







































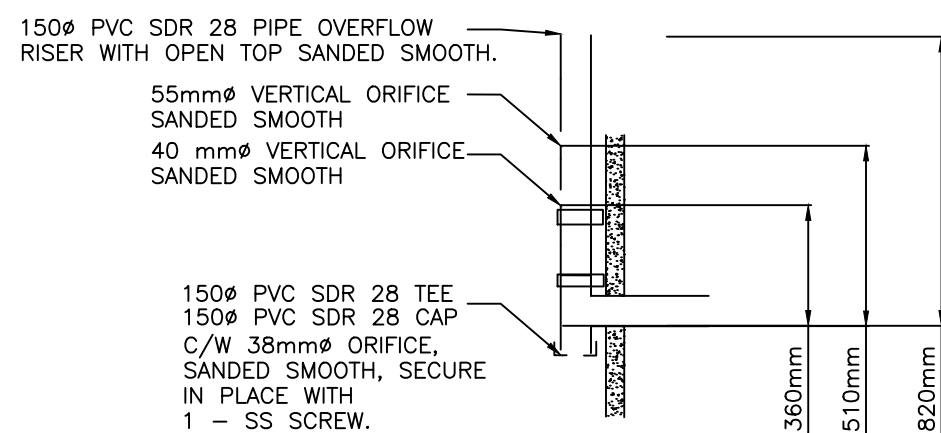
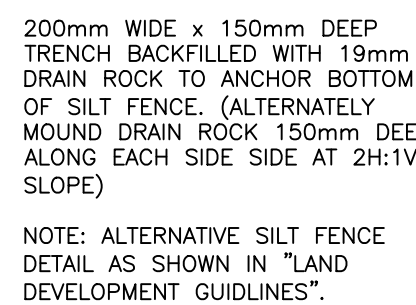


MUN. FILE ---

LEGAL DESCRIPTION	LOT 1, DISTRICT LOT 80, NEWCASTLE DISTRICT, PLAN 41282	ISSUED					LEGEND					 J.E. ANDERSON & ASSOCIATES SURVEYORS - ENGINEERS VICTORIA NANAIMO PARKSVILLE CAMPBELL RIVER #1A-3411 SHENTON ROAD, NANAIMO, BC V9T 2H1 PHONE: 250-758-4631 EMAIL: nanaimo@jeanderson.com WEB: www.jeanderson.com	JURISDICTION REGIONAL DISTRICT OF NANAIMO	CLIENT PRAXIS ARCHITECTS INC.
		7	RE-ISSUED FOR TENDER	2022 09 09		BK	LAMP STANDARD  	CLEANOUT  	DITCH  	METER  			PROJECT 230 HOBBS ROAD DASHWOOD FIRE HALL GRADING PLAN	
PROJECT DATUM		6	ISSUED FOR TENDER	2022 07 22		BK	POLE(Hydro, Tel.)	CATCHBASIN	METER			 E0004-1981972 2022-09-09		
		5	ISSUED FOR BUILDING PERMIT APPLICATION	2022 05 20		BK	U/G WIRING  	MANHOLE  	FLUSH VALVE  					
		4	ISSUED FOR 90% DESIGN	2021 01 13		BK	GAS  	SERVICE RISER  	REDUCE  					
		3	ISSUED FOR 60% DESIGN	2021 08 26		BK	WATER  	MOUNTABLE CURB  	REDUCER  					
		2	ISSUED FOR COORDINATION	2021 08 18		BK	SEWER  	NON-MOUNT. CURB  	HYDRANT  					
	NO. DESCRIPTION	YYYY MM DD	DE	DA	CK	DRAIN  	EDGE ASPHALT  	AIR VALVE  				ENGINEERS SEAL	MUN. DWG NUM ---	SHEET 2 OF 3

- A. PERFORM WORK IN DRY TIMES WHEN POSSIBLE.
- B. CONTRACTOR TO CONTROL EROSION AND SEDIMENT AT SOURCE AND CONTAIN WITHIN SITE LIMIT.
- C. MEASURES TO BE ADDRESSED DURING CONSTRUCTION AND AMENDED TO SUIT CONDITIONS.
- D. INSTALL SILT FENCE WHERE REQUIRED.
- E. DO NOT REMOVE VEGETATION AND TOPSOIL WHERE POSSIBLE.
- F. DO NOT COMPACT THE SOIL AND MINIMIZE STRIPPING AS THIS WILL INCREASE SILT PRODUCTION

1. EROSION AND SEDIMENT CONTROL FOR THIS PROJECT WILL BE AS OUTLINED IN THE FISHERIES AND OCEANS CANADA AND MINISTRY OF WATER, LANDS, AND AIR PROTECTION HANDBOOK ENTITLED "LAND DEVELOPMENT GUIDELINES FOR THE PROTECTION OF AQUATIC HABITAT, SEPTEMBER 1993" AND "ENVIRONMENTAL BEST MANAGEMENT PRACTICES FOR URBAN AND RURAL LAND DEVELOPMENT IN BRITISH COLUMBIA, JUNE 2004".
2. THE CONSULTANT ASSUMES NO RESPONSIBILITY FOR DAMAGES RESULTING FROM IMPROPER EROSION AND SEDIMENT CONTROL MEASURES UNDERTAKEN BY THE CONTRACTOR.
3. ANY DIRECTION GIVEN BY THE ENGINEER TO THE CONTRACTOR FOR EROSION AND SEDIMENT CONTROL AND NOT FOLLOWED BY THE CONTRACTOR IS TO BE REPORTED TO THE NCID AND REGIONAL DISTRICT IMMEDIATELY.
4. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT NO MUD, SOIL, SILT, OR ANY OTHER SUBSTANCES ARE SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY. THE CONTRACTOR IS TO CLEAN ANY SUCH MATERIAL IMMEDIATELY, I.E. STREETS ARE TO BE CLEANED AFTER WORK STOPPAGE EACH DAY.
5. STRIP AND GRUB ONLY THOSE AREAS NECESSARY FOR THE CURRENT CONSTRUCTION. STAGE CONSTRUCTION OPERATIONS TO LIMIT DISTURBANCE AND DO NOT STRIP ANY AREA UNTIL REQUIRED.
6. SILT FENCING IS TO BE INSTALLED AROUND ALL STOCK/SPOIL PILES, OR PILES ARE TO BE OTHERWISE COVERED TO LIMIT EROSION AND SEDIMENT GENERATION.



- DETENTION TANK AND ROCK PIT WILL BE USED TO LIMIT FLOWS FROM THE BUILDING ROOFS AND DRIVEWAY TO PRE-DEVELOPMENT LEVELS FOR THE 5 AND 100 YEAR RETURN STORMS.

OBJECT IS TO LIMIT POST DEVELOPMENT 5 AND 100 YEAR RETURN FLOWS TO PRE-DEVELOPMENT FLOWS.

ASSUME NO FLOWS/NEGLIGIBLE FLOWS FROM PERIMETER DRAINS. PERIMETER DRAINS ARE TO BYPASS THE DETENTION TANK SYSTEM.

ASSUME THAT ROOF AREAS AND HARD SURFACE DRIVEWAYS THAT FLOW TO DETENTION ARE 1243 SQUARE METRES.

RAINFALL INTENSITIES BASED ON NANAIMO IDF CURVES (UPDATED MAY 2020).

USING SCS METHOD AND HYDROCAD TO CALCULATE PRE AND POST CONDITIONS
SAMPLE CALCULATIONS:

FOR 2 YEAR RETURN STORM, 1243 SQ. M. HARD SURFACE TO DETENTION.

Q POST= 1.8 L/s

FOR 5 YEAR RETURN STORM, 1243 SQ. M. HARD SURFACE TO DETENTION.

Q PRE = 3.4 L/s
Q POST = 3.4 L/s

FOR 100 YEAR RETURN STORM, 1243 SQ. M. HARD SURFACE TO DETENTION

Q PRE = 8.4 L/s
Q POST = 8.4 L/s

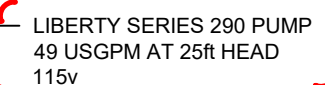
DANS 1000 IGAL HOLDING TANK C/W BAFFLE CONSTRUCTED FOR H2O DYNAMIC LOADING (TANK A TOP). REQUIREMENT FOR H2O LOADING CAN BE RELAXED IF IT WILL NEVER BE SUBJECT TO VEHICULAR LOADING.
INSIDE DIMENSIONS APPROXIMATELY 2370 LONG, 1730 WIDE, 1260 HIGH. APPROXIMATELY 110mm THICK WALLS.

INSTALL 7.0m WIDE X 14.0m LENGTH X 1.35m DEEP OF DRAIN ROCK (132 m³ OF DRAIN ROCK)
SHOWN ON 89638 01-C1.

- MAINTENANCE BY THE LOT OWNER MUST INCLUDE THE FOLLOWING:
 - MAINTAIN GRATE, INLETS, AND ALL OUTLETS FREE OF DEBRIS AT ALL TIMES. CHECK OUTLETS EVERY MONTH FOR BLOCKAGE OF THE FALL PIPES, AND DURING HEAVY RAINFALLS, CONFIRM SATISFACTORY OPERATION DURING HEAVY RAINFALLS.
 - ENSURE OVERFLOW ROUTES FROM SUMP GRATE ARE KEPT CLEAR AT ALL TIMES, PARTICULARLY DURING HEAVY RAINFALLS.
 - DO NOT ENTER TANK WITHOUT PROPER EQUIPMENT AND TRAINING AS THE AIR MAY BE DANGEROUS TO BREATHE. USE CONFINED SPACE ENTRY PROCEDURES.
 - CLEAN FLOATING DEBRIS OUT OF TANK AT EVERY INSPECTION, AND CLEAN SUMP WHENEVER DEBRIS OR SEDIMENT IS OVER 50mm.
 - REPLACE/REPLACE SYSTEM WHENEVER SYSTEM BECOMES NON FUNCTIONAL.

HYDROCAD10 STORM SOFTWARE (RAINFALL DURATION = 24hr)

NOTE: ELEVATIONS ARE RELATIVE TO AN INVERT OUT OF 0.00m






































NOTE: ALL CONSTRUCTION TO BE IN
ACCORDANCE WITH BC ELECTRICAL
CODE AND BC PLUMBING CODE.

PUMP CHAMBER
INSTALLATION SKETCH
TIMED DOSING



RAISED MOUND SANITARY
DISPOSAL BED
N.T.S.

LEGEND			
LAMP STANDARD	⇨ LS	CLEANOUT	□
POLE (Hydro, Tel.)	⇨ PP	CATCHBASIN	◻
U/G WIRING	— UE	MANHOLE	⊙
GAS	— G	SERVICE RISER	●
WATER	— W	MOUNTABLE CURB	MC
SEWER	— S	NON-MOUNT. CURB	NMC
DRAIN	— D	EDGE ASPHALT	
		DITCH	→
		METER	⊙
		FLUSH VALVE	⊙
		VALVE	⊙
		REDUCER	⊙
		HYDRANT	⊙
		AIR VALVE	⊙

LAMP STANDARD	 LS	CLEANOUT	 	DITCH	 
POLE (Hydro, Tel.)	 PP	CATCHBASIN	 	METER	  W
U/G WIRING	 UE	MANHOLE	 	FLUSH VALVE	  W
GAS	 G	SERVICE RISER	 	VALVE	  W
WATER	 W	MOUNTABLE CURB	  MC	REDUCER	  W
SEWER	 S	NON-MOUNT. CURB	  NMC	HYDRANT	  W
DRAIN	 D	EDGE ASPHALT	 	AIR VALVE	  W

**J.E. ANDERSON
& ASSOCIATES**
SURVEYORS - ENGINEERS



ENGINEERS SEAL

PROJECT

230 HOBBS ROAD
DASHWOOD FIRE HALL
DETAILS AND EROSION AND SEDIMENT CONTROL PLAN

89638 01 C3

MUN. DWG NUM	---	SHEET	3 OF 3
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