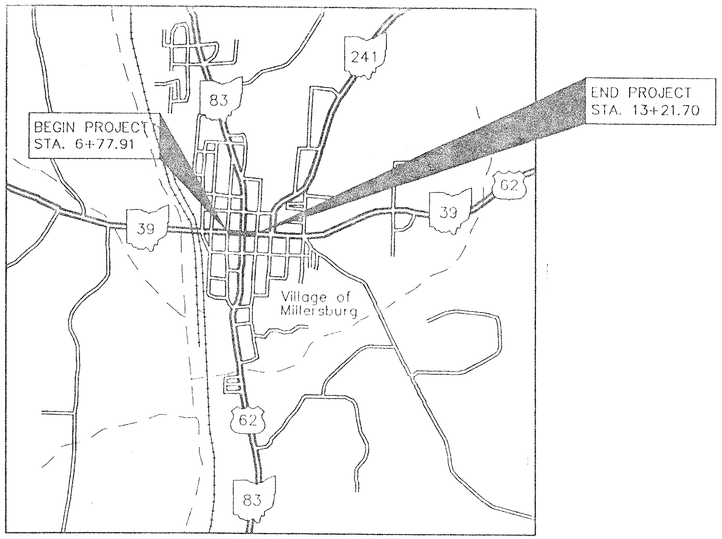
STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
HOL-39-17.36
VILLAGE OF MILLERSBURG
HOLMES COUNTY



LOCATION MAP

LATITUDE: 40°33'10" LONGITUDE: 81°55'10"

0 1000 2000
GRAPHIC SCALE
(IN FEET)

N

PORTION TO BE IMPROVED
STATE & FEDERAL ROUTES
OTHER ROADS

DESIGN DESIGNATION

LEGAL SPEED = 25 MPH
DESIGN FUNCTIONAL CLASSIFICATION = URBAN MINOR ARTERIAL

DESIGN EXCEPTIONS

NONE

UNDERGROUND UTILITIES
TWO WORKING DAYS
BEFORE YOU DIG
CALL TOLL FREE 1-800-362-2764
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS MUST BE CALLED DIRECTLY

INDEX OF SHEETS

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NOTE: SHEETS 9 THRU 12 ARE DELETED

STANDARD CONSTRUCTION DRAWINGS				SUPPLEMENTAL SPECIFICATIONS
HL-10.12 M	5-1-95	TC-12.30	1-19-01	
HL-30.11 M	3-31-95	TC-16.20	1-19-01	
HL-50.11 M	3-31-95	TC-21.20	1-19-01	
		TC-81.20	5-1-00	
		TC-82.10	1-19-01	
		TC-83.10	5-1-00	
		TC-83.20	5-1-00	
		TC-85.10	5-1-00	
		TC-85.20	5-1-00	

PROJECT DESCRIPTION

IMPROVEMENT OF 0.12 MILE OF S.R. 39 IN THE VILLAGE OF MILLERSBURG, BY UPGRADING THREE SIGNALS.

1997 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL SHALL GOVERN THIS PROJECT.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

APPROVED _____

DATE _____ VILLAGE ADMINISTRATOR, VILLAGE OF MILLERSBURG

APR 26 2001

Plans Revised By:
W.E. QUICKSALL & ASSOCIATES, INC.
554 West High Ave.
New Philadelphia, Ohio

FEDERAL PROJECT No.
PID No.
CONSTRUCTION PROJECT NUMBER
RAILROAD INVOLVEMENT
NONE

HOL-39-17.36

e:\milliers\35710\cadd\TS1 Thu May 10 12:20 1997

UTILITIES

AT LEAST TWO WORKING DAYS PRIOR TO COMMENCING CONSTRUCTION OPERATIONS IN AN AREA WHICH MAY INVOLVE UNDERGROUND UTILITY FACILITIES, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER, THE REGISTERED UTILITY PROTECTION SERVICE AND THE OWNERS OF EACH UNDERGROUND UTILITY FACILITY SHOWN IN THE PLANS.

THE OWNER OF THE UNDERGROUND UTILITY FACILITY SHALL, WITHIN FORTY-EIGHT HOURS, EXCLUDING SATURDAYS, SUNDAYS AND HOLIDAYS, AFTER NOTICE IS RECEIVED, STAKE, MARK OR OTHERWISE DESIGNATE THE LOCATION OF THE UNDERGROUND UTILITY FACILITIES IN THE CONSTRUCTION AREA IN SUCH A MANNER AS TO INDICATE THEIR COURSE TOGETHER WITH THE APPROXIMATE DEPTH OF WHICH THEY WERE INSTALLED. THE MARKING OR LOCATING SHALL BE COORDINATED TO STAY APPROXIMATELY TWO DAYS AHEAD OF THE PLANNED CONSTRUCTION.

IN ADDITION TO THE REQUIREMENTS OF SPECIFICATION 105.06, THE CONTRACTOR SHALL NOTIFY, AT LEAST TWO WORKING DAYS BEFORE BREAKING GROUND, ALL PUBLIC SERVICE CORPORATIONS HAVING WIRES, POLES, CONDUIT OR OTHER STRUCTURES, WHICH MAY BE AFFECTED BY THE OPERATION. THE CONTRACTOR SHALL CONDUCT ALL OPERATIONS IN SUCH A MANNER TO AVOID DAMAGES TO ANY AND ALL UTILITIES. ANY AND ALL WORK REQUIRED FOR PUBLIC OR PRIVATE UTILITIES WILL BE DONE BY AND AT THE EXPENSE OF THEIR RESPECTIVE OWNERS, UNLESS OTHERWISE NOTED ON THESE PLANS.

FOLLOWING IS A LIST OF THE OWNERS OF UTILITIES KNOWN TO BE WITHIN THE AREA OF THIS PROJECT:

COLUMBIA GAS OF OHIO
2429 LINDEN AVENUE
ZANESVILLE, OHIO 43701
614- 622-2464

COLUMBIA GAS OF OHIO
CENTRAL LOCATING SERVICE
2550 HARRISON ROAD
COLUMBUS, OHIO 43204
614-278-1840

COLUMBIA GAS OF OHIO
513 NORTH THIRD STREET
COSHOCTON, OHIO 43812
614-622-2464

COLUMBIA GAS TRANSMISSION
3151 LINCOLN WAY WEST
WOOSTER, OHIO 44691
330-264-2201 EXT. 211

VILLAGE OF MILLERSBURG
VILLAGE HALL
6 NORTH WASHINGTON STREET
MILLERSBURG, OHIO 44654
330-674-1886
STREET SUPERINTENDENT (STORM SEWER & STREETS)
330-674-6372 (GARAGE)
UTILITY SUPERINTENDENT (SANITARY SEWER & WATER)
330-674-2525 (WWTP)
330-674-1076 (WTP)

AMERICAN ELECTRIC POWER CO.
545 NORTH MARKET STREET
WOOSTER, OHIO 44691
330-674-2016
330-264-1616
REGION DISPATCHING
330-456-8173

AMERICAN ELECTRIC POWER CO.
EASTERN REGION ENGINEERING
301 CLEVELAND AVE. S.W.
P.O. BOX 24400
CANTON, OHIO 44701- 4400
330-455-8931
330-438- 7823

AMERICAN ELECTRIC POWER CO.
800-672-2231

AMERICAN ELECTRIC POWER
PUBLIC PROJECTS COORDINATOR
1 RIVERSIDE PLAZA
COLUMBUS, OHIO 43215-2873
614-223-1579
ATTN: STANLEY WILSON

UNITED TELEPHONE COMPANY OF OHIO (SPRINT)
2025 AKRON ROAD
WOOSTER, OHIO 44691
330-264-2880

UNITED VIDEO CABLEVISION
520 WOOSTER ROAD
MILLERSBURG, OHIO 44654
330-674-0209

THE LOCATIONS OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS OF THE UTILITY AS REQUIRED BY SECTION 153.64 OF THE OHIO REVISED CODE.

WORK LIMITS

WORK LIMITS SHALL ALSO INCLUDE THE VILLAGE OF MILLERSBURG PROPERTY (WHICH INCLUDES THE VILLAGE HALL) AT THE NORTHWEST CORNER OF JACKSON ST. (S.R. 39) AND WASHINGTON ST. FOR PURPOSES OF INSTALLING AND CONNECTING NEW POWER SERVICE (INCLUDING ALL CONDUITS, WIRING, ETC.).

MAINTENANCE OF TRAFFIC

LAW ENFORCEMENT OFFICER (WITH PATROL CAR)

IN ADDITION TO THE REQUIREMENTS OF 614 AND THE LATEST EDITION OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD), A UNIFORMED LAW ENFORCEMENT OFFICER (AND OFFICIAL PATROL CAR WITH WORKING TOP MOUNTED EMERGENCY FLASHING LIGHTS) SHALL BE PROVIDED FOR CONTROLLING TRAFFIC FOR THE FOLLOWING TASKS:

*WHILE WORKING IN THE SIGNALIZED INTERSECTION, INSTALLING SIGNAL POLES OR SIGNAL HEADS AND AS DIRECTED BY THE ENGINEER.

LAW ENFORCEMENT OFFICERS (LEO'S) SHOULD NOT BE USED WHERE THE OMUTCD INTENDS THAT FLAGGERS BE USED. THE LEO'S ARE CONSIDERED TO BE EMPLOYED BY THE CONTRACTOR AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR ACTIONS. ALTHOUGH THEY ARE EMPLOYED BY THE CONTRACTOR, THE PROJECT ENGINEER SHALL HAVE CONTROL OVER THEIR PLACEMENT. THE OFFICIAL CAR SHALL BE A PUBLIC SAFETY VEHICLE AS REQUIRED BY THE OHIO REVISED CODE.

THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR THESE SERVICES WITH:

MILLERSBURG POLICE DEPARTMENT
THOMAS VAUGHN, POLICE CHIEF
VILLAGE HALL
6 NORTH WASHINGTON STREET
MILLERSBURG, OHIO 44654
(330) 674-5931

LAW ENFORCEMENT OFFICERS (WITH PATROL CAR) REQUIRED BY THE TRAFFIC MAINTENANCE TASKS ABOVE SHALL BE *INCLUDED IN THE LUMP SUM BID FOR ITEM 614 - MAINTAINING TRAFFIC.*

ITEM 614 - MAINTAINING TRAFFIC

A MINIMUM OF ONE LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES BY USE OF THE EXISTING PAVEMENT.
LENGTH AND DURATION OF LANE CLOSURES AND RESTRICTIONS SHALL BE AT THE APPROVAL OF THE ENGINEER. IT IS THE INTENT TO MINIMIZE THE IMPACT TO THE TRAVELING PUBLIC. LANE CLOSURES OR RESTRICTIONS OVER SEGMENTS OF THE PROJECT IN WHICH NO WORK IS ANTICIPATED WITHIN A REASONABLE TIME FRAME, AS DETERMINED BY THE ENGINEER, SHALL NOT BE PERMITTED. THE LEVEL OF UTILIZATION OF MAINTENANCE OF TRAFFIC DEVICES SHALL BE COMMENSURATE WITH THE WORK IN PROGRESS.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, CURRENT EDITION, LATEST REVISION. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR "ITEM 614 - MAINTAINING TRAFFIC."

THE CONTRACTOR SHALL SUSPEND ALL WORK, SHALL HAVE ALL TRAFFIC SIGNALS IN OPERATION USING EXISTING AND/OR PROPOSED TRAFFIC SIGNALS AND SHALL HAVE ALL TRENCH IN PAVED AREAS PAVED DURING THE MILLERSBURG ANTIQUE FESTIVAL (OCTOBER 6, 2001 THRU OCTOBER 7, 2001) AND DURING THE HOLMES COUNTY FAIR (AUGUST 14, 2001 THRU AUGUST 18, 2001)

TRAFFIC CONTROL

GUARANTEE

THE CONTRACTOR SHALL GUARANTEE THAT THE TRAFFIC CONTROL SYSTEM INSTALLED AS PART OF THIS CONTRACT SHALL OPERATE SATISFACTORILY FOR A PERIOD OF 90 DAYS FOLLOWING COMPLETION OF THE 10 DAY PERFORMANCE TEST. IN THE EVENT OF AN UNSATISFACTORY OPERATION, THE CONTRACTOR SHALL CORRECT FAULTY INSTALLATIONS, MAKE REPAIRS AND REPLACE DEFECTIVE PARTS WITH NEW PARTS OF EQUAL OR BETTER QUALITY. EQUIPMENT, MATERIALS AND LABOR COSTS INCURRED IN CORRECTING AN UNSATISFACTORY OPERATION SHALL BE BORNE BY THE CONTRACTOR. THE GUARANTEE SHALL COVER THE FOLLOWING ITEMS OF THE TRAFFIC CONTROL SYSTEM, CONTROLLERS AND ASSOCIATED EQUIPMENT, DETECTOR UNITS, INTERCONNECTION ITEMS AND MASTER CONTROL EQUIPMENT.
CUSTOMARY MANUFACTURERS GUARANTEES FOR THE FOREGOING ITEMS SHALL BE TURNED OVER TO THE STATE OR THE MAINTAINING AGENCY FOLLOWING ACCEPTANCE OF THE EQUIPMENT.
THE COST OF GUARANTEEING THE TRAFFIC CONTROL SYSTEM WILL BE INCIDENTAL TO AND INCLUDED IN THE CONTRACT UNIT PRICE OF THE VARIOUS ITEMS MAKING UP THE SYSTEM.

SIGNAL CONSTRUCTION PERSONNEL REQUIREMENTS

THE CONTRACTOR SHALL ASSIGN A SUPERVISOR FOR THIS PROJECT. THE SUPERVISOR SHALL BE A FULL TIME EMPLOYEE OF THE CONTRACTOR. THE CONTRACTOR SHALL NOT CHANGE THE SUPERVISOR ASSIGNED TO THIS PROJECT WITHOUT PRIOR WRITTEN NOTICE.

ALL CONTROLLER WORK AS DEFINED BELOW IN ITEMS 1 THRU 4 SHALL BE PERFORMED BY IMSA LEVEL TWO CERTIFIED TECHNICIAN.

1. BACK PANEL WIRING TERMINATIONS
2. PROGRAMMING
3. TURN ON
4. TROUBLESHOOTING

THE CONTRACTOR SHALL ALSO HAVE A FOREPERSON ASSIGNED TO EACH CREW PERFORMING WORK FOR THIS PROJECT. A FOREPERSON SHALL BE PRESENT AT ALL TIMES WHEN WORK IS PERFORMED BY ANY CREW. EACH FOREPERSON SHALL BE AN IMSA LEVEL ONE CERTIFIED TECHNICIAN. PRIOR VERBAL NOTICE SHALL BE PROVIDED TO THE ENGINEER BY THE CONTRACTOR BEFORE REPLACING A CREW FOREPERSON.

IN ADDITION, ALL WORK AS DEFINED BELOW IN ITEMS 1 THRU 7 SHALL BE PERFORMED BY AN IMSA LEVEL ONE CERTIFIED TECHNICIAN.

1. CABLE SPLICES
2. SIGNAL HEAD INSTALLATION
3. CABLE AND WIRE INSTALLATION
4. POWER SERVICE INSTALLATION
5. GROUND ROD TESTING
6. CABLE INSULATION TESTING
7. FIELD WIRING TERMINATIONS

THE CONTRACTOR SHALL PRESENT TO THE ENGINEER, PRIOR TO THE COMMENCEMENT OF WORK, THE IMSA LEVEL ONE AND TWO CERTIFICATION PAPERS FOR ALL SIGNAL TECHNICIANS WORKING ON THIS PROJECT.

MAINTENANCE OF TRAFFIC SIGNAL INSTALLATION

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING TRAFFIC SIGNAL INSTALLATIONS UNDER THE FOLLOWING CONDITIONS:

A. EXISTING SIGNAL INSTALLATIONS WHICH THE PLANS REQUIRE THE CONTRACTOR TO ADJUST, MODIFY, ADD ONTO OR REMOVE, OR WHICH THE CONTRACTOR ACTUALLY ADJUSTS, MODIFIES OR OTHERWISE DISTURBS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ENTIRE INSTALLATION (AT THE INTERSECTION), INCLUDING MAINTENANCE, TIMING AND DAMAGE FROM ACCIDENT, NEGLIGENCE OR NATURAL CAUSES, FROM THE TIME HIS OPERATIONS FIRST DISTURB THE INSTALLATION UNTIL THE INSTALLATION HAS BEEN SUBSEQUENTLY REMOVED OR MODIFIED AND THE WORK IS ACCEPTED.

B. NEW SIGNAL INSTALLATIONS OR DEVICES, INSTALLED BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE, TIMING AND ANY DAMAGE OF THESE FROM THE TIME OF INSTALLATION UNTIL THE WORK IS ACCEPTED.

THE CONTRACTOR SHALL CORRECT AS QUICKLY AS POSSIBLE ALL OUTAGES OR MALFUNCTIONS. THE CONTRACTOR SHALL PROVIDE THE VILLAGE AND THE PROJECT ENGINEER SUCH ADDRESSES AND PHONE NUMBERS WHERE THE CONTRACTOR'S MAINTENANCE FORCES CAN BE CONTACTED. THE CONTRACTOR SHALL PROVIDE ONE OR MORE PERSONS TO RECEIVE ALL CALLS AND DISPATCH THE NECESSARY MAINTENANCE FORCES TO CORRECT OUTAGES OR MALFUNCTIONS. SUCH A PERSON OR PERSONS MAY BE USED TO PERFORM OTHER DUTIES AS LONG AS PROMPT ATTENTION IS GIVEN TO THESE CALLS AND A PERSON IS READILY AVAILABLE CONTINUOUSLY 24 HOURS A DAY, SEVEN DAYS A WEEK. ALL LAMP OUTAGES, CABLE FAILURES, ELECTRICAL FAILURES, EQUIPMENT MALFUNCTIONS AND MISALIGNED SIGNAL HEADS SHALL BE CORRECTED TO THE SATISFACTION OF THE ENGINEER WITH THE SIGNAL BACK IN SERVICE WITHIN THREE (3) HOURS AFTER THE CONTRACTOR HAS BEEN NOTIFIED OF THE OUTAGES OR MALFUNCTIONS.

IN THE EVENT NEW SIGNALS ARE DAMAGED PRIOR TO ACCEPTANCE, ALL DAMAGED EQUIPMENT, EXCEPT POLES AND CONTROL EQUIPMENT, SHALL BE REPLACED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER WITH THE SIGNAL BACK IN SERVICE WITHIN EIGHT (8) HOURS AFTER THE CONTRACTOR'S NOTIFICATION OF DAMAGE.

IF POLES AND/OR CONTROL EQUIPMENT ARE DAMAGED AND MUST BE REPLACED. THE CONTRACTOR SHALL MAKE TEMPORARY REPAIRS AS NECESSARY TO BRING THE SIGNAL BACK INTO FULL OPERATION WITHIN THE ALLOWED EIGHT HOUR PERIOD. THE CONTRACTOR SHALL MAKE PERMANENT REPAIRS OR REPLACEMENT AS SOON THEREAFTER AS POSSIBLE.

NONE OF THE ABOVE SHALL BE CONSTRUED AS COLLECTIVE OR CONSECUTIVE OUTAGE OR MALFUNCTION TIME PERIODS AT ANY ONE LOCATION. THAT IS, WHERE MORE THAN ONE OUTAGE OR MALFUNCTION OCCURS AT ANY ONE LOCATION, THEN THE ALLOTTED TIME LIMIT SHALL BE FOR THE WORST SINGLE OUTAGE OR MALFUNCTION.

WHERE OUTAGES OR MALFUNCTIONS ARE THE DIRECT RESULT OF A VEHICLE ACCIDENT THE RESPONSE OF THE CONTRACTOR SHALL BE AS OUTLINED ABOVE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COLLECTION OF ANY COMPENSATION FOR THIS WORK FROM THOSE PARTIES RESPONSIBLE FOR THE DAMAGE.

WHERE THE CONTRACTOR HAS FAILED TO OR CANNOT RESPOND TO AN OUTAGE OR SIGNAL EQUIPMENT MALFUNCTION, AT THESE LOCATIONS WITHIN HIS RESPONSIBILITY OR WITHIN PERIODS AS SPECIFIED ABOVE, THE VILLAGE OR STATE MAY TAKE ANY ACTION AS IT MAY DEEM NECESSARY. THIS ACTION MAY INCLUDE CONTROL OF THE INTERSECTION BY POLICE OFFICERS AND COMPLETE REMOVAL OF THE MALFUNCTIONING TRAFFIC CONTROL DEVICES AND INSTALLATION OF DEVICES TO RETURN THE INTERSECTION TO OPERATION. ANY SUBSEQUENT BILLINGS BY THE STATE OR THE VILLAGE FOR THESE POLICE OFFICERS AND/OR MAINTENANCE BY THE VILLAGE SHALL BE DEDUCTED FROM MONIES DUE OR TO BECOME DUE TO CONTRACTOR IN ACCORDANCE WITH PROVISIONS OF SECTION 105.15.

WHEN A TRAFFIC SIGNAL MUST BE TAKEN OUT OF SERVICE BY THE CONTRACTOR, DUE TO CONSTRUCTION PROCEDURES, THIS OUTAGE SHALL NOT INCLUDE THE HOURS OF 7 AM TO 9 AM AND 3 PM TO 6 PM MONDAY THROUGH THURSDAY OR ANY HOURS FRIDAY, SATURDAY OR SUNDAY. WHERE A TRAFFIC SIGNAL IS OUT OF SERVICE DUE TO CONSTRUCTION PROCEDURES OR DUE TO AN OUTAGE OR MALFUNCTION OF EQUIPMENT AS DESCRIBED ABOVE, TRAFFIC SHALL BE DIRECTED BY AN OFF-DUTY VILLAGE OF MILLERSBURG POLICE OFFICER HIRED BY THE CONTRACTOR UNTIL SAID SIGNAL IS OPERATING AGAIN. ALL COSTS INCURRED IN USING POLICE OFFICERS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

CALCULATED
CHECKED

GENERAL NOTES

HOL-39-17.36

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TRAFFIC CONTROL (CONT.)

MAINTENANCE OF TRAFFIC SIGNAL INSTALLATION (CONT.)

THE CONTRACTOR SHALL SUSPEND ALL WORK, SHALL HAVE ALL TRAFFIC SIGNALS IN OPERATION USING EXISTING AND/OR PROPOSED TRAFFIC SIGNALS AND SHALL HAVE ALL TRENCH IN PAVED AREAS PAVED DURING THE MILLERSBURG ANTIQUE FESTIVAL (OCTOBER 6, 2001 THRU OCTOBER 7, 2001) AND DURING THE HOLMES COUNTY FAIR (AUGUST 14, 2001 THRU AUGUST 18, 2001).

THE CONTRACTOR SHALL MAINTAIN COMPLETE RECORDS OF MALFUNCTIONS INCLUDING:

1. TIME OF NOTIFICATION OF MALFUNCTION.
2. TIME OF WORK CREW'S ARRIVAL TO CORRECT THE MALFUNCTION.
3. ACTIONS TAKEN TO CORRECT THE MALFUNCTION, INCLUDING A LIST OF PARTS REPAIRED OR REPLACED.
4. A DIAGNOSIS OF REASON FOR THE MALFUNCTION AND PROBABILITY OF REOCCURRENCE.
5. TIME OF COMPLETION OF REPAIR AND SYSTEM RESTORED TO FULL SERVICE.

A COPY OF THESE RECORDS SHALL BE PROVIDED TO THE ENGINEER WITHIN THREE (3) WORKING DAYS FOLLOWING COMPLETION OF EACH REPAIR.

UNDERDRAINS FOR PULL BOXES

REFERENCE IS MADE TO STANDARD DRAWING HL-30.11 FOR DETAILS OF DRAINING PULL BOXES. UNDERDRAINS FOR PULL BOXES SHALL BE USED AS DIRECTED BY THE ENGINEER AND SHALL BE PROVIDED WHERE THE LENGTH REQUIRED FOR A SATISFACTORY OUTLET DOES NOT EXCEED APPROXIMATELY 40 FEET. AN ESTIMATED QUANTITY OF 480 LIN. FT. OF ITEM 603, 4" CONDUIT, TYPE E IS INCLUDED IN THE GENERAL SUMMARY FOR THIS PURPOSE.

ITEM 625 - TRENCH IN PAVED AREA, TYPE (__)

THE CONTRACTOR SHALL DO ALL TRENCHING BETWEEN THE HOURS OF 6:00 PM TO 6:00 AM. ALL OTHER REQUIREMENTS SHALL BE AS PER 625.12 AND 625.24.

ITEM 632 - VEHICULAR SIGNAL HEAD, (__) SECTION, 12" LENS, 1 WAY, POLYCARBONATE, AS PER PLAN

SECTION 732.01 OF THE SPECIFICATIONS IS MODIFIED FOR THIS PROJECT AS FOLLOWS:

A) SIGNAL HEADS AND VISORS SHALL BE CONSTRUCTED OF INJECTION MOLDED, UV STABILIZED, POLYCARBONATE PLASTIC AND MEET ITE SPECIFICATIONS.
B) PLASTIC LENSES SHALL BE USED.
C) PIPE, SPACERS AND FITTINGS CONSTRUCTED OF POLYCARBONATE PLASTIC MAY BE USED IN LIEU OF GALVANIZED STEEL OR ALUMINUM.
D) PROPER EXTERIOR COLORS SHALL BE OBTAINED BY USE OF COLORED PLASTIC MATERIAL RATHER THAN PAINTING.

THE SIGNAL HEADS SHALL BE RIGIDLY MOUNTED TO THE MAST ARMS.

ITEM 632 - PEDESTRIAN SIGNAL HEADS, TYPE D2, AS PER PLAN

SECTION 732.05 OF THE SPECIFICATIONS IS MODIFIED FOR THIS PROJECT AS FOLLOWS:

A) SIGNAL HEADS AND VISORS SHALL BE CONSTRUCTED OF POLYCARBONATE PLASTIC AND SHALL MEET ITE SPECIFICATIONS.
B) PLASTIC LENSES SHALL BE USED.
C) PIPE, SPACERS AND FITTINGS CONSTRUCTED OF POLYCARBONATE PLASTIC MAY BE USED IN LIEU OF GALVANIZED STEEL OR ALUMINUM.
D) INSTALLATION SHALL BE PER ODOT STANDARD CONSTRUCTION DRAWING TC-85.10 WITH THE EXCEPTION THAT "CLAM SHELLS" SHALL NOT BE USED.
E) THE INTERNATIONAL PALM AND PEDESTRIAN SYMBOLS SHALL BE USED.
F) POLE PLATES WITH STAINLESS STEEL BANDING SHALL BE USED FOR MOUNTING SIGNALS TO POLES.

ITEM 632 - SIGNAL CABLE, 2 CONDUCTOR, NO. 14 AWG

THE SIGNAL CABLE SHALL BE CONNECTED TO THE EXISTING REMOTE PREEMPT WIRING AT THE EXISTING POLE AT THE NORTHWEST CORNER OF THE JACKSON ST. (S.R. 39) AND WASHINGTON ST. INTERSECTION AND SHALL THEN RUN OVERHEAD TO THE EAST TO PROPOSED POLE P2 AT THE NORTHEAST CORNER OF THE JACKSON ST. (S.R. 39) AND WASHINGTON ST. INTERSECTION. THE REMOTE PREEMPT CONTROL SIGNAL CABLE SHALL THEN BE RUN AS DETAILED ON SHEETS 15, 16, 17 AND 19.

ITEM 632 - INTERCONNECT CABLE, 6 PAIR, NO. 19 AWG, SOLID, REA (PE-39), AS PER PLAN

SPLICES SHALL OCCUR ONLY AT THE TERMINAL ENDS OF THE HARDWIRE INTERCONNECT PANEL. NO OTHER SPLICE LOCATIONS SHALL BE PERMITTED.

PAYMENT FOR ALL LABOR, MATERIALS, TOOLS, EQUIPMENT, AND OTHER INCIDENTALS SHALL BE INCLUDED IN THE UNIT BID FOR "ITEM 632 INTERCONNECT CABLE, 6 PAIR, NO. 19 AWG, SOLID, REA (PE 39), AS PER PLAN". MEASUREMENT WILL BE BASED UPON THE NUMBER OF LINEAR FEET IN PLACE.

ITEM 632 - POWER SERVICE, AS PER PLAN

ELECTRIC POWER (120 VOLTS) SHALL BE OBTAINED FROM AN EXISTING EMERGENCY LOAD CENTER LOCATED IN THE VILLAGE OF MILLERSBURG VILLAGE HALL BASEMENT. THE EXISTING EMERGENCY LOAD CENTER IS FED FROM AN EXISTING AUTOMATIC TRANSFER SWITCH ALSO LOCATED IN VILLAGE HALL (WHICH IS FED FROM AN EXISTING POWER SERVICE FROM AMERICAN ELECTRIC POWER AND FROM AN EXISTING EMERGENCY GENERATOR ALSO LOCATED IN VILLAGE HALL). EXISTING UNUSED CIRCUITS IN THE EXISTING EMERGENCY LOAD CENTER SHALL BE REMOVED AS REQUIRED TO ACCOMODATE A PROPOSED 70 AMP CIRCUIT BREAKER (WHICH MUST BE COMPATIBLE WITH EXISTING EMERGENCY LOAD CENTER) FOR THE TRAFFIC SIGNALS. THE TRAFFIC SIGNAL POWER CIRCUIT SHALL BE A 3 CONDUCTOR NO. 2 AWG CABLE IN A TWO (2) INCH CONDUIT WHICH SHALL RUN FROM THE EXISTING EMERGENCY LOAD CENTER IN THE VILLAGE HALL BASEMENT TO AND THROUGH A CRAWL SPACE NORTH OF THE BASEMENT TO AND THROUGH THE NORTH WALL OF THE VILLAGE HALL. A CONDUIT LB AND VERTICAL CONDUIT RUN (WITH CABLE) SHALL BE PROVIDED ON THE EXTERIOR OF THE NORTH WALL OF THE VILLAGE HALL. THE TRAFFIC SIGNAL POWER CIRCUIT SHALL THEN RUN OVERHEAD TO AN EXISTING POLE ADJACENT TO THE NORTH END OF THE VILLAGE HALL, SHALL THEN RUN OVERHEAD TO THE EAST TO EXISTING POLE APPURTENANCES ON THE WEST SIDE OF NORTH WASHINGTON ST., SHALL THEN RUN OVERHEAD TO THE SOUTH TO AN EXISTING POLE AT THE NORTHWEST CORNER OF THE JACKSON ST. (S.R. 39) AND WASHINGTON ST. INTERSECTION AND SHALL THEN RUN OVERHEAD TO THE EAST TO PROPOSED POLE P2 AT THE NORTHEAST CORNER OF THE JACKSON ST. (S.R. 39) AND WASHINGTON ST. INTERSECTION. THE TRAFFIC SIGNAL POWER CIRCUIT SHALL THEN RUN AS DETAILED ON SHEETS 15, 16, 17, 18, AND 19. ALL WORK UNDER THIS ITEM SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE NATIONAL ELECTRIC CODE, AMERICAN ELECTRIC POWER AND LOCAL REGULATIONS. ALL EXISTING FACILITIES DISTURBED SHALL BE REPAIRED, REPLACED, SEALED, ETC. IN A MANNER SATISFACTORY TO THE ENGINEER, THE VILLAGE OF MILLERSBURG AND AMERICAN ELECTRIC POWER AS APPLICABLE. THIS ITEM SHALL INCLUDE THE EXISTING EMERGENCY LOAD CENTER MODIFICATIONS (INCLUDING PROPOSED CIRCUIT BREAKER), THE CONDUIT AND CABLE BETWEEN THE EXISTING EMERGENCY LOAD CENTER AND THE WEATHERHEAD ON THE EXTERIOR OF THE NORTH WALL OF THE VILLAGE HALL, CONDUIT ELL(S), CONDUIT LB(S), WEATHERHEAD(S), THE LOCAL FUSED DISCONNECT SWITCHES (AT EACH TRAFFIC SIGNAL INSTALLATION), ETC.

ITEM 632 - COMBINATION SIGNAL SUPPORT, TYPE TC-(____), DESIGN (____), AS PER PLAN

THE SIGNAL SUPPORT SHALL BE AS PER STANDARD DRAWING TC-(____) WITH EXTENSION FOR LUMINAIRE. BRACKET ARM PLATES AND POLE PLATES SHALL BE PROVIDED AS PER STANDARD DRAWING HL-10.17. BRACKET ARM, LUMINAIRE AND WIRING ARE TO BE PROVIDED AND INSTALLED BY AMERICAN ELECTRIC POWER (AEP). THE CONTRACTOR SHALL COORDINATE INSTALLATION OF LUMINAIRES WITH AEP AND THE ENGINEER. COMBINATION SIGNAL SUPPORTS SHALL BE AS FOLLOWS:

INTERSECTION WITH JACKSON ST.*	SUPPORT NO.	COMBINATION SIGNAL SUPPORT TYPE	COMBINATION SIGNAL SUPPORT DESIGN	MAST ARM A (TYPE TC-81.20) DESIGN	MAST ARM A (TYPE TC-81.20) LENGTH (FT.)	MAST ARM B (TYPE TC-81.20) DESIGN	MAST ARM B (TYPE TC-81.20) LENGTH (FT.)
WASHINGTON ST.	P1	TC-12.30	5	12	48	1	18
CLAY ST.	P2	TC-12.30	5	12	48	2	26
CLAY ST.	P1	TC-12.30	6	11	41	11	39
MONROE ST.	P1	TC-81.20	4	3	35	3	33
MONROE ST.	P2	TC-81.20	4	3	35	3	32
WASHINGTON ST.	P2	TC-81.20	12	11	40	1	21

* SEE SHEETS 15, 16 AND 17 FOR ADDITIONAL INFORMATION ON STREET NAME (N., S., E. OR W.) AND STATE OR FEDERAL ROUTES

ITEM 632 - REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN

TRAFFIC SIGNAL INSTALLATION, INCLUDING SIGNAL HEADS, CABLE, MESSENGER WIRE, STRAIN POLES, CABINET, CONTROLLER, ETC. SHALL BE REMOVED IN ACCORDANCE WITH 632.25 AND AS INDICATED ON THE PLANS. ALL REMOVED ITEMS SHALL BE DELIVERED TO:

VILLAGE OF MILLERSBURG STREET DEPARTMENT
(ANDREW D. JONES, VILLAGE ADMINISTRATOR)
600 WALKUP STREET
MILLERSBURG, OHIO 44654
(330) 674-1886
MONDAY THRU FRIDAY 7:00AM TO 3:30PM

ALL EXISTING CONTROL WIRING FOR THE EXISTING REMOTE PREEMPT CONTROL SIGNAL BETWEEN THE EXISTING POLE AT THE NORTHWEST CORNER OF THE JACKSON ST. (S.R. 39) AND WASHINGTON ST. INTERSECTION AND THE EXISTING TRAFFIC SIGNAL INSTALLATIONS SHALL BE REMOVED AS A PART OF THIS ITEM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD DETERMINING THE ROUTING OF THIS EXISTING WIRING.

WITH THE EXCEPTION OF ITEMS WHOSE REMOVAL IS NECESSARY TO PERMIT THE INSTALLATION OF THE NEW SIGNAL EQUIPMENT, NO ITEM SHALL BE REMOVED UNTIL THE NEW INSTALLATION IS IN FULL OPERATION, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL DISCONNECT THE EXISTING TRAFFIC SIGNAL POWER CIRCUIT BEFORE THE EXISTING TRAFFIC SIGNAL INSTALLATIONS ARE REMOVED. PAYMENT FOR ITEM 632 REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN SHALL BE AS PER 632.28.

ITEM 633 - CONTROLLER, MISC.; MASTER/SECONDARY COORDINATOR, AS PER PLAN

1. THIS ITEM OF WORK SHALL CONSIST OF FURNISHING AND INSTALLING COORDINATION FUNCTIONS AND NECESSARY INTERFACE TO MAKE THE COORDINATOR COMPLETELY FUNCTIONAL AND OPERATIONAL AS SHOWN IN THE PLANS.
2. PAYMENT FOR ITEM 633 CONTROLLER, MISC.; MASTER/SECONDARY COORDINATOR, AS PER PLAN WILL BE MADE AT THE CONTRACT PRICE COMPLETELY INSTALLED IN THE LOCAL CONTROLER CABINET SHOWN IN THE PLANS, WIRED, TESTED, AND ACCEPTED.
3. THE MASTER COORDINATOR SHALL BE LOCATED IN THE 8 PHASE CABINET AT CLAY STREET (U.S. 62 AND/OR S.R. 83).

CALCULATED
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GENERAL NOTES

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TRAFFIC CONTROL (CONT.)

PREEMPTION PRIORITY CONTROL

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING AND INSTALLING PREEMPTION DETECTORS, PREEMPTION EMITTERS, PREEMPT PHASE SELECTORS, PREEMPT CONFIRMATION LIGHTS, SIGNAL CABLE, ETC. THE PREEMPTION PRIORITY CONTROL SYSTEM MAY BE RADIO, SIREN OR OPTICALLY (INFRARED LIGHT) ACTIVATED. DETECTORS SHALL BE FURNISHED AND INSTALLED ON MAST ARMS AT LOCATIONS SHOWN ON THE PLANS. PREEMPTION EMITTERS (AS REQUIRED) SHALL BE FURNISHED AND INSTALLED ON *FIVE (5)* VILLAGE OF MILLERSBURG POLICE DEPARTMENT VEHICLES. A PREEMPT CONFIRMATION LIGHT, WITH A CLEAR LAMP, SHALL BE INSTALLED ON THE MAST ARMS AS SHOWN ON THE PLANS. THE PREEMPT CONFIRMATION LIGHT SHALL BE VISIBLE TO THE INTER-SECTION APPROACH. THE COST OF ALL CABLES, CONNECTORS, TERMINALS, INTERFACE RACKS AND INCIDENTALS TO PROVIDE A COMPLETE PREEMPTION PRIORITY CONTROL SYSTEM SHALL BE INCLUDED IN THE CONTRACT PRICE FOR ALL PREEMPT PRIORITY CONTROL COMPONENTS AT EACH INTERSECTION LOCATION IN PLACE, INSTALLED, WIRED, TESTED AND ACCEPTED.

ITEM 633 – CONTROLLER ITEM, MISC.: PREEMPT PHASE SELECTOR

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING A PREEMPT PHASE SELECTOR, INCLUDING WIRING INTERFACE PANELS, IN THE LOCAL CONTROLLER CABINET AND ALL OTHER ACCESSORIES THAT ARE NECESSARY TO MAKE THE PREEMPT PHASE SELECTOR COMPLETELY FUNCTIONAL AND OPERATIONAL AS SHOWN IN THE PLANS. THIS ITEM SHALL ALSO INCLUDE THE EXTRA CABINET SPACE NECESSARY TO BE LOCATED IN THE CONTROLLER CABINETS WHERE INDICATED IN THE PLANS. ***THE PHASE SELECTOR SHALL BE COMPATIBLE WITH THE OPTICALLY (INFRARED LIGHT) ACTIVATED PRIORITY CONTROL SYSTEM.*** THE PREEMPT PHASE SELECTOR SHALL CONSIST OF A MODULE OR MODULES THAT WILL PROVIDE THE NECESSARY INPUTS TO THE CONTROLLER. THE PREEMPT PHASE SELECTOR SHALL BE SUPPLIED WITH SUFFICIENT QUANTITIES OF CHANNELS TO PROVIDE PREEMPTION FOR ALL APPROACHES TO THE INTERSECTION SEPARATELY. POWER SHALL BE OBTAINED FROM THE PREEMPT PHASE SELECTOR POWER SUPPLY AND NOT FROM THE LOCAL CONTROLLER TIMER.

THE PREEMPT PHASE SELECTOR SHALL HAVE FRONT PANEL INDICATORS FOR ACTIVE PREEMPT CHANNEL STATUS AND SHALL HAVE TEST SWITCHES TO ACTIVATE ALL PREEMPT CHANNELS.

PAYMENT FOR ITEM 633–"CONTROLLER ITEM, MISC.: PREEMPT PHASE SELECTOR" WILL BE MADE AT THE CONTRACT PRICE FOR EACH PREEMPT PHASE SELECTOR COMPLETE AND IN PLACE, INSTALLED IN THE LOCAL CONTROLLER SHOWN IN THE PLANS, WIRED, TESTED AND ACCEPTED.

ITEM 633 – CONTROLLER ITEM, MISC.: PREEMPTION DETECTOR

THIS ITEM CONSIST OF FURNISHING AND INSTALLING PREEMPTION DETECTORS AT THE LOCATIONS SHOWN ON THE PLANS. THE PREEMPTION DETECTORS SHALL BE COMPATIBLE WITH OPTICAL (INFRARED LIGHT) TYPE PREEMPTION EMITTERS. THE PREEMPTION DETECTORS SHALL BE CAPABLE OF SENDING THE PROPER ELECTRICAL SIGNAL TO THE TRAFFIC SIGNAL CONTROLLERS VIA A 4–CONDUCTOR, NO. 20 AWG CABLE. PREEMPTION DETECTORS SHALL BE SUPPLIED WITH MAST ARM MOUNTING HARDWARE.

PAYMENT FOR ITEM 633 – "CONTROLLER ITEM, MISC.: PREEMPTION DETECTOR" WILL BE MADE AT THE CONTRACT UNIT PRICE FOR EACH PREEMPTION DETECTOR AS SHOWN IN THE PLANS COMPLETE, IN PLACE, TESTED AND ACCEPTED.

ITEM 633 – CONTROLLER ITEM, MISC.: PREEMPT CONFIRMATION LIGHT

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING A PREEMPTION CONFIRMATION LIGHT COMPLETELY FUNCTIONAL AND OPERATIONAL AS SHOWN IN THE PLANS.

A CONFIRMATION LIGHT SHALL BE SUPPLIED FOR EACH INTERSECTION, AS SHOWN ON THE TRAFFIC SIGNAL PLAN SHEETS, TO INDICATE THAT THE EMERGENCY VEHICLE HAS ACHIEVED CONTROL OF THE TRAFFIC SIGNAL. THE CONFIRMATION LIGHT SHALL BE AN OUTDOOR VAPOR TIGHT ALUMINUM LIGHTING FIXTURE. IT SHALL BE SUPPLIED WITH A CLEAR GLOBE, 150 WATT INCANDESCENT LAMP AND SIGNAL SUPPORT MOUNTING HARDWARE. THE CONFIRMATION LIGHT SHALL BE ORIENTED PERPENDICULAR TO APPROACHING TRAFFIC IN ORDER TO BE VISIBLE TO THE EMERGENCY VEHICLE. THE CONFIRMATION LIGHT SHALL BE POWERED BY A LOAD SWITCH IN THE TRAFFIC SIGNAL CONTROLLER.

PAYMENT FOR ITEM 633 – "CONTROLLER ITEM, MISC.: PREEMPT CONFIRMATION LIGHT" WILL BE MADE AT THE CONTRACT PRICE FOR EACH LIGHT AS SHOWN IN THE PLANS COMPLETE IN PLACE, TESTED, AND ACCEPTED.

ITEM 633 – CONTROLLER ITEM, MISC.: PREEMPTION EMITTER

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING PREEMPTION EMITTERS AS REQUIRED BY THE PRIORITY CONTROL SYSTEM. THE PREEMPTION EMITTERS SHALL BE COMPATIBLE WITH OPTICALLY (INFRARED LIGHT) ACTIVATED PREEMPTION DETECTORS. INSTALLATION OF THE PREEMPTION EMITTERS WILL BE UNDER THE DIRECT SUPERVISION OF VILLAGE OF MILLERSBURG POLICE DEPARTMENT, THOMAS VAUGHN, POLICE CHIEF (PHONE NUMBER 330-674-5931).

PAYMENT FOR ITEM 633–"CONTROLLER ITEM MISC.: PREEMPTION EMITTERS" WILL BE MADE AT THE CONTRACT UNIT PRICE FOR EACH PREEMPTION EMITTER COMPLETE, IN PLACE, TESTED AND ACCEPTED.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE:

633, CONTROLLER ITEM MISC.: PREEMPTION EMITTER *5* EACH

ITEM 633 – CONTROLLER ITEM, MISC.: SIGNAL CABLE: PREEMPTION DETECTOR, 4-CONDUCTOR, NO. 20 AWG CABLE

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING PREEMPTION DETECTOR CABLE AS SHOWN IN THE PLANS. IT SHALL CONNECT THE PREEMPT DETECTORS TO THE CONTROLLER.

THE CABLE SHALL CONFORM TO ITEM 632. THE CABLE SHALL BE APPROVED FOR BOTH OVERHEAD AND UNDERGROUND USE. THE JACKET SHALL WITHSTAND EXPOSURE TO SUNLIGHT AND ATMOSPHERE TEMPERATURES AND STRESSES REASONABLY EXPECTED IN NORMAL INSTALLATIONS.

PAYMENT FOR ITEM 633 – "CONTROLLER ITEM, MISC.: SIGNAL CABLE: PREEMPTION DETECTOR, 4–CONDUCTOR, NO. 20 AWG CABLE" WILL BE MADE AT THE CONTRACT UNIT PRICE FOR THE CABLE FURNISHED, IN PLACE, ALL CONNECTIONS MADE AND WIRING COMPLETED, TESTED AND ACCEPTED.

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633 ITEM SPECIAL CONTROLLER, MODEL 170E, WITH MODEL 336 CABINET AND ACCESSORIES (POLE OR BASE MOUNTED)

The controller supplied shall be complete with the specified cabinet including all necessary components and cables not specifically mentioned below. All equipment and cabinets shall conform to ODOT Specifications 633, 733 and the following:

MODEL 170E CONTROLLERS:

Specifications for these controllers shall be "Transportation Electrical Equipment Specifications", California Department of Transportation, November 19, 1998, including all addenda. The controller units shall currently be listed on the Caltrans "Qualified Products List".

In addition:

1. The controller unit shall not be supplied with the M170E board.

2. For cabinets that are to be included in a hardwire (twisted pair) interconnected signal system, the controller unit shall include a Model 400 modem and communication system, interfaced as specified in the Caltrans Specifications. In addition to the Caltrans Specification, modems shall be designed such that if one modem loses communication with the master, subsequent modems shall still be able to communicate.

3. A 412C prom module shall be supplied with traffic signal control software. The software shall emulate a NEMA eight (8) phase, fully-actuated, signal operation with overlaps, preemption, internal TBC and pedestrian movements. Where a master controller is specified, a 412C prom module shall be supplied with master controller software. Master software shall as a minimum be capable of communicating with the central office monitor to report alarms, uploading/downloading timings to each intersection, and providing traffic responsive operation.

4. As per Caltrans requirements, all memory, microprocessor and ACIA devices shall be socket mounted. Sockets shall have machined beryllium copper contacts with gold plating.

5. A cable harness, approximately 4 ft (1.2 m) long, shall be supplied to connect a laptop computer with the controller for the transfer of data. The cable shall have a DB-9 connector on one end, and a connector on the other end to mate with the J2 port on the back of the controller.

6. All circuit boards shall be vertically mounted.

7. The power supply shall be mounted and easily removable from the chassis.

8. The unit shall contain indicator lights and output monitors.

9. If a telephone drop is shown in the plans, or modem communication modules, modem lightning protection devices for auto dial/answer telephone connection shall be provided.

10. If the controller is part of an interconnected signal system, the controller shall include modems, port, and slot for system communication.

2 sets of controller schematics and service manuals shall be supplied with each controller.

Conflict Monitors, Type 2012:

Conflict monitors shall be on the ODOT pre-approved list (TS 9620). Two sets of operations instructions and monitor schematics shall be supplied with each monitor. Remove monitor memory shall be programmed with the use of a diode card (Phase Stagger) which shall be included with the monitor.

Cabinet, Model 336:

Model 336 cabinets shall meet the specifications "Traffic Signal Control Equipment Specifications", California Department of Transportation, November 19, 1998, or latest edition. The manufacturer of 336 cabinets shall currently be on the Caltrans "Qualified Products List" (QPL) for 336 cabinets.

The Caltrans specification for model 336 cabinets shall be modified so that the cabinets provided for this item are the stretch type that provides an additional 10 inches (250 mm) of cabinet height.

Cabinets shall be constructed of aluminum and shall be supplied unpainted. Anodic coating is not required. Cabinets shall be fully equipped with conflict monitor, flashers, AC isolators, DC isolators, and flash transfer relays. The appropriate number of switch packs and Model 200 loop detector sensor units shall be supplied to operate the intersection as shown in the plans. All components shall meet Caltrans Specifications and shall be on the QPL as applicable.

For pole mounted cabinets, mounting brackets and bottom plates shall be supplied and installed. Unless otherwise shown in the plans, the mounting bracket and door hinge shall be on the same side. For base mounted cabinets, galvanized anchor bolts with nuts and washers shall be supplied. Anchor bolts shall be 3/4" (19 mm) Diam. by 16" (400 mm) minimum length with an "L" bend on the unthreaded end.

Cabinets shall be fitted with a PDA-2 power distribution assembly. Cabinets shall be equipped with an EDCO SHA12-10 or approved equal surge protector in lieu of the Caltrans specified surge protector. The SHA12-10 unit shall be installed in an enclosure within the cabinet.

The front of the input and output files shall be labeled using a writable tape. In the case of the output file, the tape shall clearly designate the purpose of the corresponding switch pack. An example of switch pack labeling is "Phase 2" or "Phase 2 PED". In the case of the input file, the tape shall clearly designate the purpose of the corresponding detector unit. Every used channel of the 222 detector shall be labeled. An example of detector unit labeling is "Phase 2 C" or "Phase 2 EC" or "Phase 2 EXT" where:

C = is a call input only during red
EC = is extend and call during red, yellow and green
EXT = is an extension only during green

Cabinet wiring shall comply with the following:

1. Output files shall be "Hardwired". No printed circuit wiring shall be used in the output file except for the red monitor board.

2. Cabinets shall have red monitor cabling installed. A program board shall be installed to enable/disable red monitoring. Cabinets shall be shipped with the red monitor jumpers set in the "Enable" position.

3. Pedestrian yellow loadswitch outputs shall not be connected to the conflict monitor card-edge connector.

4. Field wiring for loop detector lead-in cables and pedestrian detectors shall be terminated on a lower loop input panel. EDCO model SPA-6LCA, SPA-6LCB or SRA-6LC surrestors shall be provided on the lower input panel for protection against incoming electrical surges and lightning. Field wiring terminals on the lower input panel shall be labeled by a permanent screening process to identify the input file (I or J), the input file slot number (1-14) and the channel terminal (D, E, J or K). An example is "14-J" standing for input file "I", slot 14, channel terminal "K". All terminals on these detector panels shall be easily accessible without removing equipment from the mounting rack. Tonging of wires shall not be considered acceptable to satisfying terminal labeling.

5. For cabinets that are to be included in a hardwire (twisted pair) interconnected signal system, incoming interconnect cable shall be terminated on an appropriate terminal base that is mounted on the side of the cabinet. Protection from incoming electrical surges (lightning on interconnect pairs) shall be provided by installation of EDCO PCP42 surge arrestors on the terminal base. The protected outputs from the terminal base shall then be routed through to the controller.

6. On the output file, pin number 11 of each switchpack shall be wired to AC+, so that the output indicators on dual indicator switchpacks will display properly. Switchpacks shall have both input and output indicators for each switch.

The following auxiliary items shall be supplied:

7. Cabinets shall have two fluorescent lights (front and rear) with door switches.

8. A rack mounted detector test panel shall be furnished with separate test switches for all possible vehicle and pedestrian phases. The switches shall be three (3) position "on/off/momentary on" switches.

9. Each cabinet shall be provided with a police panel which will include a pushbutton with cord and three switches labeled auto/flash, police on/off, and autoinhibit. The pushbutton cord shall not be wired through an AC isolator, but shall be connected to the controller harness wiring by a molex plug connector. When placed in the manual position, manual control enable shall be applied to the controller and "Recall" shall be applied to all phases. Activation of the pushbutton shall "Advance" the controller except that manual advancement will be prohibited in the minimum green, yellow and red intervals.

10. An aluminum shelf with integral storage compartment shall be provided in the rack below the controller. The storage compartment will have telescoping drawer guides for full extension. The compartment top shall have a non-glare plastic laminate attached.

Two sets of cabinet wiring diagrams, service manuals, programing and maintenance instructions shall be furnished for each cabinet and equipment item. The cabinet wiring diagrams shall be supplied in a clear plastic pouch fastened to the inside of the controller cabinet.

GENERATOR POWER PANEL:

This item shall allow signal electricians to operate the traffic signal during power outages, without opening the cabinet door or connecting or disconnecting permanent power cables. The enclosure shall be installed on the power panel side of the controller cabinet. Design and layout of the controller cabinet shall determine exact placement of the enclosure but it should be placed near the top of ground mounted cabinets and about 5 feet(1.5 m) from the ground on pole mounted cabinets. The enclosure shall be sealed with a high quality silicon caulk and all holes drilled into the side of the controller cabinet shall be caulked and sealed after the electrical equipment is installed. All electrical connections, soldered or screw type terminals, shall be covered with a clear silicon caulk.

The generator inlet shall be 30 AMP, locking, four wire grounding and meet the NEMA 114-30-P 30A 125/250A specification. The inlet shall be a Hubble Catalog #2715.

The line voltage generator switch shall be 30 AMP 125/250V AC, two (2) pole, three (3) position, (on, off, on). The switch shall be Hubble Catalog #1338.

The line voltage indicator light shall be a 125V AC light emitting diode with a red lens.

The line voltage circuit breaker shall be single pole single throw and a minimum of 30 AMPs. The amperage shall be increased to accommodate greater loads, if necessary. The gauge of the power cable shall be of proper size per the National Electrical Code (NEC).

Cabinet Riser:

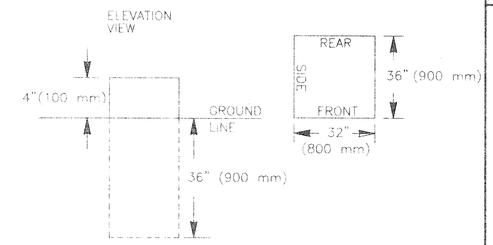
An aluminum riser shall be provided with each base mounted cabinet which will raise the cabinet approximately 8" (200 mm) above the concrete foundation. The bottom of the riser shall bolt to the standard cabinet foundation anchor bolts and the top of the riser shall bolt to the bottom of the cabinet. All necessary bolts, washers and nuts shall be supplied.

Payment:

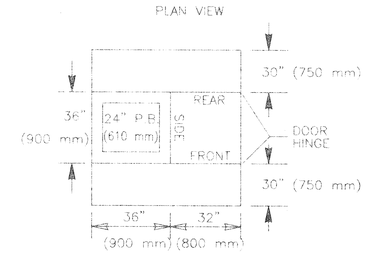
Cost for all of the above including labor, material, tools and equipment to provide and install a completely operational cabinet and controller shall be included in the bid item price for 633 Item Special Controller, Model 170E, with Model 336 Cabinet and Accessories.

(WHEN GROUND MOUNTING SPECIFIED)

336 CABINET FOUNDATION



336 CONTROLLER WORK PAD



NOTE: PULLBOX SHALL BE PLACED ON OPPOSITE SIDE OF DOOR HINGE

SEPARATE BID ITEMS:
625 PULLBOX, 713.08, 24" (610 mm)
633 CONTROLLER WORK PAD
633 CONC. FOR CAB. FOUNDATION

INPUT FILE TERMINAL ASSIGNMENT

TERM.	PIN	FUNCTION
1	SP	SPARE
2	F	CHANNEL 1 OUTPUT
3	W	CHANNEL 2 OUTPUT
4	D	CHANNEL 1 INPUT
5	E	CHANNEL 1 INPUT
6	J	CHANNEL 2 INPUT
7	K	CHANNEL 2 INPUT
8	L	EQUIPMENT GROUND

FRONT VIEW OF TOP INPUT FILE I

	SLOT 1	SLOT 2	SLOT 3	SLOT 4	SLOT 5	SLOT 6	SLOT 7	SLOT 8	SLOT 9	SLOT 10	SLOT 11	SLOT 12	SLOT 13	SLOT 14
Channel #1	1 EC	2 EC	3 EC	4 EC	5 EC	6 EC	7 EC	8 EC	PED INHIB	EV-A	EV-B	2 PPB	6 PPB	FLSH
Field Term	I-1-D,E	I-2-D,E	I-3-D,E	I-4-D,E	I-5-D,E	I-6-D,E	I-7-D,E	I-8-D,E	I-9-D,E	I-10-D,E	I-11-D,E	I-12-D,E	I-13-D,E	I-14-D,E
Channel #2	2 C	1 C	4 C	4 EC	6 C	5 EC	8 C	8 EC	PR	EV-C	EV-D	4 PPB	8 PPB	STOP TIME
Field Term	I-1-J,K	I-2-J,K	I-3-J,K	I-4-J,K	I-5-J,K	I-6-J,K	I-7-J,K	I-8-J,K	I-9-J,K	I-10-J,K	I-11-J,K	I-12-J,K	I-13-J,K	I-14-J,K

FRONT VIEW OF BOTTOM INPUT FILE J

C = INPUT ONLY DURING RED
EC = EXTEND AND CALL (RED, YELLOW, GREEN)
EXT = INPUT ONLY DURING GREEN

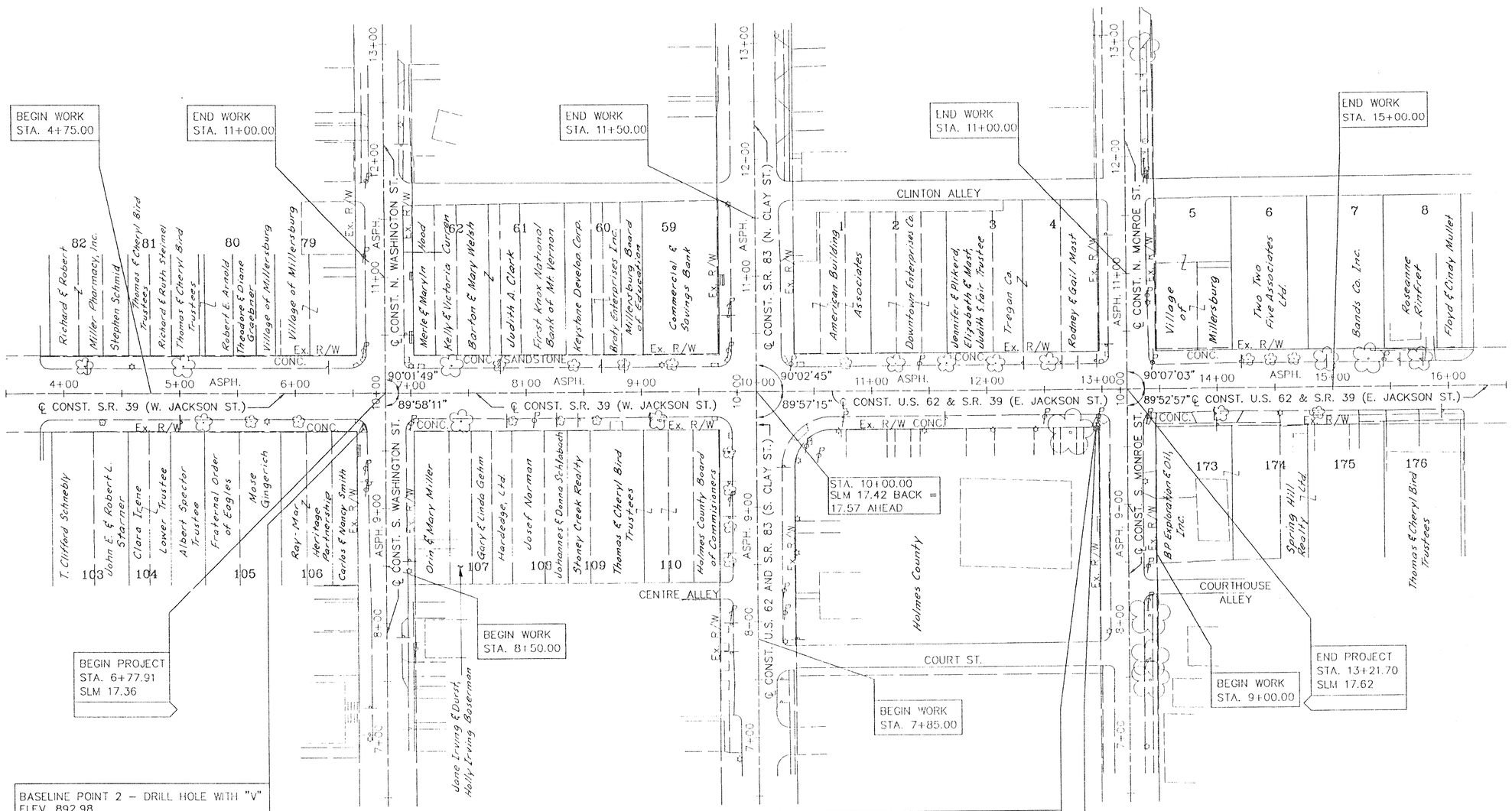
Termination of field wiring shall conform to the above chart. The Contractor shall duplicate the input assignment chart and include it in the cabinet documentation. The chart shall clearly indicate which input file slots and channel terminals are used in the cabinet. A red pen shall be used to circle slot numbers and channel terminals that are used.

CALCULATED | CHECKED

12-11-00

LPA MAINTAINED MODEL 170E CONTROLLER WITH MODEL 336 CABINET AND ACCESSORIES

HOL-62-17.36



NOTE

SEE SHEETS 15, 16, 17 AND 19 FOR UNDERGROUND UTILITY INFORMATION

CALCULATED 0 25 50 100
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HORIZONTAL SCALE IN FEET

PLAN – S.R. 39 (JACKSON STREET)
STA 3+50 TO STA 16+50

HOL–39–17.36

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19

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ITEM	SHEET NUMBER 2	3	4	8	13	14	CALC.	PARTICIPATION	ITEM	ITEM EXTENSION	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHT NO.
													TRAFFIC CONTROL	
603		480							603	00400	480	LIN. FT.	4" CONDUIT, TYPE E	
625					1133				625	25402	1133	LIN. FT.	CONDUIT, 2", 713.07	
625					779				625	25502	779	LIN. FT.	CONDUIT, 3", 713.07	
625					622				625	29500	622	LIN. FT.	TRENCH IN PAVED AREA, TYPE A	
625					534				625	29600	534	LIN. FT.	TRENCH IN PAVED AREA, TYPE B	
625					6				625	31100	6	EACH	PULL BOX, 713.081, 10" x 14"	
625					7				625	31320	7	EACH	PULL BOX, 713.081, 18" x 18"	
625					13				625	32000	13	EACH	GROUND ROD	
630														
630														
630														
630				8					630	79100	8	EACH	SIGN HANGER ASSEMBLY, MAST ARM	
630				24					630	79500	24	EACH	SIGN SUPPORT ASSEMBLY, POLE MOUNTED	
630				58					630	80102	58	SQ. FT.	SIGN, FLAT SHEET, TYPE G	
630														3
630														
630														
630														
632					20				632	00301	20	EACH	VEHICULAR SIGNAL HEAD, 3 SECTION, 12" LENS, 1-WAY, AS PER PLAN	3
632					4				632	00501	4	EACH	VEHICULAR SIGNAL HEAD, 5 SECTION, 12" LENS, 1-WAY, AS PER PLAN	3
632					24				632	20601	24	EACH	PEDESTRIAN SIGNAL HEAD, TYPE D2, AS PER PLAN	3
632					24				632	26000	24	EACH	PEDESTRIAN PUSHBUTTON	
632					8				632	26500	8	EACH	DETECTOR LOOP	
632					8				632	27009	8	EACH	LOOP DETECTOR UNIT, DELAY AND EXTENSION TYPE, AS PER PLAN	3
632					423				632	40200	423	LIN. FT.	SIGNAL CABLE, 2 CONDUCTOR, NO. 14 AWG	
632					877				632	40300	877	LIN. FT.	SIGNAL CABLE, 3 CONDUCTOR, NO. 14 AWG	
632					1400				632	40500	1400	LIN. FT.	SIGNAL CABLE, 5 CONDUCTOR, NO. 14 AWG	
632					1000				632	40700	1000	LIN. FT.	SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG	
632					1066				632	41200	1066	LIN. FT.	SIGNAL CABLE, 12 CONDUCTOR, NO. 14 AWG	
632					784				632	53203	784	LIN. FT.	INTERCONNECT CABLE, 6 PAIR, NO. 19 AWG, SOLID, REA (PE-39), AS PER PLAN	3
632					6				632	64010	6	EACH	SIGNAL support FOUNDATION	
632					6				632	64020	6	EACH	PEDESTAL FOUNDATION	
632						585			632	65300	585	LIN. FT.	LOOP DETECTOR LEAD-IN CABLE, 2 CONDUCTOR, NO. 14 AWG	
632						850			632	69320	850	LIN. FT.	POWER CABLE, 3 CONDUCTOR, NO. 2 AWG	
632						1			632	70001	1	EACH	POWER SERVICE, AS PER PLAN	3
632						2			632	81011	2	EACH	COMBINATION SIGNAL SUPPORT, TYPE TC-12.30, DESIGN 5, AS PER PLAN	3
632						1			632	81021	1	EACH	COMBINATION SIGNAL SUPPORT, TYPE TC-12.30, DESIGN 6, AS PER PLAN	3
632						2			632	81401	2	EACH	COMBINATION SIGNAL SUPPORT, TYPE TC-81.20, DESIGN 4, AS PER PLAN	3
632						1			632	81601	1	EACH	COMBINATION SIGNAL SUPPORT, TYPE TC-81.20, DESIGN 12, AS PER PLAN	3
632						6			632	89600	6	EACH	PEDESTAL, 8'	
632						3			632	90101	3	EACH	REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN	3
633						3			633	34001	3	EACH	CONTROLLER, TYPE 170E, WITH MODEL 336 CABINET AND ACCESSORIES	3
633						3			633	40100	3	EACH	CONTROLLER, MISC.: MASTER/SECONDARY COORDINATOR, AS PER PLAN	3
633						1.00			633	70000	1.00	C.Y.	CONCRETE FOR CABINET FOUNDATION	
633						3			633	99000	3	EACH	CONTROLLER ITEM, MISC.: PREEMPT PHASE SELECTOR	4
633						8			633	99000	8	EACH	CONTROLLER ITEM, MISC.: PREEMPTION DETECTOR	4
633						8			633	99000	8	EACH	CONTROLLER ITEM, MISC.: PREEMPT CONFIRMATION LIGHT	4
633			5						633	99000	5	EACH	CONTROLLER ITEM, MISC.: PREEMPTION EMITTER	4
633						1044			633	99100	1044	LIN. FT.	CONTROLLER ITEM, MISC.: SIGNAL CABLE: PREEMPTION DETECTOR, 4 CONDUCTOR, NO. 20 AWG	4
642														
642														
642														
642														
642														
642														
642														

CALCULATED

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GENERAL SUMMARY

HOL-39-17.36

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ITEM	SHEET NUMBER 2	3	4	13	14	CALC.	PARTICIPATION	ITEM	ITEM EXTENSION	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHT NO.
												MAINTENANCE OF TRAFFIC	
614	LUMP							614	11000	LUMP		MAINTAINING TRAFFIC	
623								623	10000	LUMP		CONSTRUCTION LAYOUT STAKES	
624								624	10000	LUMP		MOBILIZATION	
103.05								103.05		LUMP		REQUIREMENT OF CONTRACT BOND	

CALCULATED

CHECKED

GENERAL SUMMARY

HOL-39-17.36

e:\tailers\3867.10\cadd\GS02 Thu May 15 10:12:45 1997

| SHEET NO. | LOCATION | PROPOSED STATION | SIDE | CODE | SIZE (IN) | | |

SHEET NO.	LOCATION (SEE SHEETS 15, 16 AND 17 FOR ADDITIONAL INFORMATION ON STREET NAME (N., S., E. OR W.) AND ADDITIONAL STATE OR FEDERAL ROUTES)	SIDE	625 CONDUIT, 2", 713.07	625 CONDUIT, 3", 713.07	625 TRENCH IN PAVED AREA, TYPE A	625 TRENCH IN PAVED AREA, TYPE B	625 PULL BOX, 713.081, 10" X 14"	625 PULL BOX, 713.081, 18" X 18"	625 GROUND ROD
			LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	EACH	EACH	EACH
15	PB1 (6+50.91)	RT					1		
15	PB2 (6+97.93)	LT						1	
15	PB3 (6+53.20)	LT						1	
15	PB4 (7+03.56)	RT					1		
15	P1								1
15	P2								1
15	PD1								1
15	PD2								1
15	PB1 TO P1		7		7				
15	PB4 TO PD2		4		4				
15	PB3 TO PD1		5		5				
15	PB1 TO PB4			53		53			
15	PB2 TO P2			9	9				
15	PB2 TO PB4			65		65			
16	PB1 (9+65.51)	RT					1		
16	PB2 (10+28.23)	LT						1	
16	PB3 (10+48.33)	RT					1		
16	PB4 (9+65.93)	LT						1	
16	P1								1
16	P2								1
16	PD1								1
16	PD2								1
16	CONT.								1
16	PB4 TO PD2		6		6				
16	PB3 TO PD1		3		3				
16	PB1 TO P1		8		8				
16	PB2 TO CONT.			12	12				
16	PB4 TO PB1			61		61			
16	PB2 TO PB3			70		70			
16	PB2 TO P2		6		6				
17	PB1 (13+42.60)	RT						1	
17	PB2 (12+95.93)	LT						1	
17	PB3 (13+56.13)	LT					1		
17	PB4 (13+03.96)	RT						1	
17	PB5 (12+90.96)	RT					1		
17	P1								1
17	P2								1
17	PD1								1
17	PD2								1
17	PB4 TO PD2		5		5				
17	PB3 TO PD1		9		9				
17	PB2 TO P2		6		6				
17	PB1 TO P1			5	5				
17	PB1 TO PB3			66		66			
19	WASHINGTON ST. TO S.R. 83 (CLAY ST.) TO MONROE ST.		1074	438	537	219			
			1133	779	622	534	6	7	13
	TOTALS CARRIED TO GENERAL SUMMARY		1133	779	622	534	6	7	13

SHEET NO.	LOCATION (SEE SHEETS 15, 16 AND 17 FOR ADDITIONAL INFORMATION ON STREET NAME (N., S., E. OR W.) AND ADDITIONAL STATE OR FEDERAL ROUTES)	SIDE	632 VEHICULAR SIGNAL HEAD, 3 SECTION, 12" LENS, 1 WAY, AS PER PLAN	632 VEHICULAR SIGNAL HEAD, 3 SECTION, 12" LENS, 1 WAY, AS PER PLAN	632 PEDESTRIAN SIGNAL HEAD, TYPE D2, AS PER PLAN	632 PEDESTRIAN PUSHBUTTON	632 DETECTOR LOOP	632 LOOP DETECTOR UNIT, DELAY AND EXTENSION TYPE, AS PER PLAN	632 SIGNAL CABLE, 2 CONDUCTOR, NO. 14 AWG
			EACH	EACH	EACH	EACH	EACH	EACH	LIN. FT.
15	A		1						
15	B		1						
15	C		1						
15	D		1						
15	E		1						
15	F		1						
15	G		1						
15	H		1						
15	W-W				2	2			
15	X-X				2	2			
15	Y-Y				2	2			
15	Z-Z				2	2			
15	L-1						1		
15	L-2						1		
15	WASHINGTON ST.							2	
15, 16 AND 19	WASHINGTON ST. TO S.R. 83 (CLAY ST.)								423
16	A		1						
16	B			1					
16	C		1						
16	D			1					
16	E		1						
16	F		1						
16	G		1						
16	H		1						
16	W-W				2	2			
16	X-X				2	2			
16	Y-Y				2	2			
16	Z-Z				2	2			
16	L-1						1		
16	L-2						1		
16	L-3						1		
16	L-4						1		
16	S.R. 83 (CLAY ST.)							4	
17	A		1						
17	B		1						
17	C		1						
17	D		1						
17	E		1						
17	F		1						
17	G		1						
17	H		1						
17	W-W				2	2			
17	X-X				2	2			
17	Y-Y				2	2			
17	Z-Z				2	2			
17	L-1						1		
17	L-2						1		
17	MONROE ST.							2	
	TOTALS		22	2	24	24	8	8	423
	TOTALS CARRIED TO GENERAL SUMMARY		22	2	24	24	8	8	423

SHEET NO.	LOCATION (SEE SHEETS 15, 16 AND 17 FOR ADDITIONAL INFORMATION ON STREET NAME (N., S., E. OR W.) AND ADDITIONAL STATE OR FEDERAL ROUTES)	SIDE	632 SIGNAL CABLE 3 CONDUCTOR, NO. 14 AWG	632 SIGNAL CABLE 5 CONDUCTOR, NO. 14 AWG	632 SIGNAL CABLE 7 CONDUCTOR, NO. 14 AWG	632 SIGNAL CABLE 12 CONDUCTOR, NO. 14 AWG	632 INTERCONNECT CABLE, 6 PAIR, NO. 19 AWG, SOLID, REA (PE-39), AS PER PLAN	632 SIGNAL SUPPORT FOUNDATION	632 PEDESTAL FOUNDATION
			LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	EACH	EACH
15	PD1 (6+47.78)	LT							1
15	PD2 (7+07.67)	RT							1
15	P1 (6+56.22)	RT						1	
15	P2 (7+00.43)	LT						1	
15	CONT. TO X,Y					10			
15	CONT. TO PB2 TO PB3 TO PD1 TO W,X					81			
15	CONT. TO PB2 TO PB4 TO PB1 TO P1 TO W,Z					157			
15	CONT. TO PB2 TO PB4 TO PD2 TO Y,Z					101			
15	CONT. TO D				50				
15	CONT. TO PB2 TO PB4 TO PB1 TO P1 TO B				200				
15	CONT. TO PCL2		30						
15	CONT. TO PB2 TO PB4 TO PB1 TO P1 TO PCL1		174						
15	CONT. TO C			64					
15	CONT. TO G TO H			45					
15	CONT. TO PB2 TO PB4 TO PB1 TO P1 TO E TO F			184					
15	CONT. TO PB2 TO PB4 TO PB1 TO P1 TO A			214					
15, 16, 17 AND 19	WASHINGTON ST. TO S.R. 83 (CLAY ST.) TO MONROE ST.						784		
16	PD1 (10+48.76)	RT							1
16	PD2 (9+70.28)	LT							1
16	P1 (9+56.91)	RT						1	
16	P2 (10+29.58)	LT						1	
16	CONT. TO PB2 TO P2 TO Y,Z					36			
16	CONT. TO PB2 TO PB4 TO PD2 TO W,Z					94			
16	CONT. TO PB2 TO PB4 TO PB1 TO P1 TO W,X					157			
16	CONT. TO PB2 TO PB3 TO PD1 TO X,Y					99			
16	CONT. TO PB2 TO P2 TO D				91				
16	CONT. TO PB2 TO PB4 TO PB1 TO P1 TO B				200				
16	CONT. TO PB2 TO P2 TO PCL3		55						
16	CONT. TO PB2 TO P2 TO PCL4		55						
16	CONT. TO PB2 TO PB4 TO PB1 TO P1 TO PCL1		176						
16	CONT. TO PB2 TO PB4 TO PB1 TO P1 TO PCL2		176						
16	CONT. TO PB2 TO P2 TO G TO H			76					
16	CONT. TO PB2 TO P2 TO C			80					
16	CONT. TO PB2 TO PB4 TO PB1 TO P1 TO A			211					
16	CONT. TO PB2 TO PB4 TO PB1 TO P1 TO E TO F			213					
17	PD1 (13+50.51)	LT							1
17	PD2 (13+02.48)	RT							1
17	P1 (13+42.65)	RT						1	
17	P2 (12+99.68)	LT						1	
17	CONT. TO Y,Z					10			
17	CONT. TO PB1 TO PB4 TO PB5 TO PB2 TO P2 TO W,X					146			
17	CONT. TO PB1 TO PB3 TO PD1 TO X,Y					99			
17	CONT. TO PB1 TO PB4 TO PD2 TO W,Z					76			
17	CONT. TO D				62				
17	CONT. TO PB1 TO PB4 TO PB5 TO PB2 TO P2 TO B				195				
17	CONT. TO C			50					
17	CONT. TO E TO F			64					
17	CONT. TO PB1 TO PB4 TO PB5 TO PB2 TO P2 TO H TO G			192					
17	CONT. TO PB1 TO PB4 TO PB5 TO PD2 TO P2 TO A			183					
17	CONT. TO PCL1		40						
17	CONT. TO PB1 TO PB4 TO PB5 TO PB2 TO P2 TO PCL2		171						
	TOTALS		877	1576	798	1066	784	6	6
	TOTALS CARRIED TO GENERAL SUMMARY		877	1576	798	1066	784	6	6

CALCULATED

CHECKED

SIGNALIZATION SUB-SUMMARY

HOL-39-17.36

Thu May 15 10:15:29 1997

632

SHEET NO.	LOCATION (SEE SHEETS 15, 16 AND 17 FOR ADDITIONAL INFORMATION ON STREET NAME (N., S., E. OR W.) AND ADDITIONAL STATE OR FEDERAL ROUTES)	SIDE	LOOP DETECTOR LEAD-IN CABL, 2 CONDUCTOR, NO. 14 AWG	POWER CABLE, 3 CONDUCTOR, NO. 2 AWG	POWER SERVICE, AS PER PLAN	COMBINATION SIGNAL SUPPORT, TYPE TC-12.30, DESIGN 5, AS PER PLAN	COMBINATION SIGNAL SUPPORT, TYPE TC-12.30, DESIGN 6, AS PER PLAN	COMBINATION SIGNAL SUPPORT, TYPE TC-81.20, DESIGN 4, AS PER PLAN	COMBINATION SIGNAL SUPPORT, TYPE TC-81.20, DESIGN 12, AS PER PLAN	PEDESTAL, 8'	REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN
			LIN. FT.	LIN. FT.	EACH	EACH	EACH	EACH	EACH	EACH	EACH
15	CONT. TO PB2 TO PB3		68								
15	CONT. TO PB2 TO PB4		89								
15	P1 (6+56.22)	RT.				1					
15	P2 (7+00.43)	LT.							1		
15	PD1 (6+47.78)	LT.								1	
15	PD2 (7+07.68)	RT.								1	
15	WASHINGTON ST.										1
16	CONT. TO PB2		44								
16	CONT. TO PB2 TO PB4 TO PB1		141								
16	CONT. TO PB2 TO PB3		91								
16	P1 (9+56.91)	RT.					1				
16	P2 (10+29.58)	LT.				1					
16	PD1 (10+48.76)	RT.								1	
16	PD2 (9+70.28)	LT.								1	
16	S.R. 83 (CLAY ST.)										1
17	CONT. TO PB1		20								
17	CONT. TO PB1 TO PB4 TO PB5 TO PB2		132								
17	P1 (13+42.65)	RT.						1			
17	P2 (12+99.68)	LT.						1			
17	PD1 (13+50.51)	LT.								1	
17	PD2 (13+02.48)	RT.								1	
17	MONROE ST.										1
15–17 AND 19	VILLAGE HALL TO WASHINGTON ST. TO S.R. 83 (CLAY ST.) TO MONROE ST.			850	1						
	TOTALS		585	850	1	2	1	2	1	6	3
	TOTALS CARRIED TO GENERAL SUMMARY		585	850	1	2	1	2	1	6	3

633

SHEET NO.	LOCATION (SEE SHEETS 15, 16 AND 17 FOR ADDITIONAL INFORMATION ON STREET NAME (N., S., E. OR W.) AND ADDITIONAL STATE OR FEDERAL ROUTES)	SIDE	CONTROLLER TYPE/DTE WITH 336 CABINET AND ACCESSORIES	CONTROLLER, MISC.: MASTER/SECONDARY COORDINATOR, AS PER PLAN	CONCRETE FOR CABINET FOUNDATION	CONTROLLER ITEM, MISC.: PREMPT PHASE SELECTOR	CONTROLLER ITEM, MISC.: PREMPTION DETECTOR	CONTROLLER ITEM, MISC.: PREMPT CONFIRMATION LIGHT	CONTROLLER ITEM, MISC.: SIGNAL CABLE, PREMPTION DETECTOR, 4 CONDUCTOR, NO. 20 AWG
			EACH	EACH	C.Y.	EACH	EACH	EACH	LIN. FT.
15	CONT. (7+00.43)		1	1		1			
15	I						1		
15	J						1		
15	PCL1							1	
15	PCL2							1	
15	CONT. TO J								57
15	CONT. TO PB2 TO PB4 TO PB1 TO P1 TO I								214
16	CONT. (10+29.67)		1	1	1.00	1			
16	I						1		
16	J						1		
16	K						1		
16	L						1		
16	PCL1							1	
16	PCL2							1	
16	PCL3							1	
16	PCL4							1	
16	CONT. TO PB2 TO P2 TO J								86
16	CONT. TO PB2 TO P2 TO L								61
16	CONT. TO PB2 TO PB4 TO PB1 TO P1 TO K								197
16	CONT. TO PB2 TO PB4 TO PB1 TO P1 TO I								205
17	CONT. (13+42.65)		1	1		1			
17	I						1		
17	J						1		
17	PCL1							1	
17	PCL2							1	
17	CONT. TO J								45
17	CONT. TO PB1 TO PB4 TO PB5 TO PB2 TO P2 TO I								179
	TOTALS		3	3	1.00	3	8	8	1044
	TOTALS CARRIED TO GENERAL SUMMARY		3	3	1.00	3	8	8	1044

SHEET NO.	LOCATION (SEE SHEETS 15, 16 AND 17 FOR ADDITIONAL INFORMATION ON STREET NAME (N., S., E. OR W.) AND ADDITIONAL STATE OR FEDERAL ROUTES)	SIDE					
	TOTALS						
	TOTALS CARRIED TO GENERAL SUMMARY						

CALCULATED

CHECKED

SIGNALIZATION SUB-SUMMARY

HOL-39-17.36

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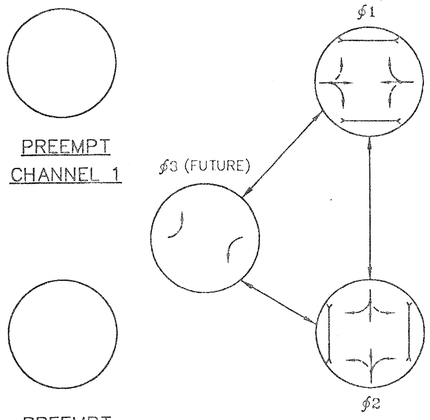
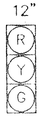


PHASING DIAGRAM

LEGEND:	PROPOSED
MAST ARM SIGNAL SUPPORT	
PEDESTAL WITH PED. HEAD	
SIGNAL HEAD	
PULLBOX	
CONTROLLER CABINET	
LOOP DETECTORS	
1-POST SIGN	
2-POST SIGN	
PREEMPT DETECTOR	
PREEMPT CONFIRMATION LIGHT	PCL
ARM-MOUNTED SIGN	T
PED. PUSHBUTTON	PPB
INTERCONNECT CONDUIT-X INCH	X"C INTERCONNECT
CONDUIT - X INCH	X"C

SIGNAL HEAD	ϕ1 R/W	ϕ1 CLEAR			ϕ2 R/W	ϕ2 CLEAR			ϕ3 R/W	ϕ3 CLEAR			FLASH	DWELL
A	G	G	Y	R	R	R	R	R					Y	G
B	G	G	Y	R	R	R	R	R					Y	G
C	G	G	Y	R	R	R	R	R					Y	G
D	G	G	Y	R	R	R	R	R					Y	G
E	R	R	R	R	G	G	Y	R					R	R
F	R	R	R	R	G	G	Y	R					R	R
G	R	R	R	R	G	G	Y	R					R	R
H	R	R	R	R	G	G	Y	R					R	R
W-W	DW	DW	DW	DW	W	FDW	DW	DW					OUT	DW
X-X	W	FDW	DW	DW	DW	DW	DW	DW					OUT	DW
Y-Y	DW	DW	DW	DW	W	FDW	DW	DW					OUT	DW
Z-Z	W	FDW	DW	DW	DW	DW	DW	DW					OUT	DW

SIGNAL SEQUENCE CHART



A,B,C,D,
E,F,G,H

VEHICULAR SIGNAL HEADS

W-W, X-X,
Y-Y, Z-Z

PEDESTRIAN SIGNAL HEADS

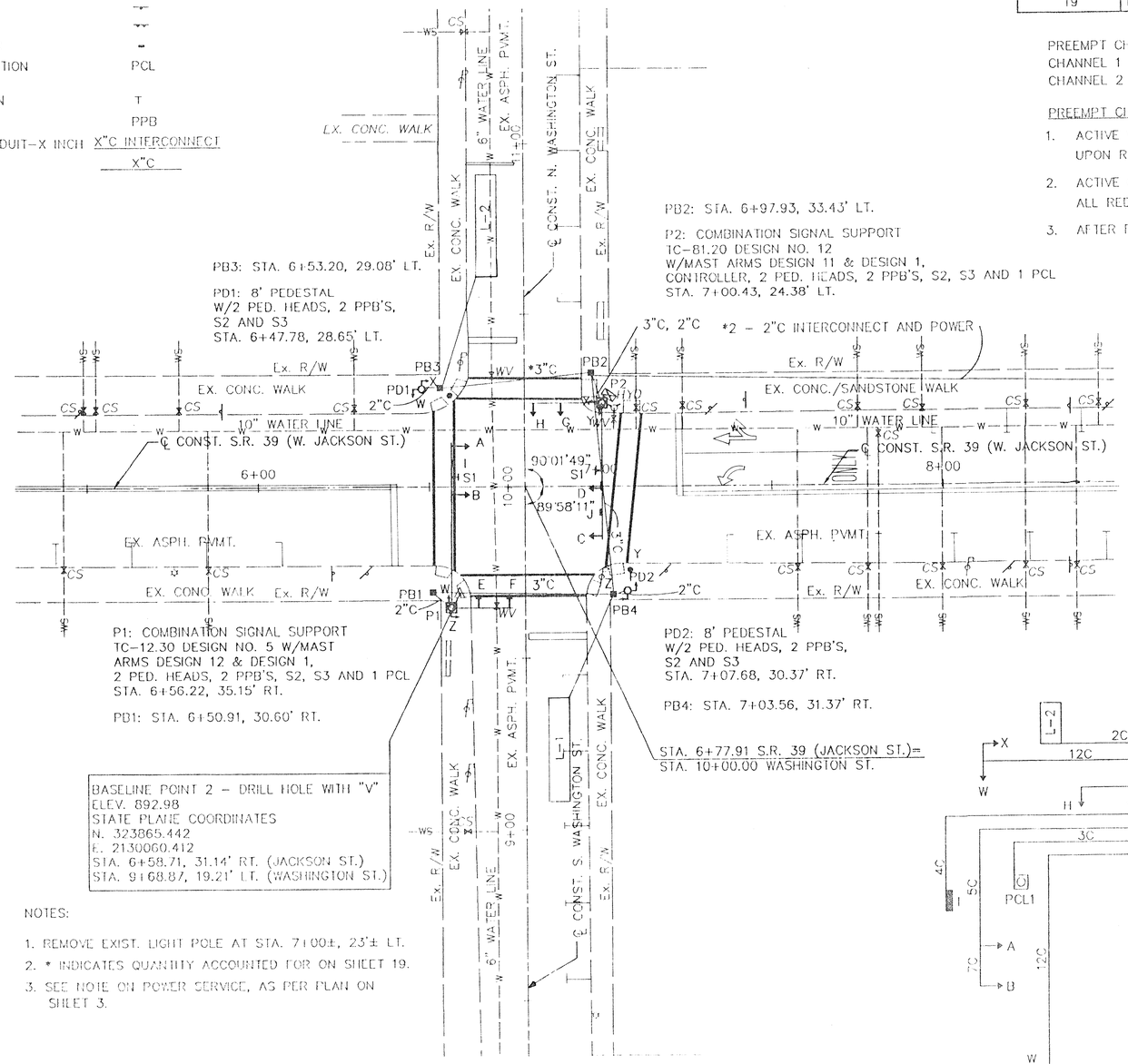
S1
R-25F-24

S2
R-73EL-9

S3
R-73ER-9

FUNCTION	ϕ1	ϕ2
INITIAL		10.0
MINIMUM GREEN	20.0	–
VEHICLE EXTENSION	–	2.5
MAXIMUM GREEN	–	17.0
PEDESTRIAN WALK	6.0	6.0
PEDESTRIAN CLEARANCE	10.0	10.0
VEHICLE YELLOW CLEARANCE	4.0	4.0
VEHICLE ALL RED CLEARANCE	1.0	1.0
RECALL – PED	ON	OFF
MEMORY	ON	OFF

SIGNAL TIMING CHART



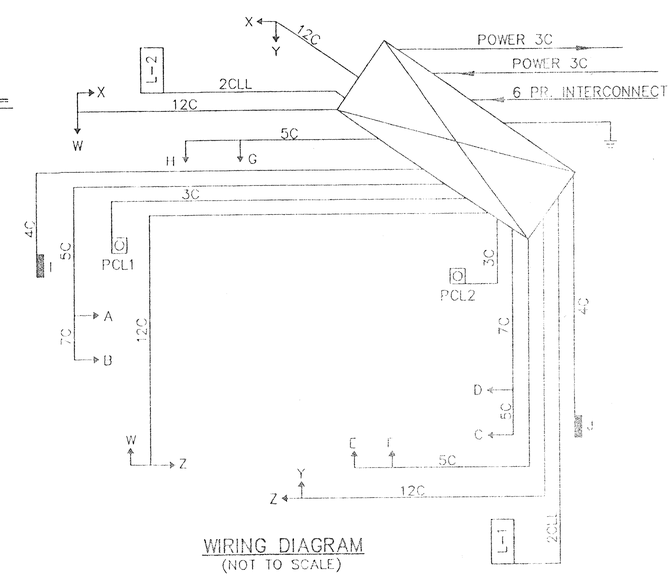
BASELINE POINT 2 - DRILL HOLE WITH "V"
ELEV. 892.98
STATE PLANE COORDINATES
N. 323865.442
E. 2130060.412
STA. 6+58.71, 31.14' RT. (JACKSON ST.)
STA. 9+68.87, 19.21' LT. (WASHINGTON ST.)

NOTES:

1. REMOVE EXIST. LIGHT POLE AT STA. 7+00±, 23'± LT.
2. * INDICATES QUANTITY ACCOUNTED FOR ON SHEET 19.
3. SEE NOTE ON POWER SERVICE, AS PER PLAN ON SHEET 3.

LOOP	SIZE	TURNS	MODE	DELAY	PHASE	REMARK	INHIBITED DELAY	LOOP LOCATION
L-1	6x30	2	PRESENCE	8.0	ϕ2	DELAY & EXTENSION	YES	STA. 6+84.48, 61.72' RT.
L-2	6x30	2	PRESENCE	8.0	ϕ2	DELAY & EXTENSION	YES	STA. 6+69.87, 61.07' LT.

LOOP DETECTOR CHART



WIRING DIAGRAM
(NOT TO SCALE)

CROSS REFERENCES	
SHEET	DESCRIPTION
2-4A	GENERAL NOTES
13-14	SIGNALIZATION SUB-SUMMARY
18	TRAFFIC SIGNAL PLAN DETAILS
19	INTERCONNECT PLAN

PREEMPT CHANNELS:
CHANNEL 1 = ALL RED ALL DIRECTIONS
CHANNEL 2 = FUTURE

PREEMPT CHANNEL 1 NOTES:

1. ACTIVE WALK INDICATIONS SHALL IMMEDIATELY GO TO "DON'T WALK" UPON RECEIVING PREEMPTION SIGNAL.
2. ACTIVE GREEN PHASE SHALL IMMEDIATELY TIME ITS YELLOW AND ALL RED CLEARANCES WHEN PREEMPT PHASE IS CALLED.
3. AFTER RELEASE FROM PREEMPT, RETURN PHASE SHALL BE ϕ1.

CALCULATED 0 10 20 40 HORIZONTAL SCALE IN FEET
CHECKED

TRAFFIC SIGNAL PLAN
INTERSECTION OF JACKSON ST. AND WASHINGTON ST.

HOL-39-17.36

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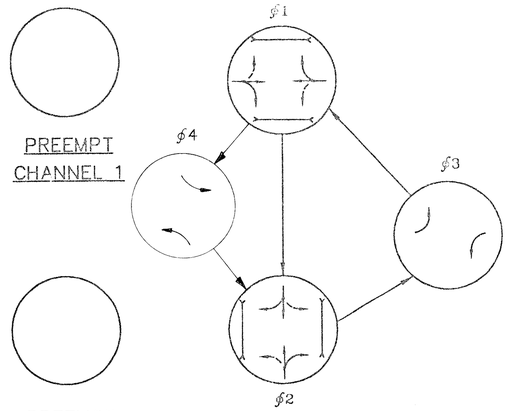

PHASING DIAGRAM

LEGEND:	PROPOSED
MAST ARM SIGNAL SUPPORT	
PEDESTAL WITH PED. HEAD	
SIGNAL HEAD	
PULLBOX	
CONTROLLER CABINET	
LOOP DETECTORS	
1-POST SIGN	
2-POST SIGN	
PREEMPT DETECTOR	
PREEMPT CONFIRMATION LIGHT	PCL
ARM-MOUNTED SIGN	T
PED. PUSHBUTTON	PPB
INTERCONNECT CONDUIT-X INCH	X"C INTERCONNECT
CONDUIT-X INCH	X"C

CROSS REFERENCES	
SHEET	DESCRIPTION
2-4A	GENERAL NOTES
13-14	SIGNALIZATION SUB-SUMMARY
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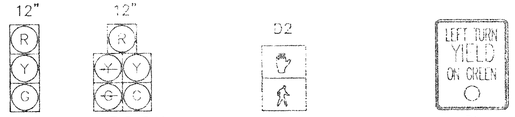
3. AFTER RELEASE FROM PREEMPT, RETURN PHASE SHALL BE ϕ1.

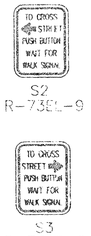
SIGNAL HEAD	ϕ1 R/W	ϕ1 CLEAR			ϕ2 R/W	ϕ2 CLEAR			ϕ3 R/W	ϕ3 CLEAR			ϕ4 R/W	ϕ4 CLEAR			FLASH	DWELL
A	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	Y	G
B	G	G	Y	R	R	R	R	R	~~G~~	~~G~~	~~Y~~	~~Y~~	R	R	R	R	Y	G
C	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	Y	G
D	G	G	Y	R	R	R	R	R	~~G~~	~~G~~	~~Y~~	~~Y~~	R	R	R	R	Y	G
E	R	R	R	R	G	G	Y	R	R	R	R	R	R	R	R	R	R	R
F	R	R	R	R	G	G	Y	R	R	R	R	R	~~G~~	~~G~~	~~Y~~	~~Y~~	R	R
G	R	R	R	R	G	G	Y	R	R	R	R	R	R	R	R	R	R	R
H	R	R	R	R	G	G	Y	R	R	R	R	R	~~G~~	~~G~~	~~Y~~	~~Y~~	R	R
W-W	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OUT	DW
X-X	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OUT	DW
Y-Y	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OUT	DW
Z-Z	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OUT	DW

SIGNAL SEQUENCE CHART



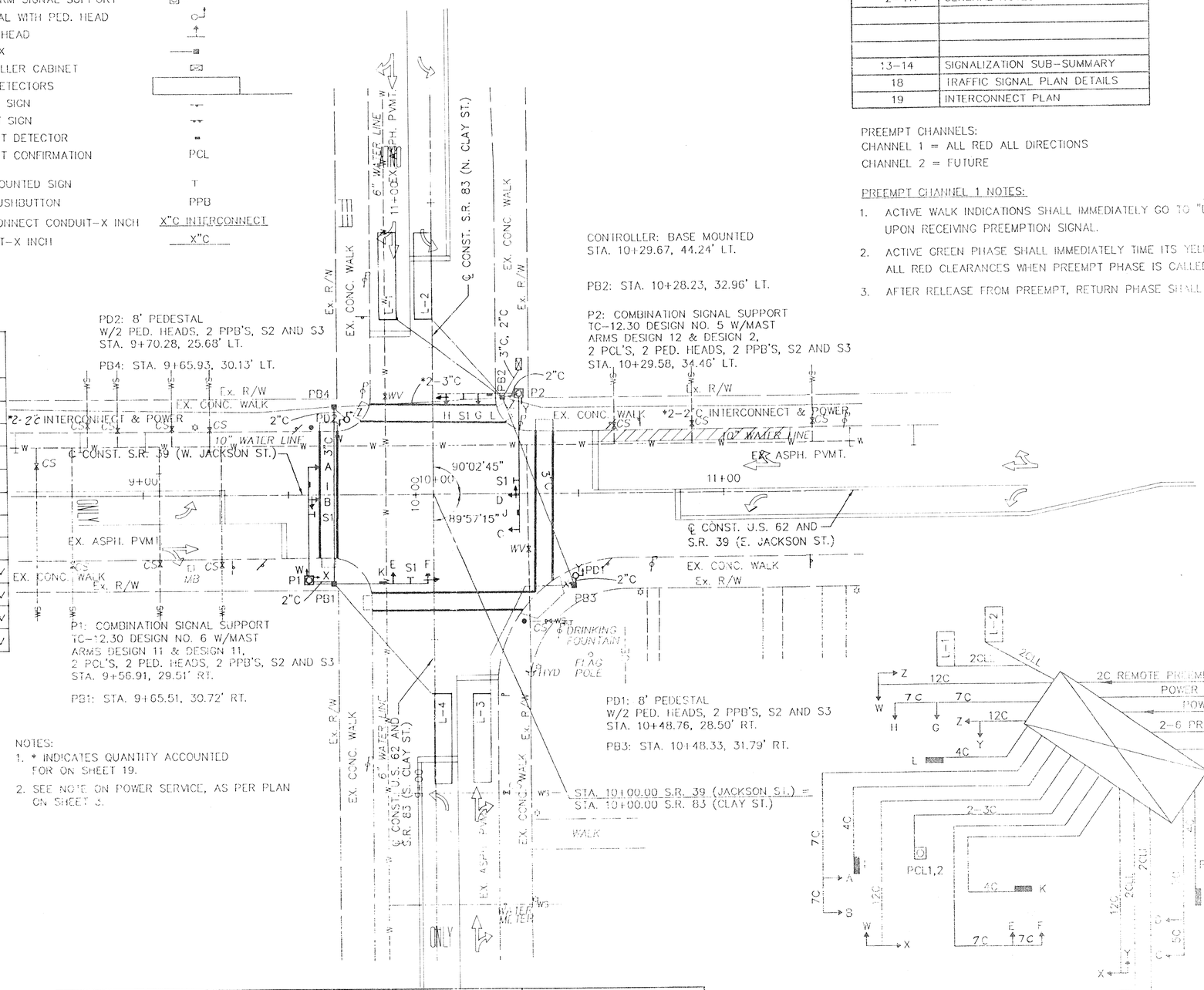
VEHICULAR SIGNAL HEADS

PEDESTRIAN SIGNAL HEADS



FUNCTION	ϕ1	ϕ2	ϕ3	ϕ4
INITIAL		10.0		
MINIMUM GREEN	19.0	–	10.0	10.0
VEHICLE EXTENSION	–	2.5	–	
MAXIMUM GREEN	–	18.0	10.0	10.0
PEDESTRIAN WALK	6.0	6.0	–	–
PEDESTRIAN CLEARANCE	10.0	10.0	–	–
VEHICLE YELLOW CLEARANCE	4.0	4.0	3.0	3.0
VEHICLE ALL RED CLEARANCE	1.0	1.0	0.0	0.0
RECALL	ON	OFF	ON	ON
MEMORY	ON	OFF	ON	ON

SIGNAL TIMING CHART

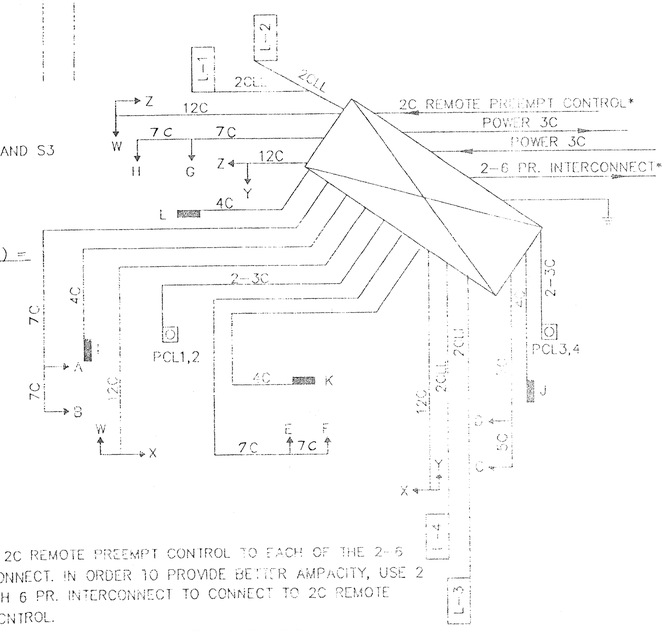


NOTES:

1. * INDICATES QUANTITY ACCOUNTED FOR ON SHEET 19.
2. SEE NOTE ON POWER SERVICE, AS PER PLAN ON SHEET 3.

LOOP	SIZE	TURNS	MODE	DELAY	PHASE	REMARK	INHIBITED DELAY	LOOP LOCATION
L-1	6x30	2	PRESENCE	8.0	ø2	DELAY & EXTENSION	YES	STA. 9+87.50, 59.83' LT.
L-2	6x30	2	PRESENCE	8.0	ø2	DELAY & EXTENSION	YES	STA. 9+99.85, 59.83' LT.
L-3	6x30	2	PRESENCE	8.0	ø2	DELAY & EXTENSION	YES	STA. 10+13.19, 70.11' RT.
L-4	6x30	2	PRESENCE	8.0	ø2	DELAY & EXTENSION	YES	STA. 9+99.79, 70.11' RT.

LOOP DETECTOR CHART



* CONNECT 2C REMOTE PREEMPT CONTROL TO EACH OF THE 2-6 PR. INTERCONNECT. IN ORDER TO PROVIDE BETTER AMPACITY, USE 2 PR. OF EACH 6 PR. INTERCONNECT TO CONNECT TO 2C REMOTE PREEMPT CONTROL.

WIRING DIAGRAM
(NOT TO SCALE)

CALCULATED 0 10 20 40 HORIZONTAL SCALE IN FEET
CHECKED

TRAFFIC SIGNAL PLAN
INTERSECTION OF JACKSON ST. AND CLAY ST.

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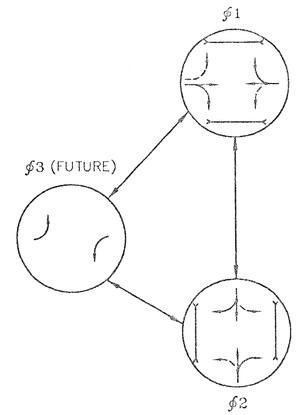
PREEMPT CHANNEL 1

PREEMPT CHANNEL 2



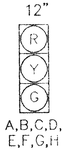
PHASING DIAGRAM

LEGEND:

	PROPOSED
MAST ARM SIGNAL SUPPORT	
PEDESTAL WITH PED. HEAD	
SIGNAL HEAD	
PULLBOX	
CONTROLLER CABINET	
LOOP DETECTORS	
1-POST SIGN	
2-POST SIGN	
PREEMPT DETECTOR	
PREEMPT CONFIRMATION LIGHT	PCL
ARM-MOUNTED SIGN	T
PED. PUSHBUTTON	PPB
INTERCONNECT CONDUIT-X INCH	X"C INTERCONNECT
CONDUIT-X INCH	X"C

SIGNAL HEAD	ϕ1 R/W		ϕ1 CLEAR		ϕ2 R/W		ϕ2 CLEAR		ϕ3 R/W		ϕ3 CLEAR		FLASH	DWELL
A	G	G	Y	R	R	R	R	R					Y	G
B	G	G	Y	R	R	R	R	R					Y	G
C	G	G	Y	R	R	R	R	R					Y	G
D	G	G	Y	R	R	R	R	R					Y	G
E	R	R	R	R	G	G	Y	R					R	R
F	R	R	R	R	G	G	Y	R					R	R
G	R	R	R	R	G	G	Y	R					R	R
H	R	R	R	R	G	G	Y	R					R	R
W-W	DW	DW	DW	DW	W	FDW	DW	DW					OUT	DW
X-X	W	FDW	DW	DW	DW	DW	DW	DW					OUT	DW
Y-Y	DW	DW	DW	DW	W	FDW	DW	DW					OUT	DW
Z-Z	W	FDW	DW	DW	DW	DW	DW	DW					OUT	DW

SIGNAL SEQUENCE CHART



A,B,C,D, E,F,G,H

VEHICULAR SIGNAL HEADS

W-W, X-X, Y-Y, Z-Z

PEDESTRIAN SIGNAL HEADS

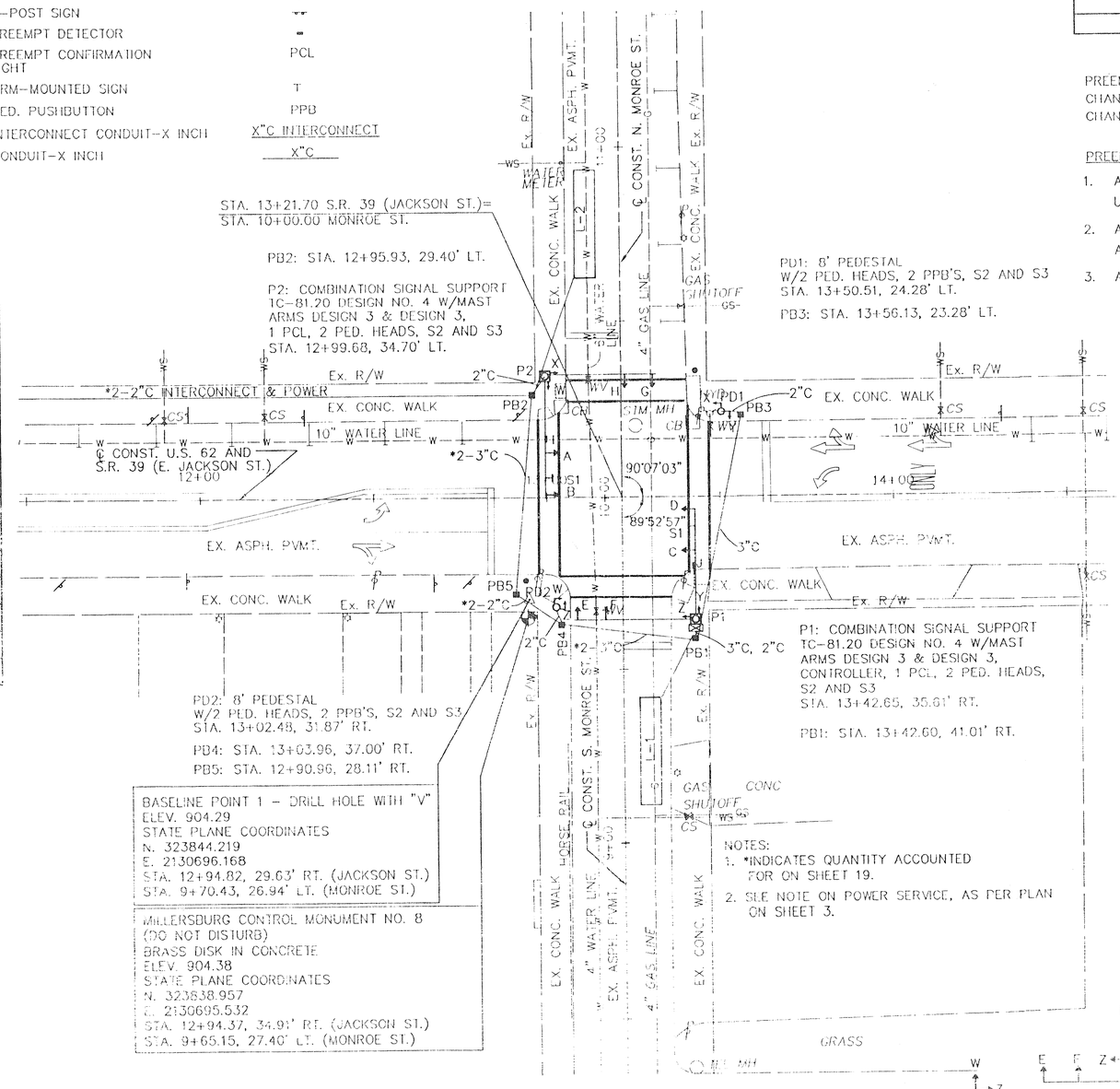
S1
R-25F-24

S2
R-73EL-9

S3
R-73ER-9

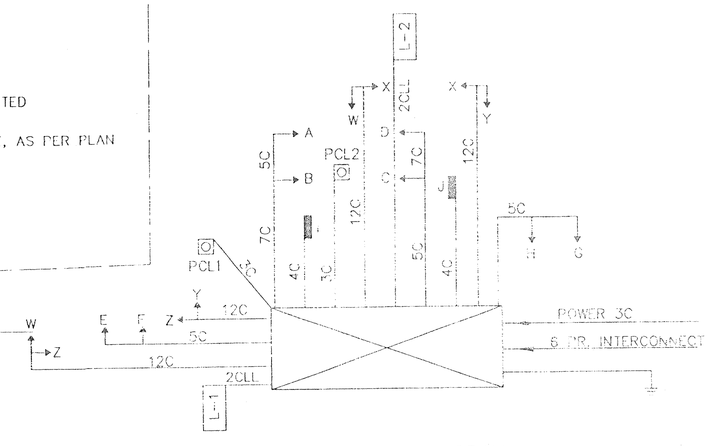
FUNCTION	ϕ1	ϕ2
INITIAL		10.0
MINIMUM GREEN	20.0	–
VEHICLE EXTENSION	–	2.5
MAXIMUM GREEN	–	17.0
PEDESTRIAN WALK	6.0	6.0
PEDESTRIAN CLEARANCE	10.0	10.0
VEHICLE YELLOW CLEARANCE	4.0	4.0
VEHICLE ALL RED CLEARANCE	1.0	1.0
RECALL	ON	OFF
MEMORY	ON	OFF

SIGNAL TIMING CHART



LOOP	SIZE	TURNS	MODE	DELAY	PHASE	REMARK	INHIBITED DELAY	LOOP LOCATION
L-1	6x30	2	PRESENCE	8.0	ϕ2	DELAY & EXTENSION	YES	STA. 13+26.39, 58.97' RT.
L-2	6x30	2	PRESENCE	8.0	ϕ2	DELAY & EXTENSION	YES	STA. 13+14.49, 63.29' LT.

LOOP DETECTOR CHART



WIRING DIAGRAM
(NOT TO SCALE)

CROSS REFERENCES

SHEET	DESCRIPTION
2-4A	GENERAL NOTES
13-14	SIGNALIZATION SUB-SUMMARY
18	TRAFFIC SIGNAL PLAN DETAILS
19	INTERCONNECT PLAN

PREEMPT CHANNELS:
CHANNEL 1 = ALL RED ALL DIRECTIONS
CHANNEL 2 = FUTURE

PREEMPT CHANNEL 1 NOTES:

1. ACTIVE WALK INDICATIONS SHALL IMMEDIATELY GO TO "DON'T WALK" UPON RECEIVING PREEMPTION SIGNAL.
2. ACTIVE GREEN PHASE SHALL IMMEDIATELY TIME ITS YELLOW AND ALL RED CLEARANCES WHEN PREEMPT PHASE IS CALLED.
3. AFTER RELEASE FROM PREEMPT, RETURN PHASE SHALL BE ϕ1.

HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED

CHECKED

TRAFFIC SIGNAL PLAN
INTERSECTION OF JACKSON ST. AND MONROE ST.

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INTERSECTION OF S.R. 39 (W. JACKSON ST.) AND WASHINGTON ST.

SUPPORT NO.	TYPE	DESIGN NO.	POLE HEIGHT (FT.)	L (FT.)	L1 (FT.)	L2 (FT.)	L3 (FT.)	L4 (FT.)	MAST ARM DESIGN NO.	MAST ARM A ANGLE (DEG.)	ORIENTATION ANGLES (DEG.) FROM MAST ARM A							
											MAST ARM B	PEDESTRIAN SIGNAL	PEDESTRIAN PUSHBUTTON	HANDHOLE	CONDUIT ELL	ANCHOR BOLT	CONTROLLER	LUMINAIRE BRACKET
P1	TC-12.30	5	23	48	33	38	47	42	12	0		W-270	W-270	90	270	0		45
				18	8	–	17		1		90	Z-180	Z-180					
P2	TC-81.20	12	23	40	25	20	39	32	11	0		X-180	X-180	180	135	0	225	45
				21	12	–	20		1		90	Y-270	Y-270					

SUPPORT NO.	PEDESTAL ORIENTATION ANGLES FROM PERPENDICULAR TO S.R. 39 (JACKSON ST.) ℄								
	POLE HEIGHT (FT.)	PEDESTRIAN SIGNALS				PEDESTRIAN PUSHBUTTON	CONDUIT ELL	ANCHOR BOLT	HAND HOLE
		W	X	Y	Z				
PD1	8	90	180			W-90	90	90	180
						X-180			
PD2	8			90	180	Y-90	210	90	180
						Z-180			

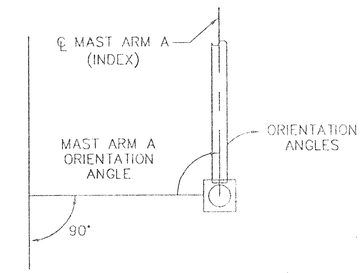
NOTES:

1. ALL ANGLES ARE MEASURED CLOCKWISE (SEE DETAIL 1).
2. SEE ELEVATION DETAILS FOR L, L1, L2, L3, L4
3. PCL SHALL BE MOUNTED ON MAST ARM SUCH THAT IT IS ABOVE THE CURB LINE.

INTERSECTION OF U.S. 62 AND/OR S.R. 39 (JACKSON ST.) AND U.S. 62 AND/OR S.R. 83 (CLAY ST.)

SUPPORT NO.	SIGNAL SUPPORT TYPE TC-12.30							MAST ARM DESIGN NO.	MAST ARM A ANGLE (DEG.)	ORIENTATION ANGLES (DEG.) FROM MAST ARM A							
	DESIGN NO.	POLE HEIGHT (FT.)	L (FT.)	L1 (FT.)	L2 (FT.)	L3 (FT.)	L4 (FT.)			MAST ARM B	PEDESTRIAN SIGNAL	PEDESTRIAN PUSHBUTTON	HANDHOLE	CONDUIT ELL	ANCHOR BOLT	CONTROLLER	LUMINAIRE BRACKET
P1	6	23	41	29	35	40	25	11	90		W-180	W-180	90	180	0		315
			39	28	32	38	33	11		270	X-270	X-270					
P2	5	23	48	35	30	47	41	12	0		Y-0	Y-0	180	150	90	270	45
			26	14	19	25	10	2		90	Z-270	Z-270					

SUPPORT NO.	PEDESTAL ORIENTATION ANGLES FROM PERPENDICULAR TO U.S. 62 AND/OR S.R. 39 (JACKSON ST.) ℄								
	POLE HEIGHT (FT.)	PEDESTRIAN SIGNALS				PEDESTRIAN PUSHBUTTON	CONDUIT ELL	ANCHOR BOLT	HAND HOLE
		W	X	Y	Z				
PD1	8		180	90		X-180	345	90	180
						Y-90			
PD2	8	90			180	W-90	314	90	180
						Z-180			

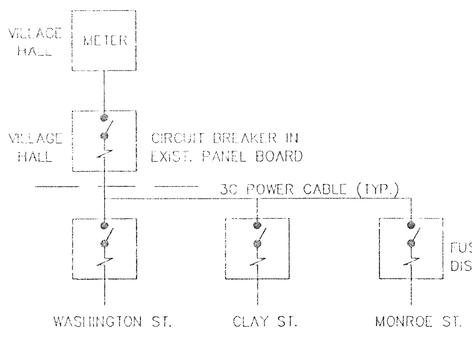


DETAIL 1

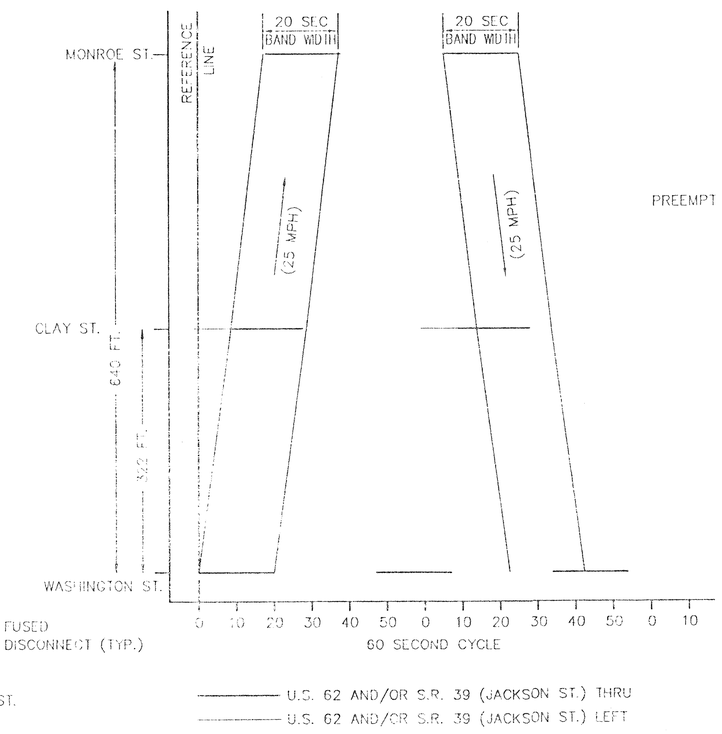
INTERSECTION OF U.S. 62 AND S.R. 39 (E. JACKSON ST.) AND MONROE ST.

SUPPORT NO.	SIGNAL SUPPORT TYPE TC-81.20							MAST ARM DESIGN NO.	MAST ARM A ANGLE (DEG.)	ORIENTATION ANGLES (DEG.) FROM MAST ARM A							
	DESIGN NO.	POLE HEIGHT (FT.)	L (FT.)	L1 (FT.)	L2 (FT.)	L3 (FT.)	L4 (FT.)			MAST ARM B	PEDESTRIAN SIGNAL	PEDESTRIAN PUSHBUTTON	HANDHOLE	CONDUIT ELL	ANCHOR BOLT	CONTROLLER	LUMINAIRE BRACKET
P1	4	23	35	26	–	34	–	3	270		Y-180	Y-180	180	270	90	180	45
			33	20	27	32	15	3		90	Z-90	Z-90					
P2	4	23	35	22	29	34	18	3	0		W-270	W-270	270	270	180		315
			32	23	–	31	–	3		270	X-180	X-180					

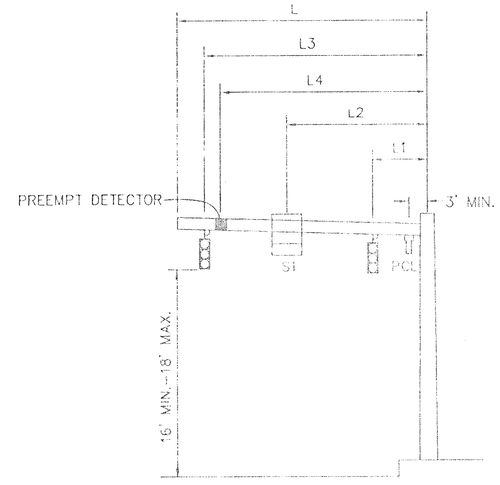
SUPPORT NO.	PEDESTAL ORIENTATION ANGLES FROM PERPENDICULAR TO U.S. 62 AND S.R. 39 (JACKSON ST.) ℄								
	POLE HEIGHT (FT.)	PEDESTRIAN SIGNALS				PEDESTRIAN PUSHBUTTON	CONDUIT ELL	ANCHOR BOLT	HAND HOLE
		W	X	Y	Z				
PD1	8		180	270		X-180	308	90	180
						Y-270			
PD2	8	0			90	W-0	175	90	180
						Z-90			



POWER CABLE WIRING DIAGRAM
(NOT TO SCALE)



TIME-DISTANCE DIAGRAM
(NOT TO SCALE)



ELEVATION DETAILS

CROSS STREET	OFFSET (SEC)
WASHINGTON ST.	0
CLAY ST.	9
MONROE ST.	18

CALCULATED
CHECKED

TRAFFIC SIGNAL PLAN DETAILS

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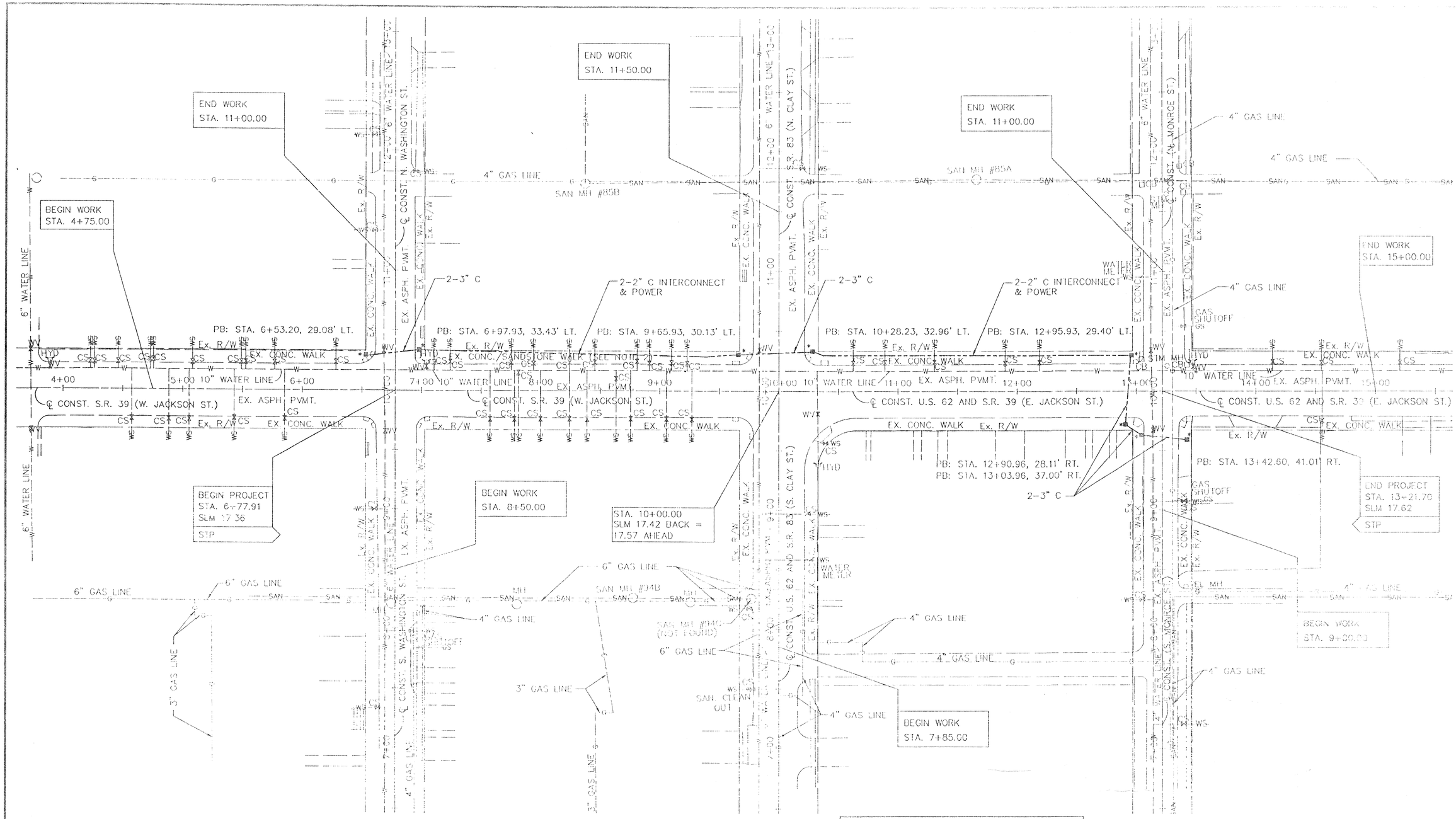

NOTES:

1. * INDICATES QUANTITIES ACCOUNTED FOR ON TRAFFIC SIGNAL PLAN SHEETS (15-17).
2. EXISTING SANDSTONE WALK SHALL NOT BE DISTURBED WHEN INSTALLING CONDUIT.

CROSS REFERENCES

SHEET	DESCRIPTION
2-4A	GENERAL NOTES
13-14	SIGNALIZATION SUB-SUMMARY
15-17	TRAFFIC SIGNAL PLAN

HORIZONTAL SCALE IN FEET 0 20 40 80

CALCULATED

CHECKED

INTERCONNECT PLAN

S.R. 39 (JACKSON ST.) – WASHINGTON ST. TO MONROE ST.

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