CITY OF WEST KELOWNA
DEVELOPMENT PERMIT WITH VARIANCES
DP 23-19

TO: 1353995 B.C. LTD.
564 Denali Dr
Kelowna, BC
V1Y 2P6

1. This Permit is issued subject to compliance with all of the Bylaws of the City of West Kelowna applicable thereto, except as specifically varied or supplemented by this Permit.

2. This Permit applies to and only to those lands within the City of West Kelowna described below, and any and all buildings, structures and other developments thereon:

LOT A DISTRICT LOT 2044 OSOYOOS DIVISION YALE DISTRICT PLAN KAP81833

(3830 Gellatly Road)

3. This Permit allows for the development of twenty (20) townhouse units in four buildings in the **Multiple Family and Intensive Residential, & Hillside Development Permit Areas** subject to the following conditions and related schedules:

   a. The siting, form, exterior design, and finish of buildings is to be in accordance with Schedule 'A'; This includes provision of a pedestrian walkway connecting the south and east sides of building 4, to provide front entry access to each unit from the central laneway. See redline to PWA architectural set dated Dec, 18, 2023.

   b. The landscape works to be in accordance with Schedule 'B';

   c. All construction activities to be conducted on the land in accordance with Schedule 'C' and the following conditions;
      i. Prior to any construction on the lands, the property owner is to install and maintain the required erosion and sediment control works.

   d. The following variances to Zoning Bylaw No. 0265 are included as part of this Development Permit:
      i. That the minimum rear parcel boundary setback (s.10.10.5(g)ii.) be reduced from 7.5m to 4.25m;
      ii. That the minimum interior side parcel boundary setback (s.10.10.5(g)iii.) be reduced from 3.0m to 1.93m;
      iii. That the minimum dimensions for a two-way access aisle (s.4.4.2(a)) be reduced from 7.0m to 6.0m

4. As a condition of the issuance of this Permit, the City of West Kelowna is holding security set out below to ensure that development is carried out in accordance with the terms and conditions of this Permit. Should any interest be earned upon the security, it shall accrue to the Permittee and be paid to the Permittee if the security is returned. The condition of the posting of the security is that should the Permittee fail to carry out the development hereby authorized, according to the terms and conditions of the Permit within the time provided, the City of West Kelowna may use the security to carry out the work by its servants, agents or contractors, and any surplus shall be paid over to the Permittee, or should the Permittee carry out the development permitted by this Permit within the time set out below, the security shall be returned to the Permittee. There is filed accordingly:

An Irrevocable Letter of Credit or Bank Draft in the amount of $106,425.00 (Landscape Security at 125%); and

5. The land described herein shall be developed strictly in accordance with the terms and conditions of this Permit and any plans and specifications attached to this Permit, which shall form a part hereof. Should any change be required to this permit, please ensure that you obtain written approval from the City of West Kelowna prior to making any changes.

6. If this Development Permit has not been issued within one year from approval, Development Permit with Variance DP 23-19 shall be deemed to have been refused and the file will be closed.

7. **This Permit is not a Building Permit.**

8. **This Permit is not a Municipal Highway Permit.**

9. **This is not an Archaeology Permit.**

   A. All archaeological sites in B.C. are protected under the Heritage Conservation Act. This applies to whether sites are located on public or private land and whether the site is known or unknown. If you think you have uncovered an archaeological site during a building project or renovation, please do not disturb the site further and call B.C.'s Archaeology Branch immediately at (250) 953-3334. Branch archaeologists will review your project plans and make recommendations to manage site impacts and secure the required permitting.

10. Subject to the terms of the permit, where the holder of a permit issued under the *Local Government Act* does not substantially commence any construction with respect to which the permit was issued within two years after the date it is issued, the permit lapses.

AUTHORIZING RESOLUTION NO. (_____) PASSED BY THE MUNICIPAL COUNCIL ON (_____)

Signed on _____

_____
Corporate Officer

As received on _____, there is filed accordingly an Irrevocable Letter of Credit or Bank Draft deposit in the amount of $106,425.00 for landscaping works outlined in the above permit.

I hereby confirm that I have read and agree with the conditions of Development Permit with Variances DP 23-19 and will ensure that copies of the Permit will be provided to onsite personnel at time of construction.

Signed on _____

_____

Property Owner or Agent

ISSUED on _____

Attached Schedules:

Schedule A:

- Architectural Plans, prepared by PWA Architecture Inc., dated December 18, 2023 (28 pages).(redline)

Schedule B:

- Landscape Plan, prepared by McElhanney Ltd., dated January 8, 2024, and Estimate dated January 10, 2024 (2 pages). (redline)

Schedule C:

- Erosion and Sediment control plan, prepared by McElhanney Ltd., dated December 20, 2023 (1 pages).
- Functional Servicing Report, prepared by McElhanney Ltd., dated May 29, 2023 (34 pages).
- Geotechnical Report, prepared by Valley Geotechnical., dated September 29, 2023 (22 pages).

SCHEDULE A

SCHEDULE A

NEW TOWNHOUSE DEVELOPMENT

3830 GELLATLY ROAD, WEST KELOWNA

DRAWINGS INDEX

DEVELOPMENT TEAM

ARCHITECT
PACIFIC WEST ARCHITECTURE Inc.
1200 West 73rd Ave(Airport Square)
Suite 940, Vancouver B.C. V6P 6G5
Tel: (604)-558-3064
Email: info@pwaachitecture.com

SURVEYOR
Summit Land Surveying
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West Kelowna, BC, V4T 2H8
TEL: 236-457-4550
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CIVIL
McElhanney
2281 Hunter Road
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Email: jgranberg@mcelhanney.com

LANDSCAPE
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TEL: 250-374-2200
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pacific
west
architecture

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REGISTERED ARCHITECT
XU YANG
BRITISH COLUMBIA

2023-12-18

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1	ISSUED FOR DEVELOPMENT PERMIT APPLICATION	MAY 29 2023

PROJECT NUMBER	A366
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CONSULTANT

PROJECT

3830 GELLATLY ROAD
WEST KELOWNA

DRAWING TITLE

SITE PLAN

DRAWING No.

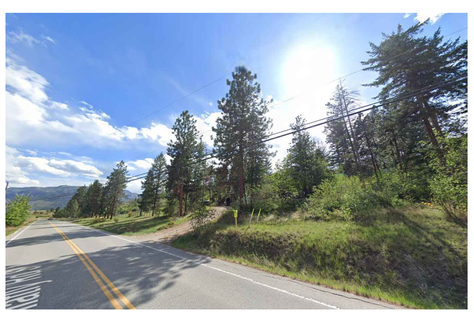
A1.00

1 CONTEXT PLAN
1/64"=1'-0"

SUBJECT PROPERTY

1 SOUTH VIEW FROM GELLATLY RD
NTS

1 SW VIEW FROM GELLATLY RD
NTS



1 SW VIEW FROM GELLATLY RD
NTS

1 NW VIEW FROM GELLATLY RD
NTS

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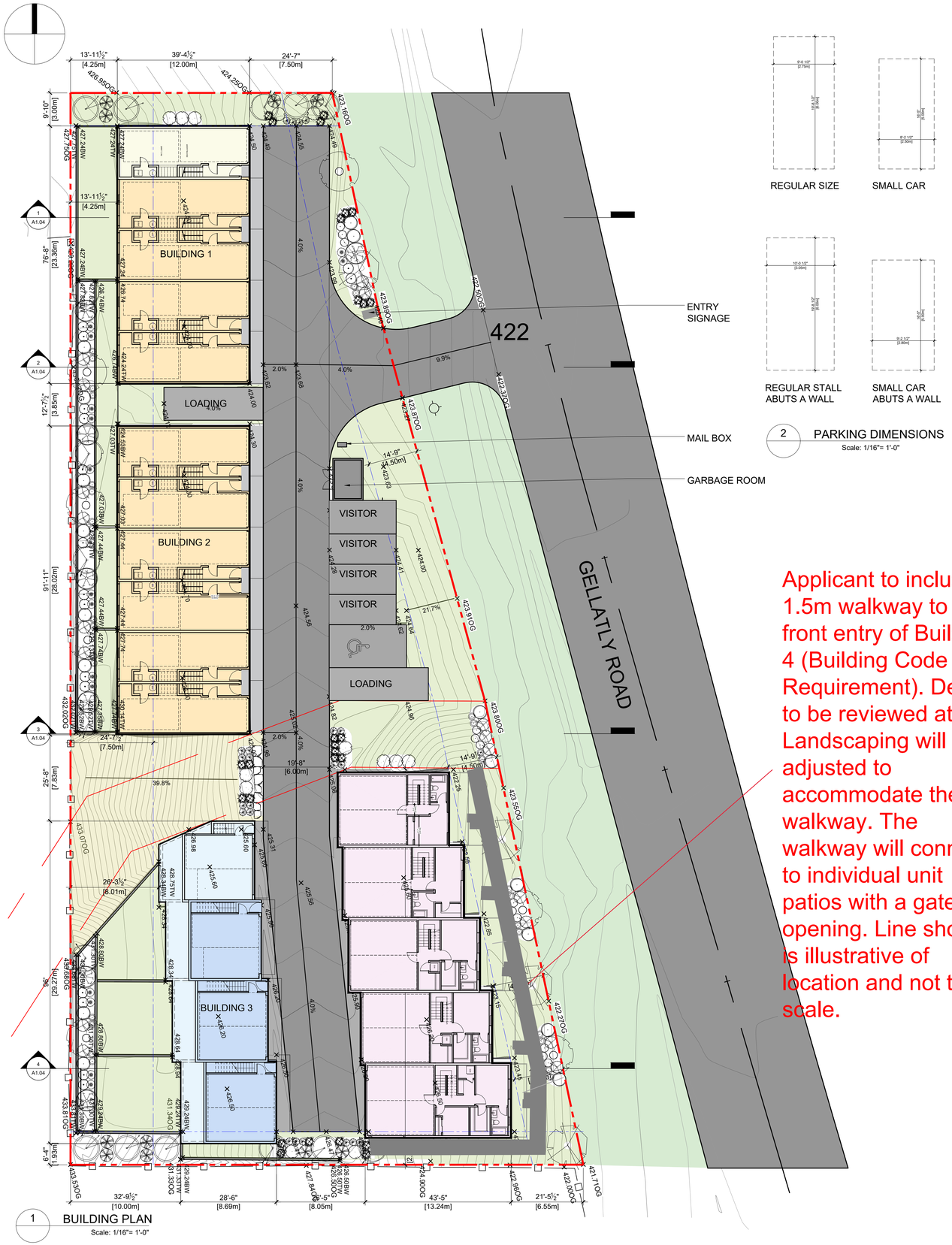
DRAWING TITLE

SITE CONTEXT

DRAWING No.

A1.01



1 BUILDING PLAN
Scale: 1/16"= 1'-0"

2 PARKING DIMENSIONS
Scale: 1/16"= 1'-0"

Applicant to include a 1.5m walkway to the front entry of Building 4 (Building Code Requirement). Detail to be reviewed at BP. Landscaping will be adjusted to accommodate the walkway. The walkway will connect to individual unit patios with a gate or opening. Line shown is illustrative of location and not to scale.

PROJECT DESCRIPTION				
Civic Address	3830 Gellatly Road South, West Kelowna, BC			
Legal Address	LOT 2, DISTRICT LOT 3187, ODYD, PLAN KAP54990			
OCP Code	LDMF (Low Density Multiple Family)			
Existing Zoning	R3			
Proposed Zoning	R3			
Zoning Bylaw	Zoning Bylaw No. 0265			
SITE AREA	Square Meters	Acres	Square Feet	hactre
	3440.8	0.85	37,036.5	0.34408

DEVELOPMENT REGULATIONS			
CRITERIA	**R3 Zone Requirement**		**Proposed**
Building Height	10.0m, 3 storeys		9.45m, 3 storeys
Front Yard (East)	4.5m (14.8')		4.5m (14.8')
Side Yard (North)	3.0m (9.8')		4.0m (9.8')
Side Yard (South)	3.0m (9.8')		1.93m (6.3')
Rear Yard (West)	7.5m (24.6')		4.25m (13.9')
Parcel Coverage	40%	1376.3m2	Building 1: 280.6 m2 Building 2: 336.3 m2 Building 3: 233.2 m2 Building 4: 379.0 m2 Total: 1229.1 m2 (35.7%)
FSR	0.75	2580.6 m2	0.75 Building 1: 622.5 m2 Building 2: 746.9 m2 Building 3: 507.0 m2 Building 4: 704.2 m2 Total: 2580.6 m2

PARKING REGULATIONS			
	Required		**Provided**
Minimum Parking Requirements	Residents	2.0 per dwelling unit 2.0 x 20=40	40
	Visitors	10% of total required number 10% x 40=4.0	4
	Accessible Parking	1	1
	Total	45	45
Parking Dimensions	Regular	90°: 2.75 x 6.0 m / 9" x 19.7'	27 for residents 4 for visitors
		Parallel: 2.5 x 7.0 m / 8.2'x16.4'	0
		Sub Total	31
	Small	2.5 x 5.0 m / 8.2'x16.4'	13 (29%)
	Accessible Parking	3.9 x 6.0 m / 12.8' x 19.7'	1
	Total		45
Loading Requirement	1 per 15 dwelling units Required: 2		2
Loading Space Dimensions	Truck / Van	3.0 x 9.0 m / 9.8' x 29.5'	2
	Bus	3.6 x 12.2 m / 11.8' x 40'	0
	Car	2.5 x 7.0m / 8.2' x 23'	0
Bicycle Parking Requirements (with private garage in each unit)	Class I	0	0
	Class II	0	0

Unit Breakdown

Unit Type	Number of Unit	Number of Bedoom	Floor Area (sq.ft)	Floor Area (m2)	Garage Style	Building Height	Building #
Type A	1	2	1,340	124.5	Tandem	9.0m	Buildgin 1
Type B	10	3	1,340	124.5	Tandem	9.0m	Building 1, 2
Type C	1	2	1,266	117.6	Double	9.0m	Building 3
Type D	3	3+Flex	1,397	129.8	Double	9.0m	Building 3
Type E	2	3+Flex	1,375	127.7	Double	9.0m	Building 4
Type F	2	4	1,560	144.9	Double	9.0m	Building 4
Type G	1	5	1,710	158.9	Double	9.0m	Building 4
Total	20	2-Bedroom: 2 3-Bedroom: 10 3-Bedroom+Flex: 5 4-Bedroom: 2 5-Bedroom: 1	27,777	2,580.6	Tandem: 11 Double: 9	N/A	N/A

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PROJECT

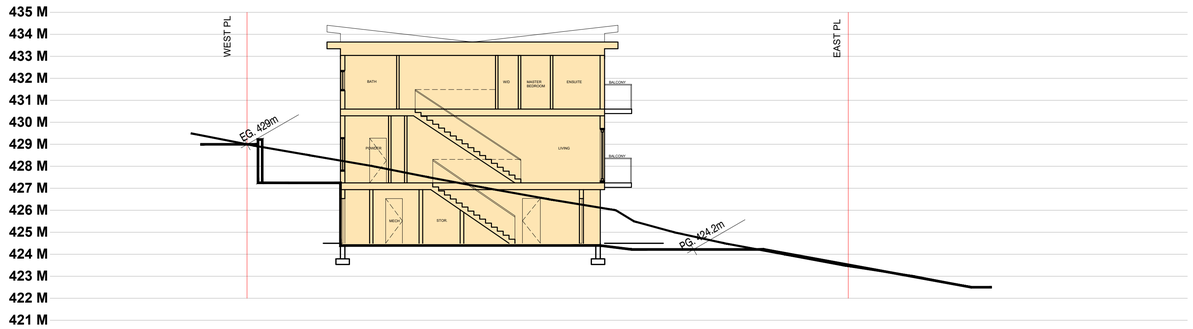
3830 GELLATLY ROAD
WEST KELOWNA

DRAWING TITLE

SITE PLAN

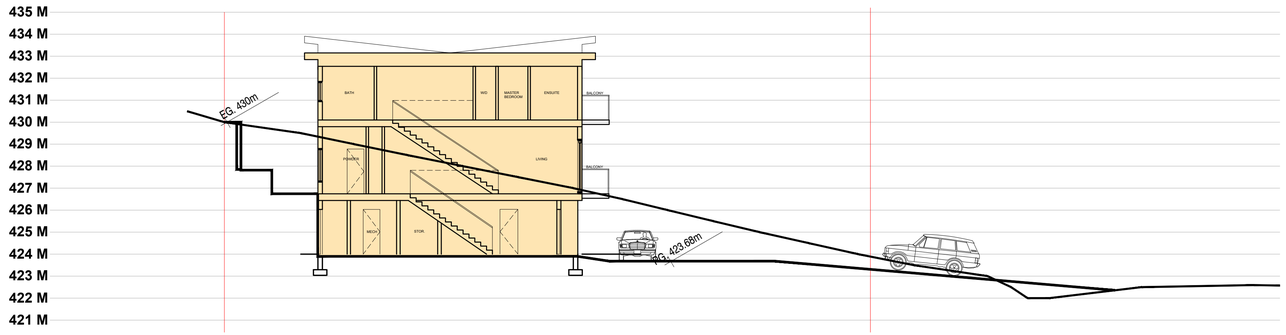
DRAWING No.

A1.02



1 SITE SECTION 1

Scale: 1/16"= 1'-0"



2 SITE SECTION 2

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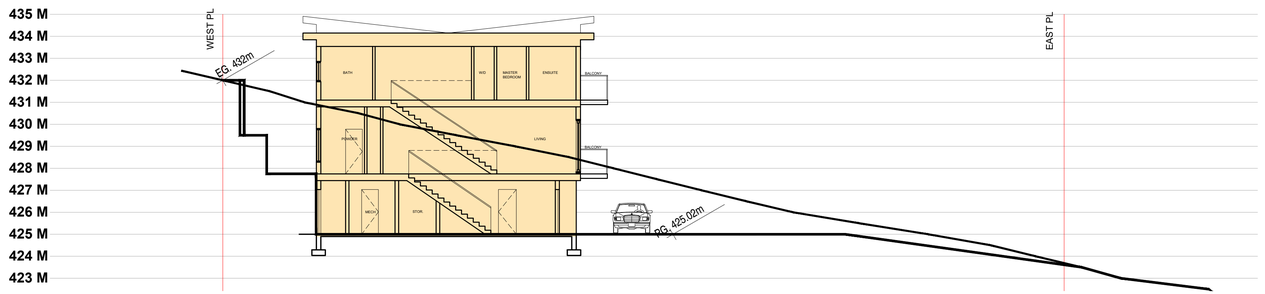

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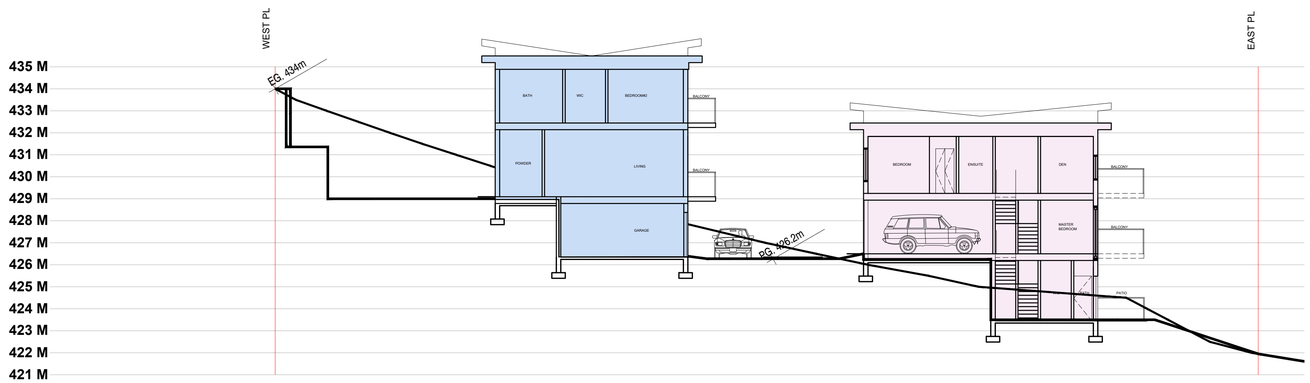

4 SITE SECTION 4

Scale: 1/16"= 1'-0"

PROPERTY LINE

EXISTING GRADE

PROPOSED GRADE

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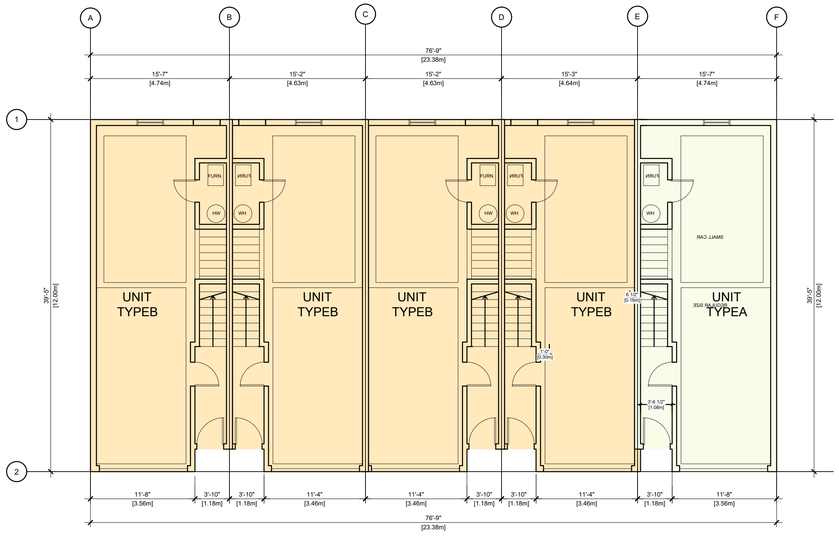
SITE SECTIONS

DRAWING No.

A1.03



1 BUILDING 1 LEVEL 1 FLOOR PLAN

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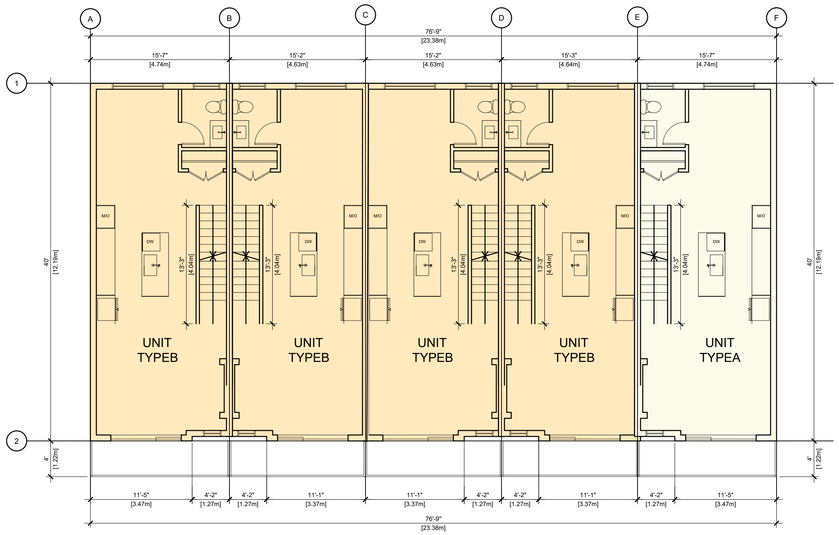

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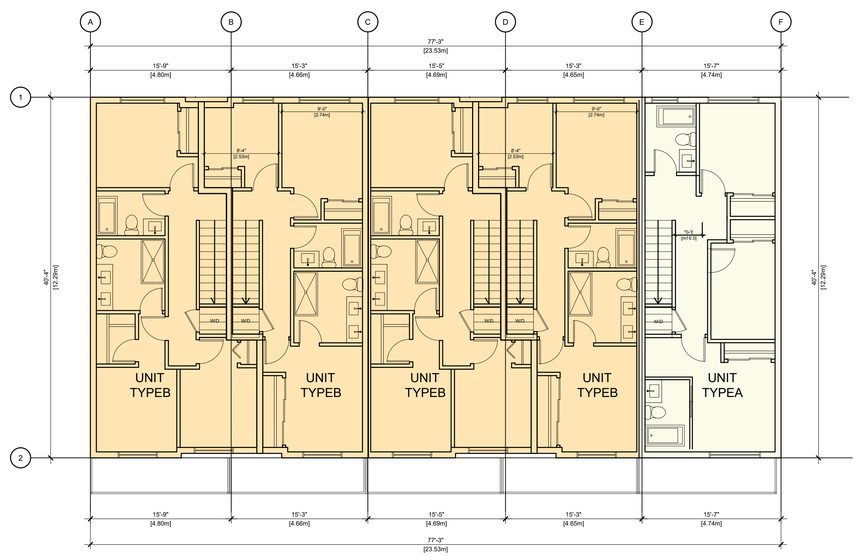

3 BUILDING 1 FLOOR LEVEL 3

Scale: 1/8"= 1'-0"

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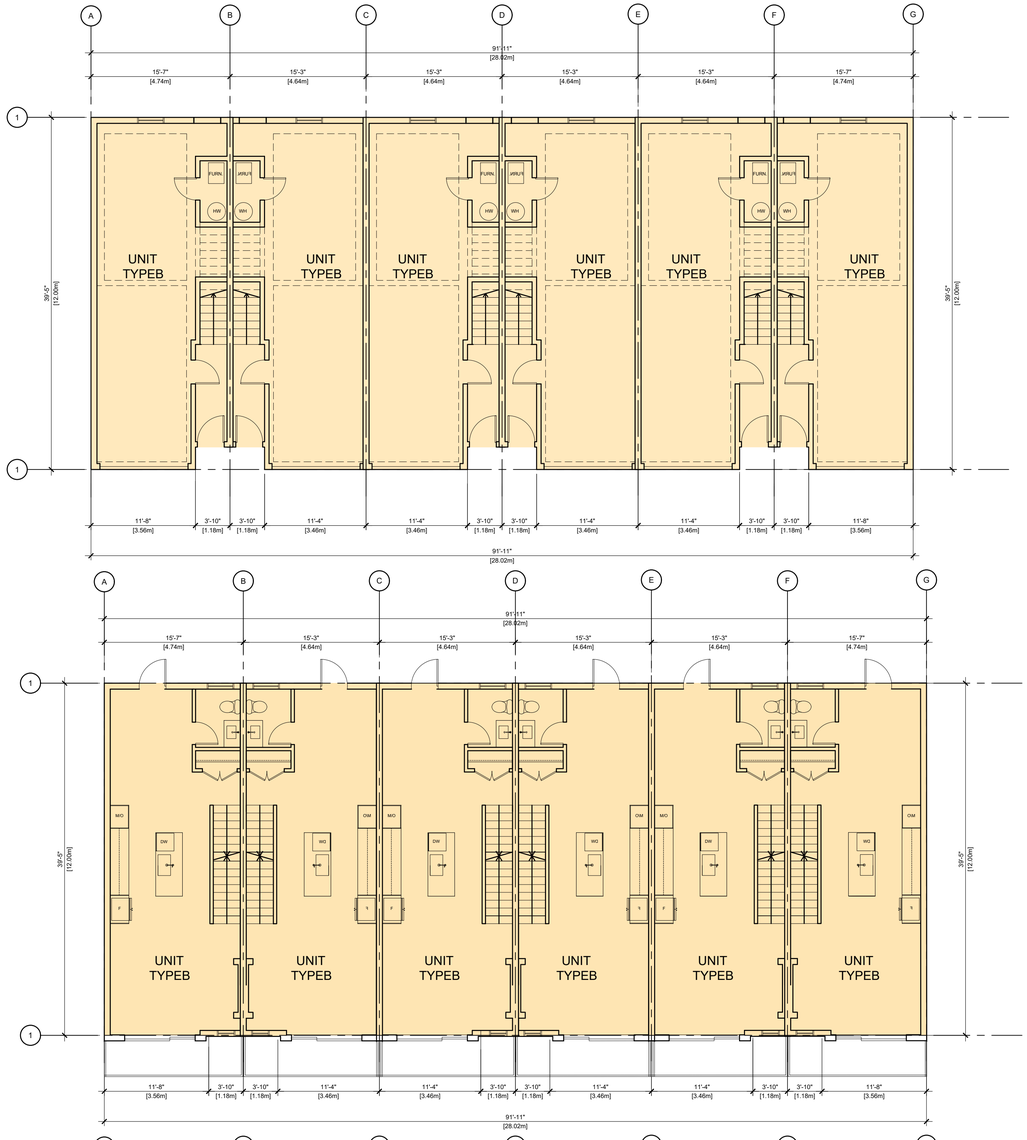
DRAWING TITLE

BUILDING 1 PLAN

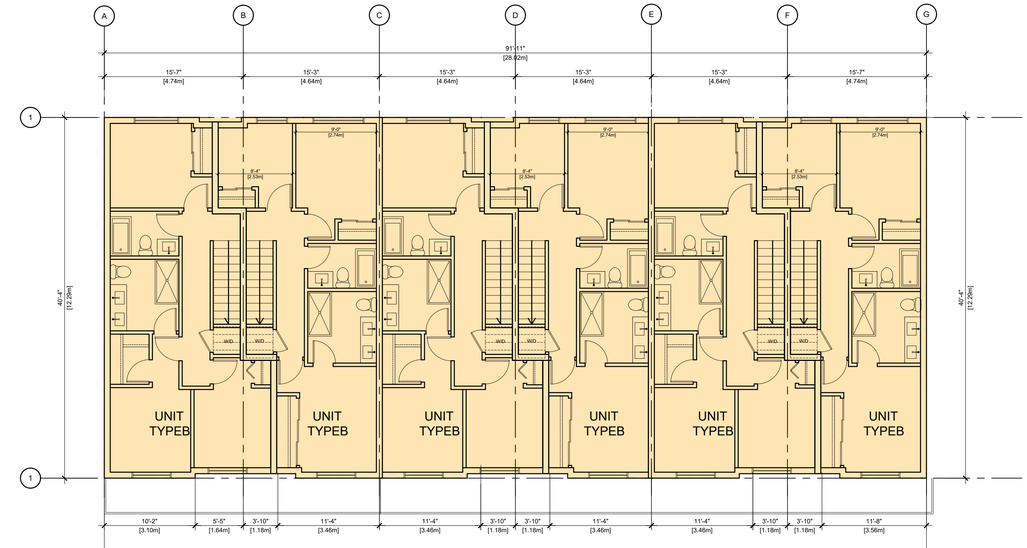
DRAWING No.

A2.01



1 BUILDING 2 LEVEL 1 FLOOR PLAN
Scale: 1/8"= 1'-0"

2 BUILDING 2 LEVEL 2 FLOOR PLAN
Scale: 1/8"= 1'-0"



3 BUILDING 2 LEVEL 3 FLOOR PLAN
Scale: 1/8"= 1'-0"

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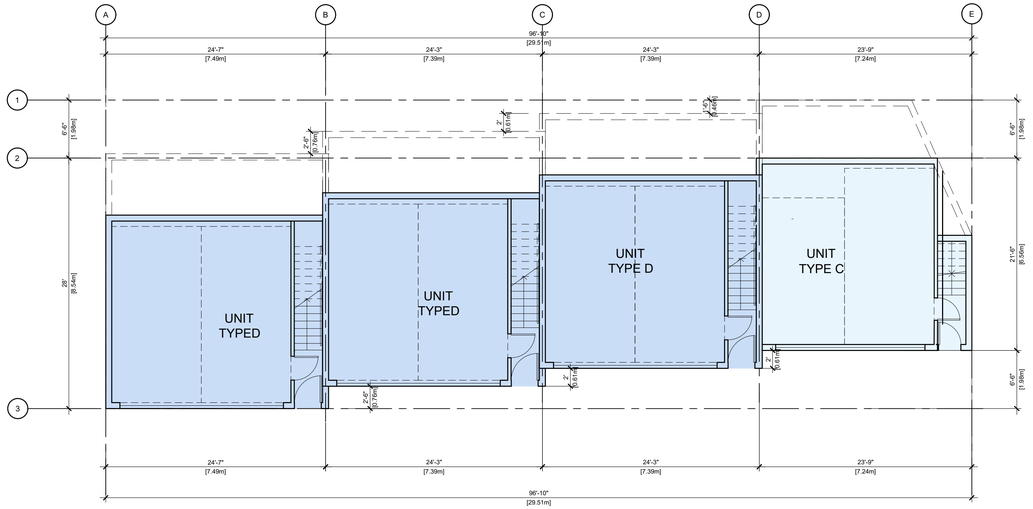
BUILDING 2 PLAN

DRAWING No.

A2.02



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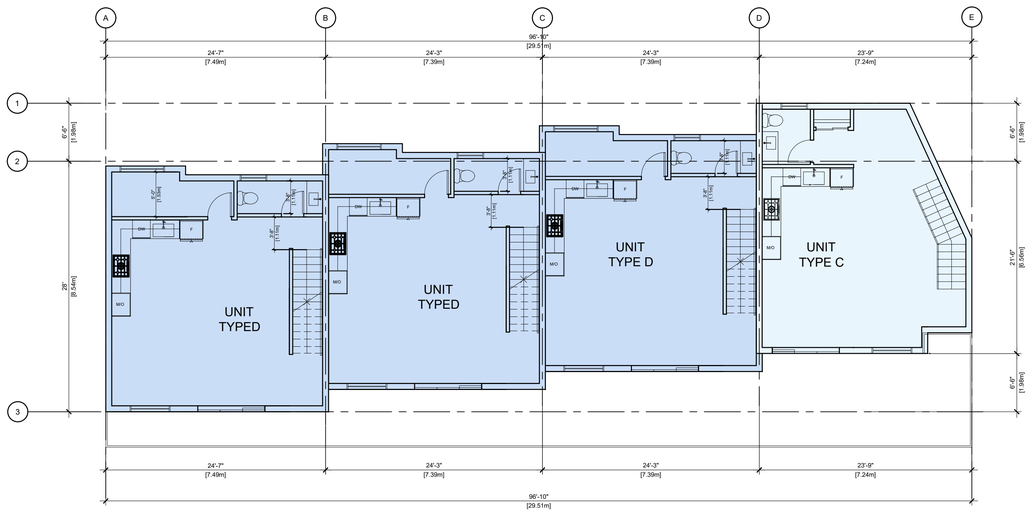

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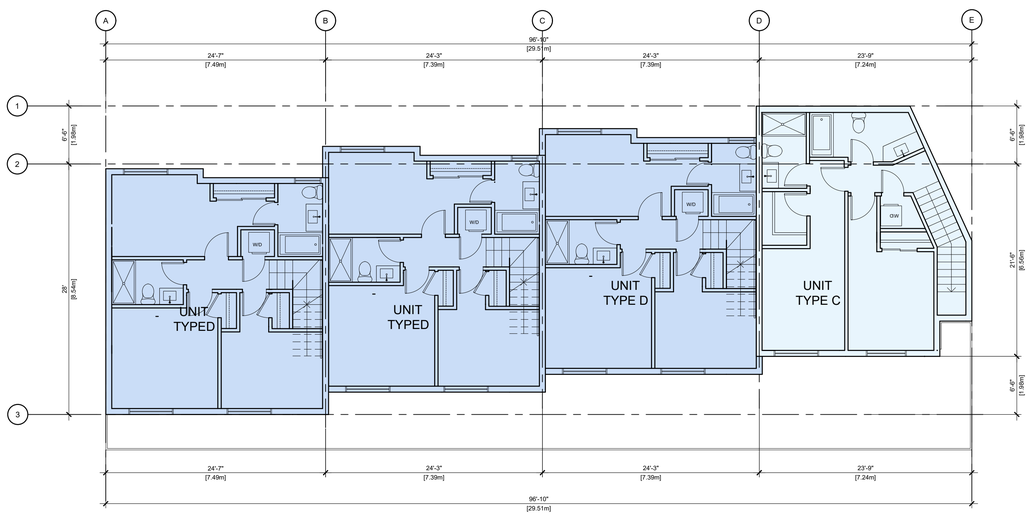

3 BUILDING 3 LEVEL 3 FLOOR PLAN
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BUILDING 3 PLAN

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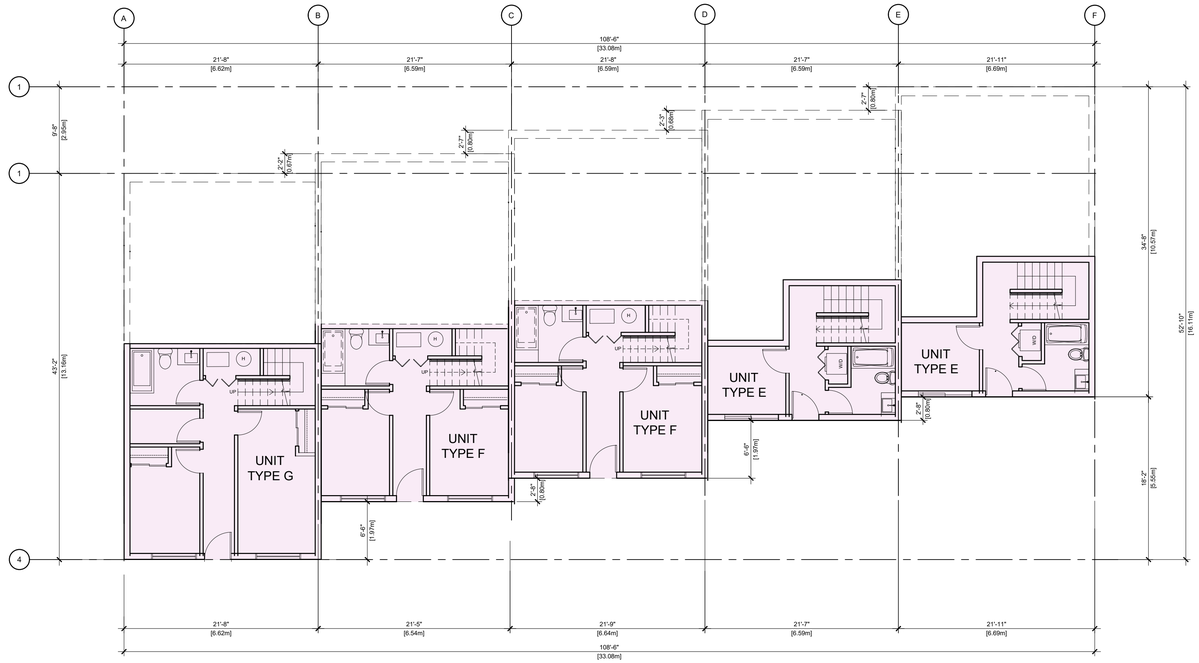
A2.03



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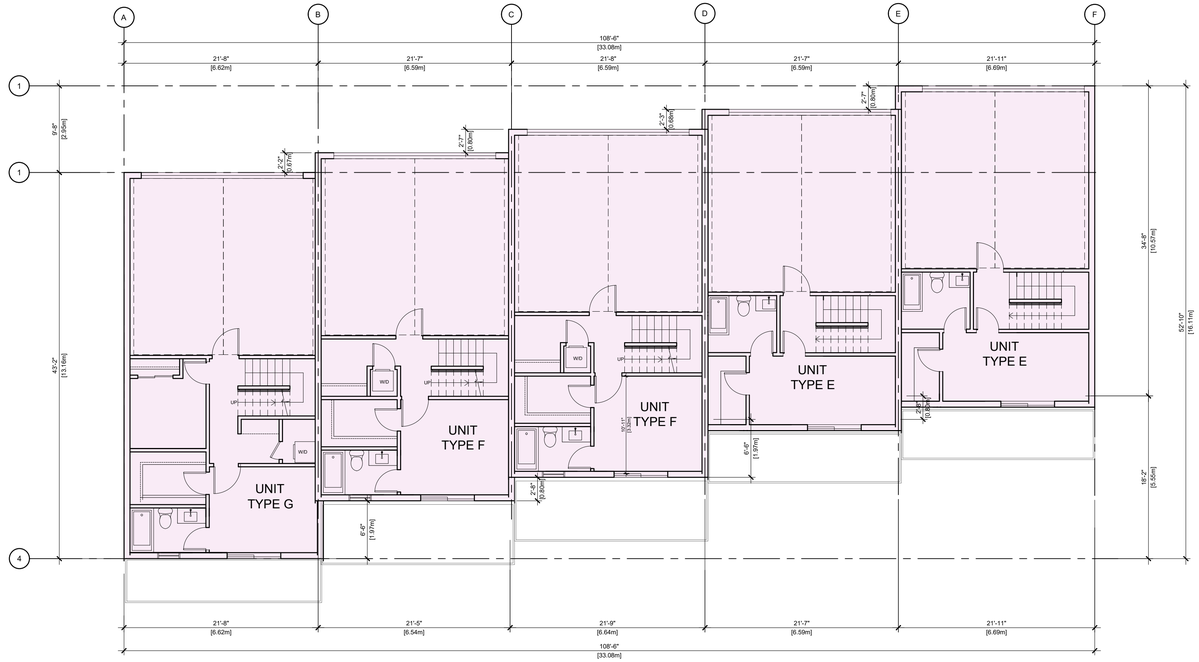

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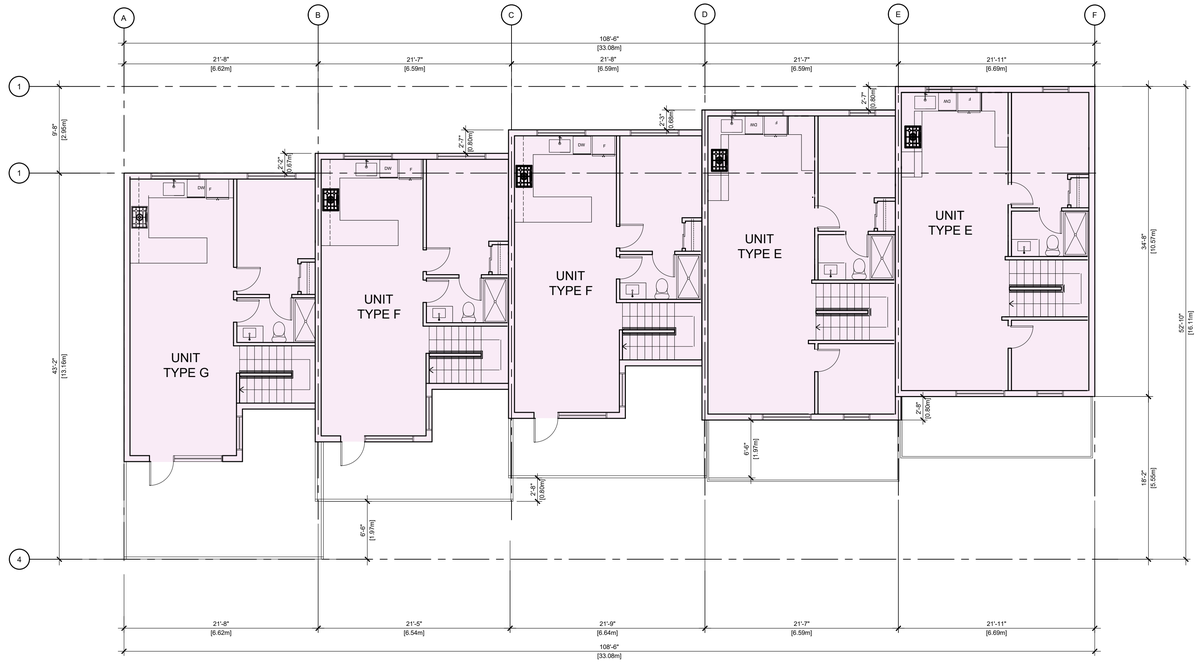
BUILDING 4 PLAN

DRAWING No.

A2.04



3 BUILDING 4 LEVEL 3 FLOOR PLAN

Scale: 1/8"= 1'-0"

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DRAWING TITLE

BUILDING 4 PLAN

DRAWING No.

A2.05

1 BUILDING 1 EAST ELEVATION

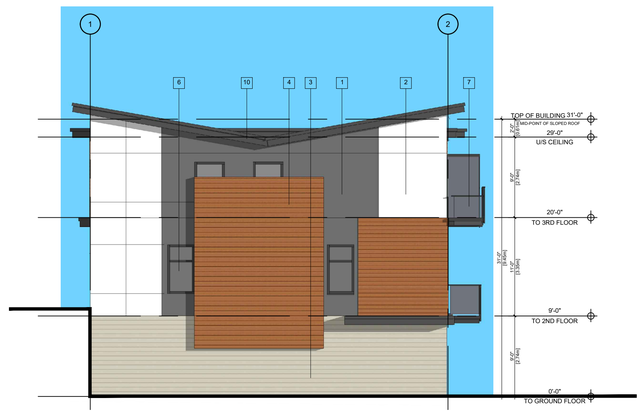
Scale: 1/8"= 1'-0"

2 BUILDING 1 NORTH ELEVATION

Scale: 1/8"= 1'-0"

3 BUILDING 1 WEST ELEVATION

Scale: 1/8"= 1'-0"



4 BUILDING 1 SOUTH ELEVATION

Scale: 1/8"= 1'-0"

EXTERIOR MATERIAL LEGEND			
1 HARDIE PANEL SMOOTH COLOR: DARK GREY	4 HARDIE PLANK LAP SIDING COLOR: CEDAR	7 PRE-FINISHED ALUMINUM RAILING C/W CLEAR SAFETY GLASS FRAME COLOR: CHARCOAL	10 HARDIE FASCIA TRIM BOARDS COLOR: CHARCOAL
2 HARDIE PANEL SMOOTH COLOR: LIGHT GREY	5 DOUBLE GLAZED DOORS FRAME COLOR: CHARCOAL	8 ENTRY DOOR COLOR: DARK GREY	11 GARAGE OVERHEAD DOOR COLOR: LIGHT GREY
3 HARDIE PLANK LAP SIDING COLOR: BROWN	6 DOUBLE GLAZED DOORS, FRAME COLOR: CHARCOAL	9 FIBER CEMENT PLANK SOFFIT COLOR: CEDAR	12 STONE VENEER COLOR: COLORADO GREY

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REGISTERED ARCHITECT
XU YANG
BRITISH COLUMBIA

2023-12-18

REVISIONS
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ISSUES		DATE
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2	REISSUED FOR DEVELOPMENT PERMIT APPLICATION	DEC 18 2023
1	ISSUED FOR DEVELOPMENT PERMIT APPLICATION	MAY 29 2023

PROJECT NUMBER	A366
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CHECKED BY	PY
DATE CHECKED	
CONSULTANT	

PROJECT

3830 GELLATLY ROAD
WEST KELOWNA

DRAWING TITLE

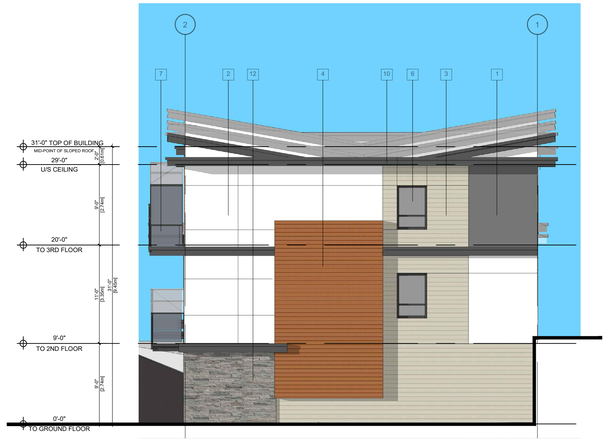
ELEVATION

DRAWING No.

A3.01

1 BUILDING 2 EAST ELEVATION

Scale: 1/8"= 1'-0"

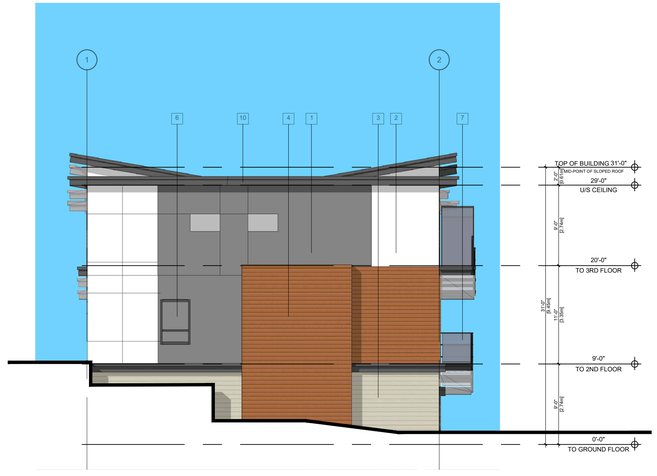


2 BUILDING 2 NORTH ELEVATION

Scale: 1/8"= 1'-0"

3 BUILDING 2 WEST ELEVATION

Scale: 1/8"= 1'-0"



4 BUILDING 2 SOUTH ELEVATION

Scale: 1/8"= 1'-0"

EXTERIOR MATERIAL LEGEND			
1 HARDIE PANEL SMOOTH COLOR: DARK GREY	4 HARDIE PLANK LAP SIDING COLOR: CEDAR	7 PRE-FINISHED ALUMINUM RAILING C/W CLEAR SAFETY GLASS FRAME COLOR: CHARCOAL	10 HARDIE FASCIA TRIM BOARDS COLOR: CHARCOAL
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3830 GELLATLY ROAD
WEST KELOWNA

DRAWING TITLE

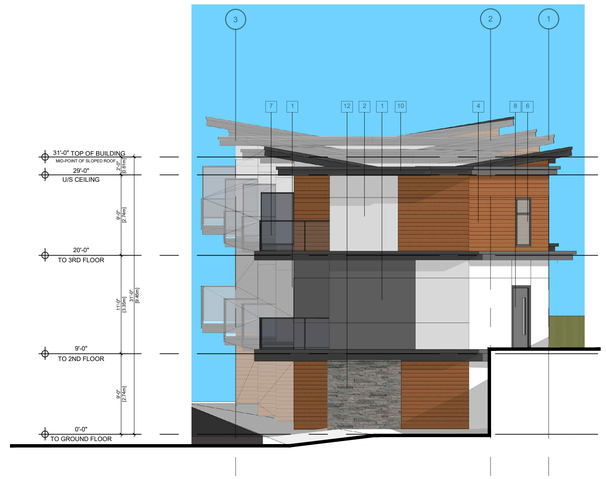
ELEVATION

DRAWING No.

A3.02

1 BUILDING 3 EAST ELEVATION

Scale: 1/8"= 1'-0"

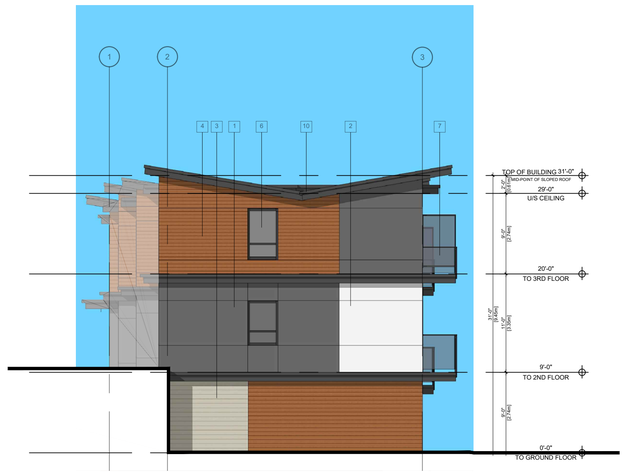


2 BUILDING 3 NORTH ELEVATION

Scale: 1/8"= 1'-0"

3 BUILDING 3 WEST ELEVATION

Scale: 1/8"= 1'-0"



4 BUILDING 3 SOUTH ELEVATION

Scale: 1/8"= 1'-0"

EXTERIOR MATERIAL LEGEND			
1 HARDIE PANEL SMOOTH COLOR: DARK GREY	4 HARDIE PLANK LAP SIDING COLOR: CEDAR	7 PRE-FINISHED ALUMINUM RAILING C/W CLEAR SAFETY GLASS FRAME COLOR: CHARCOAL	10 HARDIE FASCIA TRIM BOARDS COLOR: CHARCOAL
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3830 GELLATLY ROAD
WEST KELOWNA

DRAWING TITLE

ELEVATION

DRAWING No.

A3.03

1 BUILDING 4 EAST ELEVATION

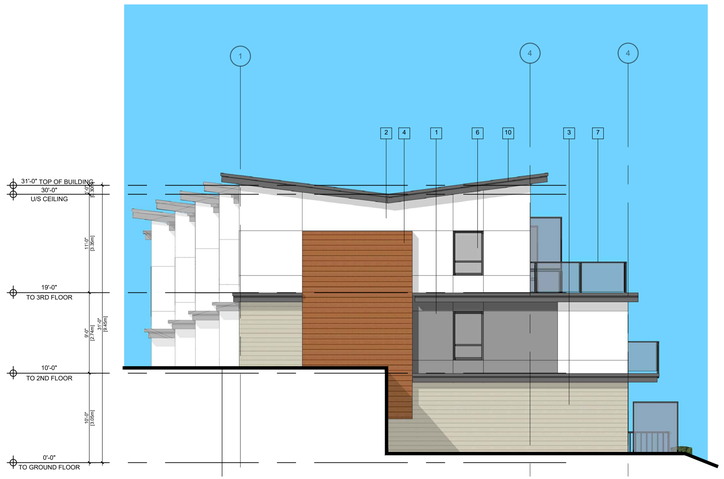
Scale: 1/8"= 1'-0"

2 BUILDING 4 NORTH ELEVATION

Scale: 1/8"= 1'-0"

3 BUILDING 4 WEST ELEVATION

Scale: 1/8"= 1'-0"



4 BUILDING 4 SOUTH ELEVATION

Scale: 1/8"= 1'-0"

EXTERIOR MATERIAL LEGEND			
1 HARDIE PANEL SMOOTH COLOR: DARK GREY	4 HARDIE PLANK LAP SIDING COLOR: CEDAR	7 PRE-FINISHED ALUMINUM RAILING C/W CLEAR SAFETY GLASS FRAME COLOR: CHARCOAL	10 HARDIE FASCIA TRIM BOARDS COLOR: CHARCOAL
2 HARDIE PANEL SMOOTH COLOR: LIGHT GREY	5 DOUBLE GLAZED DOORS FRAME COLOR: CHARCOAL	8 ENTRY DOOR COLOR: DARK GREY	11 GARAGE OVERHEAD DOOR COLOR: LIGHT GREY
3 HARDIE PLANK LAP SIDING COLOR: BROWN	6 DOUBLE GLAZED DOORS, FRAME COLOR: CHARCOAL	9 FIBER CEMENT PLANK SOFFIT COLOR: CEDAR	12 STONE VENEER COLOR: COLORADO GREY

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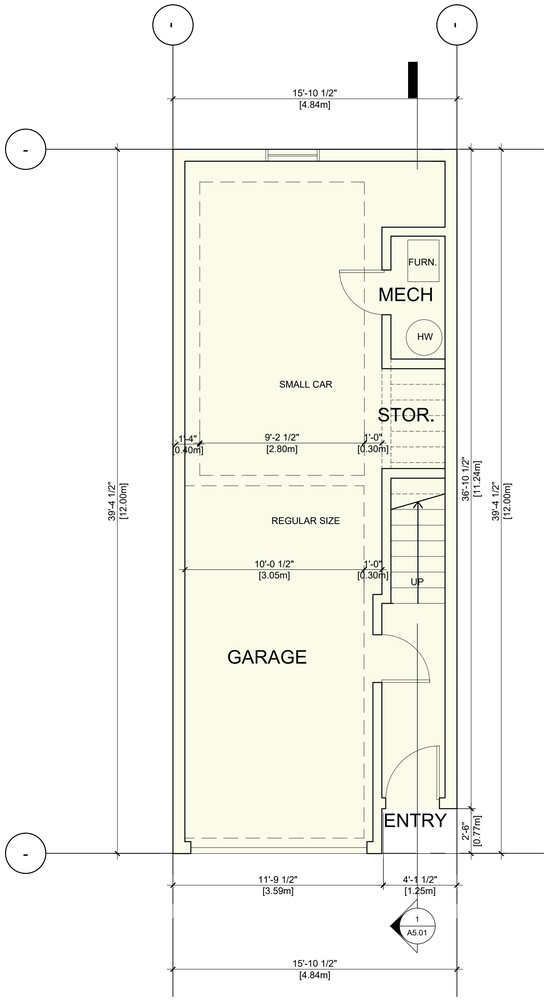
3830 GELLATLY ROAD
WEST KELOWNA

DRAWING TITLE

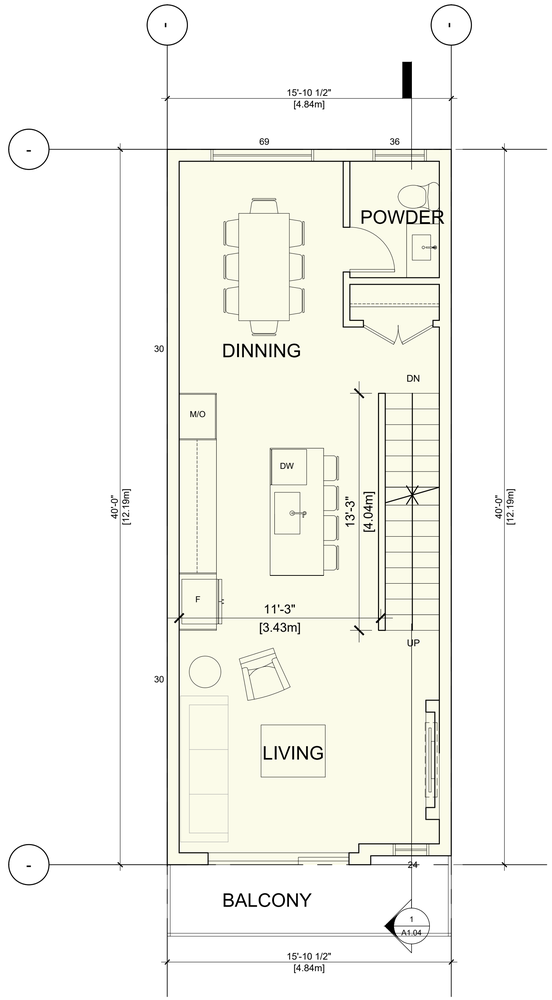
ELEVATION

DRAWING No.

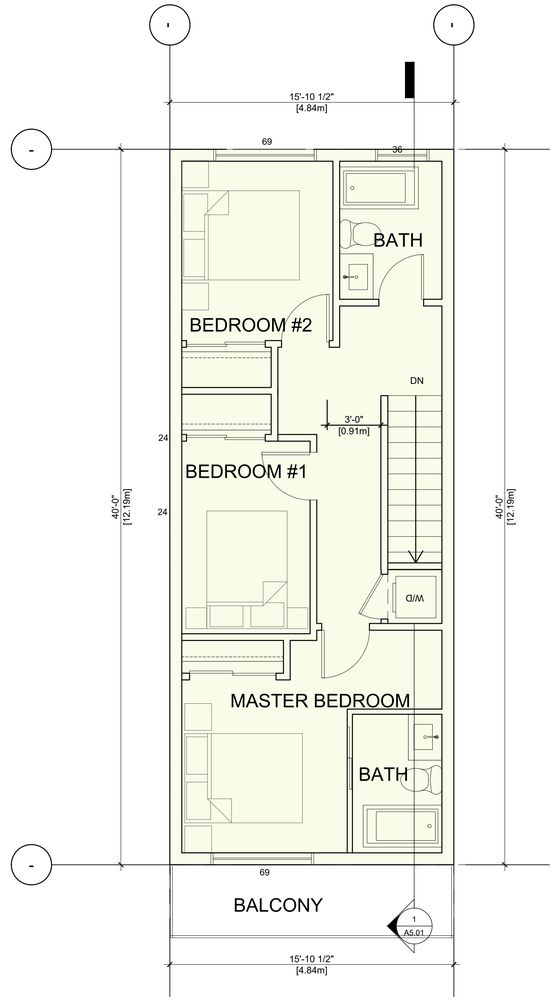
A3.04



1 FIRST FLOOR
Scale: 1/4"= 1'-0"



1 SECOND FLOOR
Scale: 1/4"= 1'-0"



1 THIRD FLOOR
Scale: 1/4"= 1'-0"

UNIT TYPE A		FLOOR AREA
3-BEDROOM+2.5 BATH		
L1	110 SQ.FT	10.2 m^2
L2	615 SQ.FT	57.1 m^2
L3	615 SQ.FT	57.1 m^2
TOTAL	1340 SQ.FT	124.5 m^2

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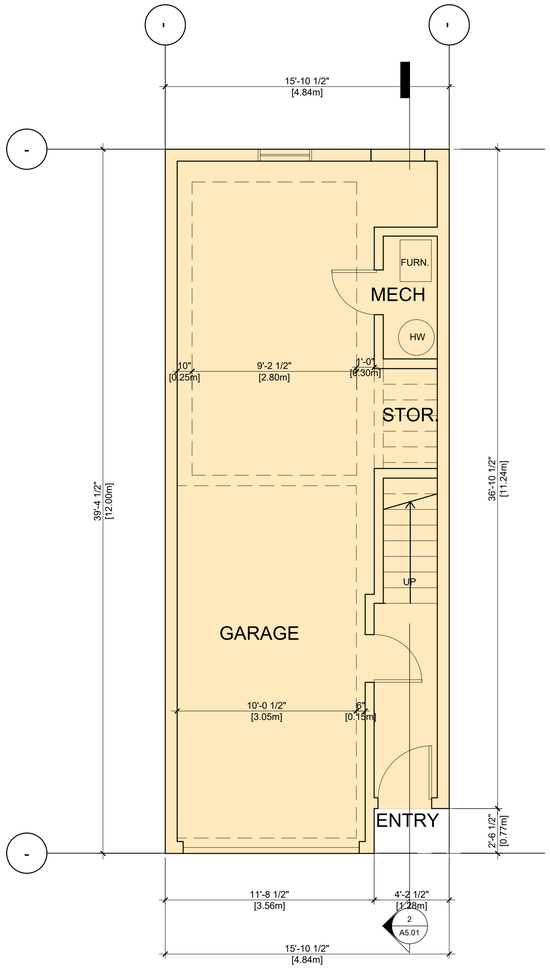
3830 GELLATLY ROAD
WEST KELOWNA

DRAWING TITLE

TYPE A UNIT PLAN

DRAWING No.

A4.01



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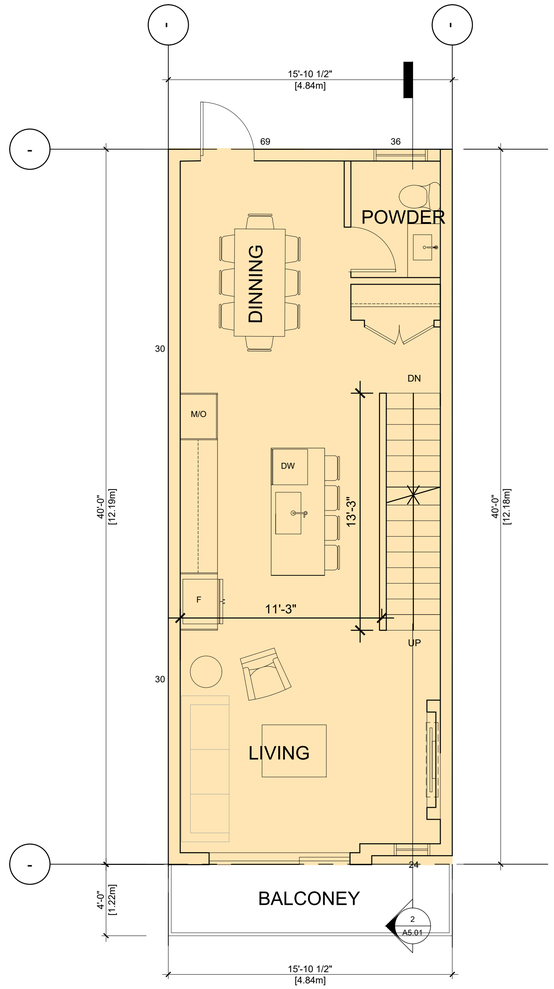

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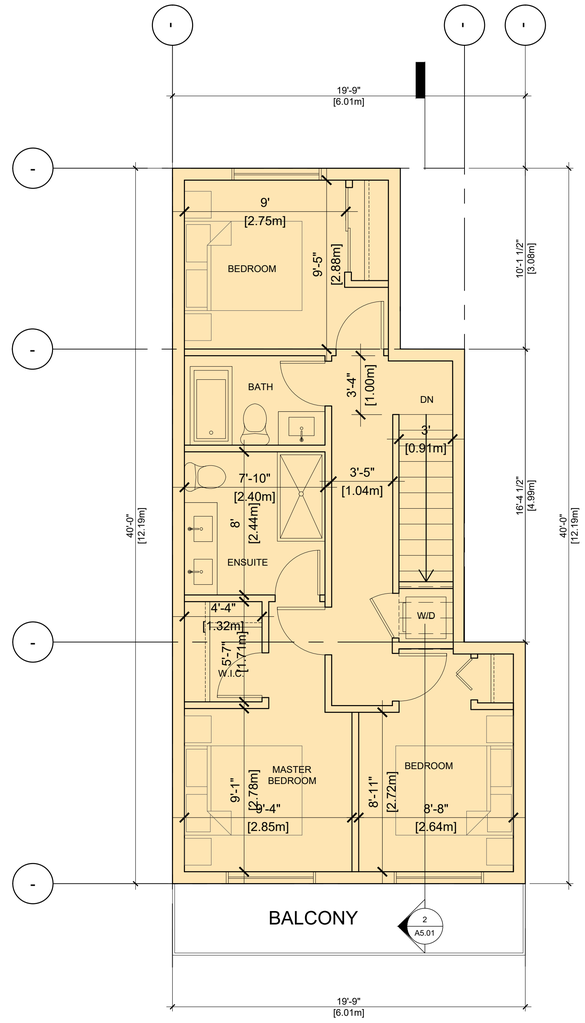

1 THIRD FLOOR
Scale: 1/4"= 1'-0"

UNIT TYPE B1		FLOOR AREA
3-BEDROOM+2.5 BATH		
L1	110 SQ.FT	10.2 m^2
L2	615 SQ.FT	57.1 m^2
L3	615 SQ.FT	57.1 m^2
TOTAL	1340 SQ.FT	124.5 m^2

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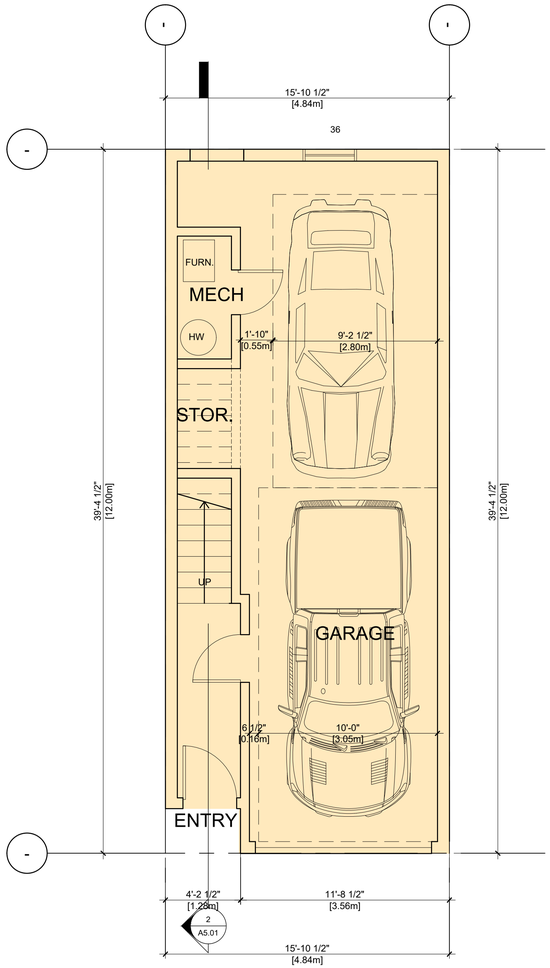
DRAWING TITLE

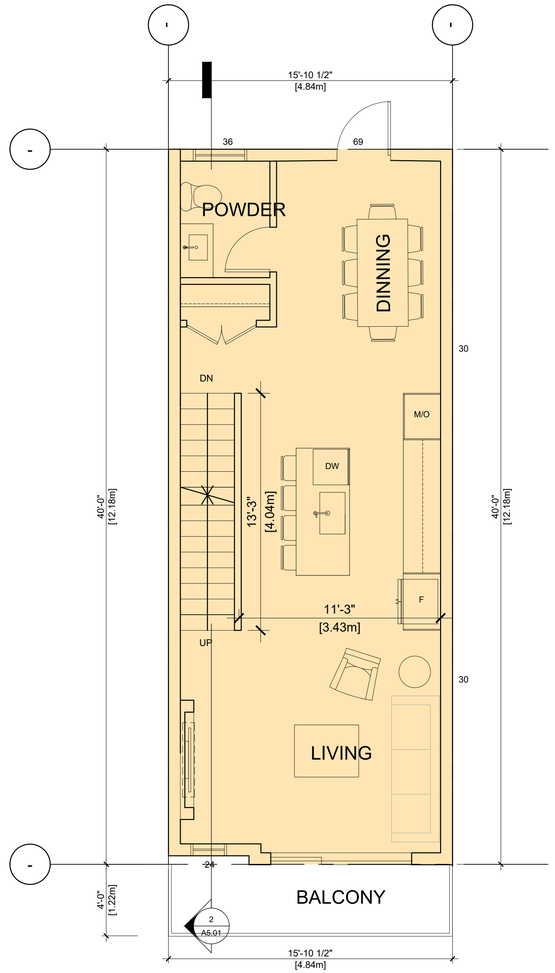
TYPE B1 UNIT PLAN

DRAWING No.

A4.02



1 FIRST FLOOR
Scale: 1/4"= 1'-0"



2 SECOND FLOOR
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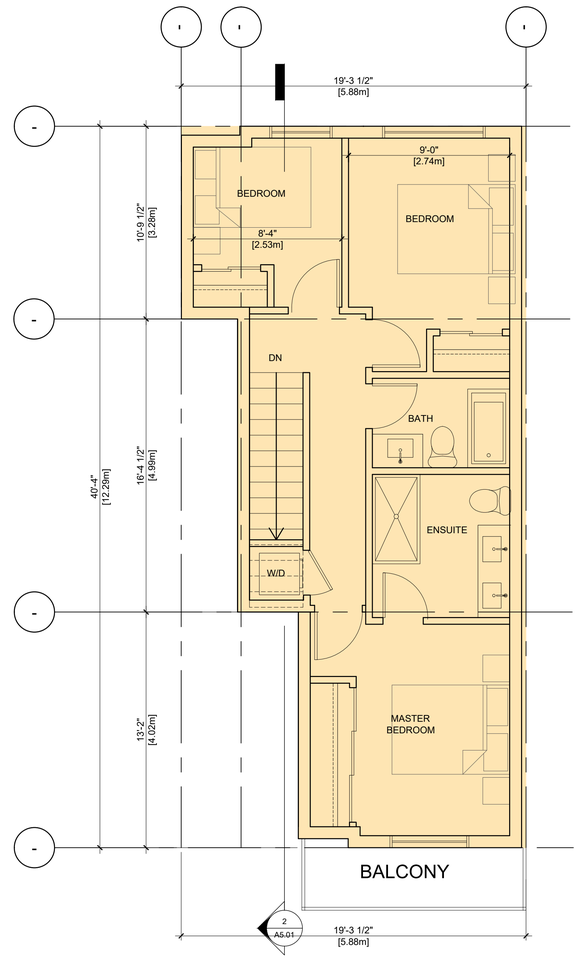

3 THIRD FLOOR
Scale: 1/4"= 1'-0"

UNIT TYPE B2		FLOOR AREA
3-BEDROOM+2.5 BATH		
L1	110 SQ.FT	10.2 m^2
L2	615 SQ.FT	57.1 m^2
L3	615 SQ.FT	57.1 m^2
TOTAL	1340 SQ.FT	124.5 m^2

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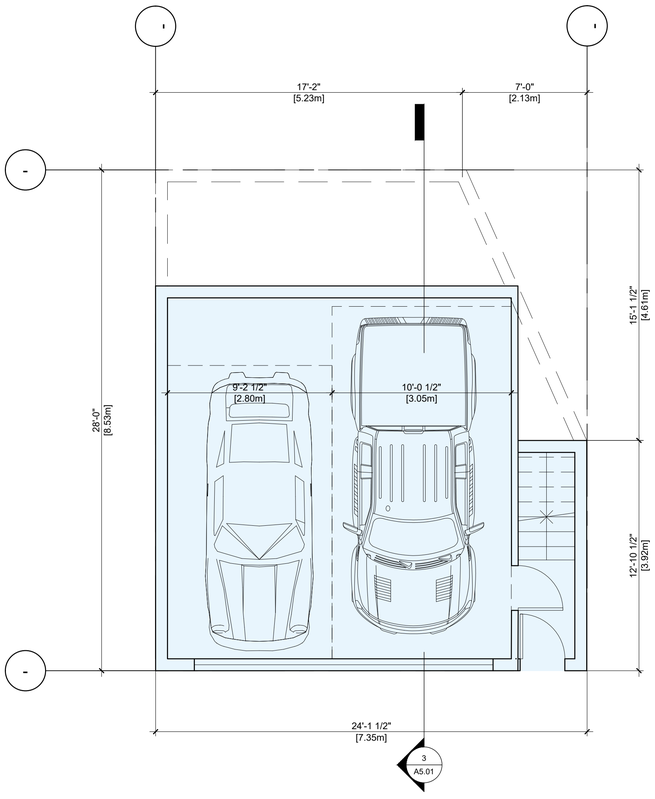
DRAWING TITLE

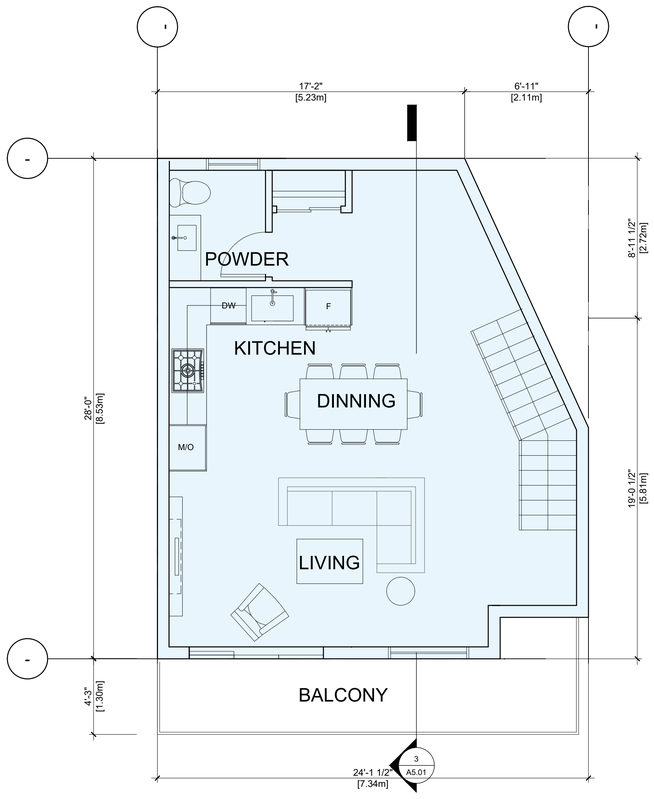
TYPE B2 UNIT PLAN

DRAWING No.

A4.03



1 FIRST FLOOR
Scale: 1/4"= 1'-0"



2 SECOND FLOOR
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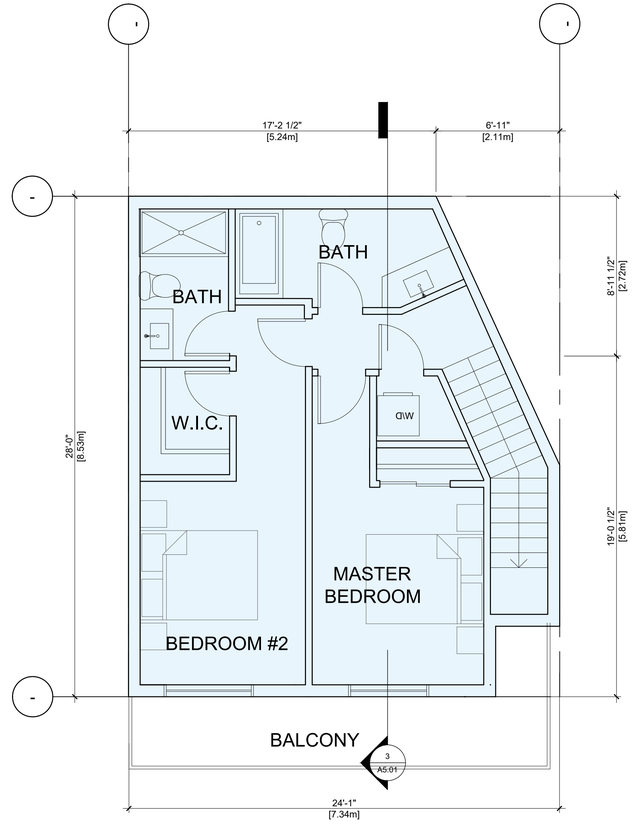

3 FIRST FLOOR
THIRD FLOOR

UNIT TYPE C			FLOOR AREA
2-BEDROOM+2.5 BATH			
L1	76	SQ.FT	7.1 m^2
L2	595	SQ.FT	55.3 m^2
L3	595	SQ.FT	55.3 m^2
TOTAL	1266	SQ.FT	117.6 m^2

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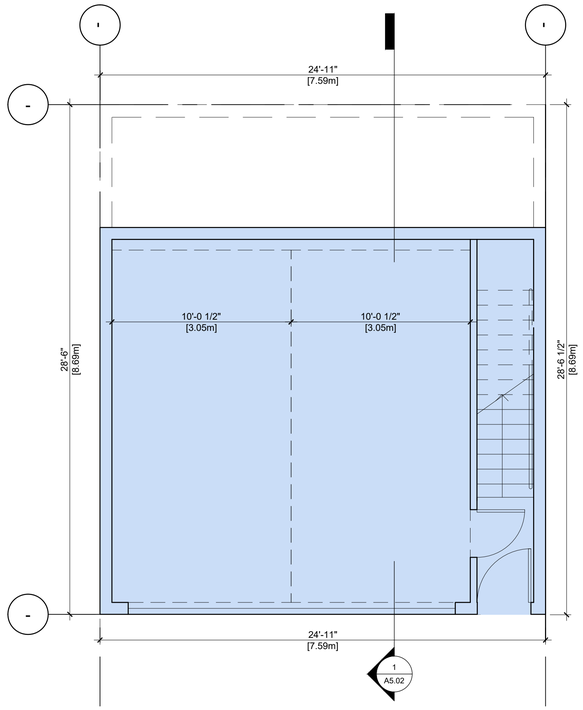
DRAWING TITLE

TYPE C UNIT PLAN

DRAWING No.

A4.04



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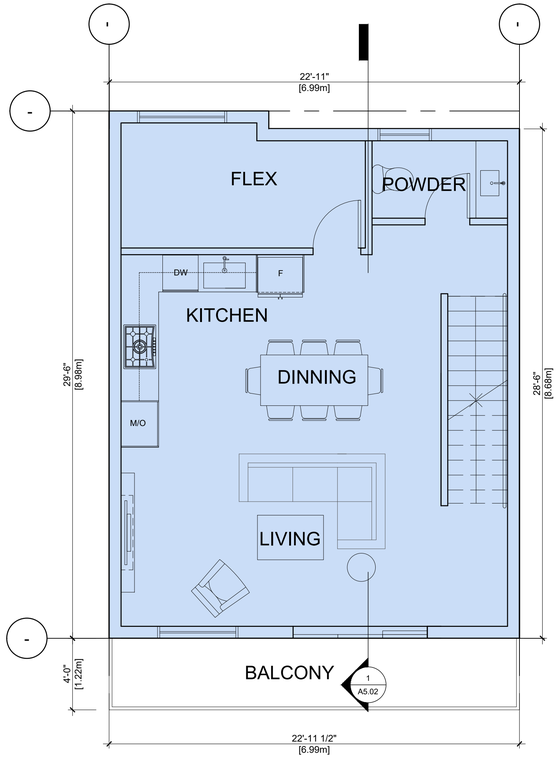
Scale: 1/4"= 1'-0"



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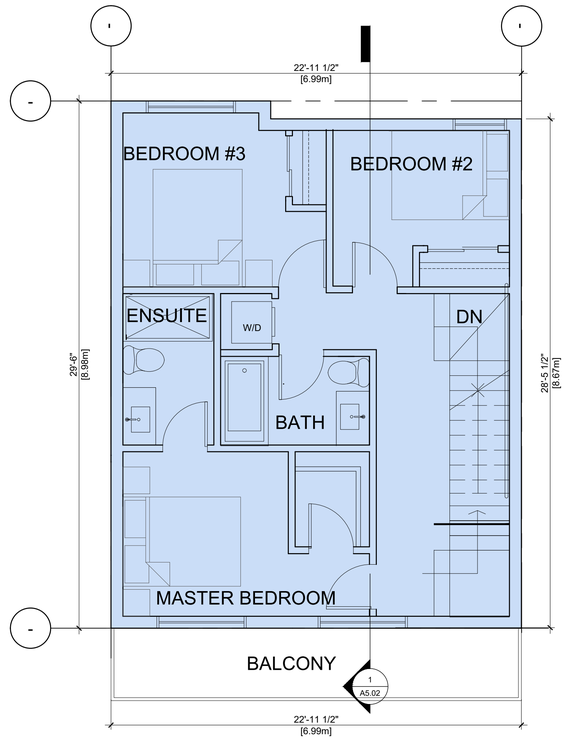

3 THIRD FLOOR
Scale: 1/4"= 1'-0"

UNIT TYPE D		FLOOR AREA
3-BEDROOM+2.5 BATH		
L1	87 SQ.FT	8.1 m^2
L2	655 SQ.FT	60.9 m^2
L3	655 SQ.FT	60.9 m^2
TOTAL	1397 SQ.FT	129.8 m^2

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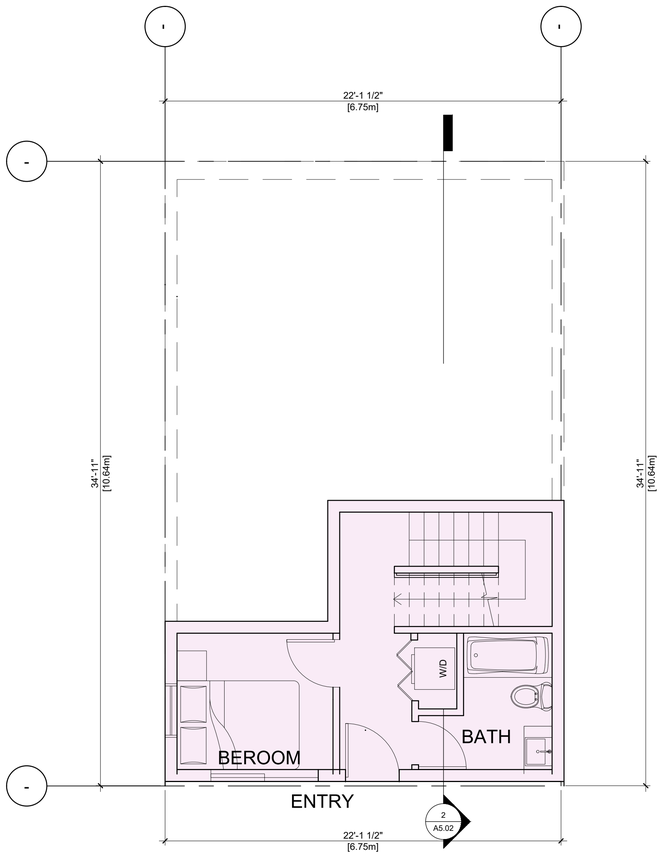
TYPE D UNIT PLAN

DRAWING No.

A4.05



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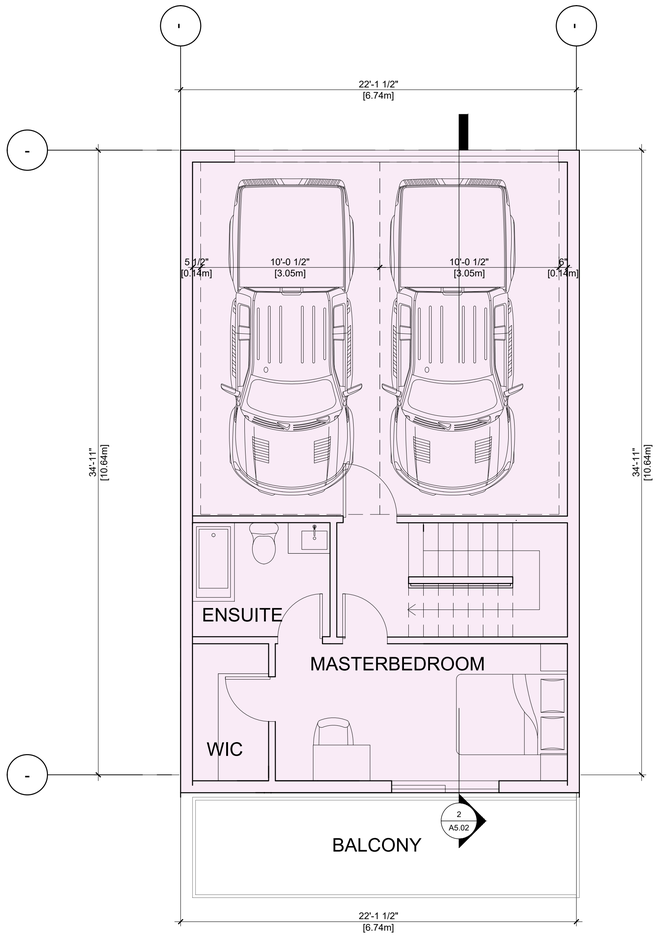
Scale: 1/4"= 1'-0"



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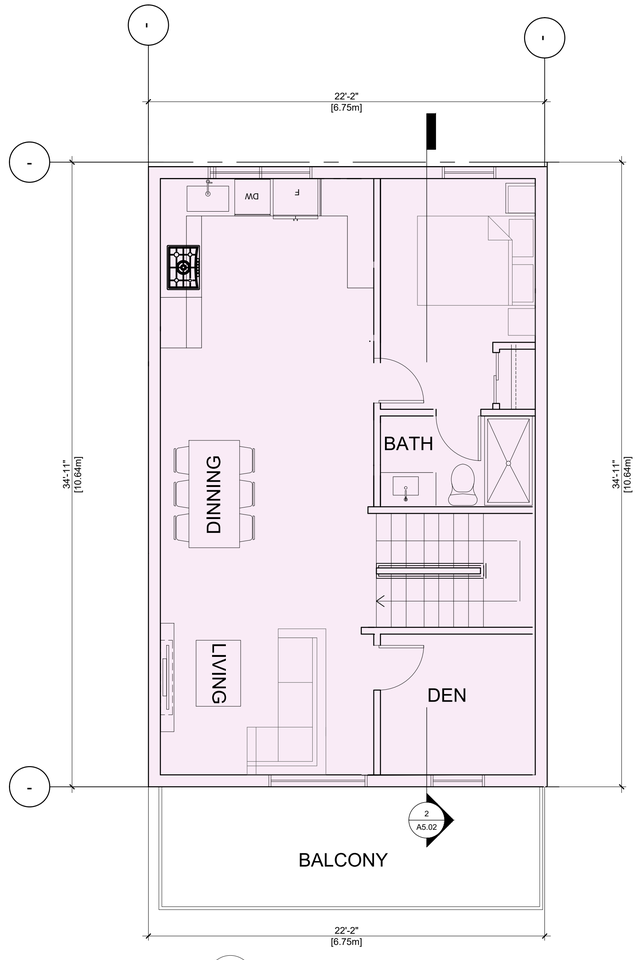

1 THIRD FLOOR
3

UNIT TYPE E		FLOOR AREA
4-BEDROOM+2.5 BATH		
L1	290 SQ.FT	26.9 m^2
L2	335 SQ.FT	31.1 m^2
L3	750 SQ.FT	69.7 m^2
	1375 SQ.FT	127.7 m^2

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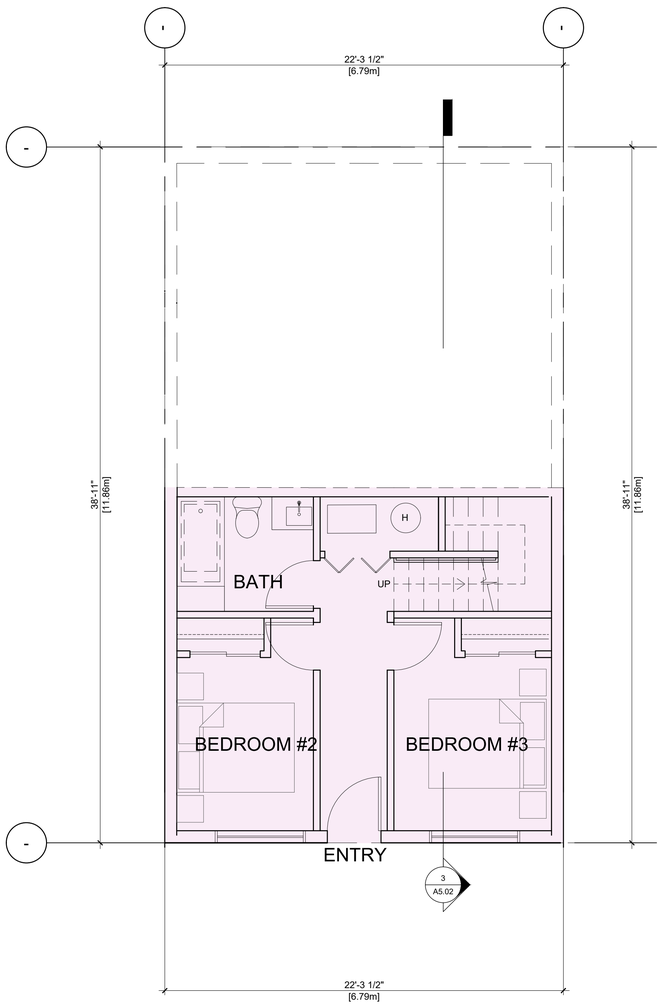
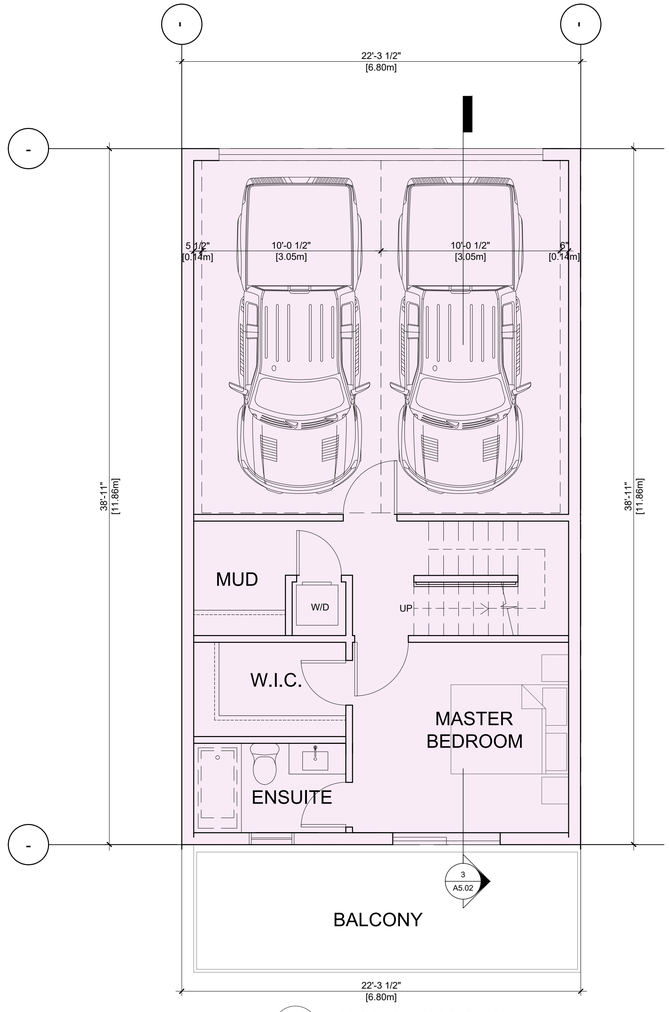
DRAWING No.

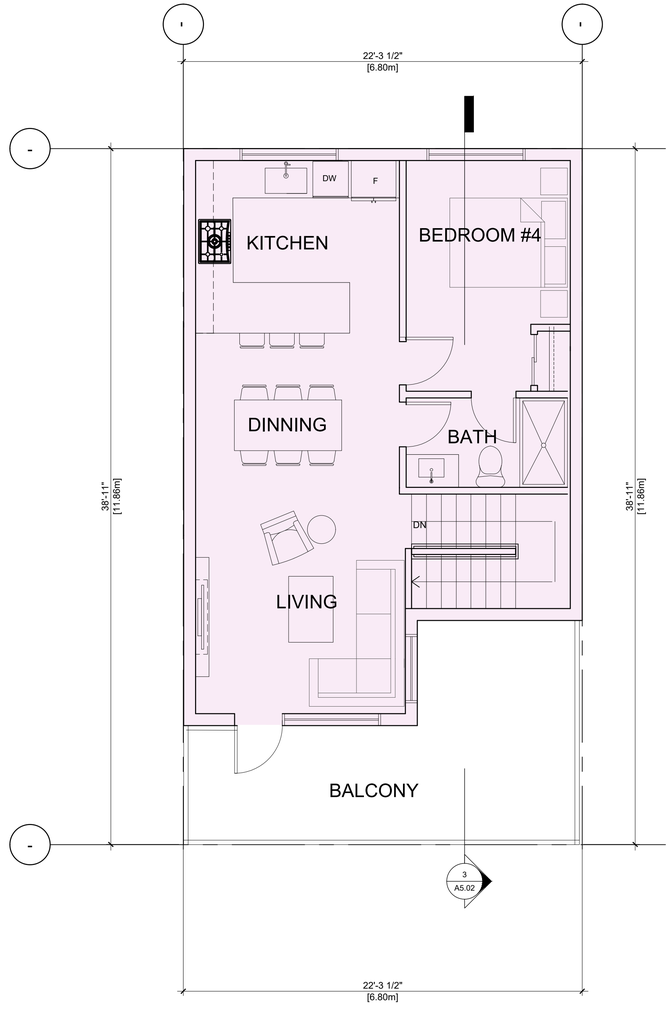
A4.06



1 FIRST FLOOR PLAN
Scale: 1/4"= 1'-0"



2 SECOND FLOOR PLAN
Scale: 1/4"= 1'-0"



3 THIRD FLOOR PLAN
Scale: 1/4"= 1'-0"

UNIT TYPE F		FLOOR AREA
3-BEDROOM+2.5 BATH		
L1	445 SQ.FT	41.3 m^2
L2	445 SQ.FT	41.3 m^2
L3	670 SQ.FT	62.3 m^2
TOTAL	1560 SQ.FT	144.9 m^2

pacific west architecture

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Fax: 604 267 7056
Email: info@pwaarchitecture.com
www.pwaarchitecture.com

REGISTERED ARCHITECT XU YANG BRITISH COLUMBIA

2023-12-18

REVISIONS
1

ISSUES		DATE
8		
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3		
2	REISSUED FOR DEVELOPMENT PERMIT APPLICATION	DEC 18 2023
1	ISSUED FOR DEVELOPMENT PERMIT APPLICATION	MAY 29 2023

PROJECT NUMBER	A366
DRAWN BY	FC
CHECKED BY	PY
DATE CHECKED	
CONSULTANT	

PROJECT

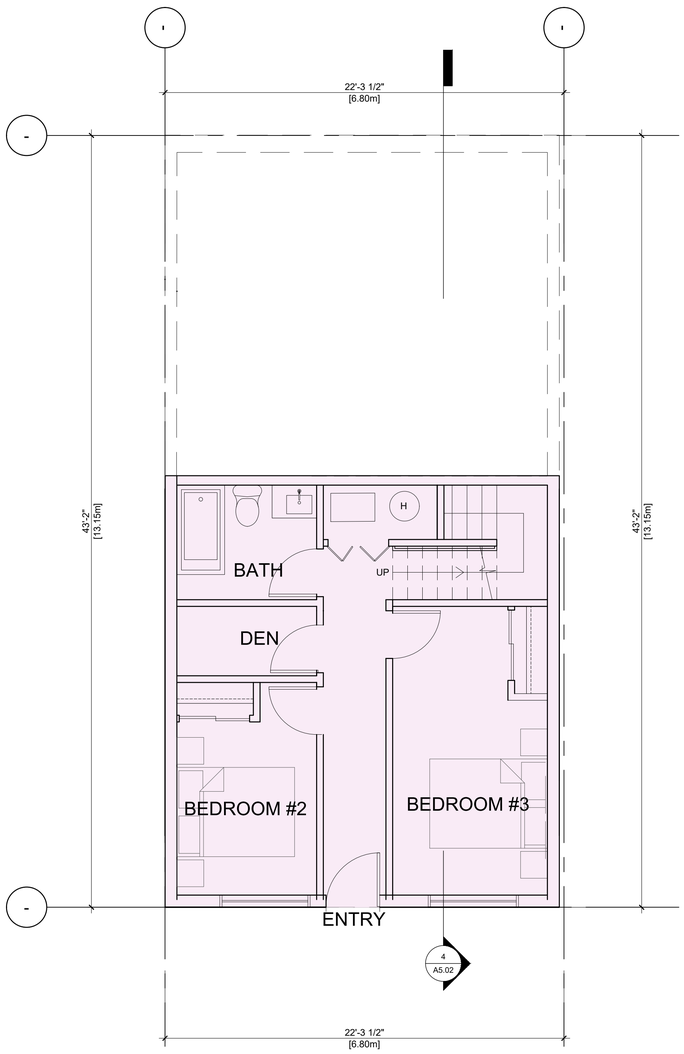
3830 GELLATLY ROAD
WEST KELOWNA

DRAWING TITLE

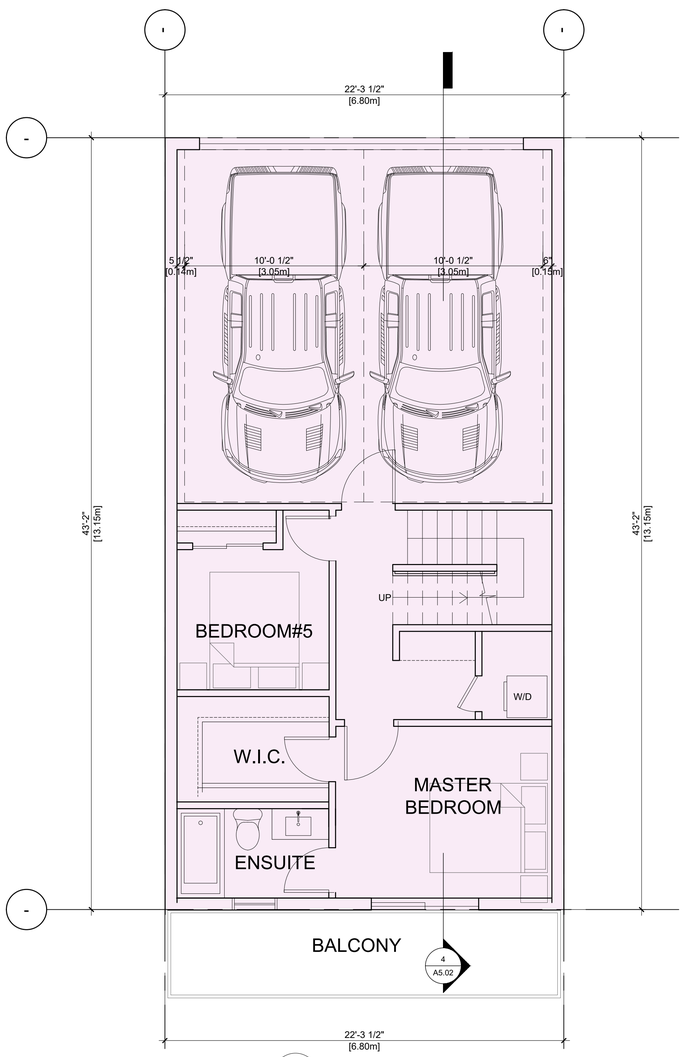
TYPE F UNIT PLAN

DRAWING No.

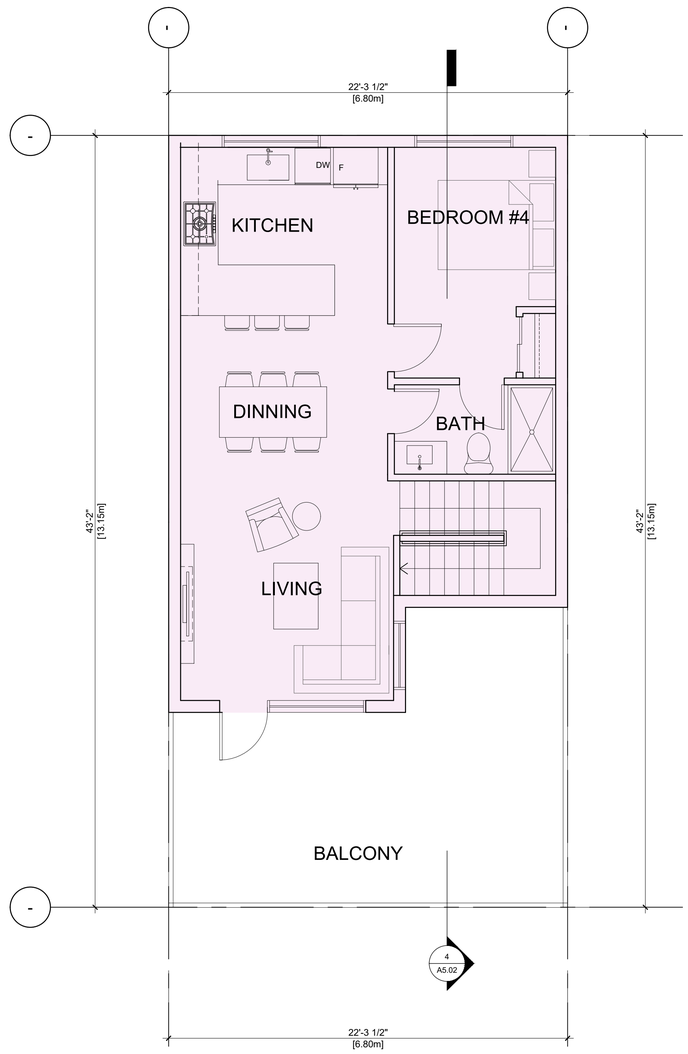
A4.07



1 FIRST FLOOR PLAN
Scale: 1/4"= 1'-0"



2 SECOND FLOOR PLAN
Scale: 1/4"= 1'-0"



3 THIRD FLOOR PLAN
Scale: 1/4"= 1'-0"

UNIT TYPE I		FLOOR AREA
3-BEDROOM+2.5 BATH		
L1	530 SQ.FT	49.2 m^2
L2	530 SQ.FT	49.2 m^2
L3	650 SQ.FT	60.5 m^2
TOTAL	1710 SQ.FT	158.9 m^2

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BRITISH COLUMBIA

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PROJECT

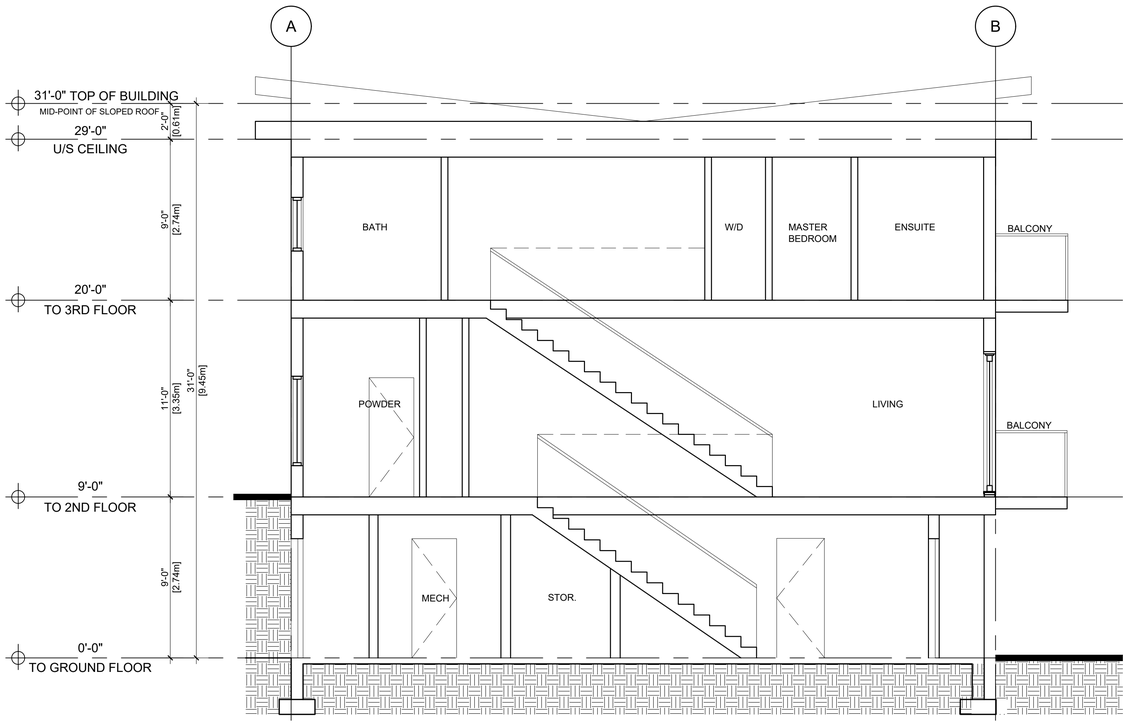
3830 GELLATLY ROAD
WEST KELOWNA

DRAWING TITLE

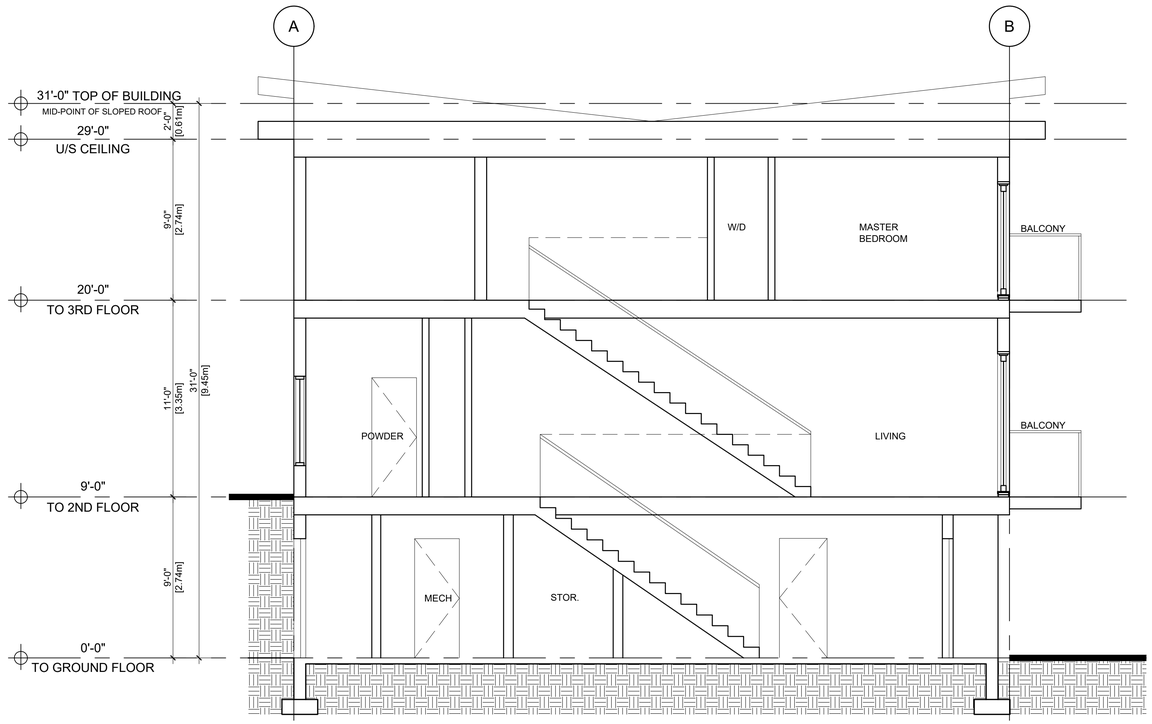
TYPE G UNIT PLAN

DRAWING No.

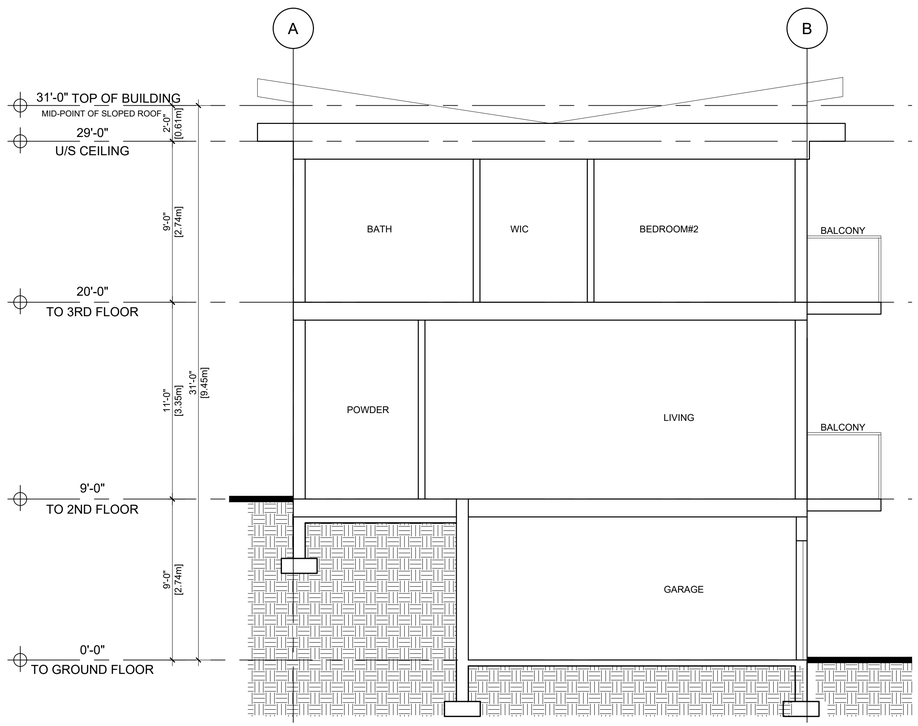
A4.08



1 UNIT TYPE A
Scale: 1/4"= 1'-0"



2 UNIT TYPE B
Scale: 1/4"= 1'-0"



3 UNIT TYPE C
Scale: 1/4"= 1'-0"

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CONSULTANT

PROJECT

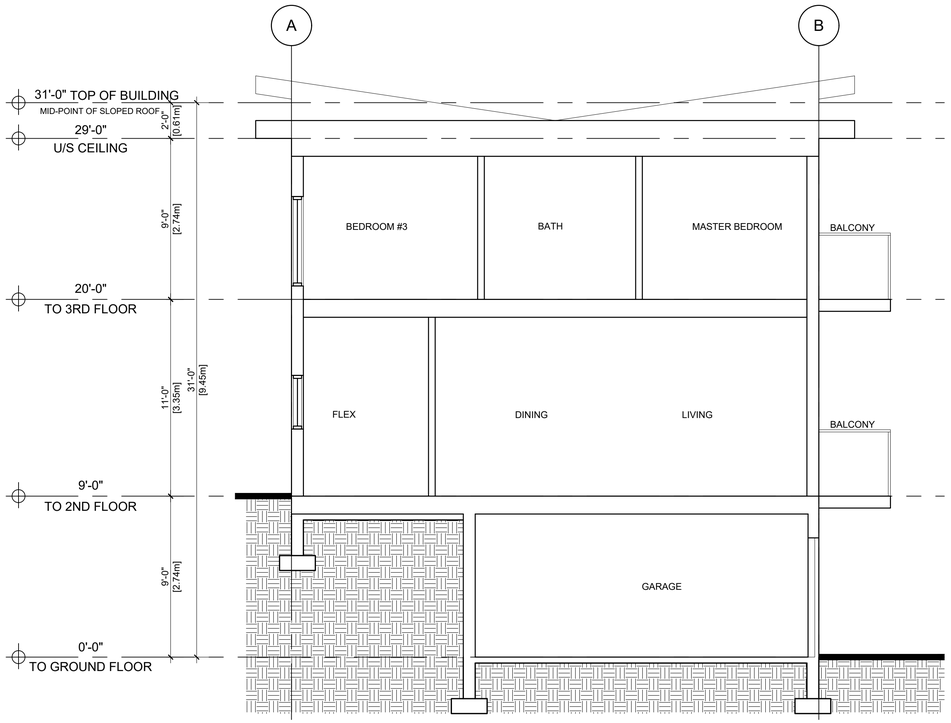
3830 GELLATLY ROAD
WEST KELOWNA

DRAWING TITLE

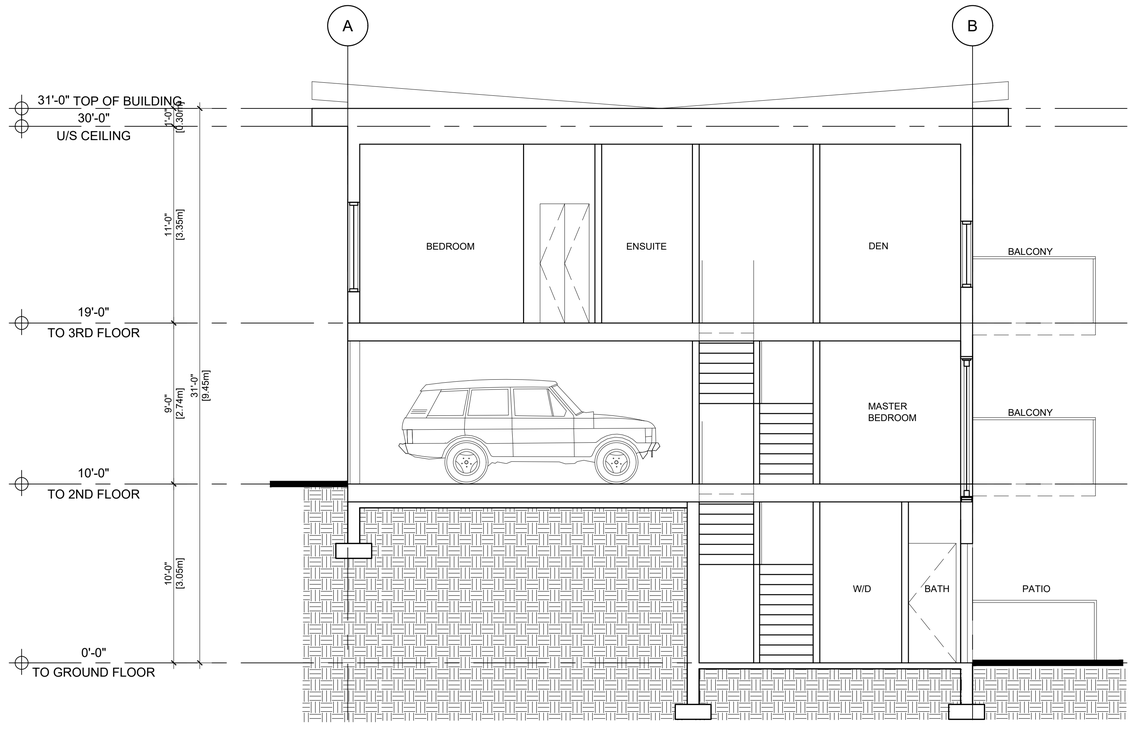
BUILDING SECTION

DRAWING No.

A5.01



1 UNIT TYPE D
Scale: 1/4"= 1'-0"



2 UNIT TYPE E
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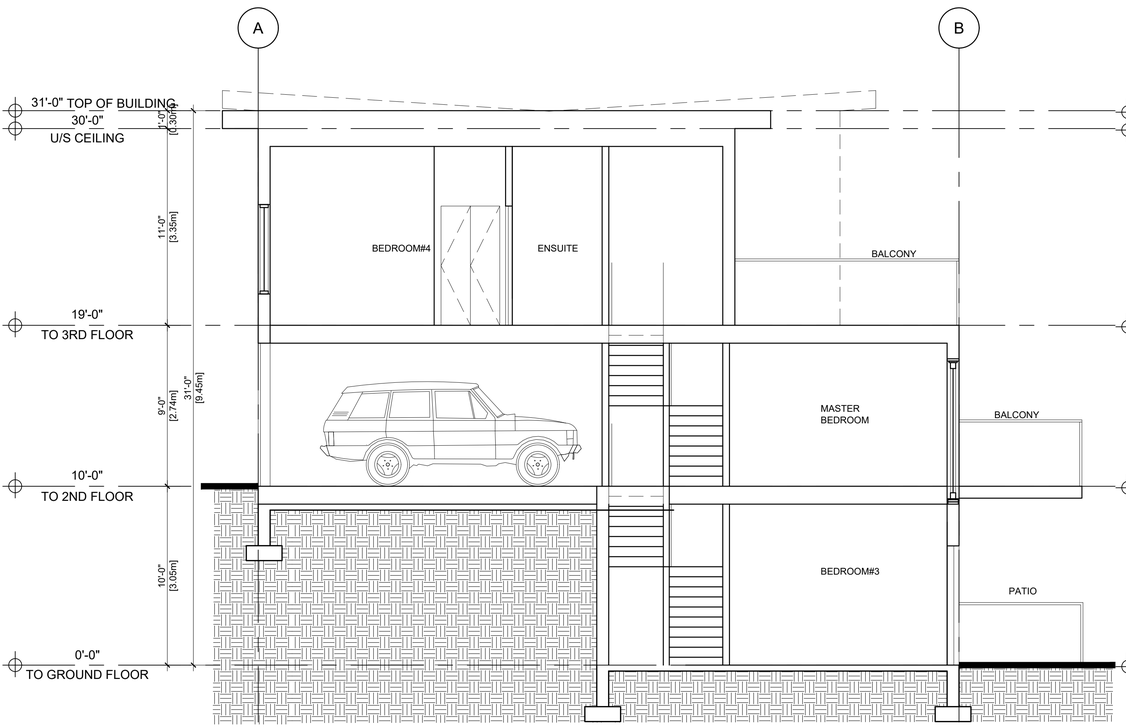

3 UNIT TYPE F
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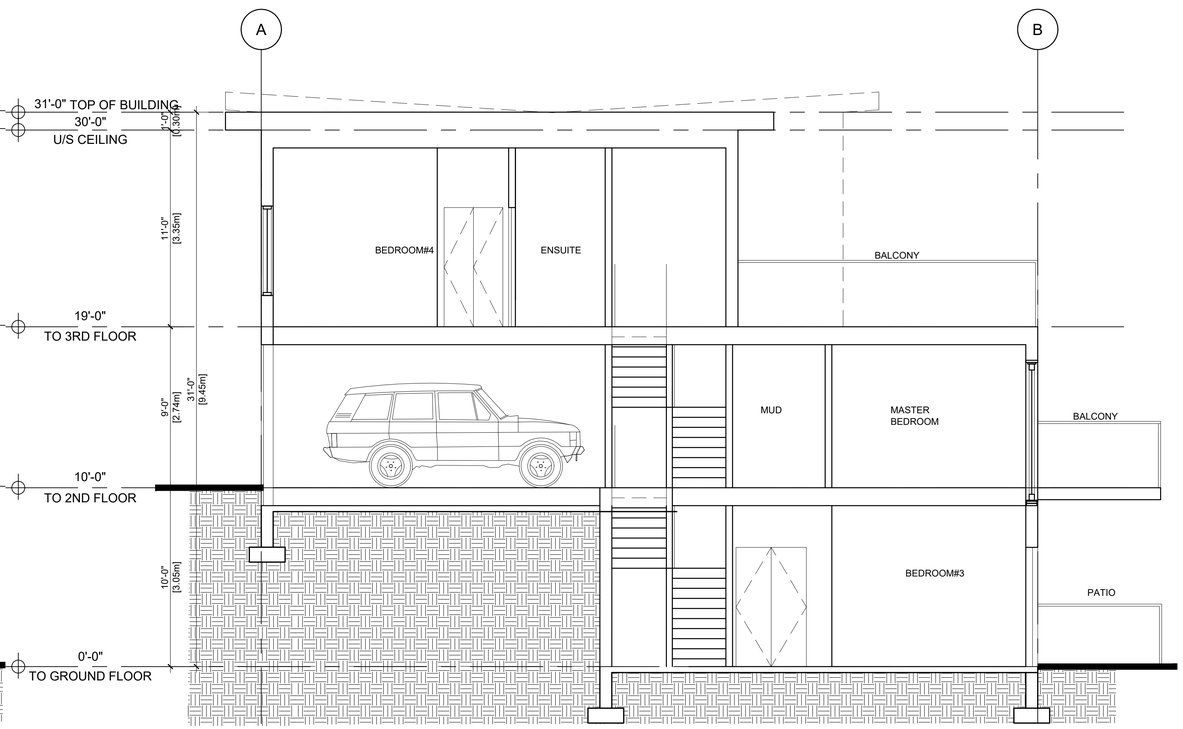

4 UNIT TYPE G
Scale: 1/4"= 1'-0"

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CONSULTANT

PROJECT

3830 GELLATLY ROAD
WEST KELOWNA

DRAWING TITLE

BUILDING SECTION

DRAWING No.

A5.02

1 BUILDING 2 PERSPECTIVE A
NTS

PWA

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PROJECT NUMBER	A3012
DRAWN BY	FC
CHECKED BY	PY
DATE CHECKED	
CONSULTANT	

PROJECT

3830 GELLATLY ROAD
WEST KELOWNA

DRAWING TITLE

3D PERSPECTIVES

DRAWING No.

A6.0

1 BUILDING 2 PERSPECTIVE B
NTS

PWA

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REGISTERED ARCHITECT
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BRITISH COLUMBIA

2023-12-18

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CONSULTANT

PROJECT

3830 GELLATLY ROAD
WEST KELOWNA

DRAWING TITLE

BUILDING 2
3D PERSPECTIVE

DRAWING No.

A6.01

1 BUILDING 2 PERSPECTIVE B
NTS

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PROJECT

3830 GELLATLY ROAD
WEST KELOWNA

DRAWING TITLE

BUILDING 2
3D PERSPECTIVE

DRAWING No.

A6.01

1 BUILDING 2 PERSPECTIVE B
NTS

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3830 GELLATLY ROAD
WEST KELOWNA

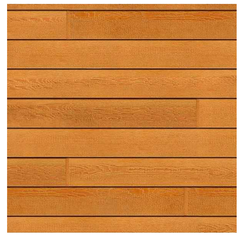
DRAWING TITLE

BUILDING 2
3D PERSPECTIVE

DRAWING No.

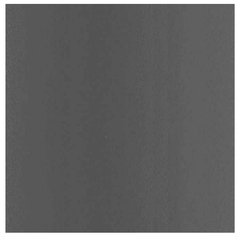
A6.01

HARDIE PLANK LAP
SIDING
COLOR: BROWN



HARDIE PLANK LAP
SIDING
COLOR: CEDAR

HARDIE PANEL
SMOOTH TEXTURE
ON EASY TRIM
COLOR: LIGHT GREY



HARDIE PANEL
SMOOTH TEXTURE
ON EASY TRIM
COLOR: DARK GREY

STONE VENEER
COLOR: COLORADO
GREY

1 BUILDING 2 EAST ELEVATION

Scale: 3/16"= 1'-0"

EXTERIOR MATERIAL LEGEND

1	HARDIE PANEL SMOOTH COLOR: DARK GREY
2	HARDIE PANEL SMOOTH COLOR: LIGHT GREY
3	HARDIE PLANK LAP SIDING COLOR: BROWN
4	HARDIE PLANK LAP SIDING COLOR: CEDAR
5	DOUBLE GLAZED DOORS FRAME COLOR: CHARCOAL
6	DOUBLE GLAZED WINDOWS FRAME COLOR: CHARCOAL
7	PRE-FINISHED ALUMINUM RAILING C/W CLEAR SAFETY GLASS FRAME COLOR: CHARCOAL
8	ENTRY DOOR COLOR: DARK GREY
9	FIBER CEMENT PLANK SOFFIT COLOR: CEDAR
10	HARDIE FASCIA TRIM BOARDS COLOR: CHARCOAL
11	GARAGE OVERHEAD DOOR COLOR: LIGHT GREY
12	STONE VENEER COLOR: COLORADO GREY

PWA

**pacific
west
architecture**

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CONSULTANT

PROJECT

3830 GELLATLY ROAD
WEST KELOWNA

DRAWING TITLE

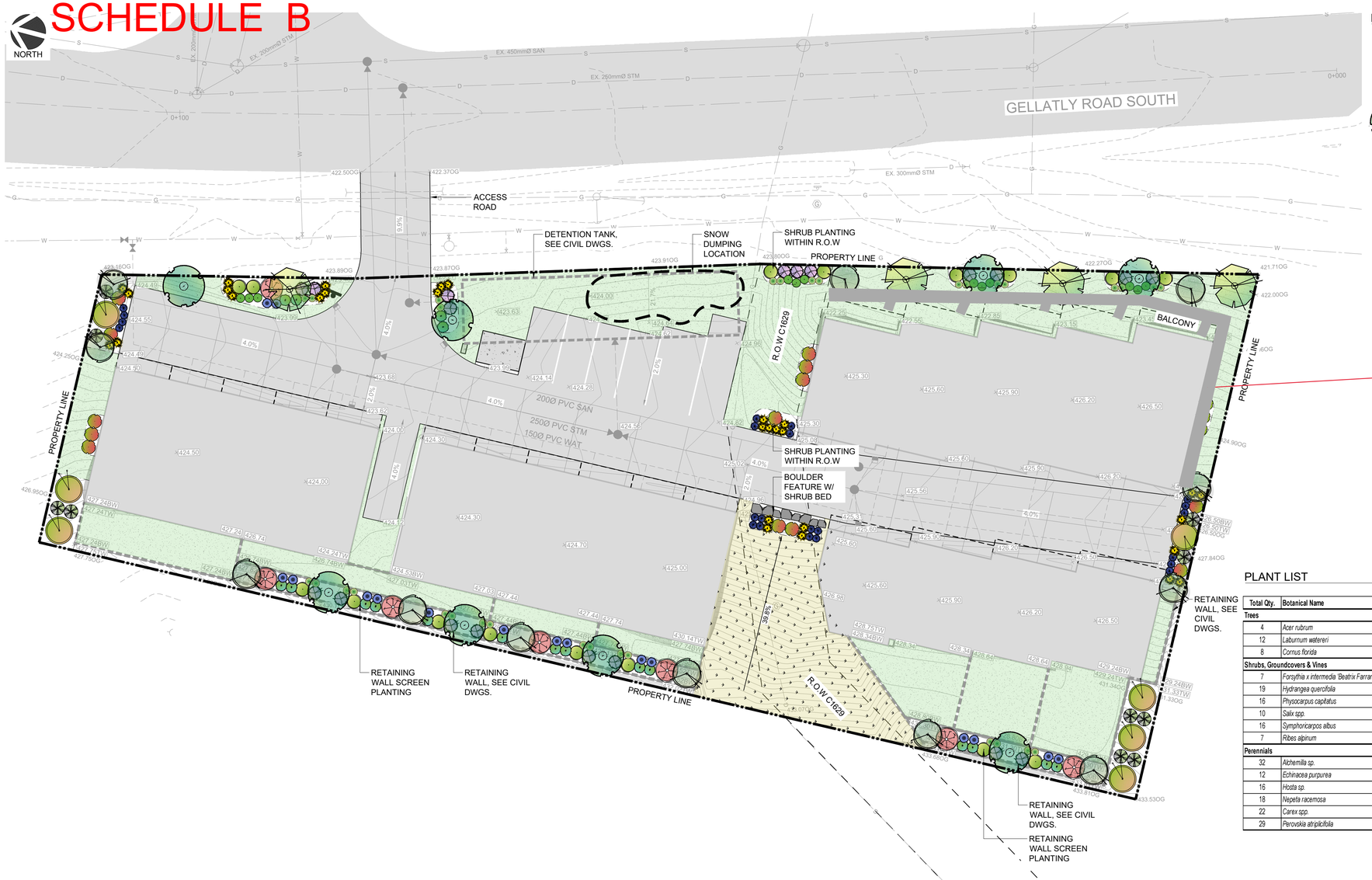
MATERIAL BOARD

DRAWING No.

A7.01

SCHEDULE B

SCHEDULE B



LEGEND

DECIDUOUS TREES
- RED MAPLE
- GOLDEN CHAIN TREE
- FLOWERING DOGWOOD

SHRUBS
- PACIFIC NINEBARK
- BEATRIX FARRAND FORSYTHIA
- SNOWBERRY
- WILLOW
- OAKLEAF HYDRANGEA
- ALPINE CURRANT

PERENNIALS
- LADY'S MANTLE
- PURPLE CONEFLOWER
- HOSTA / PLANTAIN LILY
- CATMINT
- RUSSIAN SAGE
- SEDGES

- PROPERTY LINE
- LAWN (SOD)
- NO MOW SEED MIX
- BOULDER FEATURE

Applicant to include a 1.5m walkway to the front entry of Building 4 (Building Code Requirement). Detail to be reviewed at BP. Landscaping will be adjusted to accommodate the walkway. The walkway will connect to individual unit patios with a gate or opening. Line shown is illustrative of location and not to scale.

PLANT LIST

Total Qty.	Botanical Name	Common Name	Size	Spacing O.C.	Mature Spread	Mature ht.
Trees						
4	*Acer rubrum*	Red Maple	60mm cal., B&B	As Specified	6m	7m
12	*Laburnum watereri*	Golden Chain Tree	60mm cal., B&B	As Specified	3m	4.5m
8	*Cornus florida*	Flowering Dogwood	60mm cal., B&B	As Specified	4.5m	7m
Shrubs, Groundcovers & Vines						
7	*Forsythia x intermedia 'Beatrix Farrand'*	Beatrix Farrand Forsythia	#3 pot	2.0m	3.6m	3m
19	*Hydrangea quercifolia*	Oakleaf Hydrangea	#3 pot	1.5m	1.5m	1.8m
16	*Physocarpus capitatus*	Pacific Ninebark	#5 pot	As Specified	1.5m	1.5m
10	*Salix spp.*	Willow	#2 pot	As Specified	1.5m	6m
16	*Symphoricarpos albus*	Snowberry	#2 pot	As Specified	1.5m	1.5m
7	*Ribes alpinum*	Alpine Currant	#2 pot	As Specified	1.5m	1.8m
Perennials						
32	*Alchemilla sp.*	Lady's Mantle	#1 pot	0.75m	0.6m	0.6m
12	*Echinacea purpurea*	Purple Coneflower	#1 pot	1.0m	0.9m	0.9m
16	*Hosta sp.*	Hosta / Plantain Lily	#1 pot	1.0m	0.7m	0.5m
18	*Nepeta racemosa*	Catmint	#1 pot	1.2m	0.45m	0.6m
22	*Carex spp.*	Sedges	#1 pot	0.9m	0.9m	0..9m
29	*Perovskia atriplicifolia*	Russian Sage	#1 pot	0.9m	0.9m	1.5m

LANDSCAPE PLAN

0 1:200 10

SCALE 1:200

PLANT IMAGES

TREES


RED MAPLE


GOLDEN CHAIN TREE


FLOWERING DOGWOOD

SHRUBS


BEATRIX FARRAND FORSYTHIA


OAKLEAF HYDRANGEA


PACIFIC NINEBARK


WILLOW


SNOWBERRY


ALPINE CURRANT

PERENNIALS


LADY'S MANTLE


PURPLE CONEFLOWER


HOSTA / PLANTAIN LILY


CATMINT


SEDGES


RUSSIAN SAGE

GENERAL NOTES

1. THIS DRAWING HAS BEEN PREPARED FOR DEVELOPMENT PERMIT PURPOSES ONLY. IT IS NOT TO BE USED FOR CONSTRUCTION PURPOSES.
2. ALL PLANT MATERIAL TO CONFORM TO THE CANADIAN NURSERY TRADES ASSOCIATION STANDARDS.
3. ALL CONSTRUCTION TO FOLLOW THE CANADIAN LANDSCAPE STANDARD.
4. ALL SHRUBS TO BE A MINIMUM HEIGHT OR SPREAD OF 600mm AT TIME OF PLANTING
5. VERIFY ALL DIMENSIONS, ELEVATIONS,AND DATUM; REPORT ANY ERRORS AND/OR DISCREPANCIES TO THE OWNER PRIOR TO CONSTRUCTION.
6. DO NOT SCALE DRAWINGS.
7. ALL BEDS TO HAVE A MINIMUM OF 75mm DEPTH BARK CHIP MULCH.
8. ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE NOTED.
9. REFER TO CIVIL DRAWINGS FOR ALL GRADING INFORMATION.
10. REFER TO CIVIL DRAWINGS FOR ALL UTILITY INFORMATION.
11. EXISTING VEGETATION OUTSIDE LIMIT OF CONSTRUCTION TO BE RETAINED. .
12. SOIL DEPTHS FOR LANDSCAPING TO FOLLOW THE BRITISH COLUMBIA LANDSCAPE STANDARD AS PER WEST KELOWNA OCP DOCUMENT. MINIMUM SOIL DEPTHS AS FOLLOWS. TREES (600mm), SHRUBS (450mm), GROUNDCOVERS/SOD (300mm).
13. NO MOW SEED MIX WITH A BIODEGRADABLE NON-NETTED SEED MAT TO PROVIDE EROSION CONTROL
14. AS PER THE WEST KELOWNA OCP DOCUMENT, IRRIGATION TO BE AN UNDERGROUND SYSTEM THAT CONFORMS TO IIABC STANDARDS.
15. PLANTING PRESCRIPTION HAS BEEN DONE AS PER FIRESMART BC GUIDELINES.

Rev	Date	Description	Drawn	Design	App'd
PB	2024-01-08	RE-ISSUED FOR DEVELOPMENT APPLICATION	LJ	SS	SS
PA	2023-05-02	ISSUED FOR DEVELOPMENT APPLICATION	CT	CT	SS

ORIGINAL DWG SIZE: ANSI D (22" x 34")

McElhanney
710 Laval Crescent
Kamloops BC
Canada V2C 5P3
T 250 374 2200

PRELIMINARY NOT FOR CONSTRUCTION

THIS DRAWING HAS NOT BEEN APPROVED AND MAY CONTAIN ERRORS AND OMISSIONS

2503000938 BC LTD
564 DENALI DRIVE, KELOWNA BC, V1Y 2P6

3830 GELLATLY ROAD TOWNHOUSES
LANDSCAPE PLAN

Drawing No. L101

Project Number 2081-011

Rev. PB

DESTROY ALL PRINTS BEARING PREVIOUS REVISION

Client: **2503000938 BC Ltd.**

Project: **3830 Gellatly Road Townhouse**

Site: **3830 Gellatly Road**

Estimate Type: **CLASS D**

Revision: **PB**

McElhanney

Date: 10-Jan-24

MCSL No.: 2451-2081-011

Prepared by: Lei Jiang

SCHEDULE	ITEM	DESCRIPTION	UNIT	UNIT PRICE	ESTIMATED QUANTITY	EXTENDED AMOUNT
MMCD Sec	**Lemonade Lane - LANDSCAPE ARCHITECTURE**					
	1	**Plant Materials**				
		Sod grass on 150mm depth topsoil	sq.m.	$ 20.00	765	$ 15,300.00
		Seed Mix on 150mm depth topsoil	sq.m.	$ 10.00	197	$ 1,970.00
		Deciduous Tree - 60mm cal. B&B	Each	$ 650.00	24	$ 15,600.00
		Shrub - #5 Pot	Each	$ 60.00	16	$ 960.00
		Shrub - #3 Pot	Each	$ 50.00	26	$ 1,300.00
		Shrub - #2 Pot	Each	$ 45.00	33	$ 1,485.00
		Perennial - #1 Pot	Each	$ 25.00	129	$ 3,225.00
		Topsoil / Growing Medium - Depths per Landscape Plan	cu m	$ 50.00	170	$ 8,500.00
	3	**Bark Mulch**				
		Bark Mulch - 75mm depth c/w Landscape Fabric	sq.m.	$ 15.00	320	$ 4,800.00
	7	**Miscellaneous**				
		Boulders	Each	$ 250.00	8	$ 2,000.00
	8	**Maintenance**				
		Maintenance (CCC to FAC)	Year	$ 15,000.00	2	$ 30,000.00
					SUBTOTAL	**$ 85,140.00**

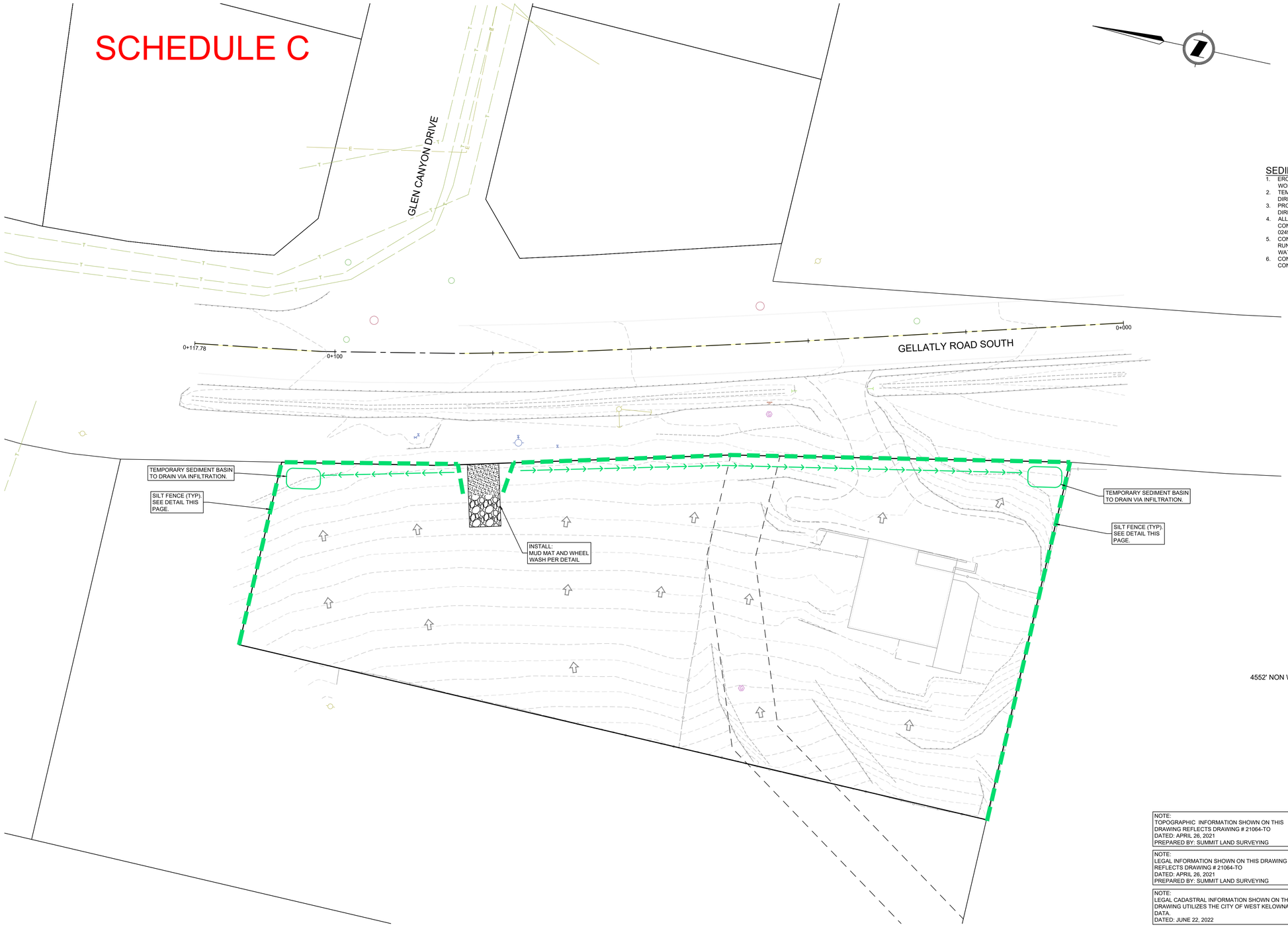
Assumptions and Exclusions:

1. Line item estimates include supply and install of materials.
2. The above costs exclude Contingency and GST.
3. Unit rates are based on 2024 market pricing.
4. Costs do not include professional detailed design or construction review fees.

at 125% = $106,425.00

SCHEDULE C

SCHEDULE C

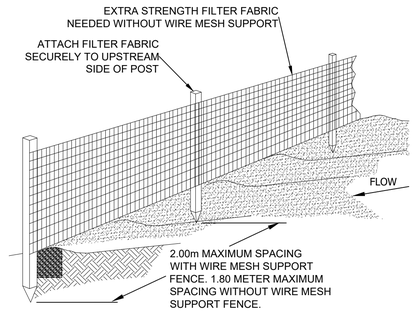


LEGEND

EXISTING	PROPOSED
EDGE OF PVMNT	EDGE OF PVMNT
CURB & GUTTER	CURB & GUTTER
SIDEWALK	SIDEWALK
	CONCRETE
	ASPHALT PAVING
	ROCK CHECK DAM
	SILT FENCE
	SWALE
	GENERAL DRAINAGE PATTERN

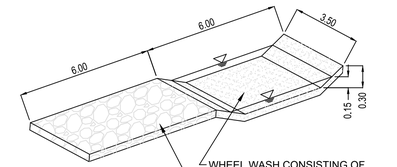
SEDIMENT AND EROSION CONTROL NOTES:

1. EROSION AND SEDIMENT CONTROL MEASURES TO BE INSTALLED/CONSTRUCTED PRIOR TO COMMENCING OTHER WORKS.
2. TEMPORARY SEDIMENT BASIN TO TRAP RUNOFF. GENERAL CONTRACTOR TO ENSURE ALL SITE RUNOFF IS DIRECTED TOWARDS THE SEDIMENT BASIN.
3. PROVISIONAL EROSION AND SEDIMENT CONTROL MEASURES TO BE MADE AVAILABLE IMMEDIATELY AS/WHEN DIRECTED BY THE ENGINEER.
4. ALL EROSION AND SEDIMENT CONTROL MEASURES & BMPS FOR BOTH ONSITE AND OFFSITE WORKS SHALL CONFORM WITH APPENDIX A - SCHEDULE 5.8 OF THE CITY OF WEST KELOWNA'S WORKS AND SERVICES BYLAW # 0249.)
5. CONTRACTOR TO USE BEST CONSTRUCTION MANAGEMENT TECHNIQUES WITH REGARD TO STORMWATER RUNOFF. NO SILT LADEN WATERS SHALL BE ALLOWED TO LEAVE THE CONSTRUCTION SITE, OR TO ENTER ANY WATERCOURSE PER FEDERAL FISHERIES ACT PROVISIONS.
6. CONTRACTOR TO REVIEW AND REFER TO ENVIRONMENTAL PROTECTION SPECIAL PROVISIONS WITHIN THE CONTRACT DOCUMENTS FOR FURTHER SPECIFICATIONS.



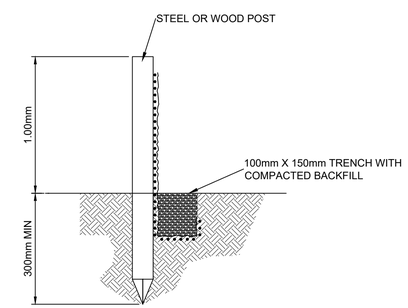
SILT FENCE AND FENCING BAFFLE DETAIL

N.T.S.



MUD MAT AND WHEEL WASH DETAIL

N.T.S



NOTE:
TOPOGRAPHIC INFORMATION SHOWN ON THIS DRAWING REFLECTS DRAWING # 21064-TO
DATED: APRIL 26, 2021
PREPARED BY: SUMMIT LAND SURVEYING

NOTE:
LEGAL INFORMATION SHOWN ON THIS DRAWING REFLECTS DRAWING # 21064-TO
DATED: APRIL 26, 2021
PREPARED BY: SUMMIT LAND SURVEYING

NOTE:
LEGAL CADASTRAL INFORMATION SHOWN ON THIS DRAWING UTILIZES THE CITY OF WEST KELOWNA'S GIS DATA.
DATED: JUNE 22, 2022

Rev	Date	Description	Drawn	Design	App'd
3	2023-12-20	RE-ISSUED FOR DEVELOPMENT PERMIT	BB	JG	JG
2	2023-05-12	ISSUED FOR DEVELOPMENT PERMIT	BB	JG	DM
1	2023-04-12	ISSUED FOR REVIEW	BB	JG	DM
0	2023-02-09	ISSUED FOR REVIEW	BB	JG	DM

0 1:250 10

ORIGINAL DWG SIZE: ANSI D (22" x 34")

McElhanney
2281 Hunter Road
Kelowna BC
Canada V1X 7C5
T 250 861 8783

PRELIMINARY
NOT FOR CONSTRUCTION

THIS DRAWING HAS NOT BEEN APPROVED AND MAY CONTAIN ERRORS AND OMISSIONS

2503000938 BC LTD
564 DENALI DRIVE, KELOWNA BC, V1Y 2P6

3830 GELLATLY ROAD TOWNHOUSES
EROSION & SEDIMENT CONTROL PLAN

Drawing No.
SK04

Project Number	Rev.
2081-011	3

FUNCTIONAL SERVICING REPORT

3830 GELLATLY ROAD TOWNHOME DEVELOPMENT

May 29, 2023 | Revision 1

Submitted to: 2503000938 BC LTD.
Prepared by McElhanney Ltd.

Contact
Jesse Granberg, P.Eng.
Project Manager
778-397-3917
jgranberg@mcelhanney.com

Address
2281 Hunter Road, Kelowna BC
V1X 7C5

Prepared by
Jesse Granberg, P.Eng

Reviewed by
Marie Rousseau, P.Eng.

Our file: 2451-2081-011

Distribution List

No. of Hard Copies	PDF Required	Company / Agency
1	1	2503000938 BC LTD.

Revision Log

Revision No.	Revised by	Date	Issue / Revision Description
1	JG	2023-05-29	Issue For Development Permit

McElhanney Signatures

Report Prepared By:

Jesse Granberg, P.Eng.

Design Engineer

Report Reviewed By:

Marie Rousseau, P.Eng.

Engineer of Record

Contents

APPENDICES

1.0 INTRODUCTION

McElhanney Ltd. was retained by our client in early June of 2022 to assist with obtaining a civil engineering development permit for their proposed low density townhome development project located at 3830 Gellatly Road S in West Kelowna.

2.0 FUNCTIONAL SERVICING REPORT INTENT

This Functional Servicing Report 'FSR' is intended to present schematic design concepts in order to demonstrate how the site may be serviced and developed in keeping with its physical properties and the applicable regulatory requirements (i.e. City of West Kelowna bylaws, BC Building Code, etc.).

The design concepts presented herein represent a first step in the design process and do not represent detailed engineering designs for the project. Detailed designs will be prepared and submitted to the City of West Kelowna and regulatory agencies in due course following receipt of a Development Permit.

3.0 PROJECT SETTING

The development site is comprised of one lot located at 3830 Gellatly Road S (Lot 2, PLAN KAP54990, O.D.Y.D, the 'lands")

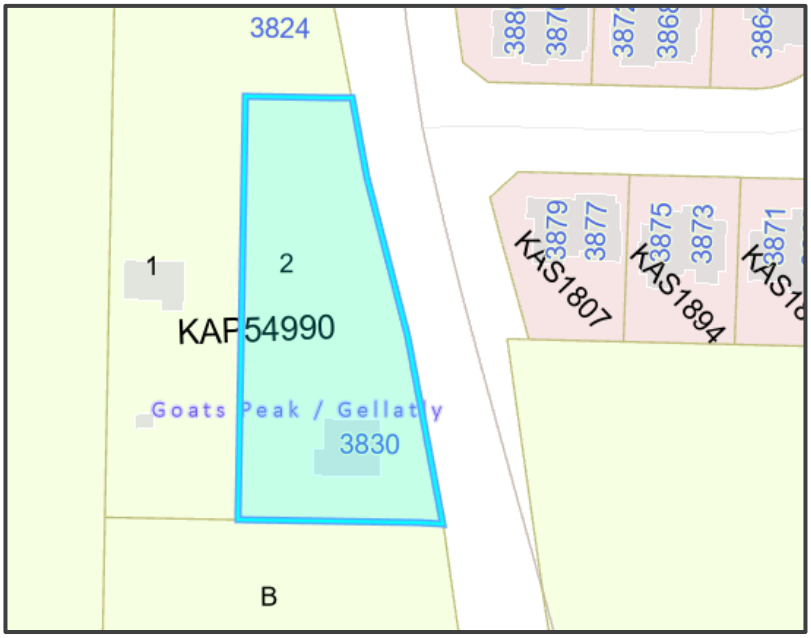


Figure 1 – Subject Lands.

The subject lands comprise 0.85 acres in total. The lands are currently zoned R3 - Low Density Multiple Residential Zone. Property information was received from the City of West Kelowna's GIS website.

4.0 PROPOSED DEVELOPMENT

We understand that our client proposes to develop the lands into residential buildings that contain the following:

i. 21 Townhome Units; and.
ii. Approximately forty-two (42) residents.

5.0 TOPOGRAPHY

The subject lands have a major topographic change throughout the site, with topographic survey data placing the existing site elevation at +/- 422.00 to 434.00 geodetic. From the Gellatly Road frontage, the site slopes up moderately towards the West side of the property at approximately 25% grade; grades approach 40% on the Southwest area of the site surrounding the existing building, while grades average 25% from East to West property lines across the site. The topographic survey of the lands was completed by Summit Land Surveying on April 26, 2021; a copy of the Topographic Survey Plan (drawing #023-208-449) is enclosed as **Appendix C**.

6.0 LEGAL SURVEY

A legal survey plan for the site was completed by Summit Land Surveying (dated April 26, 2021) and is enclosed in **Appendix C**.

7.0 ARCHAEOLOGICAL CONSIDERATIONS

An archaeological site inquiry was placed by McElhanney with the Ministry of Forests, Lands, Natural Resource Operations and Rural Development on May 3rd, 2023. We are still waiting for the report at this time and will provide the information when we receive it. Refer to **Appendix E**.

8.0 ENVIRONMENTAL CONSIDERATIONS (HABITAT)

The subject lands are currently occupied by one dwelling. Based on the conditions observed during McElhanney's site visit dated July, 2022, the site is expected to be free of habitat issues.

9.0 SITE GRADING CONCEPT

The proposed site grading concept will see major revisions from current site grades. Lot platforms will be utilized, and multiple retaining walls will be required to achieve the desirable green space for each townhome unit. Coordination with the project's mechanical engineer will determine whether the drains for the buildings will be pumped via a mechanical or a gravity system.

The West building structures will require the excavation and export of a sizable volume of earth, which may be calculated once the site plan and structural designs have progressed further.

10.0 GEOTECHNICAL CONSIDERATIONS

A site-specific geotechnical report prepared by Valley Geotechnical dated May 10, 2021, is enclosed as **Appendix F**. As described in the geotechnical report, the on-site soils consist of very dense to hard, grey, silty sand with gravel and cobble. They have noted that the site is not suitable for infiltration.

11.0 SITE SERVICING CONCEPTS

A site servicing concept plan has been prepared and is enclosed as **Appendix D**.

11.1 WATER SERVICING

The total water demand for any new development is a combination of on-site domestic water demands and the required fire flows for all buildings / uses. In a multi-family residential development scenario such as the subject development, on-site domestic water consumption rates (peak hourly demands) are considerably lower than maximum daily demands + fire flow demands, which govern for watermain system design purposes.

11.1.1 On-Site Domestic Water Demand

On-site domestic water demands for the project have been calculated following the City of West Kelowna's Subdivision, Development & Site Servicing Bylaw #0249 as follows:

Design Population	= 2 people/residential unit x 21 units
	= 42 people
Average Daily Demand	= 900 litres / capita / day x 42 people
	= 37,800 litres / day
	= 0.438 L/s

Maximum Daily Demand	= 1,800 litres / capita / day x 42 people
	= 75,600 litres / day
	= 0.875 L/s
Peak Hourly Demand	= 4,000 litres / capita / day x 42 people
	= 168,000 litres / day
	= 1.94L/s

11.1.2 Fire Flow Demands

Project specific fire flow demands will be required to be prepared by the project mechanical engineer or fire code consultant once the building designs (fire break locations, building materials, etc.) have been established.

The City of West Kelowna requirements for Single & Dual Residential = 90 L/s for a duration of 2 hours.

11.1.3 Water Servicing

A 250mm PVC water main (built in 1990) flows under Gellatly Road and is offset 2.4m away from the East side of the development.

The site is shown as being currently serviced by two domestic services and the City of West Kelowna service card information indicates the existing services size and location is unknown. These two existing services will be required to be decommissioned, with the services being cut and capped (abandoned) at the existing Gellatly Road watermain.

The proposed multi-family residential development is expected to be serviced with a single new 150mm diameter water service. This will be confirmed by the project's mechanical engineer at the time of detailed design. Connection to the existing 250mm dia. PVC watermain is expected for this development.

There is an existing fire hydrant on Gellatly Road fronting the lands approximately 28 meters Southeast of the Northeast property corner. Depending on the ultimate building locations, which are assumed to be sprinklered, an additional private onsite hydrant may be required and will be determined at the time detailed design.

11.2 SANITARY SERVICING

The City of West Kelowna's Subdivision, Development & Servicing Bylaw #0249 design criteria follow industry standard sanitary sewer design methodology, with design flows generally calculated as follows:

Design Flow (Q) = [(Population x Per Capita Flow) x Peaking Factor] + Infiltration Allowance

11.2.1 Sanitary Design Flow Calculation

Sanitary sewage flows that would be generated by the project have been calculated using the City's Bylaw criteria as follows:

Average Daily Dry Weather Flows

Q = 350 litres / capita / day x 42 people

= 14,700 litres / day

= 0.17L/s

Peaking Factor

City design criteria specify that a peaking factor equal to 75% of the Harmon Peak Factor be applied to the average daily dry weather flows; calculated as follows (P = design population in thousands):

Peaking Factor = 0.75 x (1 + (14/(4+P^0.5)))

= 0.75 x (1 + (14/(4+0.042^0.5)))

= 3.24

Peak design flow = 3.24 x 0.17 L/s

= 0.55L/s

Infiltration Allowance

City design criteria further specifies that an infiltration rate of 5,000 litres per hectare per day be added to the peak domestic flow rate for areas where sanitary sewers are situated outside of the water table. (Geotechnical report confirms that pipes will be installed outside of the water table).

Gross Site Area = 0.34 ha

Infiltration Allowance = 5,000 L/day / ha x 0.34 ha

= 1,700L/day

= 0.02 L/s

The peak sanitary design flow at full project build out is therefore calculated as follows:

Peak Design Flow = Peak Design Flow + Infiltration Allowance

= 0.55 L/s + 0.02 L/s

= **0.57 L/s**

11.2.2 Sanitary Servicing

A 450mm PVC sanitary main (built in 1995) is located down the East side of Gellatly Road.

The site is shown as being currently serviced with one service and the City of West Kelowna service card information indicates this existing service to be 100mm PVC. This existing service will need to be decommissioned at the existing Gellatly Road sewer main.

The proposed multi-family residential development is expected to be serviced with a single new sanitary service with the diameter (likely 150mm) to be confirmed by the project's mechanical engineer at the time of detailed design. Connection to the existing 450mm diameter PVC sanitary sewer on Gellatly Road is anticipated near the North end of the development.

12.0 STORMWATER MANAGEMENT PLAN

12.1 DESIGN CRITERIA

The City of West Kelowna's Subdivision and Development Servicing Bylaw #0259 dated September 2018 provides the following design criteria:

i.) Developments to provide on-site detention facilities to restrict post-development peak runoff rates associated with the 1:100-year event equal to the pre-development grassland condition for the 1:5-year event, plus a 10% volumetric safety factor;

ii.) Minor system to be sized for the 1:5-year event;

iii.) Major system (overland) flows to be sized for the 1:100-year event; and

iv.) Water quality treatment to be provided for all flows up to 50% of the 1:2-year, 1-hour event.

12.2 STORM SERVICING

City of West Kelowna records indicate an existing 250mm PVC storm main (installed 1995) that flows Southeast down Gellatly Road and terminates 18 meters North of the Southern property line, into the roadside ditch with a 375mm storm outfall. It is expected that the City of West Kelowna will require the storm main to be extended along the new development frontage to be able to service the future development along Gellatly Road. This would include relocation of the existing storm outfall approximately 18m further South. The stormwater collection on Gellatly Road would be redirected with

the new curb and gutter into new catch basins located on the Gellatly Road West side frontage, which would then discharge into the 250mm storm sewer. This will be determined after receiving comments from the City of West Kelowna on the preliminary design.

12.3 DESIGN CONCEPT

As presented on the servicing concept plan, storm drainage is proposed to be addressed as follows:

i.) Minor system (catch basins and storm sewers) sized to capture, convey, store and detain runoff flows associated with the 1:5-year event back to ground;

ii.) Provision of a CDS water quality treatment unit (oil / grit separator) to satisfy City criteria;

iii.) Major system (1:100 year) flows and volumes to be captured, conveyed, and stored.

iv) Provision of a storm overflow out letting to the existing ditch on the West side of Gellatly Road. Storm flows associated with events greater than the design major system event (say a 1:200-year storm, or back-to-back major system events), will be directed overland to the West ditch on Gellatly Road.

12.4 INFILTRATION CONSIDERATIONS

The geotechnical report enclosed in **Appendix F** does not note a specific approximate soil 'K' value (hydraulic conductivity) for the on-site soils, but notes that infiltration cannot be utilized on this site due to the soil conditions.

12.5 STORM WATER QUALITY CONSIDERATIONS

The intent of stormwater management designs from a water quality perspective is to protect receiving water bodies against the potential for loss or degradation of habitat quantity, quality, diversity, and productivity which can occur as a result of land development activities.

Stormwater quality best management practices include both source control and treatment approaches. Source control BMPs generally involve either alterations to reduce the production of pollutants or their introduction / contact with stormwater.

In the case of townhome developments such as the proposed 3830 Gellatly Road development, automobile related activities are the key source of pollutants of concern and by their nature cannot effectively be 'source controlled'. As such, stormwater from roadways and parking areas should not be allowed to run directly to receiving waters or to ground; rather, they should be directed to treatment BMPs prior to being released into the City system.

As shown on the conceptual servicing plan, designs are proposed to include a properly sized water quality treatment unit in order to protect the environment and to safeguard the longevity of the stormwater detention tank (i.e. protect from becoming fouled by trash and debris). An O&M manual will also be provided to the owner summarizing the maintenance requirements of the water quality treatment unit per the manufacturer's specs, typically calling for annual servicing via vactor truck.

13.0 EROSION AND SEDIMENT CONTROL

Subsequent detailed erosion and sediment control designs for the project will be required to satisfy City of West Kelowna criteria in keeping with the following outline specification:

- Reduce areas of site disturbance limiting potential for soils to erode and form sediment in surface runoff;
- Interception and management of on-site runoff;
- Scheduling of civil construction works to minimize risk of potential erosion
    - dry weather periods
    - halting civil construction during heavy precipitation events
    - restricting vehicular access
    - providing working pads and wheel wash facilities;
- Cover & re-vegetation of disturbed / exposed soils;
- Inspection and maintenance of erosion and sediment control measures (interceptor swales, sediment fence, etc.) during construction; and,
- All construction activities to be contained within construction boundaries indicated on the civil drawings. Specified excavation requirements, precautions, and protective systems to be observed at all times.

14.0 SHALLOW UTILITIES

As the subject lands are located within a fully urbanized area, shallow utility services are anticipated as being readily available. Subsequent discussions with the shallow utility companies will establish servicing points, any requisite off-site upgrades, etc.

15.0 CLOSURE

This Functional Servicing Report has been prepared for the sole purpose of assisting our client's development permit submission of the subject property. No third party may rely on this report without the prior written consent of McElhanney Ltd.

APPENDIX A

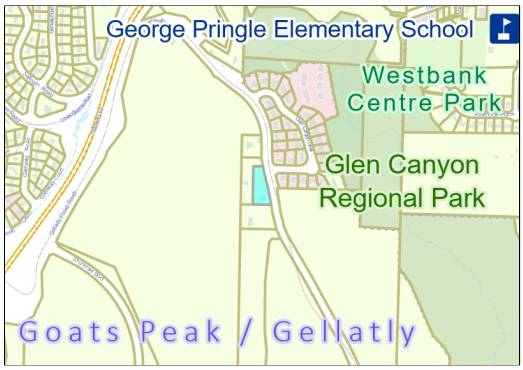
PROPERTY REPORTS

City of West Kelowna
2760 Cameron Road, West Kelowna, BC V1Z 2T6
Phone: (778)797-1000 Fax: (778)797-1001
Website: www.westkelownacity.ca

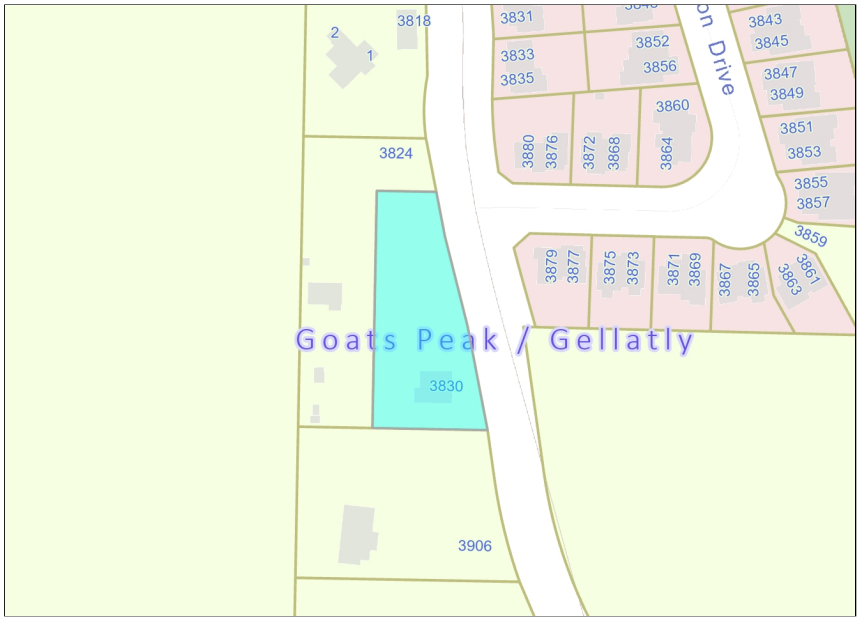
WESTMAP Property Report

Report Produced on: 5/9/2023 8:18:01 AM

Folio Number: 36414572.025



Property location within the City of West Kelowna



Property highlighted in blue

Property Information

PID: 023-208-449 **Lot#:** 2 **Plan #:** KAP54990 **District Lot:** 3187 **Lot Size:** 0.85 acres (3439.83 sqm)

Property Address: **3830 GELLATLY RD S**

Zoning Code: R3 Low Density Multiple Residential Zone

DP Areas: Hillside

OCP Code: LDMF Low Density Multiple Family

Neighbourhood: Goats Peak / Gellatly

Actual Use: 000 Single Family Dwelling

Land Value: $980,000.00

Improvements Value: $429,000.00

Total Value: $1,409,000.00

Sewer Service Connected: YES

Water System: Powers Creek Water System

Sewer Bylaw: N/A

Sewer Staging: N/A

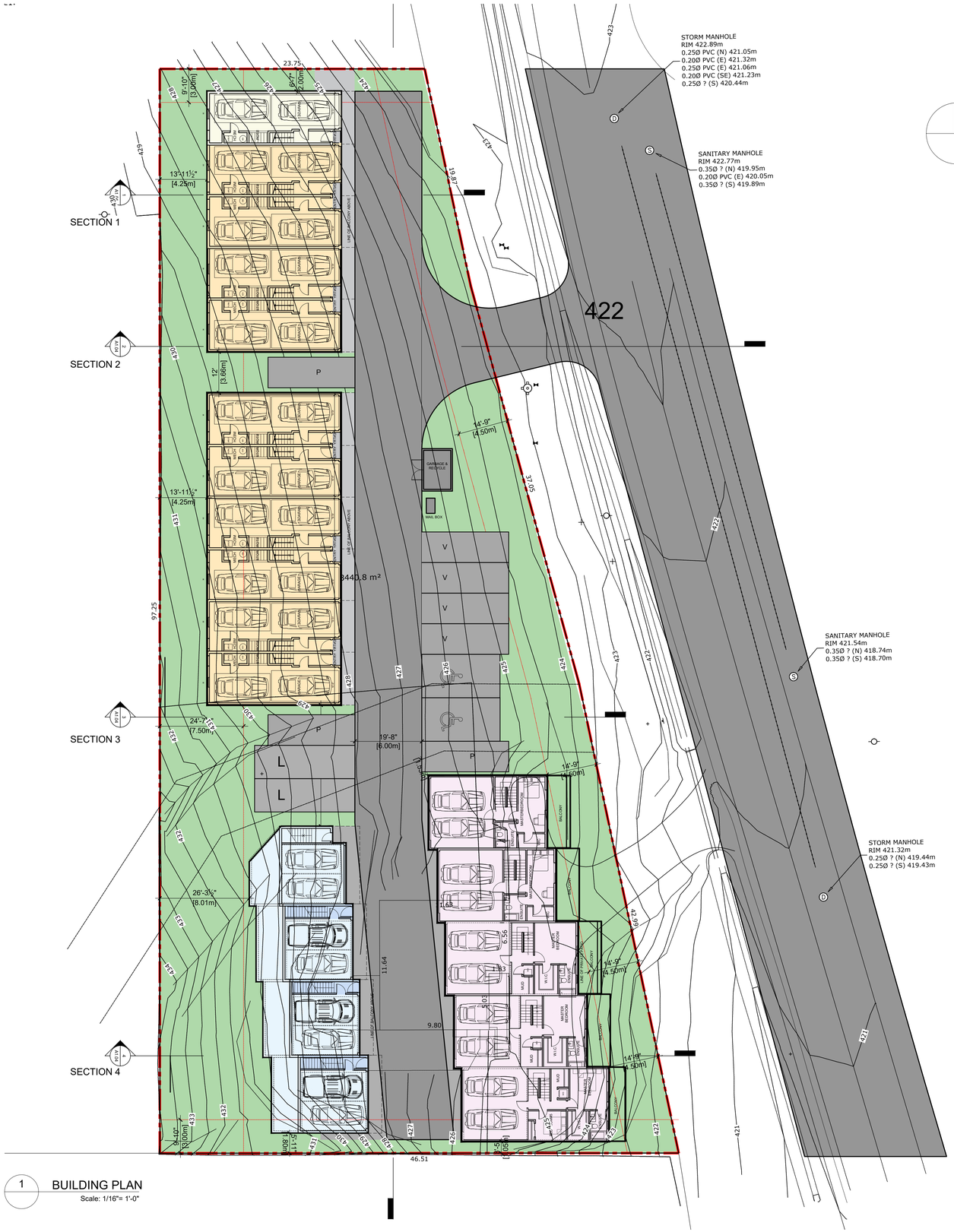
Electricity Provider: BC Hydro **Gas Provider:** Fortis BC

Extra Legal Information:

PLAN KAP54990 LOT 2 DISTRICT LOT 3187 OSOYOOS DI
V OF YALE DISTRICT

APPENDIX B

SITE PLAN & SITE STATISTICS



1 BUILDING PLAN
Scale: 1/16"= 1'-0"

PROJECT DESCRIPTION				
Civic Address	3830 Gellatly Road South, West Kelowna, BC			
Legal Address	LOT 2, DISTRICT LOT 3187, ODYD, PLAN KAP54990			
OCP Code	LDMF (Low Density Multiple Family)			
Existing Zoning	R3			
Proposed Zoning	R3			
Zoning Bylaw	Zoning Bylaw No. 0265			
SITE AREA	Square Meters	Acres	Square Feet	hactre
	3440.8	0.85	37,036.5	0.34408

DEVELOPMENT REGULATIONS			
CRITERIA	**R3 Zone Requirement**		**Proposed**
Building Height	9.0m (29.5') to a maximum of 3 storeys		
Front Yard (East)	4.5m (14.8')		4.5m (14.8')
Side Yard (North)	3.0m (9.8')		2.0m(6.6')
Side Yard (South)	3.0m (9.8')		1.05m(3.4')
Rear Yard (West)	7.5m (24.6')		4.25m (13.9')
Parcel Coverage	40%		Building 1: m2 Building 2: m2 Building 3: m2 Building 4: m2 Total:
FSR	0.75	2580.6 m2	0.75 Building 1: m2 Building 2: m2 Building 3: m2 Building 4: m2 Total: 2580.6 m2

PARKING REGULATIONS			
	Required		**Provided**
Minimum Parking Requirements	Residents	2.0 per dwelling unit 2.0 x 20=40	40
	Visitors	10% of total required number 10% x 40=4.0	7
	Total	44	47
	Accessible Parking	required parking 21-100 required: 2	2
Parking Dimensions	Regular	90°: 2.75 x 6.0 m / 9" x 19.7'	40 for residents 9 for visitors
		Parallel: 2.5 x 7.0 m / 8.2'x16.4'	0
		Sub Total	49
	Small	2.5 x 5.0 m / 8.2'x16.4'	0
	Accessible Parking	3.9 x 6.0 m / 12.8' x 19.7'	2
	Total		49
Loading Requirement	1 per 15 dwelling units Required: 2		2
Loading Space Dimensions	Truck / Van	3.0 x 9.0 m / 9.8' x 29.5'	2
	Bus	3.6 x 12.2 m / 11.8' x 40'	0
	Car	2.5 x 7.0m / 8.2' x 23'	0
Bicycle Parking Requirements (with private garage in each unit)	Class I	0	0
	Class II	0	0

Unit Breakdown

Unit Type	Number of Unit	Number of Bedoom	Floor Area (sq.ft)	Floor Area (m2)	Garage Style	Building Height	Building #
Type A	1	2	1,352	125.6	Tandem	9.45m	Buildign 1
Type B	10	3	1,365	126.8	Tandem	9.45m	Building 1, 2
Type C	1	2	1,283	119.2	Double	9.45m	Building 3
Type D	3	3+Flex	1,412	131.2	Double	9.45m	Building 3
Type E	2	3+Flex	1,409	130.9	Double	9.45m	Building 4
Type F	2	4	1,549	143.9	Double	9.45m	Building 4
Type G	1	5	1,732	160.9	Double	9.45m	Building 4
Total	20	2-Bedroom: 2 3-Bedroom: 10 3-Bedroom+Flex: 5 4-Bedroom: 2 5-Bedroom: 1	28,169	2,617.0	Tandem: 11 Double: 9	N/A	N/A

pacific west architecture

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Vancouver B.C. V6P 6G5

Office: 604 558 3064
Fax: 604 267 7056
Email: info@pwaarchitecture.com
www.pwaarchitecture.com

REVISIONS
1

ISSUES		DATE
8		
7		
6		
5		
4		
3		
2		
1	ISSUED FOR REVIEW	FEB 2023

PROJECT NUMBER	A366
DRAWN BY	FC
CHECKED BY	PY
DATE CHECKED	
CONSULTANT	

PROJECT

3830 GELLATLY ROAD
WEST KELOWNA

DRAWING TITLE

SITE PLAN

DRAWING No.

A1.00

APPENDIX C

LEGAL & TOPOGRPAHIC SURVEY

TOPOGRAPHIC SITE PLAN OF LOT 2, DISTRICT LOT 3187, ODYD, PLAN KAP54990

0 4 12 20 m

Scale 1:200

The intended plot size of this plan is 560mm in width by 864mm in height (D-size) when plotted at a scale of 1:200.

Address: 3830 Gellatly Road South, West Kelowna, BC
PID: 023-208-449

LEGEND

- Utility pole
- Sanitary sewer manhole
- Storm drain manhole
- Water valve
- Fire hydrant
- Top/bottom of grade breaks
- Chain-link fence
- Wire fence
- HPGP — High Pressure Gas Pipeline

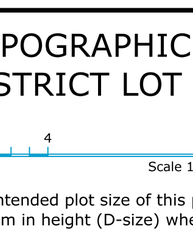
NOTES

- Lot dimensions, area, and offsets to boundaries shown may vary upon completion of a comprehensive legal survey.
- Elevations shown are based upon geodetic datum CGVD28.
- Contour interval is 0.5m.
- Sanitary sewer and storm drain pipe diameter measurements shown are approximate only.

The parcel is subject to charge on title:

- Right of Way C16297

Field survey dated April 22, 2021.



1
PLAN
KAP54990

2
PLAN
KAP54990
3440.8 m²

B
PLAN
KAP43899

GLEN CANYON DRIVE

GELLATLY ROAD SOUTH

STORM MANHOLE
RIM 422.89m
0.25Ø PVC (N) 421.05m
0.20Ø PVC (E) 421.32m
0.25Ø PVC (E) 421.06m
0.20Ø PVC (SE) 421.23m
0.25Ø ? (S) 420.44m

SANITARY MANHOLE
RIM 422.77m
0.35Ø ? (N) 419.95m
0.20Ø PVC (E) 420.05m
0.35Ø ? (S) 419.89m

SANITARY MANHOLE
RIM 421.54m
0.35Ø ? (N) 418.74m
0.35Ø ? (S) 418.70m

STORM MANHOLE
RIM 421.32m
0.25Ø ? (N) 419.44m
0.25Ø ? (S) 419.43m

Right of Way C16297
Plan A8692
Posting Plan KAP64184

House measured to stucco

Roof Over

Cov. Entry

Deck

Chimney

Retaining Wall

Gravel Driveway

Culvert

Ditch

Gas Line Marker

Sign HPGP

Gas Valve

Painted Lines

Overhead Wires

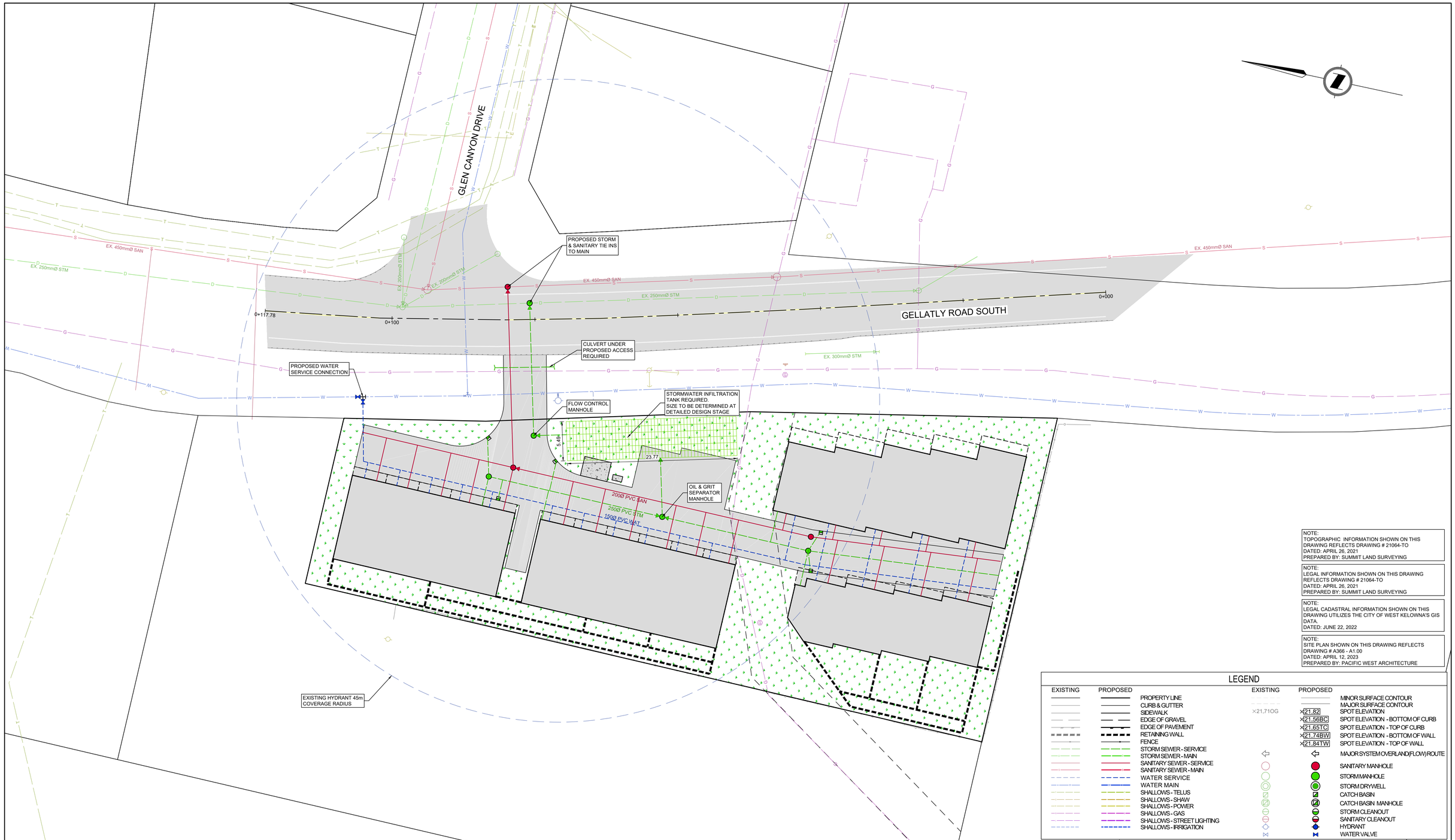
Certified correct this 26th day of April, 2021.

Jacob Wall, BCLS
This document is not valid unless digitally signed.

Summit Land Surveying
Operated by Fusion Land Surveying Ltd.
236.457.4550 - www.summitsurveying.ca
File: 21064-TO Date: April 26, 2021 FB: 6

APPENDIX D

CONCEPTUAL SERVCING & GRADING PLAN



NOTE:
TOPOGRAPHIC INFORMATION SHOWN ON THIS DRAWING REFLECTS DRAWING # 21064-TO
DATED: APRIL 26, 2021
PREPARED BY: SUMMIT LAND SURVEYING

NOTE:
LEGAL INFORMATION SHOWN ON THIS DRAWING REFLECTS DRAWING # 21064-TO
DATED: APRIL 26, 2021
PREPARED BY: SUMMIT LAND SURVEYING

NOTE:
LEGAL CADASTRAL INFORMATION SHOWN ON THIS DRAWING UTILIZES THE CITY OF WEST KELOWNA'S GIS DATA
DATED: JUNE 22, 2022

NOTE:
SITE PLAN SHOWN ON THIS DRAWING REFLECTS DRAWING # A366 - A1.00
DATED: APRIL 12, 2023
PREPARED BY: PACIFIC WEST ARCHITECTURE

LEGEND

EXISTING	PROPOSED		EXISTING	PROPOSED	
		PROPERTY LINE			MINOR SURFACE CONTOUR
		CURB & GUTTER			MAJOR SURFACE CONTOUR
		SIDEWALK	×21.71OG	×21.82	SPOT ELEVATION
		EDGE OF GRAVEL		×21.56BC	SPOT ELEVATION - BOTTOM OF CURB
		EDGE OF PAVEMENT		×21.65TC	SPOT ELEVATION - TOP OF CURB
		RETAINING WALL		×21.74BW	SPOT ELEVATION - BOTTOM OF WALL
		FENCE		×21.84TW	SPOT ELEVATION - TOP OF WALL
		STORM SEWER - SERVICE			MAJOR SYSTEM OVERLAND(FLOW) ROUTE
		STORM SEWER - MAIN			SANITARY MANHOLE
		SANITARY SEWER - SERVICE			STORM MANHOLE
		SANITARY SEWER - MAIN			STORM DRYWELL
		WATER SERVICE			CATCH BASIN
		WATER MAIN			CATCH BASIN MANHOLE
		SHALLOWS - TELUS			STORM CLEANOUT
		SHALLOWS - SHAW			SANITARY CLEANOUT
		SHALLOWS - POWER			HYDRANT
		SHALLOWS - GAS			WATER VALVE
		SHALLOWS - STREET LIGHTING			
		SHALLOWS - IRRIGATION			

Rev	Date	Description	Drawn	Design	App'd
2	2023-05-12	ISSUED FOR DEVELOPMENT PERMIT	BB	JG	DM
1	2023-04-12	ISSUED FOR REVIEW	BB	JG	DM
0	2023-02-09	ISSUED FOR REVIEW	BB	JG	DM

0 1:250 10

ORIGINAL DWG SIZE: ANSI D (22" x 34")

McElhanney
2281 Hunter Road
Kelowna BC
Canada V1X 7C5
T 250 861 8783

PRELIMINARY
NOT FOR CONSTRUCTION

THIS DRAWING HAS NOT BEEN APPROVED AND MAY CONTAIN ERRORS AND OMISSIONS

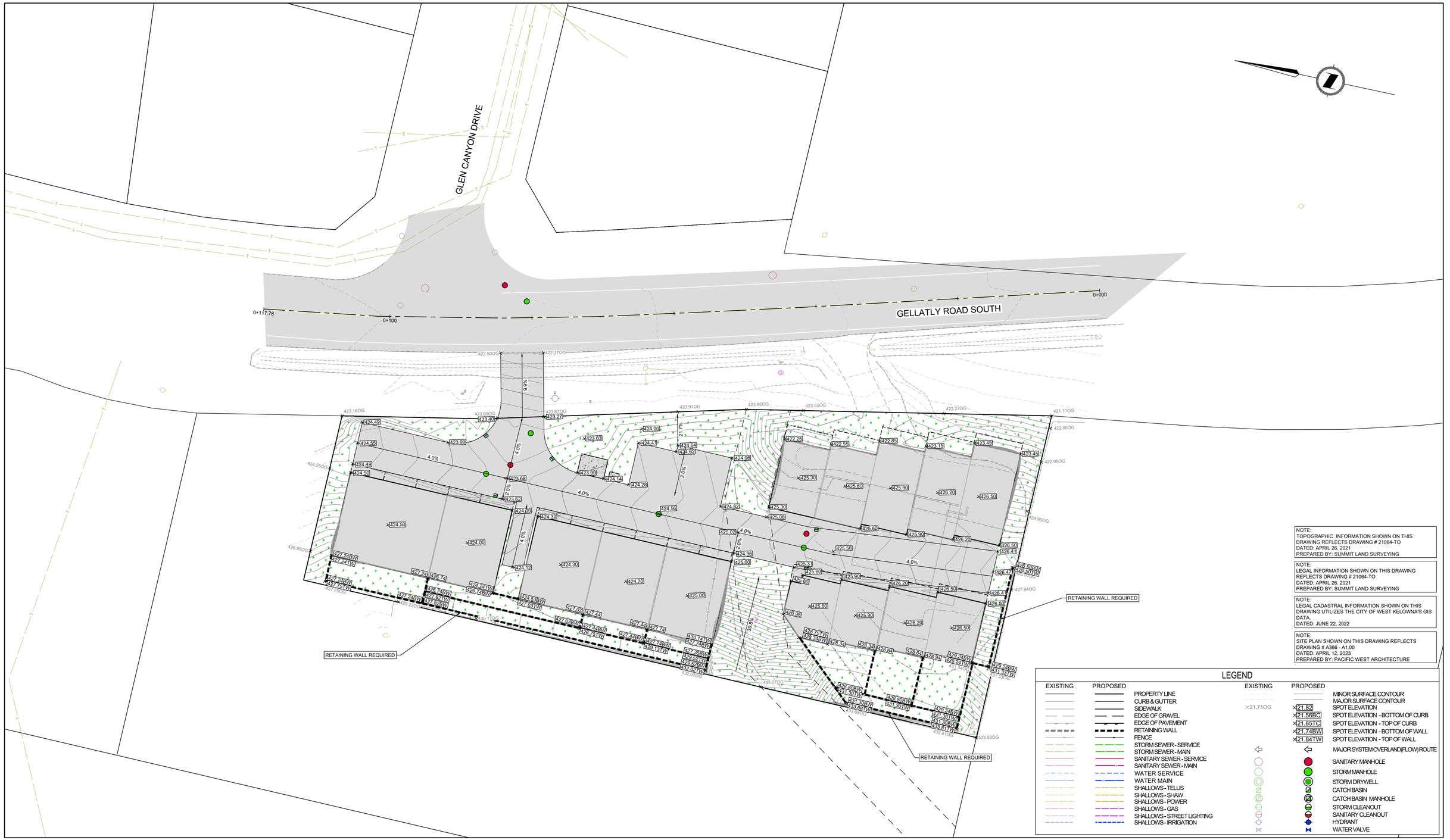
2503000938 BC LTD
564 DENALI DRIVE, KELOWNA BC, V1Y 2P6

3830 GELLATLY ROAD TOWNHOUSES
CONCEPTUAL SERVICING PLAN

Drawing No.
SK01

Project Number	Rev.
2081-011	0

DESTROY ALL PRINTS BEARING PREVIOUS REVISION



NOTE:
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DATED: APRIL 26, 2021
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NOTE:
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DATED: APRIL 12, 2023
PREPARED BY: PACIFIC WEST ARCHITECTURE

LEGEND

EXISTING	PROPOSED		EXISTING	PROPOSED	
		PROPERTY LINE			MINOR SURFACE CONTOUR
		CURB & GUTTER			MAJOR SURFACE CONTOUR
		SIDEWALK	×21.71OG	×21.82	SPOT ELEVATION
		EDGE OF GRAVEL		×21.56BC	SPOT ELEVATION - BOTTOM OF CURB
		EDGE OF PAVEMENT		×21.65TC	SPOT ELEVATION - TOP OF CURB
		RETAINING WALL		×21.74BW	SPOT ELEVATION - BOTTOM OF WALL
		FENCE		×21.84TW	SPOT ELEVATION - TOP OF WALL
		STORM SEWER - SERVICE			
		STORM SEWER - MAIN			MAJOR SYSTEM OVERLAND(FLOW) ROUTE
		SANITARY SEWER - SERVICE			SANITARY MANHOLE
		SANITARY SEWER - MAIN			
		WATER SERVICE			STORM MANHOLE
		WATER MAIN			STORM DRYWELL
		SHALLOWS - TELUS			CATCH BASIN
		SHALLOWS - SHAW			CATCH BASIN MANHOLE
		SHALLOWS - POWER			STORM CLEANOUT
		SHALLOWS - GAS			SANITARY CLEANOUT
		SHALLOWS - STREET LIGHTING			HYDRANT
		SHALLOWS - IRRIGATION			WATER VALVE

Rev	Date	Description	Drawn	Design	App'd
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0	2023-02-09	ISSUED FOR REVIEW	BB	JG	DM

0 1:250 10

ORIGINAL DWG SIZE: ANSI D (22" x 34")

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2503000938 BC LTD
564 DENALI DRIVE, KELOWNA BC, V1Y 2P6

3830 GELLATLY ROAD TOWNHOUSES
CONCEPTUAL GRADING PLAN

Drawing No.
SK02

Project Number	Rev.
2081-011	0

DESTROY ALL PRINTS BEARING PREVIOUS REVISION

APPENDIX E

ARCHAEOLOGICAL DATA REQUEST

APPENDIX F

GEOTECHINCAL REPORT

VALLEY GEOTECHNICAL
Engineering Services Ltd.

ENGINEERS & GEOSCIENTISTS BRITISH COLUMBIA
OQM CERTIFIED

Unit 15 - 20279 97th Avenue
Langley, BC, V1M 4B9

Robin Cove
3830 Gellatly Road S
West Kelowna, BC V4T 2K6

May 10, 2021
Valley Geo Project #: 60071-01

Attention: Robin Cove
Regarding: Geotechnical Investigation and Report for Proposed Rezoning
3830 Gellatly Road S, West Kelowna, BC

1.0 INTRODUCTION

Valley Geotechnical Engineering Services Ltd. (Valley Geo) has been retained by Robin Cove to carry out a soil investigation and provide a geotechnical report for the subject site. It is our understanding that it is proposed to rezone the subject property for future development. This report summarizes our work to date and presents geotechnical recommendations pertinent to the proposed development of the site.

The subject site is identified as being located within the Hillside Development Permit Area (DPA 4), in accordance with Schedule 5 – Hillside & Wildfire Interface Development Permit Areas of the City of West Kelowna (CWK) Official Community Plan (OCP). This report has been prepared in accordance with the CWK requirements for Geotechnical Studies (i.e., Section 4.3 of the OCP).

In addition, this report is in accordance with APEGBC guidelines for "Legislated Landslide Assessments for Proposed Residential Developments in BC (May 2010)". This report may be used by the City of West Kelowna for rezoning considerations.

2.0 SITE DESCRIPTION AND PROPOSED DEVELOPMENT

The subject site has a civic address of 3830 Gellatly Road S in the City of West Kelowna. The legal description of the property is Lot 2, District Lot 3187, ODYD, Plan KAP54990. The site is irregular in shape with a plan are of approximately 0.34ha. The property is bounded by Gellatly Road S to the east, and residential lots to the south, west, and north.

The site slopes down towards the east. According to the City of West Kelowna GIS (WestMap) and a topographic survey by Summit Land Surveying, the average slope grade is about 20-25%, with geodetic elevations ranging from about 424m to 434m.

There is currently a single-family residence in the south portion of the site. The north portion of the site is heavily vegetated with shrubs and trees. There is an existing east-west FortisBC pipeline right-of-way, north of the existing building, bisecting the property.

3.0 SUBSURFACE CONDITIONS

According to the Geological Survey of Canada Map for Kelowna (Open File 6146), the native subsurface conditions at the site are glaciofluvial sediments (Go – subaerial proglacial outwash fan sediments: sand, sandy gravel and boulders; from 1 to 10m thick) and bedrock (R – proterozoic volcanic rocks, Paleozoic mudstone, siltstone, shale and fine clastic sedimentary rocks; Mesozoic granodioritic intrusive rocks and Cenozoic basaltic volcanic rocks).

Valley Geo carried out a test pit investigation on April 29, 2021 using a track-mounted mini excavator. Two test pits were excavated in the north portion of the property, to a maximum depth of 1.5m below the existing ground surface. Generally, the subsurface conditions encountered consisted of:

- 0.8m of brown sandy silt to silty sand topsoil, with gravel and rootlets, over
- Very dense to hard, grey silty fine sand with gravel and cobbles, to depths explored.

No groundwater seepage was encountered in either of the test pits. A test pit location plan and the soil logs are attached as Appendix B.

4.0 SEISMIC CONSIDERATIONS

In accordance with the British Columbia Building Code (2018), the Site Class is D. Data provided by Earthquakes Canada (2015) indicate that the site could be subject to a Peak Ground Acceleration (PGA) of 0.069g, and seismic hazard values of Sa(0.2)=0.117g, Sa(0.5)=0.128g, Sa(1.0)=0.095g, and Sa(2.0)=0.066g during a 1-in-2475-year design earthquake.

The subsurface conditions underlying the subject site are very dense and are not considered to be susceptible to liquefaction.

5.0 RECOMMENDATIONS

Slope stability is not considered to a be a concern on the site, taking into consideration the subsurface conditions and slope gradients. Proposed development of the site is not expected to negatively impact the current stability of the site, or areas surrounding the site, provided the natural grades are generally maintained with the development (ie. minimal grade differences between existing and proposed).

Based on our review, Valley Geo concludes that it is feasible to develop the subject site from a geotechnical engineering standpoint, and that the site is safe for the use intended; provided that the recommendations outlined in this report are followed during design and construction. Our recommendations are presented in the following sub-sections.

5.1 Site Preparation

Site preparation should consist of stripping of all organics, topsoil, and any other deleterious materials, to expose the native, dense silty sand subgrade. Stripping should extend horizontally at least 1m beyond the edges of proposed structure and driveways. Exposed subgrades should be reviewed and approved by a Geotechnical Engineer. Any soft spots found at foundation level should be over-excavated and replaced with compacted structural fill.

If any structural fill is required on the site, it should consist of clean, granular fill with a fines content of less than 5%, compacted in lifts no thicker than 300mm to at least 95% of the material's Standard Proctor Maximum Dry Density (SPMDD). Compaction testing should be carried out to confirm that the minimum specified compaction levels are achieved.

5.2 Excavations

All excavations must conform to Worksafe BC excavation regulations which can be found in Part 20 from Section 20.78 to 20.95 of the Occupational Health and Safety Regulation posted on the website of Worksafe BC. Excavations deeper than 1.2m should be carried out in accordance with the written recommendations of a Professional Geotechnical Engineer prior to workers entering the excavations.

Generally, temporary excavations should be sloped no steeper than 3H:4V. Steeper cut slopes within the dense silty sand may be considered, to be reviewed at the time of excavation. Utility service trench excavations should be backfilled with structural fill compacted to 100% SPMDD and should not be left open overnight. Depending on the depth of trenches and conditions encountered during excavation, box shoring may be required for worker safety.

5.3 Foundations

It is proposed to rezone the subject property. As such, no development or building plans were available at the time of writing this report. However, it is anticipated that buildings would be designed to step into the slope and match the natural grades. Foundations are expected to bear on the native, dense silty sand; or on adequately compacted structural fill. Based on the above, the following geotechnical parameters may be considered for foundation design:

Factored Ultimate Limit State (ULS)	180 kPa (3,750 psf)
Serviceability Limit State (SLS)	120 kPa (2,500 psf)

Conventional strip and pad footings should have minimum widths of 0.45m and 0.60m, respectively. A minimum soil cover of 600mm above the footings is required for frost protection. All bearing surfaces should be inspected and approved by a Geotechnical Engineer prior to the placement of any structural fill or the construction of footings.

5.4 Drainage

Perimeter drain pipes should be provided at or below foundation level, and should be collected for discharge into the municipal storm system (design by others). Roof water leaders may also be directed to the storm system or to splash pads, and must not be tied directly into the perimeter drain system. Exterior building grades should be sloped at least 1.5% to shed water away from buildings.

The subsurface soil conditions at the site are very dense and relatively impermeable. Therefore, stormwater systems relying on infiltration into the ground are not recommended.

5.5 Floor Slabs

We recommend a minimum 150mm thick layer of 19mm minus sand and gravel (road mulch) be placed immediately below any proposed slabs on grade and compacted to 100% SPMDD. A vapour barrier below the slab is also recommended. Concrete slabs should be suitably reinforced and control joints should be incorporated to minimize crack development.

5.6 Lateral Earth Pressures

New retaining walls and typical below-grade building foundation walls may be designed in accordance with the lateral earth pressures diagram attached as Appendix C. It is assumed that proper drainage and backfill would be provided behind the walls, and therefore no hydrostatic pressures will act on the walls.

5.7 Erosion and Sediment Control (ESC)

In accordance with the City of West Kelowna guidelines, appropriate ESC measures must be installed and maintained throughout construction to minimize erosion and prevent contamination of stormwater systems. An ESC Plan should be prepared by a qualified professional.

6.0 LIMITATIONS AND CLOSURE

Provided that the recommendations presented in this report are followed during design and construction, we confirm that, from a geotechnical standpoint, the subject site is safe for the use intended. The final development plans and lot grading plan, when available, should be reviewed to confirm that our recommendations have been followed. Depending on the proposed development, additional recommendations may be needed, to be provided at the permitting stages (if necessary).

The recommendations presented in this report are based on the analysis of information deemed relevant to the subject site. Variations in the subsurface conditions from those presented in this report may exist. If conditions encountered should differ from those presented in this report, Valley Geo should be notified immediately to examine the conditions and reassess our recommendations.

This report has been prepared for the exclusive use of Robin Cove and their agents for the purpose stated. It has been prepared in accordance with generally accepted engineering practice and no other warranty, express, or implied is made. Any use, in which a Third Party makes of this report, or reliance on decisions to be made based on it, is the responsibility of such Third Party.

We trust that this report provides you with the information required at this time. If you have any questions, please contact the undersigned.

Regards,
Valley Geotechnical Engineering Services Ltd.

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
B. M. LUI
49171
MAY 12 2021

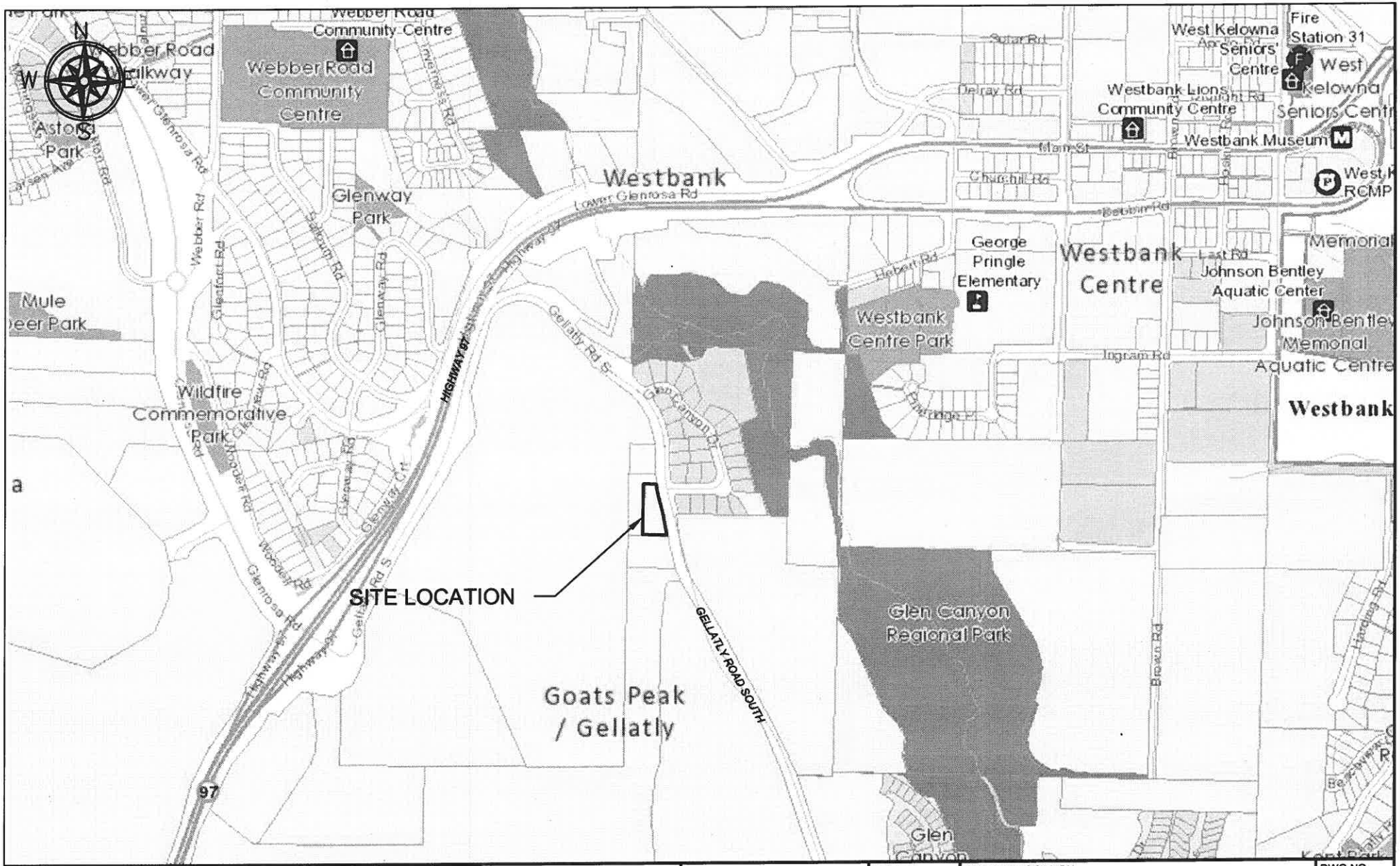
Bryan Lui, P.Eng.
Geotechnical Engineer

Raul Valverde, P.Eng.
Principal Geotechnical Engineer

Attachments:
Appendix A – Site Location Plan & Topographic Survey
Appendix B – Test Pit Location Plan & Soil Logs
Appendix C – Lateral Earth Pressures Diagram

Appendix A

Site Location Plan & Topographic Survey



VALLEY GEOTECHNICAL
Engineering Services Ltd.

Unit 15 20279 97th Avenue
Langley BC, V1M 4B9

Phone: (604) 882-8475
www.valleygeo.ca

IOQM CERTIFIED

REV	DATE	DESCRIPTION
A	2021-05-12	ISSUED WITH REPORT

SEAL

FILE NO. 60071-01	PROJECT LOCATION 3830 GELLATLY RD. S. WEST KELOWNA
DRAWN HA	DRAWING SET TITLE SITE LOCATION PLAN
CHECKED BL	DRAWING DESCRIPTION SITE PLAN
SCALE 1:10,000	DEVELOPER / CLIENT ROBIN COVE
DWG NO. 1	REV. NO. A

NOTE: CONTRACTOR TO CONTACT BC HYDRO, TELUS, FORTIS BC, AND BC ONE CALL AND TO CONFIRM LOCATIONS OF ALL UTILITIES AND APPURTENANCES PRIOR TO CONSTRUCTION

S:\VGES-PROJECTS\60000\60071-01\DRAWINGS\(60070-01) 2021-05-12 SITE PLAN LOCATION.dwg

TOPOGRAPHIC SITE PLAN OF LOT 2, DISTRICT LOT 3187, ODYD, PLAN KAP54990

0 4 12 20 m
Scale 1:200

The intended plot size of this plan is 560mm in width by 864mm in height (D-size) when plotted at a scale of 1:200.

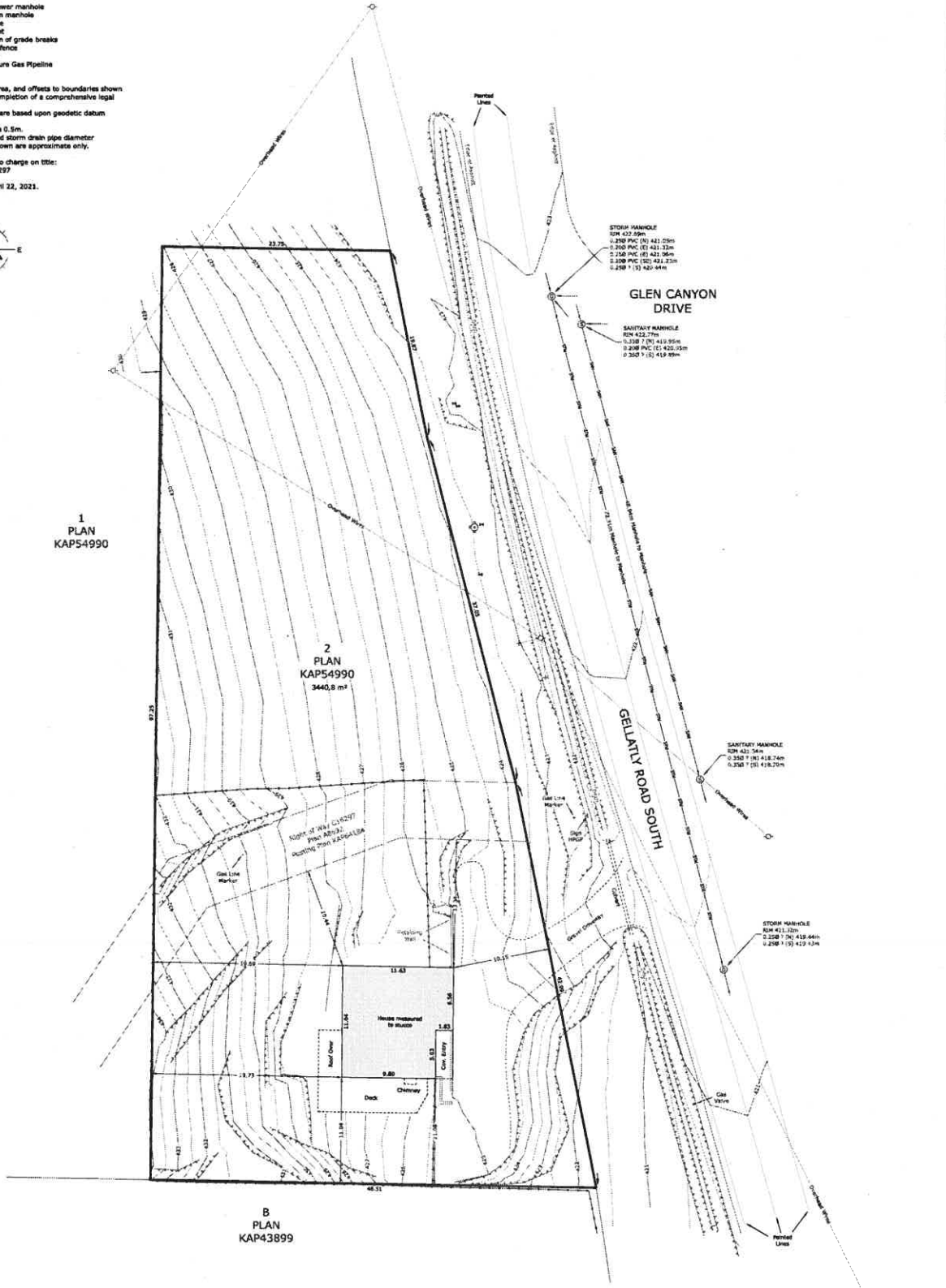
Address: 3830 Gellatly Road South, West Kelowna, BC
PID: 023-206-449

LEGEND
- Utility pole
- Sanitary sewer manhole
- Storm drain manhole
- Water valve
- Fire hydrant
- Top/bottom of grade breaks
- Chain-link fence
- Wire fence
- High Pressure Gas Pipeline

NOTES
- Lot dimensions, area, and offsets to boundaries shown may vary upon completion of a comprehensive legal survey.
- Elevations shown are based upon geodetic datum CGVD28.
- Contour interval is 0.5m.
- Sanitary sewer and storm drain pipe diameter measurements shown are approximate only.

The parcel is subject to charge on title:
- Right of Way C16297

Field survey dated April 22, 2021.



Certified correct this 26th day of April, 2021.

Jacob Wall CC2JRV
2021.04.26 09:23:13 -07'00'

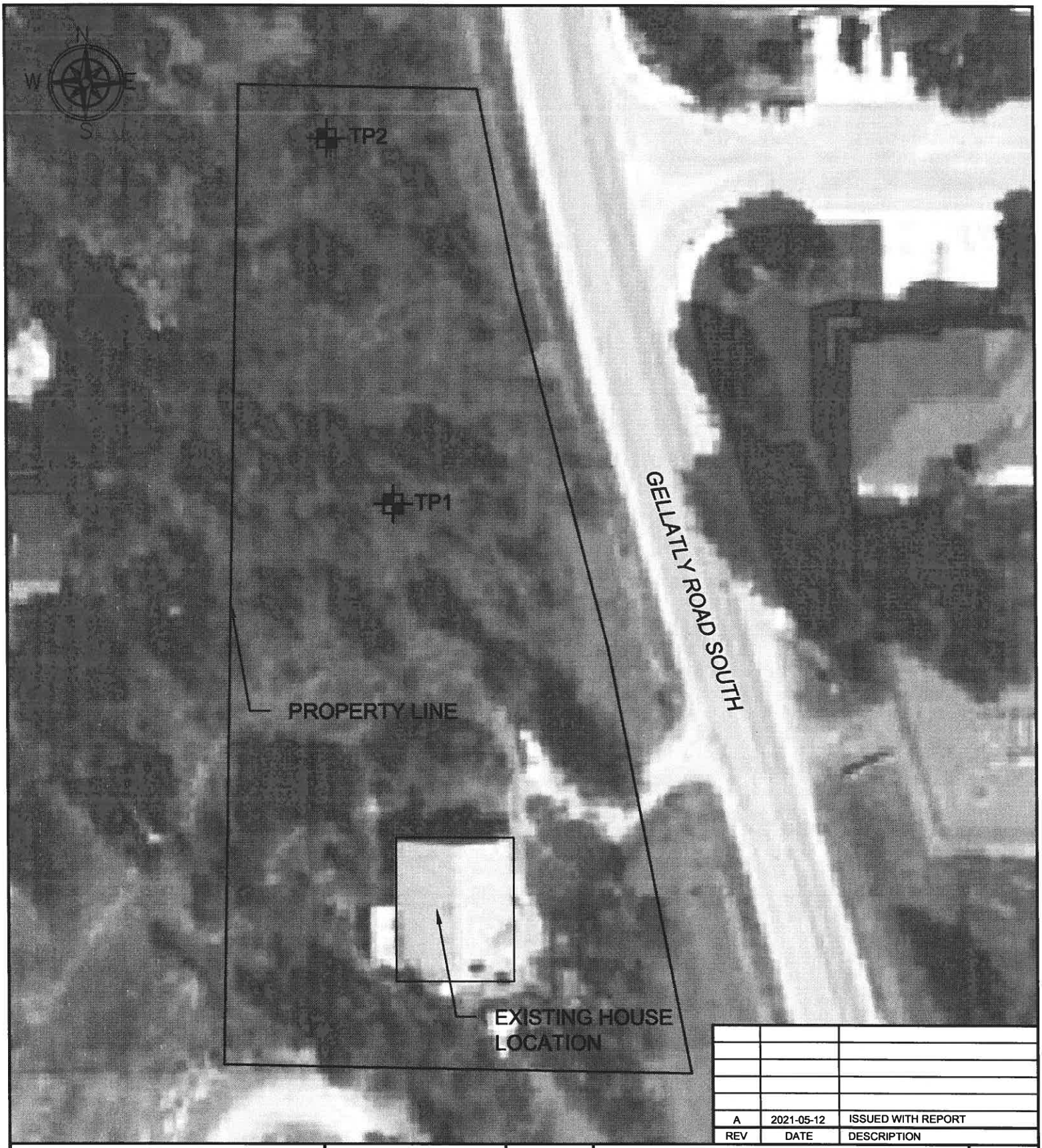
Jacob Wall, BCLS
This document is not valid unless digitally signed.

Summit Land Surveying
Professional Land Surveying Ltd.
236.457.4350 - www.summitsurveying.ca
File: 21064-TO Date: April 26, 2021 Pg: 6

Unit 15 - 20279 97th Avenue
Langley, BC, V1M 4B9

Appendix B

Test Pit Location Plan & Soil Logs



REV	DATE	DESCRIPTION
A	2021-05-12	ISSUED WITH REPORT

VALLEY GEOTECHNICAL
Engineering Services Ltd.

Unit 15 20279 97th Avenue
Langley BC, V1M 4B9

Phone: (604) 882-8475
www.valleygeo.ca

OQM CERTIFIED

SEAL

FILE NO.	60070-01
DRAWN	HA
CHECKED	BL
SCALE	1:500
PROJECT LOCATION	3830 GELLATLY RD. S. WEST KELOWNA
DRAWING TITLE / DESCRIPTION	TEST PIT LOCATION
DATE	2021-05-12
DEVELOPER / CLIENT	ROBIN COVE
DWG NO.	1
REV. NO.	A

NOTE: CONTRACTOR TO CONTACT BC HYDRO, TELUS, FORTIS BC, AND BC ONE CALL AND TO CONFIRM LOCATIONS OF ALL UTILITIES AND APPURTENANCES PRIOR TO CONSTRUCTION

S:\VGES-PROJECTS\60000\60071-01\DRAWINGS\(60070-01) 2021-05-12 TEST PIT LOCATION.dwg

VALLEY GEOTECHNICAL
Engineering Services Ltd.

Unit 15 - 20279 97th Avenue
Langley, BC, V1M 4B9

Project: Geotechnical Report
Project #: 60071-01
Client: Robin Cove
Address: 3830 Gellatly Road S, West Kelowna, BC
Logged by: BL
Investigation Date: April 29, 2021

Test Hole No.	Depth (m)	Soil Conditions	Moisture Content	
			Depth (m)	%
TP1	0.0 – 0.8	Brown sandy silt to silty sand, with gravel and rootlets, dry to moist, loose [TOPSOIL]		
	0.8 – 1.5	Grey silty fine sand, with gravel and cobbles, dry, very dense to hard PP > 440 kPa	1.4	6.2
			1.5	11.8
		Test hole discontinued @ 1.5m No water seepage observed.		
TP2	0.0 – 0.7	Brown sandy silt to silty sand, with gravel and rootlets, dry to moist, loose [TOPSOIL]		
	0.7 – 1.5	Grey silty fine sand, with gravel and cobbles, dry, very dense to hard PP > 440 kPa	1.3	8.3
			1.5	9.6
		Test hole discontinued @ 1.5m No water seepage observed.		

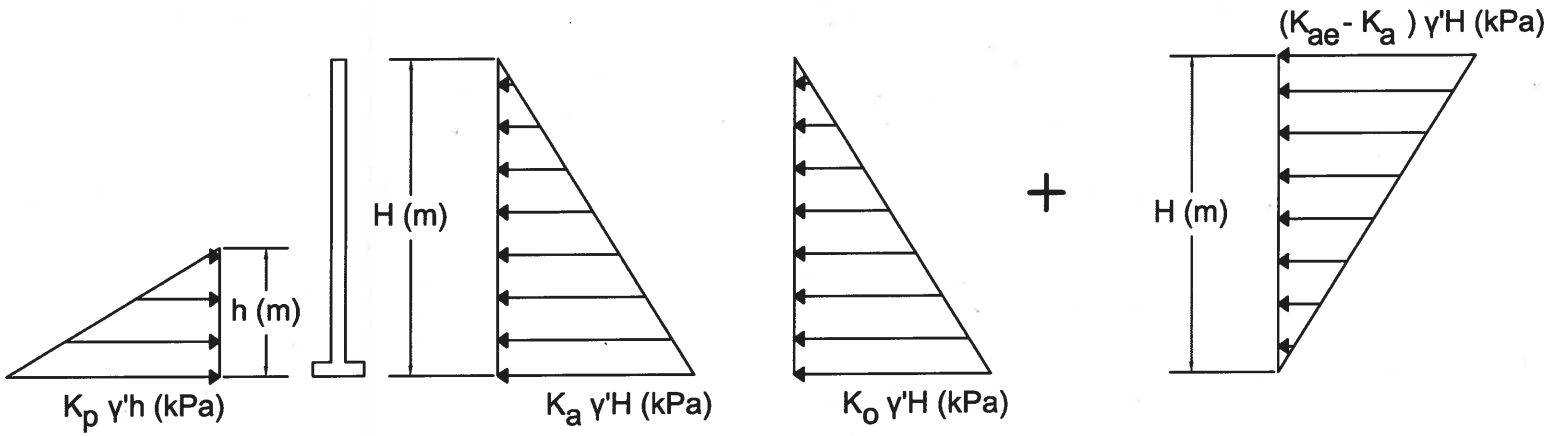
PP = Pocket Penetrometer

Unit 15 - 20279 97th Avenue
Langley, BC, V1M 4B9

Appendix C

Lateral Earth Pressures Diagram

PASSIVE COMPONENT ACTIVE COMPONENT AT-REST COMPONENT SEISMIC COMPONENT



$3.0 \times 18\frac{kN}{m^3} h = 54h$ kPa $0.33 \times 18\frac{kN}{m^3} H = 5.94H$ kPa $0.50 \times 18\frac{kN}{m^3} H = 9.00H$ kPa $(0.37\text{-}0.33) \times 18\frac{kN}{m^3} H = 0.66H$ kPa

LEGEND:

γ' = EFFECTIVE UNIT WEIGHT OF SOIL ($18\frac{kN}{m^3}$)
K_o = AT-REST COEFFICIENT OF EARTH PRESSURE (0.50)
K_a = COEFFICIENT OF ACTIVE EARTH PRESSURE (0.33)
K_p = COEFFICIENT OF PASSIVE EARTH PRESSURE (3.00)
K_{ae}* = $K_{ae}(1- K_v)$= COEFFICIENT OF ACTIVE EARTH PRESSURE UNDER SEISMIC LOADING (INCLUDES VERTICAL COMPONENT)
H = ACTIVE HEIGHT IN METERS
h = PASSIVE HEIGHT IN METERS

VALLEY GEOTECHNICAL
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Langley BC, V1M 4B9
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OQM CERTIFIED

REV	DATE	DESCRIPTION
A	2021-05-12	ISSUED WITH REPORT

SEAL

FILE NO. 60071-01	PROJECT LOCATION 3830 GELLATLY RD. S. WEST KELOWNA
DRAWN HA	DRAWING SET TITLE GEOTECHNICAL REPORT
CHECKED BL	DRAWING DESCRIPTION LATERAL EARTH PRESSURE DIAGRAM
SCALE NTS	DEVELOPER / CLIENT ROBIN COVE

DWG NO. 1
REV. NO. A

NOTE: CONTRACTOR TO CONTACT BC HYDRO, TELUS, FORTIS BC, AND BC ONE CALL AND TO CONFIRM LOCATIONS OF ALL UTILITIES AND APPURTENANCES PRIOR TO CONSTRUCTION
S:\VGES-PROJECTS\60000\60071-01\DRAWINGS\(60070-01) 2021-05-12 LATERAL EARTH PRESSURE.dwg

VALLEY GEOTECHNICAL
Permit to Practice Number 1003937
1770 Baron Road, Kelowna, BC V1X 7G9

1353995 BC Ltd., Inc. No. BC1353995
564 Denali Drive
Kelowna, BC V1V 2P6

Revised September 29, 2023
Valley Geo Project #: 60373-01

Attention: Tommy Fang
cc: Ruibin Li (McElhanney)
Regarding: Geotechnical Investigation and Report for Proposed Rezoning
3830 Gellatly Road S, West Kelowna, BC

1.0 INTRODUCTION

Valley Geotechnical Kelowna Ltd. (Valley Geo) has been retained by Tommy Fang to prepare a geotechnical report for proposed townhouse development at the above subject site. We have previously completed a report for the same site for the purposes of rezoning and have reviewed the information in that report in the preparation of this geotechnical report. This report summarizes our work to date and presents geotechnical recommendations pertinent to the proposed development of the site.

The subject site is located within the Hillside Development Permit Area (DPA), in accordance with Schedule 3 – Hillside & Wildfire Interface Development Permit Areas of the City of West Kelowna (CWK) Official Community Plan (OCP). This report has been prepared in accordance with the CWK requirements for Geotechnical Studies (i.e., Section 4.9 of the OCP) and the CWK Terms of Reference (Schedule 6 – Geotechnical Study).

In addition, this report is in accordance with the Engineers and Geoscientists of British Columbia (EGBC) guidelines for "Landslide Assessments in British Columbia Version 4.1 (March 1, 2023)". This report may be used by the City of West Kelowna for permit considerations.

2.0 SITE DESCRIPTION AND PROPOSED DEVELOPMENT

The subject site has a civic address of 3830 Gellatly Road S in the City of West Kelowna. The legal description of the property is Lot 2, District Lot 3187, ODYD, Plan KAP54990. The site is irregular in shape with a plan area of approximately 0.34ha. The property is bounded by Gellatly Road S to the east, and residential lots to the south, west, and north. A site location plan is attached as Appendix A.

According to the City of West Kelowna GIS (WestMap) and a topographic survey by Summit Land Surveying, the average slope grade is about 20-25% down from west to east, with geodetic elevations ranging from about 424m to 434m.

There is currently a single-family residence in the south portion of the site. The north portion of the site is heavily vegetated with shrubs and trees. There is an existing FortisBC pipeline right-of-way, north of the existing building, bisecting the property. An Intermediate Pressure pipeline runs through the right-of-way.

We understand that it is proposed to develop 20 townhouses in four separate buildings, with walkout-type configurations to fit the natural site grades. Some retaining walls are proposed along the west side to facilitate level yard spaces. A new internal road will be constructed through the site to provide access to the townhouses. The internal road is proposed to cross over the existing FortisBC right-of-way. Select pages from the development design drawings are attached as Appendix B.

3.0 SUBSURFACE CONDITIONS

According to the Geological Survey of Canada Map for Kelowna (Open File 6146), the native subsurface conditions at the site are glaciofluvial sediments (Go – subaerial proglacial outwash fan sediments: sand, sandy gravel and boulders; from 1 to 10m thick) and bedrock (R – proterozoic volcanic rocks, Paleozoic mudstone, siltstone, shale and fine clastic sedimentary rocks; Mesozoic granodioritic intrusive rocks and Cenozoic basaltic volcanic rocks).

Valley Geo carried out a test pit investigation on April 29, 2021 using a track-mounted mini excavator. Two test pits were excavated in the north portion of the property, to a maximum depth of 1.5m below the existing ground surface. Generally, the subsurface conditions encountered consisted of:

- 0.8m of brown sandy silt to silty sand topsoil, with gravel and rootlets, over
- Very dense to hard, grey silty fine sand with gravel and cobbles, to depths explored.

An additional investigation was conducted on September 1, 2023 using a hydro-vac to assess the soil conditions above and around the existing FortisBC transmission line. The existing pipeline was exposed in three locations along the right-of-way alignment, including where the internal road is proposed to cross over. The pipe was measured to be between 0.45-0.65m deep below the existing ground surface, and was overlain by silty sand and gravel fill. The native, very dense to hard silty fine sand with gravel subgrade was observed beneath the pipeline with no bedding material.

No groundwater seepage was encountered during either of the site investigations. An investigation location plan and the soil logs are attached as Appendix C.

4.0 SEISMIC CONSIDERATIONS

In accordance with the British Columbia Building Code (2018), the Site Class is C. Data provided by Earthquakes Canada (2015) indicate that the site could be subject to a Peak Ground Acceleration (PGA) of 0.069g, and seismic hazard values of Sa(0.2)=0.117g, Sa(0.5)=0.128g, Sa(1.0)=0.095g, and Sa(2.0)=0.066g during a 1-in-2475-year design earthquake.

The subsurface conditions underlying the subject site are very dense and are not considered to be susceptible to liquefaction.

5.0 FORTISBC RIGHT-OF-WAY

The grading of the proposed internal road over the right-of-way alignment appears to require ~2m of cut below the existing surface. This will be lower than the elevation of the existing pipeline (~0.65m deep). Therefore, we anticipate that the pipeline will need to be replaced and lowered to achieve adequate soil cover with the finished grades. We expect that a minimum soil cover of 1.2m will be sufficient such that vehicle loading will not have adverse impacts to the pipeline.

It is recommended that a vibration monitoring program be established during construction works within 30m of the pipeline. It is our understanding that FortisBC has a typical vibration alert threshold of 25mm/second. If vibrations exceed this threshold during construction, special procedures may be required to minimize potential impacts to the pipeline. Recommendations will be provided at that time if necessary.

Coordination with FortisBC should be carried out to obtain the necessary permitting and to confirm the minimum design requirements and construction procedures for possible replacement of the pipe to facilitate the proposed development.

6.0 RECOMMENDATIONS

Slope stability is not considered to a be a concern on the site, taking into consideration the subsurface conditions and slope gradients. The proposed development of the site is not expected to negatively impact the current stability of the site, or areas surrounding the site, provided the natural grades are generally maintained with the development (ie. the proposed development is designed to fit the site). The risk of a catastrophic landslide is considered very low (<0.5% probability of failure occurring in a 50-year period). A copy of the EGBC Landslide Assessment Assurance Statement is attached as Appendix D.

Based on our review, Valley Geo concludes that it is feasible to develop the subject site from a geotechnical engineering standpoint, and that the site is safe for the use intended, provided that the recommendations outlined in this report are followed during design and construction. Our recommendations are presented in the following sub-sections.

6.1 Site Preparation

Based on our review of the design drawings, it is expected that most of the site grading will consist of cuts below the existing grades. Site preparation should consist of stripping of all organics, topsoil, and any other deleterious materials, to expose the native, dense silty sand subgrade. Stripping should extend horizontally at least 1m beyond the edges of proposed structures and pavement areas. Exposed subgrades should be reviewed and approved by a Geotechnical Engineer. Any soft spots encountered at foundation level should be over-excavated and replaced with compacted structural fill.

If any structural fill is required on the site, it should consist of clean, granular fill with a fines content of less than 5%, compacted in lifts no thicker than 300mm to at least 95% of the material's Standard Proctor Maximum Dry Density (SPMDD). Compaction testing should be carried out to confirm that the minimum specified compaction levels are achieved.

6.2 Excavations

All excavations must conform to Worksafe BC excavation regulations which can be found in Part 20 from Section 20.78 to 20.95 of the Occupational Health and Safety Regulation posted on the website of Worksafe BC. Excavations deeper than 1.2m should be carried out in accordance with the written recommendations of a Professional Geotechnical Engineer prior to workers entering the excavations.

Generally, temporary excavations should be sloped no steeper than 3H:4V. Steeper cut slopes within the dense silty sand may be considered, to be reviewed at the time of excavation. Utility service trench excavations should be backfilled with structural fill compacted to 100% SPMDD and should not be left open overnight. Depending on the depth of trenches and conditions encountered during excavation, box shoring may be required for worker safety.

Permanent slopes should be graded no steeper than 2H:1V.

6.3 Foundations

Based on the development design drawings, the proposed buildings are designed to step into the slope and the site grading generally follows the gradient of the natural grades. Foundations are expected to bear on the native, dense silty sand; or on adequately compacted structural fill. Based on the above, the following geotechnical parameters may be considered for foundation design:

Factored Ultimate Limit State (ULS)	180 kPa (3,750 psf)
Serviceability Limit State (SLS)	120 kPa (2,500 psf)

Conventional strip and pad footings should have minimum widths of 0.45m and 0.60m, respectively. A minimum soil cover of 600mm above the footings is required for frost protection. All bearing surfaces should be inspected and approved by a Geotechnical Engineer prior to the placement of any structural fill or the construction of footings.

6.4 Drainage

Perimeter drain pipes should be provided for the buildings at or below foundation level, and should be collected for discharge into the municipal storm main or on-site stormwater management system (designed by others). Roof water leaders may also be directed to the stormwater system or to splash pads, and must not be tied directly into the perimeter drain system. Exterior building grades should be sloped at least 1.5% to shed water away from buildings.

The subsurface soil conditions at the site are very dense and relatively impermeable. Therefore, stormwater systems relying on infiltration into the ground are not recommended.

6.5 Floor Slabs

We recommend a minimum 150mm thick layer of 19mm minus sand and gravel (road mulch) be placed immediately below any proposed slabs on grade and compacted to 100% SPMDD. A vapour barrier below the slab is also recommended. Concrete slabs should be suitably reinforced and control joints should be incorporated to minimize crack development.

6.6 Lateral Earth Pressures

Some retaining walls are proposed along the west boundary of the site to facilitate the proposed grading. Retaining walls and typical below-grade building foundation walls may be designed in accordance with the lateral earth pressures diagram attached as Appendix E. It is assumed that proper drainage and backfill would be provided behind the walls, and therefore no hydrostatic pressures will act on the walls.

6.7 Erosion and Sediment Control (ESC)

In accordance with the City of West Kelowna guidelines, appropriate ESC measures must be installed and maintained throughout construction to minimize erosion and prevent contamination of stormwater systems. An ESC Plan should be prepared by a qualified professional.

6.8 Pavement Structure

We understand that a new internal road will be constructed to facilitate access to the development. The following minimum pavement structure is recommended over approved subgrade:

- 50mm of asphalt
- 100mm of compacted 19mm minus crushed gravel base
- 200mm of compacted 75mm minus select granular sub-base

All materials within roadway alignments should be compacted to at least 95% Modified Proctor Maximum Dry Density (MPMDD).

7.0 LIMITATIONS AND CLOSURE

Provided that the recommendations presented in this report are followed during design and construction, we confirm that, from a geotechnical standpoint, the subject site is safe for the use intended. The final architectural, structural, and civil design drawings should be provided to Valley Geo when available to confirm compliance with our recommendations. Additional recommendations, if necessary, will be provided at that time.

The recommendations presented in this report are based on the analysis of information deemed relevant to the subject site. Variations in the subsurface conditions from those presented in this report may exist. If conditions encountered should differ from those presented in this report, Valley Geo should be notified immediately to examine the conditions and reassess our recommendations.

This report has been prepared for the exclusive use of Tommy Fang, their agents, and the City of West Kelowna for the purpose stated. It has been prepared in accordance with generally accepted engineering practice and no other warranty, express, or implied is made. Any use, in which a Third Party makes of this report, or reliance on decisions to be made based on it, is the responsibility of such Third Party.

We trust that this report provides you with the information required at this time. If you have any questions, please contact the undersigned.

Regards,
Valley Geotechnical Kelowna Ltd.

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
B. M. LUI
49171
SEP 29 2023

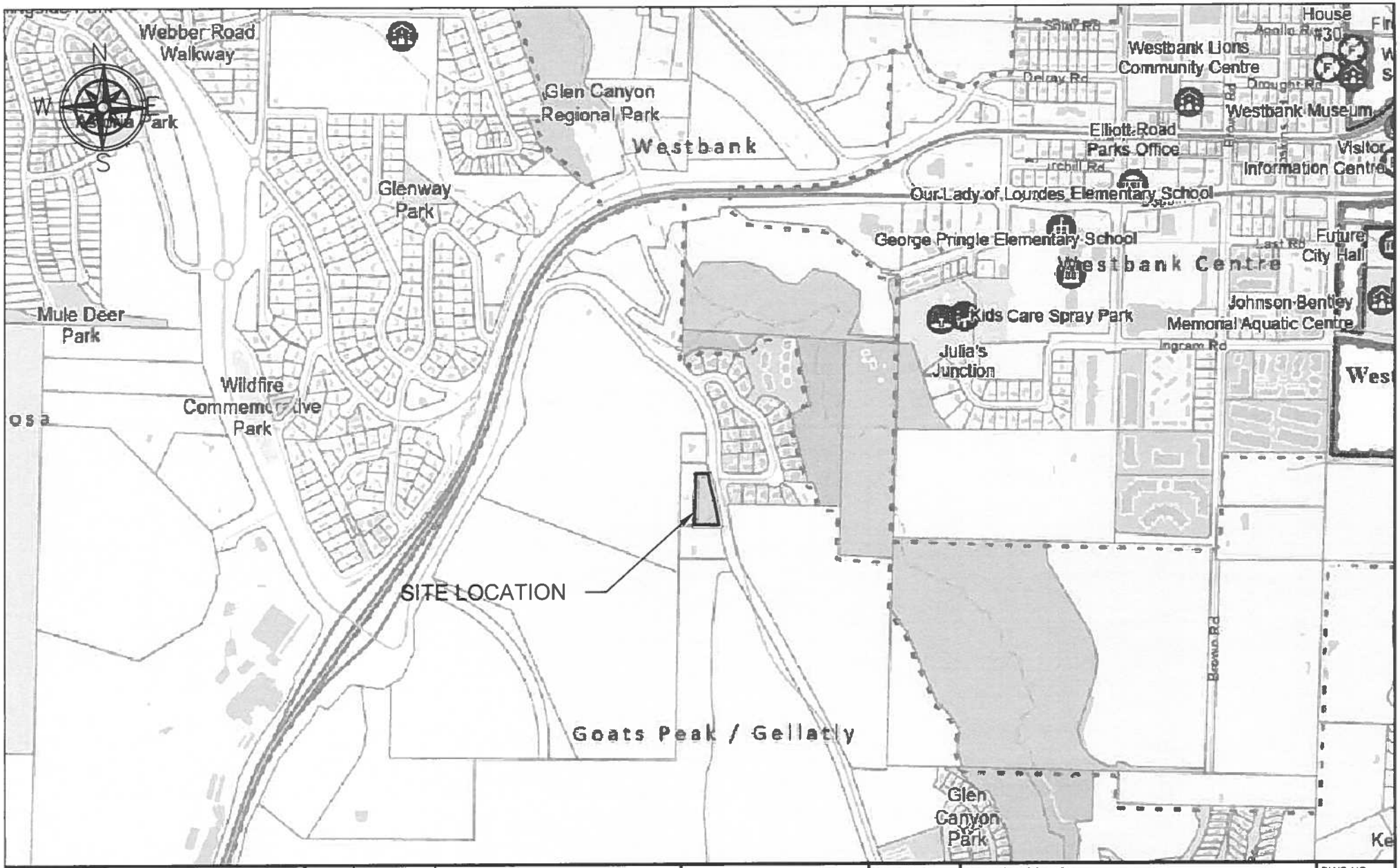
Bryan Lui, P.Eng.
Geotechnical Engineer – Partner

Raul Valverde, P.Eng.
Principal Geotechnical Engineer

Attachments:
Appendix A – Site Location Plan & Topographic Survey
Appendix B – Development Design Drawings
Appendix C – Soil Investigation Location Plan & Soil Logs
Appendix D – EGBC Landslide Assessment Assurance Statement
Appendix E – Lateral Earth Pressures Diagram

Appendix A

Site Location Plan



VALLEY GEOTECHNICAL

PERMIT NUMBER: 1003937

1770 Baron Road
Kelowna BC, V1X 7G9

Phone: (250) 801-1134
www.valleygeo.ca

REV	DATE	DESCRIPTION
A	2023-09-22	Issued for Report

SEAL

FILE NO. 60373-01	PROJECT LOCATION 3830 Gellatley Rd S, West Kelowna BC
DRAWN HA	DRAWING SET TITLE Site Location Plan
CHECKED BL	DRAWING DESCRIPTION Site Plan
SCALE 1:10,000	DEVELOPER / CLIENT Robin Pan & Tommy Fang

DWG NO. 1

REV. NO. A

NOTE: CONTRACTOR TO CONTACT BC HYDRO, TELUS, FORTIS BC, AND BC ONE CALL AND TO CONFIRM LOCATIONS OF ALL UTILITIES AND APPURTENANCES PRIOR TO CONSTRUCTION

G:\Shared drives\VGES-PROJECTS5 60000\60300\60373-01\DRAWINGS\(60373-01) 2023-09-22 Site Location Plan.dwg

TOPOGRAPHIC SITE PLAN OF LOT 2, DISTRICT LOT 3187, ODYD, PLAN KAP54990

0 4 12 20 m
Scale 1:200

The intended plot size of this plan is 560mm in width by 864mm in height (D-size) when plotted at a scale of 1:200.

Address: 3830 Gellatly Road South, West Kelowna, BC
PID: 023-208-449

LEGEND

- Utility pole
- Sanitary sewer manhole
- Storm drain manhole
- Water valve
- Fire hydrant
- Top/bottom of grade breaks
- Chain-link fence
- Wire fence
- HPGP High Pressure Gas Pipeline

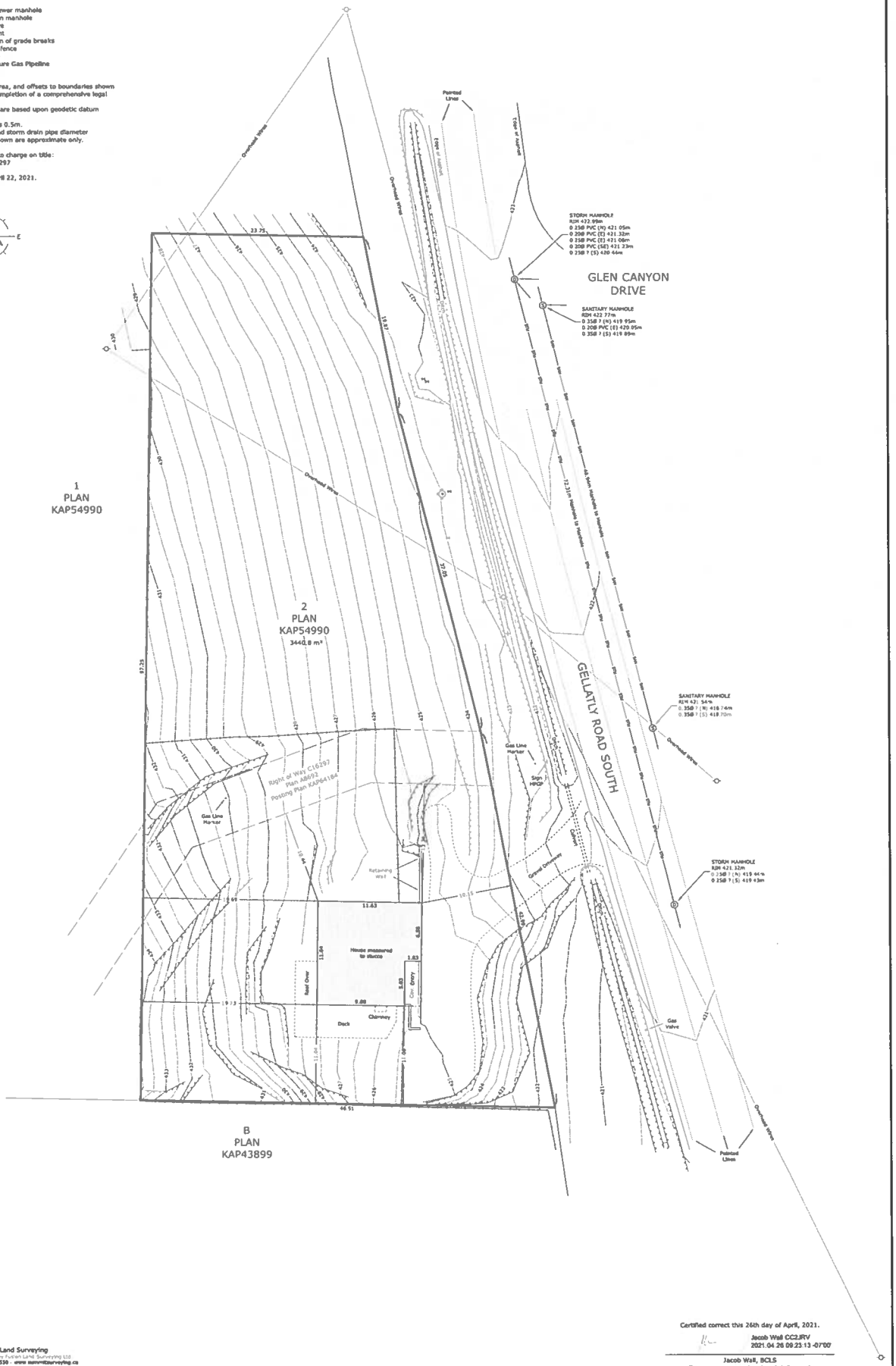
NOTES

- Lot dimensions, area, and offsets to boundaries shown may vary upon completion of a comprehensive legal survey.
- Elevations shown are based upon geodetic datum CGVD28.
- Contour interval is 0.5m.
- Sanitary sewer and storm drain pipe diameter measurements shown are approximate only.

The parcel is subject to charge on title:

- Right of Way C16297

Field survey dated April 22, 2021.



Certified correct this 26th day of April, 2021.

Jacob Wall CC2JRV
2021.04.26 09:23:13 -07'00'

Jacob Wall, BCLS
This document is not valid unless digitally signed.

Summit Land Surveying
Operated by Forbes Land Surveying Ltd
236.427.4530 · www.summitsurveying.ca
File: 21064-TD Date: April 26, 2021 FB: 6

Permit to Practice Number 1003937
1770 Baron Road
Kelowna, BC V1X 7G9

Appendix B

Development Design Drawings

NEW TOWNHOUSE DEVELOPMENT

3830 GELLATLY ROAD, WEST KELOWNA

DRAWINGS INDEX

DEVELOPMENT TEAM

ARCHITECT
PACIFIC WEST ARCHITECTURE Inc.
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Suite 940, Vancouver B.C. V6P 6G5
Tel: (604)-558-3064
Email: info@pwaachitecture.com

SURVEYOR
Summit Land Surveying
1-2413 Main Street
West Kelowna, BC, V4T 2H8
TEL: 236-457-4550
Email: info@summitsurveying.ca

CIVIL
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2281 Hunter Road
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TEL: 250-212-6563
Email: jgranberg@mcelhanney.com

LANDSCAPE
McElhanney
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TEL: 250-374-2200
Email: rmil@mcelhanney.com

PWA
pacific
west
architecture

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Suite 940
Vancouver B.C. V6P 6G5

Office: 604 558 3064
Fax: 604 267 7068
Email: info@pwaarchitecture.com
www.pwaarchitecture.com

REGISTERED ARCHITECT
KA TANG
BRITISH COLUMBIA

2023-05-29

REVISIONS
1

ISSUES	DATE
8	
7	
6	
5	
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3	
2	
1 ISSUED FOR DEVELOPMENT PERMIT APPLICATION	MAY 29 2023

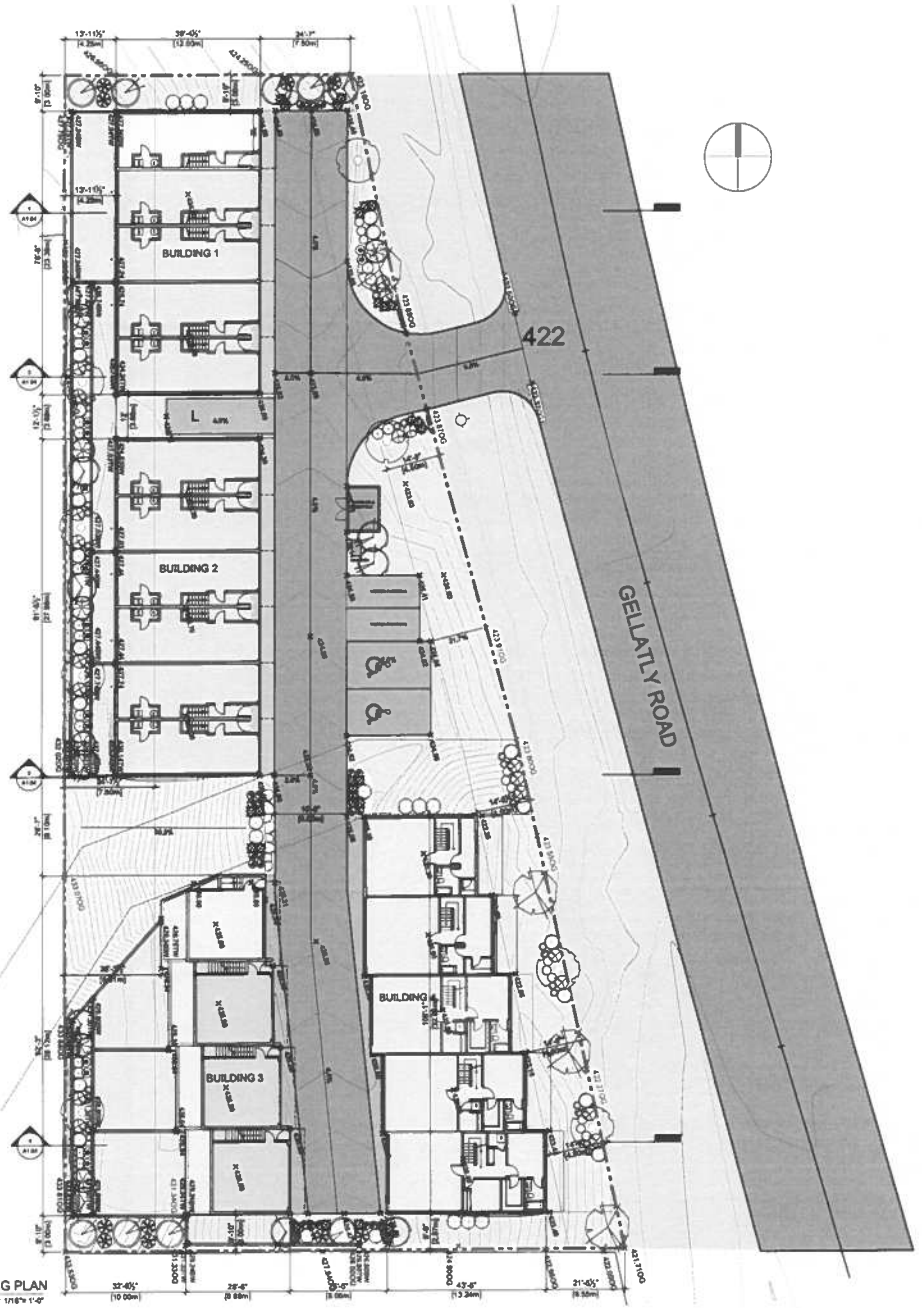
PROJECT NUMBER	A309
DRAWN BY	PC
CHECKED BY	PY
DATE CHECKED	

CONSULTANT

PROJECT
3830 GELLATLY ROAD
WEST KELOWNA

DRAWING TITLE
SITE PLAN

DRAWING No.
A1.00



1 BUILDING PLAN
Scale: 1/16"= 1'-0"

PROJECT DESCRIPTION				
Civic Address	3830 Gellatly Road South, West Kelowna, BC			
Legal Address	LOT 2, DISTRICT LOT 3187, ODYD, PLAN KAP54990			
OCP Code	LDMF (Low Density Multiple Family)			
Existing Zoning	R3			
Proposed Zoning	R3			
Zoning Bylaw	Zoning Bylaw No. 0265			
SITE AREA	Square Meters	Acres	Square Feet	hectre
	3440.8	0.85	37,036.5	0.34408

DEVELOPMENT REGULATIONS			
CRITERIA	R3 Zone Requirement		Proposed
Building Height	10.0m, 3 storeys		9.45m, 3 storeys
Front Yard (East)	4.5m (14.8')		4.5m (14.8')
Side Yard (North)	3.0m (9.8')		3.0m (9.8')
Side Yard (South)	3.0m (9.8')		3.0m (9.8')
Rear Yard (West)	7.5m (24.6')		4.25m (13.9')
Parcel Coverage	40%	1376.3m2	Building 1: 280.6 m2 Building 2: 336.3 m2 Building 3: 233.2 m2 Building 4: 379.0 m2 Total: 1229.1 m2 (35.7%)
FSR	0.75	2580.6 m2	0.75 Building 1: 622.5 m2 Building 2: 746.9 m2 Building 3: 507.0 m2 Building 4: 704.2 m2 Total: 2580.6 m2

PARKING REGULATIONS			
	Required		Provided
Minimum Parking Requirements	Residents	2.0 per dwelling unit 2.0 x 20=40	40
	Visitors	10% of total required number 10% x 40=4.0	2
	Accessible Parking	required parking 21-100 required: 2	2
	Total	44	44
Parking Dimensions	Regular	90°: 2.75 x 6.0 m / 9' x 19.7'	29 for residents 2 for visitors
		Parallel: 2.5 x 7.0 m / 8.2'x16.4'	0
		Sub Total	31
	Small	2.5 x 5.0 m / 8.2'x16.4'	11
	Accessible Parking	3.9 x 6.0 m / 12.8' x 19.7'	2
	Total		44
Loading Requirement	1 per 15 dwelling units Required: 2		1
Loading Space Dimensions	Truck / Van	3.0 x 9.0 m / 9.8' x 29.5'	1
	Bus	3.6 x 12.2 m / 11.8' x 40'	0
	Car	2.5 x 7.0m / 8.2' x 23'	0
Bicycle Parking Requirements (with private garage in each unit)	Class I	0	0
	Class II	0	0

Unit Breakdown

Unit Type	Number of Unit	Number of Bedroom	Floor Area (sq ft)	Floor Area (m2)	Garage Style	Building Height	Building #
Type A	1	2	1,340	124.5	Tandem	9.0m	Buildign 1
Type B	10	3	1,340	124.5	Tandem	9.0m	Building 1, 2
Type C	1	2	1,268	117.8	Double	9.0m	Building 3
Type D	3	3+Flex	1,397	129.8	Double	9.0m	Building 3
Type E	2	3+Flex	1,375	127.7	Double	9.0m	Building 4
Type F	2	4	1,560	144.9	Double	9.0m	Building 4
Type G	1	5	1,710	158.9	Double	9.0m	Building 4
Total	20	2-Bedroom: 2 3-Bedroom: 10 3-Bedroom+Flex: 5 4-Bedroom: 2 5-Bedroom: 1	27,777	2,580.6	Tandem: 11 Double: 9	N/A	N/A

PWA
pacific
west
architecture

1200 West 73rd Ave (Airport Square)
Suite 940
Vancouver B.C. V6P 6G5

Office: 604 558 3084
Fax: 604 267 7056
Email: info@pwaarchitecture.com
www.pwaarchitecture.com

REGISTERED ARCHITECT
JIE YANG
BRITISH COLUMBIA

2023-05-29

REVISIONS
1

ISSUES	DATE
8	
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6	
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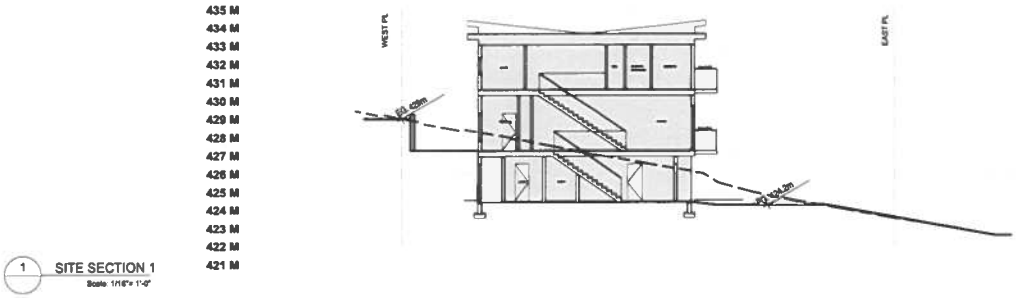
3	
2	
1 ISSUED FOR DEVELOPMENT PERMIT APPLICATION	MAY 29 2023

PROJECT NUMBER A300
DRAWN BY PC
CHECKED BY PY
DATE CHECKED
CONSULTANT

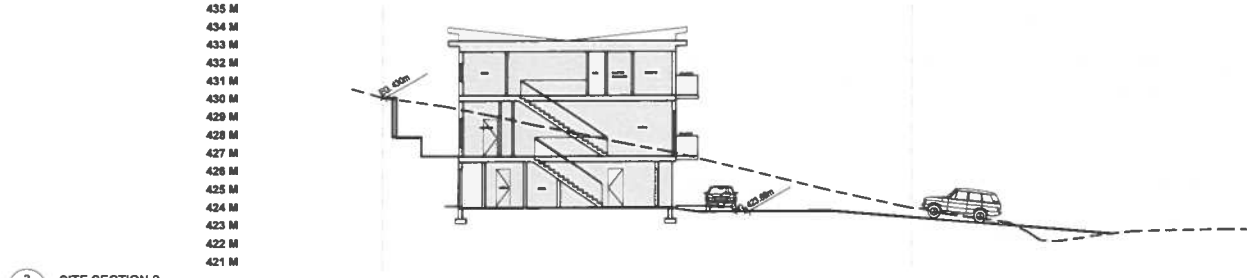
PROJECT
3830 GELLATLY ROAD
WEST KELOWNA

DRAWING TITLE
SITE PLAN

DRAWING No.
A1.02



1 SITE SECTION 1
Scale: 1/16"= 1'-0"



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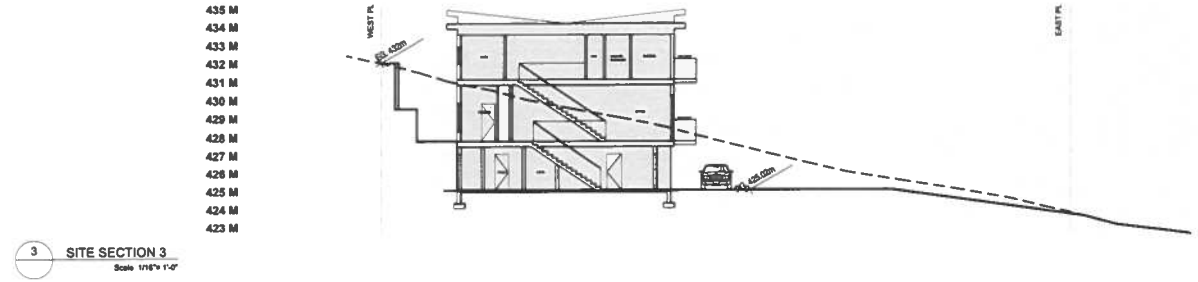
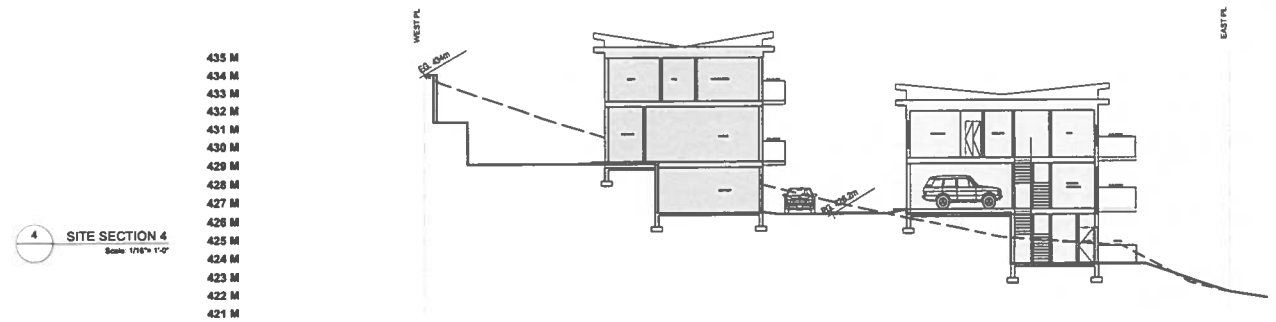


3 SITE SECTION 3
Scale: 1/16"= 1'-0"



4 SITE SECTION 4
Scale: 1/16"= 1'-0"

PROPERTY LINE

EXISTING GRADE

PROPOSED GRADE

PWA
pacific
west
architecture

1200 West 73rd Ave (Airport Square)
Suite 940
Vancouver B.C. V6P 6G5

Office: 604 558 3084
Fax: 604 267 7056
Email: info@pwaarchitecture.com
www.pwaarchitecture.com

REGISTERED ARCHITECT
YU YANG
BRITISH COLUMBIA

2023-05-29

REVISIONS
1

ISSUES		DATE
8		
7		
6		
5		
4		
3		
2		
1	ISSUED FOR DEVELOPMENT PERMIT APPLICATION	MAY 29 2023

PROJECT NUMBER	A389
DRAWN BY	PC
CHECKED BY	PY
DATE CHECKED	
CONSULTANT	

PROJECT

3830 GELLATLY ROAD
WEST KELOWNA

DRAWING TITLE

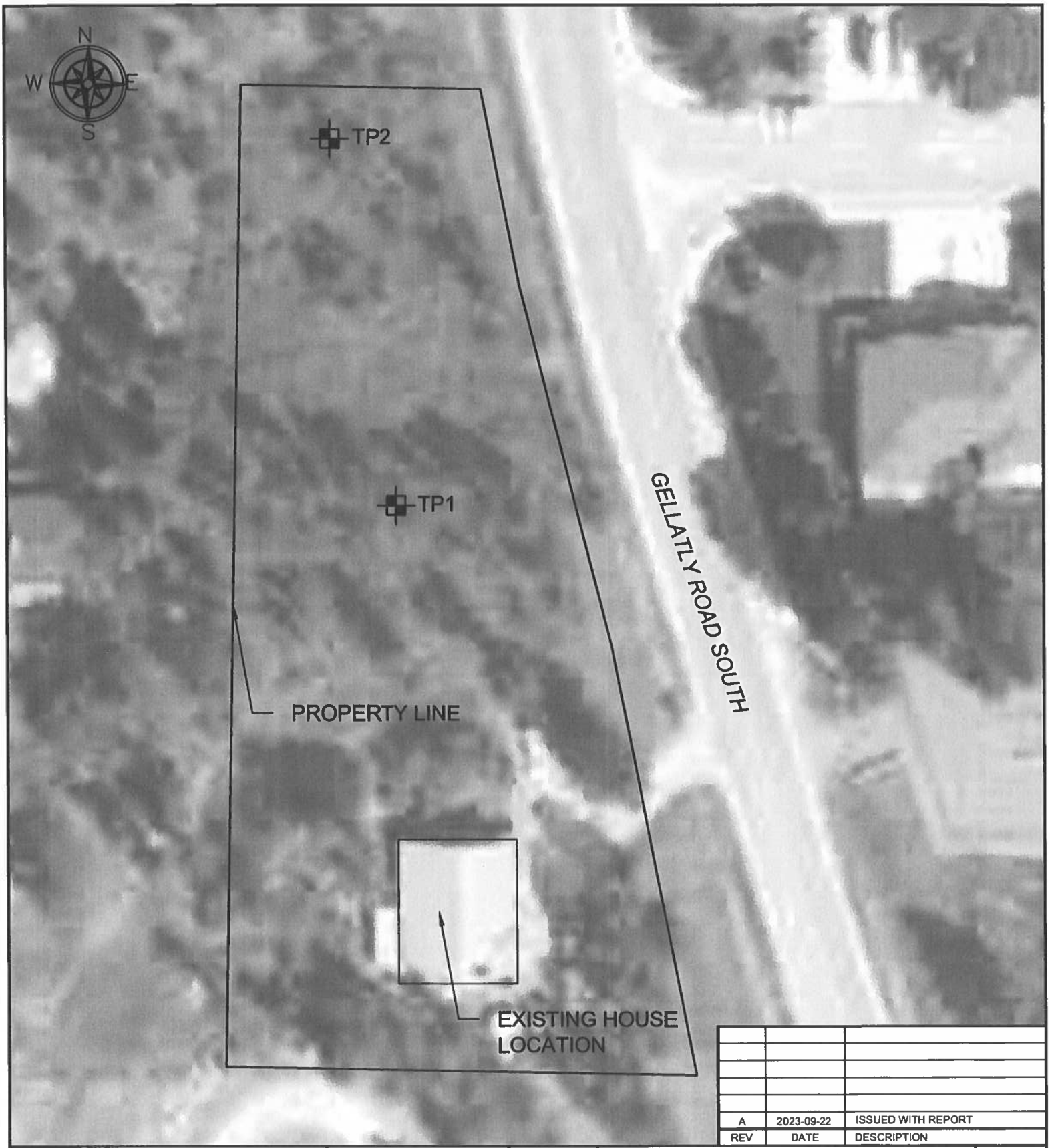
SITE SECTIONS

DRAWING No.

A1.03

Appendix C

Soil Investigation Location Plan & Soil Logs



REV	DATE	DESCRIPTION
A	2023-09-22	ISSUED WITH REPORT

VALLEY GEOTECHNICAL

1770 Baron Road
Kelowna BC, V1X 7G9

PP 1003937

Phone: (250) 801-1134
www.valleygeo.ca

SEAL

FILE NO.	60373-01
DRAWN	HA
CHECKED	BL
SCALE	1:500
PROJECT LOCATION	3830 GELLATLY RD. S. WEST KELOWNA
DRAWING TITLE / DESCRIPTION	TEST PIT LOCATION
DATE	2021-05-12
DEVELOPER / CLIENT	TOMMY FANG
DWG NO.	1
REV. NO.	A

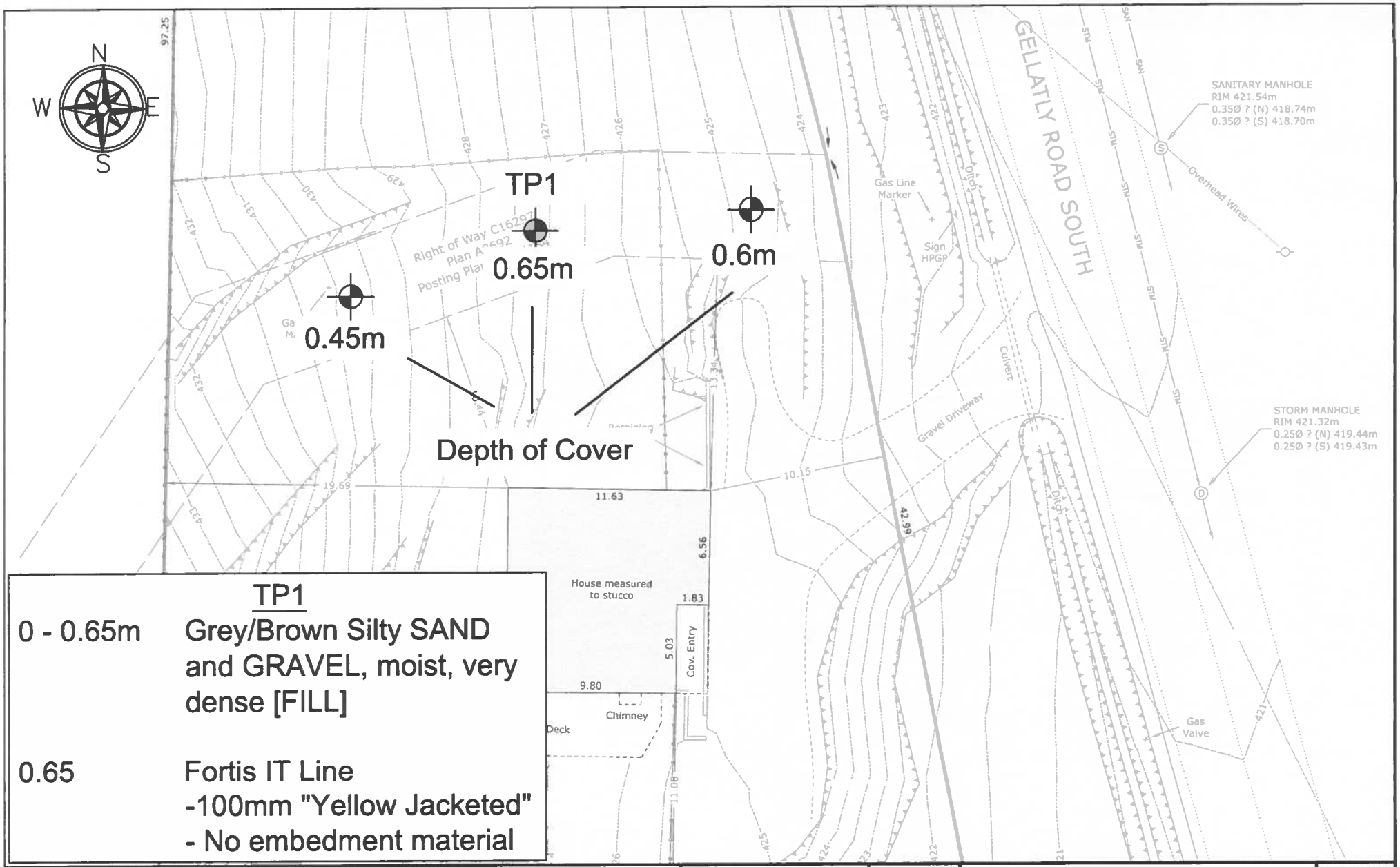
NOTE: CONTRACTOR TO CONTACT BC HYDRO, TELUS, FORTIS BC, AND BC ONE CALL AND TO CONFIRM LOCATIONS OF ALL UTILITIES AND APPURTENANCES PRIOR TO CONSTRUCTION

G:\Shared drives\VGES-PROJECTS5 60000\60000\60071-01\DRAWINGS\(60070-01) 2021-05-12 TEST PIT LOCATION.dwg

Project: Geotechnical Report
Project #: 60071-01
Client: Robin Cove
Address: 3830 Gellatly Road S, West Kelowna, BC
Logged by: BL
Investigation Date: April 29, 2021

Test Hole No.	Depth (m)	Soil Conditions	Moisture Content	
			Depth (m)	%
TP1	0.0 – 0.8	Brown sandy silt to silty sand, with gravel and rootlets, dry to moist, loose [TOPSOIL]		
	0.8 – 1.5	Grey silty fine sand, with gravel and cobbles, dry, very dense to hard PP > 440 kPa	1.4	6.2
			1.5	11.8
		Test hole discontinued @ 1.5m No water seepage observed.		
TP2	0.0 – 0.7	Brown sandy silt to silty sand, with gravel and rootlets, dry to moist, loose [TOPSOIL]		
	0.7 – 1.5	Grey silty fine sand, with gravel and cobbles, dry, very dense to hard PP > 440 kPa	1.3	8.3
			1.5	9.6
		Test hole discontinued @ 1.5m No water seepage observed.		

PP = Pocket Penetrometer



TP1

0 - 0.65m	Grey/Brown Silty SAND and GRAVEL, moist, very dense [FILL]
0.65	Fortis IT Line -100mm "Yellow Jacketed" - No embedment material

VALLEY GEOTECHNICAL

PERMIT NUMBER: 1003937

1770 Baron Road
Kelowna BC, V1X 7G9
Phone: (250) 801-1134
www.valleygeo.ca

REV	DATE	DESCRIPTION
A	2023-09-11	Issued for Report

SEAL

FILE NO. 60373-01	PROJECT LOCATION 3830 Gellatley Rd S, West Kelowna BC
DRAWN LJ	DRAWING SET TITLE Fortis Line Depth of Cover Investigation
CHECKED BL	DRAWING DESCRIPTION Site Plan
SCALE 1:300	DEVELOPER / CLIENT Robin Pan & Tommy Fang
DWG NO. 1	REV. NO. A

NOTE: CONTRACTOR TO CONTACT BC HYDRO, TELUS, FORTIS BC, AND BC ONE CALL AND TO CONFIRM LOCATIONS OF ALL UTILITIES AND APPURTENANCES PRIOR TO CONSTRUCTION

G:\Shared drives\VGES-PROJECTS5 60000\60300\60373-01\DRAWINGS\(60373-01) 2023-09-01 Site Plan.dwg

Appendix D

EGBC Landslide Assessment Assurance Statement

LANDSLIDE ASSESSMENT ASSURANCE STATEMENT 60373-01

Notes: This statement is to be read and completed in conjunction with the Engineers and Geoscientists BC *Professional Practice Guidelines – Landslide Assessments in British Columbia* ("the guidelines") and the current *BC Building Code* (*BCBC*), and is to be provided for Landslide Assessments (not floods or flood controls), particularly those produced for the purposes of the *Land Title Act*, *Community Charter*, or *Local Government Act*. Some jurisdictions (e.g., the Fraser Valley Regional District or the Cowichan Valley Regional District) have developed more comprehensive assurance statements in collaboration with Engineers and Geoscientists BC. Where those exist, the Qualified Professional is to fill out the local version only. Defined terms are capitalized; see the Defined Terms section of the guidelines for definitions.

To: The Approving Authority (or Client) Date: September 25, 2023

City of West Kelowna

2760 Cameron Rd, West Kelowna, BC V1Z 2T6

Jurisdiction/name and address

With reference to (CHECK ONE):

- ☐ A. *Land Title Act* (Section 86) – Subdivision Approval
- ☑ B. *Local Government Act* (Sections 919.1 and 920) – Development Permit
- ☐ C. Community Charter (Section 56) – Building Permit
- ☐ D. Non-legislated assessment

For the following property (the "Property"):

LOT 2, PLAN KAP54990, DISTRICT LOT 3187, OSOYOOS DIV OF YALE LAND DISTRICT (3830 Gellatly Road South)

The undersigned hereby gives assurance that they are a Qualified Professional and a professional engineer or professional geoscientist who fulfils the education, training, and experience requirements as outlined in the guidelines.

I have signed, authenticated, and dated, and thereby certified, the attached Landslide Assessment Report on the Property in accordance with the guidelines. That report must be read in conjunction this statement.

In preparing that report I have:

[CHECK TO THE LEFT OF APPLICABLE ITEMS]

- ✓ 1. Collected and reviewed appropriate background information
- ✓ 2. Reviewed the proposed Residential Development or other development on the Property
- ✓ 3. Conducted field work on and, if required, beyond the Property
- ✓ 4. Reported on the results of the field work on and, if required, beyond the Property
- ✓ 5. Considered any changed conditions on and, if required, beyond the Property
- 6. For a Landslide Hazard analysis or Landslide Risk analysis, I have:
  - ✓ 6.1 reviewed and characterized, if appropriate, any Landslide that may affect the Property
  - ✓ 6.2 estimated the Landslide Hazard
  - ✓ 6.3 identified existing and anticipated future Elements at Risk on and, if required, beyond the Property
  - ✓ 6.4 estimated the potential Consequences to those Elements at Risk
- 7. Where the Approving Authority has adopted a Level of Landslide Safety, I have:
  - ✓ 7.1 compared the Level of Landslide Safety adopted by the Approving Authority with the findings of my investigation
  - ✓ 7.2 made a finding on the Level of Landslide Safety on the Property based on the comparison
  - ✓ 7.3 made recommendations to reduce Landslide Hazards and/or Landslide Risks

LANDSLIDE ASSESSMENT ASSURANCE STATEMENT

8. Where the Approving Authority has **not** adopted a Level of Landslide Safety, or where the Landslide Assessment is not produced in response to a legislated requirement, I have:
   - ___ 8.1 described the method of Landslide Hazard analysis or Landslide Risk analysis used
   - ___ 8.2 referred to an appropriate and identified provincial, national, or international guideline for Level of Landslide Safety
   - ___ 8.3 compared those guidelines (per item 8.2) with the findings of my investigation
   - ___ 8.4 made a finding on the Level of Landslide Safety on the Property based on the comparison
   - ___ 8.5 made recommendations to reduce Landslide Hazards and/or Landslide Risks
- ✓ 9. Reported on the requirements for future inspections of the Property and recommended who should conduct those inspections

Based on my comparison between:

[CHECK ONE]

- ☑ the findings from the investigation and the adopted Level of Landslide Safety (item 7.2 above)
- ☐ the appropriate and identified provincial, national, or international guideline for Level of Landslide Safety (item 8.4 above)

Where the Landslide Assessment is not produced in response to a legislated requirement, I hereby give my assurance that, based on the conditions[1] contained in the attached Landslide Assessment Report:

A. SUBDIVISION APPROVAL

☐ For subdivision approval, as required by the *Land Title Act* (Section 86), "the land may be used safely for the use intended"

[CHECK ONE]

- ☐ with one or more recommended additional registered Covenants
- ☐ without an additional registered Covenant(s)

B. DEVELOPMENT PERMIT

☑ For a development permit, as required by the *Local Government Act* (Sections 488 and 491), my report will "assist the local government in determining what conditions or requirements it will impose under subsection (2) of [Section 491]"

[CHECK ONE]

- ☐ with one or more recommended additional registered Covenants
- ☑ without an additional registered Covenant(s)

C. BUILDING PERMIT

☐ For a building permit, as required by the *Community Charter* (Section 56), "the land may be used safely for the use intended"

[CHECK ONE]

- ☐ with one or more recommended additional registered Covenants
- ☐ without any additional registered Covenant(s)

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[1] When seismic slope stability assessments are involved, Level of Landslide Safety is considered to be a "life safety" criteria, as described in Commentary JJJ of the *National Building Code of Canada (NBC) 2015*, Structural Commentaries (User's Guide – NBC 2015: part 4 of division B). This states:

> "The primary objective of seismic design is to provide an acceptable level of safety for building occupants and the general public as the building responds to strong ground motion; in other words, to minimize loss of life. This implies that, although there will likely be extensive structural and non-structural damage, during the DGM (design ground motion), there is a reasonable degree of confidence that the building will not collapse, nor will its attachments break off and fall on people near the building. This performance level is termed 'extensive damage' because, although the structure may be heavily damaged and may have lost a substantial amount of its initial strength and stiffness, it retains some margin of resistance against collapse."

LANDSLIDE ASSESSMENT ASSURANCE STATEMENT

Bryan Lui, P.Eng.

Name (print)

September 25, 2023

Date

1770 Baron Road

Address

Kelowna, BC V1X 7G9

250-801-1134

Telephone

general@valleygeo.ca

Email

(Affix PROFESSIONAL SEAL and signature here)

The Qualified Professional, as a registrant on the roster of a registrant firm, must complete the following:

I am a member of the firm Valley Geotechnical Kelowna Ltd

(Print name of firm)

with Permit to Practice Number 1003937

(Print permit to practice number)

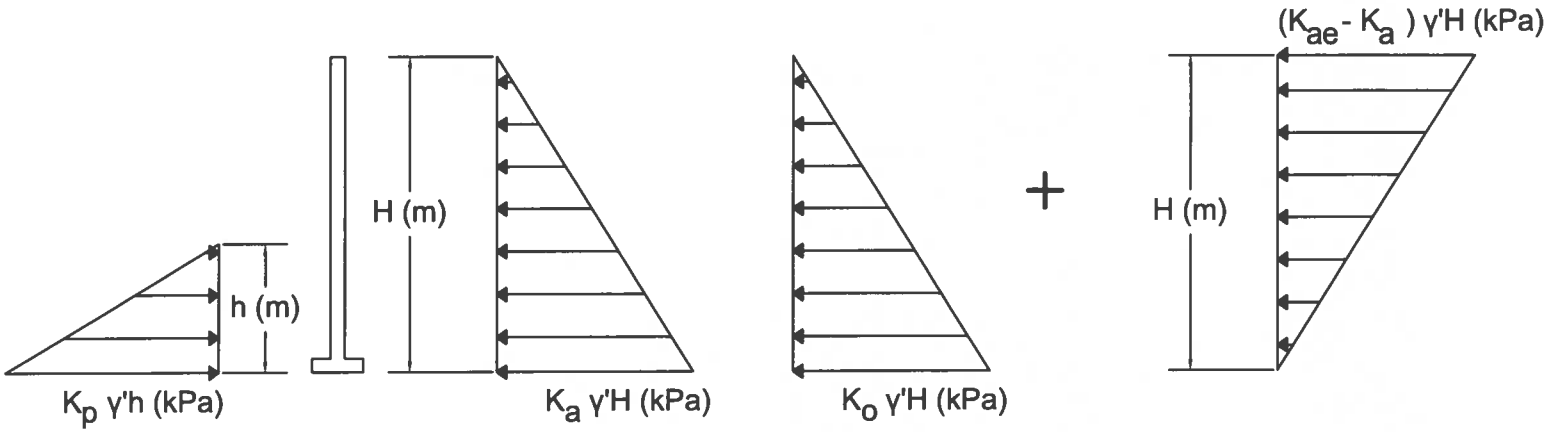
and I sign this letter on behalf of the firm.

Permit to Practice Number 1003937
1770 Baron Road
Kelowna, BC V1X 7G9

Appendix E

Lateral Earth Pressures Diagram

PASSIVE COMPONENT | ACTIVE COMPONENT | AT-REST COMPONENT | SEISMIC COMPONENT



$3.0 \times 18\frac{kN}{m^3} h = 54h$ kPa | $0.33 \times 18\frac{kN}{m^3} H = 5.94H$ kPa | $0.50 \times 18\frac{kN}{m^3} H = 9.00H$ kPa | $(0.37-0.33) \times 18\frac{kN}{m^3} H = 0.66H$ kPa

LEGEND:

γ' = EFFECTIVE UNIT WEIGHT OF SOIL ($18\frac{kN}{m^3}$)
K_o = AT-REST COEFFICIENT OF EARTH PRESSURE (0.50)
K_a = COEFFICIENT OF ACTIVE EARTH PRESSURE (0.33)
K_p = COEFFICIENT OF PASSIVE EARTH PRESSURE (3.00)
$K_{ae}{}^*$ = $K_{ae}(1- K_v)$ = COEFFICIENT OF ACTIVE EARTH PRESSURE UNDER SEISMIC LOADING (INCLUDES VERTICAL COMPONENT)
H = ACTIVE HEIGHT IN METERS
h = PASSIVE HEIGHT IN METERS

VALLEY GEOTECHNICAL
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PP #1003937

REV	DATE	DESCRIPTION
A	2021-05-12	ISSUED WITH REPORT

SEAL

FILE NO. 60373-01	PROJECT LOCATION 3830 GELLATLY RD. S. WEST KELOWNA
DRAWN HA	DRAWING SET TITLE GEOTECHNICAL REPORT
CHECKED BL	DRAWING DESCRIPTION LATERAL EARTH PRESSURE DIAGRAM
SCALE NTS	DEVELOPER / CLIENT TOMMY FANG
DWG NO. 1	REV. NO. A

NOTE: CONTRACTOR TO CONTACT BC HYDRO, TELUS, FORTIS BC, AND BC ONE CALL AND TO CONFIRM LOCATIONS OF ALL UTILITIES AND APPURTENANCES PRIOR TO CONSTRUCTION
G:\Shared drives\VGES-PROJECTS5 60000\60000\60071-01\DRAWINGS\(60070-01) 2021-05-12 LATERAL EARTH PRESSURE.dwg