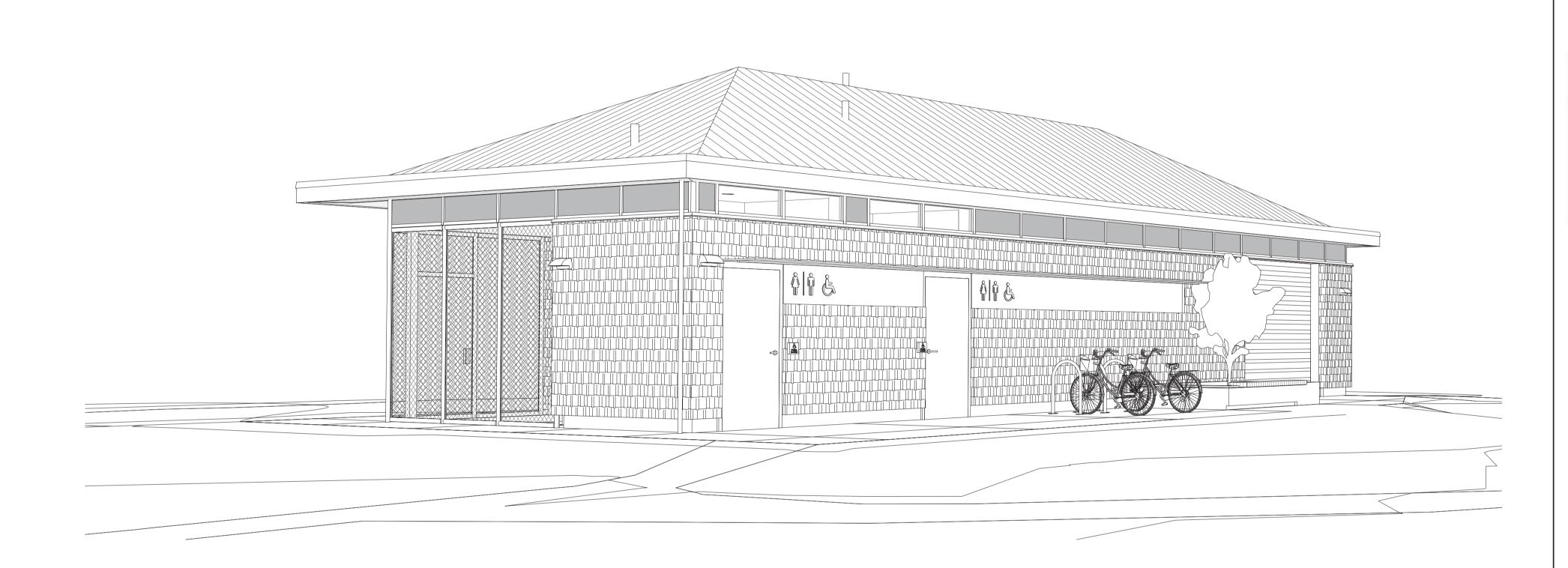
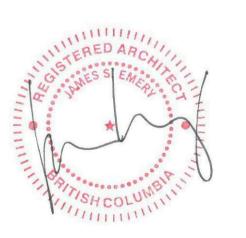
# PWRC MULTI-PURPOSE BUILDING

MULTI-PURPOSE BUILDING, PICNIC SHELTER & REPAIR OF EXISTING WOOD FRAME TOWER 5421 ROBERTSON ROAD, WESTHAM ISLAND, DELTA, BC PROJECT No. 16063

PHASE 5 | 28 Aug 2017 | ISSUED FOR TENDER

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# PWRC MULTI-PURPOSE BUILDING, PICNIC SHELTER & REPAIR OF EXISTING WOOD 5421 ROBERTSON ROAD, WESTHAM ISLAND, DELTA, BC PROJECT No. 16063 PHASE 5 | 28 Aug 2017 | ISSUED FOR TENDER

**BUILDING CODE SUMMARY** APPLICABLE BUILDING CODE: PART 9 BCBC 2012 MAJOR OCCUPANCY: PART 9 GROUP F3 A1 AGRICULTURE ZONING: CIVIC ADDRESS: 5421 ROBERTSON ROAD, WESTHAM ISLAND, DELTA, BC PCL F DL 190, 192A,193, 194, 597 AND 598 LEGAL DESCRIPTION: GP 2 NWD REF PL 57378, 005-577-411 ROLL NUMBER: 369800000 PROPERTY #: PROJECT DESCRIPTION: CONSTRUCTION OF NEW MULTI-USE BUILDING, PICNIC SHELTER & REPAIR OF EXISTING WOOD FRAME LOT AREA: SITE DEVELOPMENT AREA: 3010737.2 M2 **BUILDING AREA CALCULATIONS:** GROUP F3: TOTAL, GROUP F3 90 M2 (968.7 SQ FT) 90 M2 (968.7 SQ FT) **BUILDING CLASSIFICATION:** PART 9 GROUP F3 NO. OF STORIES: FACING STREETS: NO STREETS PERMITTED CONSTRUCTION: COMBUSTIBLE OR NOT COMBUSTIBLE SPRINKLERS: NOT SPRINKLERED FIRE ALARM: NOT REQUIRED OCCUPANT LOAD: 28 M2 / 4.6 M2/PERSON = TABLE 3.1.17.1 6 PERSONS (GROUP F DIV 3, PROCESS ROOMS/CLEANING AND REPAIR GOODS) 54 M2 / 46 M2/PERSON = 1 PERSONS (GROUP F DIV 3, STORAGE) TOTAL PROPOSED 7 PERSONS OCCUPANCY: PLUMBING FACILITY: REQUIRED: 1 MALE & 1 FEMALE 3.7.2.2.(C) PROVIDED: 2 UNIVERSAL H/C TOILET ROOM TYPES OF EXITS: 9.9.2.1.1.a) FOR EACH OCCUPIED SPACE CONFORMING TO 3.4.1.6(1) & 3.4.6.10 **EXITING**: EXITS REQUIRED: REQUIRED: ONE EXIT, NOT SPRINKLERED THROUGHOUT: 100 M2 < 200 M2 9.9.8.2 PROVIDED: ONE EXIT TRAVEL DISTANCE: TABLE 9.9.7.4 REQUIRED: MAX 15M TRAVEL DISTANCE PROVIDED: MAX 9M MIN AGGREGATE EXIT WIDTH IS DETERMINED BY OCCUPANT LOAD AGGREGATE EXIT WIDTH: 9.9.6.3.2.a) & 3. REQUIRED: 800MM / SPACE PROVIDED: 914MM / SPACE DOORWAYS: 800MM 9.9.6.3.2.a)

ASHRAE Standard 90.1-2013 (I-P Edition) Applicable Version: Table 5.5-4 Climate Zone: BCBC Appendix C: Delta, BC Classification: Nonresidential Max U-0.021 / Min R49.0 / Min RSI 8.63 Roofs (Attic and Other): Max U-0.21 / Min R49.0 / Min RSI 8.63 Walls, Above Grade (Mass): Max U-0.060 CI / Min R15.8 / Min RSI 2.78 CI Max U-0.104 / Min R9.5 CI / Min RSI 1.67 CI Walls, Above Grade (Mass, Boat Storage): Not Provided Not Required Max U-0.119 / Min R7.5 CI / Min RSI 1.32 CI Max U-0.083 CI / Min R14.0 / Min RSI 2.47 CI Walls, Below Grade: Walls, Below Grade (Boat Storage): Not Required Not Provided Slab on Grade Floors (Heated): Max F-0.843 / Min R20.0 for 600mm / Min RSI 3.52 for 600mm Max F-0.843 / Min R20.0 for 1200mm / Min RSI 3.52 for 1200mm Slab on Grade Floors (Unheated): Not Required Not Provided Max U-0.500 Max U-0.500 Opaque Doors (Swinging):

**PROVIDED** (Assembly performance)

Max U-0.500

Max U-0.42

Max U-0.77

-Metal Framing, Entrance Door

Note:

Vertical Glazing:
-Metal Framing, Fixed

ASHRAE SUMMARY

Opaque Doors (Nonswinging):

As per Ashrae 90.1-2013 (I-P Edition) Boat storage is not considered enclosed space. As per BCBC 2012 Part 9 Section 9.36.1.3.5.a Boat storage is not conditioned space.

REQUIRED

Max U-0.500

Max U-0.42

Max U-0.77

**ZONING SUMMARY** 

REFERRENCE OCP: "THE CORPORATION OF DELTA BUILDING/PLUMBING"

BYLAW, 2002, NO. 6060 NO DATED

PART V ZONING:

A1 AGRICULTURE

501 PERMITTED USES

PRIMARY: FARMING, BREEDING PETS, KENNEL;

ACCESSORY USE: ACCESSORY FARM RESIDENTIAL FACILITIES, ADDITIONAL FARMHOUSE,

AGRICULTURAL LIQUID WASTE STORAGE FACILITY, AGRI-TOURISM, COGENERATION FACILITY, FARM-HOUSE, FARM RETAIL SALES, HOME OCCUPATION, MIGRANT FARM WORKER HOUSING, ON-FARM COMPOSTING.

ON-FARM PRODUCT PREPARATION, SOILLESS MEDIUM, BED AND BREAKFAST OPERATION WITH MAX. OF THREE UNITS ACCESSORY TO FARM HOUSE,

HOUSE RIDING, TRAINING AND BOARDING WITH MIN. OF 40 PERMANENT STALLS, KEEPING OF HOUSEHOLD PETS ACCESSORY TO FARMHOUSE, OFFICE SPACE, CHANGE ROOMS, LUNCHROOMS, WASHROOMS, STORAGE AND PRODUCT PREPARATION AREAS ACCESSORY TO

ANY "PERMITTED USE", RETAIL SHOP FOR EQUESTRIAN-RELATED GOODS;

NOTE: BUILDING LOCATED ON FEDERAL LAND WITH PUBLIC USE

401 USES PERMITTED IN ALL ZONES: PUBLIC USES:

MUNICIPAL AND OTHER PUBLIC BUILDINGS PROVIDED THAT SUCH BUILDINGS ARE LOCATED IN CONFORMITY WITH THE PROVISIONS OF THAT PARTICULAR ZONE OR THE

FOLOWING, WHICHEVER IS GREATER:

PERMITTED: PROPOSED:

LOT COVERAGE
FRONT YARD SETBACK
SIDE YARD SETBACK
REAR YARD SETBACK
BUILDING HEIGHT
PROPOSED:

EXCEEDS 15M

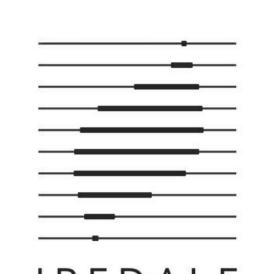
Environment Canada Environnement Canada

Real property

Management Division

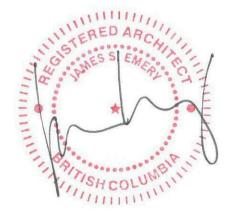
Technical Services

Division Gestion des biens immobilier Services Techniques



I R E D A L E
ARCHITECTURE

Iredale Project No. 16063



8	Issued for Tender	28 Aug. 2017
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Revision/ Revision	Description / Description	Date/Date

**PWGSC** 

PWRC MULTI-PURPOSE BUILDING

MULTI-PURPOSE BUILDING, PICNIC SHELTER & REPAIR OF EXISTING WOOD FRAME TOWER

5421 ROBERTSON ROAD, WESTHAM ISLAND, DELTA, BC

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Designed by/Concept par

Drawn by/Dessine par

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PWGSC Project Manager/Administrateur de Projets TPSGC

PWGSC-REGIONAL\_MANAGER

Regional Manager, Architectural and Engineering Services Gestionnaire regionale, Services d'architectural et de genie, TPSGC

Drawing Title/Titre du dessin

Code Plan

@ 1:50

Project no./no du projet

Sheet/Feuille

Revision No.
La Revision no.

5

# Wall schedule W1 New exterior wall - as per ASHRAE 90.1-2013 (I-P Edition) Min RSI 2.78 - Hardiboard Shingle Cladding on - 50x64 Vert. PT Wood blocking Strapping on - 90mm Roxul 80 Rigid Insulation on - WP membrane on - 250mm Concrete blocks on Paint finish W1a New exterior wall - as per ASHRAE 90.1-2013 (I-P Edition) Not required - Hardiboard Shingle Cladding on - 50x140 Vert. PT Wood blocking Strapping on - WP membrane on - 250mm Concrete blocks on Paint finish W1b New exterior wall - as per ASHRAE 90.1-2013 (I-P Edition) Not Required - Hardiboard Shingle Cladding on - 50x140 Vert. PT Wood blocking Strapping on - WP membrane on - 250mm Concrete blocks on - 40x75 Metal studs on - 13mm Plywood GIS on - Paint finish W1c New exterior wall - as per ASHRAE 90.1-2013 (I-P Edition) Min RSI 2.78 - Hardiboard Shingle Cladding on - 50x140 Vert. PT Wood blocking Strapping on - 90mm Roxul 80 Rigid Insulation on - WP membrane on - 250mm Concrete blocks on - 40x90 Metal studs on - 13mm Moisture resistant Gypsum Board on Paint finish W1d New exterior wall - as per ASHRAE 90.1-2013 (I-P Edition) Min RSI 2.78 - Powder coated Aluminum Breakshape on - 15x40 Vert. PT Plywood Strapping @ 400 o.c. on - 90mm Roxul 80 Rigid Insulation on - WP membrane on - 250mm Concrete blocks on Paint finish W2 New interior wall - Paint finish on - 13mm PT Plywood GIS on - 90mm Roxul 80 Rigid Insulation on - WP membrane on - 200mm Concrete blocks Paint finish W2a New interior wall Paint finish on - 13mm PT Plywood GIS on - 90mm Roxul 80 Rigid Insulation on - WP membrane on - 200mm Concrete blocks 40x90 Metal studs on - 13mm Moisture resistant Gypsum Board on - Paint finish (see Interior Elevation 3/A403) W3 New interior wall - Paint finish on - 200mm Concrete blocks on Paint finish W3a New interior wall - Paint finish on - 200mm Concrete blocks on - 40x90 Metal studs on - 13mm Moisture resistant Gypsum Board on Paint finish W4 New exterior wall (integral to window wall system) as per ASHRAE 90.1-2013 (I-P Edition) Max U-0.42 - Insulated Window Spandrel Panel on - 25mm Air space - WP membrane on - 200mm Concrete blocks on - Paint finish W5 New Attic Wall as per ASHRAE 90.1-2013 (I-P Edition) Min RSI 2.78 on Exterior assembly - 13mm painted Plywood GIS on - 90mm Roxul 80 Rigid Insulation on - WP membrane on - 13mm Plywood on - 40x90mm Wood studs Note: Walls W1b, W2, W2a & W5 (at boat storage) to have fasteners spaced evenly on Plywood GIS

# Floor schedule Roof schedule

Slab on grade - as per ASHRAE 90.1-2013 (I-P Edition) Min RSI 3.52

- Clear Non-Slip Epoxy on
- 100mm Slab on Grade reinforced per Struct. on
- VB membrane.

VB membrane
 150mm Roxul 110 Rigid Insulation to 1200mm around perimeter on
 Compact Granular fill per Geotech on

Structural Raft Slab onUndisturbed native material

Slab on grade below Walking Freezer - as per ASHRAE 90.1-2013 (I-P Edition) Min RSI 3.52

- 65mm Rubber Tile Matting

- Clear Sealer

100mm Slab on Grade reinforced per Struct. on
 150mm Roxul 110 Rigid Insulation on

VB membrane
 Structural Raft Slab on
 Undisturbed native material

Slab on grade - as per ASHRAE 90.1-2013 (I-P Edition) Not Required

Clear Non-Slip Epoxy on
100mm Slab on Grade reinforced per Struct. on
Compact Granular fill per Geotech on

Structural Raft Slab onUndisturbed native material

F2 Concrete pad

100mm CIP onCompact Granular fill per Geotech onUndisturbed native material

Exterior	Finishes Schedule - Multi-purpose buildi	ng		
Note	Element	Material	Finish	Colour
RF-1	Roof	Metal panels	Powder coated	Brite Red (Westform)
RF-2	Roof Cap Flashing	Pre-fin metal	Powder coated	White to match RF-3
RF-3	Roof Fascia	Cement Board	Painted	Brite White (Westform)
SF-1	Fir Soffit	Fir	Clear Coat	Natural Clear Wood
WC-1	Exterior Wall - Shake Cladding	Cement Board	Painted	BM Grey AF-700
WS-1	Exterior Wall - Metal Panels	Pre-fin metal	Powder coated	Brite White (Westform)
WF-1	Wall Flashing	Pre-fin metal	Powder coated	Grey to match WC-1
WF-2	Wall Flashing	Pre-fin metal	Powder coated	Charcoal Grey
DR-1	Garage Doors	Pre-fin metal	Powder coated	Charcoal Grey
DR-2	Doors: Jamb, Panel & Flashings		Powder coated	Charcoal Grey
WD-1	Window Wall System, Doors		Powder coated	Charcoal Grey
WM-1	Exterior Mullions	Pre-fin metal	Powder coated	Charcoal Grey
WW-1	Window Wall System - Spandrel panels	Pre-fin metal	Powder coated	Charcoal Grey
WW-2	Window Wall System - Glazing	Double-glazed	Vision Glass	Clear
WW-3	Window Wall System - Glazing	Double-glazed	Vision Glass with Film	3M Fasara Milky Milky - White
WP-1	Planter Wall	Concrete	Smooth architectural concrete/Clear sealant	Natural
ES-1	Exterior seating	Cedar	Stain	Natural Clear Wood
CF-1	Chain-Link Fence	Pre-fin metal	Vinyl Coated Mesh/Powder Coated Supports	Dark Grey to match metal fin.
CA-1	Canopy	Steel	Stainless	Charcoal Grey
BO-1	Bollard	Steel	Stainless	BM Safety Yellow KP22-15

Interior Finishes Schedule - Multi-purpose building						
Note	Element	Material	Finish	Colour		
PT-1	Wall	Paint	Semi-Gloss	BM Cloud White OC-130		
PT-2	Ceiling	Paint	Semi-Gloss	BM Cloud White OC-130		
PT-3	Floor	Epoxy Coating	Gloss	Clear		
FM-1	Walk-in Freezer Mat	Canada Mats	Deep Freeze Freezer Mat	Black		
DR-3	Door/Frame interior	Powder coated	Semi-Gloss	Charcoal Grey		
RB-1	Rubber Wall base	Rubber	Standard	48 Grey WG		
PA-1	Fiberglass Reinforced Panel	Fiberglass	Smooth Gel Coat	White to match PT-1		

Exterio	r Finishes Schedule - Picnic s	shelter		
Note	Element	Material	Finish	Colour
RF-4	Roof	Metal panels	Powder coated	Red to match RF-1
RF-5	Framing	Pre-fin metal	Powder coated	Grey to match WC-1

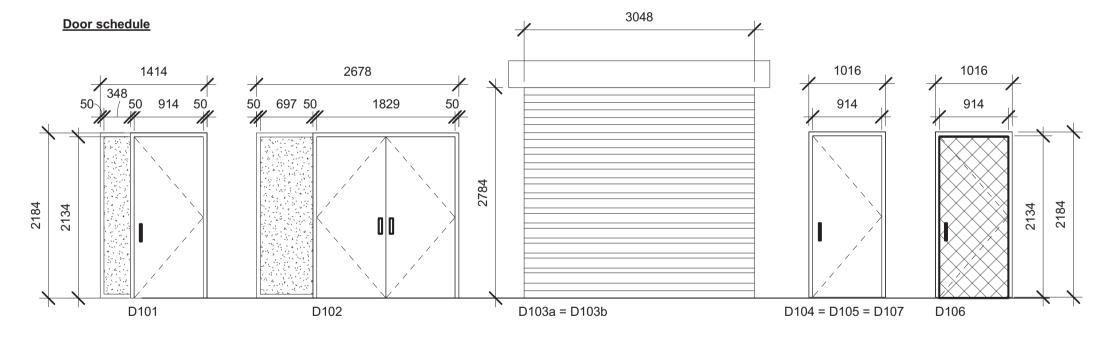
Laundry Equipment Schedule						
Note	Item	Manufacturer	Product	Colour		Notes
				Name	Manufacturers Code	
PL-1	Plam, Exterior millwork surfaces	Formica	Plam with Gloss finish	White	949C-90	
ML-1	Melamine, Interior millwork surfaces	-	-	White	-	
CP-1	Cabinet Pulls	-	-	Brush or Satin Metal	-	D-Pull
ST-1	S.S Table	Tarrison	S.S. Table	Stainless Steel	SWT48-2436LB3S	Custom L.
WD-1	Washer & Dryer	Huebsch	Stack Washer/Dryer	-	YTEE5ASP173TW01	
					YTEE5ASP283CW01	

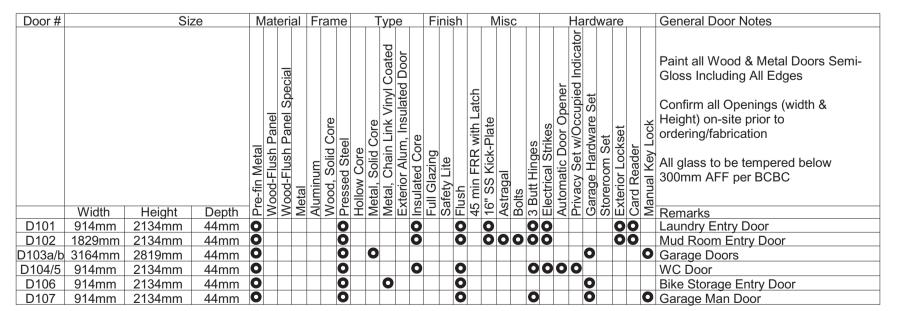
Note	Item	Manufacturer	Product	Colour		Notes
				Name	Manufacturers Code	
NA-1	Mirror	Frost	Fixed Tilt Mirror	Stainless Steel	941-2436FT	
WA-2	Soap Dispenser	Frost	Tank Type Soap Dispenser	Stainless Steel	708A	
WA-3	Toilet Tissue Dispenser	Frost	Jumbo Toilet Tissue Dispenser, Two Rolls	Stainless Steel	169	
NA-4	Wall-mounted Hand Dryer	Dyson	Dyson Airblade V	Sprayed Nickel	HU02	
WA-5	Change Table	Frost	Baby Changing Station	Light Grey	1125	
WA-6	Waste disposal	Frost	Wall Mounted Waste Receptacle	Stainless Steel	303-3NL	
WA-7	Grab Bars	Frost	Grab Bars	Stainless Steel Peened	1002SP 24x24	
WA-8	Sanitary Napkin Dispenser	Frost	Sanitary Napkin Dispenser, Recessed	Stainless Steel	633-2	

Mudroom Equipment Schedule								
Note	Item	Manufacturer	Product	Colour		Notes		
				Name	Manufacturers Code			
DT-1	S.S Drain Table with sink	Tarrison	S.S. Drain table with sink	Stainless Steel	CDS1-18	Custom as per Drawings		
FS-1	Walk-in Freezer Shelves	Tarrison	Shelves/Posts	Stainless Steel	S1848S/P63S & S1836S/P63S	4 Shelves		
MT-1	Moveable table	Tarrison	Table/Undershalve/Casters	Stainless Steel	WT4BS-2444/US2436S/C5SPB			
MA-2	Soap Dispenser	Frost, O/A	Tank Type Soap Dispenser	Stainless Steel	708A			
MA-3	Towel Dispenser	Frost, O/A	Universal Towel Dispenser	Stainless Steel	103			

ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION
A/BOLT	ANCHOR BOLT	EW	EACH WAY	PL	PROPERTY LINE
ADJ	ADJACENT	EXIST	EXISTING	PLAM	PLASTIC LAMINATE
ADJST	ADJUSTABLE	EXT	EXTERIOR	PLY	PLYWOOD
AFF	ABOVE FINISHED FLOOR	FD	FLOOR DRAIN	PMS	PER MANUFACTURERS SPECS
ARCH	ARCHITECTURAL	FG	FIXED GLAZING	POLY	POLY VAPOUR BARRIER
ALT	ALTERNATE	FIN	FINISH OR FINISHED	PREFIN	PREFINISHED
ALUM	ALUMINUM	FIN FLR	FINISHED FLOOR	PT	PRESSURE TREATED
ANOD	ANODIZED	FLASH	FLASHING	PNT	PAINT
AVG	AVERAGE	FLR	FLOOR	PNTD	PAINTED
BG	BUILDING GRADE	FRR	FIRE RESISTANCE RATING	PVC	POLYVINYL CHLORIDE
BLDG	BUILDING	FTG	FOOTING	RAD	RADIUS
BLK	BLOCK	GA	GAUGE	RD	ROOF DRAIN
BLKG	BLOCKING	GALV	GALVANIZED	REINF	REINFORCED, REINFORCEMENT
BM	BEAM	GWB	GYPSUM WALLBOARD	REQ'D	REQUIRED
ВОТ	воттом	НС	HANDICAPPED	REV	REVISION, REVISED
BP	BUILDING PAPER	HM	HOLLOW METAL	RO	ROUGH OPENING
CAULK	CAULKING	HORIZ	HORIZONTAL	RWL	RAINWATER LEADER
СВ	CATCH BASIN	HSS	HOLLOW STRUCTURAL STEEL	RM	ROOM
С	CHANNEL	HW (HWT)	HOT WATER (HOT WATER TANK)	SEAL	SEALANT
CL	CENTRELINE	INSUL	INSULATION	SHEATH	SHEATHING
CLR	CLEAR	INT	INTERIOR	SHT	SHEET
CONC	CONCRETE	INTEG	INTEGRAL (WITH)	SIM	SIMILAR
CONT	CONTINUOUS	I/S	INSIDE	SPEC	SPECIFICATION
COORD	COORDINATE (WITH)	L	ANGLE	SS	STAINLESS STEEL
CRS	COURSE, COURSES	LA	LIQUID APPLIED	STL	STEEL
COL	COLUMN	LG	LONG	STRAP	STRAPPING
СТ	CERAMIC TILE	MAX	MAXIMUM	STRUCT	STRUCTURAL
CTR	CENTRE	MDF	MEDIUM DENSITY FIBREBOARD	SQ	SQUARE
CTRD	CENTRED	MECH	MECHANICAL	T&B	TOP AND BOTTOM
CTRS	CENTRES	MEMB	MEMBRANE	T&G	TONGUE AND GROOVE
C/W	COMPLETE WITH	MFR	MANUFACTURER	THK	THICK
DBL	DOUBLE	MI	MIRROR IMAGE	T/O	TOP OF
DIA	DIAMETER	MIN	MINIMUM	тос	TOP OF CONCRETE
DR	DOOR	MTL	METAL	TYP	TYPICAL
DP	DEEP	NIC	NOT IN CONTRACT	U/G	UNDERGROUND
DTL	DETAIL	NTS	NOT TO SCALE	UNO	UNLESS NOTED OTHERWISE
DWG	DRAWING	ОС	ON CENTRE	U/S	UNDERSIDE
EA	EACH	O/DIA	OUTSIDE DIAMETER	VB	VAPOUR BARRIER
EE	EACH END	O/FLOW	OVERFLOW	VR	VAPOUR RETARDER
EF	EACH FACE	O/H	OVERHEAD	VERT	VERTICAL
EL EL	SITE ELEVATION	OPNG	OPENING	VIF	VERIFY IN FIELD
ELEV	DRAWING ELEVATION	OPP	OPPOSITE	W	WIDE
ELEC	ELECTRICAL	P&S	PEEL & STICK	W/	WITH
EQ	EQUAL	PERIM	PERIMETER	W/O	WITHOUT
ES	EACH SIDE	PIP	POURED IN PLACE	WDW	WINDOW
		1	. 001120 1111 12 101		

NOTE: THIS IS NOT AN EXHAUSTIVE LIST. IF IN DOUBT, CONTACT THE CONSULTANT FOR CLARIFICATION





Garage Doors - Provide Door Contacs for security
WC Doors - Provide Lock jam integrated into security system & Occupancy sensor to keep push button operable

Environment Canada
Environnement Canada
Real property
Division Gestion

Real property Division
Management Division des
Technical Services Serv

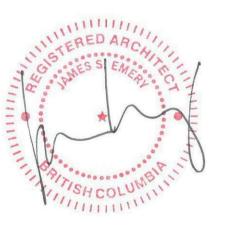
Division Gestion

des biens immobilier

vices Services Techniques

I R E D A L E
ARCHITECTURE

Iredale Project No. 16063



Issued for Tender 28 Aug. 201 Re-Issued for Building Permit 28 Aug. 201 Issued for Tender 09 Aug. 201 Re-Issued for Building Permit 27 July 2017 Issued for Building Permit 12 May 2017 Issued for Tender 08 May 2017 Re Issued for 99% review 19 Apr. 2017 Issued for 99% review 05 Apr. 2017 Issued for 66% review 22 Feb. 201 Description / Description Date/Date

**PWGSC** 

PWRC MULTI-PURPOSE BUILDING

MULTI-PURPOSE BUILDING, PICNIC SHELTER & REPAIR OF EXISTING WOOD FRAME TOWER

5421 ROBERTSON ROAD, WESTHAM ISLAND, DELTA, BC

Consultant Signature Only

Designed by/Concept par

JSE

Drawn by/Dessine par

GBE

PWGSC Project Manager/Administrateur de Projets TPSGC

Regional Manager, Architectural and Engineering Services
Gestionnaire regionale, Services d'architectural et de genie, TPSGC

PWGSC-REGIONAL\_MANAGER

Drawing Title/Titre du dessin

Schedules

@ As indicated

Project no./no du projet

Sheet/Feuille

PWRC-012-1000534

La Revision

Roof assembly - as per ASHRAE 90.1-2013 (I-P Edition) Min RSI 8.63

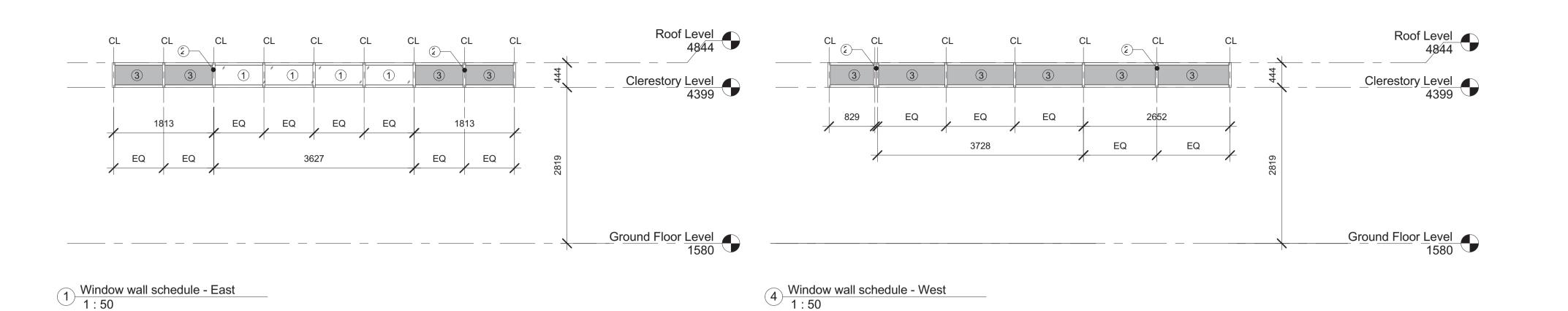
- Roof trusses (see structural for assembly details)

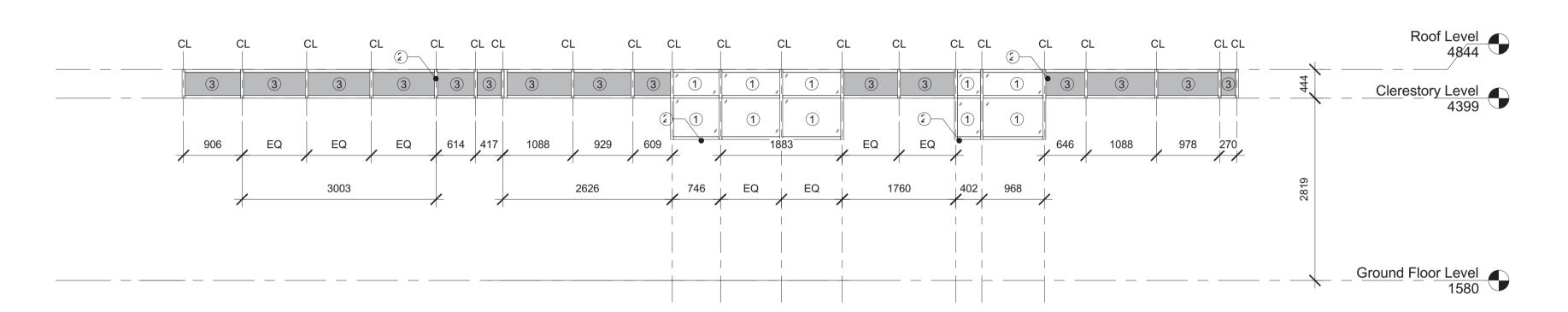
- Pre-fin standing seam metal Roof on

- 230mm Spray foam insulation on

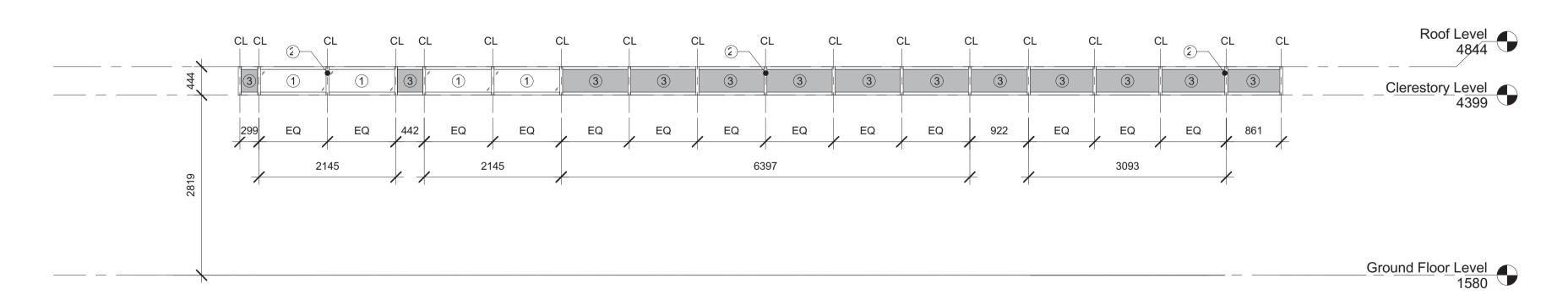
Thermal clip on15lb Roofing Felt on

- 16mm Plywood deck on





Window wall schedule - North
1:50



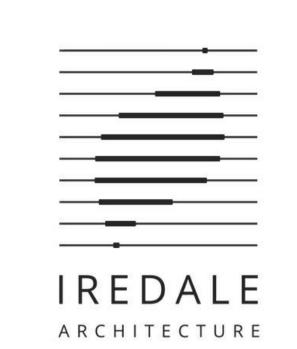
Window wall schedule - South
1:50

Number Element Material Finish Colour						
1011100		Triatoria.		00.00.		
1	Window wall system - Glazing	Double-glazed	Vision Glass	Clear		
2	Window wall system - Mullions	Pre-fin metal	Powder coated	Charcoal Grey		
3	Window wall system - Spandrel panels	Pre-fin metal	Powder coated	Charcoal Grey		
4	Window wall system - Glazing	Double-glazed	Vision Glass with Film	3M Fasara Milky Milky - White		
5	Exterior Door	Pre-fin metal	Powder Coated	Charcoal Grey		



Management Division
Technical Services

Division Gestion des biens immobilier Services Techniques



Iredale Project No. 16063



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GBE

PWGSC Project Manager/Administrateur de Projets TPSGC

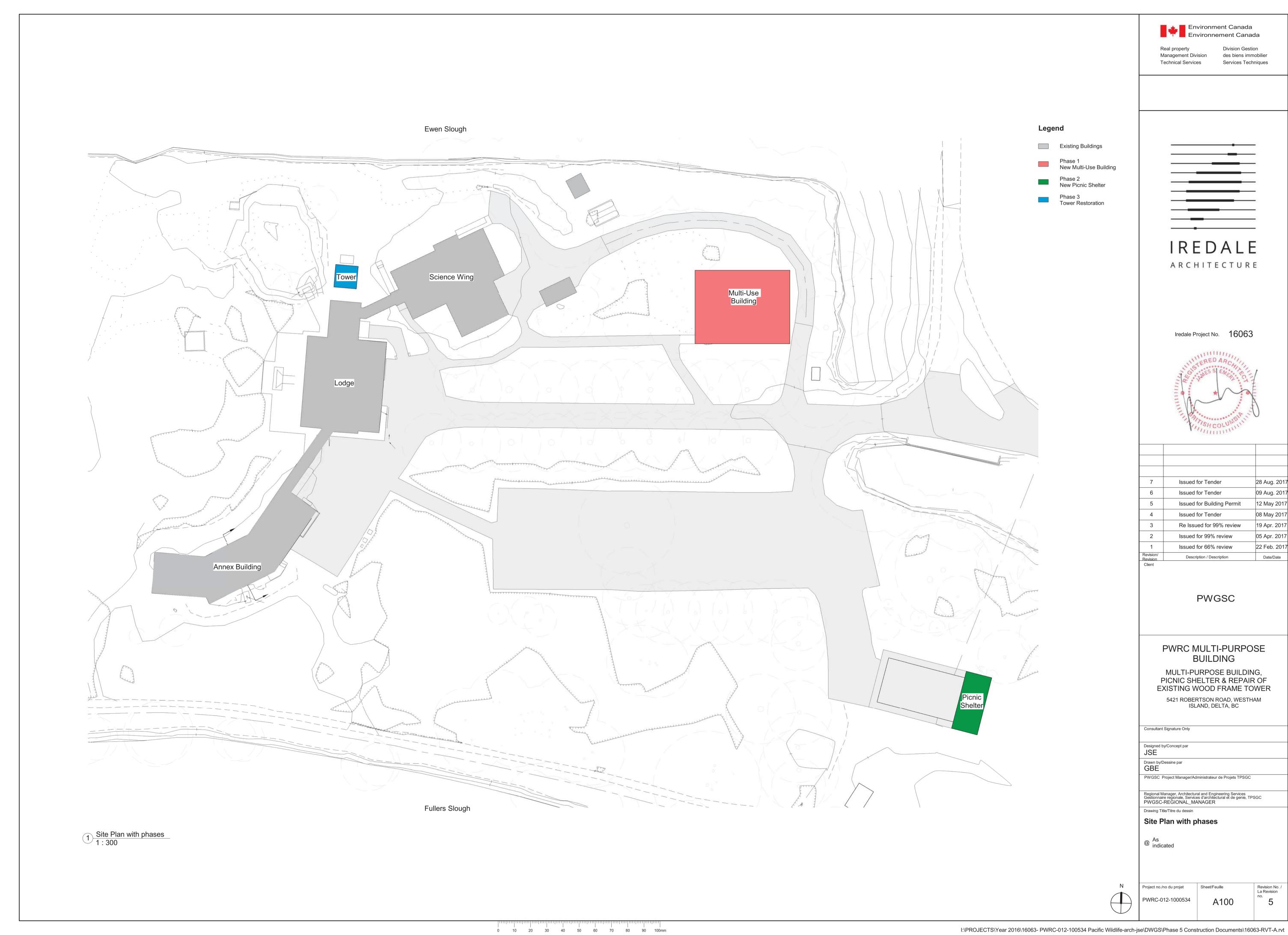
Regional Manager, Architectural and Engineering Services Gestionnaire regionale, Services d'architectural et de genie, TPSGC PWGSC-REGIONAL\_MANAGER

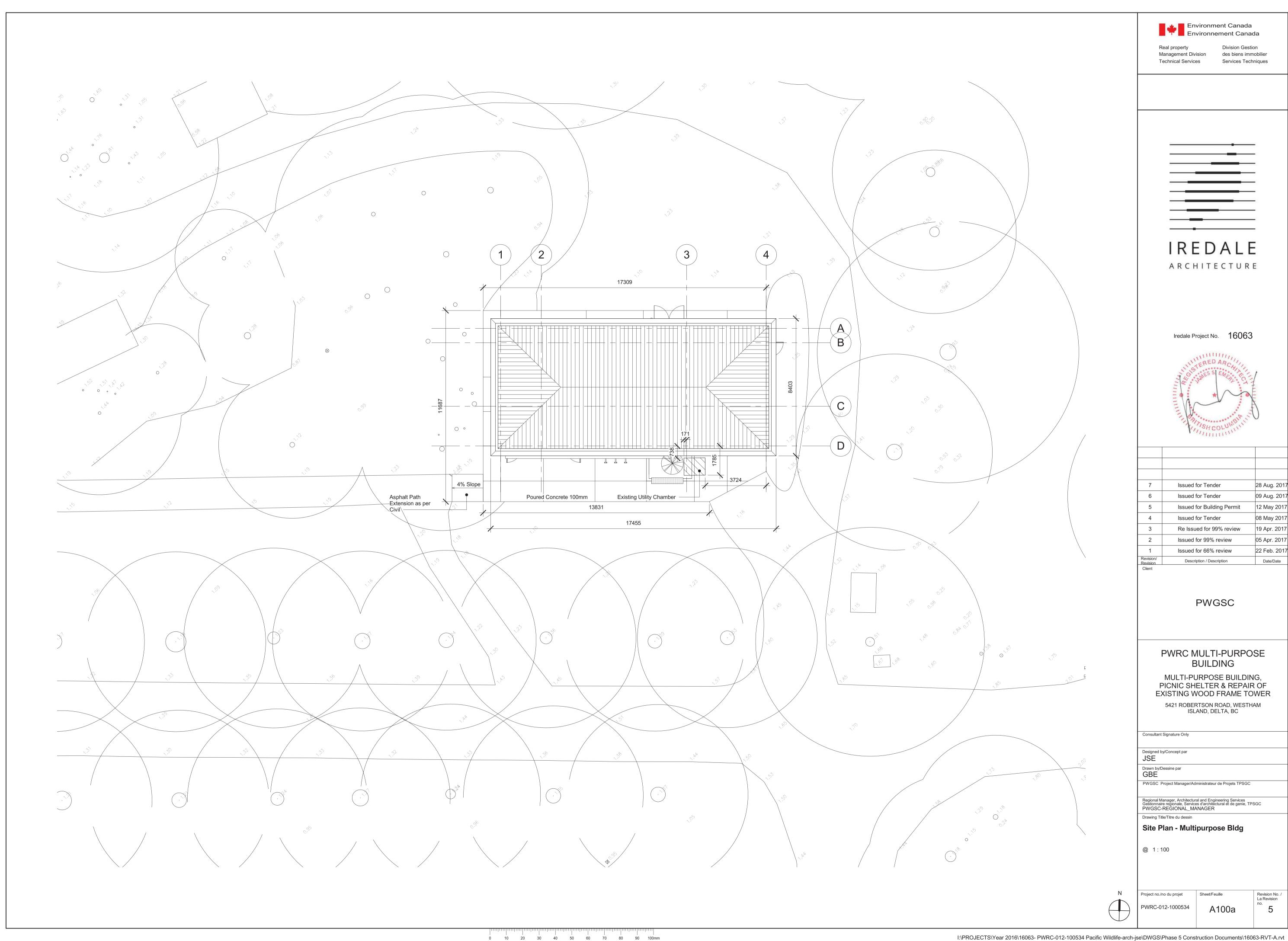
Drawing Title/Titre du dessin

Window wall schedule

@ As indicated

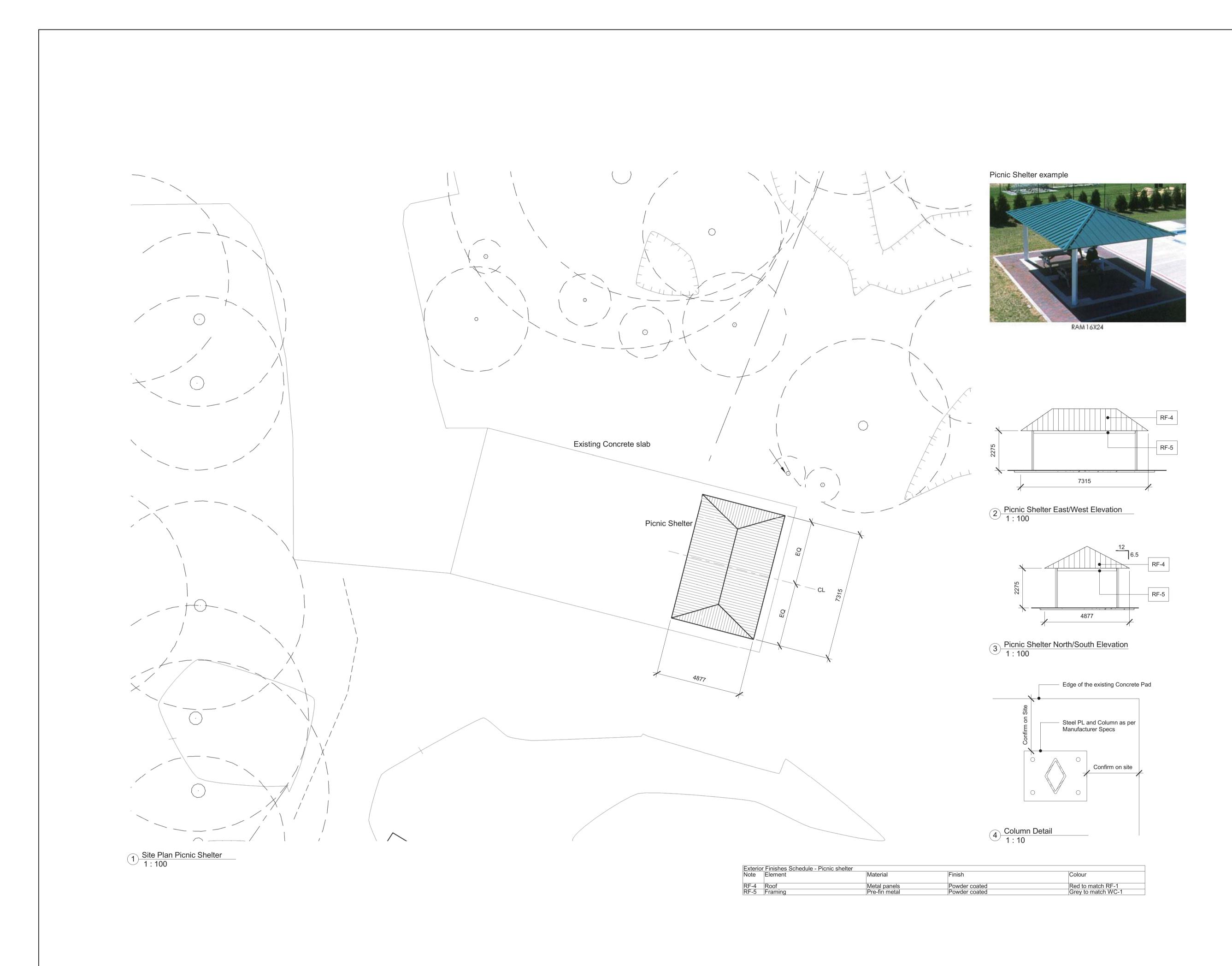
Project no./no du projet	Sheet/Feuille	Revision No. / La Revision
PWRC-012-1000534	A003	<sup>no.</sup> 5





7	Issued for Tender	28 Aug. 201
6	Issued for Tender	09 Aug. 201
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Revision/ Revision	Description / Description	Date/Date
Client		

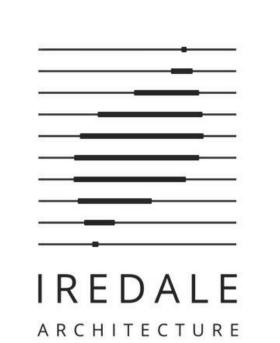
Revision No. / La Revision





Management Division
Technical Services

Division Gestion des biens immobilier Services Techniques



Iredale Project No. 16063



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**PWGSC** 

# PWRC MULTI-PURPOSE BUILDING

MULTI-PURPOSE BUILDING,
PICNIC SHELTER & REPAIR OF
EXISTING WOOD FRAME TOWER

5421 ROBERTSON ROAD, WESTHAM ISLAND, DELTA, BC

Consultant Signature Only

Designed by/Concept par

JSE

Drawn by/Dessine par

GBE

PWGSC Project Manager/Administrateur de Projets TPSGC

Regional Manager, Architectural and Engineering Services
Gestionnaire regionale, Services d'architectural et de genie, TPSGC
PWGSC-REGIONAL\_MANAGER

Site Plan - Picnic shelter

Drawing Title/Titre du dessin

@ As indicated

Project no./no du projet

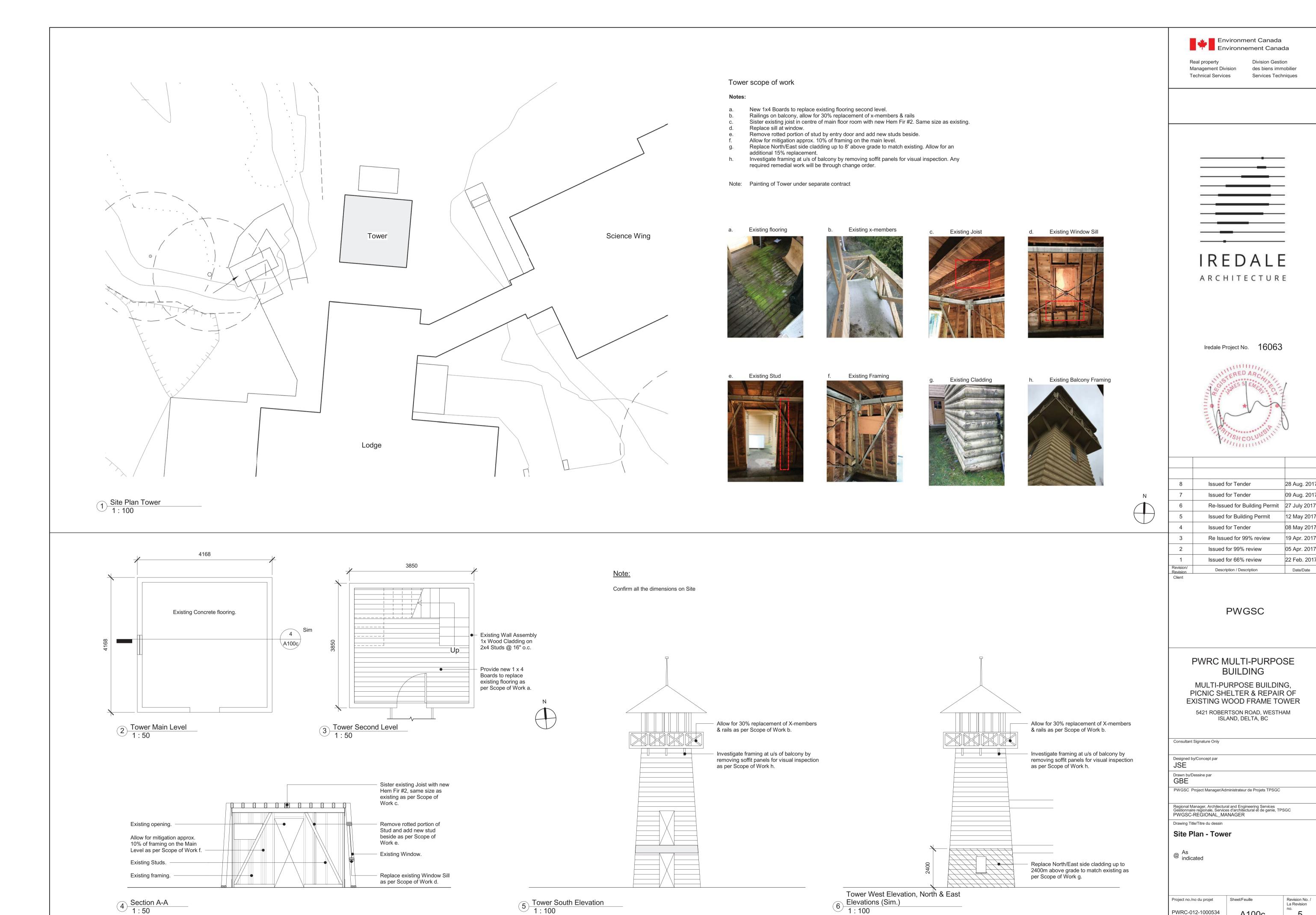
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A100b

Revision No. /
La Revision no.

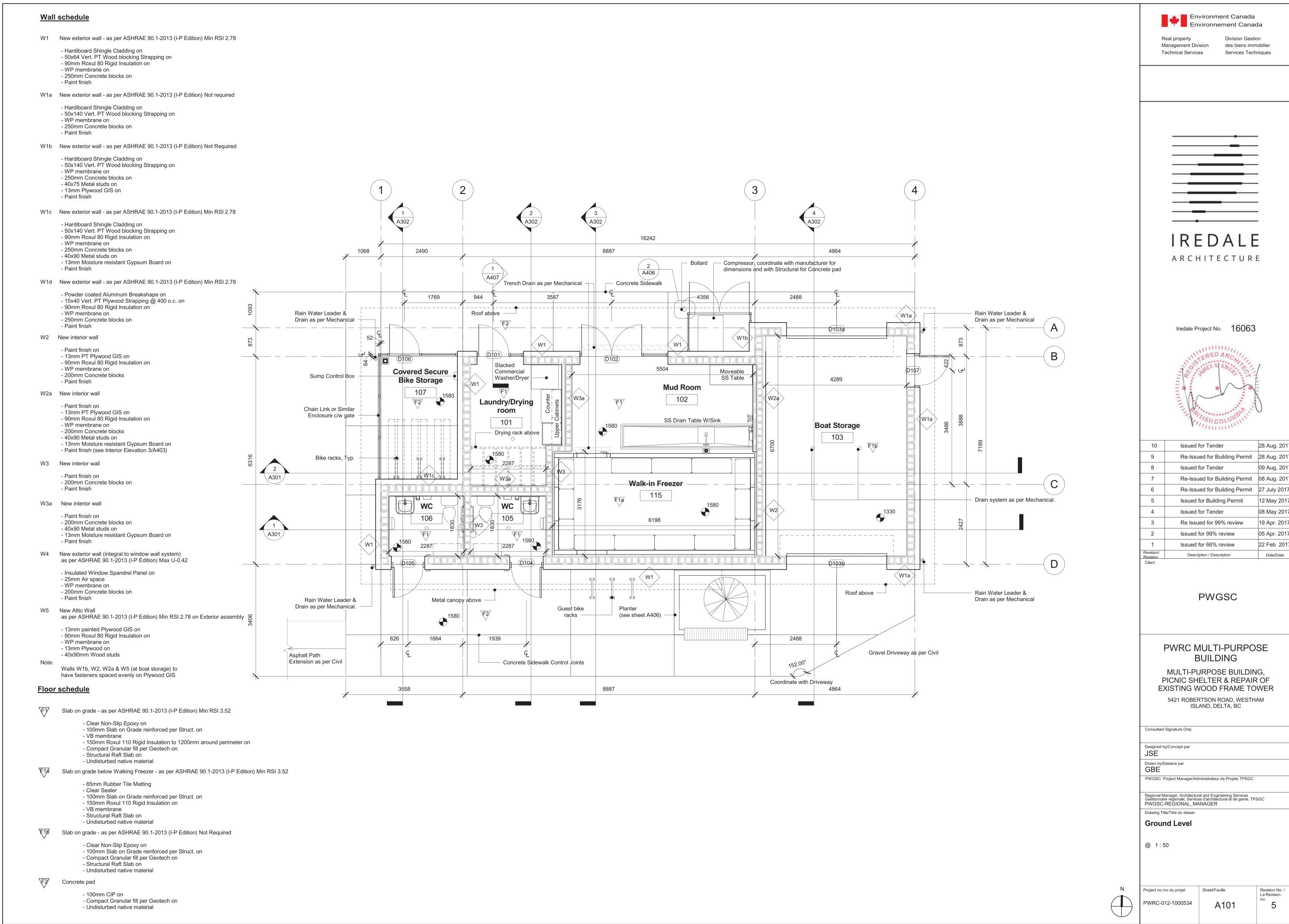
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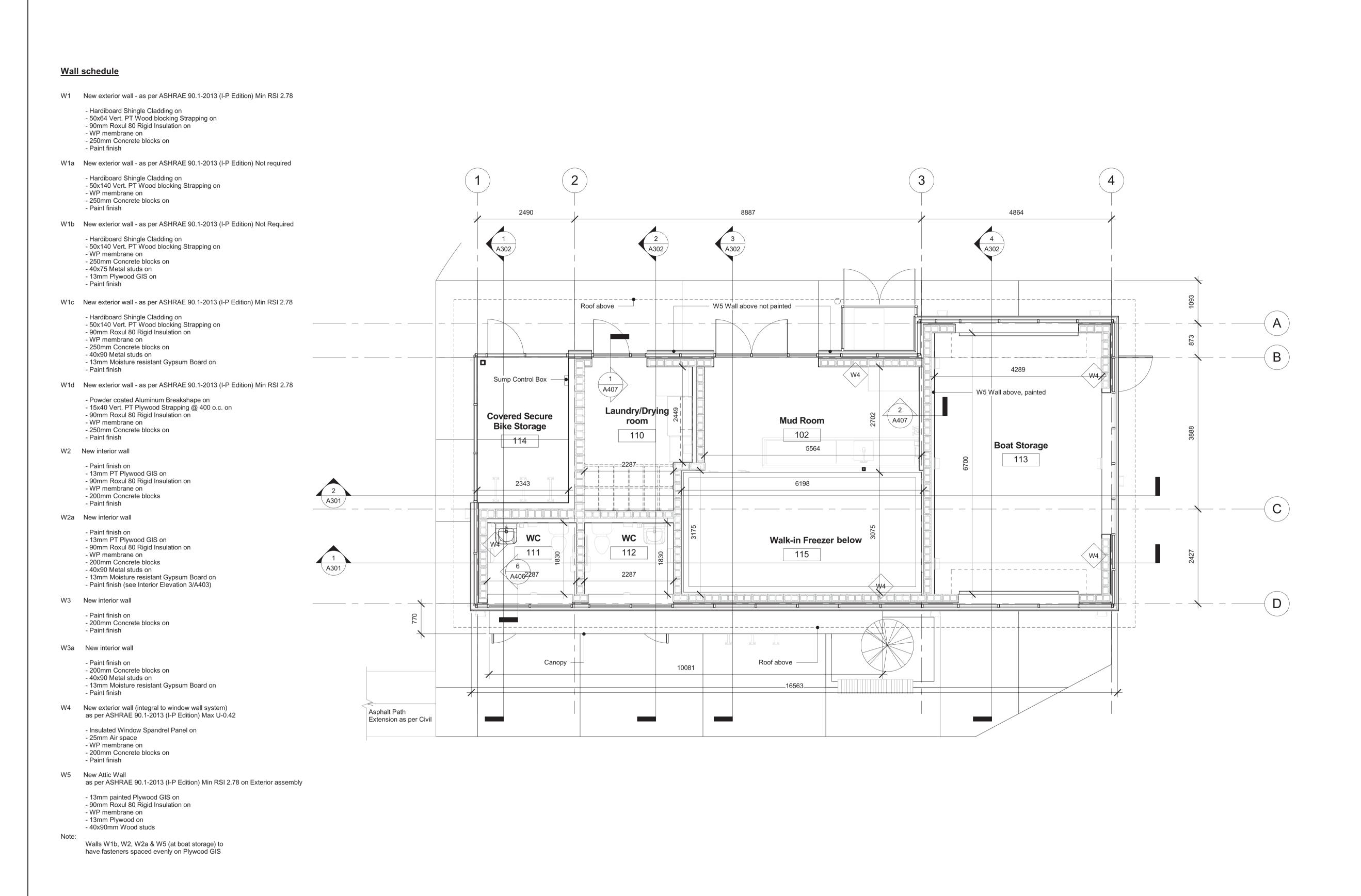


PWRC-012-1000534

no. 5

A100c





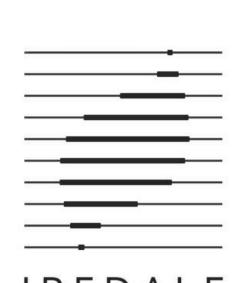


Real property

Management Division

Technical Services

Division Gestion des biens immobilier Services Techniques



# IREDALE ARCHITECTURE

Iredale Project No. 16063



9	Issued for Tender	28 Aug. 2017
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**PWGSC** 

# PWRC MULTI-PURPOSE BUILDING

MULTI-PURPOSE BUILDING, PICNIC SHELTER & REPAIR OF EXISTING WOOD FRAME TOWER

5421 ROBERTSON ROAD, WESTHAM ISLAND, DELTA, BC

Consultant Signature Only

Designed by/Concept par

JSE

Drawn by/Dessine par

GBE

PWGSC Project Manager/Administrateur de Projets TPSGC

Regional Manager, Architectural and Engineering Services
Gestionnaire regionale, Services d'architectural et de genie, TPSGC

**Clerestory Level** 

Drawing Title/Titre du dessin

PWGSC-REGIONAL\_MANAGER

@ 1:50

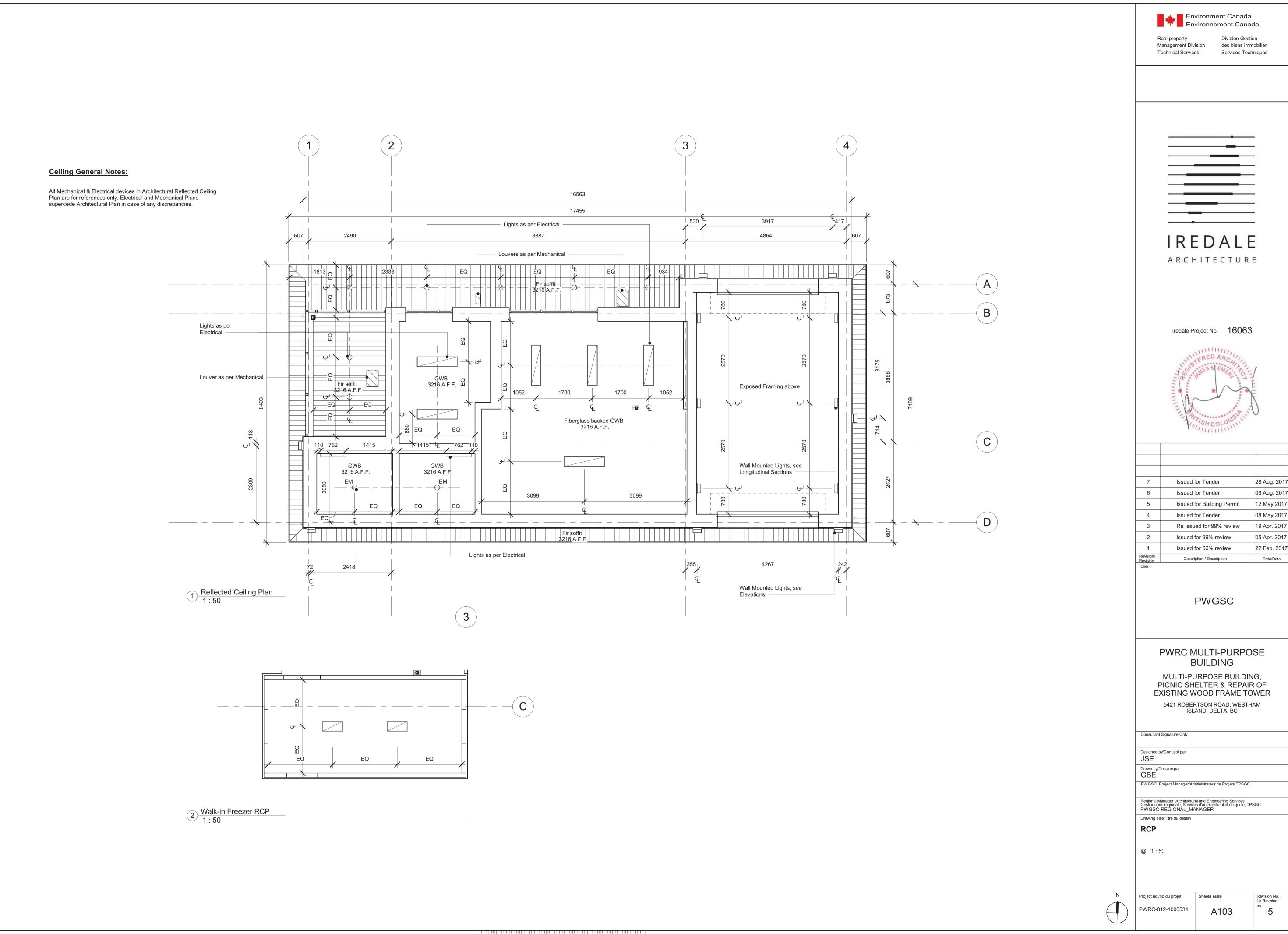
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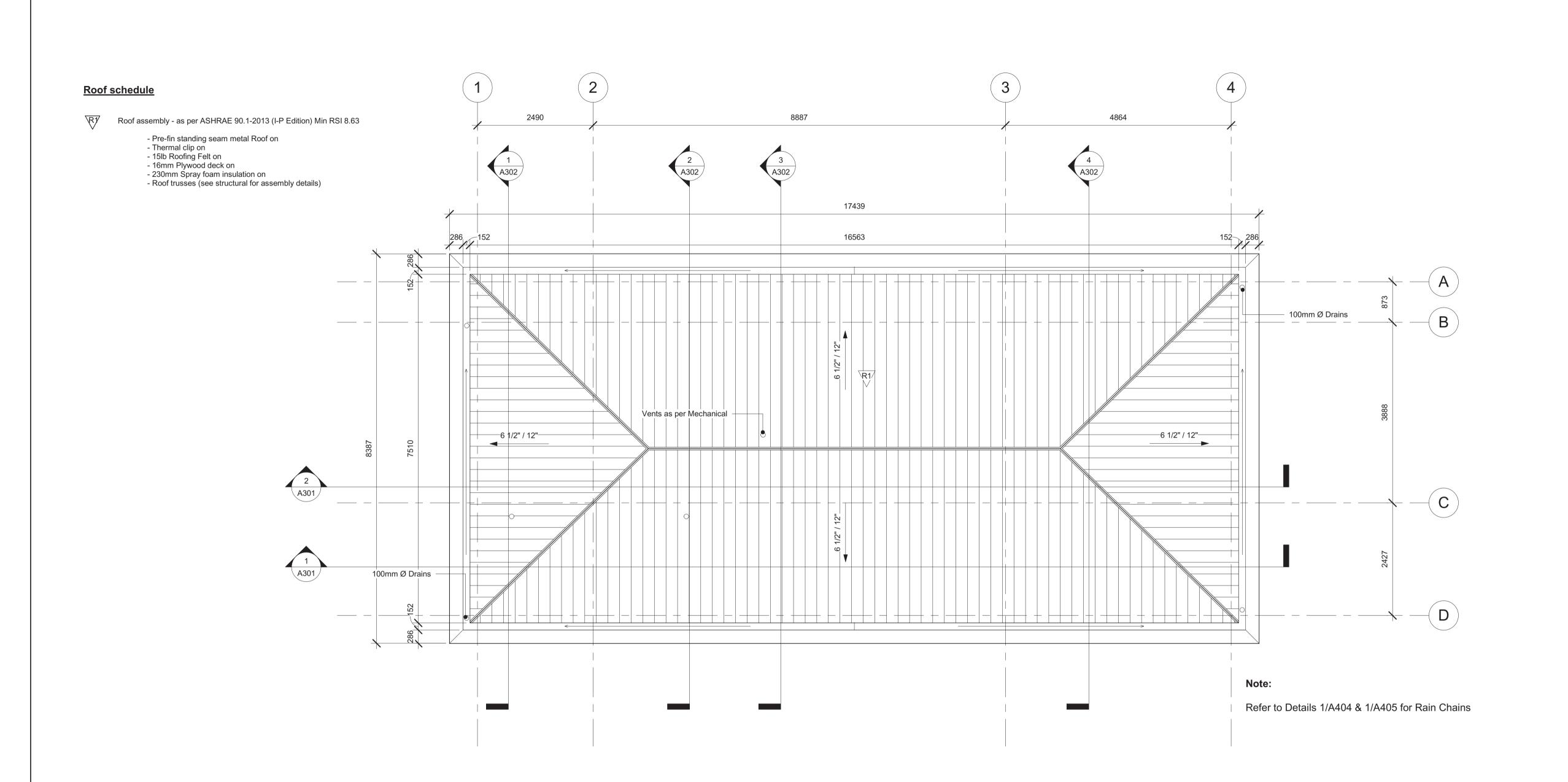
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Sheet/Feuille

A102

Revision No. /
La Revision no.
5





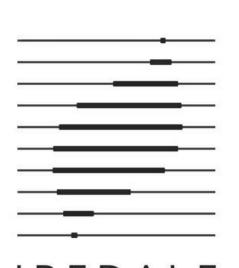


Real property

Management Division

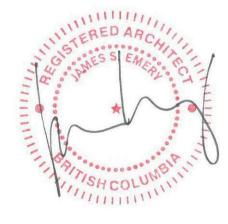
Technical Services

Division Gestion des biens immobilier Services Techniques



# I R E D A L E ARCHITECTURE

Iredale Project No. 16063



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# **PWGSC**

# PWRC MULTI-PURPOSE BUILDING

MULTI-PURPOSE BUILDING, PICNIC SHELTER & REPAIR OF EXISTING WOOD FRAME TOWER 5421 ROBERTSON ROAD, WESTHAM ISLAND, DELTA, BC

Consultant Signature Only

Designed by/Concept par
JSE

Drawn by/Dessine par
GBE

PWGSC Project Manager/Administrateur de Projets TPSGC

Regional Manager, Architectural and Engineering Services Gestionnaire regionale, Services d'architectural et de genie, TPSGC PWGSC-REGIONAL\_MANAGER

Prawing Title/Titre du dessin

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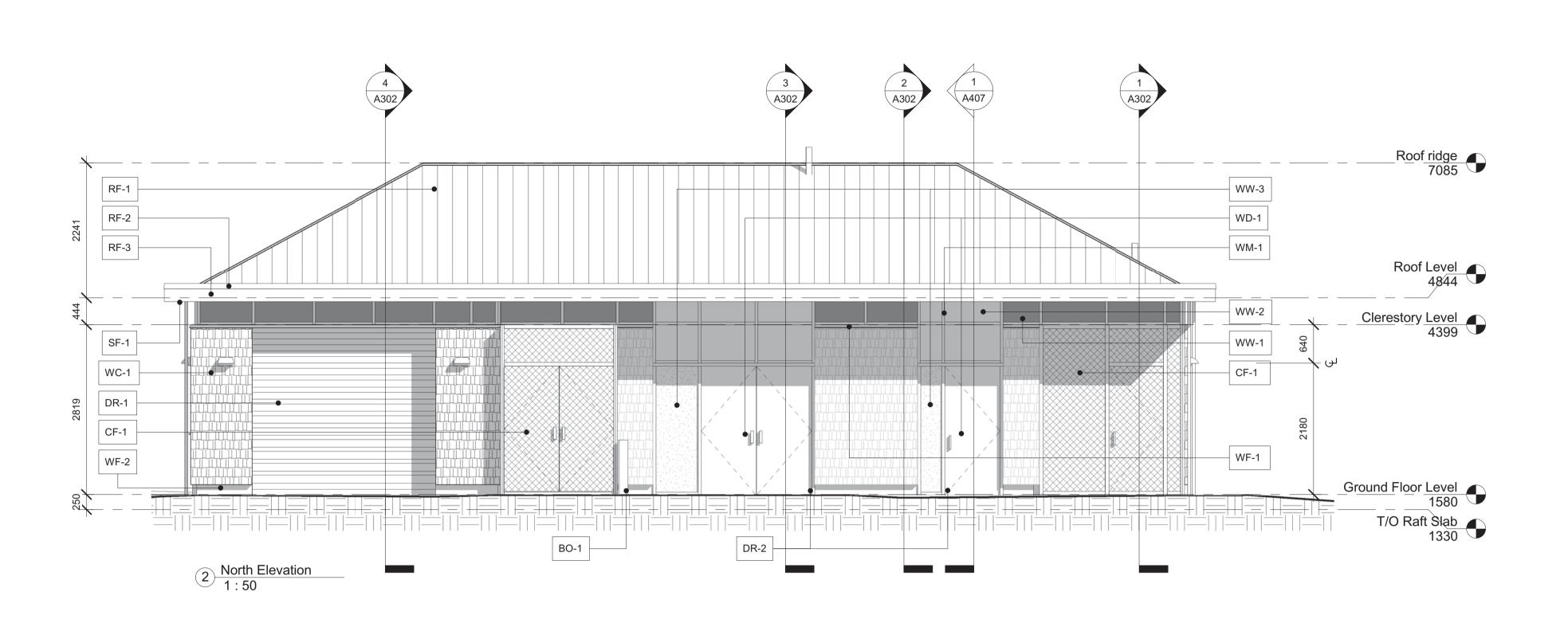
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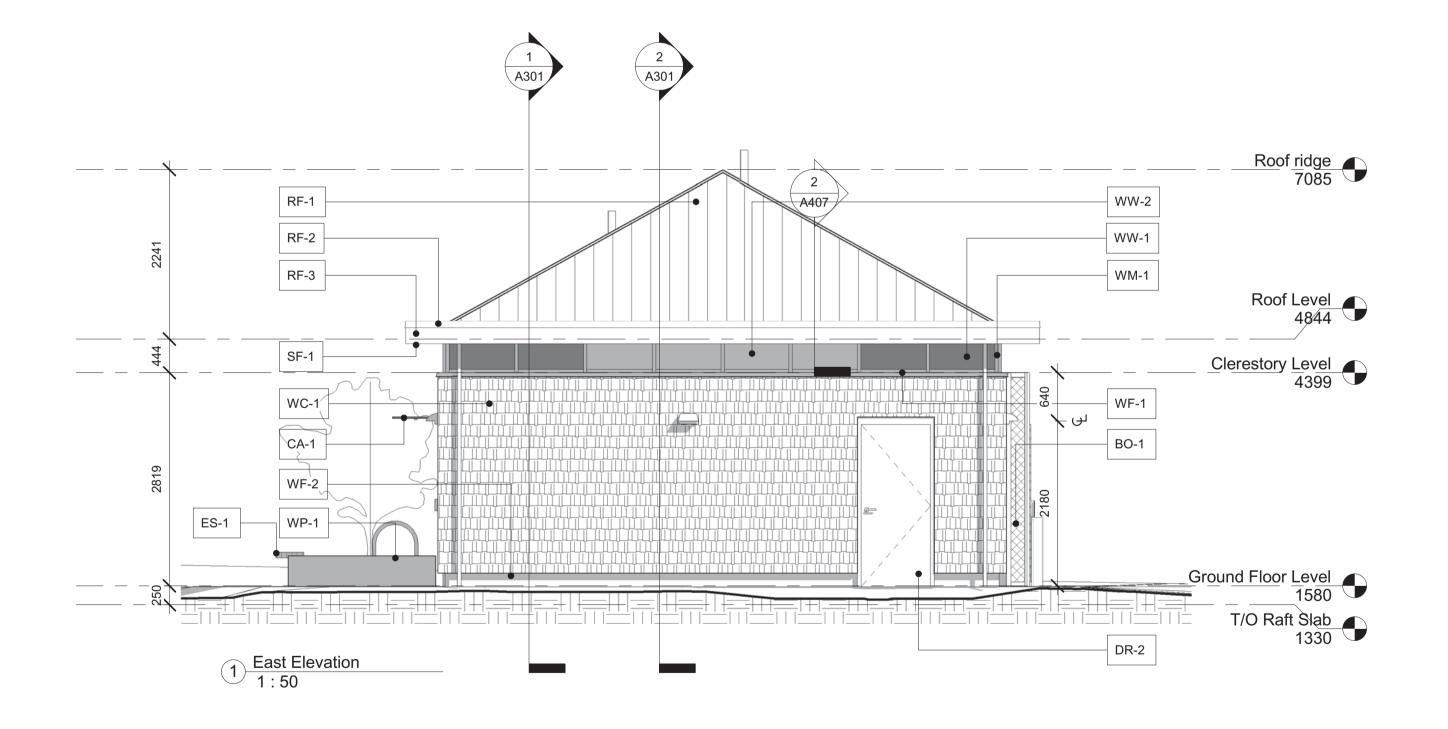
PWRC-012-1000534

Sheet/Feuille

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5





Note	Element	Material	Finish	Colour
RF-1		Metal panels	Powder coated	Brite Red (Westform)
RF-2	Roof Cap Flashing	Pre-fin metal	Powder coated	White to match RF-3
RF-3	Roof Fascia	Cement Board	Painted	Brite White (Westform)
SF-1	Fir Soffit	Fir	Clear Coat	Natural Clear Wood
WC-1	Exterior Wall - Shake Cladding	Cement Board	Painted	BM Grey AF-700
WS-1	Exterior Wall - Metal Panels	Pre-fin metal	Powder coated	Brite White (Westform)
WF-1	Wall Flashing	Pre-fin metal	Powder coated	Grey to match WC-1
WF-2	Wall Flashing	Pre-fin metal	Powder coated	Charcoal Grey
DR-1	Garage Doors	Pre-fin metal	Powder coated	Charcoal Grey
DR-2		Pre-fin metal	Powder coated	Charcoal Grey
WD-1		Pre-fin metal	Powder coated	Charcoal Grey
WM-1		Pre-fin metal	Powder coated	Charcoal Grey
WW-1	Window Wall System - Spandrel panels	Pre-fin metal	Powder coated	Charcoal Grey
WW-2		Double-glazed	Vision Glass	Clear
WW-3	Window Wall System - Glazing	Double-glazed	Vision Glass with Film	3M Fasara Milky Milky - White
WP-1	Planter Wall	Concrete	Smooth architectural concrete/Clear sealant	Natural
ES-1	Exterior seating	Cedar	Stain	Natural Clear Wood
CF-1	Chain-Link Fence	Pre-fin metal	Vinyl Coated Mesh/Powder Coated Supports	Dark Grey to match metal fin.
CA-1	Canopy	Steel	Stainless	Charcoal Grey
BO-1	Bollard	Steel	Stainless	BM Safety Yellow KP22-15

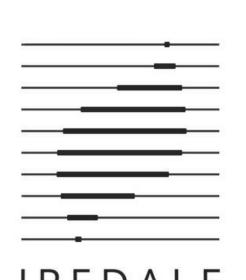


Real property

Management Division

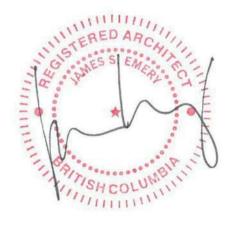
Technical Services

Division Gestion
des biens immobilier
Services Techniques



# I R E D A L E ARCHITECTURE

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# **PWGSC**

# PWRC MULTI-PURPOSE BUILDING

MULTI-PURPOSE BUILDING, PICNIC SHELTER & REPAIR OF EXISTING WOOD FRAME TOWER

5421 ROBERTSON ROAD, WESTHAM ISLAND, DELTA, BC

Consultant Signature Only

Designed by/Concept par

JSE

Drawn by/Dessine par

GBE

PWGSC Project Manager/Administrateur de Projets TPSGC

Regional Manager, Architectural and Engineering Services
Gestionnaire regionale, Services d'architectural et de genie, TPSGC

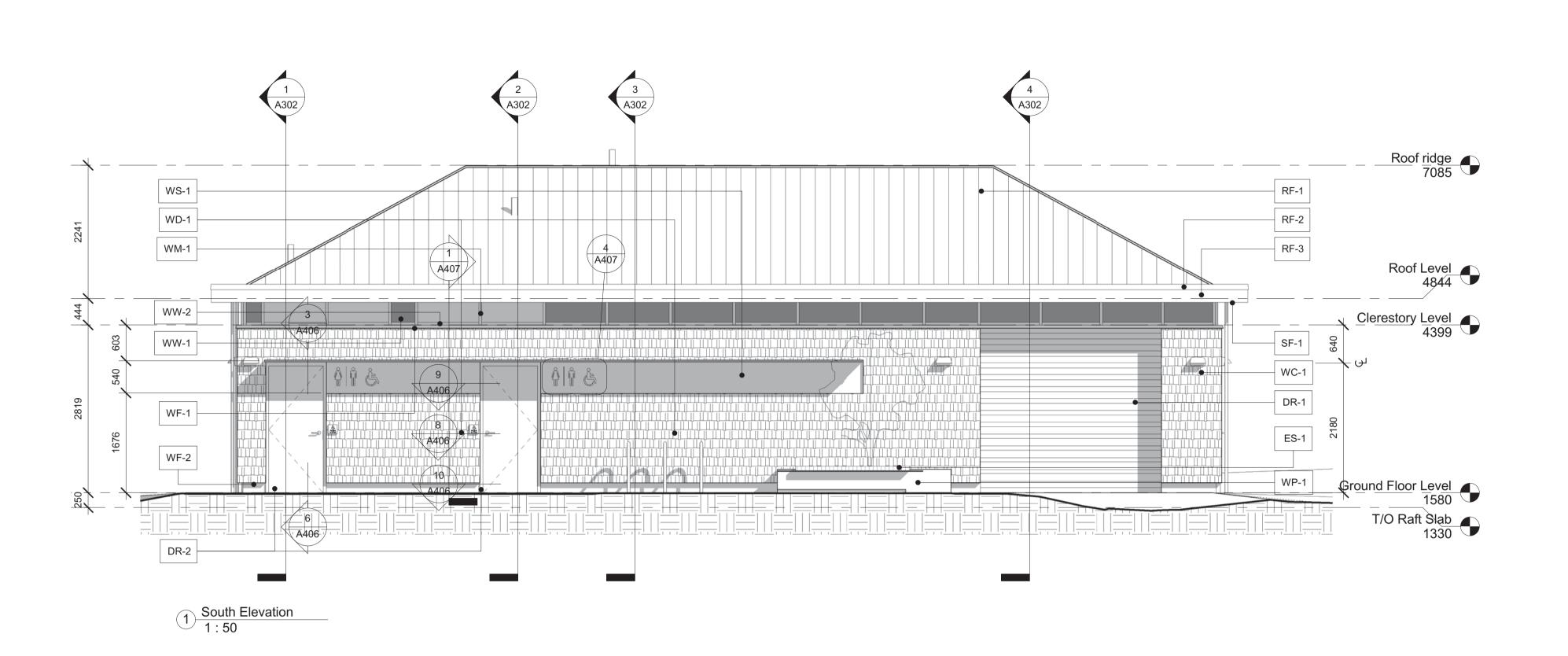
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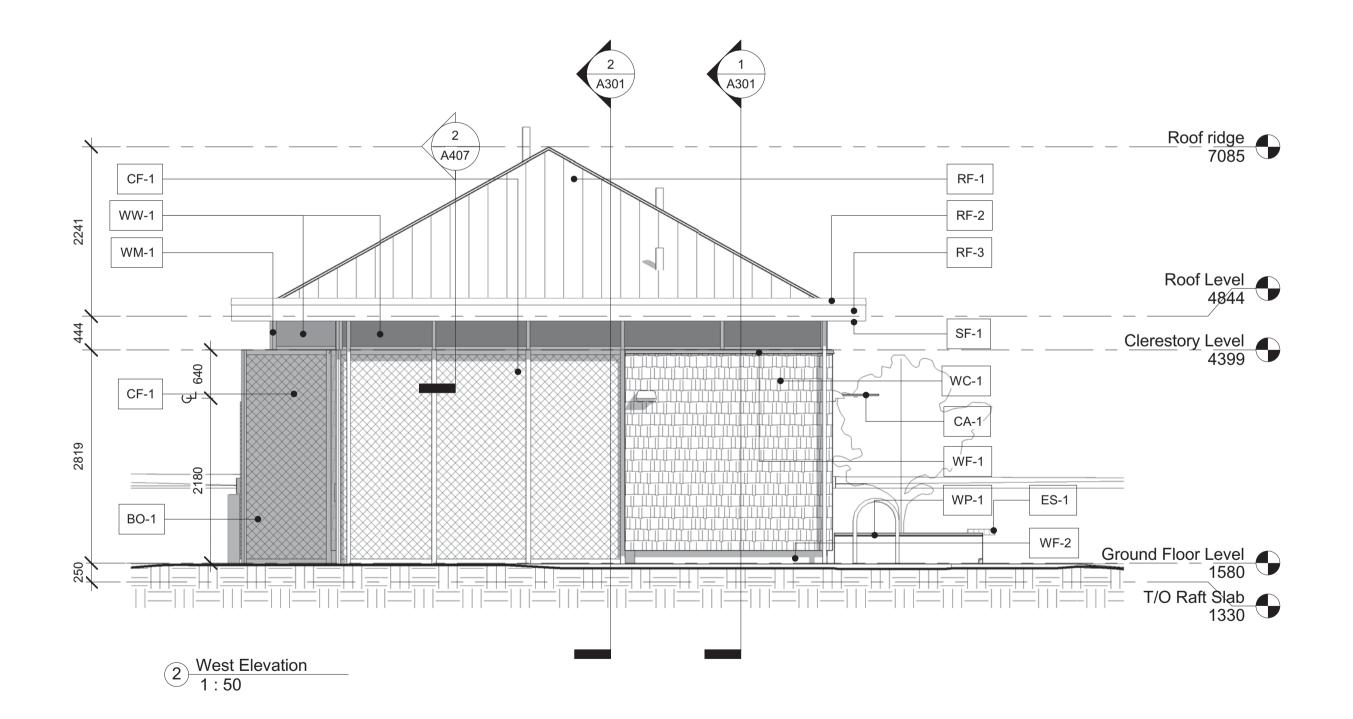
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Drawing Title/Titre du dessin

@ As indicated

Project no./no du projet	Sheet/Feuille	Revision No. La Revision
PWRC-012-1000534	A201	no. 5



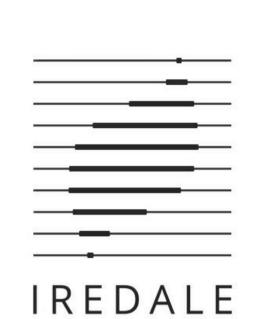


	r Finishes Schedule - Multi-purpose buildi			
Note	Element	Material	Finish	Colour
RF-1	Roof	Metal panels	Powder coated	Brite Red (Westform)
RF-2	Roof Cap Flashing	Pre-fin metal	Powder coated	White to match RF-3
RF-3	Roof Fascia	Cement Board	Painted	Brite White (Westform)
SF-1		Fir	Clear Coat	Natural Clear Wood
WC-1	Exterior Wall - Shake Cladding	Cement Board	Painted	BM Grey AF-700
WS-1	Exterior Wall - Metal Panels	Pre-fin metal	Powder coated	Brite White (Westform)
WF-1	Wall Flashing	Pre-fin metal	Powder coated	Grey to match WC-1
WF-2	Wall Flashing	Pre-fin metal	Powder coated	Charcoal Grey
DR-1		Pre-fin metal	Powder coated	Charcoal Grey
DR-2	Doors: Jamb, Panel & Flashings	Pre-fin metal	Powder coated	Charcoal Grey
WD-1	Window Wall System, Doors	Pre-fin metal	Powder coated	Charcoal Grey
WM-1		Pre-fin metal	Powder coated	Charcoal Grey
WW-1	Window Wall System - Spandrel panels	Pre-fin metal	Powder coated	Charcoal Grey
WW-2	Window Wall System - Glazing	Double-glazed	Vision Glass	Clear
WW-3	Window Wall System - Glazing	Double-glazed	Vision Glass with Film	3M Fasara Milky Milky - Whit
WP-1	Planter Wall	Concrete	Smooth architectural concrete/Clear sealant	Natural
ES-1	Exterior seating	Cedar	Stain	Natural Clear Wood
CF-1	Chain-Link Fence	Pre-fin metal	Vinyl Coated Mesh/Powder Coated Supports	Dark Grey to match metal fin
CA-1	Canopy	Steel	Stainless	Charcoal Grey
BO-1	Bollard	Steel	Stainless	BM Safety Yellow KP22-15



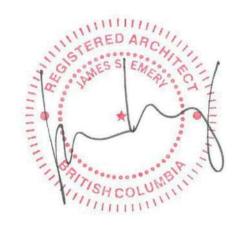
Management Division **Technical Services** 

**Division Gestion** des biens immobilier Services Techniques



ARCHITECTURE

Iredale Project No. 16063



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Client		

**PWGSC** 

# PWRC MULTI-PURPOSE BUILDING

MULTI-PURPOSE BUILDING, PICNIC SHELTER & REPAIR OF **EXISTING WOOD FRAME TOWER** 

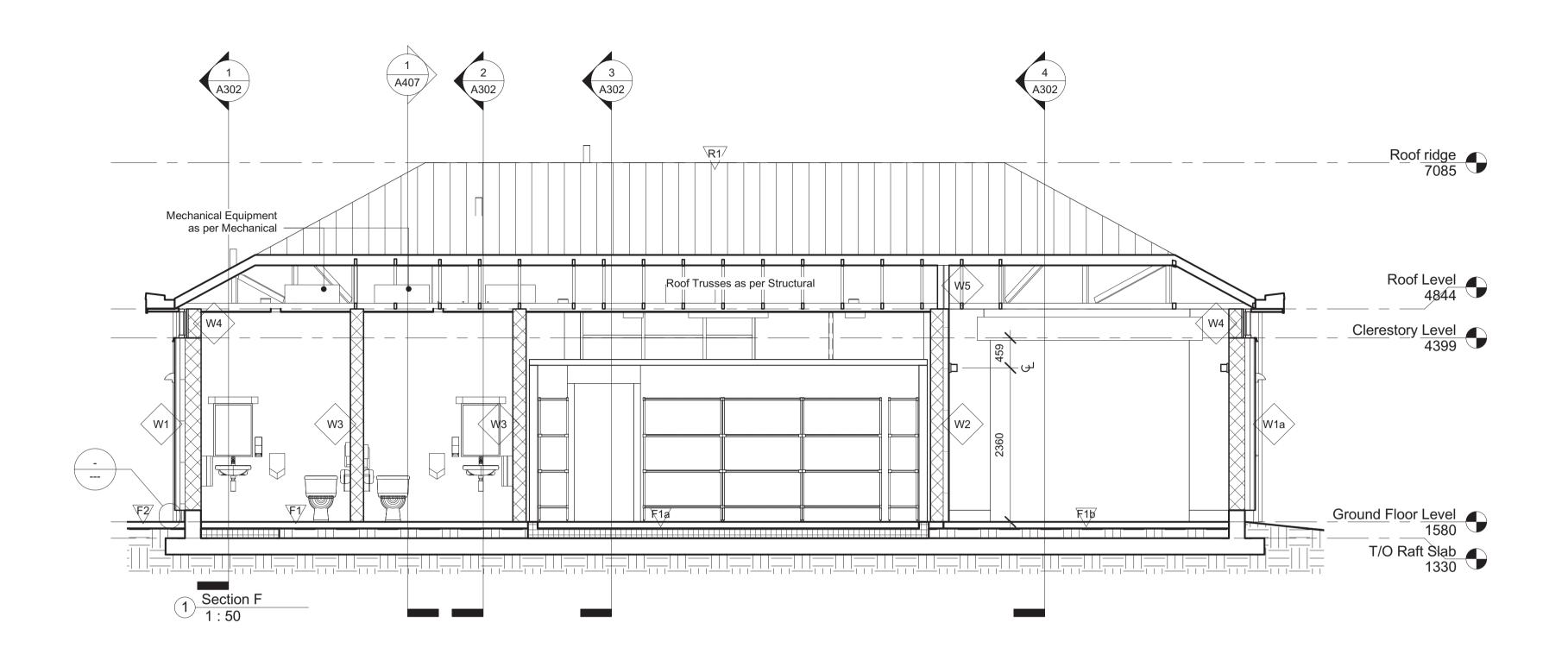
5421 ROBERTSON ROAD, WESTHAM ISLAND, DELTA, BC

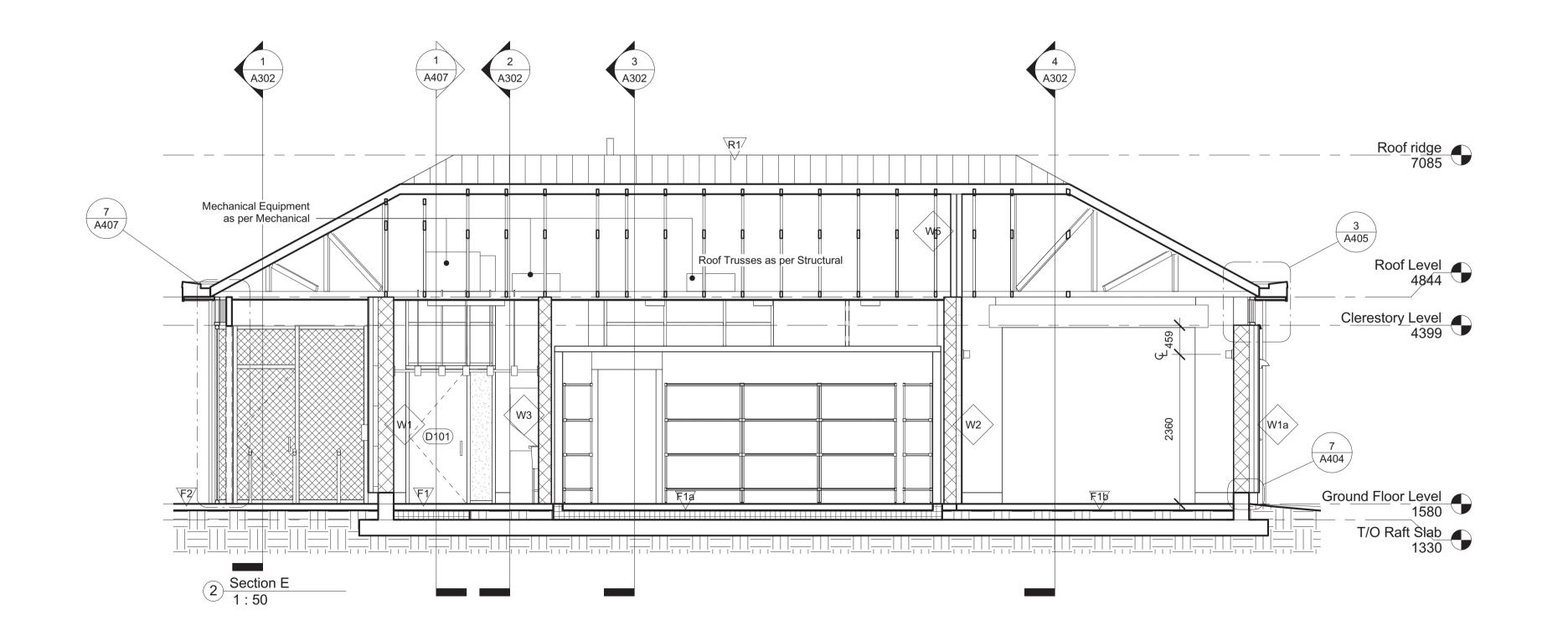
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Drawing Title/Titre du dessin **Elevations S-W** 

As indicated

Sheet/Feuille	Revision No. / La Revision
A202	no. 5

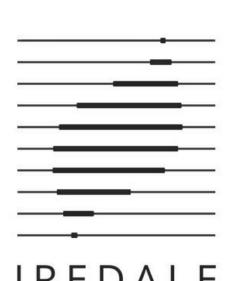






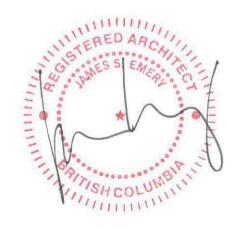
Management Division
Technical Services

Division Gestion des biens immobilier Services Techniques



# IREDALE ARCHITECTURE

Iredale Project No. 16063



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# PWGSC

# PWRC MULTI-PURPOSE BUILDING

MULTI-PURPOSE BUILDING,
PICNIC SHELTER & REPAIR OF
EXISTING WOOD FRAME TOWER

5421 ROBERTSON ROAD, WESTHAM ISLAND, DELTA, BC

Designed by/Concept par

JSE

Drawn by/Dessine par

GBE

PWGSC Project Manager/Administrateur de Projets TPSGC

Regional Manager, Architectural and Engineering Services
Gestionnaire regionale, Services d'architectural et de genie, TPSGC
PWGSC-REGIONAL\_MANAGER

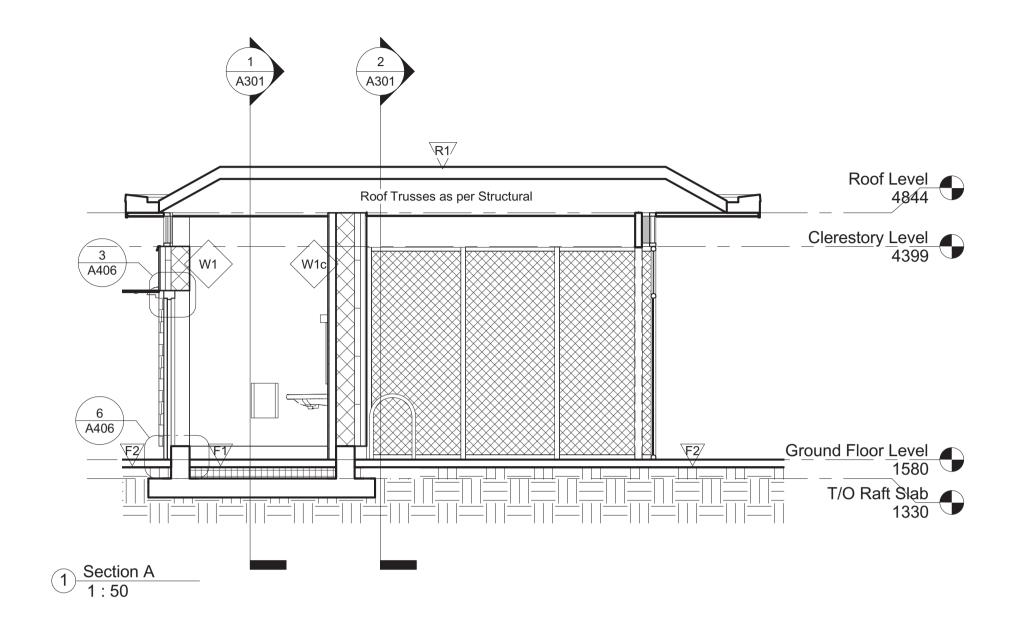
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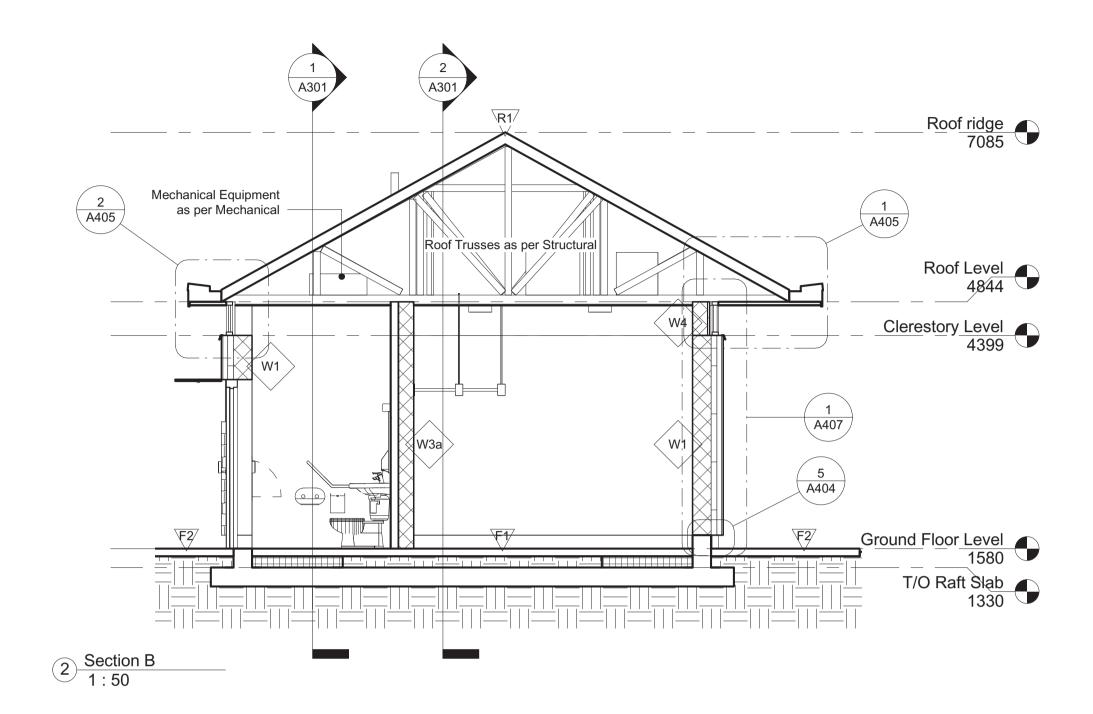
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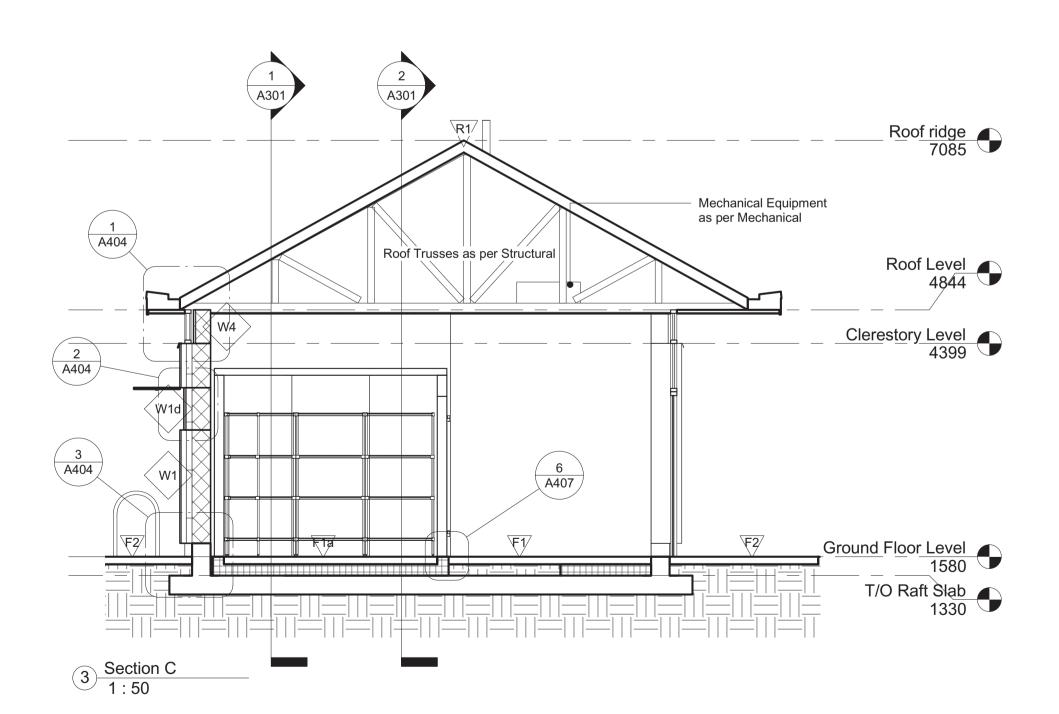
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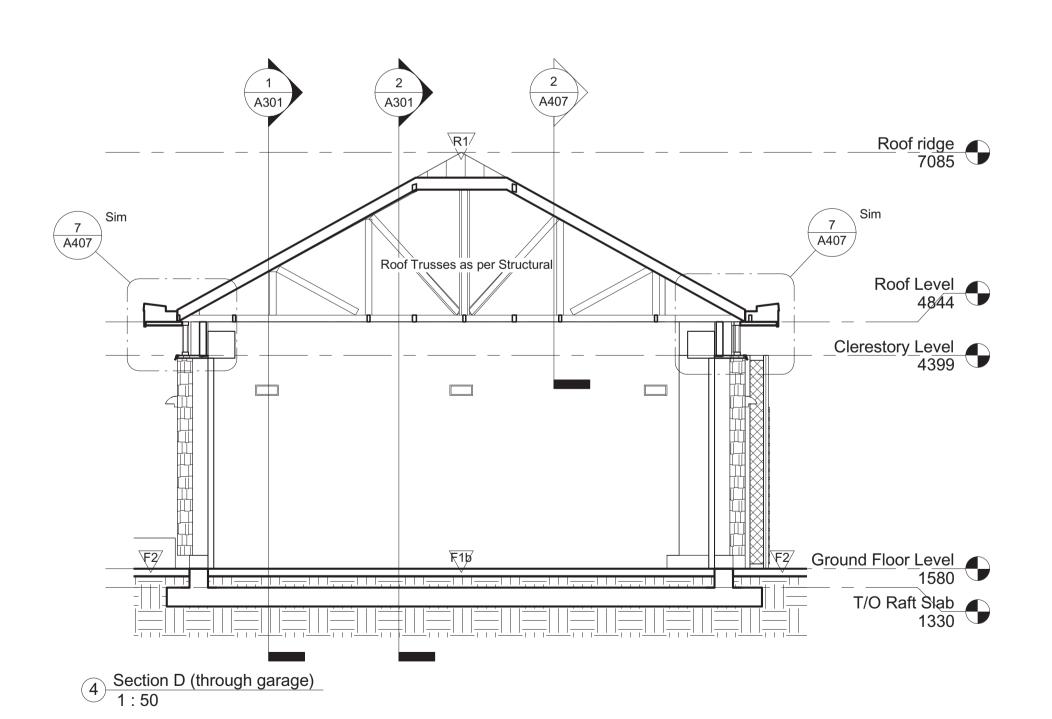
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/RC-012-1000534	A301	no. 5









Environment Canada Environnement Canada

Management Division
Technical Services

Division Gestion des biens immobilier Services Techniques

IREDALE ARCHITECTURE

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**PWGSC** 

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MULTI-PURPOSE BUILDING,
PICNIC SHELTER & REPAIR OF
EXISTING WOOD FRAME TOWER

5421 ROBERTSON ROAD, WESTHAM ISLAND, DELTA, BC

Consultant Signature Only

Designed by/Concept par

JSE

Drawn by/Dessine par

GBE
PWGSC Project Manager/Administrateur de Projets TPSGC

Regional Manager, Architectural and Engineering Services Gestionnaire regionale, Services d'architectural et de genie, TPSGC PWGSC-REGIONAL\_MANAGER

Drawing Title/Titre du dessin

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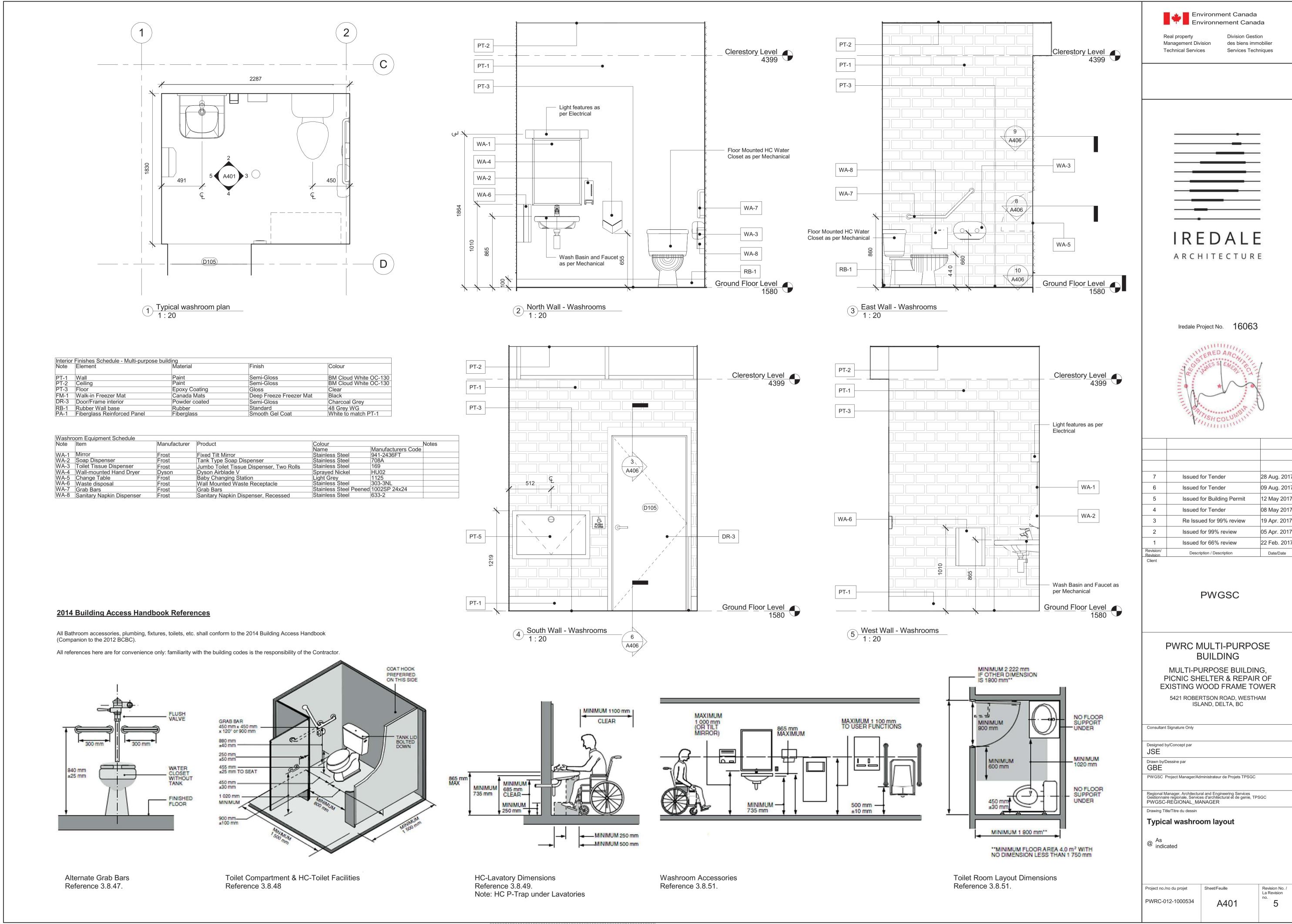
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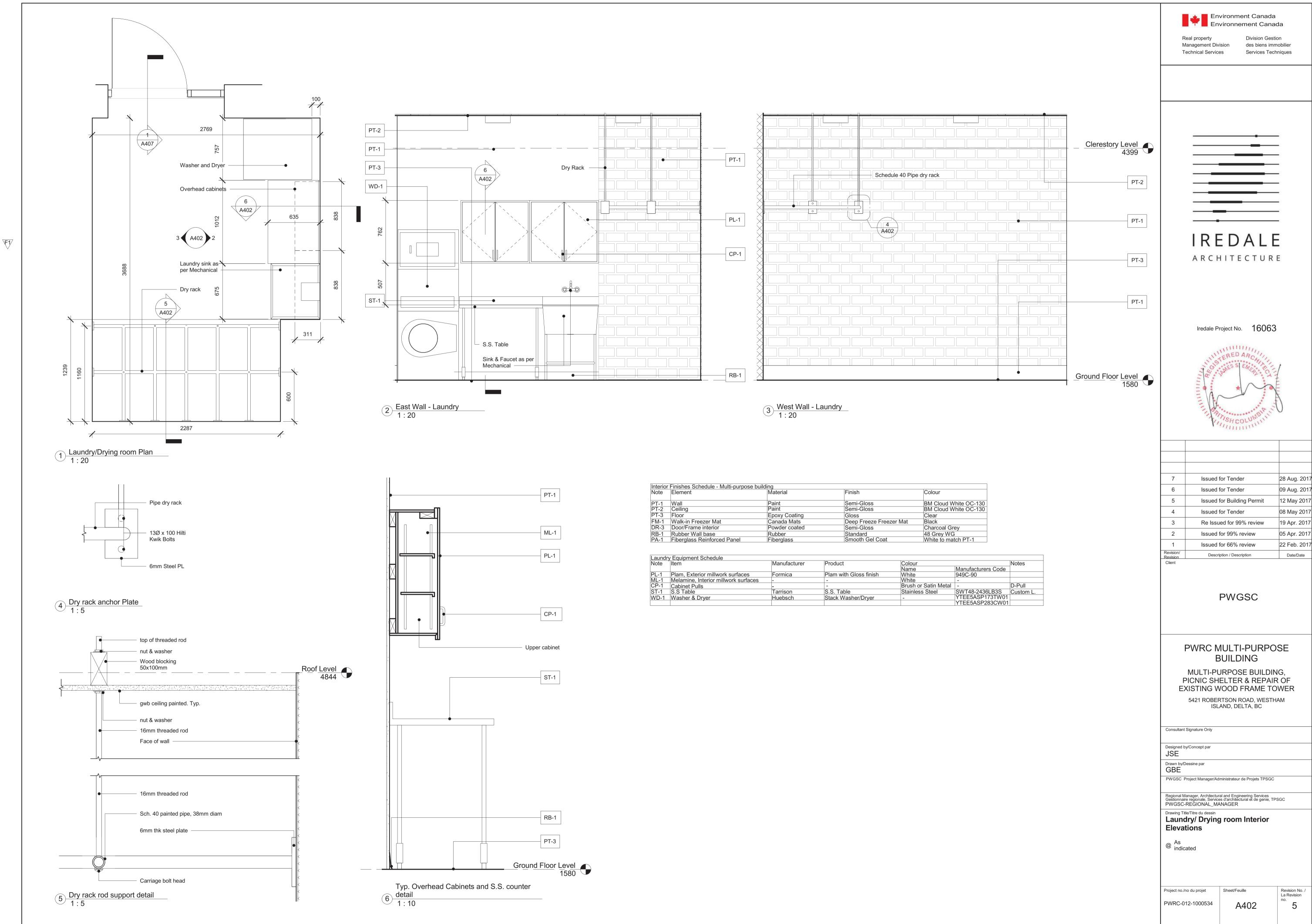
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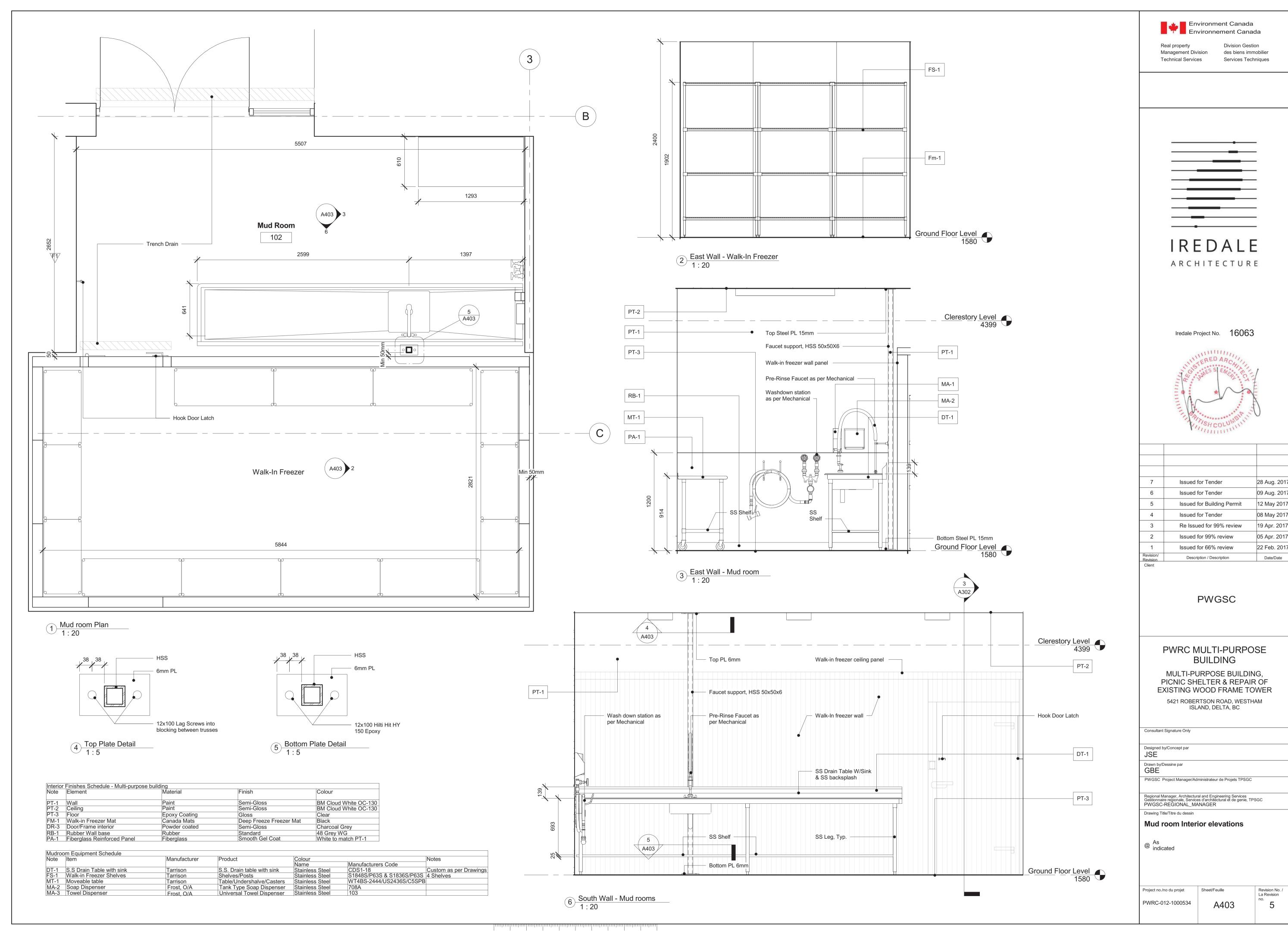
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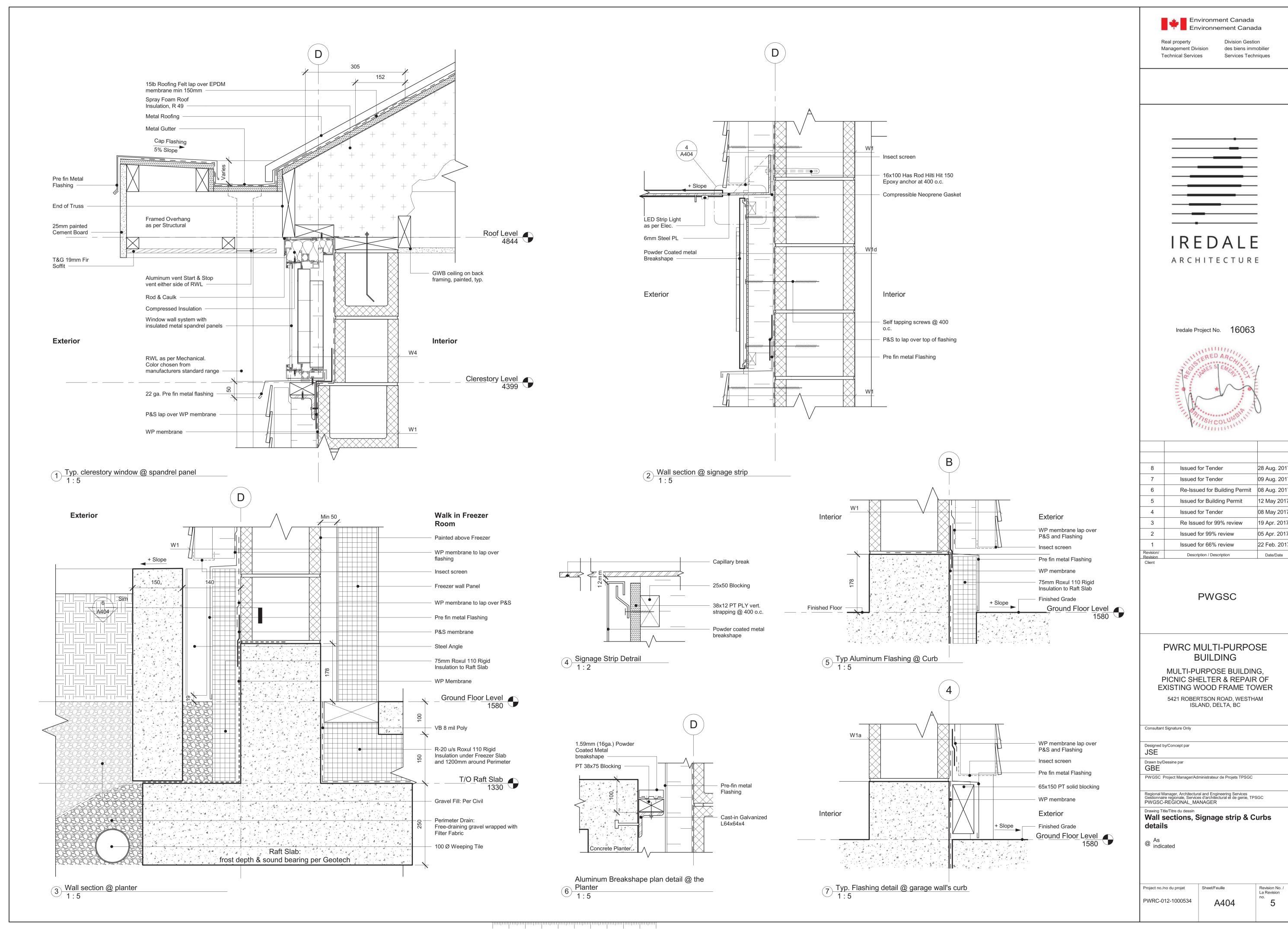
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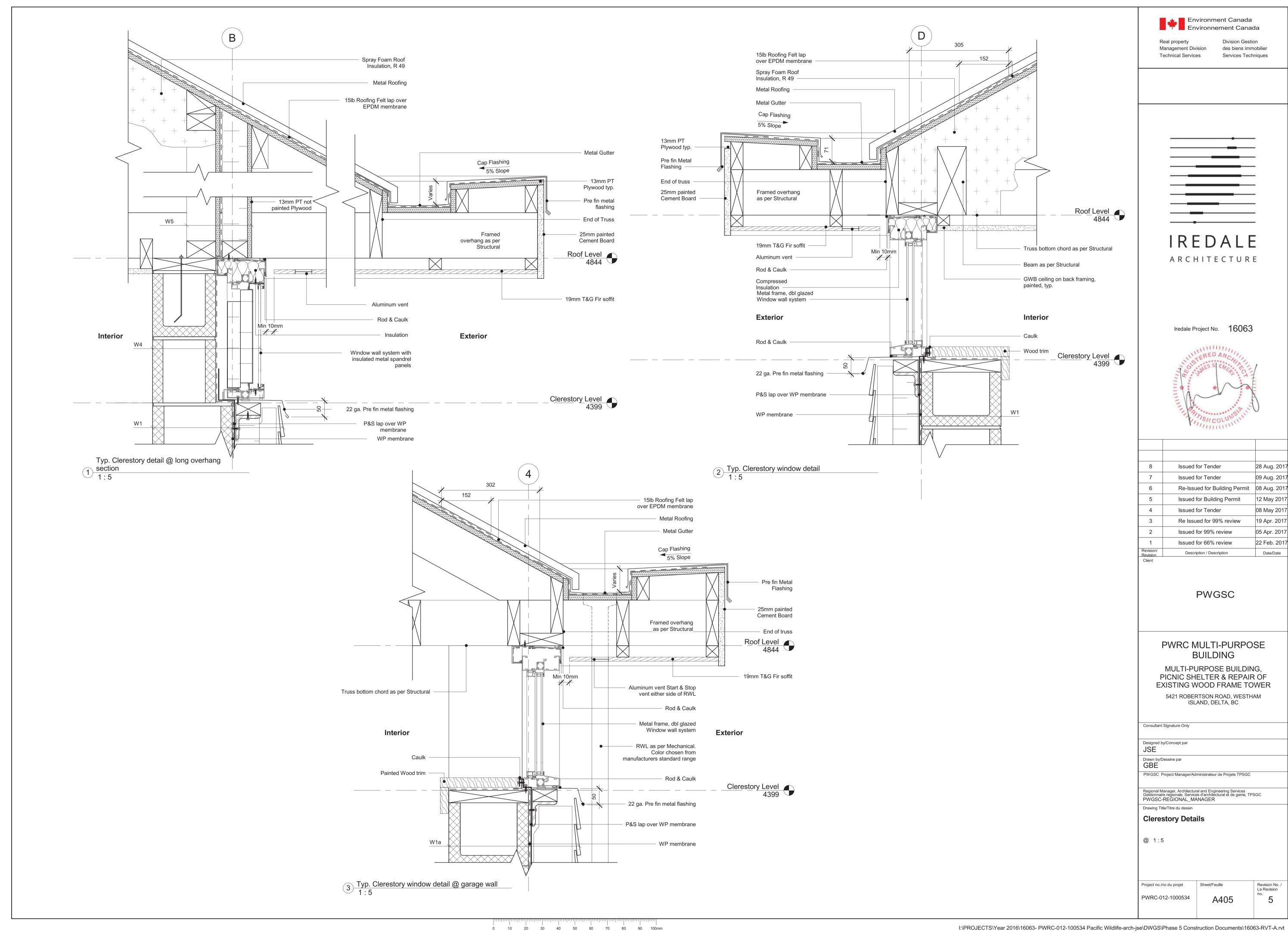
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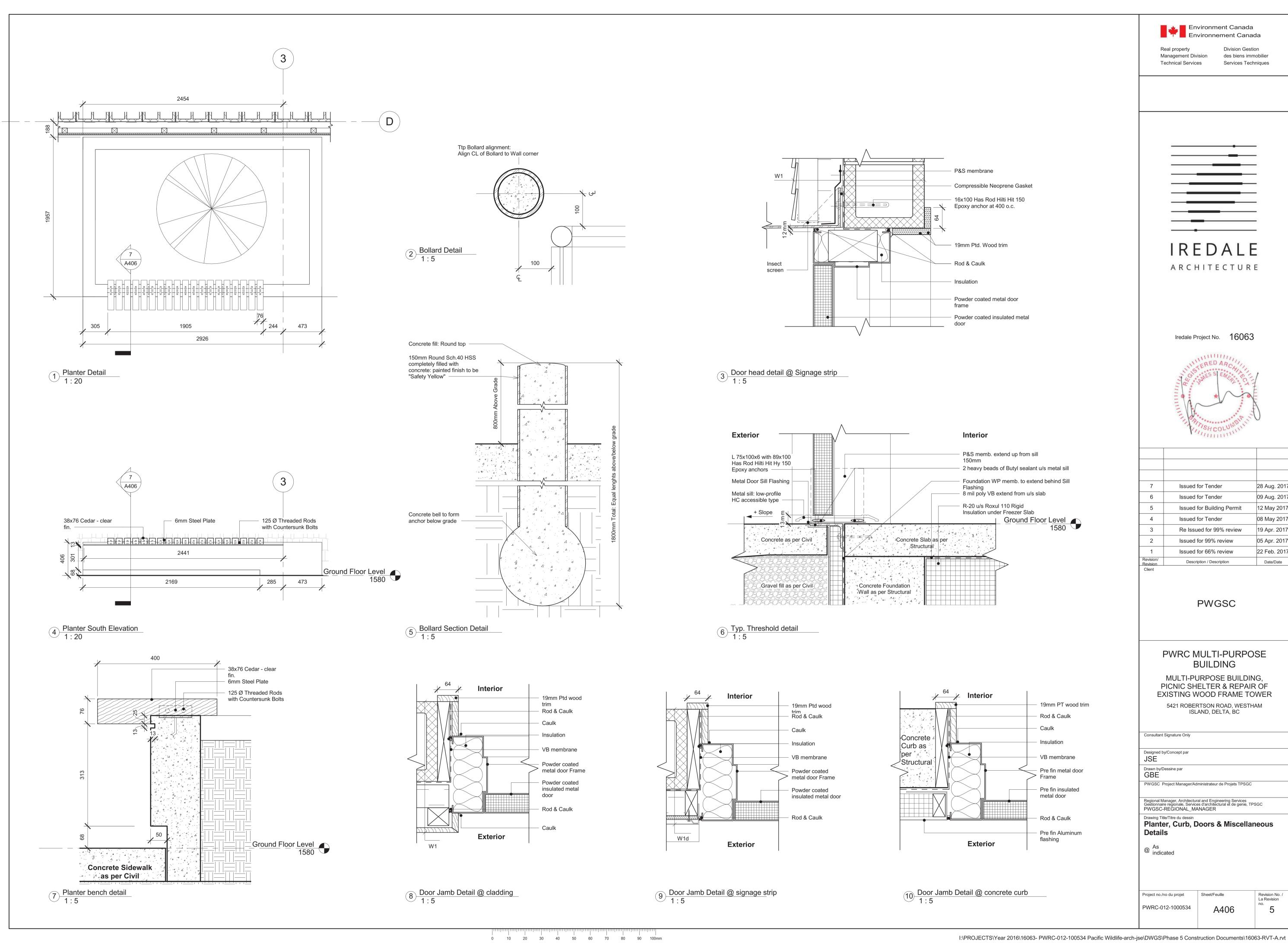


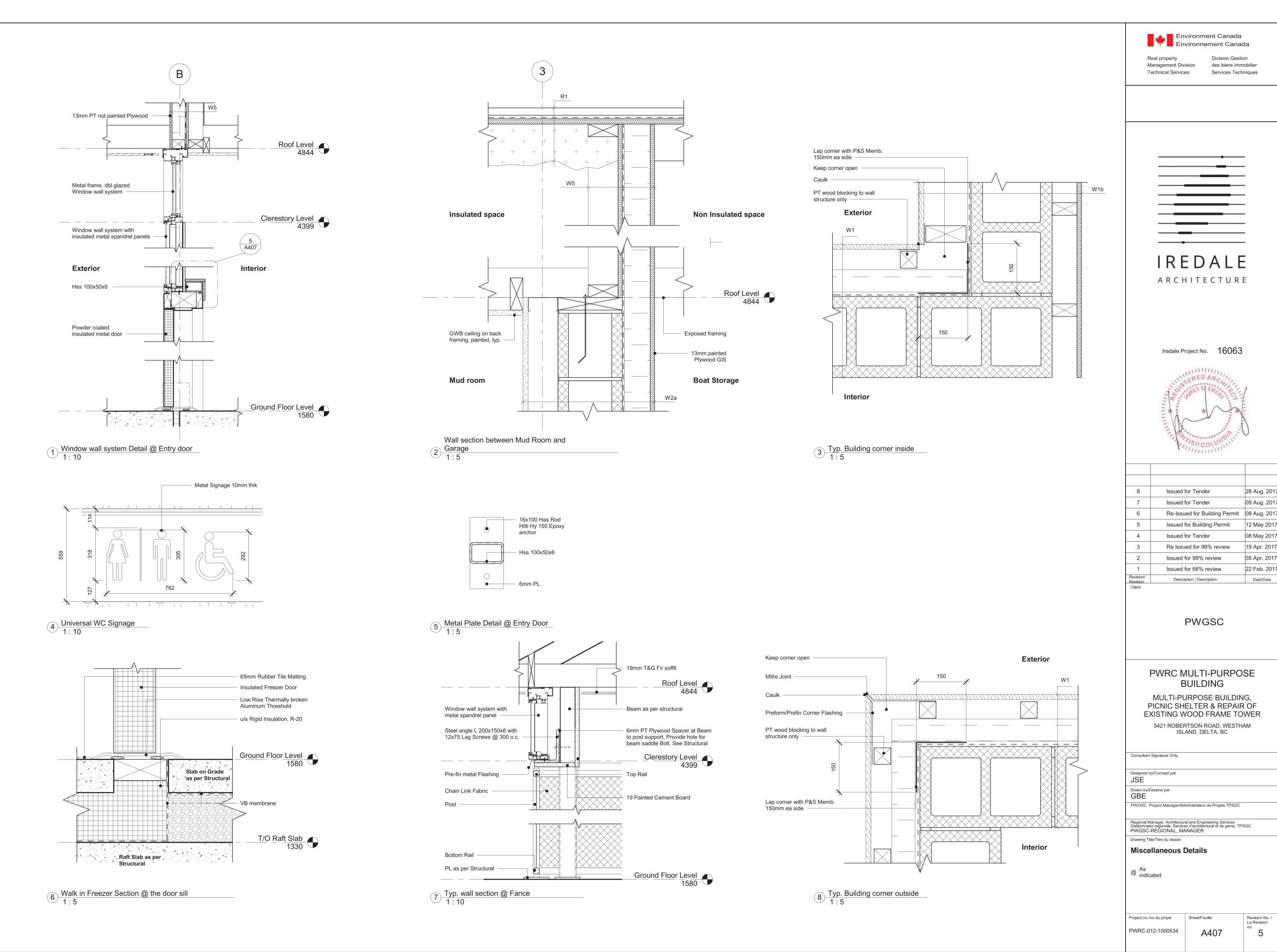












# **Drawing List**

**GENERAL NOTES** GENERAL NOTES S102 S111 **TABLES** S201 **PLANS** S301 **DETAILS** 

### DRAWING USAGE NOTES:

- DO NOT BUILD FROM THESE DRAWINGS UNLESS THEY ARE MARKED AS "ISSUED FOR CONSTRUCTION" IN THE ISSUES COLUMN IN THE TITLE BLOCK.
- DO NOT SCALE FROM ANY OF THE ABOVE NOTED DRAWINGS. ALL OF THE ABOVE NOTED DRAWINGS ARE TO BE READ IN CONJUNCTION WITH EACH OTHER TO ASCERTAIN THE FULL EXTENT OF THE STRUCTURAL
- INFORMATION CONTAINED IN THE GENERAL NOTES, LEGENDS, TABLES, AND TYPICAL DETAILS SHOWS MINIMUM STRUCTURAL REQUIREMENTS AND SHALL ALWAYS APPLY UNLESS NOTED OTHERWISE ON THE PLANS, DETAILS, **ELEVATIONS OR SCHEDULES.**

# **Abbreviations**

# **GENERAL / NON MATERIAL SPECIFIC**

ARCH	-	ARCHITECTURAL DRAWINGS	MAX.	-	MAXIMUM
ВМ	-	BEAM	MECH	-	MECHANICAL DRAWINGS
вот.	-	BOTTOM	MIN.	-	MINIMUM
CANT	-	CANTILEVERED	NIC	-	NOT IN CONTRACT
CL	-	CENTRELINE	NTS	-	NOT TO SCALE
CLR	-	CLEAR	O/C	-	ON CENTRE
COL	-	COLUMN	OPP	-	OPPOSITE
CONT	-	CONTINUOUS	REQD	-	REQUIRED
C/W	-	COMPLETE WITH	R/W	-	REINFORCED WITH
DIA OR Ø	-	DIAMETER	SIM	-	SIMILAR
DP	-	DEEP	SYMM	-	SYMMETRICAL
DTS	-	DEPTH TO SUIT	TBC	-	TO BE CONFIRMED
ELEC	-	ELECTRICAL DRAWINGS	T&B	-	TOP AND BOTTOM
EQ	-	EQUAL	TYP	-	TYPICAL
EXT	-	EXTERIOR	UNO	-	UNLESS NOTED OTHERWISE
GALV	-	GALVANIZED	U/S	-	UNDERSIDE
GEOTECH.	-	GEOTECHNICAL ENGINEER	VERT.	-	VERTICAL
HOR.	-	HORIZONTAL	W/	-	WITH
LG	-	LONG	WHM	-	WICKE HERFST MAVER CONSULTING INC.

### **CONCRETE / REINFORCEMENT**

В	-	BOTTOM	HEF	-	HORIZONTAL EACH FACE
BEW	-	BOTTOM EACH WAY	REINF	-	REINFORCING
BLL	-	BOTTOM LOWER LAYER	S.O.G.	-	SLAB ON GRADE
BUL	-	BOTTOM UPPER LAYER	Т	-	TOP
CONC	-	CONCRETE	TEW	-	TOP EACH WAY
DWLS	-	DOWELS	TLL	-	TOP LOWER LAYER
EF	-	EACH FACE	TOC	-	TOP OF CONCRETE
EW	-	EACH WAY	TOF	-	TOP OF FOOTING
FTG	-	FOOTING	TUL	-	TOP UPPER LAYER
Н	-	HORIZONTAL	V	-	VERTICAL
H1E	-	HOOK ONE END	VEF	-	VERTICAL EACH FACE
H2E	-	HOOK TWO ENDS			

# 1. General Requirements

# 1. GENERAL:

- THE GENERAL NOTES APPLY THROUGHOUT THE PROJECT UNLESS MORE STRINGENT REQUIREMENTS ARE NOTED ELSEWHERE ON THE STRUCTURAL DRAWINGS OR OTHER DISCIPLINES' DRAWINGS.
- THE TERM 'CONTRACTOR' SHALL INCLUDE THE GENERAL CONTRACTOR, CONSTRUCTION MANAGER, SUBCONTRACTORS, SITE SUPERINTENDENTS OR ANY OTHER PARTY RESPONSIBLE FOR THE CONSTRUCTION OF THE WORK AS THE CASE MAY BE. ALL STRUCTURAL DOCUMENTS, WHICH INCLUDE NOTES, PLANS, SPECIFICATIONS AND
- DETAILS, SHALL BE READ AS ONE DOCUMENT, FURTHER, THESE DOCUMENTS SHALL BE READ IN CONJUNCTION WITH ALL APPLICABLE ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND CIVIL DRAWINGS. ANY DISCREPANCIES, INCLUDING AND ESPECIALLY WITH RESPECT TO DIMENSIONS, BETWEEN THE STRUCTURAL DOCUMENTS AND THOSE OF OTHER DISCIPLINES SHALL BE BROUGHT TO WHM'S ATTENTION IMMEDIATELY FOR INTERPRETATION AND/OR CORRECTION.
- THESE DRAWINGS SHOW THE DESIGN INTENT FOR THE COMPLETED BASE BUILDING STRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR ANY TEMPORARY WORKS NECESSARY FOR THE COMPLETION OF CONSTRUCTION, THE MAINTENANCE OF STRUCTURAL STABILITY DURING CONSTRUCTION, AND FOR ALL SAFETY CONSIDERATIONS IN AND AROUND THE CONSTRUCTION SITE.
- PROPOSED SUBSTITUTIONS AND/OR REVISIONS TO ANY SPECIFIED MATERIAL OR FRAMING ASSEMBLY SHALL BE SUBMITTED TO WHM FOR REVIEW. IF THE CONTRACTOR BIDS, ORDERS, FABRICATES. OR OTHERWISE PROCEEDS WITH ANY SUBSTITUTIONS OR REVISIONS PRIOR TO REVIEW AND ACCEPTANCE BY WHM, IT DOES SO COMPLETELY AT ITS OWN RISK. PROPOSED SUBSTITUTIONS OF PROPRIETARY PRODUCTS WILL NOT BE PERMITTED UNLESS
- ADEQUATE ENGINEERING DATA IS SUBMITTED FOR REVIEW TO, AND DEEMED ACCEPTABLE BY, WHM. WHM MAY REQUIRE AT ITS SOLE DISCRETION DESIGNS OF SUBSTITUTIONS TO BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER. THE CONTRACTOR SHALL ENSURE THAT CONSTRUCTION LOADS DO NOT EXCEED THE DESIGN
- LOADS OF THE COMPLETED STRUCTURE AS INDICATED IN THE TABLES. FURTHER, THE CONTRACTOR SHALL REMAIN COMPLETELY RESPONSIBLE FOR ENSURING SAFE LOADING IS NOT EXCEEDED ON ANY INCOMPLETE OR TEMPORARY STRUCTURE DURING CONSTRUCTION.

- STRUCTURAL MATERIALS AND ASSEMBLIES SPECIFIED ON THESE DRAWINGS HAVE BEEN DESIGNED IN ACCORDANCE WITH PART 4 OF THE NATIONAL BUILDING CODE OF CANADA 2015. (HEREINAFTER REFERRED TO AS 'THE CODE').
- ALL STRUCTURAL MATERIALS AND FRAMING ASSEMBLIES SHALL COMPLY WITH THE CODE AND ALL CSA STANDARDS AND DESIGN GUIDES REFERENCED THEREIN.
- ALL CSA AND ASTM STANDARDS APPLICABLE TO THE WORK, WHETHER REFERENCED IN
- THESE DRAWINGS OR NOT, SHALL BE THE MOST CURRENT EDITIONS ENACTED IN THE JURISDICTION IN WHICH THE PROJECT IS TO BE BUILT.

# 3. PROJECT SCOPE:

THIS PROJECT CONSISTS OF A SINGLE-STOREY WILDLIFE RESEARCH BUILDING. THE BUILDING STRUCTURE CONSISTS OF A WOOD TRUSS ROOF ON CMU WALLS WITH A CONCRETE RAFT

# 4. DESIGN PARAMETERS:

SEE THE TABLES STARTING ON S111.

THESE STRUCTURAL DRAWINGS ARE BASED ON ARCHITECTURAL DRAWINGS BY IREDALE

SHALL BE ROUTED THROUGH OR COPIED TO THE ARCHITECT.

**GROUP ARCHITECTURE.** THE ARCHITECT IS THE PRIME CONSULTANT AND THE COORDINATING REGISTERED PROFESSIONAL (CRP) AND AS SUCH IS RESPONSIBLE FOR OVERALL COORDINATION OF THE DESIGN OF THE PROJECT. ALL WRITTEN COMMUNICATION FROM THE CONTRACTOR TO WHM

# 6. CONTRACTOR'S SUBMITTALS:

- WHM WILL REVIEW SUBMITTALS (WHICH INCLUDE SHOP DRAWINGS) TO THE EXTENT DEEMED NECESSARY BY WHM TO ASCERTAIN GENERAL CONFORMANCE TO THE DESIGN INTENT OF THE BASE BUILDING STRUCTURE AND/OR AS REQUIRED BY THE BUILDING AUTHORITY HAVING
- REGARDLESS OF ANY TERMINOLOGY USED IN THE COURSE OF SUCH REVIEWS, WHM NEVER APPROVES SUBMITTALS AS THESE DOCUMENTS ARE AN INSTRUMENT OF SERVICE OF THE CONTRACTOR WHO PREPARED THEM, AND THEREFORE REMAIN ENTIRELY THE
- CONTRACTOR'S RESPONSIBILITY THE GENERAL CONTRACTOR / CONSTRUCTION MANAGER MUST REVIEW ALL SUBMITTALS FROM SUB-CONTRACTORS FOR CONFORMANCE TO THE CONTRACT DOCUMENTS BEFORE
- SUBMITTING THEM TO WHM AND AFFIX THEIR STAMP TO THE SUBMITTALS INDICATING COMPLETION OF THIS REVIEW.
- SHOP DRAWINGS AND CALCULATIONS FOR ANY STRUCTURAL COMPONENT FOR WHICH DESIGN RESPONSIBILITY IS DELEGATED TO THE CONTRACTOR SHALL BE SEALED AND SIGNED. PRIOR TO SUBMISSION, BY A PROFESSIONAL ENGINEER REGISTERED IN BRITISH COLUMBIA.
- IN CERTAIN CIRCUMSTANCES WHM'S CAD FILES MAY BE CONDITIONALLY USED AS BACKGROUNDS FOR SHOP DRAWINGS. SUCH CIRCUMSTANCES WILL BE ENTIRELY AT WHM'S DISCRETION AND FILES WILL ONLY BE PROVIDED UPON RECEIPT OF WHM'S WAIVER FORM SIGNED BY THE PARTY PREPARING THE SHOP DRAWINGS.

### 7. PRICING AND TENDERING:

- UNLESS OTHERWISE APPROVED BY THE OWNER IN WRITING, THE CONTRACTOR SHALL NOT BASE FIXED-PRICE TENDERS ON THESE DRAWINGS UNLESS THE DRAWINGS HAVE BEEN ISSUED EITHER FOR TENDER OR CONSTRUCTION AND ARE SO MARKED IN THE "ISSUES"
- COLUMN AT THE RIGHT SIDE OF EACH SHEET ANY DRAWINGS THAT HAVE NOT BEEN ISSUED FOR TENDER OR CONSTRUCTION. (THIS INCLUDES DRAWINGS THAT HAVE BEEN ISSUED FOR PRICING), ARE SUBJECT TO CHANGE WITHOUT NOTICE. WHM SHALL IN NO WAY BE HELD RESPONSIBLE FOR ANY PRICING UNDERTAKEN BASED ON SUCH DRAWINGS, NOR FOR THE COST OF ANY SUBSEQUENT CHANGES TO THE DRAWINGS.
- THE CONTRACTOR SHALL ACCOUNT FOR ALL CONTINGENCY ALLOWANCES NOTED ON THE TENDER AND CONSTRUCTION DRAWINGS
- ADDENDA, SKETCHES, FIELD REPORTS, AND OTHER WRITTEN INSTRUCTIONS ISSUED BY WHM AFTER DRAWINGS ARE ISSUED FOR TENDER OR CONSTRUCTION SHALL BE CONSIDERED AN NTEGRAL PART OF THE STRUCTURAL CONTRACT DOCUMENTS. THE CONTRACTOR SHALL BE HELD FULLY RESPONSIBLE FOR CONSTRUCTING THE WORK IN CONFORMANCE WITH SUCH
- IF THE CONTRACTOR BELIEVES THAT ANY ADDENDA, SKETCHES, FIELD REPORTS, OR OTHER WRITTEN INSTRUCTIONS ISSUED BY WHM AFTER DRAWINGS ARE ISSUED FOR TENDER OR CONSTRUCTION CONSTITUTE ADDITIONAL COST TO THE OWNER, THIS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL PROCEED WITH SUCH WORK ONLY UPON RECEIVING APPROVAL FROM THE OWNER.
- ALL BIDS BASED ON THESE DRAWINGS SHALL INCLUDE UNIT RATE PRICES THAT SHALL APPLY TO BOTH FUTURE ADDITIONS AND DELETIONS TO THE DRAWINGS. BIDDERS SHALL SUPPLY SUCH UNIT RATES FOR ALL DISTINCT COMPONENTS OF THE WORK. THIS REQUIREMENT SHALL APPLY UNLESS THE OWNER SPECIFICALLY WAIVES IT IN WRITING.

SEE NOTE SECTION 2 FOR CONTINGENCY ALLOWANCE FOR RENOVATION WORK.

# 8. FIELD REVIEW BY WHM:

- WHM IS RESPONSIBLE FOR UNDERTAKING FIELD REVIEWS OF STRUCTURAL COMPONENTS AND ASSEMBLIES CONSTITUTING THE BASE BUILDING STRUCTURE OF THIS PROJECT. THE PURPOSE OF THESE REVIEWS IS TO ASCERTAIN GENERAL CONFORMANCE WITH WHM'S DESIGN INTENT AS SET FORTH IN THESE DRAWINGS.
- THE FREQUENCY AND FOCUS OF FIELD REVIEWS ARE DETERMINED SOLELY BY WHM. THE CONTRACTOR SHALL ARRANGE ADEQUATE OPPORTUNITY FOR WHM TO UNDERTAKE FIELD REVIEW. ALL STRUCTURAL COMPONENTS AND ASSEMBLIES SET FORTH IN THESE DRAWINGS SHALL REMAIN UNCONCEALED AND VISIBLE UNTIL EITHER REVIEWED IN THE FIELD BY WHM AND TO WHM'S SATISFACTION, OR OTHERWISE PERMITTED BY WHM. WHM MAY REQUIRE ANY CONCEALMENT OR OBSTRUCTIONS TO BE REMOVED AS REQUIRED TO
- FACILITATE FIELD REVIEW. CONSEQUENT REPAIR COST WILL BE THE CONTRACTOR'S RESPONSIBILITY THE CONTRACTOR SHALL KEEP WHM APPRISED OF THE CONSTRUCTION SCHEDULE AT ALL TIMES SO THAT FIELD REVIEWS CAN BE SCHEDULED AT LEAST 48 HOURS IN ADVANCE. THE CONTRACTOR SHALL INSPECT ALL WORK IN THE FIELD PRIOR TO CALLING WHM TO
- SCHEDULE FIELD REVIEWS. THE CONTRACTOR SHALL KEEP RECORDS OF THESE REVIEWS AND SHALL FURNISH THEM TO WHM UPON REQUEST. THE CONTRACTOR SHALL NOT CONSIDER FIELD REVIEWS BY WHM AS A SUBSTITUTE FOR
- THEIR OWN INSPECTIONS OF THE WORK. INCOMPLETE AND/OR INCORRECT WORK MAY REQUIRE REPEAT FIELD REVIEWS BY WHM. WHM WILL INVOICE THE OWNER FOR SUCH REPEAT REVIEWS. THE COSTS OF WHICH MAY ACCRUE TO THE CONTRACTOR PURSUANT TO IT'S CONTRACT WITH THE OWNER.
- FIELD REVIEWS ARE **NOT** UNDERTAKEN FOR THE CONTRACTOR'S BENEFIT. THE CONTRACTOR ALWAYS REMAINS COMPLETELY RESPONSIBLE FOR QUALITY ASSURANCE/CONTROL RELATING TO ALL CONSTRUCTION MATERIALS, ASSEMBLIES AND PROCESSES, AND FOR BUILDING THE WORK IN CONFORMANCE WITH THE DESIGN INTENT AS SET FORTH IN THE CONTRACT
- FIELD REVIEW REPORTS SHALL BE CONSIDERED PART OF THE STRUCTURAL CONTRACT DOCUMENTS, AND AS SUCH, REQUIRE FULL AND COMPLETE ATTENTION FROM THE

- 9. SECONDARY STRUCTURAL AND ARCHITECTURAL BUILDING COMPONENTS: WHM IS RESPONSIBLE FOR THE DESIGN OF ONLY THE BASE BUILDING STRUCTURE. BUILDING COMPONENTS LISTED IN THIS SECTION ARE CONSIDERED SECONDARY STRUCTURAL OR ARCHITECTURAL COMPONENTS (SSABCs) AND THEREFORE ARE NOT PART OF THE BASE
  - BUILDING STRUCTURE. SUCH COMPONENTS INCLUDE BUT ARE NOT LIMITED TO: a. GUARDS AND HANDRAILS AND RELATED CONNECTION HARDWARE AND HARDWARE
  - EMBEDDED IN CONCRETE. SUBMIT SHOP DRAWINGS. b. STRUCTURAL ELEMENTS OUTSIDE THE FOOTPRINT OF THE BASE BUILDING
  - STRUCTURE. TRELLISES, GAZEBOS, SUNSHADES, FENCES, LAMP STANDARDS, FLAG POLES, WATER FEATURES, POOLS, BENCHES, ETC.
  - CLADDING, CEILINGS OR OTHER DECORATIVE ELEMENTS AND THEIR CONNECTIONS. BRICK AND STONE VENEER CLADDING.
  - SUPPORT LEDGERS AND LATERAL TIE-BACKS FOR BRICK AND STONE VENEER AND PRE -CAST PANELS. SUBMIT SHOP DRAWINGS. NON-LOAD BEARING LIGHT-GAUGE STEEL, WOOD AND MASONRY FRAMING.
  - MECHANICAL AND ELECTRICAL EQUIPMENT, THEIR BRACING AND CONNECTIONS. GLAZING OR WINDOW WALL SUPPORTS AND RELATED CONNECTION HARDWARE AND HARDWARE EMBEDDED IN CONCRETE. SUBMIT SHOP DRAWINGS
  - A SPECIALTY STRUCTURAL ENGINEER, REGISTERED IN BRITISH COLUMBIA, SHALL BE RETAINED TO DESIGN, DETAIL AND REVIEW THE INSTALLATION OF SSABCs AND THEIR CONNECTIONS TO THE BASE BUILDING STRUCTURE.
  - SSABCs AND THEIR ATTACHMENTS TO THE BASE BUILDING STRUCTURE SHALL BE DESIGNED N ACCORDANCE WITH THE CODE. SSABCs SHALL BE DESIGNED TO ALLOW FOR VERTICAL AND HORIZONTAL BASE BUILDING
  - DEFLECTIONS. THESE DEFLECTIONS SHALL BE CONSIDERED EQUAL TO THE MAXIMUM DEFLECTIONS PERMITTED BY THE CODE AND RELEVANT MATERIAL CODES. NO COMPONENTS SHALL BE BUILT IN A MANNER WHICH WOULD ALLOW REDISTRIBUTION OF LATERAL OR GRAVITY LOADS BETWEEN IT AND THE BASE BUILDING STRUCTURE.

# 10. BUILDING ENVELOPE AND OTHER WATERPROOFING:

- WHM DOES NOT OFFER ANY SERVICES, NOR HOLDS ITSELF OUT AS BEING QUALIFIED IN ANY WAY WHATSOEVER, IN THIS FIELD OF WORK. WHM WILL NOT ACCEPT ANY LIABILITY FOR ANY SSUES WHATSOEVER IN RELATION TO WATERPROOFING, WATER INGRESS, MOISTURE CONTROL, DRAINAGE, MOULD, MILDEW, FUNGUS, ETC.
- THE OWNER IS ADVISED TO RETAIN A COMPETENT AND WELL-INSURED PROFESSIONAL IN THIS FIELD OF WORK TO PROVIDE WHATEVER ADVICE THEY MAY REQUIRE.

# 3. Concrete

# 1. RESPONSIBILITY:

- THE CONTRACTOR SHALL ENSURE CONCRETE AND REINFORCEMENT IS DELIVERED, INSTALLED, AND CURED TO ALL CODE REQUIREMENTS AND TO REQUIREMENTS ON THESE
- THE CONTRACTOR SHALL COORDINATE ALL CONCRETE AND REINFORCEMENT WORK WITH THE REQUIREMENTS OF OTHER DISCIPLINES INCLUDING BUT NOT LIMITED TO INSERTS, CANS, SLEEVES, CONDUIT, PIPES, DUCTS, CHASES, OPENINGS, NAILERS, REGLETS, REVEALS, ETC. NON-STRUCTURAL CONCRETE SUCH AS ARCHITECTURAL TOPPINGS, CIVIL WORK, ETC. IS
- SPECIFIED BY OTHERS. NO CONCRETE SHALL BE CAST UNTIL WHM FIELD REVIEW OBLIGATIONS HAVE BEEN SATISFIED. SEE NOTE SECTION 1.

# 2. CODE:

- CONCRETE AND REINFORCEMENT WORK SHALL CONFORM IN ALL RESPECTS TO THE CODE AND ALL REFERENCED DOCUMENTS. a. CONCRETE CONSTRUCTION METHODS AND DESIGN:
  - CSA-A23.1, A23.2, A23.3. CSA G30.18.
  - b. NON-WELDABLE REINFORCEMENT:
  - WELDABLE REINFORCEMENT: CSA G30.18W WELDED WIRE MESH: CSA G30.5.

# 3. WORKMANSHIP:

- ALL CONCRETE SHALL BE:
  - a. PLACED BY EXPERIENCED PLACERS SUPERVISED BY AN EXPERIENCED FOREMAN. CREDENTIALS SHALL BE FURNISHED TO WHM UPON REQUEST.
  - b. FULLY AND ADEQUATELY CONSOLIDATED BY VIBRATION WITH SPECIAL CARE AND ATTENTION GIVEN TO AREAS OF CONGESTED REINFORCEMENT AND EMBEDDED
  - HARDWARE, INSERTS, DUCTS, PIPES, ETC. c. BUILT LEVEL, PLUMB AND TO THE DIMENSIONS SPECIFIED IN THE CONTRACT
  - d. APPROPRIATELY CURED AND PROTECTED FROM ADVERSE CONDITIONS SUCH AS RAIN, COLD, HEAT, DELETERIOUS CHEMICALS, ETC. IN CONFORMANCE WITH THE CODE. WHM IS NOT RESPONSIBLE FOR DEFINING CURING AND PROTECTION METHODS AND PROCESSES. THIS IS THE CONTRACTOR'S RESPONSIBILITY. WHM RECOMMENDS THE CONTRACTOR RETAIN A PROFESSIONAL MATERIALS ENGINEERING CONSULTANT TO

ADVISE ON APPROPRIATE CURING AND PROTECTION METHODS TO ENSURE ALL

- CONCRETE WORK MEETS ALL STRUCTURAL AND ARCHITECTURAL REQUIREMENTS. UNDER NO CIRCUMSTANCES SHALL CONCRETE BE CAST ON OR AGAINST FROZEN SOIL, FROZEN OR FROST-COVERED FORMWORK, OR OVER FROZEN OR FROST COVERED
- MINOR HONEYCOMBING SHALL BE REPAIRED WITH NON-SHRINK GROUT/PATCHING MATERIAL TO THE SATISFACTION OF THE ARCHITECT AND OWNER.
- MAJOR HONEYCOMBING (EXPOSED REINFORCEMENT OR AREAS GREATER THAN ONE SQ. FT) SHALL BE REPORTED TO WHM FOR REVIEW AND REMEDIAL INSTRUCTIONS. AT WHMS DISCRETION, THE CONTRACTOR MAY BE REQUIRED TO RETAIN A PROFESSIONAL MATERIALS ENGINEERING CONSULTANT TO RECOMMEND APPROPRIATE REPAIR WORK.
- FORMWORK PATTERNS, QUALITY, TIE LAYOUT/TYPE, FINISHES ETC. MUST BE DETERMINED BY THE CONTRACTOR IN CONSULTATION WITH THE ARCHITECT AND OWNER. ALL REINFORCEMENT:
  - SHALL BE CHAIRED AND TIED SECURELY IN PLACE SUCH THAT IT WILL NOT DISPLACE AT ALL DURING CONCRETE PLACEMENT. SEE TABLES FOR COVER REQUIREMENTS. CHAIRS SHALL BE SECURED TO FORMS AND SHALL NOT BE DETECTABLE EITHER DIRECTLY OR THROUGH LONG-TERM DISCOLOURING OR RUSTING ON THE FINISHED SURFACE - USE PLASTIC OR RUBBER COATED CHAIRS AS NECESSARY TO COMPLY.

- SHALL BE CONTINUOUS. WHERE LAP SPLICES ARE REQUIRED USE TENSION LAPS. LAPPED BARS SHALL BE IN CONTACT WITH EACH OTHER. SEE TABLES FOR EMBEDMENT AND LAP LENGTH REQUIREMENTS.
- CONCRETE SHALL NOT BE CAST UNTIL WHM REVIEWS THE REINFORCEMENT AND FINDS IT IN GENERAL CONFORMANCE WITH THE STRUCTURAL DRAWINGS.

### 4. MATERIALS - CONCRETE:

- CEMENT SHALL BE GENERAL USE HYDRAULIC CEMENT—TYPE GU. "EcoCem PLC" BY LEHIGH CEMENT IS AN ACCEPTABLE ALTERNATIVE. PROVIDED ALL OTHER REQUIREMENTS ON THESE
- DRAWINGS ARE MET. USE OF HIGH-EARLY-STRENGTH HYDRAULIC CEMENT—TYPE HE, IS PERMITTED AT THE
- CONTRACTOR'S DISCRETION FOR CONSTRUCTION SCHEDULING PURPOSES. AGGREGATE SHALL BE STONE AGGREGATE WITH A UNIT WEIGHT OF 23.6 KN PER CUBIC
- METRE (150 LBS PER CUBIC FOOT)
- MAXIMUM AGGREGATE SIZE SHALL CONFORM TO THE TABLES. SMALLER AGGREGATE SHALL BE UTILIZED IN REGIONS OF CONGESTED REINFORCEMENT, FORMWORK, OR EMBEDDED
- WATER SHALL BE POTABLE, HEATED IF NECESSARY FOR APPROPRIATE CURING (SEE PREVIOUS SECTION).
- CONCRETE SHALL BE REGULAR WEIGHT CONCRETE STRENGTHS SHALL CONFORM TO THE TABLES.
- AIR-ENTRAINMENT SHALL BE PROVIDED IN ACCORDANCE WITH THE EXPOSURE CLASSES NOTED IN THE TABLES.
- ADMIXTURES MAY BE UTILIZED AT THE DISCRETION OF THE CONCRETE SUPPLIER. HOWEVER, REGARDLESS OF THE ADMIXTURES USED, THE CONCRETE SUPPLIER SHALL REMAIN SOLELY RESPONSIBLE FOR PROVIDING CONCRETE MIXES THAT MEET ALL REQUIREMENTS OF THESE AND OTHER DISCIPLINES DRAWINGS. ENGINEERING DATA AND/OR RESEARCH REPORTS FOR ALL ADMIXTURES SHALL BE FURNISHED TO WHM UPON REQUEST.
- ADMIXTURES CONTAINING CALCIUM CHLORIDE SHALL NOT BE USED.
- FLY ASH MAY BE USED AS A PARTIAL SUBSTITUTE FOR CEMENT PROVIDED THE STRENGTH AND OTHER REQUIREMENTS OF THESE AND OTHER DISCIPLINES DRAWINGS ARE MET. MIX DESIGNS SHALL BE SUBMITTED TO WHM FOR REVIEW PRIOR TO THE COMMENCEMENT OF
- NON-SHRINK GROUT SHALL BE NON-METALLIC CEMENTITIOUS PASTE WITH A MINIMUM 7-DAY COMPRESSIVE STRENGTH OF 50 MPa.
- ALL CONCRETE SHALL BE TESTED IN CONFORMANCE WITH THE CODE BY A TESTING
  - TESTING AGENCIES OTHER THAN THE FOLLOWING PRE-QUALIFIED AGENCIES SHALL NOT BE USED UNLESS PRE-APPROVED BY WHM: LEVELTON CONSULTANTS (www.levelton.com)
- METRO TESTING LABORATORIES (www.metrotesting.ca) TESTING AGENCIES OTHER THAN THOSE PRE-QUALIFIED ABOVE MAY BE USED IF PRE-APPROVED BY WHM AND IF ALL TESTING BY SAID AGENCY IS UNDERTAKEN UNDER THE SUPERVISION OF A PROFESSIONAL ENGINEER EXPERIENCED WITH CONCRETE FESTING. THIS ENGINEER SHALL PROVIDE A SEALED LETTER STATING THAT ALL
- TESTING WAS COMPLETED IN CONFORMANCE WITH ALL APPLICABLE CSA STANDARDS. THE TESTING AGENCY SHALL BE RETAINED BY THE CONTRACTOR LINLESS. ALTERNATIVE ARRANGEMENTS ARE MADE IN ADVANCE BETWEEN THE OWNER AND CONTRACTOR.
- THE CONTRACTOR SHALL FULLY COOPERATE WITH THE TESTING AGENCY TO FACILITATE APPROPRIATE TESTING. THIS COOPERATION INCLUDES BUT IS NOT LIMITED TO NOTIFYING THE TESTING AGENCY IN ADVANCE OF REQUIRED TESTS, PROVIDING ACCESS, PROVIDING ON SITE STORAGE AREAS FOR FIELD CURED
- SPECIMENS, ETC. ALL TESTING REPORTS SHALL BE SUBMITTED TO WHM IMMEDIATELY UPON
- WHM IS NOT RESPONSIBLE FOR DEFINING THE SCOPE AND METHODS OF TESTING.

# THIS IS THE SOLE RESPONSIBILITY OF THE TESTING AGENCY.

- 5. MATERIALS BAR REINFORCEMENT: SHALL CONFORM TO THE TABLES AND AS FOLLOWS:
  - SHALL BE RATED FOR 400 MPa YIELD STRESS.
  - SHALL BE STANDARD DEFORMED BILLET STEEL BARS.
  - SHALL NOT BE WELDED IN ANY WAY EXCEPT AS SPECIFIED, IN WHICH CASE WELDABLE REINFORCEMENT SHALL BE USED. SHALL BE FREE OF DIRT, OIL, AND OTHER DELETERIOUS MATERIAL THAT MAY INHIBIT PROPER
  - BONDING WITH CONCRETE. THE CONTRACTOR SHALL RETAIN MILL CERTIFICATES FOR ALL REINFORCEMENT AND SHALL FURNISH THESE TO WHM FOR REVIEW UPON REQUEST.

# 6. MATERIALS - PRE-DRILLED (EXPANSION AND ADHESIVE) ANCHORS:

- PRE-DRILLED ANCHORS SHALL NOT BE SUBSTITUTED FOR CAST-IN-PLACE ANCHORS, REINFORCING BARS, OR OTHER EMBEDDED HARDWARE WITHOUT PRIOR REVIEW AND APPROVAL BY WHM.
- EXPANSION ANCHORS AND ADHESIVE ANCHORS ARE NOT INTERCHANGEABLE EXCEPT IN SPECIFIC INSTANCES REVIEWED AND PRE-APPROVED BY WHM.
- HILTI CANADA CORP. (HILTI) IS THE ONLY PRE-APPROVED SUPPLIER OF PRE-DRILLED ANCHORS. HILTI CAN BE REACHED AT 1-800-363-4458 FOR SALES SUPPORT AND TECHNICAL ALL ON-SITE PERSONNEL INVOLVED WITH INSTALLING PRE-DRILLED ANCHORS SHALL HAVE
- SUCCESSFULLY COMPLETED AND OBTAINED A CERTIFICATE FOR HILTI'S ACCREDITED INSTALLER PROGRAM. THE CONTRACTOR SHALL PROVIDE THESE CERTIFICATES TO WHM PRIOR TO INSTALLING ANY PRE-DRILLED ANCHORS ALTERNATE SUPPLIERS PROPOSED BY THE CONTRACTOR WILL NOT BE ACCEPTED UNLESS THE SUPPLIERS PROVIDE ON-SITE TRAINING WITH CERTIFICATES AS EVIDENCE OF
- COMPLETION OF SAME. IN ADDITION, MANUFACTURER'S PUBLISHED DATA FOR PROPOSED ALTERNATIVES SHALL BE SUBMITTED IN ADVANCE TO WHM FOR REVIEW AND APPROVAL IF DEEMED ADEQUATE BY WHM. SUCH DATA SHALL BE FAVOURABLY COMPARABLE TO HILTI'S DATA AND SHALL INCLUDE THE FOLLOWING:
  - LOAD RESISTANCE AT REQUIRED EMBEDMENTS. IN-SERVICE AND INSTALLATION TEMPERATURE REQUIREMENTS.
- FREEZE/THAW TESTING RESULTS.
- COMPREHENSIVE INSTALLATION INSTRUCTIONS. TESTING RESULTS FOR UNCRACKED AND CRACKED CONCRETE.

CREEP TESTING RESULTS.

- **EXPANSION ANCHORS:** EXPANSION ANCHORS SHALL BE HILTI KWIK BOLT 3 (KB3) INSTALLED INTO SOLID CONCRETE SUBSTRATE IN STRICT ACCORDANCE WITH HILTI'S LATEST PUBLISHED RECOMMENDATIONS. SEE TABLES FOR STANDARD EMBEDMENTS.
- KB3 ANCHORS SHALL BE CARBON STEEL WITH ELECTROPLATED ZINC EXCEPT IN CASES WHERE THE ANCHORS WOULD BE SUBJECTED TO MOISTURE, SUCH AS IN EXTERIOR APPLICATIONS. IN SUCH CASES, CARBON STEEL ANCHORS WITH A HOT-DIP GALVANIZED
- COATING SHALL BE USED. STAINLESS STEEL ANCHORS ARE NOT PERMITTED. THE LENGTH IDENTIFICATION MARK ON THE END OF EACH ANCHOR SHALL REMAIN CLEARLY VISIBLE UNTIL SATISFACTORY FIELD REVIEW IS COMPLETE. ANCHORS WITHOUT THE PROPER LENGTH IDENTIFICATION MARK WILL BE REJECTED.
- ADHESIVE ANCHORS
- ADHESIVE ANCHORS CONSIST OF AN ANCHOR ROD AND AN ADHESIVE INSTALLED INTO SOLID CONCRETE SUBSTRATE IN STRICT ACCORDANCE WITH HILTI'S LATEST PUBLISHED
- ANCHOR RODS SHALL BE SUPPLIED WITH CHAMFERED ENDS SO THAT EITHER END WILL ACCEPT A NUT AND WASHER. RODS SHALL COME COMPLETE WITH NUT AND STANDARD-CUT WASHER SIZED TO SUIT ROD DIAMETER AND SHALL BE OF ONE OF THE FOLLOWING TYPES:
  - HILTI HAS E FULLY THREADED ROD.
  - HILIT HAS SUPER (B7) FULLY THREADED ROD.
  - ASTM A 193, GRADE B7 FULLY THREADED ROD.
  - HILTI HIT-TZ THREADED ROD. ASTM A36 FULLY THREADED ROD (ONLY IF SPECIFIED ON PLAN)
- REINFORCING BARS (ONLY IF SPECIFIED ON PLAN). USE HOT-DIPPED GALVANIZED RODS, NUTS, AND WASHERS WHEREVER ANCHORS MAY BE
- EXPOSED TO MOISTURE. ADHESIVE SHALL BE OF ONE OF THE FOLLOWING TYPES:
  - HILTI HIT-HY 200 SAFE SET ADHESIVE INSTALLED TO HILTI'S RECOMMENDATIONS. HILTI INTRODUCED THIS PRODUCT TO REPLACE THE HY-150 SYSTEM. REQUIREMENTS FOR CLEANING DRILLED HOLES BEFORE PLACEMENT OF ADHESIVE HAVE BEEN RELAXED. CONTACT HILTI FOR
  - HILTI HIT-RE 500 EPOXY ADHESIVE. USE THIS IF DIAMOND-CORED HOLES ARE PREFERRED AND/OR IF GREATER FLEXIBILITY IS REQUIRED WITH RESPECT TO HOLE DIAMETER, CLEANLINESS, AND WETNESS. THIS IS A SLOWER-CURING ADHESIVE SO GREATER CARE MUST BE TAKEN TO AVOID DISTURING THE ROD UNTIL THE ADHESIVE HAS SET.
  - HILTI HIT HY70 IS A SCREEN TUBE / SIEVE ANCHORING SYSTEM THAT SHALL BE USED AS SPECIFIED IN THE PLANS AND ONLY FOR FASTENING INTO MASONRY CONTAINING VOIDS.
- USE HILTI PROFI KIT FOR PROPER HOLE PREPARATION. OVERHEAD ANCHORS SHALL BE INSTALLED USING THE HILTI PROFI ACCESSORIES TO ENSURE
- CORRECT ADHESIVE INJECTION. NUTS SHALL NEITHER BE TIGHTENED NOR THE ANCHOR OTHERWISE STRESSED OR

# DISTURBED UNTIL THE ADHESIVE IS FULLY CURED.

### 7. MATERIALS - EMBEDDED HARDWARE: SEE STEEL NOTES FOR ANCHOR RODS, HEADED SHEAR STUDS, EMBEDDED PLATES, ETC. PRE-SET ALL EMBEDDED HARDWARE WITH TEMPLATES OR BY FASTENING SECURELY TO

AND ADHESIVE) ANCHORS.

FORMS. WET-SETTING OF EMBEDDED HARDWARE IS NOT PERMITTED. SPECIAL CARE SHALL BE TAKEN TO VIBRATE AND CONSOLIDATE CONCRETE COMPLETELY AROUND ALL EMBEDDED HARDWARE. SUBMIT SHOP DRAWINGS OF ALL EMBEDDED HARDWARE EXCEPT PRE-DRILLED (EXPANSION

- 8. CRACKING:
- ALL CONCRETE WILL CRACK, WHETHER REINFORCED OR NOT.
- CRACKS ARE DUE TO A VARIETY OF STRESSES INCLUDING SHRINKAGE, CREEP, EMPERATURE FLUCTUATIONS, AND TENSILE STRESSES DUE TO BENDING, SHEAR, OR AXIAL
- LOADS AND THEREFORE CANNOT BE ACCURATELY PREDICTED. CRACK-CONTROL JOINTS SHALL BE PROVIDED IN WALLS AND SLABS-ON-GRADE. SEE THE TYPICAL DETAILS.
- LARGE AND DISPLACED CRACKS IN UNREINFORCED SLABS-ON-GRADE ARE COMMON. THEREFORE WHM RECOMMENDS THAT ALL SLABS-ON-GRADE BE REINFORCED TO CONTROL
- SUCH CRACKING.

### 8. PEDESTALS, AND WALLS: LEAVE FORMS IN PLACE UNTIL TESTS CONFIRM THE CONCRETE HAS REACHED 35% OF ITS

- NO CONDUIT, CANS, PIPES, OR EMBEDDED HARDWARE OF ANY SORT ARE PERMITTED IN PEDESTALS OR WALLS UNLESS SPECIFICALLY DETAILED BY WHM.
- PEDESTALS AND WALLS SHALL NOT BE CORED OR DRILLED IN ANY WAY UNLESS PRIOR CONSENT IS OBTAINED FROM WHM.
- EPOXY-COATED TIES ARE REQUIRED FOR ALL COLUMNS AND PEDESTALS PERMANENTLY

### 9. FOOTINGS:

3. WORKMANSHIP:

SEE NOTE SECTION 7

### 4. Masonry

- THE CONTRACTOR SHALL ENSURE ALL MASONRY WORK IS DELIVERED, INSTALLED, AND
- CURED TO ALL CODE REQUIREMENTS AND TO REQUIREMENTS ON THESE DRAWINGS. THE CONTRACTOR SHALL COORDINATE ALL MASONRY WORK WITH THE REQUIREMENTS OF OTHER DISCIPLINES INCLUDING BUT NOT LIMITED TO INSERTS, CANS, SLEEVES, CONDUIT,
- PIPES, DUCTS, CHASES, OPENINGS, NAILERS, REGLETS, REVEALS, ETC. GENERAL REQUIREMENTS AND TYPICAL DETAILS ARE PROVIDED ON THESE DRAWINGS FOR NON-STRUCTURAL MASONRY WORK. SEE THE ARCHITECTURAL DRAWINGS FOR ALL
- DIMENSIONS, LOCATIONS, OPENINGS, AND OTHER DETAILS. NO CONCRETE GROUT SHALL BE CAST UNTIL WHM'S FIELD REVIEW OBLIGATIONS HAVE BEEN SATISFIED. SEE NOTE SECTION 1

# BRICK AND STONE VENEER CLADDING ARE THE RESPONSIBILITY OF OTHERS. 2. CODE:

NON-WELDABLE REINFORCEMENT:

- STRUCTURAL MASONRY WORK SHALL CONFORM IN ALL RESPECTS TO THE CODE AND ALL REFERENCED DOCUMENTS.
- MASONRY DESIGN AND CONSTRUCTION: CSA S304.1. MATERIALS AND PRACTICE: CSA A371. CONCRETE BLOCKS: CSA A165.1 MASONRY GROUT: CSA A179.

### WELDABLE REINFORCEMENT: WELDED WIRE MESH:

- ALL MASONRY WORK a. SHALL BE CONSTRUCTED BY EXPERIENCED PLACERS SUPERVISED BY AN
  - EXPERIENCED FOREMAN. CREDENTIALS SHALL BE FURNISHED TO WHM UPON b. SHALL BE BUILT LEVEL, PLUMB AND TO THE DIMENSIONS SPECIFIED IN THE CONTRACT

CSA A179.

CSA G30.18.

CSA G30.5.

CSA G30.18W

- DOCUMENTS. SHALL BE APPROPRIATELY CURED AND PROTECTED FROM ADVERSE CONDITIONS SLICH AS RAIN COLD HEAT DELETERIOUS CHEMICALS, ETC. IN CONFORMANCE WITH THE CODE. WHM IS NOT RESPONSIBLE FOR DEFINING CURING AND PROTECTION. METHODS AND PROCESSES. THIS IS THE CONTRACTOR'S RESPONSIBILITY. WHM RECOMMENDS THE CONTRACTOR RETAIN A PROFESSIONAL MATERIALS ENGINEERING CONSULTANT TO ADVISE ON APPROPRIATE CURING AND PROTECTION METHODS TO
- ENSURE ALL MASONRY WORK MEETS ALL STRUCTURAL AND ARCHITECTURAL REQUIREMENTS. ALL MORTAR BEDS AND JOINTS SHALL BE NEATLY TOOLED WITH ALL GROUT AND MORTAR
- SPILLAGE REMOVED ALL CELLS CONTAINING REINFORCEMENT OR EMBEDDED HARDWARE SHALL BE COMPLETELY FILLED WITH CONCRETE GROUT.
- CONCRETE GROUT SHALL BE FULLY AND ADEQUATELY CONSOLIDATED BY VIBRATION WITH SPECIAL CARE AND ATTENTION GIVEN TO AREAS OF CONGESTED REINFORCEMENT AND EMBEDDED HARDWARE, INSERTS, DUCTS, PIPES, ETC.
- CLEANOUTS ARE REQUIRED TO DEMONSTRATE ADEQUATE FILL AND CONSOLIDATION. UNDER NO CIRCUMSTANCES SHALL MASONRY WORK PROCEED WITH FROZEN MATERIALS, INCLUDING REINFORCEMENT
- SHALL BE POSITIONED AT THE CENTRE OF THE BLOCK COURSE AND TIED SECURELY IN PLACE SUCH THAT IT WILL NOT DISPLACE AT ALL DURING GROUT PLACEMENT. SHALL BE CONTINUOUS. LAP SPLICES SHALL BE MINIMIZED BUT WHERE REQUIRED
- SHALL BE TENSION LAPS. LAPPED BARS SHALL BE IN CONTACT WITH EACH OTHER. SEE TABLES FOR EMBEDMENT AND LAP LENGTH REQUIREMENTS

SEE TABLES FOR A DESCRIPTION OF HOW REINFORCEMENT IS INDICATED ON PLANS

### GROUT SHALL NOT BE CAST UNTIL WHM REVIEWS THE REINFORCEMENT AND FINDS IT IN GENERAL CONFORMANCE WITH THE STRUCTURAL DRAWINGS.

ELEVATIONS, AND SECTIONS.

- 4. MATERIALS CONCRETE MASONRY BLOCKS:
  - CONCRETE MASONRY BLOCKS SHALL BE STANDARD HOLLOW CONCRETE MASONRY UNITS ALL CMU SHALL BE OF STANDARD METRIC DIMENSIONS. STANDARD IMPERIAL SIZES SHALL NOT BE USED UNLESS EXPLICITLY SPECIFIED ON THE PLANS OR PERMITTED IN WRITING BY
  - THE ARCHITECT. NOMINAL CMU SIZE SHALL BE 200 THICK x 200 HIGH x 400 LONG. ACTUAL SIZE

b. TESTING REQUIREMENTS IN CONCRETE NOTE SECTION 3.4 SHALL APPLY.

THE CORRECT ELEMENT DIMENSIONS AND EVEN THEN IN THE MINIMUM POSSIBLE NUMBERS.

- CUT BLOCKS OR SQUARE HALF-BLOCKS SHALL BE USED ONLY WHERE REQUIRED TO ACHIEVE
- FACE SHELLS AND WEBS SHALL BE MINIMUM 32mm AND 26mm THICK RESPECTIVELY. BLOCKS SHALL BE COMPRISED OF REGULAR WEIGHT CONCRETE.
- BLOCKS SHALL BE TYPE H/15/A/M (f'm = 15 MPa). SEE ARCHITECTURAL DRAWINGS FOR SURFACE TEXTURE AND COLOUR.
- ALL STRUCTURAL BLOCK WORK SHALL BE TESTED IN CONFORMANCE WITH THE CODE BY A TESTING AGENCY.
- 5. MATERIALS MORTAR AND GROUT: MORTAR SHALL BE TYPE S PREPARED BY PROPORTION SPECIFICATION (TYPE 10 PORTLAND
- GROUT FOR CORE-FILLS SHALL BE HIGH-SLUMP CONCRETE. SEE CONCRETE MIX TABLE FOR PARTICULAR REQUIREMENTS.
- GROUT MIXES SHALL BE PROPORTIONED SO THAT PROPER CONSOLIDATION CAN BE ACHIEVED IN AREAS OF CONGESTED REINFORCEMENT, EMBEDDED HARDWARE, ETC.

WALLS TO BE RUNNING BOND UNLESS OTHERWISE DETAILED BY WHM.

STEEL MEMBERS ARE CONNECTED TO THE MASONRY STRUCTURE.

- MORTAR AND GROUT SHALL BE TESTED IN CONFORMANCE WITH THE CODE BY A b. SEE TESTING NOTE IN NOTE SECTION 4.4 ABOVE.
- POUR LIFTS FOR GROUT FILLED CORES ARE NOT TO EXCEED 5'-0" (1500MM). IF CLEAN OUTS OR SPECIAL PROCEDURES APPROVED BY WHM ARE PROVIDED, POUR LIFTS MAY BE INCREASED TO MAXIMUM 10'-0" (3000MM).

CELLS TO BE GROUTED ARE TO BE KEPT CLEAN AND CLEAR OF ANY PIPING, CONDUITS OR

CORE-FILL ALL LOCATIONS RECEIVING ANCHOR RODS AND LOCATIONS WHERE STRUCTURAL

CONTROL JOINTS SHALL BE LOCATED MAXIMUM 32' (10 000MM) ON CENTER AND SHALL NOT BE LOCATED WITHIN 3' (1000MM) OF ANY STRUCTURAL MEMBER SUPPORTS OR OPENINGS OF ANY KIND. BOND BEAMS SHALL RUN CONTINUOUS THROUGH CONTROL JOINTS. WHERE MASONRY WALLS MEET CONCRETE COLUMNS OR WALLS, PROVIDE 15M x 10" (250MM)

### LONG HORIZONTAL DOWELS EPOXY ANCHORED 4" (100MM) INTO CONCRETE WALL. SPACE DOWELS AT 32" (800MM) ON CENTER. 6. MATERIALS - REINFORCEMENT:

SEE NOTE SECTION 3.5.

### 7. MATERIAL - EMBEDDED HARDWARE: SEE NOTE SECTION 3.7.

# 8. LOAD-BEARING WALLS:

LOAD BEARING WALLS INCLUDE ALL EXTERIOR WALLS, ELEVATOR SHAFT WALLS, STAIRWAY WALLS, AND ALL WALLS NOTED AS SUCH ON THE PLANS.

LOAD BEARING WALLS SHALL BE RUNNING BOND. STACK BOND IS NOT PERMITTED.

- SEE PLANS AND TYPICAL DETAILS FOR REINFORCEMENT. PROVIDE VERTICAL DOWELS OF SIZE AND SPACING TO MATCH THE VERTICAL WALL BARS, AT
- VERTICAL DOWELS SHALL BE PLACED WITH TENSION EMBEDMENTS INTO CONCRETE. AT LOCATIONS OF INSUFFICIENT CONCRETE DEPTH, PROVIDE 90-DEGREE BENDS AT THE BOTTOM
- OF THE CONCRETE. VERTICAL BARS MAY ONLY BE SPLICED AT FLOOR LEVELS.
- VERTICAL BARS SHALL BE CENTRED IN CELLS.
- VERTICAL BARS SHALL BE PROVIDED UNDER SUPPORT POINTS OF ALL BEAMS AND JOISTS



Management Division

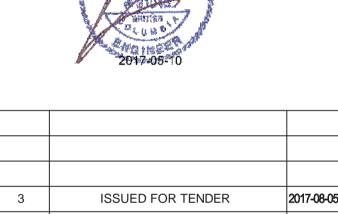
Technical Services

Real property

**Division Gestion** des biens immobilier Services Techniques



WHM PROJECT #: 16167



99 % COORDINATION

66 % COORDINATION

Description / Description

**PWGSC** 

2017-31-03

2017-17-02

PWRC MULTI-PURPOSE

BUILDING

5421 ROBERTSON ROAD, WESTHAM

ISLAND

onsultant Signature Only

awn by/Dessine par

JD / BPM

PWGSC Project Manager/Administrateur de Projets TPSGC PWRC-012-1000534 Regional Manager, Architectural and Engineering Services Gestionnaire regionale, Services d'architectural et de genie, TPSGC

PWGSC-REGIONAL\_MANAGER Drawing Title/Titre du dessi

**General Notes** 

PWRC-012-1000534

La Revision S101

- BOND BEAMS SHALL BE PROVIDED OVER ALL OPENINGS. SEE TYPICAL DETAILS. HORIZONTAL BARS SHALL BE MINIMUM 25mm (1") CLEAR TO EACH FACE OF BOND BEAM
- BLOCKS. PROVIDE CORNER BARS OF SIZE AND SPACING TO MATCH THE HORIZONTAL WALL BARS.
- PROVIDE TENSION LAPS WITH HORIZONTAL BARS.

### 9. NON-LOAD BEARING WALLS:

- NON-LOAD BEARING WALLS INCLUDE PARTITION WALLS WITHIN CONCRETE STRUCTURES AND WALLS NOT CALLED UP ON PLAN AS LOAD BEARING.
- NON-LOAD BEARING WALLS ARE OFTEN NOT SHOWN ON THE STRUCTURAL DRAWINGS AT ALL.

HORIZONTAL BARS SHALL BE MINIMUM 25mm (1") CLEAR TO EACH FACE OF BOND BEAM

REFER TO THE ARCHITECTURAL DRAWINGS. PROVIDE BRACING AT THE TOP OF WALLS. SEE THE TYPICAL DETAILS.

LOAD BEARING WALLS OR EPOXY-ANCHORED INTO THE SUPPORTING CONCRETE

DOWELS FOR VERTICAL REINFORCEMENT SHALL BE PROVIDED EITHER AS NOTED ABOVE FOR

PROVIDE CONTROL JOINTS ONLY WHERE NOTED ON THE PLANS.

- BOND BEAMS SHALL BE PROVIDED OVER ALL OPENINGS. SEE TYPICAL DETAILS.
- VERTICAL BARS SHALL BE CENTRED IN CELLS.
- PROVIDE CORNER BARS OF SIZE AND SPACING TO MATCH THE HORIZONTAL WALL BARS. PROVIDE TENSION LAPS WITH HORIZONTAL BARS.

### 10. BOND BEAMS AND HEADERS:

- BOND BEAMS SHALL BE PROVIDED ABOVE AND BELOW ALL OPENINGS IN ALL WALLS. SEE THE TYPICAL DETAILS.
- BOND BEAM BLOCKS SHALL BE USED FOR ALL BOND BEAM COURSES CONTAINING HORIZONTAL REINFORCEMENT. STANDARD BLOCKS WITH WEBS BROKEN OUT ARE NOT
- IN SOME CASES, LINTEL BLOCKS MAY BE USED FOR THE FIRST COURSE OVER AN OPENING. SEE THE ARCHITECTURAL DRAWINGS.

### 11. PILASTERS AND COLUMNS:

- PILASTERS SHALL BE BUILT INTEGRALLY WITH THE WALL AND COMPLETELY FILLED WITH
- HORIZONTAL WALL REINFORCEMENT SHALL BE CONTINUOUS THROUGH ALL PILASTERS.
- SEE PLANS FOR DETAILS OF PILASTERS AND COLUMNS.

### 5. Structural Steel

### 1. RESPONSIBILITY:

- THE CONTRACTOR SHALL ENSURE ALL STEEL WORK IS FABRICATED, DELIVERED, ERECTED. INSTALLED, AND TESTED TO ALL CODE REQUIREMENTS AND TO REQUIREMENTS ON THESE DRAWINGS.
- WHM'S DRAWINGS ILLUSTRATE THE DESIGN INTENT OF THE COMPLETED STRUCTURE. ERECTION SEQUENCING AND ANY TEMPORARY BRACING, GUYING, COUNTERBALANCING, ETC.. REQUIRED TO MAINTAIN THE UNFINISHED STRUCTURE IN STABLE, SAFE, PLUMB, AND LEVEL CONDITIONS AT ALL TIMES SHALL BE DETERMINED. SUPPLIED. AND INSTALLED BY THE CONTRACTOR AND AT IT'S SOLE RESPONSIBILITY. THE CONTRACTOR SHALL PROVIDE INDEPENDENT DOCUMENTATION AND/OR FIELD REVIEW BY AN INDEPENDENT PROFESSIONAL ENGINEER AS REQUIRED BY THE BUILDING OFFICIAL OR OTHER GOVERNING AUTHORITY.
- THE CONTRACTOR SHALL COORDINATE ALL STEEL WORK WITH THE REQUIREMENTS OF OTHER DISCIPLINES INCLUDING BUT NOT LIMITED TO SLEEVES, CONDUIT, PIPES, DUCTS, CHASES, OPENINGS, INSERTS, ETC.
- STEEL WORK NOT COMPRISING PART OF THE BASE BUILDING STRUCTURE MAY BE SPECIFIED ON OTHER DISCIPLINES DRAWINGS.
- NO STEEL MAY BE CONCEALED UNTIL WHM FIELD REVIEW OBLIGATIONS HAVE BEEN SATISFIED. SEE NOTE SECTION 1.

### 2. CODES:

- STRUCTURAL STEEL WORK SHALL CONFORM IN ALL RESPECTS TO THE CODE AND ALL
- MATERIALS AND PRACTICE SHALL CONFORM TO CSA S16.

# 3. WORKMANSHIP:

- EXPERIENCED FOREMEN. CREDENTIALS SHALL BE FURNISHED TO WHM UPON b. SHALL BE BUILT LEVEL, PLUMB AND TO THE DIMENSIONS SPECIFIED IN THE CONTRACT

SHALL BE CONSTRUCTED BY EXPERIENCED ERECTORS AND WELDERS SUPERVISED BY

- DOCUMENTS. SHALL BE APPROPRIATELY PROTECTED FROM ADVERSE CONDITIONS SUCH AS RAIN
- AND DELETERIOUS CHEMICALS, ETC. IN CONFORMANCE WITH THE CODE. THE FABRICATOR SHALL BE EXPERIENCED IN THIS TYPE OF WORK. CREDENTIALS SHALL BE
- FURNISHED TO WHM UPON REQUEST. THE CONTRACTOR SHALL NOTIFY WHM IN WRITING THAT THE FABRICATOR IS CERTIFIED TO A
- MINIMUM OF DIVISION 2.1 OF CSA STANDARD W47.1. HSS MEMBERS SHALL BE SEALED IN THE SHOP WITH SEAL-WELDED PLATE OF THICKNESS TO
- MATCH THE HSS WALL THICKNESS. THE INTERIOR OF THE SECTION MUST BE THOROUGHLY DRIED IN THE SHOP BEFORE SEALING. IF WATER CAN ENTER THE INTERIOR OF THE SECTION IN ANY WAY AFTER IT LEAVES THE SHOP, WEEP HOLES SHALL BE PROVIDED AT THE BASE OF THE SECTION.

# 4. MATERIALS - FRAMING:

- ROLLED WIDE-FLANGES (W): G40.21M—350W OR EQUIVALENT (Fy=350 MPa) G40.21M—300W OR EQUIVALENT (Fy=300 MPa) CHANNELS (C): ANGLES (L): G40.21M—300W OR EQUIVALENT (Fy=300 MPa) TEES (WT): G40.21M—350W OR EQUIVALENT (Fy=350 MPa)
- RECTANGULAR, ROUND, AND SQUARE HOLLOW STRUCTURAL SECTIONS (HSS):
- G40.21M-350W (Fy=350 MPa) CLASS C PLATES, BARS, AND SMOOTH RODS: G40.21M—300W OR EQUIVALENT (Fy=300 MPa)

# 5. MATERIALS - FASTENERS:

ALL STEEL WORK

- HIGH STRENGTH BOLTS: CSA A325M (Fu = 830 MPa) OR WHERE SPECIFIED ON PLANS, CSA A490M (Fu = 1040 MPa).
- REGULAR ANCHOR RODS:
  - ASTM A307 GR.A (Fu = 414 MPa). REGULAR SMOOTH AND THREADED RODS: ASTM A36 OR F1554 GR.36 (Fy = 36ksi / 248MPa AND
  - Fu = 58-80ksi / 400-552 MPa). HIGH STRENGTH SMOOTH AND THREADED RODS:
  - ASTM A449 (Fu = 90ksi / 621 MPa) OR ASTM A193 GR.B7 (Fu = 125ksi / 862 MPa).
  - NUTS: CSA A325M or ASTM A563 HEAVY HEX CSA A325M or ASTM F436. WASHERS

# 6. CONNECTIONS - GENERAL:

- ALL CONNECTIONS SHALL BE DESIGNED BY THE FABRICATOR'S PROFESSIONAL ENGINEER UNLESS SPECIFICALLY DETAILED ON THESE DRAWINGS.
- CONNECTION CONFIGURATIONS, BOTH FOR GRAVITY AND SEISMIC LOADS, SHALL BE AS SHOWN IN THE STANDARD DETAILS.
- THE FABRICATOR SHALL SUBMIT SUMMARY DESIGN DRAWINGS TO WHM FOR REVIEW SHOWING THE CONFIGURATION AND CAPACITY RANGES OF CONNECTIONS THEY INTEND TO UTILIZE. THESE DRAWINGS ARE IN ADDITION TO THE REGULAR SHOP DRAWINGS, AND SHALL

# 7. CONNECTIONS - WELDED:

PRECEDE THEM.

- ALL WELDING SHALL CONFORM TO ALL REQUIREMENTS OF THE CANADIAN WELDING BUREAU (CWB) AS LISTED IN CSA STANDARD W59.
- ALL WELDING SHALL BE PERFORMED BY CWB CERTIFIED WELDERS UNDER THE REQUIREMENTS OF CSA STANDARD W47.1, THE CONTRACTOR SHALL FURNISH FOR REVIEW
- CERTIFICATES OF ALL WELDERS UPON REQUEST. ALL WELDING SHALL BE PERFORMED IN COMPLIANCE WITH THE FABRICATOR'S WRITTEN WELDING PROCEDURE SPECIFICATIONS (WPS), WHICH SHALL BE QUALIFIED IN ACCORDANCE WITH CWB STANDARDS. THE CONTRACTOR SHALL FURNISH FOR REVIEW THE WPS UPON
- ELECTRODES AND FILLER METAL SHALL BE RATED E480xx (E70xx) OR BETTER.
- AS A MINIMUM, WELDED CONNECTIONS SHALL BE 6mm (1/4") FILLETS ALL AROUND.
- THE NOTE 'WELD FOR FULL STRENGTH'. SHALL BE TAKEN TO MEAN THE WELD SHALL BE CAPABLE OF DEVELOPING THE BENDING, AXIAL, AND SHEAR STRENGTH OF THE WEAKER
- BECAUSE WHM STAFF ARE NOT WELDING EXPERTS AND ARE NOT TRAINED TO TEST FOR OR VISUALLY IDENTIFY FAULTY WELDING, WELD QUALITY AND CONFORMANCE TO INDUSTRY STANDARDS AND PROJECT-SPECIFIC SPECIFICATIONS ARE ENTIRELY THE RESPONSIBILITY OF

# 8. CONNECTIONS - TO OTHER MATERIALS:

- MOST CONNECTIONS OF STEEL TO OTHER MATERIALS ARE DETAILED ON THE DRAWINGS. THE FOLLOWING SHALL APPLY AS A MINIMUM:
  - a. STEEL-TO-CONCRETE CONNECTIONS SHALL UTILIZE CAST-IN-PLACE ANCHOR RODS PER THE STANDARD DETAILS. MINIMUM CONNECTIONS SHALL UTILIZE TWO 16mm (5/8") DIAMETER BOLTS SYMMETRICALLY PLACED ABOUT THE VERTICAL CENTRELINE OF THE
  - STEEL FRAMING MEMBER. STEEL-TO-MASONRY CONNECTIONS - SEE NOTE 'a' ABOVE

# 9. SURFACES:

- STRUCTURAL STEEL, WHICH WILL NOT RECEIVE A FINISH PAINT COAT AND IS REQUIRED TO BE PRIMED FOR INTERIOR EXPOSURE, SHALL BE CLEANED IN ACCORDANCE WITH CISC / CPMA STANDARD 1-73 AS A MINIMUM.
- STRUCTURAL STEEL TO BE PRIMED FOR EXTERIOR EXPOSURE SHALL BE CLEANED IN ACCORDANCE WITH SSPC SP6 "COMMERCIAL BLAST CLEANING" AS A MINIMUM.

- STRUCTURAL STEEL TO RECEIVE A SHOP OR FIELD PAINT FINISH SHALL BE CLEANED IN ACCORDANCE WITH THE ARCHITECTURAL SPECIFICATIONS OR SSPC SP6 "COMMERCIAL BLAST CLEANING", WHICHEVER PRODUCES A SURFACE WHICH HAS LESS RUST AND MILL SCALE.
- ANY STRUCTURAL STEEL THAT IS NOT PROTECTED FROM MOISTURE BY THE BUILDING ENVELOPE SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION. WELDS, SCRATCHES, ABRASIONS, ETC., SHALL BE TOUCHED-UP WITH COMPATIBLE ZINC-RICH PAINT AFTER
- ZINC-RICH PAINT AS A SUBSTITUTE FOR HOT-DIP GALVANIZING SHALL NOT BE PERMITTED UNLESS SPECIFIED BY THE ARCHITECT OR UNLESS THE CONTRACTOR PROVIDES EQUIVALENT SPECIFICATIONS SATISFACTORY TO THE ARCHITECT AND SIGNED AND SEALED BY A
- PROFESSIONAL MATERIALS ENGINEER. SEE THE ARCHITECTURAL DRAWINGS FOR ADDITIONAL REQUIREMENTS.

### 10. GROUT:

- GROUT SHALL BE HIGH-STRENGTH AND NON-SHRINK PER NOTE SECTION 3.
- GROUT SHALL BE INSTALLED UNDER ALL COLUMN BASEPLATES AFTER PERMANENT PLUMB/ LEVEL IS ACHIEVED.
- PACK GROUT UNDER HYDRAULIC PRESSURE TO FILL COMPLETELY ALL VOIDS. THE FILLED GAP SHALL BE 1" +/- 0.25".

SUBMIT SHOP DRAWINGS OF ALL STRUCTURAL STEEL ELEMENTS TO WHM FOR REVIEW PRIOR

# 6. Wood Framing

### 1. RESPONSIBILITY:

- THE CONTRACTOR SHALL ENSURE ALL WOOD FRAMING IS FABRICATED, DELIVERED, ERECTED, INSTALLED. AND TESTED TO ALL CODE REQUIREMENTS AND TO REQUIREMENTS ON THESE
- WHM'S DRAWINGS ILLUSTRATE THE DESIGN INTENT OF THE COMPLETED STRUCTURE. ERECTION SEQUENCING AND ANY TEMPORARY BRACING, GUYING, COUNTERBALANCING, ETC., REQUIRED TO MAINTAIN THE UNFINISHED STRUCTURE IN STABLE, SAFE, PLUMB, AND LEVEL CONDITIONS AT ALL TIMES SHALL BE DETERMINED, SUPPLIED, AND INSTALLED BY THE CONTRACTOR AND AT IT'S SOLE RESPONSIBILITY.
- THE CONTRACTOR SHALL COORDINATE ALL WOOD FRAMING WITH THE REQUIREMENTS OF OTHER DISCIPLINES INCLUDING BUT NOT LIMITED TO WIRING, SLEEVES, CONDUIT, PIPES, DUCTS, CHASES, OPENINGS, INSERTS, ETC
- WOOD FRAMING NOT COMPRISING PART OF THE BASE BUILDING STRUCTURE SHALL COMPLY WITH THE CODE AND MAY BE SPECIFIED ON OTHER DISCIPLINES DRAWINGS, PARTICULARLY THE ARCHITECTURAL DRAWINGS

WOOD FRAMING SHALL CONFORM IN ALL RESPECTS TO THE CODE AND ALL REFERENCED

NO STRUCTURAL WOOD FRAMING MAY BE CONCEALED UNTIL WHM FIELD REVIEW

OBLIGATIONS HAVE BEEN SATISFIED. SEE NOTE SECTION 1.

- a. GENERAL WOOD DESIGN AND CONSTRUCTION: CSA O86. b. ALL REFERENCE PUBLICATIONS LISTED IN SECTION 2.4 OF O86. THIS LIST CAN BE PROVIDED TO THE CONTRACTOR UPON REQUEST
- ADHERE TO PART 9 OF THE CODE FOR ALL WOOD FRAMING UNLESS MORE STRINGENT REQUIREMENTS ARE SPECIFIED IN THESE DRAWINGS.

### 3. WORKMANSHIP:

- ALL WOOD FRAMING:
  - a. SHALL BE CONSTRUCTED BY EXPERIENCED CARPENTERS AND SUPERVISED BY
  - EXPERIENCED FOREMEN. CREDENTIALS SHALL BE FURNISHED TO WHM UPON
  - b. SHALL BE BUILT LEVEL, SQUARE, AND PLUMB AND TO THE DIMENSIONS SPECIFIED IN THE CONTRACT DOCUMENTS.
  - SHALL BE APPROPRIATELY PROTECTED FROM ADVERSE CONDITIONS SUCH AS RAIN AND DELETERIOUS CHEMICALS, ETC. IN CONFORMANCE WITH THE CODE. IN PARTICULAR FOLLOW ALL RECOMMENDATIONS FROM THE MANUFACTURERS OF **ENGINEERED WOOD PRODUCTS IN THIS REGARDS**
- ALL SAWN TIMBER SHRINKS OVER TIME. FINISHES SHALL BE DETAILED TO ACCOMMODATE
- DRILLING AND NOTCHING OF STRUCTURAL MEMBERS SHALL CONFORM TO THE CODE. BEAMS AND POSTS SHALL NOT BE DRILLED OR NOTCHED UNLESS PRE-APPROVED BY WHM.

# 4. MATERIALS - SAWN TIMBER:

ALL SAWN TIMBER SHALL BE S4S UNLESS THE ARCHITECT SPECIFIES ROUGH-SAWN FINISH. SPECIFIED SIZES FOR SAWN TIMBER ARE NOMINAL (i.e. 2x10 IS 1.5"x9.5" DEEP).

AS STUDS

SAWN TIMBER SHALL BE GRADED AND CLEARLY STAMPED BY THE MANUFACTURER AS FOLLOWS: WALL PLATES: D.FIR-L NO.2 OR BETTER. SPF NO. 3/STUD GRADE OR BETTER.

### BUILT-UP BEAMS: AS JOISTS. f. GENERAL FRAMING: SPF NO. 2 OR BETTER

**BUILT-UP POSTS** 

- MATERIALS MANUFACTURED/ENGINEERED WOOD PRODUCTS SPECIFIED SIZES FOR MANUFACTURED/ENGINEERED WOOD PRODUCTS ARE ACTUAL (i.e.
- 3.5"x9.5" PARALLAM IS EXACTLY 3.5"x9.5" DEEP). SEE STANDARD TABLES. MANUFACTURED/ENGINEERED WOOD PRODUCTS SHALL BE GRADED AND CLEARLY STAMPED
  - BY THE MANUFACTURER AS FOLLOWS: a. PARALLAM: 2.2E GRADE PSL BY "iLEVEL" (TRUS JOIST) OR 2.2E LVL LP (LOUISIANA PACIFIC). TIMBERSTRAND: 1.55E GRADE LSL BY "iLEVEL" OR 1.55E LVL LP. 1.8E GRADE ML BY "iLEVEL" OR 1.8E LVL LP. c. MICROLLAM: D FIR-L: STRESS GRADE 24f-FX: QUALITY APPEARANCE: d. GLULAM: EXTERIOR SERVICE GRADE, ARCHITECTURAL
  - REQUIREMENTS FOR APPEARANCE AND SERVICE GRADE GOVERN IF MORE STRINGENT. e. PARALLAM POSTS: 1.8E GRADE PSL BY "iLEVEL". PLYWOOD: D.FIR PLYWOOD - UNSANDED SHEATHING GRADE OSB: TYPE 1 (STANDARD) OR TYPE 2 (PLUS) DESIGN-RATED OSB.

DESIGNED AND SUPPLIED BY MANUFACTURER TO WHM'S

LAYOUT. (SEE NOTES BELOW).

SPF NO. 2 OR BETTER; KILN DRIED.

# 6. MATERIALS - HARDWARE:

WOOD SCREWS:

h. ROOF TRUSSES:

- ALL FRAMING CONNECTORS CALLED OUT ON PLAN ARE BY SIMPSON STRONG-TIE. REFER TO THE LATEST SIMPSON STRONG-TIE CATALOGUE FOR INSTALLATION REQUIREMENTS,
- INCLUDING NAILS, SCREWS, AND APPROPRIATE ORIENTATION. SEE NOTE SECTION 5. USE MINIMUM A36 STEEL, WELDED STEEL CONNECTORS: ALL AROUND WITH 1/4" FILLET WELDS. SHOP PRIMER FOR
- INTERIOR USE, HOT DIP GALVANIZING FOR EXTERIOR. ANCHOR RODS/BOLTS ASTM A307 OR A36 STOCK, PER TYPICAL DETAIL. BOLTS: ASTM A307 WITH NUTS AND STANDARD CUT WASHERS. **EPOXY ANCHORS:** SEE CONCRETE NOTES
- SEE CONCRETE NOTES EXPANSION ANCHORS: NAILS: COMMON STEEL WIRE NAILS - SEE TABLES. LAG SCREWS: SEE TABLES.
- LENGTH AND GAUGE AS CALLED OUT ON PLANS. 7. MOISTURE:
  - SERVICE CONDITIONS. SEE ARCHITECTURAL AND BUILDING ENVELOPE DRAWINGS FOR WATERPROOFING AND VENTILATION DETAILS. EXTERIOR FRAMING IS DESIGNED FOR WET SERVICE CONDITIONS. EXTERIOR FRAMING SHALL BE PRESERVATIVE TREATED BUT SHALL NOT BE INCISED TO
  - FACILITATE THE TREATMENT. INCISIONS REDUCE TIMBER STRENGTH, AND THIS HAS NOT BEEN ACCOUNTED FOR IN THE DESIGN. ALL CONNECTION HARDWARE FOR EXTERIOR FRAMING SHALL BE HOT-DIPPED GALVANIZED.

INTERIOR FRAMING (i.e. CONTAINED WITHIN THE BUILDING ENVELOPE) IS DESIGNED FOR DRY

THE CONTRACTOR SHALL ENSURE THAT PRESERVATIVE TREATMENT WILL NOT CORRODE OR OTHERWISE REACT IN A DELETERIOUS FASHION WITH GALVANIZED HARDWARE. ALL SAWN TIMBER MEMBERS SHALL HAVE A MOISTURE CONTENT NO GREATER THAN 19% AT

THE TIME OF INSTALLATION. REFER TO THE BUILDING ENVELOPE AND ARCHITECTURAL

DRAWINGS FOR MORE STRINGENT REQUIREMENTS. PROVIDE A CONTIGUOUS MOISTURE BARRIER BETWEEN ALL WOOD ELEMENTS AND CONCRETE.

# 8. SHEATHING:

- PLYWOOD PANELS PER NOTE SECTION 6.5 SHALL BE USED FOR ALL SHEATHING APPLICATIONS. IF OSB IS PROPOSED AS A SUBSTITUTE, THE CONTRACTOR SHALL PROVIDE SPECIFICATIONS FROM THE MANUFACTURER FOR THE TYPE AND GRADE OF THE PROPOSED SUBSTITUTE PANELS. IF FOUND ACCEPTABLE TO WHM, THE OWNER SHALL ALSO REVIEW AND APPROVE THE SUBSTITUTION PRIOR TO ENACTMENT.
- PANELS SHALL BE MINIMUM 4' x 8' IN SIZE AND SHALL SPAN ACROSS THE MAXIMUM NUMBER OF SUPPORTS AT ALL LOCATIONS. PANELS SHALL BE LAID IN A STAGGERED PATTERN. STAGGER BY 50% OF THE LONG PANEL
- SHEATHING FOR FLOORS, ROOFS, AND EXTERIOR WALLS SHALL BE LAID WITH SURFACE
- GRAINS AT RIGHT ANGLES TO THE SUPPORTING JOISTS, TRUSSES, OR RAFTERS. INTERIOR SHEARWALL SHEATHING SHALL BE LAID WITH SURFACE GRAINS EITHER PARALLEL OR PERPENDICULAR TO THE SUPPORTING STUDS. SEE SHEARWALL TABLE FOR ADDITIONAL

### REQUIREMENTS. ROOFS

- SHALL BE SHEATHED WITH 1/2" PLYWOOD. PANELS SHALL BE TONGUE-AND-GROOVE OR SQUARE-EDGE PANEL MAY BE USED IF H-CLIPS ARE PROVIDED MIDWAY BETWEEN EACH SUPPORT.
- FASTEN PANEL EDGES WITH 2-1/2" NAILS AT 6" C/C MAX. FASTEN PANELS TO OTHER SUPPORTS WITH 2-1/2" NAILS AT 12" C/C MAX.

### 9. JOISTS:

- WHERE JOISTS END AT A SUPPORT ING WALL OR BEAM, PROVIDE A CONTINUOUS RIM JOIST AT
- THE OUTER FACE OF SUPPORTING WALL OR BEAM.
- WHERE JOISTS ARE CONTINUOUS OVER A SUPPORTING WALL OR BEAM, PROVIDE SOLID BLOCKING BETWEEN ALL JOISTS.
- PROVIDE CROSS BRIDGING PER PART 9 OF THE CODE.

### 10. MANUFACTURED WOOD ROOF TRUSSES:

- THE WOOD TRUSS SUPPLIER SHALL BE CERTIFIED AND IN GOOD STANDING WITH THE WESTERN WOOD TRUSS ASSOCIATION (WWTA) AND SHALL SUPPLY WRITTEN EVIDENCE OF THE SAME TO WHM UPON REQUEST. EXCEPTIONS MAY BE PERMITTED UPON SUCCESSFUL COMPLETION (AS JUDGED BY WHM) OF TRUSS INSPECTIONS BY THE TRUSS ENGINEER AT THE FABRICATION FACILITY: SEE NOTE BELOW.
- THE CONTRACTOR SHALL REMAIN SOLELY RESPONSIBLE FOR MAINTAINING ADEQUATE STABILITY AND BRACING OF ALL TRUSSES DURING CONSTRUCTION AND UNTIL ALL
  - STRUCTURAL FRAMING IS COMPLETE. WHM'S DRAWINGS PROVIDE THE FOLLOWING:
  - ROOF DESIGN LOADS
  - DEFLECTION LIMITATIONS SPACING LIMITATIONS
  - A CONCEPTUAL TRUSS LAYOUT, WHICH INCLUDES ONLY SPAN DIRECTIONS, LOCATIONS OF GIRDERS AND DRAG TRUSSES, AND LOCATIONS OF SUPPORTS. THE
  - SUPPORTING STRUCTURE BENEATH THE TRUSSES (WALLS, POSTS, HEADERS, AND BEAMS) IS DESIGNED BASED ON THIS CONCEPTUAL LAYOUT. FRAMING DETAILS WHERE THE TRUSS SYSTEM INTERACTS WITH THE SUPPORTING STRUCTURE BELOW WHERE JUDGED BY WHM TO BE BEYOND THE SCOPE ASSIGNED

TO THE TRUSS SUPPLIER AS ENUMERATED BELOW (e.g. CONNECTION OF DRAG

- TRUSSES TO TOPS OF SHEARWALLS.) THE TRUSS SUPPLIER SHALL PROVIDE THE FOLLOWING:
  - A THREE-DIMENSIONAL ROOF TRUSS SYSTEM DESIGNED BY OR UNDER THE SUPERVISION OF A PROFESSIONAL ENGINEER EXPERIENCED IN THIS TYPE OF WORK. THE SYSTEM SHALL INCLUDE ALL:
    - TRUSSES
    - DRAG TRUSSES GIRDERS
    - BRIDGING
  - BRACING BLOCKING

VALLEYS.

- TRUSS-TO-TRUSS CONNECTIONS
- TRUSS-TO-BEAM CONNECTIONS TRUSS-TO-WALL CONNECTIONS INCLUDING BEARING PLATES OR SCABS TO PREVENT CRUSHING OF THE TRUSS **AND** WALL PLATES, AND HOLD-DOWN HARDWARE TO RESIST UPLIFT. STRUCTURAL FASCIA TO SUPPORT JACKS AT OVERHANGING HIPS AND
- ALL BRACING AND BRIDGING NECESSARY FOR STABILITY AND INTENDED
- PERFORMANCE OF ALL INDIVIDUAL TRUSSES IN THE COMPLETED CONDITION. SHOP DRAWINGS AND ASSOCIATED CALCULATIONS SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN BRITISH COLUMBIA. THE SHOP DRAWINGS AND ASSOCIATED CALCULATIONS MUST CLEARLY SHOW ALL OF THE ELEMENTS OF
  - THE SYSTEM NOTED ABOVE. IN ADDITION, THEY MUST SHOW: DESIGN LOADS.
  - UNFACTORED DEAD LOAD, LIVE LOAD, SNOW LOAD, AND WIND UPLIFT REACTIONS AT ALL SUPPORTS.
- SUPPORT CONDITIONS AND REQUIREMENTS. WOOD SPECIES (LVL OR LSL MATERIAL MAY BE REQUIRED)
- DEFLECTIONS.
- ALL HARDWARE COMPLETE LAYOUT DIMENSIONS.
- COMPLETE COMPONENT DIMENSIONS. ANY OTHER SECTIONS OR DETAILS CRITICAL TO THE DESIGN INTENT OF THE TRUSS SYSTEM
- VISITS TO THE FABRICATION FACILITY BY THE TRUSS SYSTEM ENGINEER TO INSPECT ALL TRUSS SYSTEM COMPONENTS FOR CONFORMANCE WITH THE DESIGN INTENT AS ILLUSTRATED IN THE SHOP DRAWINGS (NOT REQUIRED FOR WWTA-CERTIFIED SUPPLIERS). PROVIDE SEALED LETTER ATTESTING TO SUCCESSFUL COMPLETION OF
- THESE INSPECTIONS. FIELD REVIEWS BY OR UNDER THE SUPERVISION OF THE TRUSS SYSTEM ENGINEER OF THE ENTIRE TRUSS SYSTEM AS INSTALLED ON SITE TO CONFIRM GENERAL CONFORMANCE WITH THE DESIGN INTENT AS ILLUSTRATED IN THE SHOP DRAWINGS.
- SIGNED AND SEALED SCHEDULE S-B (ASSURANCE OF PROFESSIONAL DESIGN AND COMMITMENT FOR FIELD REVIEW) APPLICABLE TO THE TRUSS SYSTEM. THIS DOCUMENT SHALL BE SUBMITTED WITH THE FIRST SUBMISSION OF SEALED SHOP
- SIGNED AND SEALED SCHEDULE S-C (ASSURANCE OF PROFESSIONAL FIELD REVIEW AND COMPLIANCE) SUBMITTED AT SUCCESSFUL COMPLETION OF FIELD REVIEWS. CONFIRM ALL DIMENSIONS, ELEVATIONS, ROOF SLOPES, OVERHANGS, OPENINGS, VENTS,
- LOADS SHALL BE IN ACCORDANCE WITH THE LOADING TABLE AND LOADING KEY PLANS. SNOW LOAD CASES AND ACCUMULATION FACTORS, IF NOT SHOWN ON LOADING KEY PLANS, MUST BE CALCULATED BY THE TRUSS SYSTEM ENGINEER.
- MINIMUM NET UNFACTORED WIND UPLIFT = 10 PSF GENERALLY, AND 20 PSF ON

CHIMNEYS, ETC. WITH THE ARCHITECTURAL DRAWINGS.

MAXIMUM ON-CENTRE SPACING = 24". MAXIMUM LIVE LOAD DEFLECTION = SPAN/360 MAXIMUM TOTAL LOAD DEFLECTION = SPAN/240 HOLDOWN HARDWARE TO RESIST UPLIFT SHALL BE FASTENED EITHER DIRECTLY TO

WALL STUDS OR HEADERS BENEATH OR THROUGH WALL SHEATHING INTO SOLID

# BLOCKING UNDER WALL PLATES AND BETWEEN WALL STUDS. SEE DETAILS

- 11. SHOP DRAWINGS:
  - SHOP DRAWINGS SHALL BE PROVIDED FOR THE FOLLOWING COMPONENTS AND SYSTEMS, SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN BRITISH COLUMBIA:
  - MANUFACTURED WOOD ROOF TRUSSES SIGNED AND SEALED. MANUFACTURED WOOD I-JOISTS - SIGNED AND SEALED.
  - GLULAM BEAMS AND COLUMNS. CUSTOM CONNECTION HARDWARE

SHEARWALL HOLD-DOWNS - SIGNED AND SEALED IF ALTERNATIVE SYSTEMS ARE

# 7. Foundations and Soils

- 1. ALL FOUNDATION AND SOILS WORK: SHALL CONFORM TO THE CODE, THE GEOTECHNICAL REPORT, AND AS NOTED HEREIN.
- 2. THE GEOTECHNICAL ENGINEER:
  - SHALL BE A PROFESSIONAL ENGINEER REGISTERED IN BRITISH COLUMBIA. SHALL BE RETAINED BY THE OWNER. SHALL BE FULLY RESPONSIBLE FOR ALL ENGINEERING ASPECTS OF THE SOILS IN RELATION
  - TO THE BASE BUILDING STRUCTURE. THESE ASPECTS INCLUDE, BUT ARE NOT LIMITED TO: VERTICAL SOIL PRESSURE
  - LATERAL SOIL PRESSURE RECOMMENDATIONS REGARDING THE TYPE(S) OF FOUNDATIONS TO BE USED.
  - SUBGRADE FOR SLABS-ON-GRADE. SEISMIC SITE FACTORS.
  - BACKFILL. **EXCAVATIONS**
  - FIELD REVIEW OF ITEMS DOCUMENTED ABOVE WITH SIGNED AND SEALED FIELD REPORTS SUBMITTED TO THE BUILDING OFFICIAL AND WHM. SHALL BE RETAINED TO PROVIDE OBSERVATION AND TESTING SERVICES DURING THE GRADING AND FOUNDATION PHASES OF CONSTRUCTION PER THE RECOMMENDATIONS IN THE GEOTECHNICAL REPORT WITH INSPECTION AND TESTING REPORTS SUBMITTED TO WHM.

# 3. THE GEOTECHNICAL ENGINEER FOR THIS PROJECT:

 IS EXP SERVICES INC. HAS PRODUCED A GEOTECHNICAL REPORT FOR THIS PROJECT DATED FEBRUARY 16, 2017.

# 4. FOUNDATIONS FOR THIS PROJECT:

- CONSISTS OF A CONCRETE RAFT SLAB.
- 5. CONVENTIONAL SPREAD FOOTINGS: THE GEOTECHNICAL REPORT HAS RECOMMENDED THE FOLLOWING BEARING CAPACITIES FOR
  - CONVENTIONAL SPREAD FOOTINGS a. ULTIMATE LIMIT STATES BEARING CAPACITY:
  - SERVICEABILITY LIMIT STATES BEARING CAPACITY: 25 kPa STEPPED FOOTINGS OR FOOTINGS ON SLOPING GROUND SHALL BE STEPPED IN ACCORDANCE WITH THE DETAILS.

TO CSA A23.1 UNDER THE SUPERVISION OF THE CONCRETE TESTING AGENCY.

UNDER NO CIRCUMSTANCES SHALL FOOTINGS BE CAST ON FROZEN GROUND.

SEE FOUNDATION PLANS FOR ADDITIONAL DETAILS.

FOOTINGS IN CLOSE PROXIMITY TO OTHERS SHALL BE SET AT RELATIVE ELEVATIONS CONFORMING TO THE DETAILS. FOOTINGS SHALL NOT BE CAST INTO STANDING WATER WITHOUT WRITTEN PERMISSION FROM THE GEOTECHNICAL ENGINEER. IF SO APPROVED, CONCRETE SHALL BE PLACED BY TREMIE

# 9. ELEVATIONS:

THE STRUCTURAL DRAWINGS SHOW MINIMUM ELEVATIONS AND DEPTHS TO MEET THE STRUCTURAL DESIGN INTENT. LOWER BOTTOM OF RAFT SLAB AND FOOTINGS AS REQUIRED TO SUIT ARCHITECTURAL AND MECHANICAL REQUIREMENTS.

### 10. PLACEMENT OF EMBEDDED HARDWARE:

DOWELS, ANCHOR RODS, AND EMBEDDED HARDWARE SHALL NOT BE WET-SET. RATHER, TIE IN PLACE, WITH TEMPLATES IF NECESSARY, SUCH THAT DISPLACEMENT DOES NOT OCCUR DURING CASTING OF CONCRETE.



Division Gestion Real property Management Division des biens immobilier Technical Services Services Techniques

ARCHITECTURE



WHM PROJECT #: 16167

STRUCTURAL ENGINEERS



ISSUED FOR TENDER 2017-08-05 99 % COORDINATION 2017-31-03 66 % COORDINATION 2017-17-02

**PWGSC** 

Description / Description

PWRC MULTI-PURPOSE

BUILDING

5421 ROBERTSON ROAD, WESTHAM

ISLAND

Consultant Signature Only

Designed by/Concept par JD / BPM

rawn by/Dessine par

PWGSC Project Manager/Administrateur de Projets TPSGC PWRC-012-1000534

Regional Manager, Architectural and Engineering Services Gestionnaire regionale, Services d'architectural et de genie, TPSGC

PWGSC-REGIONAL MANAGER Drawing Title/Titre du dessi

**General Notes** 

Project no./no du projet

PWRC-012-1000534

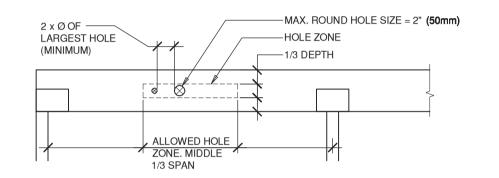
S102

La Revision

Wood Table: Parallam® (By Weyerhaeuser) Beams And Posts				
PARALLAM 2.2E PSL	-	PARALLAM 1.8E PS	L	
PL39	3 1/2" x 9 1/4" (89 x 235)	PL33	3 1/2" x 3 1/2" (89 x 89)	
PL310	3 1/2" x 9 1/2" (89 x 241)	PL35	3 1/2" x 5 1/4" (89 x 133)	
PL311	3 1/2" x 11 1/4" (89 x 286)	PL37	3 1/2" x 7" (89 x 178)	
PL312	3 1/2" x 11 7/8" (89 x 301)	PL55	5 1/4" x 5 1/4" (133 x 133)	
PL314	3 1/2" x 14" (89 x 356)	PL57	5 1/4" x 7" (133 x 178)	
PL316	3 1/2" x 16" (89 x 406)	PL77	7" x 7" (178 x 178)	
PL318	3 1/2" x 18" (89 x457)			
PL59	5 1/4" x 9 1/4" (133 x 235)			
PL510	5 1/4" x 9 1/2" (133 x 241)			
PL511	5 1/4" x 11 1/4" (133 x 286)			
PL512	5 1/4" x 11 7/8" (133 x 301)			
PL514	5 1/4" x 14" (133 x 356)			
PL516	5 1/4" x 16" (133 x 406)			
PL79	7" x 9 1/4" (178 x 235)			
PL710	7" x 9 1/2" (178 x 241)			
PL711	7" x 11 1/4" (178 x 286)			
PL712	7" x 11 7/8" (178 x 301)			
PL714	7" x 14" (178 x 356)			
PL716	7" x 16" (178 x 406)			

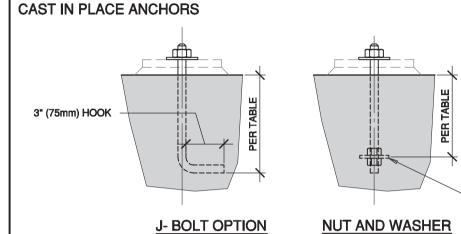
- WHERE BEAMS DO NOT BEAR DIRECTLY ON SUPPORTING STRUCTURE, PROVIDE SCL HANGERS. PARALLAMS MAY BE SUBSTITUTED WITH MULTI-PLY LVL 2950Fb BY LOUISIANA PACIFIC NAIL TOGETHER WITH 3" (76mm) NAILS @ 12" (300mm) O/C, 3 ROWS.
- HOLES:
  NOT PERMITTED IN POSTS

THE DETAIL BELOW GIVES GENERAL INFORMATION FOR HOLES IN HEADERS AND BEAMS. FOR MORE SPECIFIC INSTRUCTIONS ON WHERE HOLES ARE NOT ALLOWED, REFER TO MANUFACTURERS INSTALLATION INSTRUCTIONS.

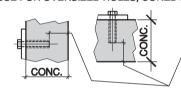


### Concrete Table: Anchors DESIGNATION ALLOWABLE TYPE ANCHOR(S): EG: 3/4"Ø EPOXY ANCHOR CAST IN PLACE J-BOLT OR DOUBLE NUT PER DETAIL BELOW HIT HY100 WITH HAS OR HIT-V OR A307 ROD OR REBAR PER TABLE. HIT HY200 WITH HAS OR HIT-V OR A307 ROD OR REBAR NOTE: IF OPTION NOT HIT RE500 V3 WITH HAS OR HIT-V OR A307 ROD (SEE NOTE 2 BELOW) SPECIFICALLY CALLED UP, USE ANY OPTION SHOWN. EXPANSION ANCHOR KWIK BOLT-V (NOT PERMITTED KWIK BOLT 3 WITHIN 6" (150mm) OF ANY CONCRETE EDGE) SEISMIC ANCHOR(S): EG: 3/4"Ø CAST IN PLACE SEISMIC ANCHOR PER CAST IN PLACE J-BOLT OR DOUBLE NUT PER DETAIL BELOW EPOXY ANCHOR HIT HY200 WITH HIT-Z ROD HIT RE500 V3 WITH HIT-Z ROD (SEE NOTE 2 BELOW) NOTE: IF OPTION NOT EXPANSION ANCHOR KWIK BOLT TZ (NOT PERMITTED SPECIFICALLY CALLED UP. WITHIN 6" (150mm) OF USE ANY OPTION SHOWN. ANY CONCRETE EDGE) NO ALTERNATIVE FULLY CALLED UP ON NO ALTERNATIVE PERMITTED PLAN/DETAIL. PERMITTED.

EMBEDMENT UNO ON PLAN/DETAIL (Also See Note 3 Below):				
ANCHOR Ø	HOR Ø CAST IN PLACE EXPANSION AN INCLUDING SE ANCHORS		EPOXY ANCHORS INCLUDING SEISMIC ANCHORS	
3/8"	12" (304mm)	2 1/2" (64mm)	3 1/2" (89mm)	
1/2" (10M)	12" (304mm)	3 1/2" (89mm)	4 1/2" (115mm)	
5/8" (15M)	12" (304mm)	4" (102mm)	6" (153mm)	
3/4" (20M)	12" (304mm)	4 3/4" (121mm)	7" (178mm)	
7/8"	12" (304mm)	5 1/2" (140mm)	8" (203mm)	
1" (25M)	12" (304mm)	6" (153mm)	9" (229mm)	



1. REFER TO GENERAL NOTES FOR FURTHER INFORMATION. USE FOR OVERSIZED HOLES, CORED HOLES, OR HOLES IN WATER.



 IF LESS THAN 3" (76mm) FOR ANY TYPE OF ANCHOR CONTACT WHM FOR FURTHER INSTRUCTION.

**OPTION** 

- 2" (50mm) Ø x 1/4" (6mm) THK, PLATE

WASHER C/W

NUT EACH SIDE.

Wood Table: Built-Up Sawn Beams					
PLAN DESIGNATION					
DENOTES — BUILT-UP SAWN TIMBER BEAM #	DENOTES NOMINAL DEPTH OF 38x (2x) MEMBERS				
B2-14	.0				
<u> </u>	DENOTES NUMBER OF PLIES OF 38x (2x) MEMBERS				

FOR 2 PLY BEAMS TO BE LUS HANGERS BY 'SIMPSON STRONG-TIE'
FOR 3 PLY OR MORE BEAMS TO BE HU HANGERS BY 'SIMPSON STRONG-TIE' TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

SUBMIT ENGINEERING DATASHEETS FOR ALTERNATIVE HANGERS FOR REVIEW PRIOR TO ORDERING

NAIL TOGETHER WITH 3" (76mm) NAILS @ 12" (305mm) O/C, 3 ROWS.

# Wood Table: Nail Properties

LENGTH	COMMON ROUND STEEL WIRE Ø	NAIL GUN Ø	PENNY- WEIGHT	NOTES
2 1/2" (64mm)	0.128" (3.25mm)	0.113" (2.87mm)	8d	
3" (76mm)	0.144" (3.66mm)	0.133" (3.38mm)	10d	
3 1/2" (89mm)	0.160" (4.06mm)	-	16d	
4" (102mm)	0.192" (4.88mm)	-	20d	
5" (127mm)	0.232" (5.89mm)	-	40d	PRE-DRILLED HOLES 75% OF NAIL DIAMETER
6"(152mm)	0.276" (7.01mm)	-		PRE-DRILLED HOLES 75% OF NAIL DIAMETER

# General Table: Structural Design Parameters

### **GRAVITY LOADS: SNOW**

GROUND SNOW: Ss = 1.3 kPa (27 psf)

RAIN LOAD: Sr = 0.2 kPa (4 psf)

ROOF SNOW: S = 1.24 kPa (26 psf ) ALSO SEE SNOW DIAGRAM WHERE APPLICABLE

IMPORTANCE FACTOR: Is = 1.0 (ULS) = 0.9 (SLS)

	GRAVITY LOADS: D	EAD AND LIVE			
	1051	SUPERIMPOSED DEAD LOADS ( <u>NOT</u> INCLUDING	LIVE LOAD		
	AREA / USE	SELF-WEIGHT OF STRUCTURE UNO) IN kPa (psf)	DISTRIBUTED LOAD IN kPa (psf)	CONCENTRATED LOAD IN kN (kips)	
	ROOF	1.0 (20)	SEE ROOF SNOW MIN. 1.0 (20)	1.3 (0.3)	
	GROUND FLOOR	0.5 (10)	4.8 (100)	9.0 (2.0)	
	LATERALLOADO	AUNID	·	·	

### LATERAL LOADS - WIND

REFERENCE VELOCITY WIND PRESSURES:  $q_{1/50} = 0.46 \text{ kPa } (9.6 \text{ psf})$ 

IMPORTANCE FACTOR IW: = 1.0 (ULS) = 0.75 (SLS)

WIND-FORCE RESISTING SYSTEM: SEE SEISMIC LOAD SECTION FOLLOWING

### LATERAL LOADS - SEISMIC

SEISMIC DATA:

Sa(0.2) = 1.1 Sa(0.5) = 0.71 Sa(1.0) = 0.33 Sa(2.0) = 0.17 PGA = 0.53SITE CLASS PER GENERAL NOTES: ACCELERATION BASED SITE COEFFICIENT: Fa = 0.9 VELOCITY BASED SITE COEFFICIENT: Fv = 1.8 IMPORTANCE FACTOR: le = 1.0 (ULS)

SEISMIC FORCE RESISTING SYSTEM (SFRS):

TYPE = CONVENTIONAL CONSTRUCTION MASONRY SHEARWALLS
Rd = 1.5
Ro = 1.5

# Concrete Table: Mix Requirements

COMPONENT DAY AGGREGATE CLASS STRENGTH SIZE					
		DAY STRENGTH	AGGREGATE		MIN. % CEMENT REPLACE- MENT
FOOTII	NGS AND RAFT SLAB	25	1 1/2" (40mm)	N	40
SLABS	ON GRADE				
	INTERIOR	25	3/4" (20mm)	N	35
	EXTERIOR	32	3/4" (20mm)	C-2	35
REGUL WALLS	LAR AND LANDSCAPE	25	3/4" (20mm)	N, OR F-2 FOR EXT. EXP	25
PEDES	STALS	30	3/4" (20mm)	N, OR F-2 FOR EXT. EXP	25
TO CH	ONCRETE EXPOSED LORIDES. NOT INCL. ON GRADE lote 3)	35 (56 DAY STRENGTH)	3/4" (20mm)	C-1	25

# Notes:

. AIR CONTENT AND SLUMP TO ADHERE TO THE CODE.

2. EXT. EXP. DENOTES "EXTERIOR EXPOSURE TO WEATHER OR FREEZING"

3. CONCRETE EXPOSED TO CHLORIDES MAY INCLUDE SUSPENDED GARAGE SLABS OR CONC. EXPOSED TO

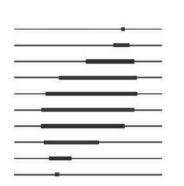
# Concrete Table: Reinforcement Cover

СОМР	ONENT	REINFORCEMENT COVER
RAFT S	SLABS	
	воттом	3" (75mm)
	TOP	2" (50mm)
	SIDES	2" (50mm)
SLABS	ON GRADE	SEE PLAN
WALLS	3	
	INTERIOR FACES	1" (25mm)
	EXTERIOR FACES (ie. EXPOSED TO SOIL OR WEATHER)	1 1/4" (32mm)
PEDESTALS (TO TIES)		1 1/2" (40mm)



Management Division des biens immobilier

**Division Gestion** Technical Services Services Techniques



IREDALE ARCHITECTURE



WHM PROJECT #: 16167



3	ISSUED FOR TENDER	2017-08-
2	99 % COORDINATION	2017-31-
1	66 % COORDINATION	2017-17-
Revision/	Description / Description	Date/Dat

**PWGSC** 

# PWRC MULTI-PURPOSE BUILDING

5421 ROBERTSON ROAD, WESTHAM ISLAND

Consultant Signature Only

Designed by/Concept par JD / BPM

Drawn by/Dessine par

PWGSC Project Manager/Administrateur de Projets TPSGC

PWRC-012-1000534 Regional Manager, Architectural and Engineering Services Gestionnaire regionale, Services d'architectural et de genie, TPSGC PWGSC-REGIONAL\_MANAGER

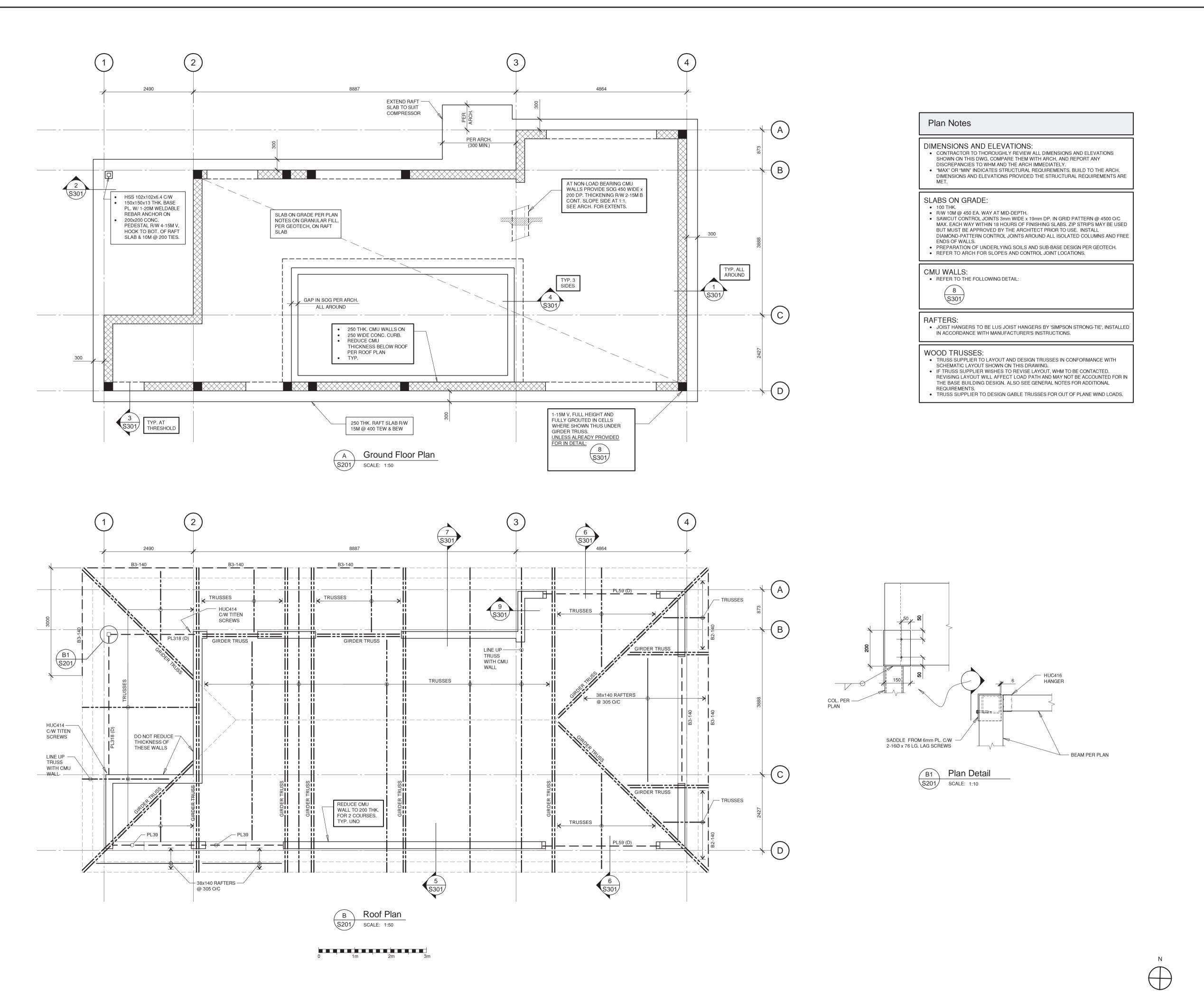
Drawing Title/Titre du dessin

**Tables** 

Project no./no du projet PWRC-012-1000534

Revision No. / La Revision

S111





Technical Services

**Division Gestion** Management Division des biens immobilier Services Techniques

IREDALE ARCHITECTURE



WHM PROJECT #: 16167



3	ISSUED FOR TENDER	2017-08-05
2	99 % COORDINATION	2017-31-03
1	66 % COORDINATION	2017-17-02
Revision/	Description / Description	Date/Date

**PWGSC** 

PWRC MULTI-PURPOSE BUILDING

5421 ROBERTSON ROAD, WESTHAM ISLAND

Consultant Signature Only

Designed by/Concept par JD / BPM Drawn by/Dessine par

GMH PWGSC Project Manager/Administrateur de Projets TPSGC PWRC-012-1000534

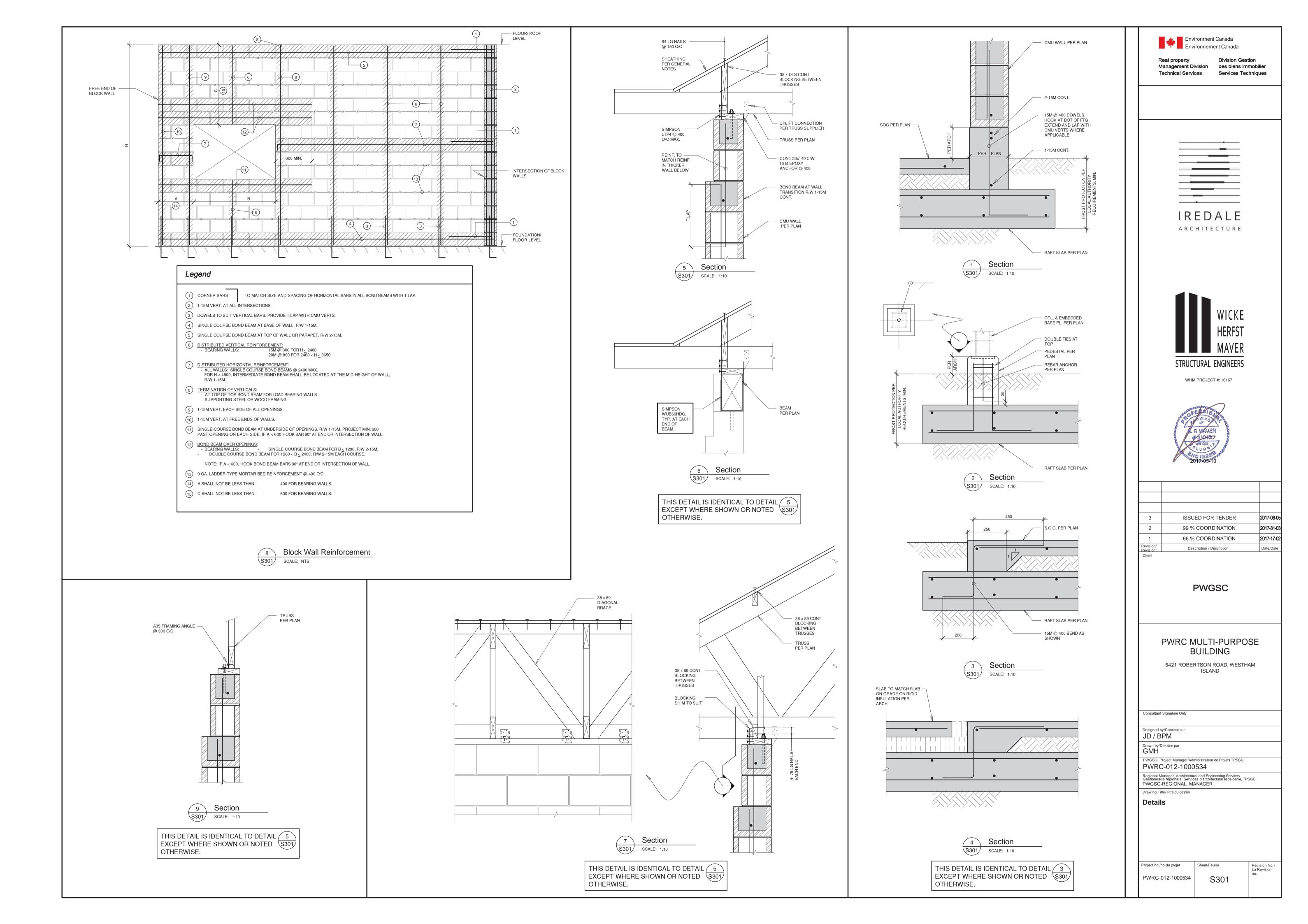
Regional Manager, Architectural and Engineering Services Gestionnaire regionale, Services d'architectural et de genie, TPSGC PWGSC-REGIONAL\_MANAGER

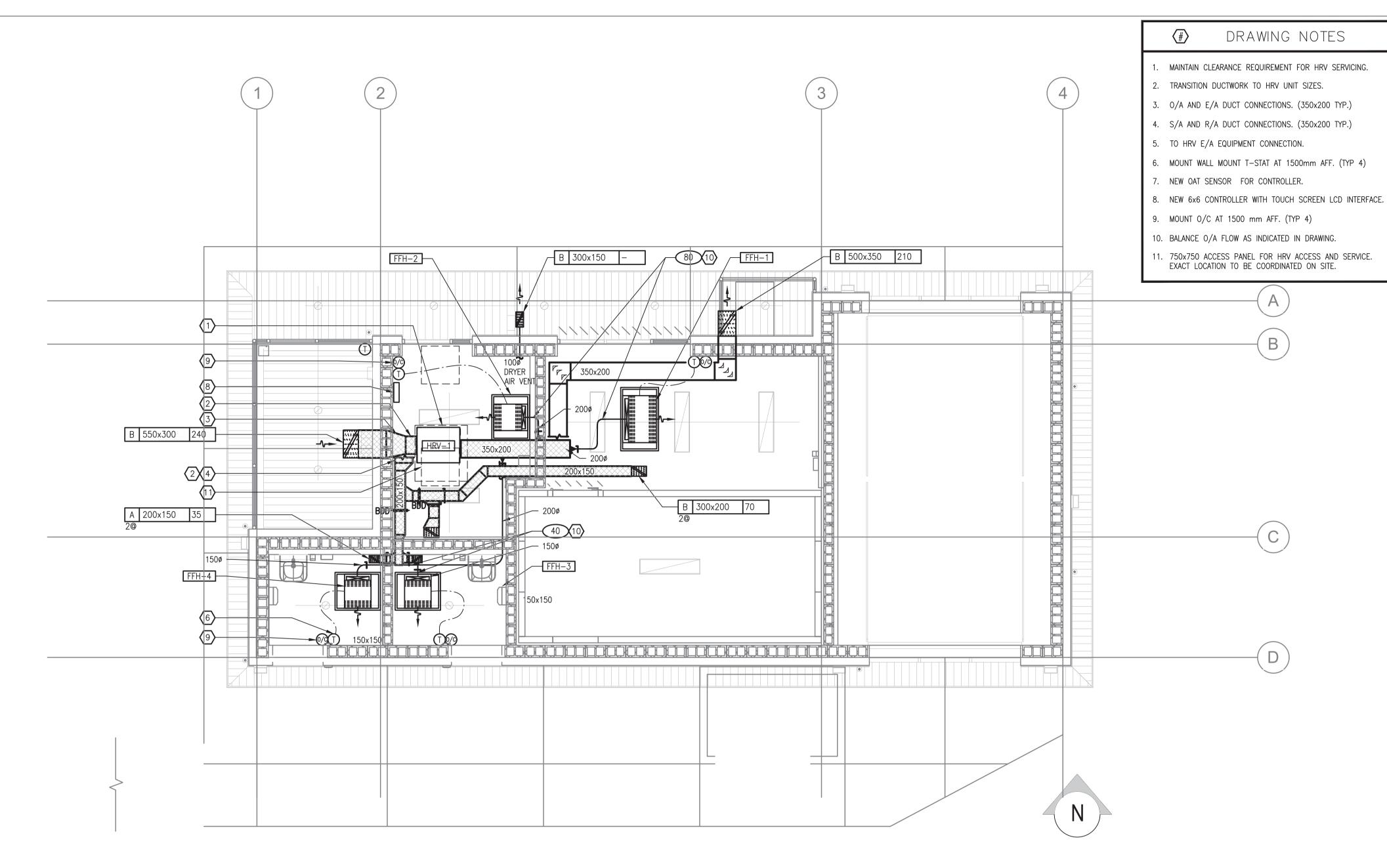
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Drawing Title/Titre du dessin

**Plans** 

Project no./no du projet PWRC-012-1000534 Revision No. / La Revision





MECHANICAL PLAN SCALE: 1:50

	GRILLES AND DIFFUSERS SCHEDULE						
Г	MARK	MAKE	MODEL	SIZE	FINISH	TYPE	ACCESSORIES
	Α	EH PRICE	80	AS SHOWN	B12	EGCRATE EXHAUST GRILLE	-
	В	EH PRICE	ZE439	AS SHOWN	MILL FINISH	LOUVER	BIRD SCREEN

HE	AT RECOVERY V	ENTILA -	TOR SO	CHEDULE									
TAG	LOCATION	MAKE	MODEL	FREE AIR FLOW(L/S)	HP	RPM	OR/FANS FAN TYPE	POWER (W)	MOP	CTRICAL V/PH/Hz	WEIGHT (KG)	DIMENSIONS (MM)	NOTES
HRV-1	LAUNDRY CEILING	VAN EE	6LC	350	0.25	1625	DIRECTED DRIVE CENTRIFUGAL BLOWER	640	5.7	115/1/60	77	865L x 715W x 625H	REFER TO NOTES BELOW

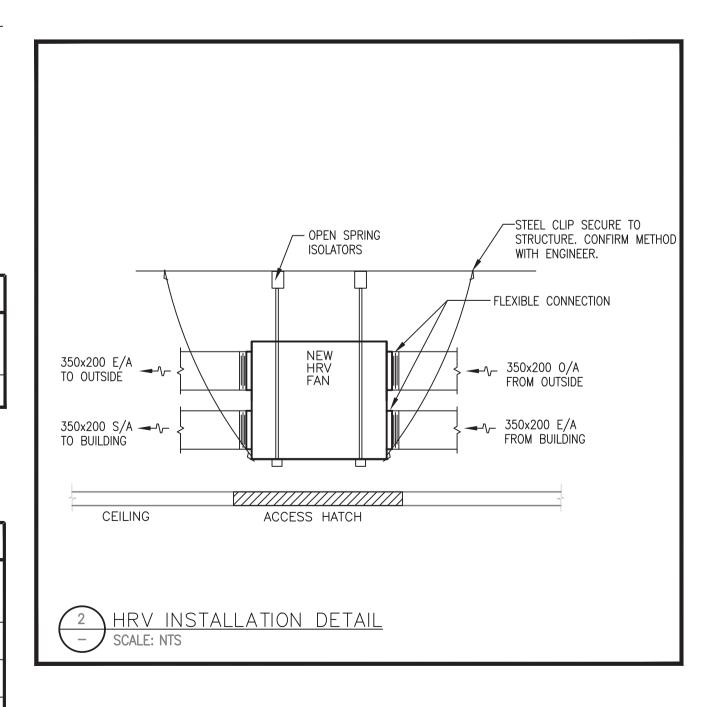
1. AIR INTAKE SHUT-OFF FOR DEFROST

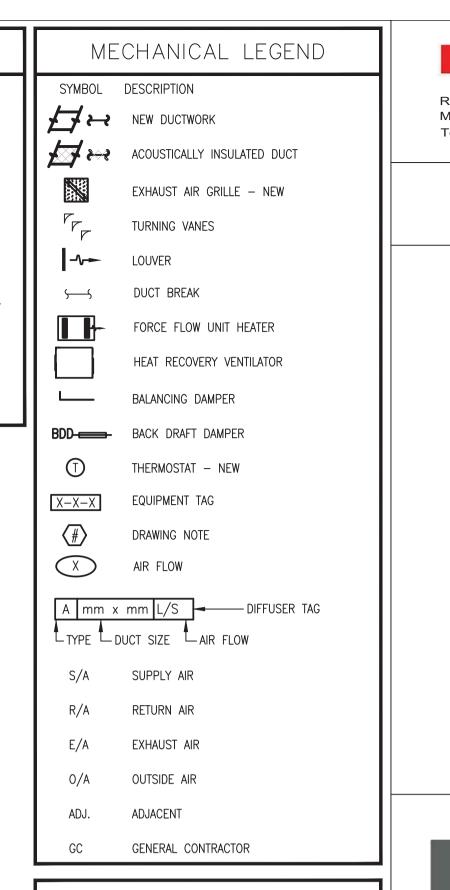
ALUMINUM CORE (2 CORES)

WASHABLE FOAM FILTERS

4. ACCESS DOOR LOCATED FOR EASY MAINTENANCE 5. OPERATE ON TIMECLOCK, USER ADJUSTABLE

FO	FORCE FLOW UNIT HEATER SCHEDULE												
					LIFATING	ELECTRIC LIEAT	WEIGHT	ESP	MOTOR				NOTES
TAG	SERVICE	LOCATION	MAKE	MODEL	HEATING CAPACITY (W)	ELECTRIC HEAT (KW)	(KG)	(PA)	POWER (W)	MCA	MOP	V/PH/Hz	NOTES
FFH-1	MUD ROOM	MUD ROOM	TRANE	FFEB06	3381	4.5	54	5	79	22.56	25	240/1/60	BACK DUCT COLLAR INLET, BOTTOM STAMPED LOUVER OUTLET
FFH-2	LAUNDRY	LAUNDRY	TRANE	FFEB02	2254	3	27	5	37	15.29	20	240/1/60	BACK DUCT COLLAR INLET, BOTTOM STAMPED LOUVER OUTLET
FFH-3	WASH ROOM	WASH ROOM	TRANE	FFEB02	1503	2	27	5	37	6.26	15	240/1/60	BACK DUCT COLLAR INLET, BOTTOM STAMPED LOUVER OUTLET
FFH-4	WASH ROOM	WASH ROOM	TRANE	FFEB02	1503	2	27	5	37	6.26	15	240/1/60	BACK DUCT COLLAR INLET, BOTTOM STAMPED LOUVER OUTLET



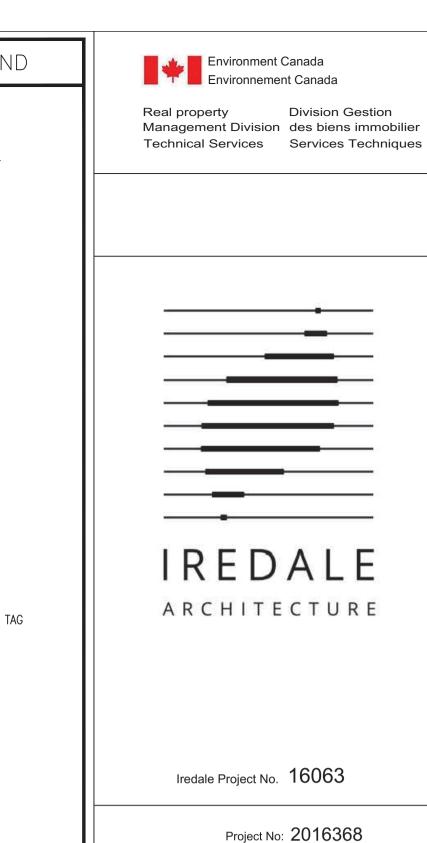


	DRAWING LIST	
DWG NO.	DESCRIPTION	SCALE
M-1	MECHANICAL PLAN, LEGENDS AND SCHEDULES	1:50
P-1	PLUMBING PLAN AND LEGENDS	1:50
P-2	PLUMBING SCHEDULES AND DETAILS	NTS

	.
PROJECT INFORMATION	
<u>GAL ADDRESS:</u> EL F, DL 190, 192A, 193, 194, 597 AND 598, GP 2, VD, REF PL 57378	

S. J. KOOIMAN

2017-08-10



57	1	
	Prism	1
	ENGINEERIN	

saving you energy

7	10	ISSUED FOR TENDER	2017-08
	9	RE-ISSUED FOR BUILDING PERMIT	2017-08
1	8	ISSUED FOR BUILDING PERMIT	2017-05
	7	ISSUED FOR TENDER	2017-05
	6	ISSUED FOR TENDER REVIEW	2017-05
	5	RE-ISSUED FOR 99% REVIEW	2017-04
	4	ISSUED FOR 99% REVIEW	2017-03
	3	ISSUED FOR PROGRESS REVIEW	2017-03
	2	ISSUED FOR 66% REVIEW	2017-02-
	1	ISSUED FOR REVIEW	2016-12
	Revision/ Revision	Description / Description	Date/Dat
	CTAMD		

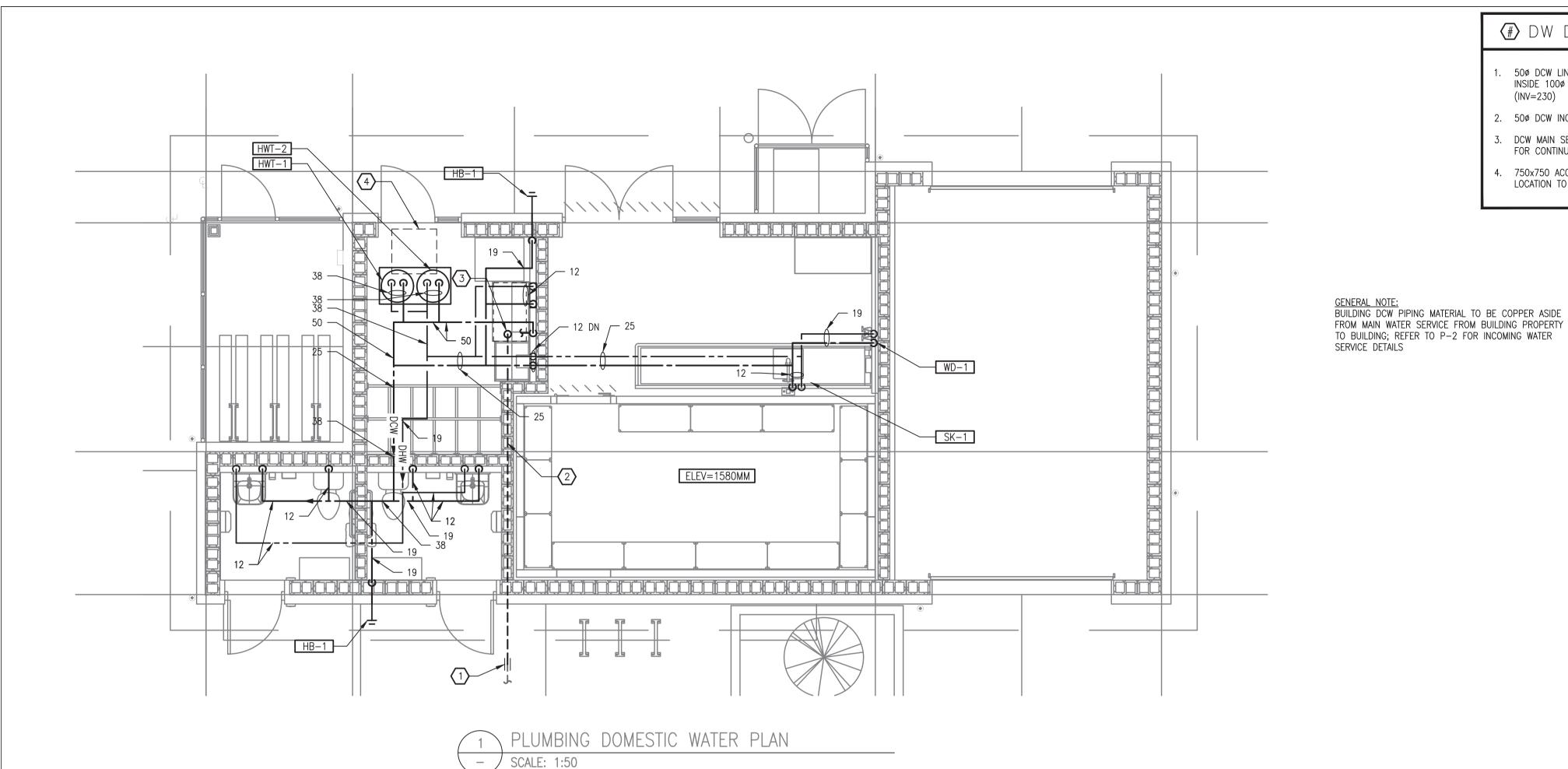
# PWRC MULTI-PURPOSE BUILDING

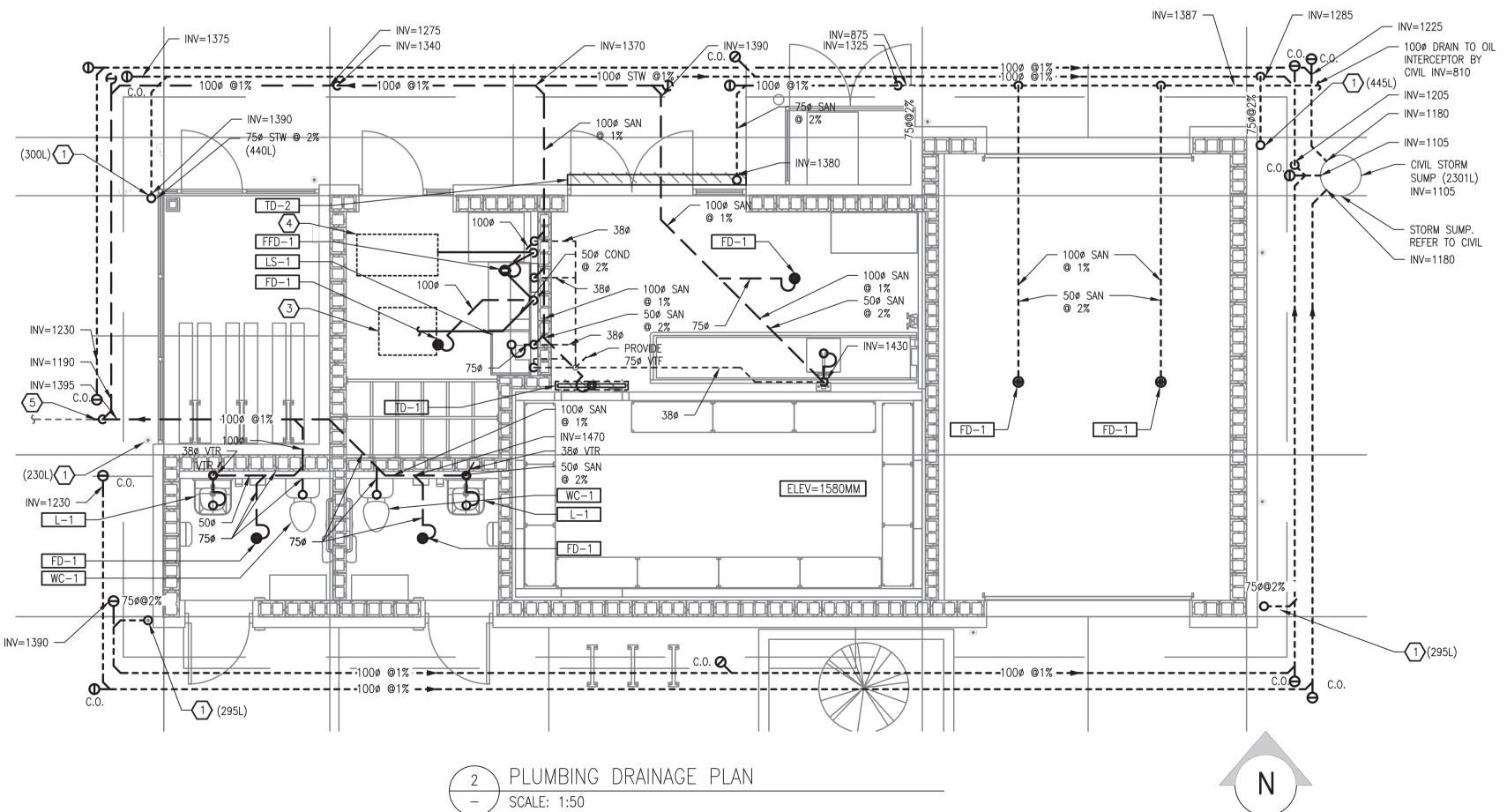
5421 ROBERTSON ROAD, WESTHAM ISLAND

Consultant Signature Only	
Designed by/Concept par SKO	
PAN	
PWGSC Project Manager/Administrateur de Projets TPSGC	
Regional Manager, Architectural and Engineering Services Gestionnaire regionale, Services d'architectural et de genie, TPSG PWGSC-REGIONAL_MANAGER	С
Drawing Title/Titre du dessin	

MECHANICAL PLAN, LEGENDS, DETAILS AND SCHEDULES

Project no./no du projet	Sheet/Feuille	Revision No. / La Revision no.
PWRC-012-1000534	M-1	110.





# DRAINAGE DRAWING NOTES

# DW DRAWING NOTES

50¢ DCW LINE CONNECTED TO CIVIL CONNECTION

INSIDE 1000 PVC SLEEVE. REFER TO DETAIL.

2. 50¢ DCW INCOMING WATER LINE UNDERGROUND.

3. DCW MAIN SERVICE FROM BELOW. REFER TO DETAIL

4. 750x750 ACCESS PANEL FOR HWT SERVICE. EXACT

LOCATION TO BE COORDINATED ON SITE.

(INV=230)

FOR CONTINUATION.

- 50¢ RAIN WATER LEADER; REFER TO ARCHITECTURAL FOR CONNECTION DETAIL.
- 50¢ CONDENSATE DRAIN FROM HRV. DISCHARGE AT FUNNEL FLOOR DRAIN UNDER LAUNDRY SINK.
- 3. HRV ABOVE CEILING SPACE.
- 4. HWT DRIP PAN ABOVE CEILING SPACE.
- 100¢ SANITARY MAIN TO CIVIL CONNECTION. REFER TO CIVIL FOR CONTINUATION. (INV=0.66)

# PLUMBING LEGEND SYMBOL DESCRIPTION PRESSURE REDUCING VALVE

ISOLATION/SHUT OFF VALVE GLOBE VALVE

3-WAY MIXING VALVE

STRAINER

REDUCE PRESSURE BACKFLOW DOUBLE CHECK VALVE ASSEMBLY CHECK VALVE CAP OFF BALANCING VALVE 101

FLOOR CLEANOUT

WALL CLEANOUT PIPE BREAK  $\hookrightarrow$ P-TRAP

 $\Phi$ -

PIPE DOWN PIPE UP  $\bigcirc$ 

PIPE SECTION

PIPE TEE

\_\_\_\_ TIE INTO EXISTING PIPING FUNNEL FLOOR DRAIN FLOOR DRAIN - ROUND

FLOOR DRAIN — SQUARE HOSE BIBB

DRAWING NOTE RISER TAG

C.O. CLEANOUT R.D. ROOF DRAIN

RWL RAINWATER LEADER DCW DOMESTIC COLD WATER

DOMESTIC HOT WATER

PLUMBING LEGEND

SYMBOL DESCRIPTION DOMESTIC COLD WATER - NEW DOMESTIC HOT WATER - NEW HOT WATER RECIRC - NEW

DOMESTIC COLD WATER — EXIST. DOMESTIC HOT WATER - EXIST. HOT WATER RECIRC - EXIST. SANITARY ABOVE GRADE - NEW SANITARY BELOW GRADE - NEW SANITARY ABOVE GRADE - EXIST. —— SAN —— SANITARY BELOW GRADE — EXIST. STORM ABOVE GRADE - NEW

STORM BELOW GRADE - NEW STORM ABOVE GRADE — EXIST.

STORM BELOW GRADE - EXIST. ---STM ---VENT - NEW - - - V **-** - ----V-- VENT - EXIST.

S. J. KOOIMAN

2017-08-10

Environment Canada Environnement Canada

Real property Division Gestion Management Division des biens immobilier Technical Services Services Techniques

IREDALE

ARCHITECTURE

Iredale Project No. 16063

Project No: 2016368



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10	ISSUED FOR TENDER	2017-08-0
9	RE-ISSUED FOR BUILDING PERMIT	2017-08-0
8	ISSUED FOR BUILDING PERMIT	2017-05-1
7	ISSUED FOR TENDER	2017-05-0
6	ISSUED FOR TENDER REVIEW	2017-05-0
5	RE-ISSUED FOR 99% REVIEW	2017-04-1
4	ISSUED FOR 99% REVIEW	2017-03-3
3	ISSUED FOR PROGRESS REVIEW	2017-03-2
2	ISSUED FOR 66% REVIEW	2017-02-1
1	ISSUED FOR REVIEW	2016-12-0
Revision/	Description / Description	Date/Date

PWRC MULTI-PURPOSE BUILDING

5421 ROBERTSON ROAD, WESTHAM ISLAND

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Designed by/Concept par SKO Drawn by/Dessine par AZA PWGSC Project Manager/Administrateur de Projets TPSGC

Regional Manager, Architectural and Engineering Services Gestionnaire regionale, Services d'architectural et de genie, TPSGC PWGSC-REGIONAL\_MANAGER Drawing Title/Titre du dessin

> PLUMBING SUPPLY, WASTE PLAN AND LEGENDS

Sheet/Feuille Project no./no du projet PWRC-012-1000534

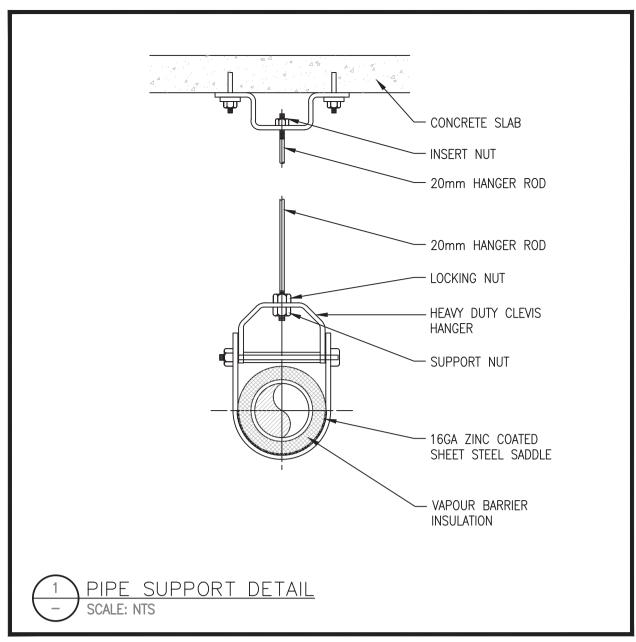
# PLUMBING FIXTURES

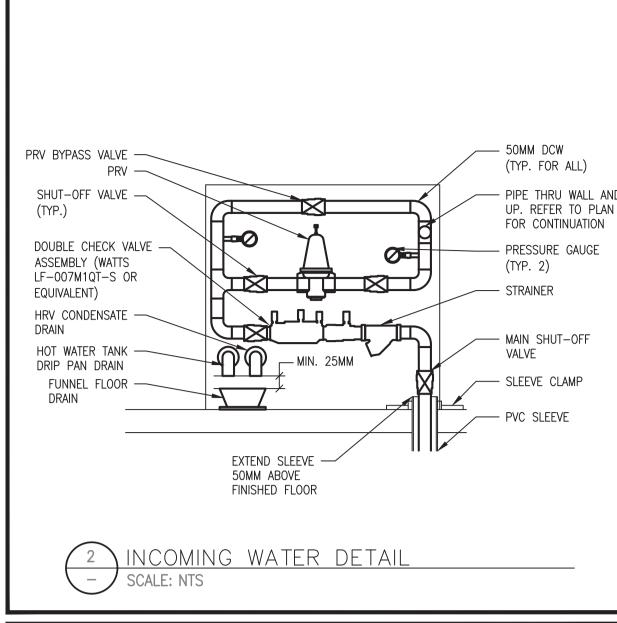
- SK-1 SINK: DELTA TUF-TECK 203MM CENTER WALLMOUNT BASE FAUCET, TWO HANDLE, CAST BRASS BODY WITH INTEGRAL CHECKS, POLISH CHROME PLATED FINISH, 90% FLOW WITH FIRST 1/4 TURN, POSITIVE SHUTOFF, 1.6 GPM, SELF CLOSE PRE-RINSE SPRAY WITH SPRING LOADED STAINLESS STEEL HOSE W/ WALL BRACKET AND SPRAY HEAD HOOK. BASIN PER ARCHITECTURAL, TO BE INSTALLED BY MECHANICAL.
- LAUNDRY SINK: FRANKE SL2424-1/2 SINGLE BOWL SCULLERY SINK, FLOOR MOUNTED, 304 SS, RIM AND BOWL POLISHED SATIN FINISH, 229MM HIGH BACKSPLASH, SS TUBULAR LEGS WITH ADJUSTABLE FEET; CHICAGO FAUCETS 445-897SRCXKCP WALL MOUNTED TWO HANDLE FAUCET, CHROME PLATED, 1/4 TURN CARTRIDGE, WALL BRACE SUPPORT AND PAIL HOOK.
- LAVATORY: AMERICAN STANDARD WALL HUNG BASIN, 0059.020EC, VITREOUS CHINA, REAR OVERFLOW, RECESSED SELF DRAINAGE FAUCET LEDGE, SEMI-PEDESTAL P-TRAP COVER, C/W 7055.205.002 SELECTRONIC INTEGRATED FAUCET, 0.5 GPM; LAWLER TMM-1070 BELOW DECK; MECHANICAL MIXING VALVE, BRONZE BODY; 155AECO ECO LINE OPEN GRID DRAIN; LFH170BVRB FAUCET SUPPLIES; CHROME PLATED P-TRAP; WCA-411-CA-481 BASIN CARRIER.
- WC-1 WATER CLOSET: AMERICAN STANDARD STANDARD FLOOR MOUNTED, 2462.600.020, FLOOR OUTLET, WHITE FINISH, VITREOUS CHINA C/W EVERCLEAN ANTIMICROBIAL SURFACÉ; SIPHON JET FLUSH ACTION; 3481.001 BOWL AND 4142.600 BOLTED TANK COVER, 1.6 GPF; 5910.100.020 COMMERCIAL TOILER SEAT, EXTRA HEAVY DUTY, ELONGATED BOWL, OPEN FRONT, SS CHECK HINGES, POST NUTS AND WASHERS.
- WD-1 WASHDOWN HYDRANT: T&S BRASS AND BRONZE WORKS MV-0771-12NW HOT AND COLD WATER HYDRANT, 19MM CONNECTIONS, INTEGRAL CHECK VALVES, BI-METALLIC THERMOMETER W/ SS CASING AT MIXING STAGE, SS HOSE RACK W/ MOUNTING HARDWARD, 15.25M 19MM WHITE CREAMERY HOSE, SS REAR TRIGGER WATER GUN W/ RUBBER COVER

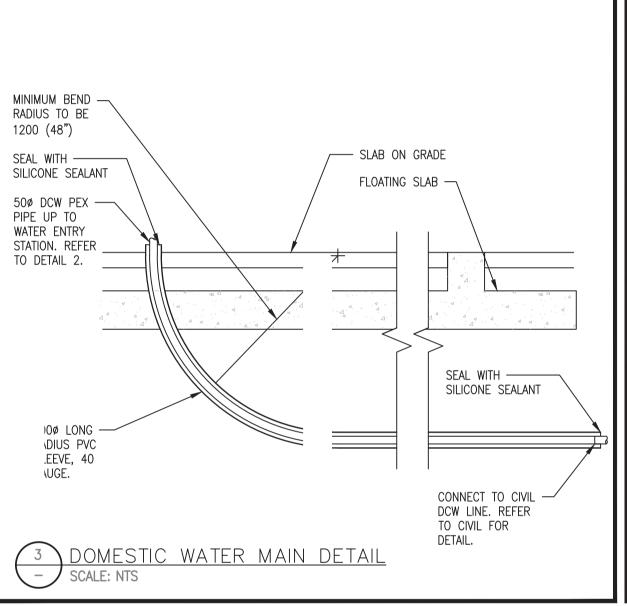
# PLUMBING EQUIPMENT

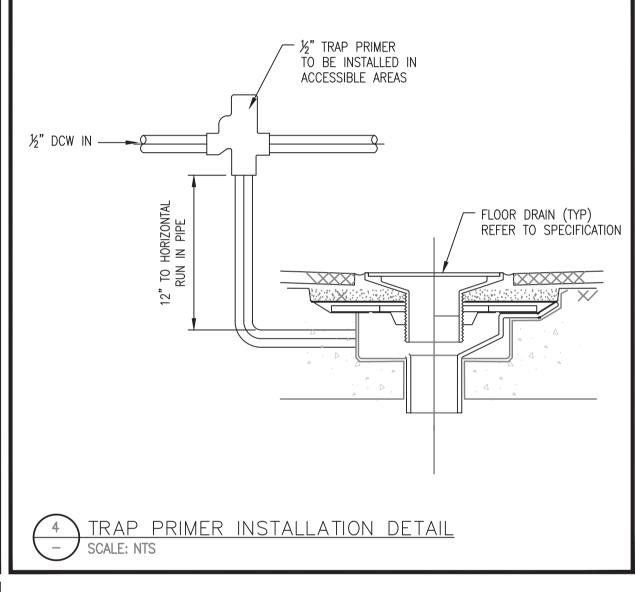
- AREA DRAIN: JR SMITH 2005 6"X6" SQUARE STAINLESS STEEL GRATE, ADJUSTABLE COLLAR, MEMBRANE CLAMP, HUB CONNECTION, SEDIMENT BUCKET, TRAP PRIMER, HEEL-PROOF GRATE.
- AREA DRAIN: JR SMITH 2005 6"X6" SQUARE STAINLESS STEEL GRATE, ADJUSTABLE COLLAR, MEMBRANE CLAMP, 4" HUB CONNECTION, SEDIMENT BUCKET, TRAP PRIMER, OVAL FUNNEL.
- TRENCH DRAIN: JR SMITH 9666 STAINLESS STEEEL ADA SHOWER DRAIN, 40" LENGTH, NO-HUB OUTLET.
- TRENCH DRAIN: JR SMITH 9832 SHALLOW CHANNEL DRAIN, TYPE 080, SLOTTED STAINLESS STEEL GRATE.
- NON-FREEZE WALL HYDRANT: JR SMITH 5619, STAINLESS STEEL FACE, AUTOMATIC DRAINING, INTEGRAL VACUUM BREAKER AND DUAL CHECK VALVE, 'T' HANDLE KEY, LENGTH TO BE COORDINATED ON SITE.
- EXPANSION TANK: AMTROL THERM-X-TROL
- HWT-1 DOMESTIC HOT WATER TANK: AO SMITH HWT-2 DEL-20, 5 KW, 240/1/60, 20 U.S. GAL. STORAGE. THERMOSTAT CONTROLS FOR ELECTRIC STORAGE-TYPE SERVICE WATER HEATERS SHALL BE SET AT A TEMPERATURE OF 60°C (140°F).

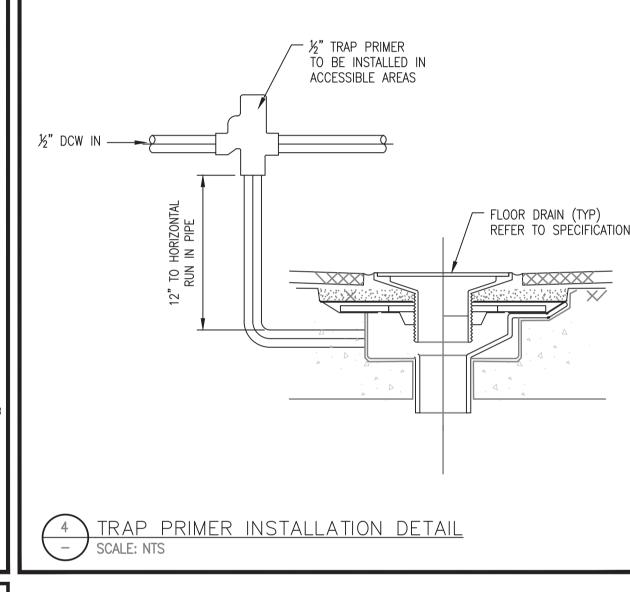
AS PER BCBC2012 SECTION 2.2 MATERIALS AND EQUIPMENT - 2.2.2.2.(1) EVERY FIXTURE SHALL CONFORM TO CAN/CSA-B45 SERIES, "PLUMBING FIXTURES."





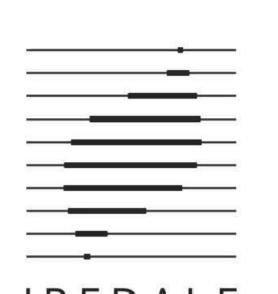








Real property Division Gestion Management Division des biens immobilier Technical Services Services Techniques



IREDALE ARCHITECTURE

Iredale Project No. 16063

Project No: 2016368



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10	ISSUED FOR TENDER	2017-08-0
9	RE-ISSUED FOR BUILDING PERMIT	2017-08-0
8	ISSUED FOR BUILDING PERMIT	2017-05-
7	ISSUED FOR TENDER	2017-05-0
6	ISSUED FOR TENDER REVIEW	2017-05-0
5	RE-ISSUED FOR 99% REVIEW	2017-04-
4	ISSUED FOR 99% REVIEW	2017-03-3
3	ISSUED FOR PROGRESS REVIEW	2017-03-2
2	ISSUED FOR 66% REVIEW	2017-02-
1	ISSUED FOR REVIEW	2016-12-0
Revision/ Revision	Description / Description	Date/Date

PWRC MULTI-PURPOSE BUILDING

5421 ROBERTSON ROAD, WESTHAM ISLAND

Consultant Signature Only

STAMP

Designed by/Concept par SKO Drawn by/Dessine par AZA

Drawing Title/Titre du dessin

Regional Manager, Architectural and Engineering Services Gestionnaire regionale, Services d'architectural et de genie, TPSGC PWGSC-REGIONAL\_MANAGER

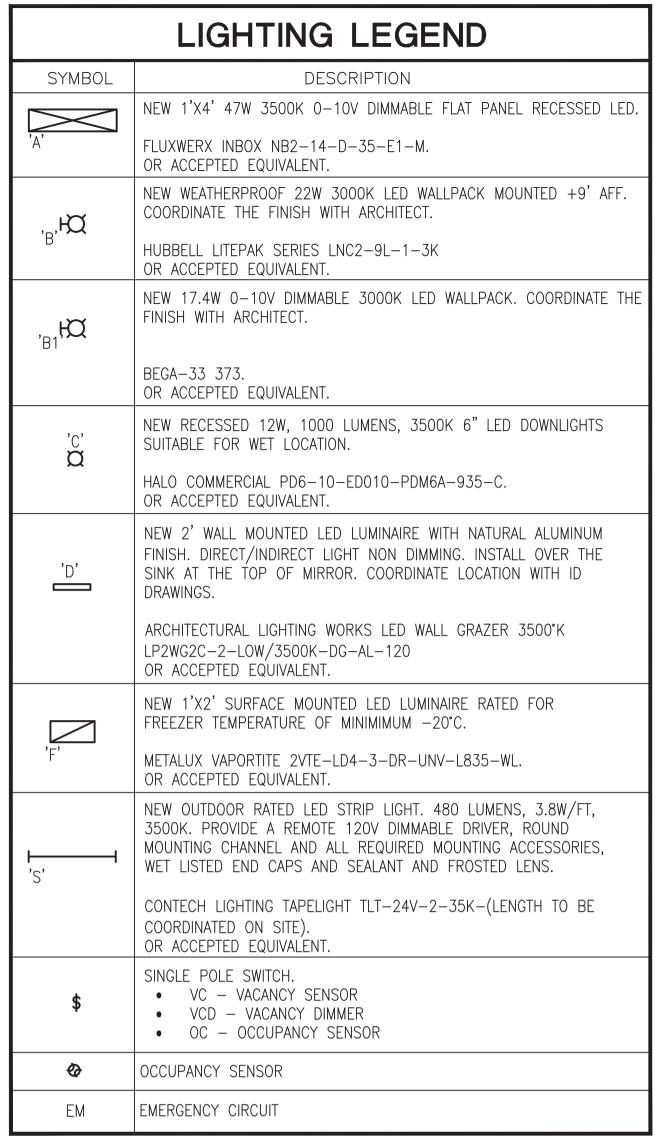
PWGSC Project Manager/Administrateur de Projets TPSGC

PLUMBING DETAILS AND **SCHEDULES** 

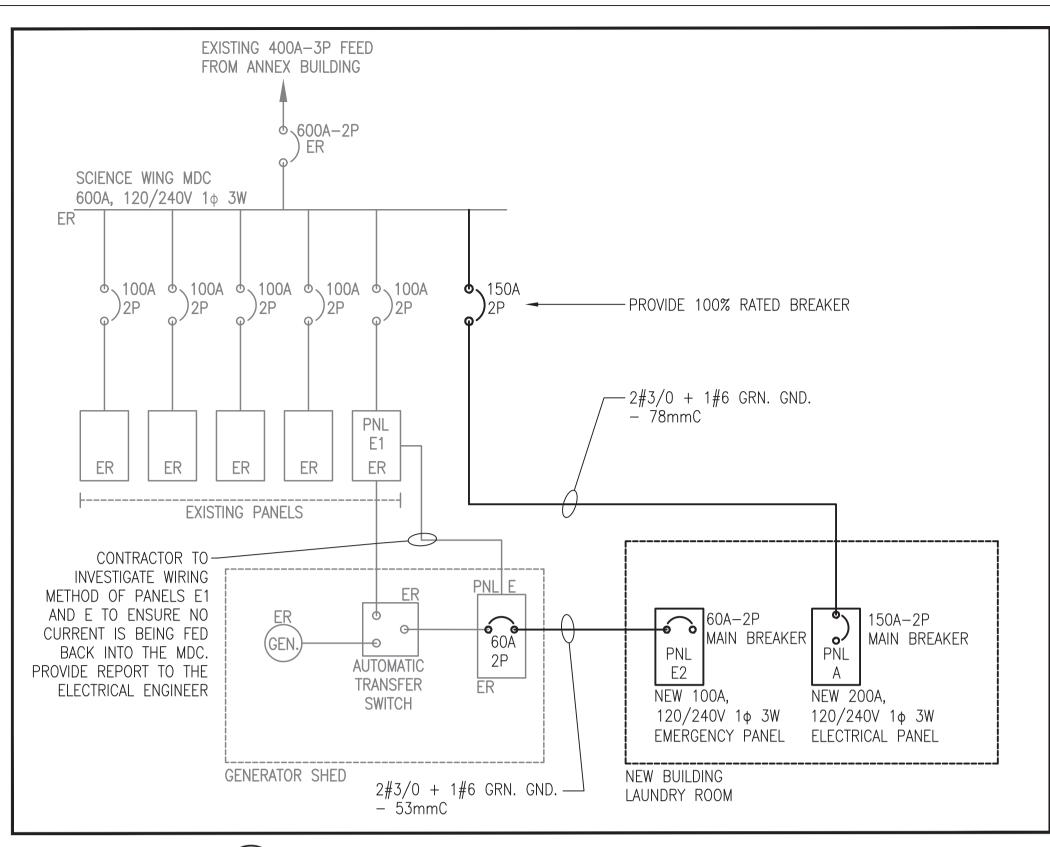
P-2

Project no./no du projet Sheet/Feuille PWRC-012-1000534

HEAT TRAP MIN 1'-6" (TYP. OF 2) VACUUM BREAKER TEMPERATURE & PRESSURE RELIEF VALVE COLD WATER SUPPLY - RELIEF DRAIN HWT-1 HOT WATER -SEISMIC RESTRAINT SUPPLY TO BAND TIED TO **FIXTURES** STRUCTURE CEILING -\_\_\_\_1-1/2"ø DRAIN PIPE RUNS IN — GALVANIZED DRIP PAN C/W -WALL SPACE TO HUB DRAIN MOUNT HEATER & DRAIN PAN FROM STRUCTURE ON ANGLE FRAME & PLATFORM DOMESTIC HOT WATER HEATER DETAIL



	ELECTRICAL LEGEND
SYMBOL	DESCRIPTION
€	15 AMP. 120 VOLT 1P3W GROUNDED DUPLEX RECEPTACLE — WALL MOUNTED.
	120V, 1P POWER OUTLET
	240V, 2P POWER OUTLET
	SAFETY SWITCH
	ELECTRICAL PANELBOARD
JB	JUNCTION BOX C/W 120V POWER SUPPLY
TC	DUAL CHANNEL TIMECLOCK. TORK EWZ-201 OR ACCEPTED EQUIVALENT
T	WALL MOUNTED THERMOSTAT. CONNECT TO MECHANICAL EQUIPMENT AS REQUIRED.
•	JUNCTION BOX FOR PUSHBUTTON C/W 1/2" EMPTY CONDUIT TO DOOR OPENER.
CR	JUNCTION BOX FOR SECURITY CARD READER C/W 1/2" EMPTY CONDUIT TO SECURITY PANEL.
DC	JUNCTION BOX FOR DOOR CONTACT C/W 1/2" EMPTY CONDUIT TO SECURITY PANEL.
M	JUNCTION BOX FOR ELECTRIC STRIKE C/W 1/2" EMPTY CONDUIT TO SECURITY PANEL.
∞	SMOKE DETECTOR C/W 1/2" EMPTY CONDUIT TO SECURITY PANEL.
	POWER CONDUIT IN TRENCH
	DATA CONDUIT IN TRENCH
GEN.	GENERATOR
· · ·	BREAKER
GFI	DENOTES GFI/WEATHER PROOF
SC	DENOTES SEPARATE CIRCUIT
ER	DENOTES EXISTING TO REMAIN



# SINGLE LINE DIAGRAM

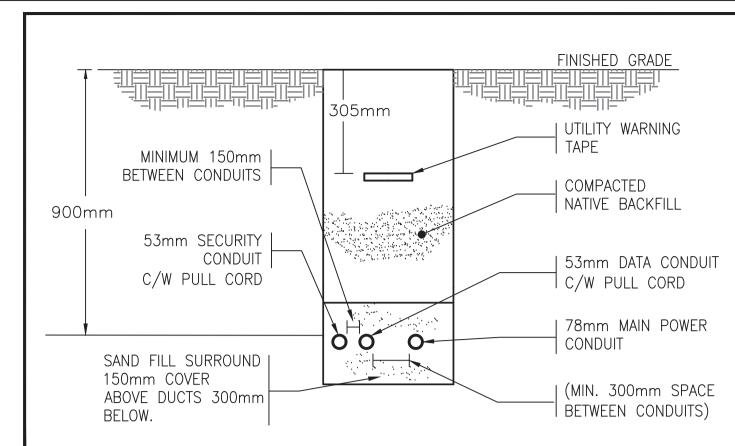
SCALE: NTS

Panel Name:	A				S	ngle Phase - E	lectrical Panel Schedule
Total 1P Circuits	24				17.7	kW	Phase A - Connected Load
Mounting	Surface Mount				14.5	kW	Phase B - Connected Load
Amp. Rating:	200 amps				32.2	kW	Total - Connected Load
Voltage	120/240V 2P3W				0.80		Demand Factor
Main Breaker	150A			•	25.8	kW	Demand Load
Neutral Ampacity Rating	Full Size				120	Volts	Phase Voltage
Insulated Ground Bar	Yes				118	amps	Max Phase
Interrupting Capacity (amp 10,000				0 amps		Future Capacity per Phase	
Fed From:	Science Wing MD	C			147	amps	Min Panel Design Size
Load Description	Load	Breaker Size	Circuit	Number	Breaker Size	Load	Load Description
LTG	680	15	1	2	15	800	Recept. Laundry/Mud Rm
Washroom GFI	400	15	3	4	15		Recept. Boat Storage
Washing Machine	500	40A-2P	5	6	20		Washroom Door Opener
VVasiling Macrinie	500	40A-2P	7	8	15		HRV-1
FF-3	1,000	15A-2P	9	10	25A-2P	2,250	
FF-5	1,000	15A-2P	11	12	25A-2P	2,250	
FF-4	1,000	15A-2P	13	14	20A-2P	1,500	
FF-4	1,000	15A-2P	15	16	20A-2P	1,500	
HWT-1	· · · · · · · · · · · · · · · · · · ·	40A-2P	17	18	15	,	
	2,500					,	Dryer
LIMATE	2,500	40A-2P	19	20	15		Dryer Clather Dryer
HWT-2	2,500	40A-2P	21	22	15	3,000	Clothes Dryer
	2,500	40A-2P	23	24	15		SPARE

# 5 PANEL 'A' SCHEDULE

		SCALE:	NTS				
Panel Name:	E2				S	ingle Phase - E	lectrical Panel Schedule
Total 1P Circuits	24				9.0	kW	Phase A - Connected Load
Mounting	Surface Mount				8.8	kW	Phase B - Connected Load
Amp. Rating:	100 amps				17.7	kW	Total - Connected Load
Voltage	120/240V 2P3W				0.70		Demand Factor
Main Breaker	60A			-	12.4	kW	Demand Load
Neutral Ampacity Rating	Full Size				120	Volts	Phase Voltage
Insulated Ground Bar	Yes				52	amps	Max Phase
Interrupting Capacity (amp	10,000				0	amps	Future Capacity per Phase
Fed From:	Generator				65	amps	Min Panel Design Size
Load Description	Load	Breaker Size	Circuit Number		Breaker Size	Load	Load Description
EM LTG	200	15	1	2	60A-2P	2,880	Freezer Condenser
SPARE		15	3	4	60A-2P	2,880	
SPARE		15	5	6	60A-2P	2,880	Freezer Condenser
SPARE		15	7	8	60A-2P	2,880	
SPACE			9	10	20A-2P	1,500	Freezer Heater and Fans
SPACE			11	12	20A-2P	1,500	
SPACE			13	14	20A-2P	1,500	Freezer Heater and Fans
SPACE			15	16	20A-2P	1,500	
SPACE			17	18			SPACE
SPACE			19	20			SPACE
SPACE			21	22			SPACE
SPACE			23	24			SPACE

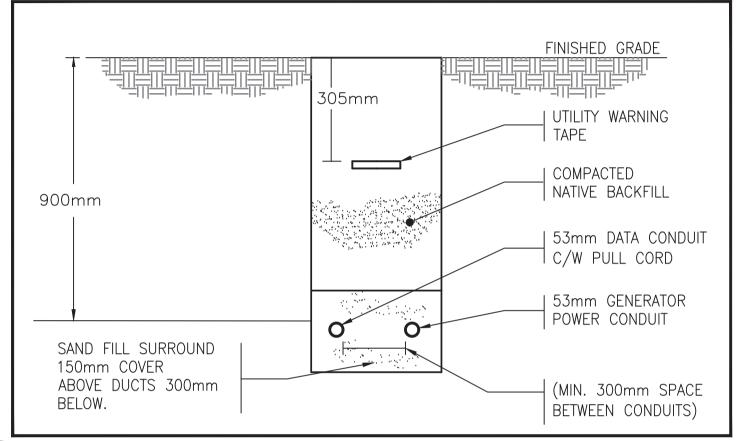
**PANEL 'E2' SCHEDULE** 



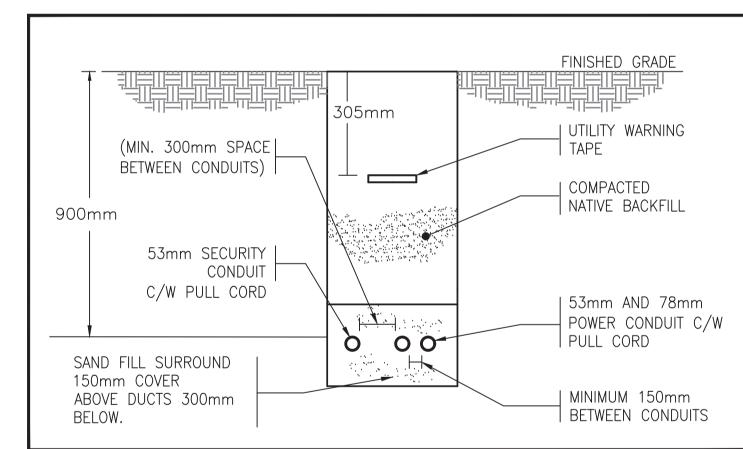
E-1 ELECTRICAL SERVICE

MAIN POWER AND DATA CONDUITS TRENCH

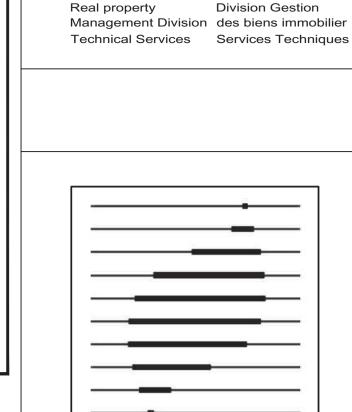
SCALE: NITS



3 ELECTRICAL SERVICE
E-1 GENERATOR POWER AND DATA CONDUITS TRENCH
SCALF: NTS



ELECTRICAL SERVICE
MAIN AND GENERATOR POWER AND DATA CONDUITS TRENCH
SCALE: NTS



Environment Canada
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Iredale Project No. 16063

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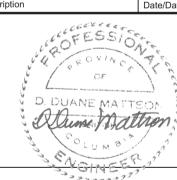
ARCHITECTURE

Project No: 2016368

Project No: 2016368

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ISSUED FOR TENDER 2017-08-28 RE-ISSUED FOR BUILDING PERMIT 2017-08-28 2017-08-09 ISSUED FOR TENDER RE-ISSUED FOR BUILDING PERMIT 2017-08-04 ISSUED FOR BUILDING PERMIT 2017-05-12 ISSUED FOR TENDER 2017-05-08 ISSUED FOR TENDER REVIEW 2017-05-01 RE-ISSUED FOR 99% REVIEW 2017-04-12 ISSUED FOR 99% REVIEW 2017-03-31 ISSUED FOR PROGRESS REVIEW 2017-03-24 2017-02-17 ISSUED FOR 66% REVIEW ISSUED FOR REVIEW 2016-12-02



PWRC MULTI-PU常予登等E BUILDING

5421 ROBERTSON ROAD, WESTHAM ISLAND

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Designed by/Concept par

SK

Drawn by/Dessine par

DJ

PWGSC Project Manager/Administrateur de Projets TPSGC

Regional Manager, Architectural and Engineering Services
Gestionnaire regionale, Services d'architectural et de genie, TPSGC

PWGSC-REGIONAL\_MANAGER

Drawing Title/Titre du dessin

NTS

ELECTRICAL LEGEND, LUMINAIRE SCHEDULE AND DETAILS

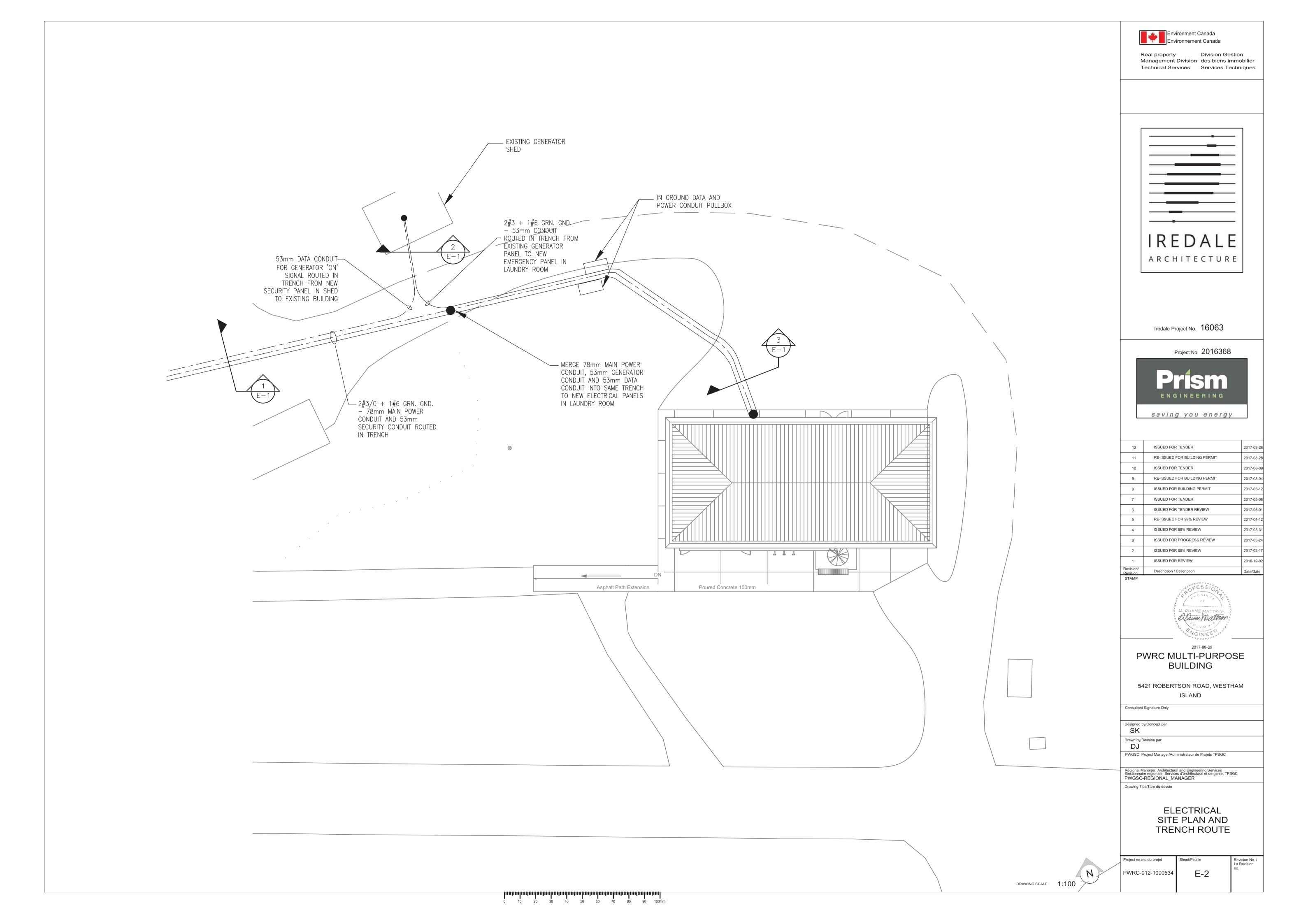
Revision No. /

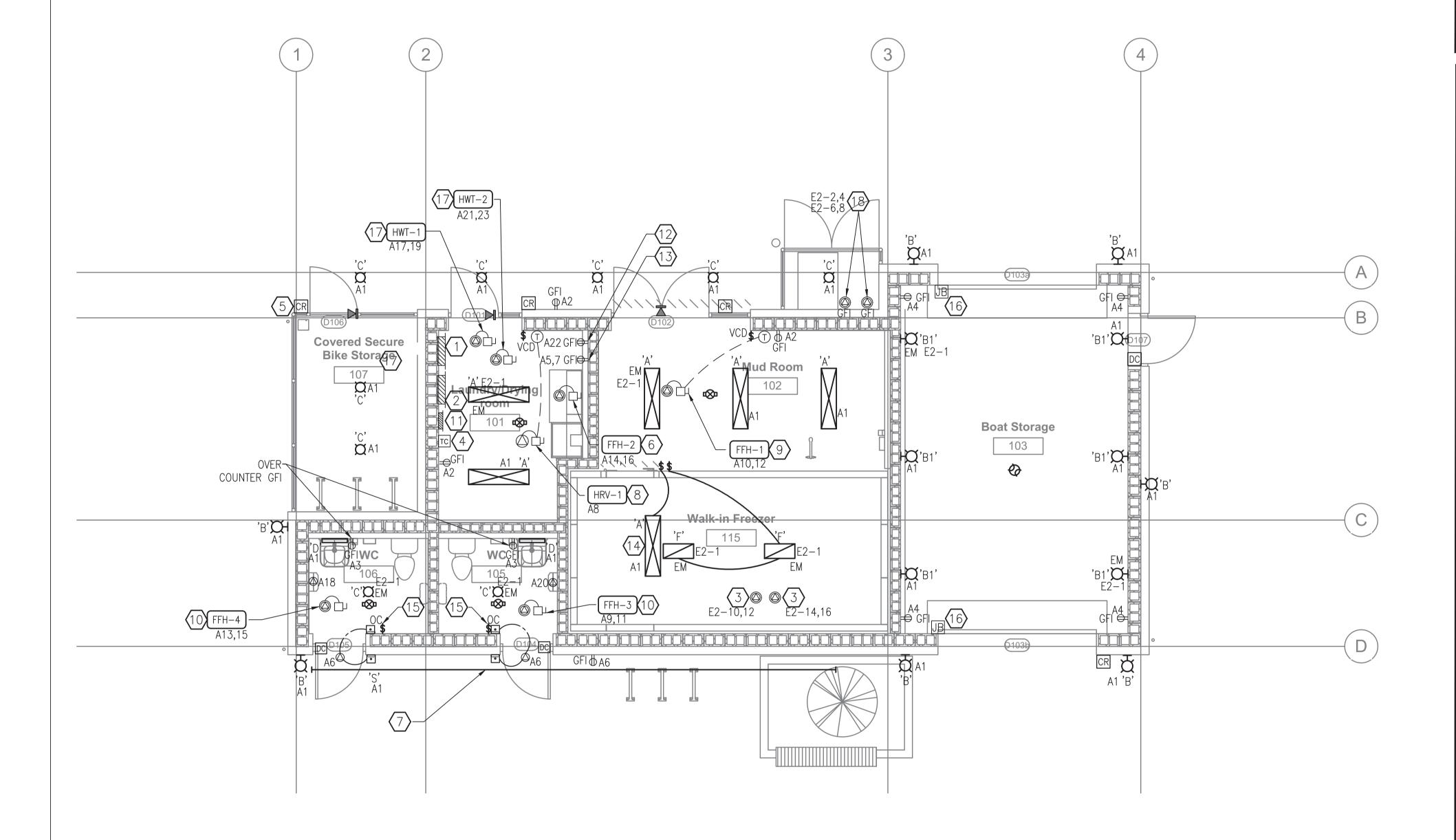
Project no./no du projet

PWRC-012-1000534

E-1

ALE: NTS





# **GENERAL NOTES:**

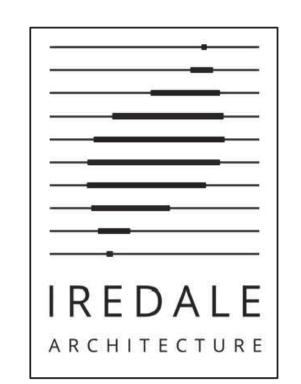
- 1. ALL DEVICES (RECEPTACLES, LIGHT SWITCHES AND OTHER WALL MOUNTED DEVICES) SHALL BE ROUTED ON SURFACE MOUNTED RACEWAYS.
- 2. CONFIRM THAT THERE IS AN EXISTING RACEWAY SUFFICIENT FOR DATA/SECURITY FROM THE EXISTING BUILDING'S DATA ROOM TO NEW SITE. INCLUDE IN THE TENDER AS A SEPARATE PRICE FOR A NEW DATA RACEWAY TRENCHED BACK TO THE EXISTING DATA ROOM IF REQUIRED.
- 3. INCLUDE IN TENDER FOR A GENERATOR TESTING REPORT BASED ON BUILDING LOAD AND DURING COMPRESSOR OPERATION. TEST SHALL INCLUDE VOLTAGE DROP LEVEL. INCLUDE FOR RE-FUELLING OF STORAGE TO SUIT TESTING

# **DRAWING NOTES:** (#)

- 1. NEW 200A 120/240V 1 3W 24 CIRCUIT SURFACE MOUNTED MAIN ELECTRICAL PANELBOARD FROM THE SCIENCE WING MDC C/W NEW 150A-2P MAIN BREAKER IN 600A SCIENCE WING
- 2. NEW 100A 120/240V 1 3W 24 CIRCUIT SURFACE MOUNTED EMERGENCY ELECTRICAL PANELBOARD FROM THE GENERATOR SHED PANEL 'E' C/W NEW 60A-2P MAIN BREAKER IN GENERATOR SHED PANEL.
- 3. PROVIDE EMERGENCY POWER TO NEW FREEZER FAN AND HEATER. COORDINATE EXACT POWER REQUIREMENT WITH FREEZER SUPPLIER. EXACT LOCATION TO BE CONFIRMED ON SITE.
- 4. PROVIDE DUAL CHANNEL TIMECLOCK. CONNECT ALL LIGHTING EXCEPT WASHROOM LIGHTING TO TURN OFF 'AFTER HOURS'. COORDINATE EXACT SCHEDULING WITH OWNER.
- 5. PROVIDE JUNCTION BOX FOR CARD READER ON DOOR POST OF THE BIKE ROOM. ROUTE RACEWAY IN A DISCREET MANNER.
- 6. PROVIDE 30A 240V 1 SAFETY SWITCH FOR FORCE FLOW UNIT. ROUTE 2#10 + #12 GRN. GND. - 1/2°C TO A NEW 20A-2P BREAKER IN THE NEW ELECTRICAL PANEL. COORDINATE EXACT LOCATION WITH MECHANICAL.
- 7. MOUNT REMOTE DRIVER IN THE LAUNDRY ROOM WALL ADJACENT TO THE TIMECLOCK. ROUTE 1/2"C TO THE UNDERSIDE OF THE CANOPY FOR STRIP LIGHT CONNECTION. COORDINATE EXACT LENGTH, LOCATION AND MOUNTING ANGLE ON SITE. PROVIDE WET LISTED END CAPS FOR THE MOUNTING CHANNEL C/W WET LISTED SEALANT.
- 8. PROVIDE 30A 120V 1 SAFETY SWITCH FOR HRV-1. ROUTE 2#12 + #12 GRN. GND - 1/2"C TO A NEW 15A-1P BREAKER IN THE NEW ELECTRICAL PANEL. COORDINATE EXACT LOCATION WITH MECHANICAL.
- 9. PROVIDE 60A 240V 1 SAFETY SWITCH FOR FORCE FLOW UNIT. ROUTE 2#10 + #12 GRN. GND. - 1/2°C TO A NEW 25A-2P BREAKER IN THE NEW ELECTRICAL PANEL. COORDINATE EXACT LOCATION WITH MECHANICAL.
- 10. PROVIDE 30A 240V 1 SAFETY SWITCH FOR FORCE FLOW UNIT. ROUTE 2#12 + #12 GRN. GND. - 1/2°C TO A NEW 15A-2P BREAKER IN THE NEW ELECTRICAL PANEL. COORDINATE EXACT LOCATION WITH MECHANICAL.
- 11. SECURITY SYSTEM PANEL BY OTHERS.
- 12. PROVIDE GFI RECEPTACLE FOR WASHER.
- 13. PROVIDE 40A 240V 1 JA 3W RECEPTACLE FOR DRYER.
- 14. MOUNT LUMINAIRE IN THE VOID ABOVE THE FREEZER FOR MAINTENANCE/CLEANING PURPOSES. COORDINATE WITH ARCHITECTURAL.
- 15. INTERCONNECT OCCUPANCY SENSOR TO THE DOOR PUSHBUTTON AND DOOR OPENER TO ENSURE THE DOOR IS OPERABLE FROM INSIDE THE WASHROOM DURING SCHEDULED SHUTOFF 'AFTER HOURS'.
- 16. PROVIDE CONTACT FOR BOAT STORAGE DOOR SECURITY. ROUTE 1/2"C TO SECURITY PANEL AS REQUIRED.
- 17. PROVIDE A 60A 240V 1Ø SAFETY SWITCH FOR HOT WATER TANK. ROUTE 2#8 + #6 GRN. GND. -3/4°C TO A NEW 40A-2P BREAKER IN ELECTRICAL PANEL 'A'. COORDINATE EXACT LOCATION WITH MECHANICAL.
- 18. PROVIDE A 100A-2P CONTACTOR LOCATED IN THE LAUNDRY ROOM ADJACENT TO THE ELECTRICAL PANELS. CONTACTOR SHALL BE C/W ADJUSTABLE TIME DELAY PRESET TO 5 MINUTES.



Division Gestion Management Division des biens immobilier Technical Services Services Techniques



Iredale Project No. 16063

Project No: 2016368



ISSUED FOR TENDER 2017-08-28 RE-ISSUED FOR BUILDING PERMIT 2017-08-28 ISSUED FOR TENDER 2017-08-09 RE-ISSUED FOR BUILDING PERMIT 2017-08-04 ISSUED FOR BUILDING PERMIT 2017-05-12 ISSUED FOR TENDER 2017-05-08 ISSUED FOR TENDER REVIEW 2017-05-01 RE-ISSUED FOR 99% REVIEW 2017-04-12 ISSUED FOR 99% REVIEW 2017-03-31 ISSUED FOR PROGRESS REVIEW 2017-03-24 ISSUED FOR 66% REVIEW 2017-02-17 ISSUED FOR REVIEW 2016-12-02



Date/Date

# PWRC MULTI-PURPOSE BUILDING

5421 ROBERTSON ROAD, WESTHAM ISLAND

Consultant Signature Only

Revision/

Designed by/Concept par Drawn by/Dessine par PWGSC Project Manager/Administrateur de Projets TPSGC

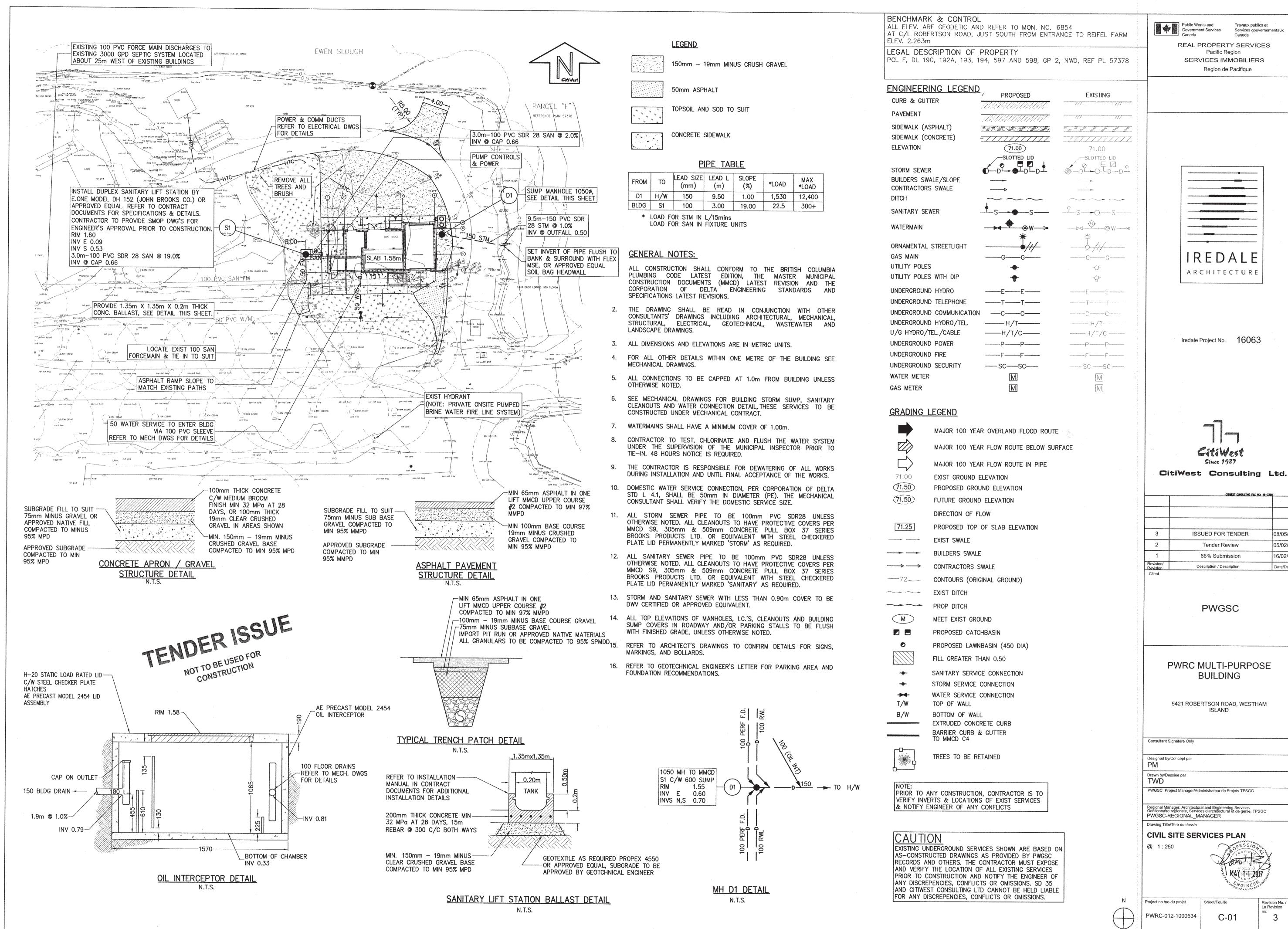
Regional Manager, Architectural and Engineering Services Gestionnaire regionale, Services d'architectural et de genie, TPSGC PWGSC-REGIONAL\_MANAGER Drawing Title/Titre du dessin

> ELECTRICAL LAYOUT

> > E-3

Project no./no du projet

PWRC-012-1000534



	CITMEST COMMUTING FILE NO	. 10-3389
3	ISSUED FOR TENDER	08/05/17
2	Tender Review	05/02/17
1	66% Submission	16/02/17
Revision/ Revision Client	Description / Description	Date/Date