONTROLLER IN EXISTING CABINET	EACH	1
RELOCATE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	4
HANDHOLE	EACH	2
DRILL EXISTING HANDHOLE	EACH	6
SIGNAL HEAD, POLYCARBONATE, 1-FACE, 3-SECTION BRACKET MOUNTED	EACH	2
SIGNAL HEAD, POLYCARBONATE, 1-FACE, 3-SECTION MAST ARM MOUNTED	EACH	2
SIGNAL HEAD, POLYCARBONATE, 1-FACE, 5-SECTION BRACKET MOUNTED	EACH	4
SIGNAL HEAD, POLYCARBONATE, 1-FACE, 5-SECTION MAST ARM MOUNTED	EACH	4
INDUCTIVE LOOP DETECTOR	EACH	2
DETECTOR LOOP TYPE 1	METER	13
TRAFFIC SIGNAL BACKPLATE	EACH	12 △
CONDUIT PUSHED 50mm (2") Dia. RGS	METER	56
CONDUIT IN TRENCH 50mm (2") Dia. PVC	METER	145
CONDUIT IN TRENCH 65mm (2.5") Dia. PVC	METER	19.5
ELECTRIC CABLE IN CONDUIT, SIGNAL No. 14 7/C	METER	169
ELECTRIC CABLE IN CONDUIT, SIGNAL No. 14, 1 PAIR	METER	265
TRAFFIC SIGNAL POST, RGS 4.9m (16')	EACH	4
TRENCH AND BACKFILL FOR ELECTRICAL WORK	METER	164.5
REMOVE AND REINSTALL ELECTRIC CABLE FROM CONDUIT	METER	369
CONCRETE FOUNDATION, TYPE A △	METER	4
PORTLAND CEMENT CONCRETE SIDEWALK 125mm	SQ. MET.	1
MODIFY EXISTING MAST ATM BASE	EACH	4
PREFORMED PLASTIC PAVEMENT MARKING LINE 600 (24)mm(inches) TYPE-C	METER	13
PREFORMED PLASTIC PAVEMENT MARKING REMOVAL	SQ.MET.	11.4

CABLE PLAN LEGEND

EXISTING	PROPOSED	
G	G	8" TRAFFIC SIGNAL SECTION
R	R	12" TRAFFIC SIGNAL SECTION
R/G	R/G	12" DUAL INDICATION SECTION
DW	DW	9" PEDESTRIAN SIGNAL SECTION
DW	DW	12" PEDESTRIAN SIGNAL SECTION
		CONTROLLER CABINET
		SERVICE INSTALLATION
"E"		VEHICLE DETECTOR, INDUCTION LOOP
S "E"	S	"S" INDICATES A DETECTOR AMPLIFIER WITH SYSTEM OUTPUT
SO "E"	SO	"SO" INDICATES DETECTOR AMPLIFIER WITH SYSTEM OUTPUT, BUT NO CALL TO A PHASE.
		PUSHBUTTON DETECTOR
		OPTICAL DETECTOR
		LIGHTING UNIT
		ELECTRIC CABLE IN CONDUIT
		* DENOTES NUMBER OF CONDUCTORS
		*P DENOTES NUMBER OF PAIRS IN TWISTED SHIELDED CABLE
		ALL CABLE NO. 14 EXCEPT AS INDICATED
"P" R Y G	"P" R Y G	"C" DENOTES COAXIAL CABLE SIGNAL FACE WITH BACKPLATE "P" INDICATES PROGRAMMED
"P" R Y G	"P" R Y G	SIGNAL FACE WITHOUT BACKPLATE "P" INDICATES PROGRAMMED



LOOP LABEL CHART

LOOP SYSTEM	LABEL	NO. OF TURNS	INDUCTANCE *(uH)	FREQUENCY (HERTZ)
A	Φ 2 NB FAR	5	272	36981
B	Φ 5 NB LT	–	–	–
C	Φ 4 EB RL	–	–	–
D	Φ 4 EB CL	–	–	–
E	Φ 7 EB LT	–	–	–
F	Φ 6 SB FAR	5	289	35877
G	Φ 1 SB LT	–	–	–
H	Φ 8 WB RL	–	–	–
I	Φ 8 WB CL	–	–	–
J	Φ 3 WB LT	–	–	–

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		KANKAKEE	33	7
STA.		TO STA.		
		ILL. SHARE		

NO.	DATE	REVISIONS	BY	CHECKED

ILLINOIS DEPARTMENT OF TRANSPORTATION
VILLAGE OF BRADLEY, ILLINOIS

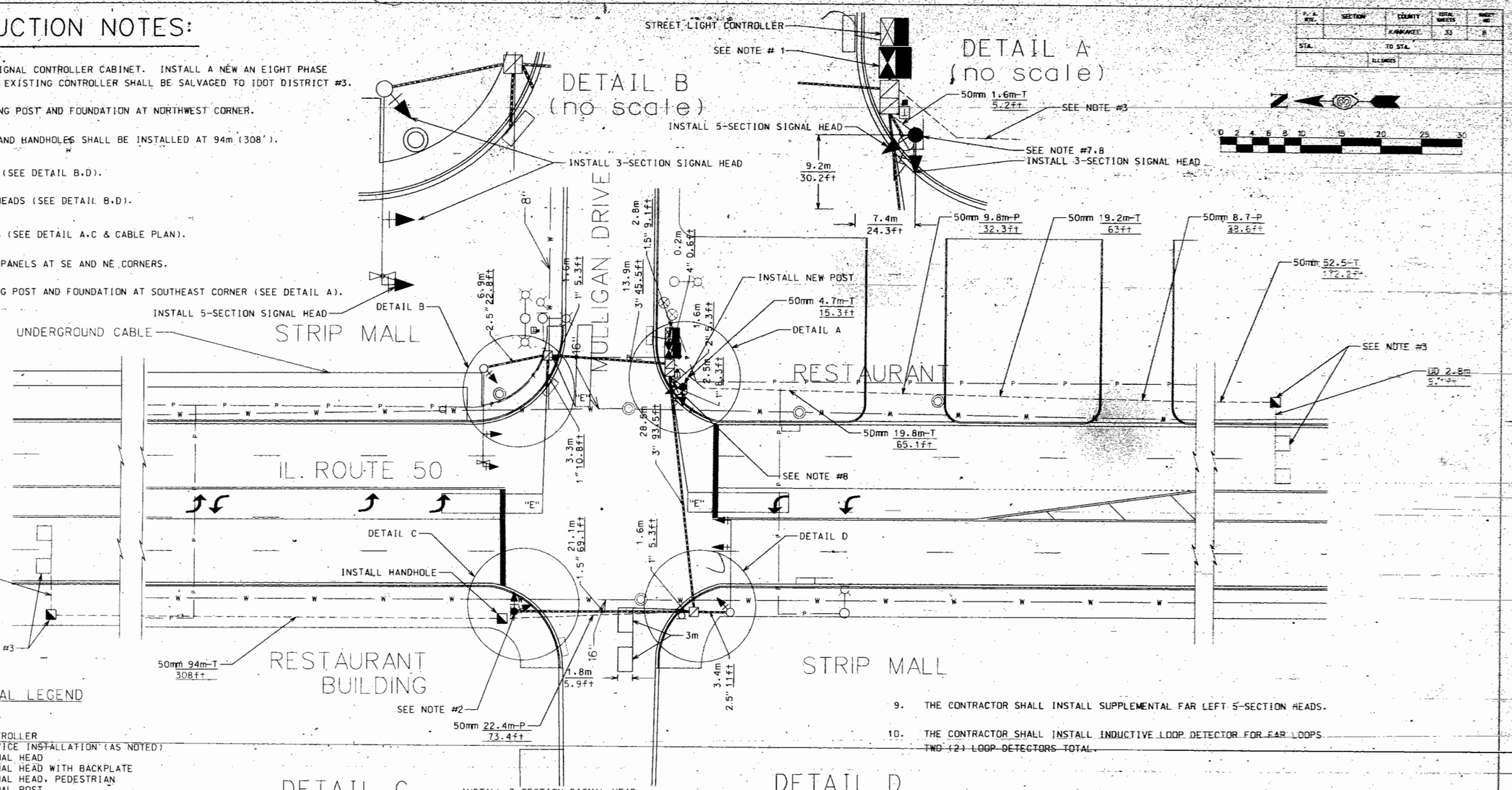
ILLINOIS ROUTE 50 & NORTH AVENUE
CABLE PLAN

BUCHER, WILLIS & RATLIFF CORPORATION
75 EXECUTIVE DRIVE SUITE 103 AURORA ILLINOIS 60504 630-898-0010

DESIGNED BY GS	DATE 3/97	PROJECT NO.	
DRAWN BY GS	DATE 3/97	JOB NO. 95314.20	
CHECKED BY MAG	DATE 3/97	SCALE NONE	SHEET 7 OF 33

CONSTRUCTION NOTES:

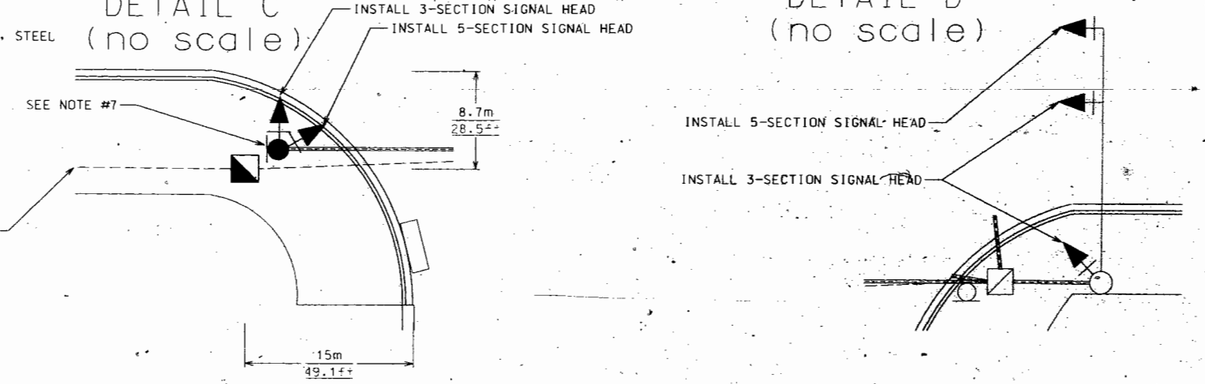
1. MODIFY THE EXISTING TRAFFIC SIGNAL CONTROLLER CABINET. INSTALL A NEW AN EIGHT PHASE FULL-ACTUATED CONTROLLER. THE EXISTING CONTROLLER SHALL BE SALVAGED TO IDOT DISTRICT #3.
2. REMOVE AND REPLACE THE EXISTING POST AND FOUNDATION AT NORTHWEST CORNER.
3. SB AND NB FAR DETECTOR LOOPS AND HANDHOLES SHALL BE INSTALLED AT 94m (308').
4. REPLACE ALL 8" SIGNAL HEADS (SEE DETAIL B.D).
5. REPLACE ALL 4-SECTION SIGNAL HEADS (SEE DETAIL B.D).
6. REPLACE 3-SECTION SIGNAL HEADS (SEE DETAIL A.C & CABLE PLAN).
7. RELOCATE EXISTING TYPE I SIGN PANELS AT SE AND NE CORNERS.
8. REMOVE AND REPLACE THE EXISTING POST AND FOUNDATION AT SOUTHEAST CORNER (SEE DETAIL A).



TRAFFIC SIGNAL LEGEND

EXISTING	PROPOSED	
		CONTROLLER
		SERVICE INSTALLATION (AS NOTED)
		SIGNAL HEAD
		SIGNAL HEAD WITH BACKPLATE
		SIGNAL HEAD, PEDESTRIAN
		SIGNAL POST
		MAST ARM ASSEMBLY AND POLE, STEEL
		COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL
		MAST ARM ASSEMBLY AND POLE, ALUMINUM
		CONCRETE HANDHOLE
		HEAVY DUTY HANDHOLE
		JUNCTION BOX
		DOUBLE HANDHOLE
		CONDUIT IN TRENCH OR PUSHED
		CONCRETE MANHOLE
		LIGHTING UNIT
"E"		DETECTOR LOOP
"E"		QUADRUPOLE LOOP
	CT	COMMON TRENCH
	ST	SPECIAL TRENCH
		TREE
		UTILITY POLE
"E"		WOOD POLE
		SIDEWALK RAMPS
		FIRE HYDRANT
		PEDESTRIAN PUSH BUTTON
		INTERCONNECT CABLE IN CONDUIT
		OPTICAL DETECTOR

9. THE CONTRACTOR SHALL INSTALL SUPPLEMENTAL FAR LEFT 5-SECTION HEADS.
10. THE CONTRACTOR SHALL INSTALL INDUCTIVE LOOP DETECTOR FOR FAR LOOPS TWO (2) LOOP DETECTORS TOTAL.



F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		KANKAKEE	33	8
STA.	TO STA.			
	ILLINOIS			

NO.	DATE	REVISIONS	BY	CHECKED

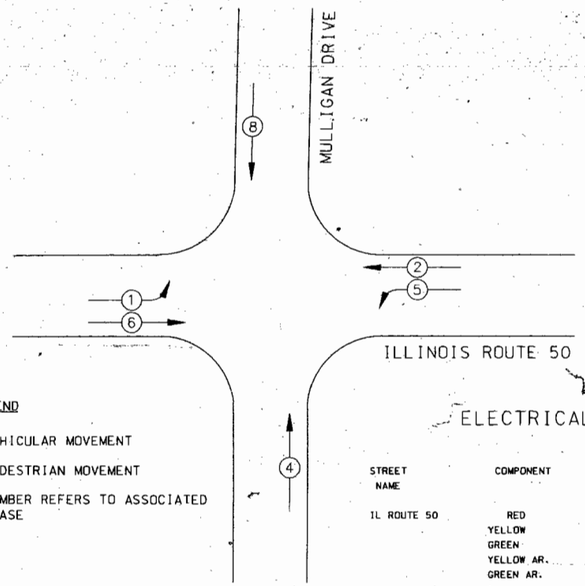
ILLINOIS DEPARTMENT OF TRANSPORTATION
VILLAGE OF BRADLEY, ILLINOIS

ILLINOIS ROUTE 50 & MULLIGAN DRIVE
TRAFFIC SIGNAL MODIFICATION

BUCHER, WILLIS & RATLIFF CORPORATION
75 EXECUTIVE DRIVE SUITE 103 AURORA ILLINOIS 60504 630-898-0010

DESIGNED BY GS	DATE 3/97	PROJECT NO.	
DRAWN BY GS	DATE 3/97	JOB NO. 95314.20	
CHECKED BY MAC	DATE 3/97	SCALE 1cm=2.5m	SHEET 8 OF 33

REFERRING TO STANDARD 857001, THE VEHICULAR AND PEDESTRIAN PHASES USED ARE DESIGNATED BELOW



LEGEND

- VEHICULAR MOVEMENT
- PEDESTRIAN MOVEMENT
- x NUMBER REFERS TO ASSOCIATED PHASE

REMOVAL SCHEDULE

LOCATION	ITEM
NB MAST ARM	3-FACE SIGNAL HEAD (2)
NB MAST ARM	4-FACE SIGNAL HEAD (1)
SB MAST ARM	3-FACE SIGNAL HEAD (2)
SB MAST ARM	4-FACE SIGNAL HEAD (1)
NW CORNER	3-FACE SIGNAL HEAD (1)
SW CORNER	3-FACE SIGNAL HEAD (1)
CONTROLLER	CONTROLLER (1)

ELECTRICAL LOAD INFORMATION

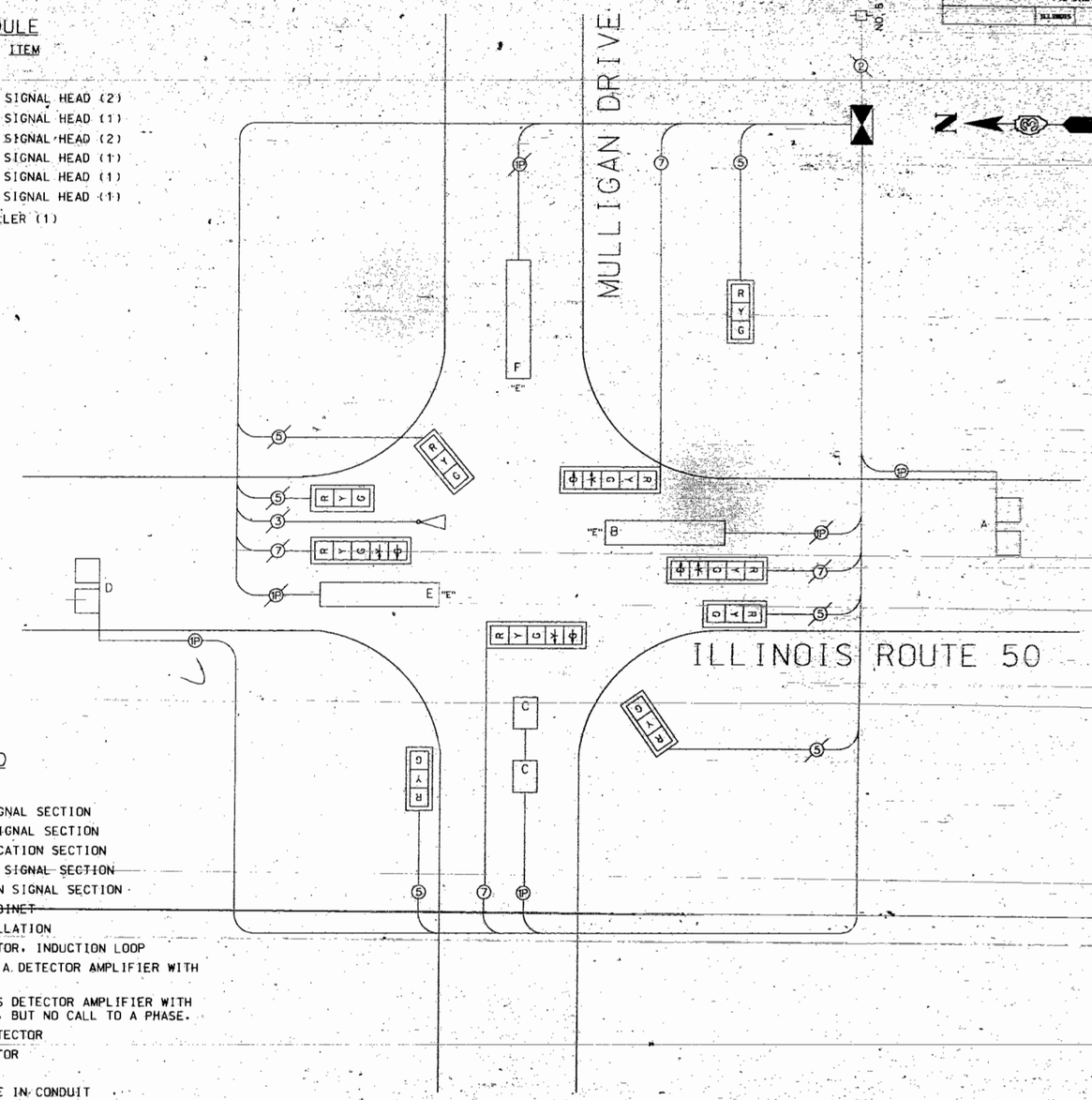
STREET NAME	COMPONENT	NUMBER	WATTAGE	BURN TIME (%) EACH
IL ROUTE 50	RED	6	135	45
	YELLOW	6	135	5
	GREEN	6	135	50
	YELLOW AR.	4	135	5
	GREEN AR.	4	135	5
MULLIGAN DRIVE	RED	2	135	65
	YELLOW	2	135	5
	GREEN	2	135	30
	CONTROLLER	1	6	100
	VEHICLE DETECTOR	8	4	100
	OPTICAL DETECTOR	2	3	100

SCHEDULE OF QUANTITIES

ITEM	UNIT	QTY.
MODIFY EXISTING CONTROLLER CABINET	EACH	1
FULL-ACTUATED CONTROLLER IN EXISITNG CABINET	EACH	1
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	13
HANDHOLE	EACH	3
DRILL EXISTING HANDHOLE	EACH	2
SIGNAL HEAD, POLYCARBONATE, 1-FACE, 3-SECTION, BRACKET MOUNTED	EACH	4
SIGNAL HEAD, POLYCARBONATE, 1-FACE, 3-SECTION, MAST ARM MOUNTED	EACH	2
SIGNAL HEAD, POLYCARBONATE, 1-FACE, 5-SECTION, BRACKET MOUNTED	EACH	2
SIGNAL HEAD, POLYCARBONATE, 1-FACE, 5-SECTION, MAST ARM MOUNTED	EACH	2
TRAFFIC SIGNAL POST, RGS 4.85m (16')	EACH	2
CONCRETE FOUNDATION, TYPE-A	METER	2
INDUCTIVE DETECTOR LOOP	EACH	2
DETECTOR LOOP TYPE1	METER	35.3
ELECTRIC CABLE IN CONDUIT, SIGNAL No.14, 5/C	METER	75.15
ELECTRIC CABLE IN CONDUIT, SIGNAL No.14, 7/C	METER	75.15
ELECTRIC CABLE IN CONDUIT, SIGNAL No.14,1 PAIR	METER	203.3
CONDUIT PUSHED 50mm (2") Dia RGS	METER	40.9
CONDUIT IN TRENCH 50mm (2") Dia PVC	METER	190.2
TRENCH & BACKFILL FOR ELECTRICAL WORK	METER	190.2
REMOVE ELECTRIC CABLE FROM CONDUIT	METER	75.15
REMOVE AND REINSTALL ELECTRIC CABLE FROM CONDUIT	METER	113.7
MODIFY EXISTING MAST ARM BASE	EACH	2
TRAFFIC SIGNAL BACKPLATE	EACH	10

CABLE PLAN LEGEND

EXISTING	PROPOSED	
G	G	8" TRAFFIC SIGNAL SECTION
R	R	12" TRAFFIC SIGNAL SECTION
Y	Y	12" DUAL INDICATION SECTION
DW	DW	~~9" PEDESTRIAN SIGNAL SECTION~~
DW	DW	12" PEDESTRIAN SIGNAL SECTION
		~~CONTROLLER CABINET~~
		SERVICE INSTALLATION
"E"		VEHICLE DETECTOR, INDUCTION LOOP
S "E"	S	"S" INDICATES A DETECTOR AMPLIFIER WITH SYSTEM OUTPUT
SO "E"	SO	"SO" INDICATES DETECTOR AMPLIFIER WITH SYSTEM OUTPUT, BUT NO CALL TO A PHASE.
		PUSHBUTTON DETECTOR
		OPTICAL DETECTOR
		LIGHTING UNIT
		ELECTRIC CABLE IN CONDUIT
		* DENOTES NUMBER OF CONDUCTORS
		*P DENOTES NUMBER OF PAIRS IN TWISTED SHIELDED CABLE
		ALL CABLE NO. 14 EXCEPT AS INDICATED
		"C" DENOTES COAXIAL CABLE
R Y G	"P" R Y G	SIGNAL FACE WITH BACKPLATE "P" INDICATES PROGRAMMED
R Y G	"P" R Y G	SIGNAL FACE WITHOUT BACKPLATE "P" INDICATES PROGRAMMED



LOOP LABEL CHART

LOOP SYSTEM	LABEL	NO. OF TURNS	INDUCTANCE (UH)	FREQUENCY (HERTZ)
A	Φ 2 NB FAR	5	255	32371
B	Φ 5 NB LT	–	–	–
C	Φ 4 EB (2)	5	272	36982
D	Φ 6 SB FAR	6	364	31968
E	Φ 1 SB LT	–	–	–
F	Φ 8 WB LL	–	–	–

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		KANKAKEE	33	9
STA.		TO STA.		
		ILLINOIS		

NO.	DATE	REVISIONS	BY	CHECKED

ILLINOIS DEPARTMENT OF TRANSPORTATION
VILLAGE OF BRADLEY, ILLINOIS

ILLINOIS ROUTE 50 & MULLIGAN DRIVE
CABLE PLAN

BUCHER, WILLIS & RATLIFF CORPORATION
75 EXECUTIVE DRIVE SUITE 103 AURORA, ILLINOIS 60504 630-898-0010

DESIGNED BY GS	DATE 3/97	PROJECT NO.	
DRAWN BY GS	DATE 3/97	JOB NO. 95314.20	
CHECKED BY MAC	DATE 3/97	SCALE NONE	SHEET 9 OF 33

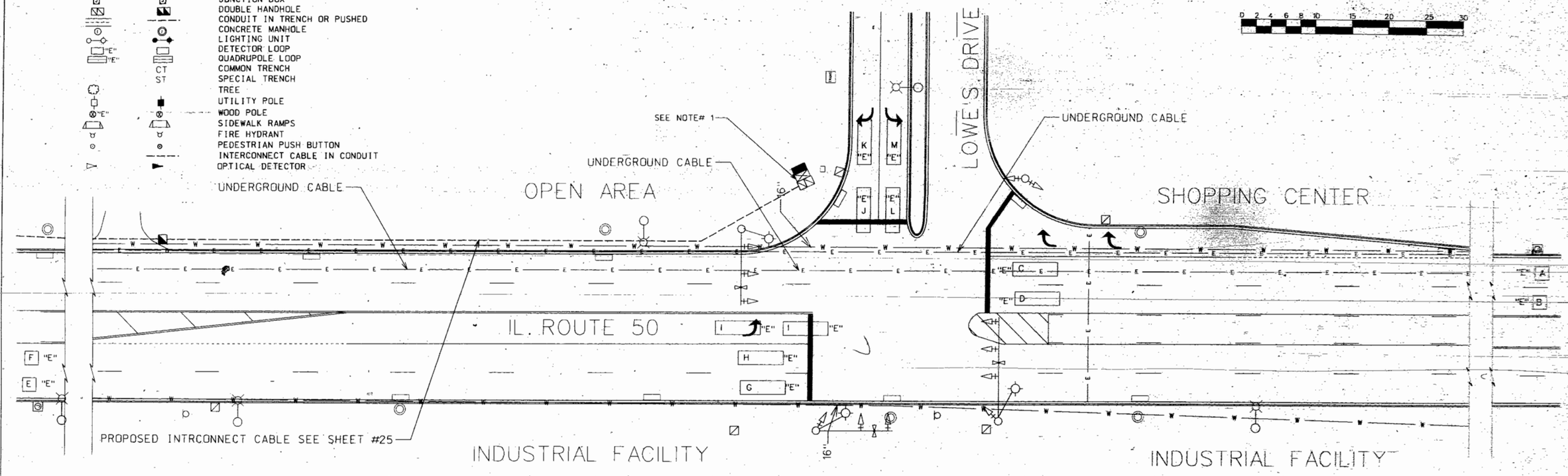
F. A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		KANKAKEE	33	10
STA.		TO STA.		
		ILLINOIS		

TRAFFIC SIGNAL LEGEND

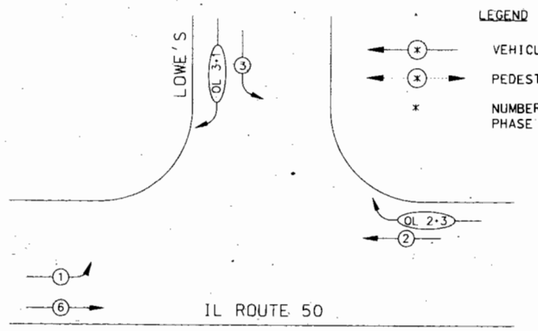
EXISTING	PROPOSED	
		CONTROLLER
		SERVICE INSTALLATION (AS NOTED)
		SIGNAL HEAD
		SIGNAL HEAD WITH BACKPLATE
		SIGNAL HEAD, PEDESTRIAN
		SIGNAL POST
		MAST ARM ASSEMBLY AND POLE, STEEL
		COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL
		MAST ARM ASSEMBLY AND POLE, ALUMINUM
		CONCRETE HANDHOLE
		HEAVY DUTY HANDHOLE
		JUNCTION BOX
		DOUBLE HANDHOLE
		CONDUIT IN TRENCH OR PUSHED
		CONCRETE MANHOLE
		LIGHTING UNIT
"E"		DETECTOR LOOP
"E"		QUADRUPOLE LOOP
	CT	COMMON TRENCH
	ST	SPECIAL TRENCH
		TREE
		UTILITY POLE
"E"		WOOD POLE
		SIDEWALK RAMPS
		FIRE HYDRANT
		PEDESTRIAN PUSH BUTTON
		INTERCONNECT CABLE IN CONDUIT
		OPTICAL DETECTOR

CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL INSTALL A FIBER-OPTIC TRANSCEIVER MODEM INTO EXISTING CONTROLLER FOR PROPOSED INTERCONNECT CABLE. THE CONTRACTOR SHALL MAKE ANY NECESSARY MODIFICATIONS TO THE CONTROLLER CABINET TO MEET THE OPERATING REQUIREMENTS OF THE NEW TRANSCEIVER.
2. INTERCONNECT CABLE PROPOSED FOR THIS INTERSECTION (SEE INTERCONNECT SHEET #25).



REFERRING TO STANDARD 857001, THE PROPOSED VEHICULAR AND PEDESTRIAN PHASES ARE DESIGNATED BELOW



LEGEND

VEHICULAR MOVEMENT

PEDESTRIAN MOVEMENT

NUMBER REFERS TO ASSOCIATED PHASE

ELECTRICAL LOAD INFORMATION

STREET NAME	COMPONENT	NUMBER	WATTAGE	BURN TIME (%) EACH
IL. ROUTE 50 (NB)	RED	4	135	45
	YELLOW	4	135	4
	GREEN	4	135	51
	YELLOW RT.	2	135	4
	GREEN RT.	2	135	24
IL ROUTE 50 (SB)	RED	4	135	28
	YELLOW	4	135	4
	GREEN	4	135	68
	YELLOW LT.	2	135	3
	GREEN LT.	2	135	14
LOVES - DRIVE	RED	4	135	72
	YELLOW	4	135	4
	GREEN	4	135	24
	YELLOW RT.	2	135	3
	GREEN RT.	2	135	42
	CONTROLLER	1	6	100
	VEHICLE DETECTOR	10	4	100
	LUMINAIRE	3	250	50
	OPTICAL DETECTOR	3	3	100

SCHEDULE OF QUANTITIES

ITEM	UNIT	QTY.
TRANSCEIVER - FIBER OPTIC	EACH	1
MODIFY CONTROLLER CABINET	EACH	1
(QUANTITIES FOR INTERCONNECT CABLE NOT INCLUDED. SEE INTERCONNECT SHEET # 25)		

NO.	DATE	REVISIONS	BY	CHECKED

ILLINOIS DEPARTMENT OF TRANSPORTATION
VILLAGE OF BRADLEY, ILLINOIS

ILLINOIS ROUTE 50 & LOWE'S DRIVE
TRAFFIC SIGNAL MODIFICATIONS

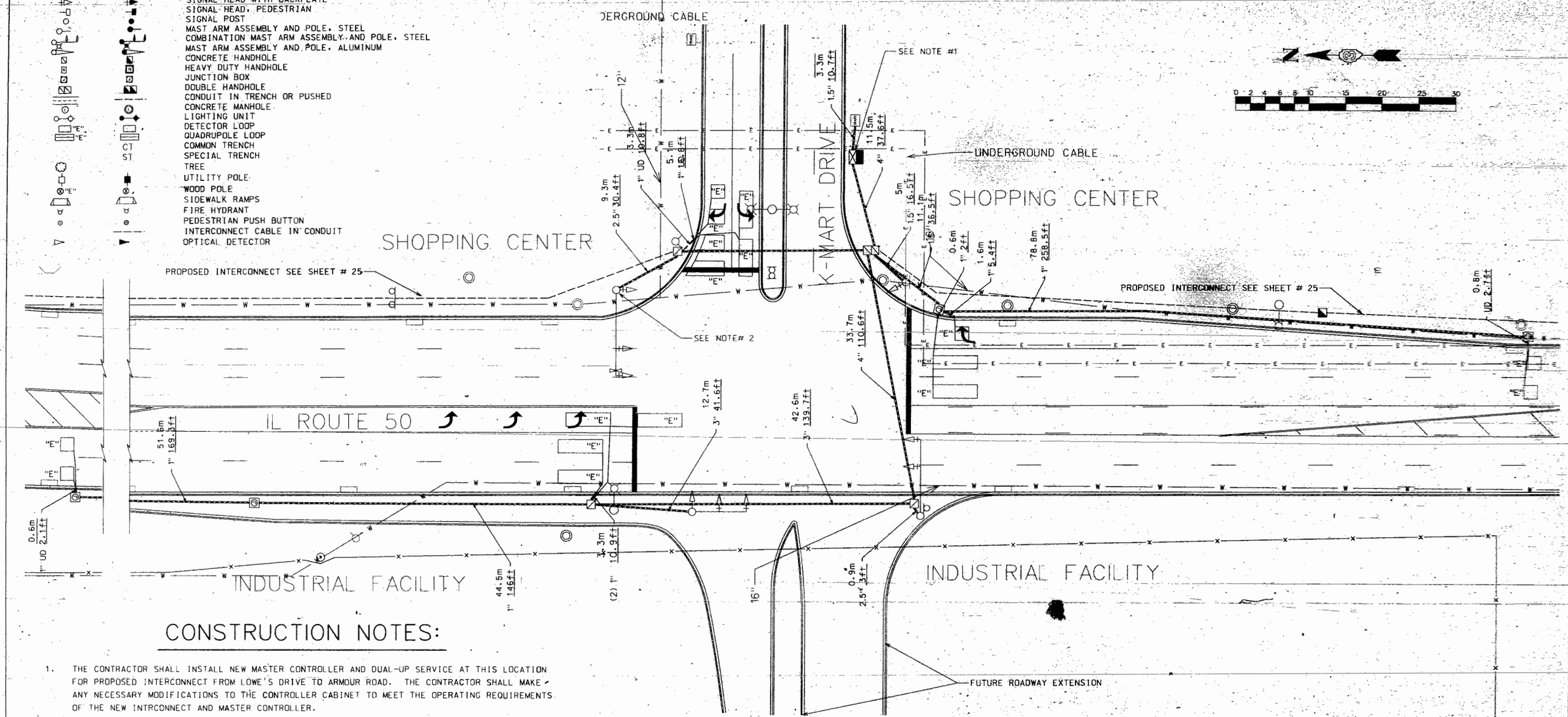
BUCHER, WILLIS & RATLIFF CORPORATION
75 EXECUTIVE DRIVE SUITE 103 AURORA, ILLINOIS 60504 630-898-0010

DESIGNED BY GS	DATE 3/97	PROJECT NO.	
DRAWN BY GS	DATE 3/97	JOB NO. 95334.20	
CHECKED BY MAC	DATE 3/97	SCALE 1cm=2.5m	SHEET 10 OF 33

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		KANKAKEE	33	11
STA.		TO STA.		
		ILLINOIS		

TRAFFIC SIGNAL LEGEND

EXISTING	PROPOSED	
		CONTROLLER
		SERVICE INSTALLATION (AS NOTED)
		SIGNAL HEAD
		SIGNAL HEAD WITH BACKPLATE
		SIGNAL HEAD, PEDESTRIAN
		SIGNAL POST
		MAST ARM ASSEMBLY AND POLE, STEEL
		COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL
		MAST ARM ASSEMBLY AND POLE, ALUMINUM
		CONCRETE HANDHOLE
		HEAVY DUTY HANDHOLE
		JUNCTION BOX
		DOUBLE HANDHOLE
		CONDUIT IN TRENCH OR PUSHED
		CONCRETE MANHOLE
		LIGHTING UNIT
"E", "E"		DETECTOR LOOP
		QUADRUPOLE LOOP
	CT	COMMON TRENCH
	ST	SPECIAL TRENCH
		TREE
		UTILITY POLE
"E"		WOOD POLE
		SIDEWALK RAMPS
		FIRE HYDRANT
		PEDESTRIAN PUSH BUTTON
		INTERCONNECT CABLE IN CONDUIT
		OPTICAL DETECTOR



CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL INSTALL NEW MASTER CONTROLLER AND DUAL-UP SERVICE AT THIS LOCATION FOR PROPOSED INTERCONNECT FROM LOWE'S DRIVE TO ARMOUR ROAD. THE CONTRACTOR SHALL MAKE ANY NECESSARY MODIFICATIONS TO THE CONTROLLER CABINET TO MEET THE OPERATING REQUIREMENTS OF THE NEW INTRCONNECT AND MASTER CONTROLLER.
2. THE CONTRACTOR SHALL INSTALL BASE SCREENING FOR MAST ARM POLE AT NE CORNER (SEE DRAWING).
3. INTERCONNECT CABLE PROPOSED FOR THIS INTERSECTION (SEE SHEET #25).
4. THE CONTRACTOR SHALL MODIFY THE EXISTING PHASING (SEE SHEET #12).
5. THE CONTRACTOR SHALL INSTALL A FIBER-OPTIC TRANSCEIVER MODEM FOR PROPOSED INTERCONNECT CABLE.

NO.	DATE	REVISIONS	BY	CHECKED

ILLINOIS DEPARTMENT OF TRANSPORTATION
VILLAGE OF BRADLEY, ILLINOIS

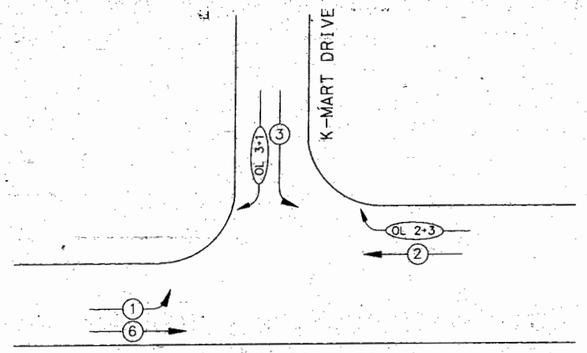
ILLINOIS ROUTE 50 & K-MART DRIVE
TRAFFIC SIGNAL MODIFICATION

BUCHER, WILLIS & RATLIFF CORPORATION
75 EXECUTIVE DRIVE, SUITE 103 AURORA, ILLINOIS 60504 630-896-0010

DESIGNED BY	GS	DATE	3/97	PROJECT NO.	
DRAWN BY	GS	DATE	3/97	JOB NO.	95334.20
CHECKED BY	MAC	DATE	3/97	SCALE 1in=2.5m	SHEET 11 OF 33

F.A.P. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		KANKAKEE	33	12
STA.		TO STA.		
		ILLINOIS		

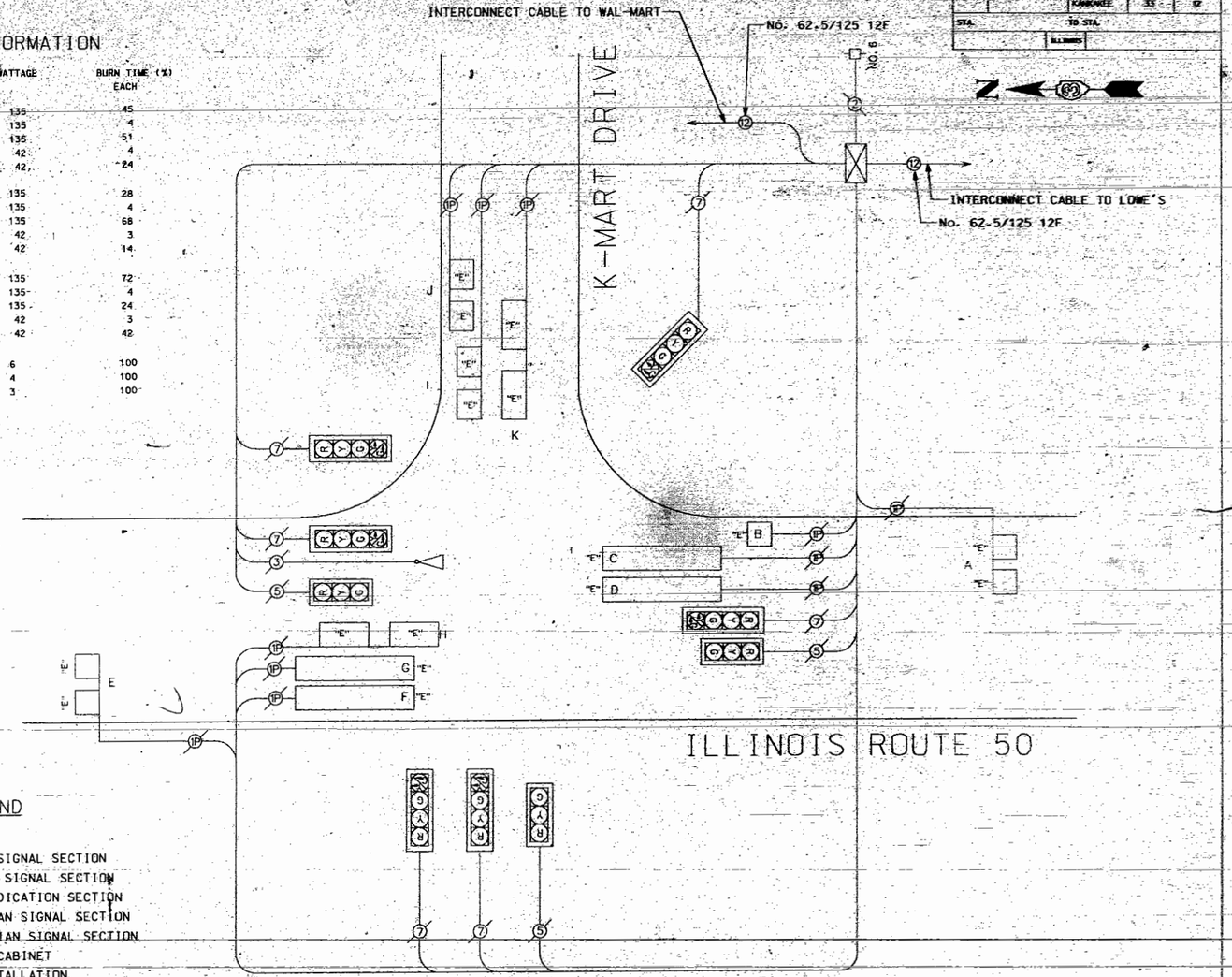
REFERRING TO STANDARD 857001, THE VEHICULAR AND PEDESTRIAN PHASES USED ARE DESIGNATED BELOW



ILLINOIS ROUTE 50

ELECTRICAL LOAD INFORMATION

STREET NAME	COMPONENT	NUMBER	WATTAGE	BURN TIME (%) EACH
IL ROUTE 50 (NB)	RED	3	135	45
	YELLOW	3	135	4
	GREEN	3	135	51
	YELLOW RT.	2	42	4
	GREEN RT.	2	42	24
IL ROUTE 50 (SB)	RED	3	135	28
	YELLOW	3	135	4
	GREEN	3	135	68
	YELLOW LT.	2	42	3
	GREEN LT.	2	42	14
K-MART DRIVE	RED	3	135	72
	YELLOW	3	135	4
	GREEN	3	135	24
	YELLOW RT.	2	42	3
	GREEN RT.	2	42	42
	CONTROLLER	1	6	100
	VEHICLE DETECTOR	10	4	100
	OPTICAL DETECTOR	2	3	100



LEGEND

- VEHICULAR MOVEMENT
- PEDESTRIAN MOVEMENT
- x NUMBER REFERS TO ASSOCIATED PHASE

CABLE PLAN LEGEND

EXISTING	PROPOSED	
G	G	8" TRAFFIC SIGNAL SECTION
R	R	12" TRAFFIC SIGNAL SECTION
R/G	R/G	12" DUAL INDICATION SECTION
DW	DW	9" PEDESTRIAN SIGNAL SECTION
DW	DW	12" PEDESTRIAN SIGNAL SECTION
		CONTROLLER CABINET
		SERVICE INSTALLATION
"E"		VEHICLE DETECTOR, INDUCTION LOOP
S "E"	S	"S" INDICATES A DETECTOR AMPLIFIER WITH SYSTEM OUTPUT
SO "E"	SO	"SO" INDICATES DETECTOR AMPLIFIER WITH SYSTEM OUTPUT, BUT NO CALL TO A PHASE.
		PUSHBUTTON DETECTOR
		OPTICAL DETECTOR
		LIGHTING UNIT
		ELECTRIC CABLE IN CONDUIT
		* DENOTES NUMBER OF CONDUCTORS
		*P DENOTES NUMBER OF PAIRS IN TWISTED SHIELDED CABLE
		ALL CABLE NO. 14 EXCEPT AS INDICATED
		"C" DENOTES COAXIAL CABLE
R Y G "P"	R Y G	SIGNAL FACE WITH BACKPLATE "P" INDICATES PROGRAMMED
R Y G "P"	R Y G	SIGNAL FACE WITHOUT BACKPLATE "P" INDICATES PROGRAMMED

SCHEDULE OF QUANTITIES

ITEM	UNIT	QTY.
MASTER CONTROLLER	EACH	1
MODIFY CONTROLLER CABINET	EACH	1
TRANSCEIVER-FIBER OPTIC	EACH	1
MODIFY EXISTING MAST ARM BASE	EACH	3

(QUANTITIES FOR INTERCONNECT CABLE NOT INCLUDED, SEE INTERCONNECT SHEET # 25)

LOOP LABEL CHART

LOOP SYSTEM	LABEL	NO. OF TURNS	INDUCTANCE (uH)	FREQUENCY (HERTZ)
A	Φ 2 NB FAR	–	–	–
B	Φ 2 NB RT	–	–	–
C	Φ 2 NB RL	–	–	–
D	Φ 2 NB LL	–	–	–
E	Φ 6 SB FAR	–	–	–
F	Φ 6 SB RL	–	–	–
G	Φ 6 SB LL	–	–	–
H	Φ 1 SB LT	–	–	–
I	Φ 8 WB FR	–	–	–
J	Φ 8 WB BK	–	–	–
K	Φ 8 WB LT	–	–	–

NO.	DATE	REVISIONS	BY	CHECKED

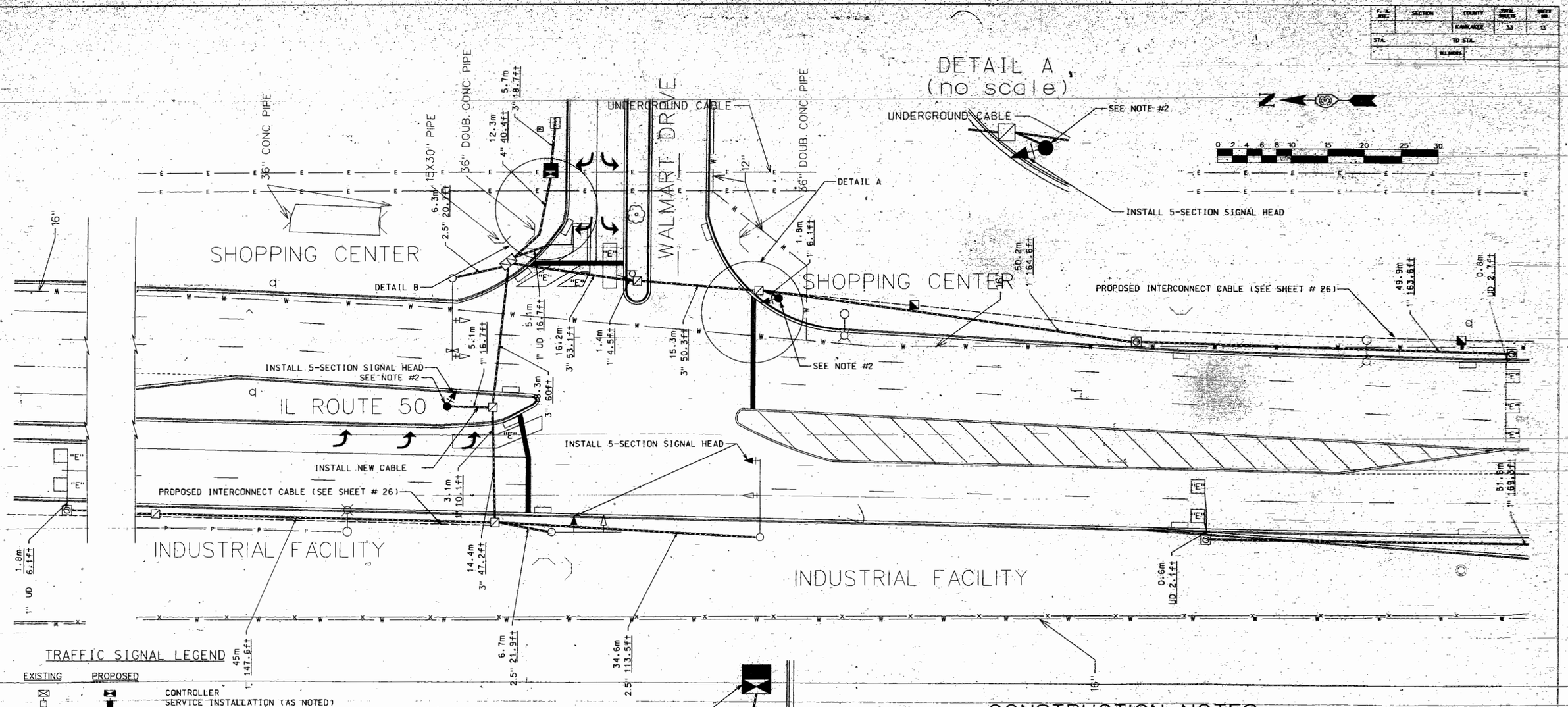
ILLINOIS DEPARTMENT OF TRANSPORTATION
VILLAGE OF BRADLEY, ILLINOIS

ILLINOIS ROUTE 50 & K-MART DRIVE
TRAFFIC SIGNAL MODIFICATION

BUCHER, WILLIS & RATLIFF CORPORATION
75 EXECUTIVE DRIVE SUITE 103 AURORA, ILLINOIS 60504 630-898-8080

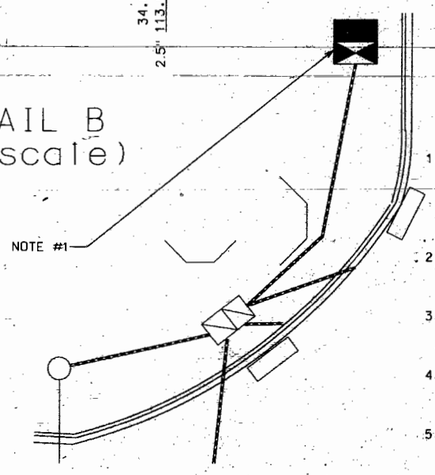
DESIGNED BY GS	DATE 3/97	PROJECT NO.	
DRAWN BY GS	DATE 3/97	JOB NO. 95-3M-20	
CHECKED BY MRG	DATE 3/97	SCALE NONE	SHEET 12 OF 33

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		KANKAKEE	33	13
STA.	TO STA.			
	ILLINOIS			



TRAFFIC SIGNAL LEGEND

EXISTING	PROPOSED	
		CONTROLLER
		SERVICE INSTALLATION (AS NOTED)
		SIGNAL HEAD
		SIGNAL HEAD WITH BACKPLATE
		SIGNAL HEAD, PEDESTRIAN
		SIGNAL POST
		MAST ARM ASSEMBLY AND POLE, STEEL
		COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL
		MAST ARM ASSEMBLY AND POLE, ALUMINUM
		CONCRETE HANDHOLE
		HEAVY DUTY HANDHOLE
		JUNCTION BOX
		DOUBLE HANDHOLE
		CONDUIT IN TRENCH OR PUSHED
		CONCRETE MANHOLE
		LIGHTING UNIT
"E"		DETECTOR LOOP
"E"		QUADRUPOLE LOOP
CT		COMMON TRENCH
ST		SPECIAL TRENCH
		TREE
		UTILITY POLE
"E"		WOOD POLE
		SIDEWALK RAMPS
		FIRE HYDRANT
		PEDESTRIAN PUSH BUTTON
		INTERCONNECT CABLE IN CONDUIT
		OPTICAL DETECTOR



CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL REMOVE AND REPLACE THE EXISTING CONTROLLER AND CABINET WITH A NEW EIGHT PHASE FULL-ACTUATED CONTROLLER AND TYPE IV CABINET ON THE EXISTING FOUNDATION. THE NEW CABINET SHALL BE MODIFIED BY THE SUPPLIER TO FIT THE EXISTING BOLT PATTERN (SEE SPECIAL PROVISIONS). THE EXISTING CONTROLLER AND CABINET SHALL BE SALVAGED TO THE VILLAGE OF BRADLEY.
2. THE CONTRACTOR SHALL REMOVE AND REPLACE THE EXISTING POSTS AND FOUNDATIONS ON THE SOUTHEAST CORNER AND MEDIAN.
3. THE CONTRACTOR SHALL REMOVE AND REPLACE THE EXISTING 4-SECTION SIGNAL HEADS WITH 5-SECTION SIGNAL HEADS.
4. THE CONTRACTOR SHALL REMOVE AND REPLACE THE EXISTING CABLE FROM THE MEDIAN SIGNAL POST TO THE CONTROLLER.
5. INTERCONNNECT CABLE PROPOSED FOR THIS INTERSECTION (SEE SHEET #26).

NO.	DATE	REVISIONS	BY	CHECKED

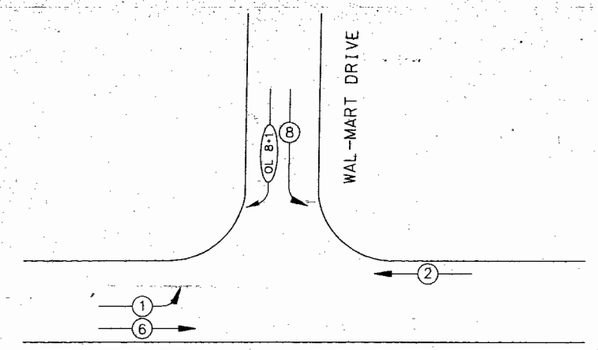
ILLINOIS DEPARTMENT OF TRANSPORTATION
VILLAGE OF BRADLEY, ILLINOIS

ILLINOIS ROUTE 50 & WAL-MART DRIVE
TRAFFIC SIGNAL MODIFICATION

BUCHER, WILLIS & RATLIFF CORPORATION
75 EXECUTIVE DRIVE SUITE 103 AURORA, ILLINOIS 60504 630-898-0010

DESIGNED BY	GS	DATE 3/97	PROJECT NO.	
DRAWN BY	GS	DATE 3/97	JOB NO. 95334.20	
CHECKED BY	MAG	DATE 3/97	SCALE 1cm=2.5m	SHEET 13 OF 33

REFERRING TO STANDARD 857001, THE VEHICULAR AND PEDESTRIAN PHASES USED ARE DESIGNATED BELOW



ILLINOIS ROUTE 50

LEGEND

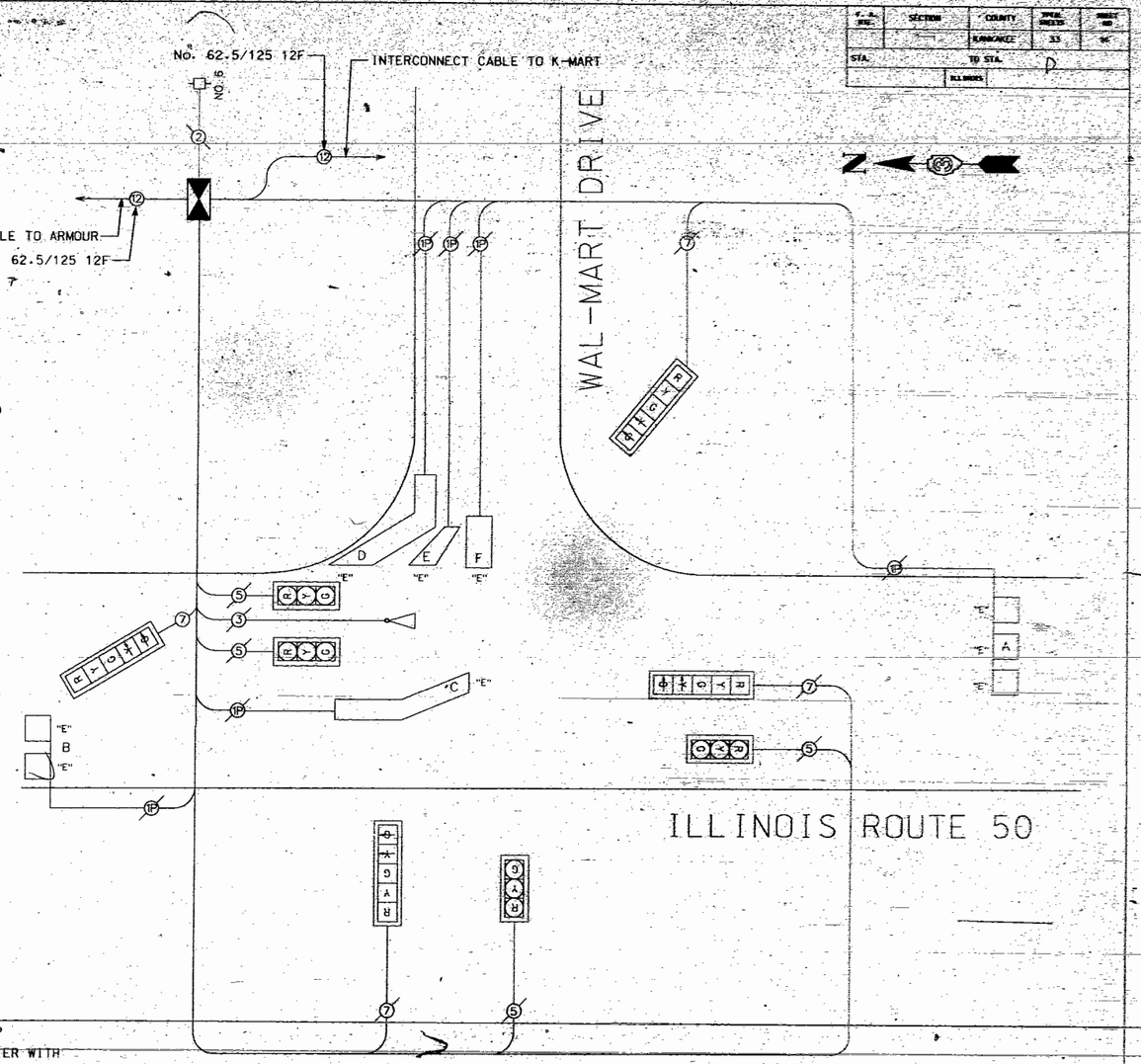
- VEHICULAR MOVEMENT
- PEDESTRIAN MOVEMENT
- x NUMBER REFERS TO ASSOCIATED PHASE

REMOVAL SCHEDULE

LOCATION	ITEM
WB POST	4-FACE SIGNAL HEAD (1)
SB MAST ARM	4-FACE SIGNAL HEAD (1)
WB MAST ARM	4-FACE SIGNAL HEAD (1)
SE CORNER	4-FACE SIGNAL HEAD (1)
WB POST	SIGNAL POST (1)
SE CORNER	SIGNAL POST (1)
CONTROLLER	CONTROLLER (1)
	CABINET (1)

ELECTRICAL LOAD INFORMATION

STREET NAME	COMPONENT	NUMBER	WATTAGE	BURN TIME (%) EACH
IL ROUTE 50 (NB)	RED	3	135	45
	YELLOW	3	135	4
	GREEN	3	135	51
IL ROUTE 50 (SB)	RED	3	135	28
	YELLOW	3	135	4
	GREEN	3	135	68
	YELLOW LT.	2	135	3
	GREEN LT.	2	135	14
WALL-MART DRIVE	RED	3	135	72
	YELLOW	3	135	4
	GREEN	3	135	24
	YELLOW RT.	2	135	3
	GREEN RT.	2	135	42
	CONTROLLER	1	6	100
	VEHICLE DETECTOR	10	4	100
	OPTICAL DETECTOR	2	3	100



SCHEDULE OF QUANTITIES

ITEM	UNIT	QTY.
FULL-ACTUATED CONTROLLER AND TYPE IV CABINET	EACH	1
MODIFY EXISTING CONTROLLER FOUNDATION	EACH	1
TRAFFIC SIGNAL POST, RGS 4.85 (16')	EACH	2
CONCRETE FOUNDATION, TYPE-A	METER	2
SIGNAL HEAD, POLYCARBONATE, 1-FACE, 5-SECTION, BRACKET MOUNTED	EACH	2
SIGNAL HEAD, POLYCARBONATE, 1-FACE, 5-SECTION, MAST ARM MOUNTED	EACH	2
TRAFFIC SIGNAL BACKPLATE	EACH	4
TRANSCEIVER-FIBER OPTIC	EACH	1
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	8
ELECTRIC CABLE IN CONDUIT, SIGNAL No.14, 7/C	METER	105
REMOVE ELECTRIC CABLE FROM CONDUIT	METER	105
MODIFY EXISTING MAST ARM BASE	EACH	3
(QUANTITIES FOR INTERCONNECT CABLE NOT INCLUDED, SEE INTERCONNECT SHEET # 26)		
REMOVE EXISTING FOUNDATIONS	EACH	2

CABLE PLAN LEGEND

EXISTING	PROPOSED	
G	G	8" TRAFFIC SIGNAL SECTION
R	R	12" TRAFFIC SIGNAL SECTION
		12" DUAL INDICATION SECTION
DW	DW	9" PEDESTRIAN SIGNAL SECTION
DW	DW	12" PEDESTRIAN SIGNAL SECTION
		CONTROLLER CABINET
		SERVICE INSTALLATION
"E"		VEHICLE DETECTOR, INDUCTION LOOP
S "E"	S	"S" INDICATES A DETECTOR AMPLIFIER WITH SYSTEM OUTPUT
SO "E"	SO	"SO" INDICATES DETECTOR AMPLIFIER WITH SYSTEM OUTPUT, BUT NO CALL TO A PHASE.
		PUSHBUTTON DETECTOR
		OPTICAL DETECTOR
		LIGHTING UNIT
		ELECTRIC CABLE IN CONDUIT
		* DENOTES NUMBER OF CONDUCTORS
		*P DENOTES NUMBER OF PAIRS IN TWISTED SHIELDED CABLE
		ALL CABLE NO. 14 EXCEPT AS INDICATED
		"C" DENOTES COAXIAL CABLE
R Y G	"P" R Y G	SIGNAL FACE WITH BACKPLATE "P" INDICATES PROGRAMMED
R Y G	"P" R Y G	SIGNAL FACE WITHOUT BACKPLATE "P" INDICATES PROGRAMMED

LOOP LABEL CHART

LOOP SYSTEM	LABEL	NO. OF TURNS	INDUCTANCE (uH)	FREQUENCY (HERTZ)
A	Φ 2 NB FAR	–	–	–
B	Φ 6 SB FAR	–	–	–
C	Φ 1 SB LT	–	–	–
D	Φ 8 WB RL	–	–	–
E	Φ 8 WB LL	–	–	–
F	Φ 8 WB LT	–	–	–

NO.	DATE	REVISIONS	BY	CHECKED

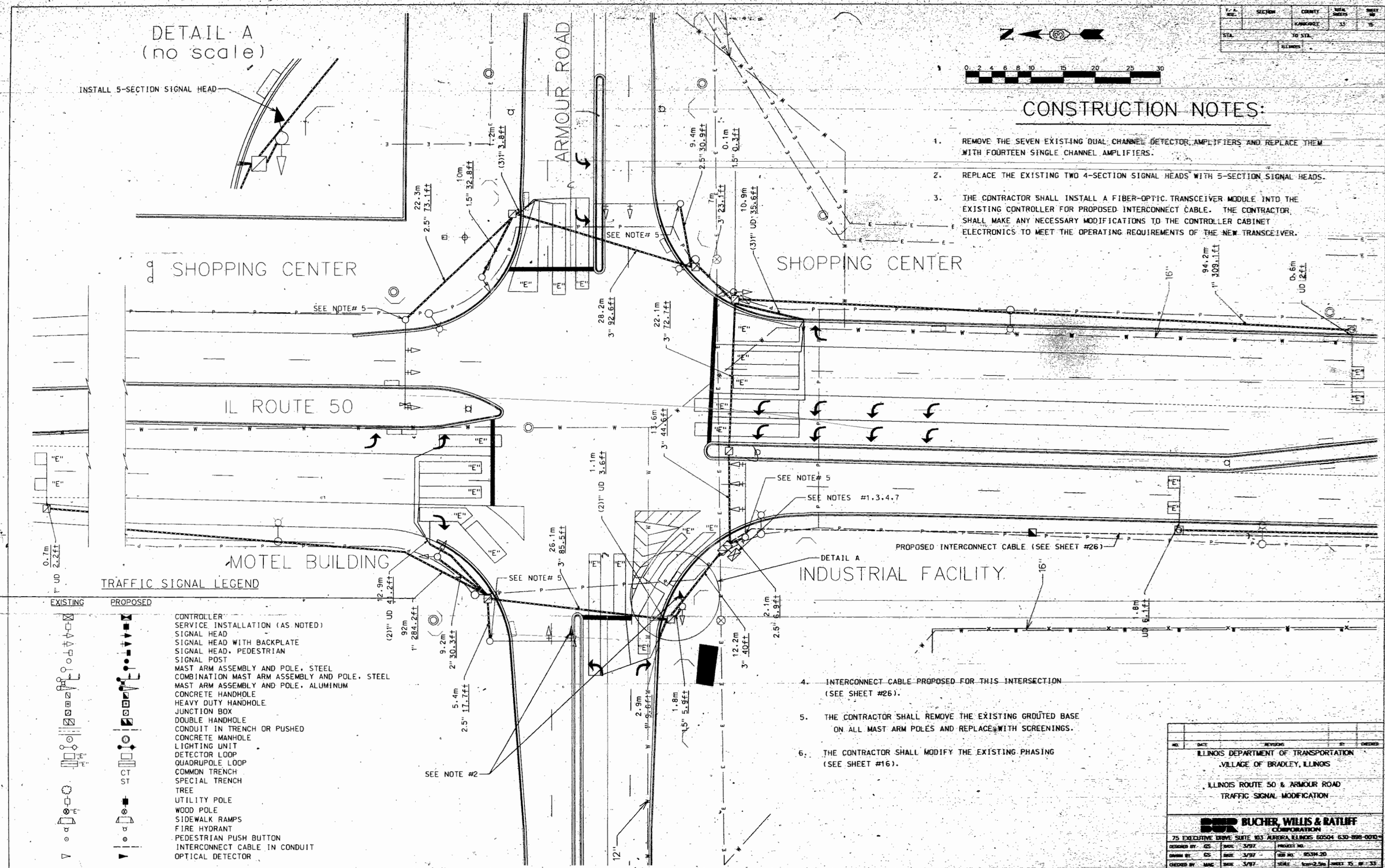
ILLINOIS DEPARTMENT OF TRANSPORTATION
VILLAGE OF BRADLEY, ILLINOIS

ILLINOIS ROUTE 50 & WAL-MART DRIVE
CABLE PLAN

BUCHER, WILLIS & RATLIFF CORPORATION
75 EXECUTIVE DRIVE SUITE 103 AURORA, ILLINOIS 60504 630-896-0010

DESIGNED BY GS	DATE 3/97	PROJECT NO.	
DRAWN BY GS	DATE 3/97	JOB NO. 95394.20	
CHECKED BY MAC	DATE 3/97	SCALE NONE	SHEET 16 OF 33

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		KANKAKEE	33	15
STA.	TO STA.			
		ILLINOIS		



CONSTRUCTION NOTES:

1. REMOVE THE SEVEN EXISTING DUAL CHANNEL DETECTOR AMPLIFIERS AND REPLACE THEM WITH FOURTEEN SINGLE CHANNEL AMPLIFIERS.
2. REPLACE THE EXISTING TWO 4-SECTION SIGNAL HEADS WITH 5-SECTION SIGNAL HEADS.
3. THE CONTRACTOR SHALL INSTALL A FIBER-OPTIC TRANSCEIVER MODULE INTO THE EXISTING CONTROLLER FOR PROPOSED INTERCONNECT CABLE. THE CONTRACTOR SHALL MAKE ANY NECESSARY MODIFICATIONS TO THE CONTROLLER CABINET ELECTRONICS TO MEET THE OPERATING REQUIREMENTS OF THE NEW TRANSCEIVER.
4. INTERCONNECT CABLE PROPOSED FOR THIS INTERSECTION (SEE SHEET #26).
5. THE CONTRACTOR SHALL REMOVE THE EXISTING GROUTED BASE ON ALL MAST ARM POLES AND REPLACE WITH SCREENINGS.
6. THE CONTRACTOR SHALL MODIFY THE EXISTING PHASING (SEE SHEET #16).

TRAFFIC SIGNAL LEGEND

EXISTING	PROPOSED	
		CONTROLLER
		SERVICE INSTALLATION (AS NOTED)
		SIGNAL HEAD
		SIGNAL HEAD WITH BACKPLATE
		SIGNAL HEAD, PEDESTRIAN
		SIGNAL POST
		MAST ARM ASSEMBLY AND POLE, STEEL
		COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL
		MAST ARM ASSEMBLY AND POLE, ALUMINUM
		CONCRETE HANDHOLE
		HEAVY DUTY HANDHOLE
		JUNCTION BOX
		DOUBLE HANDHOLE
		CONDUIT IN TRENCH OR PUSHED
		CONCRETE MANHOLE
		LIGHTING UNIT
"E"		DETECTOR LOOP
"E"		QUADRUPOLE LOOP
CT		COMMON TRENCH
ST		SPECIAL TRENCH
		TREE
		UTILITY POLE
"E"		WOOD POLE
		SIDEWALK RAMPS
		FIRE HYDRANT
		PEDESTRIAN PUSH BUTTON
		INTERCONNECT CABLE IN CONDUIT
		OPTICAL DETECTOR

NO.	DATE	REVISIONS	BY	CHECKED

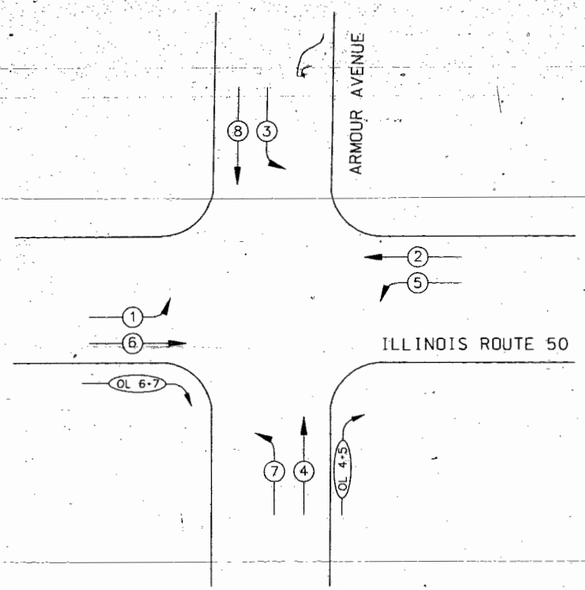
ILLINOIS DEPARTMENT OF TRANSPORTATION
VILLAGE OF BRADLEY, ILLINOIS

ILLINOIS ROUTE 50 & ARMOUR ROAD
TRAFFIC SIGNAL MODIFICATION

BUCHER, WILLIS & RATLIFF CORPORATION
75 EXECUTIVE DRIVE SUITE 103 AURORA, ILLINOIS 60504 630-898-0010

DESIGNED BY GS	DATE 3/97	PROJECT NO.	
DRAWN BY GS	DATE 3/97	JOB NO. 95314.20	
CHECKED BY MAC	DATE 3/97	SCALE 1cm=2.5m	SHEET 15 OF 33

REFERRING TO STANDARD 857001, THE VEHICULAR AND PEDESTRIAN PHASES USED ARE DESIGNATED BELOW

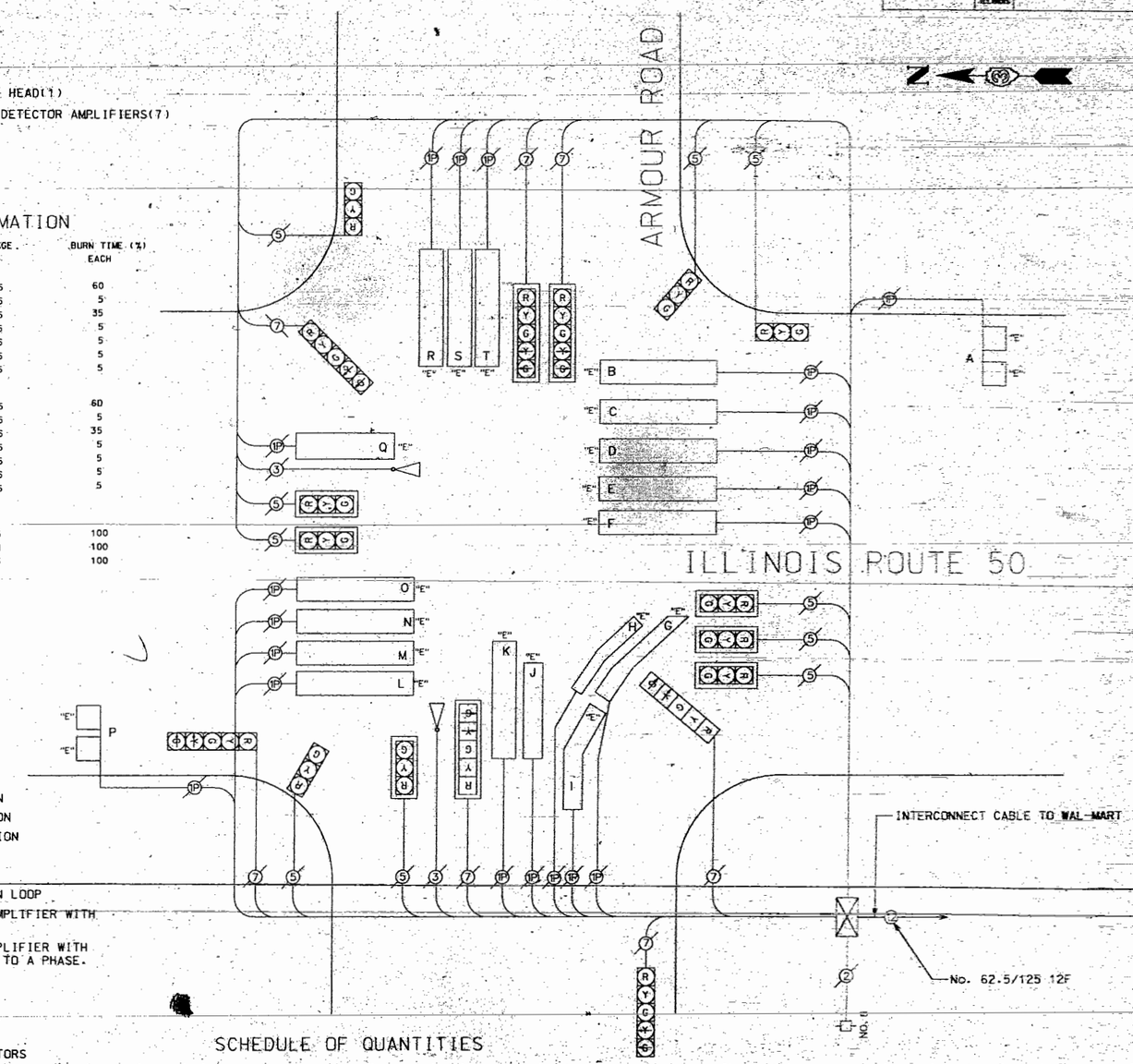


REMOVAL SCHEDULE

LOCATION	ITEM
NE CORNER	4-FACE SIGNAL HEAD(1)
CONTROLLER	DUAL CHANNEL DETECTOR AMPLIFIERS(7)

ELECTRICAL LOAD INFORMATION

STREET NAME	COMPONENT	NUMBER	WATTAGE	BURN TIME (%) EACH
IL ROUTE 50	RED	9	135	60
	YELLOW	9	135	5
	GREEN	9	135	35
	YELLOW AR.	1	135	5
	GREEN AR.	1	135	5
	YELLOW RT.	1	135	5
	GREEN RT.	1	135	5
ARMOUR ROAD	RED	7	135	60
	YELLOW	7	135	5
	GREEN	7	135	35
	YELLOW AR.	2	135	5
	GREEN AR.	2	135	5
	YELLOW RT.	1	135	5
	GREEN RT.	1	135	5
	CONTROLLER	1	6	100
	VEHICLE DETECTOR	22	4	100
	OPTICAL DETECTOR	4	3	100



LEGEND

VEHICULAR MOVEMENT

PEDESTRIAN MOVEMENT

NUMBER REFERS TO ASSOCIATED PHASE

LOOP LABEL CHART

LOOP SYSTEM	LABEL	NO. OF TURNS	INDUCTANCE (uH)	FREQUENCY (HERTZ)
A	Φ 2 NB FAR	-	-	-
B	Φ 2 NB RT	-	-	-
C	Φ 2 NB RL	-	-	-
D	Φ 2 NB LL	-	-	-
E	Φ 2 NB RL	-	-	-
F	Φ 2 NB LL	-	-	-
G	Φ 4 EB RL	-	-	-
H	Φ 4 EB LL	-	-	-
I	Φ 4 EB CL	-	-	-
J	Φ 4 EB	-	-	-
K	Φ 7 EB LT	-	-	-
L	Φ 6 SB RL	-	-	-
M	Φ 6 SB RT LL	-	-	-
N	Φ 6 SB RL	-	-	-
O	Φ 1 SB LL	-	-	-
P	Φ 6 SB FAR	-	-	-
Q	Φ 1 SB LT	-	-	-
R	Φ 8 WB RL	-	-	-
S	Φ 8 WB LL	-	-	-
T	Φ 3 WB LT	-	-	-

CABLE PLAN LEGEND

EXISTING	PROPOSED	
G	G	8" TRAFFIC SIGNAL SECTION
R	R	12" TRAFFIC SIGNAL SECTION
		12" DUAL INDICATION SECTION
DW	DW	9" PEDESTRIAN SIGNAL SECTION
DW	DW	12" PEDESTRIAN SIGNAL SECTION
		CONTROLLER CABINET
		SERVICE INSTALLATION
"E"		VEHICLE DETECTOR, INDUCTION LOOP
S "E"	S	"S" INDICATES A DETECTOR AMPLIFIER WITH SYSTEM OUTPUT
SO "E"	SO	"SO" INDICATES DETECTOR AMPLIFIER WITH SYSTEM OUTPUT, BUT NO CALL TO A PHASE.
		PUSHBUTTON DETECTOR
		OPTICAL DETECTOR
		LIGHTING UNIT
		ELECTRIC CABLE IN CONDUIT
		* DENOTES NUMBER OF CONDUCTORS
		*P DENOTES NUMBER OF PAIRS IN TWISTED SHIELDED CABLE
		ALL CABLE NO. 14 EXCEPT AS INDICATED
		"C" DENOTES COAXIAL CABLE
R Y G	"P" R Y G	SIGNAL FACE WITH BACKPLATE "P" INDICATES PROGRAMMED
R Y G	"P" R Y G	SIGNAL FACE WITHOUT BACKPLATE "P" INDICATES PROGRAMMED

SCHEDULE OF QUANTITIES

ITEM	UNIT	QTY.
INDUCTIVE LOOP DETECTOR	EACH	2
SIGNAL HEAD POLYCARBONATE, 1-FACE, 5-SECTION, BRACKET MOUNTED	EACH	1
SIGNAL HEAD, POLYCARBONATE, 1-FACE, 5-SECTION, MAST ARM MOUNTED	EACH	1
TRANSCEIVER-FIBER OPTIC	EACH	1
MODIFY EXISTING CONTROLLER CABINET	EACH	1
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	2
MODIFY EXISTING MAST ARM BASE	EACH	4
(QUANTITIES FOR INTERCONNECT-CABLE NOT INCLUDED. SEE QUANTITIES SHEET # 26)		

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		KANKAKEE	33	8
STA.		TO STA.		
		ILLINOIS		

NO.	DATE	REVISIONS	BY	CHECKED

ILLINOIS DEPARTMENT OF TRANSPORTATION
VILLAGE OF BRADLEY, ILLINOIS

ILLINOIS ROUTE 50 & ARMOUR ROAD
TRAFFIC SIGNAL MODIFICATION

BUCHER, WILLIS & RATLIFF CORPORATION
75 EXECUTIVE DRIVE SUITE 103 AURORA, ILLINOIS 60504 630-896-0010

DESIGNED BY GS	DATE 3/97	PROJECT NO.	
DRAWN BY GS	DATE 3/97	JOB NO. 85314.20	
CHECKED BY MAG	DATE 3/97	SCALE NONE	SHEET 16 OF 33

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		KANKAKEE	33	17
STA.		TO STA.		
		ILLINOIS		

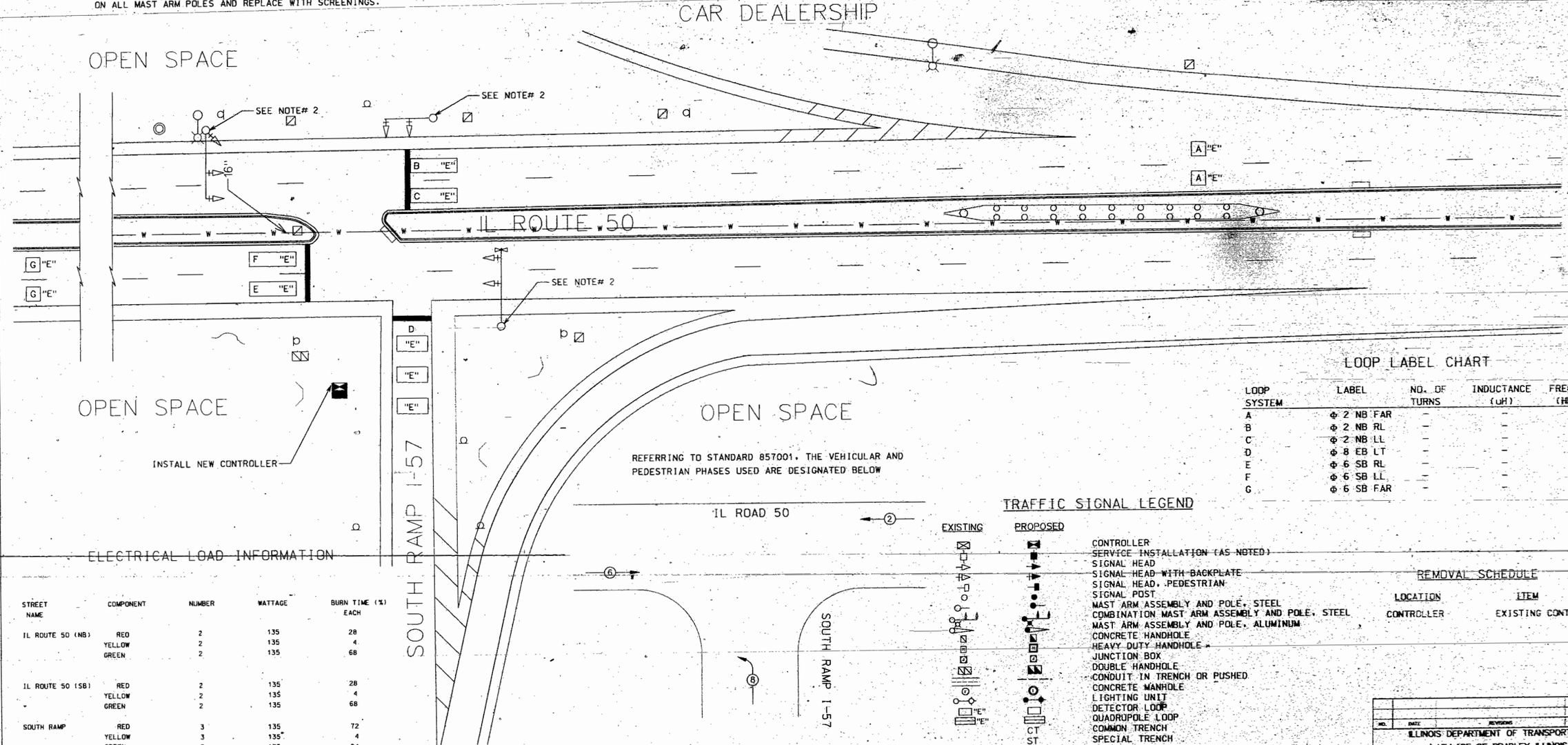
CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL INSTALL A NEW EIGHT PHASE FULL-ACTUATED CONTROLLER. THE EXISTING CONTROLLER SHALL BE SALVAGED TO THE IDOT DISTRICT#3. THE CONTRACTOR SHALL MAKE ANY NECESSARY MODIFICATIONS TO THE CONTROLLER CABINET TO MEET THE OPERATING REQUIREMENTS OF THE NEW CONTROLLER.

2. THE CONTRACTOR SHALL REMOVE THE EXISTING GROUTED BASE ON ALL MAST ARM POLES AND REPLACE WITH SCREENINGS.

SCHEDULE OF QUANTITIES

ITEM	UNIT	QTY.
FULL-ACTUATED CONTROLLER IN EXISTING CABINET	EACH	1
MODIFY EXISTING CONTROLLER CABINET	EACH	1
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
MODIFY EXISTING MAST ARM BASE	EACH	3



REFERRING TO STANDARD 857001, THE VEHICULAR AND PEDESTRIAN PHASES USED ARE DESIGNATED BELOW

LOOP LABEL CHART

LOOP SYSTEM	LABEL	NO. OF TURNS	INDUCTANCE (uH)	FREQUENCY (HERTZ)
A	Φ 2 NB FAR	–	–	–
B	Φ 2 NB RL	–	–	–
C	Φ 2 NB LL	–	–	–
D	Φ 8 EB LT	–	–	–
E	Φ 6 SB RL	–	–	–
F	Φ 6 SB LL	–	–	–
G	Φ 6 SB FAR	–	–	–

ELECTRICAL LOAD INFORMATION

STREET NAME	COMPONENT	NUMBER	WATTAGE	BURN TIME (%) EACH
IL ROUTE 50 (NB)	RED	2	135	28
	YELLOW	2	135	4
	GREEN	2	135	68
IL ROUTE 50 (SB)	RED	2	135	28
	YELLOW	2	135	4
	GREEN	2	135	68
SOUTH RAMP	RED	3	135	72
	YELLOW	3	135	4
	GREEN	3	135	24
	CONTROLLER	1	6	100
	VEHICLE DETECTOR	11	4	100
	OPTICAL DETECTOR	2	3	100

TRAFFIC SIGNAL LEGEND

EXISTING | PROPOSED

- CONTROLLER
- SERVICE INSTALLATION (AS NOTED)
- SIGNAL HEAD
- SIGNAL HEAD WITH BACKPLATE
- SIGNAL HEAD, PEDESTRIAN
- SIGNAL POST
- MAST ARM ASSEMBLY AND POLE, STEEL
- COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL
- MAST ARM ASSEMBLY AND POLE, ALUMINUM
- CONCRETE HANDHOLE
- HEAVY DUTY HANDHOLE
- JUNCTION BOX
- DOUBLE HANDHOLE
- CONDUIT IN TRENCH OR PUSHED
- CONCRETE MANHOLE
- LIGHTING UNIT
- DETECTOR LOOP
- QUADRUPOLE LOOP
- COMMON TRENCH
- SPECIAL TRENCH
- TREE
- UTILITY POLE
- WOOD POLE
- SIDEWALK RAMPS
- FIRE HYDRANT
- PEDESTRIAN PUSH BUTTON
- INTERCONNECT CABLE IN CONDUIT
- OPTICAL DETECTOR

REMOVAL SCHEDULE

LOCATION	ITEM
CONTROLLER	EXISTING CONTROLLER(1)

LEGEND

- VEHICULAR MOVEMENT
- PEDESTRIAN MOVEMENT
- * NUMBER REFERS TO ASSOCIATED PHASE

NO.	DATE	REVISIONS	BY	CHECKED

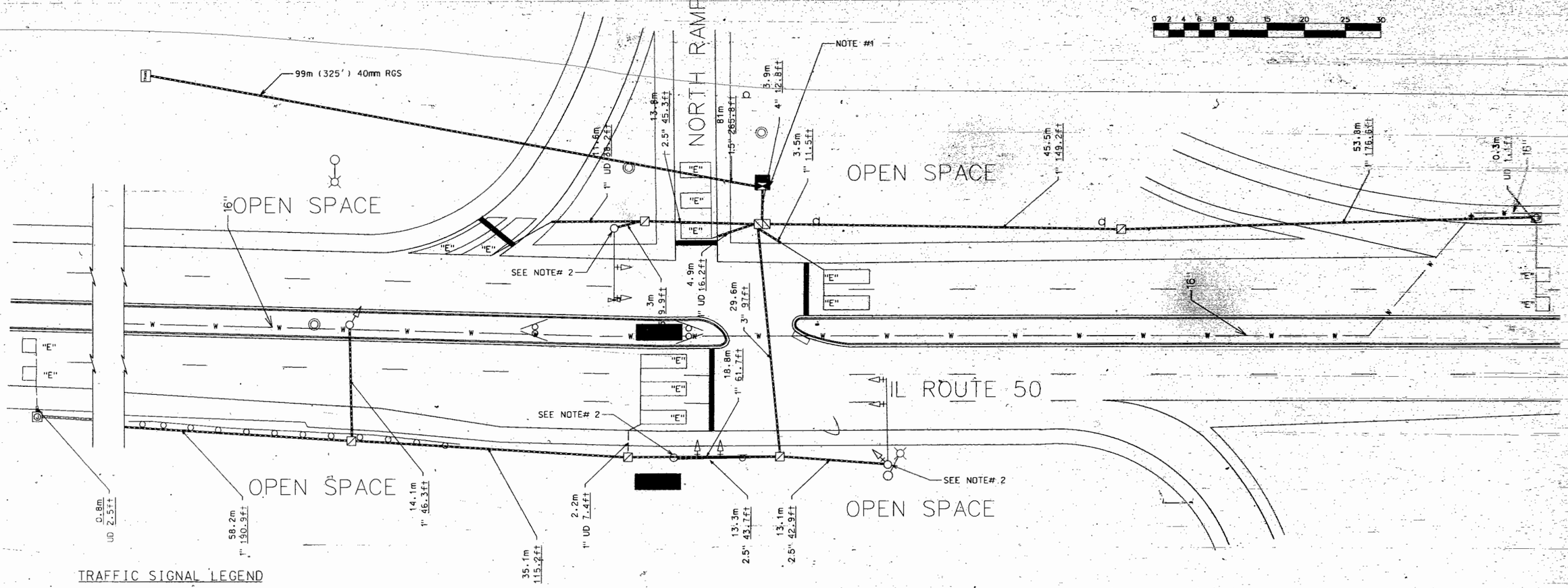
ILLINOIS DEPARTMENT OF TRANSPORTATION
VILLAGE OF BRADLEY, ILLINOIS

ILLINOIS ROUTE 50 & SOUTH RAMP I-57
TRAFFIC SIGNAL MODIFICATIONS

BUCHER, WILLIS & RATLIFF CORPORATION
75 EXECUTIVE DRIVE SUITE 103 AURORA, ILLINOIS 60504 630-896-0010

DESIGNED BY CS	DATE 3/97	PROJECT NO.	
DRAWN BY CS	DATE 3/97	JOB NO. 95334.20	
CHECKED BY MAG	DATE 3/97	SCALE Scale 2.5mm	SHEET 17 OF 33

SEC.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		KANKAKEE	33	18
STA.		TO STA.		
	ILLINOIS			



TRAFFIC SIGNAL LEGEND

EXISTING	PROPOSED	
		CONTROLLER
		SERVICE INSTALLATION (AS NOTED)
		SIGNAL HEAD
		SIGNAL HEAD WITH BACKPLATE
		SIGNAL HEAD, PEDESTRIAN
		SIGNAL POST
		MAST ARM ASSEMBLY AND POLE, STEEL
		COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL
		MAST ARM ASSEMBLY AND POLE, ALUMINUM
		CONCRETE HANDHOLE
		HEAVY DUTY HANDHOLE
		JUNCTION BOX
		DOUBLE HANDHOLE
		CONDUIT IN TRENCH OR PUSHED
		CONCRETE MANHOLE
		LIGHTING UNIT
"E"		DETECTOR LOOP
"E"		QUADRUPOLE LOOP
	CT	COMMON TRENCH
	ST	SPECIAL TRENCH
		TREE
		UTILITY POLE
"E"		WOOD POLE
		SIDEWALK RAMPS
		FIRE HYDRANT
		PEDESTRIAN PUSH BUTTON
		INTERCONNECT CABLE IN CONDUIT
		OPTICAL DETECTOR

CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL INSTALL A NEW EIGHT PHASE FULL-ACTUATED CONTROLLER. THE EXISTING CONTROLLER SHALL BE SALVAGED TO THE IDOT DISTRICT# 3. THE CONTRACTOR SHALL MAKE ANY NECESSARY MODIFICATIONS TO THE CONTROLLER CABINET TO MEET THE OPERATING REQUIREMENTS OF THE NEW CONTROLLER.

2. THE CONTRACTOR SHALL REMOVE THE EXISTING GROUTED BASE ON ALL MAST ARM POLES AND REPLACE WITH SCREENINGS.

NO.	DATE	REVISIONS	BY	CHECKED

ILLINOIS DEPARTMENT OF TRANSPORTATION
VILLAGE OF BRADLEY, ILLINOIS

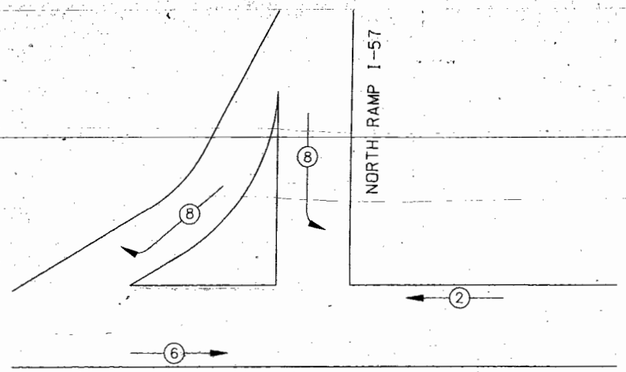
ILLINOIS ROUTE 50 & NORTH RAMP I-57
TRAFFIC SIGNAL MODIFICATIONS

BUCHER, WILLIS & RATLIFF CORPORATION
75 EXECUTIVE DRIVE SUITE 103 AURORA, ILLINOIS 60504 630-898-8010

DESIGNED BY	GS	DATE 3/97	PROJECT NO.	
DRAWN BY	GS	DATE 3/97	JOB NO.	95314.20
CHECKED BY	MAG	DATE 3/97	SCALE 1cm=2.5m	SHEET 18 OF 33

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		KANKAKEE	33	19
STA.		TO STA.		
		ILLINOIS		

REFERRING TO STANDARD 857001, THE VEHICULAR AND PEDESTRIAN PHASES USED ARE DESIGNATED BELOW



LEGEND

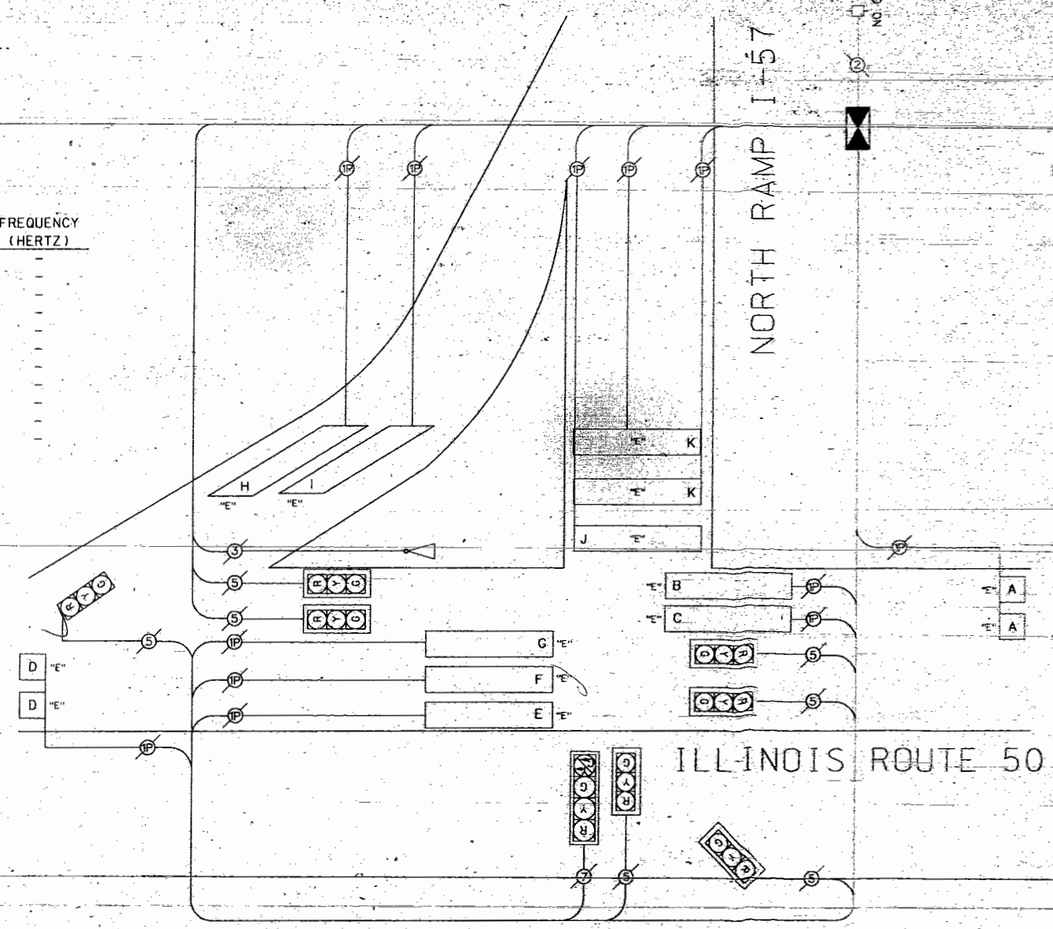
- (x) VEHICULAR MOVEMENT
- (x) PEDESTRIAN MOVEMENT
- x NUMBER REFERS TO ASSOCIATED PHASE

REMOVAL SCHEDULE

LOCATION	ITEM
CONTROLLER	EXISTING CONTROLLER (1)

LOOP LABEL CHART

LOOP SYSTEM	LABEL	NO. OF TURNS	INDUCTANCE (uH)	FREQUENCY (HERTZ)
A	Φ 2 NB FAR	-	-	-
B	Φ 2 NB RL	-	-	-
C	Φ 2 NB LL	-	-	-
D	Φ 6 SB FAR	-	-	-
E	Φ 6 SB RL	-	-	-
F	Φ 6 SB CL	-	-	-
G	Φ 6 SB LL	-	-	-
H	Φ 8 WB RL	-	-	-
I	Φ 8 WB LL	-	-	-
J	Φ 8 WB FR	-	-	-
K	Φ 8 WB BK	-	-	-



ELECTRICAL LOAD INFORMATION

STREET NAME	COMPONENT	NUMBER	WATTAGE	BURN TIME (%) EACH
IL ROUTE 50 (NB)	RED	2	135	28
	YELLOW	2	135	4
	GREEN	2	135	68
IL ROUTE 50 (SB)	RED	2	135	28
	YELLOW	2	135	4
	GREEN	2	135	68
NORTH RAMP	RED	4	135	72
	YELLOW	4	135	4
	GREEN	4	135	24
	GREEN RT/GREEN LT	1 (2)	42	24
	CONTROLLER	1	6	100
	VEHICLE DETECTOR	14	4	100
	OPTICAL DETECTOR	2	3	100

CABLE PLAN LEGEND

EXISTING	PROPOSED	
G	G	8" TRAFFIC SIGNAL SECTION
R	R	12" TRAFFIC SIGNAL SECTION
R/G	R/G	12" DUAL INDICATION SECTION
DW	DW	9" PEDESTRIAN SIGNAL SECTION
DW	DW	12" PEDESTRIAN SIGNAL SECTION
		CONTROLLER CABINET
		SERVICE INSTALLATION
"E"		VEHICLE DETECTOR, INDUCTION LOOP
S "E"	S	"S" INDICATES A DETECTOR AMPLIFIER WITH SYSTEM OUTPUT
SO "E"	SO	"SO" INDICATES DETECTOR AMPLIFIER WITH SYSTEM OUTPUT, BUT NO CALL TO A PHASE.
		PUSHBUTTON DETECTOR
		OPTICAL DETECTOR
		LIGHTING UNIT
		ELECTRIC CABLE IN CONDUIT
		* DENOTES NUMBER OF CONDUCTORS
		*P DENOTES NUMBER OF PAIRS IN TWISTED SHIELDED CABLE
		ALL CABLE NO. 14 EXCEPT AS INDICATED
		"C" DENOTES COAXIAL CABLE
R Y G	"P" R Y G	SIGNAL FACE WITH BACKPLATE "P" INDICATES PROGRAMMED
R Y G	"P" R Y G	SIGNAL FACE WITHOUT BACKPLATE "P" INDICATES PROGRAMMED

SCHEDULE OF QUANTITIES

ITEM	UNIT	QTY.
FULL-ACTUATED CONTROLLER IN EXISTING CABINET	EACH	1
MODIFY EXISTING CONTROLLER CABINET	EACH	1
MODIFY EXISTING MAST ARM BASE	EACH	3
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1

NO.	DATE	REVISIONS	BY	CHECKED

ILLINOIS DEPARTMENT OF TRANSPORTATION
VILLAGE OF BRADLEY, ILLINOIS

ILLINOIS ROUTE 50 & NORTH RAMP I-57
CABLE PLAN

BUCHER, WILLIS & RATLIFF CORPORATION
75 EXECUTIVE DRIVE SUITE 103 AURORA, ILLINOIS 60504 630-898-0010

DESIGNED BY GS	DATE 3/97	PROJECT NO.	
DRAWN BY GS	DATE 3/97	JOB NO. 95394.20	
CHECKED BY MAC	DATE 3/97	SCALE NONE	SHEET 19 OF 33

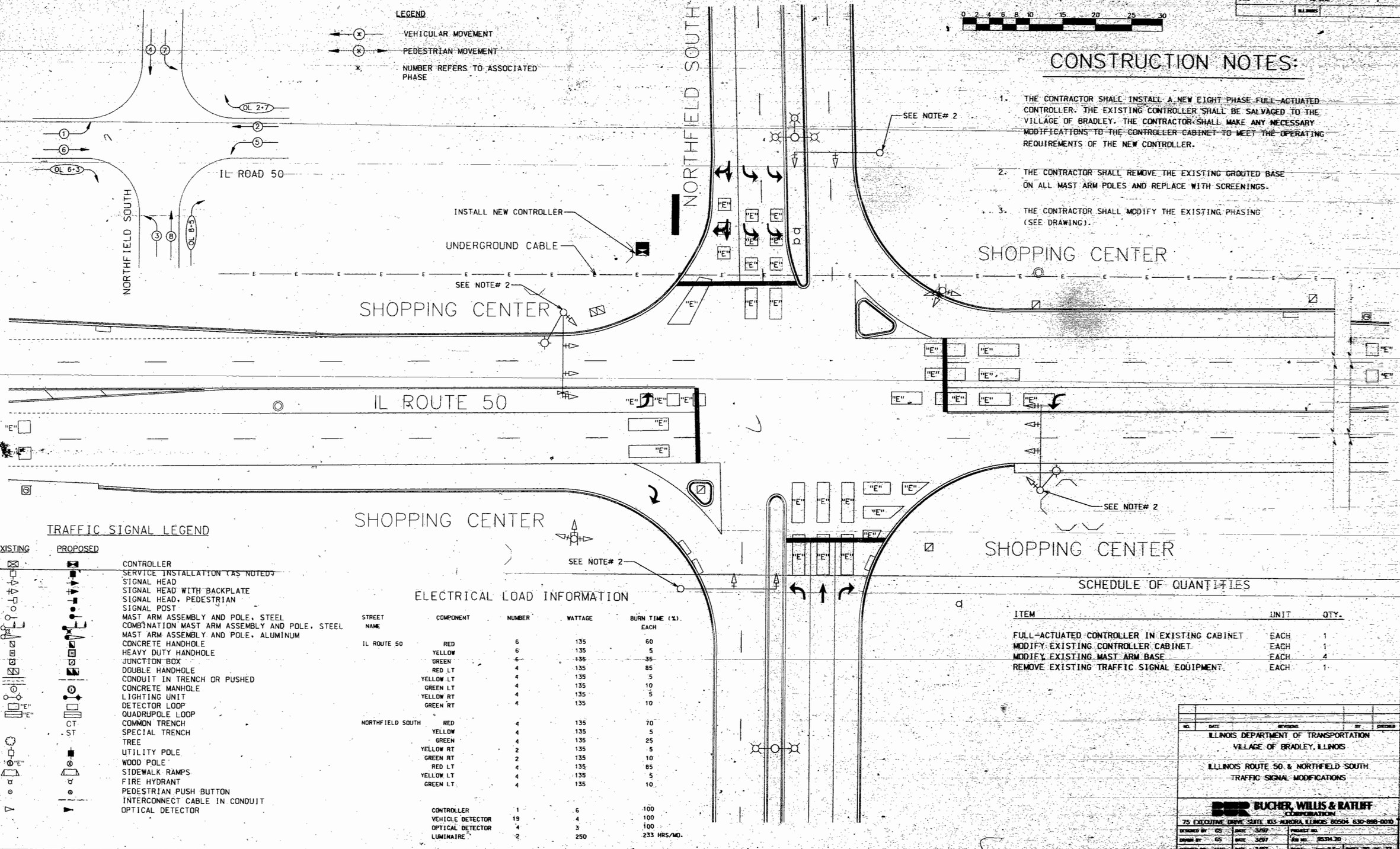
REFERRING TO STANDARD 857001, THE VEHICULAR AND PEDESTRIAN PHASES USED ARE DESIGNATED BELOW

LEGEND

VEHICULAR MOVEMENT

PEDESTRIAN MOVEMENT

NUMBER REFERS TO ASSOCIATED PHASE



F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		KANKAKEE	33	20
STA.		TO STA.		
		ILLINOIS		

CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL INSTALL A NEW EIGHT PHASE FULL-ACTUATED CONTROLLER. THE EXISTING CONTROLLER SHALL BE SALVAGED TO THE VILLAGE OF BRADLEY. THE CONTRACTOR SHALL MAKE ANY NECESSARY MODIFICATIONS TO THE CONTROLLER CABINET TO MEET THE OPERATING REQUIREMENTS OF THE NEW CONTROLLER.
2. THE CONTRACTOR SHALL REMOVE THE EXISTING GROUTED BASE ON ALL MAST ARM POLES AND REPLACE WITH SCREENINGS.
3. THE CONTRACTOR SHALL MODIFY THE EXISTING PHASING (SEE DRAWING).

TRAFFIC SIGNAL LEGEND

EXISTING	PROPOSED	
		CONTROLLER
		SERVICE INSTALLATION (AS NOTED)
		SIGNAL HEAD
		SIGNAL HEAD WITH BACKPLATE
		SIGNAL HEAD, PEDESTRIAN
		SIGNAL POST
		MAST ARM ASSEMBLY AND POLE, STEEL
		COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL
		MAST ARM ASSEMBLY AND POLE, ALUMINUM
		CONCRETE HANDHOLE
		HEAVY DUTY HANDHOLE
		JUNCTION BOX
		DOUBLE HANDHOLE
		CONDUIT IN TRENCH OR PUSHED
		CONCRETE MANHOLE
		LIGHTING UNIT
"E"		DETECTOR LOOP
"E"		QUADRUPOLE LOOP
	CT	COMMON TRENCH
	ST	SPECIAL TRENCH
		TREE
		UTILITY POLE
"E"		WOOD POLE
		SIDEWALK RAMPS
		FIRE HYDRANT
		PEDESTRIAN PUSH BUTTON
		INTERCONNECT CABLE IN CONDUIT
		OPTICAL DETECTOR

ELECTRICAL LOAD INFORMATION

STREET NAME	COMPONENT	NUMBER	WATTAGE	BURN TIME (%) EACH
IL ROUTE 50	RED	6	135	60
	YELLOW	6	135	5
	GREEN	6	135	35
	RED LT	4	135	85
	YELLOW LT	4	135	5
	GREEN LT	4	135	10
	YELLOW RT	4	135	5
	GREEN RT	4	135	10
NORTHFIELD SOUTH	RED	4	135	70
	YELLOW	4	135	5
	GREEN	4	135	25
	YELLOW RT	2	135	5
	GREEN RT	2	135	10
	RED LT	4	135	85
	YELLOW LT	4	135	5
	GREEN LT	4	135	10
	CONTROLLER	1	6	100
	VEHICLE DETECTOR	19	4	100
	OPTICAL DETECTOR	4	3	100
	LUMINAIRE	2	250	233 HRS/MO.

SCHEDULE OF QUANTITIES

ITEM	UNIT	QTY.
FULL-ACTUATED CONTROLLER IN EXISTING CABINET	EACH	1
MODIFY EXISTING CONTROLLER CABINET	EACH	1
MODIFY EXISTING MAST ARM BASE	EACH	4
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1

NO.	DATE	REVISIONS	BY	CHECKED

ILLINOIS DEPARTMENT OF TRANSPORTATION
VILLAGE OF BRADLEY, ILLINOIS

ILLINOIS ROUTE 50 & NORTHFIELD SOUTH
TRAFFIC SIGNAL MODIFICATIONS

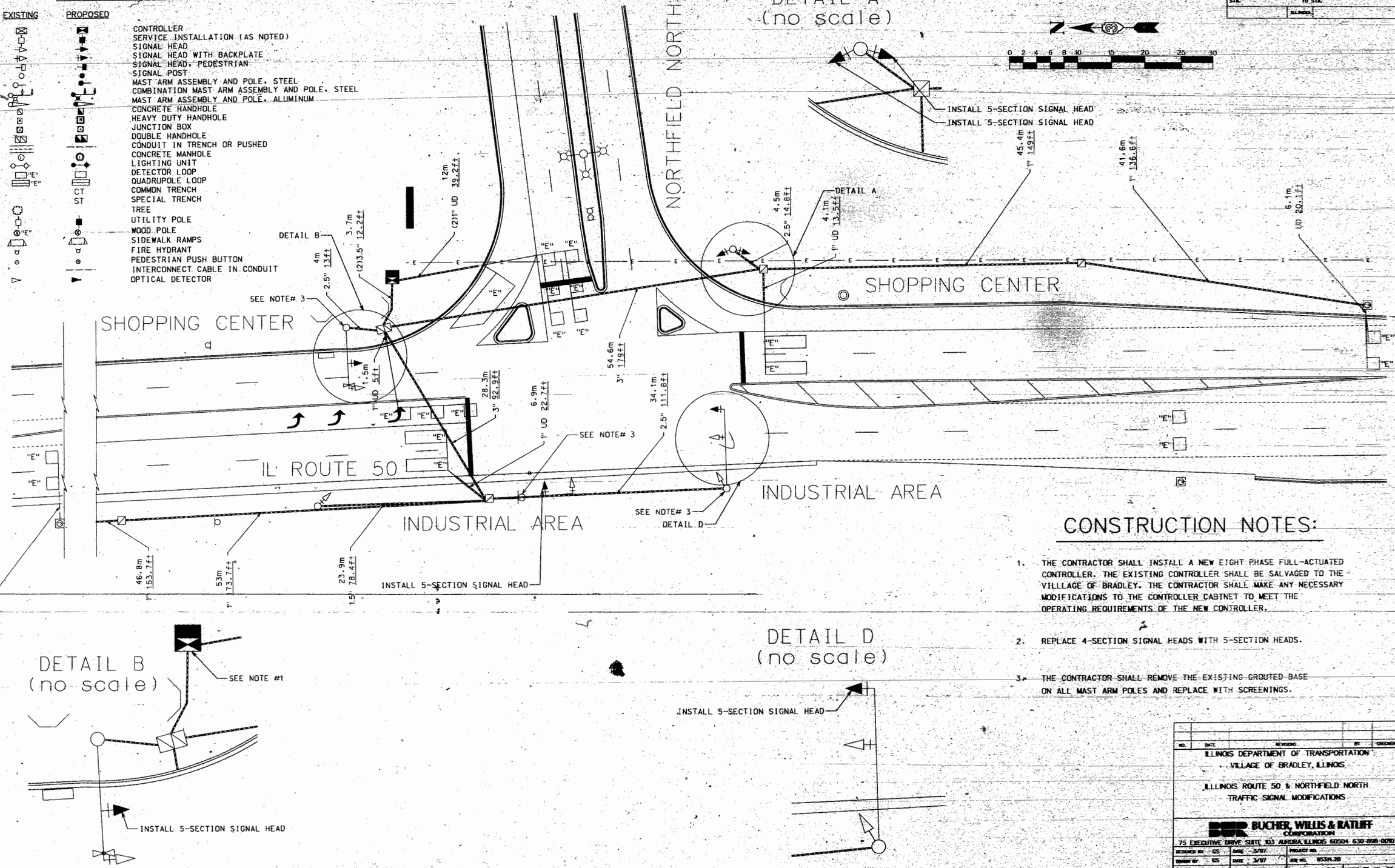
BUCHER, WILLIS & RATLIFF CORPORATION
75 EXECUTIVE DRIVE SUITE 103 AURORA, ILLINOIS 60504 630-898-0010

DESIGNED BY GS	DATE 3/97	PROJECT NO.	
DRAWN BY GS	DATE 3/97	JOB NO. 95374.20	
CHECKED BY MAG	DATE 3/97	SCALE Scale=2.5m	SHEET 20 OF 33

F. A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		KANKAKEE	33	21
STA.		TO STA.		
		ILLINOIS		

TRAFFIC SIGNAL LEGEND

EXISTING	PROPOSED	
		CONTROLLER
		SERVICE INSTALLATION (AS NOTED)
		SIGNAL HEAD
		SIGNAL HEAD WITH BACKPLATE
		SIGNAL HEAD, PEDESTRIAN
		SIGNAL POST
		MAST ARM ASSEMBLY AND POLE, STEEL
		COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL
		MAST ARM ASSEMBLY AND POLE, ALUMINUM
		CONCRETE HANDHOLE
		HEAVY DUTY HANDHOLE
		JUNCTION BOX
		DOUBLE HANDHOLE
		CONDUIT IN TRENCH OR PUSHED
		CONCRETE MANHOLE
		LIGHTING UNIT
		DETECTOR LOOP
		QUADRUPOLE LOOP
"E"	CT	COMMON TRENCH
"E"	ST	SPECIAL TRENCH
		TREE
		UTILITY POLE
"E"		WOOD POLE
		SIDEWALK RAMPS
		FIRE HYDRANT
		PEDESTRIAN PUSH BUTTON
		INTERCONNECT CABLE IN CONDUIT
		OPTICAL DETECTOR



CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL INSTALL A NEW EIGHT PHASE FULL-ACTUATED CONTROLLER. THE EXISTING CONTROLLER SHALL BE SALVAGED TO THE VILLLAGE OF BRADLEY. THE CONTRACTOR SHALL MAKE ANY NECESSARY MODIFICATIONS TO THE CONTROLLER CABINET TO MEET THE OPERATING REQUIREMENTS OF THE NEW CONTROLLER.

2. REPLACE 4-SECTION SIGNAL HEADS WITH 5-SECTION HEADS.

3. THE CONTRACTOR SHALL REMOVE THE EXISTING GROUTED BASE ON ALL MAST ARM POLES AND REPLACE WITH SCREENINGS.

NO.	DATE	REVISIONS	BY	CHECKED

ILLINOIS DEPARTMENT OF TRANSPORTATION
VILLAGE OF BRADLEY, ILLINOIS

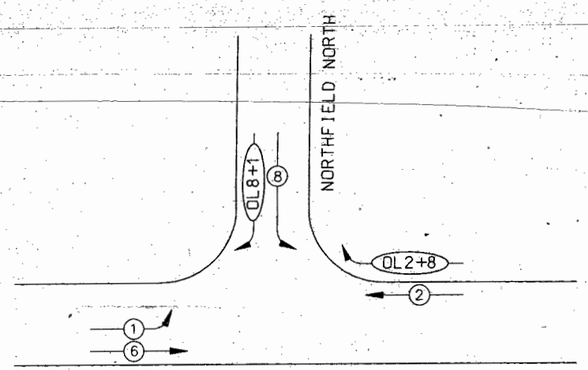
ILLINOIS ROUTE 50 & NORTHFIELD NORTH
TRAFFIC SIGNAL MODIFICATIONS

BUCHER, WILLIS & RATLIFF CORPORATION
75 EXECUTIVE DRIVE SUITE 103 AURORA, ILLINOIS 60504 630-898-0010

DESIGNED BY	GS	DATE	3/97	PROJECT NO.	
DRAWN BY	GS	DATE	3/97	JOB NO.	95339.20
CHECKED BY	MAC	DATE	3/97	SCALE	1cm=2.5m SHEET 21 OF 33

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		KANKAKEE	33	22
STA.		TO STA.		
		ILLINOIS		

REFERRING TO STANDARD 857001, THE VEHICULAR AND PEDESTRIAN PHASES USED ARE DESIGNATED BELOW



LEGEND

VEHICULAR MOVEMENT

PEDESTRIAN MOVEMENT

* NUMBER REFERS TO ASSOCIATED PHASE

REMOVAL SCHEDULE

LOCATION	ITEM
NB MAST ARM	4-FACE SIGNAL HEAD (1)
SB MAST ARM	4-FACE SIGNAL HEAD (1)
WB MAST ARM	4-FACE SIGNAL HEAD (1)
SE CORNER	4-FACE SIGNAL HEAD (2)

SCHEDULE OF QUANTITIES

ITEM	UNIT	QTY.
FULL-ACTUATED CONTROLLER IN EXISTING CABINET	EACH	1
MODIFY EXISTING CONTROLLER CABINET	EACH	1
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	6
SIGNAL HEAD, POLYCARBONATE, 1-FACE, 5-SECTION, BRACKET MOUNTED	EACH	2
SIGNAL HEAD, POLYCARBONATE, 1-FACE, 5-SECTION, MAST ARM MOUNTED	EACH	3
TRAFFIC SIGNAL BACKPLATE	EACH	5
MODIFY EXISTING MAST ARM BASE	EACH	3

ELECTRICAL LOAD INFORMATION

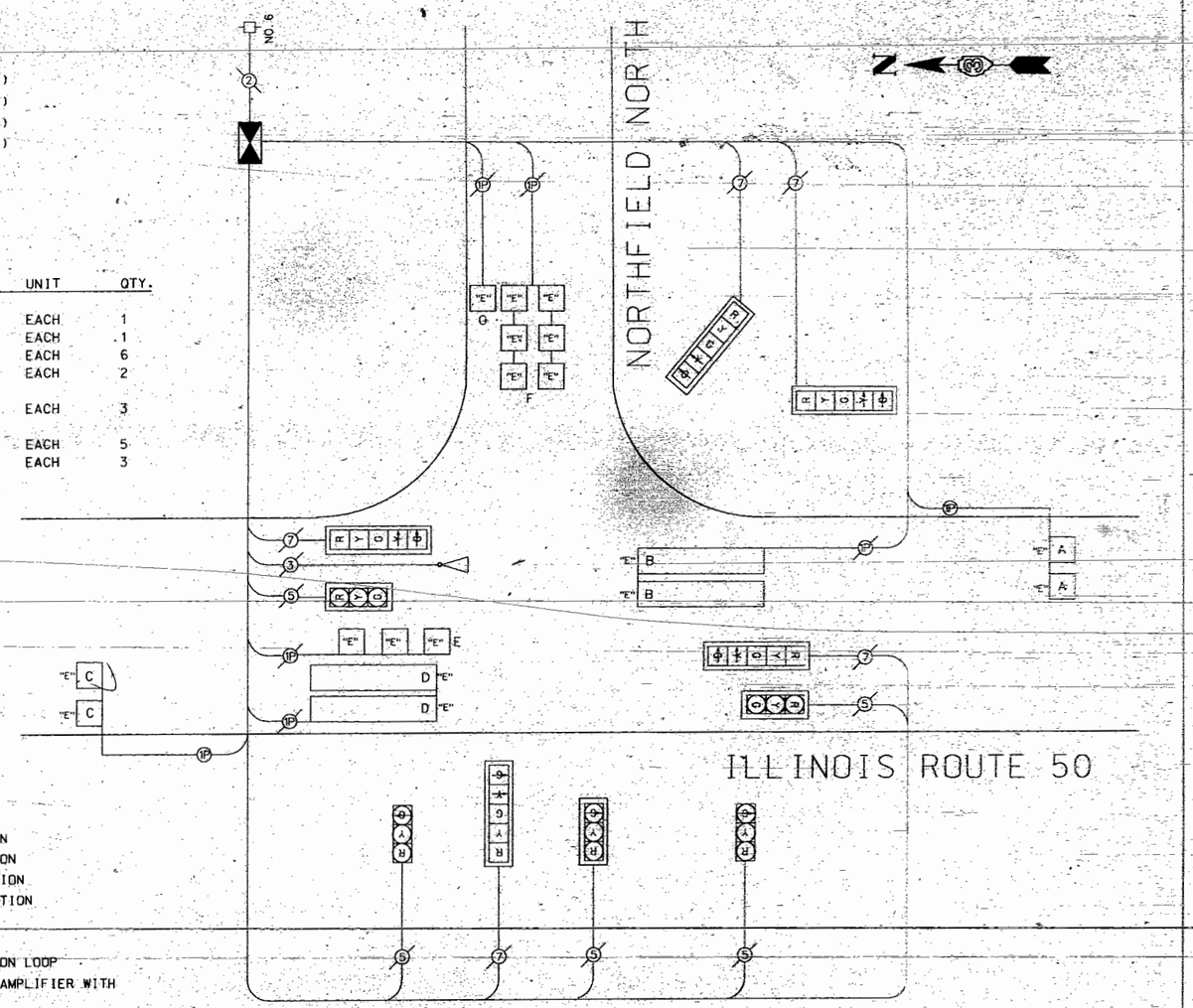
STREET NAME	COMPONENT	NUMBER	WATTAGE	BURN TIME (%) EACH
IL ROUTE 50 (NB)	RED	3	135	35
	YELLOW	3	135	5
	GREEN	3	135	60
	YELLOW RT.	2	135	5
	GREEN RT.	2	135	85
IL ROUTE 50 (SB)	RED	3	135	25
	YELLOW	3	135	5
	GREEN	3	135	70
	YELLOW LT.	2	135	5
	GREEN LT.	2	135	5
NORTHFIELD NORTH	RED	3	135	75
	YELLOW	3	135	5
	GREEN	3	135	20
	YELLOW LT	2	135	5
	GREEN LT.	2	135	5
	YELLOW RT.	1	135	5
	GREEN RT.	1	135	30
	CONTROLLER	1	6	100
	VEHICLE DETECTOR	18	4	100
	OPTICAL DETECTOR	2	3	100

LOOP LABEL CHART

LOOP SYSTEM	LABEL	NO. OF TURNS	INDUCTANCE (uH)	FREQUENCY (HERTZ)
A	Φ 2 NB FAR	–	–	–
B	Φ 2 NB STBR	–	–	–
C	Φ 6 NB FAR	–	–	–
D	Φ 6 NB STBR	–	–	–
E	Φ 1 SB LT	–	–	–
F	Φ 8 WB LT	–	–	–
G	Φ 8 WB LT	–	–	–

CABLE PLAN LEGEND

EXISTING	PROPOSED	
G	G	8" TRAFFIC SIGNAL SECTION
R	R	12" TRAFFIC SIGNAL SECTION
		12" DUAL INDICATION SECTION
DW	DW	9" PEDESTRIAN SIGNAL SECTION
DW	DW	12" PEDESTRIAN SIGNAL SECTION
		CONTROLLER CABINET
		SERVICE INSTALLATION
"E"		VEHICLE DETECTOR, INDUCTION LOOP
S "E"	S	"S" INDICATES A DETECTOR AMPLIFIER WITH SYSTEM OUTPUT
SO "E"	SO	"SO" INDICATES DETECTOR AMPLIFIER WITH SYSTEM OUTPUT, BUT NO CALL TO A PHASE.
		PUSHBUTTON DETECTOR
		OPTICAL DETECTOR
		LIGHTING UNIT
		ELECTRIC CABLE IN CONDUIT
		* DENOTES NUMBER OF CONDUCTORS
		*P DENOTES NUMBER OF PAIRS IN TWISTED SHIELDED CABLE
		ALL CABLE NO. 14 EXCEPT AS INDICATED
R Y G	"P" R Y G	"C" DENOTES COAXIAL CABLE
		SIGNAL FACE WITH BACKPLATE "P" INDICATES PROGRAMMED
R Y G	"P" R Y G	SIGNAL FACE WITHOUT BACKPLATE "P" INDICATES PROGRAMMED



NO.	DATE	REVISIONS	BY	CHECKED

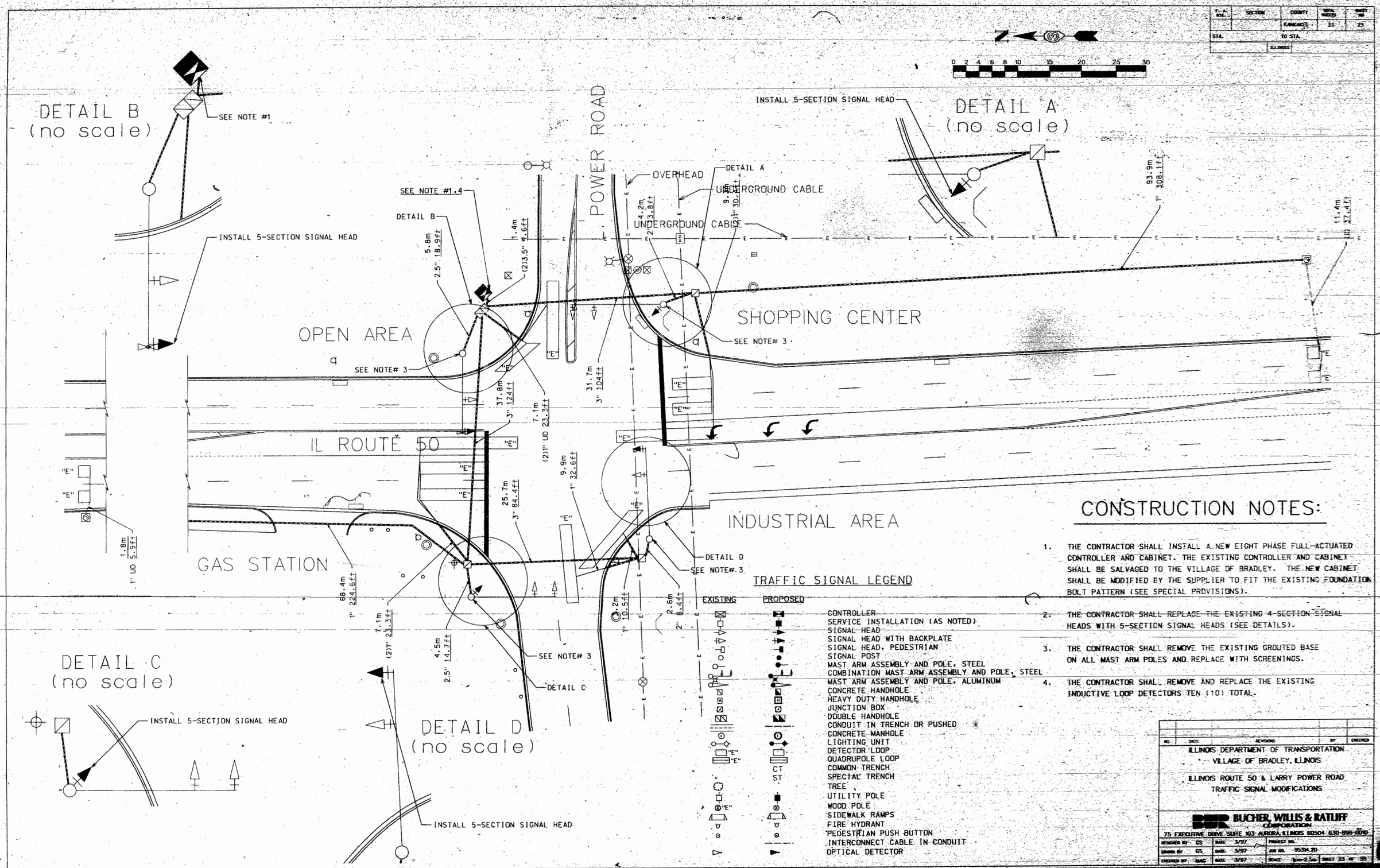
ILLINOIS DEPARTMENT OF TRANSPORTATION
VILLAGE OF BRADLEY, ILLINOIS

ILLINOIS ROUTE 50 & NORTHFIELD NORTH
CABLE PLAN

BUCHER, WILLIS & RATLIFF CORPORATION
75 EXECUTIVE DRIVE SUITE 103, AURORA, ILLINOIS 60504 630-898-8010

DESIGNED BY GS	DATE 3/97	PROJECT NO.	
DRAWN BY GS	DATE 3/97	JOB NO. 95394.20	
CHECKED BY MAG	DATE 3/97	SCALE NONE	SHEET 22 OF 33

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		KANKAKEE	33	23
STA.		TO STA.		
		ILLINOIS		



TRAFFIC SIGNAL LEGEND

EXISTING	PROPOSED	
		CONTROLLER
		SERVICE INSTALLATION (AS NOTED)
		SIGNAL HEAD
		SIGNAL HEAD WITH BACKPLATE
		SIGNAL HEAD, PEDESTRIAN
		SIGNAL POST
		MAST ARM ASSEMBLY AND POLE, STEEL
		COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL
		MAST ARM ASSEMBLY AND POLE, ALUMINUM
		CONCRETE HANDHOLE
		HEAVY DUTY HANDHOLE
		JUNCTION BOX
		DOUBLE HANDHOLE
		CONDUIT IN TRENCH OR PUSHED
		CONCRETE MANHOLE
		LIGHTING UNIT
"E"		DETECTOR LOOP
"E"		QUADRUPOLE LOOP
	CT	COMMON TRENCH
	ST	SPECIAL TRENCH
		TREE
		UTILITY POLE
"E"		WOOD POLE
		SIDEWALK RAMPS
		FIRE HYDRANT
		PEDESTRIAN PUSH BUTTON
		INTERCONNECT CABLE IN CONDUIT
		OPTICAL DETECTOR

CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL INSTALL A NEW EIGHT PHASE FULL-ACTUATED CONTROLLER AND CABINET. THE EXISTING CONTROLLER AND CABINET SHALL BE SALVAGED TO THE VILLAGE OF BRADLEY. THE NEW CABINET SHALL BE MODIFIED BY THE SUPPLIER TO FIT THE EXISTING FOUNDATION BOLT PATTERN (SEE SPECIAL PROVISIONS).
2. THE CONTRACTOR SHALL REPLACE THE EXISTING 4-SECTION SIGNAL HEADS WITH 5-SECTION SIGNAL HEADS (SEE DETAILS).
3. THE CONTRACTOR SHALL REMOVE THE EXISTING GROUTED BASE ON ALL MAST ARM POLES AND REPLACE WITH SCREENINGS.
4. THE CONTRACTOR SHALL REMOVE AND REPLACE THE EXISTING INDUCTIVE LOOP DETECTORS TEN (10) TOTAL.

NO.	DATE	REVISIONS	BY	CHECKED

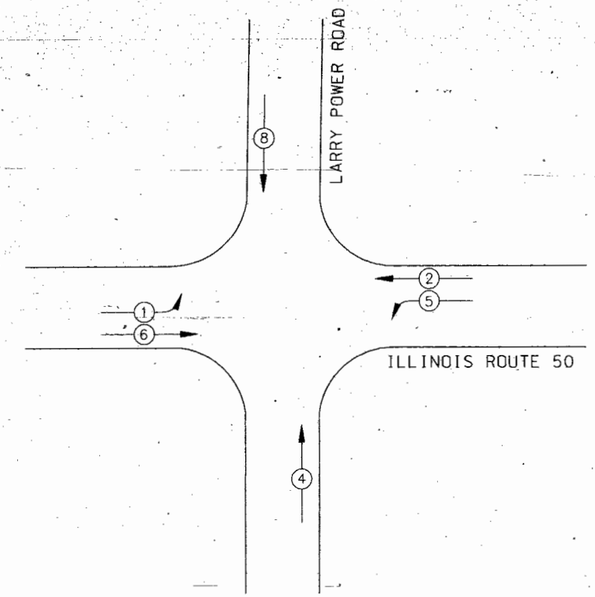
ILLINOIS DEPARTMENT OF TRANSPORTATION
VILLAGE OF BRADLEY, ILLINOIS

ILLINOIS ROUTE 50 & LARRY POWER ROAD
TRAFFIC SIGNAL MODIFICATIONS

BUCHER, WILLIS & RATLIFF CORPORATION
75 EXECUTIVE DRIVE SUITE 103 AURORA, ILLINOIS 60504 630-898-4010

DESIGNED BY GS	DATE 3/97	PROJECT NO.	
DRAWN BY GS	DATE 3/97	JOB NO. 95334.20	
CHECKED BY MAC	DATE 3/97	SCALE 1in=2.5m	SHEET 23 OF 33

REFERRING TO STANDARD 857001, THE VEHICULAR AND PEDESTRIAN PHASES USED ARE DESIGNATED BELOW

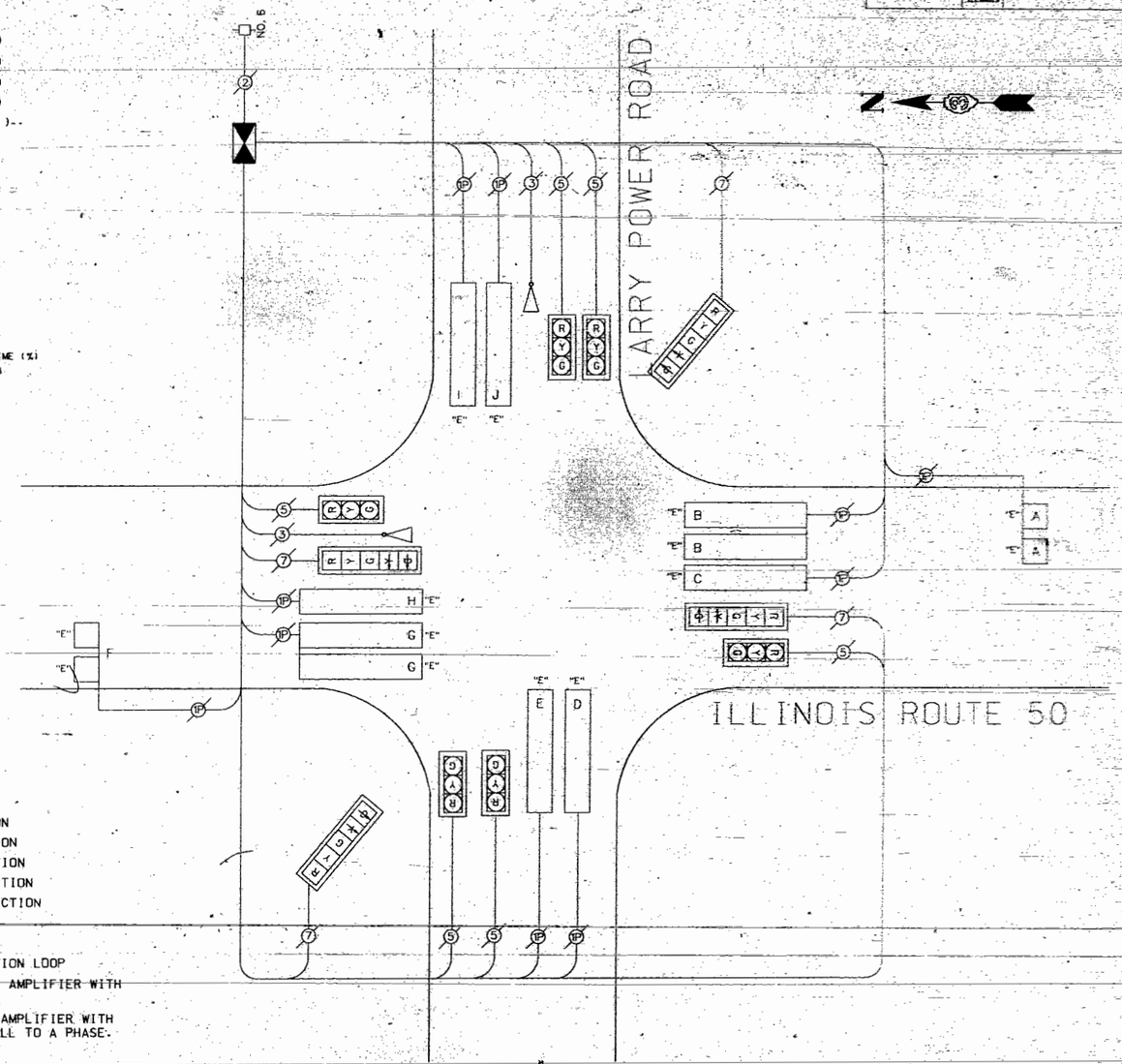


REMOVAL SCHEDULE

LOCATION	ITEM
NB MAST ARM	4-FACE SIGNAL HEAD (1)
SB MAST ARM	4-FACE SIGNAL HEAD (1)
EB MAST ARM	4-FACE SIGNAL HEAD (1)
WB MAST ARM	4-FACE SIGNAL HEAD (1)
CONTROLLER	EXISTING CONTROLLER (1)-- CABINET (1)

ELECTRICAL LOAD INFORMATION

STREET NAME	COMPONENT	NUMBER	WATTAGE	BURN TIME (%) EACH
IL ROUTE 50	RED	6	135	45
	YELLOW	6	135	5
	GREEN	6	135	50
	YELLOW AR.	4	135	5
	GREEN AR.	4	135	5
L. POWER ROAD	RED	2	135	65
	YELLOW	2	135	5
	GREEN	2	135	30
	CONTROLLER	1	6	100
	VEHICLE DETECTOR	14	4	100
	OPTICAL DETECTOR	4	3	100



LEGEND

VEHICULAR MOVEMENT

PEDESTRIAN MOVEMENT

x NUMBER REFERS TO ASSOCIATED PHASE

SCHEDULE OF QUANTITIES

ITEM	UNIT	QTY.
FULL-ACTUATED CONTROLLER AND TYPE IV CABINET		1
MODIFY EXISTING CONTROLLER FOUNDATION	EACH	1
~~REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT~~	~~EACH~~	~~6~~
SIGNAL HEAD, POLYCARBONATE, 1-FACE, 5-SECTION BRACKET MOUNTED	EACH	2
SIGNAL HEAD, POLYCARBONATE, 1-FACE, 5-SECTION MAST ARM MOUNTED	EACH	2
TRAFFIC SIGNAL BACKPLATE	EACH	4
MODIFY EXISTING MAST ARM BASE	EACH	4

CABLE PLAN LEGEND

EXISTING	PROPOSED	
G	G	8" TRAFFIC SIGNAL SECTION
R	R	12" TRAFFIC SIGNAL SECTION
2G	2G	12" DUAL INDICATION SECTION
DW	DW	9" PEDESTRIAN SIGNAL SECTION
DW	DW	12" PEDESTRIAN SIGNAL SECTION
		CONTROLLER CABINET
		SERVICE INSTALLATION
"E"		VEHICLE DETECTOR, INDUCTION LOOP
S "E"	S	"S" INDICATES A DETECTOR AMPLIFIER WITH SYSTEM OUTPUT
SO "E"	SO	"SO" INDICATES DETECTOR AMPLIFIER WITH SYSTEM OUTPUT, BUT NO CALL TO A PHASE.
		PUSHBUTTON DETECTOR
		OPTICAL DETECTOR
		LIGHTING UNIT
		ELECTRIC CABLE IN CONDUIT
		* DENOTES NUMBER OF CONDUCTORS
		*P DENOTES NUMBER OF PAIRS IN TWISTED SHIELDED CABLE
		ALL CABLE NO. 14 EXCEPT AS INDICATED
		"C" DENOTES COAXIAL CABLE
R Y G	"P" R Y G	SIGNAL FACE WITH BACKPLATE "P" INDICATES PROGRAMMED
R Y G	"P" R Y G	SIGNAL FACE WITHOUT BACKPLATE "P" INDICATES PROGRAMMED

LOOP LABEL CHART

LOOP SYSTEM	LABEL	NO. OF TURNS	INDUCTANCE (uH)	FREQUENCY (HERTZ)
A	Φ 2 NB FAR	–	–	–
B	Φ 2 NB STBR	–	–	–
C	Φ 5 NB LT	–	–	–
D	Φ 4 EB RT	–	–	–
E	Φ 4 EB	–	–	–
F	Φ 6 SB FAR	–	–	–
G	Φ 6 SB STBR	–	–	–
H	Φ 1 SB LT	–	–	–
I	Φ 8 WB RT	–	–	–
J	Φ 8 WB	–	–	–

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		KANKAKEE	33	24
STA.		TO STA.		
		ILLINOIS		

NO.	DATE	REVISIONS	BY	CHECKED

ILLINOIS DEPARTMENT OF TRANSPORTATION
VILLAGE OF BRADLEY, ILLINOIS

ILLINOIS ROUTE 50 & LARRY POWER ROAD
CABLE PLAN

BUCHER, WILLIS & RATLIFF CORPORATION
75 EXECUTIVE DRIVE SUITE 103 AURORA, ILLINOIS 60504 630-898-0070

DESIGNED BY GS	DATE 3/97	PROJECT NO.	
DRAWN BY GS	DATE 3/97	JOB NO. 95374.20	
CHECKED BY MAC	DATE 3/97	SCALE NONE	SHEET 24 OF 33

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		KANKAKEE	33	25
STA.		TO STA.		
		ILLINOIS		

CONSTRUCTION NOTES:

1. INSTALL CONCRETE HANDHOLE. PROPOSED CONDUIT SHALL BE CONNECTED TO THE PROPOSED HANDHOLE AS INCIDENTAL TO THIS ITEM.

2. THE CONTRACTOR SHALL INSTALL THE PROPOSED CONDUIT SO THAT THE DAMAGE TO THE TREES AND LANDSCAPING WILL BE MINIMIZED. REPLACE THE DAMAGED ITEMS WITH SIMILAR PLANTINGS AS APRROVED BY THE ENGINEER. NO PAYMENT SHALL BE MADE FOR THE REPLACEMENT OF DAMAGED PLANTS.

3. INTERCONNECT CABLE AND CONDUIT QUANTITIES ARE CALCULATED BETWEEN TRAFFIC SIGNAL CONTROLLER CABINETS AT THE INTERSECTIONS NOTED. CONTROLLER AND CONTROLLER CABINET QUANTITIES ARE SHOWN ON THE PLAN SHEET FOR EACH INTERSECTION.

4. PROPOSED CABLES SHALL BE NEATLY WOUND ON HOOKS IN EACH HANDHOLE. THIS WILL BE CONSIDERED INCIDENTAL TO THE COST OF THE CABLE.

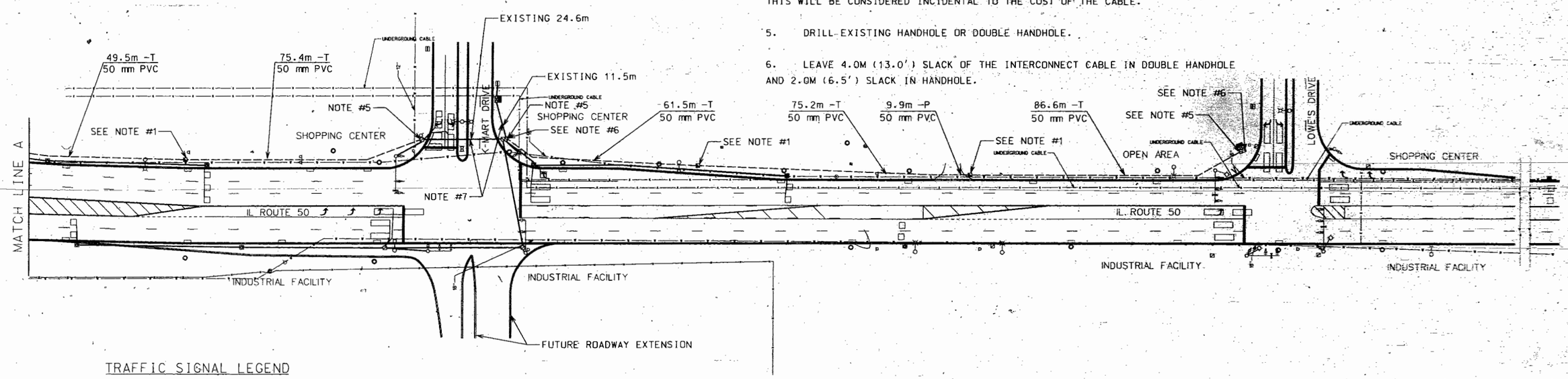
5. DRILL EXISTING HANDHOLE OR DOUBLE HANDHOLE.

6. LEAVE 4.0M (13.0') SLACK OF THE INTERCONNECT CABLE IN DOUBLE HANDHOLE AND 2.0M (6.5') SLACK IN HANDHOLE.

7. THE CONTRACTOR SHALL INSTALL FIBER OPTIC CABLE IN THE EXISTING CONDIUT. CLEAN AND REINSTALL EXISTING CABLE, UNLESS OTHERWISE APPROVED BY THE ENGINEER.

INTERCONNECT SCHEDULE OF QUANTITIES FOR ILLINOIS ROUTE 50 FROM LOWE'S DRIVE TO MATCH LINE A.

ITEM	UNIT	QTY.
CONDUIT IN TRENCH 50mm (2") Dia. PVC	METER	348.2
CONDUIT PUSHED 50mm (2") Dia. RGS	METER	9.9
HANDHOLE	EACH	3
DRILL EXISTING HANDHOLE	EACH	3
TRENCH AND BACKFILL FOR ELECTRICAL WORK	METER	348.2
REMOVE AND REINSTALL ELECTRIC CABLE FROM CONDUIT	METER	139
FIBER OPTIC CABLE IN CONDUIT No. 62.5/125 12F	METER	398.7



TRAFFIC SIGNAL LEGEND

EXISTING	PROPOSED	
		CONTROLLER
		SERVICE INSTALLATION (AS NOTED)
		SIGNAL HEAD
		SIGNAL HEAD WITH BACKPLATE
		SIGNAL HEAD, PEDESTRIAN
		SIGNAL POST
		MAST ARM ASSEMBLY AND POLE, STEEL
		COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL
		MAST ARM ASSEMBLY AND POLE, ALUMINUM
		CONCRETE HANDHOLE
		HEAVY DUTY HANDHOLE
		JUNCTION BOX
		DOUBLE HANDHOLE
		CONDUIT IN TRENCH OR PUSHED
		CONCRETE MANHOLE
		LIGHTING UNIT
"E"		DETECTOR LOOP
"E"		QUADRUPOLE LOOP
	CT	COMMON TRENCH
	ST	SPECIAL TRENCH
		TREE
		UTILITY POLE
"E"		WOOD POLE
		SIDEWALK RAMPS
		FIRE HYDRANT
		PEDESTRIAN PUSH BUTTON
		INTERCONNECT CABLE IN CONDUIT
		OPTICAL DETECTOR

NO.	DATE	REVISIONS	BY	CHECKED

ILLINOIS DEPARTMENT OF TRANSPORTATION
VILLAGE OF BRADLEY, ILLINOIS
ILLINOIS ROUTE 50
LOWE'S DRIVE TO K-MART DRIVE
INTERCONNECT PLAN

BUCHER, WILLIS & RATLIFF CORPORATION
75 EXECUTIVE DRIVE SUITE 103, AURORA, ILLINOIS 60504 630-896-8010

DESIGNED BY: CS	DATE: 3/97	PROJECT NO.	
DRAWN BY: CS	DATE: 3/97	JOB NO.: 95334.20	
CHECKED BY: MAC	DATE: 3/97	SCALE: 1cm=6m	SHEET 25 OF 33

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F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		KANKAKEE	33	26
STA.	TO STA.			
	ILLINOIS			

INTERCONNECT SCHEDULE OF QUANTITIES FOR ILLINOIS ROUTE 50 FROM MATCH LINE A TO ARMOUR ROAD

ITEM	UNIT	QTY.
CONDUIT IN TRENCH 50mm (2') Dia. PVC	METER	206
HANDHOLE	EACH	2
DRILL EXISTING HANDHOLE	EACH	5
TRENCH AND BACKFILL FOR ELECTRICAL WORK	METER	206
REMOVE AND REINSTALL ELECTRIC CABLE FROM CONDUIT	METER	140
FIBER OPTIC CABLE IN CONDUIT No. 62.5/125 12F	METER	268.4

CONSTRUCTION NOTES:

1. INSTALL CONCRETE HANDHOLE. PROPOSED CONDUIT SHALL BE CONNECTED TO THE PROPOSED HANDHOLE AS INCIDENTAL TO THIS ITEM.

2. THE CONTRACTOR SHALL INSTALL THE PROPOSED CONDUIT SO THAT THE DAMAGE TO THE TREES AND LANDSCAPING WILL BE MINIMIZED. REPLACE THE DAMAGED ITEMS WITH SIMILAR PLANTINGS AS APRROVED BY THE ENGINEER. NO PAYMENT SHALL BE MADE FOR THE REPLACEMENT OF DAMAGED PLANTS.

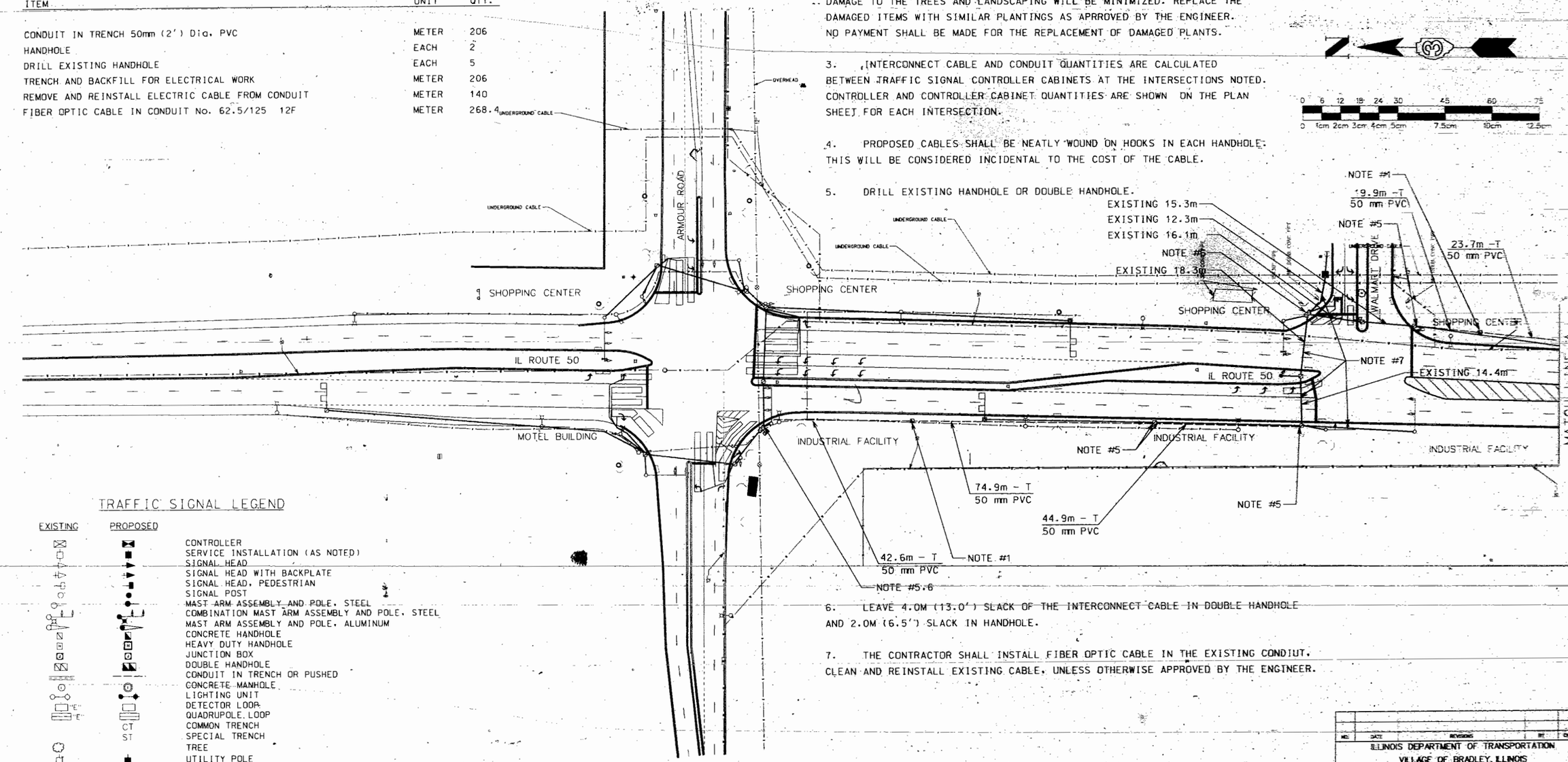
3. INTERCONNECT CABLE AND CONDUIT QUANTITIES ARE CALCULATED BETWEEN TRAFFIC SIGNAL CONTROLLER CABINETS AT THE INTERSECTIONS NOTED. CONTROLLER AND CONTROLLER CABINET QUANTITIES ARE SHOWN ON THE PLAN SHEET FOR EACH INTERSECTION.

4. PROPOSED CABLES SHALL BE NEATLY WOUND ON HOOKS IN EACH HANDHOLE. THIS WILL BE CONSIDERED INCIDENTAL TO THE COST OF THE CABLE.

5. DRILL EXISTING HANDHOLE OR DOUBLE HANDHOLE.

6. LEAVE 4.0M (13.0') SLACK OF THE INTERCONNECT CABLE IN DOUBLE HANDHOLE AND 2.0M (6.5') SLACK IN HANDHOLE.

7. THE CONTRACTOR SHALL INSTALL FIBER OPTIC CABLE IN THE EXISTING CONDUIT. CLEAN AND REINSTALL EXISTING CABLE, UNLESS OTHERWISE APPROVED BY THE ENGINEER.



TRAFFIC SIGNAL LEGEND

EXISTING	PROPOSED	
		CONTROLLER
		SERVICE INSTALLATION (AS NOTED)
		SIGNAL HEAD
		SIGNAL HEAD WITH BACKPLATE
		SIGNAL HEAD, PEDESTRIAN
		SIGNAL POST
		MAST ARM ASSEMBLY AND POLE, STEEL
		COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL
		MAST ARM ASSEMBLY AND POLE, ALUMINUM
		CONCRETE HANDHOLE
		HEAVY DUTY HANDHOLE
		JUNCTION BOX
		DOUBLE HANDHOLE
		CONDUIT IN TRENCH OR PUSHED
		CONCRETE MANHOLE
		LIGHTING UNIT
"E"		DETECTOR LOOP
"E"		QUADRUPOLE LOOP
	CT	COMMON TRENCH
	ST	SPECIAL TRENCH
		TREE
		UTILITY POLE
"E"		WOOD POLE
		SIDEWALK RAMPS
		FIRE HYDRANT
		PEDESTRIAN PUSH BUTTON
		INTERCONNECT CABLE IN CONDUIT
		OPTICAL DETECTOR

NO.	DATE	REVISIONS	BY	CHECKED

ILLINOIS DEPARTMENT OF TRANSPORTATION
VILLAGE OF BRADLEY, ILLINOIS
ILLINOIS ROUTE 50
WALMART DRIVE TO ARMOUR ROAD
INTERCONNECT PLAN

BUCHER, WILLIS & RATLIFF CORPORATION
75 EXECUTIVE DRIVE SUITE 103 AURORA, ILLINOIS 60504 630-898-0010

DESIGNED BY GS	DATE 3/97	PROJECT NO.		
DRAWN BY GS	DATE 3/97	JOB NO. 95314.20		
CHECKED BY MAC	DATE 3/97	SCALE 1cm=6m	SHEET 26 OF 33	

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