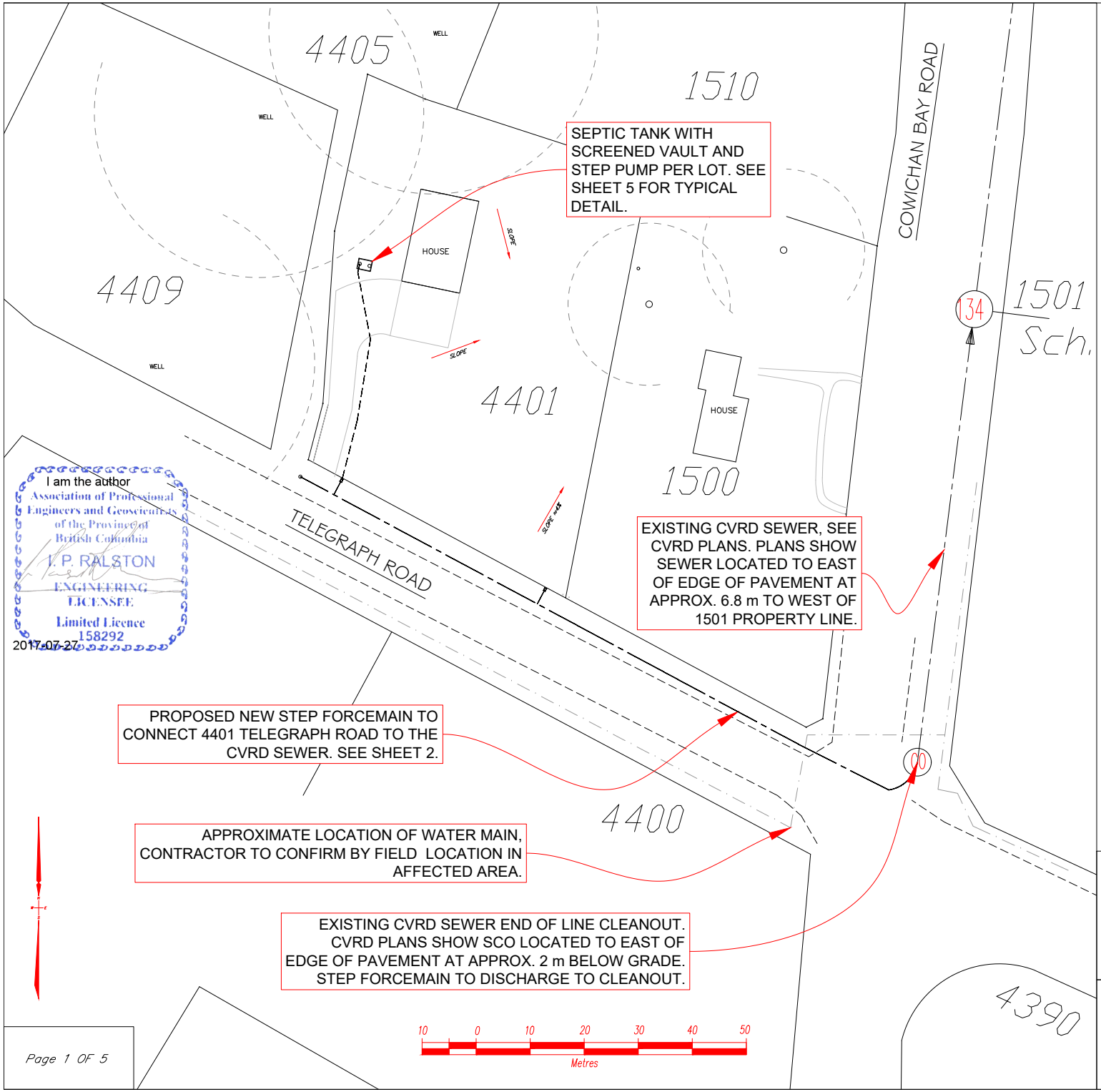


GENERAL SPECIFICATIONS AND NOTES:

This key plan and the general arrangement (sheet 2) are intended for installation of a new STEP collection sewer, discharging to the end of the existing CVRD sewer at the junction of Telegraph and Cowichan Bay Roads. The existing cleanout is to be used for connection to the main sewer with the STEP forcemain discharging into the side of the cleanout. Note that this approach is recommended to avoid risk of odor at connection and simplify connection, see Sheet 3 for typical detail and elevation information.

4401 Telegraph Road is to be provided with a service connection, and a second spare connection for future use. Future connections may be made using hot tapping electrofusion saddles. All valve boxes are to have lids marked "sewer".

Sheet 5 provides a typical section and specifications for the individual on lot portion of the service connections to the STEP sewer. Septic tank sizing and final specification, together with field review of installation of the on lot components, is to be undertaken by a qualified professional at time of connection.

Installation of the STEP collector forcemain is to be completed in accordance with CVRD Bylaw 1215 Schedule B and MMCD standard specifications (including MMCD drawing G4). Follow Plastic Pipe and Fittings Association guidelines for socket fusion welding of and installation of the HDPE forcemain pipe and fittings. Ensure pipe cover and bedding meets CVRD standards in traveled and un traveled areas. As shown the forcemain is to be installed in the road boulevard on Telegraph Road, with a min. 3 m offset to the property lines to the North and placed to avoid large trees. The Cowichan Bay Road crossing is to be completed using directional drilling if practical or otherwise by open cut with pavement restoration detail as pre-approved by Ministry of Transportation and Highways. Permission to work in the right of way is to be obtained by the CVRD. Where pipe installed in trench, mark with detectable caution tape (marked "sewer") at 15 cm below grade above pipe. The forcemain, with tees and connections in place, is to be pressure tested to 100 psi, following the standards established by the AWWA Manual M23 and ASTM F2164.

The Cowichan Bay Water System water main locations are to be confirmed by the contractor, and the new STEP collection connections are to be installed minimum 3 m horizontally from water system connections. The STEP forcemain is to either be installed 3 m horizontally from water mains and connections, or where this is not practical (e.g. at crossings) as pre-approved by the design engineer and the Cowichan Bay Waterworks District. Note that as actual pipe locations are to be confirmed, final layout may be adjusted at time of installation and is to be located by survey for the record drawings.

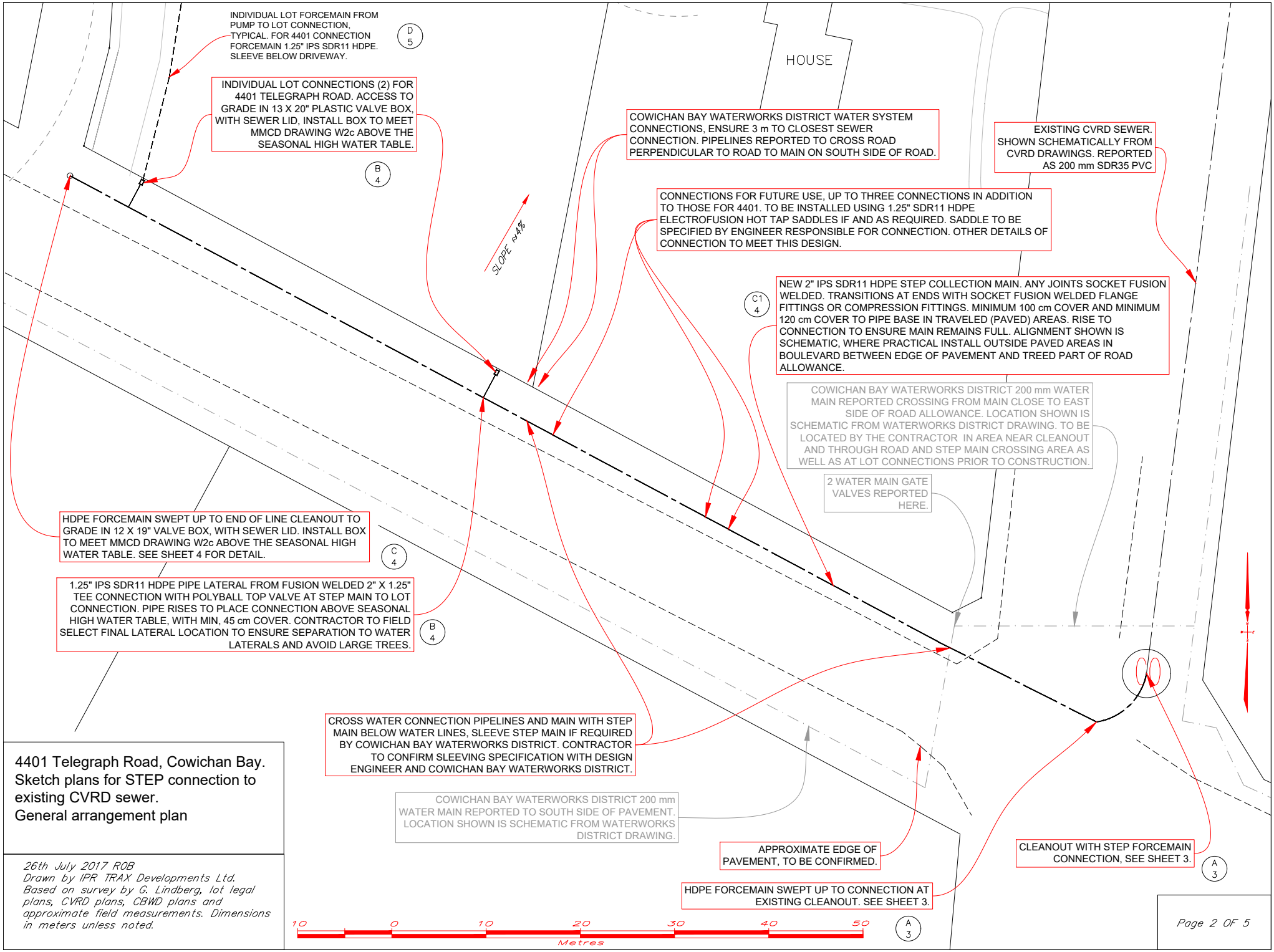
The design engineer is to be retained to field review construction of the STEP collection system. Contact the design engineer in case where any details or specifications are unclear. Record drawings to be prepared by the design engineer based on surveyed locations provided by the project surveyor.

See sheet 3 for limitations.

4401 Telegraph Road, Cowichan Bay. Sketch plans for STEP connection to existing CVRD sewer. Key Plan

15th July 2017 ROA

Drawn by IPR TRAX Developments Ltd. Based on survey by C. Lindberg, lot legal plans, CVRD plans, CBWD plans and approximate field measurements. Dimensions in meters unless noted.



4401 Telegraph Road, Cowichan Bay.
Sketch plans for STEP connection to existing CVRD sewer.
General arrangement plan

26th July 2017 ROB
Drawn by IPR TRAX Developments Ltd.
Based on survey by G. Lindberg, lot legal plans, CVRD plans, CBWD plans and approximate field measurements. Dimensions in meters unless noted.

NOTES:

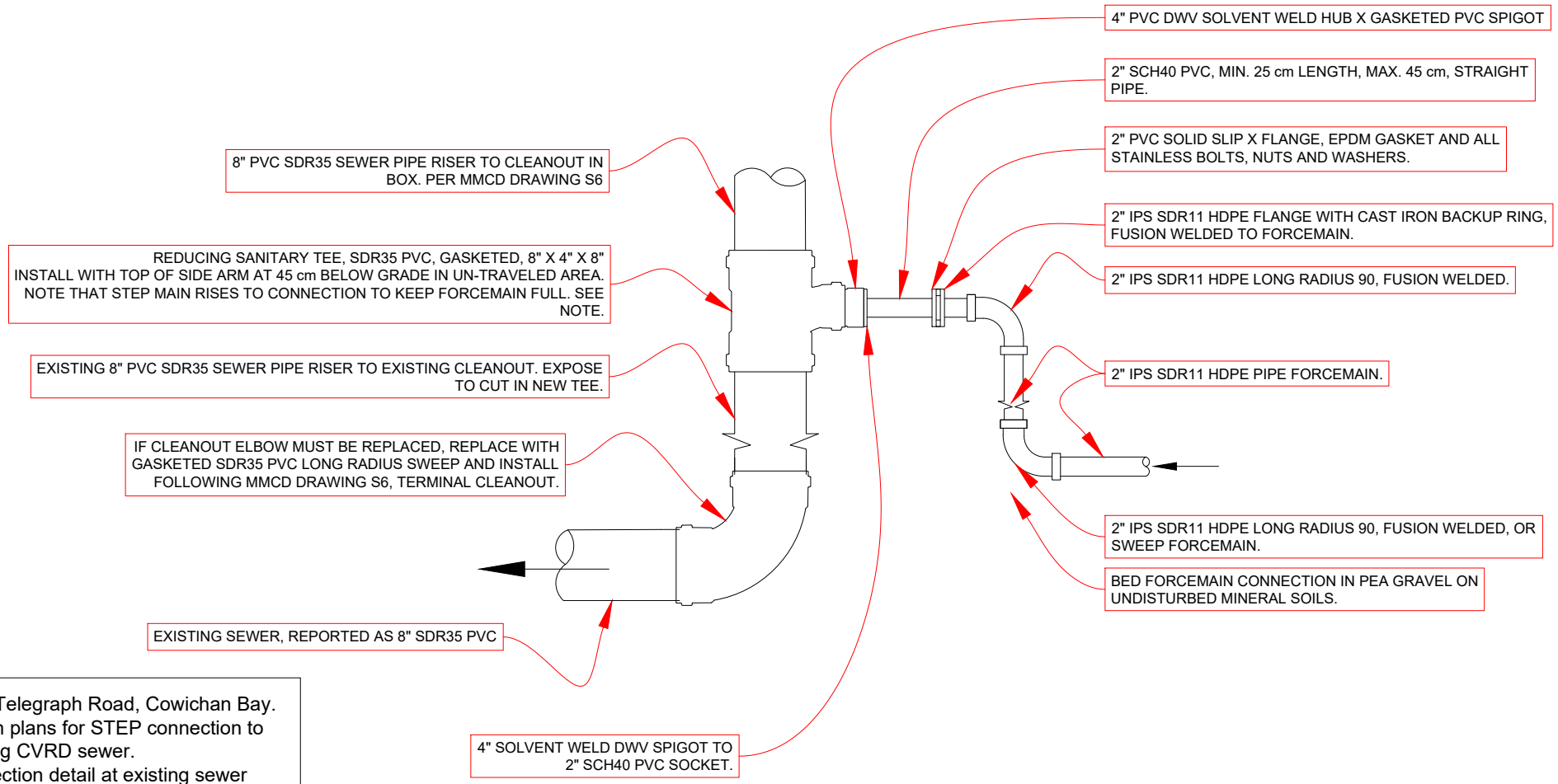
Do not use fittings in HDPE forcemain for direction changes except where tight radius is necessary, sweep pipe and maintain minimum radius of 150 cm in bends. Pressure test forcemain to temporary PVC cap after flange fitting prior to connection.

Refer to MMCD standard documents for trench detail and cleanout installation.

Detail shows cleanout riser pipe installed vertically, if pipe is not vertical field fit connection by orienting side arm of tee to side of pipe. Contact design engineer for clarification if required.

An objective of installation is to use the rise of the STEP forcemain to the connection shown in Detail A (at 45 cm BGS) to keep the rest of the STEP forcemain full of effluent. TRAX has not surveyed the planned STEP forcemain alignment. However, available elevation and CVRD contour data, and visual inspection, indicates that the ground surface is very low slope or flat between the proposed 4401 connection and the cleanout location shown on CVRD plans. The contractor is to confirm levels by measurement on site and is to confirm that the rise to 45 cm at the connection to the main sewer (Detail A) and the typical trench depths and pipeline installation depths (Detail C1) will result in the STEP main remaining full between the 4401 connection and the rise to the main sewer connection. If elevation constraints require adjustment to pipeline depth, contact the designer for advice.

Limitations: These sketch plans and specifications show the proposed works schematically and are not based on survey. They do not show all details of existing and proposed site use, services, utilities and roadways. As noted, several items require field fit or may require adjustment in the field.
Ian Ralston Eng.L and TRAX Developments Ltd. scope of services for this project are limited to the proposed new STEP collection components only, and do not include any services or responsibility for the existing sewer system. In this respect. Ian Ralston holds a limited license from APEGBC with the following scope: *Civil Engineering. Limited to: Design, construction and maintenance of sewage systems, including site and soil evaluations for these systems. Systems of 22.7 cubic meters per day or less.*



4401 Telegraph Road, Cowichan Bay.
Sketch plans for STEP connection to existing CVRD sewer.
Connection detail at existing sewer cleanout

26th July 2017 ROB

Drawn by IPR TRAX Developments Ltd.

A

NTS

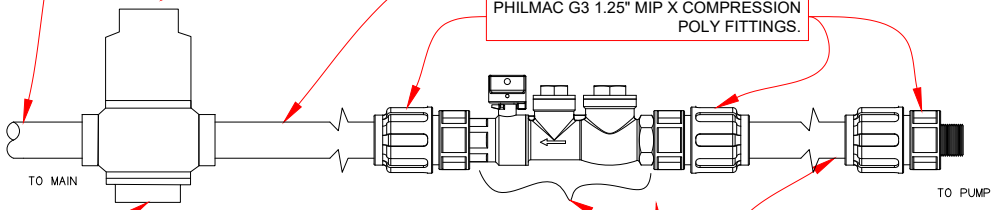
STEP FORCEMAIN CONNECTION TO SEWER (TYP)

NOTES:

Do not use fittings in SDR11 HDPE forcemain or laterals for direction changes unless small radius necessary, sweep pipe and maintain minimum radius of 150 cm in bends for 2" pipe and 105 cm for 1.25" pipe. Ensure cleanout is above seasonal water table.
See Sheet 3 notes for note on pipeline installation elevation and requirement for field confirmation of pipeline depth. Also note that pipeline depth may need to be adjusted at water main or water feed line crossings to place the sewer line below water lines, it is acceptable for the STEP main to dip in these areas if necessary but any dips are to be minimized and transitions are to be smooth.

Valve box specifications for stop valves are based on stop valves being outside the paved road, if in the paved road contact the design engineer for revised specification. All valve boxes to have lids marked "sewer". Valve boxes for Uni-Lateral assemblies may be plastic (13X20").
Note that additional lateral stop valves (Polyball valves) added at the request of the CVRD.
Refer to MMCD standard documents as noted. For trench detail and pavement restoration below paved areas follow MOTI requirements. Density testing requirements to be established by MOTI or CVRD. Dimensions shown in detail "C1" are in mm.

B — NTS
INDIVIDUAL LOT CONNECTION LATERAL (TYP)



1.25" IPS SDR11 HDPE STUB INSTALLED HORIZONTALLY TO FUSION WELDED 2 X 1.25" HDPE TEE AT STEP FORCEMAIN.

INSTALL STOP VALVE BELOW HANDLEY S4VAC 41 VALVE BOX WITH VALVE SUPPORT (DEPTH RANGE 37" TO 54" TO BASE OF BOX, CONTACT DESIGN ENGINEER IF DEPTH IS GREATER OR LESS THAN THIS RANGE). OR PRE-APPROVED EQUAL. INSTALL GENERALLY PER MMCD DRAWING W2b

1.25" IPS SDR11 HDPE SWEEPS DOWN TO POLYBALL VALVE.

PHILMAC G3 1.25" MIP X COMPRESSION POLY FITTINGS.

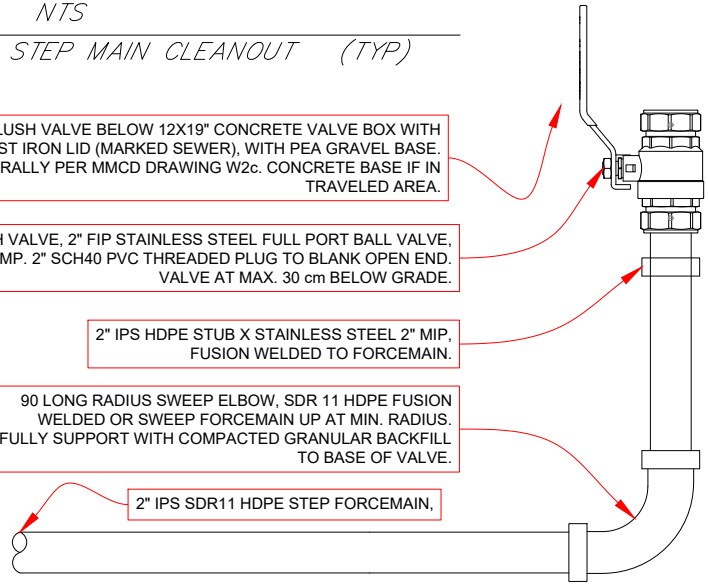
1.25" e one UNI-LATERAL ASSY. STAINLESS STEEL VALVE CURB STOP WITH INTEGRAL CHECK VALVE AND CLEANOUT, 1.25" FIP.

SECOND STOP VALVE, KEROTEST POLYBALL (OR PRE-APPROVED EQUAL) 1.25" IPS SDR11 HDPE FULL PORT BALL VALVE WITH 2" SQUARE OPERATING NUT, BUNA-N SEALS. FUSION WELD INLINE IN 1.25" LATERAL.

INSTALL LATERAL VALVE LEVEL, ON PEA GRAVEL BASE, ABOVE SEASONAL HIGH WATER TABLE. INSTALL BELOW VALVE BOX AS SPECIFIED, GENERALLY PER MMCD DRAWING W2c.

1.25" IPS SDR11 HDPE ON LOT FORCEMAIN FROM PUMP AT SEPTIC TANK. ANY JOINTS FUSION WELDED.

C — NTS
STEP MAIN CLEANOUT (TYP)



INSTALL FLUSH VALVE BELOW 12X19" CONCRETE VALVE BOX WITH CAST IRON LID (MARKED SEWER), WITH PEA GRAVEL BASE. GENERALLY PER MMCD DRAWING W2c. CONCRETE BASE IF IN TRAVELED AREA.

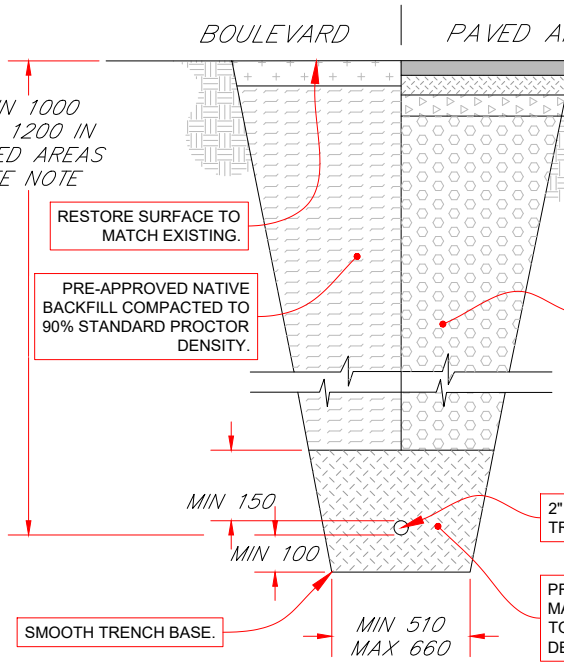
FLUSH VALVE, 2" FIP STAINLESS STEEL FULL PORT BALL VALVE, WITH TEMP. 2" SCH40 PVC THREADED PLUG TO BLANK OPEN END. VALVE AT MAX. 30 cm BELOW GRADE.

2" IPS HDPE STUB X STAINLESS STEEL 2" MIP, FUSION WELDED TO FORCEMAIN.

90 LONG RADIUS SWEEP ELBOW, SDR 11 HDPE FUSION WELDED OR SWEEP FORCEMAIN UP AT MIN. RADIUS. FULLY SUPPORT WITH COMPACTED GRANULAR BACKFILL TO BASE OF VALVE.

2" IPS SDR11 HDPE STEP FORCEMAIN,

C1 — NTS
TYP. TRENCH SECTION FOR STEP MAIN



MAXIMUM TRENCH TOP WIDTH 1000

FOLLOW MMCD DRAWING G5 AND MOTI REQUIREMENTS FOR PAVEMENT RESTORATION DETAILS. PRELIMINARY ASPHALT PAVEMENT THICKNESS MINIMUM 75 mm.

RESTORE SURFACE TO MATCH EXISTING.

PRE-APPROVED NATIVE BACKFILL COMPACTED TO 90% STANDARD PROCTOR DENSITY.

IMPORTED GRANULAR BACKFILL COMPACTED TO 95% MODIFIED PROCTOR DENSITY.

2" IPS SDR11 HDPE PIPE. SNAKE IN TRENCH. FOLLOW PPFA GUIDELINES.

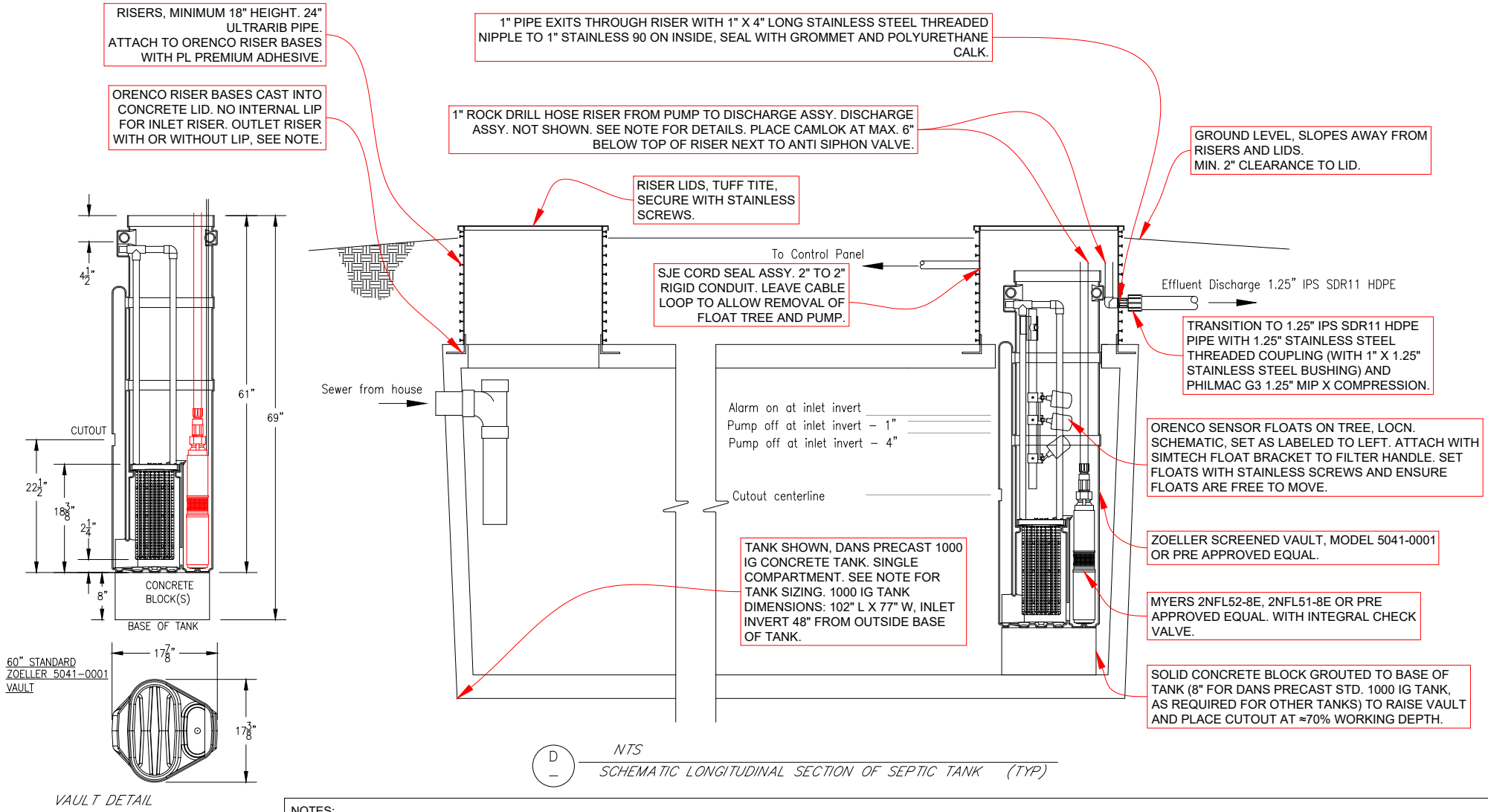
PRE-APPROVED GRANULAR PIPE BEDDING, MAXIMUM 12 mm PARTICLE SIZE, TAMPED TO MINIMUM 85% STANDARD PROCTOR DENSITY.

SMOOTH TRENCH BASE.

4401 Telegraph Road, Cowichan Bay.
Sketch plans for STEP connection to existing CVRD sewer.
Lot lateral connection and forcemain cleanout details

26th July 2017 ROB

Drawn by IPR TRAX Developments Ltd.



NOTES:

This detail is provided for general guidance only. Confirm detail for each lot at installation with the design engineer responsible for the individual connection, design engineer to pre-approve substitution of components. Drawing shows outlet riser with inner concrete lip inside Orenco UltraRib pipe adapter (24"), it is recommended to pour tank lid without lip to increase accessibility of tank and rely on block to support pump vault--however, it is acceptable to pour the outlet riser with lip and support pump vault with pipes on spacers placed on the concrete lip. Pour inlet riser adapter without internal lip to improve access to tank for pump out.

Septic tank sizing to result in minimum 2 day HRT to pump off elevation at a Daily Design Flow (DDF) selected following the BC Sewerage System Standard Practice Manual (SPM). Examples: For 1300 L/day DDF use 1000 IG tank as shown, for 1600 L/day DDF use 1200 IG Dans Precast tank, adjust block height as noted. Septic tank to be watertight tested per SPM Version 2 Appendix O before or after installation and installer to retain records of testing.

Discharge assembly: All fittings stainless steel unless noted. At pump 1.25" x 1" bushing, 1" MIP x barb, discharge hose 1" G400 rock drill hose (Greenline), two of T bolt clamps at each barb fitting, 1" barb x camlok male, camlok female x 1" MIP, 1" FIP x MIP street 90, 1" tee with 1" MIP X 1/2" Stainless threaded bushing (to check and relief valves), 1" FIP ball valve and from ball valve to 90 deg at riser exit per drawing. Supply suitable stainless steel threaded nipples for alignment. In top of tee install 1/2" stainless nipple and 1/2" stainless tee with 1/2" all plastic Boshart adjustable pressure relief valve, setpoint 50 psi nominal--confirm with design engineer at installation, also in tee install stainless nipple to stainless 1/2" flap type check valve (flow direction toward pressure piping), with valve installed vertically facing up, to act as anti siphon and air valve. A 90 may be installed in the top of the check valve to avoid risk of spray vertically in case of a failed check valve. Note that if pump is supplied without check valve a 1.25" stainless steel check valve is to be installed immediately after the pump outlet.

Control panel: SJE Rhombus EZI panel, set for demand dose, low level float connections jumpered with cable. Record panel data at commissioning.

Installation: Follow BC SPM standards and guidelines and manufacturer guidelines for installation of on lot components. Install pipelines following Plastic Pipe and Fittings Association guidelines and pressure test as for STEP forcemain. Mark all pipeline locations with detectable caution tape (marked "sewer") at 15 cm below grade above the pipe.

Commissioning: Test pump, float and panel operation and set pressure relief valve (if applicable). Record pump run amperage.

4401 Telegraph Road, Cowichan Bay.
Sketch plans for STEP connection to existing CVRD sewer.
Typical STEP tank on lot.

26th July 2017 ROB
Drawn by IPR TRAX Developments Ltd.