

THE CORPORATION OF THE CITY OF VERNON

POLSON PARK NATURALIZATION REACH 1

ISSUED FOR PROPOSAL

NOVEMBER 7, 2023

Project Number: 111710119

Contract Number: 21-84-INF

DRAWING LIST

COVER

LEGEND

KEY PLAN

EXISTING SITE PLAN

REMOVALS PLAN

PROPOSED SITE PLAN

DRAWING LIST & PROJECT LOCATION

GENERAL NOTES & MATERIAL SIZING

<u>GENERAL</u>

G001

G002

G003

G004

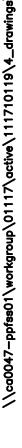
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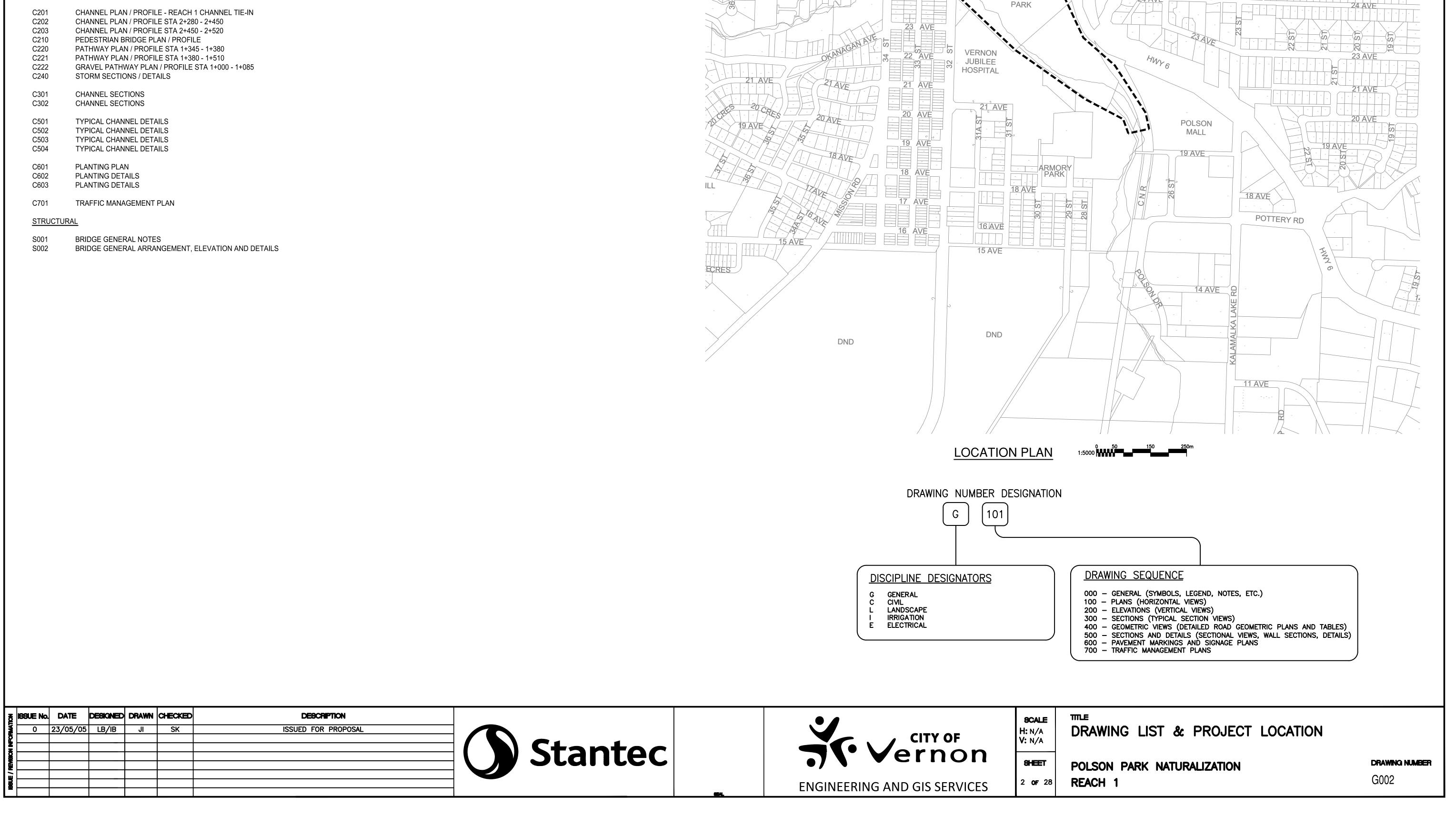
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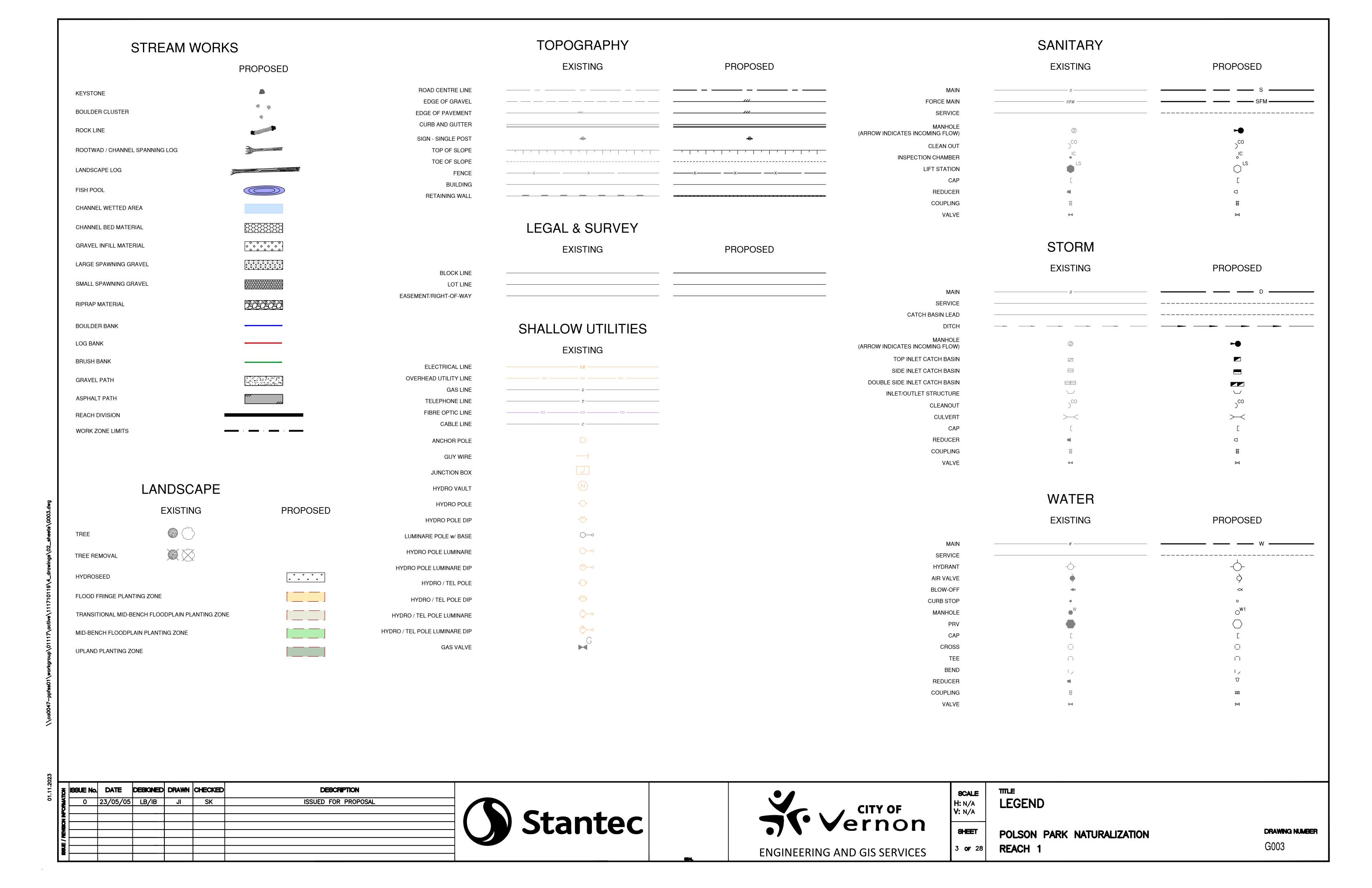
FRUIT UNION

PLAZA

POLSON

- PROJECT LOCATION

HWY 6



- 3. CONTRACTOR IS RESPONSIBLE TO CONFIRM THE LOCATION OF ALL UTILITIES ON SITE PRIOR TO CONSTRUCTION. VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO COMMENCING WORK. CONTRACTOR IS RESPONSIBLE TO CALL FOR UTILITY LOCATES AND ANY COSTS TO REPAIR DAMAGE DUE TO FAILURE OF THE CONTRACTOR TO LOCATE EXISTING UTILITIES SHALL BE BORNE BY THE CONTRACTOR. CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING ALL NECESSARY PERMITS AND SHALL NOTIFY ALL UTILITY COMPANIES WITH UTILITIES ON SITE PRIOR TO THE CONSTRUCTION OF THE PROJECT. CONTRACTOR SHALL ADHERE TO ALL APPLICABLE LOCAL, PROVINCIAL AND/OR FEDERAL LAWS OR REGULATIONS.
- 4. CONTRACTOR IS RESPONSIBLE TO ENSURE ALL SETBACKS FROM UTILITIES, APPURANCE, STRUCTURES AND HARDSCAPE ARE PER GOVERNING MUNICIPAL STANDARDS.
- 5. THE CONTRACTOR SHALL VERIFY ALL EXISTING GRADES AND SITE CONDITIONS ON THE PROJECT SITE BY FIELD INSPECTION BEFORE SUBMITTING A BID. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF TREES, SHRUBS, AND PLANT MATERIAL WITHIN THE LIMITS OF WORK AREA THAT ARE TO REMAIN IN PLACE. ANY EXISTING PLANT MATERIAL DAMAGED WILL BE REPLACED BY THE CONTRACTOR WITH "AS—EQUAL" MATERIAL AS APPROVED BY THE CONTRACT ADMINISTRATOR.
- 6. CONTRACTOR SHALL REPAIR ALL DAMAGE, TO AT MINIMUM A PRE-CONSTRUCTION CONDITION OR BETTER, TO ALL EXISTING FACILITIES/UTILITIES/STRUCTURES CAUSED BY THEIR WORK AT THEIR OWN EXPENSE. CONTRACTOR SHALL PROVIDE PROTECTION TO PRIVATE AND PUBLIC PROPERTY AND UNDERGROUND SERVICES. A DIGITAL PHOTO RECORD OF ALL EXISTING DAMAGE TO THE SITE PRIOR TO CONSTRUCTION IS TO BE SUBMITTED TO THE CONTRACT ADMINISTRATOR BEFORE COMMENCEMENT OF ANY WORK ON THE SITE.
- 7. THE SECURITY OF THE SITE IS THE RESPONSIBILITY OF THE CONTRACTOR DURING CONSTRUCTION. DURING CRITICAL PERIODS, SUCH AS ENSURING FINISHED SURFACES AND LINE MARKINGS ARE NOT DRIVEN ACROSS OR OTHERWISE VANDALIZED, SITE SECURITY IS TO BE MAINTAINED.
- 8. THE CONTRACTOR SHALL RESTORE ALL AREAS OF INTENTIONAL DISTURBANCE AS PER THE PLANTING PLAN DRAWINGS. AREAS OF UNINTENTIONAL DISTURBANCE ARE TO BE RESTORED AT A MINIMUM TO PRE—CONSTRUCTION CONDITIONS UNDER THE GUIDANCE OF A QUALIFIED ENVIRONMENTAL PROFESSIONAL (QEP).
- 9. THE CONTRACTOR SHALL SUPPLY ALL MATERIAL, LABOR AND OTHER IN QUANTITIES SUFFICIENT TO COMPLETE WORK SHOWN WITHIN THESE DRAWINGS. ANY AMBIGUITY IN THE DRAWINGS, SPECIFICATIONS, OR DETAILS IS TO BE REPORTED PRIOR TO THE START OF ANY WORK. ANY DISCREPANCIES BETWEEN QUANTITIES SHOWN AND ACTUAL SHALL BE REPORTED TO THE CONTRACT ADMINISTRATOR.
- 10. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FROM THE GOVERNING MUNICIPALITY OR APPROVAL AUTHORITY PRIOR TO CONSTRUCTION FOR ALL ON-SITE AND OFFSITE IMPROVEMENTS OUTLINED WITHIN THIS SET OF PLANS AND/OR ANY OTHER ADDITIONAL WORK THEY MAY PERFORM IN THE INTEREST OF THIS PROJECT.
- 11. ALL TESTING OF MATERIALS, COMPACTION TESTING AND ALL ASSOCIATED COSTS FOR TESTING ARE THE RESPONSIBILITY OF THE CONTRACTOR, UNLESS OTHERWISE INDICATED IN THE CONTRACT DOCUMENTS. THE ITEMS REQUIRING TESTING ARE TO BE IDENTIFIED IN THE CONSTRUCTION DRAWINGS AND SPECIFICATIONS. TEST RESULTS FOR THE PROJECT PROVING ALL REQUIREMENTS HAVE BEEN MET ARE TO BE SUBMITTED ELECTRONICALLY TO THE CONTRACT ADMINISTRATOR.
- 12. THE CONTRACTOR IS RESPONSIBLE FOR ALL SURVEYING FOR THE PROJECT. AN ACCURATE LOG OF CONTROL AND SURVEY WORK IS TO BE MAINTAINED AS THE PROJECT PROGRESSES. PRIOR TO START OF CONSTRUCTION THE NAME AND ADDRESS OF THE SURVEYOR IS TO BE SUBMITTED TO THE CONTRACT ADMINISTRATOR FOR APPROVAL. DURING CONSTRUCTION THE SURVEYOR MUST BE PREPARED TO SUBMIT DOCUMENTATION TO VERIFY ACCURACY OF FIELD ENGINEERING WORK SHOULD IT BE REQUESTED. ON COMPLETION OF THE PROJECT A CERTIFICATE IS TO BE SUBMITTED BY THE SURVEYOR TO CERTIFY THAT ELEVATIONS AND LOCATIONS OF COMPLETED WORK ARE IN CONFORMANCE OR NON—CONFORMANCE WITH THE CONSTRUCTION DRAWINGS AND SPECIFICATIONS. IN AREAS OF NON—CONFORMANCE THIS CERTIFICATE IS TO IDENTIFY THE AREAS AND REASONS FOR NON—CONFORMANCE.
- 13. NO DESIGN MODIFICATIONS SHALL BE MADE WITHOUT THE APPROVAL OF THE CONTRACT ADMINISTRATOR
- 14. IN ALL CASES WHERE A CONFLICT MAY OCCUR, SUCH AS BETWEEN ITEMS COVERED IN SPECIFICATIONS AND NOTES ON THE DRAWINGS, OR BETWEEN GENERAL NOTES AND SPECIFIC DETAILS, THE PROJECT CONTRACT ADMINISTRATOR SHALL BE NOTIFIED, AND THEY WILL INTERPRET THE INTENT OF THE CONTRACT DOCUMENTS. NO PART OF THE CONTRACT DOCUMENTS IS INTENDED TO BE IN VIOLATION OF CODES. IF DISCREPANCIES EXIST, CONTRACTOR TO NOTIFY CONTRACT ADMINISTRATOR IMMEDIATELY.
- 15. CONTRACTOR IS TO MAINTAIN PUBLIC ACCESS TO ALL DRIVEWAYS THROUGHOUT CONSTRUCTION.
- 16. THE CONTRACTOR IS TO RE-USE APPROVED EXCAVATED TOPSOIL, GRAVEL, COBBLE AND BOULDER MATERIAL WITHIN THE SITE. ALL RE-USED MATERIAL MUST BE REVIEWED AND APPROVED BY THE CONTRACT ADMINISTRATOR.

ENVIRONMENTAL NOTES

- REFER TO THE CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN (CEMP) FOR ENVIRONMENTAL MANAGEMENT REQUIREMENTS.
- 2. ADVISE THE ENVIRONMENTAL MONITOR FOR ADDITIONAL MITIGATIONS REQUIRED IN THE EVENT THAT UNFORSEEN ENVIRONMENTAL RISKS ARISE.

PROTECTION OF EXISTING STRUCTURES NOTES

THESE NOTES ADDRESS RESPONSIBILITIES OF THE CONTRACTOR TO PROTECT EXISTING STRUCTURES, INCLUDING, BUT NOT LIMITED TO:

- WALKWAYS, ROADS AND PARKING AREAS WITHIN POLSON PARK
- HWY 97 CULVERT CROSSING900ø CONCRETE STORM OUTFALL
- 1. IT IS RECOMMENDED THAT WHILE CONDUCTING RECONSTRUCTION WORK WITHIN 5m OF ALL STRUCTURES, THE CONTRACTOR SHOULD COMPLETE A CRACK AND DAMAGE SURVEY WHICH WOULD CONSIST OF TWO PARTS. THE FIRST PART PRIOR TO CONDUCTING ANY RECONSTRUCTION ACTIVITIES SHALL INCLUDE A VISUAL INSPECTION, PHOTOGRAPHS, AND A WRITTEN REPORT DESCRIBING ANY EXISTING DEFECTS. THE SECOND PART WILL BE PERFORMED AFTER THE RESTORATION WORK IS COMPLETE AND SHALL ALSO INCLUDE A VISUAL INSPECTION, PHOTOGRAPHS, AND WRITTEN REPORT DESCRIBING ANY CHANGE IN THE STRUCTURE CONDITION. THE CONTRACT ADMINISTRATOR WILL COMPLETE A SIMILAR REVIEW ON BEHALF OF THE OWNER.
- 2. PRIOR TO STARTING CONSTRUCTION, CONTROL POINTS ARE TO BE ESTABLISHED ON THE STRUCTURES. THE CONTRACTOR SHALL ENGAGE THEIR SURVEYOR TO CONDUCT A BASELINE ELEVATION SURVEY OF ALL STRUCTURES AND COMPLETE REGULAR SURVEY READINGS TO DETERMINE IF ANY SETTLEMENT OR MOVEMENT IS OBSERVED AT THE STRUCTURES. IF CHANGES ARE OBSERVED, STOP CONSTRUCTION AND CONSIDER IMPLEMENTING ALTERNATE CONSTRUCTION METHODS.
- 3. CONTRACTOR TO COORDINATE CLOSURE OF BRIDGE AND WALKWAY STRUCTURES WITH THE CITY OF VERNON WHEN WORK IS BEING COMPLETED IN THEIR VICINITY.
- 4. THE CONTRACTOR IS RESPONSIBLE FOR ALL SHORING AND UNDERPINNING TO PREVENT DISTURBANCE TO THE STRUCTURES, AS REQUIRED. RETAIN A PROFESSIONAL ENGINEER REGISTERED IN THE PROVINCE OF BRITISH COLUMBIA TO COMPLETE ALL SHORING DESIGN WORK.

5. PROVIDE CUTS IN THE EXISTING CONCRETE EMBANKMENT STABILIZATION AS OUTLINED IN THE PROJECT DOCUMENTS. CONTRACTOR SHALL NOT IMPACT OR UNDERMINE CONCRETE EMBANKMENT STABILIZATION ADJACENT TO STRUCTURE FOOTINGS WHEN REMOVING OTHER SECTIONS.

TREE PROTECTION NOTES

ALL EXISTING TREES ARE TO REMAIN UNLESS OTHERWISE SHOWN ON THE DRAWINGS OR DIRECTED BY CONTRACT ADMINISTRATOR.

TREE PROTECTION FENCING 2. TREE PROTECTION FENCING MAY BE REQUIRED FOR ALL TREES AND/OR SIGN

- 2. TREE PROTECTION FENCING MAY BE REQUIRED FOR ALL TREES AND/OR SIGNIFICANT STANDS OF EXISTING TREES WITHIN 6.0m OR LESS FROM THE LIMITS OF CONSTRUCTION
- 3. PROTECTIVE FENCE IS TO BE INSTALLED PRIOR TO DEMOLITION OR OTHER SITE WORK AND MAINTAINED THROUGHOUT CONSTRUCTION UNTIL LANDSCAPE CONSTRUCTION IS
- 4. IF REQUIRED, TREES ARE TO BE PROTECTED WITH TEMPORARY FENCING CONSISTING OF 1.5m HIGH ORANGE PLASTIC CONSTRUCTION FENCE MOUNTED ON STEEL 'T'-BARS © 1.5m O.C. DRIVEN INTO GROUND A MINIMUM OF 0.6m. THE TREE PROTECTION ZONE (TPZ) WILL BE A MINIMUM DISTANCE OF 4.0m FROM THE TRUNK OF THE TREE OR TO THE DRIPLINE, WHICHEVER IS GREATER. THE CANOPY OF THE TREE SHALL BE PROTECTED TO THE DRIPLINE.

TREE PROTECTION ZONE (TPZ)

- 5. TREE PROTECTION ZONES (TPZ) WILL BE IDENTIFIED BY CONTRACTOR AND VERIFIED IN FIELD BY PROJECT ENGINEER AND FENCED.
- AREAS WITHIN THE DRIPLINE OF THE TREES ARE NOT TO BE USED FOR ANY TYPE OF STORAGE (E.G. STORAGE OF DEBRIS, SURPLUS SOILS). THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS TO PROTECT PLANT AND ROOT SYSTEMS FROM DAMAGE, COMPACTION AND CONTAMINATION RESULTING FROM THE CONSTRUCTION TO THE
- DO NOT STORE EQUIPMENT OR CONSTRUCTION MATERIALS WITHIN THE TPZ.
- DO NOT STORE SOIL, CONSTRUCTION WASTE, OR DEBRIS WITHIN THE TPZ.
 DO NOT PERMIT VEHICLE, EQUIPMENT, OR PEDESTRIAN ACCESS THROUGH THE TPZ, UNLESS EXPRESSLY PERMITTED FOR THE MAINTENANCE OF THE TREES
- DO NOT ALTER OR DISTURB THE GRADE WITHIN THE TPZ.

DO NOT DISPOSE OF LIQUIDS WITHIN THE TPZ.

SATISFACTION OF THE CONTRACT ADMINISTRATOR.

- DO NOT PERFORM TRENCHING OR TUNNELING WITHIN THE DRIPLINE OF TREES DESIGNATED FOR PROTECTION, UNLESS OTHERWISE SPECIFIED OR APPROVED BY THE CONTRACT ADMINISTRATOR.
- DO NOT ATTACH OR WRAP ANY RIGGING CABLES OR HARDWARE OF ANY KIND AROUND PROTECTED TREES, WITHOUT APPROVAL FROM CONTRACT ADMINISTRATOR.
- ALL SUPPORTS AND BRACING FOR PROTECTIVE FENCING IS TO BE INSTALLED OUTSIDE THE TPZ. ALL SUPPORTS AND BRACING SHALL MINIMIZE DAMAGE TO TREE ROOTS OUTSIDE OF THE TPZ.
- DO NOT DUMP ANY POTENTIAL CONTAMINANTS WITHIN THE TPZ OR WHERE THEY MAY ENCOUNTER THE FEEDER ROOTS OF THE TREES.
- 7. IF PROTECTION TO THE EDGE OF DRIPLINE IS NOT FEASIBLE TREE PROTECTION MEASURES TO BE REVIEWED ON SITE WITH THE CONTRACT ADMINISTRATOR. AT MINIMUM FENCING TO BE INSTALLED 2.0m FROM TREE TRUNK.
- 8. PROTECTIVE BARRIER FENCING WILL REMAIN STANDING AND IN GOOD CONDITION UNTIL CONSTRUCTION COMPLETION.
- 9. THE CONTRACTOR SHALL TAKE EVERY PRECAUTION TO PROTECT PLANT AND ROOT SYSTEMS FROM DAMAGE, COMPACTION AND CONTAMINATION RESULTING FROM THE CONSTRUCTION TO THE SATISFACTION OF THE CONTRACT ADMINISTRATOR.

PRUNING OF PROTECTED TREES

- 10. IN THE EVENT THAT IT IS NECESSARY TO REMOVE LIMBS OR PORTIONS OF TREES TO ACCOMMODATE CONSTRUCTION, CONTRACT ADMINISTRATOR IS TO BE INFORMED AND THE REMOVAL IS TO BE EXECUTED CAREFULLY AND IN ACCORDANCE WITH PROPER ARBORICULTURAL TECHNIQUES BY A CERTIFIED ARBORIST. ON—SITE APPROVAL BY PROJECT ENGINEER IS REQUIRED PRIOR TO REMOVAL OPERATIONS.
- 11. DURING EXCAVATION OPERATIONS IN WHICH ROOTS ARE AFFECTED, THE CONTRACTOR IS TO PRUNE ALL EXPOSED ROOTS CLEANLY. PRUNED ENDS TO POINTED OBLIQUELY DOWNWARDS. DO NOT ALLOW EXPOSED ROOTS TO DRY OUT. THE CONTRACTOR SHALL DISCUSS WATERING OF THE ROOTS WITH THE CONTRACT ADMINISTRATOR SO THAT OPTIMUM SOIL MOISTURE IS MAINTAINED DURING CONSTRUCTION AND BACK FILLING OPERATIONS, SO AS NOT TO INTERFERE WITH CONSTRUCTION OPERATIONS.

COMMUNICATION PLAN

- 12. THE CONTRACTOR IS TO IMPLEMENT A COMMUNICATION PLAN TO ENSURE TREE PROTECTION REQUIREMENTS ARE FOLLOWED.
- 13. THE CONTRACT ADMINISTRATOR WILL OVERSEE TREE PROTECTION REQUIREMENTS. THE CONTRACT ADMINISTRATOR WILL BE PROVIDED CONTACT INFORMATION FOR THE SITE SUPERVISOR AND ALL REPLACEMENTS SHOULD THE MAIN SITE SUPERVISOR NOT BE AVAILABLE.
- 14. FOR ALL TREE RELATED ISSUES THE CONTRACT ADMINISTRATOR WILL BE NOTIFIED IMMEDIATELY TO DISCUSS THE ISSUES AND REQUIRED MITIGATION.
- 15. THE CONTRACTOR IS TO MONITOR TREE CONDITION DURING CONSTRUCTION. ENSURE TREES ARE NOT DAMAGED OR SHOWING SIGNS OF DECLINE.
- 16. IF GRADES WITHIN THE DRIPLINE OF AN EXISTING TREE ARE TO BE CHANGED REFER TO GRADING NOTES.

CREEK DIVERSION NOTES

- 1. CONTRACTOR IS RESPONSIBLE FOR THE SUPPLY, INSTALLATION, MAINTENANCE AND MODIFICATION OF THE ISOLATION AND CREEK DIVERSION MEASURE REQUIRED TO FACILITATE CONSTRUCTION.
- 2. THE CITY HAS IDENTIFIED TWO FEASIBLE OPTIONS FOR CREEK DIVERSION.
- 2.1. DAM THE CREEK IMMEDIATELY UPSTREAM OF THE WORKS AND INSTALL A GRAVITY DIVERSION CONSISTING OF PIPE AND LINED CHANNEL, THROUGH THE WORK AREA TO THE DOWNSTREAM END OF THE WORK AREA.
- 2.2. DAM THE CREEK IMMEDIATELY UPSTREAM OF THE WORKS, INSTALL PUMPS TO DRAW THE WATER ABOVE THE CHANNEL BANK TO CARRY DIVERTED WATER PAST THE WORK AREA AND RELEASE IT DOWNSTREAM OF THE WORK AREA.
 3. HISTORICALLY, THE MEAN PEAK CREEK DISCHARGE IN AUGUST IS 0.93 m³/s. THE
- HISTORICALLY, THE MEAN PEAR CREEK DISCHARGE IN AUGUST IS 0.93 M⁻/s. THE HISTORIC 10—YEAR AUGUST FLOW IS 2.17 m³/s.

 4. THE CONTRACTOR IS RESPONSIBLE FOR THE SIZING OF THE PUMPS, PIPES, DIVERSION
- DAMS AND RELATED COMPONENTS REQUIRED TO FACILITATE THE WORKS.

 5. CREEK ISOLATION AND DIVERSION MEASURES TO BE EXECUTED IN ACCORDANCE WITH THE REGULATORY APPROVALS.
- 6. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING FLOW DISPERSION FEATURES AT THE OUTLET TO ENSURE THAT THE VELOCITY OF THE DIVERTED FLOW DOES NOT CREATE EROSION, DAMAGE THE RESTORED CREEK, OR DAMAGE DOWNSTREAM INFRASTRUCTURE.
- ALL PIPE MUST BE PRESSURE—WASHED TO REMOVE ALL DUST AND DEBRIS PRIOR BEING DELIVERED TO THE SITE.
- 8. ALL DIVERSION PIPE MUST BE SUPPORTED DURING CONSTRUCTION IN ORDER TO ENSURE ITS INTEGRITY WITH EXTRA CARE TAKEN AT EQUIPMENT CROSSING LOCATIONS.
- 9. A DIVERSION ROUTE SHALL BE DETERMINED BY THE CONTRACTOR TO MAXIMIZE THE EFFICIENCY OF THE PROJECT WHILE ADHERING TO THE SPECIFICATIONS DEFINED HEREIN WITH REGARDS TO SAFETY, TRAFFIC AND EXISTING INFRASTRUCTURE.

10. THE CONTRACTOR IS RESPONSIBLE FOR MONITORING CREEK FLOWS UPSTREAM OF THE SITE. IF THE IMPOUNDED DEPTH OF WATER MEETS OR EXCEEDS 1.2m, CONTRACTOR IS TO NOTIFY THE CONTRACT ADMINISTRATOR AND TAKE MEASURES TO ENSURE THE SAFETY OF THE SITE AND CONSTRUCTION AREA.

11. CONTRACTOR IS TO MONITOR THE INLET OF THE DIVERSION SYSTEM FOR DEBRIS AND BLOCKAGES ON A REGULAR BASIS. ANY DEBRIS OR BLOCKAGES ARE TO BE CLEARED.

GRADING NOTES

- 1. ESTABLISH POSITIVE DRAINAGE THROUGHOUT THE SITE.
- 2. REHABILITATED SOFT LANDSCAPE AREAS SHALL HAVE A GRADIENT NO LESS THAN 2.0% AND NO MORE THAN 33% UNLESS OTHERWISE NOTED ON DRAWINGS
- 3. IF GRADES WITHIN THE DRIPLINE OF AN EXISTING TREE ARE TO BE CHANGED, THE CONTRACTOR SHALL BE REQUIRED TO CONTACT THE CONTRACT ADMINISTRATOR PRIOR TO GRADING WITHIN THE DRIPLINE SO THAT PRECAUTIONS TO PRESERVE THE TREE CAN BE DETERMINED.
- 4. PRIOR TO SITE GRADING REVIEW ON SITE WITH THE CONTRACT ADMINISTRATOR, THE IMPACT OF GRADING AROUND EXISTING TREES TO REMAIN.
- 5. FIELD FIT GRADING ADJACENT TO EXISTING TREES TO PRESERVE AND MAINTAIN EXISTING GRADE MINIMUM 2.0m FROM TRUNK WHERE FEASIBLE.
- 6. WHERE GRADING CHANGES WITHIN THE DRIPLINE, THE INTENT IS TO MAINTAIN THE TREE FOR FISH HABITAT ENHANCEMENTS. IF SITE WORKS EXPOSE ROOTS REFER TO TREE PROTECTION NOTES FOR ROOT PRUNING TECHNIQUES.
- 7. DURING THE MAINTENANCE PERIOD IF STRUCTURAL INTEGRITY OF TREES WITH GRADING COMPLETED WITHIN THE DRIPLINE IS DEEMED UNSAFE BY A DANGER TREE ASSESSOR, THE TREE IS TO BE FELLED AND REMOVED FROM SITE BY A CERTIFIED PROFESSIONAL IN A MANNER TO ENHANCE FISH HABITAT.

ROCK/MATERIAL PLACEMENT NOTES

- 1. PLACE RIPRAP BEDDING, RIPRAP AND BOULDER AT THE LOCATIONS, AND TO THE LINES, GRADES, AND ELEVATION SPECIFIED IN THE DRAWINGS.
- RECEIVING SURFACES ARE TO CONSIST OF NATIVE GRAVELS. IF THIS IS NOT THE CASE, THE CONTRACTOR IS TO OVER-EXCAVATE 100mm AND PLACE 100mm OF GRAVEL INFILL MATERIAL BEFORE PLACING CHANNEL BED MATERIAL.
- 3. CONCRETE AND OTHER DELETERIOUS MATERIALS MUST BE REMOVED FROM RECEIVING SURFACES.
- 4. DO NOT PLACE CHANNEL BED MATERIAL UNTIL THE RECEIVING SURFACES HAVE BEEN INSPECTED BY THE CONTRACT ADMINISTRATOR. RECTIFY DEFECTS UNTIL THE RECEIVING SURFACES MEET THE REQUIREMENTS OF THE CONTRACT.
- 5. PLACE BY BACKHOE WITH A THUMB, OR SIMILAR LIFTING EQUIPMENT. DO NOT END DUMP AND PUSH CHANNEL BED MATERIAL INTO PLACE ON THE SLOPES.
- 6. DO NOT CAUSE SEGREGATION, PARTICLE DAMAGE, BREAKDOWN, OR EXCESSIVE DISPLACEMENT OF THE PREVIOUSLY PLACED CHANNEL BED MATERIAL. REPLACE OR REPAIR DAMAGED OR DISPLACED MATERIAL.
- . OBTAIN THE SPECIFIED DISTRIBUTION OF THE VARIOUS SIZES OF PARTICLES THROUGHOUT BY USING SELECTIVE LOADING AT THE SOURCE OR STOCKPILE.
- 8. COMMENCE PLACEMENT OF CHANNEL BED MATERIAL FROM THE TOE OF THE SLOPE AND PROCEED UP THE SLOPE.
- 9. PLACE CHANNEL BED MATERIAL TO ITS FULL THICKNESS IN ONE OPERATION. COMPACTION IS NOT REQUIRED.
- 10. PLACE CHANNEL BED MATERIAL IN A CLOSELY PACKED ARRANGEMENT SUCH THAT SMALLER ROCKS FILL THE VOIDS BETWEEN LARGER ROCKS AND THERE ARE NO UNFILLED SPACES THAT WOULD PERMIT THE ESCAPE OF UNDERLYING LAYERS OF PLACED MATERIALS. INTERLOCK PARTICLE AND DRESS SLOPES AS REQUIRED.
- 11. REARRANGE ROCKS TO ELIMINATE ANY TENDENCY OF THE ROCKS TO MOVE OR SLIDE AFTER PLACEMENT.
- 12. DO NOT BREAK INDIVIDUAL CHANNEL BED MATERIAL PARTICLES AFTER PLACEMENT.13. FILL THE CHANNEL BED MATERIAL VOIDS WITH GRAVEL INFILL MATERIAL OR TOPSOIL IN
- AREAS WHERE SPECIFIED IN THE CONTRACT.

 14. PLACE LARGE AND SMALL SPAWNING GRAVELS AS SPECIFIED ON THE DRAWINGS.
- 15. PROVIDE A COMPLETED CHANNEL BED MATERIAL SURFACE THAT IS SMOOTH, REGULAR, UNIFORM WITH SOME EMERGENT BOULDERS AS DIRECTED BY THE CONTRACT
- 16. ALL LOGS PLACED IN THE CHANNEL ARE TO BE UNTREATED.

GRAVEL INFILL MATERIAL WASHING NOTES

- 1. GRAVEL IN VOIDS IS TO BE INSTALLED IN 50mm LIFTS WITH EACH LIFT BEING
- "WASHED" IN TO FILL THE VOIDS BETWEEN THE ROCKS.

 2. REFER TO WATER SUPPLY NOTES FOR WASH WATER SOURCE WITH BEST PRACTICES
 BEING UTILIZED (e.g. FISH SCREEN ON INTAKE, REMOVAL DEBRIS FROM SCREEN, ETC.).
- CONTRACTOR TO ENSURE THAT THE WASHING PROCESS DOES NOT GENERATE RUNOFF THAT IMPACTS THE CREEK OUTSIDE THE WORK AREA.
 SEDIMENT—LADEN WATER MUST NOT BE RELEASED OUTSIDE THE WORK AREA. PUMPING OF SEDIMENT LADEN WATER AND REMOVAL FROM SITE VIA TANKER TRUCK MAY BE
- REQUIRED. REFER TO ESC MEASURES OUTLINED IN THE CEMP.

 5. ONCE VOIDS HAVE BEEN FILLED, CONTRACTOR IS TO TEST THE VOIDS BY ADDING WATER ATOP THE FINISHED SURFACE. AREAS WHERE WATER FLOWS ON THE SURFACE AND NOT SEEP THROUGH THE VOIDS IN THE ROCKS WILL BE CONSIDERED TO HAVE ADEQUATE VOIDS FILLED. AREAS WHERE WATER FLOW ENTERS THE ROCK VOIDS ARE TO BE INFILLED WITH ADDITIONAL GRAVEL AND RETESTED. THE PROJECT ENGINEER SHALL BE IN ATTENDANCE FOR THESE TESTS AND SHALL PROVIDE APPROVAL OF

WATER SUPPLY NOTES

- THE CONTRACTOR IS RESPONSIBLE TO PROVIDE THE NECESSARY WATER REQUIRED TO MEET THE MOISTURE CONDITIONS OF ALL BACKFILL MATERIALS, LANDSCAPING AND PROVIDE DUST CONTROLS AT ALL TIMES.
- 2. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ADHERE TO THE CURRENT POLICIES SET FORTH BY THE PROVINCE WITH RESPECT OF WITHDRAWAL FROM WATER BODIES.
- 3. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING WATER TO MEET THE PROJECT REQUIREMENTS, ANY ASSOCIATED COSTS, PERMITS OR APPROVALS IS CONSIDERED INCIDENTAL TO THE CONTRACT.

MATERIAL SIZING

BOULDER CLUSTER MATERIAL

PERCENT FINER	GRAIN SIZE (mm)
100	450
0	400

ROCK LINES

GRAIN SIZE (mm)
715
600

CHANNEL BED / COBBLE BOULDER MATERIAL

PERCENT FINER	GRAIN SIZE (mm)
100	450
85	380
50	260
15	120

GRAVEL INFILL MATERIAL

PERCENT FINER	GRAIN SIZE (mm)
100	152
85	102
50	76
25	25
15	13
5	2
0	0.0625

SMALL SPAWNING GRAVEL

ALL 31 AWAING GRAVEE					
PERCENT FINER	GRAIN SIZE (mm)				
100	75				
75	50				
0	19				

LARGE SPAWNING GRAVEL

TOE SEAMOND STATE					
PERCENT FINER	GRAIN SIZE (mm)				
100	100				
75	75				
0	50				

CLASS 50 KG RIPRAP

AGG GO NO NITHAI					
PERCENT FINER	GRAIN SIZE (mm)				
100	565				
85	475				
50	330				
15	155				

CLASS 250 KG RIPRAP

ASS 250 KG RIPKAP	
PERCENT FINER	GRAIN SIZE (mm)
100	965
85	815
50	565
15	260

ROOTWADS

FIR LOG WITH ROOT ATTACHED, 5m LONG, DIAMETER
 250-350mm. ROOT WAD MINIMUM OF 800mm DIAMETER.

LOGS

 FIR LOG WITHOUT ROOT OR BRANCHES ATTACHED, 10m LONG, DIAMETER 250-350mm.





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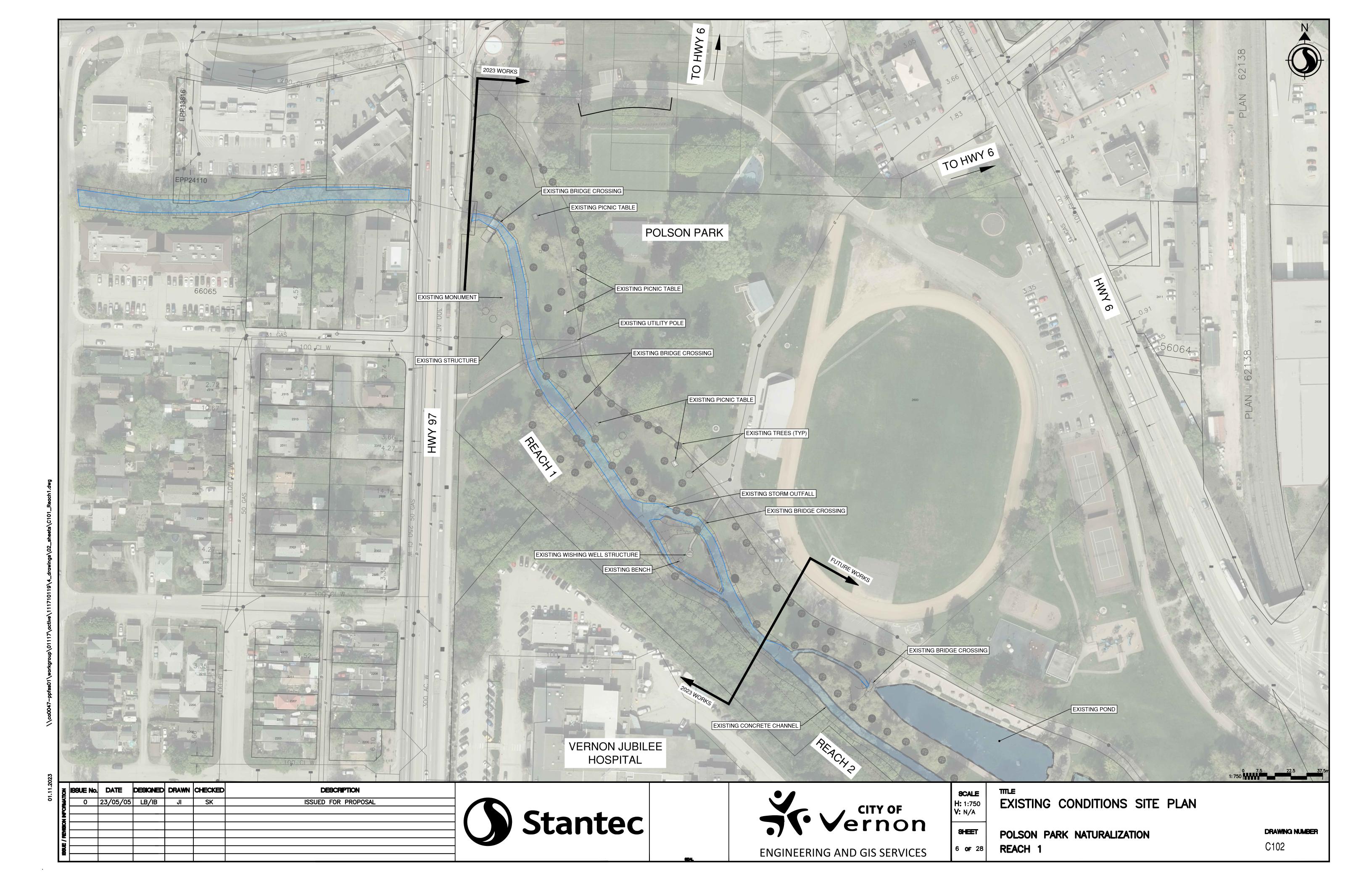
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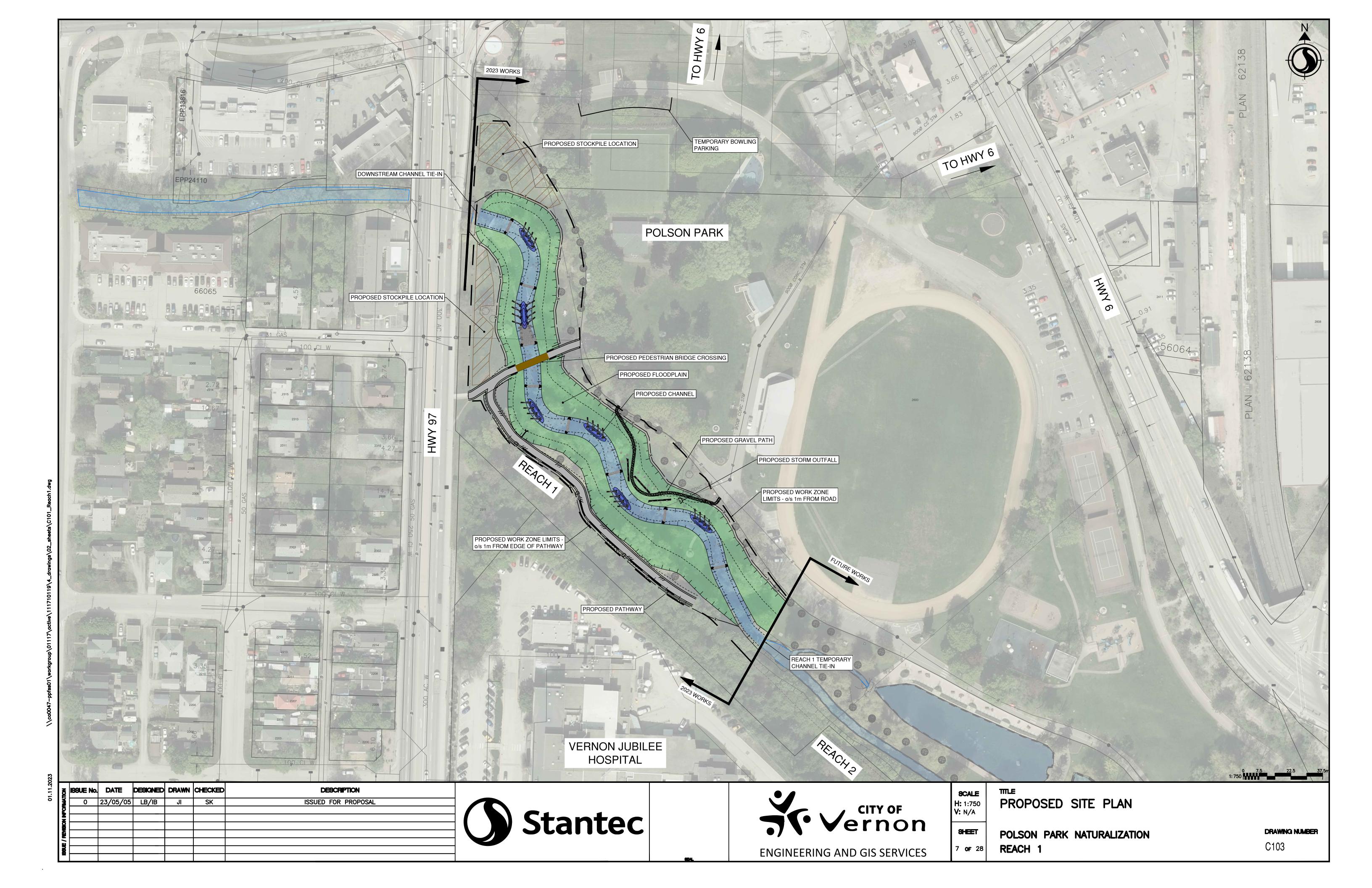
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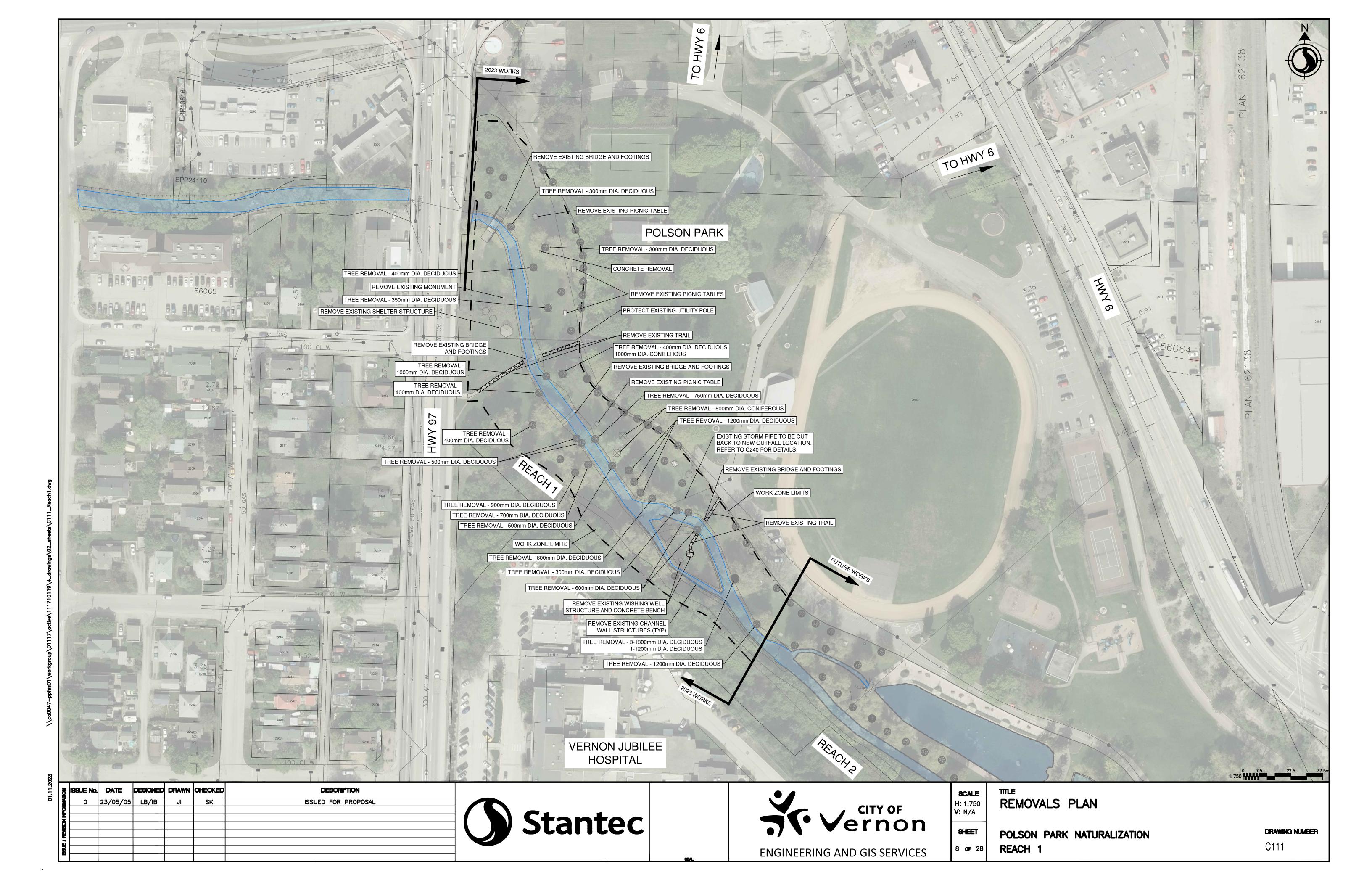
POLSON PARK NATURALIZATION REACH 1

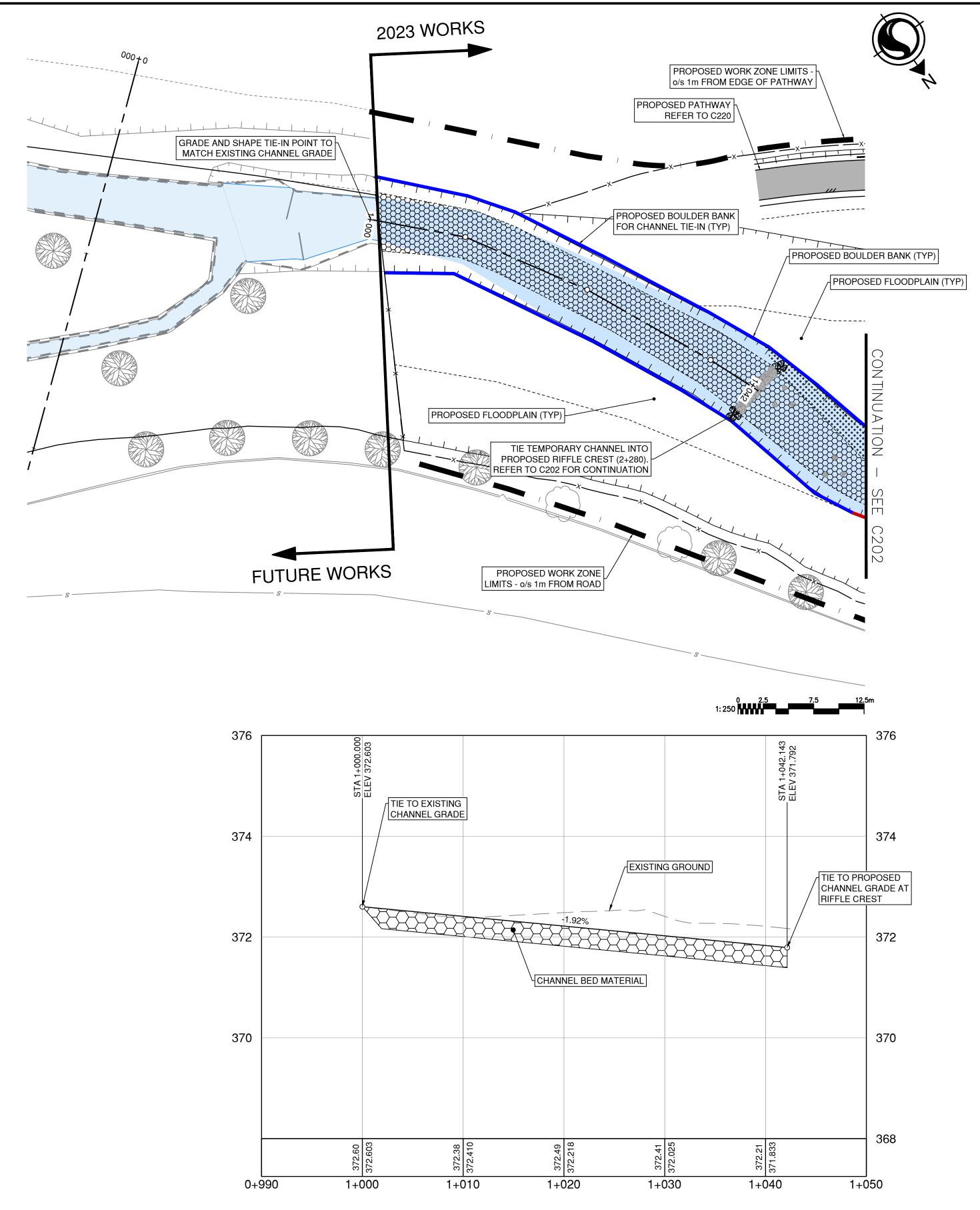
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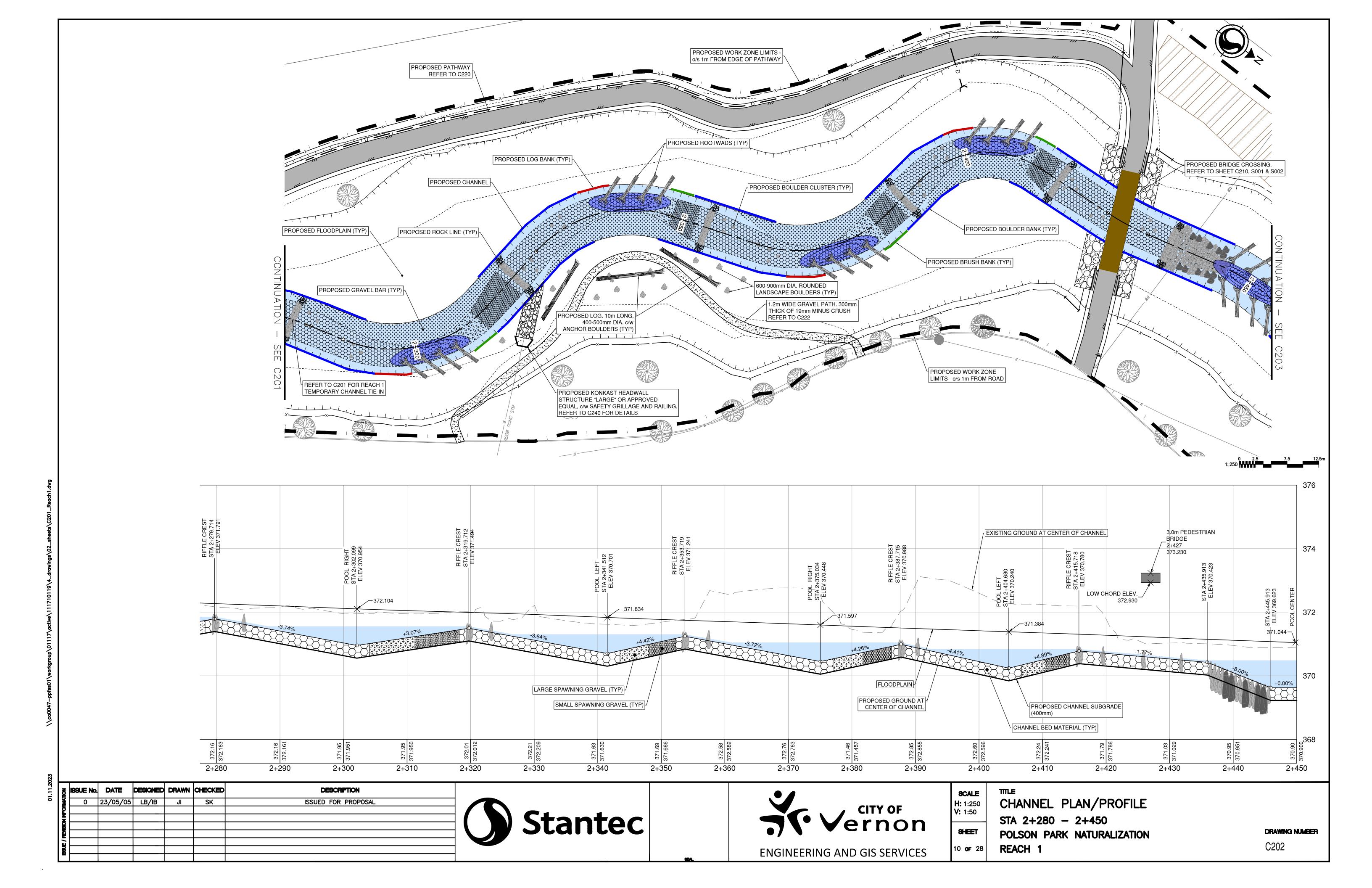
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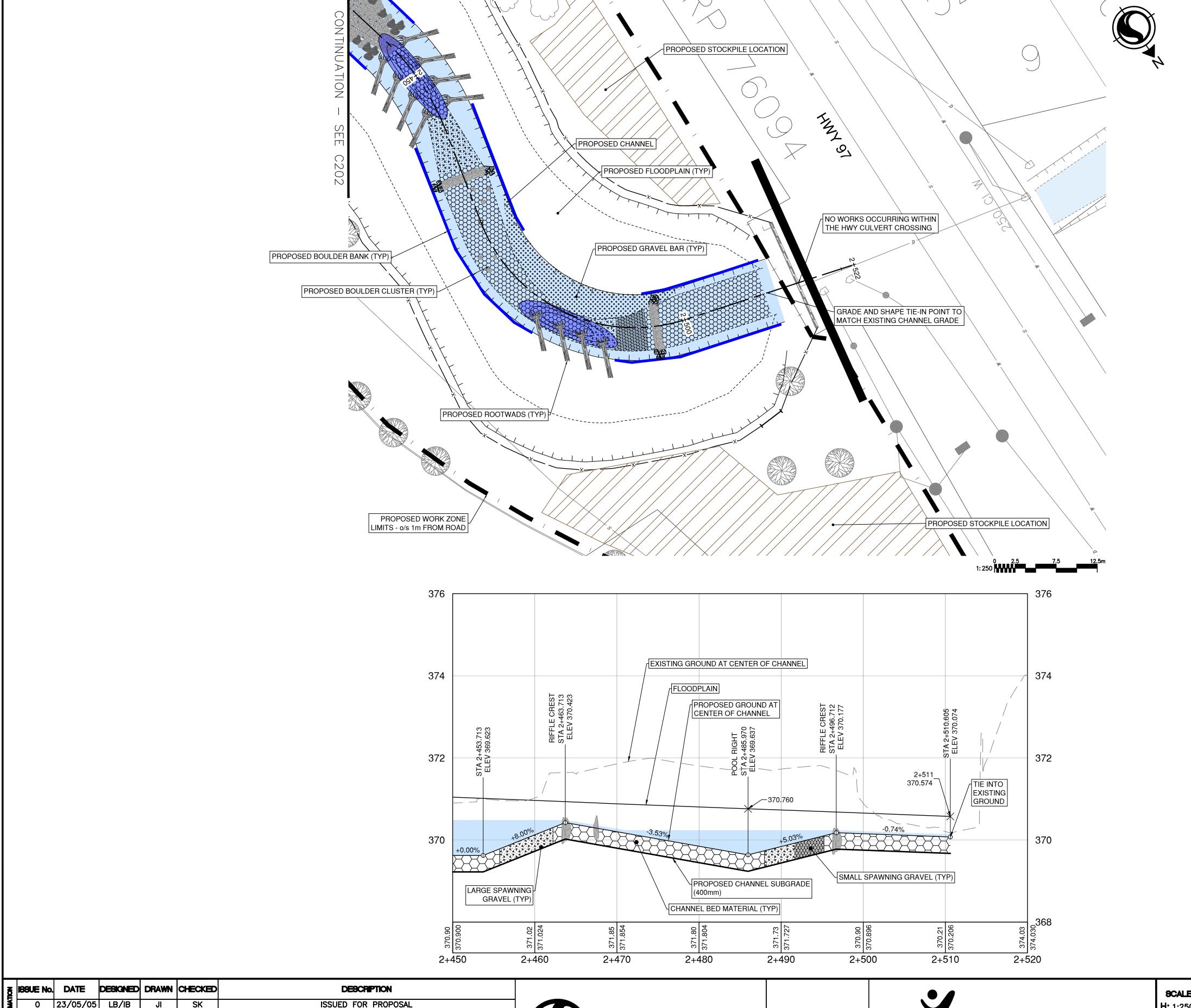




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CHANNEL PLAN/PROFILE
REACH 1 CHANNEL TIE-IN
POLSON PARK NATURALIZATION
REACH 1









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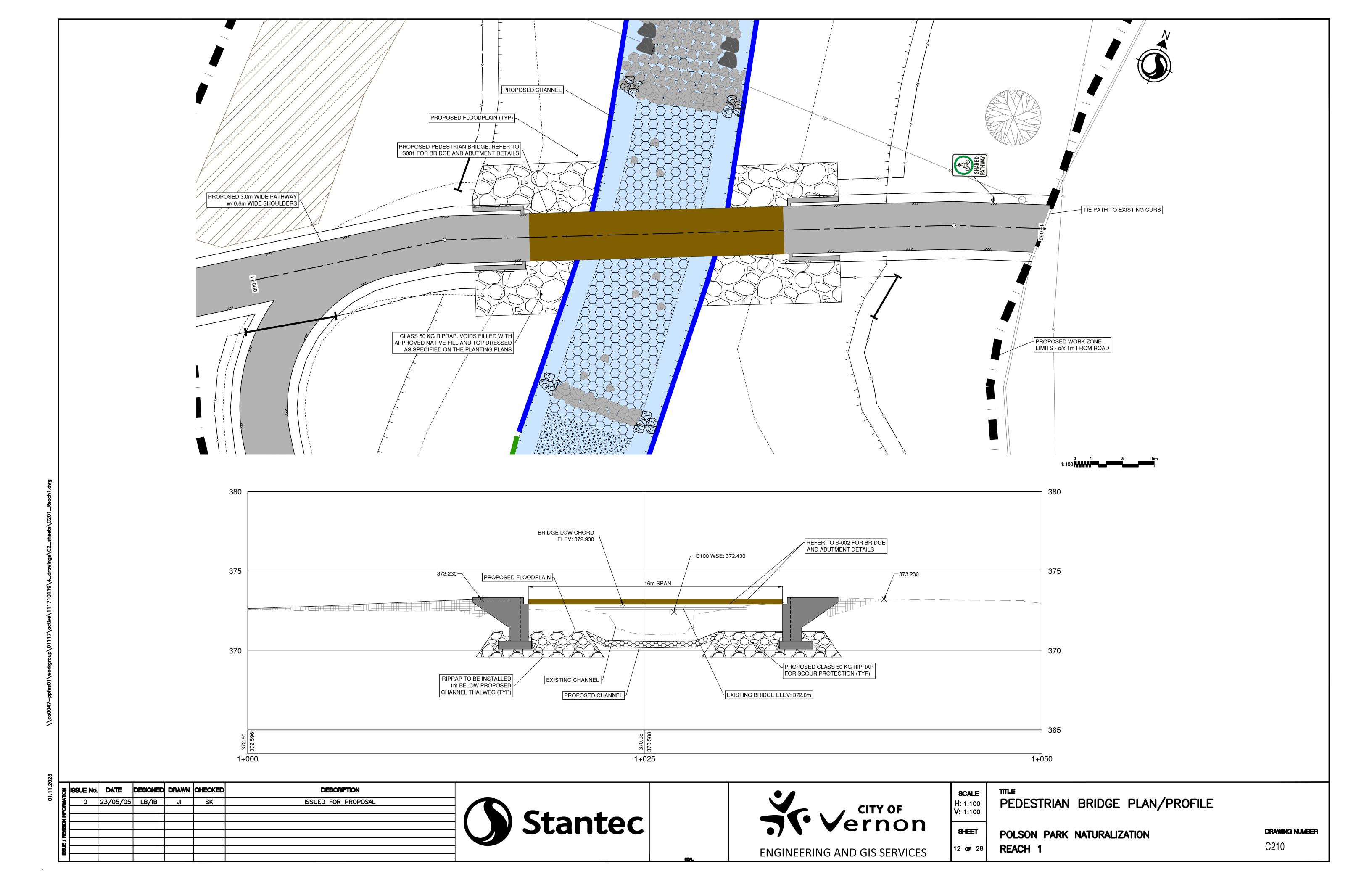
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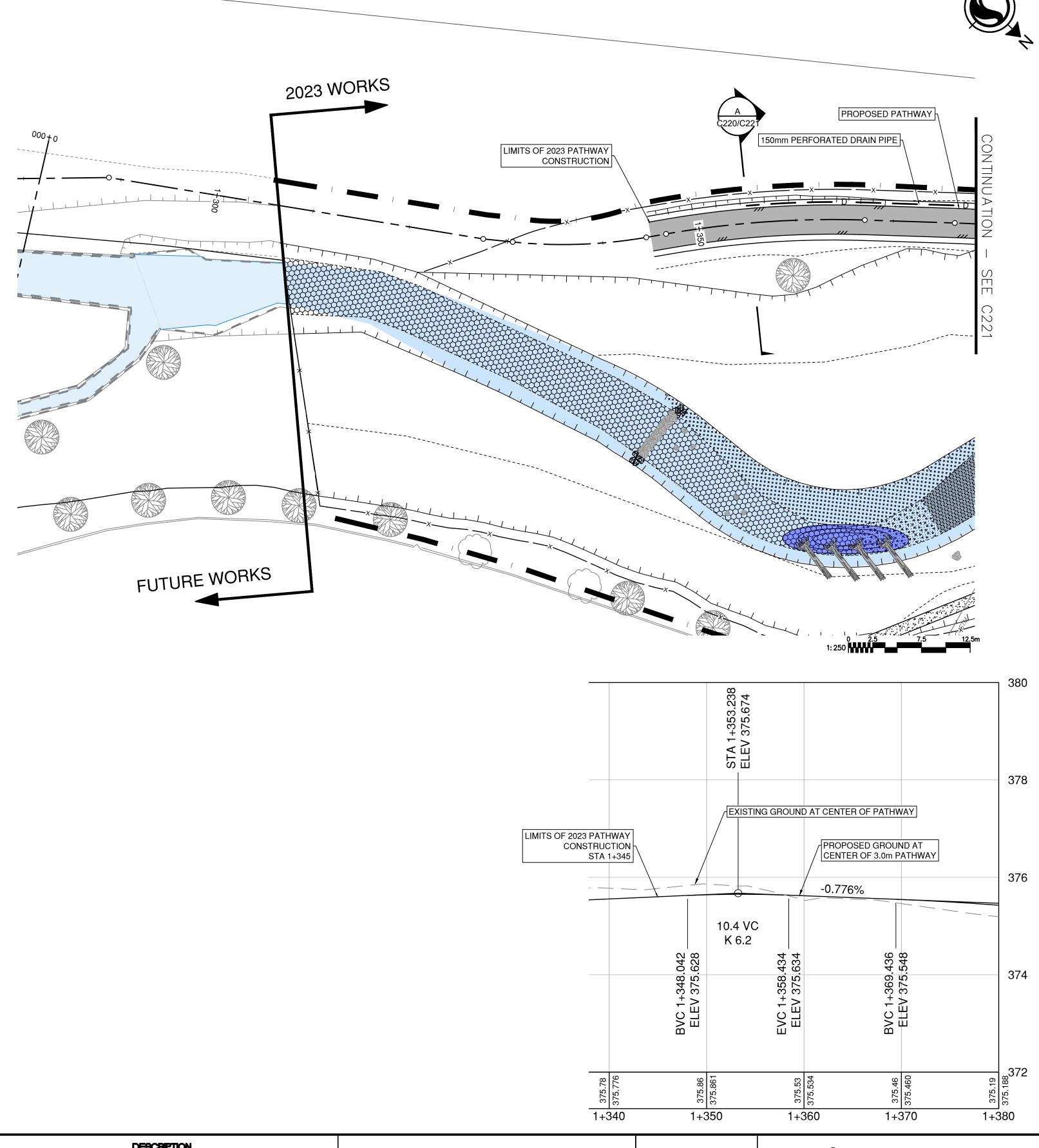
CHANNEL PLAN/PROFILE

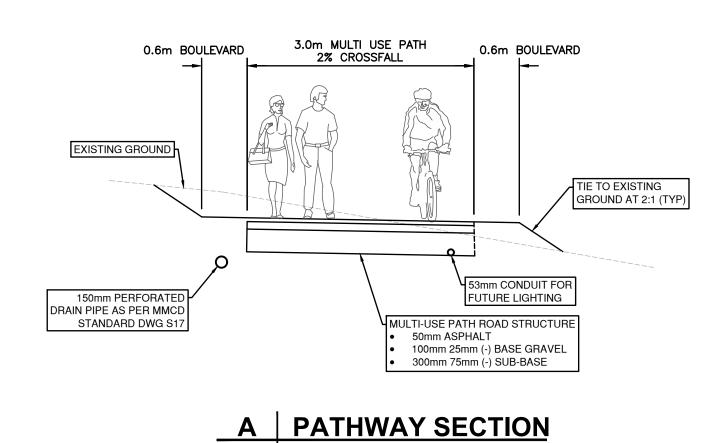
STA 2+450 - 2+520

POLSON PARK NATURALIZATION

REACH 1







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13 **o**F 28

PATHWAY PLAN/PROFILE

STA 1+345 - 1+380

POLSON PARK NATURALIZATION

REACH 1

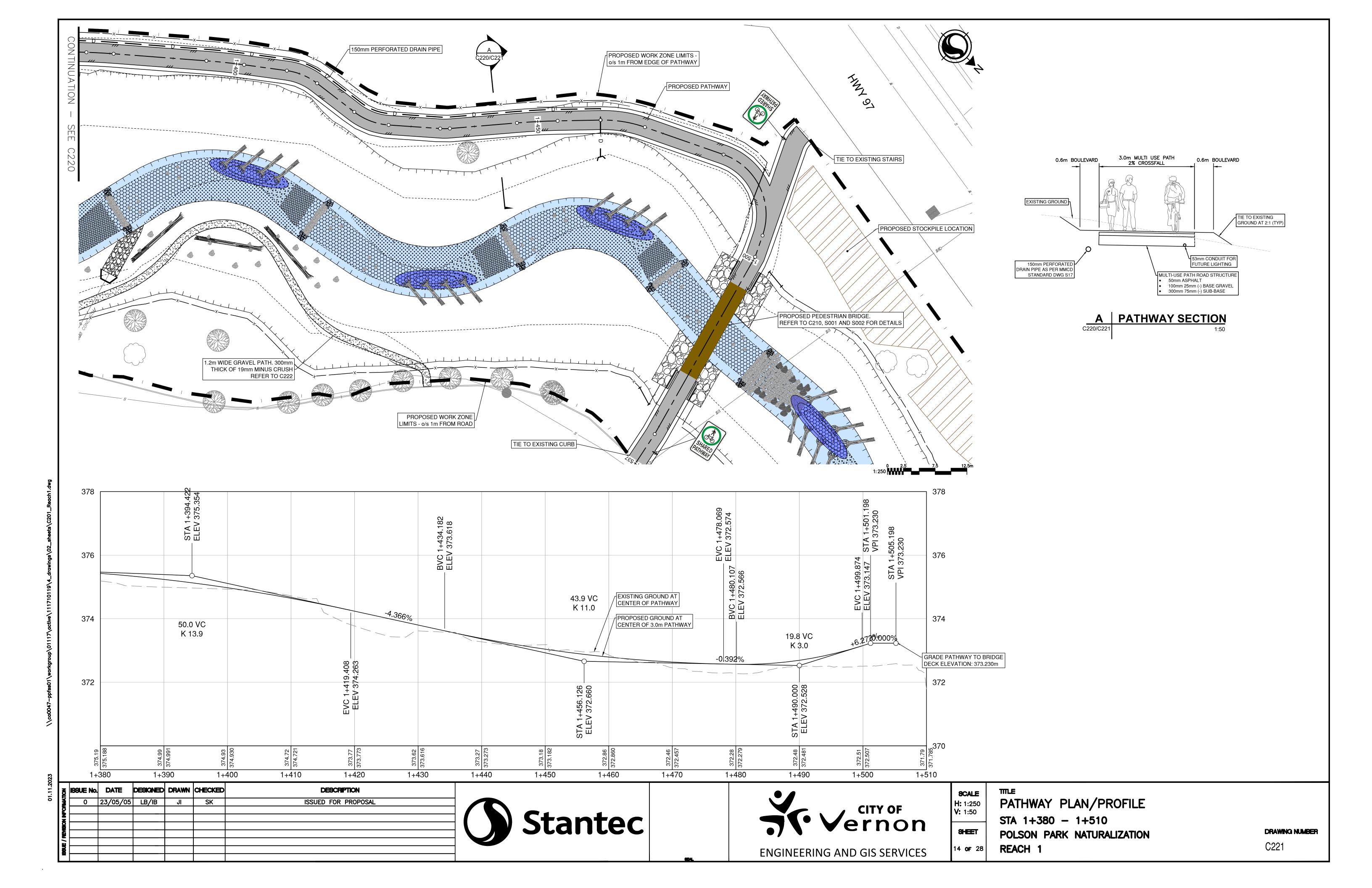
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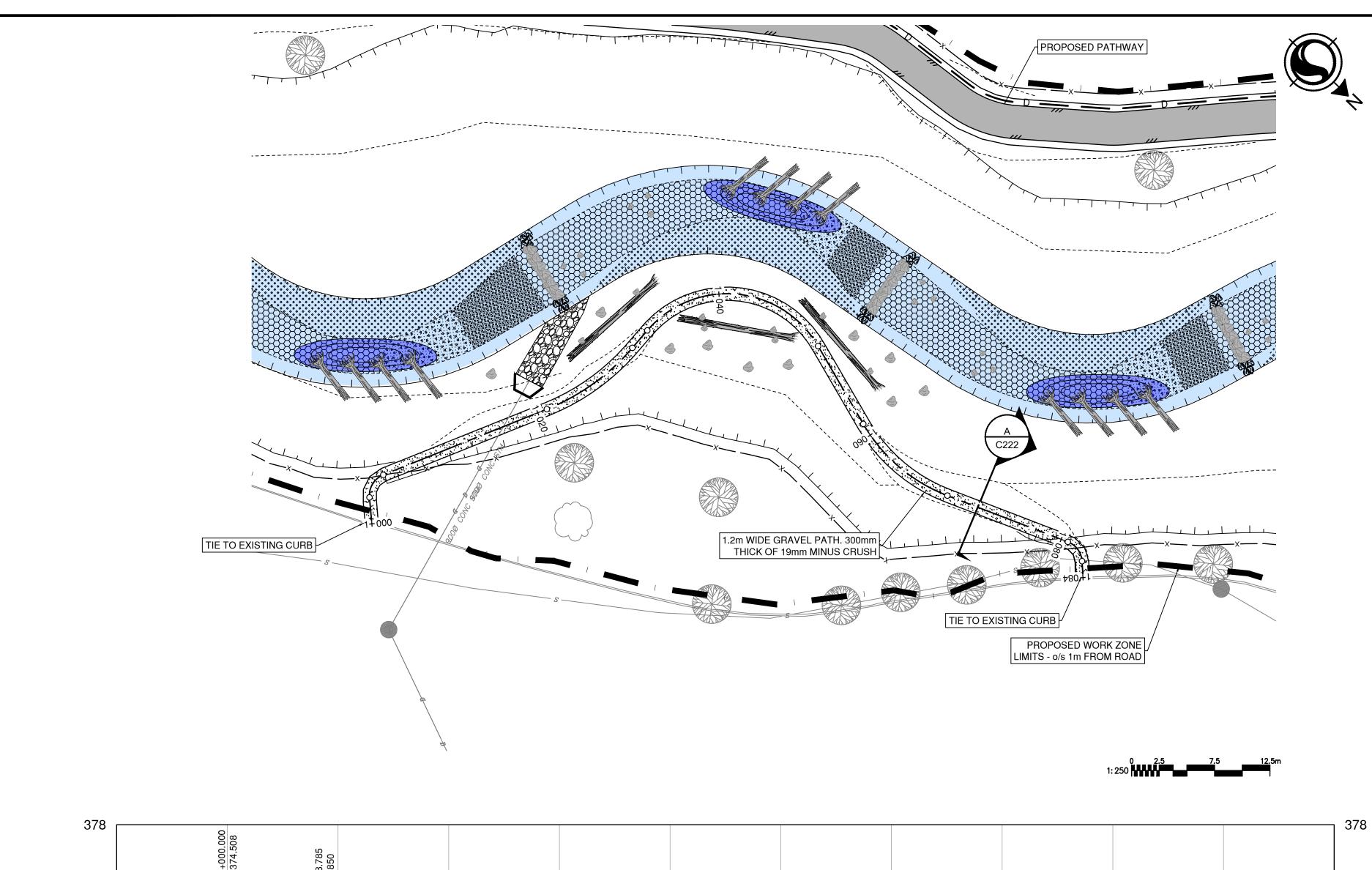
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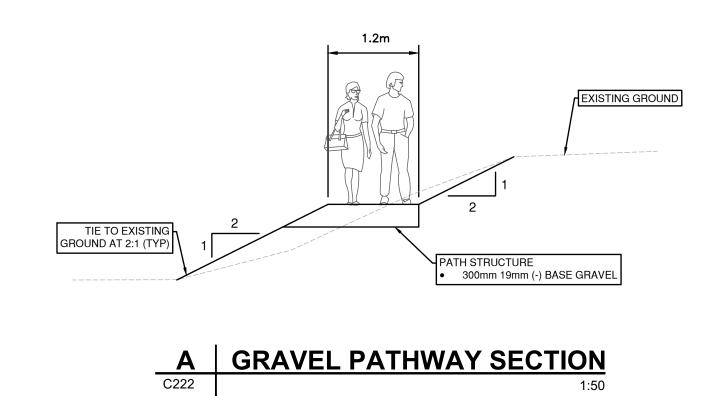


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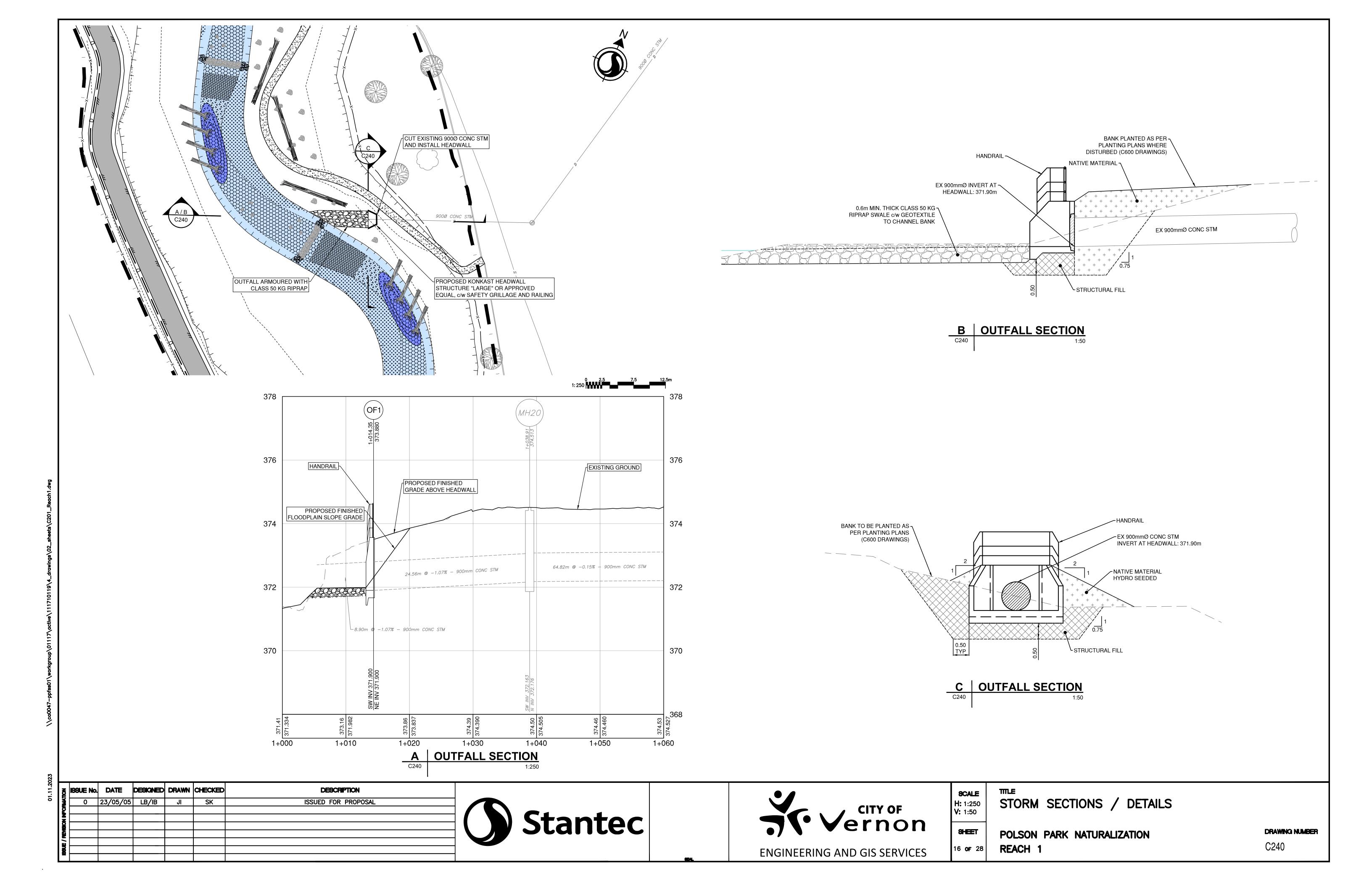
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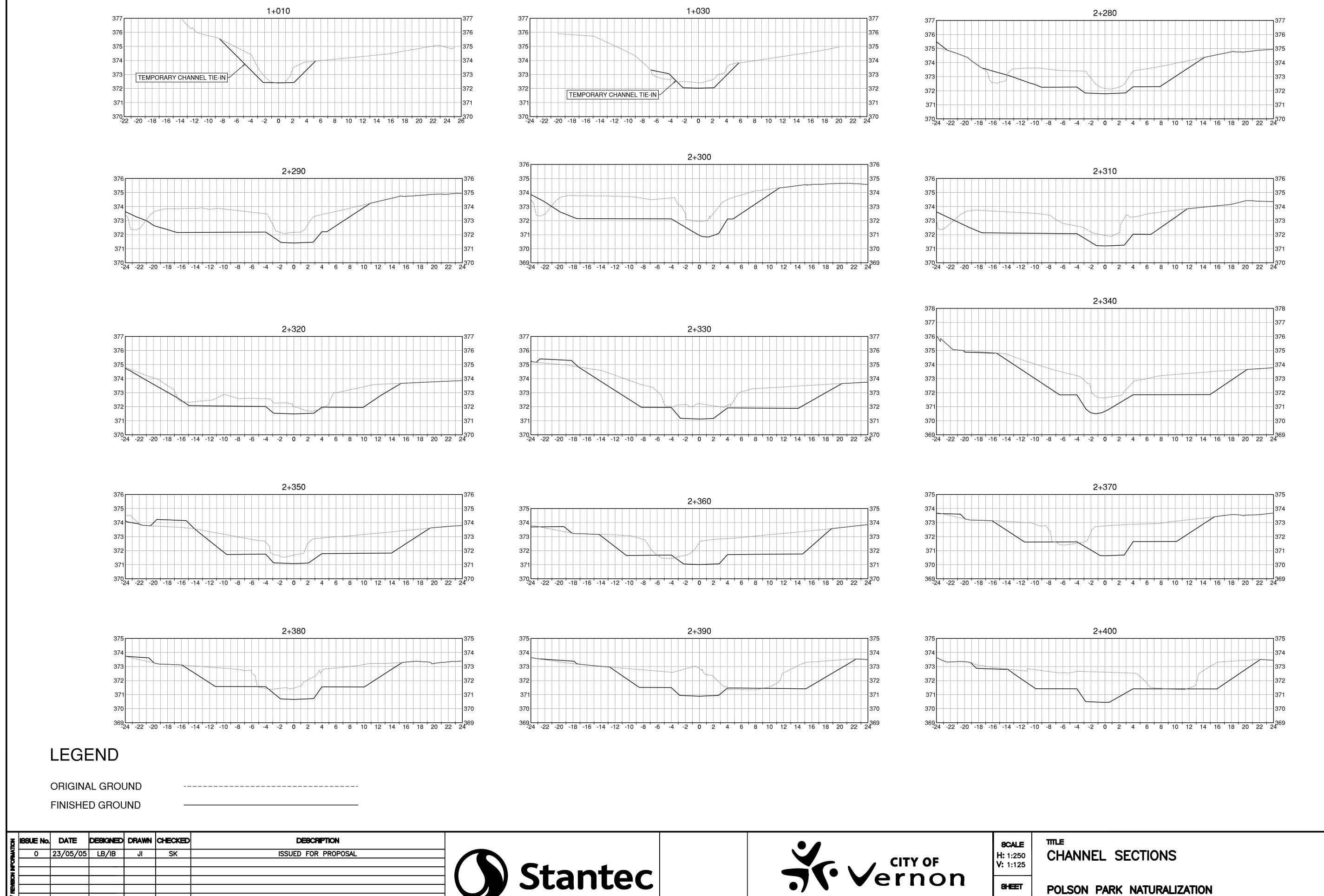




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GRAVEL PATHWAY PLAN/PROFILE STA 1+000 - 1+085 POLSON PARK NATURALIZATION REACH 1





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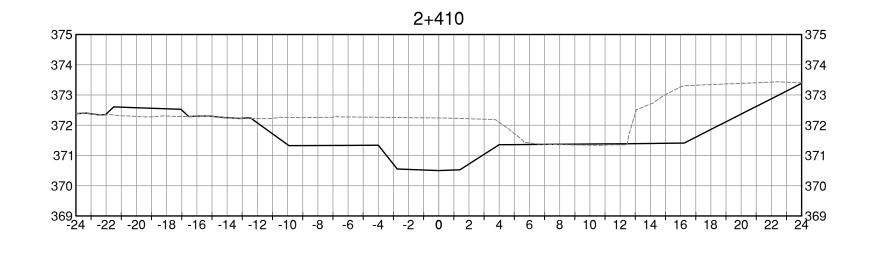
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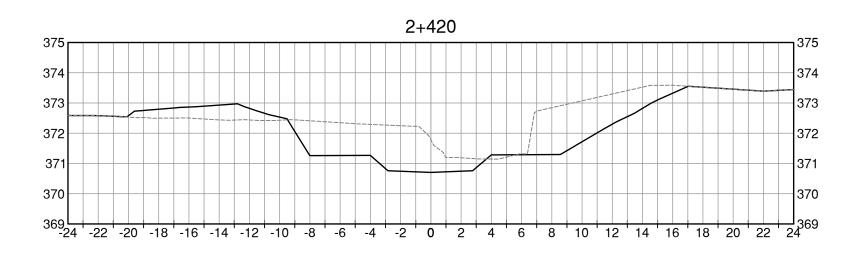
REACH 1

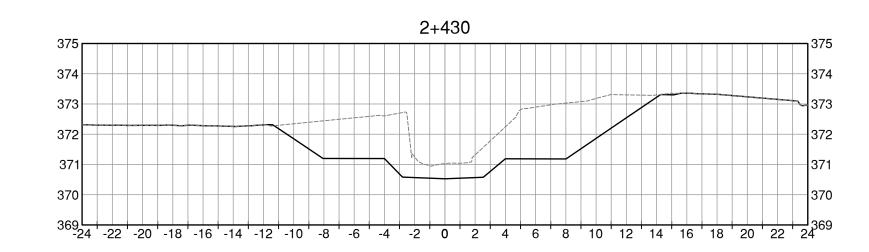
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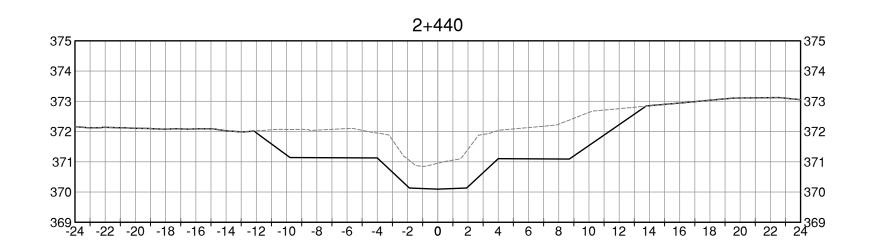
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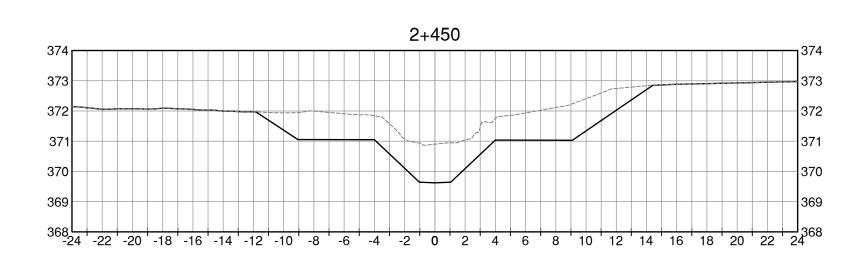
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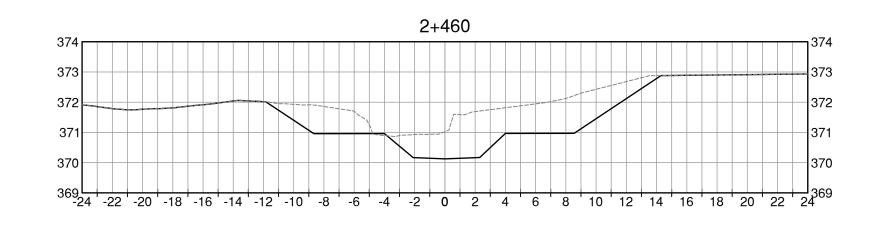


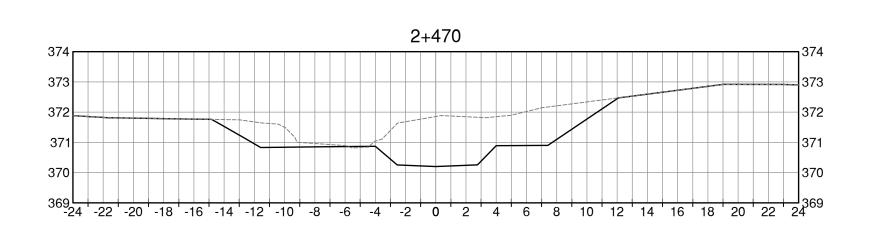


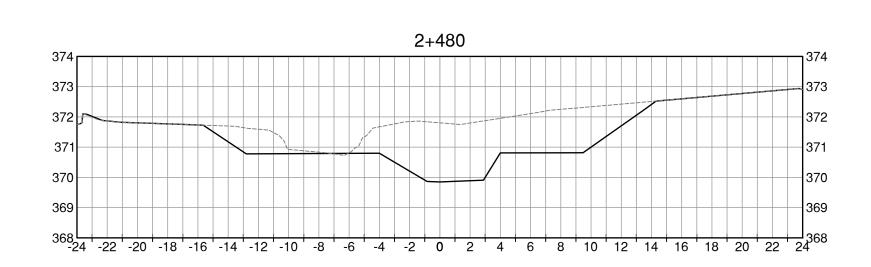


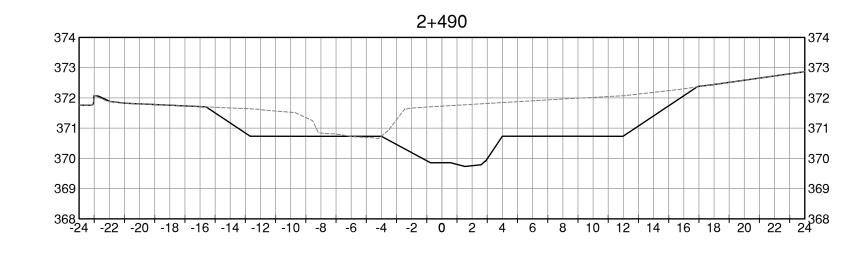


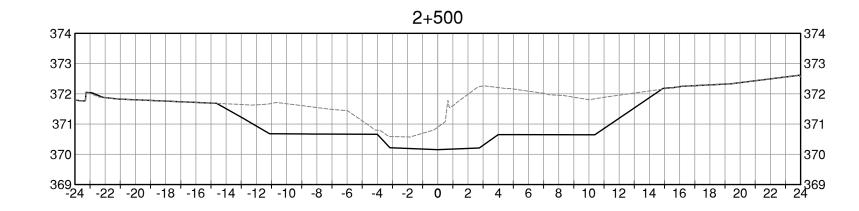


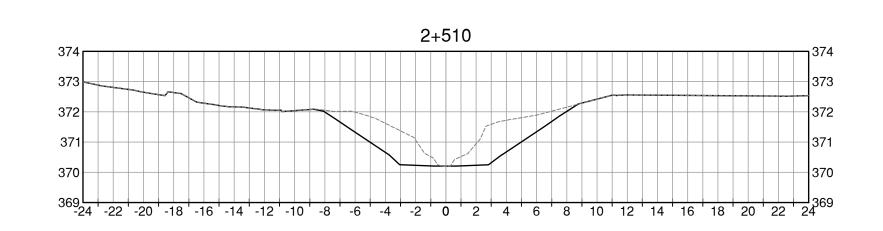












LEGEND

ORIGINAL GROUND ------FINISHED GROUND

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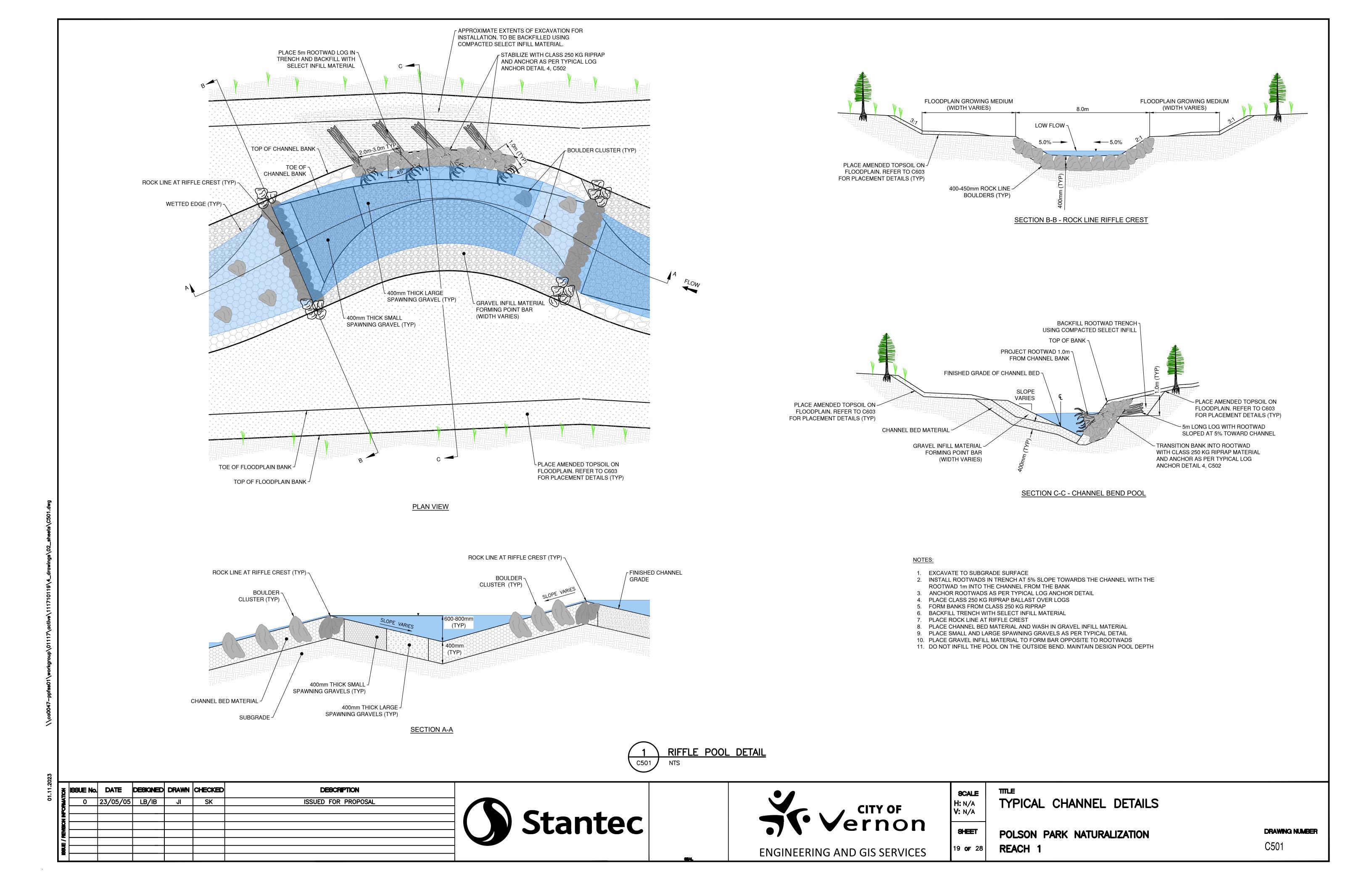


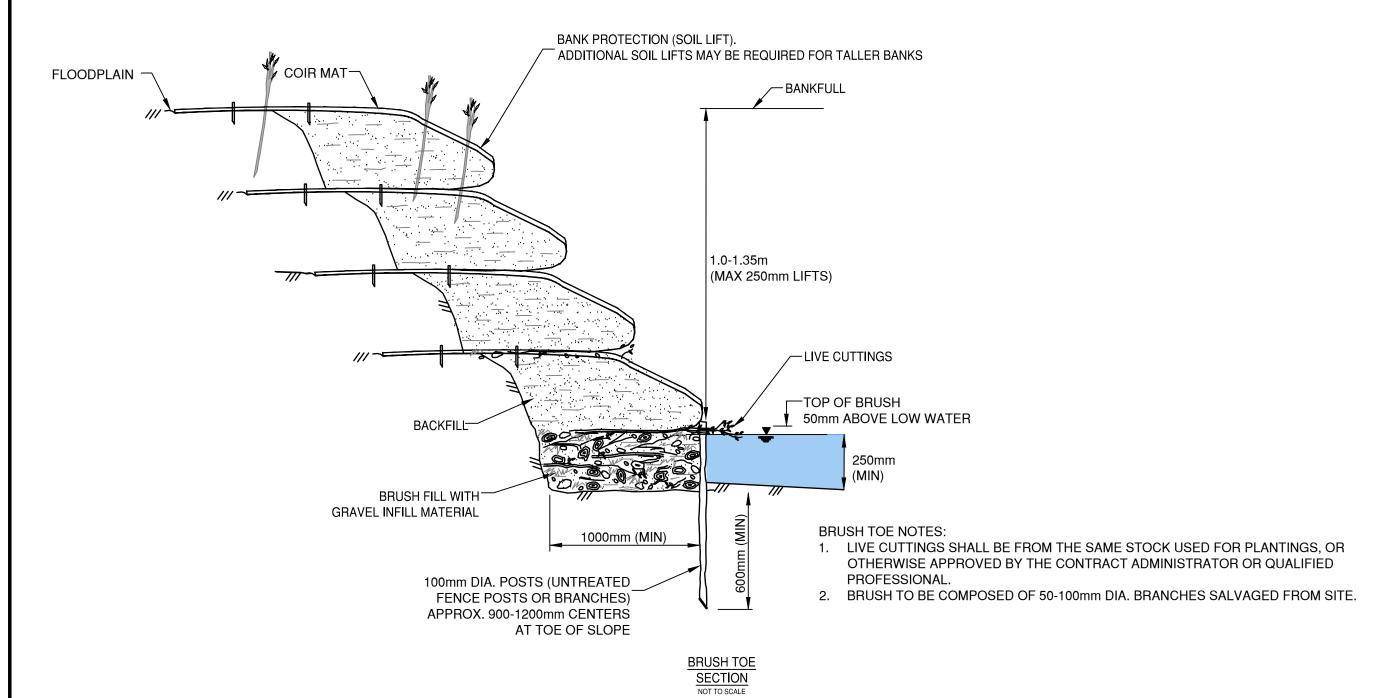
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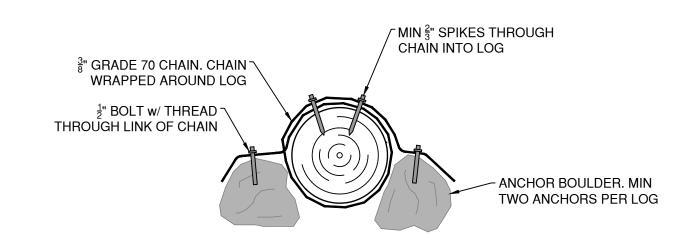
CHANNEL SECTIONS

POLSON PARK NATURALIZATION REACH 1





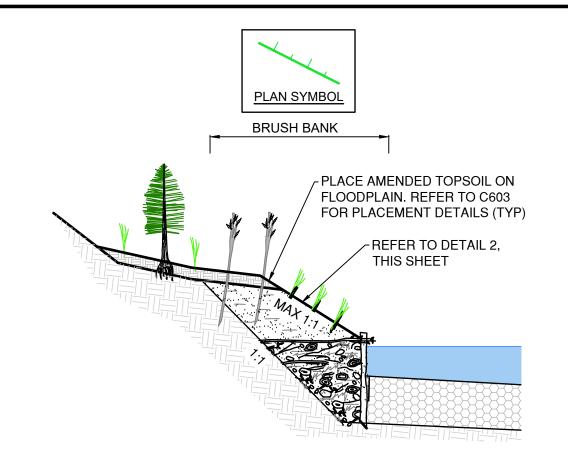




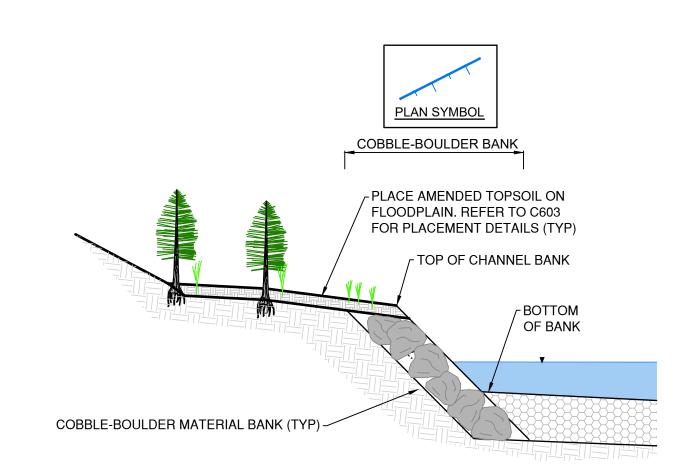
NOTES:

1. SUPPLY AND INSTALL 12mmØ 150mm HILTI-KNIT BOLT (MINIMUM 100mm EMBEDMENT) c/w HILTI HIT-RE 500 V3 SYSTEM INTO ANCHOR BOULDERS IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

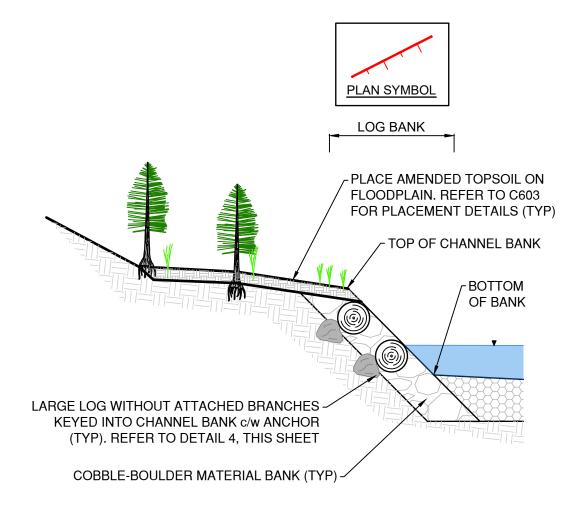
TYPICAL LOG ANCHOR DETAIL



SECTION - RIFFLE POOL w/ RIPRAP AND BRUSH BANK



SECTION - RIFFLE POOL w/ RIPRAP AND COBBLE BOULDER BANK



SECTION - RIFFLE POOL w/ LOG BANK



TYPICAL BANK TREATMENT DETAILS

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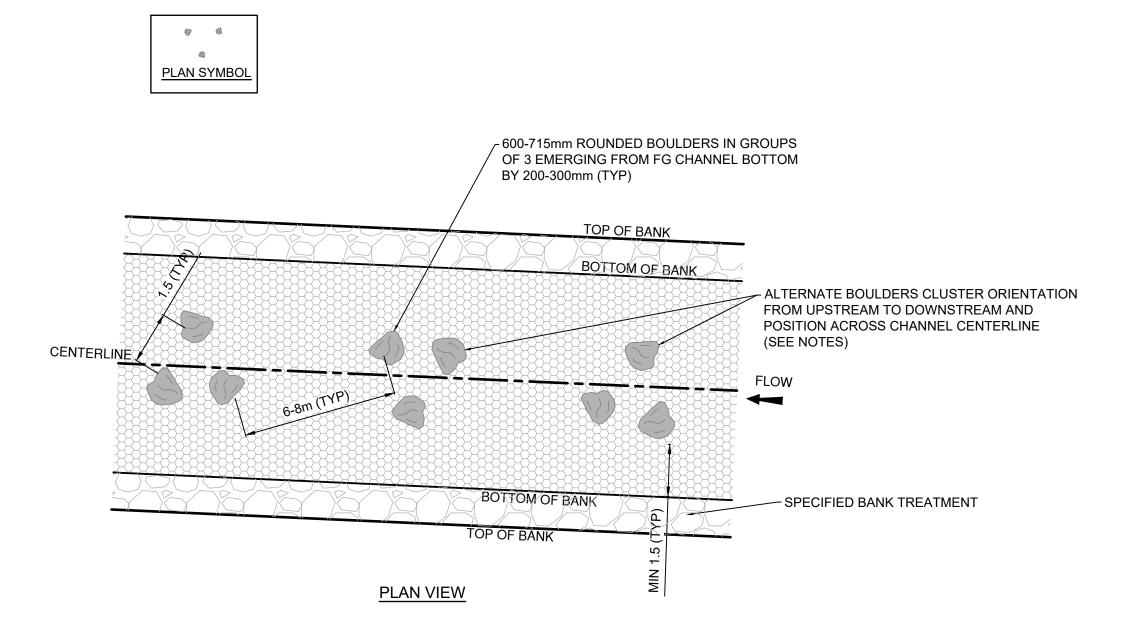
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TYPICAL CHANNEL DETAILS

POLSON PARK NATURALIZATION REACH 1

PLAN VIEW





NOTES:

- 1. BOULDERS FOR THE ROCK LINE MUST HAVE A HAVE A DIAMETER OF 400-450mm.
- 2. HEADER BOULDERS SHALL BE UNDERLAIN BY FOOTER BOULDERS UNLESS OTHERWISE DIRECTED BY THE QUALIFIED PROFESSIONAL. FOOTER BOULDERS SHALL BE INSTALLED FIRST AND POSITIONED TO SUPPORT HEADER BOULDERS ABOVE. HEADER BOULDERS SHALL BE OFFSET SLIGHTLY UPSTREAM OF THE FOOTER BOULDERS.
- 3. SET INVERTS AT ELEVATION SHOWN ON THE PLAN AND PROFILE SHEETS. THE DROP IN ELEVATION ACROSS EACH LINE SHALL NOT EXCEED 120mm UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- 4. THE ROCK LINE SHALL BE PLACED PERPENDICULAR TO THE CHANNEL BANKS. LOCATION OF ALL ROCK LINES SHOWN ON THE PLAN AND PROFILE SHEETS (C201 TO C203).
- 5. THE VERTICAL SLOPE OF EACH ROCK LINE SHALL NOT EXCEED 10% UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- 6. ALL GAPS/VOIDS LARGER THAN 50 mm BETWEEN THE HEADER AND FOOTER BOULDERS SHALL BE HAND CHINKED WITH COBBLE AND GRAVEL ON THE UPSTREAM SIDE WITH GRAVEL INFILL MATERIAL. ALL CHINKING SHALL BE APPROVED BY THE QUALIFIED PROFESSIONAL BEFORE THEY ARE BACKFILLED.
- 7. BACKFILL BETWEEN LINES WITH COBBLE BOULDER MATERIAL (SEE G004).
- 8. INFILL BED WITH GRAVEL INFILL MATERIAL. USE A PUMP AND HOSE TO WASH THE GRAVEL INFILL MATERIAL INTO VOIDS SUCH THAT WATER FLOWS OVER THE BED AND NOT THROUGH IT. INFILLING SHALL BE APPROVED BY THE QUALIFIED PROFESSIONAL.
- 9. SELECT BACKFILL AND SOIL BACKFILL MATERIAL ON THE BANKS SHALL BE COMPACTED SUCH THAT FUTURE SETTLEMENT OF THE MATERIAL IS KEPT TO A MINIMUM.
- 10. THE SURFACE OF THIS STRUCTURE SHALL BE FINISHED TO A ROUGH IRREGULAR SURFACE IN ACCORDANCE WITH THE LINES, GRADES, AND CROSS-SECTIONS OR ELEVATIONS SHOWN ON THE DRAWINGS. THE DEGREE OF FINISH FOR INVERT ELEVATIONS SHALL BE WITHIN 30 mm OF THE GRADES AND ELEVATIONS INDICATED, PROVIDED ANY HEIGHT DOES NOT EXCEED MAX. ALLOWABLE DROP OF 120mm FOR THIS STRUCTURE.

NOTES:

- 1. BOULDERS FOR THE CLUSTERS SHALL HAVE A DIAMETER OF 600-715mm.
- 2. BOULDER CLUSTERS SHALL BE INSTALLED UNDER THE DIRECT SUPERVISION OF THE QUALIFIED PROFESSIONAL. BOULDER CLUSTERS ARE TO BE INSTALLED WITHIN THE CHANNEL DURING LOW FLOW (WITH FISH ISOLATION) TO ADJUST PLACEMENT AS REQUIRED FOR THE FLOW CONDITIONS.
- 3. BOULDERS SHALL BE PLACED IN GROUPS OF THREE, WITHIN THE MIDDLE 3/4 OF THE CREEK, IN PATTERNS THAT DO NOT DIRECT FLOW TOWARDS THE BANKS.
- 4. BOULDERS SHALL PROTRUDE 200-300mm ABOVE THE CHANNEL BED.
- 5. SPACE THE BOULDERS AS SPECIFIED IN THE DETAIL ENSURING THAT NO MORE THAN 20% OF THE STREAM WIDTH IS OBSTRUCTED AT ANY GIVEN POINT.

BOULDER CLUSTER DETAIL

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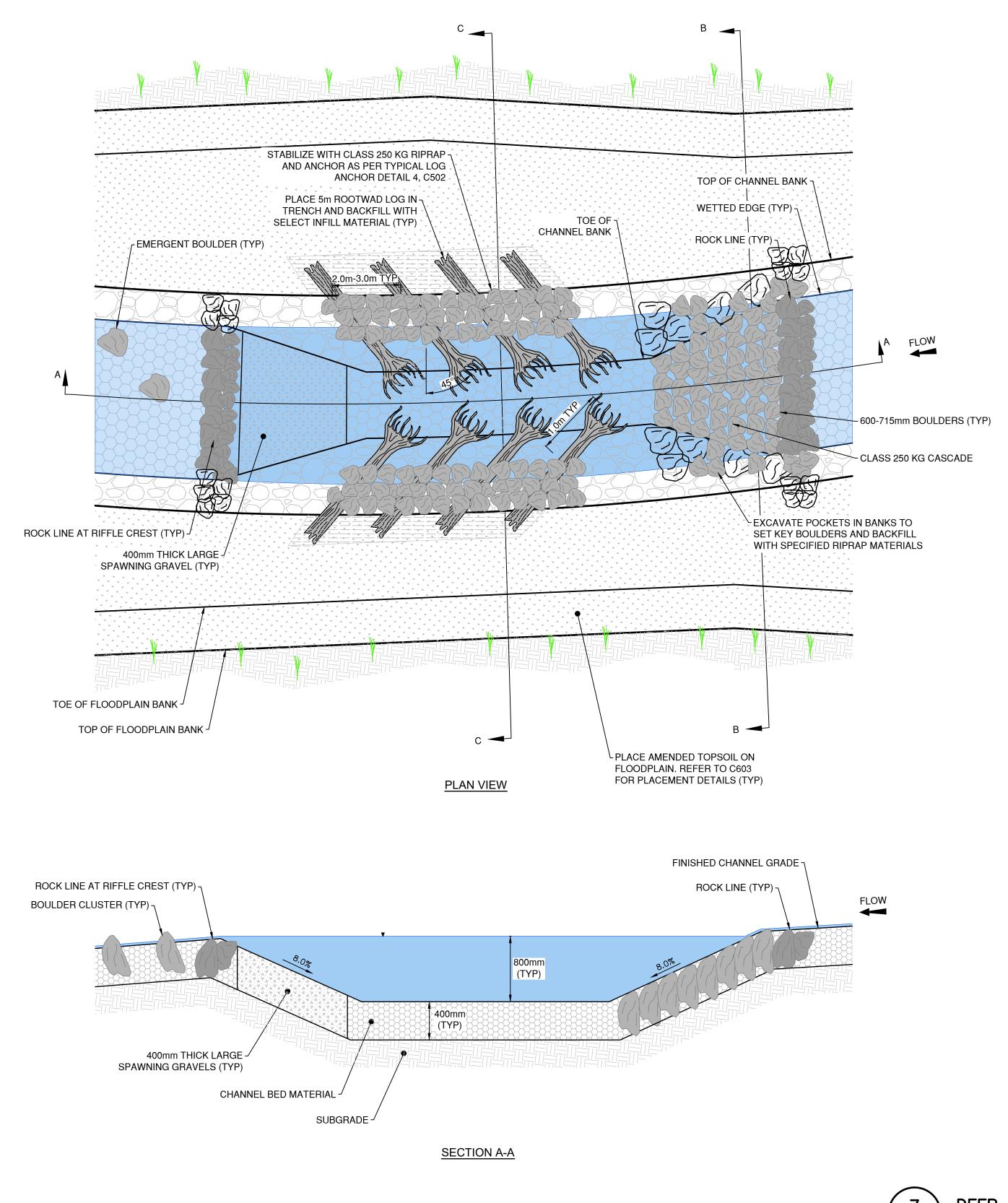


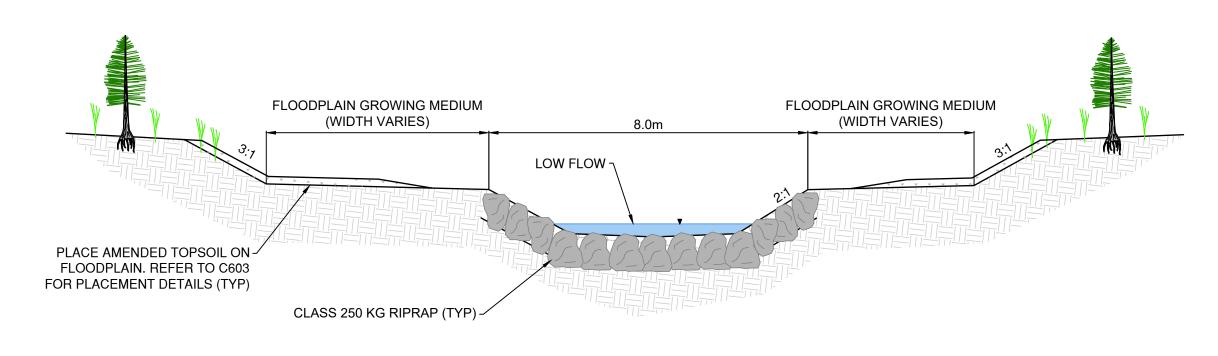


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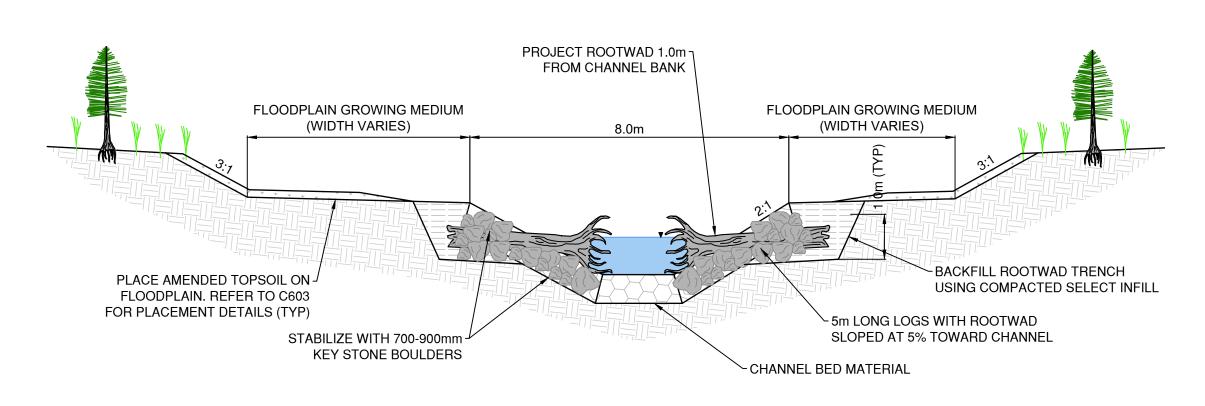
TYPICAL CHANNEL DETAILS

POLSON PARK NATURALIZATION REACH 1 21 **o**F 28





SECTION B-B CASCADE



SECTION C-C DEEP POOL

NOTES:

- 1. EXCAVATE TO SUBGRADE SURFACE
- 2. INSTALL ROOTWADS IN TRENCH AT 5% SLOPE TOWARDS THE CHANNEL WITH THE
- ROOTWAD 1m INTO THE CHANNEL FROM THE BANK
- 3. ANCHOR ROOTWADS AS PER TYPICAL LOG ANCHOR DETAIL
- 4. PLACE CLASS 250 KG RIPRAP BALLAST OVER LOGS5. FORM BANKS FROM CLASS 250 KG RIPRAP
- 6. BACKFILL TRENCH WITH SELECT INFILL MATERIAL
- 7. INSTALL ROCK LINE, KEYSTONES AND CASCADE INTO THE DEEP POOL8. PLACE CHANNEL BED MATERIAL AND WASH IN GRAVEL INFILL MATERIAL
- 9. PLACE LARGE SPAWNING GRAVELS AS PER TYPICAL DETAIL
- 10. ENSURE POOL IS NOT INFILLED BEYOND DESIGNED POOL DEPTH

7	DEEP	POOL	DETAIL
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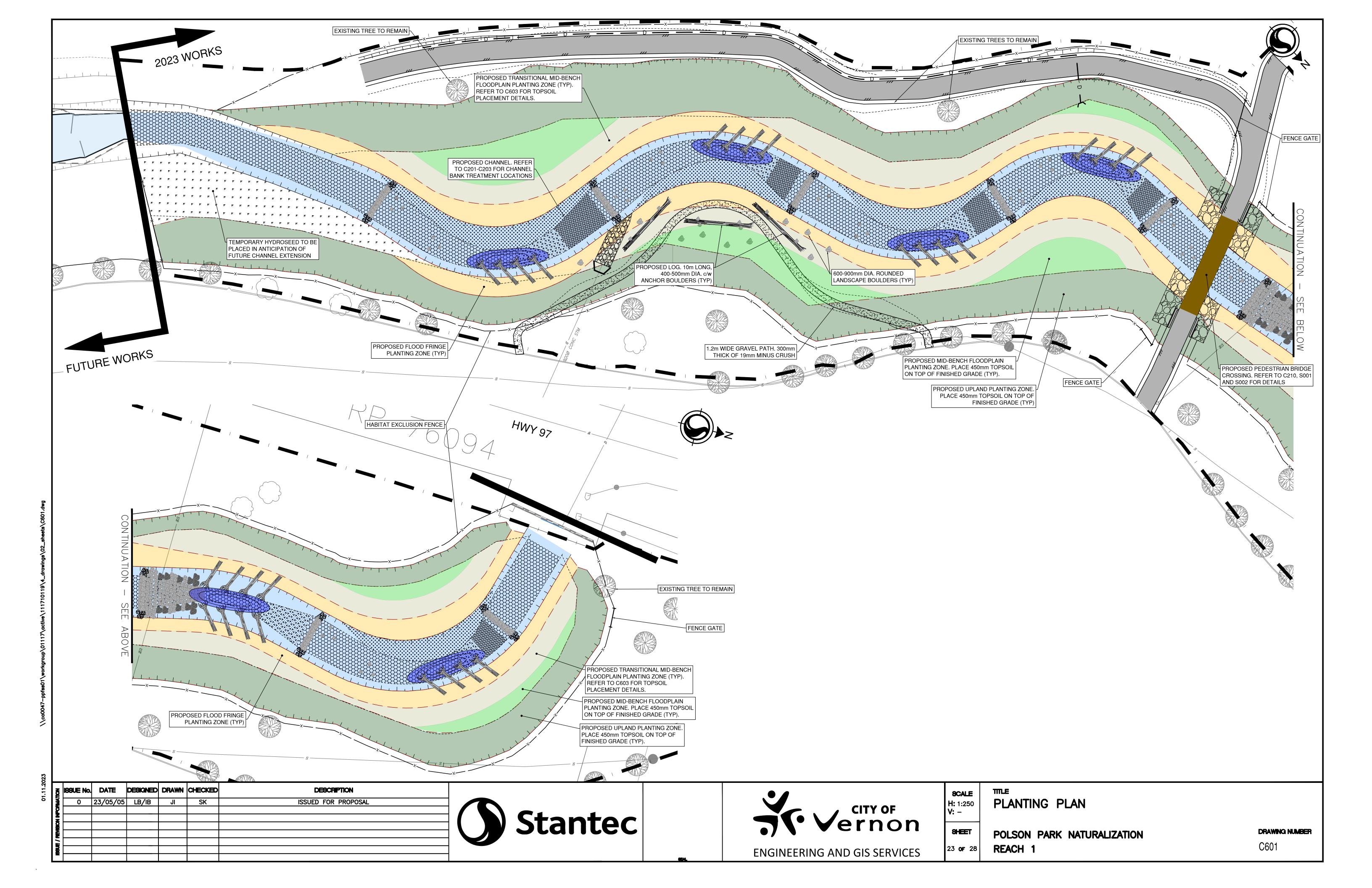


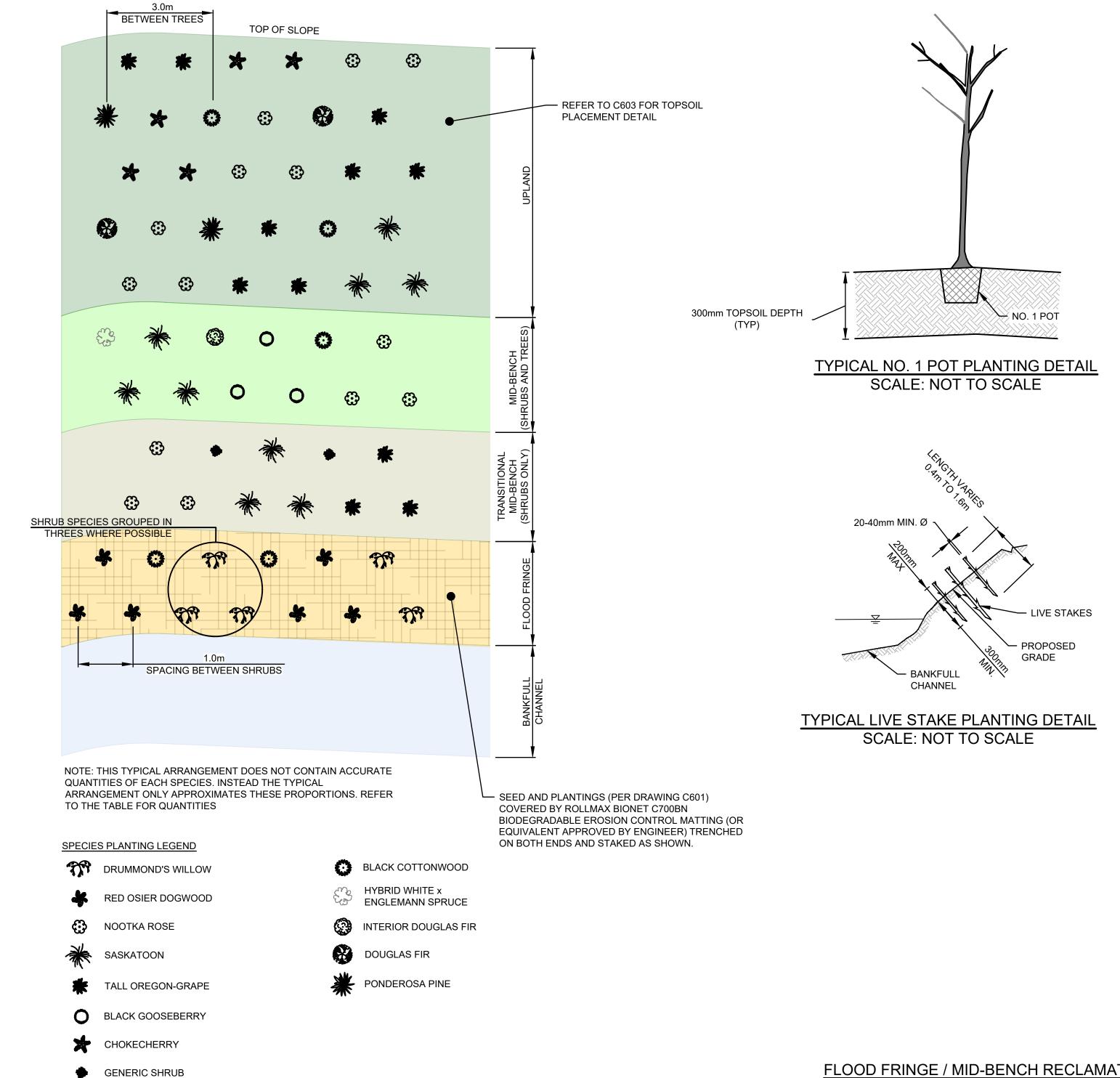


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TYPICAL CHANNEL DETAILS

POLSON PARK NATURALIZATION
REACH 1





Flood Fringe Offsetting BX Creek Trees Opublis Littinorarija black cottonwood 3 live-stake 43	PLANTING ZONE	COMMENT	FORM	SCIENTIFIC NAME	COMMON NAME	SPACING (m)	SIZE	QUANTITY
Offsetting Polson Park Offsetting Polson Park Offsetting Polson Park Offsetting Vernon Airport Offsetting Polson Park Offsetting Polson Par		Offsetting BX Creek	Trees	Populus trichocarpa	black cottonwood	3	live-stake	43
Offsetting Polson Park Offsetting Polson Park Offsetting Polson Park Offsetting Polson Park Offsetting Vernon Airport Offsetting Vernon Offs	Flood Fringe	Offsetting BX Creek	Claurala a	Cornus sericea	red-osier dogwood	1	live-stake	393
Offsetting Polson Park Offsetting Polson Park Offsetting Polson Park Offsetting Vernon Airport Offsetting Polson Pork Offsetting		Offsetting BX Creek	Snrubs	Salix drummondiana	Drummond's willow	1	live-stake	405
Offsetting Polson Park Offsetting Polson Park Offsetting Vernon Airport Offsetting Vernon Airport Picea engelmannil x glauca i hybrid white x Engelmann spruce 4 1.5m height 5 1 1.5m height 6 1 1.5m height 5 1 1.5m height 6 1 1.5m				Populus trichocarpa	black cottonwood	3	live-stake	83
Offsetting Polson Park Offsetting Vernon Airport Offsetting Vernon Air		Offsetting Polson Park		Populus trichocarpa	black cottonwood	3	1.5m height	21
Offsetting Vernon Airport Offsetting Vernon		Offsetting Polson Park		Picea engelmannii x glauca	hybrid white x Engelmann spruce	4	1.5m height	9
Offsetting Vernon Airport Piscae engelmannii x glauca in hybrid white x Engelmann spruce 3 #1 pot 4 Offsetting Vernon Airport Piscae dengelmannii x glauca in hybrid white x Engelmann spruce 3 #1 pot 3 Offsetting Vernon Airport Offsetting Vernon Airport Offsetting Vernon Airport 3 #1 pot 18 Offsetting Vernon Airport Offsetting Vernon Airport Offsetting Vernon Airport Offsetting Vernon Airport Acce glabrum Douglas maple 2 #1 pot 11 Offsetting Vernon Airport Offsetting Vernon Airport Mahonia aquifolium tall Oregon-grape 2 #1 pot 7 Mid-bench Offsetting Vernon Airport Armelanchier ainifolia Saskatoon 2 #1 pot 7 Mahonia aquifolium tall Oregon-grape 2 #1 pot 7 Armelanchier ainifolia Saskatoon 2 #1 pot 5 Ribes lacustre black gooseberry 2 #1 pot 5 Salix bebbiana Beeb's Willow 2 #1 pot 93 Acer glabrum Douglas maple 2 #1 pot 93 Acer glabrum Douglas maple 2 #1 pot <		Offsetting Polson Park	Tuona	Pseudotsuga menziesii	interior Douglas-fir	4	1.5m height	5
Picea engelmannii x glauca hybrid white x Engelmann spruce 3		Offsetting Vernon Airport	rrees	Picea engelmannii x glauca	hybrid white x Engelmann spruce	3	#1 pot	4
Pseudotsuga menziesii interior Douglas-fir 3		Offsetting Vernon Airport		Pseudotsuga menziesii	interior Douglas-fir	3	#1 pot	3
Offsetting Vernon Airport				Picea engelmannii x glauca	hybrid white x Engelmann spruce	3	#1 pot	31
Mid-bench Offsetting Vernon Airport Offsetting Verno				Pseudotsuga menziesii	interior Douglas-fir	3	#1 pot	18
Offsetting Vernon Airport		Offsetting Vernon Airport		Cornus sericea	red-osier dogwood	2	#1 pot	11
Mid-bench Offsetting Vernon Airport Offsetting Verno		Offsetting Vernon Airport		Symphoricarpos albus	common snowberry	2	#1 pot	11
Offsetting Vernon Airport Offsetting Vernon		Offsetting Vernon Airport		Acer glabrum	Douglas maple	2	#1 pot	11
Offsetting Vernon Airport Offsetting Polson Park Offsetting	Mid bonch	Offsetting Vernon Airport		Mahonia aquifolium	tall Oregon-grape	2	#1 pot	7
Offsetting Vernon Airport Acer glabrum Douglas maple Wahonia aquifolium All Oregon-grape Wahonia aquifolium Ribes lacustre Diack gooseberry Wahonia aquifolium All Oregon-grape Wahonia aquifolium Ribes lacustre Diack gooseberry Wahonia aquifolium Waho	iviid-bench	Offsetting Vernon Airport		Rosa nutkana	Nootka rose	2	#1 pot	7
Shrubs Sh		Offsetting Vernon Airport		Amelanchier alnifolia	Saskatoon	2	#1 pot	5
Shrubs		Offsetting Vernon Airport		Ribes lacustre	black gooseberry	2	#1 pot	5
Cornus sericea red-osier dogwood 2		Offsetting Vernon Airport	Shrubs	Salix bebbiana	Bebb's Willow	2	#1 pot	5
Acer glabrum Douglas maple 2 #1 pot 93 Mahonia aquifolium tall Oregon-grape 2 #1 pot 63 Rosa nutkana Nootka rose 2 #1 pot 63 Amelanchier alnifolia Saskatoon 2 #1 pot 30 Ribes lacustre black gooseberry 2 #1 pot 30 Salix bebbiana Bebb's Willow 2 #1 pot 30 Solix bebbiana Bebb's Willow 2 #1 pot 30 Offsetting Polson Park Off				Cornus sericea	red-osier dogwood	2	#1 pot	93
Mahonia aquifolium tall Oregon-grape 2				Symphoricarpos albus	common snowberry	2	#1 pot	93
Rosa nutkana Nootka rose 2 #1 pot 63				Acer glabrum	Douglas maple	2	#1 pot	93
Amelanchier alnifolia Saskatoon 2 #1 pot 30 Ribes lacustre black gooseberry 2 #1 pot 30 Salix bebbiana Bebb's Willow 2 #1 pot 30 Salix bebbiana Bebb's Willow 2 #1 pot 30 Offsetting 43rd St Offsetting Polson Park Offsetting Polson Park Offsetting Polson Park Offsetting Polson Park Offsetting Polson Park Offsetting Polson Park Offsetting Polson Park Offsetting Polson Park Offsetting Polson Park Offsetting Polson Park Offsetting Polson Park Offsetting Polson Park Offsetting Polson Park Populus trichocarpa black cottonwood 3 1.5m height 6 Populus tremuloides trembling aspen 3 1.5m height 6 Populus trichocarpa black cottonwood 3 live-stake 22 Populus tremuloides trembling aspen 3 #1 pot 68 Populus tremuloides trembling aspen 3 #1 pot 22 Mahonia aquifolium tall Oregon-grape 2 #1 pot 226 Rosa nutkana Nootka rose 2 #1 pot 226 Amelanchier alnifolia Saskatoon 2 #1 pot 226 Philadelphus lewisii Lewis's mock orange 2 #1 pot 169				Mahonia aquifolium	tall Oregon-grape	2	#1 pot	63
Ribes lacustre black gooseberry 2 #1 pot 30 Salix bebbiana Bebb's Willow 2 #1 pot 30 Offsetting 43rd St Offsetting Polson Park Populus trichocarpa black cottonwood 3 1.5m height 6 Populus tremuloides trembling aspen 3 #1 pot 68 Populus trichocarpa black cottonwood 3 live-stake 22 Populus tremuloides trembling aspen 3 #1 pot 22 Mahonia aquifolium tall Oregon-grape 2 #1 pot 226 Amelanchier alnifolia Saskatoon 2 #1 pot 226 Philadelphus lewisii Lewis's mock orange 2 #1 pot 169				Rosa nutkana	Nootka rose	2	#1 pot	63
Offsetting 43rd St Offsetting Polson Park Populus trichocarpa Ponderosa pine Pinus ponderosa Pinus ponderosa Ponderosa pine Pinus ponderosa Ponderosa pine Pinus ponderosa Pinus ponderosa Pinus ponderosa Ponderosa pine Pinus ponderosa Pinus pondero				Amelanchier alnifolia	Saskatoon	2	#1 pot	30
Offsetting 43rd St Offsetting Polson Park Off				Ribes lacustre	black gooseberry	2	#1 pot	30
Offsetting Polson Park Populus trichocarpa Populus trembling aspen 3 1.5m height 6 Populus trembling aspen 3 1.5m height 2 Populus trembling aspen 3 1.5m height 2 Populus trembling aspen 3 1.5m height 6 Populus trembling aspen 3 1.5m height 2 Populus trembling aspen 3 1.5m height 2 Populus trembling aspen 3 1.5m height 6 Populus trembling aspen 3 1.5m height 2 Populus trembling aspen 3 1.5m height 6 Populus trembling aspen 3 1.5m height 2 Populus trembling aspen 3 1.5m height 2 Populus trembling aspen 3 1.5m height 2 Populus trembling aspen 3 1.5m height 17 Populus trembling aspen 3 1.5m height 2 Populus trembling aspen 3 1.5m height 17 Populus trembling aspen 4 1 pot 22 Populus trembling aspen 4 1 pot 226 Populus trembling aspen 4 1 pot				Salix bebbiana	Bebb's Willow	2	#1 pot	30
Offsetting Polson Park Populus trichocarpa Ponderosa pine Pinus ponderosa Ponderosa pine Ponderosa pine Pinus ponderosa Ponderosa pine Ponderosa pin		Offsetting 43rd St		Pseudotsuga menziesii	Douglas-fir	3	#1 pot	53
Offsetting Polson Park Offsetting Polson Park Offsetting Polson Park Populus trichocarpa black cottonwood 3 1.5m height 6 Populus tremuloides trembling aspen 3 1.5m height 6 Pinus ponderosa Ponderosa pine 3 #1 pot 68 Populus trichocarpa black cottonwood 3 live-stake 22 Populus tremuloides trembling aspen 3 #1 pot 22 Populus tremuloides trembling aspen 3 #1 pot 22 Mahonia aquifolium tall Oregon-grape 2 #1 pot 226 Rosa nutkana Nootka rose 2 #1 pot 226 Amelanchier alnifolia Saskatoon 2 #1 pot 226 Philadelphus lewisii Lewis's mock orange 2 #1 pot 169		Offsetting Polson Park		Pseudotsuga menziesii	Douglas-fir	3	1.5m height	17
Offsetting Polson Park Populus tremuloides trembling aspen 3 1.5m height 6 Pinus ponderosa Ponderosa pine 3 #1 pot 68 Populus trichocarpa black cottonwood 3 live-stake 22 Populus tremuloides trembling aspen 3 #1 pot 22 Mahonia aquifolium tall Oregon-grape 2 #1 pot 226 Rosa nutkana Nootka rose 2 #1 pot 226 Amelanchier alnifolia Saskatoon 2 #1 pot 226 Philadelphus lewisii Lewis's mock orange 2 #1 pot 169		Offsetting Polson Park	Trees	Pinus ponderosa	Ponderosa pine	3	1.5m height	17
Upland Pinus ponderosa Ponderosa pine 3 #1 pot 68 Populus trichocarpa black cottonwood 3 live-stake 22 Populus tremuloides trembling aspen 3 #1 pot 22 Mahonia aquifolium tall Oregon-grape 2 #1 pot 226 Rosa nutkana Nootka rose 2 #1 pot 226 Amelanchier alnifolia Saskatoon 2 #1 pot 226 Philadelphus lewisii Lewis's mock orange 2 #1 pot 169		Offsetting Polson Park		Populus trichocarpa	black cottonwood	3	1.5m height	6
Populus trichocarpa black cottonwood 3 live-stake 22 Populus tremuloides trembling aspen 3 #1 pot 22 Mahonia aquifolium tall Oregon-grape 2 #1 pot 226 Rosa nutkana Nootka rose 2 #1 pot 226 Amelanchier alnifolia Saskatoon 2 #1 pot 226 Philadelphus lewisii Lewis's mock orange 2 #1 pot 169		Offsetting Polson Park		Populus tremuloides	trembling aspen	3	1.5m height	6
Shrubs Shrubs Populus tremuloides trembling aspen 3 #1 pot 22 Mahonia aquifolium tall Oregon-grape 2 #1 pot 226 Rosa nutkana Nootka rose 2 #1 pot 226 Amelanchier alnifolia Saskatoon 2 #1 pot 226 Philadelphus lewisii Lewis's mock orange 2 #1 pot 169				Pinus ponderosa	Ponderosa pine	3	#1 pot	68
Shrubs Mahonia aquifolium tall Oregon-grape 2	Upland			Populus trichocarpa	black cottonwood	3	live-stake	22
Shrubs Rosa nutkana Nootka rose 2 #1 pot 226 Amelanchier alnifolia Saskatoon 2 #1 pot 226 Philadelphus lewisii Lewis's mock orange 2 #1 pot 169				Populus tremuloides	trembling aspen	3	#1 pot	22
Rosa nutkana Nootka rose 2 #1 pot 226 Amelanchier alnifolia Saskatoon 2 #1 pot 226 Philadelphus lewisii Lewis's mock orange 2 #1 pot 169			Shruba	Mahonia aquifolium	tall Oregon-grape	2	#1 pot	226
Philadelphus lewisii Lewis's mock orange 2 #1 pot 169			Jillubs	Rosa nutkana	Nootka rose	2	#1 pot	226
				Amelanchier alnifolia	Saskatoon	2	#1 pot	226
Prunus virginiana Chokecherry 2 #1 pot 169				Philadelphus lewisii	Lewis's mock orange	2	#1 pot	169
				Prunus virginiana	Chokecherry	2	#1 pot	169

FLOOD FRINGE / MID-BENCH RECLAMATION SEED MIX

COMMON NAME	SCIENTIFIC NAME	PERCENT BY WEIGHT
Spike bentgrass	Agrostis exerata	20
California oatgrass	Danthonia californica	5
Tufted harigrass	Deschampsia cespitosa	5
Blue wildrye	Elymus glaucus	15
Slender wheatgrass	Elymus trachycaulus	20
Western wheatgrass	Pascoyrum smithii	20
Fowl bluegrass	Poa palustris	15

UPLAND RECLAMATION SEED MIX

COMMON NAME	SCIENTIFIC NAME	PERCENT BY WEIGHT
Spike bentgrass	Agrostis exerata	10
Blue wildrye	Elymus glaucus	10
Slender wheatgrass	Elymus trachycaulus	10
Idaho fescue	Festuca idahoensis	20
Prairie junegrass	Koeleria macrantha	20
Western wheatgrass	Pascoyrum smithii	10
Bluebunch wheatgrass	Pseudoroegneria spicata	20

ON-CENTER

TYPICAL PLANTING ARRANGEMENT - PLAN

BISSUE No. | DATE | DESIGNED | DRAWN | CHECKED | **DESCRIPTION** 0 23/05/05 LB/IB JI SK ISSUED FOR PROPOSAL | 23/10/06 | IB | JI | SK COMMENT UPDATE

1. PLACE 450mm OF TOPSOIL ON TOP OF FINISHED GRADE OF THE MID-BENCH FLOODPLAIN AND UPLAND PLANTING ZONES. TOPSOIL CAN BE SLIGHTLY COMPACTED BY WALKING A TRACKED EXCAVATOR OVER IT UP/DOWN SLOPE SO THAT THE TREADS ARE ON CONTOUR. REFER TO DETAIL ON C603 FOR FURTHER TOPSOIL PLACEMENT DETAILS.

2. APPLY SEED TO BARE GROUND PORTIONS OF THE PLANTING AREA HYDRAULICALLY AT A RATE OF 50 kg/ha WITH 560 kg/ha OF

WOOD FIBRE MULCH. THE PRESCRIBED SEED MIX FOR USE IS DEFINED IN THE SEED MIX TABLES ON THIS SHEET.

PLANT SPECIES SPECIFIED ABOVE HAVE BEEN PRESCRIBED BASED ON LOCAL SITE CONDITIONS. SUBSTITUTIONS OF PLANT SPECIES, PROPORTIONS, OR LAYOUTS MUST BE APPROVED BY THE DESIGN ECOLOGIST PRIOR TO IMPLEMENTING CHANGES.
 PLANT STOCK SHOULD BE INSPECTED BY A DESIGN ECOLOGIST PRIOR TO COMMENCING PLANTING WORKS.





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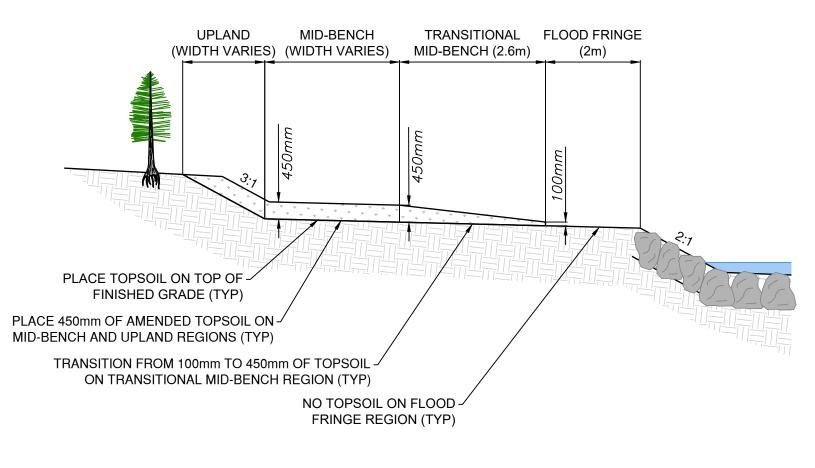
PLANTING DETAILS

SHEET 24 **o**F 28

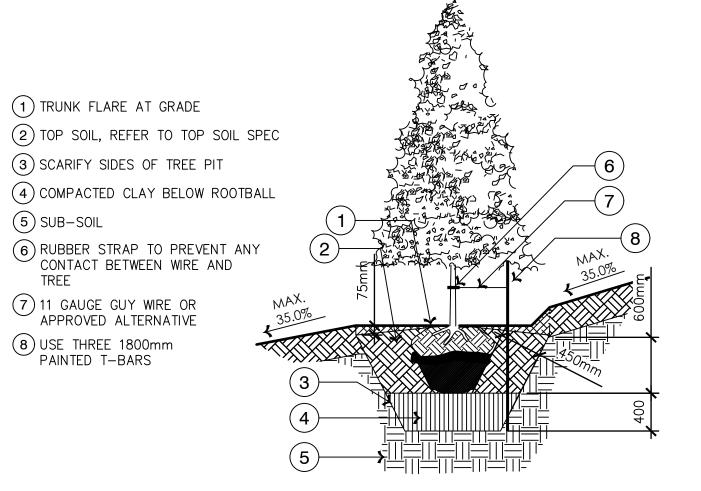
POLSON PARK NATURALIZATION REACH 1

DRAWING NUMBER C602

NOTES:



TYPICAL TOPSOIL PLACEMENT SECTION SCALE: N.T.S.



STAKING PLAN: GUYING STAKING PLAN: T-BAR

NOTES:

- TREES TO BE OVERSEEDED UNLESS OTHERWISE NOTED.
 PRUNE AWAY ANY GIRDLING ROOTS.
 PRUNE BROKEN AND FRAYED ROOT ENDS WITH SECATEURS.
 HOLD TRUNK VERTICAL. BACKFILL AROUND ROOTS WITH TOPSOIL, CONTINUOUSLY PACKING THE SOIL UNTIL FIRM. DO NOT ALLOW AIR POCKETS TO FORM.

 — TREE SHOULD BE PLANTED 75mm — 100mm BELOW GROUND LEVEL.
- IF TREE IS IN A WIRE BASKET, CUT AND REMOVE STRAPPING AND THE HORIZONTAL/VERTICAL WIRES OF THE UPPER 3 AS A MINIMUM. PULL BACK BURLAP TO THE SAME MINIMUM.

 - T-BARS SHOULD BE HAMMERED DOWN INTO SOLID FOOTING (MINIMUM 400mm INTO SUBSOIL).
- STAKING TO BE IN PLACE FOR A MAXIMUM OF ONE YEAR, WHEN
- STAKE BEYOND EDGE OF ROOT BALL.
- USE RUBBER STRAPS (TO PROTECT THE TREE) AT POINT OF CONTACT
- PRUNE DEAD / DYING / DISEASED BRANCHES TO MAINTAIN NATURAL FORM OF TREÉ
- ALL DIMENSIONS IN mm.

TYPICAL PLANTING DETAIL FOR 1.5m HEIGHT TREE SCALE: N.T.S.

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TITLE PLANTING DETAILS

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POLSON PARK NATURALIZATION REACH 1





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ROAD

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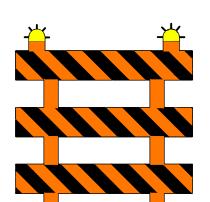


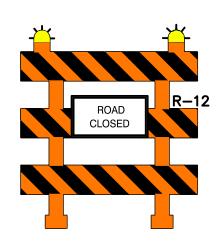






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DETAIL A CLASS 3 BARRICADE c/w TYPE A YELLOW FLASHERS (TYP.)

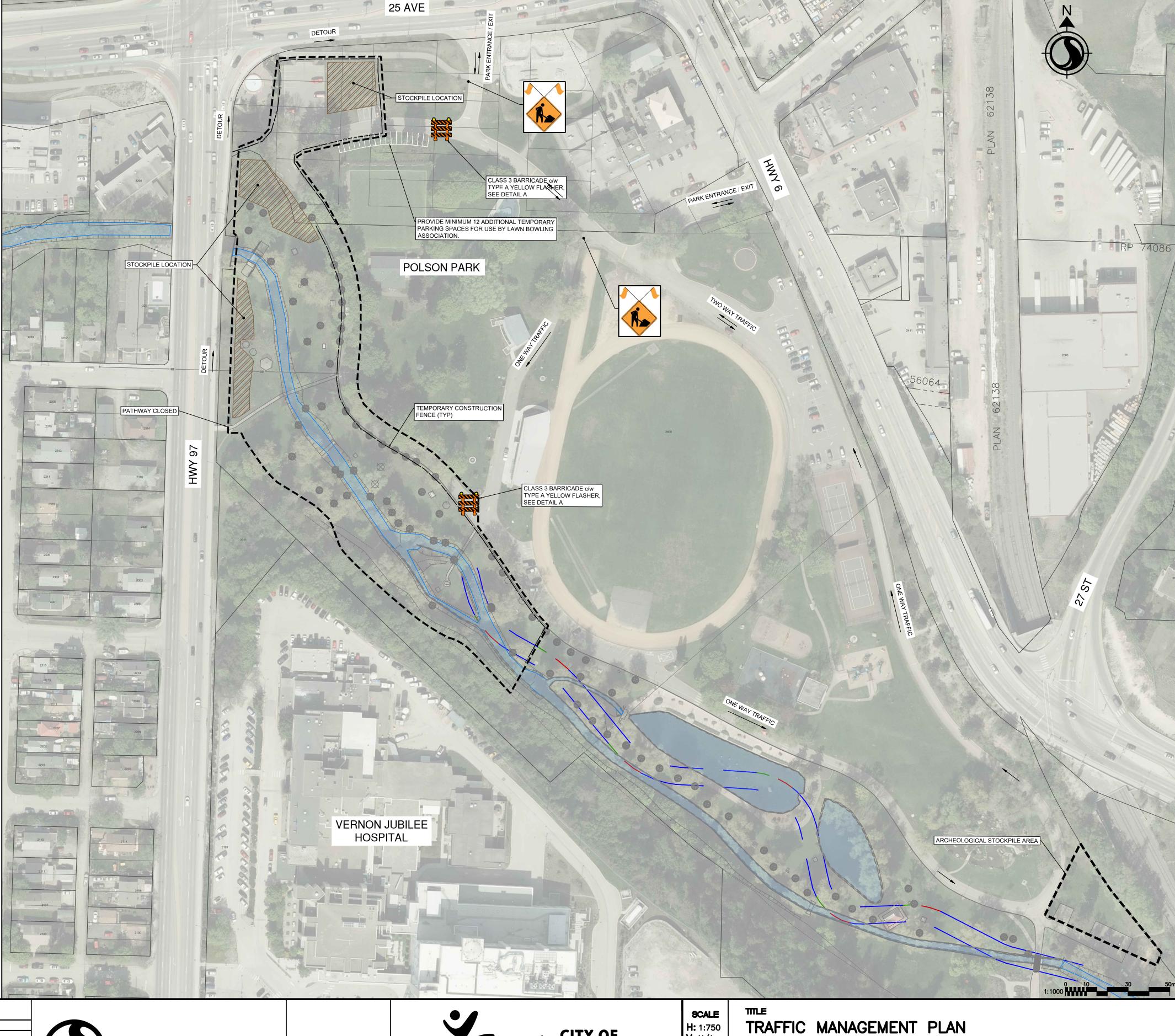
CONSTRUCTION PHASE BOUNDARY

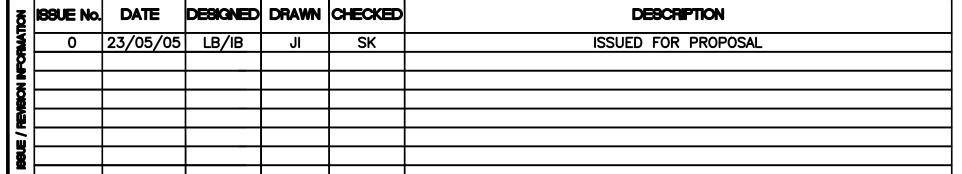
GENERAL NOTES - TRAFFIC CONTROL

- 1. CONTRACTOR TO ISOLATE WORK AREA FROM PEDESTRIAN
- 2. CONTRACTOR TO MAINTAIN VEHICLE ACCESS AT PARK ENTRANCES AND EXITS AT ALL TIMES.

TRAFFIC MANAGEMENT NOTES:

- 1. TRAFFIC MANAGEMENT SIGNAGE PLAN SHOWN IS AN EXAMPLE. CONTRACTOR TO USE AS REFERENCE FOR THEIR TRAFFIC MANAGEMENT PLAN.
- 2. ALL NOTICE OF CONSTRUCTION SIGNAGE SHALL BE IN PLACE FOR THE DURATION OF THE PROJECT.
- ALL CONSTRUCTION SIGNAGE SHALL MOVE WITH THE WORK AREAS AS REQUIRED.
- 4. THE CONTRACTOR SHALL ERECT ALL SIGNAGE AND OBTAINED A PERMIT TO WORK WITHIN CITY RIGHT-OF-WAY PRIOR TO
- 5. THE CONTRACTOR SHALL CHECK FOR CONFLICTING INFORMATION ON EXISTING SIGNAGE AND ADVISE THE
- CONTRACT ADMINISTRATOR. 6. THE CONTRACTOR SHALL COORDINATE WITH AFFECTED BUSINESSES TO MAINTAIN VEHICLE ACCESS AS REQUIRED. MINIMUM SINGLE LANE ACCESS TO ALL DRIVEWAYS SHALL BE MAINTAINED FOR LOCAL TRAFIC.
- 7. SIGNAGE AND SPACING SHALL BE IN CONFORMANCE WITH THE BC MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE'S TRAFFIC CONTROL MANUAL FOR WORK ON ROADWAYS (LATEST
- 8. SIGNAGE SHOWN REPRESENTS MINIMAL REQUIREMENTS. THE CONTRACTOR SHALL TAKE OWNERSHIP OF THE TRAFFIC MANAGEMENT PLAN AND MAKE MODIFICATIONS AS THE CONTRACTOR DEEMS NECESSARY WITH THE APPROVAL OF THE
- CONTRACT ADMINISTRATOR. 9. THE CONTRACTOR IS TO ENSURE ACCESS TO FIRE HYDRANTS AT
- ALL TIMES.
- 10. THE CONTRACTOR SHALL COORDINATE WITH EMERGENCY
- SERVICES WEEKLY FOR ACCESS TO THE AREA. 11. THE CONTRACTOR SHALL PROVIDE SAFE ACCESS FOR
- PEDESTRIANS OUTSIDE THE WORK AREA AT ALL TIMES. 12. THE CONTRACTOR SHALL SUPPLY CONTRACT ADMINISTRATOR WITH UPDATED TRAFFIC MANAGEMENT PLANS AS REQUIRED.









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POLSON PARK NATURALIZATION REACH 1