VEHICLE DETECTOR LOOPS

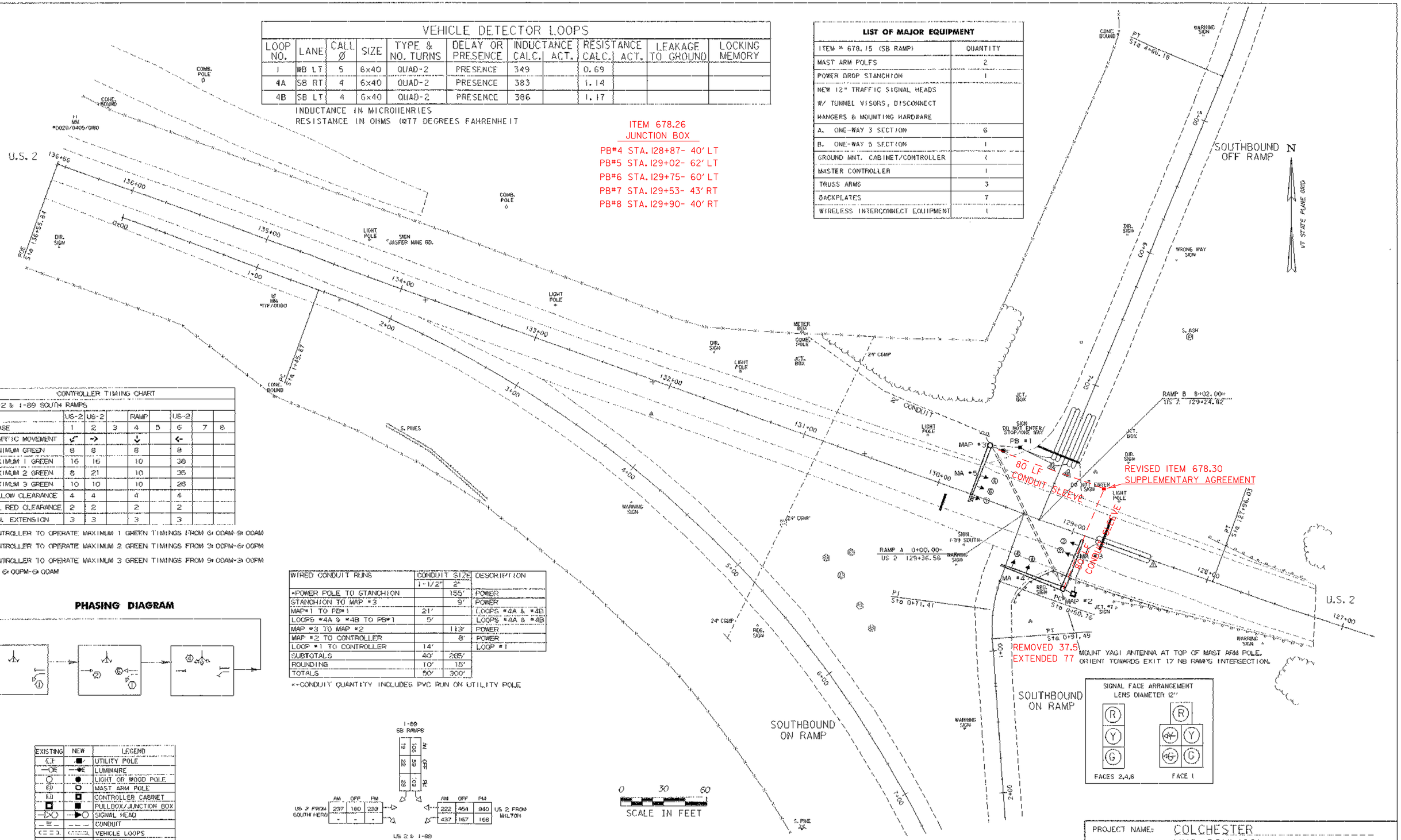
LOOP NO.	LANE	CALL Ø	SIZE	TYPE & NO. TURNS	DELAY OR PRESENCE	INDUCTANCE CALC.	INDUCTANCE ACT.	RESISTANCE CALC.	RESISTANCE ACT.	LEAKAGE TO GROUND	LOCKING MEMORY
1	WB LT	5	6x40	QUAD-2	PRESENCE	349		0.69			
4A	SB RT	4	6x40	QUAD-2	PRESENCE	383		1.14			
4B	SB LT	4	6x40	QUAD-2	PRESENCE	386		1.17			

INDUCTANCE IN MICROHENRIES
RESISTANCE IN OHMS @77 DEGREES FAHRENHEIT

ITEM 678.26
JUNCTION BOX

PB#4 STA. 128+87- 40' LT
PB#5 STA. 129+02- 62' LT
PB#6 STA. 129+75- 60' LT
PB#7 STA. 129+53- 43' RT
PB#8 STA. 129+90- 40' RT

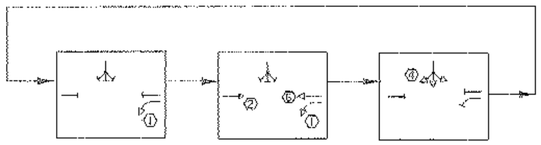
LIST OF MAJOR EQUIPMENT	
ITEM # 678.15 (SB RAMP)	QUANTITY
MAST ARM POLES	2
POWER DROP STANCHION	1
NEW 12" TRAFFIC SIGNAL HEADS W/ TUNNEL VISORS, DISCONNECT HANGERS & MOUNTING HARDWARE	
A. ONE-WAY 3 SECTION	6
B. ONE-WAY 5 SECTION	1
GROUND MNT. CABINET/CONTROLLER	1
MASTER CONTROLLER	1
TRUSS ARMS	3
BACKPLATES	7
WIRELESS INTERCONNECT EQUIPMENT	1



CONTROLLER TIMING CHART								
US-2 & I-89 SOUTH RAMPS								
	US-2	US-2		RAMP		US-2		
PHASE	1	2	3	4	5	6	7	8
TRAFFIC MOVEMENT	↖	→		↓		←		
MINIMUM GREEN	8	8		8		8		
MAXIMUM 1 GREEN	16	16		10		36		
MAXIMUM 2 GREEN	8	21		10		35		
MAXIMUM 3 GREEN	10	10		10		26		
YELLOW CLEARANCE	4	4		4		4		
ALL RED CLEARANCE	2	2		2		2		
VEH. EXTENSION	3	3		3		3		

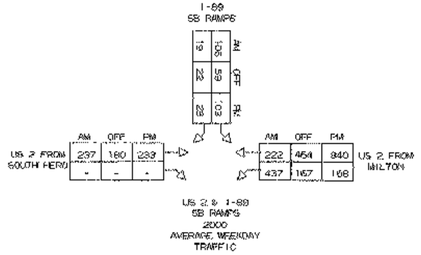
CONTROLLER TO OPERATE MAXIMUM 1 GREEN TIMINGS FROM 6:00AM-9:00AM
CONTROLLER TO OPERATE MAXIMUM 2 GREEN TIMINGS FROM 9:00PM-6:00PM
CONTROLLER TO OPERATE MAXIMUM 3 GREEN TIMINGS FROM 9:00AM-3:00PM & 6:00PM-6:00AM

PHASING DIAGRAM



WIRED CONDUIT RUNS	CONDUIT SIZE 1-1/2"	CONDUIT SIZE 2"	DESCRIPTION
*POWER POLE TO STANCHION		155'	POWER
STANCHION TO MAP #3		9'	POWER
MAP#1 TO PB#1	21'		LOOPS #4A & #4B
LOOPS #4A & #4B TO PB#1	5'		LOOPS #4A & #4B
MAP #3 TO MAP #2		113'	POWER
MAP #2 TO CONTROLLER		8'	POWER
LOOP #1 TO CONTROLLER	14'		LOOP #1
SUBTOTALS	40'	285'	
ROUNDING	10'	15'	
TOTALS	50'	300'	

*-CONDUIT QUANTITY INCLUDES PVC RUN ON UTILITY POLE



EXISTING	NEW	LEGEND
○P	■	UTILITY POLE
—○E	—●E	LUMINAIRE
○	●	LIGHT OR WOOD POLE
Ⓜ	○	MAST ARM POLE
CAB	■	CONTROLLER CABINET
□	■	PULLBOX/JUNCTION BOX
—▷○	—▶○	SIGNAL HEAD
— tc —	— — —	CONDUIT
⊂⊂⊃	⊂⊂⊃	VEHICLE LOOPS
	○○	STANCHION
	--S	SWEEP

PROJECT NAME:	COLCHESTER
PROJECT NUMBER:	NHG SGNL(22)
FILE NAME:	xbl34tsl.i
PROJECT LEADER:	B. NYQUIST
DESIGNED BY:	B. MCAVOY
/traffic/Obl34/xbl34trf.dgn	
PLOT DATE:	18-SEP-2003
DRAWN BY:	B. MCAVOY
CHECKED BY:	
SHEET	3 OF 15

VEHICLE DETECTOR LOOPS

LOOP NO.	LANE	CALL Ø	SIZE	TYPE & NO. TURNS	DELAY OR PRESENCE	INDUCTANCE CALC.	INDUCTANCE ACT.	RESISTANCE CALC.	RESISTANCE ACT.	LEAKAGE TO GROUND	LOCKING MEMORY
4	SB	4	6x40	QUAD-2	PRESENCE	351		0.73			

INDUCTANCE IN MICROHENRIES
RESISTANCE IN OHMS (@77 DEGREES FAHRENHEIT)

LIST OF MAJOR EQUIPMENT

ITEM # 678.15 (NB RAMP)	QUANTITY
MAST ARM POLES	1
POWER DROP STANCHION	1
NEW 12" TRAFFIC SIGNAL HEADS W/ TUNNEL VISORS, DISCONNECT HANGERS & MOUNTING HARDWARE	
A. ONE-WAY 3 SECTION	6
POLE MOUNTED CABINET/CONTROLLER	1
TRUSS ARMS	2
BACKPLATES	6
WIRELESS INTERCONNECT EQUIPMENT	1

CONTROLLER TIMING CHART

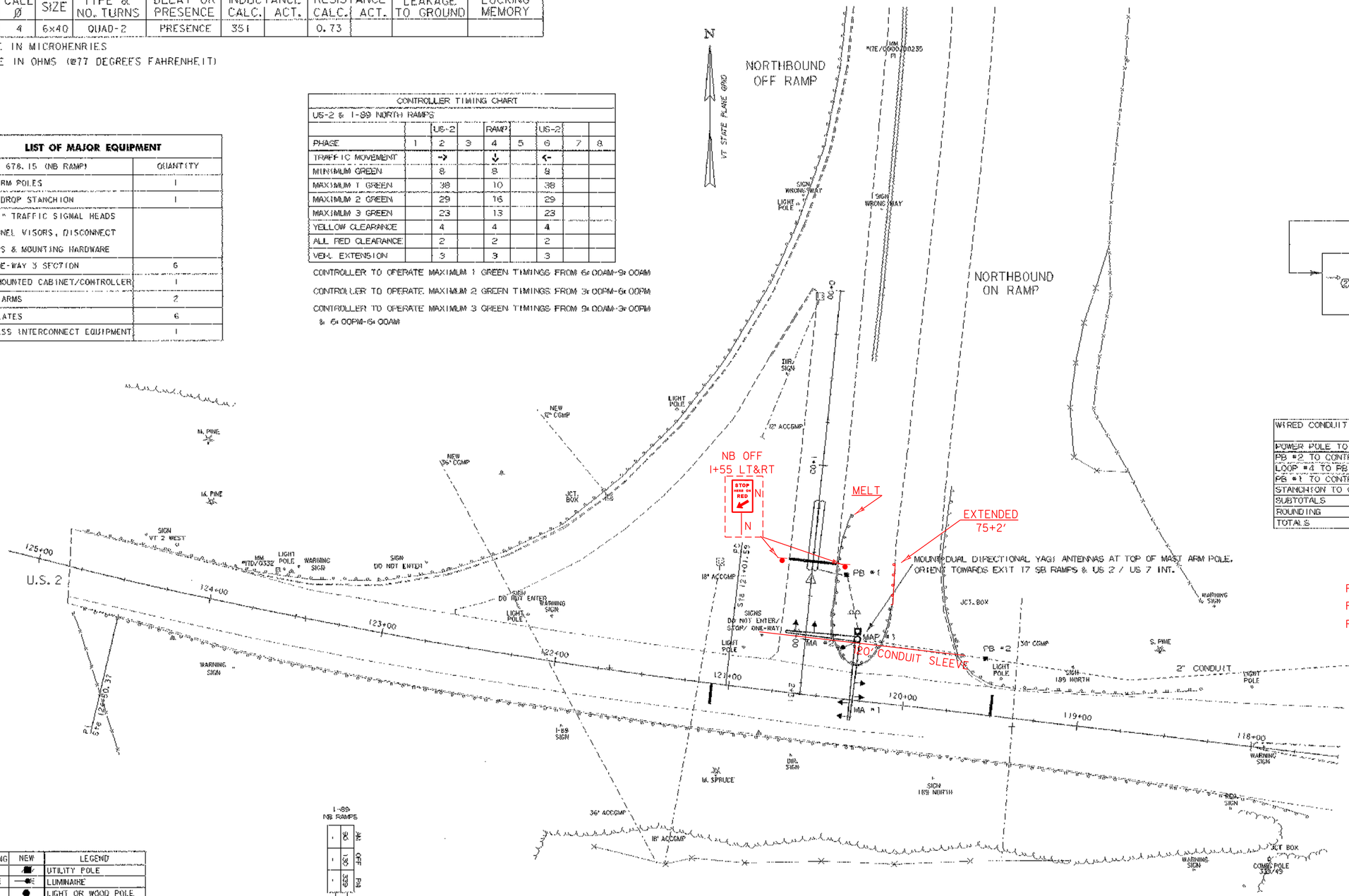
US-2 & I-89 NORTH RAMPS

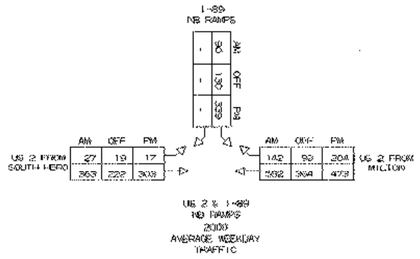
		US-2		RAMP		US-2		
PHASE	1	2	3	4	5	6	7	8
TRAFFIC MOVEMENT		→		↓		←		
MINIMUM GREEN		8		8		8		
MAXIMUM 1 GREEN		38		10		38		
MAXIMUM 2 GREEN		29		16		29		
MAXIMUM 3 GREEN		23		13		23		
YELLOW CLEARANCE		4		4		4		
ALL RED CLEARANCE		2		2		2		
VEH. EXTENSION		3		3		3		

CONTROLLER TO OPERATE MAXIMUM 1 GREEN TIMINGS FROM 6:00AM-9:00AM

CONTROLLER TO OPERATE MAXIMUM 2 GREEN TIMINGS FROM 3:00PM-6:00PM

CONTROLLER TO OPERATE MAXIMUM 3 GREEN TIMINGS FROM 9:00AM-3:00PM & 6:00PM-6:00AM



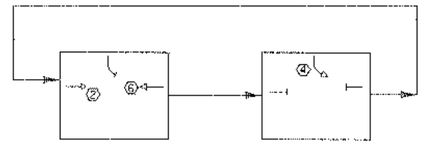


	AM	OFF	PM
US 2 FROM SOUTH HERO	27	19	17
	363	222	303
US 2 FROM MILTON	142	92	204
	382	364	473

EXISTING	NEW	LEGEND
		UTILITY POLE
		LUMINAIRE
		LIGHT OR WOOD POLE
		MAST ARM POLE
		CONTROLLER CABINET
		PULLBOX/JUNCTION BOX
		SIGNAL HEAD
		CONDUIT
		VEHICLE LOOPS
		STANCHION
		SWEEP

0 30 60
SCALE IN FEET

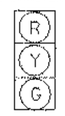
PHASING DIAGRAM



WIRED CONDUIT RUNS	CONDUIT SIZE 1-1/2"	CONDUIT SIZE 2"	DESCRIPTION
POWER POLE TO PB #2		314'	POWER
PB #2 TO CONTROLLER		74'	POWER
LOOP #4 TO PB #1	6'		LOOP #4
PB #1 TO CONTROLLER	34'		LOOP #4
STANCHION TO CONTROLLER		11'	POWER
SUBTOTALS	40'	399'	
ROUNDING	10'	26'	
TOTALS	50'	425'	

ITEM 678.26
JUNCTION BOX
PB#1 - STA. 120+38 - 76' RT
PB#2 - STA. 119+55 - 30' RT
PB#3 - STA. 120+28 - 45' RT

SIGNAL FACE ARRANGEMENT
LENS DIAMETER 12"



FACES 2,4,6

PROJECT NAME: COLCHESTER
PROJECT NUMBER: NHG SGNL(22)

FILE NAME: xbl34ts2.t
PROJECT LEADER: B.NYQUIST
DESIGNED BY: B.MCAVOY
/traffic/08bl34/xbl34tcf.dgn
PLOT DATE: 18-SEP-2003
DRAWN BY: B.MCAVOY
CHECKED BY:
SHEET 4 OF 15

646.85 - REMOVAL OF EXISTING PAVEMENT MARKINGS

NB OFF RAMP - (STOP)
NB OFF RAMP - (AHEAD)
NB RAMP - (STOP BAR)
NB OFF RAMP - (STOP @ STOP BAR)
US 2 STA. 123+59 LT - (AHEAD)
US 2 STA. 123+99 LT - (SIGNAL)

646.46 - DURABLE 24" STOP BAR

US 2 STA. 119+50 RT - 12 LF
US 2 STA. 120+46 - 120+73 (75' RT) - 27 LF
US 2 STA. 121+10 LT - 12 LF

646.50 - DURABLE LETTER OR SYMBOL

NB RAMP @ EXISTING (STOP AHEAD)
LOCATION - (SIGNAL AHEAD)

675.50 - REMOVING SIGNS

NB RAMP - (STOP AHEAD)
US 2 STA. 120+31 RT - (STOP)
US 2 STA. 120+85 RT - (STOP)
US 2 STA. 123+79 LT - (SIGNAL AHEAD)

675.20 - TRAFFIC SIGNS, TYPE A

NB RAMP @ (STOP AHEAD) LOCATION - (SIGNAL AHEAD)

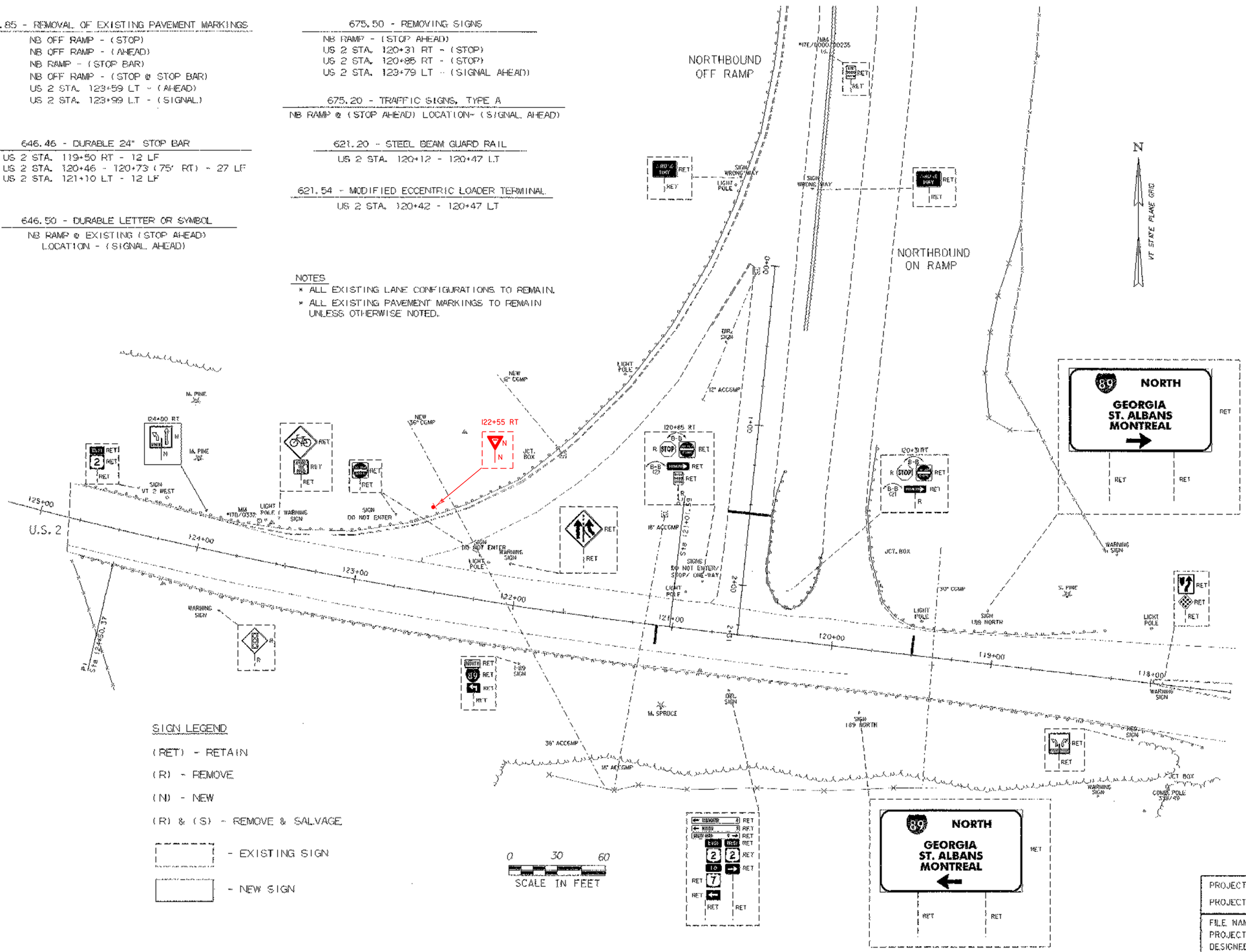
621.20 - STEEL BEAM GUARD RAIL

US 2 STA. 120+12 - 120+47 LT

621.54 - MODIFIED ECCENTRIC LOADER TERMINAL

US 2 STA. 120+42 - 120+47 LT

NOTES
* ALL EXISTING LANE CONFIGURATIONS TO REMAIN.
* ALL EXISTING PAVEMENT MARKINGS TO REMAIN UNLESS OTHERWISE NOTED.



SIGN LEGEND

(RET) - RETAIN
(R) - REMOVE
(N) - NEW
(R) & (S) - REMOVE & SALVAGE
- EXISTING SIGN
- NEW SIGN

PROJECT NAME: COLCHESTER
PROJECT NUMBER: NHG SGNL(22)

FILE NAME: xbl34bdr.[illegible]
PROJECT LEADER: B. NYQUIST
DESIGNED BY: B. MCAVOY
/traffic/01bl34/xbl34bdr.dgn
PLOT DATE: 18-SEP-2003
DRAWN BY: B. MCAVOY
CHECKED BY:
SHEET 1 OF 15

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TRAFFIC SIGN SUMMARY SHEET

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS EA	WIDTH (in)	HEIGHT (in)	NEW & SALVAGED SIGNS "A"	"B"	SALV SIGN	SALV TIS	EXIST POST RETAIN	EXIST POST SALVAGE	NO. OF POSTS	NEW SIGN POSTS: FLANGED CHANNEL lb/ft 1.12	2.0	3.0	SQUARE STEEL (in) 1.75 lb/ft 1.88	2.0 lb/ft 2.16	2.5 lb/ft 3.35	ANCHOR	SLEEVE	TUBULAR ALUMINUM Ø (in) 3.0 lb/ft 1.3	4.0 lb/ft 1.7	4.0 MOD lb/ft 1.7	TUBULAR STEEL Ø (in) FOUNDATION	3.0 lb/ft 7.6	3.5 lb/ft 9.0	4.0 lb/ft 10.8	5.0 lb/ft 14.6	W-SHAPE STEEL FTG. SIZE 24"	30"	WEIGHT	POST SIZE	SIGN FRAME REQUIRED	REMARKS	SIGN DETAIL DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
												OPTION ITEMS																										
SR RAMP STA 4+45 RT		1	36"	36"	9.0						2			X			14 X 14																		W3-3		E-152
NB RAMP AT EXIST. "STOP AHEAD" LOC.		1	36"	36"	9.0						2			X			14 X 14																		W3-3		E-152
US 2 RT STA 124+00		1	30"	30"	6.25						1			X			14 X																		VR-921		E-145A
US 2 RT STA 128+28		1	30"	30"	6.25						1			X			14 X																		R3-7L		E-140
US 2 ON STA 129+78 MAST ARM		1	24"	30"	5.0																														R10-12 (ON MAST ARM)		E-140
US 2 LT STA 136+75		1	36"	36"	9.0						2			X			14 X 14																		W3-3		E-152
NB OFF I-55 RT			24	36	6.0												15																				
NB OFF I-55 LT			24	36	6.0												15																				
US-2 I22+55 RT			30" X 30" X 30"		2.7												12																				
TOTALS					SF 44.5 59.2	SF	EA.	SF				FT 112			FT		FT 112 154		EA	LB			LB				EA.	LB				EA.	EA.	LB			

FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE TRAFFIC & SAFETY DIVISION'S "SIGN POST DESIGN GUIDELINE."

PROJECT NAME: COLCHESTER
PROJECT NUMBER: NHG SGNL (22)
FILE NAME: /traf/04b134/xb134nul.dgn PLOT DATE: 18-SEP-2003
PROJECT LEADER: B. NYQUIST DRAWN BY:
DESIGNED BY: B. MCAVOY CHECKED BY:
xb134sss.l SHEET 10 OF 15