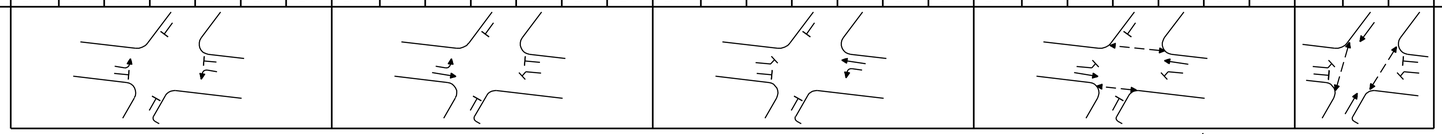
TABLE OF OPERATIONS																														FLASHING OPERATIONS 11:00 PM - 6:00 AM
FACE	Ø1 + Ø5							Ø2 + Ø5							Ø1 + Ø6							Ø2 + Ø6							Ø4 + Ø8			
	R/W	CLEAR TO						R/W	CLEAR TO						R/W	CLEAR TO						R/W	CLEAR TO						R/W	CLEAR TO		
		Ø2 + Ø5		Ø1 + Ø6		OTHERS			Ø1 + Ø5		Ø2 + Ø6		OTHERS			Ø1 + Ø5		Ø2 + Ø6		OTHERS			Ø2 + Ø5		Ø1 + Ø6		OTHERS			ALL		
1	~~G~~	~~Y~~	~~R~~	~~G~~	~~G~~	~~Y~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~G~~	~~G~~	~~G~~	~~Y~~	~~R~~	~~Y~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	DARK
2	R	R	R	R	R	R	R	G	Y	R	G	G	Y	R	R	R	R	R	R	R	R	G	G	G	Y	R	Y	R	R	R	R	FY
4	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	R	R	G	Y	R	FR
5	~~G~~	~~G~~	~~G~~	~~Y~~	~~R~~	~~Y~~	~~R~~	~~G~~	~~G~~	~~G~~	~~Y~~	~~R~~	~~Y~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	DARK
6	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R	G	G	Y	R	G	Y	R	G	G	Y	R	R	R	R	FY
8	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	R	R	G	Y	R	FR
P2	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W*	F*	DW	F*	DW	F*	DW	DW	DW	DW	DARK
P4	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W*	F*	DW	DARK
P6	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W*	F*	DW	F*	DW	F*	DW	DW	DW	DW	DARK
P8	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W*	F*	DW	DARK



*INDICATIONS WILL BE DW UNLESS ACTIVATED

678.22 VEHICLE LOOP DETECTOR

LOOP 1A - 46.0 m
LOOP 4A - 41.0 m
LOOP 4B - 47.0 m
LOOP 5A - 52.0 m
LOOP 8A - 41.0 m

678.23 WIRED CONDUIT (DN 41)

PB1 TO EDGE OF PAVEMENT (LOOP 4A) - 2.0 m
PB1 TO EDGE OF PAVEMENT (LOOP 4B) - 2.0 m
PB1 TO EDGE OF PAVEMENT (LOOP 5A) - 4.0 m
PB2 TO EDGE OF PAVEMENT (LOOP 8A) - 2.0 m
JB3 TO PEDESTRIAN POLE - 3.0 m

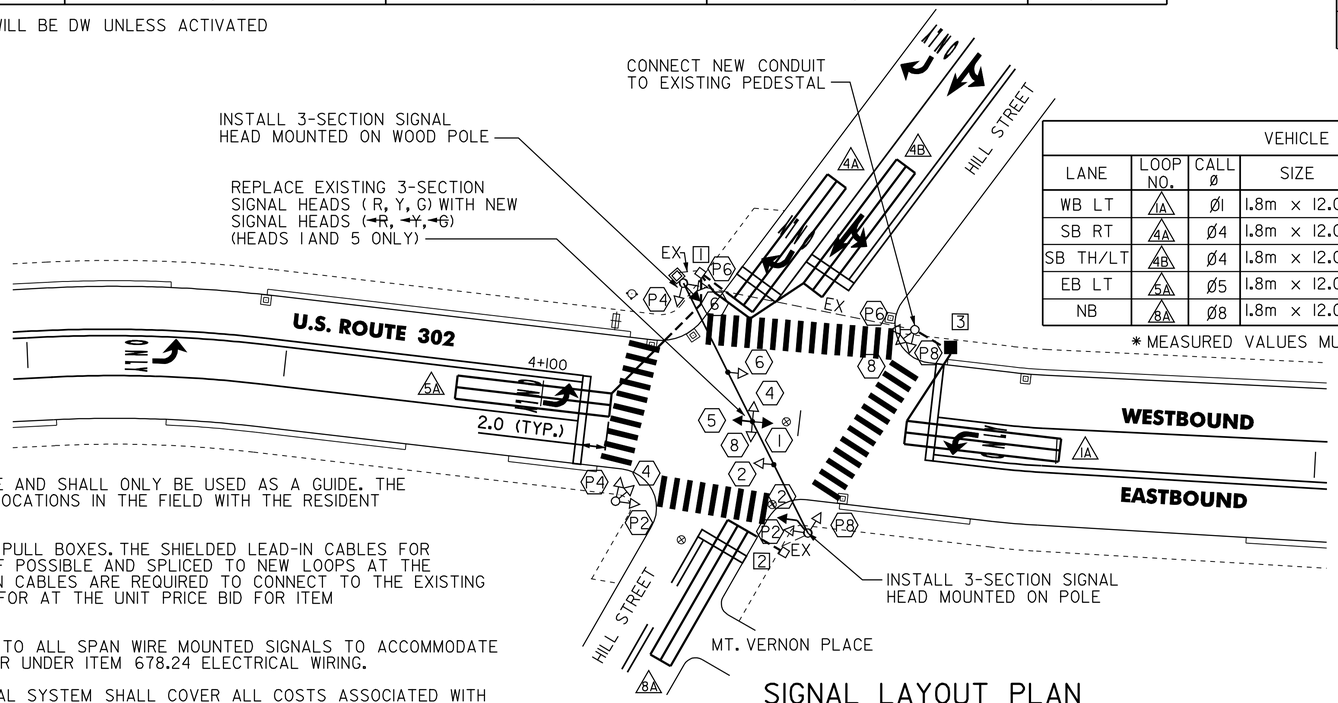
678.24 ELECTRICAL WIRING

PB1 TO CONTROLLER - 3.0 m
HEAD 2 (SPANWIRE) TO CONTROLLER - 25.0 m
HEAD 2 (POLE MOUNTED) TO CONTROLLER - 36.0 m
HEAD 4,5,6,8 ASSEMBLY TO CONTROLLER -20.0 m
HEAD 6 (SPANWIRE) TO CONTROLLER - 16.0 m
PEDESTRIAN POST TO CONTROLLER - 20.0 m

678.26 JUNCTION BOX

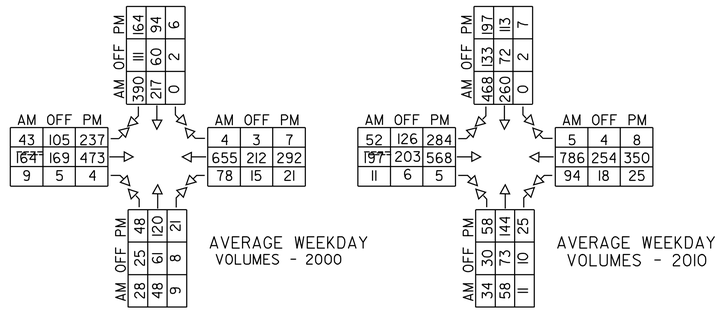
JB3 - STA. 4+131.0, LT.

LEGEND		
EXISTING	NEW	DESCRIPTION
		VEHICLE LOOP
EX		CONDUIT
□	■	JUNCTION BOX
▣	◘	CONTROLLER CABINET
⇦	←	SIGNAL HEAD
○	●	SIGNAL POLE



								TEST RESULTS				
VEHICLE LOOP DETECTORS								INDUCTANCE (uH)		RESISTANCE Ω @ 25°C		(MΩ)
LANE	LOOP NO.	CALL Ø	SIZE	TYPE	NO TURNS	MODE	AMP	CALCULATED	MEASURED*	CALCULATED	MEASURED*	LEAKAGE TO GROUND
WB LT	1A	Ø1	1.8m x 12.0m	QUAD.	2-4-2	PRESENCE	NON-DELAY	358		0.87		
SB RT	4A	Ø4	1.8m x 12.0m	QUAD.	2-4-2	PRESENCE	DELAY-5 SEC	337		0.60		
SB TH/LT	4B	Ø4	1.8m x 12.0m	QUAD.	2-4-2	PRESENCE	NON-DELAY	343		0.67		
EB LT	5A	Ø5	1.8m x 12.0m	QUAD.	2-4-2	PRESENCE	NON-DELAY	347		0.73		
NB	8A	Ø8	1.8m x 12.0m	QUAD	2-4-2	PRESENCE	DELAY-5 SEC	363		0.93		

*MEASURED VALUES MUST BE FILLED IN PRIOR TO TEST PERIOD.

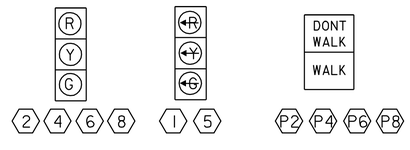


NOTES:

1. THIS PLAN SHEET IS NOT TO SCALE AND SHALL ONLY BE USED AS A GUIDE. THE CONTRACTOR SHALL CONFIRM ALL LOCATIONS IN THE FIELD WITH THE RESIDENT ENGINEER PRIOR TO INSTALLATION.
2. LOOPS SHALL BE RUN TO EXISTING PULL BOXES. THE SHIELDED LEAD-IN CABLES FOR EXISTING LOOPS SHOULD BE USED IF POSSIBLE AND SPLICED TO NEW LOOPS AT THE PULL BOX. IF NEW SHIELDED LEAD-IN CABLES ARE REQUIRED TO CONNECT TO THE EXISTING CONTROLLER, THEY SHALL BE PAID FOR AT THE UNIT PRICE BID FOR ITEM 678.24 ELECTRICAL WIRING.
3. NEW SIGNAL CABLES MUST BE RUN TO ALL SPAN WIRE MOUNTED SIGNALS TO ACCOMMODATE NEW SIGNAL PHASING. COST PAID FOR UNDER ITEM 678.24 ELECTRICAL WIRING.
4. ITEM 678.15 TRAFFIC CONTROL SIGNAL SYSTEM SHALL COVER ALL COSTS ASSOCIATED WITH THE SIGNAL MODIFICATIONS SHOWN ON THIS PLAN. THIS WORK INCLUDES, BUT IS NOT LIMITED TO THE FOLLOWING.
   A) FURNISH AND INSTALL ALL NECESSARY LOOP AMPLIFIERS, LOAD SWITCHES AND ACCESSORIES REQUIRED AT THE EXISTING CONTROLLER.
   B) REMOVE EXISTING 3-SECTION HEADS AT THE HEAD 1 AND HEAD 5 LOCATIONS AND REPLACE WITH 3-SECTION ALL ARROW HEADS.
   C) INSTALL NEW 3-SECTION SIGNAL HEADS MOUNTED ON EACH SIGNAL POLE.
   D) REWIRE CONTROLLER PER TABLE OF OPERATIONS AND RETIME CONTROLLER BASED ON THE CONTROLLER TIMING CHART SHOWN ON THIS PLAN.
   E) CONNECT PROPOSED CONDUIT FROM JB3 TO PEDESTRIAN POLE.
5. PRIOR TO COLD PLANING, THE CONTRACTOR SHALL DISCONNECT THE VEHICLE DETECTOR LOOP IN THE CONTROLLER CABINET AND CUT IT AT THE CURB OR SHOULDER. ONCE THE VEHICLE DETECTOR LOOP IS DISCONNECTED, THE SIGNAL PHASE THAT IT WAS CALLING SHALL BE SET ON MAXIMUM RECALL OR THE SIGNAL SHALL BE SET TO FLASH WHILE TRAFFIC IS BEING CONTROLLED BY A UNIFORMED TRAFFIC OFFICER. ALL PROPOSED VEHICLE DETECTOR LOOPS SHALL BE INSTALLED IN THE LEVELING COURSE WHICH IS IMMEDIATELY BELOW THE WEARING SURFACE. ONCE THE PROPOSED VEHICLE DETECTOR LOOP IS INSTALLED, THE INDUCTANCE, RESISTANCE AND LEAKAGE TO GROUND MUST BE TESTED USING PROPERLY CALIBRATED EQUIPMENT. THESE TEST RESULTS SHALL BE COMPARED WITH THE CALCULATED VALUES SHOWN ON THE LAYOUT PLANS AND THE FIELD-MEASURED VALUES SHALL BE RECORDED ON THE LAYOUT PLANS. UPON COMPLETION OF THE INSTALLATION OF A PROPOSED VEHICLE LOOP DETECTOR, THE SIGNAL SHALL BE RETURNED TO NORMAL OPERATION.

SIGNAL LAYOUT PLAN

CONTROLLER TIMING CHART								
	PHASE							
	1	2	3	4	5	6	7	8
MINIMUM GREEN	8	18		8	8	18		8
EXTENSION	2.0	0.0		2.0	2.0	0.0		2.0
YELLOW CLEARANCE	4.0	4.0		4.0	4.0	4.0		4.0
RED CLEARANCE	2.0	2.0		2.0	2.0	2.0		2.0
MAX. GREEN I - AM PEAK (6:00 AM - 9:00 AM)	14	42		16	14	42		16
MAX. GREEN II - PM PEAK (3:00 PM - 6:00 PM)	20	26		16	20	26		16
MAX. GREEN III - OFF PEAK (ALL OTHER TIMES, EXCEPT WHEN FLASHING)	15	21		16	15	21		16
WALK		7		7		7		7
FLASHING DON'T WALK		11		9		11		9
RECALL	OFF	MAX.		OFF	OFF	MAX.		OFF



SIGNAL FACE ARRANGEMENT

DATUM
VERTICAL N/A
HORIZONTAL N/A

TRAFFIC SIGNAL LAYOUT SHEET

SURVEYED BY N/A DATE N/A
DRAWN BY C.A.K. DATE 2/02
SQUAD LEADER D.E.G.
DESIGN FILE NO. /pave/98d086/zd086.dgn
IPARM FILE zd086sig.i DATE PLOTTED 25-APR-2006 14:
PROJ. NAME BARRE CITY
PROJ. NO. ST-STP 2102(1)S
SHEET 22 OF 32 SHEETS