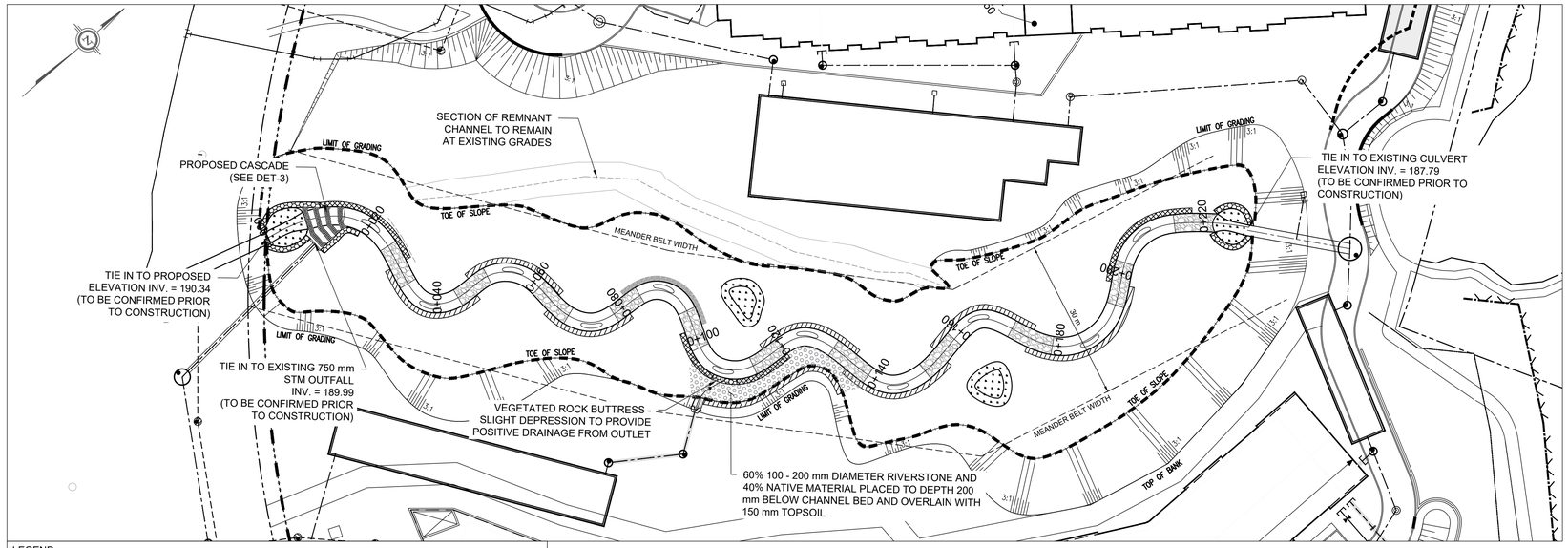
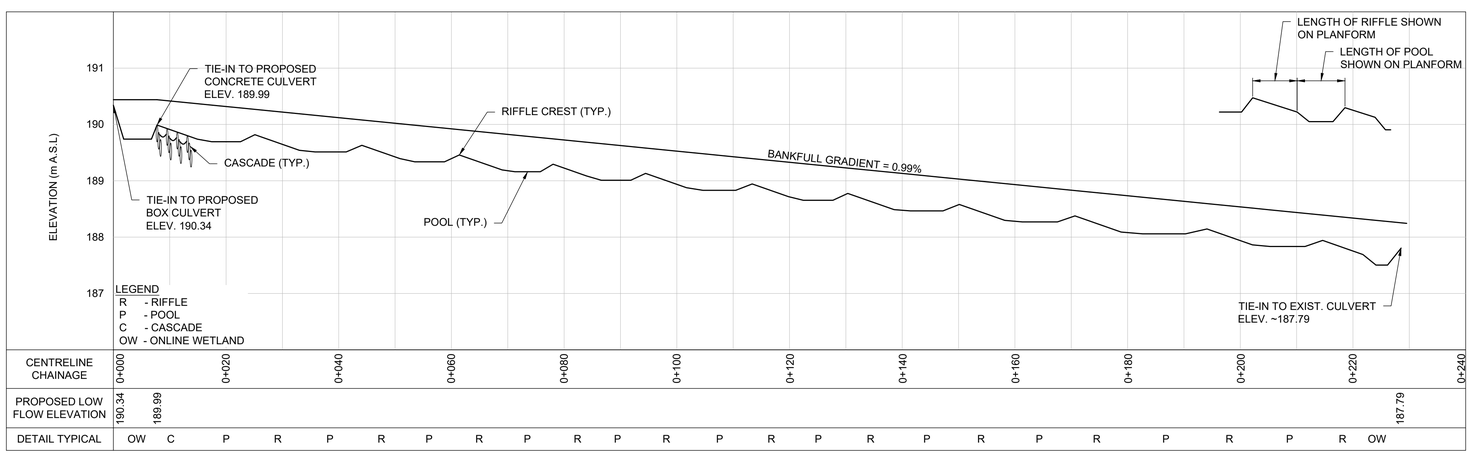


LEGEND

- CHANNEL CENTRELINE
- RIFFLE (SEE DWG DET-1)
- POOL (SEE DWG DET-1)
- ONLINE WETLAND (SEE DWG DET-1)
- OFFLINE WETLAND (SEE DWG DET-1)
- BRUSH MATTRESS (SEE DWG DET-2)
- ROOT WAD BANK ENHANCEMENT (SEE DWG DET-2)
- VEGETATED ROCK BUTTRESS (SEE DWG DET-2)
- 100% BIODEGRADABLE EROSION CONTROL BLANKET (BIONET C125BN OR APPROVED EQUIVALENT) AND LIVESTAKES (SEE DWG DET-2)

PLANFORM

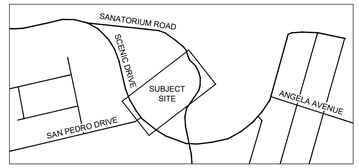
1:500



PROFILE

H = 1:500; V=1:50

SCALED FOR PLOT ON 'ARCH D'



N
N.T.S.

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	DATE	BY	REVISIONS

DESIGNED BY: P.V.	CHECKED BY: P.V.
DRAWN BY: B.W.M.	DATE: APRIL 2022

PROFESSIONAL GEOSCIENTIST
PAUL V. VILLARD
PRACTISING MEMBER
0957
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2022-04-25

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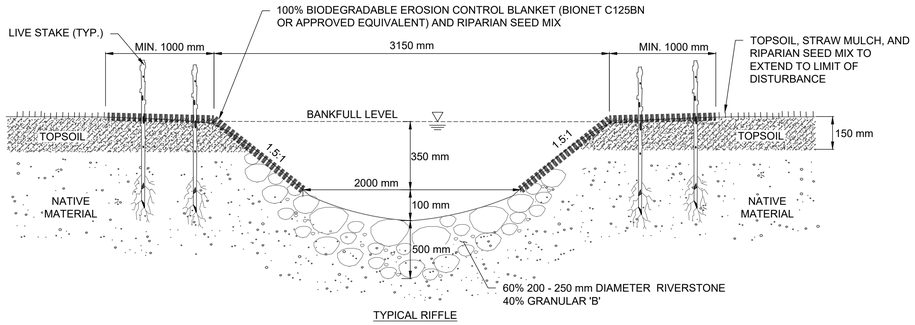
SCENIC DRIVE AND SANATORIUM ROAD VALERY HOMES

CHEDOKE CREEK PLANFORM AND PROFILE

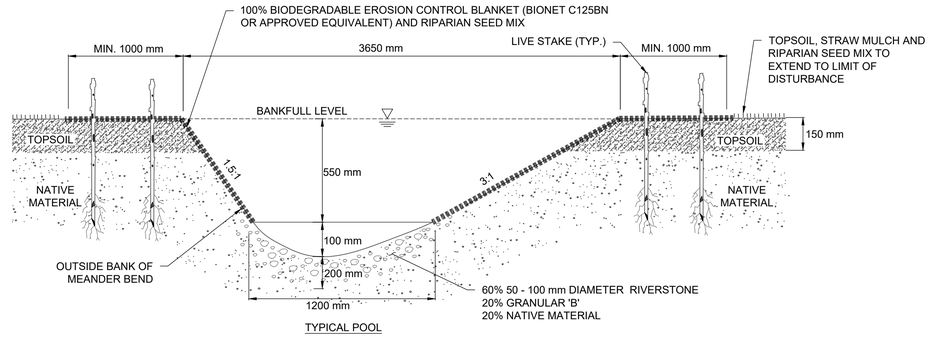
PROJECT No.: 19010	DRAWING No.: GEO-1
SCALE: AS NOTED	SHEET 1 OF 4



TYPICAL RIFFLE

NOTES:

- SUBSTRATES TO BE COMPACTED TO 90% SPD (OR AS DIRECTED BY THE DESIGNER) TO PREVENT PIPING
- NATIVE MATERIAL BE ADDED TO SUBSTRATE MIX TO FILL INTERSTITIAL VOIDS, AS REQUIRED



TYPICAL POOL

CHANNEL CROSS SECTIONS

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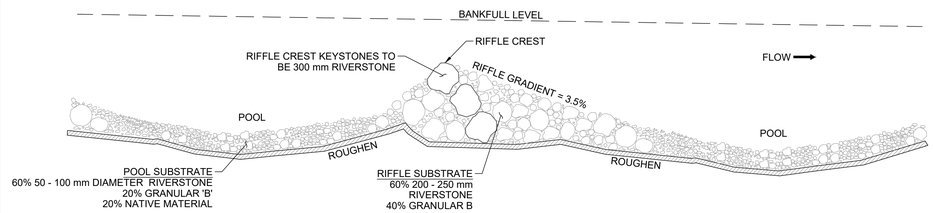

TYPICAL RIFFLE-POOL SEQUENCE

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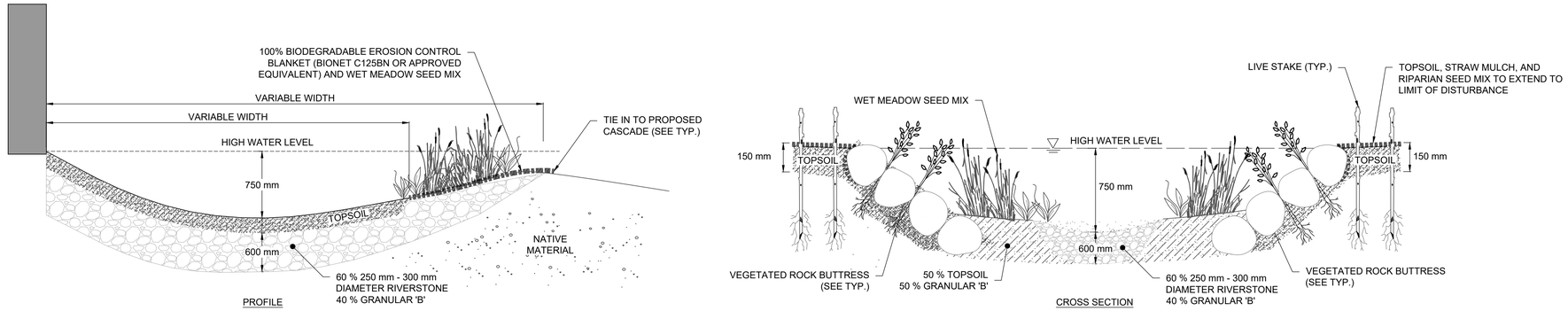

PROFILE

CROSS SECTION

ONLINE WETLAND / PLUNGE POOL

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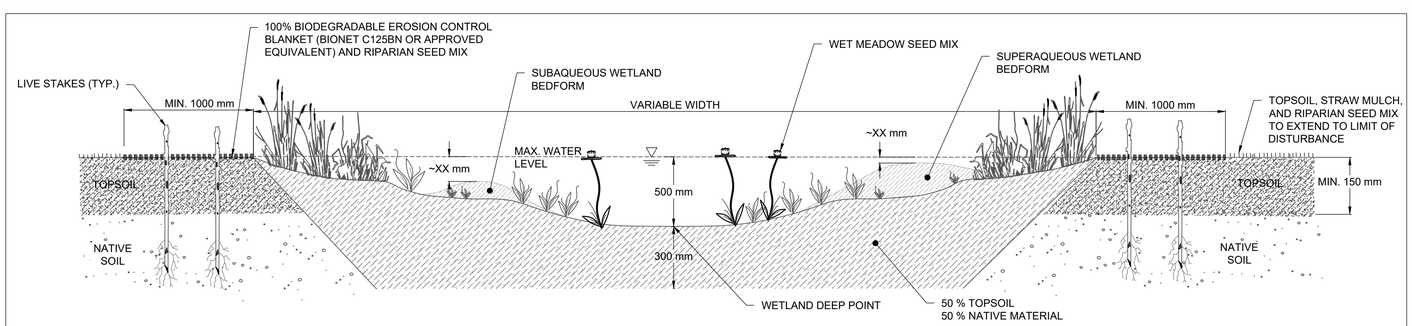
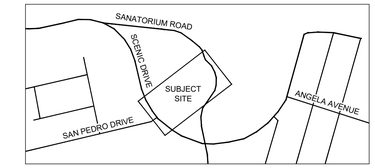


OFFLINE WETLAND

N.T.S.

SCALED FOR PLOT ON 'ARCH D'



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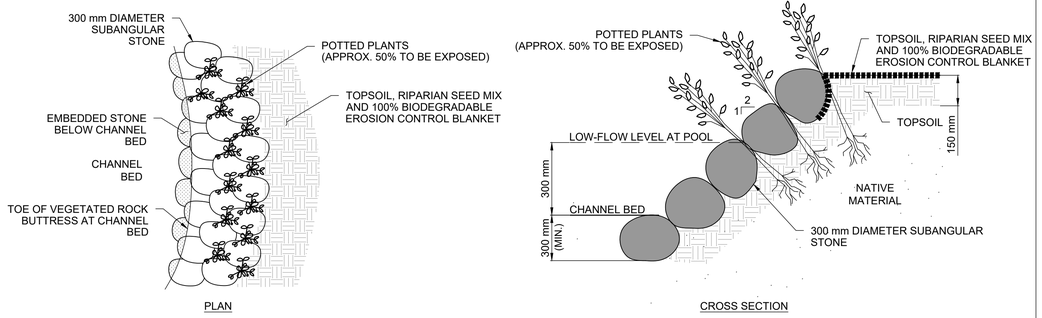
SCENIC DRIVE AND SANATORIUM ROAD VALERY HOMES

CHEDOKE CREEK DESIGN DETAILS

PROJECT No.: 19010	DRAWING No.: DET-1
SCALE: AS NOTED	SHEET 2 OF 4

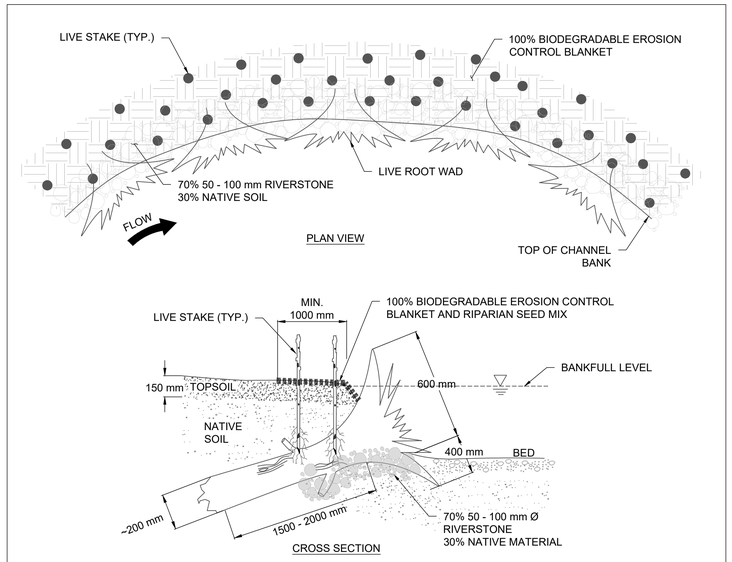


CONSTRUCTION NOTES
1. VEGETATED ROCK BUTTRESS TO BE INSTALLED IN LIFTS.
2. TOE STONES TO BE EMBEDDED INTO CHANNEL BED A MINIMUM OF 300 mm.
3. INSTALL PLANTS 1 m O/C IN EACH LAYER.
4. LOWEST LAYER OF PLANTS TO BE AT LOW-FLOW LEVEL.
5. LATERALLY STAGGER EACH SUCCESSIVE LAYER OF PLANTS TO AVOID VERTICAL STACKING.
6. WILLOW SPECIES TO BE CONCENTRATED IN LOWER LIFTS.

PLANTINGS SPECIES AND QUANTITIES

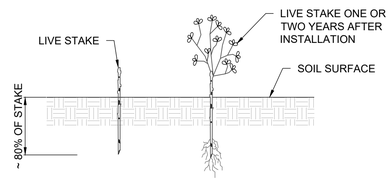
COMMON NAME	SCIENTIFIC NAME	QUANTITY	CONDITION
RED OSIER DOGWOOD	*Salix discolor*	45	1 m ht. POTTED
SANDBAR WILLOW	*Salix exigua*	45	1 m ht. POTTED
SHINING WILLOW	*Salix lucida*	45	1 m ht. POTTED

VEGETATED ROCK BUTTRESS
N.T.S.



NOTES
1. SALVAGE NATIVE TREES ON SITE, IF POSSIBLE, AND CUT TO DIMENSIONS SHOWN.
2. ROOT WAD TREATMENT TO EXTEND FULL LENGTH OF OUTSIDE BANK OF MEANDER BEND BETWEEN RIFFLES WHERE SHOWN ON PLANFORM.

ROOT WAD BANK ENHANCEMENT WITH STONE BEDDING
N.T.S.

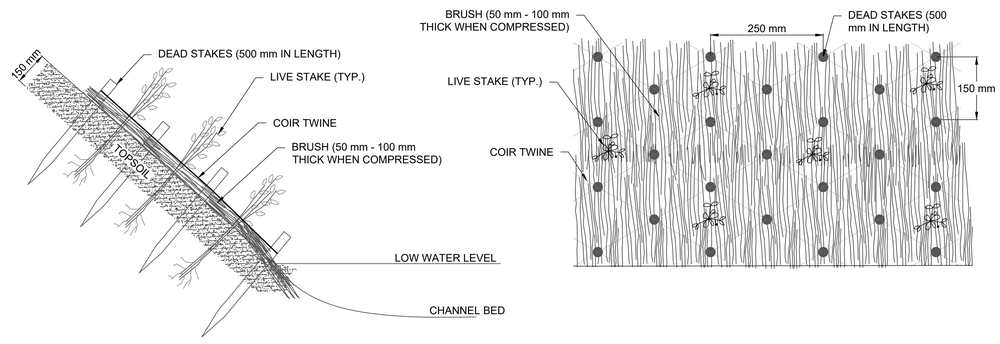


SPECIES AND QUANTITIES

COMMON NAME	SCIENTIFIC NAME	QTY	CONDITION
RED OSIER DOGWOOD	*Cornus stolonifera*	725	1 m, BARE ROOT
PUSSY WILLOW	*Salix discolor*	725	1 m, BARE ROOT
SANDBAR WILLOW	*Salix exigua*	725	1 m, BARE ROOT

NOTES
1. QUANTITY TO BE DETERMINED BASED ON AREA OF DISTURBANCE TO BE RESTORED
2. LIVE STAKES SHOULD BE FROM AT MINIMUM 2-YEAR OLD STOCK.
3. LIVE STAKES ARE TO BE INSTALLED AT A DENSITY OF 3 STAKES PER SQUARE METRE.
4. LIVE STAKES SHOULD BE PRE-SOAKED (SUBMERGED IN WATER) FOR AT LEAST 24 HOURS AFTER HARVESTING AND IMMEDIATELY BEFORE INSTALLATION.
5. LIVE STAKES SHOULD NOT BE STORED FOR A PERIOD LONGER THAN 2 DAYS, UNLESS THEY ARE BEING SOAKED.
6. THE CONTRACTOR SHALL PROTECT PLANT MATERIALS FROM DRYING FROM THE TIME OF HARVEST UNTIL INSTALLED.
7. LIVE STAKES ARE TO BE A MINIMUM OF 25 mm IN DIAMETER AND CUT TO A LENGTH OF 1000 mm.
8. CUT ANGLE AT THE BOTTOM OF THE STAKE AND FLAT ON THE TOP.
9. TRIM ALL SIDE BRANCHES WHILE TAKING CARE NOT TO DAMAGE THE BARK.
10. INSTALL STAKES WITH BUDS POINTING UPWARDS AND THICKER STEM IN THE BED.
11. LIVE STAKES SHOULD BE INSTALLED USING A LARGE RUBBER MALLET.
12. 80% OF THE STAKE IS TO BE BELOW SURFACE.
13. TAMP THE LIVE STAKE INTO THE GROUND AT RIGHT ANGLE TO THE SURFACE.
14. IN COMPACT SOIL A PILOT HOLE SHOULD BE USED TO LIMIT DAMAGE TO THE STAKES.
15. IF USING A PILOT HOLE REPACK SOIL AROUND THE LIVE STAKE.
16. LIVE STAKES SHOULD STAND FIRM FROM THE SOIL FOLLOWING INSTALLATION.
17. ALL STAKES NOT PLANTED TO THE SPECIFICATIONS ABOVE WILL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

LIVE STAKE
N.T.S.



NOTES
1. LIVE BRANCHES TO CONSIST OF WILLOW AND DOGWOOD SPECIES, APPROXIMATELY 1 m IN LENGTH AND 50 mm - 100 mm IN WIDTH.
2. BRANCHES TO BE KEPT IN MOIST AND COLD UNTIL INSTALLATION.
3. BRUSH MATTRESS TO BE INSTALLED WHILE BRANCHES ARE DORMANT.
4. BRANCHES TO BE PLACED ON SLOPE WITH BUTT END TOWARDS VALLEY FLOOR AND PUSHED INTO SOIL.
5. BRANCHES MUST BE FLEXIBLE ENOUGH TO CONFORM TO THE SLOPE SURFACE IRREGULARITIES.
6. POUND DEAD STAKES TO HALF THEIR LENGTH INTO SOIL BETWEEN BRANCHES. TIE COIR TWINE AROUND DEAD STAKES AND TIGHTLY OVER BRANCHES. USE A CLOVE HITCH TO SECURE STAKES. POUND STAKES INTO SLOPE TO COMPRESS BRANCHES AGAINST GROUND.
7. TAMP LIVE STAKES BETWEEN DEAD STAKES.
8. FILL VOIDS BETWEEN BRANCHES OF THE BRUSH MATTRESS WITH SOIL TO PROMOTE ROOTING.

BRUSH MATTRESS
N.T.S.

RIPARIAN SEED MIX

COMMON NAME	SPECIES	PERCENTAGE
BIG BLUESTEM	*Andropogon gerardii*	25
VIRGINIA WILD RYE	*Elymus virginicus*	5
FOWL BLUEGRASS	*Poa palustris*	25
FOWL MEADOW GRASS	*Glyceria striata*	2
FOX SEDGE	*Carex vulpinoidea*	25
NEW ENGLAND ASTER	*Symphyotrichum novae-angliae*	2
ALLEGHENY MONKEYFLOWER	*Mimulus ringens*	5
AWL FRUITED SEDGE	*Carex stipata*	2
BEBB'S SEDGE	*Carex bebbii*	2
SPOTTED JOE PYE WEED	*Eupatorium maculatum*	1
BONESET	*Eupatorium perfoliatum*	2
BLADDER SEDGE	*Carex intumescens*	1
SWAMP ASTER	*Symphyotrichum puniceum*	2
CANADA ANEMONE	*Anemone canadensis*	1

NOTES
1. APPLY SEED MIX AT A RATE OF 30 kg PER HECTARE.
2. SEEDING SHALL OVERLAP ADJACENT GROUND COVER BY 300 mm.
3. APPLY A NURSE CROP OF ANNUAL OATS (*Avena Sativa*) AT A RATE OF 60 kg PER HECTARE.
4. WATER SOIL AFTER SEED APPLICATION.

WET MEADOW SEED MIX

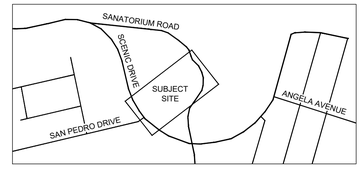
COMMON NAME	SPECIES	PERCENTAGE
AWL FRUITED SEDGE	*Carex stipata*	5
BEBB'S SEDGE	*Carex bebbii*	5
FOX SEDGE	*Carex vulpinoidea*	25
BLACK EYED SUSAN	*Rudbeckia hirta*	5
BLADDER SEDGE	*Carex intumescens*	5
BIG BLUESTEM	*Andropogon gerardii*	2
INDIAN GRASS	*Sorghastrum nutans*	6
SPOTTED JOE PYE WEED	*Eupatorium maculatum*	1
FOWL MEADOW GRASS	*Poa palustris*	1
TUSSOCK SEDGE	*Carex stricta*	5
VIRGINIA WILD RYE	*Elymus virginicus*	25
COMMON MILKWEED	*Asclepias syriaca*	12
BLACK EYED SUSAN	*Rudbeckia hirta*	2
NEW ENGLAND ASTER	*Symphyotrichum novae-angliae*	1

NOTES
1. APPLY SEED MIX AT A RATE OF 30 kg PER HECTARE.
2. SEEDING SHALL OVERLAP ADJACENT GROUND COVER BY 300 mm.
3. SIMULTANEOUSLY APPLY A NURSE CROP OF ANNUAL OATS (*Avena sativa*) AT A RATE OF 60 kg PER HECTARE.
4. WATER SOIL AFTER SEED APPLICATION.

EROSION CONTROL BLANKET SPECIFICATIONS

1. A BIODEGRADABLE EROSION CONTROL BLANKET (ECB) SHALL BE INSTALLED ALONG THE CHANNEL MARGINS AND BETWEEN OTHER PROPOSED TREATMENTS, FOLLOWING THE PLACEMENT OF TOPSOIL AND APPLICATION OF THE NATIVE SEED MIX.
2. THE ECB MUST BE CONSTRUCTED OF 100% WOVEN COCONUT FIBRE (E.G., COIR) OR STRAW MAT WITHIN A GEOJUTE NETTING (TOP AND BOTTOM) WITH BIODEGRADABLE THREAD. NON-BIODEGRADABLE MATERIAL INCLUDING POLYPROPELENE OR PLASTICS WITH A BIODEGRADABLE RATING ARE NOT ACCEPTABLE. THE MINIMUM WEIGHT OF THE ECB MUST BE 400 g/m^2 (12 oz./yd^2).
3. TO INSTALL, THE ECB MUST BE UNROLLED DOWNSLOPE OR IN DIRECTION OF WATER FLOW. ADJACENT ECBS SHOULD OVERLAP A MINIMUM OF 150 mm ALONG THE EDGES. AT THE END OF EACH ROLL, FOLD BACK 100 mm TO 200 mm OF THE ECB. OVERLAP THIS 100 mm TO 200 mm OVER THE START OF THE NEXT ROLL. SECURE THE TWO LAYERS TO THE GROUND SECURELY.
4. BIODEGRADABLE OR TAPERED WOODEN STAKES SHALL BE USED TO SECURE THE BLANKET. STAKES SHALL BE INSTALLED AT THE SPACING RECOMMENDED BY THE ECB MANUFACTURER TO PREVENT SURFACE RUNOFF FROM ERODING THE UNDERLYING SOIL.

SCALED FOR PLOT ON 'ARCH D'



KEY MAP
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GENERAL NOTES
1. ALL CONTRACT DRAWINGS, SPECIFICATIONS AND APPLICABLE PERMITS MUST BE KEPT ON SITE DURING CONSTRUCTION FOR REFERENCE.
2. THE CONTRACTOR MUST NOTIFY THE CONTRACT ADMINISTRATOR AND CONSERVATION AUTHORITY OF THE INTENT TO COMMENCE WORK AT LEAST 48 HOURS IN ADVANCE.
3. THE CONTRACTOR IS RESPONSIBLE FOR ALL UTILITY LOCATES
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TIMING OF WORKS
1. WORKS SHALL BE COMPLETED BETWEEN JULY 1ST TO MARCH 31ST.
2. TREE CLEARING SHOULD BE COMPLETED OUTSIDE THE BIRD NESTING SEASON TO COMPLY WITH THE FEDERAL MIGRATORY BIRDS CONVENTION ACT. ANY TREES THAT REQUIRE REMOVAL OUTSIDE OF THIS TIMING WINDOW MUST FIRST BE INSPECTED BY A QUALIFIED BIOLOGIST TO DETERMINE THE PRESENCE OF NESTING BIRDS.
3. THE WEATHER FORECAST SHOULD BE CONTINUALLY MONITORED TO ENSURE THAT WORKS ARE UNDERTAKEN ONLY DURING FAVOURABLE WEATHER CONDITIONS.
4. COMPLETE THE WORKS WITH MINIMAL AVOIDABLE INTERRUPTIONS ONCE THEY COMMENCE.

SITE AND MATERIAL MANAGEMENT
1. ALL CONSTRUCTION EQUIPMENT AND MATERIALS (IMPORTED OR EXCAVATED) MUST BE STORED AT LEAST 30 m AWAY FROM ANY WATERBODY IN A STABLE AREA ABOVE THE ACTIVE FLOODPLAIN, OR IN A DESIGNATED STAGING/STORAGE AREA.
2. IN THE EVENT OF AN UNEXPECTED STORM, ALL UNFIXED ITEMS THAT HAVE THE POTENTIAL TO CAUSE A SPILL OR AN OBSTRUCTION TO FLOW MUST BE MOVED A STABLE AREA ABOVE ACTIVE FLOODPLAIN.
3. STOCKPILES MUST BE LOCATED OUTSIDE THE ISOLATED WORK AREAS.
4. STABILIZE STOCKPILED SOILS THAT ARE STORED FOR PROLONGED PERIODS WITH THE APPLICATION OF A NURSE CROP AT A RATE OF 60 kg/ha.
5. STABILIZE, TEMPORARILY OR PERMANENTLY, ANY DISTURBED AREAS AS WORK PROGRESSES, OR SOON AS CONDITIONS ALLOW. ON SOILS THAT WILL BE EXPOSED FOR PROLONG PERIODS, TEMPORARILY INSTALL A BIODEGRADABLE EROSION CONTROL BLANKET ON EXPOSED SOILS, OR APPLY A NURSE CROP AT A RATE OF 60 KG/HA.
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DELETERIOUS SUBSTANCE CONTROL/SPILL MANAGEMENT
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2. ENSURE EQUIPMENT AND MACHINERY ARE IN GOOD OPERATING CONDITION (POWER WASHED), FREE OF LEAKS, EXCESS OIL, AND GREASE.
3. NO EQUIPMENT REFUELLING OR SERVICING SHOULD BE UNDERTAKEN WITHIN 30 m OF ANY WATERCOURSE OR SURFACE WATER DRAINAGE.
4. A SPILL CONTAINMENT KIT MUST BE READILY ACCESSIBLE ON SITE IN THE EVENT OF A RELEASE OF A DELETERIOUS SUBSTANCE TO THE ENVIRONMENT. ONSITE STAFF MUST BE TRAINED IN ITS USE.
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NOT FOR CONSTRUCTION

2.	2022-04-25	BWM	SECOND SUBMISSION
1.	2020-07-24	BWM	FIRST SUBMISSION
	DATE	BY	REVISIONS

DESIGNED BY: P.V.	CHECKED BY: P.V.
DRAWN BY: B.W.M.	DATE: APRIL 2022

PROFESSIONAL GEOSCIENTIST
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PRACTISING MEMBER
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2022-04-25

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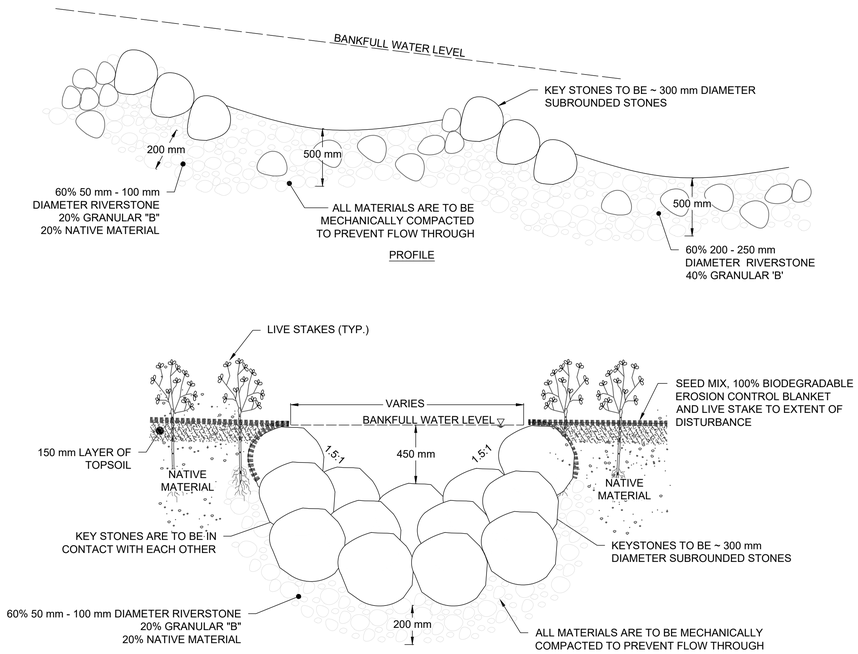
SCENIC DRIVE AND SANATORIUM ROAD
VALERY HOMES

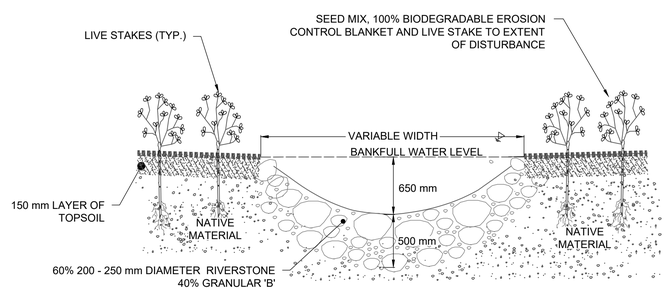
CHEDOKE CREEK
DESIGN DETAILS

PROJECT No.: 19010	DRAWING No.: DET-2
SCALE: AS NOTED	SHEET 3 OF 4



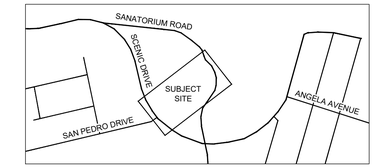
PROFILE

CROSS SECTION



TYPICAL CASCADE POOL CROSS SECTION

TYPICAL CASCADE
N.T.S.



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PROJECT No.: 19010 | DRAWING No.: DET-3
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