

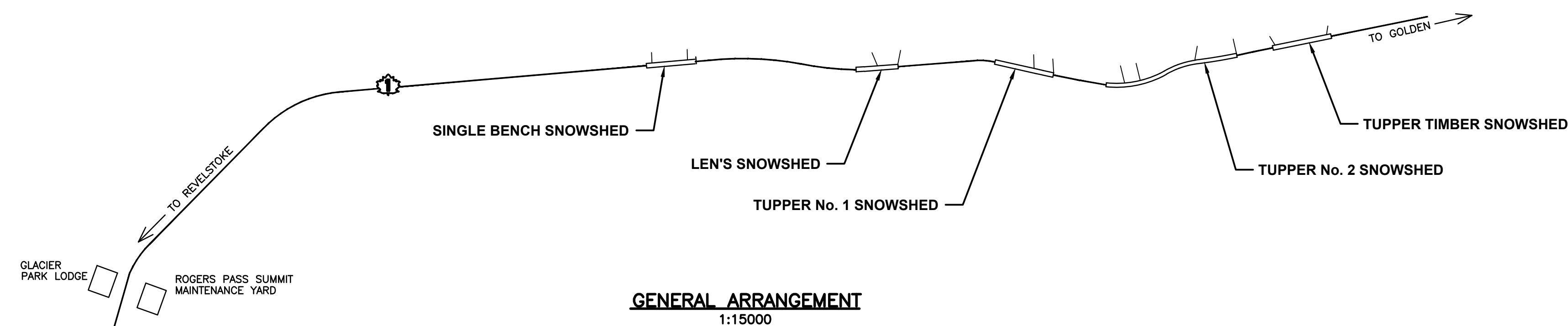


TUPPER No. 1 SNOWSHED LIGHTING

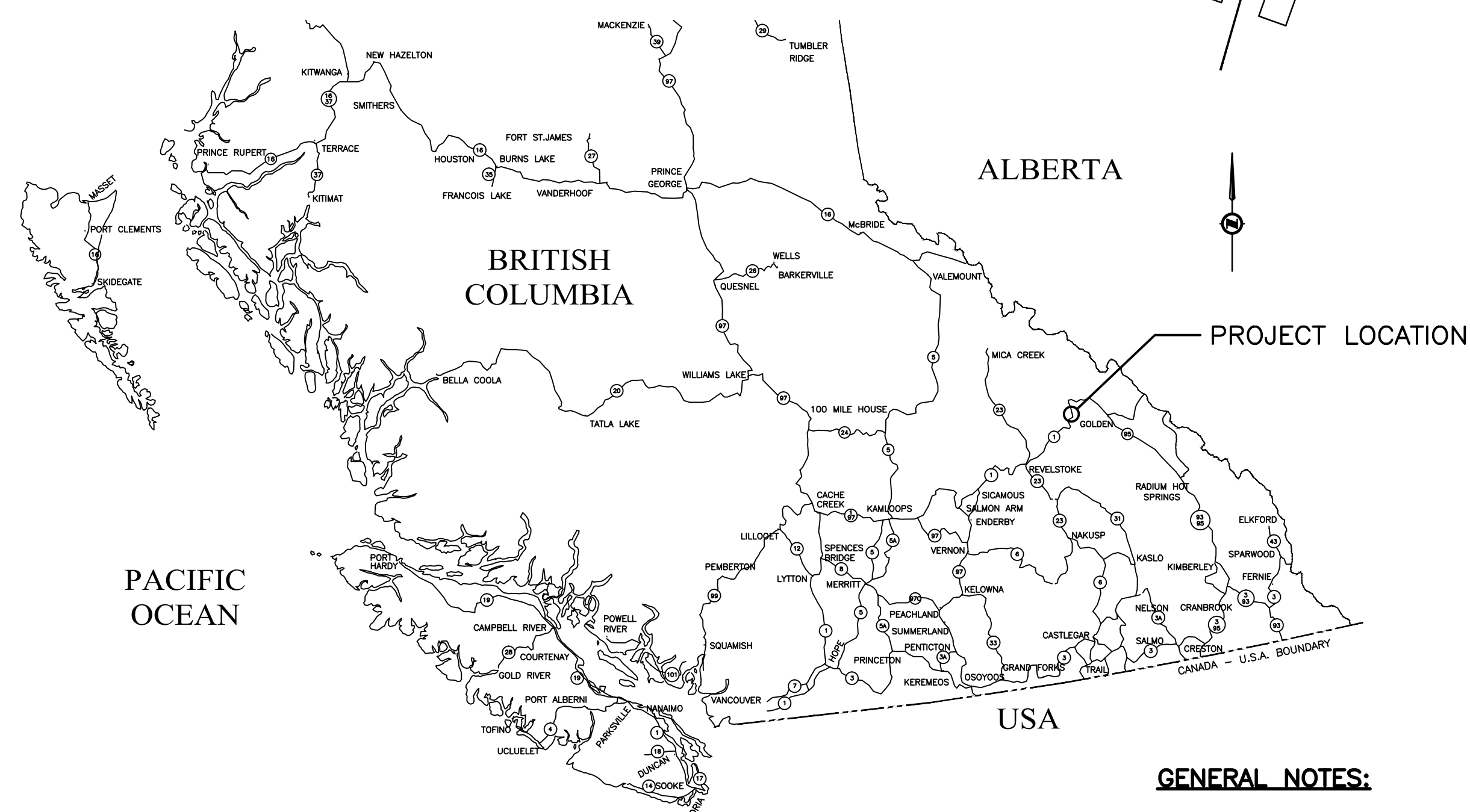
PROJECT No. 201422



REFER TO HIGH AND LOW VOLTAGE POWER
DISTRIBUTION SYSTEMS DRAWINGS FOR
ALL FIVE SNOW SHEDS



GENERAL ARRANGEMENT
1:15000



PROJECT LOCATION
N.T.S.



LINE TYPE LEGEND	
LINE	DESCRIPTION
— — — — —	120V CONDUIT / CABLE
— — — — —	COMMUNICATIONS CONDUIT / CABLE
— — — — —	600V CONDUIT / CABLE
— — — — —	TECK / CABLE

GENERAL NOTES:

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE ELECTRICAL SPECIFICATIONS.
2. ELECTRICAL WORK SHALL CONFORM TO LATEST EDITION OF CANADIAN ELECTRICAL CODE AND BULLETINS PUBLISHED BY THE BC SAFETY AUTHORITY.
3. WORK SHALL CONFORM TO ALL APPLICABLE REGULATIONS OF THE WORKERS' COMPENSATION BOARD (WCB).
4. THE CONTRACTOR SHALL SUPPLY ALL MATERIALS, EQUIPMENT AND LABOUR TO COMPLETE THE WORKS, EXCEPT AS NOTED.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TRAFFIC CONTROL FOR ALL WORK INCLUDED IN THIS CONTRACT. ALL TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE CURRENT BC MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE TRAFFIC CONTROL MANUAL FOR WORK ON ROADWAYS.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FEES FOR PERMITS AND INSPECTIONS AS REQUIRED BY THE BC SAFETY AUTHORITY.
7. ALL COMMON CIRCUIT WIRING SHALL BE TAGGED AND TYPED-RAPPED AS DETAILED IN THE MMCD, SECTION 16550, SUBSECTION 3.1.3 AND THESE DRAWINGS.
8. ALL CONDUCTORS SHALL BE RW90 STRANDED COPPER, UNLESS NOTED OTHERWISE.
9. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.
10. ALL CONCRETE BASES AND JUNCTION BOX SYMBOLS ARE NOT TO SCALE.
11. CONTRACTOR SHALL CONFIRM NEW SERVICE LOCATIONS WITH BC HYDRO.


12. THE CONTRACTOR SHALL OBTAIN PERMISSION FROM THE PARKS CANADA REPRESENTATIVE PRIOR TO TURNING OFF OR REMOVING ANY EXISTING ELECTRICAL EQUIPMENT.
13. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH A DETAILED SCHEDULE OF ALL ITEMS TO BE REMOVED AND RETURNED TO THE PUBLIC WORKS YARD. THE CONTRACTOR SHALL NOT PROCEED WITH THE EQUIPMENT REMOVALS UNTIL CONFIRMED BY A PARKS CANADA REPRESENTATIVE.
14. THE CONTRACTOR SHALL ENSURE THERE IS NO INTERRUPTION OF EXISTING NIGHT TIME LIGHTING DURING CONSTRUCTION, UNLESS APPROVED BY THE ENGINEER.
15. ENSURE CLEARANCES FROM OVERHEAD UTILITY LINES MEET UTILITY AND WORKSAFE BC REGULATIONS PRIOR TO CONCRETE BASE INSTALLATION. CONTACT PBX ENGINEERING IN THE EVENT OF CONFLICT.
16. ALL EXISTING WIRING, CONDUIT AND BASES TO BE REMOVED SHALL BE DISPOSED OFF SITE BY THE CONTRACTOR.
17. CONTRACTOR SHALL CONTACT Schneider CANADA DIRECTLY FOR TUNNEL LUMINAIRE PROCUREMENT PROCEDURES. CONTACT FRASER ST-JAURENT TEL: 514-337-6440 OR CELL: 604-282-7420.
18. CONTRACTOR SHALL CONTACT NXP HEMERA DIRECTLY FOR TUNNEL LIGHTING CONTROL SYSTEM PROCUREMENT. CONTACT PIERRE LONGIN TEL: 418-977-7789 EXT.

LEGEND:

- | | |
|---|--|
|  | BC MINISTRY OF TRANSPORTATION 11.0m DAVIT STREETLIGHT POLE, 133W LED 120V LUMINAIRE (PART No. LRL NXT-60M-700MA-120V TYPE 2ES)
C/W PEC AND FRANGIBLE BASE |
| <input type="checkbox"/> J | SCEPTER RPVC 884 JUNCTION BOX |
| <input type="checkbox"/> 10 | BC MINISTRY OF TRANSPORTATION TYPE 10 JUNCTION BOX |
|  | BC MINISTRY OF TRANSPORTATION ISLAND FLASHERS (2 PER LOCATION) |
| <input checked="" type="checkbox"/> | MoTi CONCRETE JUNCTION BOX (REFER TO MoTi DRAWINGS SP635-1.3.1&2) |

**ISSUED FOR TENDER
NOT FOR CONSTRUCTION**

—	Mar. 06 2015	ISSUED FOR TENDER	PBX	PB
No.	Date	Description	Drawn by Dessiné par	Approved Approuvé

Revision / Revision	
	Detail number Sheet number
	A Numéro de détail B Numéro de la feuille
Linear dimensions in millimètres	Dimensions linéaires en millimètres
Consultant's Stamp Sceau de l'expert-conseil	Eng. Stamp Sceau de l'ingénieur

Client/client	
 Parks Canada Agency Western and Northern Region	L'Agence Parcs Canada Ouest et Nord Région

Consultant's Name
Nom de l'expert-conseil

PBX
ENGINEERING

PBX ENGINEERING Ltd.
Suite 200 - 2612 Bridge St.
Victoria BC, V8T 4S9 Tel 250.388.7222

Suite 300 - 131 Water St.
Vancouver BC, V6B 4M3 Tel 604.408.7222
www.pbxenq.com

Project title/Titre du projet
ROGERS PASS SNOWSHED LIGHTING

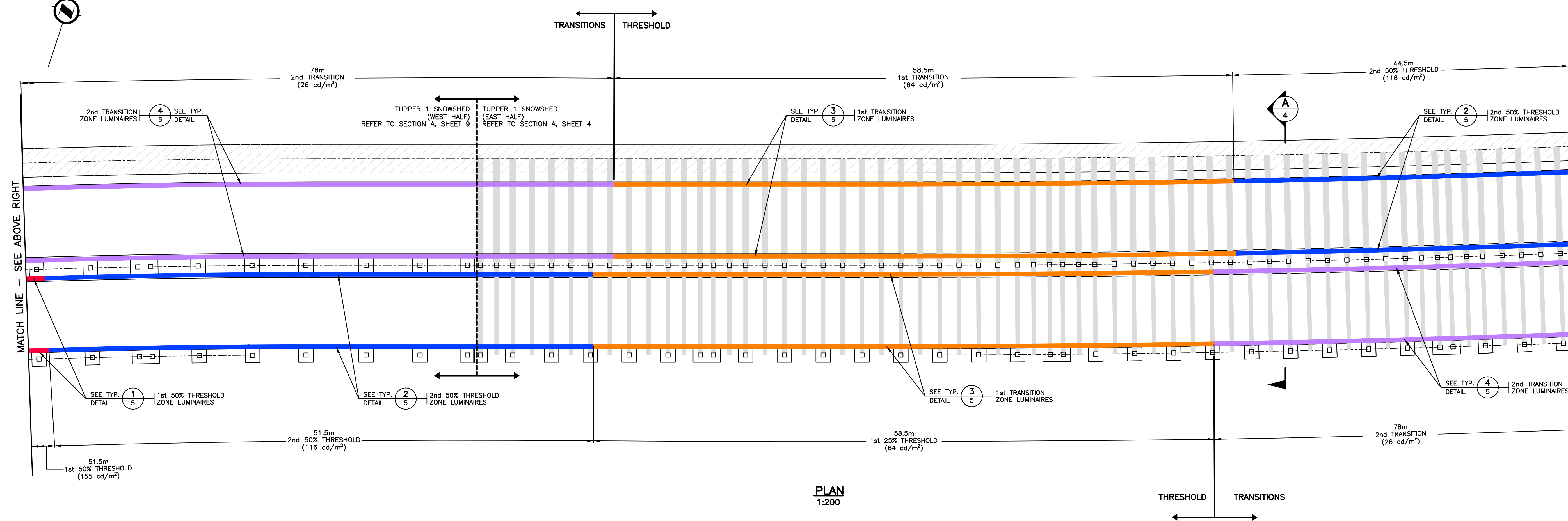
TRANS CANADA HIGHWAY
THROUGH ROGERS PASS

GLACIER NATIONAL PARK

Drawing Title/Titre du dessin

**TUPPER No. 1 SNOWSHED LIGHTING
COVER SHEET, INDEX & GENERAL
ARRANGEMENT**

Surveyed by/Arpenté par		Drawn by/Dessiné par		Date
		PXB		2015-03-02
Designed by/Concept par		Reviewed by/Revisé par		Scale/Echelle
AB		CE		AS NOTED
Client Acceptance/Acceptation du client		Approved by/Approuvé par		
PAIR RESPONSIBLE OFFICER/AGENT RESPONSABLE		Date		
Project No./No du projet		Asset No./N° du bien		Sheet No./ N° de la feuille
201422				
Drawing Reference No./N° de référence du dessin				1
G2004R3				

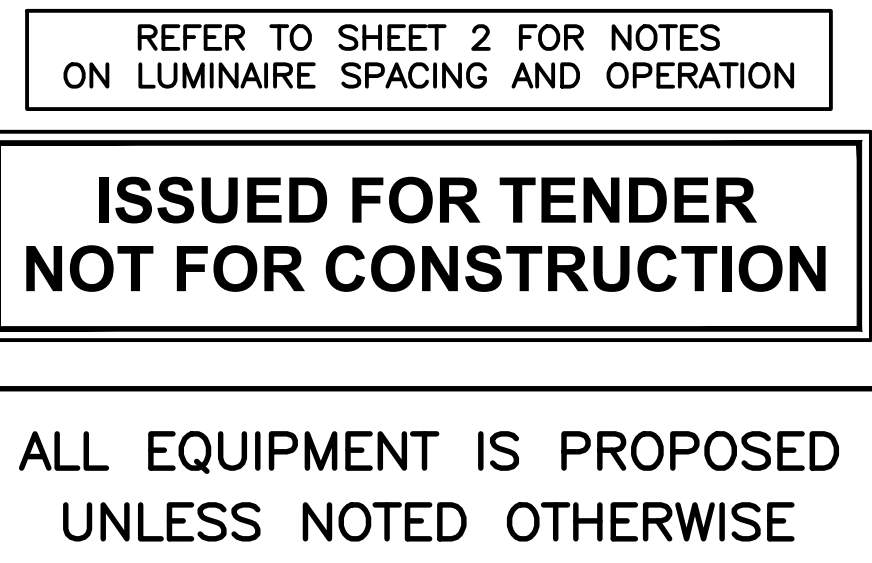
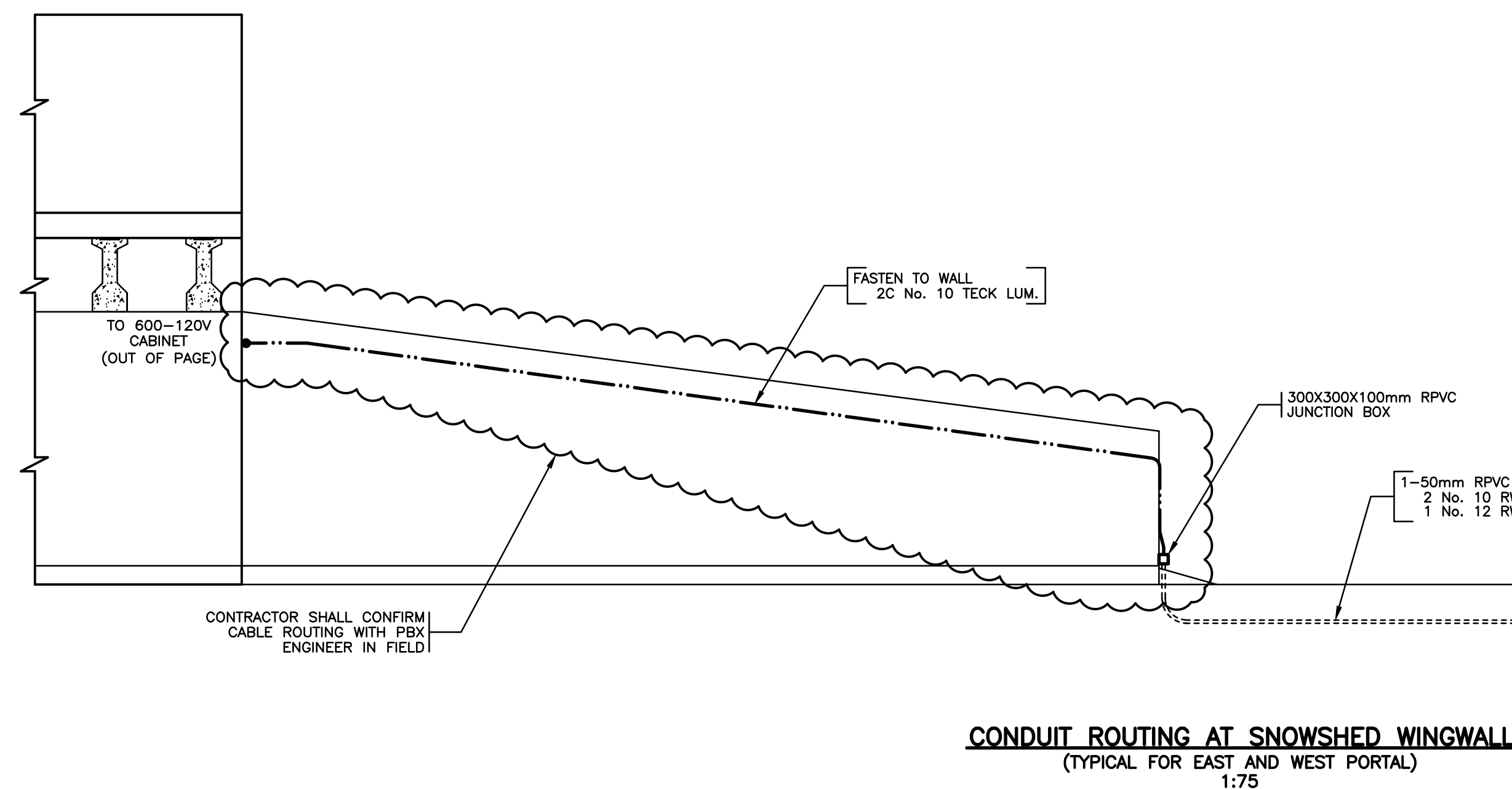


* APPROXIMATE - SEE RISER DIAGRAM ON SHEET 6

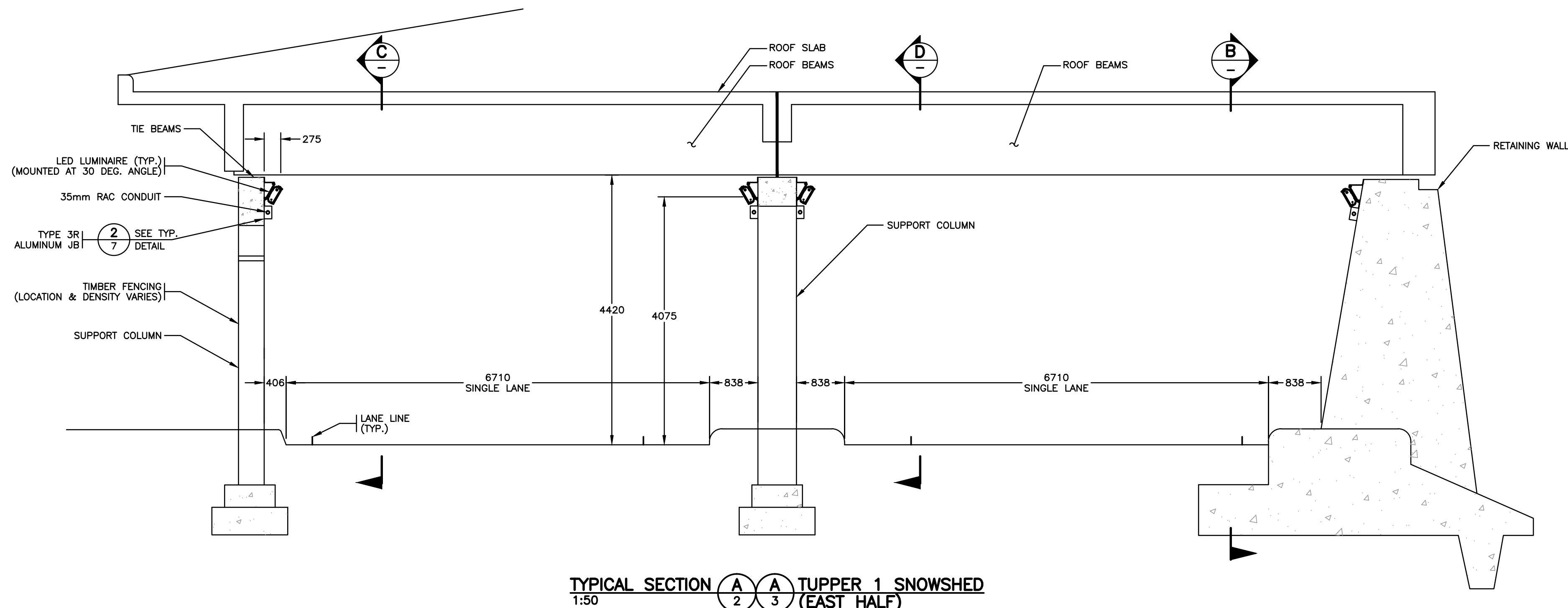
1. REFER TO TYPICAL LUMINAIRE MOUNTING DETAILS ON SHEET 5 FOR LUMINAIRE SPACING IN EACH ZONE.
2. REFER TO RISER DIAGRAM ON SHEET 6 FOR OVERALL LUMINAIRE LAYOUT AND WIRING.
3. REFER TO LUMINAIRE TABLE (CURRENT SHEET) FOR DAYTIME AND NIGHTTIME OPERATION.
4. REFER TO SITE PLAN ON THIS SHEET AND TABLE ON SHEET. 6 FOR DAYTIME AND NIGHTTIME TUNNEL LIGHTING CRITERIA.
5. STANDARD OF ACCEPTANCE FOR THE LIGHTING CONTROL CABINET AND REEFED SYSTEM: NYS HIGHWAY TECHNOLOGIES TUNNEL LIGHTING CONTROL SYSTEM – ENERGY MANAGEMENT.

ALL EQUIPMENT IS PROPOSED
UNLESS NOTED OTHERWISE

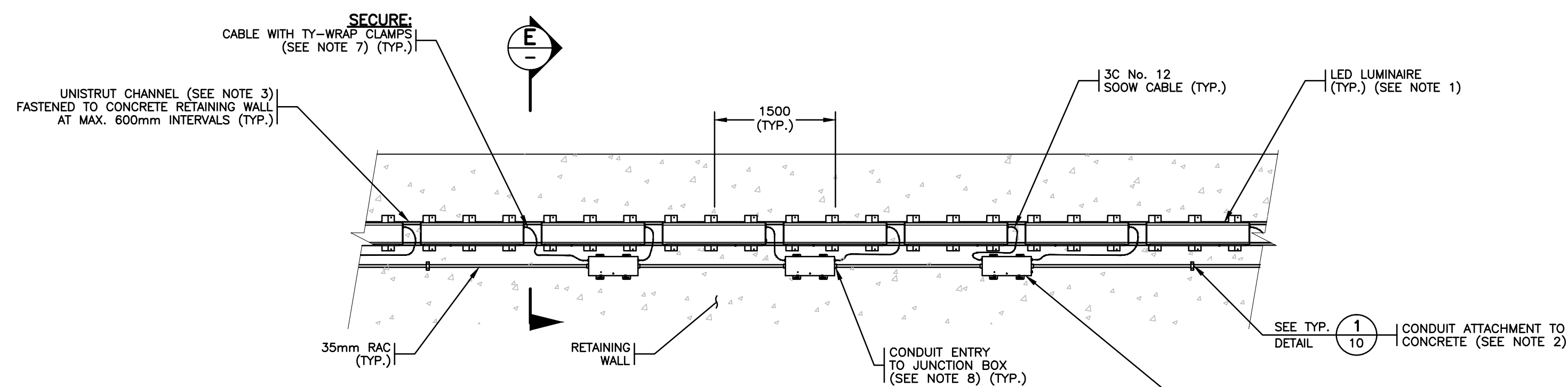
-	Mar. 06 2015	ISSUED FOR TENDER					PBX	PB	
No.	Date	Description					Drawn by Dessiné par	Approved Approuvé	
Revision / Revision									
		Detail number Sheet number		A Numéro de détail B Numéro de la feuille					
Linear dimensions en millimètres					Dimensions linéaires en millimètres				
Consultant's Stamp Sceau de l'expert-conseil							Eng. Stamp Sceau de l'ingénieur		
Client/client									
		Parks Canada Agence Western and Northern Region				L'Agence Parcs Canada Ouest et Nord Région			
Consultant's Name Nom de l'expert-conseil									
					PBX ENGINEERING Ltd. Suite 200 - 2612 Bridge St. Victoria BC, V8T 4S9 Tel 250.388.7222 Suite 300 - 131 Water St. Vancouver BC, V6B 4M3 Tel 604.408.7222 www.pbxing.com				
Project title/Titre du projet									
ROGERS PASS SNOWSHED LIGHTING									
TRANS CANADA HIGHWAY THROUGH ROGERS PASS									
GLACIER NATIONAL PARK									
Drawing title/Titre du dessin									
TUPPER No. 1 SNOWSHED LIGHTING									
PLAN LUMINAIRE LAYOUT (SHEET 1 OF 2)									
Surveyed by/Arpenté par			Drawn by/Dessiné par			Date			
			PBX			2015-03-02			
Designed by/Concept par			Reviewed by/Revisé par			Scale/Echelle			
AB			CE			AS NOTED			
Client Acceptance/Acceptation du client					Approved by/Approuvé par				
PARK RESPONSIBLE OFFICER/AGENT RESPONSABLE Date					A & E SERVICES/GÉNIE ET ARCHITECTURE Date				
Project No./No du projet			Asset No./N° du bien			Sheet No./ N°de la feuille			
201422						2			
Drawing Reference No./No de référence du dessin									
G2004R3									



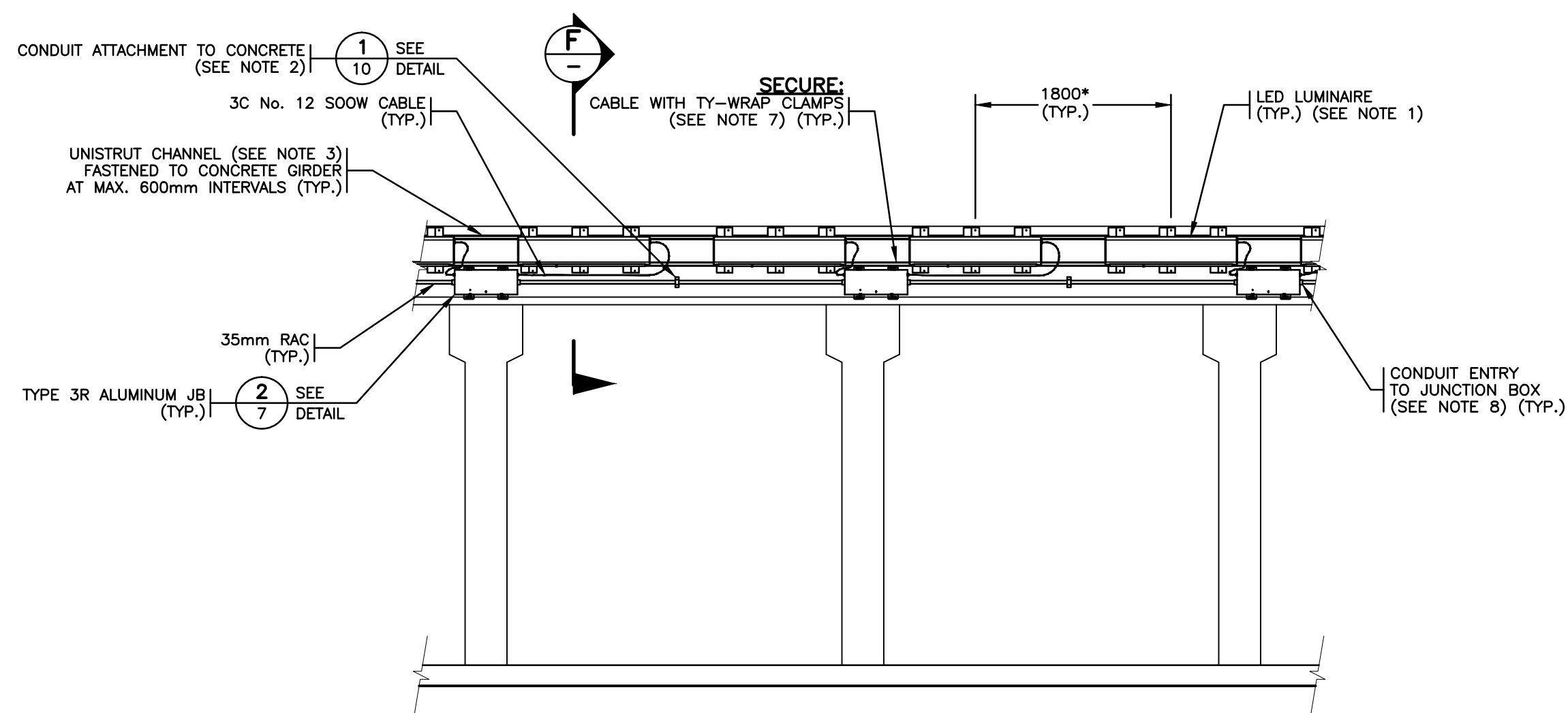
-	Mar. 06 2015	ISSUED FOR TENDER	PBX	PB	
No.	Date	Description	Drawn by Dessiné par	Approved Approuvé	
Revision / Revision					
		Detail number Sheet number	A Numéro de détail B Numéro de la feuille		
Linear dimensions en millimètres			Dimensions linéaires en millimètres		
Consultant's Stamp Sceau de l'expert-conseil			Eng. Stamp Sceau de l'ingénieur		
Client/client					
		Parks Canada Agency Western and Northern Region	L'Agence Parcs Canada Ouest et Nord Région		
Consultant's Name Nom de l'expert-conseil					
		PBX ENGINEERING Ltd. Suite 200 - 2612 Bridge St. Victoria BC, V8T 4S9 Tel 250.388.7222 Suite 300 - 131 Water St. Vancouver BC, V6B 4M3 Tel 604.408.7222 www.pbxing.com			
Project title/Titre du projet					
ROGERS PASS SNOWSHED LIGHTING					
TRANS CANADA HIGHWAY THROUGH ROGERS PASS					
GLACIER NATIONAL PARK					
Drawing title/Titre du dessin					
TUPPER No. 1 SNOWSHED LIGHTING					
PLAN LUMINAIRE LAYOUT (SHEET 2 OF 2)					
Surveyed by/Arpenté par		Drawn by/Dessiné par PBX		Date 2015-03-02	
Designed by/Concept par AB		Reviewed by/Revisé par CE		Scale/Echelle AS NOTED	
Client Acceptance/Acceptation du client		Approved by/Approuvé			
PARK RESPONSIBLE OFFICER/AGENT RESPONSABLE Date		A & E SERVICES/GÉNIE ET ARCHITECTURE Date			
Project No./No du projet 201422		Asset No./N° du bien		Sheet No./ N°de la feuille	
Drawing Reference No./No de référence du dessin G2004R3				3	



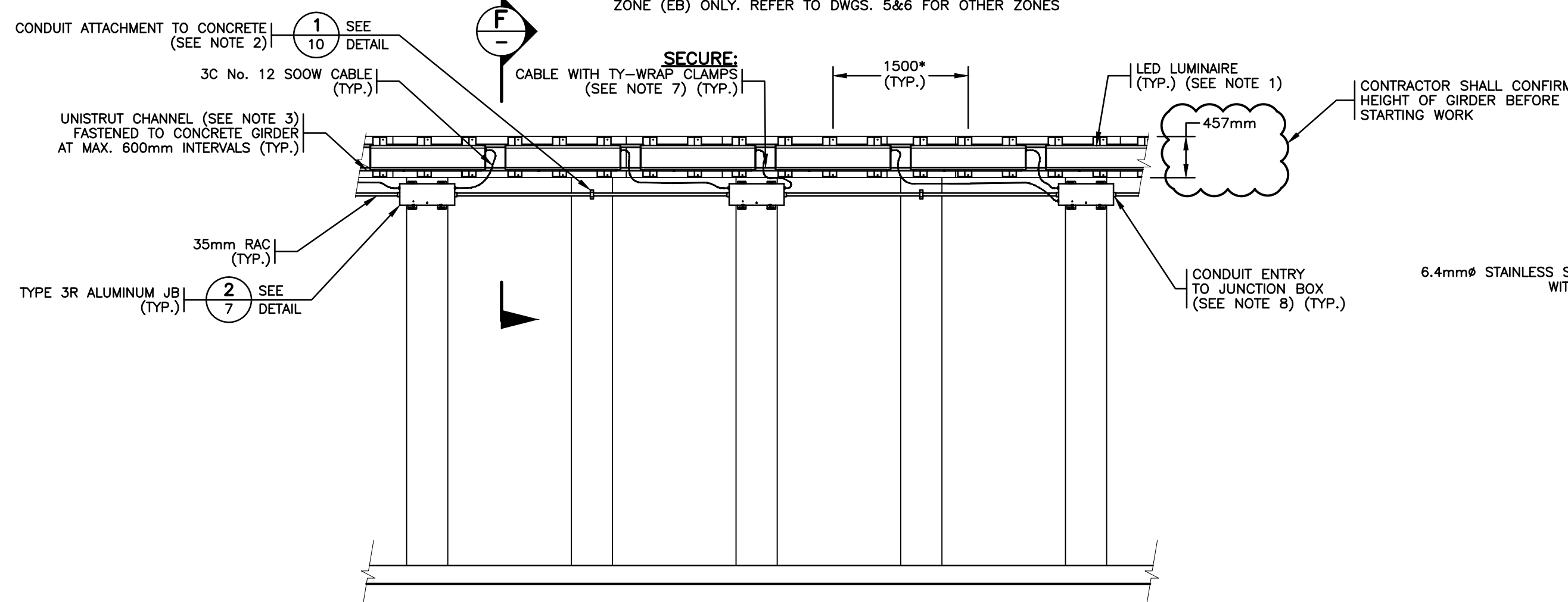
TYPICAL SECTION A-A TUPPER 1 SNOWSHED (EAST HALF)
1:50



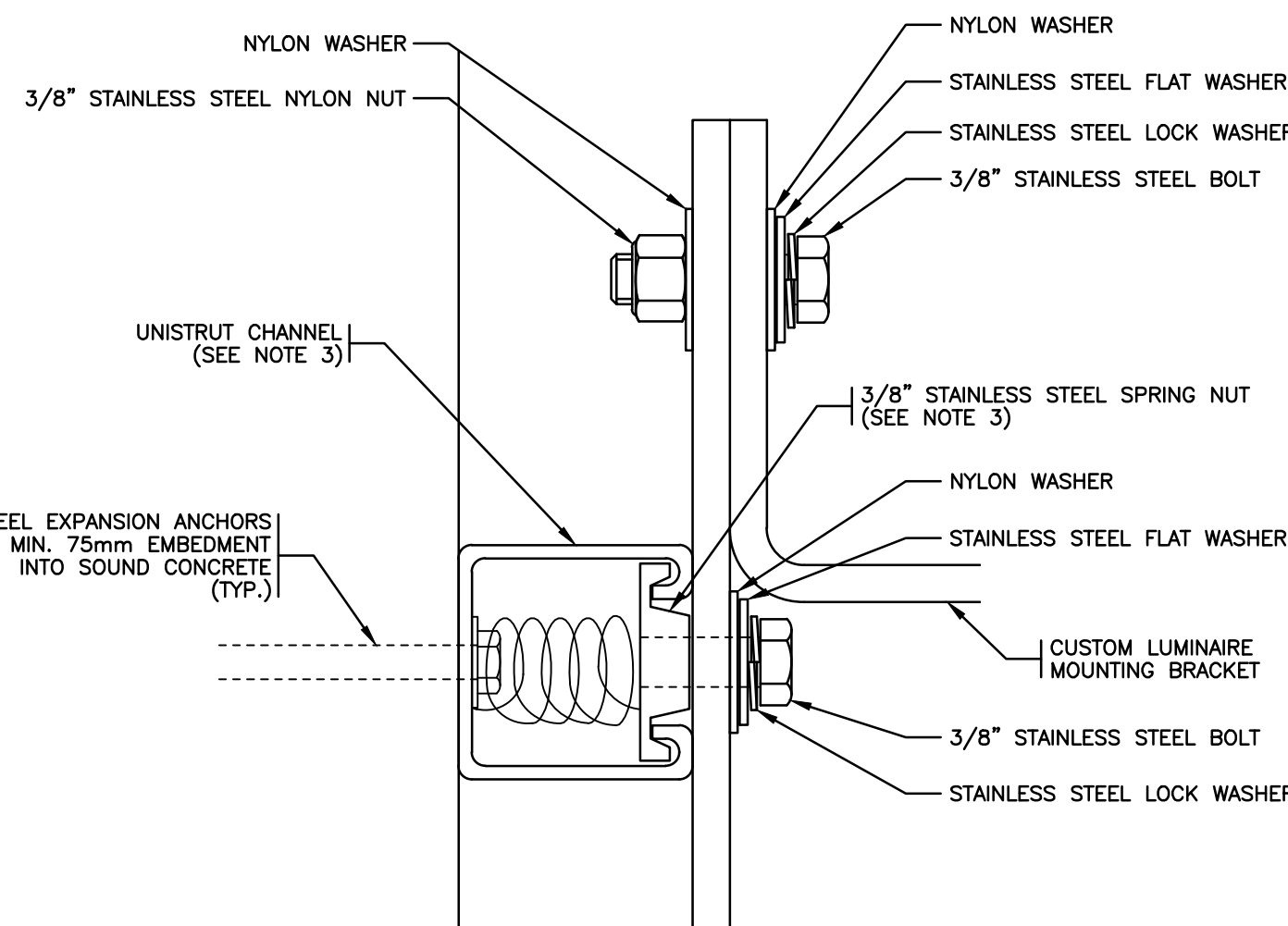
SECTION B-B LUMINAIRE MOUNTING ON RETAINING WALL
1:50



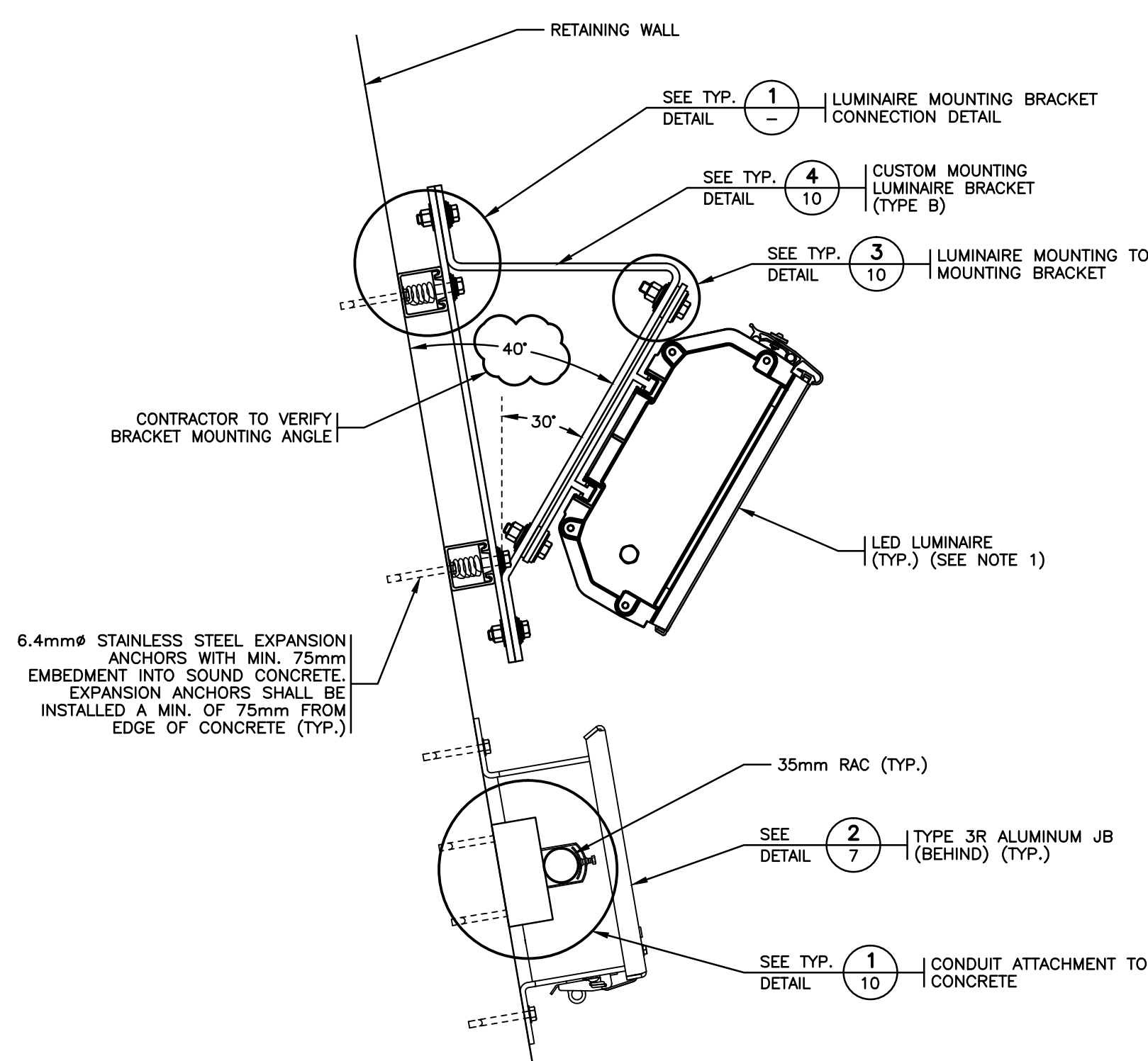
SECTION C-C LUMINAIRE MOUNTING - OUTSIDE COLUMNS
1:50



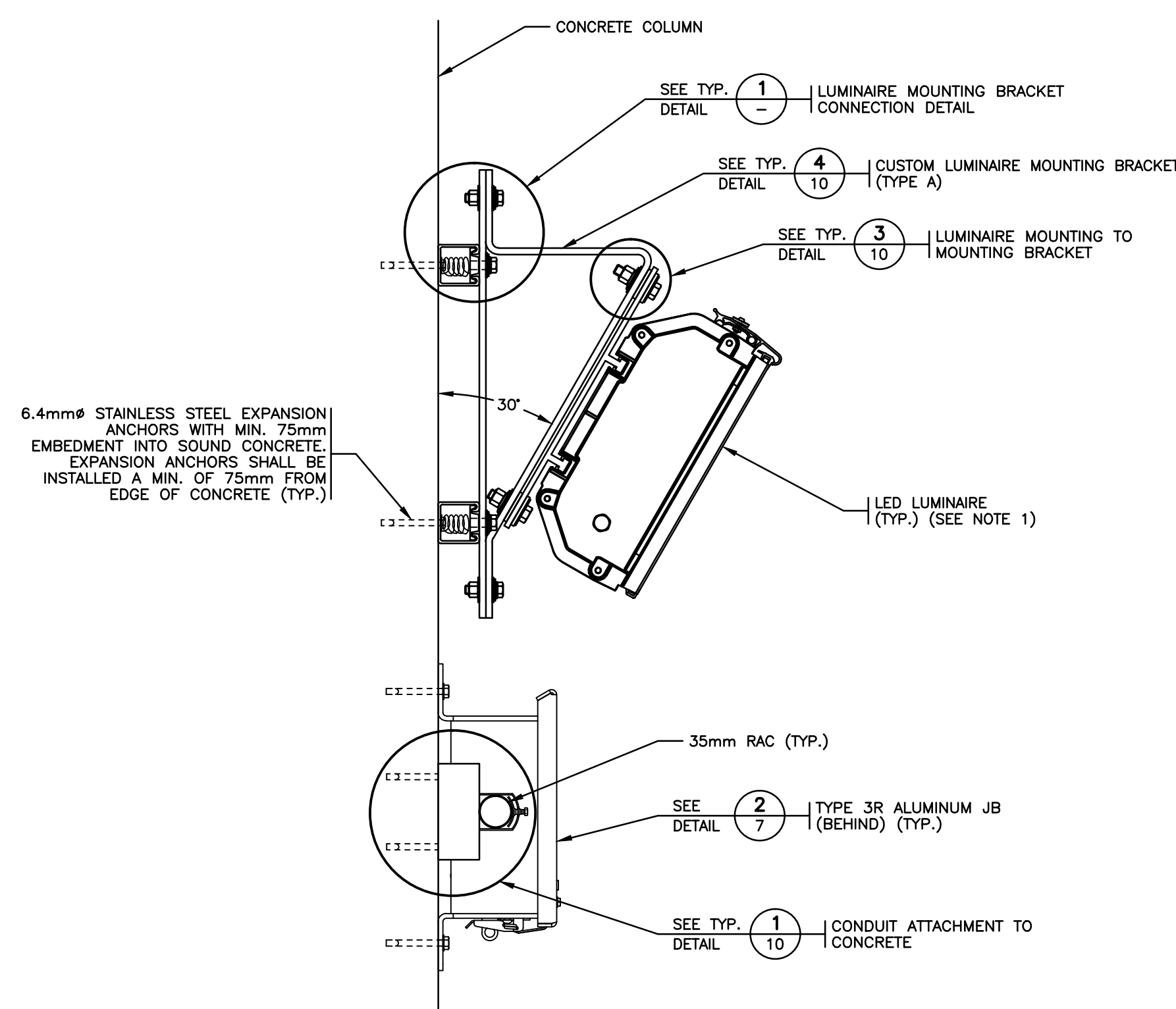
SECTION D-D LUMINAIRE MOUNTING - CENTRE COLUMNS
1:50



DETAIL (TYP.) 1 LUMINAIRE MOUNTING BRACKET CONNECTION DETAIL
N.T.S.



SECTION E-E TYPICAL LUMINAIRE MOUNTING ON RETAINING WALL
1:5



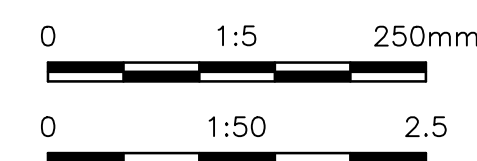
SECTION F-F TYPICAL LUMINAIRE MOUNTING ON EAST HALF COLUMNS
1:5

NOTES:

- REFER TO LUMINAIRE RISER DIAGRAM ON DWG. 6 FOR LUMINAIRE TYPES AND EXACT LOCATION.
- RAC CONDUIT SUPPORTS SHALL BE LOCATED NO MORE THAN 2.0m APART.
- UNISTRUT SHALL BE ALUMINUM PER ASTM A276 (TYPE 6060-T6).
- UNISTRUT SHALL BE 1-5/8" x 1-5/8" 12 GA. ALUMINUM CHANNEL (EATON B-LINE PART No. B22AL) AND SHALL USE 3/8" STAINLESS STEEL SPRING NUT (EATON B-LINE PART No. N226SS6).
- ALL MOUNTING HARDWARE INCLUDING ANCHORS SHALL BE STAINLESS STEEL.
- ALL CONDUIT SHALL BE RIGID ALUMINUM 6060 ALLOY, T-1 TEMPER TO ANSI C80.5 AND CSA APPROVED.
- ATTACH ALL EQUIPMENT TO CONCRETE USING 6.4mm STAINLESS STEEL EXPANSION ANCHORS WITH MIN. 75mm EMBEDMENT INTO SOUND CONCRETE. COMPLETE WITH STAINLESS STEEL BOLTS AND WASHERS. SEAL AROUND ANCHOR WITH STRUCTURAL GRADE POLYURETHAN CAULKING.
- SOOW CABLES SHALL BE SECURED TO BOTTOM OF UNISTRUT AT INTERVALS NO GREATER THAN 300mm. CABLES SHALL BE SECURED WITH TY-WRAP AND ANCHOR BASE. ANCHOR BASE SHALL BE TAB PART No. SMTZ-002-9-D OR APPROVED ALTERNATE. SCREW SHALL BE SUITABLE #10 STAINLESS STEEL SELF-TAPPING MACHINE SCREW.
- CONDUIT SHALL ENTER JUNCTION BOX AT CENTRE OF JUNCTION BOX WALL THROUGH THREADED CONDUIT HUB. THREADED CONDUIT HUB SHALL BE T&B ALUMINUM CHASE THREADED CONDUIT HUB, PART No. HT4.

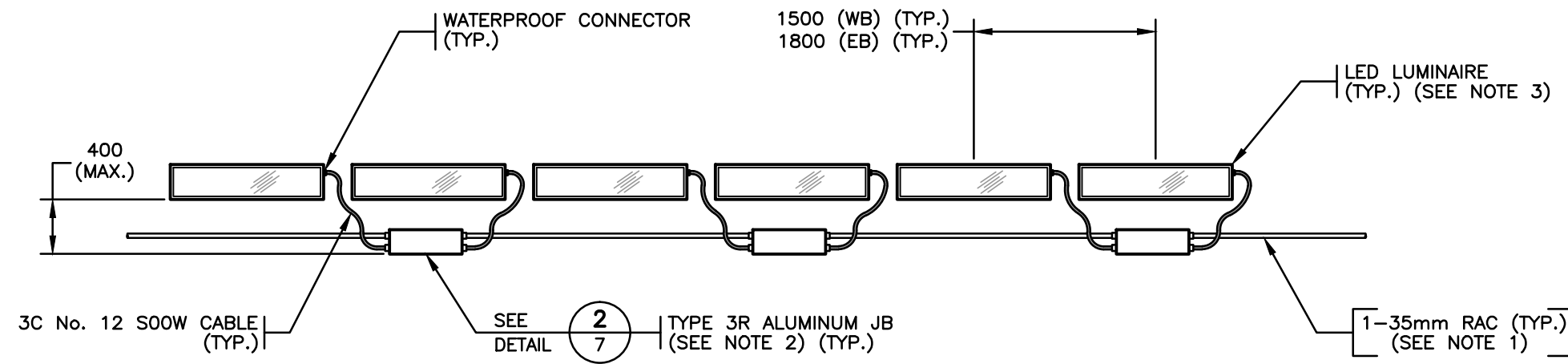
**ISSUED FOR TENDER
NOT FOR CONSTRUCTION**

**ALL EQUIPMENT IS PROPOSED
UNLESS NOTED OTHERWISE**

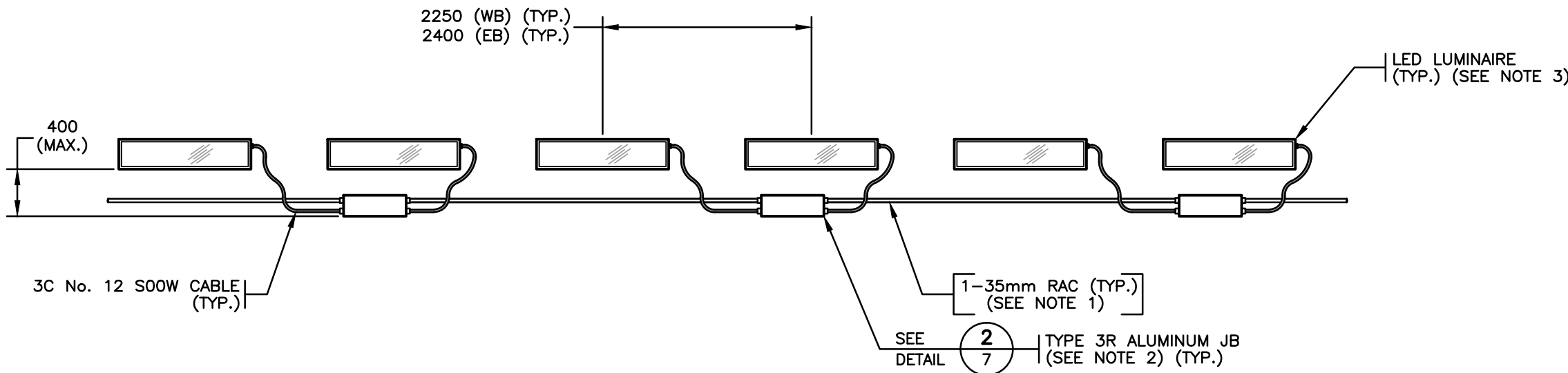


	</				

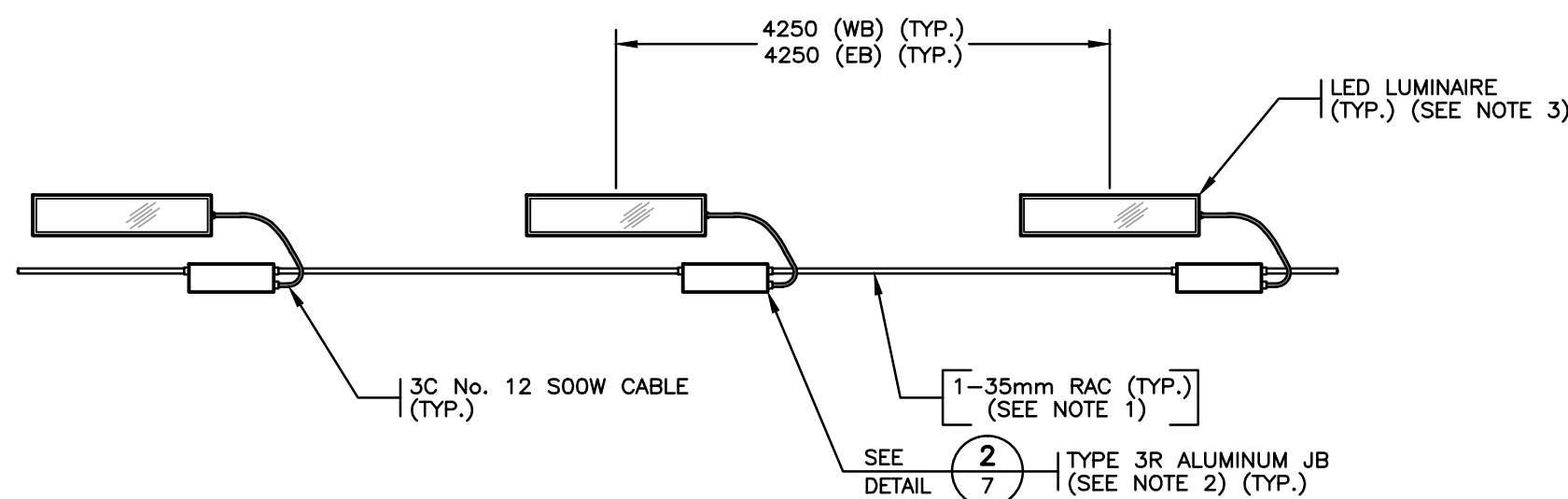
4-13230 - Snowshed Lighting - Glacier National Park\01 - Design Drawings\ACAD\Snowshed Lighting\Tup-05-03\2015 9:48 AM - JESSE.GIBSON



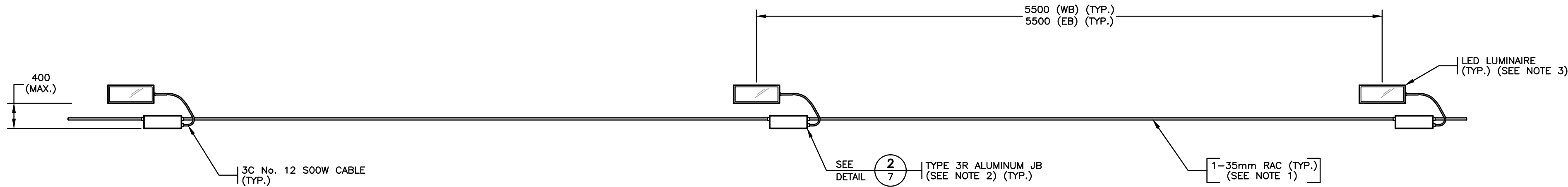
TYP. DETAIL 1st 50% THRESHOLD ZONE LUMINAIRES
1:50
(RED)
(*SEE NOTE 4)



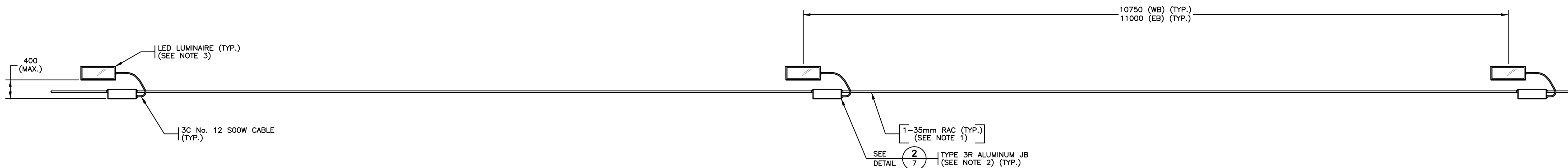
TYP. DETAIL 2nd 50% THRESHOLD ZONE LUMINAIRES
1:50
(BLUE)
(*SEE NOTE 4)



TYP. DETAIL 1st TRANSITION ZONE LUMINAIRES
1:50
(ORANGE)
(*SEE NOTE 4)



TYP. DETAIL 2nd TRANSITION ZONE LUMINAIRES
1:50
(PURPLE)
(*SEE NOTE 4)

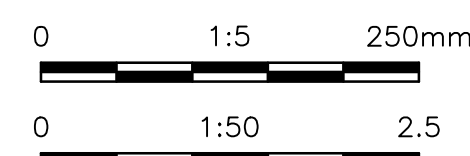


TYP. DETAIL 3rd TRANSITION ZONE LUMINAIRES
1:50
(CYAN)
(*SEE NOTE 4)

ZONE / TOD	THRESHOLD (DAY)		TRANSITION (DAY)			NIGHT
	1ST 50% THRESHOLD	2ND 50% THRESHOLD	1ST TRANSITION	2ND TRANSITION	3RD TRANSITION	
ROADWAY LUMINANCE Lavg : cd/m2	155	116	64	26	13	1.2
WALL LUMINANCE Lw : cd/m2	30		30 down to 2			0.4
UNIFORMITY Lavg : Lmin	2.0 : 1		2.0 : 1			2.01
UNIFORMITY Lmax : Lmin	3.5 : 1		3.5 : 1			3.5 : 1
FLICKER cycles/sec	<5 or >10		<5 or >10			<5 or >10
GLARE Lvmx : Lavg	0.6 : 1		0.6 : 1			0.3 : 1

NOTES:

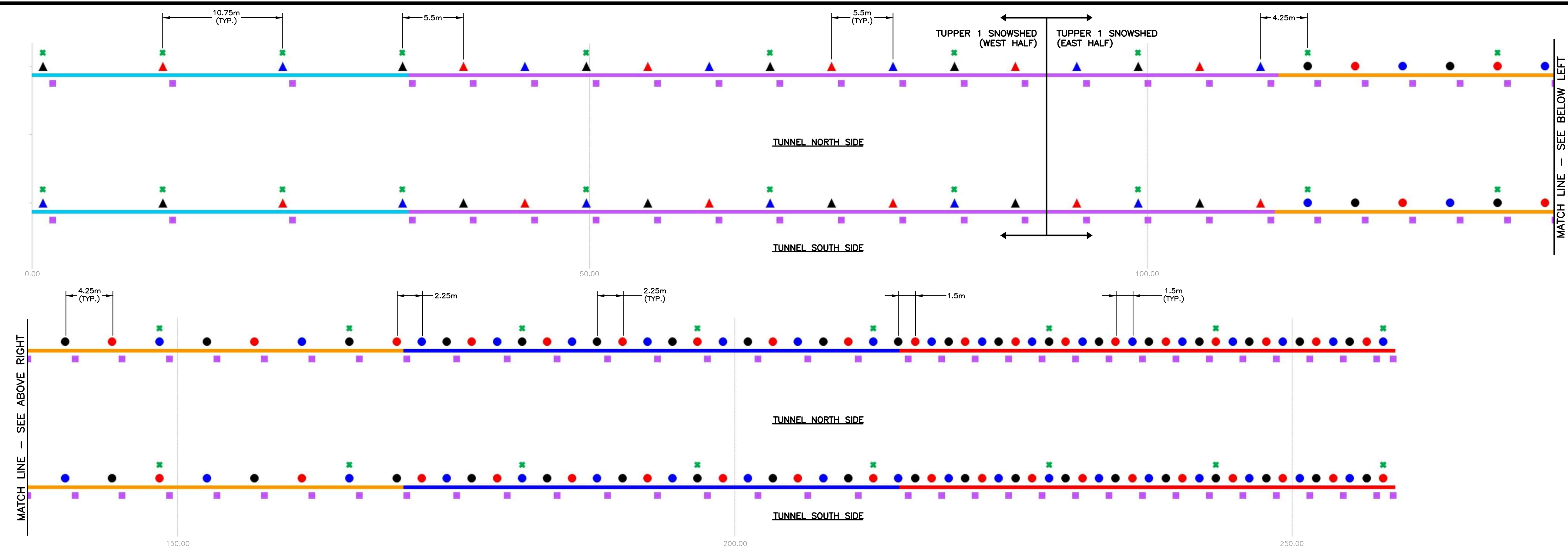
- REFER TO LUMINAIRE RISER DIAGRAM ON DWG. 6 FOR CONDUIT FILL.
- REFER TO LUMINAIRE RISER DIAGRAM ON DWG. 6 FOR JUNCTION BOX LOCATIONS.
- REFER TO LUMINAIRE RISER DIAGRAM ON DWG. 6 FOR LUMINAIRE TYPES AND LOCATIONS.
- JUNCTION BOX PLACEMENT AND S00W CABLE ROUTING IS REPRESENTATIONAL ONLY. REFER TO SECTION B ON DWG. 4 AND SECTION A ON DWG. 9 FOR INSTALLATION DETAILS.



ISSUED FOR TENDER
NOT FOR CONSTRUCTION

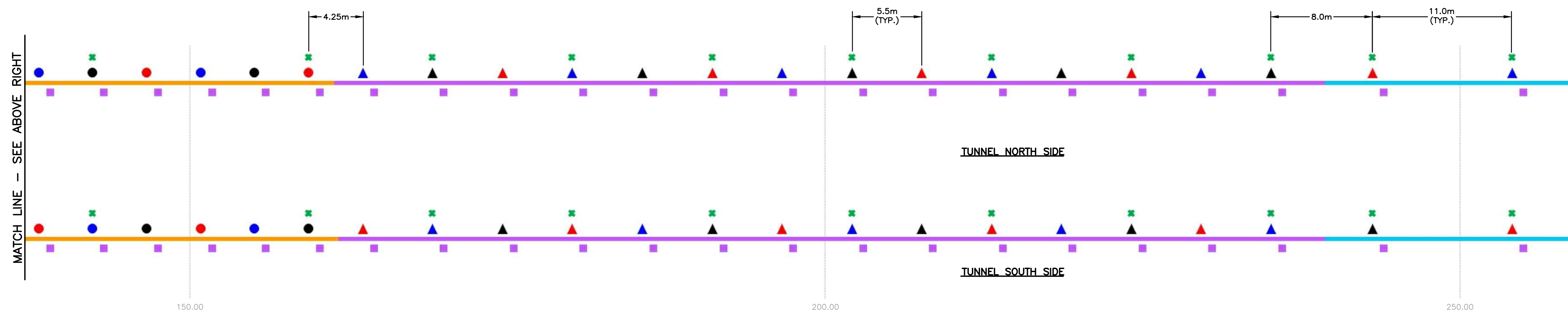
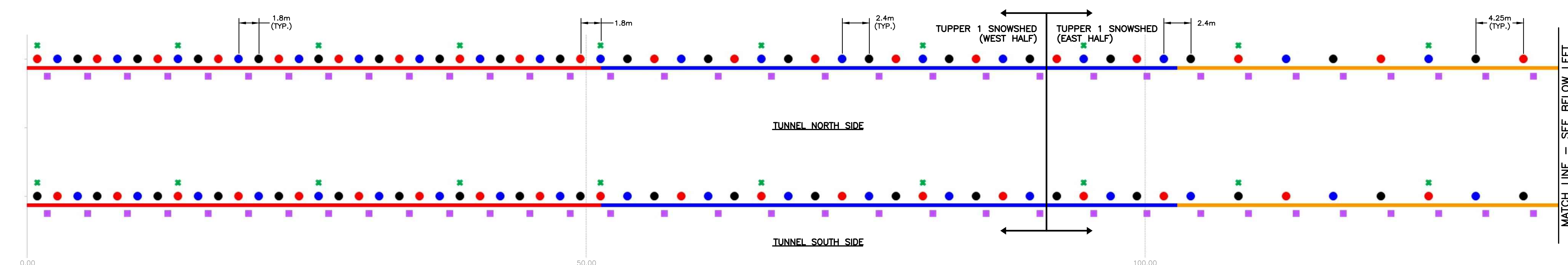
ALL EQUIPMENT IS PROPOSED
UNLESS NOTED OTHERWISE

No.	Date	Description	Drawn by Dessiné par	Approved Approuvé		
-	Mar. 06 2015	ISSUED FOR TENDER	PBX	PB		
Revision / Revision						
A B	Detail number Sheet number	A Numéro de détail B Numéro de la feuille				
Linear dimensions in millimetres		Dimensions linéaires en millimètres				
Consultant's Stamp Sceau de l'expert-conseil			Eng. Stamp Sceau de l'ingénieur			
Client/client						
Parks Canada Agency Western and Northern Region						
L'Agence Parcs Canada Ouest et Nord Région						
Consultant's Name Nom de l'expert-conseil						
PBX ENGINEERING Ltd. Suite 200 - 2612 Bridge St. Victoria BC, V8T 4S9 Tel 250.388.7222 Suite 300 - 131 Water St. Vancouver BC, V6B 4M3 Tel 604.408.7222 www.pbxing.com						
Project title/Titre du projet						
ROGERS PASS SNOWSHED LIGHTING						
TRANS CANADA HIGHWAY THROUGH ROGERS PASS						
GLACIER NATIONAL PARK						
Drawing title/Titre du dessin						
TUPPER No. 1 SNOWSHED LIGHTING DETAILS LUMINAIRE MOUNTING						
Surveyed by/Arpenté par	Drawn by/Dessiné par	Date				
	PBX	2015-03-02				
Designed by/Concept par	Reviewed by/Revisé par	Scale/Echelle				
AB	CE	AS NOTED				
Client Acceptance/Acceptation du client		Approved by/Approuvé par				
PARK RESPONSIBLE OFFICER/AGENT RESPONSABLE Date A & E SERVICES/GÉNIE ET ARCHITECTURE Date						
Project No./No du projet	Asset No./N° du-bien	Sheet No./N° de la feuille				
201422		5				
Drawing Reference No./No de référence du dessin		G2004R3				



ALL CONDUCTORS IN CONDUIT FROM JUNCTION BOX
TO JUNCTION BOX SHALL BE 4 No. 6 + 1 No. 8 BOND

DETAIL 1 TUNNEL LUMINAIRES
1:200 - (WESTBOUND)










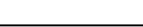
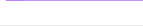




ALL CONDUCTORS IN CONDUIT FROM JUNCTION BOX
TO JUNCTION BOX SHALL BE 4 No. 4 + 1 No. 8 BOND
SOUTH SIDE CONDUIT SHALL ALSO CARRY
2 No. 8
600V SUBSTATION (EAST END)
TO 600-120V CABINET (WEST END)

DETAIL 2 TUNNEL LUMINAIRES
1:200 - (EASTBOUND)

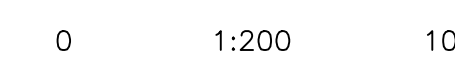
- NOTES:

1. UNLESS OTHERWISE INDICATED, LUMINAIRE SPACING IN EACH ZONE SHALL BE PER DETAILS ON SHEET EOS.
2. LUMINAIRES ON SOUTH SIDE OF TUNNEL SHALL BE LOCATED DIRECTLY OPPOSITE LUMINAIRES ON NORTH SIDE OF TUNNEL.
3. JUNCTION BOXES ARE SHOWN RELATIVE (EAST AND WEST) TO LUMINAIRES. REFER TO DETAILS ON SHEET EOS FOR ACTUAL MOUNTING AND CONNECTION TO LUMINAIRES.

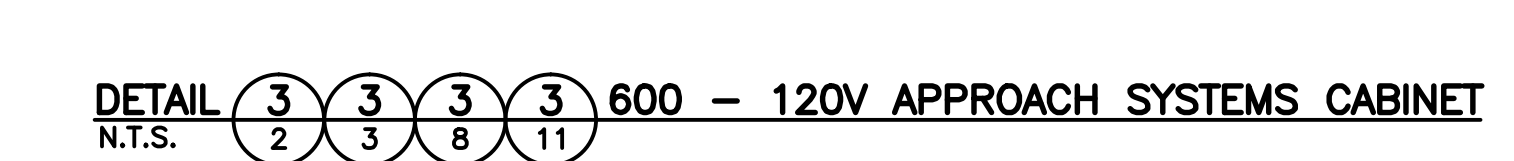
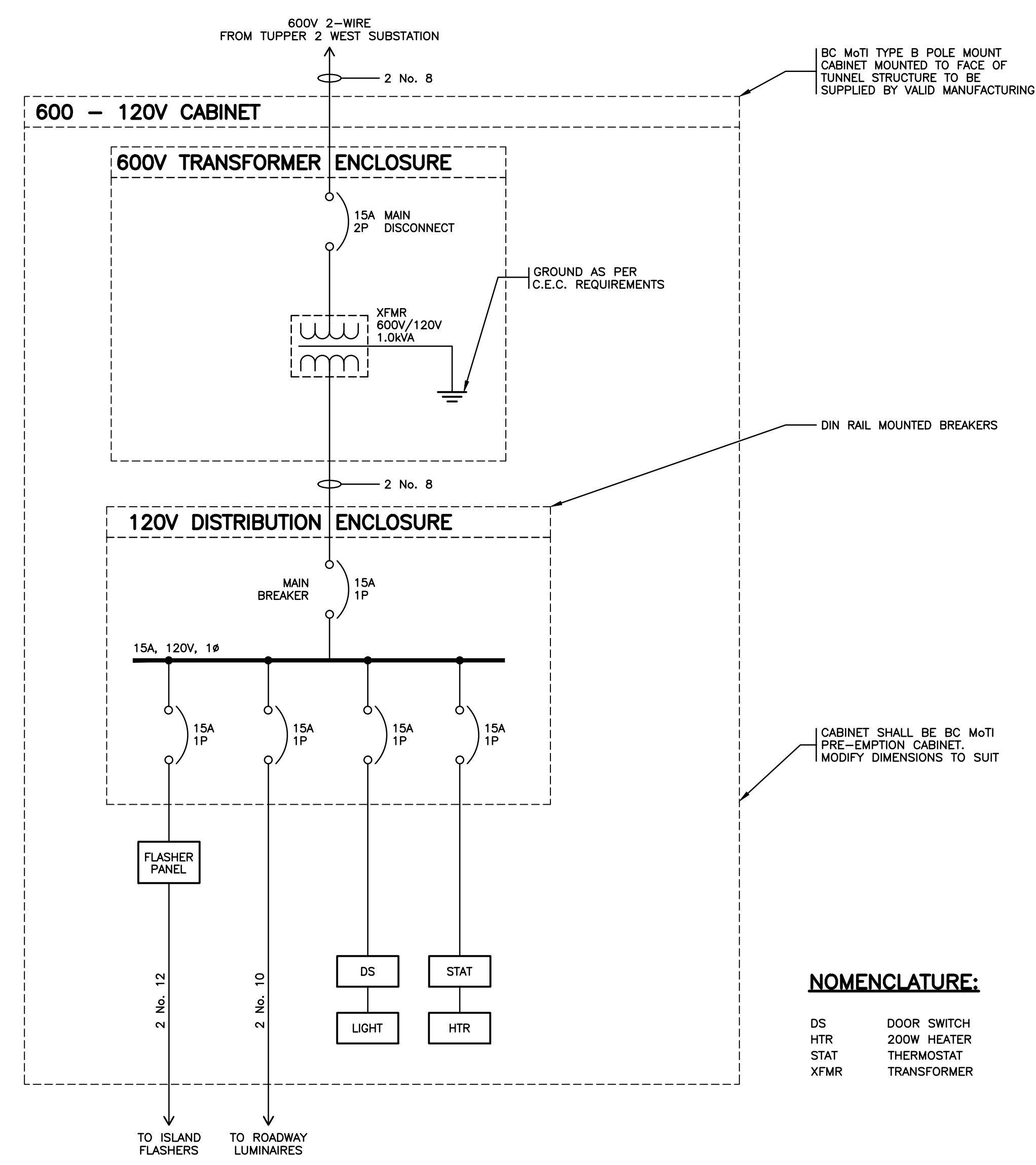
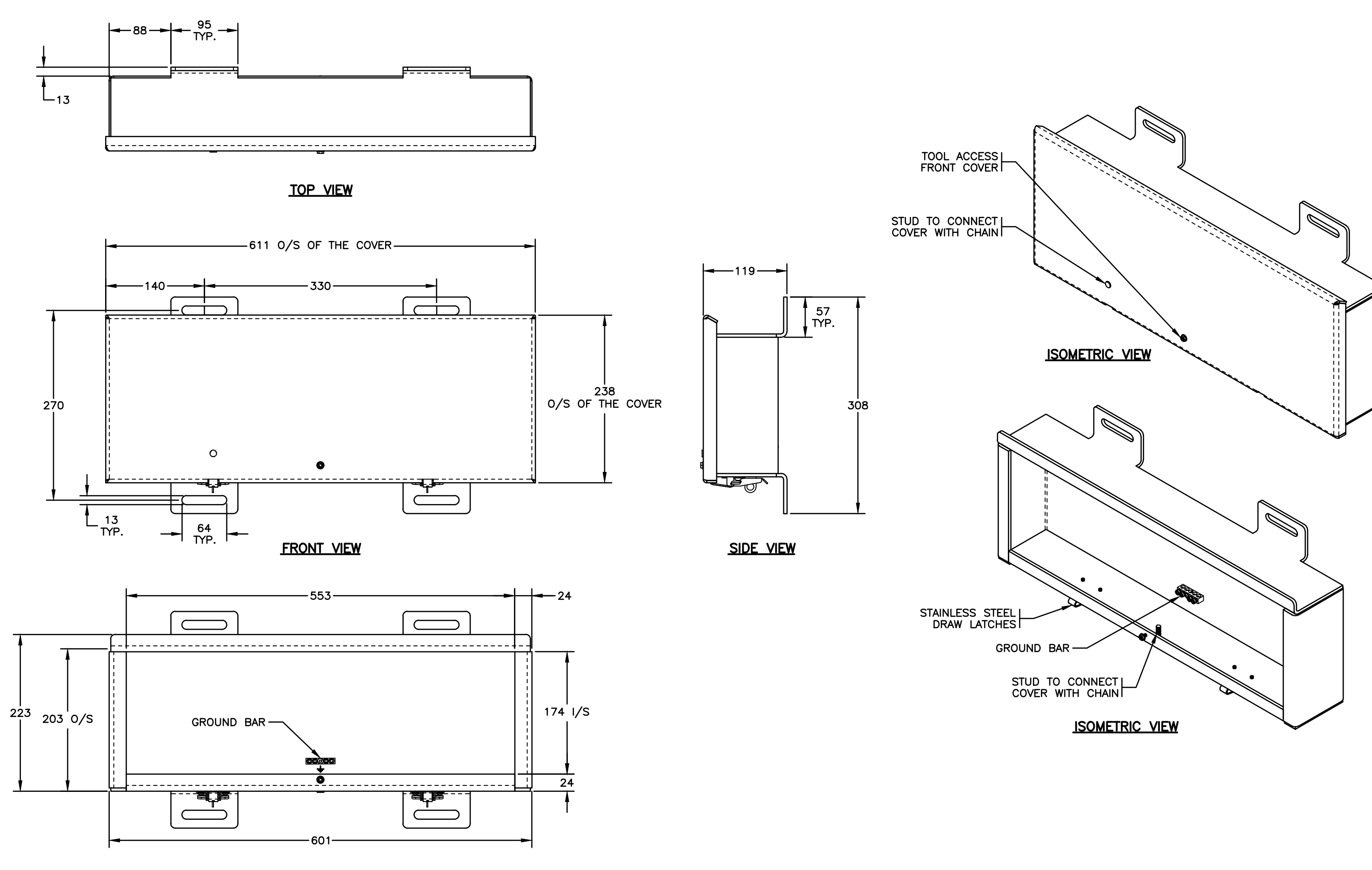
LEGEND	
	PHASE A - 362W LUMINAIRE
	PHASE A - 181W LUMINAIRE
	PHASE B - 362W LUMINAIRE
	PHASE B - 181W LUMINAIRE
	PHASE C - 362W LUMINAIRE
	PHASE C - 181W LUMINAIRE
	LUMINAIRE ON AT NIGHT
	JUNCTION BOX
	1st 50% THRESHOLD (RED)
	2nd 50% THRESHOLD (BLUE)
	1st TRANSITION (ORANGE)
	2nd TRANSITION (PURPLE)
	3rd TRANSITION (CYAN)

**ISSUED FOR TENDER
NOT FOR CONSTRUCTION**

ALL EQUIPMENT IS PROPOSED
UNLESS NOTED OTHERWISE



-	Mar. 06 2015	ISSUED FOR TENDER	PBX	PB	
No.	Date	Description	Drawn by Dessiné par	Approved Approuvé	
Revision / Revision					
		Detail number Sheet number	A Numéro de détail B Numéro de la feuille		
Linear dimensions en millimètres			Dimensions linéaires en millimètres		
Consultant's Stamp Sceau de l'expert-conseil			Eng. Stamp Sceau de l'ingénieur		
Client/client					
		Parks Canada Agency Western and Northern Region	L'Agence Parcs Canada Ouest et Nord Région		
Consultant's Name Nom de l'expert-conseil					
		PBX ENGINEERING Ltd. Suite 200 - 2815 Bridge St. Victoria BC, V8T 4S9 Tel 250.388.7222 Suite 300 - 131 Water St. Vancouver BC, V6B 4M3 Tel 604.408.7222 www.pbxing.com			
Project title/Titre du projet					
ROGERS PASS SNOWSHED LIGHTING					
TRANS CANADA HIGHWAY THROUGH ROGERS PASS					
GLACIER NATIONAL PARK					
Drawing Title/Titre du dessin					
TUPPER No. 1 SNOWSHED LIGHTING					
DETAILS					
TUNNEL LUMINAIRE RISER DIAGRAM					
Surveyed by/Arpenté par		Drawn by/Dessiné par		Date	
		PBX		2015-03-02	
Designed by/Concept par		Reviewed by/Revisé par		Scale/Echelle	
AB		CE		AS NOTED	
Client Acceptance/Acceptation par			Approved by/Approuvé par		
FIRM RESPONSIBLE OFFICER/AGENT RESPONSABLE Date			A & E SERVICES/GÉNIE ET ARCHITECTURE Date		
Project No./No du projet		Asset No./N° du bien		Sheet No./ N°de la feuille	
201422				6	
Drawing Reference No./No de référence du dessin					
G2004R3					



DETAIL 1:5

2	2	2	2	2
-	4	5	9	11

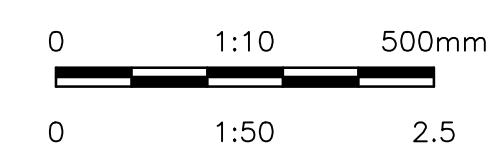
 TYPE 3R ALUMINUM JUNCTION BOX
VALID PART #0U7298-A03-01
(SEE NOTES 5, 9, 6)

ALL EQUIPMENT IS PROPOSED
UNLESS NOTED OTHERWISE

-	Mar. 06 2015	ISSUED FOR TENDER		PBX	PB
No.	Date	Description		Drawn by Dessiné par	Approved Approuvé
Revision / Revision					
		Detail number Sheet number		A Numéro de détail B Numéro de la feuille	
Linear dimensions en millimètres			Dimensions linéaires en millimètres		
Consultant's Stamp Sceau de l'expert-conseil				Eng. Stamp Sceau de l'ingénieur	
Client/client					
		Parks Canada Agence Western and Northern Region		L'Agence Parcs Canada Ouest et Nord Région	
Consultant's Name Nom de l'expert-conseil					
		PBX ENGINEERING Ltd. Suite 200 - 2612 Bridge St. Victoria BC, V8T 4S9 Tel 250.389.7222 Suite 300 - 131 Water St. Vancouver BC, V6B 4M3 Tel 604.408.7222 www.pbxing.com			
Project title/Titre du projet					
ROGERS PASS SNOWSHED LIGHTING					
TRANS CANADA HIGHWAY THROUGH ROGERS PASS					
GLACIER NATIONAL PARK					
Drawing title/Titre du dessin					
TUPPER No. 1 SNOWSHED LIGHTING					
DETAILS SPlice BOX WIRING					
Surveyed by/Arpenté par		Drawn by/Dessiné par PBX		Date 2015-03-02	
Designed by/Concept par AB		Reviewed by/Revisé par CE		Scale/Echelle AS NOTED	
Client Acceptance/Acceptation du client			Approved by/Approuvé par		
PARK RESPONSIBLE OFFICER/AGENT RESPONSABLE Date			A & E SERVICES/GÉNIE ET ARCHITECTURE Date		
Project No./No du projet 201422		Asset No./N° du bien		Sheet No./ N°de la feuille	
Drawing Reference No./No de référence du dessin G2004R3				7	



ALL EQUIPMENT IS PROPOSED
UNLESS NOTED OTHERWISE



-	Mar. 06 2015	ISSUED FOR TENDER	PBX	PB	
No.	Date	Description	Drawn by Dessiné par	Approved Approuvé	
Revision / Revision					
		Detail number Sheet number	A Numéro de détail B Numéro de la feuille		
Linear dimensions en millimètres			Dimensions linéaires en millimètres		
Consultant's Stamp Sceau de l'expert-conseil			Eng. Stamp Sceau de l'ingénieur		
Client/client					
		Parks Canada Agence Western and Northern Region	L'Agence Parcs Canada Ouest et Nord Région		
Consultant's Name Nom de l'expert-conseil					
			PBX ENGINEERING Ltd. Suite 200 - 2812 Bridge St. Victoria BC, V8T 4S9 Tel 250.388.7222 Suite 300 - 131 Water St. Vancouver BC, V6B 4M3 Tel 604.408.7222 www.pbxing.com		
Project title/Titre du projet					
ROGERS PASS SNOWSHED LIGHTING					
TRANS CANADA HIGHWAY THROUGH ROGERS PASS					
GLACIER NATIONAL PARK					
Drawing title/Titre du dessin					
TUPPER No. 1 SNOWSHED LIGHTING					
SECTIONS					
CONDUIT CROSSING (EAST ENTRANCE)					
Surveyed by/Arpenté par		Drawn by/Dessiné par		Date	
		PBX		2015-03-02	
Designed by/Concept par		Reviewed by/Revisé par		Scale/Echelle	
AB		CE		AS NOTED	
Client Acceptance/Acceptation du client			Approved by/Approuvé par		
PARK RESPONSIBLE OFFICER/AGENT RESPONSABLE Date			A & E SERVICES/GÉNIE ET ARCHITECTURE Date		
Project No./No du projet		Asset No./N° du bien		Sheet No./ N°de la feuille	
201422				8	
Drawing Reference No./N° de référence du dessin					
G2004R3					

P:\13230_Snowshed Lighting - Glacier National Park\01 - Design\Drawings\ACAD\Snowshed Lighting\Tup1-09; 6/03/2015 10:20 AM: JESSE.GIBSON



-
- 3/8" STAINLESS STEEL DROP IN ANCHOR
(MIN. 2 PER CHANNEL) (TYP.)
- NYLON WASHER BETWEEN
CONCRETE AND CHANNEL
- CONCRETE
- S.S. NUT AND WASHER
- ALUMINUM "UNISTRUT" CHANNEL
(LENGTH TO SUIT NO. OF CABLES)
- ALUMINUM CONDUIT
- T&B COBRA CLAMP
SIZE TO SUIT CABLES

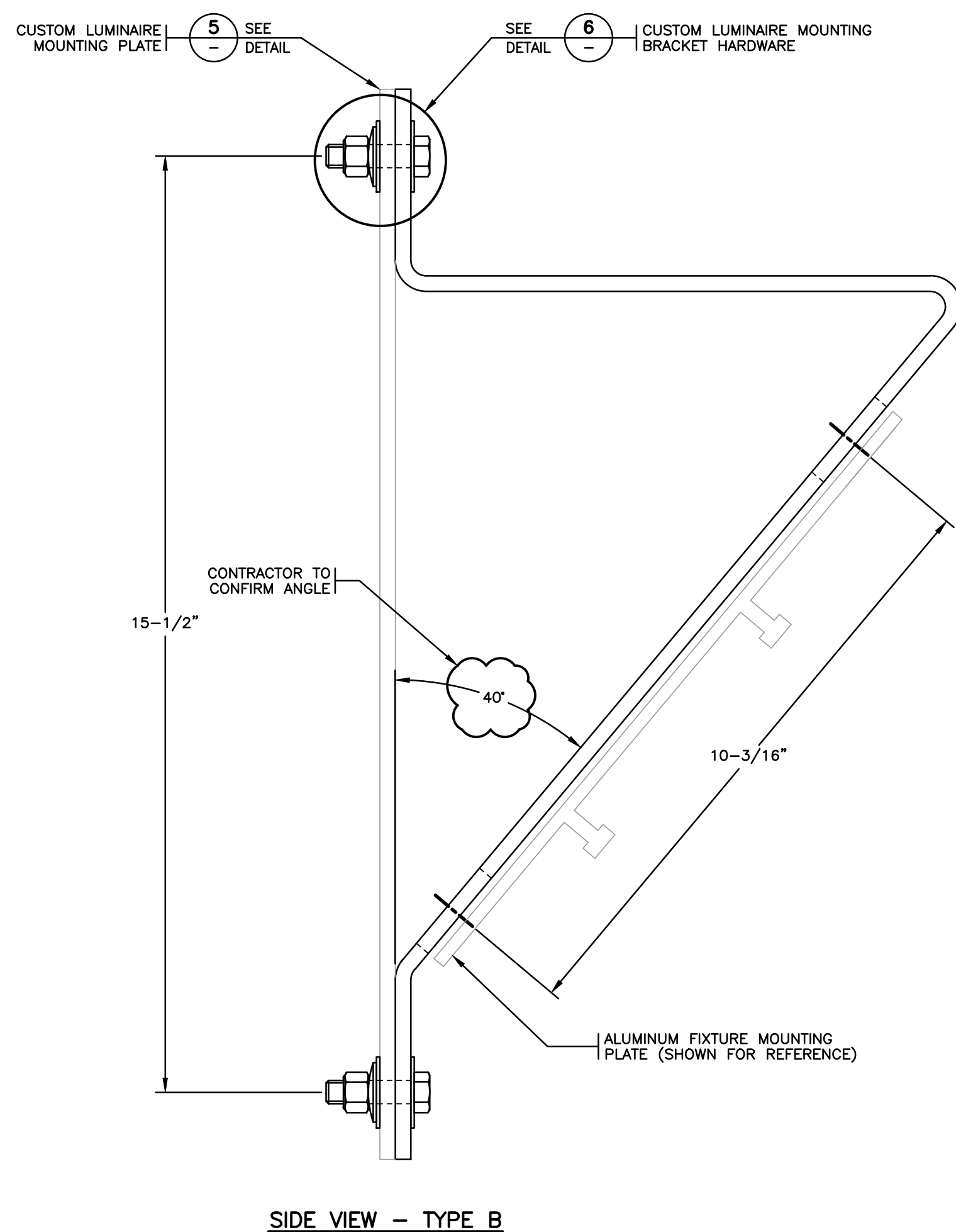
DETAIL 2 CONDUIT ATTACHMENTS TO ROOF PANEL
N.T.S. 8 (FOR MULTIPLE CONDUITS)

-
- Diagram illustrating the components of the luminaire mounting bracket assembly:
- CUSTOM MOUNTING LUMINAIRE BRACKET (SEE NOTE 3)
 - NYLON SHOULDER WASHER (SUPPLIED WITH LUMINAIRE)
 - STAINLESS STEEL FLAT WASHER
 - STAINLESS STEEL M8 NYLOC NUT
 - STAINLESS STEEL M8 BELLEVILLE WASHER
 - STAINLESS STEEL M8 FLAT FENDER WASHER
 - STAINLESS STEEL M8 x 35 HHCS
 - LUMINAIRE MOUNTING BRACKET

DETAIL (TYP.) 33 LUMINAIRE MOUNTING TO MOUNTING BRACKET
N.T.S. 49

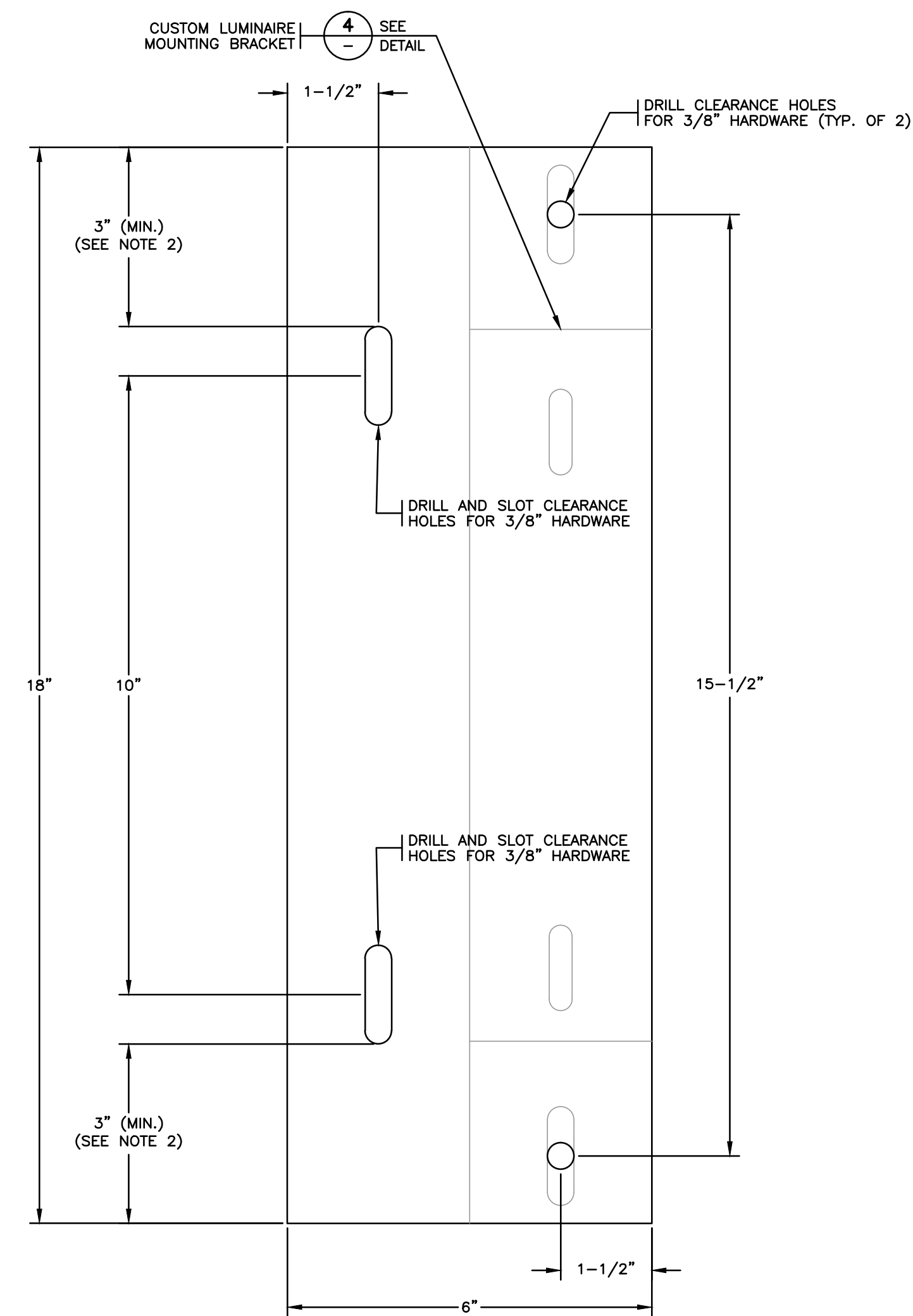
-
- FRONT VIEW — TYPE A & B**
- Dimensions: 3", 12", 3", 3".
- Callouts: DRILL AND SLOT CLEARANCE HOLES FOR 3/8" HARDWARE, DRILL AND SLOT CLEARANCE HOLES FOR M8 HARDWARE.
- SIDE VIEW — TYPE A**
- Dimensions: 15-1/2", 30", 10-3/16".
- Callouts: CUSTOM LUMINAIRE MOUNTING PLATE, SEE DETAIL 5, ALUMINUM FIXTURE MOUNTING PLATE (SHOWN FOR REFERENCE), SEE DETAIL 6, CUSTOM LUMINAIRE MOUNTING BRACKET HARDWARE.

SIDE VIEW – TYPE A

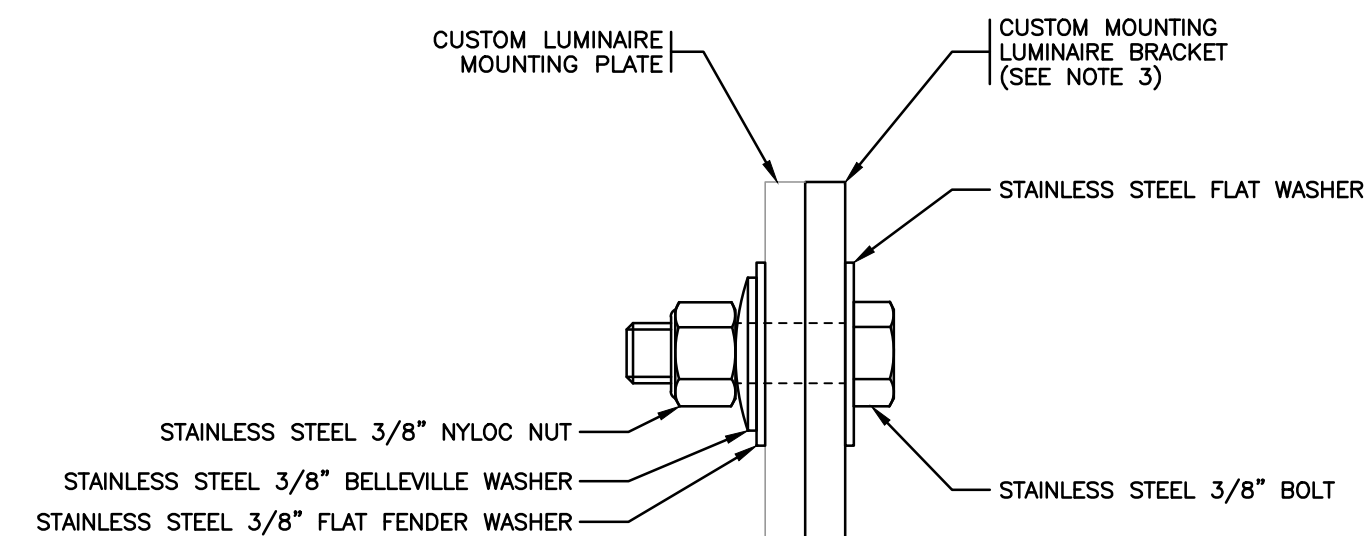


SIDE VIEW - TYPE B

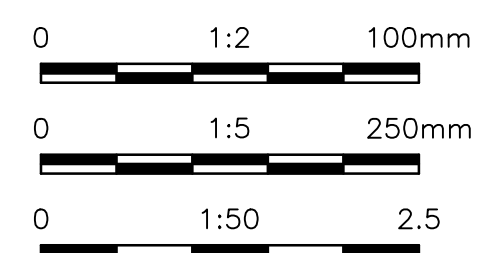
TYP. DETAIL 1:2 (4) CUSTOM LUMINAIRE MOUNTING BRACKET



TYP. DETAIL 1:2 (5) CUSTOM LUMINAIRE MOUNTING PLATE

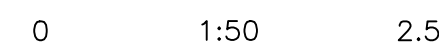


DETAIL (TYP.) **6** CUSTOM LUMINAIRE MOUNTING
N.T.S. - BRACKET HARDWARE



ALL EQUIPMENT IS PROPOSED
UNLESS NOTED OTHERWISE

P:\13230_Snowshed Lighting - Glacier National Park\01 - Design\Drawings\ACAD\Snowshed Lighting\Tup1-10; 6/03/2015 10:52 AM: JESSE.GIBSON



ALL EQUIPMENT IS PROPOSED
UNLESS NOTED OTHERWISE