Terran Geotechnical Consultants Ltd.
Permit to Practice: 1002891
1597 E Kent Ave N
Vancouver, BC V5P 4Y7
Phone: (604) 421-3288
Email: info@terrangeo.com

June 11, 2024 Project #: 7074-01

John Sorenson
WWK Engineering Limited Partnership
2005 Eagle Drive, Suite 102
Campbell River, BC V9H 1V8

Phone: 250-202-3348
Email: john.sorenson@wwkengineering.ca

Regarding: **Geotechnical Design Letter**
Site Location: 1600 Beach Dr, Port McNeill, BC
Project Description: Proposed Restrooms & Shower Building

As per your request, Terran Geotechnical Consultants Ltd. (TerranGeo) provides this letter in regards to the proposed restrooms and shower building design. TerranGeo was furnished with Design Drawings by Nu Trend Design dated May 9, 2024 (**Appendix A**) and a Site Plan with the proposed building location and test pit location by WWK Engineering LP dated April 8, 2024 (**Appendix B**). Legal description of the property is: LOT 1, PLAN VIP82537, DISTRICT LOT 1646, SECTION 13, TOWNSHIP 2, RUPERT LAND DISTRICT.

A test pit was completed at the site, as provided in **Appendix B**. The test pit was completed in the vicinity of the proposed building to the maximum depth of 2.8m below grade. The test pit was noted to consist of a 0.1m layer of topsoil, underlain by 2.6m layer of sand and gravel. The soil encountered within the test pit is interpreted as an existing fill that may be related to a historic foreshore reclamation.

The proposed building location is approximated to have a geodetic elevation of 7m and is located about 20m south of the ocean's boundary. The water table is expected to coincide with the ocean's elevation at 0m geodetic.

The following recommendations for the structural design are provided:

- Based on the observed soil condition from the noted test pit, **the subgrade is approved** for the following Bearing Capacity Design Values. The noted values are provided for design purposes only and must be confirmed in the field during the excavation for the entirety of the foundation layout.

Limit Type	Allowable Bearing Capacity	
	kPa	Pounds-square foot
Unfactored Ultimate Bearing Capacity	225	≈4700
Factored Ultimate Limit State (ULS)	112.5	≈2340
Serviceability Limit State (SLS)	75	≈1567

- Underside of the foundation level shall be at least 24" below the existing grade.

- The Site Class 'D' may be used for structural design purposes for this site.
- Foundation type may consist of conventional strip and pad footings, subject to confirmation during the excavation.
- Excavation depth may be assumed at 24" (600mm) below grade; however, the depth must be confirmed by the geotechnical engineer in the field during construction.

The noted parameters shall be used for design purposes, and foundation type and bearing capacity will be confirmed during the excavation.

We trust that this meets your current requirements. If you should have any concerns or questions, please do not hesitate to contact us.

Kind Regards,

Terran Geotechnical Consultants Ltd.,

2024-06-11
ELECTRONIC ORIGINAL

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
T. V. LE
37452
2024-06-13

Sergey Makhov*, P.Eng.*
Geotechnical Engineer

Thanh V. Le*, P.Eng.*
Principal | Geotechnical Engineer

APPENDIX A

GENERAL NOTES:

1. IT IS THE RESPONSIBILITY OF THE CLIENT AND/OR THEIR BUILDER AGENT TO CHECK ALL LOCAL BYLAWS AND CODE REQUIREMENTS, SITE AND SOIL CONDITIONS AND ENSURE THEY ARE MET.

2. ALL LOCAL BYLAW AND CODE REQUIREMENTS MUST BE MET, AND ANY SPECIFICATIONS NOTED IN THESE DRAWINGS MUST BE ALTERED BY THE CLIENT AND/ OR THEIR AGENT BUILDER TO MEET THOSE CODES IF AND WHEN NECESSARY.

3. IF SOIL CONDITIONS WARRANT, CONCRETE FOUNDATION AND FOOTING SIZING AND SPECIFICATIONS MUST BE CALCULATED BY A LOCAL ENGINEER OR ENGINEERS REGISTERED IN THAT DISCIPLINE.

4. CONCRETE FOOTINGS DEPTHS AND SIZES MUST MEET LOCAL CLIMATE, CODE AND LOCAL BYLAW REQUIREMENTS PERTAINING TO FOUNDATION MATERIALS MUST BE MET.

5. PROFESSIONALS AND ENGINEERS MAY BE REQUIRED TO COMPLETE THESE TASKS INCLUDE:
-STRUCTURAL ENGINEER FOR WALL HEIGHT CONSTRUCTION OVER 2.43M IN HEIGHT
-STRUCTURAL ENGINEER FOR FOUNDATION DESIGN AND SPECIFICATIONS,
-GEOTECHNICAL ENGINEER FOR SOIL TESTING AND SPECIFICATIONS
-LOCAL ARCHITECT REGISTERED FOR RESIDENTIAL CALCULATIONS IF REQUIRED.
IT SHALL BE THE RESPONSIBILITY OF THE OWNER OR CONTRACTOR TO SEEK ADVICE FROM LOCAL BUILDING AUTHORITIES. ANY ENGINEERING COSTS SHALL BECOME THE SOLE RESPONSIBILITY OF THE OWNER.

6. EVERY EFFORT HAS BEEN MADE TO ENSURE THAT THESE CONSTRUCTION DRAWINGS ARE FREE OF ERRORS.

7. IT IS THE RESPONSIBILITY OF THE CONTRACTOR OR THE CONTRACTORS AGENTS TO CHECK AND VERIFY ALL DIMENSIONS AND MATERIALS SIZES AND DEFINITIONS LISTED ON THESE DRAWINGS. DIMENSIONS ALWAYS TAKE PRECEDENCE OVER MANUALLY SCALED DIMENSIONS. THE BUILDING CONTRACTOR IS RESPONSIBLE FOR UNDERSTANDING AND APPLYING PROPER BEST BUILDING PRACTICES.

8. THE DESIGNER SHALL NOT BE HELD LIABLE FOR ANY ERRORS, OMISSIONS, OR DEFICIENCIES IN ANY FORM BY ANY PARTY WHATSOEVER.

9. THERE ARE NO PRODUCT ENDORSEMENTS IMPLIED FOR ANY OF THE MATERIALS LISTED ON THESE DRAWINGS.

10. PROPER INSTALLATION OF CONSTRUCTION ASSEMBLIES INCLUDING NAILING, GLUING, CAULKING, INSULATING, WEATHERPROOFING, SIDING, FLASHING, ROOFING, WINDOWS, DOORS AND MANY OTHER SMALL ITEMS AND DETAILS ARE NOT NECESSARILY IDENTIFIED OR NOTED ON THE PLANS. THE DESIGNER HAS NO CONTROL OR RESPONSIBILITY OVER THESE ITEMS.

11. THE PURCHASER OF THIS SET OF PLANS SHALL BE RESPONSIBLE FOR THE CORRECT SITTING OF THE BUILDING ON THE PROPERTY, AND A SURE THAT A CERTIFIED SURVEYOR HAS SITED THE RESIDENCE IN A ACCORDANCE TO REQUIRED ZONING BYLAWS FOR THE APPLICABLE PROPERTY.

12. ALL PLANS AND ILLUSTRATIONS CONTAINED IN THE PUBLICATION ARE THE EXCLUSIVE PROPERTY OF NU TREND DESIGN AND REPRODUCTION IN WHOLE OR IN PART IS STRICTLY PROHIBITED BY LAW UNLESS AUTHORIZED BY NTD.

N T D

NO.	DESCRIPTION	BY	DATE
REV 001	DRAFT PLAN	DJT	NOV 22 2023
REV 002	DRAFT PLAN	DJT	NOV 27 2023
REV 003	DRAFT PLAN	DJT	DEC 06 2023
REV 003	FINAL PLAN	DJT	MAY 09 2024

SHEET TITLE:
STREET VIEW

PROJECT DESCRIPTION:
PORT McNEILL HARBOUR
RESTROOMS & SHOWER
FACILITIES

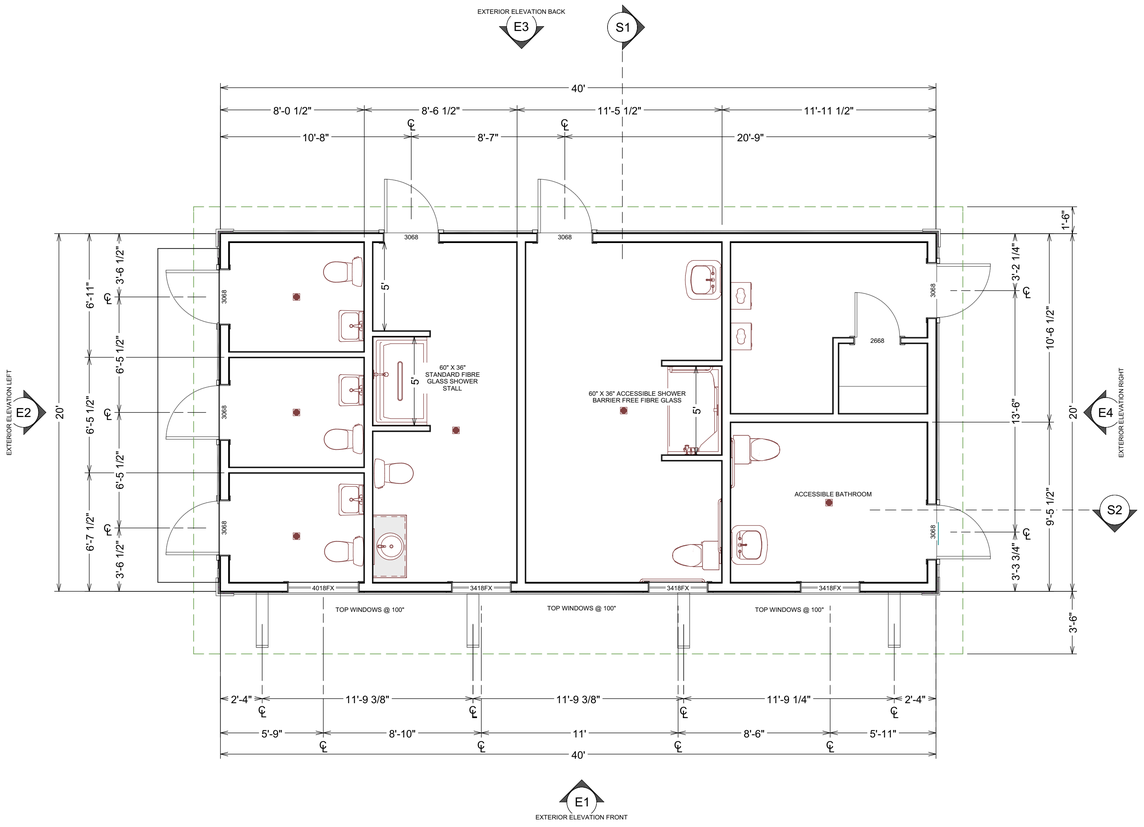
DRAWINGS PROVIDED BY:
NU TREND DESIGN
DAVID TAUBER
604 344 0009

DATE:
09/05/2024

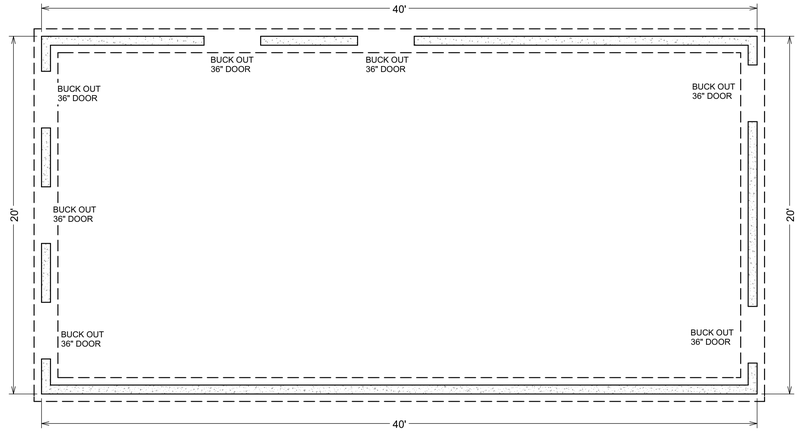
SCALE:

SHEET:
A-1

FLOOR PLAN



FOUNDATION PLAN



FOUNDATION CONSTRUCTION

DAMP PROOFING OR SUPERSEAL DIMPLEX OR RESISTO PEEL& STICK

TREATED SILL PLATE C/W ANCHOR BOLTS SIZED & SPACED AS PER B.C.B.C

6" W x 3' H CONC. FOUNDATION WALL @ MIN 25Mpa

C/W 3 - ROWS 13mm EQ.SP

C/W 1- VERTICAL 13mm EQ.SP @24"

6" X 16" STRIP FOOTING

C/W 2-ROWS 13mm EQ.SP

FOUNDATION T.B STEPS AS PER BC.BC

FOUNDATION CONTINUOUS UNDER GARAGE DOOR

LOCATION OF STEPS T.B.D BY BUILDER AT TIME OF EXCAVATION

BASEMENT CONC. FLOOR CONSTRUCTION

4" CONCRETE SLAB @ 32 Mpa OPT/ FIBER MESH

6" x 6" STEEL WELDED MESH

3" XPS FOAM INSULATION (OPTIONAL)

PLOY SEALED AT WALLS AND ALL PENETRATIONS

6 MIL UV.VP OVERLAP JOINTS MIN 12" SEALED AND AT WALLS

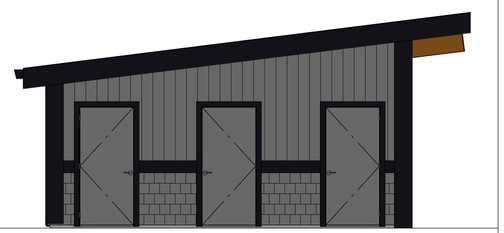
4" OF DRAINAGE GRAVEL

SAND COMPACTED IN 6 INCH LIFTS

R-12 RIDGE STYROFOAM ON BELOW GRD. CONC. WALLS (OPTIONAL)

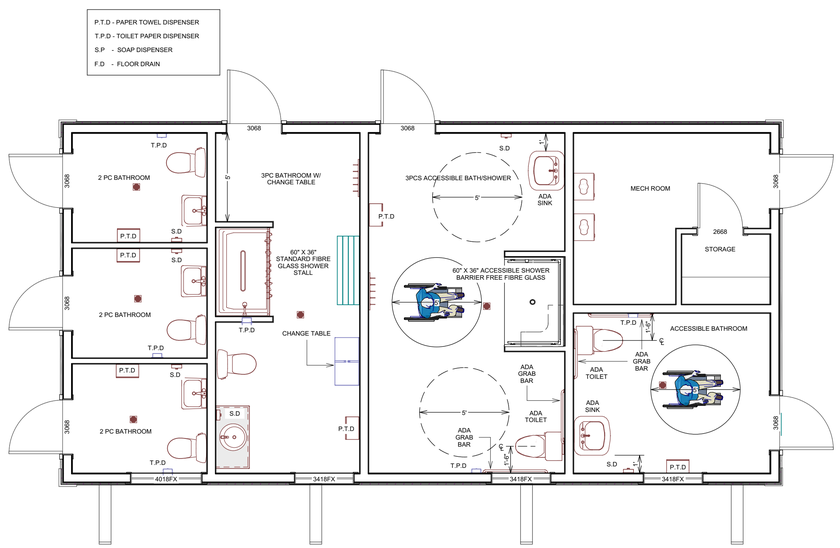
E1

E2



E3

E4



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N T D

SHEET TITLE:
LAYOUTS
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FACILITIES

DRAWINGS PROVIDED BY:
NU TREND DESIGN
DAVID TAUBER
604 344 0009

DATE:
09/05/2024

SCALE:
1/4"= 1'

SHEET:
A-2

1 ROOFING CONSTRUCTION

ROOF VENTILATION AS PER BC.B.C

TORCH ON

LASTO BOND PRO MEMBRANE PEEL&STICK

5/8" T/G SHEATHING RING NAILED

TJI @ 19.2" O.C. c/w BLOCKING & BRACING / MECHANICALLY ATTACHED TO WALL W HURRICANE TIES / SIMPSON STRONG TIES

4" (SPF) SPRAY POLYURETHANE FOAM @ R-7 PER INCH = R-28

1/2" CD DRY WALL

OVERHANG AS PER PLAN

6" SEAMLESS GUTTERS W/ DOWN SPOUTS

SOFFIT PINE T&G VENTED

2 EXT WINDOW & DOORS

VINYL WINDOW AS PER BC.B.C

COMPOSITE EXTERIOR DOORS AS PER BC.B.C

3 INTERIOR WALL CONSTRUCTION

2 x 4 No. 1 or 2 S.P.F. STUDS @ 16" O.C.

1/2" DRYWALL

LATEX SEALER

LATEX EGGSHELL TOP COAT

4 EXTERIOR WALL CONSTRUCTION

HARDI BOARD SIDING

3/8" TREATED RAIN SCREEN

HOUSE WRAP (AIR BARRIER) AS PER BC.B.C

2X6 @ 16" O.C

3" (SPF) SPRAY POLYURETHANE FOAM @ R-7 PER INCH = R-21

6mil UV.VB

1/2" DRYWALL

EGGSHELL TOP COAT

5 CONCRETE FLOOR CONSTRUCTION

4" CONCRETE SLAB @ 32 Mpa OPT/ FIBER MESH

6" x 6" STEEL WELDED MESH OR 13mm REBAR 24" O.C B.W

3" XPS FOAM INSULATION (OPTIONAL)

PLOY SEALED AT WALLS AND ALL PENETRATIONS

6 MIL UV.VP OVERLAP JOINTS MIN 12" SEALED AND AT WALLS

4" OF DRAINAGE GRAVEL

SAND COMPACTED IN 6 INCH LIFTS

R-12 RIDGE STYROFOAM ON BELOW GRD. CONC. WALLS (OPTIONAL)

6 FOUNDATION CONSTRUCTION

DAMP PROOFING OR SUPERSEAL DIMPLEX OR RESISTO PEEL& STICK

TREATED SILL PLATE C/W ANCHOR BOLTS SIZED & SPACED AS PER B.C.B.C

6" W x 4" H CONC. FOUNDATION WALL @ MIN 25Mpa

C/W 3 - ROWS 13mm EQ.SP

C/W 1- VERTICAL 13mm EQ.SP @24"

6" X 16" STRIP FOOTING

C/W 2-ROWS 13mm EQ.SP

FOUNDATION T.B STEPS AS PER BC.BC

FOUNDATION CONTINUOUS UNDER GARAGE DOOR

LOCATION OF STEPS T.B.D BY BUILDER AT TIME OF EXCAVATION

7 RAIN LEADER DRAINAGE SYSTEM

4" ALUMINUM DOWN SPOUTS

DOWN SPOUT SPLASH PAN IF ALLOWED OR

4" PVC SOLID PIPING C/W CLEAN-OUTS

CONNECTED TO STORM WATER SYSTEM OR

ROCK PIT IF REQUIRED

8 PERIMETER DRAINAGE SYSTEM

IF REQUIRED:

GEO TECK CLOTH OR EQUIVALENT

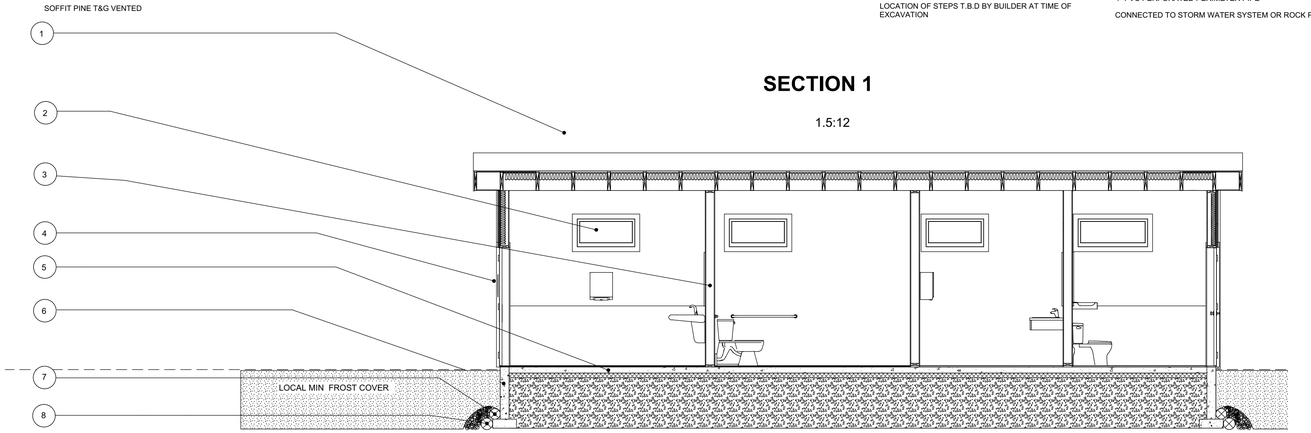
8" DEEP OF WASHED GRAVEL

4" PVC PERFORATED PERIMETER PIPE

CONNECTED TO STORM WATER SYSTEM OR ROCK PIT

SECTION 1

1.5:12



SECTION 2

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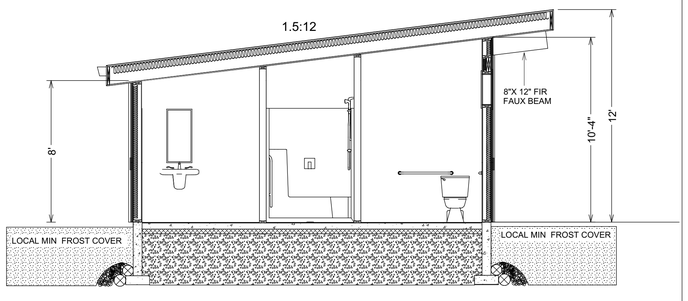
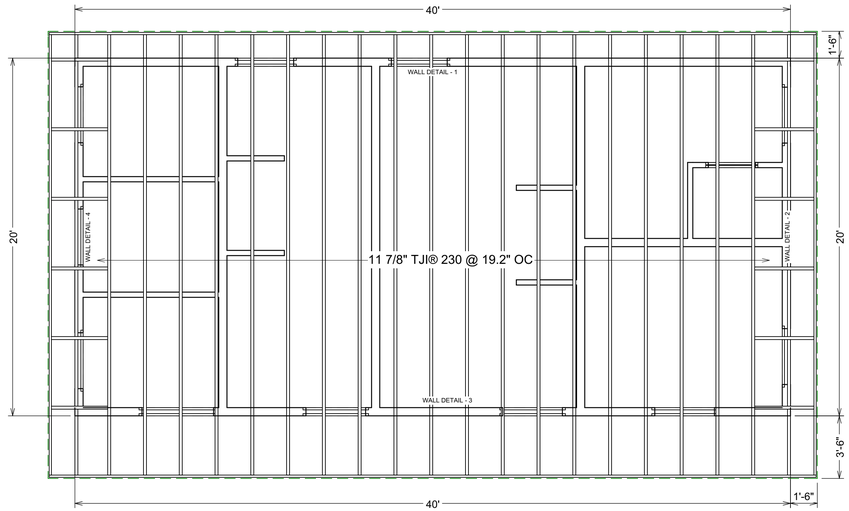


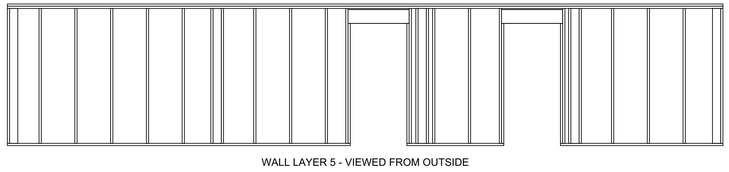
FIXTURE BOM

QTY	ITEM
6	PAPER TOWEL DISPENSER
6	TOILET PAPER DISPENSER
6	SOAP DISPENSER
6	MIRROR
4	TOILET
2	ADA TOILET
3	WALL MOUNTED SINKS
1	40" WALL MOUNTED FLOATING VANITY
2	ADA WALL MOUNTED SINK
1	5' X 3' FIBERGLASS SHOWER STALL
1	5' X 3' ADA BARRIER FREE/ BUILT IN BENCH/ GRAB BAR FIBERGLASS SHOWER STALL
4	36" GRAB BAR
1	INFANT CHANGE TABLE
1	BENCH
2	CLOTHES WALL HANGER
1	SHOWER CURTAIN AND ROD

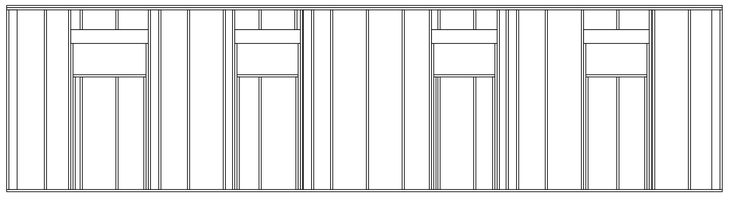
ROOF RAFTER LAYOUT



EXTERIOR WALL FRAMING LAYOUT



WALL LAYER 5 - VIEWED FROM OUTSIDE



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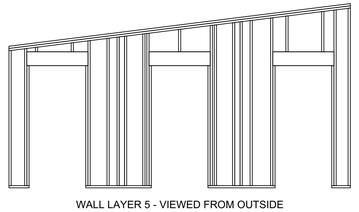

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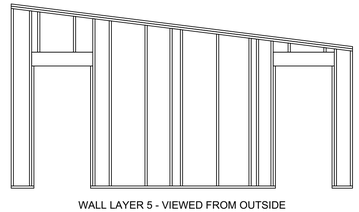
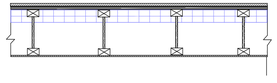


WALL LAYER 5 - VIEWED FROM OUTSIDE

ASSEMBLIES

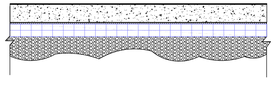
ROOF



TYPE R1 (R28)

- ROOF VENTILATION AS PER BC.B.C
- TORCH ON
- LASTO BOND PRO MEMBRANE PEEL&STICK
- 5/8" T/G SHEATHING RING NAILED
- TJI @ 19.2" O.C. c/w BLOCKING & BRACING / MECHANICALLY ATTACHED TO WALL W/HURRICANE TIES / SIMPSON STRONG TIES
- 4" (SPF) SPRAY POLYURETHANE FOAM @ R-7 PER INCH = R-28
- 1/2" CD DRY WALL
- OVERHANG AS PER PLAN
- 6" SEAMLESS GUTTERS W/ DOWN SPOUTS
- SOFFIT PINE T&G VENTED

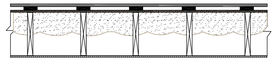
FLOORS



TYPE SOG1 INSULATED SLAB ON GRADE

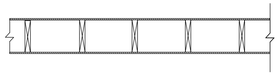
- 4" CONCRETE SLAB @ 32 Mpa OPT/ FIBER MESH
- 6" x 6" STEEL WELDED MESH OR 13mm REBAR 24" O.C B.W
- 3" XPS FOAM INSULATION (OPTIONAL)
- PLOY SEALED AT WALLS AND ALL PENETRATIONS
- 6 MIL UV.VP OVERLAP JOINTS MIN 12" SEALED AND AT WALLS
- 4" OF DRAINAGE GRAVEL
- SAND COMPACTED IN 6 INCH LIFTS
- R-12 RIDGE STYROFOAM ON BELOW GRD. CONC. WALLS (OPTIONAL)

WALLS



TYPE EW-2 EXTERIOR WALLS, WITH HORIZONTAL LAP-CLADDING

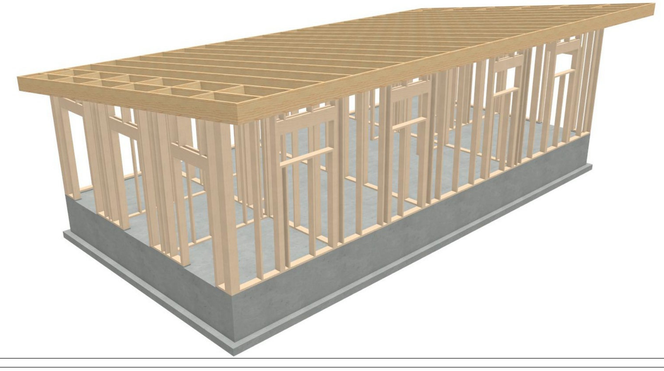
- FACTORY COLOR-COATED FIBER-CEMENT SIDING
- HORIZONTAL HARDI-BOARD SIDING FROM 43" TO SOFFIT
- 8" BELLY BOARD @ 35°
- 35° H SHAKE HARDI-BOARD
- 1 X 4 P.T VERTICAL STRAPPING .75" DRAINAGE CAVITY)
- CONTINUOUS AIR BARRIER HOUSE WRAP
- 1/2" EXTERIOR GRADE PLYWOOD SHEATHING
- 2 X 6 WOOD STUD 1 OR 2 S.P.F @ 16" O.C
- SPF 4" 2LB SPRAY FOAM R-7 PER INCH R-28
- 1/2" GWB
- WATERBORNE ACRYLIC LATEX SEMI GLOSS



TYPE P1 - INTERIOR PARTITION

- 1/2" GWB
- 2X4 OR 2X6 WOOD STUDS 1 & 2 S.P.F @ 16" O.C.
- 1/2 GWB
- WATERBORNE ACRYLIC LATEX SEMI GLOSS

NOTE: USE 1/2" CEMENT BOARD IN AT ALL EXPOSED WET AREAS THAT ARE TILED



N T D

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REV 003	FINAL PLAN	DJT	MAY 09 2024

SHEET TITLE:
SECTIONS
ROOF LAYOUT
FRAMING

PROJECT DESCRIPTION:
PORT McNEILL HARBOUR
RESTROOMS & SHOWER
FACILITIES

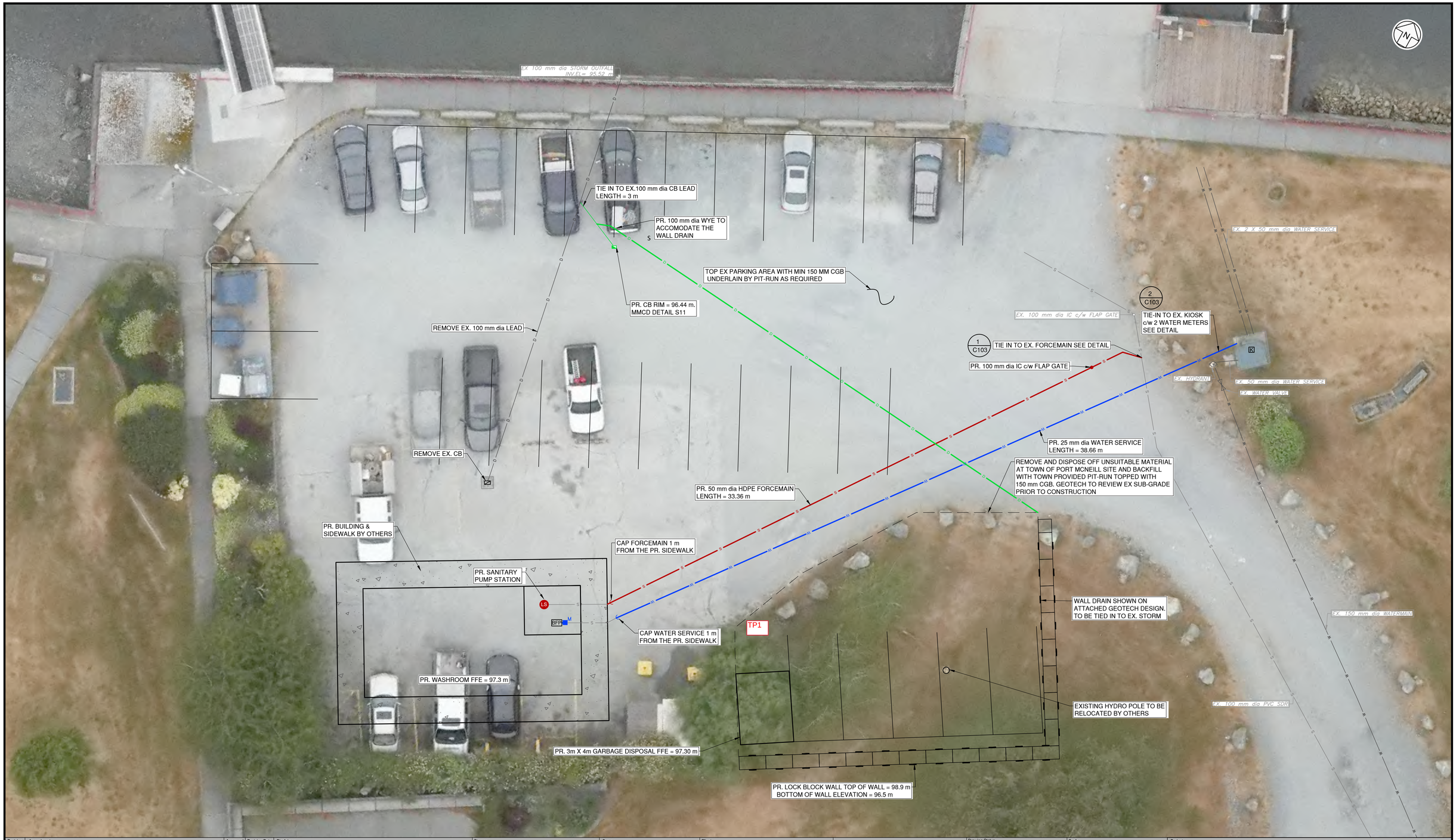
DRAWINGS PROVIDED BY:
NU TREND DESIGN
DAVID TAUBER
604 344 0009

DATE:
09/05/2024

SCALE:
1/4"= 1'

SHEET:
A-3

APPENDIX B



Revision	Amendment	Approved	Revision Date
0	ISSUED FOR TENDER	J.S	2024.04.05

Disclaimer

Stamps: PROFESSIONAL ENGINEER — PROVINCE OF BRITISH COLUMBIA — J. L. SORENSON — # 35120

Survey
Survey by: Polaris WWK ENGINEERING LP
Coordinate System: UTM NAD83
Survey Date: 2023.12. 21

Client: PORT McNEILL

WWK ENGINEERING LP

Drawing Status: **ISSUED FOR TENDER** -

Adress
2005 Eagle Drive
Campbell River, BC
V9H 1V8
250-202-3348
www.wwkengineering.ca

Scale: 1:100 (0 2 4m)

Designed	Designed Date
	2023.12.05
Drawn	Drawn Date
Sangay Bhutia	2024-02-10
Approved	Approved Date
J.Sorenson	2024.01.17

Project: TOWN OF PORT McNEILL
DOWNTOWN REVITALIZATION

Sheet: Overall Plan

Project No.	Sheet	of	Drawing No.	Revision
00015	3	of 5	C101	0

Original Sheet Size ANSI D [22"x34"]

Plot Date 2024-04-08 at 12:09:11 PM Path C:\Users\WWKENG.01\We Wai Kai\WWKENG - Projects\Active Projects\00015 Port McNeill Waterfront Revitalization\9.0 DRAWINGS\9.3 Sheets\2024-04-04Overall Plan.dwg Layout1-22x34