

ADDENDUM NUMBER 3

R17-28 Chemoy-Dogwood Watermain Install & Replacement

January 4, 2018

This Addendum shall be read in conjunction with and considered as an integral part of the Request for Proposals. Respondents should acknowledge the addendum on Appendix A the Submission Form. The Addendum is as follows:

Questions & Answers

Q1. Please provide drawing for the Optional Item "Pour in Place Headwall". The note on the drawing states "sand cement headwall" does this indicate that it is a sand bag headwall and not CIP? Please clarify this.

A1. Sand cement is the requirement in the tender – CIP is optional depending on price.

Q2. Please provide updated schedule of quantities relating to the anticipated area of asphalt restoration now required due to the alignment change.A2. 380sq.m.

Q3. Please confirm if trench dams are required. If yes, please provide details of where these are to drain to.

A3. Not required.

Q4. How is 50mm asphalt restoration to the road surface on Chemoy Road to be paid for? **A4**. Sq.m.

Q5. To reduce the cost of the services to #3304 and #3308 Chemoy Road, will the CVRD allow for pricing to include bringing the new service line to the front of the building only with the assumption that a plumber can reroute the water line internally bringing it to the front.

A5. The alignment of the water service for 3304 Chemoy Road has moved to the opposite side of the property. The revised drawings shows the new alignment of the water service to the left of the driveway. All work is to be completed outside of the homes.

Q6. Will the CVRD entertain a Provisional Sum to cover the cost of landscape removals and restorations required for #3304 and #3308 Chemoy Road? **A6.** No.

Q7. What is the minimum bury required for a water service past property line (onto private property)?

A7. 600mm.

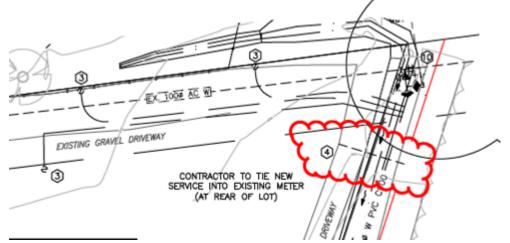
Q8. Please confirm all bacteria testing will be done by CVRD.

A8. Contractor to supply all equipment and perform all duties required to complete a successful bacteria test to the point of taking the sample.

Q9. Please provide minutes of site meeting.

A9. Minutes attached.

Q10. Drawing 1297-C-01 shows a service as highlighted below. Please clarify what this is servicing? Is there a second service to 3312 Chemoy Road?



A10. Delete – see amended drawing

Q11. I count 17ea x 19mm services, not including the services separated out as individual line items. The Current total for payment is 14. Please confirm quantity.

A11. 15 is the correct number. The remaining services are separated as individual line items in the Schedule of Prices table.

Q12. What restoration is required for the re-aligned ditchline? **A12**. As per the detail on the drawing.

Q13. Please specific seed to be used for boulevard restoration **A13.** As per MMCD specifications section 32 92 20.

Q14. The existing watermain on Chemoy Road is shown as 50mm Galvanized Pipe, however at the tie-in location (Detail 1 on drawing 1297-C-01) it is shown as both 50mm AC and 100mm AC. Please confirm size of pipe and material.

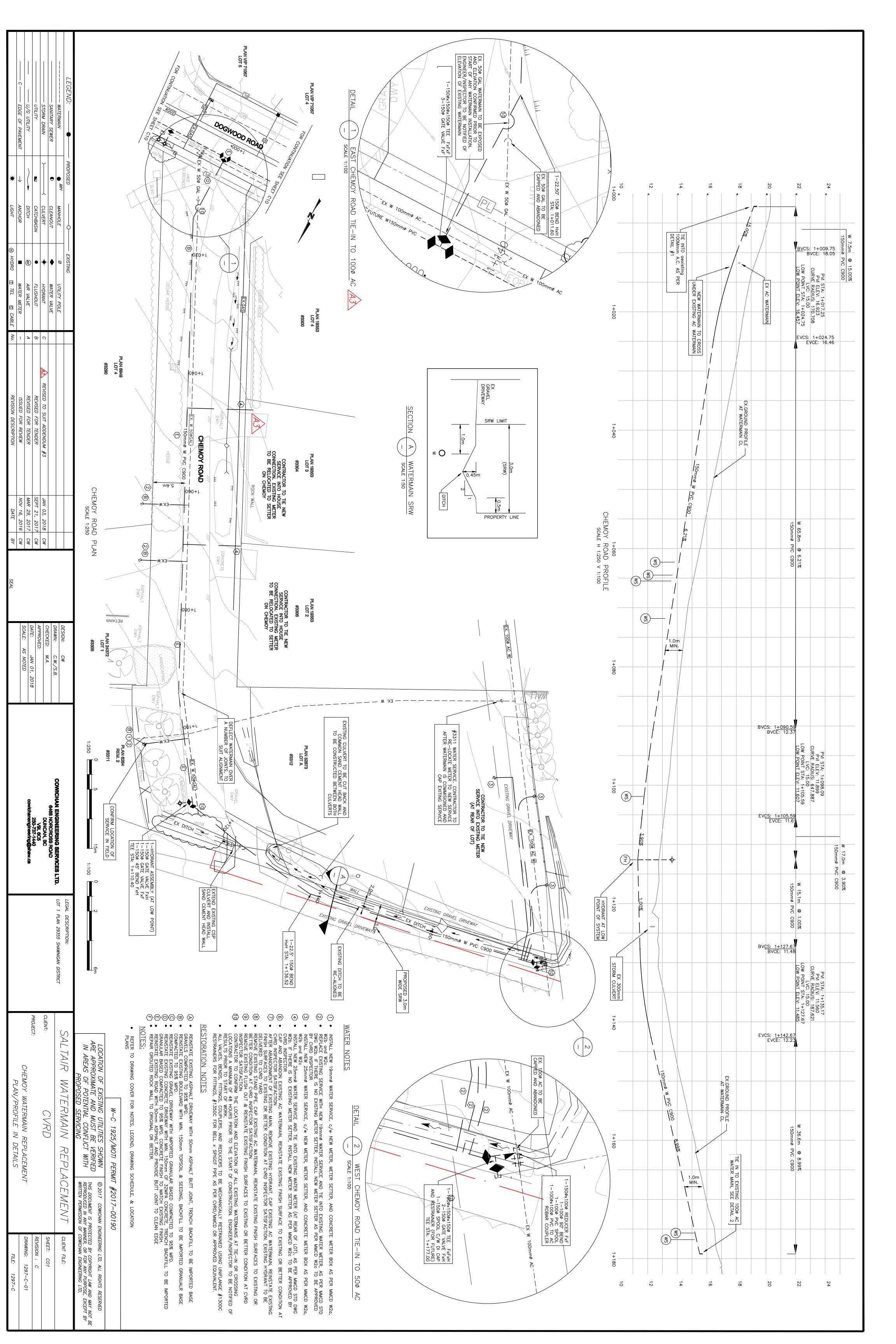
A14. The addendum #3 drawing will reflect the change.

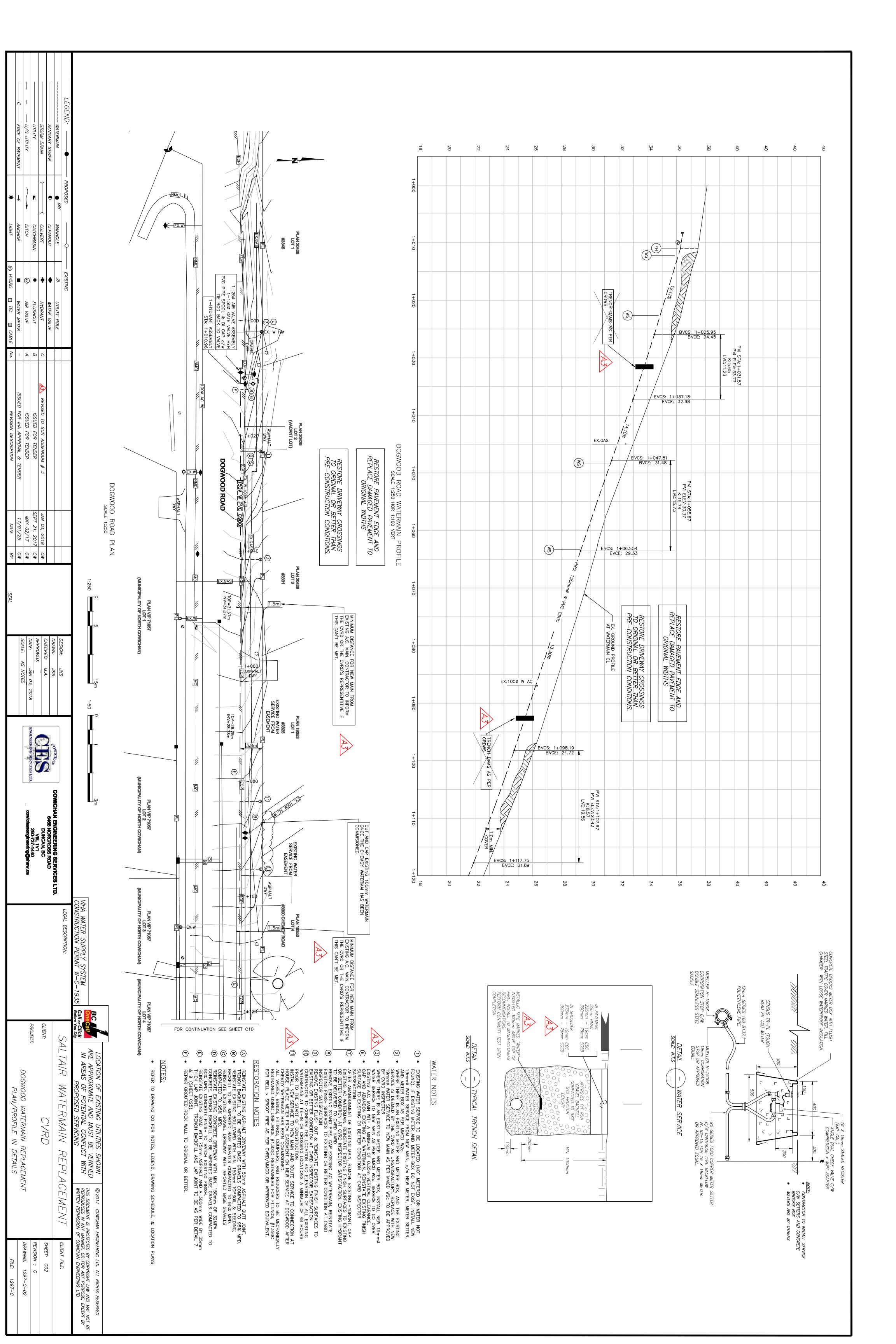
Risk assessment

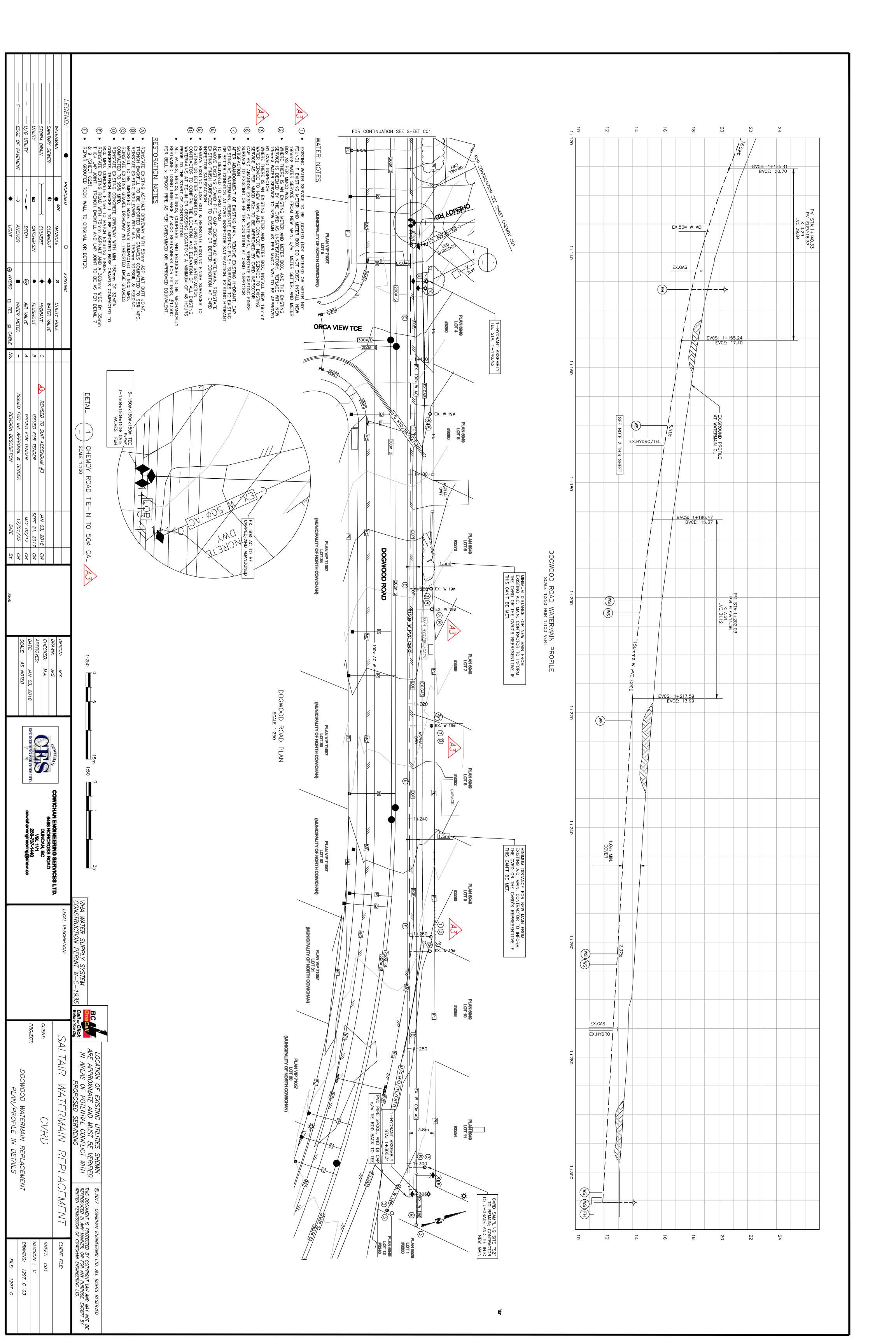
A risk assessment for AC pipe has been completed and is attached. It is assumed that the new services will be installed above the existing AC pipe and a minimum vertical separation of 35mm vertical separation will be maintained. If the existing AC pipe is too shallow to allow the new services to be installed above the AC pipe, and the services will be installed below the existing AC pipe, than the AC pipe will need to be removed 1.5m from both sides of the crossings (as per the attached risk assessment). A horizontal separation of 1.5m between new and old pipe is to be maintained.

End of Addendum 3

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Cowichan Valley Regional District 175 Ingram Street Duncan, BC V9L 1N8 File Number: F2412-165 Date: January 2, 2018

Attention: Ms. Lisa Daugenet, AScT Via Email: <u>ldaugenet@cvrd.bc.ca</u>

PROJECT: SALTAIR WATERMAIN UPGRADE-DOGWOOD & CHEMOY ROADS

SUBJECT: RISK ASSESSMENT -AC PIPE CUTTING & ABANDONMENT

Dear Madam:

Lewkowich Engineering Associates Ltd. was engaged by the Cowichan Valley Regional District to produce a Risk Assessment for the proposed work conducted at the aforementioned address.

(1) Introduction:

The subject site is an excavation where work will be conducted on Asbestos Cement (AC) pipe. Pipe will be cut at approximately 7 to 10 crossing points where new services will be installed underneath the existing AC pipe. AC Pipe typically contains >60 % chrysotile Asbestos. This Risk Assessment is limited to the materials, conditions and/or areas described in the following Table and in Section 2:

ID No.	Material	Location	Quantity
MISC-1	100mm dia. AC Pipe	Dogwood Road & Chemoy Road	3± LM per location

(2) Assessed Risk (MISC-1):

- Condition of Material: Fair
- Friability: Low to Moderate (cutting method dependent)
- Percent of Asbestos: $>60\pm\%$
- Exposure risk to abatement workers: Moderate
- Material not in a moving Air System
- Exposure risk to persons outside contained work area: Moderate

Overall Hazard: Moderate

(3) Recommendations:

AC pipe containing asbestos will be cut using a wetted 'pipe snapper' under 'Moderate Risk' procedures in accordance with WorkSafe BC publication '<u>Safe Work Practices for Handling</u> <u>Asbestos'</u> (BK27).

Note that if proper protocols are not followed, this material has the potential to disperse high concentrations of asbestos fibres into the environment.



See also the appended Table(s) for additional risk assessment data. Based on site conditions, existing AC pipe may be abandoned in place except:

- At crossings, remove existing 1.5± m both sides from closest approach to new;
- Use Moderate Risk Procedures for cutting & removal of existing AC pipe;
- All damaged AC pipe must be removed;
- Any sections that are undermined or not overlying 'Good' substrate support must be removed;
- As-built drawings must clearly show abandoned sections and sections removed.

This Risk Assessment assumes certain conditions based on information provided by the Client, to the best of their knowledge. *Unless otherwise stated, actual subsurface conditions have not been observed. Should actual conditions differ from those anticipated, this document must be amended accordingly.*

(4) Report Use and Limitations:

This Risk Assessment meets the requirements of Section 6.6 of the BC OHS Regulations (Assessment and classification), and is not a 'Hazardous Materials Assessment (Report), as defined in Section 20.112. In addition to this Risk Assessment, WorkSafe BC may require Section 20.144 to be met prior to commencement of work.

In preparing this report Lewkowich Engineering Associates Ltd. (LEA Health, Safety & Environmental) reviewed historical records, conducted interviews with certain private and public officials, and conducted an on-site visual inspection of the property.

We examined and relied upon documents referenced in the report and have relied on oral statements made by certain individuals but we have not conducted an independent examination of the facts contained in referenced materials and statements.

LEA Health, Safety & Environmental assumes the genuineness of the documents and that the information provided in documents or statements is true and accurate.

LEA Health, Safety & Environmental has prepared this report in a professional manner, using that level of skill and care normally exercised for similar projects under similar conditions by reputable and competent consultants and in accordance with our normal terms and conditions. LEA Health, Safety & Environmental shall not be responsible for conditions or consequences arising from relevant facts that were concealed, withheld, or not fully disclosed at the time the report was prepared.

We also note that the facts and conditions referenced in this report may change over time and the conclusions and recommendations set forth herein are applicable only to the facts and conditions as described at the time of this report. Conclusions and recommendations were made within the operative constraints of the scope, budget, and schedule for this project. We believe the conclusions stated herein to be factual, but no guarantee is made or implied.

Lewkowich Engineering Associates Ltd.

3... Saltair Watermain Upgrade – Risk Assessment Project No. F2412-165



The methods employed for collection and analysis of samples are those of the American Conference of Governmental Industrial Hygienists (ACGIH), the National Institute for Occupational Safety and Health (NIOSH), provincial WCB, and/or other accepted scientific practices.

The data and commentary presented herein reflects these standards, however no other warranty is offered or implied respecting the acceptance of this report by any Regulatory authority.

(5) Closure:

Should you have any questions or require further information please contact us. Thank you for the opportunity to be of service.

Yours truly,

LEA HEALTH SAFETY & ENVIRONMENTAL

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Lewkowich Engineering Associates Ltd.

AC Pipe Abandonment Worksheet

SECTION ID	Dogwood Road-Chemoy Road LEA Project No. F2412-165						Location Saltair Watermain Replacement						
Risk Level		Nominal SAE	Pipe Diameter	Section Length	Number of Crossings	Number of Connections	Trench Depth BGS	AC Pipe Condition**	Under/Over Existing	Substrate Support *	Crossing Angle	Vertical Separation	Horizontal Separation
1	Γ	<6"	<150mm	>100m	<3	<3	>1.75m	Good	Over	Good	90°	>150cm	≥1.5m
2		6 - 8"	150 -200 mm	60-100m	3 - 5	3 - 5	1.25 - 1.75m	Fair	Unknown	Fair	60 - 90°	75-150cm	1 - 1.5m
3		8 - 10"	200 - 250mm	20-60m	5 - 10	5 - 10	1 - 1.25m	Poor	-	Poor	45 - 60°	50 - 75cm	0.5 -1m
4		>10"	>250mm	<20m	>10	>10	<1m	Unknown	Under	Unknown	<45°	<50cm	<0.5m

All criteria are new installation relative to existing AC pipe installation

* Geotechical opinion may be required

** QP opinion required

Enter Risk Level	1	1	3	1	3	3	4	1	1	4	1
Overal Risk Assessment	23 11 - 25 Existing AC pipe may be abandoned in place if separated from new by at least 1.5m. As-built drawings must abandoned sections and sections removed. At crossings, remove existing 1.5m both sides closest approach to Moderate Risk Procedures for cutting & removal of existing AC pipe. All damaged AC pipe must be removed are undermined or not overlying 'Good' substrate support must be removed.									t approach to ne	ew. Use
			26 - 44	Existing AC pipe	which is not co	nected to new	services must be	fully removed.			

NOTE: Wherever practicable, the preferred approach is to fully remove all abandoned AC pipe, defined by WSBC as 'Asbestos Waste'. Abandonment in place must be justified in the Risk Assessment document.

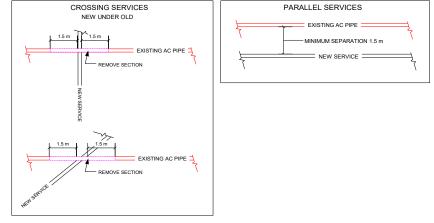
This Risk Assessment assumes certain conditions based on information provided by the Client, to the best of their knowledge. Unless otherwise stated, actual subsurface conditions have not been observed. Should actual conditions differ from those anticipated, this document must be amended accordingly.

This document is to be used for guidance by a 'Qualified Person' as defined by WSBC. Any related Risk Assessment may consider other external factors that may influence decisions respecting abandonment in place.

Attach construction drawings, specifications and photographs as necessary for clarity.

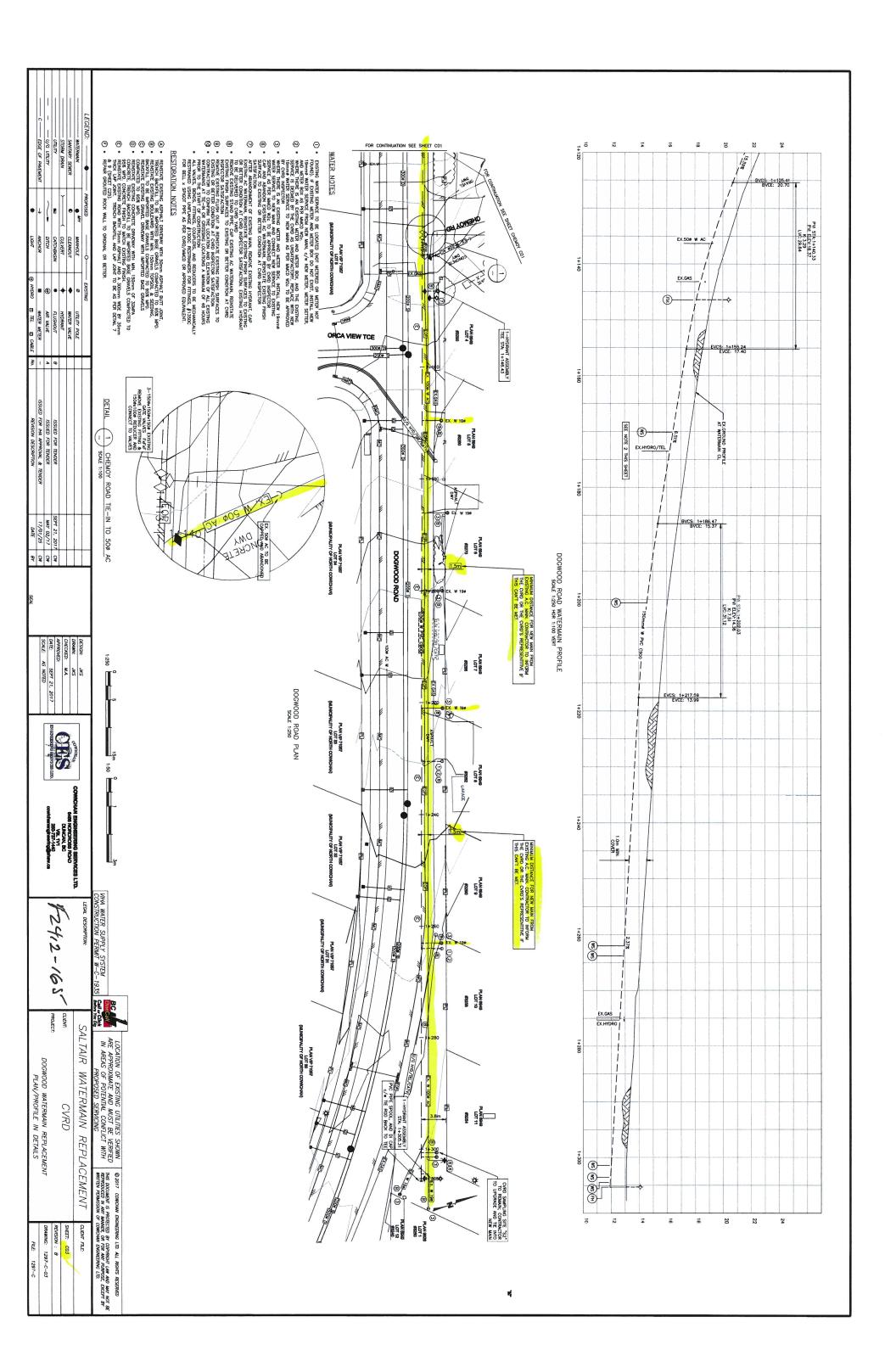
 NOTES
 (1) Establish condition of existing AC pipe before finalizing Risk Assessment

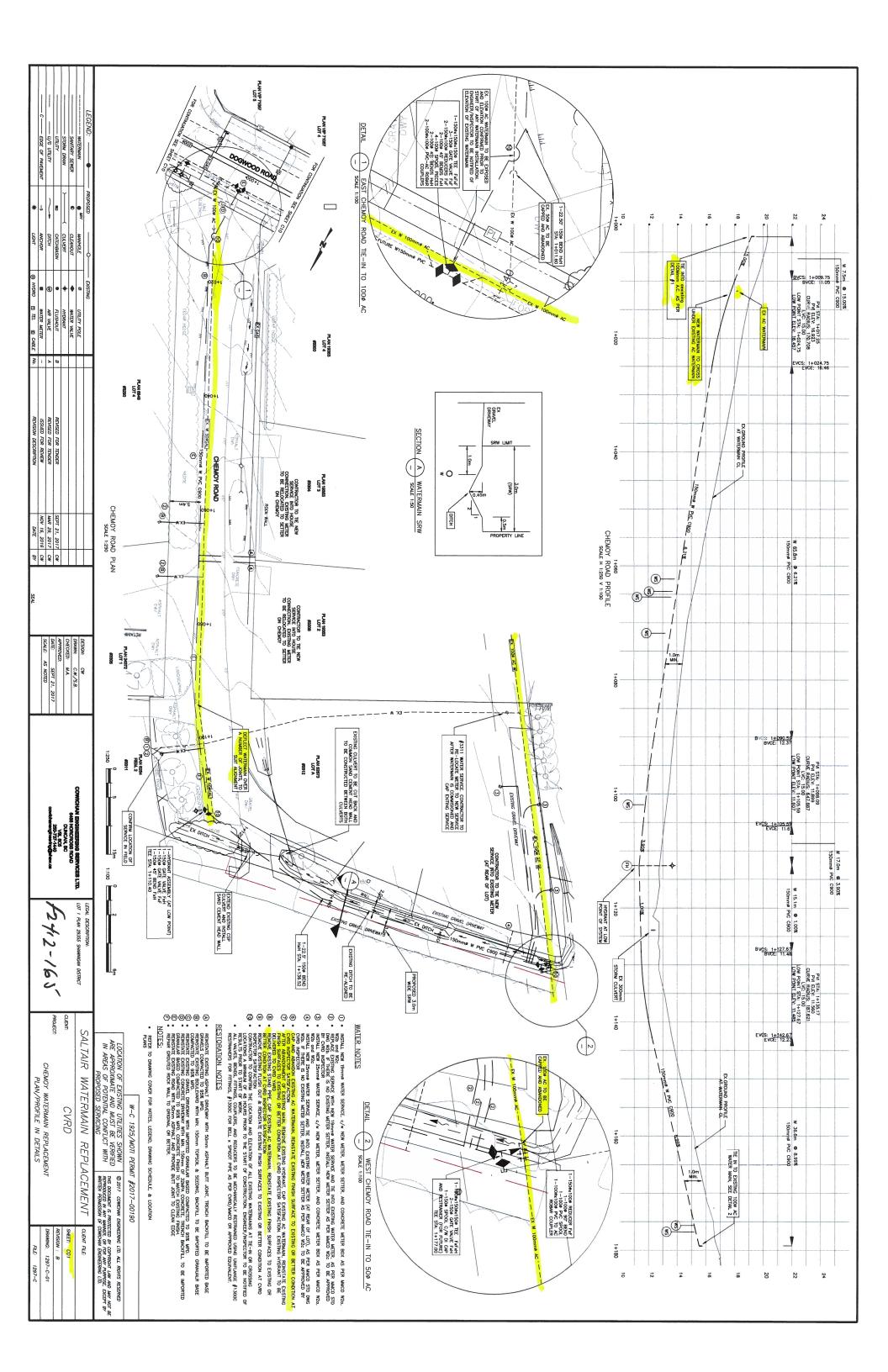
 (2) Establish subgrade conditions before finalizing Risk Assessment

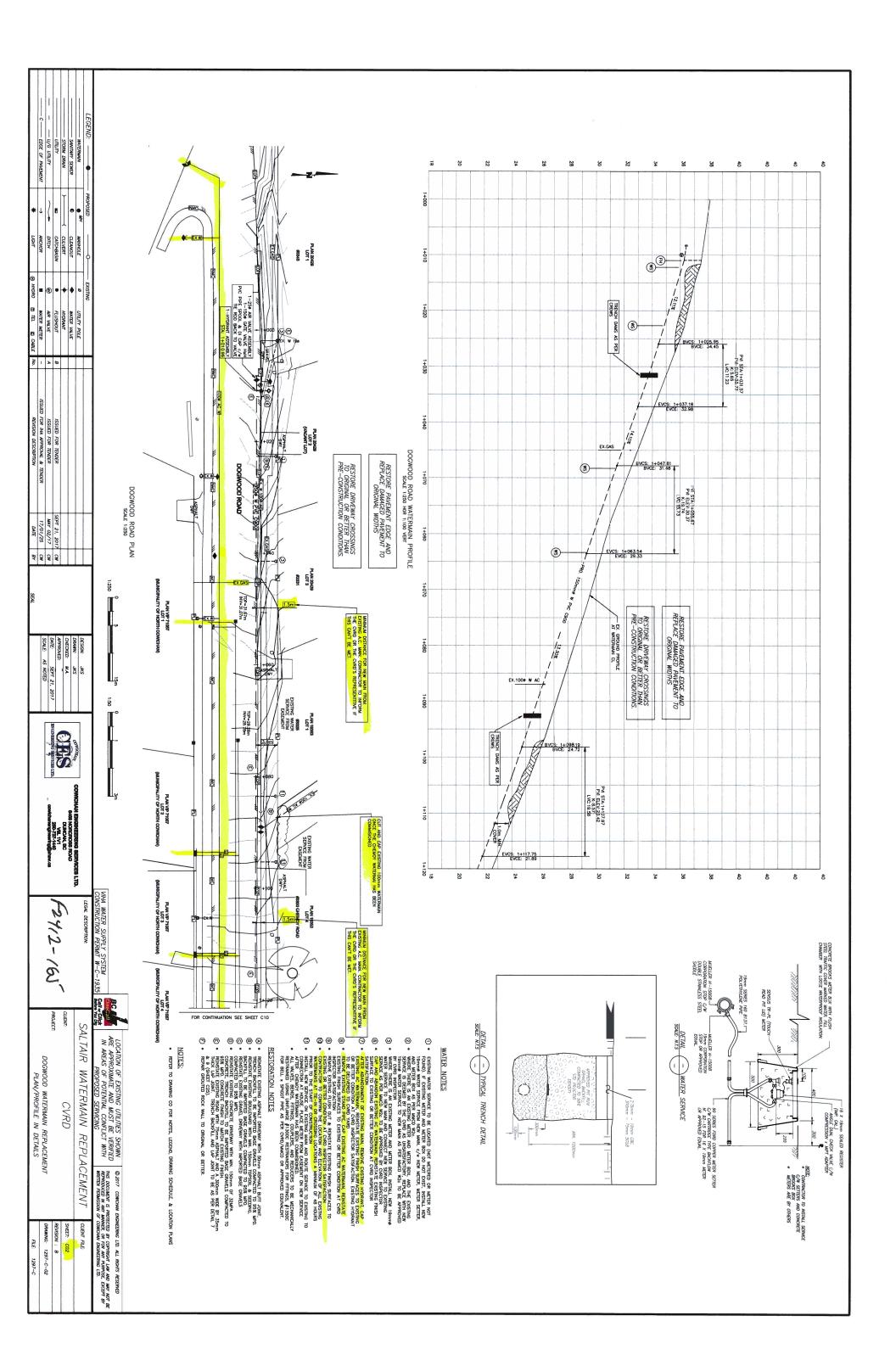




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Meeting Minutes

Chemoy/Dogwood Watermain Upgrade Tender Meeting

December 12, 2017 1:30 pm Meeting Location: Onsite at Dogwood and Chemoy Road, Saltair

-contractor will need to pull a permit from DNC, \$200 for the permit. Cow. Eng will inquire if DNC will require the \$2000 deposit. \$2000 bond will be required (January 2, 2018)

-driveway crossings are part of lump sum pricing

-is a risk assessment required for the asbestos pipe? CVRD will inquire with Worksafe about the requirements

Risk assessment has been completed and is attached as part of this addendum (January 2, 2018)

-3312 Chemoy. The service will be renewed to the meter box. The new pipe is to go underneath the concrete walkway

-pressure testing of the services located on 3312 Chemoy should be done during the watermain shut down to avoid breaks in the old line.

-existing ROW on 3312 Chemoy will be marked out prior to construction

-3304 Chemoy, an addendum will be issued adding a line item for pricing of the water service with the aligned on the south side of the property (to the left of the driveway)

- patch at the corner of Dogwood and Chemoy (driveway for 3290 Chemoy) will be asphalt not concrete

-contractor will ask DNC for use of the hydrant on Dogwood for water

-does the CVRD want the hydrant at the corner of Chemoy and Dogwood? Yes (January 2, 2018)