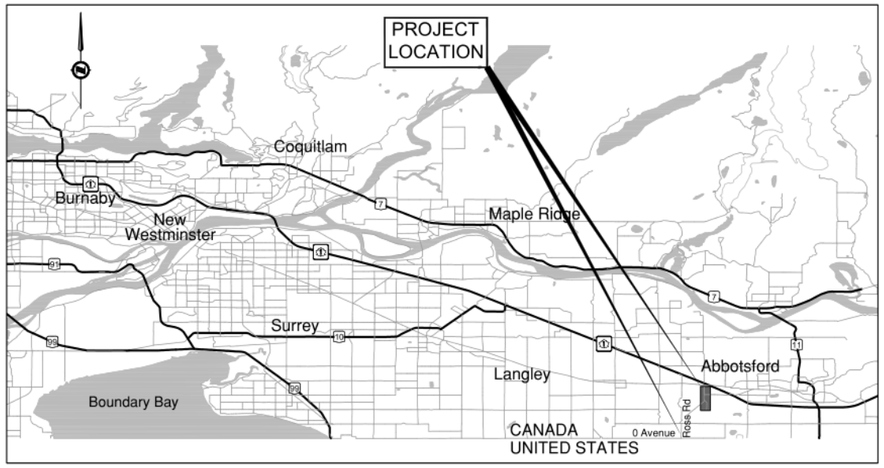
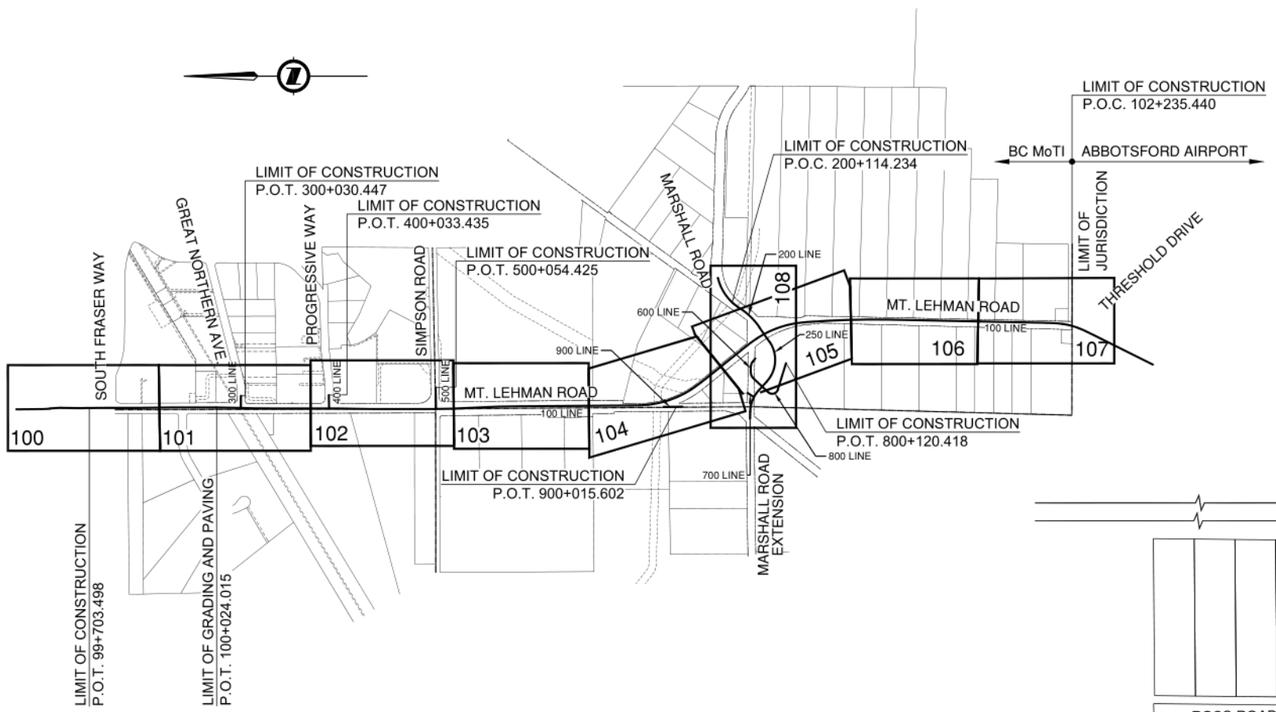


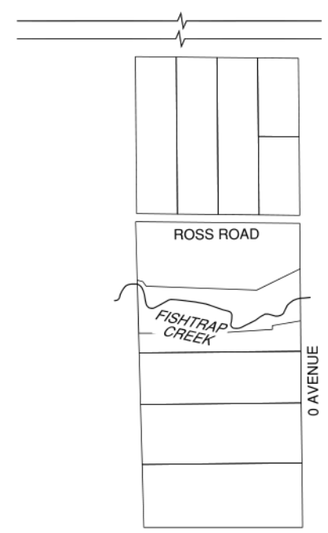
LOCATION MAP

N.T.S.



KEY PLAN

0 75 1:7500 375m



BRITISH COLUMBIA

Ministry of Transportation and Infrastructure

PROJECT No. 12695-0001

MT. LEHMAN ROAD 4 LANING NORTH OF SIMPSON ROAD TO AIRPORT (YXX)

STA. P.O.T. 99+703.498 - STA. P.O.T. 102+235.440

2.531 km

GRADING AND PAVING CONTRACT

DRAWING INDEX

R1-850-001	LOCATION MAP / KEY PLAN / DRAWING INDEX
R1-850-002	LEGEND
R1-850-100 to 108	PLANS
R1-850-201 to 205	PROFILES
R1-850-301 to 307	TYPICAL SECTIONS
R1-850-351	MISCELLANEOUS DETAILS - ROADWORKS
R1-850-401 to 408	GEOMETRICS AND LANING
R1-850-451	CURVE TABLES
R1-850-501 to 503	SPOT ELEVATIONS
R1-850-601 to 608	SIGNING AND PAVEMENT MARKINGS
R1-850-701 to 708	DRAINAGE AND UTILITIES
R1-850-721 to 726	STORM SEWERS PROFILES
R1-850-731 to 734	CATCHBASIN TABLES / MANHOLE TABLES
R1-850-751 to 753	MISCELLANEOUS DETAILS - DRAINAGE
R1-850-771 to 773	CULVERTS
R1-850-781 to 788	WATERMAIN PROFILES
R1-850-800 to 804	ELECTRICAL
R1-850-810 to 817	ELECTRICAL
R1-850-820 to 821	ELECTRICAL
R1-850-825	ELECTRICAL
R1-850-830 to 832	ELECTRICAL
R1-850-840 to 842	ELECTRICAL
R1-850-901 to 907	RETAINING WALLS
R1-850-1101 to 1106	PLANTING PLANS, TABLES AND DETAILS

BRITISH COLUMBIA

MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE
SOUTH COAST REGION
HIGHWAY ENGINEERING AND GEOMATICS

LOCATION MAP / KEY PLAN / DRAWING INDEX

MT. LEHMAN ROAD 4 LANING
NORTH OF SIMPSON ROAD TO AIRPORT (YXX)

REGIONAL MANAGER, ENGINEERING — DATE 2018-05-10

REGIONAL DIRECTOR — DATE 2018-05-10

FILE NUMBER	PROJECT NUMBER	REG	DRAWING NUMBER	REV
	12695-0001	1	R1-850-001	

LEGEND

EXISTING SYMBOLS

SURVEY
- SPOT ELEVATION
- BENCHMARK
- REFERENCE POINT
- DETAIL HUB
- STANDARD IRON PIN
- CONCRETE POST MONUMENT
- CONTROL MONUMENT
- ROCK POST MONUMENT
- STANDARD BRASS CAP MONUMENT
- LEAD PLUG
- BOREHOLE / AUGER HOLE / TEST PIT
- WOODEN POST
- ALUMINUM POST
- ANGLE IRON POST
- WITNESS POST
- DOMINION IRON POST
- NON-STD. ROUND IRON POST
- NON-STD. SQUARE IRON POST
- MONITOR POINT

AERIAL UTILITIES
- POWER GUY POLE
- TELEPHONE GUY POLE
- POWER / TELEPHONE GUY POLE
- DEADMAN
- ANCHOR GUY WIRE
- HIGH TENSION POLE
- HIGH TENSION TOWER
- POWER POLE
- TELEPHONE POLE
- POWER / TELEPHONE POLE
- POWER POLE WITH TRANSFORMER
- POWER / TELEPHONE WITH TRANSFORMER
- PEDESTAL (TELUS)
- TELEPHONE BOOTH

DETAIL
- GATE POST
- GUARD POST
- FLAG POLE
- DELINEATOR POST
- MAILBOX
- DECORATIVE TREE
- TREE
- WELL
- COMMERCIAL SIGN
- SWAMP
- POST MOUNTED DELINEATOR (YELLOW)
- POST MOUNTED DELINEATOR (WHITE)
- TOP MOUNTED BI-DIRECTIONAL REFLECTOR
- TOP OR SIDE MOUNTED MONO-DIRECTIONAL YELLOW REFLECTOR
- TOP OR SIDE MOUNTED MONO-DIRECTIONAL WHITE REFLECTOR
- RAISED PAVEMENT MARKERS (WHITE AND YELLOW)

DRAINAGE & UTILITIES
- MANHOLE
- SANITARY/STORM CLEANOUT MANHOLE
- POWER MANHOLE
- SANITARY SEWER MANHOLE
- STORM SEWER MANHOLE
- TELEPHONE MANHOLE
- UNKNOWN MANHOLE
- VAULT MANHOLE
- WATER MANHOLE
- MH/CB DRYWELL
- CB LAWN
- CATCH BASIN
- CATCH BASIN MANHOLE
- ASPHALT SPILLWAY
- DRAINAGE GRATE
- CULVERT
- CULVERT INLET
- CULVERT OUTLET
- CULVERT KINK
- RIPRAP

UNDERGROUND
- BREATHER VENT PIPE
- FILLER CAP
- FUEL / GAS PUMP
- FUEL TANK
- SEPTIC TANK
- UNDERGROUND MARKER
- IRRIGATION JUNCTION BOX
- IRRIGATION SPRINKLER HEAD
- UNDERGROUND TRANSFORMER
- MONITOR WELL

ELECTRICAL
- JUNCTION BOX
- UTILITY POLE
- ELECTRICAL OUTLET
- LAMP STANDARD
- KIOSK
- TRAFFIC SIGNAL
- TRAFFIC COUNTER
- TRAFFIC SIGNAL CONTROL BOX

METERS
- VALVE
- SERVICE VALVE
- GAS VALVE
- WATER VALVE
- WATER METER
- FIRE HYDRANT
- STANDPIPE WATER BLOWOFF
- AIR RELEASE VALVE

ROAD SIGNS
- ONE-POST SIGN
- TWO-POST SIGN
- BREAKAWAY STEEL
- STD. DAVIT POLE - TYPE 3
- STD. COMBINATION POLE - TYPE 1
- HEAVY DUTY DAVIT POLE - TYPE 6
- H.D. COMBINATION POLE - TYPE 7
- HEAVY POLE - TYPE H
- H. COMBINATION POLE - TYPE H
- CANTILEVER STRUCTURE
- SIGN BRIDGE STRUCTURE

EXISTING LINE TYPES

MAN-MADE FEATURES
- CONCRETE ROAD BARRIER
- BROKEN WHITE LINE
- SOLID WHITE LINE
- SOLID YELLOW LINE
- DOUBLE YELLOW LINE
- CENTRELINE
- ROAD SHOULDER
- PAVEMENT EDGE
- ASPHALT CURB
- GRAVEL ROAD
- SIDEWALK
- FENCE
- GARDEN, LAWNS, VEGETATION
- HEDGE, BUSH LINE & TREE LINE
- RETAINING WALL
- CN TRACK BED

TOPOGRAPHY
- BOTTOM OF BANK
- TOP OF BANK

BOUNDARIES
- EASEMENT
- GAZETTE BOUNDARY
- PARCEL BOUNDARY
- QUARTER SECTION LINE
- SECTION LINE & DISTRICT LOT BOUNDARY
- RIGHT OF WAY BOUNDARY

HYDROLOGY
- EDGE OF WATER
- DITCH CENTER / DRAINAGE
- EDGE OF DITCH
- CENTER OF CREEK
- STORM SEWER, MANHOLE & FLOW ARROW

UTILITIES
- SANITARY SEWER, MANHOLE & FLOW ARROW
- UNDERGROUND DRAIN PIPE
- WATER MAIN
- UNDERGROUND ELECTRICAL
- GAS MAIN
- UNDERGROUND MISCELLANEOUS
- UNDERGROUND TELEPHONE
- OIL
- COMMUNICATIONS AERIAL

PROPOSED SYMBOLS

AERIAL UTILITIES
- POWER GUY POLE
- TELEPHONE GUY POLE
- POWER / TELEPHONE GUY POLE
- DEADMAN
- ANCHOR GUY WIRE
- HIGH TENSION POLE
- HIGH TENSION TOWER
- POWER POLE
- TELEPHONE POLE
- POWER / TELEPHONE POLE
- POWER POLE WITH TRANSFORMER
- POWER / TELEPHONE WITH TRANSFORMER
- PEDESTAL (TELUS)
- TELEPHONE BOOTH

DETAIL
- GATE POST
- GUARD POST
- FLAG POLE
- DELINEATOR POST
- MAILBOX
- POST MOUNTED DELINEATOR (YELLOW)
- POST MOUNTED DELINEATOR (WHITE)
- TOP MOUNTED BI-DIRECTIONAL REFLECTOR
- TOP OR SIDE MOUNTED MONO-DIRECTIONAL YELLOW REFLECTOR
- TOP OR SIDE MOUNTED MONO-DIRECTIONAL WHITE REFLECTOR
- RAISED PAVEMENT MARKERS (WHITE AND YELLOW)
- SETTLEMENT GAUGE

ROAD SIGNS
- ONE-POST SIGN
- TWO-POST SIGN
- BREAKAWAY STEEL
- STD. DAVIT POLE - TYPE 3
- STD. COMBINATION POLE - TYPE 1
- HEAVY DUTY DAVIT POLE - TYPE 6
- H.D. COMBINATION POLE - TYPE 7
- HEAVY POLE - TYPE H
- H. COMBINATION POLE - TYPE H
- CANTILEVER STRUCTURE

DRAINAGE & UTILITIES
- MANHOLE
- SANITARY/STORM CLEANOUT MANHOLE
- POWER MANHOLE
- SANITARY SEWER MANHOLE
- STORM SEWER MANHOLE
- TELEPHONE MANHOLE
- VAULT MANHOLE
- WATER MANHOLE
- MH/CB DRYWELL
- CATCH BASIN (SINGLE)
- CATCH BASIN (TWIN)
- LAWN BASIN
- ASPHALT SPILLWAY C/W DRAINAGE BARRIER AND RIPRAP CHANNEL
- CLEANOUT
- STORM WATER TREATMENT DEVICE
- STORM DRAIN HEADWALL C/W TRASH RACK AND RIPEAP
- STORM DRAIN INLET / OUTLET C/W RIPRAP
- RIPRAP

UNDERGROUND
- BREATHER VENT PIPE
- FILLER CAP
- FUEL / GAS PUMP
- FUEL TANK
- SEPTIC TANK
- UNDERGROUND MARKER
- IRRIGATION JUNCTION BOX
- IRRIGATION SPRINKLER HEAD
- UNDERGROUND TRANSFORMER

ELECTRICAL
- JUNCTION BOX
- UTILITY POLE
- ELECTRICAL OUTLET
- LAMP STANDARD
- KIOSK
- TRAFFIC SIGNAL
- TRAFFIC COUNTER
- TRAFFIC SIGNAL CONTROL BOX

METERS
- VALVE
- SERVICE VALVE
- GAS VALVE
- WATER VALVE
- WATER METER
- FIRE HYDRANT
- STANDPIPE WATER BLOWOFF
- AIR RELEASE VALVE

PROPOSED LINE TYPES

FEATURES
- ROAD CENTRELINE (10+100, 10 LINE)
- PAVEMENT EDGE
- GRAVEL SHOULDER
- ASPHALT CURB
- CURB AND GUTTER
- CONCRETE ROADSIDE BARRIER
- RETAINING WALL
- SOUNDWALL / WOOD FENCE
- STEEL BICYCLE FENCE
- SOLID YELLOW LINE
- SOLID WHITE LINE
- BROKEN WHITE LINE - RURAL PAINTLINE
- BROKEN WHITE LINE - URBAN PAINTLINE
- DECELERATION OR ACCELERATION LANE
- INTERSECTION / BICYCLE GUIDING LINE
- CUT / FILL LINE
- SAWCUT LINE
- CLEARING & GRUBBING
- BERM
- FENCE
- FENCE REMOVAL

DRAINAGE AND UTILITIES
- DITCH
- EDGE OF DITCH
- CULVERT
- SUBDRAIN
- SWALE
- BIOSWALE
- FILTER STRIP
- STORM SEWER, MANHOLE & FLOW ARROW
- SANITARY SEWER, MANHOLE & FLOW ARROW
- WATER MAIN
- GAS MAIN
- UTILITY ABANDONED

BOUNDARIES
- RIGHT OF WAY BOUNDARY
- LICENSE TO CONSTRUCT
- STATUTORY RIGHT OF WAY
- RIPARIAN BOUNDARY (30m WIDTH)

- PAVEMENT REMOVAL
- MILLING
- PRELOAD
- SAWCUT LINE

Associated Engineering

BRITISH COLUMBIA — MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE
SOUTH COAST REGION
HIGHWAY ENGINEERING AND GEOMATICS

SCALE N.T.S.

CAD FILENAME R1-850-002
PLOT DATE 2018-05-10

REV	DATE	REVISIONS	NAME

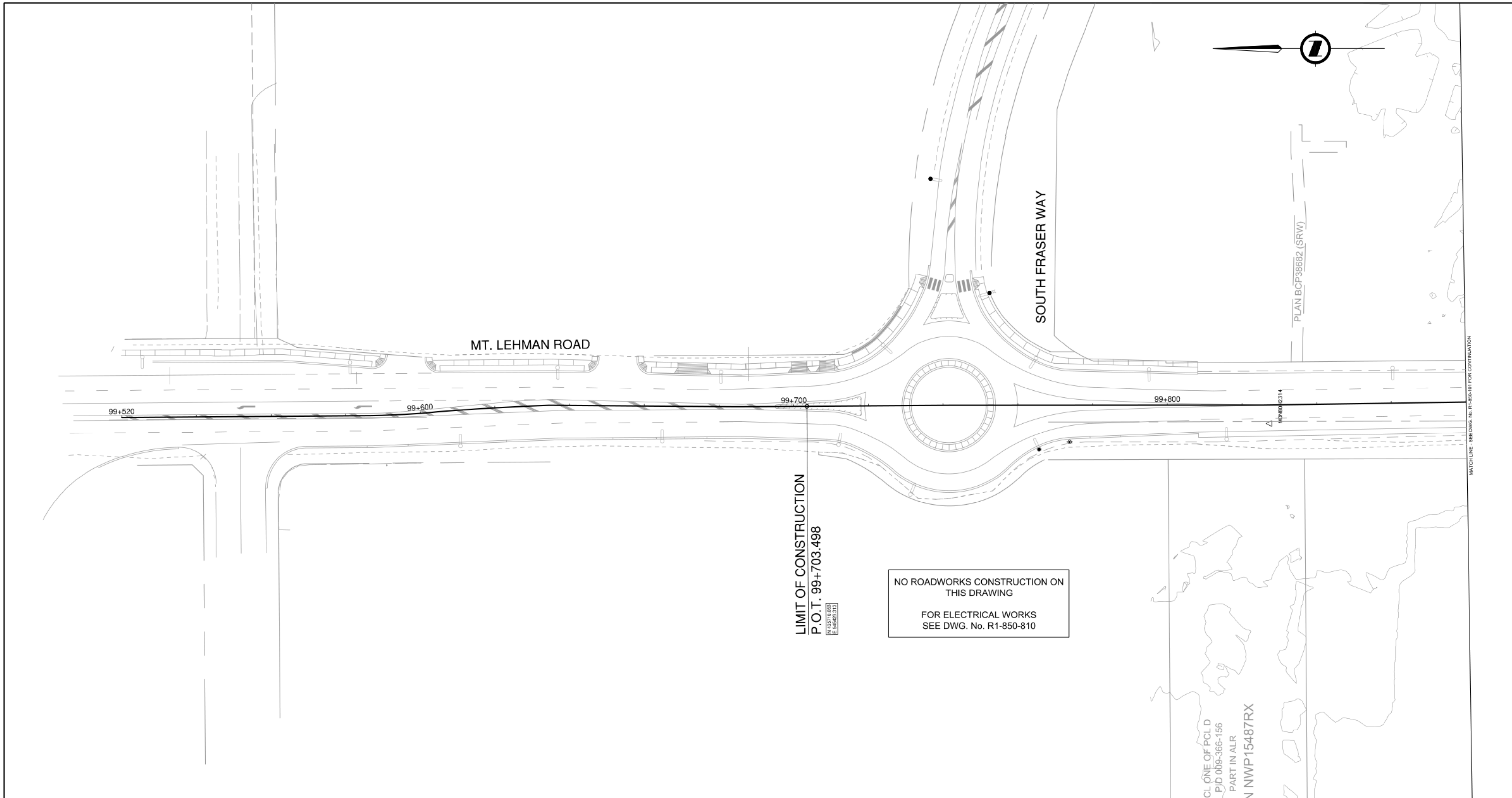
LEGEND

MT. LEHMAN RD. 4 LANING - NORTH OF SIMPSON RD. TO AIRPORT (YXX)

SHAUN BIDULKA, P. ENG
SENIOR DESIGNER
DATE 2018-05-10

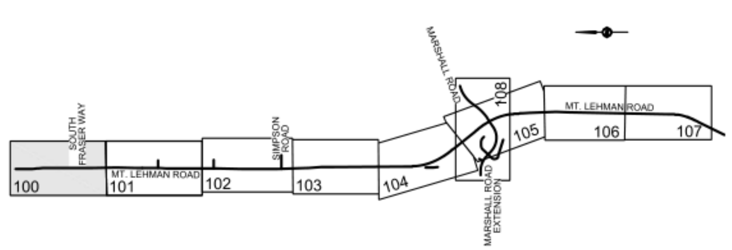
DESIGNED D. SNELL DATE 2018-05-10
QUALITY CONTROL P. TSANG DATE 2018-05-10
QUALITY ASSURANCE R. GRATZ DATE 2018-05-10
DRAWN H. YIN DATE 2018-05-10

FILE NUMBER	PROJECT NUMBER	REG	DRAWING NUMBER	REV
-	12695-0001	1	R1-850-002	



NO ROADWORKS CONSTRUCTION ON THIS DRAWING

FOR ELECTRICAL WORKS SEE DWG. No. R1-850-810



KEY PLAN

Associated Engineering

BRITISH COLUMBIA

MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE
SOUTH COAST REGION
HIGHWAY ENGINEERING AND GEOMATICS

SCALE 0 5 1:500 25m

CAD FILENAME R1-850-100
PLOT DATE 2018-05-10

REV	DATE	REVISIONS	NAME

PLAN

MT. LEHMAN ROAD 4 LANING
NORTH OF SIMPSON ROAD TO AIRPORT (YXX)

STA. 99+703.498 TO 99+880.000

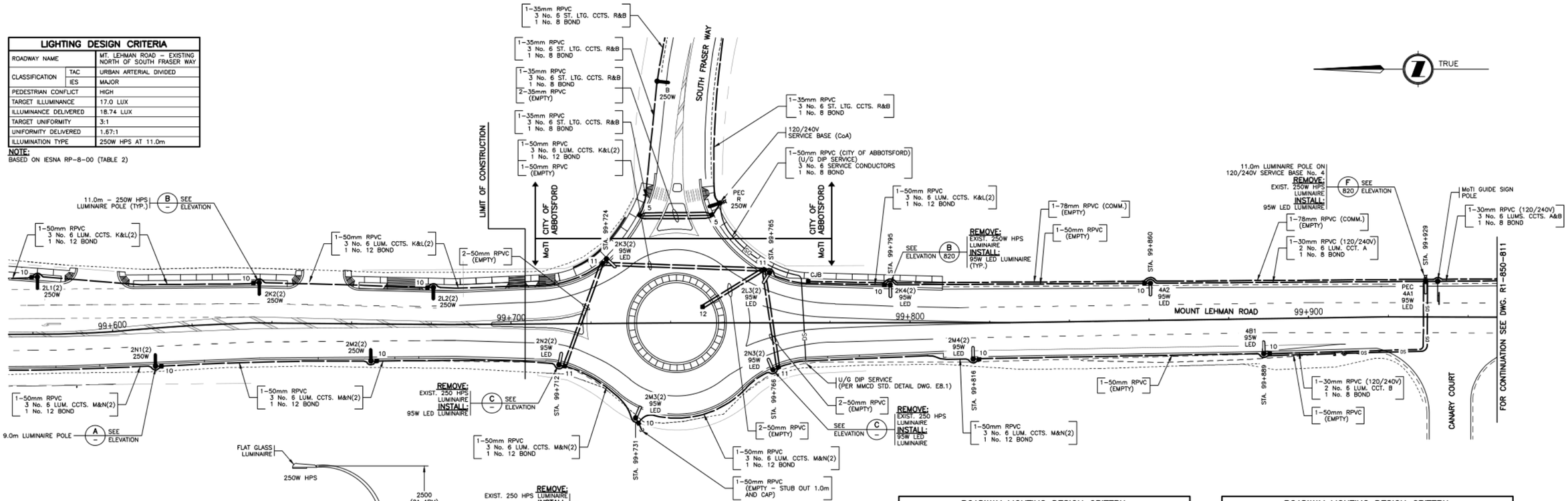
SHAUN BIDULKA, P. ENG
SENIOR DESIGNER
DATE 2018-05-10

DESIGNED D. SNELL DATE 2018-05-10
QUALITY CONTROL P. TSANG DATE 2018-05-10
QUALITY ASSURANCE R. GRATZ DATE 2018-05-10
DRAWN E. AGUILA DATE 2018-05-10

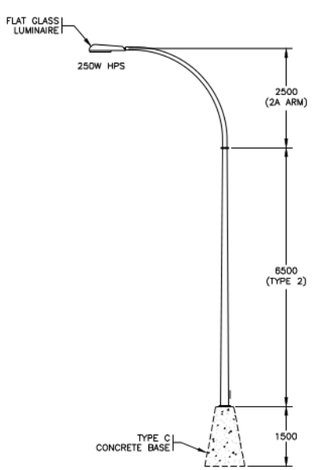
FILE NUMBER	PROJECT NUMBER	REG	DRAWING NUMBER	REV
-	12695-0001	1	R1-850-100	

LIGHTING DESIGN CRITERIA		
ROADWAY NAME		MT. LEHMAN ROAD – EXISTING NORTH OF SOUTH FRASER WAY
CLASSIFICATION	TAC	URBAN ARTERIAL DIVIDED
	IES	MAJOR
PEDESTRIAN CONFLICT		HIGH
TARGET ILLUMINANCE		17.0 LUX
ILLUMINANCE DELIVERED		18.74 LUX
TARGET UNIFORMITY		3:1
UNIFORMITY DELIVERED		1.67:1
ILLUMINATION TYPE		250W HPS AT 11.0m

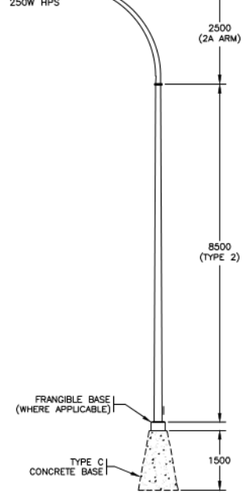
NOTE:
BASED ON IESNA RP-8-00 (TABLE 2)



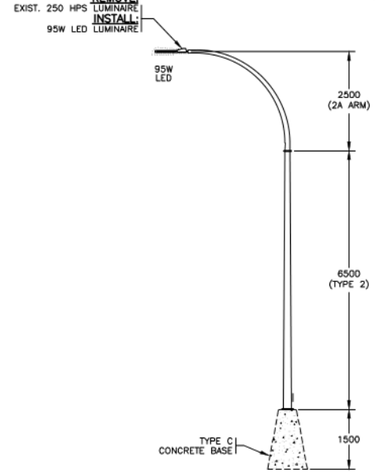
SITE PLAN
1:500



ELEVATION (A) 250W – 9.0m LUMINAIRE POLE
1:75 2N1



ELEVATION (B) 250W – 11.0m LUMINAIRE POLE
1:75



ELEVATION (C) 95W – 9.0m LUMINAIRE POLE
1:75 2N2 – 2N3

ROADWAY LIGHTING DESIGN CRITERIA		
ROADWAY LOCATION	MT. LEHMAN ROAD – AT SOUTH FRASER WAY ROUNDABOUT	
ROAD CLASSIFICATION	MAJOR/LOCAL	
PEDESTRIAN CONFLICT	LOW	
WATTAGE/TYPE/ LUMINAIRE MANUFACTURER/ MODEL NUMBER	95W LED/TYPE III/AMERICAN ELECTRIC LIGHTING/ ATBM D MVOLT R3	
	RECOMMENDED ILLUMINANCE	ACHIEVED ILLUMINANCE
ILLUMINATION LEVEL (AVG.)	15.0 LUX	16.1 LUX
UNIFORMITY RATIO (AVG:MIN)	≤ 3.0	2.7:1

NOTE: BASED ON IESNA DG-19-08 (TABLE 1)

ROADWAY LIGHTING DESIGN CRITERIA		
ROADWAY LOCATION	MT. LEHMAN ROAD – MODIFICATION OF EXISTING SOUTH FRASER WAY TO SIMPSON ROAD	
ROAD CLASSIFICATION	MAJOR	
PEDESTRIAN CONFLICT	LOW	
WATTAGE/TYPE/ LUMINAIRE MANUFACTURER/ MODEL NUMBER	95W LED/TYPE II/AMERICAN ELECTRIC LIGHTING/ ATBM D MVOLT R2	
	RECOMMENDED LUMINANCE	ACHIEVED LUMINANCE
LUMINANCE LEVEL (AVG.)	≥ 0.6	0.72
UNIFORMITY RATIO (AVG:MIN)	≤ 3.5:1	2.6:1
MAXIMUM RATIO (MAX:MIN)	≤ 6.0:1	6.0:1
MAXIMUM VEILING RATIO (MAX:MIN)	≤ 0.3:1	0.3:1

NOTE: BASED ON IESNA RP-8-14 (TABLE 3)

POSTED SPEED LIMIT (MT. LEHMAN RD.) 60 km/h

POSTED SPEED LIMIT (GREAT NORTHERN AVE.) 50 km/h

DO NOT USE THIS DRAWING FOR PAVEMENT MARKING AND SIGNING STANDARDS

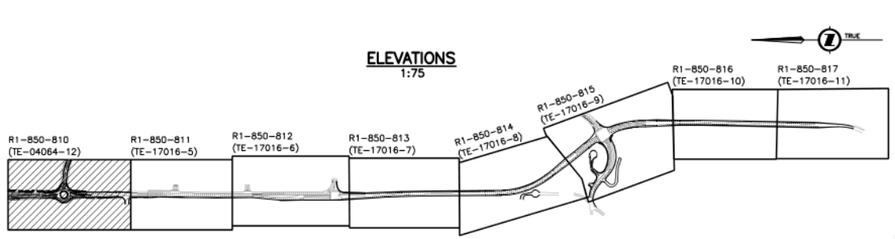
SEE "STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION" FOR APPLICABLE STANDARD DRAWINGS

SEE DRAWING R1-850-801 FOR LEGEND AND NOTES

ALL EQUIPMENT IS EXISTING UNLESS NOTED OTHERWISE

TE-04064-12

ELEVATIONS
1:75



KEY PLAN
N.T.S.

0 1:75 5
0 1:500 25

BC OneCall
Call before you dig.

CHECK BEFORE YOU DIG
CONTRACTOR SHALL CONFIRM THE LOCATIONS OF ALL UNDERGROUND UTILITIES.

PBX ENGINEERING
PBX ENGINEERING Ltd.
Suite 300 - 131 Water St.
Vancouver BC, V6B 4M3
Tel 604.408.7222
www.pbxeng.com

CAD FILENAME R1-850-810.dwg

REV	DATE	REVISIONS	DRAWN
–	JUL/07	RECORD DRAWING	PBA
A	MAY/18	ISSUED FOR MT. LEHMAN ROAD 4 LANING	PBX

BRITISH COLUMBIA
MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE
ELECTRICAL ENGINEERING CENTRE

TRAFFIC SIGNAL AND LIGHTING INSTALLATION
MT. LEHMAN ROAD 4 LANING
SOUTH FRASER WAY TO ABBOTSFORD INTERNATIONAL AIRPORT (YXX)

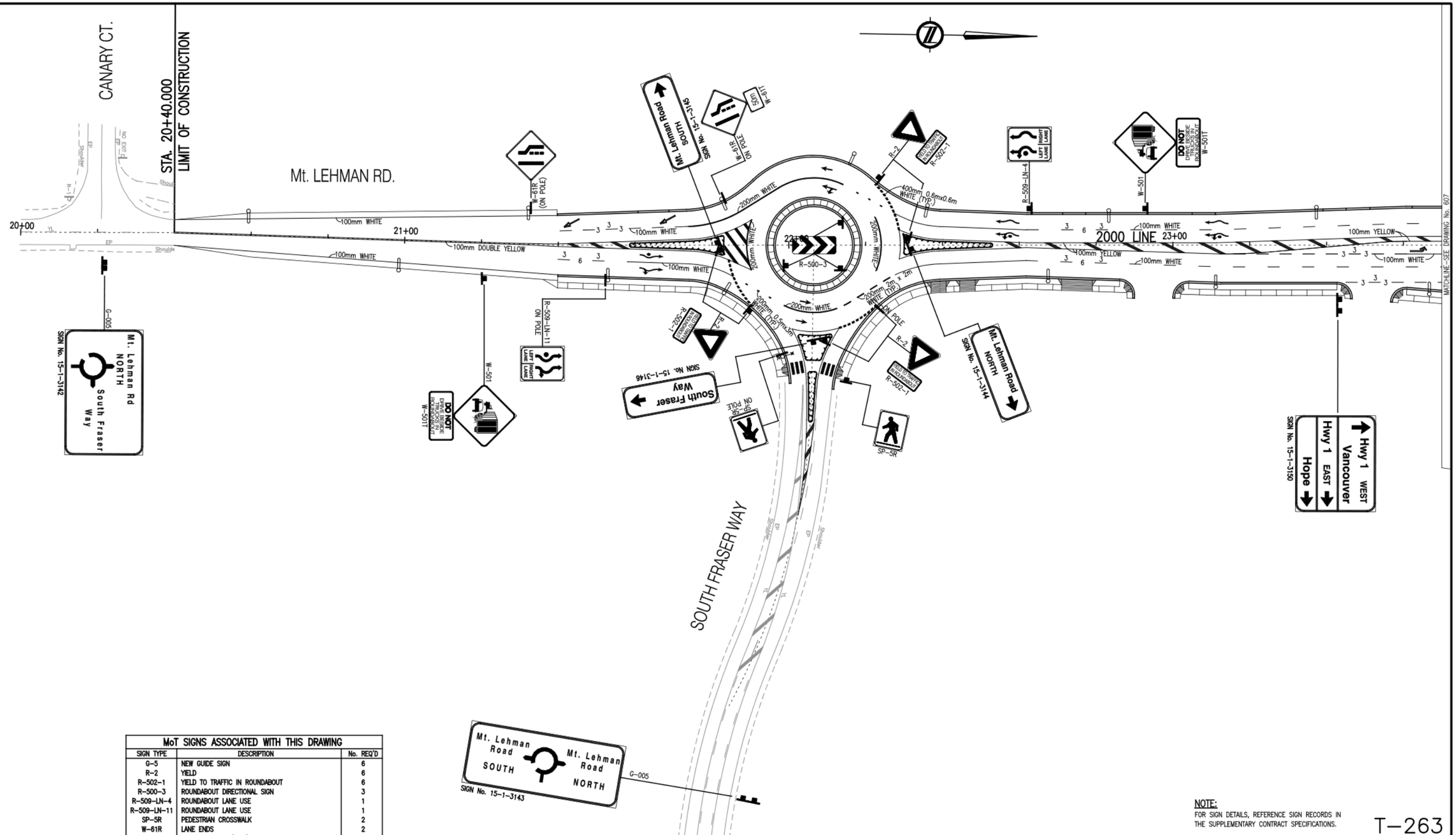
SITE PLAN (STA. 99+573 TO STA. 99+947)

JULIAN VASQUEZ, P. ENG.
ELECTRICAL ENGINEER OF RECORD (FOR CURRENT REVISION)
DATE

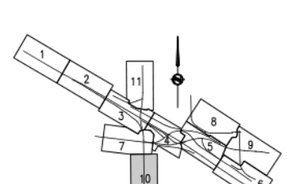
DESIGNED RV DATE MAY/18
QUALITY CONTROL RC DATE MAY/18
QUALITY ASSURANCE JV DATE MAY/18
TRAN ELECTRICAL DESIGN REVIEW DATE

SHEET NUMBER	SITE CODE	HWY DIST	REG	DRAWING NUMBER
SHEET 6 OF 22		1	1	R1-850-810 A

CANCEL PRINTS BEARING PREVIOUS LETTER



MoT SIGNS ASSOCIATED WITH THIS DRAWING		
SIGN TYPE	DESCRIPTION	No. REQ'D
G-5	NEW GUIDE SIGN	6
R-2	YIELD	6
R-502-1	YIELD TO TRAFFIC IN ROUNDABOUT	6
R-500-3	ROUNDABOUT DIRECTIONAL SIGN	3
R-509-LN-4	ROUNDABOUT LANE USE	1
R-509-LN-11	ROUNDABOUT LANE USE	1
SP-5R	PEDESTRIAN CROSSWALK	2
W-61R	LANE ENDS	2
W-61T	LANE ENDS TAB (50m)	1
W-501	DO NOT DRIVE BESIDE TRUCKS IN ROUNDABOUT	2
W-501T	DO NOT DRIVE BESIDE TRUCKS IN ROUNDABOUT TAB	2
TOTAL SIGNS THIS SHEET (DWG. 610)		32



LOCATION PLAN

REFERENCE DRAWINGS	
GEOMETRICS AND LANING	R1-02072-210

THIS DRAWING AND DESIGN SHALL NOT BE USED, REUSED OR REPRODUCED WITHOUT THE CONSENT OF McELHANNEY CONSULTING SERVICES LTD. McELHANNEY CONSULTING SERVICES LTD. WILL NOT BE HELD RESPONSIBLE FOR THE IMPROPER OR UNAUTHORIZED USE OF THIS DRAWING AND DESIGN.

Rev	Date	Description	Initial
J			
I			
H			
G			
F			
E			
D			
C			
B			
A	JUN 12/06	MT. LEHMAN ROUNDABOUT SIGNS REVISED.	H.S.
REVISIONS			

SCALE 0 1 : 500 25m

DESIGNED RP DATE MAY 04
CHECKED DP/PSN DATE MAY 04
DRAWN HS DATE MAY 04

Gary Tencha, P. Eng.
Quality Assurance Manager McElhanney

Date	ISSUE RECORD	Initial
MAY 10/05	ISSUED FOR CONSTRUCTION	H.S.
MAR 16/05	ISSUED FOR TENDER	H.S.

NOTE:
FOR SIGN DETAILS, REFERENCE SIGN RECORDS IN THE SUPPLEMENTARY CONTRACT SPECIFICATIONS.

T-263

City of Abbotsford

MINISTRY OF TRANSPORTATION
SOUTH COAST REGION

SIGNS & PAVEMENT MARKINGS

Mt. LEHMAN INTERCHANGE
IMPROVEMENT PROJECT

FILE No.		REGION	DRAWING No.	
2111-02072-0	McElhanney	1	R1-02072-610	A

Page 5 of 5 TRA-2023-32973

8:37:23 AM 6/15/2006 D:\2111-02072-0 Mt Lehman\Dgn\SIGN10.dgn