

SIGNAL TIMING SHEET

DATE ISSUED	JUNE 29, 2014	INTERSECTION	HIGHWAY 97NB @ BROWN ROAD
CONTROLLER TYPE	NAZTEC - 980*	LOCATION	WEST KELOWNA
CABINET TYPE	"M" SHELF	SHEET NUMBER & REVISION	TE-95138-9F*
SEQUENCE	SEQUENTIAL	PREVIOUS STS DATE	APRIL 14, 2011

PHASE NUMBER	1	2	3	4	5	6	7	8
PHASE SETTING	OFF	ON	OFF	ON	OFF	OFF	OFF	OFF
DESCRIPTION		HIGHWAY 97 NB EMERGENCY PRE-EMPTION #3		BROWN ROAD EW EMERGENCY PRE-EMPTION #5				
FUNCTION		A		B				
OVERLAP								
CONFLICTING PHASES RING 1/2		--	--	--	--			
MINIMUM GREEN		10		7				
PASSAGE		3.0		3.0				
YELLOW		4.0		4.3				
RED		1.0		0.8				
MAX 1/MAX 2		63*	--	17*	--			
DYNAMIC MAX/MAX STEP		--	--	--	--			
ALT TIMING PLAN (1,2,3,4) MAX I								
ALT TIMING PLAN (1,2,3,4) MAX II								
BICYCLE CLEARANCE		--		--				
WALK		7		7				
PEDESTRIAN CLEAR		10		5				
GREEN/PEDESTRIAN DELAY		--		--				
PEDESTRIAN DELAY		--		--				
RECALL		EXT		OFF				
MEMORY		OFF		OFF				
COORDINATION ON PHASE		XXXX						
FIRST GREEN DISPLAY				XXXX				
INTERSECTION FLASH		YELLOW		RED				
AWF TIME [s]				--				
AWF TIME [s] [CH1/CH2]		--	--	--	--			
ALT MAP FOR VEHICLE DETECTORS	L3* 3 SECONDS (LT CLIP)			PROGRAMMING COMMENTS				
	L5, L6 5 SECONDS (RT)*			1. TRANSIT SIGNAL PRIORITY WIRED TO LOW-PRIORITY INPUT #7 FOR PHASE 5* 2* AB				
				2. TSP ENABLED: TSD = 5.0 S, TED = 5.0 S, MAX EXTEND PHASE 2 UP TO 5 SEC*				
				3.				
				4.				
PRE-EMPTION TYPE	TSP*			OPERATIONAL COMMENTS				
DELAY TIME	NONE			1. COORDINATED WITH HEBERT, ELLIOTT AND 1ST AVE				
PRE-EMPTION TIME	GPS OPTICOM-SENSOR ACTUATED*			2. PED COUNTDOWN STARTS AT THE END OF "WALK" INTERVAL AND READS ZERO AT THE START OF "STEADY" INTERVAL*				
VOLUME LOGGING AND MOES	ON			3.				
				4. POSTED SPEED: HWY 97 = 50 KM/H BROWN ROAD = 50 KM/H				

SIGNAL TIMING SHEET

DATE ISSUED	JUNE 29, 2014	INTERSECTION	HIGHWAY 97NB @ BROWN ROAD
CONTROLLER TYPE	NAZTEC - 980*	LOCATION	WEST KELOWNA
CABINET TYPE	"M" SHELF	SHEET NUMBER & REVISION	TE-95138-9F*
SEQUENCE	SEQUENTIAL	PREVIOUS STS DATE	APRIL 14, 2011

TIME CLOCK SETTINGS*						PATTERN OPTIONS				SPLIT TABLE*									
TIME OF DAY	DAY OF WEEK	PATTERN # (1 TO 48)	CYCLE LENGTH	OFFSET VALUE	SPLIT # (1 TO 32)					NO.	Phase	1	2	3	4	5	6	7	8
0700 TO 2100	SUN - SAT	1	90	68	1		1	1		1	Time	-	68	-	22	-	-	-	-
2100 TO 0700	SUN-SAT	254	0	-	-						Max Reduce	-	-	-	5	-	-	-	-
											Max Extend	-	5	-	-	-	-	-	-
										2	Time								
											Max Reduce								
											Max Extend								
										3	Time								
											Max Reduce								
											Max Extend								
										4	Time								
											Max Reduce								
											Max Extend								
										Coordination	-	X	-	-	-	-	-	-	-
										Mode	NON	MAX	NON	NON	NON	NON	NON	NON	NON

SUMIT BHASIN

DESIGNED BY

27-Jun-14

DATE

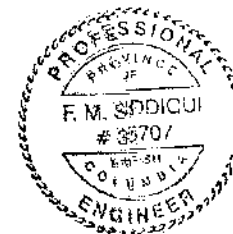
FAISAL SIDDIQUI

CHECKED BY

29-Jun-14

DATE

2014 August 6 @ 2156 HRS
DATE IMPLEMENTED



F. M. Siddiqui
June 29th, 2014

SIGNAL TIMING SHEET

DATE ISSUED	JUNE 29, 2014	INTERSECTION	HIGHWAY 97NB @ ELLIOTT ROAD
CONTROLLER TYPE	NAZTEC - 980*	LOCATION	WEST KELOWNA
CABINET TYPE	P6*	SHEET NUMBER & REVISION	TE-95138-71*
SEQUENCE	NEMA DUAL RING*	PREVIOUS STS DATE	APRIL 14, 2011

PHASE NUMBER	1	2	3	4	5	6	7	8
PHASE SETTING	OFF	ON	ON*	ON	OFF	OFF	OFF	OFF
DESCRIPTION		HIGHWAY 97 NB	ELLIOTT ROAD TRANSIT PHASE	ELLIOTT ROAD EW				
FUNCTION		A	BT	B				
OVERLAP								
CONFLICTING PHASES RING 1/2		--	--	--	--			
MINIMUM GREEN		10	7	7				
PASSAGE		3.0	3.0	3.0				
YELLOW		4.5*	3.7	3.8				
RED		1.4*	1.0	0.5				
MAX 1/MAX 2		52*	--	13*	--			
DYNAMIC MAX/MAX STEP		--	--	--	--			
ALT TIMING PLAN (1,2,3,4) MAX I								
ALT TIMING PLAN (1,2,3,4) MAX II								
BICYCLE CLEARANCE		--		--				
WALK		7		7				
PEDESTRIAN CLEAR		11*		6				
GREEN/PEDESTRIAN DELAY		--		--				
PEDESTRIAN DELAY		--		--				
RECALL		EXT	OFF	OFF				
MEMORY		OFF	OFF	OFF				
COORDINATION ON PHASE		XXXX						
FIRST GREEN DISPLAY				XXXX				
INTERSECTION FLASH		YELLOW		RED				
AWF TIME [s]				--				
AWF TIME [s] [CH1/CH2]		--	--	--	--			
ALT MAP FOR VEHICLE DETECTORS			PROGRAMMING COMMENTS					
L1	5 SECONDS (RT)*		1. TRANSIT SIGNAL PRIORITY WIRED TO LOW-PRIORITY INPUT #7 FOR PHASE 5* 3* AB.					
L6	3 SECONDS (LT CLIP)*		2. TSP ENABLED: TSD = 5.0 S, TED = 5.0 S, MAX EXTEND PHASE 2 UP TO 5 SEC*					
			3.					
			4.					
PRE-EMPTION TYPE	TSP*		OPERATIONAL COMMENTS					
DELAY TIME	NONE		1. COORDINATED WITH HEBERT, BROWN AND 1ST AVE					
PRE-EMPTION TIME	GPS OPTICOM- SENSOR ACTUATED*		2. PED COUNTDOWN STARTS AT THE END OF "WALK" INTERVAL AND READS ZERO AT THE START OF "STEADY" INTERVAL*					
VOLUME LOGGING AND MOES	ON		3.					
			4. POSTED SPEED: HWY 97 = 50 KM/H ELLIOTT ROAD = 50 KM/H					

SIGNAL TIMING SHEET

DATE ISSUED	JUNE 29, 2014	INTERSECTION	HIGHWAY 97NB @ ELLIOTT ROAD
CONTROLLER TYPE	NAZTEC - 980*	LOCATION	WEST KELOWNA
CABINET TYPE	P6*	SHEET NUMBER & REVISION	TE-95138-71*
SEQUENCE	NEMA DUAL RING*	PREVIOUS STS DATE	APRIL 14, 2011

TIME CLOCK SETTINGS*						PATTERN OPTIONS				SPLIT TABLE*									
TIME OF DAY	DAY OF WEEK	PATTERN # (1 TO 48)	CYCLE LENGTH	OFFSET VALUE	SPLIT # (1 TO 32)	OPT	TIME	DET	CR	NO.	Phase	1	2	3	4	5	6	7	8
0700 TO 2100	SUN - SAT	1	90	52	1		1	1			Time	-	58	12	20	-	-	-	-
2100 TO 0700	SUN - SAT	254	0	-	-					1	Max Reduce	-	-	-	-	-	-	-	-
											Max Extend	-	-	-	-	-	-	-	-
										2	Time								
											Max Reduce								
											Max Extend								
										3	Time								
											Max Reduce								
											Max Extend								
										4	Time								
											Max Reduce								
											Max Extend								
											Coordination	-	X	-	-	-	-	-	-
											Mode	NON	MAX	NON	NON	NON	NON	NON	NON

SUMIT BHASIN

DESIGNED BY

27-Jun-14

DATE

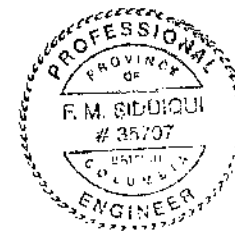
FAISAL SIDDIQUI

CHECKED BY

29-Jun-14

DATE

2014 JULY 30 @ 1311 HRS
DATE IMPLEMENTED



F. Siddiqui
June 29th, 2014



Westcana Electric Inc.

Electrical Contractors

Industrial, Commercial & Communications

TEL (250) 491-9080
FAX (250) 491-9085

UNIT A, 960 ALSGARD ST
KELOWNA, BC
V1Y 2E5

Intersection: Rte 97 NB @ Elliott
City: West Kelowna
Date: 07/14/2014
Drawing Number: TE-95138-7

REVISIONS TO TIMING

Date Timing Sheet Implemented: 07/30/2014
Time Timing Sheet Implemented: 1311
New Timing Sheet Date: 06/29/2014
Previous Timing Sheet Date: 06/14/2014

SIGNAL MODIFICATIONS

Date Timing Sheet Implemented:
Time Timing Sheet Implemented:
New Timing Sheet Date:
Previous Timing Sheet Date:

NEW TRAFFIC SIGNAL INSTALLATION

Date Signal in Flash:
Time Signal in Flash:
Date Of Actual 3-Colour Operation:
Time Of Actual 3-Colour Operation:
Timing Sheet Date:

REMARKS

New P Cabinet Installed



Westcana Electric Inc.

Electrical Contractors

Industrial, Commercial & Communications

TEL (250) 491-9080
FAX (250) 491-9085

UNIT A, 960 ALSGARD ST
KELOWNA, BC
V1Y 2E5

Intersection: Rte 97 NB @ Brown
City: West Kelowna
Date: 08/06/2014
Drawing Number: TE-95138-9

REVISIONS TO TIMING

Date Timing Sheet Implemented: 08/06/2014
Time Timing Sheet Implemented: 2156
New Timing Sheet Date: 06/29/2014
Previous Timing Sheet Date: 04/14/2011

SIGNAL MODIFICATIONS

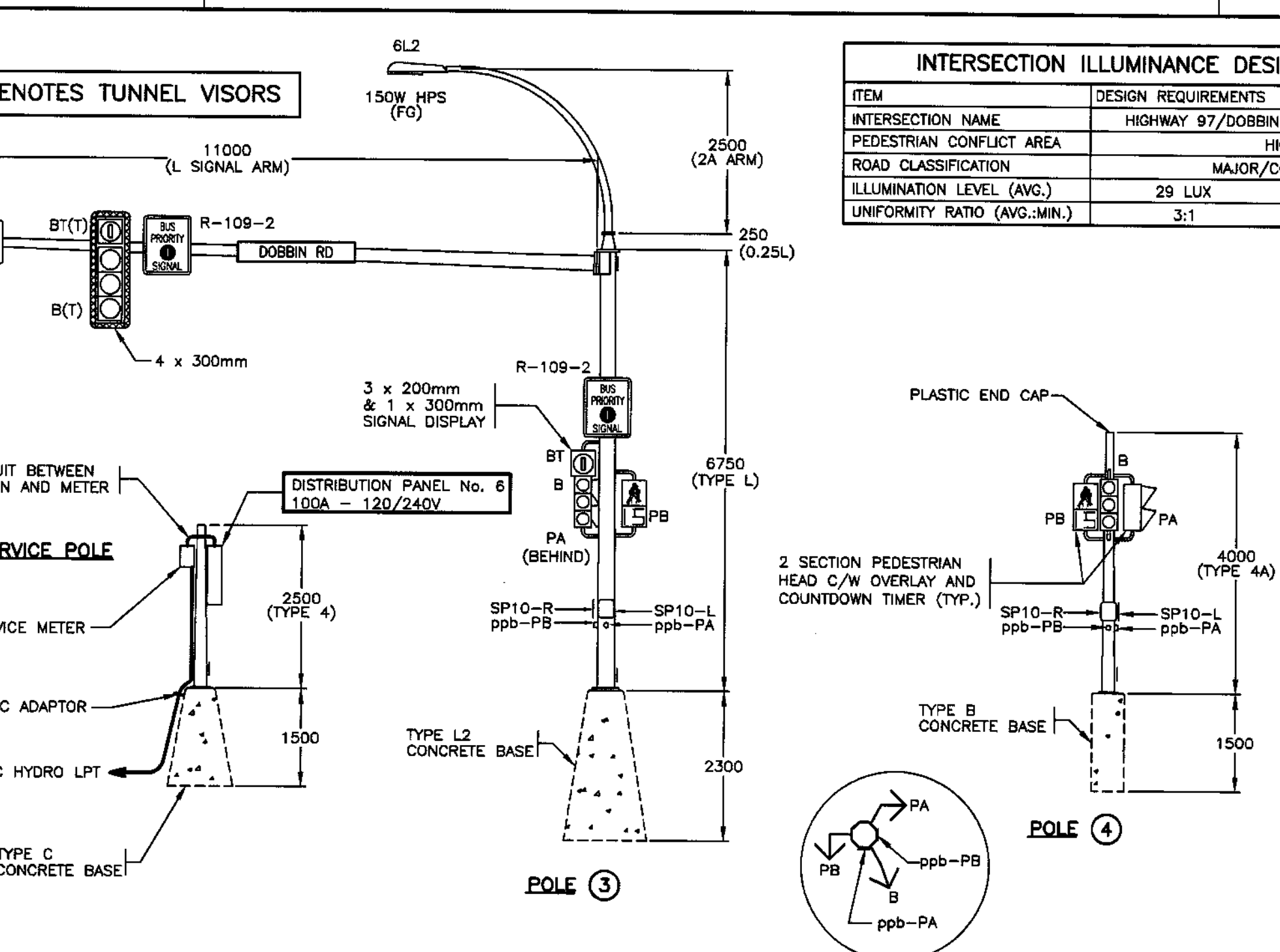
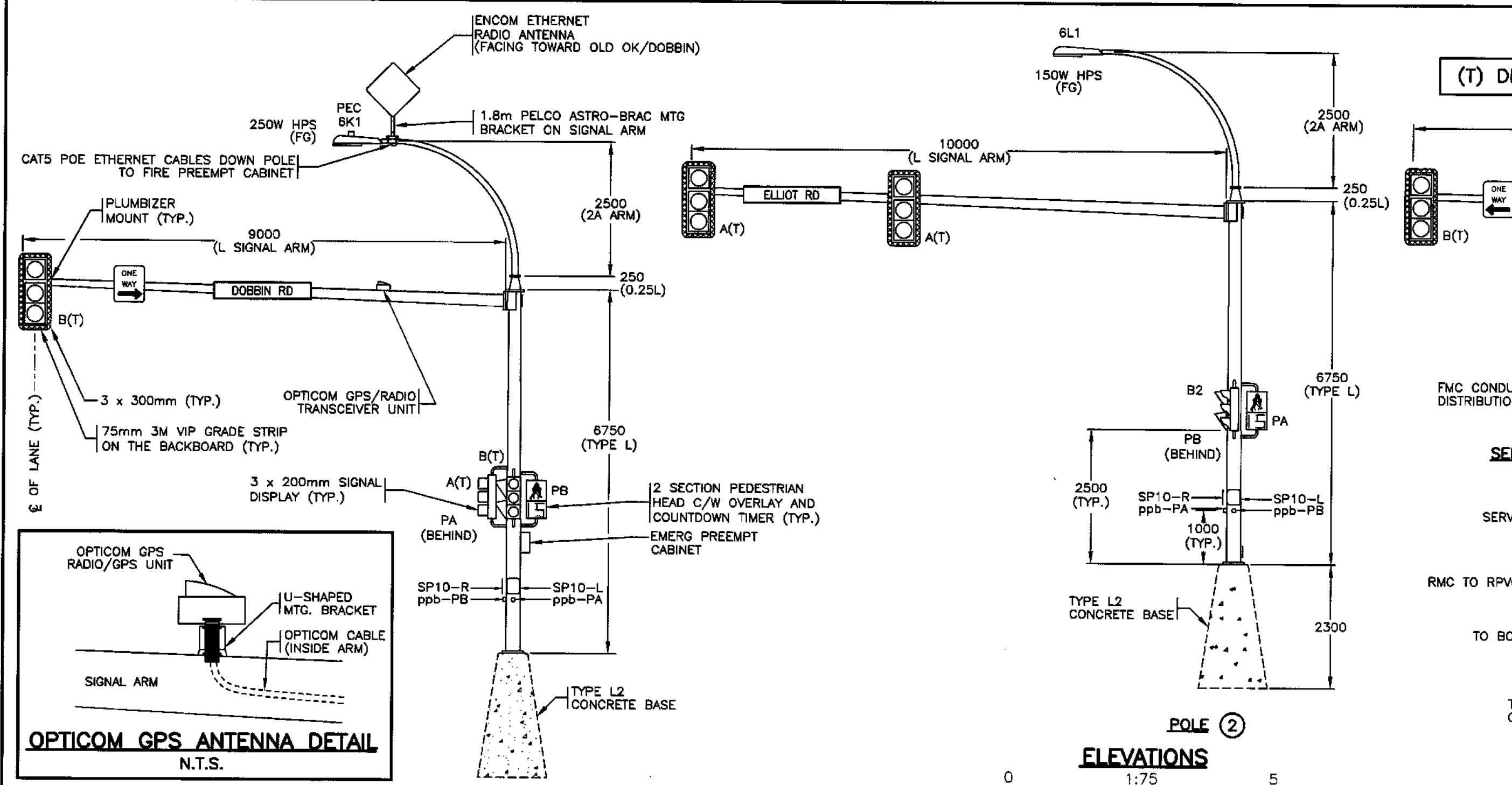
Date Timing Sheet Implemented:
Time Timing Sheet Implemented:
New Timing Sheet Date:
Previous Timing Sheet Date:

NEW TRAFFIC SIGNAL INSTALLATION

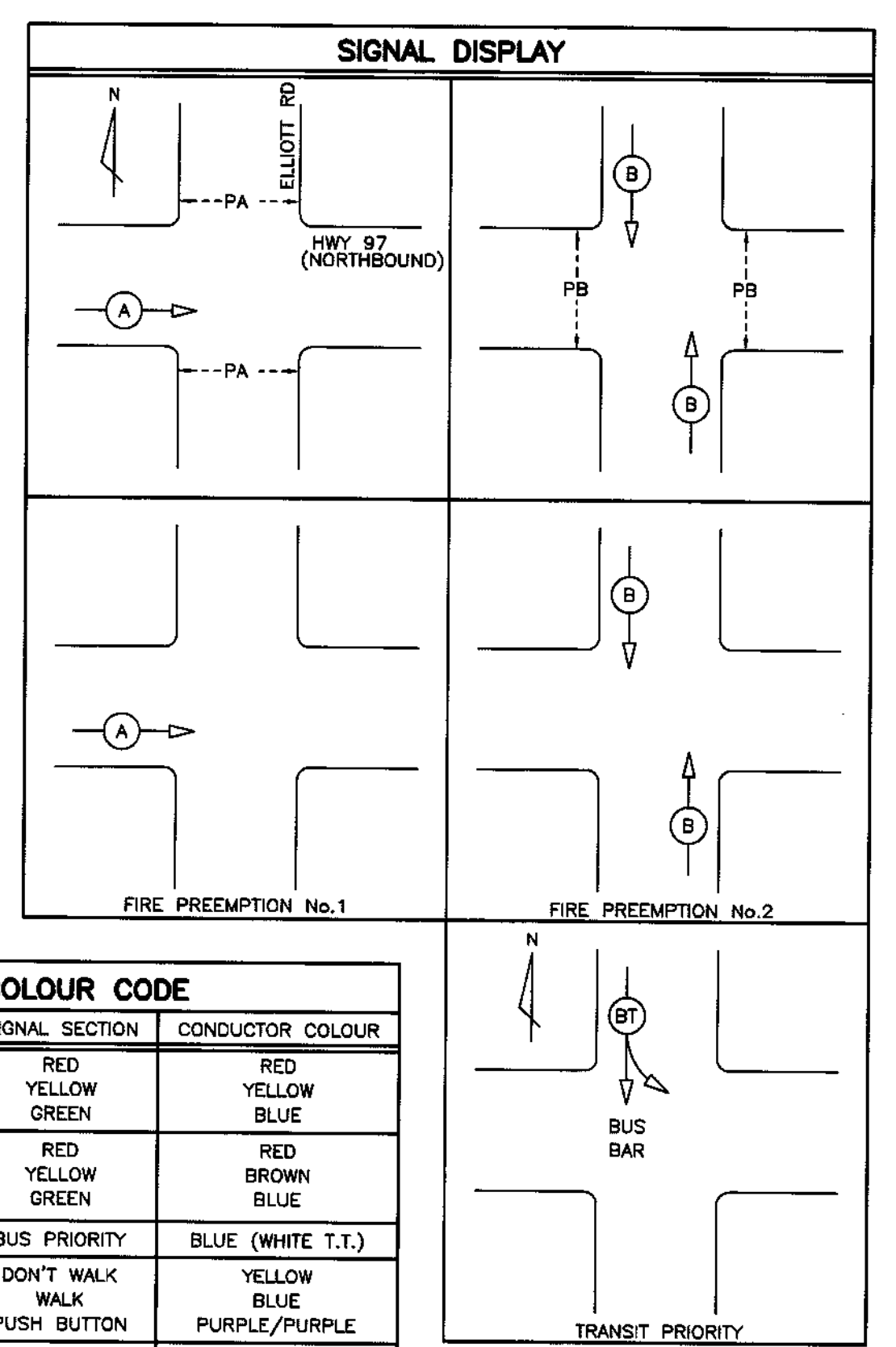
Date Signal in Flash:
Time Signal in Flash:
Date Of Actual 3-Colour Operation:
Time Of Actual 3-Colour Operation:
Timing Sheet Date:

REMARKS

New Naztec Mainframe Installed.



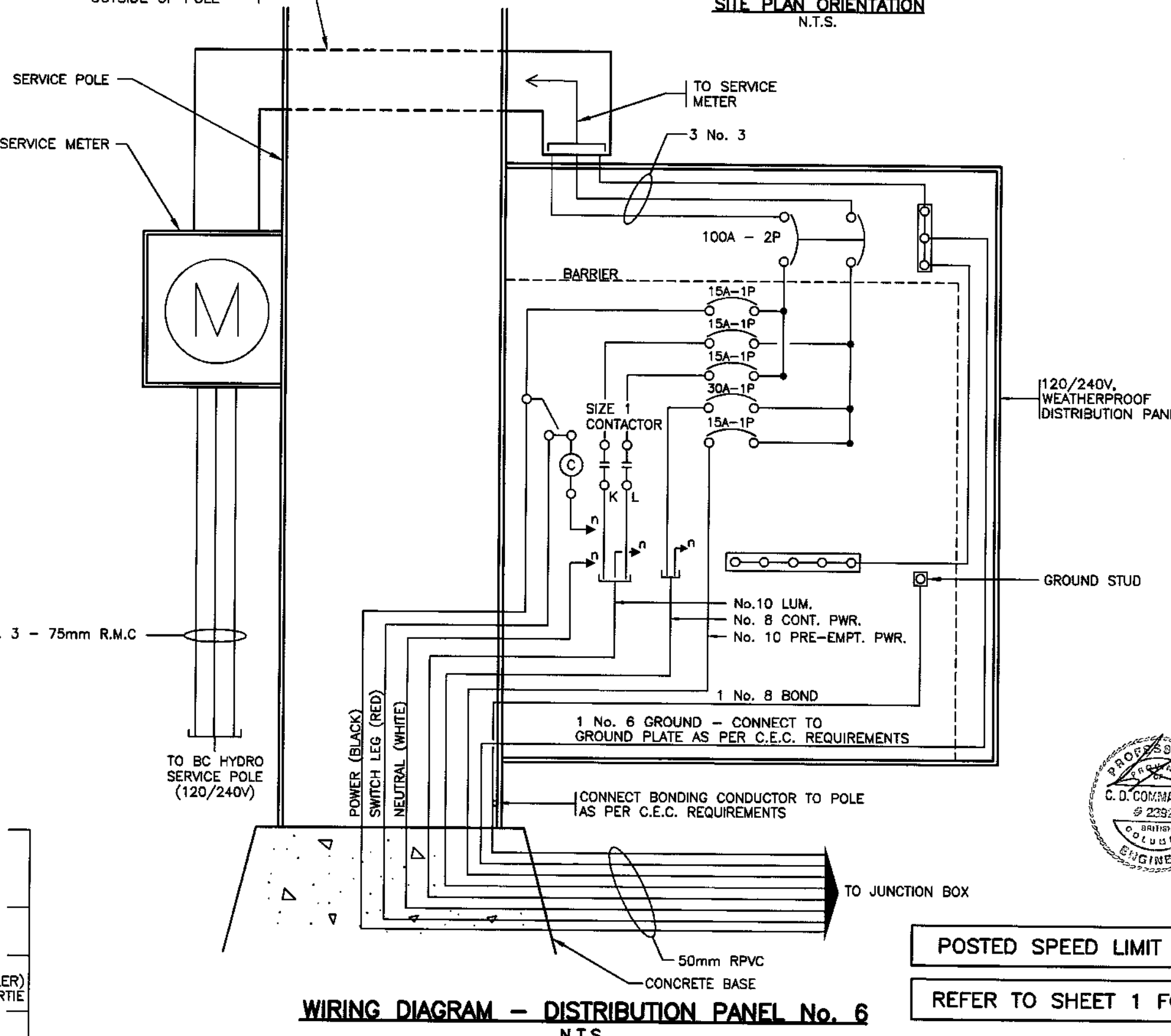
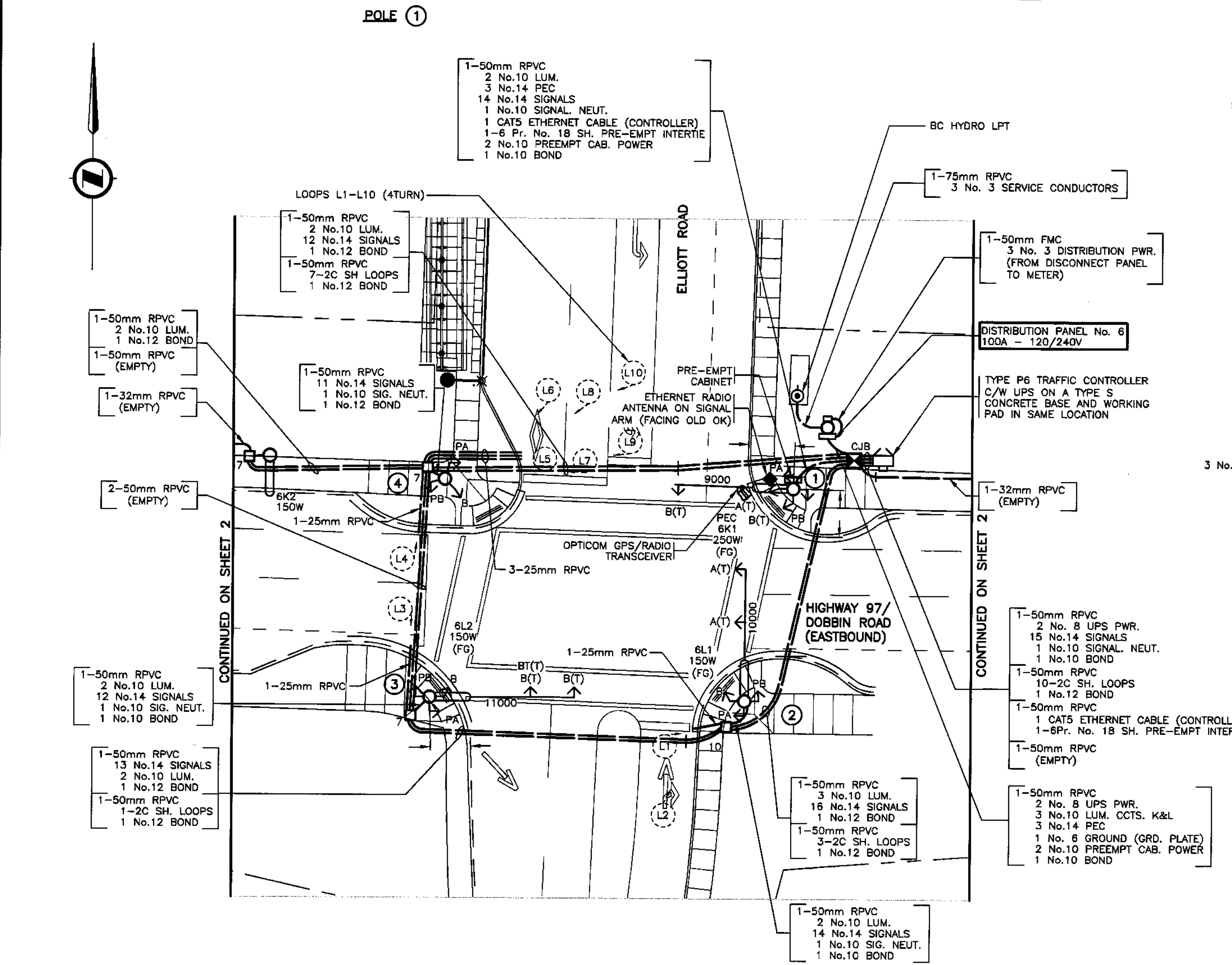
INTERSECTION ILLUMINANCE DESIGN CRITERIA		
ITEM	DESIGN REQUIREMENTS	DESIGN ACHIEVED
INTERSECTION NAME	HIGHWAY 97/DOBBIN RD AT ELLIOT ROAD	
PEDESTRIAN CONFLICT AREA	HIGH	
ROAD CLASSIFICATION	MAJOR/COLLECTOR	
ILLUMINATION LEVEL (AVG.)	29 LUX	35.8 LUX
UNIFORMITY RATIO (AVG.:MIN.)	3:1	1.6:1



COLOUR CODE		
ITEM	SIGNAL SECTION	CONDUCTOR COLOUR
A	RED YELLOW GREEN	RED YELLOW BLUE
B	RED YELLOW GREEN	RED BROWN BLUE
BT	BUS PRIORITY	BLUE (WHITE T.T.)
PA	DON'T WALK WALK PUSH BUTTON	YELLOW BLUE PURPLE/PURPLE
PB	DON'T WALK WALK PUSH BUTTON	BROWN BLUE PURPLE/PURPLE
CONTROLLER POWER		BLACK
LUMINAIRE CCT. 'K'		BLACK
LUMINAIRE CCT. 'L'		RED
NEUTRAL		WHITE
GROUND/BOND		GREEN

PRE-EMPTION CONDUCTOR LABELLING			
ITEM	LABEL	COLOUR	CONDUCTOR TYPE
PRE-EMPT. ENCLOSURE PWR.	N/A	BLACK/WHITE	RW90
GPS/RADIO SENSOR CABLE	S1	N/A	GPS/RADIO ANTENNA CABLE
PRE-EMPT. INTERTIE	PRE-INT	N/A	BELDEN 9389

DETECTOR LOOP DETAILS						
LOOP No.	SIZE	TURNS	INDUCTANCE		TOTAL	PHASE
			LOOP	LEAD		
L 1	1.8 DIA.	4	95	16	111	#B
L 2	1.8 DIA.	4	95	16	111	#B
L 3	1.8 DIA.	4	95	32	127	#A
L 4	1.8 DIA.	4	95	22	117	#A
L 5	1.8 DIA.	4	95	22	117	#BT
L 6	1.8 DIA.	4	95	22	117	#BT
L 7	1.8 DIA.	4	95	22	117	#B
L 8	1.8 DIA.	4	95	22	117	#B
L 9	1.8 DIA.	4	95	22	117	#B
L 10	1.8 DIA.	4	95	22	117	#B



NOTE: GNEC HAS PREPARED THIS RECORD DRAWING BASED ON:

1. GENERAL TSP LAYOUT DESIGNED BY GNEC.
2. OTHER ELECTRICAL UPGRADE WORKS DESIGNED BY "OTHERS."
3. CONTRACTOR INSTALLATION NOTES / MARKUPS.

FOR MINISTRY USE ONLY

THIS DRAWING SERIES SUPERSEDES DRAWING SERIES TE-83075

DO NOT USE THIS DRAWING FOR PAVEMENT MARKING STANDARDS

ALL DIMENSIONS ARE IN MILLIMETERS EXCEPT WHERE NOTED

GNEC
Great Northern Engineering Consultants

202 - 8525 Baxter Place
Burnaby, BC V5A 4V7
Phone: 1-855-463-2266
www.gnec.ca

CAD FILENAME: 951387K.dwg

BRITISH COLUMBIA

MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE
ELECTRICAL ENGINEERING CENTRE

REV	DATE	REVISIONS	DRAWN
E	JUN/05	TITLE BLOCK UPDATED - RECORD DRAWING	NJP
F	OCT/09	LOOPS ADDED DUE TO LANE CHANGES, RECORD DRAWING	ABC
G	SEP/12	SIGNAL HEADS UPDATED, RECORD DRAWING	MOT
H	MAY/13	SIGNAL REVISED AS PER CHANGE IN GEOMETRICS	BK
I	MAR/14	ADDENDUM No. 1	RF
J	JUN/14	ADDENDUM No. 2	ER
K	JUNE/15	RECORD DRAWING (TSP PROJECT)	GNEC

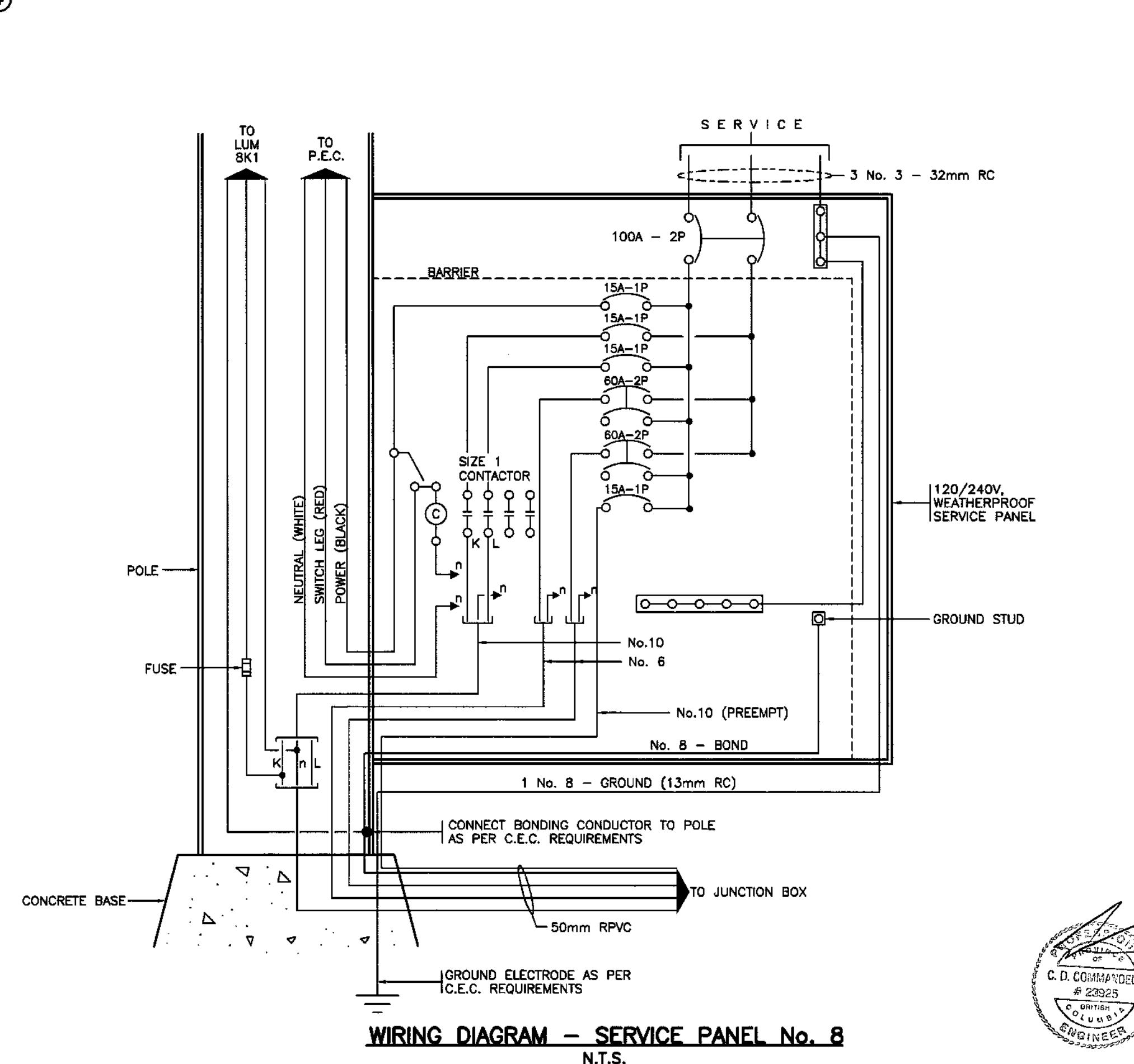
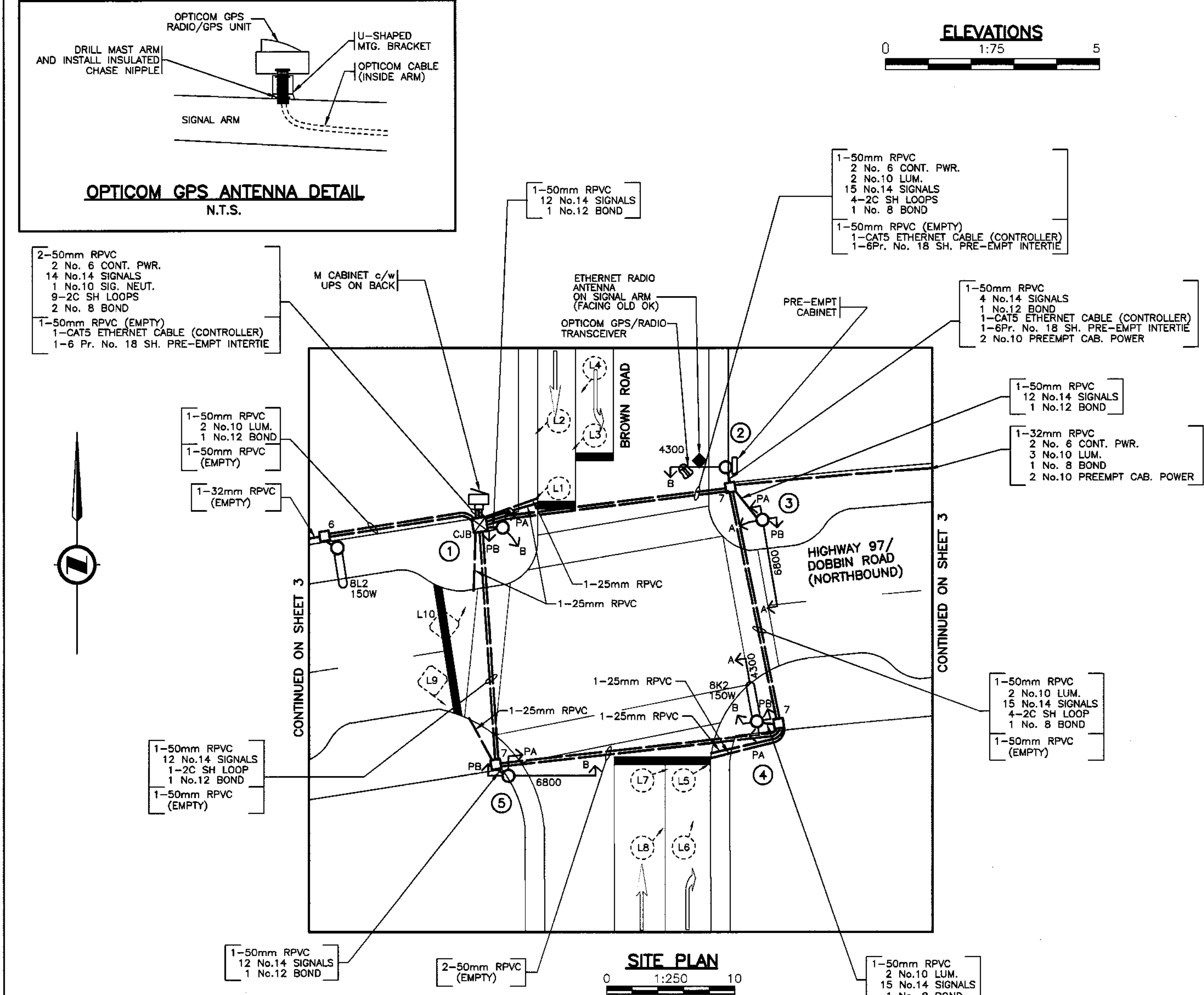
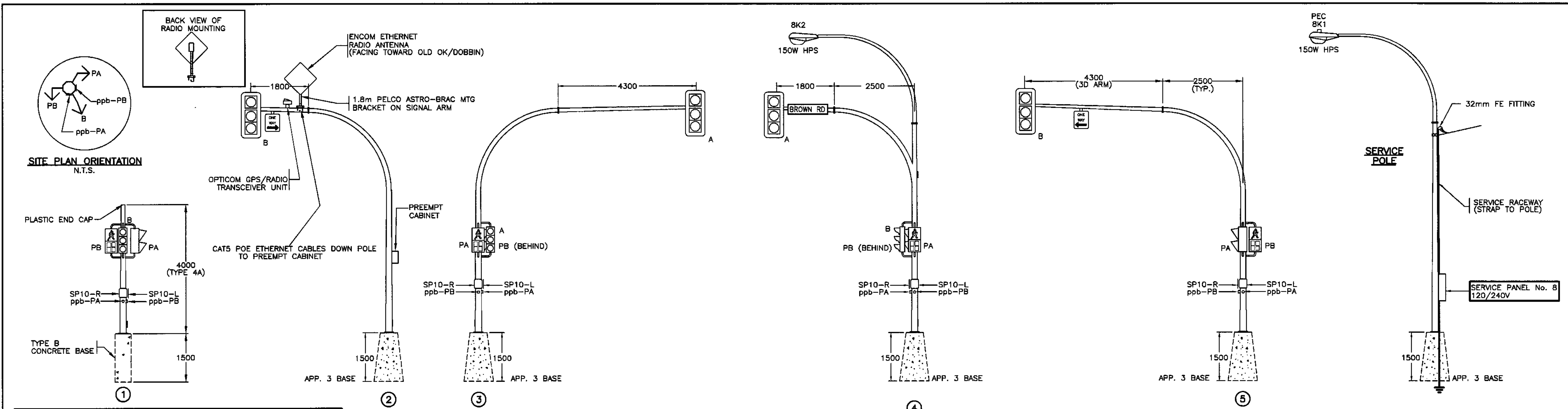
SIGNAL AND LIGHTING REVISION
HIGHWAY 97 AT HEBERT ROAD TO OLD OKANAGAN HIGHWAY
DISTRICT OF WEST KELLOWNA

SITE PLAN ENLARGEMENT - DETAILS (HWY 97 N/B @ ELLIOT RD)

DESIGNED: LCP DATE: MAY/15
QUALITY CONTROL: BDO DATE: MAY/15
QUALITY ASSURANCE: CDC DATE: MAY/15
TRAN ELECTRICAL DESIGN REVIEW: ML DATE: July 22/15

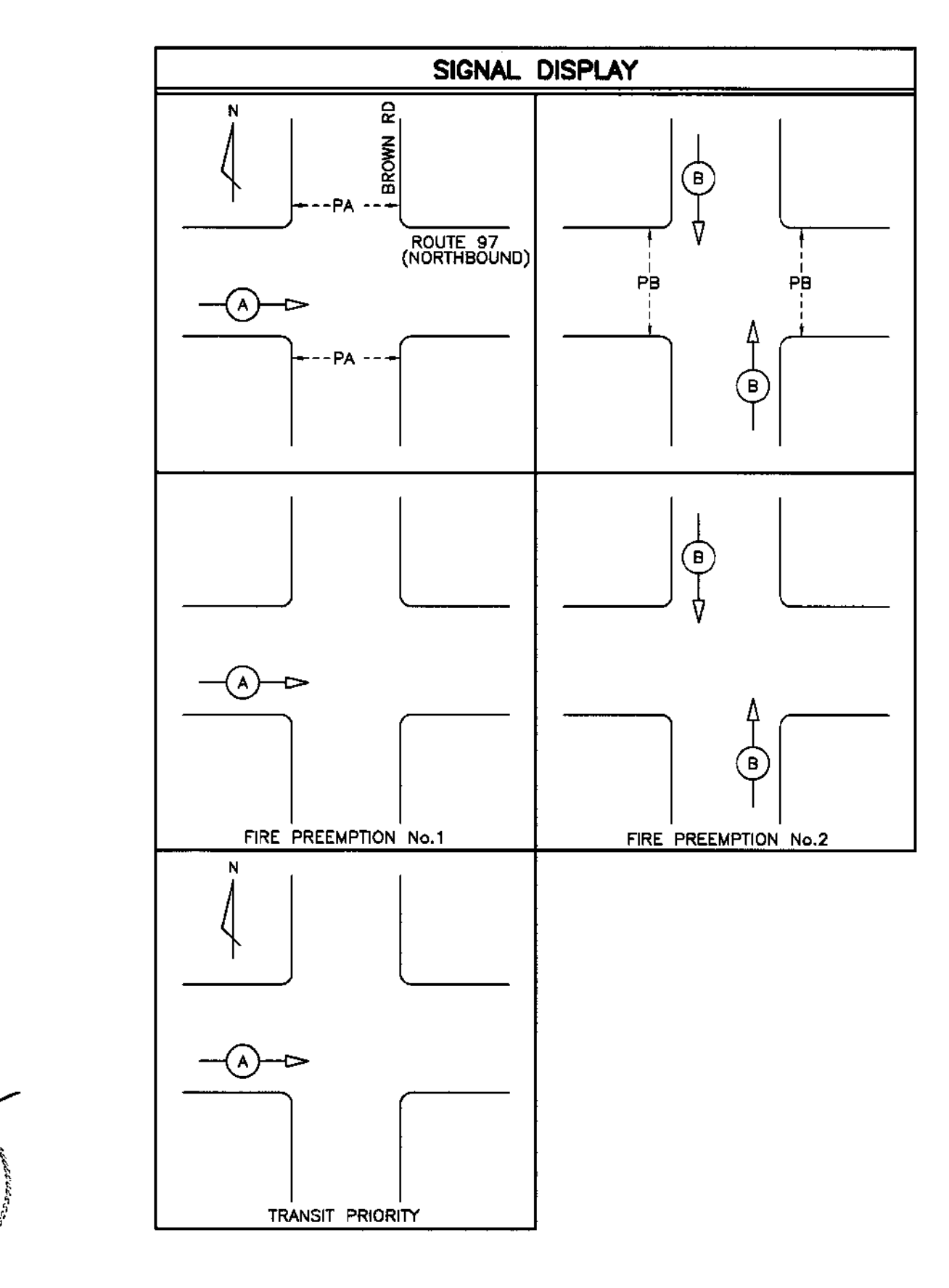
ELECTRICAL ENGINEER OF RECORD (FOR CURRENT REVISION) DATE: [Signature]

SHEET NUMBER: 7 OF 11
SITE CODE: 5
HWY DIST: 2
REG: TE-95138-7
DRAWING NUMBER: K



COLOUR CODE		
ITEM	SIGNAL SECTION	CONDUCTOR COLOUR
A	RED	RED
	YELLOW	YELLOW
B	GREEN	BLUE
	RED	BROWN
PA	DON'T WALK	YELLOW
	WALK	BLUE
PB	PUSH BUTTON	PURPLE/PURPLE
	DON'T WALK	BROWN
	WALK	BLUE
	PUSH BUTTON	PURPLE/PURPLE
CONTROLLER POWER		BLACK
LUMINAIRE CCT. 'K'		BLACK
LUMINAIRE CCT. 'L'		RED
NEUTRAL		WHITE
GROUND/BOND		GREEN

DETECTOR LOOP DETAILS					
LOOP		INDUCTANCE			
LOOP No.	SIZE	LEAD	TURNS	LEAD	PHASE
L 1	1.8 DIA.	4	95	5	100
L 2	1.8 DIA.	4	95	5	100
L 3	1.8 DIA.	4	95	5	100
L 4	1.8 DIA.	4	95	5	100
L 5	1.8 DIA.	4	95	32	127
L 6	1.8 DIA.	4	95	32	127
L 7	1.8 DIA.	4	95	32	127
L 8	1.8 DIA.	4	95	32	127
L 9	1.8 x 1.8	4	120	5	125
L 10	1.8 x 1.8	4	120	5	125



PRE-EMPTION CONDUCTOR LABELLING			
ITEM	LABEL	COLOUR	CONDUCTOR TYPE
PRE-EMPT. ENCLOSURE PWR.	N/A	BLACK/WHITE	RW90
GPS/RADIO SENSOR CABLE	S1	N/A	GPS/RADIO ANTENNA CABLE
PRE-EMPT. INTERTIE	PRE-INT	N/A	BELDEN 9389

NOTE: GNEC HAS PREPARED THIS RECORD DRAWING BASED ON:
1. GENERAL TSP LAYOUT DESIGNED BY GNEC.
2. OTHER ELECTRICAL UPGRADE WORKS DESIGNED BY "OTHERS."
3. CONTRACTOR INSTALLATION NOTES / MARKUPS.

SEE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION
FOR APPLICABLE STANDARD DRAWINGS

DO NOT USE THIS DRAWING FOR
PAVEMENT MARKING STANDARDS

REFER TO SHEET 1 FOR NOTES

POSTED SPEED LIMIT 50 km/h

FOR MINISTRY USE ONLY
THIS DRAWING SERIES SUPERSEDES
DRAWING SERIES TE-83075

ALL DIMENSIONS ARE IN MILLIMETERS
EXCEPT WHERE NOTED

		202 - 8525 Baxter Place Burnaby, BC V5A 4V7 Phone: 1-855-483-2266 www.gnec.ca
Great Northern Engineering Consultants		
CAD FILENAME		
REV	DATE	REVISIONS
DEC98		RECORD DRAWING
A	JUL/00	TRAFFIC CONTROLLER AND DETECTOR LOOP UPGRADE
B	JUN/05	RECORD DRAWING
C	NOV09	LOOPS ADDED DUE TO LANE CHANGES; RECORD DRAWING
D	SEP12	UPDATED SIGNAL HEADS; RECORD DRAWING
E	JULY12	TSP EQUIPMENT AND ETHERNET RADIO INSTALLATION
F	JUNE/15	RECORD DRAWING (TSP PROJECT)

		MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE ELECTRICAL ENGINEERING CENTRE
The Best Place on Earth		
SIGNAL AND LIGHTING REVISION		
HIGHWAY 97 AT HEBERT AVENUE TO OLD OKANAGAN HIGHWAY WESTBANK (DOBBIN & BROWN)		
SITE PLAN ENLARGEMENT - DETAILS (HWY 97 N/B @ BROWN RD)		
DESIGNED LCP DATE MAY15		
QUALITY CONTROL BDO DATE MAY15		
TRAN ELECTRICAL DESIGN REVIEW ML DATE JULY15		
SHEET NUMBER		
SITE CODE		
HWY DIST		
REG		
DRAWING NUMBER		
SHEET 9 OF 11		
5		
2		
TE-95138-9		