



Addendum No. 1

**City of Coquitlam
Tender 81832 - Phase 1
Cedar Drive Upgrades - Phase-1 : Partington Creek Conveyance Improvements**

(Consists of 30 Pages)

Issue Date: April 25, 2024

Tenderers shall note the following changes:

REVISIONS:

1. REFER to: FORM OF TENDER

REMOVE: Appendix 1

REPLACE WITH: *REVISED* – Appendix 1 – *Revision No. 1*

2. REFER to Instruction to Tenderers

Add New Clause 4.0

Non-Mandatory Site Meeting

A site meeting will be held on Cedar Drive as per following details:

Location: Near North end of the construction site (4243 Cedar Drive)

Date: Wednesday, May 01, 2024

Time: 11:00 AM in the morning

Tenderers are advised to attend this site-meeting as this will be an opportunity to familiarize with the site conditions and ask any site related questions.

3. REFER to Supplementary Contract Specifications

SECTION 00 72 43S (CONTRACT SPECIFIC NOTATIONS)

REMOVE Clause 1.06 (Lane Closure Restrictions)

REPLACE WITH Revised Clause 1.06:

Refer to: Appendix A: Traffic Management Detail Specifications.

A Road and Sidewalk Closure Permit is required for each instance of closure and will be valid for a maximum period of one (1) week and, if still necessary, re-submittal of a Road and Sidewalk Closure Request is required.

A copy of the approved Road and Sidewalk Closure Permit must be held on site by both the Site Superintendent and the person/company responsible for the traffic control implementation.

The Contractor must take the above information into account in the preparation and submission of the Tender.

Costs to complete the works taking the above restrictions into consideration shall be incidental to work described in other sections.

Costs to complete the works taking the above restrictions into consideration shall be included in the prices bid in the Schedule of Quantities and Prices

SECTION 00 72 43S (CONTRACT SPECIFIC NOTATIONS)

REMOVE Clause 4.00 (Environmental Notes)

REPLACE with Revised Clause 4.00

1. Contractor and shall be responsible for complying with all the terms and conditions specified in the Environmental Management Plan (Appendix C) and tender documents.

SECTION 00 72 43S (CONTRACT SPECIFIC NOTATIONS)

REMOVE Clause 5.00 (Kwkwetlem First Nations Gaurdian Program)

REPLACE WITH Revised Clause 5.00:

- 5.1 City has entered into an agreement with Kwkwetlem First Nation (KFN) for a Guardian Program which focuses on environmental, cultural and archaeological impacts of projects within KFN traditional territory.
- 5.2 KFN is interested in various aspects and stages of the project. Some key phases/activities that may lead to increased presence on- site include but are not limited to:
 - Vegetation removal / grubbing
 - In-stream work
 - Excavation
 - Wildlife surveys
- 5.3 The City's Contract Administrator (CA) will arrange an onsite meeting with the Guardian Manager, Guardian(s) and the Contractor's superintendent, and the Contractor's Project Manager, prior to the start of construction. The purpose of the meeting will be to make introductions and open up lines of communication. The meeting will also provide the opportunity to review the construction schedule and phasing.
- 5.4 The Contractor will provide the CA, the Guardian, and fieldwork@kwkwetlem.com with a two week schedule of work, which the Contractor will update each week, while construction is underway.
- 5.5 The Contractor will be designated as 'Prime Contractor' for the construction site, and all attendees of the construction site, including the CA and the Guardian(s), will need to follow the safety protocols as outlined by the Contractor, to ensure a safe work site.
- 5.6 There will be open dialogue between the CA, the Guardian Manager, Guardian(s), and the Contractor. If the Guardian finds a situation where the Contractor is proceeding in a manner that is not acceptable with regard to environmental impacts (or a risk of environmental impacts), the Guardian will inform a Kwkwetlem Lands and Resources representative who will contact the Contractor's superintendent and the CA about the Guardian's findings. If the Contractor does not resolve the situation it will be up to the CA to determine the appropriate course of action in collaboration with a Kwkwetlem Lands & Resources representative.

- 5.7 The payments and fees for the Guardian Program will be responsibility of the City of Coquitlam.

4. REFER to Supplementary Contract Specifications

SECTION 31 24 13S (ROADWAY EXCAVATION, EMBANKMENT AND COMPACTION)

REMOVE: Replaced Clause 1.8.5.7

5. REFER to Supplementary Contract Specifications

SECTION 32 93 01 PLATING OF TREES, SHRUBS AND GROUND COVERS)

SUB SECTION 3.11 (Guarantee / Maintenance)

Delete Clause 3.11.1 and replace with the following:

Customary one year guarantee period for construction industry will apply as standard for landscape work. Contractor to guarantee all materials and workmanship for a period of one full year from date of Substantial Performance, unless specified otherwise in Contract Documents .

6. REFER to Appendix G – As-Built Drawings

Add following additional As-Built Drawings:

D3058-01

D3058-02

W1961-01

W1961-02

W1961-03

W1961-04

CONTRACTOR QUESTIONS AND CLARIFICATIONS:

- Q1) What is considered the “in stream work” that needs to completed during the least risk window from August 1st to September 15th?
- A1) Per the DFO Authorization and Province Change Approval, all works required to complete the permanent isolation of the proposed off-channel area from the outside ditches will need to be completed within this window. Once isolated, all remaining work in the Contract may be completed outside of the window.**
- Q2) To Confirm, in looking at the site, the only watercourse in our work area is an existing ditch that is classified per the QtheMap as “Non Fish Bearing Permanent” and a few farm culverts draining into the ditch, is this correct?
- A2) All the road side ditches are connected with fish-bearing ditches which discharge into Deboville slough and ultimately into Pitt River. These ditches are considered as sensitive by DFO and Province as these provide nutrients to the potential fish bearing ditches. However, as noted above, once the ditch is isolated, all remaining work can be completed outside of the window.**
- Q3) During construction is it possible to temporarily plug the culverts from the adjacent field, that feed into the ditch/work area, as the current ditch is non fish bearing anyways?

- A3) As per the EMP, temporary isolation of the construction area is required prior to completion of the permanent isolation works. Please note, the existing ditches have relatively low flows. The ditches alongside Cedar Drive and coming within the work area drain into the fish bearing ditches.**
- Q4) Please confirm any archaeological services necessary will be completed by others.
- A4) City will engage an archeological consultant for carrying out required monitoring during construction. Contractor will be required to provide assistance during their work. Refer to Section 01 57 01S Sub-Section 1.9.1 of Supplementary Specifications.**
- Q5) Per Page 198 of the contract documents 5.0, "The Contractor is not required to provide their own EM for this project." Can you please confirm this means environmental monitoring is not required as part of this contract?
- Can you please also confirm that wildlife surveys are not part of the contract?
 - Can you please confirm that Fish / Animal Salvage is not included as part of this contract?
- A5) Please refer to Appendix C; Environmental Management Plan. The Contractor is not required to complete any wildlife surveys or salvages. ISL Engineering Consultants will be completing vertebrate surveys and salvage for the City in advance of construction. The Contractor is required to provide 10 days advance notice to the CA of the date that they intend to commence instream work.**
- Q6) Can you please confirm that we will not need to bypass the stream as part of this project?
- If we do, can you please specify where?
- A6) Please refer to Appendix C; Environmental Management Plan; Section 7.0. The Contractor is responsible for determining their site isolation and bypass technology.**
- Q7) Please confirm for Item NO. 5.01, that the common excavation, materials are free of knotweed and a specialized dump site is not needed for these materials?
- FYI: If this material must be treated as a knotweed contaminated material, and disposed of at a knotweed certified facility the price will be extensive.
- A7) Excavation for areas with knotweed will be paid under Item 5.03.**
- Q8) Please confirm for optional item No. 5.03, that all dump fees at this location will be borne by the city?
- A8) This is a City owned site.**
- Q9) Please confirm for item No. 5.02 "Onsite Reuse", no treatment of this material for knotweed will be required?.
- A9) As above.**
- Q10) Please confirm that only maintenance of the irrigation system is required for 1-year and maintenance of the plant areas will not be required after substantial completion.
- A10) Maintenance of Irrigation System and Plant areas will be for one year from the date of Substantial Performance. Refer to Revised Section 32 93 01 Clause 3.11.1 in Addendum No.1.**

Q11) Item 7.01 Hydrant assembly relocation. Please provide the location where these hydrants are being relocated too.

A11) Fire hydrants are to be relocated closer to the existing road as shown on the Contract Drawings.

Q12) Per Page 126 of the contract documents, Point 2.5/.2 "Supplier of Growing Medium shall be as per the Coquitlam Approved Products List", this approved lists is "Fraser Richmond Bio Cycle, BC Eco Soil, Yardwork's, Denbow", dose the soil for the project need to be supplied by one of these suppliers?

- a. Would other suppliers be considered?
- b. Would an excavated soil be considered for this project? Natural excavated soils are often more environmentally friendly than composted soils.

A12) Growing Medium shall be as per the Coquitlam Approved Products List

Q13) For item 5.01, is there any information on they type of material this is? Any geotechnical, or soil testing, or knowledge of where the material came from?

A13) Borehole information available for this site is attached (ADD 1-14 to ADD 1-30). These investigations were carried out before preloading the site.

Q14) Item 14.15, 14.16 & 14.17 Is there a specific species of tree required for these items? Please list what species are acceptable for the woody debris and tree snag.

A14) The following species of trees are suitable for Large Woody Debris: Douglas-fir, Western red-cedar, Western hemlock.

Within each constructed woody debris cluster we can accept up to one piece of deciduous tree wood (e.g. red alder, broad-leaf maple).

We cannot accept poplar, black cottonwood or birch for the red alder and broadleaf maple deciduous stems.

The snags should be conifers (species is less important). Could accept up to 25% birch, maple or red alder.

End of Addendum No. 1

Tenderers shall take into account the content of this Addendum in the preparation and submission of the Tender which will form part of the contract and should be acknowledged on the Tender form where indicated.

Upon submitting a Tender, Tenderers will be deemed to have received all addenda and considered the information for inclusion in the Tender submitted.

Issued by:

M. Pain
Purchasing Manager
Email: bid@coquitlam.ca

REVISED - APPENDIX 1 - Revision No. 1

FORM OF TENDER

Contract 81832 - PHASE 1

CEDAR DRIVE UPGRADES - PHASE 1 : PARTINGTON CREEK CONVEYANCE IMPROVEMENTS

SCHEDULE OF QUANTITIES AND PRICES

(see paragraph 5.3.1 of the Instruction to Tenderers)

(All Tender and Contract Prices shall NOT include GST. GST will apply upon payment)

(Should there be any discrepancy in the information provided, the City's original file copy shall prevail)

ITEM NO.	MMCD/ Supp. Specs	DESCRIPTION	UNIT OF MEASURE	TOTAL QUANTITY	UNIT PRICE	TOTAL COST
1	01 55 00S	TRAFFIC CONTROL, VEHICLE ACCESS AND PARKING				
1.01	(1.5.1)	Traffic Control and Management				Incidental to Contract
2	01 57 01S	ENVIRONMENTAL PROTECTION				
2.01	(1.6.1)	ESC supply & installation, maintenance and removal	ALLOWANCE	1		\$50,000.00
3	01 58 01S	PROJECT IDENTIFICATION				
3.01	(1.3.1)	Construction Zone Information Signs	Each	4		
4	31 11 01S	CLEARING AND GRUBBING				
4.01	(1.4.1)	Clearing and Grubbing	Lump Sum	1		
5	31 24 13S	ROADWAY EXCAVATION, EMBANKMENT AND COMPACTION				
5.01	(1.8.5)	Common Excavation - Off Site Disposal, includes stripping and top soil removal, placing polythene sheet for erosion control complete	Cubic Meter	2280		
5.02	(1.8.5)	Common Excavation - Onsite Reuse (Native Material Regrade at Channel)	Cubic Meter	1990		
5.03	(1.8.5)	Japanese Knotweed Removal and Off Site Disposal and Stockpiling at 1341 Gilleys Trail.(OPTIONAL)	Square Meter	150		
5.04	(1.8.4)	Removal of Existing Concrete Lock Block Wall (Maximum Six Blocks High)	Linear Meter	120		
5.05	(1.8.14)	Sandbag Barrier	Linear Meter	140		
6	32 11 23	GRANULAR BASE				
6.1	(1.4.3)	19mm Minus Gravel (Road Shoulder)	Tonne	80		
7	33 11 01S	WATERWORKS				
7.01	(1.8.11)	Hydrant Assembly Relocation	Each	2		
7.02	(1.8.14)	Irrigation water service connection and meter (50 mm Diameter)	ea.	1		
8	31 23 23	CONTROLLED DENSITY FILL				
8.1	1.4	Infill of Existing 1200mm Dia. HDPE Culvert with Controlled Density Fill (CEMATRIX or Approved Equal)	Cubic Meter	140		
9	31 37 10	RIPRAP				
9.1	1.4.1	150mm Dia. Riprap	Tonne	80		
10	33 42 13S	PIPE CULVERTS				
10.01	(1.5.2)	1200mm Dia. HDPE Culvert Extension	lin.m	14		
10.02	(1.5.2)	1200mm Dia. 90deg HDPE Bend	Each	2		
10.03	(1.5.4)	Removal of Existing 300mm Dia. PVC Culvert	lin.m	14		
10.04	(1.5.7)	Removal of Existing 500mm Dia. CSP Culvert and off site disposal	lin.m	16		
10.05	(1.5.7)	Removal of Existing 600mm Dia. CMP Culvert and off site disposal	lin.m	11		
10.06	(1.5.7)	Removal of Existing 850mm Dia. PVC Culvert and off site disposal	lin.m	10		

SCHEDULE OF QUANTITIES AND PRICES

(see paragraph 5.3.1 of the Instruction to Tenderers)

(All Tender and Contract Prices shall NOT include GST. GST will apply upon payment)

(Should there be any discrepancy in the information provided, the City's original file copy shall prevail)

ITEM NO.	MMCD/ Supp. Specs	DESCRIPTION	UNIT OF MEASURE	TOTAL QUANTITY	UNIT PRICE	TOTAL COST
11	32 91 21S	TOP SOIL AND FINISH GRADING				
11.01	(1.4.1)	Growing Medium as specified on Contract Drawings	Cubic Meter	2630		
12	32 92 19S	HYDRAULIC SEEDING				
12.01	(1.8.1)	Hydraulic Seeding	Square Meter	2500		
12.02	1.8.3	Erosion Control Blanket (Terrafix C200 or approved equivalent)	Square Meter	4700		
13	04 43 00S	CHANNEL SUBSTRATE				
13.1	(1.3.1)	Channel Substrate Gravel Mix	Cubic Meter	1150		
13.2	(1.3.2)	600mm Dia. Boulder	Each	300		
14	32 93 01S	PLANTING OF TREES, SHRUBS, AND GROUND COVERS				
14.01	(1.9.1)	Tree - Amelanchier canadensis - Canada Serviceberry	Each	7		
14.02	(1.9.1)	Tree - Betula allenghaniensis - Yellow Birch	Each	3		
14.03	(1.9.1)	Tree - Cercis canadensis - Eastern Redbud	Each	3		
14.04	(1.9.1)	Tree - Crataegus douglasii suksdorfii - Black Hawthorn	Each	1		
14.05	(1.9.1)	Tree - Gleditsia triacanthus - Honey Locust	Each	3		
14.06	(1.9.1)	Tree - Picea glauca - White Spruce	Each	8		
14.07	(1.9.1)	Tree - Pinus contorta - Shore Pine	Each	8		
14.08	(1.9.1)	Tree - Pinus ponderosa - Ponderosa Pine	Each	38		
14.09	(1.9.1)	Tree - Prunus emarginata - Bitter Cherry	Each	6		
14.10	(1.9.1)	Tree - Pseudotsuga menziesii - Douglas Fir	Each	50		
14.11	(1.9.1)	Tree - Quercus garryana - Garry Oak	Each	19		
14.12	(1.9.1)	Tree - Rhamnus purshiana - Cascara	Each	14		
14.13	(1.9.1)	Shrubs	Each	3661		
14.14	(1.9.1)	Ground Cover	Each	4074		
14.15	(1.9.3)	Large Woody Debris Type 1	Each	31		
14.16	(1.9.3)	Large Woody Debris Type 2	Each	9		
14.17	(1.9.3)	Tree Snag	Each	9		
15	32 84 23S	IRRIGATION				
15.01	(1.11)	Providing and Installing irrigation system complete with double check valve assembly (Watt 007QT), TBOS II controller, Rainbird PEB valves, all labor, equipment and materials needed to complete the work as shown on Contract Drawings including maintenance for one year as described in specifications.	l.s.	1		

Total Tendered Price (exclude GST): _____ \$

(Transfer the amount to Form of Tender Summary Page 1)

Name of Contractor: _____

NOTES:

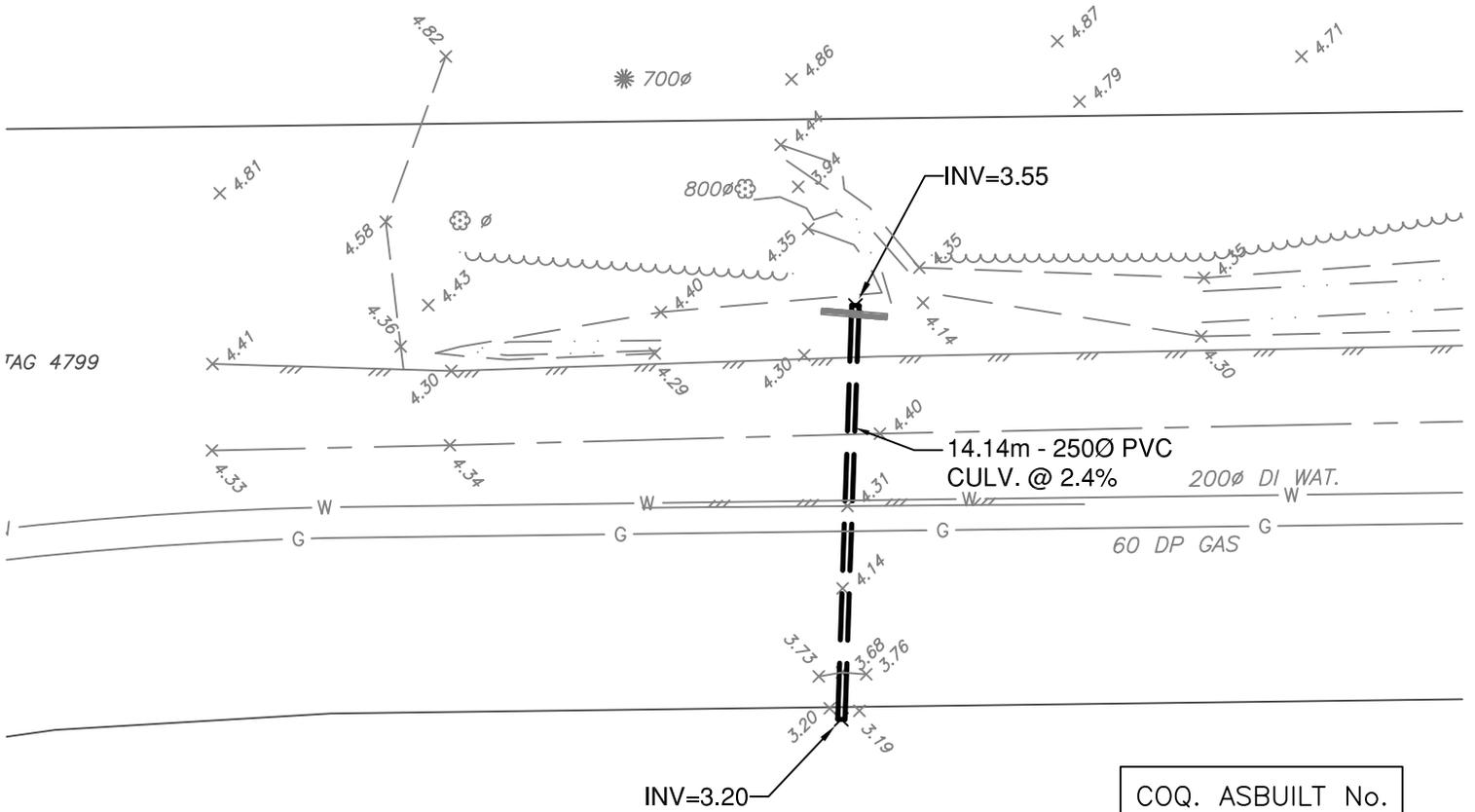
1. GEODETIC ELEVATIONS ARE DERIVED FROM TIES TO INTEGRATED SURVEY CONTROL MONUMENT 77H4126. LOCATED AT INTERSECTION OF OLIVER ROAD AND GILLEYS TRAIL, PUBLISHED ELEVATION=4.574m, DATUM IS [CGVD28 (GVRD 2005)].
2. THIS PLAN SHOWS HORIZONTAL GROUND LEVEL MEASURED DISTANCES. PRIOR TO COMPUTATION OF NAD83 U.T.M. COORDINATES MULTIPLY BY THE COMBINED FACTOR 0.9995887. DATE OF SURVEY COMPLETION IS APRIL 3, 2020.
3. THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE INDICATED IN THE PUBLIC ROAD ALLOWANCE ONLY AND ARE SHOWN APPROXIMATE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. BC ONE-CALL PROVIDES UNDERGROUND UTILITY LOCATIONS (1-800-474-6886).
4. BASEMAP WAS IMPORTED FROM CITY OF COQUITLAM G.I.S. COORDINATE GEOMETRY. ACCURACY IS ESTIMATED AT ±0.1m.

15
PLAN 25042



OLIVER ROAD

#4265 OLIVER ROAD



COQ. ASBUILT No.
D3058-01

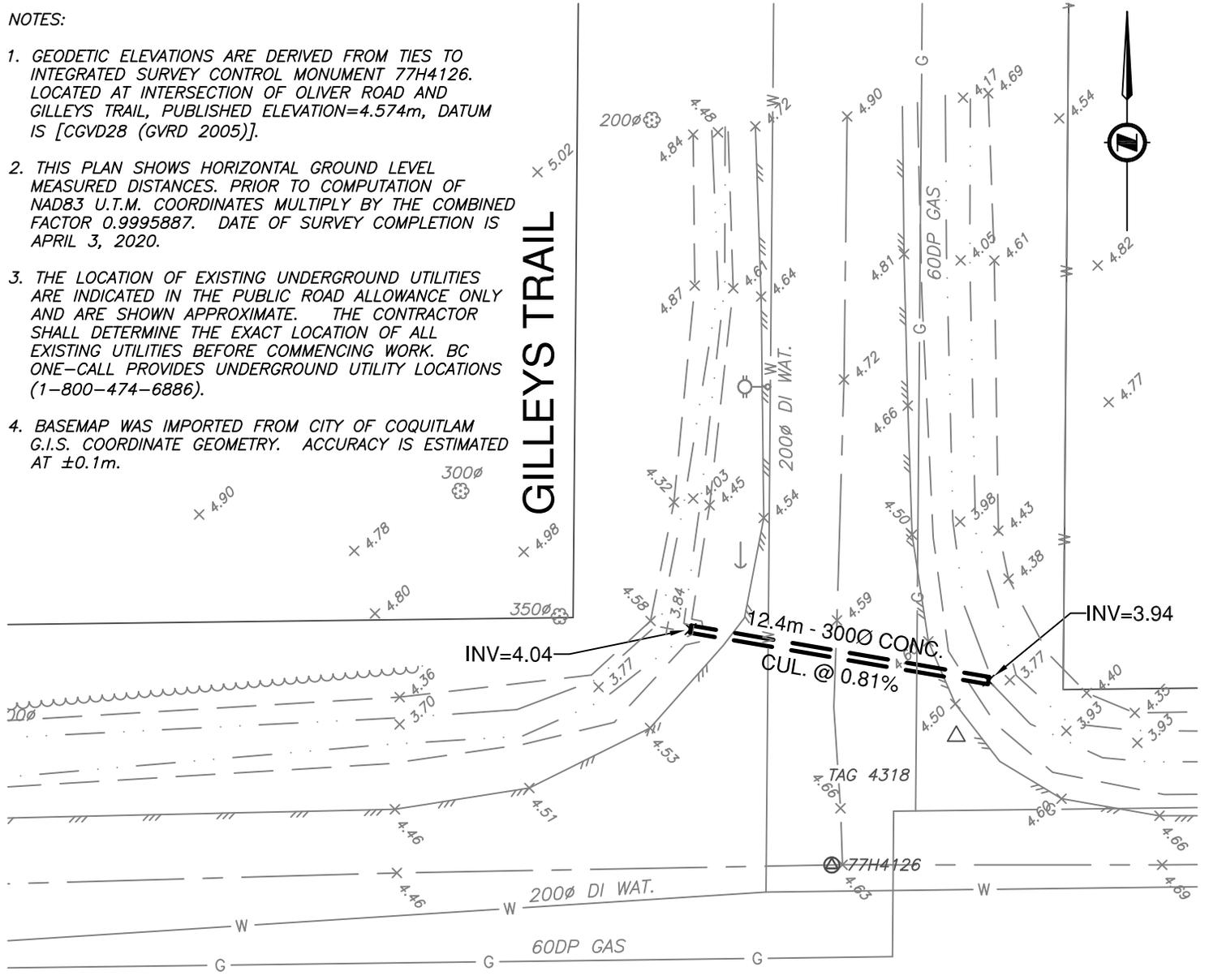
Destroy All Prints Bearing Rev. No. less than one indicated below

City of Coquitlam			
CULVERT			
#4265 OLIVER ROAD			
RECORD DRAWING		1	15 MAY/2020
REVISIONS		No.	DATE:
DESIGNED:	DRAWN: R.D.	CHECKED:	PLOTTED: 28-May-20
SCALE: 1:250	DATE: 15 MAY/2020	SHT. 1 OF 2	FILE:20Oliver04220524A1



NOTES:

1. GEODETIC ELEVATIONS ARE DERIVED FROM TIES TO INTEGRATED SURVEY CONTROL MONUMENT 77H4126. LOCATED AT INTERSECTION OF OLIVER ROAD AND GILLEYS TRAIL, PUBLISHED ELEVATION=4.574m, DATUM IS [CGVD28 (GVRD 2005)].
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CULVERT INDICATED IN BOLD ARE NOT NEW WORKS BUT ARE PREVIOUSLY UNDOCUMENTED RECORD INFORMATION DESCRIBED SPECIFICALLY ON THIS PLAN.

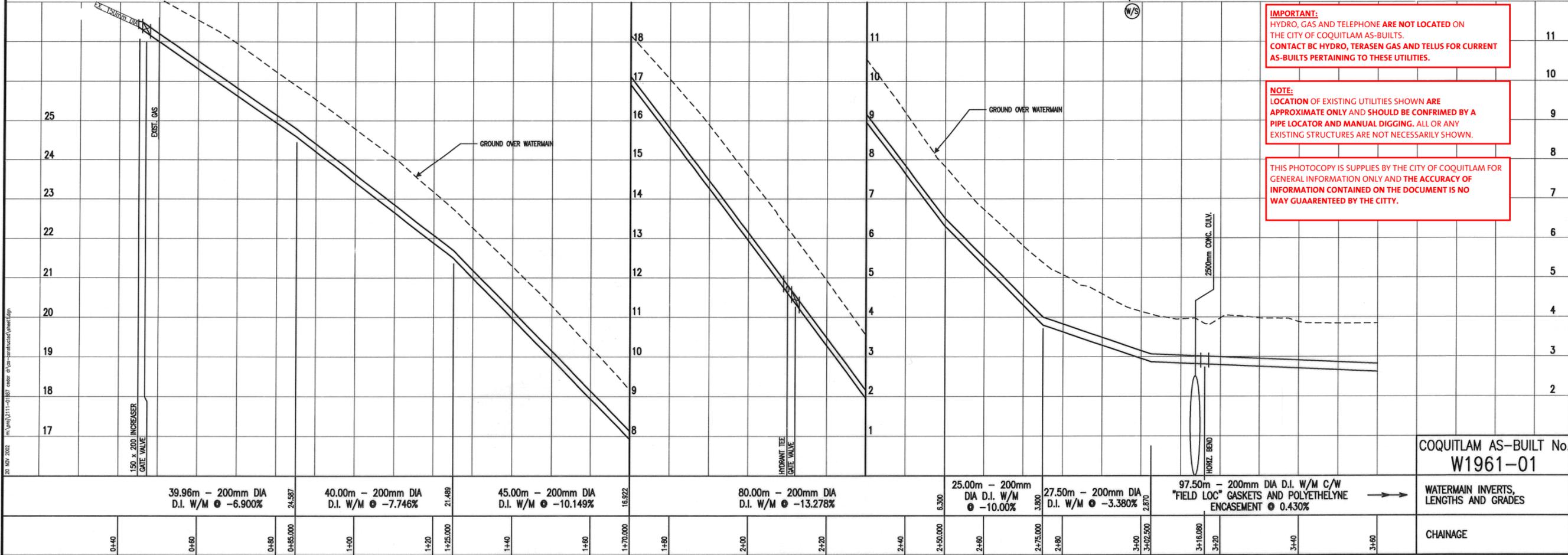
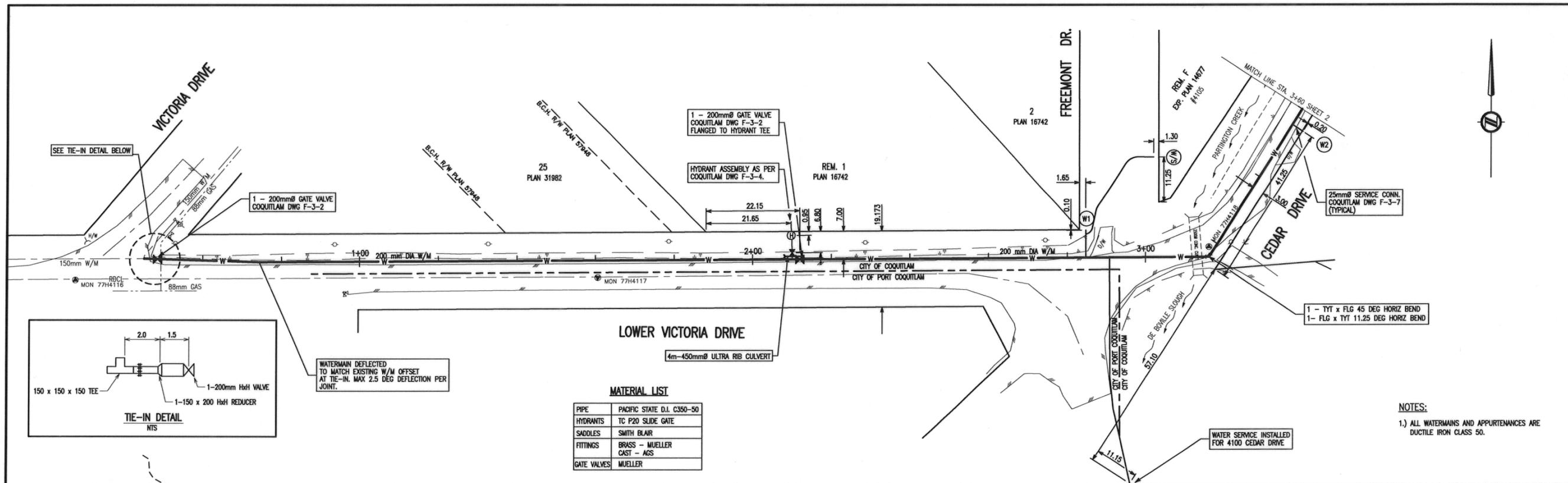
OLIVER ROAD

COQ. ASBUILT No.
D3058-02

Destroy All Prints Bearing Rev. No. less than one indicated below

City of Coquitlam			
CULVERT OLIVER ROAD AND GILLEYS TRAIL			
RECORD DRAWING	1	15 MAY/2020	
REVISIONS	No.	DATE:	
DESIGNED:	DRAWN: R.D.	CHECKED:	PLOTTED: 28-May-20
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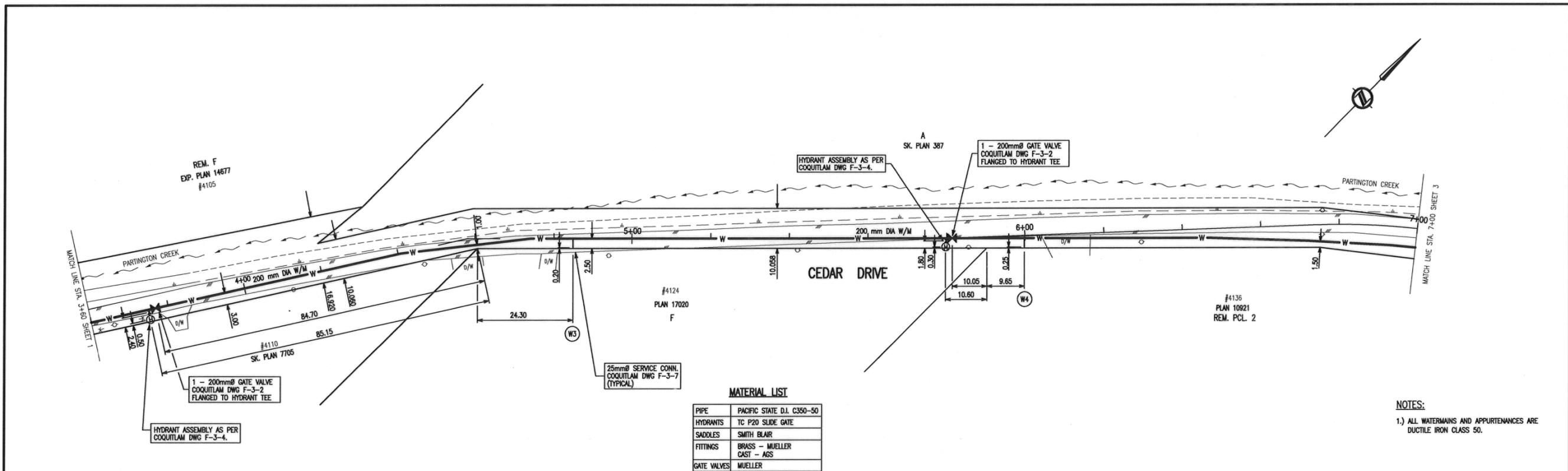


IMPORTANT:
HYDRO, GAS AND TELEPHONE ARE NOT LOCATED ON THE CITY OF COQUITLAM AS-BUILTS. CONTACT BC HYDRO, TERASEN GAS AND TELUS FOR CURRENT AS-BUILTS PERTAINING TO THESE UTILITIES.

NOTE:
LOCATION OF EXISTING UTILITIES SHOWN ARE APPROXIMATE ONLY AND SHOULD BE CONFIRMED BY A PIPE LOCATOR AND MANUAL DIGGING. ALL OR ANY EXISTING STRUCTURES ARE NOT NECESSARILY SHOWN.

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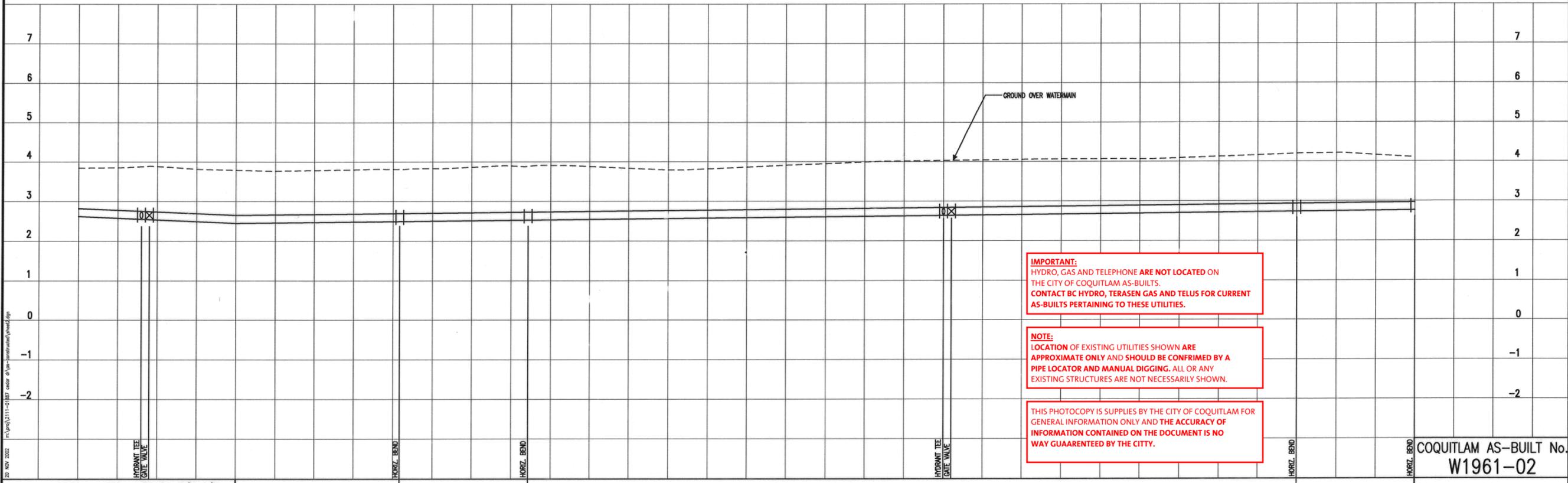
<p>INFORMATION ON EXISTING UTILITIES MAY NOT BE COMPLETE OR ACCURATE. PRIOR TO CONSTRUCTION CONTRACTOR SHALL EXPOSE LOCATIONS OF ALL EXISTING UTILITIES AND ADVISE THE ENGINEER OF POTENTIAL CONFLICTS.</p>		<p>LEGAL DESCRIPTION OF PROPERTY</p>		<p>McElhanney Consulting Services Ltd. 13160-88 Ave., Surrey, B.C. V3W 3K3 Tel. (604)596-0391 Fax(604)596-8853</p>	<p>CITY OF COQUITLAM 3000 GUILDFORD WAY, COQUITLAM, BC V3B 7N2 TEL. 604-927-3000 FAX: 604-927-3015</p> <p>CEDAR DRIVE WATERMAIN VICTORIA DRIVE TO GILLEY'S TRAIL COQUITLAM, B.C.</p>	<p>Scale: Horiz. 1:500, Vert. 1:250</p> <p>Drawn: LRP/HS</p> <p>Checked: G.S.</p> <p>Designed: G.S.</p> <p>Checked: G.S.</p> <p>Approved: E.H.</p>	<p>City Project No. C 96845-1</p> <p>City Drawing No. 1</p> <p>Job No. 2111-01887-0 of 6</p> <p>Date: APRIL 2002</p>	<p>Drawing No. 1</p> <p>Revision 2</p>
<p>2 10/31/02 AS CONSTRUCTED SURVEY SUPPLIED BY CITY OF COQUITLAM M.Z. G.S.</p> <p>1 04/06/02 REVISED TO CITY REQUIREMENTS. H.S. G.S.</p>	<p>BENCHMARKS</p> <p>All elevations refer to Coquitlam Monument No.: 77H4118 Elevation 3.811 m.</p>	<p>COQUITLAM AS-BUILT No. W1961-01</p> <p>WATERMAIN INVERTS, LENGTHS AND GRADES</p> <p>CHAINAGE</p>						



MATERIAL LIST

PIPE	PACIFIC STATE D.I. C350-50
HYDRANTS	TC P20 SLIDE GATE
SADDLES	SMITH BLAIR
FITTINGS	BRASS - MUELLER CAST - AGS
GATE VALVES	MUELLER

NOTES:
1.) ALL WATERMANS AND APPURTENANCES ARE DUCTILE IRON CLASS 50.



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COQUITLAM AS-BUILT No. W1961-02

97.50m - 200mm DIA D.I. W/M C/W "FIELD LOC" GASKETS AND POLYETHYLENE ENCASEMENT @ 0.430%
355.00m - 200mm DIA D.I. W/M C/W "FIELD LOC" GASKETS AND POLYETHYLENE ENCASEMENT @ 0.110%

CHAINAGE
3+80 3+80 4+00 4+20 4+40 4+40 4+60 4+74.35 4+80 5+00 5+20 5+40 5+60 6+00 6+20 6+40 6+60 6+70.000 7+00.000

No.	Date	Revision	Dr	Ch
2	10/31/02	AS CONSTRUCTED SURVEY SUPPLIED BY CITY OF COQUITLAM	M.Z.	G.S.
1	04/06/02	REVISED TO CITY REQUIREMENTS.	H.S.	G.S.

INFORMATION ON EXISTING UTILITIES MAY NOT BE COMPLETE OR ACCURATE. PRIOR TO CONSTRUCTION CONTRACTOR SHALL EXPOSE LOCATIONS OF ALL EXISTING UTILITIES AND ADVISE THE ENGINEER OF POTENTIAL CONFLICTS.

THIS DRAWING HAS BEEN PREPARED FOR THE CLIENT IDENTIFIED, TO MEET THE STANDARDS AND REQUIREMENTS OF THE APPLICABLE PUBLIC AGENCIES. McELHANNEY CONSULTING SERVICES LTD., ITS EMPLOYEES, SUBCONSULTANTS AND AGENTS ACCEPT NO RESPONSIBILITY TO ANY OTHER PARTY, INCLUDING CONTRACTORS, SUPPLIERS, CONSULTANTS AND STAKEHOLDERS, OR THEIR EMPLOYEES OR AGENTS, FOR LOSS OR LIABILITY INCURRED AS A RESULT OF THEIR USE OF THESE DRAWINGS.

LEGAL DESCRIPTION OF PROPERTY

BENCHMARKS
All elevations refer to Coquitlam Monument No. 77H4118 Elevation 3.811 m.

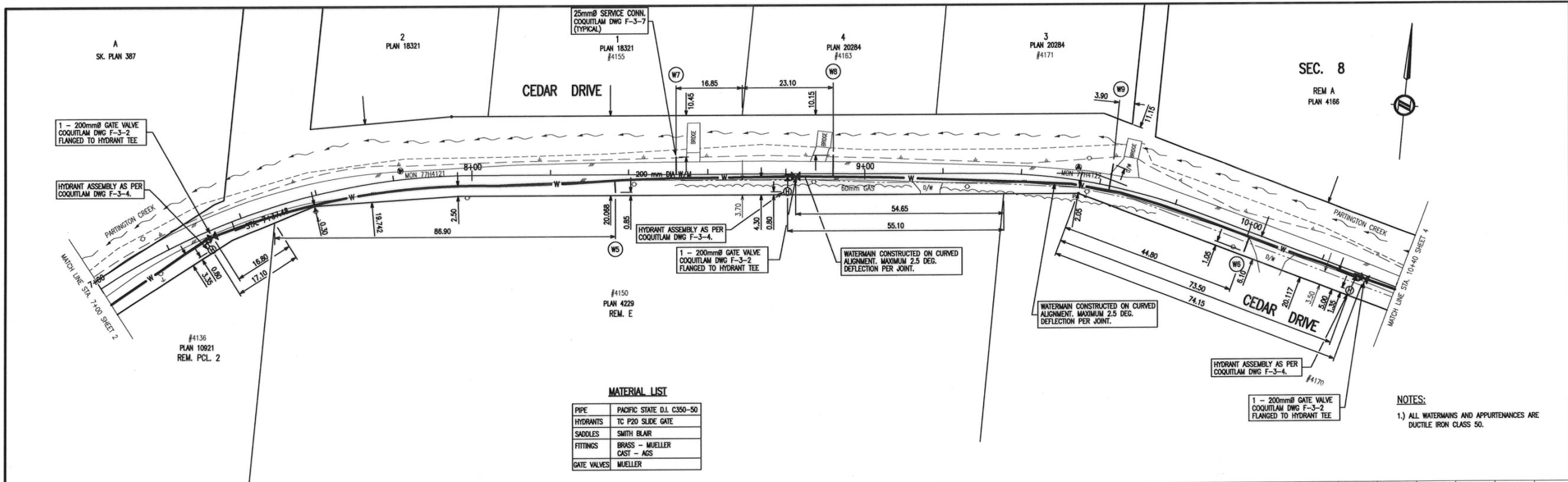
McElhanney
McElhanney Consulting Services Ltd.
13160-88 Ave., Surrey, B.C. V3W 3K3
Tel. (604)596-0391 Fax(604)596-8853



CITY OF COQUITLAM
3000 GUILDFORD WAY, COQUITLAM, BC V3B 7N2 TEL. 604-927-3000 FAX: 604-927-3015

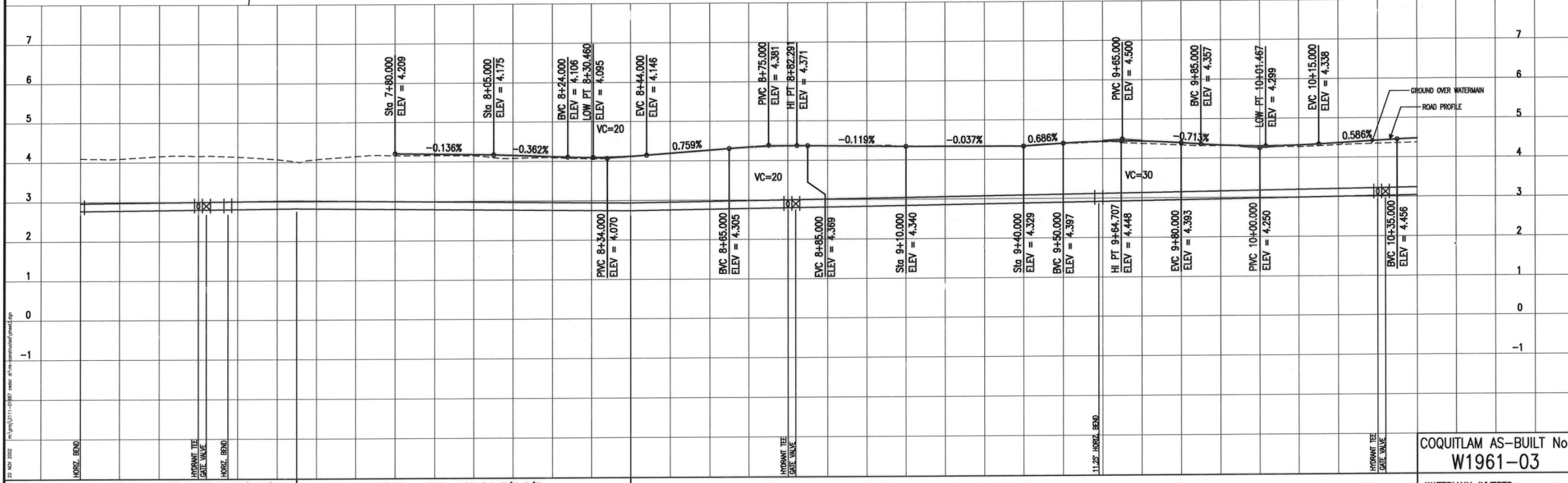
CEDAR DRIVE WATERMAIN
VICTORIA DRIVE TO GILLEY'S TRAIL
COQUITLAM, B.C.

Scale	Horiz. 1:500 Vert. 1:50	City Project No.	C 96845-1	2
Drawn	LRP/HS	City Drawing No.		
Checked	G.S.	Job No.	2111-01887-0 of 6	
Approved	E.H.	Date	APRIL 2002 Revision 2	



MATERIAL LIST

PIPE	PACIFIC STATE D.I. C350-50
HYDRANTS	TC P20 SLIDE GATE
SADDLES	SMITH BLAIR
FITTINGS	BRASS - MUELLER CAST - ASS
GATE VALVES	MUELLER



355.00m - 200mm DIA D.I. W/M C/W "FIELD LOC" GASKETS AND POLYETHYLENE ENCASMENT @ 0.110%	85.00m - 200mm DIA D.I. W/M C/W "FIELD LOC" GASKETS AND POLYETHYLENE ENCASMENT @ -0.100%	230.00m - 200mm DIA D.I. W/M C/W "FIELD LOC" GASKETS AND POLYETHYLENE ENCASMENT @ 0.150%
7+40.000	7+40.000	10+40.000

<p>McElhanney Consulting Services Ltd. 13160-88 Ave., Surrey, B.C. V3W 3K3 Tel. (604)596-0391 Fax(604)596-8853</p>		<p>CITY OF COQUITLAM 3000 GUILDFORD WAY, COQUITLAM, BC V3B 7N2 TEL. 604-927-3000 FAX: 604-927-3015</p>		<p>Scale: 1:500 Drawn: LRP/HS Checked: G.S. Designed: G.S. Approved: E.H.</p>	<p>City Project No. C 96845-1 City Drawing No. Job No. 2111-01887-0 Date: APRIL 2002</p>	<p>Drawing No. 3 of 6 Revision 2</p>
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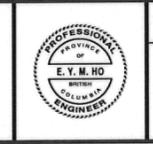
No.	Date	Revision	Dr	Ch
2	10/31/02	AS CONSTRUCTED SURVEY SUPPLIED BY CITY OF COQUITLAM	M.Z.	G.S.
1	04/06/02	REVISED TO CITY REQUIREMENTS.	H.S.	G.S.

INFORMATION ON EXISTING UTILITIES MAY NOT BE COMPLETE OR ACCURATE. PRIOR TO CONSTRUCTION CONTRACTOR SHALL EXPOSE LOCATIONS OF ALL EXISTING UTILITIES AND ADVISE THE ENGINEER OF POTENTIAL CONFLICTS.

THIS DRAWING HAS BEEN PREPARED FOR THE CLIENT IDENTIFIED. TO MEET THE STANDARDS AND REQUIREMENTS OF THE APPLICABLE PUBLIC AGENCIES. McELHANNEY CONSULTING SERVICES LTD., ITS EMPLOYEES, SUBCONSULTANTS AND AGENTS ACCEPT NO RESPONSIBILITY TO ANY OTHER PARTY, INCLUDING CONTRACTORS, SUPPLIERS, CONSULTANTS AND STAKEHOLDERS, OR THEIR EMPLOYEES OR AGENTS, FOR LOSS OR LIABILITY INCURRED AS A RESULT OF THEIR USE OF THESE DRAWINGS.

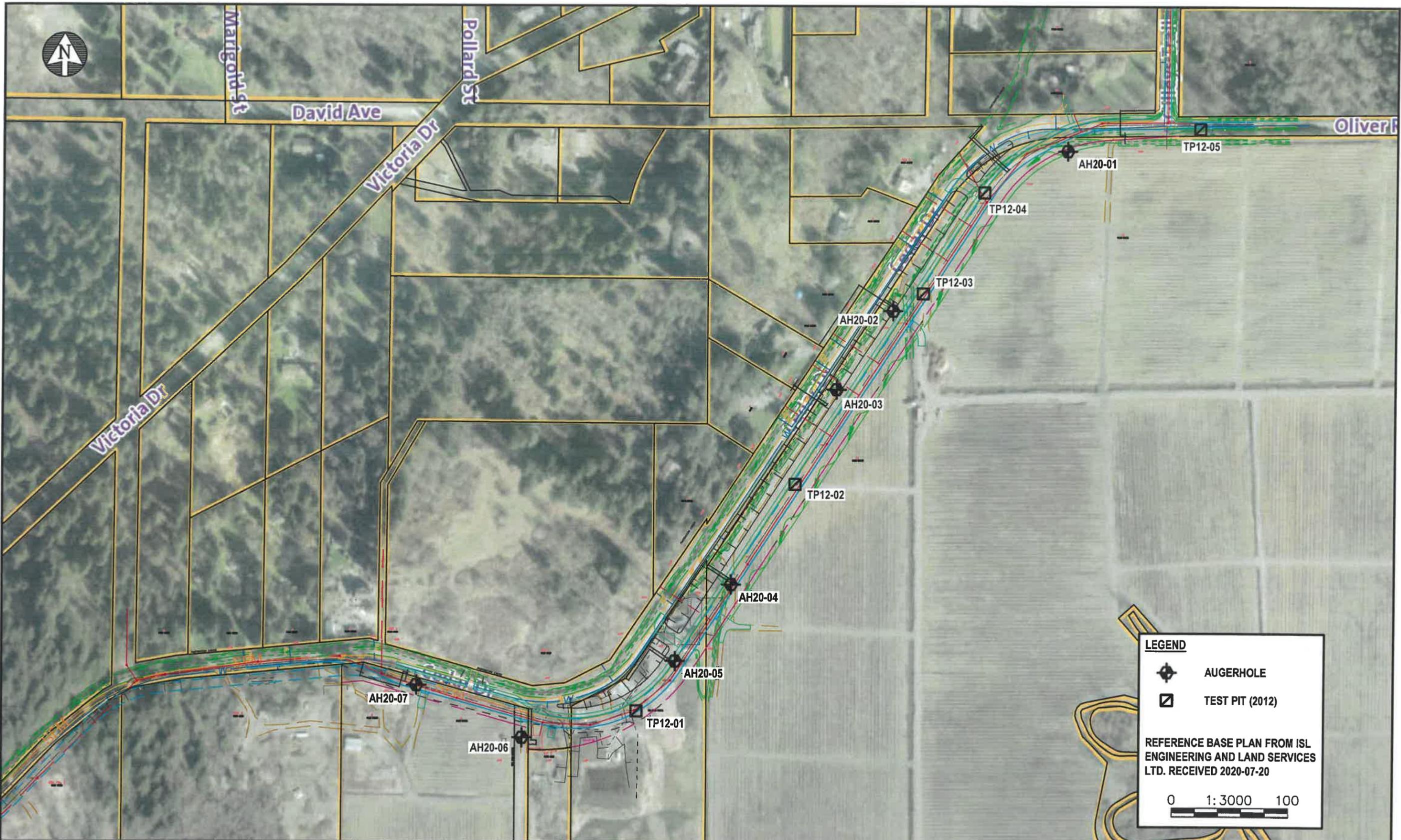
BENCHMARKS
 All elevations refer to Coquitlam Monument No.: 77H4118
 Elevation 3.811 m.

LEGAL DESCRIPTION OF PROPERTY



CEDAR DRIVE WATERMAIN
 VICTORIA DRIVE TO GILLEY'S TRAIL
 COQUITLAM, B.C.

COQUITLAM AS-BUILT No. W1961-03
WATERMAIN INVERTS, LENGTHS AND GRADES
CHAINAGE



Nov 18, 2020 - 11:57am
 E:\V\W\VAN-00260722-A0\60 Execution\65 Drawings\60722 TESTHOLE PLAN.dwg



EXP Services Inc.
 275-3001 Wayburne Drive
 Burnaby, British Columbia V5G 4W3
 Telephone: 604-874-1245
 Fax: 604-874-2358
 exp.com

REVISIONS		
No.	DESCRIPTION	DATE

DFTR.	MG	CLIENT	ISL ENGINEERING AND LAND SERVICES LTD.
DSGN.	SM	PROJECT	CEDAR ROAD RELOCATION COQUITLAM, BC
CHK.	RM	PROJECT NO.	VAN-00260722-A0

TITLE:	TESTHOLE LOCATION PLAN		
DATE	2020-11-18	SCALE:	1:3000
DWG NO.			FIGURE 1



EXP Services Inc
 3001 Wayburne Drive Unit 175A & Unit 275
 Burnaby, British-Columbia V5G 4W3
 Telephone: 604-874-1245

RECORD OF AUGERHOLE : AH20-01

PROJECT NUMBER VAN-00260722-A0

CLIENT ISL Engineering

PROJECT NAME Cedar Drive Expansion

PROJECT LOCATION Cedar Drive, Coquitlam, BC

DRILLING DATE 2020-10-15

AUGERHOLE LOCATION ZONE: 10 N: 5460044.3 E: 520479.18

DRILLING CONTRACTOR Southland Drilling Co. Ltd.

ELEVATION G.S

DRILLING METHOD Solid Stem Auger

GROUND WATER DEPTHS: AT TIME OF DRILLING 2.7m Below Grade

EQUIPMENT TYPE Truck Mounted Auger Drill

AT END OF DRILLING ---

LOGGED BY SM CHECKED BY RM/WD

AFTER DRILLING ---

DEPTH (m)	STRATA	SOIL DESCRIPTION	ELEV. DEPTH (m)	SAMPLES			SPT N VALUE BLOWS/0.3m	POCKET PEN. (kPa)	FINES CONTENT (%)
				NUMBER	TYPE	RECOVERY %	20 40 60 80	100 200 300 400	20 40 60 80
							DYNAMIC CONE BLOWS/0.3m	FIELD VANE SHEAR (kPa)	PLASTIC & LIQUID LIMIT MOISTURE CONTENT
							20 40 60 80	Peak Remold	PL MC LL
0.0 - 0.6	TOPSOIL and SILTY SAND & GRAVEL mixed, trace cobbles & boulders, some oxidation, moist, dark brown, (loose), [FILL]	0.6	AU-1	AU				39	
0.6 - 1.2	ORGANIC SILT, trace organics (decayed wood & wood pieces), fine sand, moist, dark brown, (very soft)	1.2	AU-2	AU				109	
1.2 - 1.7	PEAT, fibrous to amorphous, moist wet, orange to black, (very soft)	1.7	AU-3	AU				360	
1.7 - 2.4	ORGANIC SILT with medium to coarse sand lenses, organics (decayed wood, plant matter & wood pieces), moist to wet, dark brown, (very soft)	2.4	AU-4	AU				75	
2.4 - 3.0	SILTY SAND, trace to some gravel, trace organics (decayed wood & vegetation), medium to coarse sand, fine to medium gravel, rounded to subangular, wet, brownish-grey, (compact to loose) -From 2.4m to 3.0m, some gravel	2.4	AU-5	AU	13			35	
3.0 - 4.0	Interlayers of silt, medium to coarse sand to gravelly silty sand, organic silt, mix of amorphous and fibrous peat		AU-6	AU	2			73	
4.0 - 5.5	Interlayers of organic silt, silt, coarse sand, trace organics (seashell fragments, wood pieces and decayed wood), trace to some fine angular gravel, wet, dark brownish-grey, (very soft to firm)		AU-7	AU	6			38	
5.5 - 6.0	SILT, trace clay, trace to some fine sand, trace to some organics (wood pieces & decayed wood), low to medium plastic, grey, wet, (firm to soft)	5.5	AU-8	AU	1			62	
6.0 - 7.0	Interlayers of silt, organic silt, organics (decayed wood, rootlets, plant matter & wood pieces), trace to some fine sand, moist to wet, darkbrownish-grey, (very soft to firm)		AU-9	AU	5			65	
7.0 - 8.0	-becomes Silt, trace clay, trace fine sand, trace organics (occasional tiny wood pieces), wet, grey		AU-10	AU	4			78	

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EXP GEO VAN-00260722-A0 S.M.(TO BE USED) ORIGINAL LOGS - EDITED BY WD & RM/GPJ EXP STD.GDT 11/27/20



EXP Services Inc
 3001 Wayburne Drive Unit 175A & Unit 275
 Burnaby, British-Columbia V5G 4W3
 Telephone: 604-874-1245

RECORD OF AUGERHOLE : AH20-01

PROJECT NUMBER VAN-00260722-A0

CLIENT ISL Engineering

PROJECT NAME Cedar Drive Expansion

PROJECT LOCATION Cedar Drive, Coquitlam, BC

DRILLING DATE 2020-10-15

AUGERHOLE LOCATION ZONE: 10 N: 5460044.3 E: 520479.18

DRILLING CONTRACTOR Southland Drilling Co. Ltd.

ELEVATION G.S

DRILLING METHOD Solid Stem Auger

GROUND WATER DEPTHS: AT TIME OF DRILLING 2.7m Below Grade

EQUIPMENT TYPE Truck Mounted Auger Drill

AT END OF DRILLING ---

LOGGED BY SM CHECKED BY RM/WD

AFTER DRILLING ---

DEPTH (m)	STRATA	SOIL DESCRIPTION	ELEV. DEPTH (m)	SAMPLES			SPT N VALUE BLOWS/0.3m			POCKET PEN. (kPa)			FINES CONTENT (%)						
				NUMBER	TYPE	RECOVERY %	20	40	60	80	100	200	300	400	20	40	60	80	
							DYNAMIC CONE BLOWS/0.3m			FIELD VANE SHEAR (kPa)			PLASTIC & LIQUID LIMIT MOISTURE CONTENT						
							20	40	60	80	Peak	Remold	PL	MC	LL				
9		-A layer of Silty Sand, fine to medium sand SILT, trace clay, trace to some fine sand, trace to some organics (wood pieces & decayed wood), low to medium plastic, grey, wet, (firm to soft) (continued)		AU-11	AU														
10		-Interlayers of Silt, lenses of coarse sand, Organic silt, Silt and some Clay, Clayey Silt, Dark brown Silt and Sand to Sandy Silt, lense of volcanic ash at ~11.8m -becomes Silt, lenses of coarse sand and organic silt		AU-12	AU														
11		-becomes Silt, some Clay to Clayey Silt, grey, wet		AU-13	AU														
12		-lenses of coarse sand trace fine gravel -lenses of volcanic ash up to 12.5mm -becomes Silt and Sand to Sandy Silt, dark-brown		AU-14	AU														
12.2		END OF AUGER HOLE; DCPT WILL CONTINUE	12.2																
13																			
14																			
15																			
16																			

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EXP GEO VAN-00260722-A0 S.M. (TO BE USED) ORIGINAL LOGS - EDITED BY WD & RM/GPJ EXP STD.GDT 11/27/20



EXP Services Inc
 3001 Wayburne Drive Unit 175A & Unit 275
 Burnaby, British-Columbia V5G 4W3
 Telephone: 604-874-1245

RECORD OF AUGERHOLE : AH20-01

PROJECT NUMBER VAN-00260722-A0

CLIENT ISL Engineering

PROJECT NAME Cedar Drive Expansion

PROJECT LOCATION Cedar Drive, Coquitlam, BC

DRILLING DATE 2020-10-15

AUGERHOLE LOCATION ZONE: 10 N: 5460044.3 E: 520479.18

DRILLING CONTRACTOR Southland Drilling Co. Ltd.

ELEVATION G.S

DRILLING METHOD Solid Stem Auger

GROUND WATER DEPTHS: AT TIME OF DRILLING 2.7m Below Grade

EQUIPMENT TYPE Truck Mounted Auger Drill

AT END OF DRILLING ---

LOGGED BY SM CHECKED BY RM/WD

AFTER DRILLING ---

DEPTH (m)	STRATA	SOIL DESCRIPTION	ELEV. DEPTH (m)	SAMPLES			SPT N VALUE BLOWS/0.3m	POCKET PEN. (kPa)	FINES CONTENT (%)
				NUMBER	TYPE	RECOVERY %	20 40 60 80	100 200 300 400	20 40 60 80
							DYNAMIC CONE BLOWS/0.3m	FIELD VANE SHEAR (kPa)	PLASTIC & LIQUID LIMIT MOISTURE CONTENT
						<input type="checkbox"/> 20 40 60 80	Peak <input type="checkbox"/> 40 80 120 160 Remold <input type="checkbox"/>	PL MC LL <input type="checkbox"/> 20 40 60 80	
17		END OF AUGER HOLE; DCPT WILL CONTINUE (continued)							
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EXP GEO VAN-00260722-A0 S.M. (TO BE USED) ORIGINAL LOGS - EDITED BY WD & RM/GPJ EXP STD.GDT 11/27/20



EXP Services Inc
 3001 Wayburne Drive Unit 175A & Unit 275
 Burnaby, British-Columbia V5G 4W3
 Telephone: 604-874-1245

RECORD OF AUGERHOLE : AH20-01

PROJECT NUMBER VAN-00260722-A0

CLIENT ISL Engineering

PROJECT NAME Cedar Drive Expansion

PROJECT LOCATION Cedar Drive, Coquitlam, BC

DRILLING DATE 2020-10-15

AUGERHOLE LOCATION ZONE: 10 N: 5460044.3 E: 520479.18

DRILLING CONTRACTOR Southland Drilling Co. Ltd.

ELEVATION G.S

DRILLING METHOD Solid Stem Auger

GROUND WATER DEPTHS: AT TIME OF DRILLING 2.7m Below Grade

EQUIPMENT TYPE Truck Mounted Auger Drill

AT END OF DRILLING ---

LOGGED BY SM CHECKED BY RM/WD

AFTER DRILLING ---

DEPTH (m)	STRATA	SOIL DESCRIPTION	ELEV. DEPTH (m)	SAMPLES			SPT N VALUE BLOWS/0.3m	POCKET PEN. (kPa)	FINES CONTENT (%)
				NUMBER	TYPE	RECOVERY %	20 40 60 80	100 200 300 400	20 40 60 80
							DYNAMIC CONE BLOWS/0.3m	FIELD VANE SHEAR (kPa)	PLASTIC & LIQUID LIMIT MOISTURE CONTENT
							20 40 60 80	Peak Remold 40 80 120 160	PL MC LL 20 40 60 80
		END OF AUGER HOLE; DCPT WILL CONTINUE (<i>continued</i>)					10 11		

Bottom of hole at 25.6m.

NOTES: -End of Auger hole at 12.2m
 -End of DCPT at 25.6m
 -Please note some of the DCPT values maybe overstated due to encountering cobbles and coarse gravels



EXP Services Inc
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 Telephone: 604-874-1245

RECORD OF AUGERHOLE : AH20-02

PROJECT NUMBER VAN-00260722-A0

CLIENT ISL Engineering

PROJECT NAME Cedar Drive Expansion

PROJECT LOCATION Cedar Drive, Coquitlam, BC

DRILLING DATE 2020-10-15

AUGERHOLE LOCATION ZONE: 10 N: 5459907 E: 520330.51

DRILLING CONTRACTOR Southland Drilling Co. Ltd.

ELEVATION G.S

DRILLING METHOD Solid Stem Auger

GROUND WATER DEPTHS: AT TIME OF DRILLING ---

EQUIPMENT TYPE Truck Mounted Auger Drill

AT END OF DRILLING ---

LOGGED BY SM CHECKED BY RM/WD

AFTER DRILLING ---

DEPTH (m)	STRATA	SOIL DESCRIPTION	ELEV. DEPTH (m)	SAMPLES			SPT N VALUE BLOWS/0.3m			POCKET PEN. (kPa)			FINES CONTENT (%)					
				NUMBER	TYPE	RECOVERY %	20	40	60	80	100	200	300	400	20	40	60	80
							DYNAMIC CONE BLOWS/0.3m			FIELD VANE SHEAR (kPa)			PLASTIC & LIQUID LIMIT MOISTURE CONTENT					
							20	40	60	80	Peak	Remold	PL	MC	LL			
0.0 - 0.6	TOPSOIL mixed with SILTY SAND & GRAVEL, trace organics (rootlets & decayed plant matter and wood pieces), trace cobbles and boulders, fine sand, fine to coarse round to angular gravel, moist, dark brown, (compact), [FILL]	0.6	AU-1	AU		7												
0.6 - 1.5	PEAT, amorphous, trace fine gravel, moist, black, (soft to very soft)		AU-2	AU		3										14		
1.5 - 2.0	ORGANIC SILT/PEAT, trace gravel, some sand to sandy with amorphous peat, organics (rootlets, plant matter, decayed wood & vegetation), fine sand, fine rounded gravel, dark brown, moist, (very soft)	1.5	AU-3	AU		1										17		
2.0 - 2.3	SILTY SAND, trace gravel, trace to some organics (wood pieces & decayed wood), fine, rounded gravel, fine sand, moist, brown, (very soft)	2.0	AU-4	AU		2												
2.3 - 3.0	-Sand becomes coarser (~75mm), fine to medium SILT, trace to some sand, trace clay, trace gravel, trace organics (wood pieces and decayed wood), fine sand, fine rounded to subrounded gravel, low to medium plastic, moist grey, (soft to firm)	2.3	AU-5	AU		3												
3.0 - 4.0						2												
4.0 - 4.3	From 4.0m to 4.3m, SILTY SAND, fine to medium sand, moist, grey, (soft to firm)		AU-6	AU		2												
4.3 - 5.2			AU-7	AU		4												
5.2 - 6.0						6												
6.0 - 5.2	-becomes trace sandy after ~5.2m					5												
5.2 - 5.5			AU-8	AU		5												
5.5 - 6.0						5												
6.0 - 6.6						5												
6.6 - 6.8	-a layer of SILTY SAND, fine to medium sand, moist, grey		AU-9	AU		5												
6.8 - 7.0	-lens of volcanic ash					6										84		
7.0 - 7.5						5												
7.5 - 8.0						5												
8.0 - 8.6						6												

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EXP GEO VAN-00260722-A0 S.M.(TO BE USED) ORIGINAL LOGS - EDITED BY WD & RM/GPJ EXP STD.GDT 11/27/20



EXP Services Inc
 3001 Wayburne Drive Unit 175A & Unit 275
 Burnaby, British-Columbia V5G 4W3
 Telephone: 604-874-1245

RECORD OF AUGERHOLE : AH20-02

PROJECT NUMBER VAN-00260722-A0
 PROJECT NAME Cedar Drive Expansion
 DRILLING DATE 2020-10-15
 DRILLING CONTRACTOR Southland Drilling Co. Ltd.
 DRILLING METHOD Solid Stem Auger
 EQUIPMENT TYPE Truck Mounted Auger Drill
 LOGGED BY SM CHECKED BY RM/WD

CLIENT ISL Engineering
 PROJECT LOCATION Cedar Drive, Coquitlam, BC
 AUGERHOLE LOCATION ZONE: 10 N: 5459907 E: 520330.51
 ELEVATION G.S
 GROUND WATER DEPTHS: AT TIME OF DRILLING ---
 AT END OF DRILLING ---
 AFTER DRILLING ---

DEPTH (m)	STRATA	SOIL DESCRIPTION	ELEV. DEPTH (m)	SAMPLES			SPT N VALUE BLOWS/0.3m				POCKET PEN. (kPa)				FINES CONTENT (%)				
				NUMBER	TYPE	RECOVERY %	DYNAMIC CONE BLOWS/0.3m				FIELD VANE SHEAR (kPa)				PLASTIC & LIQUID LIMIT MOISTURE CONTENT				
							20	40	60	80	Peak	Remold	100	200	300	400	20	40	60
9		SILT, trace to some sand, trace clay, trace gravel, trace organics (wood pieces and decayed wood), fine sand, fine rounded to subrounded gravel, low to medium plastic, moist grey, (soft to firm) (continued)		AU-10	AU														
		-wood chunks, wood debris, and decayed wood observed																	
10		-a seam of medium to coarse (mostly coarse) sand with organics(decayed wood, wood pieces and seashell fragments)		AU-11	AU														
		-A layer of Amorphous Peat, moist, black		AU-12	AU														
		-becomes CLAY, trace some silt, trace fine sand, moist, grey highly plastic		AU-13	AU														
				AU-14	AU														
11		-becomes dense at approx. 11.2m and very dense at approx. 13.5m (Possible Till)	11.0																
		-END OF AUGER HOLE; DCPT WILL CONTINUE																	
12																			
13																			

Bottom of hole at 13.7m.

Penetrated 7" (Refusal to DCPT)

NOTES: -End of Auger hole at 11.2m
 -End of DCPT at 13.7m where it met refusal
 -Please note some of the DCPT values maybe overstated due to encountering cobbles and coarse gravels



EXP Services Inc
 3001 Wayburne Drive Unit 175A & Unit 275
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 Telephone: 604-874-1245

RECORD OF AUGERHOLE : AH20-03

PROJECT NUMBER VAN-00260722-A0

CLIENT ISL Engineering

PROJECT NAME Cedar Drive Expansion

PROJECT LOCATION Cedar Drive, Coquitlam, BC

DRILLING DATE 2020-10-15

AUGERHOLE LOCATION ZONE: 10 N: 5459838.37 E: 520281.92

DRILLING CONTRACTOR Southland Drilling Co. Ltd.

ELEVATION G.S

DRILLING METHOD Solid Stem Auger

GROUND WATER DEPTHS: AT TIME OF DRILLING ---

EQUIPMENT TYPE Truck Mounted Auger Drill

AT END OF DRILLING ---

LOGGED BY SM CHECKED BY RM/WD

AFTER DRILLING 2.9m 10/15/2020 Below Grade

DEPTH (m)	STRATA	SOIL DESCRIPTION	ELEV. DEPTH (m)	SAMPLES			SPT N VALUE BLOWS/0.3m	POCKET PEN. (kPa)	FINES CONTENT (%)
				NUMBER	TYPE	RECOVERY %	20 40 60 80	100 200 300 400	20 40 60 80
							DYNAMIC CONE BLOWS/0.3m	FIELD VANE SHEAR (kPa)	PLASTIC & LIQUID LIMIT MOISTURE CONTENT
							20 40 60 80	Peak Remold	PL MC LL
0.0 - 0.2	1	SILTY SAND & GRAVEL, trace cobbles and boulders, fine to medium sand, fine to coarse gravel, rounded to subangular, moist, grey, (compact to loose), [FILL]	0.6	AU-1		17		17	
0.2 - 0.4	2	PEAT, Amorphous, occasional cobble, moist, black, (very soft)	0.6	AU-2		8		268	
0.4 - 0.6	3	PEAT, Fibrous, wet, orange, (very soft)	0.6	AU-3		1		7.1	
0.6 - 0.8	4	PEAT, Fibrous, wet, orange, (very soft)	0.6	AU-4		1		10.4	
0.8 - 1.0	5	ORGANIC SILT, some sand, mixed with Peat, organics (rootlets), wet, dark brown, (very soft)	1.4	AU-5		0		10.4	
1.0 - 1.2	6	SILT, trace sand, trace organics (wood pieces, wood Pieces & plant matter), fine sand, low to medium plastic, moist, grey, (very soft to firm)	1.7	AU-6		0			
1.2 - 1.4	7	SILT, trace sand, trace organics (wood pieces, wood Pieces & plant matter), fine sand, low to medium plastic, moist, grey, (very soft to firm)	1.7	AU-6		3			
1.4 - 1.6	8	SILT, trace sand, trace organics (wood pieces, wood Pieces & plant matter), fine sand, low to medium plastic, moist, grey, (very soft to firm)	1.7	AU-6		2		45	
1.6 - 1.8	9	SILT, trace sand, trace organics (wood pieces, wood Pieces & plant matter), fine sand, low to medium plastic, moist, grey, (very soft to firm)	1.7	AU-6		5			
1.8 - 2.0	10	SILT, trace sand, trace organics (wood pieces, wood Pieces & plant matter), fine sand, low to medium plastic, moist, grey, (very soft to firm)	1.7	AU-6		3			
2.0 - 2.2	11	-becomes trace fine subangular gravel, organics (wood pieces and decayed wood)		AU-7		2			
2.2 - 2.4	12	-becomes trace fine subangular gravel, organics (wood pieces and decayed wood)		AU-7		2			
2.4 - 2.6	13	-becomes trace fine subangular gravel, organics (wood pieces and decayed wood)		AU-7		7		50	
2.6 - 2.8	14	-becomes trace fine subangular gravel, organics (wood pieces and decayed wood)		AU-7		8			
2.8 - 3.0	15	-becomes trace fine subangular gravel, organics (wood pieces and decayed wood)		AU-7		4			
3.0 - 3.2	16	-becomes trace fine subangular gravel, organics (wood pieces and decayed wood)		AU-7		3			
3.2 - 3.4	17	-becomes trace fine subangular gravel, organics (wood pieces and decayed wood)		AU-7		3			
3.4 - 3.6	18	-becomes trace fine subangular gravel, organics (wood pieces and decayed wood)		AU-7		6		33	
3.6 - 3.8	19	-becomes trace fine subangular gravel, organics (wood pieces and decayed wood)		AU-7		5			
3.8 - 4.0	20	-becomes trace fine subangular gravel, organics (wood pieces and decayed wood)		AU-7		2		49	
4.0 - 4.2	21	-becomes trace fine subangular gravel, organics (wood pieces and decayed wood)		AU-7		3			
4.2 - 4.4	22	-becomes trace fine subangular gravel, organics (wood pieces and decayed wood)		AU-7		5			
4.4 - 4.6	23	-becomes trace fine subangular gravel, organics (wood pieces and decayed wood)		AU-7		3			
4.6 - 4.8	24	-becomes trace fine subangular gravel, organics (wood pieces and decayed wood)		AU-7		2			
4.8 - 5.0	25	-becomes trace fine subangular gravel, organics (wood pieces and decayed wood)		AU-7		4			
5.0 - 5.2	26	-becomes trace fine subangular gravel, organics (wood pieces and decayed wood)		AU-7		8			
5.2 - 5.4	27	-becomes trace fine subangular gravel, organics (wood pieces and decayed wood)		AU-7		12			
5.4 - 5.6	28	-occasional organics (small pieces)		AU-10		7		63	

(Continued Next Page)

EXP GEO VAN-00260722-A0 S.M.(TO BE USED) ORIGINAL LOGS - EDITED BY WD & RM/GPJ EXP STD.GDT 11/27/20



EXP Services Inc
 3001 Wayburne Drive Unit 175A & Unit 275
 Burnaby, British-Columbia V5G 4W3
 Telephone: 604-874-1245

RECORD OF AUGERHOLE : AH20-03

PROJECT NUMBER VAN-00260722-A0

CLIENT ISL Engineering

PROJECT NAME Cedar Drive Expansion

PROJECT LOCATION Cedar Drive, Coquitlam, BC

DRILLING DATE 2020-10-15

AUGERHOLE LOCATION ZONE: 10 N: 5459838.37 E: 520281.92

DRILLING CONTRACTOR Southland Drilling Co. Ltd.

ELEVATION G.S

DRILLING METHOD Solid Stem Auger

GROUND WATER DEPTHS: AT TIME OF DRILLING ---

EQUIPMENT TYPE Truck Mounted Auger Drill

AT END OF DRILLING ---

LOGGED BY SM CHECKED BY RM/WD

AFTER DRILLING 2.9m 10/15/2020 Below Grade

DEPTH (m)	STRATA	SOIL DESCRIPTION	ELEV. DEPTH (m)	SAMPLES			SPT N VALUE BLOWS/0.3m	POCKET PEN. (kPa)	FINES CONTENT (%)
				NUMBER	TYPE	RECOVERY %	20 40 60 80	100 200 300 400	20 40 60 80
							DYNAMIC CONE BLOWS/0.3m	FIELD VANE SHEAR (kPa)	PLASTIC & LIQUID LIMIT MOISTURE CONTENT
						20 40 60 80	Peak Remold 40 80 120 160	PL MC LL 20 40 60 80	
9		SILT, trace sand, trace organics (wood pieces, wood Pieces & plant matter), fine sand, low to medium plastic, moist, grey, (very soft to firm) (continued) -becomes SANDY SILT, fine sand, grey, wet, (soft)		AU-11				27	
10		SILT, trace to some sand, trace clay, trace medium to coarse gravel, rounded to subangular, medium to coarse sand, low to medium plastic, wet, grey, (firm to hard)	9.5	AU-12				50	
11									
12		-becomes trace to some gravel, fine to coarse gravel, occasional organics (small wood pieces)		AU-13				37	
13		-becomes some gravel, fine to coarse rounded to subangular, wet, grey							
13		SILTY SAND and GRAVEL, fine to coarse sand (mostly coarse), fine to coarse gravel, moist, light grey, (very dense), [TILL-LIKE]	12.5	AU-14				23	
				AU-15				11	

Bottom of hole at 13.7m.

- NOTES:**
- End of Auger hole at 13.7m
 - End of DCPT at 12.8m where it met refusal
 - Please note some of the DCPT values maybe overstated due to encountering cobbles and coarse gravels



EXP Services Inc
 3001 Wayburne Drive Unit 175A & Unit 275
 Burnaby, British-Columbia V5G 4W3
 Telephone: 604-874-1245

RECORD OF AUGERHOLE : AH20-04

PROJECT NUMBER VAN-00260722-A0

CLIENT ISL Engineering

PROJECT NAME Cedar Drive Expansion

PROJECT LOCATION Cedar Drive, Coquitlam, BC

DRILLING DATE 2020-10-15

AUGERHOLE LOCATION ZONE: 10 N: 5459669.98 E: 520192.33

DRILLING CONTRACTOR Southland Drilling Co. Ltd.

ELEVATION G.S

DRILLING METHOD Solid Stem Auger

GROUND WATER DEPTHS: AT TIME OF DRILLING --- Below Grade

EQUIPMENT TYPE Truck Mounted Auger Drill

AT END OF DRILLING ---

LOGGED BY SM CHECKED BY RM/WD

AFTER DRILLING ---

DEPTH (m)	STRATA	SOIL DESCRIPTION	ELEV. DEPTH (m)	SAMPLES			SPT N VALUE BLOWS/0.3m	POCKET PEN. (kPa)	FINES CONTENT (%)
				NUMBER	TYPE	RECOVERY %	20 40 60 80	100 200 300 400	20 40 60 80
							DYNAMIC CONE BLOWS/0.3m	FIELD VANE SHEAR (kPa)	PLASTIC & LIQUID LIMIT MOISTURE CONTENT
							20 40 60 80	Peak Remold	PL MC LL
0.6	AU-1		25			90			
	AU-2		6			80			
	AU-3		2			15			
	AU-4		2			77			
	AU-5		10						
			3						
			6						
			6						
			6						
			3						
			3						
			6			37			
			8						
			7						
			8						
			7						
			9			44			
			5						
			5						
			9						
			11						
			7						
			6			24			
			15						
			12						
			12						
			12						
7.6									

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EXP GEO VAN-00260722-A0 S.M. (TO BE USED) ORIGINAL LOGS - EDITED BY WD & RM/GPJ EXP STD.GDT 11/27/20



EXP Services Inc
 3001 Wayburne Drive Unit 175A & Unit 275
 Burnaby, British-Colombia V5G 4W3
 Telephone: 604-874-1245

RECORD OF AUGERHOLE : AH20-04

PROJECT NUMBER VAN-00260722-A0

CLIENT ISL Engineering

PROJECT NAME Cedar Drive Expansion

PROJECT LOCATION Cedar Drive, Coquitlam, BC

DRILLING DATE 2020-10-15

AUGERHOLE LOCATION ZONE: 10 N: 5459669.98 E: 520192.33

DRILLING CONTRACTOR Southland Drilling Co. Ltd.

ELEVATION G.S

DRILLING METHOD Solid Stem Auger

GROUND WATER DEPTHS: AT TIME OF DRILLING --- Below Grade

EQUIPMENT TYPE Truck Mounted Auger Drill

AT END OF DRILLING ---

LOGGED BY SM CHECKED BY RM/WD

AFTER DRILLING ---

DEPTH (m)	STRATA	SOIL DESCRIPTION	ELEV. DEPTH (m)	SAMPLES			SPT N VALUE BLOWS/0.3m	POCKET PEN. (kPa)	FINES CONTENT (%)			
				NUMBER	TYPE	RECOVERY %	20 40 60 80	100 200 300 400	20 40 60 80			
							DYNAMIC CONE BLOWS/0.3m	FIELD VANE SHEAR (kPa)	PLASTIC & LIQUID LIMIT MOISTURE CONTENT			
						Peak	Remold	PL MC LL				
8	[Hatched]	CLAY, some silt to silty, trace to some fine sand, moist, highly plastic, greyish-green, (stiff to firm) (continued)		AU-9					36			
6												
7	[Hatched]	CLAYEY SILT, trace to some fine sand, medium to high plasticity, moist, greyish-green, (firm to very stiff)	9.4	AU-10								
6												
7												
8												
10	[Hatched]	-becomes less clay, Silt, some clay, trace fine sand, wet, grey		AU-11					33			
10												
11	[Hatched]	-becomes Silt, some clay, trace fine sand, moist to wet, grey		AU-12								
11												
12												35
12												
13	[Hatched]	-becomes Silt, some clay, trace fine sand, moist to wet, grey		AU-12								
13												
14	[Hatched]	SILT, trace fine sand, wet, grey, (very stiff to hard) -refusal to DCPT at ~17.4m, possible coarse gravel or cobble	13.7	AU-12					35			
14												
18												
18												
15	[Hatched]			AU-12								
15												
17												
17												
16	[Hatched]			AU-12								
16												
19												
19												
17	[Hatched]			AU-12								
17												
20	[Hatched]											

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EXP GEO VAN-00260722-A0 S.M. (TO BE USED) ORIGINAL LOGS - EDITED BY WD & RM/GPJ EXP STD.GDT 11/27/20



EXP Services Inc
 3001 Wayburne Drive Unit 175A & Unit 275
 Burnaby, British-Columbia V5G 4W3
 Telephone: 604-874-1245

RECORD OF AUGERHOLE : AH20-04

PROJECT NUMBER VAN-00260722-A0
 PROJECT NAME Cedar Drive Expansion
 DRILLING DATE 2020-10-15
 DRILLING CONTRACTOR Southland Drilling Co. Ltd.
 DRILLING METHOD Solid Stem Auger
 EQUIPMENT TYPE Truck Mounted Auger Drill
 LOGGED BY SM CHECKED BY RM/WD

CLIENT ISL Engineering
 PROJECT LOCATION Cedar Drive, Coquitlam, BC
 AUGERHOLE LOCATION ZONE: 10 N: 5459669.98 E: 520192.33
 ELEVATION G.S
 GROUND WATER DEPTHS: AT TIME OF DRILLING --- Below Grade
 AT END OF DRILLING ---
 AFTER DRILLING ---

DEPTH (m)	STRATA	SOIL DESCRIPTION	ELEV. DEPTH (m)	SAMPLES			SPT N VALUE BLOWS/0.3m	POCKET PEN. (kPa)	FINES CONTENT (%)
				NUMBER	TYPE	RECOVERY %	20 40 60 80	100 200 300 400	20 40 60 80
							DYNAMIC CONE BLOWS/0.3m	FIELD VANE SHEAR (kPa)	PLASTIC & LIQUID LIMIT MOISTURE CONTENT
						Peak	Remold	PL MC LL	
						20 40 60 80	40 80 120 160	20 40 60 80	
17		SILT, trace fine sand, wet, grey, (very stiff to hard) -refusal to DCPT at ~17.4m, possible coarse gravel or cobble (continued) -becomes trace gravel and cobble		AU-13			19		43
18		-becomes trace clay, some sand to sandy, trace to some gravel, trace organics (seashell fragments), grey, medium to coarse sand, medium to coarse rounded gravel, moist to wet					57		
19				AU-14			100+		36
20		SILTY SAND and GRAVEL, grey, moist, (very dense), [TILL-LIKE]	19.8				Refusal to DCPT due to cobble		
21				AU-15					11

Bottom of hole at 21.3m.

NOTES: -End of Auger hole at 21.3m
 -End of DCPT at 17.4m where it met refusal
 -Please note some of the DCPT values maybe overstated due to encountering cobbles and coarse gravels



EXP Services Inc
 3001 Wayburne Drive Unit 175A & Unit 275
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 Telephone: 604-874-1245

RECORD OF AUGERHOLE : AH20-05

PROJECT NUMBER VAN-00260722-A0

CLIENT ISL Engineering

PROJECT NAME Cedar Drive Expansion

PROJECT LOCATION Cedar Drive, Coquitlam, BC

DRILLING DATE 2020-10-14

AUGERHOLE LOCATION ZONE: 10 N: 5459603.87 E: 520144.41

DRILLING CONTRACTOR Southland Drilling Co. Ltd.

ELEVATION G.S

DRILLING METHOD Solid Stem Auger

GROUND WATER DEPTHS: ▽ AT TIME OF DRILLING 0.9m Below Grade

EQUIPMENT TYPE Truck Mounted Auger Drill

▽ AT END OF DRILLING ---

LOGGED BY SM CHECKED BY RM/WD

▽ AFTER DRILLING ---

DEPTH (m)	STRATA	SOIL DESCRIPTION	ELEV. DEPTH (m)	SAMPLES			SPT N VALUE BLOWS/0.3m				POCKET PEN. (kPa)			FINES CONTENT (%)				
				NUMBER	TYPE	RECOVERY %	20	40	60	80	100	200	300	400	20	40	60	80
							DYNAMIC CONE BLOWS/0.3m				FIELD VANE SHEAR (kPa)			PLASTIC & LIQUID LIMIT MOISTURE CONTENT				
							20	40	60	80	Peak	Remold	PL	MC	LL			
0.0 - 0.2	Diagonal hatching	SAND, trace to some silt, trace gravel, trace organics (rootlets), grey, dry, fine to medium sand, fine gravel (compact to loose)	0.8	AU-1			10											
0.2 - 0.3	Diagonal hatching	PEAT, Amorphous to Fibrous, mixed with sand (fill) from above, back to orange, wet, (soft), [FILL]		AU-2			6									165		
0.3 - 0.4	▽	SAND and SILT, trace organics (Peat, decayed wood), non-plastic, fine sand, brown, moist, (very loose to compact)		AU-3			3									59		
0.4 - 0.5		-Sand becomes coarser, (medium to coarse)		AU-4			3									38		
0.5 - 0.6		-becomes, Silty Sand, fine sand, trace organics (wood pieces)		AU-4			7											
0.6 - 0.7				AU-5			2									69		
0.7 - 0.8				AU-5			7											
0.8 - 0.9				AU-5			6											
0.9 - 1.0				AU-5			5											
1.0 - 1.1		-becomes wet		AU-6			9											
1.1 - 1.2				AU-6			5									33		
1.2 - 1.3				AU-6			13											
1.3 - 1.4				AU-6			10											
1.4 - 1.5				AU-6			14											
1.5 - 1.6				AU-6			11											
1.6 - 1.7				AU-7			11									36		
1.7 - 1.8				AU-7			8											
1.8 - 1.9				AU-8			6									60		
1.9 - 2.0				AU-8			9											
2.0 - 2.1				AU-8			13											
2.1 - 2.2				AU-8			12											
2.2 - 2.3				AU-8			8											
2.3 - 2.4				AU-9			11									27		
2.4 - 2.5				AU-9			23											
2.5 - 2.6				AU-9			16											
2.6 - 2.7				AU-9			11											
2.7 - 2.8				AU-9			11											
2.8 - 2.9				AU-9			11											
2.9 - 3.0		SILT, some sand, trace to some clay, fine sand, low plasticity, moist, grey, (firm)	8.0				11											

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EXP GEO VAN-00260722-A0 S.M. (TO BE USED) ORIGINAL LOGS - EDITED BY WD & RM/GPJ EXP STD.GDT 11/27/20



EXP Services Inc
 3001 Wayburne Drive Unit 175A & Unit 275
 Burnaby, British-Columbia V5G 4W3
 Telephone: 604-874-1245

RECORD OF AUGERHOLE : AH20-05

PROJECT NUMBER VAN-00260722-A0
 PROJECT NAME Cedar Drive Expansion
 DRILLING DATE 2020-10-14
 DRILLING CONTRACTOR Southland Drilling Co. Ltd.
 DRILLING METHOD Solid Stem Auger
 EQUIPMENT TYPE Truck Mounted Auger Drill
 LOGGED BY SM CHECKED BY RM/WD

CLIENT ISL Engineering
 PROJECT LOCATION Cedar Drive, Coquitlam, BC
 AUGERHOLE LOCATION ZONE: 10 N: 5459603.87 E: 520144.41
 ELEVATION G.S
 GROUND WATER DEPTHS: AT TIME OF DRILLING 0.9m Below Grade
 AT END OF DRILLING ---
 AFTER DRILLING ---

DEPTH (m)	STRATA	SOIL DESCRIPTION	ELEV. DEPTH (m)	SAMPLES			SPT N VALUE BLOWS/0.3m	POCKET PEN. (kPa)	FINES CONTENT (%)
				NUMBER	TYPE	RECOVERY %	20 40 60 80	100 200 300 400	20 40 60 80
							DYNAMIC CONE BLOWS/0.3m	FIELD VANE SHEAR (kPa)	PLASTIC & LIQUID LIMIT MOISTURE CONTENT
							20 40 60 80	Peak Remold	PL MC LL
								40 80 120 160	20 40 60 80
17		SILT, trace to some clay, trace organics (occasional small wood pieces), low to medium plastic, wet, grey, (stiff) <i>(continued)</i>					10		
18		SILTY SAND, some gravel to gravelly, moist, grey, fine to coarse sand, fine to medium gravel, (very dense), [TILL-LIKE]	17.1				53		
							90		
							100+		14
							Refusal to DCPT		

Bottom of hole at 18.6m.

NOTES: -End of Auger hole at 18.6m
 -End of DCPT at 18.1m where it met refusal
 -Please note some of the DCPT values maybe overstated due to encountering cobbles and coarse gravels



EXP Services Inc
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 Telephone: 604-874-1245

RECORD OF AUGERHOLE : AH20-06

PROJECT NUMBER VAN-00260722-A0
 PROJECT NAME Cedar Drive Expansion
 DRILLING DATE 2020-10-14
 DRILLING CONTRACTOR Southland Drilling Co. Ltd.
 DRILLING METHOD Solid Stem Auger
 EQUIPMENT TYPE Truck Mounted Auger Drill
 LOGGED BY SM CHECKED BY RM/WD

CLIENT ISL Engineering
 PROJECT LOCATION Cedar Drive, Coquitlam, BC
 AUGERHOLE LOCATION ZONE: 10 N: 5459537.62 E: 520013.1
 ELEVATION G.S
 GROUND WATER DEPTHS: AT TIME OF DRILLING ---
 AT END OF DRILLING ---
 AFTER DRILLING ---

DEPTH (m)	STRATA	SOIL DESCRIPTION	ELEV. DEPTH (m)	SAMPLES			SPT N VALUE BLOWS/0.3m	POCKET PEN. (kPa)	FINES CONTENT (%)
				NUMBER	TYPE	RECOVERY %	20 40 60 80	100 200 300 400	20 40 60 80
							DYNAMIC CONE BLOWS/0.3m	FIELD VANE SHEAR (kPa)	PLASTIC & LIQUID LIMIT MOISTURE CONTENT
1		SILTY SAND and GRAVEL, mixed with peat and clay some silt, organics (wood pieces, wood debris, wood chunks and wood stump), fine to coarse sand, fine to medium, dry to wet, (very dense to loose), [FILL]		AU-1	AU				
2				AU-2	AU				
3				AU-3	AU				
3.0		PEAT, Amorphous to Fibrous, moist to wet, black to orange, (firm)	3.0	AU-4	AU				
				AU-5	AU				
4		SAND and SILT, trace gravel trace organics (wood chunks, wood debris and decayed wood), fine sand (mostly coarse), fine to medium subangular to angular gravel, non plastic, moist, grey, (compact to very dense)	3.8	AU-6	AU				
		-a seam of Sand, trace silt, greyish-brown, medium to coarse (mostly coarse), at ~3.8m		AU-7	AU				
5				AU-8	AU				
		-a seam of Sand, trace silt, greyish-brown, medium to coarse (mostly coarse)							
6		- no organics was observed							
		-difficult to auger, 1.5m of auger flite broke inside the hole, approx. at 6.7m boulder, till-like material							
7		-END OF AUGER HOLE; DCPT WILL CONTINUE	6.7						

Bottom of hole at 7.3m.

Refusal to DCPT, Penetrated 113mm, cobbles or boulders

NOTES: -End of Auger hole at 6.7m
 -End of DCPT at 7.3m where it met refusal
 -Please note some of the DCPT values maybe overstated due to encountering cobbles and coarse gravels

EXP GEO VAN-00260722-A0 S.M. (TO BE USED) ORIGINAL LOGS - EDITED BY WD & RM/GPJ EXP STD.GDT 11/27/20



EXP Services Inc
 3001 Wayburne Drive Unit 175A & Unit 275
 Burnaby, British-Columbia V5G 4W3
 Telephone: 604-874-1245

RECORD OF AUGERHOLE : AH20-07

PROJECT NUMBER VAN-00260722-A0

CLIENT ISL Engineering

PROJECT NAME Cedar Drive Expansion

PROJECT LOCATION Cedar Drive, Coquitlam, BC

DRILLING DATE 2020-10-14

AUGERHOLE LOCATION ZONE: 10 N: 5459582.62 E: 519922.26

DRILLING CONTRACTOR Southland Drilling Co. Ltd.

ELEVATION G.S

DRILLING METHOD Solid Stem Auger

GROUND WATER DEPTHS: ∇ AT TIME OF DRILLING 1.7m Below Grade

EQUIPMENT TYPE Truck Mounted Auger Drill

∇ AT END OF DRILLING ---

LOGGED BY SM CHECKED BY RM/WD

∇ AFTER DRILLING ---

DEPTH (m)	STRATA	SOIL DESCRIPTION	ELEV. DEPTH (m)	SAMPLES			SPT N VALUE BLOWS/0.3m	POCKET PEN. (kPa)	FINES CONTENT (%)
				NUMBER	TYPE	RECOVERY %	20 40 60 80	100 200 300 400	20 40 60 80
							DYNAMIC CONE BLOWS/0.3m	FIELD VANE SHEAR (kPa)	PLASTIC & LIQUID LIMIT MOISTURE CONTENT
							Peak	Remold	PL MC LL
							40 80 120 160	40 80 120 160	20 40 60 80
1	[Cross-hatched]	SILTY SAND and GRAVEL, fine to coarse sand, fine to medium gravel, rounded to subangular, brownish-grey, dry, (very dense), [FILL]		AU-1	AU		50	100	6
1.1	[Wavy lines]	PEAT, Amorphous to Fibrous, wet, black to orange, (soft to very soft)	1.1	AU-2	AU				31.4
2	[Wavy lines]	-becomes Fibrous Peat							
3	[Dotted]	SANDY SILT, trace gravel, trace organics (decayed wood), moist, grey, (soft to stiff)	2.7	AU-3	AU				50
3.2	[Dotted]	-after ~2.89m becomes less sandy SILT, sandy, trace gravel, trace to some organics (decayed wood and plant matter), fine to medium sand, fine angular gravel, dry to moist, grey, (soft to stiff)	3.2	AU-4	AU				51
4	[Dotted]								
5	[Dotted]	-Sand becomes coarser							
5.5	[Dotted]	-becomes clayey and less sandy, Silty Clay, trace sand and gravel, trace oxidation, fine to coarse sand, fine gravel, greyish-green, moist	5.5	AU-5	AU				27
6	[Cross-hatched]	SILTY SAND and GRAVEL, fine to coarse sand (mostly coarse), fine to coarse gravel, subangular to angular, moist, greyish blue, (very dense), [TILL-LIKE]		AU-6	AU		39		10
6.1	[Cross-hatched]	-after ~6.1m becomes very difficult to Auger					59		
6.4	[Cross-hatched]						64		
6.5	[Cross-hatched]						53		
6.8	[Cross-hatched]						84		10
7	[Cross-hatched]			AU-7	AU		58		
7.6	[Cross-hatched]						Refusal to DCPT		

Bottom of hole at 7.6m.

NOTES: -End of Auger hole at 7.6m
 -End of DCPT at 7.3m where it met refusal
 -Please note some of the DCPT values maybe overstated due to encountering cobbles and coarse gravels

EXP GEO VAN-00260722-A0 S.M. (TO BE USED) ORIGINAL LOGS - EDITED BY WD & RM/GPJ EXP STD.GDT 11/27/20