

LIST OF MAJOR EQUIPMENT		
EQUIPMENT ITEMS - 678.15	QUANTITY	REMARKS
TRAFFIC CONTROL SIGNAL SYSTEM, INTERSECTION (U.S. ROUTE 2 @ BLAIR PARK ROAD AND HARVEST LANE)		
STEEL MAST ARM SIGNAL POLE (FLAT BLACK)	4	
STEEL MAST ARM (FLAT BLACK)	4	MA-1& MA-3 = 25', MA-2 = 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	2	
POLE MOUNTED WITH LOCATOR TONE, RIO-3e SIGN, FLAT BLACK HOUSING		
PEDESTRIAN SIGNAL HEAD	2	
COUNTDOWN STYLE, FLAT BLACK HOUSING		
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			

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'	DETECTOR
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'	

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	

- 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'				SERVICE
STANCHION TO CONTROLLER	15'				POWER
CONTROLLER TO MAP-1	8'				SIGNAL / LIGHTING
CONTROLLER TO MAP-1	8'				DETECTION
CONTROLLER TO MAP-1			8'		FUTURE USE
CONTROLLER TO JB-1	20'				SIGNAL / LIGHTING
CONTROLLER TO JB-1	20'				DETECTION
CONTROLLER TO JB-1			20'		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	60'				SIGNAL / LIGHTING
JB-2 TO JB-3	60'				DETECTION
JB-2 TO JB-3			60'		FUTURE USE
JB-3 TO MAP-2	9'				SIGNAL / LIGHTING
JB-3 TO MAP-2	9'				DETECTION
JB-3 TO MAP-2			9'		FUTURE USE
JB-3 TO JB-4	45'				SIGNAL / LIGHTING
JB-3 TO JB-4	45'				DETECTION
JB-3 TO JB-4			45'		FUTURE USE

CONDUIT SCHEDULE (CONT.)					
	WIRED CONDUIT		ELECTRICAL CONDUIT		DESCRIPTION
	2"	4"	2"	4"	
JB-4 TO JB-5	75'				SIGNAL / LIGHTING
JB-4 TO JB-5	75'				DETECTION
JB-4 TO JB-5			75'		FUTURE USE
JB-5 TO MAP-3	19'				SIGNAL / LIGHTING
JB-5 TO MAP-3	19'				DETECTION
JB-5 TO MAP-3			19'		FUTURE USE
JB-5 TO JB-6	23'				SIGNAL / LIGHTING
JB-5 TO JB-6	23'				DETECTION
JB-5 TO JB-6			23'		FUTURE USE
JB-6 TO JB-7	75'				SIGNAL / LIGHTING
JB-6 TO JB-7	75'				DETECTION
JB-6 TO JB-7			75'		FUTURE USE
JB-7 TO MAP-4	8'				SIGNAL / LIGHTING
JB-7 TO MAP-4	8'				DETECTION
JB-7 TO MAP-4			8'		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'		

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

**SHEET DISCONTINUED  
SEE REPLACEMENT  
SHEET #113R**



PROJECT NAME:	SOUTH BURLINGTON-WILLISTON
PROJECT NUMBER:	NH 2944(I)
FILE NAME:	zild340bdrslg.dgn
PROJECT LEADER:	J. LITTLE
DESIGNED BY:	D. DEBAIE
TRAFFIC SIGNAL SYSTEMS SHEET 4	
PLOT DATE:	2/15/2017
DRAWN BY:	P. ARMATA
CHECKED BY:	T. LUTHER
SHEET	113 OF 249