

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
765	D6 2015-4 HSRR	MACOUPIN	9	1
S.H. 108 (MAIN ST.)		ILLINOIS	CONTRACT NO. 72H80	

DOT# 294388A  
MP 223.76

FOR INDEX OF SHEETS, SEE SHEET NO. 2

FOR LIST OF HIGHWAY STANDARDS, SEE SHEET NO. 2

PROJECT:  
HSR - 0765 (010)

# PROPOSED HIGHWAY PLANS

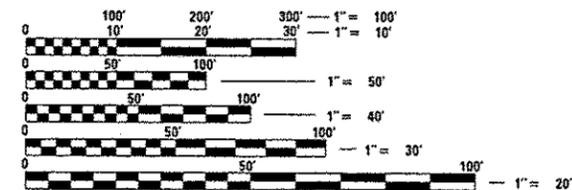
F.A.P. ROUTE 765 (IL 108 /MAIN ST.)  
SECTION D6 2015-4 HSRR  
TRAFFIC SIGNAL AND RAILROAD  
INTERCONNECT MODIFICATIONS  
IL 108 (MAIN ST.) AND ALTON RD/CHILES ST.  
MACOUPIN COUNTY /CITY OF CARLINVILLE

C-96-057-15  
R7W

SECTION 29  
3RD P.M.

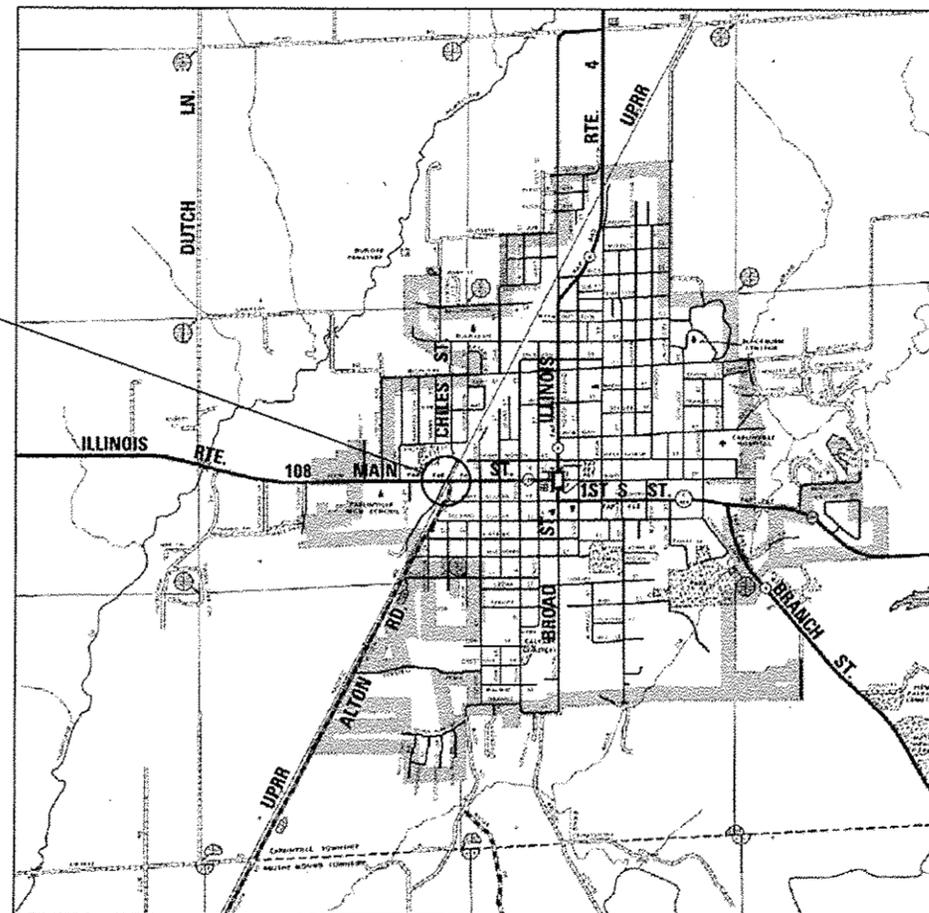
FUNCTIONAL CLASSIFICATION = OTHER PRINCIPAL ARTERIAL  
2012 ADT = 7,750  
DESIGN SPEED = 30 MPH  
VARIANCE = NONE  
P.V. = NA S.U. = NA M.U. = NA

LOCATION OF  
PROJECT



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 LOCATION INFORMATION FOR EXCAVATION  
1-800-892-0123  
OR 811



LOCATION MAP  
NOT TO SCALE

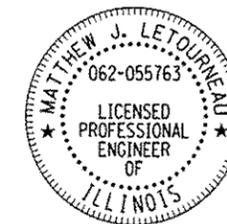


LOCATION OF SECTION INDICATED THUS: —■—

PROJECT ENGINEER : KEITH DONOVAN, (217) 782-4761

CONTRACT NO. 72H80

**AECOM**  
AECOM TECHNICAL SERVICES, INC.  
303 E WACKER DRIVE, SUITE 1400  
CHICAGO, ILLINOIS 60601  
PH. 312-373-7700



DATE 10/02/2015  
ILL. REG. P.E. NO. 62-055763  
EXPIRES: 11/30/2015

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

SUBMITTED October 28 20 15

Don J. Baranzelli  
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

Don J. Baranzelli P.E.  
ENGINEER OF DESIGN AND ENVIRONMENT

Don J. Baranzelli  
DATE Dec 4 20 15  
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

PRINTED BY THE AUTHORITY  
OF THE STATE OF ILLINOIS

**INDEX OF SHEETS**

- 1 COVER SHEET
- 2 INDEX OF SHEETS, HIGHWAY STANDARDS, GENERAL NOTES AND COMMITMENTS
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- 5 TRAFFIC SIGNAL CABLE PLAN AND SCHEDULE OF QUANTITIES
- 6-7 TRAFFIC SIGNAL SEQUENCE OF OPERATIONS
- 8 RAILROAD PREEMPTION SEQUENCE OF OPERATIONS
- 9 VIDEO VEHICLE DETECTION SYSTEM INSTALLATION DETAILS

**HIGHWAY STANDARDS**

- 000001-06 STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
- 001006 DECIMAL OF AN INCH AND OF A FOOT
- 701011-04 OFF-ROAD MOVING OPERATIONS, 2L, 2W, DAY ONLY
- 701301-04 LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
- 701501-06 URBAN LANE CLOSURE, 2L, 2W, UNDIVIDED
- 701701-09 URBAN LANE CLOSURE, MULTILANE INTERSECTION
- 701901-04 TRAFFIC CONTROL DEVICES
- 805001-01 ELECTRICAL SERVICE INSTALLATION DETAILS
- 814001-03 HANDHOLES
- 814006-02 DOUBLE HANDHOLES
- 857001-01 STANDARD PHASE DESIGNATION DIAGRAMS AND PHASE SEQUENCES
- 857006-01 SUPERVISED RAILROAD INTERCONNECT CIRCUIT
- 862001-01 UNINTERRUPTABLE POWER SUPPLY (UPS)
- 878001-10 CONCRETE FOUNDATION DETAILS

**COMMITMENTS**

NONE,  
October 23, 2015

**GENERAL NOTES**

NO WORK SHALL COMMENCE UNTIL TRAFFIC CONTROL REQUIREMENTS ARE MET. THE CONTRACTOR SHALL DEVELOP A PLAN TO ACCOMPLISH THIS WORK AND MINIMIZE DISRUPTION OF VEHICULAR, RAIL, AND PEDESTRIAN TRAFFIC. THIS PLAN SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

ALL UTILITIES, SCHOOL DISTRICTS, LOCAL POLICE, AND FIRE DEPARTMENTS SHALL BE NOTIFIED BY THE CONTRACTOR A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION.

THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE AND MAINTAIN ACCESS TO ABUTTING PROPERTIES AT ALL TIMES DURING CONSTRUCTION OF THE PROJECT.

THE CONTRACTOR SHALL BE REQUIRED TO COMPLY WITH STATE REGULATIONS REGARDING AIR, WATER, AND NOISE POLLUTION.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE ACTUAL LOCATION OF ALL UNDERGROUND UTILITY FACILITIES. HE SHALL ALSO OBTAIN FROM THE RESPECTIVE UTILITY COMPANIES DETAILED INFORMATION RELATIVE TO THE LOCATION OF THEIR FACILITIES AND THE WORKING SCHEDULES OF THE UTILITY COMPANIES FOR THEIR MARKING OF THE EXACT LOCATION PRIOR TO CONSTRUCTION.

BEFORE STARTING ANY WORK, THE CONTRACTOR SHALL CALL "JULIE" AT 1-800-892-0123 OR 811 FOR FIELD LOCATIONS OF BURIED ELECTRIC, TELEPHONE, AND GAS FACILITIES (MINIMUM 48 HOURS NOTIFICATION IS REQUIRED). THE CONTRACTOR SHALL CALL THE UNION PACIFIC "CALL BEFORE YOU DIG" OPERATION AT 1-800-336-9193 FOR FIELD LOCATIONS OF UNION PACIFIC OWNED BURIED FIBER OPTIC CABLES IN UNION PACIFIC RIGHT OF WAY.

MEMBERS OF "JULIE" KNOWN TO BE WITHIN THE VICINITY OF THE IMPROVEMENT ARE:

- 1. COMCAST (FO) (A)
- 2. MCI (FO)
- 3. FRONTIER COMMUNICATIONS (T)
- 4. AT&T (T) (FO)
- 5. RCN (FO)
- 6. AMEREN (O) (E)
- 7. CITY OF CARLINVILLE (W) (STORM SEWER) (SANITARY SEWER)

NON-"JULIE" MEMBERS WITHIN THE VICINITY OF THE IMPROVEMENT ARE:

- 1. UNION PACIFIC RAILROAD COMPANY (U.P.R.R.)

THE CONTRACTOR SHALL COORDINATE WITH THE UPRR SIGNAL DEPARTMENT FOR ITEMS REMOVED OR INSTALLED BY THE UPRR SIGNAL DEPARTMENT.

U.P.R.R. FLAGGERS SHALL BE PRESENT WHEN WORKING WITHIN THE U.P.R.R. RIGHT-OF-WAY. THE CONTRACTOR SHALL COORDINATE DIRECTLY WITH THE U.P.R.R. TO ASSURE THAT FLAGGERS ARE PRESENT DURING CONSTRUCTION. NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

FOR STABILIZATION, ALL TYPE III BARRICADES (WHERE NEEDED) SHALL REQUIRE A MINIMUM OF FOUR SAND BAGS PER BARRICADE.

SEEDING SHALL NOT BE PERMITTED AT ANY TIME WHEN THE GROUND IS FROZEN, WET OR IN AN UNTILLABLE CONDITION. THE AREAS TO BE SEEDED SHALL CONSIST OF ALL DISTURBED EARTH SURFACES WITHIN THE RIGHT-OF-WAY. LOCATIONS TO BE SEEDED WILL BE DETERMINED BY THE ENGINEER.

ABANDONED UNDERGROUND UTILITIES THAT CONFLICT WITH CONSTRUCTION SHALL BE DISPOSED OF OUTSIDE THE LIMITS OF THE RIGHT OF WAY ACCORDING TO ARTICLE 202.03 OF THE STANDARD SPECIFICATIONS AND AS DIRECTED BY THE ENGINEER. THIS WORK WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE COST OF "MODIFY EXISTING CONTROLLER FOUNDATION".

ANY REFERENCE TO A STANDARD IN THESE PLANS SHALL BE INTERPRETED TO MEAN THE EDITION AS INDICATED BY THE SUB NUMBER SHOWN IN THE LIST OF HIGHWAY STANDARDS INCLUDED ON THIS SHEET OR REFERENCED IN THESE PLANS.

THE CONTRACTOR SHALL KEEP EXISTING ADJACENT STREETS CLEAN OF DIRT, MUD, AND OTHER DEBRIS AND, WHEN NECESSARY, CLEAN SAID PAVEMENTS ON A DAILY BASIS OR WHEN DIRECTED BY THE ENGINEER. NO EXTRA COMPENSATION SHALL BE ALLOWED THE CONTRACTOR FOR THIS WORK.

THE FURNISHING, INSTALLATION, RELOCATION AND REMOVAL OF ALL TRAFFIC CONTROL SIGNS, DETOUR SIGNS, AND TRAFFIC CONTROL DEVICES SHOWN ON THE APPLICABLE IDOT TRAFFIC CONTROL STANDARDS SHALL BE PAID FOR UNDER THE PAY ITEM "TRAFFIC CONTROL AND PROTECTION (SPECIAL)". THE CONTRACTOR SHALL PROVIDE ANY ADDITIONAL SIGNS AS REQUIRED BY THE ENGINEER, THE COST OF WHICH WILL ALSO BE INCLUDED IN "TRAFFIC CONTROL AND PROTECTION (SPECIAL)".

THE SCALE SHOWN ON THE DRAWINGS APPLIES ONLY TO FULL SIZE PLANS AND NOT TO THE REDUCED SIZE PLANS. REDUCED SIZED PLANS CAN BE PRINTED TO SCALE FOR USE IN THE FIELD.

WHERE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED OF ANY SECTION OR SUB-SECTION MONUMENTS. BEFORE SUCH MONUMENTS ARE REMOVED, THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL PROPERTY MARKERS AND MONUMENTS UNTIL THE OWNER OR AN AUTHORIZED SURVEYOR OR AGENT HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION.

<b>DISTRICT SIX</b>	
EXAMINED	October 9th 20 15
<i>John C. Wynn</i>	
OPERATIONS ENGINEER	
EXAMINED	October 14 20 15
<i>Ron Buchanan</i>	
PROJECT IMPLEMENTATION ENGINEER	
EXAMINED	October 5 20 15
<i>Jeff P. Myer</i>	
PROGRAM DEVELOPMENT ENGINEER	

FILE NAME :	USER NAME : *USER*	DESIGNED - MRF	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>INDEX OF SHEETS, HIGHWAY STANDARDS, GENERAL NOTES AND COMMITMENTS</b>	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
#FILE#		DRAWN - MRF	REVISED -			765	D6 2015-4 HSRR	MACOUPIN	9	2
		CHECKED - MJL	REVISED -							
		DATE - 10-23-15	REVISED -							
						SCALE: NTS	SHEET 1 OF 1 SHEETS	STA. TO STA.	ILLINOIS FED. AID PROJECT CONTRACT NO. 72H80	

SUMMARY OF QUANTITIES

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONST. CODE
				TRAFFIC SIGNALS 294388A
				100% FED
				0021
67100100	MOBILIZATION	L SUM	1	1
87301715	ELECTRIC CABLE IN CONDUIT, COMMUNICATION, NO. 18 6 PAIR	FOOT	1,773	1,773
89502215	MODIFY EXISTING CONTROLLER FOUNDATION	EACH	1	1
89502300	REMOVE ELECTRIC CABLE FROM CONDUIT	FOOT	1,773	1,773
89502350	REMOVE AND REINSTALL ELECTRIC CABLE FROM CONDUIT	FOOT	182	182
89502375	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	2	2
X7010216	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	L SUM	1	1
X8571315	RAILROAD, FULL-ACTUATED CONTROLLER AND TYPE V CABINET, SPECIAL	EACH	1	1
X8620200	UNINTERRUPTIBLE POWER SUPPLY, SPECIAL	EACH	1	1
X8950105	REMOVE EXISTING TRAFFIC CONTROLLER AND CABINET	EACH	1	1
Z0010688	CAMERA MOUNTING ASSEMBLY	EACH	6	6
Z0033072	VIDEO VEHICLE DETECTION SYSTEM	EACH	1	1
Z0048665	RAILROAD PROTECTIVE LIABILITY INSURANCE	L SUM	1	1
X0323071	SPARE FULL ACTUATED CONTROLLER, SPECIAL	EACH	1	1

\* =SPECIALTY ITEM

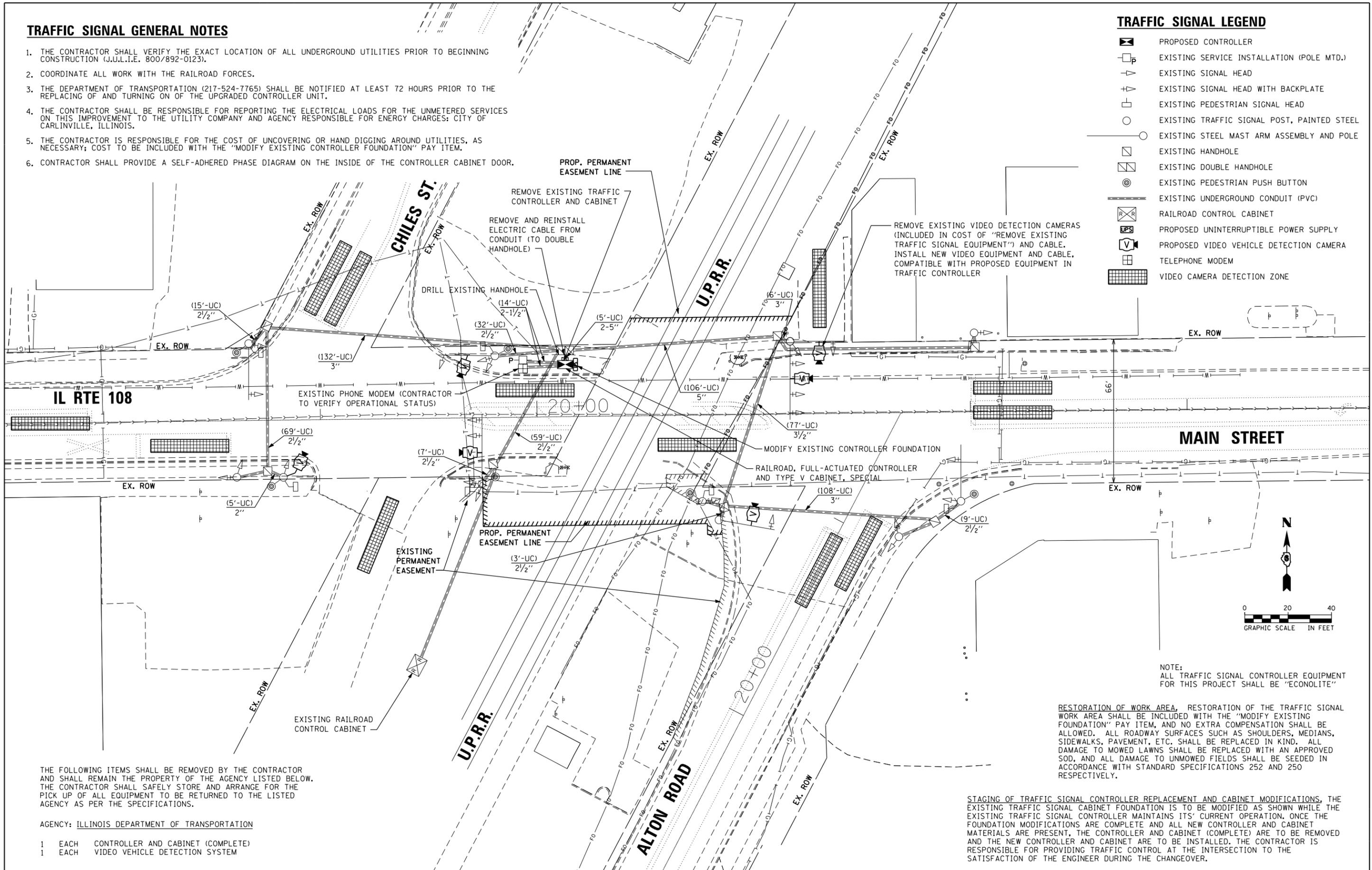
FILE NAME :	USER NAME : #USER#	DESIGNED - MRF	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>SUMMARY OF QUANTITIES</b>			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
#FILE#		DRAWN - MRF	REVISED -					765	06 2015-4 HSRR	MACOUPIN	9	3
	PLOT SCALE * #SCALE#	CHECKED - MJL	REVISED -		SCALE: NONE	SHEET 1 OF 1 SHEETS	STA.	TO STA.	CONTRACT NO. 72H80			
	PLOT DATE * #DATE#	DATE - 10-23-15	REVISED -		ILLINOIS FED. AID PROJECT							

**TRAFFIC SIGNAL GENERAL NOTES**

1. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO BEGINNING CONSTRUCTION (J.U.L.I.E. 800/892-0123).
2. COORDINATE ALL WORK WITH THE RAILROAD FORCES.
3. THE DEPARTMENT OF TRANSPORTATION (217-524-7765) SHALL BE NOTIFIED AT LEAST 72 HOURS PRIOR TO THE REPLACING OF AND TURNING ON OF THE UPGRADED CONTROLLER UNIT.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPORTING THE ELECTRICAL LOADS FOR THE UNMETERED SERVICES ON THIS IMPROVEMENT TO THE UTILITY COMPANY AND AGENCY RESPONSIBLE FOR ENERGY CHARGES: CITY OF CARLINVILLE, ILLINOIS.
5. THE CONTRACTOR IS RESPONSIBLE FOR THE COST OF UNCOVERING OR HAND DIGGING AROUND UTILITIES, AS NECESSARY; COST TO BE INCLUDED WITH THE "MODIFY EXISTING CONTROLLER FOUNDATION" PAY ITEM.
6. CONTRACTOR SHALL PROVIDE A SELF-ADHERED PHASE DIAGRAM ON THE INSIDE OF THE CONTROLLER CABINET DOOR.

**TRAFFIC SIGNAL LEGEND**

- PROPOSED CONTROLLER
- EXISTING SERVICE INSTALLATION (POLE MTD.)
- EXISTING SIGNAL HEAD
- EXISTING SIGNAL HEAD WITH BACKPLATE
- EXISTING PEDESTRIAN SIGNAL HEAD
- EXISTING TRAFFIC SIGNAL POST, PAINTED STEEL
- EXISTING STEEL MAST ARM ASSEMBLY AND POLE
- EXISTING HANDHOLE
- EXISTING DOUBLE HANDHOLE
- EXISTING PEDESTRIAN PUSH BUTTON
- EXISTING UNDERGROUND CONDUIT (PVC)
- RAILROAD CONTROL CABINET
- PROPOSED UNINTERRUPTIBLE POWER SUPPLY
- PROPOSED VIDEO VEHICLE DETECTION CAMERA
- TELEPHONE MODEM
- VIDEO CAMERA DETECTION ZONE



THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL REMAIN THE PROPERTY OF THE AGENCY LISTED BELOW. THE CONTRACTOR SHALL SAFELY STORE AND ARRANGE FOR THE PICK UP OF ALL EQUIPMENT TO BE RETURNED TO THE LISTED AGENCY AS PER THE SPECIFICATIONS.

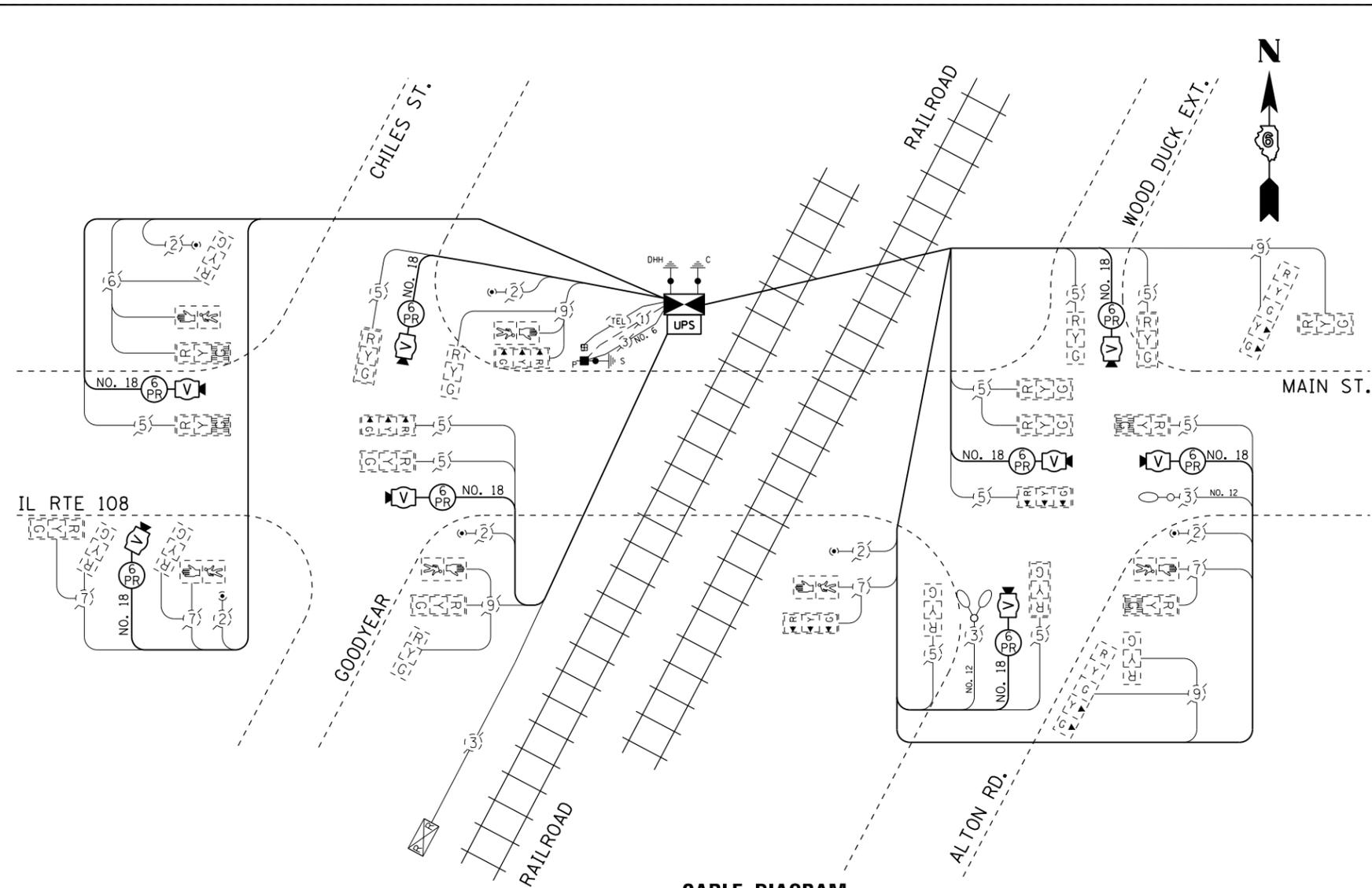
- AGENCY: ILLINOIS DEPARTMENT OF TRANSPORTATION
- 1 EACH CONTROLLER AND CABINET (COMPLETE)
  - 1 EACH VIDEO VEHICLE DETECTION SYSTEM

NOTE: ALL TRAFFIC SIGNAL CONTROLLER EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE"

RESTORATION OF WORK AREA, RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCLUDED WITH THE "MODIFY EXISTING FOUNDATION" PAY ITEM, AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIANS, SIDEWALKS, PAVEMENT, ETC. 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 STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

STAGING OF TRAFFIC SIGNAL CONTROLLER REPLACEMENT AND CABINET MODIFICATIONS, THE EXISTING TRAFFIC SIGNAL CABINET FOUNDATION IS TO BE MODIFIED AS SHOWN WHILE THE EXISTING TRAFFIC SIGNAL CONTROLLER MAINTAINS ITS' CURRENT OPERATION. ONCE THE FOUNDATION MODIFICATIONS ARE COMPLETE AND ALL NEW CONTROLLER AND CABINET MATERIALS ARE PRESENT, THE CONTROLLER AND CABINET (COMPLETE) ARE TO BE REMOVED AND THE NEW CONTROLLER AND CABINET ARE TO BE INSTALLED. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING TRAFFIC CONTROL AT THE INTERSECTION TO THE SATISFACTION OF THE ENGINEER DURING THE CHANGEOVER.

FILE NAME =	USER NAME = *USER*	DESIGNED - MRF	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>TRAFFIC SIGNAL PLAN</b>		F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
*FILEL*		DRAWN - MRF	REVISED -		<b>MAIN STREET (IL RTE 108) AND ALTON RD./CHILES ST.</b>		765	D6 2015-4 HSR	MACOUPIN	9	4	
		CHECKED - MJL	REVISED -		SCALE: 1" = 20'	SHEET 1 OF 1 SHEETS	STA.					CONTRACT NO. 72H80
		DATE - 10-23-15	REVISED -				TO STA.					ILLINOIS FED. AID PROJECT



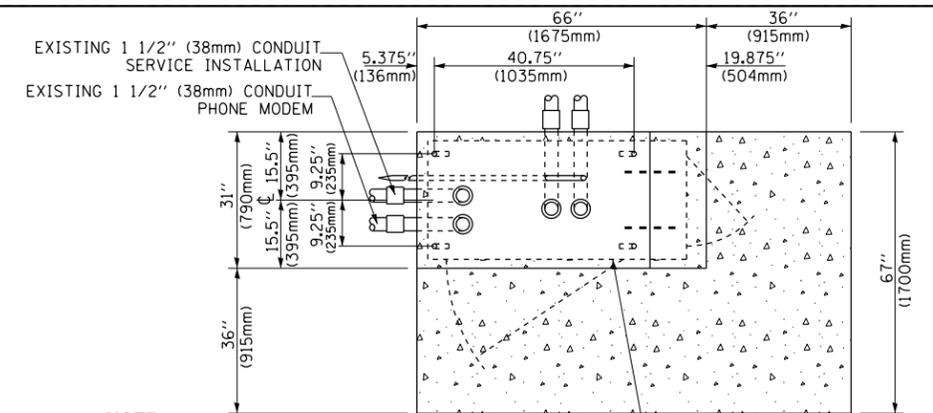
**CABLE DIAGRAM**

**CABLE DIAGRAM LEGEND**

NOTE: ALL ITEMS ARE EXISTING TO REMAIN UNLESS OTHERWISE STATED.

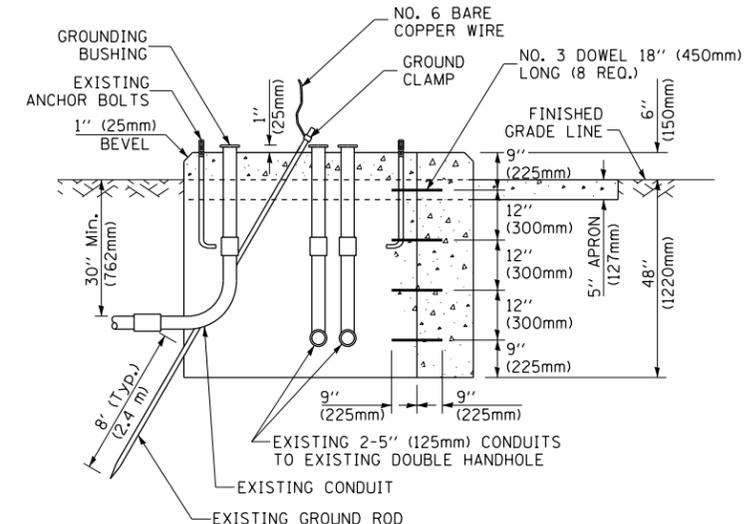
- (5) DENOTES NUMBER OF CONDUCTORS (EXISTING) ALL CABLE NO. 14 (UNLESS OTHERWISE NOTED)
- (6)— GROUND CABLE IN CONDUIT, NO. 6 SOLID COPPER (GREEN)
- SERVICE INSTALLATION, POLE MTD.
- ⊠ UPGRADED CONTROLLER AND CABINET
- UPS PROPOSED UNINTERRUPTIBLE POWER SUPPLY
- ⊠ EXISTING RAILROAD CONTROL CABINET
- ⊠ GROUND ROD AT POST (P), MAST ARM (MA), CONTROLLER (C), HANDHOLE (HH), DOUBLE HANDHOLE (DHH) OR SERVICE INSTALLATION (S)
- ⊠ PEDESTRIAN PUSHBUTTON
- ⊠ UPGRADED VIDEO VEHICLE DETECTION SYSTEM CAMERA
- SIGNAL SECTION, 12"
- SIGNAL SECTION, 12", WITH GEOMETRICALLY PROGRAMMED LOUVER
- ⊠ WALK/DON'T WALK SECTION
- ⊠ TRAFFIC SIGNAL BACKPLATE, LOUVERED, FORMED PLASTIC
- ⊠ EXISTING MAST ARM MOUNTED LIGHT FIXTURE
- ⊠ EXISTING PHONE MODEM

SEE TRAFFIC SIGNAL PLAN FOR NOTES REGARDING THE STAGING OF TRAFFIC SIGNAL CONTROLLER REPLACEMENT AND CABINET FOUNDATION MODIFICATIONS.



**NOTE:**

TOP OF FOUNDATION SHALL BE HIGHER THAN TOP OF DOUBLE HANDHOLE



**MODIFY EXISTING TYPE "D" FOUNDATION TO TYPE "C" FOUNDATION FOR GROUND MOUNTED SUPER P (TYPE IV) AND SUPER R (TYPE V) CONTROLLER CABINETS**

**NOTES:**

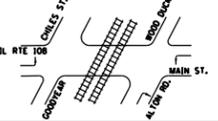
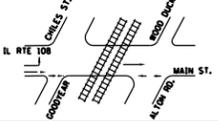
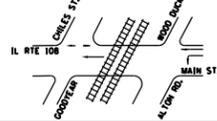
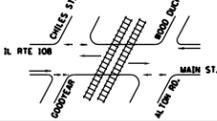
- FURNISH AND INSTALL A 20 AMP, 1 POLE, 120VAC, 10,000 A/C AT 120VAC CIRCUIT BREAKER FOR LIGHTING, A 20 AMP, 1 POLE, 120VAC, 10,000 A/C AT 120VAC CIRCUIT BREAKER FOR DUPLEX RECEPTACLES, AND A U.L. LISTED GROUNDED THREE-WIRE, 120VAC, 20 AMP GROUND FAULT INTERRUPTER TYPE DUPLEX RECEPTACLE (NEMA 5-20R) ALL LOCATED IN THE CONTROLLER CABINET.
- CONTROLLER SPECIFIED: FULL-ACTUATED CONTROLLER, STANDARD SEQUENCE II, 8 PHASE, IN TYPE V "SUPER R" CABINET (ECONOLITE).
- THE TRAFFIC SIGNAL CONTROLLER SHALL HAVE REMOTE MONITORING CAPABILITIES INCLUDING ALL NECESSARY PERIPHERAL HARDWARE SUCH AS A PHONE MODEM, INTERSECTION MONITOR, ETC. TO ALLOW FOR BOTH REMOTE DIAL-IN ACCESS AND AUTOMATIC CONTROLLER DIAL-OUT REPORTING OF ALARMS. THE COST OF THE NECESSARY ADDITIONAL HARDWARE SHALL BE INCLUDED IN THE UNIT PRICE FOR "RAILROAD, FULL-ACTUATED CONTROLLER AND TYPE V CABINET, SPECIAL."

**SCHEDULE OF QUANTITIES**

PAY ITEM	UNITS	QNTY.
ELECTRIC CABLE IN CONDUIT, COMMUNICATION, NO. 18 6 PAIR	FOOT	1,773
MODIFY EXISTING CONTROLLER FOUNDATION	EACH	1
REMOVE EXISTING CABLE FROM CONDUIT	FOOT	1,773
REMOVE AND REINSTALL ELECTRIC CABLE FROM CONDUIT	FOOT	182
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	2
TRAFFIC CONTROL AND PROTECTION (SPECIAL)	L SUM	1
RAILROAD, FULL-ACTUATED CONTROLLER AND TYPE V CABINET, SPECIAL	EACH	1
UNINTERRUPTIBLE POWER SUPPLY, SPECIAL	EACH	1
REMOVE EXISTING TRAFFIC CONTROLLER AND CABINET	EACH	1
CAMERA MOUNTING ASSEMBLY	EACH	6
VIDEO VEHICLE DETECTION SYSTEM	EACH	1

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# SEQUENCE OF OPERATION

MOVEMENT																										
PHASE	1 + 5							1 + 6				2 + 5				2 + 6										
INTERVAL	1	2A	2B	3A	3B	4	4A	5	6	7A	7B	8	9	10A	10B	11	12	13A	13B	13C	13D	14A	14B	14C	14D	
CHANGE TO	1 + 6		2 + 5			2 + 6		θ	θ	2 + 6		θ	θ	2 + 6		3				4						
MAIN STREET AT ALTON ROAD END MAST ARM AND FAR LEFT SIGNALS	W/B	←G	←Y	←R	←G	←G	←Y	←R	←R	←R	←R	←R	←G	←G	←Y	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R
MAIN STREET AT ALTON ROAD MID & FAR RIGHT MAST ARM, NEAR RIGHT SIGNALS	W/B	R	R	R	R	R	R	R	R	R	R	G	G	G	G	G	G	Y	R	R	R	Y	R	R	R	
MAIN STREET AT ALTON ROAD ALL SIGNALS	E/B	R	R	R	R	R	R	G	G	G	G	R	R	R	R	G	G	G	G	G	G	G	G	Y	R	
ALTON ROAD FAR LEFT AND MAST ARM SIGNALS	N/B	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	
ALTON ROAD FAR RIGHT AND NEAR RIGHT SIGNALS	N/B	R <sub>G</sub>	R <sub>Y</sub>	R	R <sub>G</sub>	R <sub>G</sub>	R <sub>Y</sub>	R	R	R	R	R <sub>G</sub>	R <sub>G</sub>	R <sub>Y</sub>	R	R	R	R	R	R	R	R	R	R	R	
WOOD DUCK EXIT ALL SIGNALS	S/B	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	
MAIN STREET AT CHILES STREET END MAST ARM AND FAR LEFT SIGNALS	E/B	←G	←G	←G	←Y	←R	←Y	←R	←G	←G	←Y	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R
MAIN STREET AT CHILES STREET MID MAST ARM, FAR RIGHT AND NEAR RIGHT SIGNALS	E/B	R	R	R	R	R	R	G	G	G	G	R	R	R	R	G	G	Y	R	R	R	Y	R	R	R	
MAIN STREET AT CHILES STREET ALL SIGNALS	W/B	R	R	R	R	R	R	R	R	R	R	G	G	G	G	G	G	G	G	Y	R	G	G	G	G	
CHILES STREET AT MAIN STREET ALL SIGNALS	S/B	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	
GOODYEAR ENT. AT MAIN STREET ALL SIGNALS	N/B	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	
PEDESTRIAN SIGNALS CROSSING ALTON ROAD ON SOUTH SIDE OF MAIN STREET		H	H	H	H	H	H	*P	**FH	H	H	H	H	H	H	*P	**FH	H	H	H	H	H	H	H	H	
PEDESTRIAN SIGNALS CROSSING CHILES STREET ON NORTH SIDE OF MAIN STREET		H	H	H	H	H	H	H	H	H	H	*P	**FH	H	H	*P	**FH	H	H	H	H	H	H	H	H	
PEDESTRIAN SIGNALS CROSSING GOODYEAR ENT. ON SOUTH SIDE OF MAIN STREET		H	H	H	H	H	H	*P	**FH	H	H	H	H	H	H	*P	**FH	H	H	H	H	H	H	H	H	

PHASE 2 + 6 SHALL BE PLACED ON RECALL

- = TO APPEAR ONLY UPON PUSHBUTTON ACTUATION
- \*\* = FLASHING "DON'T WALK" IS TO TERMINATE AT THE COMPLETION OF THE PEDESTRIAN INTERVAL CLEARANCE.

P = ILLUMINATED PERSON = WALK

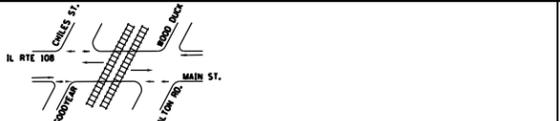
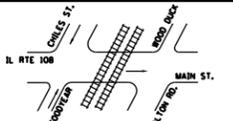
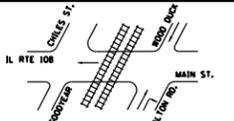
FH = ILLUMINATED FLASHING HAND = FLASHING DON'T WALK

H = ILLUMINATED SOLID HAND = DON'T WALK

θ = THIS "WALK" OR FLASHING "DON'T WALK" INTERVAL MAY FINISH TIMING IN THE BIDIRECTIONAL STRAIGHT THROUGH MOVEMENT IF THE LEFT ARROW TIME IS NOT SUFFICIENT TO COMPLETE "WALK" OR FLASHING "DON'T WALK" INTERVALS.

FILE NAME =	USER NAME = *USER*	DESIGNED - MRF	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>TRAFFIC SIGNAL SEQUENCE OF OPERATION (1 OF 2) MAIN STREET (IL RTE 108) AND ALTON RD./CHILES ST.</b>	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
*FILE#		DRAWN - MRF	REVISED -			765	D6 2015-4 HSRR	MACOUPIN	9	6	
PLOT SCALE = *SCALE*		CHECKED - MJL	REVISED -			CONTRACT NO. 72H80					
PLOT DATE = *DATE*		DATE - 10-23-15	REVISED -			SCALE: NTS		SHEET 1 OF 3 SHEETS		STA. TO STA.	

# SEQUENCE OF OPERATION

MOVEMENT																									FLASH			
PHASE	2 + 6												3						4									
INTERVAL	15A	15B	15C	15D	16A	16B	16C	16D	17A	17B	17C	17D	18	19A	19B	19C	19D	20A	20B	21	22A	22B	22C	22D		23A	23B	
CHANGE TO	1 + 5				1 + 6				2 + 5					1 + 5 2 + 4			1 + 6 2 + 6				1 + 5 1 + 6			2 + 5 2 + 6				
MAIN STREET AT ALTON ROAD END MAST ARM AND FAR LEFT SIGNALS	W/B	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	R		
MAIN STREET AT ALTON ROAD MID & FAR RIGHT MAST ARM, NEAR RIGHT SIGNALS	W/B	Y	R	R	R	Y	R	R	R	G	G	G	G	R	R	R	R	R	R	R	R	R	R	R	R	R	R	
MAIN STREET AT ALTON ROAD ALL SIGNALS	E/B	G	G	Y	R	G	G	G	G	G	Y	R	G	G	G	Y	R	G	G	R	R	R	R	R	R	R	R	
ALTON ROAD FAR LEFT AND MAST ARM SIGNALS	N/B	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R	R	R	Y	R	R
ALTON ROAD FAR RIGHT AND NEAR RIGHT SIGNALS	N/B	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R	R	R	Y	R	R
WOOD DUCK EXIT ALL SIGNALS	S/B	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R	R	R	Y	R	R
MAIN STREET AT CHILES STREET END MAST ARM AND FAR LEFT SIGNALS	E/B	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	R	
MAIN STREET AT CHILES STREET MID MAST ARM, FAR RIGHT AND NEAR RIGHT SIGNALS	E/B	Y	R	R	R	G	G	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
MAIN STREET AT CHILES STREET ALL SIGNALS	W/B	G	G	Y	R	G	G	Y	R	G	G	G	G	R	R	R	R	R	R	R	G	G	G	Y	R	G	G	R
CHILES STREET AT MAIN STREET ALL SIGNALS	S/B	R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R	R	R	Y	R	R	R	R	R	R	R	R	R
GOODYEAR ENT. AT MAIN STREET ALL SIGNALS	N/B	R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R	R	R	Y	R	R	R	R	R	R	R	R	R
PEDESTRIAN SIGNALS CROSSING ALTON ROAD ON SOUTH SIDE OF MAIN STREET		H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	DARK
PEDESTRIAN SIGNALS CROSSING CHILES STREET ON NORTH SIDE OF MAIN STREET		H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	
PEDESTRIAN SIGNALS CROSSING GOODYEAR ENT. ON SOUTH SIDE OF MAIN STREET		H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	

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# RAILROAD PREEMPTION SEQUENCE OF OPERATION

CHANGE FROM NORMAL SEQUENCE OF OPERATION INTERVAL NUMBER	PREEMPTOR NUMBER 2												2	3	4	5	CLEAR TO NORMAL SEQUENCE	
	1	5	8	11	18	21												
RAILROAD PREEMPTION SEQUENCE OF OPERATION INTERVAL NUMBER	1A	1B	1C	1D	1E	1F	1G	1H	1J	1K	1L	1M						
CHANGE TO RAILROAD PREEMPTION SEQUENCE OF OPERATION INTERVAL NUMBER	1B	2	1D	2	1F	2	1H	2	1K	2	1M	2	3	4	5			
MAIN STREET AT ALTON ROAD END MAST ARM AND FAR LEFT SIGNALS	W/B ←Y ←R	←R ←R	←Y ←R	←R ←R	←Y ←R	←R ←R	←R ←R	←R ←R	←R ←R	←R ←R	←R ←R	←R ←R	←R	←R	←R	←G		△
MAIN STREET AT ALTON ROAD MID & FAR RIGHT MAST ARM, NEAR RIGHT SIGNALS	W/B R	R	R	R	Y	R	Y	R	R	R	R	R	R	R	R	R	R	△
MAIN STREET AT ALTON ROAD ALL SIGNALS	E/B R	R	G	G	R	R	G	G	G	G	R	R	G	Y	R	R	△	
ALTON ROAD FAR LEFT AND MAST ARM SIGNALS	N/B R	R	R	R	R	R	R	R	R	R	Y	R	R	R	R	R	△	
ALTON ROAD FAR RIGHT AND NEAR RIGHT SIGNALS	N/B R Y	R	R	R	R Y	R	R	R	R	R	Y	R	R	R	R	R G	△	
WOOD DUCK EXIT ALL SIGNALS	S/B R	R	R	R	R	R	R	R	R	R	Y	R	R	R	R	R	△	
MAIN STREET AT CHILES STREET END MAST ARM AND FAR LEFT SIGNALS	E/B ←Y ←R	←Y ←R	←R ←R	←R ←R	←R ←R	←R ←R	←R ←R	←R ←R	←R ←R	←R ←R	←R ←R	←R ←R	←R	←R	←R	←G		△
MAIN STREET AT CHILES STREET MID MAST ARM, FAR RIGHT AND NEAR RIGHT SIGNALS	E/B R	R	Y	R	R	R	Y	R	R	R	R	R	R	R	R	R	△	
MAIN STREET AT CHILES STREET ALL SIGNALS	W/B R	R	R	R	G	G	G	G	R	R	G	G	G	Y	R	R	△	
CHILES STREET AT MAIN STREET ALL SIGNALS	S/B R	R	R	R	R	R	R	R	Y	R	R	R	R	R	R	R	△	
GOODYEAR ENT. AT MAIN STREET ALL SIGNALS	N/B R	R	R	R	R	R	R	R	Y	R	R	R	R	R	R	R	△	
PEDESTRIAN SIGNALS CROSSING ALTON ROAD ON SOUTH SIDE OF MAIN STREET	H	H	**FH	H	H	H	**FH	H	H	H	H	H	H	H	H	H	△	
PEDESTRIAN SIGNALS CROSSING CHILES STREET ON NORTH SIDE OF MAIN STREET	H	H	H	H	**FH	H	**FH	H	H	H	H	H	H	H	H	H	△	
PEDESTRIAN SIGNALS CROSSING GOODYEAR ENT. ON SOUTH SIDE OF MAIN STREET	H	H	**FH	H	H	H	**FH	H	H	H	H	H	H	H	H	H	△	

P = ILLUMINATED PERSON = WALK

FH = ILLUMINATED FLASHING HAND = FLASHING DON'T WALK

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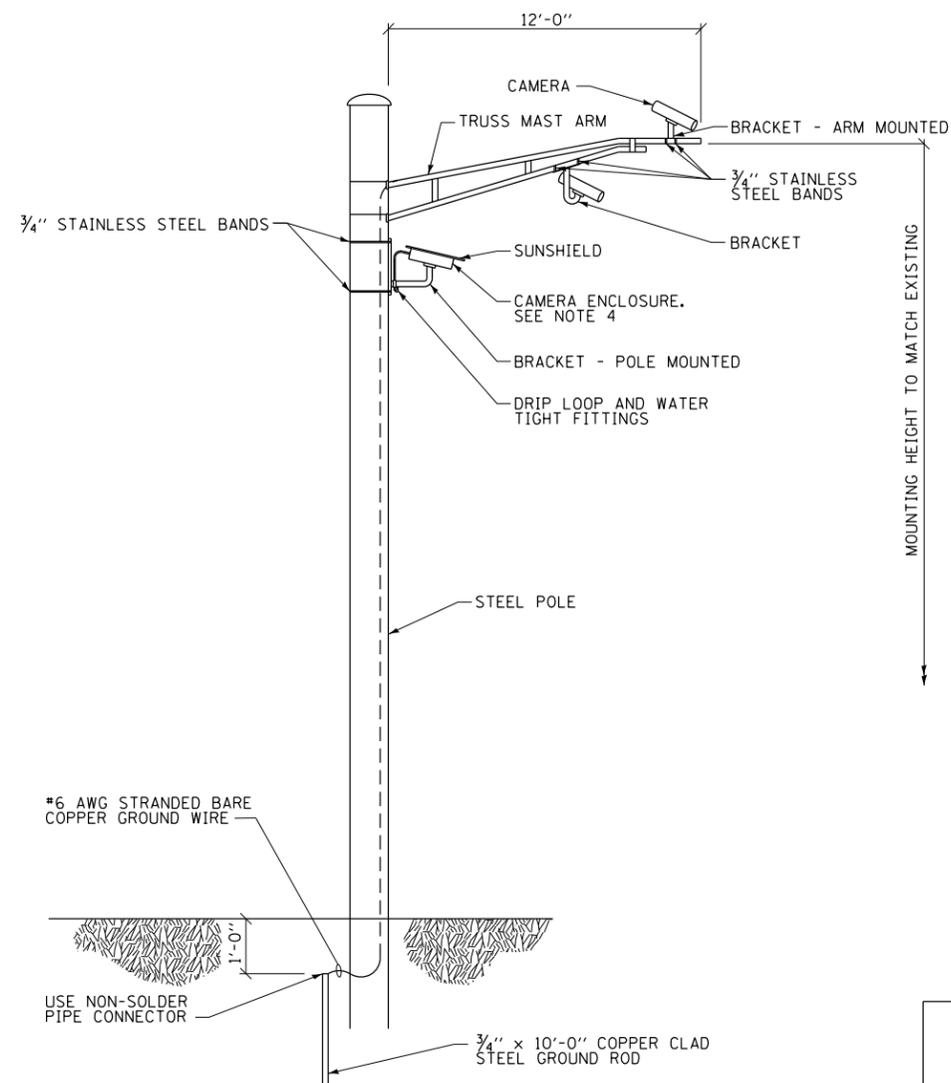
△ = RAILROAD PREEMPTION SEQUENCE SHALL PROVIDE THE PROPER CLEARANCE INTERVAL TO RESUME THE NORMAL SEQUENCE OF OPERATION OR PROPER CLEARANCE INTERVAL TO DISPLAY AN EMERGENCY VEHICLE INTERVAL (IF APPLICABLE) AFTER RAILROAD INTERVAL 5 IS TERMINATED.

HOLD

**NOTES**

1. ONCE PREEMPTION HAS BEEN CALLED, THE TRACK CLEAR SIGNAL DISPLAY SHALL APPEAR IMMEDIATELY AFTER ALL NECESSARY VEHICULAR CLEARANCES HAVE BEEN PROVIDED.
2. RAILROAD PREEMPTION WILL TERMINATE ACTIVE PEDESTRIAN PHASES IMMEDIATELY. PEDESTRIAN CLEARANCES WILL BE ABBREVIATED.
3. THE RAILROAD PREEMPTION SEQUENCE OF OPERATION SHALL HAVE PRIORITY OVER ALL OTHER SEQUENCES OF OPERATION.

FILE NAME =	USER NAME = *USER*	DESIGNED - MRF	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>RAILROAD PREEMPTION SEQUENCE OF OPERATION MAIN STREET (IL RTE 108) AND ALTON RD./CHILES ST.</b>	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
*FILEL*		DRAWN - MRF	REVISED -			765	D6 2015-4 HSR	MACOUPIN	9	8	
PLOT SCALE = *SCALE*		CHECKED - MJL	REVISED -			CONTRACT NO. 72H80					
PLOT DATE = *DATE*		DATE - 10-23-15	REVISED -			ILLINOIS FED. AID PROJECT					



**ARM MOUNTED OR POLE MOUNTED CAMERA**

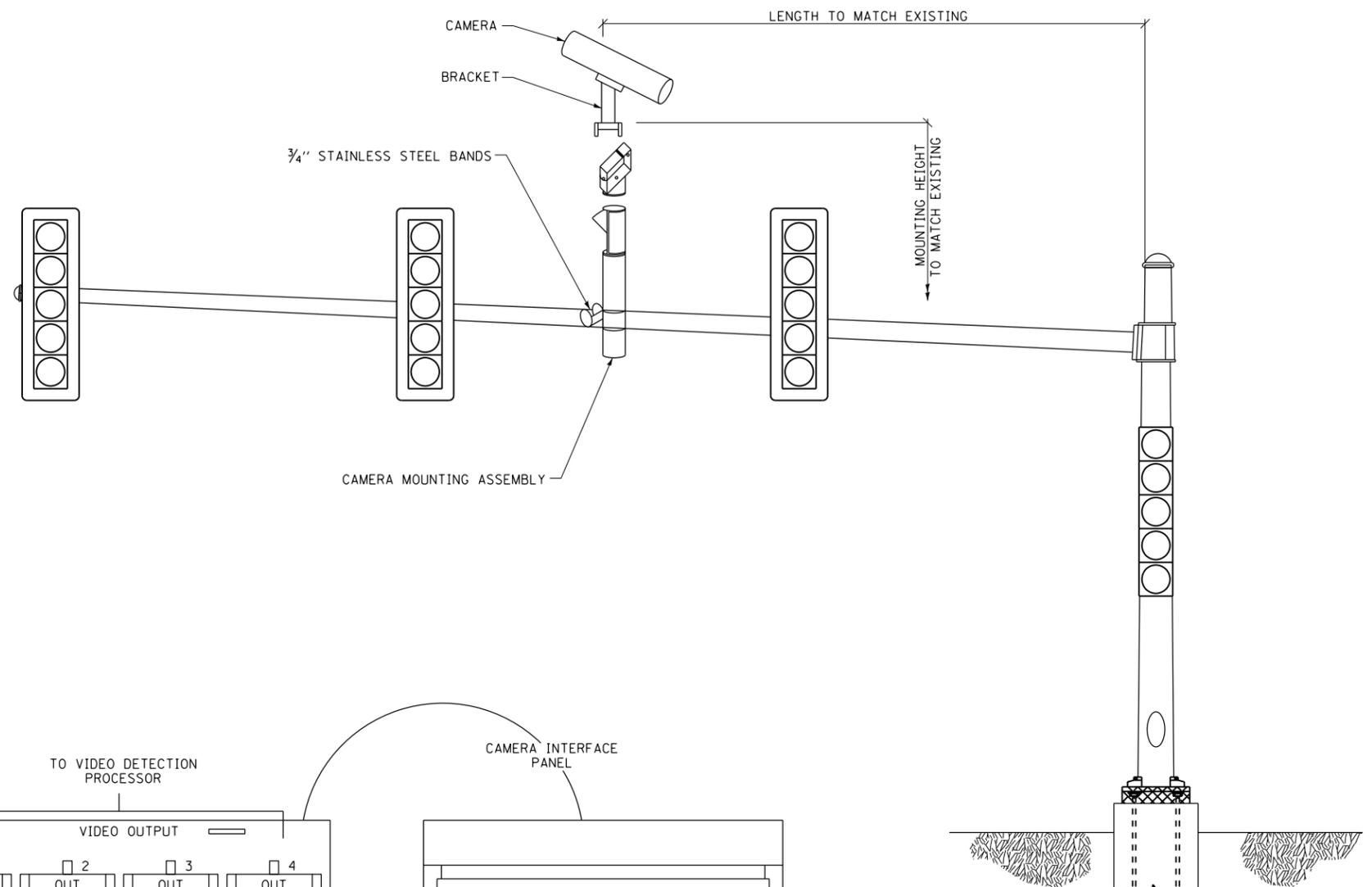
SCALE: NONE

**NOTES:**

1. MOUNT LUMINAIRE MOUNTING BRACKET AS HIGH AS POSSIBLE.
2. AIM BRACKET TOWARD DIRECTION OF TRAFFIC TO BE DETECTED.
3. MOUNT VIDEO VEHICLE DETECTOR AIMING DOWN AT 15 DEGREE ANGLE.
4. CAMERA CAN BE ROTATED INSIDE THE ENCLOSURE AFTER INSTALLATION, TO ALIGN HORIZON AT HORIZONTAL PLANE.

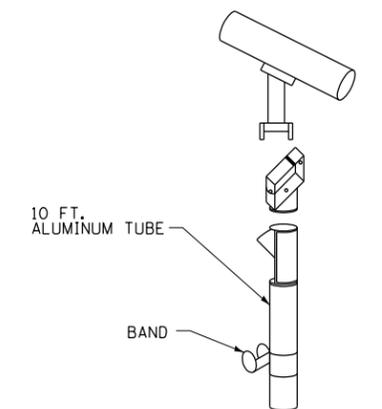
**WARNING:**

1. AIMING THE VIDEO VEHICLE DETECTOR AT DIRECT SUNLIGHT WILL CAUSE PERMANENT DAMAGE TO THE VIDEO VEHICLE DETECTOR.

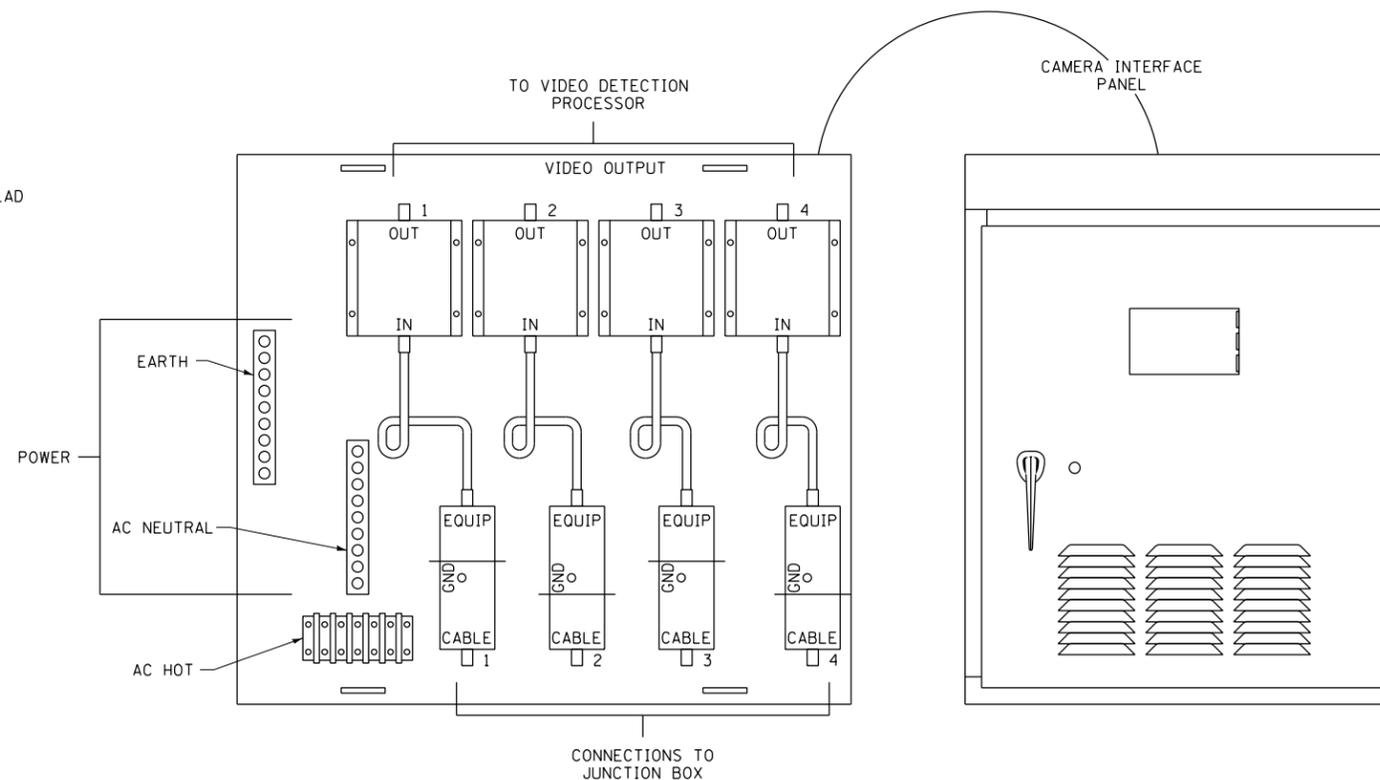


**MAST ARM MOUNTED CAMERA**

SCALE: NONE



**CAMERA MOUNTING ASSEMBLY**



POWER CABLE TO EACH IMAGE SENSOR (24 VAC)  
6 PAIR CABLE FROM IMAGE SENSOR TO CABINET  
SIGNAL AND POWER CABLE TERMINATIONS  
(MANUFACTURER'S REPRESENTATIVE TO ASSIST)

**VIDEO VEHICLE DETECTION SYSTEM INSTALLATION DETAIL**

SCALE: NONE

FILE NAME =	USER NAME = *USER*	DESIGNED - MRF	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>VIDEO VEHICLE DETECTION SYSTEM INSTALLATION DETAILS MAIN STREET (IL RTE 108) AND ALTON RD./CHILES ST.</b>	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
*FILEL*		DRAWN - MRF	REVISED -			765	D6 2015-4 HSR	MACOUPIN	9	9	
	PLOT SCALE = *SCALE*	CHECKED - MJL	REVISED -			CONTRACT NO. 72H80					
	PLOT DATE = *DATE*	DATE - 10-23-15	REVISED -			ILLINOIS FED. AID PROJECT					
					SCALE: NTS	SHEET 1	OF 1 SHEETS	STA.	TO STA.		