

LIST OF MAJOR EQUIPMENT		
EQUIPMENT ITEMS - 678.15	QUANTITY	REMARKS
TRAFFIC CONTROL SIGNAL SYSTEM, INTERSECTION (US ROUTE 2 @ BLAIR PARK ROAD AND HARVEST LANE)		
STEEL MAST ARM SIGNAL POLE (FLAT BLACK)	4	
STEEL MAST ARM (FLAT BLACK)	4	MA-1= 40', MA-2 & MA-3= 30' & MA-4 = 35'
POWER STANCHION WITH DISCONNECTS	1	
TRAFFIC SIGNAL CONTROLLER (NEMA TS2)	1	ECONOLITE COBALT
NEW 12-INCH LED SIGNAL HEADS (ONE-WAY 3-SECTION, VISORS, DISCONNECT HANGERS, 5 INCH LOUVERED BACKPLATES WITH 2 INCH RETRO-REFLECTIVE BORDER AND MOUNTING HARDWARE (FLAT BLACK))	8	
NEW 12-INCH LED SIGNAL HEADS (ONE-WAY 4-SECTION, VISORS, DISCONNECT HANGERS, 5 INCH LOUVERED BACKPLATES WITH 2 INCH RETRO-REFLECTIVE BORDER AND MOUNTING HARDWARE (FLAT BLACK))	2	
SIGNAL HEAD BRACKETS AND ANCILLARY EQUIPMENT	10	
PEDESTRIAN PUSH BUTTON ASSEMBLIES POLE MOUNTED WITH LOCATOR TONE, R10-3e SIGN, FLAT BLACK HOUSING	2	
PEDESTRIAN SIGNAL HEAD COUNTDOWN STYLE, FLAT BLACK HOUSING	2	
PEDESTRIAN PEDESTAL POST AND FOUNDATION	1	
NEMA P44 BASE-MOUNTED CONTROLLER CABINET WITH 15-INCH EXTENDED BASE ON A CONCRETE FOUNDATION	1	PAINTED FLAT BLACK WITH ANCILLARY EQUIPMENT, FACING AWAY FROM TRAFFIC
ELECTRICAL WIRING	620'	SEE SUMMARY THIS SHEET
SMART MALFUNCTION MONITORING UNIT (MMU)	1	ECONOLITE MMU2-16E SMART MONITOR
BIU	1	ECONOLITE BIU-64
DETECTOR BRACKET FOR MAST ARM OR POLE	4	
STOP BAR DETECTOR ASSEMBLY	4	ECONOLITE AUTOSCOPE ENCORE
ADVANCED DETECTOR ASSEMBLY	2	WAVETRONIX SMARTSENSOR ADVANCE
STOP BAR DETECTION PROCESSOR (CARDS)	1	ECONOLITE AUTOSCOPE TIP
STOP BAR DETECTION PROCESSOR (CARDS)	1	ECONOLITE AUTOSCOPE TAP
DETECTION PROCESSOR (CARDS)	1	WAVETRONIX CLICK 650
DETECTION CABINET RACK	2	
OPTICAL PREEMPTION DETECTORS	2	TOMAR
OPTICAL PREEMPTION SIGNAL PROCESS CARD & CAGE	2	TOMAR
PREEMPTION AC STROBE - RED	2	TOMAR
HARDENED NETWORK SWITCH	1	CISCO IE 2000
CONTROLLER IDENTIFICATION PLAQUE	1	SEE TRAFFIC SIGNAL SYSTEM NOTES
GPS CLOCK	1	

CONTROLLER TIMING CHART									
PHASE	1	2	3	4	5	6	7	8	9
IN USE	X	X		X	X	X		X	
TRAFFIC MOVEMENT	←	→		↓	↑	←		↓	
MIN. GREEN	5	8		8	5	8		8	
MAX 2 - GREEN (AM)	5	37		29	5	37		29	
MAX 1 - GREEN (OFF)	5	39		23	5	39		23	
MAX 3 - GREEN (PM)	5	44		30	5	44		30	
YELLOW CLEARANCE	3	4.5		4	3	4.5		4	
ALL RED CLEARANCE	2	2		2	2	2		2	
VEHICLE EXTENSION	2	2		2	2	2		2	
DELAY GREEN	0	5		5	0	5		5	
WALK	0	7		7	0	7		7	
PEDESTRIAN CLEAR	0	8		8	0	8		8	
RECALL MODE (50 FT)		X				X			

SCHEDULE PLAN			
SCHEDULE NO.	DAY PLAN	DAYS	DATES
1	1	MON, TUE, WED, THU, FRI	1-31
1	2	SAT, SUN	1-31

COORDINATION PLAN												
PATTERN	COS	CYCLE	OFFSET	SPLIT PHASES/SPLIT TIMES								
				1	2	3	4	5	6	7	8	9
1	III	84	10	10	45	0	39	10	45	0	39	0
2	2II	88	79	10	43	0	35	10	43	0	35	0
3	3II	96	92	10	50	0	36	10	50	0	36	0

DAY PLAN				
PLAN NO.	EVENT	ACTION PLAN	START TIME	
1	1	254	12:00 AM	
1	2	2	6:00 AM	
1	3	1	10:00 AM	
1	4	3	2:30 PM	
1	5	1	7:00 PM	
1	6	254	10:00 PM	
2	1	254	12:00 AM	
2	2	1	6:00 AM	
2	3	3	9:00 AM	
2	4	254	10:00 PM	

ELECTRICAL WIRING		
	LENGTH	DESCRIPTION
MAP-1 TO MA-1	19'	DETECTION
MAP-1 TO MA-1	19'	SIGNAL HEAD (OUTER)
MAP-1 TO MA-1	19'	SIGNAL HEAD (INNER)
MA-1 TO DETECTOR	20'	SIDELINE STOP BAR
MA-1 TO SIGNAL HEAD	20'	SIGNAL HEAD (OUTER)
MA-1 TO SIGNAL HEAD	20'	SIGNAL HEAD (INNER)
MA-1 TO PREEMPTION DETECTOR	20'	SIDELINE PREEMPTION
PP1 TO PED HEAD	10'	CROSSING U.S. 2
PP1 TO PUSH BUTTON	10'	CROSSING U.S. 2
MAP-2 TO MA-2	19'	DETECTION
MAP-2 TO MA-2	19'	SIGNAL HEAD (OUTER)
MAP-2 TO MA-2	19'	SIGNAL HEAD (MIDDLE)
MAP-2 TO MA-2	19'	SIGNAL HEAD (INNER)
MAP-2 TO MA-2	19'	PREEMPTION DETECTOR
MAP-2 TO MA-2	19'	PREEMPTION STROBE
MAP-2 TO PEDESTRIAN HEAD	10'	CROSSING U.S. 2
MAP-2 TO PEDESTRIAN PUSH BUTTON	10'	CROSSING U.S. 2
MAP-3 TO MA-3	19'	DETECTION
MAP-3 TO MA-3	19'	SIGNAL HEAD (OUTER)
MAP-3 TO SIGNAL HEAD	10'	ON POLE
MA-3 TO DETECTOR	15'	MAINLINE ADVANCE
MA-3 TO SIGNAL HEAD	15'	ON ARM
MAP-4 TO MA-4	19'	DETECTION
MAP-4 TO MA-4	19'	SIGNAL HEAD (OUTER)
MAP-4 TO MA-4	19'	SIGNAL HEAD (MIDDLE)
MAP-4 TO MA-4	19'	SIGNAL HEAD (INNER)
MAP-4 TO MA-4	19'	PREEMPTION DETECTOR
MAP-4 TO MA-4	19'	PREEMPTION STROBE
MA-4 TO SIGNAL HEAD	25'	SIGNAL HEAD (OUTER)
MA-4 TO SIGNAL HEAD	25'	SIGNAL HEAD (MIDDLE)
MA-4 TO SIGNAL HEAD	25'	SIGNAL HEAD (INNER)
MA-4 TO PREEMPTION DETECTOR	25'	MAINLINE PREEMPTION
MA-4 TO PREEMPTION LIGHT	25'	STROBE LIGHT
SUBTOTAL	608'	
ROUNDING	12'	
TOTAL	620'	

NOTES:

- TOTAL QUANTITY OF ELECTRICAL WIRING SHOWN IS APPROXIMATED FOR BIDDING PURPOSES. THE ACTUAL AMOUNT OF ELECTRICAL WIRING MAY VARY DUE TO FIELD CONDITIONS.
- ELECTRICAL WIRING WILL BE PAID UNDER ITEM 678.15 - TRAFFIC CONTROL SIGNAL SYSTEM, INTERSECTION (U.S. ROUTE 2 @ BLAIR PARK ROAD AND HARVEST LANE).

CONDUIT SCHEDULE					
	WIRED CONDUIT		ELECTRICAL CONDUIT		DESCRIPTION
	2"	4"	2"	4"	
POWER TO STANCHION	15' 28'				SERVICE
STANCHION TO CONTROLLER	15' 16'				POWER
CONTROLLER TO MAP-1	8' 7'				SIGNAL / LIGHTING
CONTROLLER TO MAP-1	8' 7'				DETECTION
CONTROLLER TO MAP-1			8' 6'		FUTURE USE
CONTROLLER TO JB+ JB-2	34' 20'				SIGNAL / LIGHTING
CONTROLLER TO JB+ JB-2	34' 20'				DETECTION
CONTROLLER TO JB+ JB-2			20' 34'		FUTURE USE
JB-1 TO PP-1	13'				PEDESTRIAN
JB-1 TO PP-1			13'		FUTURE USE
JB-1 TO JB-2	23'				SIGNAL / LIGHTING
JB-1 TO JB-2	23'				DETECTION
JB-1 TO JB-2			23'		FUTURE USE
JB-2 TO JB-3	70' 60'				SIGNAL / LIGHTING
JB-2 TO JB-3	70' 60'				DETECTION
JB-2 TO JB-3			60' 70'		FUTURE USE
JB-3 TO MAP-2	10' 9'				SIGNAL / LIGHTING
JB-3 TO MAP-2	10' 9'				DETECTION
JB-3 TO MAP-2			9' 10'		FUTURE USE
JB-3 TO JB-4	51' 45'				SIGNAL / LIGHTING
JB-3 TO JB-4	51' 45'				DETECTION
JB-3 TO JB-4			45' 51'		FUTURE USE
CONTROLLER TO PP1	16'				POWER
CONTROLLER TO PP1			16'		FUTURE USE

CONDUIT SCHEDULE (CONT.)					
	WIRED CONDUIT		ELECTRICAL CONDUIT		DESCRIPTION
	2"	4"	2"	4"	
JB-4 TO JB-5	87' 75'				SIGNAL / LIGHTING
JB-4 TO JB-5	87' 75'				DETECTION
JB-4 TO JB-5			75' 87'		FUTURE USE
JB-5 TO MAP-3	18' 19'				SIGNAL / LIGHTING
JB-5 TO MAP-3	18' 19'				DETECTION
JB-5 TO MAP-3			19' 18'		FUTURE USE
JB-5 TO JB-6	24' 23'				SIGNAL / LIGHTING
JB-5 TO JB-6	24' 23'				DETECTION
JB-5 TO JB-6			23' 24'		FUTURE USE
JB-6 TO JB-7	82' 75'				SIGNAL / LIGHTING
JB-6 TO JB-7	82' 75'				DETECTION
JB-6 TO JB-7			75' 82'		FUTURE USE
JB-7 TO MAP-4	13' 8'				SIGNAL / LIGHTING
JB-7 TO MAP-4	13' 8'				DETECTION
JB-7 TO MAP-4			8' 13'		FUTURE USE
CONTROLLER TO JB-8	5'				SIGNAL / LIGHTING
CONTROLLER TO JB-8	5'				DETECTION
CONTROLLER TO JB-8			5'		FUTURE USE
SUBTOTAL	783'		378'		
ROUNDING	7'		7'		
TOTALS	790'		385'		
	852'		411'		

ACTION PLAN			
PLAN NO.	PATTERN	FLASH	REFERENCE
1	1	NO	MAX 1
2	2	NO	MAX 2
3	3	NO	MAX 3
4	254-FREE	NO	MAX 1

PREEMPTION TIMING		
	PREEMPTOR	
	1	2
DIRECTION	EB	WB
HOLD PHASE	2&5	1&6
DETECTOR LOCK	YES	YES
DURATION TIME	12	12
MIN. GREEN	8	8
GREEN	12	12
YELLOW	4.5	4.5
RED	2	2

WEEKDAY PEAKS			
	HOURS		
	START	TO	END
MAX 2 - AM PEAK	6:00 AM	TO	10:00 AM
MAX 1 - OFF PEAK	10:00 AM	TO	2:30 PM
MAX 3 - PM PEAK	7:00 PM	TO	10:00 PM
FREE	2:30 PM	TO	7:00 PM
	10:00 PM	TO	6:00 AM

DETECTOR OPERATOR	
STOP BAR	PRESENCE
* ADVANCE	PULSE OR ACTUATION

* FOR DATA COLLECTION ONLY

REPLACES SHEET #113

PROJECT NAME:	SOUTH BURLINGTON-WILLISTON
PROJECT NUMBER:	NH 2944(I)
FILE NAME:	ppms*/Section/-----,dgn
PROJECT LEADER:	M. LACROIX
DESIGNED BY:	K. RECORD
TRAFFIC SIGNAL SYSTEMS SHEET 4	CHECKED BY: M. LACROIX
	PLOT DATE: 6/27/2017
	DRAWN BY: K. RECORD
	SHEET 113R OF 249

U. S. ROUTE 2 / BLAIR PARK ROAD / HARVEST LANE INTERSECTION

REVISED 6/27/17