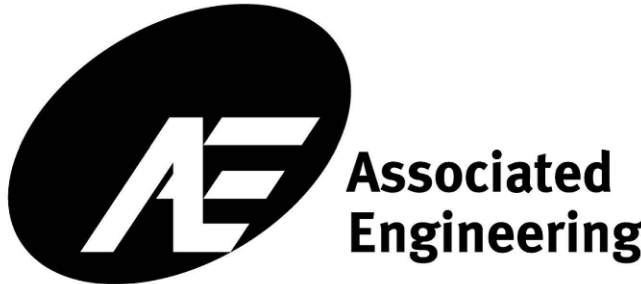


SHEET LIST TABLE				
SHEET	DRAWING NUMBER	REVISION	DRAWING TITLE	DRAWING DESCRIPTION
1	8898-00-G-001	0	COVER PAGE	
2	8898-00-G-002	0	LOCATION PLAN AND LEGEND	
3	8898-00-C-101	0	DRAINAGE PATH DESIGN	PLAN AND PROFILE
4	8898-00-C-301	0	DRAINAGE PATH DESIGN	SECTIONS
5	8898-00-C-501	0	DETAILS AND LANDSCAPING	

HOLOWACHUK DRAINAGE PATH DESIGN AND INSTALLATION

PLOT DATE: 2026-07-21 10:16:23 AM
SAVE DATE: 2026-07-20 8:35:11 AM
DWG PATH: \\ae-caldata\working\edm\2025-8898-00\civil\model\1 8898-00-g-001.dwg



LAC LA BICHE COUNTY

HOLOWACHUK DRAINAGE
DESIGN AND INSTALLATION

2025-8898-00

ISSUED FOR TENDER AND CONSTRUCTION				
0	2026JUL21	H. AL-TURK	J. CHERNIAWSKY	
REV	DATE	DESIGN	DRAWN	DESCRIPTION
DRAWING		REVISION	SHEET	
8898-00-G-001		0	1	



GENERAL NOTES

1. THE CONTRACTOR SHALL REQUEST UTILITY LOCATES PRIOR TO CONSTRUCTION. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXPOSE AND CONFIRM THE LOCATION AND ELEVATION OF BURIED UTILITIES IMPACTED BY THE WORK. THE CONTRACTOR SHALL COORDINATE AND PROTECT UTILITIES AS NEEDED TO FACILITATE THE WORK.
2. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED APPROVALS AND PERMITS NECESSARY FOR THE WORK TO BE COMPLETED PRIOR TO CONSTRUCTION. COPIES OF ANY PERMITS AND APPROVALS OBTAINED BY THE OWNER WILL BE PROVIDED TO THE CONTRACTOR.
3. THE CONTRACTOR SHALL DEVELOP A TRAFFIC/PEDESTRIAN ACCOMMODATION PLAN/STRATEGY FOR REVIEW AND APPROVAL BY THE COUNTY.
4. ANY DISCREPANCIES, CONFLICTS, OR PROPOSED MODIFICATIONS TO THE DESIGN MUST BE BROUGHT TO THE ATTENTION OF THE ENGINEER. THE CONTRACTOR SHALL NOT PROCEED WITH CONSTRUCTION CHANGES UNTIL WRITTEN APPROVAL OF THE DESIGN CHANGE HAS BEEN PROVIDED BY THE ENGINEER.
5. ALL ELEVATIONS ARE GEODETIC UTM GRID, NAD 83 (CSRS) ZONE 11, SURVEY PERFORMED BY UPLAND ENVIRONMENTAL ON MAY 21, 2026.
6. ALL ELEVATIONS AND LOCATIONS OF EXISTING CULVERTS, TREES, AND WATER LEVEL SHOULD BE CONFIRMED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL VERIFY ALL TIE-IN POINTS. ANY CONFLICTS, OR DISCREPANCIES SHOULD BE REPORTED TO THE ENGINEER.
7. ALL CONSTRUCTED ELEVATIONS MUST BE AS PER DESIGN, ANY CHANGES MUST BE SUBMITTED AND APPROVED BY THE ENGINEER PRIOR TO WORKS. THE CONTRACTOR SHALL RESTORE ALL IMPACTED SURFACES AND STRUCTURES TO THE PRE-CONSTRUCTION CONDITION OR BETTER UNLESS INDICATED OTHERWISE. THE CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES, STRUCTURES, AND TREES NOT IDENTIFIED FOR REMOVAL.
8. SURVEY CONTROL AND LAYOUT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL RETAIN A PROFESSIONAL SURVEYOR TO COMPLETE ALL SURVEY LAYOUT AND RECORD SURVEY. PROVIDE RECORD SURVEY IN .CSV AND .DWG FILE FORMATS.
9. THE CONTRACTOR SHALL MAINTAIN A COMPLETE SET OF THE CIVIL DRAWINGS AND MARK UP ANY CHANGES IN RED. THE CONTRACTOR SHALL RECORD ALL RECORD INFORMATION ON THE DRAWINGS IN RED INCLUDING THE AS CONSTRUCTED LOCATION AND ELEVATIONS OF ALL INFRASTRUCTURE. THE CONTRACTOR SHALL SUBMIT THE DRAWINGS TO THE ENGINEER POST CONSTRUCTION. PROVIDE DRAWINGS WITH MARKS UPS IN .PDF FILE FORMAT.
10. THE CONTRACTOR SHALL COORDINATE WITH LAC LA BICHE COUNTY TO SECURE A CONSTRUCTION LAYDOWN AND STORAGE SPACE AS REQUIRED TO COMPLETE THE WORK.
11. THE CONTRACTOR SHALL DISPOSE OF ALL SURPLUS MATERIALS NOT IDENTIFIED FOR RE-USE/SALVAGE POST CONSTRUCTION AT THE APPROPRIATE DISPOSAL FACILITIES.

ENVIRONMENTAL NOTES

IMPORTED TOPSOIL

1. THE CONTRACTOR SHALL USE NATIVE SOIL FROM THE SAME OR SIMILAR HABITAT TYPE.
2. IMPORTED TOPSOIL MUST BE FREE OF WEEDS AND WEED SEEDS AND MEET THE ALBERTA TIER 1 SOIL AND GROUNDWATER REMEDIATION GUIDELINES (ALBERTA ENVIRONMENT AND PROTECTED AREAS 2024).
3. THE CONTRACTOR SHALL PLACE TOPSOIL FOLLOWING FINAL GRADING AND INSTALLATION OF RIPRAP CHANNEL.
4. THE CONTRACTOR SHALL DEVELOP ESC AND ECO PLANS FOR REVIEW AND APPROVAL BY THE COUNTY.

PLANT INSTALLATION

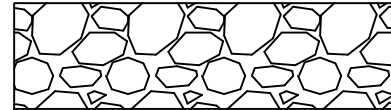
1. THE CONTRACTOR SHALL INSTALL SHRUBS AT A MINIMUM SPACING OF 500 mm ON CENTRE.
2. THE CONTRACTOR SHALL WATER ALL POTTED PLANTS THOROUGHLY IMMEDIATELY AFTER INSTALLATION IN A MANNER THAT PREVENTS EROSION.
3. THE CONTRACTOR SHALL APPLY DECIDUOUS WOOD CHIP MULCH TO A DEPTH OF 100 mm IN A 300 mm DIAMETER RING AROUND EACH PLANT.
4. THE CONTRACTOR SHALL TAPER MULCH AWAY FROM THE STEM AND ENSURE MULCH DOES NOT COME INTO DIRECT CONTACT WITH THE STEM BASE.

GRASS SEEDING

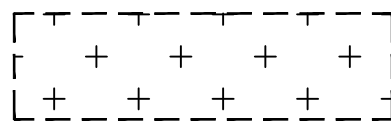
1. THE CONTRACTOR SHALL APPLY SEED BY HAND BROADCASTING WITHIN RESTORATION AREAS AT A RATE OF 45 kg/ha.
2. THE CONTRACTOR SHALL APPLY OPEN FOREST GRASS MIX (CITY OF CALGARY 2018) TO AREAS 1 AND 2 (DWG 8898-00-C-501).
3. THE CONTRACTOR SHALL WATER SEEDDED AREAS FOLLOWING APPLICATION IN A MANNER THAT PREVENTS EROSION.

LEGEND:

DESIGN HATCH



CLASS 1 RIPRAP



VEGETATION

EXISTING



BUILDING



PROPERTY LINE



OVER HEAD POWER



UNDERGROUND GAS



TELUS COMMUNICATIONS



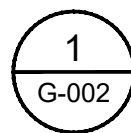
POWER POLE



CULVERT



TREELINE

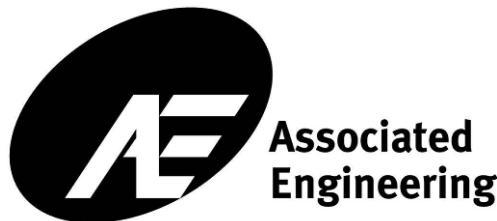


PLAN

LOCATION PLAN

1:2000

PLOT DATE: 2025-07-21 9:40:37 AM
PLOT BY: J. CHERNIAWSKY
PLOT DATE: 2025-07-21 9:40:37 AM
PLOT BY: J. CHERNIAWSKY
DWG PATH: \\es-cad\dwg\eng\2025-8898-00\ch\mde92-8898-00-g-002.dwg



LAC LA BICHE COUNTY

HOLOWACHUK DRAINAGE
DESIGN AND INSTALLATION

2025-8898-00

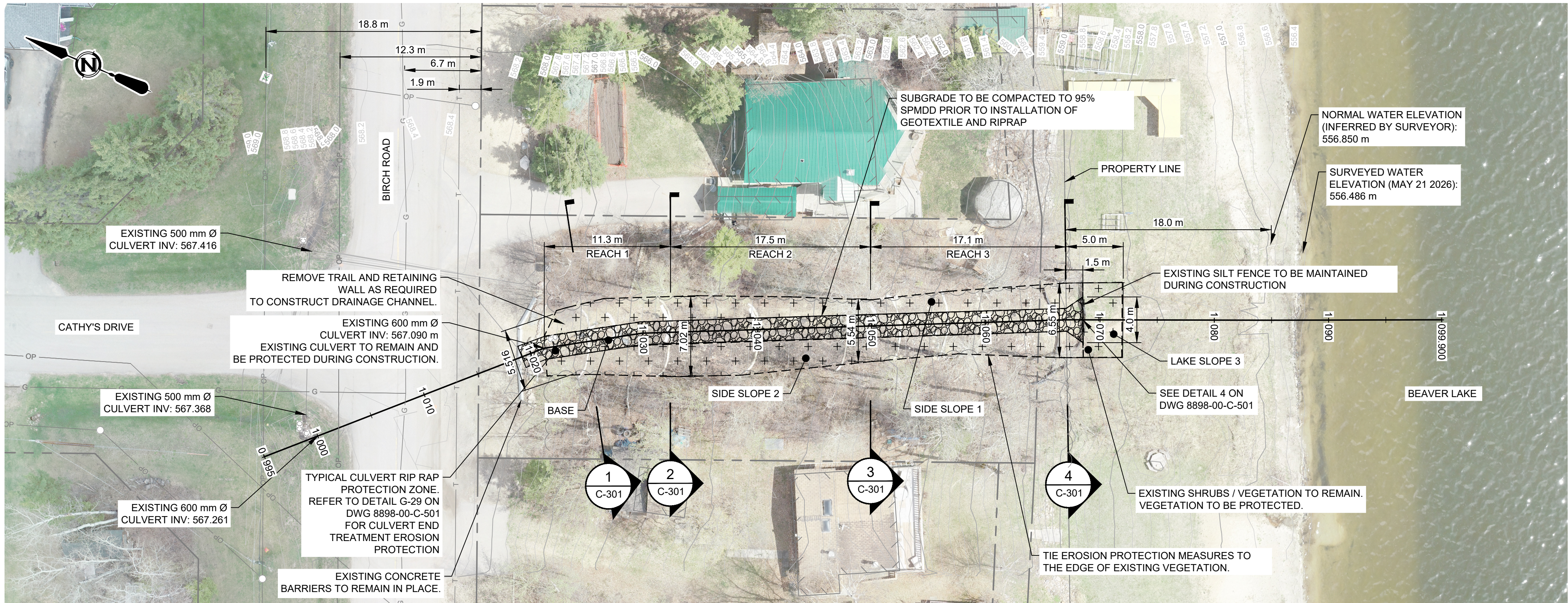
SCALE: AS SHOWN



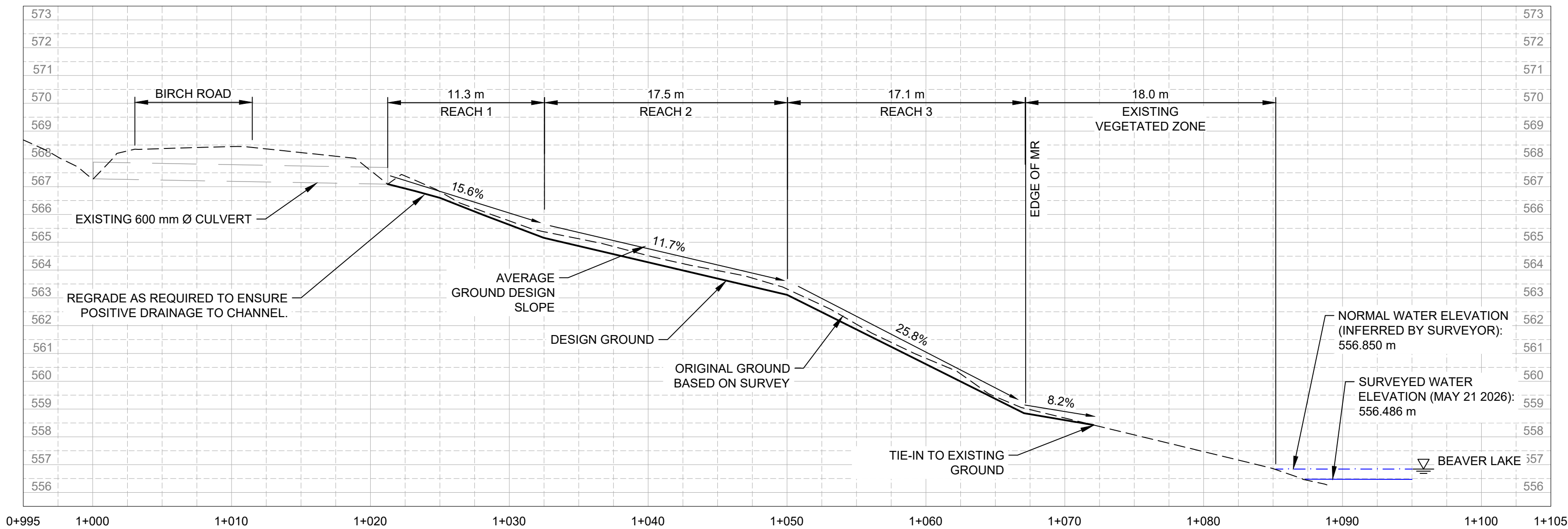
GENERAL
LOCATION PLAN AND LEGEND

REV	DATE	DESIGN	DRAWN	DESCRIPTION
0	2026JUL21	H. AL-TURK	J. CHERNIAWSKY	ISSUED FOR TENDER AND CONSTRUCTION

DRAWING	REVISION	SHEET
8898-00-G-002	0	2



1 PLAN
C-101 1:250



2 PROFILE
C-101 1:250 H 1:125 V

SURVEY NOTE:

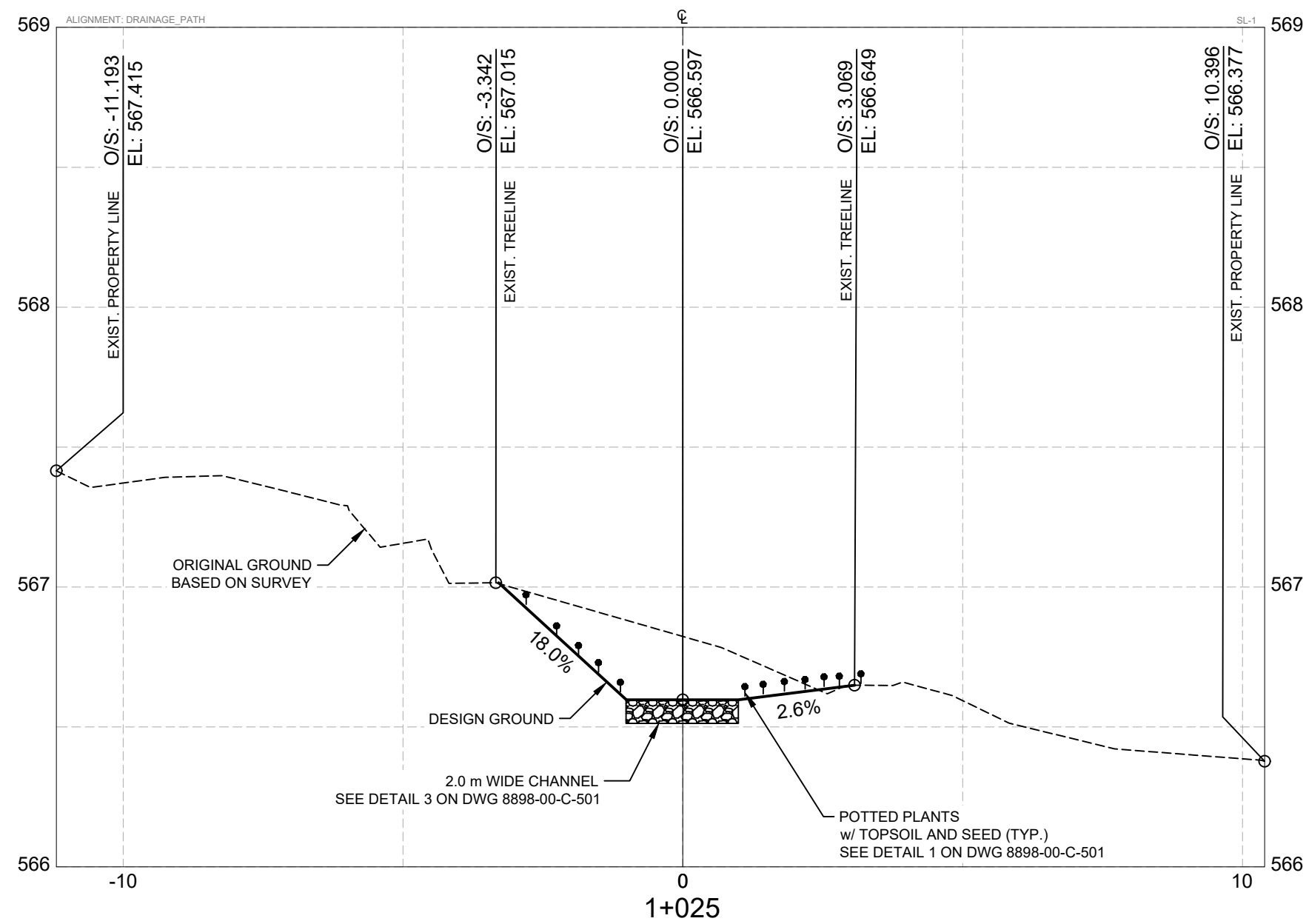
SURVEY OF GROUND ELEVATIONS, TREE LINES, WATER LEVELS, CULVERT LOCATIONS AND INVERTS WAS CONDUCTED BY UPLAND ENVIRONMENTAL LTD. ON MAY 21, 2026.

HYDRAULIC ANALYSIS SUMMARY

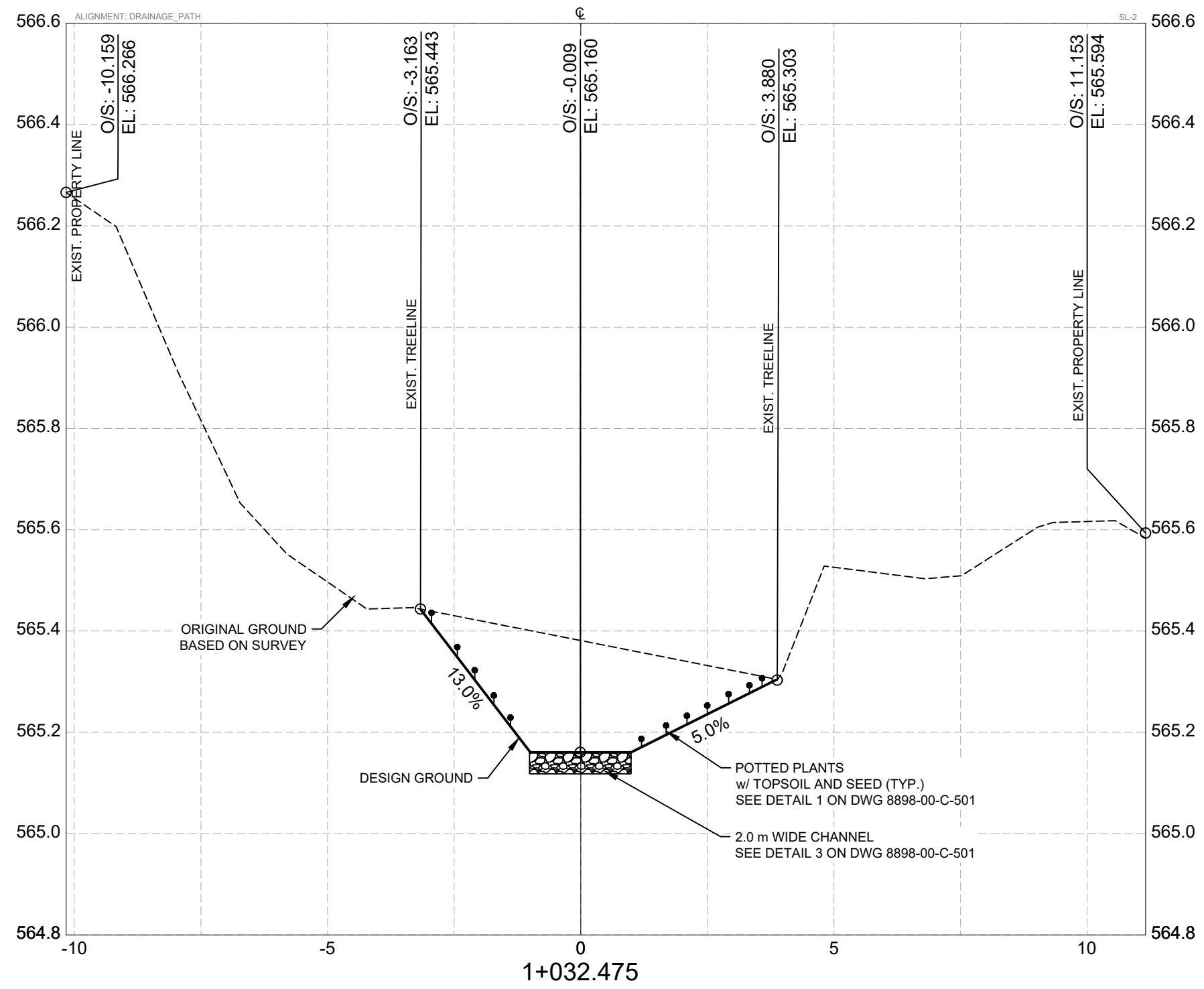
REACH ID	PEAK FLOW, Q	EXISTING CONDITION VELOCITY, V	PROPOSED CONDITION VELOCITY, V	EROSION PROTECTION
1	662 L/s	2.1 m/s	0.6 m/s	CLASS 1 RIPRAP
2	662 L/s	2.3 m/s	0.7 m/s	CLASS 1 RIPRAP
3	662 L/s	2.4 m/s	0.7 m/s	CLASS 1 RIPRAP

NOTES:

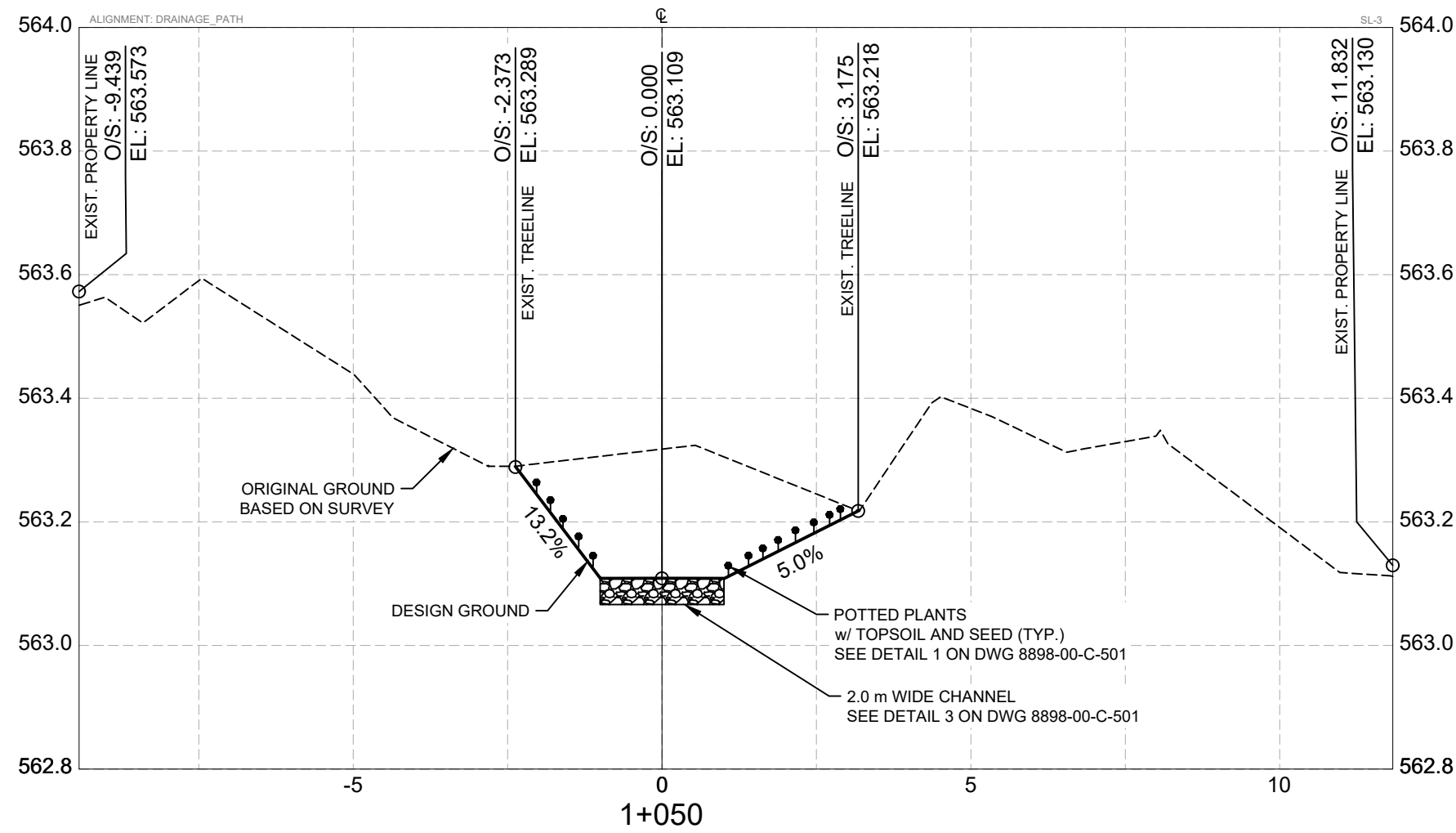
- PEAK FLOW RATES WERE COMPUTED USING A PCSWMM HYDROLOGIC AND HYDRAULIC MODEL FOR THE 100-YEAR DESIGN RAINFALL EVENT.
- EXISTING VELOCITIES ARE BASED ON THE MANNING'S ROUGHNESS OF THE EXISTING UNVEGETATED CHANNEL.
- PROPOSED VELOCITIES ARE BASED ON THE MANNING'S ROUGHNESS OF THE PROPOSED CLASS 1 RIPRAP CHANNEL LINING.
- CLASS 1 RIPRAP WAS SELECTED FOR PERMISSIBLE VELOCITY PROTECTION IN ACCORDANCE WITH ALBERTA TRANSPORTATION AND ECONOMIC CORRIDORS BRIDGE CONCEPTUAL GUIDELINES (2020).



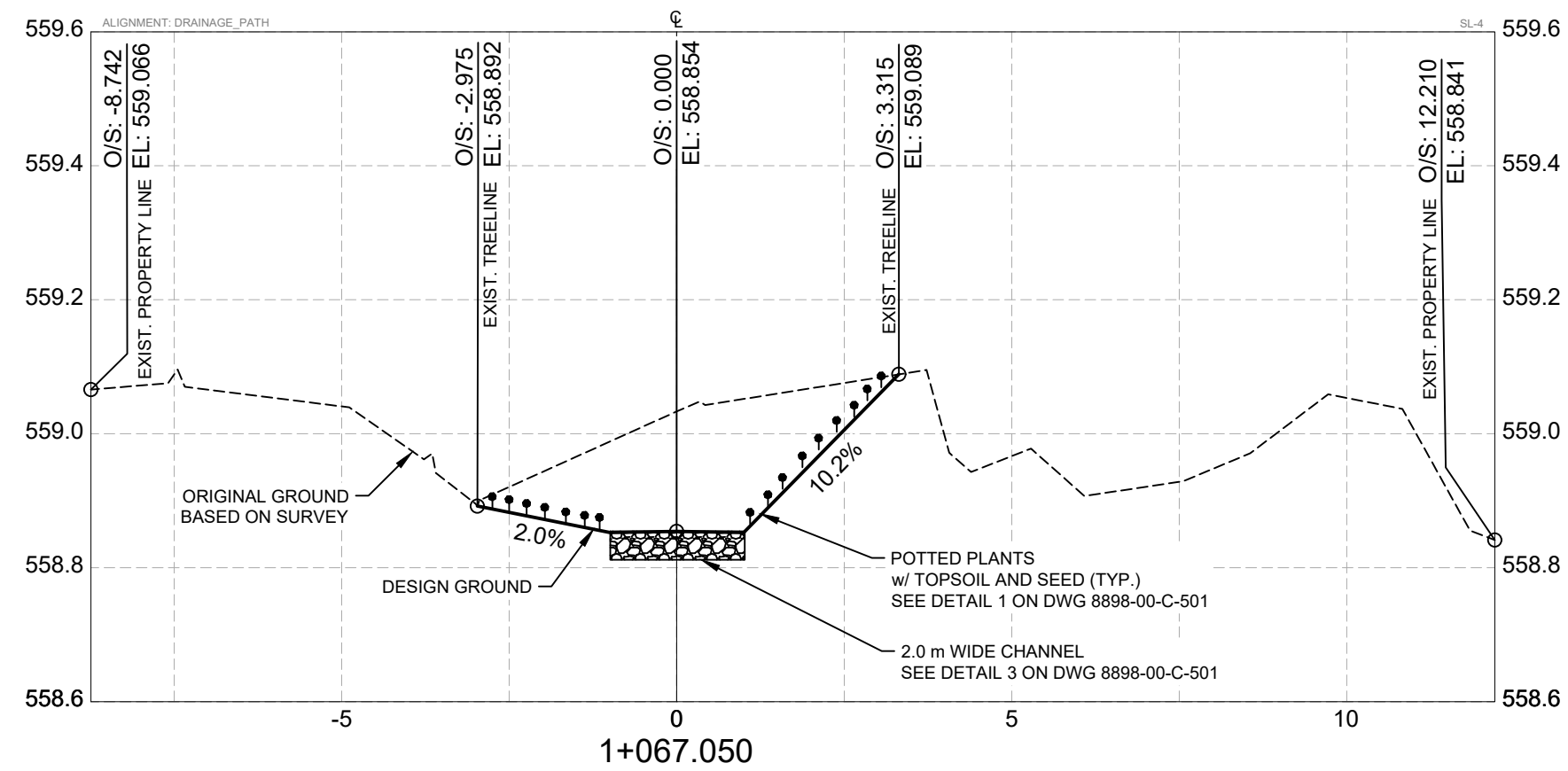
1 SECTION
C-101 STA 1+025.000 H: 1:100 V: 1:20



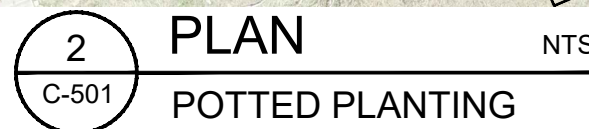
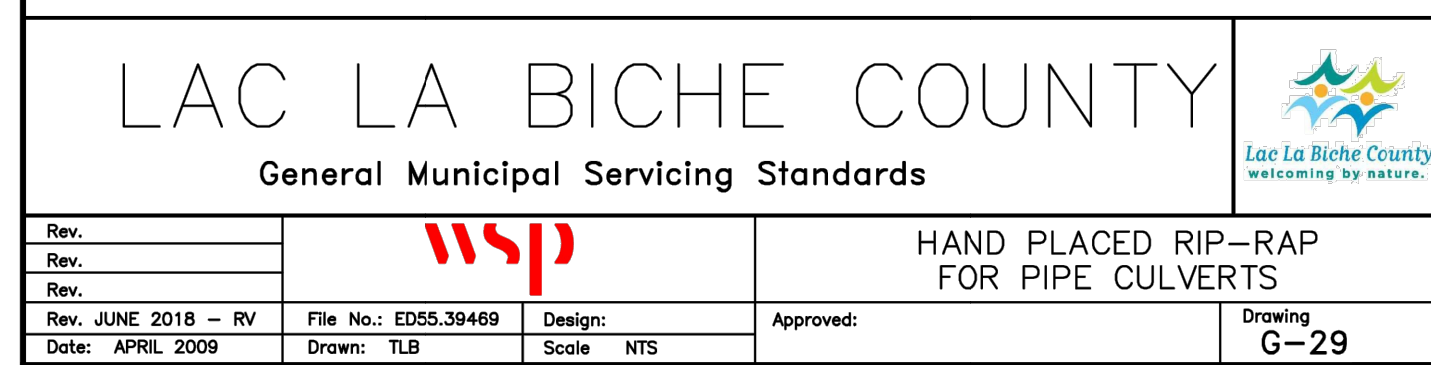
2 SECTION
C-101 STA 0+032.475 H: 1:100 V: 1:10



3 SECTION
C-101 STA 1+050.000 H: 1:100 V: 1:10



4 SECTION
C-101 STA 1+067.050 H: 1:100 V: 1:10



BIOENGINEERED SIDE SLOPE. REFER TO DETAIL 1 AND 2 AND TABLE FOR PLANTING PLAN DETAILS.

350 MIN

CHANNEL INVERT

CLASS 1 RIP RAP

350

2000

300

150

150

SLOPE VARIES MAX 3:1

BIOENGINEERED SIDE SLOPE. REFER TO DETAIL 1 AND 2 AND TABLE FOR PLANTING PLAN DETAILS.

PIN CORNERS, SIDES, AND BOTTOM (TYP)

NON-WOVEN GEOTEXTILE ARMETEC 400 OR APPROVED EQUAL

NOTES

1. NON-WOVEN GEOTEXTILE TYPE AS SHOWN OR AS SPECIFIED OTHERWISE IN CONTRACT DOCUMENTS. ALL NON-WOVEN PANEL JOINTS TO OVERLAP 600 mm AND BE JOINED BY SEWING.
2. REFER TO CONTRACT DOCUMENTS FOR DETAILED SPECIFICATIONS.
3. ALL DIMENSIONS SHOWN IN MILLIMETRES UNLESS NOTED OTHERWISE.

