EASEMENT NOTES:

1. A STORMWATER MANAGEMENT CONVEYANCE EASEMENT SHALL BE LOCATED AROUND EACH CONVEYANCE FACILITY (I.E. SWALES, PIPES, ETC.) AND SHALL BE TWENTY (20) FEET IN WIDTH. THE EASEMENT SHALL EXTEND TEN (10) FEET FROM THE CENTERLINE OF THE CONVEYANCE FACILITY.
2. A STORMWATER MANAGEMENT EASEMENTS SHALL BE LOCATED AROUND EACH STORMWATER MANAGEMENT FACILITY (I.E. DETENTION BASINS, INFILTRATION TRENCHES, RAIN GARDENS, ETC.) AND SHALL ENCOMPASS ALL COMPONENTS OF THE FACILITY.
3. THE GRANTOR, FOR ITSELF, ITS SUCCESSORS, AND ASSIGNS, AUTHORIZES THE TOWNSHIP AND ITS AUTHORIZED REPRESENTATIVES TO ENTER UPON THE PREMISES TO INSPECT THE FACILITIES LOCATED WITHIN THE EASEMENT.
4. ALL FACILITIES LOCATED WITHIN THE ABOVE MENTIONS EASEMENTS SHALL BE SUBJECT TO THE PROVISIONS OF THE STORMWATER MAINTENANCE AND OWNERSHIP PROGRAM.
5. NOTHING SHALL BE PLACED, PLANTED, SET, OR PUT WITHIN THE AREA OF AN EASEMENT THAT WOULD ADVERSELY AFFECT THE FUNCTION OF THE EASEMENT OR CONFLICT WITH THE EASEMENT AGREEMENT.

LEBANON COUNTY PLANNING DEPARTMENT REVIEW CERTIFICATE

The Lebanon County Planning Department, as required by the Pennsylvania Municipalities Planning Code, Act 247 of 1968, as amended, reviewed this plan on __________________________, 2026, and a copy of the review is on file at the office of the Planning Department. This certificate does not indicate approval or disapproval of the plan by the Lebanon County Planning Department, and the Department does not represent nor guarantee that this plan complies with the various ordinances, rules, regulations, or laws of the local municipality, the Commonwealth, or the Federal government.

____

Signature of the Executive Director

NORTH LEBANON TOWNSHIP ENGINEER REVIEW CERTIFICATE

Reviewed by the North Lebanon Township Engineer this ________ day of ________ , 2026.

____

Signature of the North Lebanon Township Engineer

CERTIFICATION OF PLAN ACCURACY

I hereby certify that, to the best of my knowledge, the plan shown and described hereon is true and correct to the accuracy required by the North Lebanon Township Subdivision and Land Development and Stormwater Management Ordinance(s).

____________________, 20___ ______________________________

Joshua T. Weaber, P.E.

CARBONATE GEOLOGY CERTIFICATION

I, Joshua T. Weaber, P.E., to the best of my knowledge, certify that the proposed stormwater management facilities (circle one) are/are not underlain by carbonate geology.

__________ _________, 20___ ______________________________

Joshua T. Weaber, P.E.

NORTH LEBANON TOWNSHIP PLANNING COMMISSION REVIEW CERTIFICATE

At a meeting held on __________________________, 2026, the Planning Commission of North Lebanon Township, Lebanon County, Pennsylvania reviewed this plan, and a copy of the review comments is on file in the Township office.

____

Signature of the Chairman or Vice Chairman or their designee

NORTH LEBANON TOWNSHIP SUPERVISORS PLAN APPROVAL CERTIFICATE

At a meeting held on __________________________, 2026, the Board of Supervisors of North Lebanon Township, Lebanon County, Pennsylvania approved the PHASE 3 FINAL LAND DEVELOPMENT PLAN for the property shown hereon. No other plan or plans shall be recognized. Approval includes all documentation, including the comments or requirements of official reviewing individuals or agencies. Approval is based on compliance with applicable ordinances, rules, and regulations, and shall not be construed as a guarantee to any person or organization that the design of any part of the plan will function as anticipated under any or all conditions or situations. Additionally, that by review and/or approval of the plan, the Township expressly declines the assumption of liability errors, omissions, or mistakes in judgement in the design, engineering, construction, or expected function of the matters reviewed and/or approved.

____

__________ ________________________

__________ ________________________

CERTIFICATE OF OWNERSHIP, ACKNOWLEDGEMENT OF PLAN, AND OFFER OF DEDICATION

COMMONWEALTH OF PENNSYLVANIA
COUNTY OF LEBANON

On this, the ________ day of ___________________________, 2026, before me, the undersigned officer, personally appeared ROBERT GOSLING, who being duly sworn according to law, deposes and says that he is a representative of NORTH LEBANON STORAGE, LLC which is the OWNER of the property shown on this plan, that the plan thereof was made at his direction, that he acknowledges the same to be his act and plan, that he desires the same to be recorded, and that all streets and other property identified as proposed public property (excepting those areas labeled "NOT FOR DEDICATION") are hereby dedicated to the public use. He acknowledges all stormwater management facilities are permanent fixtures that can be altered or removed only after approval of a revised Stormwater Management Site Plan by the Township.

____

Craig Holzman (Owner)

____

Notary

My Commission Expires _______________________________, 20___

5/4/2026 10:55 AM

M:\Project Files\GO2 - Bob Gosling\GO2.26.1 - NLSS Phase 3\DWG\PRELIM-FINAL LD PLAN.dwg

GENERAL NOTES:

1. ⌖ BENCHMARK: TOP OF GRATE LOCATED IN THE NORTH WEST OF THE PROPERTY.
   ELEVATION: 550.72'
   VERTICAL DATUM: NAVD 88
   HORIZONTAL DATUM: NAD83 - COR 96
2. MATTHEW & HOCKLEY ASSOCIATES, LTD. PERFORMED THE SURVEY AS SHOWN HEREON ON MARCH 2, 2020.
3. UNDERGROUND UTILITIES ARE SHOWN ACCORDING TO INFORMATION PROVIDED BY OTHERS AND MUST BE FIELD VERIFIED PRIOR TO CONSTRUCTION, EXCAVATION OR BLASTING. THE ACTUAL LOCATIONS OF THESE UTILITIES HAVE NOT BEEN FIELD VERIFIED AND THE LOCATIONS ARE APPROXIMATE. CHRISLAND ENGINEERING DOES NOT MAKE ANY REPRESENTATION, WARRANTY, ASSURANCE, OR GUARANTEE THAT THE UNDERGROUND UTILITY LOCATION PROVIDED BY OTHERS AND REFLECTED ON THESE DRAWINGS ARE CORRECT AND ACCURATE. CHRISLAND ENGINEERING. ASSUMES NO RESPONSIBILITY FOR ANY DAMAGES INCURRED AS A RESULT OF UTILITIES OMITTED OR INACCURATELY SHOWN.
4. NO FLOOD ZONE EXISTS ON THIS SITE ACCORDING TO FLOOD INSURANCE RATE MAP FOR LEBANON COUNTY, PENNSYLVANIA (ALL JURISDICTIONS), COMMUNITY NUMBER 421131, MAP NUMBER 42075C0251E, EFFECTIVE DATE JULY 8, 2020.
5. ANY REVISION TO THESE PLANS AFTER THE DATE OF PLAN PREPARATION OR LATEST REVISION DATE SHALL NOT BE THE RESPONSIBILITY OF CHRISLAND ENGINEERING.
6. NO ONE SHALL SCALE FROM THESE PLANS FOR CONSTRUCTION PURPOSES.
7. THE INFORMATION SHOWN ON THIS DRAWING MAY HAVE ALSO BEEN PROVIDED BY DIGITAL FILE. AFTER A DIGITAL FILE IS RELEASED FROM CHRISLAND ENGINEERING THE VIEWER IS THEREFORE CAUTIONED TO COMPARE ANY SUBSEQUENT REPRODUCTIONS OF THIS DATA WITH THE ORIGINAL HARD COPY SEALED PLAN.
8. ALL SITE DEVELOPMENT SHALL BE DONE IN ACCORDANCE WITH FEDERAL, STATE, COUNTY, AND TOWNSHIP STANDARDS AND REQUIREMENTS.
9. CHRISLAND ENGINEERING HAS NOT PERFORMED ANY SUBSURFACE INVESTIGATIONS GEOLOGICAL STUDIES, SOUNDINGS OR EVALUATIONS OF THE SUBSURFACE CONDITIONS PRESENT THROUGHOUT THE SITE OTHER THAN THE PROVIDED PROBE AND INFILTRATIONS TESTS. NUMEROUS UNKNOWN GEOLOGICAL SITE CONDITIONS AND THE UTILIZATION OF NUMEROUS CONSTRUCTION PRACTICES MEAN THAT CHRISLAND ENGINEERING CANNOT CONSIDER EVERY POTENTIAL GEOLOGICAL IMPACT CAUSED BY CONSTRUCTION ON ANY PORTION OF THE SITE WHICH IS THE SUBJECT OF THIS PLAN.
10. IT IS THE RESPONSIBILITY OF THE LANDOWNER, LAND PURCHASER, OR PROSPECTIVE BUYER OF ANY PORTION OF THE SITE DEPICTED ON THIS PLAN TO PERFORM THEIR OWN INDIVIDUAL EVALUATION OF THE GEOLOGY OF THIS SITE TO ASCERTAIN THE GEOLOGICAL FORMATION(S) WHICH UNDERLAY IT, AND THE IMPACT WHICH THOSE FORMATION(S) MAY HAVE UPON THEIR LAND OR ANY CONSTRUCTION PROPOSED THEREON, INCLUDING THE ABILITY TO CONSTRUCT THE REQUIRED STORM WATER MANAGEMENT FACILITIES AND OTHER SITE WORK IN ACCORDANCE WITH THE APPROVED SUBDIVISION PLAN.
11. CHRISLAND ENGINEERING SHALL NOT BE RESPONSIBLE FOR THE COST OF ANY ROCK REMOVAL, SINKHOLES, SOLUTION CHANNELS OR ROCK FRACTURES, OR FOR THE CONSTRUCTION, ENGINEERING, PERMITTING AND INSPECTION COST IMPACT WHICH ANY OF THESE GEOLOGICAL FEATURES MAY HAVE UPON THE LAND OWNER.
12. MATERIALS AND DETAILS SPECIFIED ON THE APPROVED PLAN SHALL NOT BE ALTERED DURING CONSTRUCTION WITHOUT WRITTEN APPROVAL BY NORTH LEBANON TOWNSHIP.
13. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ELEVATIONS ON SITE PRIOR TO THE START OF CONSTRUCTION. UNDERGROUND UTILITIES HAVE BEEN SHOWN ACCORDING TO INFORMATION PROVIDED BY OTHERS AND MUST BE FIELD VERIFIED PRIOR TO CONSTRUCTION, EXCAVATION OR BLASTING. THE ACTUAL LOCATIONS OF THESE UTILITIES HAVE NOT BEEN FIELD VERIFIED AND THE LOCATIONS ARE APPROXIMATE.CHRISLAND ENGINEERING DOES NOT MAKE ANY REPRESENTATION, WARRANTY, ASSURANCE OR GUARANTEE THAT THE UNDERGROUND UTILITY LOCATION INFORMATION PROVIDED BY OTHERS AND REFLECTED ON THESE DRAWINGS IS CORRECT AND ACCURATE. CHRISLAND ENGINEERING ASSUMES NO LIABILITY FOR ANY DAMAGE INCURRED AS A RESULT OF UNDERGROUND UTILITIES OMITTED OR INACCURATELY SHOWN.
14. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. DAMAGE TO ANY UTILITY SHALL BE REPAIRED TO THE SATISFACTION OF THE OWNER, UTILITY COMPANY OR AUTHORITY, AT THE CONTRACTOR'S EXPENSE.
15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY PERMITS FROM THE MUNICIPALITY, COUNTY, STATE OR AUTHORITY RELATIVE TO CONSTRUCTION SHOWN ON THIS PLAN.
16. THE CONTRACTOR IS RESPONSIBLE FOR ALL TESTING AND RECORD DRAWINGS AS MAY BE REQUIRED BY THE MUNICIPALITY AND/OR THE VARIOUS AUTHORITIES RELATIVE TO THE CONSTRUCTION SHOWN ON THESE PLANS.
17. THE PROPOSED SITE IS LOCATED WITHIN THE "LEBANON COUNTY RESIDUAL" STORMWATER MANAGEMENT DISTRICT.
18. ALL PROPOSED SIGNS SHALL BE IN ACCORDANCE WITH THE NORTH LEBANON TOWNSHIP ZONING ORDINANCE.
19. ALL PROPOSED UTILITIES SHALL BE UNDERGROUND.
20. ALL PROPOSED STREET SIGNS SHALL BE INSTALLED BY THE DEVELOPER. INSTALLATION AND SIGN TYPE SHALL BE IN ACCORDANCE WITH THE TOWNSHIP AND/OR PENNDOT SPECIFICATIONS.
21. ALL PUBLIC WATER FACILITIES SHALL BE INSTALLED IN ACCORDANCE WITH CURRENT TOWNSHIP AND CITY OF LEBANON AUTHORITY SPECIFICATIONS AND DETAILS.
22. CLEAR SIGHT TRIANGLES SHALL BE KEPT CLEAR OF ANY OBSTRUCTIONS WITH A HEIGHT GREATER THAN 30 INCHES.
23. ALL PLAN SHEETS, INCLUDING THE APPROVED POST-CONSTRUCTION STORMWATER MANAGEMENT REPORT AND EROSION AND SEDIMENT POLLUTION CONTROL REPORT ARE PART OF THIS PLAN AND ARE ENFORCEABLE AS IF THEY APPEARED IN TOTAL HEREIN.
24. THE INSTALLATION OF A RAPID ENTRY SYSTEM (KNOX LOCK BOX) SHALL BE INSTALLED PRIOR TO THE ISSUANCE OF AN OCCUPANCY PERMIT PER ORDINANCE 2-2010.
25. A PDF COPY OF THE APPROVED PCSM PLAN SHALL BE SUBMITTED TO THE TOWNSHIP.
26. THE DEVELOPER SHALL BE FINANCIALLY RESPONSIBLE FOR ANY ATTORNEY FEES WHEN THE ATTORNEY IS ENGAGED ON BEHALF OF THE TOWNSHIP/AUTHORITY RELATING TO THE REVIEW OF THE SUBDIVISION PLANS OR LAND DEVELOPMENT PLANS THAT ARE SUBMITTED TO THE TOWNSHIP/AUTHORITY. PAYMENT OF ALL INVOICES IS DUE AND PAYABLE WITHIN 30 DAYS OF RECEIPT BUT IN ALL CASES PRIOR TO PLAN APPROVAL BY THE BOARD OF SUPERVISORS. ANY QUESTIONS ON INVOICES MUST BE REPORTED TO THE TOWNSHIP/AUTHORITY IN WRITING WITHIN 10 DAYS OF RECEIPT OF THE BILL.

STORMWATER MANAGEMENT NOTES:

1. MAINTENANCE OF ALL STORMWATER MANAGEMENT FACILITIES AND EASEMENTS NOT LOCATED WITHIN PUBLIC RIGHTS-OF-WAY, INCLUDING THE STORMWATER MANAGEMENT FACILITIES, SHALL BE THE RESPONSIBILITY OF THE CURRENT PROPERTY OWNER. OWNERSHIP AND MAINTENANCE RESPONSIBILITIES WILL TRANSFER TO SUBSEQUENT OWNERS WITH THE TRANSFER OF PROPERTY OWNERSHIP.
2. DETENTION BASIN, SWALES AND OTHER STORMWATER MANAGEMENT FACILITIES SHALL BE MAINTAINED IN ACCORDANCE WITH THE DESIGN AND KEPT FREE OF FILL *AND* OBSTRUCTIONS.
3. ALL YARD INLETS SHALL BE SUMPED AT LEAST SIX (6) INCHES BELOW SURROUNDING GRADE TO CAPTURE TRIBUTARY RUNOFF AND PREVENT BYPASS FLOWS.
4. NO ALTERATION TO ANY STORMWATER MANAGEMENT FACILITIES SHALL BE PERMITTED WITHIN EASEMENTS.
5. NOTHING SHALL BE PLACED, PLANTED, SET OR PUT WITHIN ANY EASEMENT WHICH COULD ADVERSELY AFFECT THE FUNCTION OF THE EASEMENT. NORTH LEBANON TOWNSHIP SHALL HAVE THE RIGHT TO:
   - 5.1. ACCESS THE SITE TO INSPECT STORM WATER FACILITIES AT ANY TIME.
   - 5.2. REQUIRE THE CURRENT LAND OWNER TAKE CORRECTIVE MEASURES AND ASSIGN THE LAND OWNER A REASONABLE PERIOD TO TAKE CORRECTIVE ACTION.
   - 5.3. AUTHORIZE MAINTENANCE TO BE DONE AND LIEN ALL COSTS OF WORK AGAINST THE PROPERTIES OF THE PRIVATE ENTITY RESPONSIBLE FOR MAINTENANCE.
6. THE MAINTENANCE OF ALL STORMWATER CONVEYANCE AND MANAGEMENT FACILITIES SHALL BE BY THE PROPERTY OWNER. MAINTENANCE SHALL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING:
   - 6.1. REMOVAL OF SILT AND DEBRIS FROM ALL STORM WATER MANAGEMENT STRUCTURES.
   - 6.2. PERIODIC REPLACEMENT OF SILT FENCE OR OTHER SIMILAR MEASURES.
   - 6.3. ESTABLISHMENT OR RE-ESTABLISHMENT OF VEGETATION BY SEEDING AND MULCHING OR SODDING OF SCOURED AREAS OR AREAS WHERE VEGETATION HAS NOT BEEN SUCCESSFULLY ESTABLISHED.
   - 6.4. INSTALLATION OF NECESSARY CONTROLS TO CORRECT UNFORESEEN PROBLEMS CAUSED BY STORM EVENTS.
   - 6.5. REMOVAL OF ALL TEMPORARY STORMWATER MANAGEMENT CONTROL FACILITIES UPON THE INSTALLATION OF PERMANENT STORMWATER FACILITIES AT THE COMPLETION OF THE DEVELOPMENT.
   - 6.6. REPAIR OF STRUCTURAL DAMAGE OR DETERIORATION OF ANY KIND, INCLUDING THAT CAUSED BY SINKHOLES OR OTHER EVENTS.
   - 6.7. MOWING AND/OR TRIMMING OF VEGETATION SHOULD BE PERFORMED AS NECESSARY TO SUSTAIN THE SYSTEM, BUT ALL DETRITUS MUST BE REMOVED FROM THE BASIN.
     - VEGETATED AREAS SHOULD BE INSPECTED ANNUALLY FOR UNWANTED GROWTH OF EXOTIC/INVASIVE SPECIES.
7. ACCESS TO ALL STORMWATER MANAGEMENT FACILITIES, INCLUDING INLETS, MANHOLES, STORM PIPES, ENDWALLS, HEADWALLS, SWALES, AND BASINS SHALL BE PROVIDED VIA EASEMENTS TO REPRESENTATIVES OF NORTH LEBANON TOWNSHIP.
8. STORMWATER MANAGEMENT FACILITIES (DETENTION FACILITIES, STORM DRAINAGE PIPES, INLETS AND ENDWALLS) SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF NORTH LEBANON TOWNSHIP, LEBANON COUNTY CONSERVATION DISTRICT, LEBANON COUNTY, AND PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION.
9. ALL STORM SEWER JOINTS SHALL BE WATERTIGHT.
10. ALL STORM SEWERS SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE WITH PENNDOT PUB. 408 SPECIFICATIONS, PENNDOT PUB. 72, AND AS SHOWN ON THESE DRAWINGS.
11. SHOP DRAWINGS SHALL BE PROVIDED TO THE TOWNSHIP AND TOWNSHIP/ENGINEER FOR REVIEW FOR ALL STORM SEWER STRUCTURES PRIOR TO INSTALLATION.
12. RUNOFF FROM THE PROPOSED IMPROVEMENTS SHALL BE DIRECTED TO THE STORM WATER MANAGEMENT FACILITIES.
13. TOWNSHIP AND COUNTY OFFICIALS, AND THEIR AGENTS OR EMPLOYEES, HAVE THE RIGHT OF ACCESS FOR INSPECTION AND, IN CASES OF CONSTRUCTION DEFAULT, CONSTRUCTION OF THE STORM WATER MANAGEMENT FACILITIES. THE DEVELOPER/OWNER GRANTS THE TOWNSHIP THE RIGHT TO ACCESS TO ALL STORMWATER MANAGEMENT EASEMENTS ON THE SUBJECT TRACT VIA THE ACCESS DRIVES, DRIVEWAYS, PARKING AREAS, AND SIMILAR FEATURES WITHIN THE SITE.
14. ACCESSORY BUILDINGS, STRUCTURES, FENCES, WALLS, HEDGES, AND POOLS SHALL NOT BE LOCATED WITHIN OR OBSTRUCT ANY STORMWATER MANAGEMENT FACILITY AND ASSOCIATED CONVEYANCE SYSTEMS.
15. ALL DRAINAGE PIPES SHALL BE LAID TO A MINIMUM DEPTH OF EIGHTEEN (18) INCHES FROM FINISHED SUBGRADE TO THE CROWN OF THE PIPE IN PAVED OR STONE AREAS AND TWELVE (12) INCHES FROM FINISHED GRADE TO THE CROWN OF PIPE IN GRASSED AREAS.
16. NO PERSON SHALL MODIFY, REMOVE, FILL, LANDSCAPE, OR ALTER STORMWATER MANAGEMENT FACILITIES WHICH MAY WERE INSTALLED ON THE PROPERTY UNLESS A STORMWATER MANAGEMENT SITE PLAN HAS BEEN APPROVED BY NORTH LEBANON TOWNSHIP WHICH ALLOWS SUCH MODIFICATION, REMOVAL, FILL, LANDSCAPING OR ALTERATION. NO PERSON SHALL PLACE ANY STRUCTURE, FILL, LANDSCAPING OR VEGETATION INTO A STORMWATER MANAGEMENT FACILITY OR WITHIN A DRAINAGE EASEMENT WHICH COULD LIMIT OR ALTER THE FUNCTIONING OF THE FACILITY OR EASEMENT IN ANY MANNER.
17. AS PER NORTH LEBANON TOWNSHIP STORMWATER MANAGEMENT ORDINANCE, THE PROJECT DEPICTED HEREIN IS LOCATED WITHIN THE "LEBANON COUNTY RESIDUAL" STORMWATER MANAGEMENT DISTRICT.
18. THE NORTH LEBANON TOWNSHIP, TOWNSHIP ENGINEER AND DESIGN ENGINEER SHALL BE CONTACTED REGARDING INSPECTION OF THE STORMWATER MANAGEMENT FACILITIES. INSPECTIONS SHALL BE REQUIRED DURING CONSTRUCTION AND AT COMPLETION OF THE FACILITIES. NO OCCUPANCY PERMIT SHALL BE ISSUED UNTIL THE STORMWATER MANAGEMENT FACILITIES HAVE BEEN INSTALLED AND APPROVED THROUGH INSPECTION BY THE TOWNSHIP.

NORTH LEBANON TOWNSHIP STANDARD STORMWATER NOTES:

1. ALL STORMWATER MANAGEMENT FACILITIES SHOWN ON THIS PLAN SHALL BE CONSTRUCTED BY THE DEVELOPER IN ACCORDANCE WITH THE DESIGN, CONDITIONS AND SPECIFICATIONS IDENTIFIED ON THIS PLAN. OWNERSHIP AND MAINTENANCE SHALL BE THE RESPONSIBILITY OF THE LANDOWNER, HIS SUCCESSORS, AND ASSIGNS, UNLESS SPECIFICALLY IDENTIFIED OTHERWISE HEREIN.
2. STORMWATER MANAGEMENT FACILITIES SHALL BE MAINTAINED IN GOOD WORKING CONDITION SO THAT THEY ARE PERFORMING THEIR DESIGN FUNCTION, IN A MANNER ACCEPTABLE TO NORTH LEBANON TOWNSHIP, AS REQUIRED BY NORTH LEBANON TOWNSHIP STORMWATER MANAGEMENT ORDINANCE. MAINTENANCE SHALL INCLUDE PERFORMING ROUTINE MAINTENANCE AND REPAIR OR REPLACEMENT OF DAMAGED FACILITIES, VEGETATION, OR STORMWATER AREAS TO CONDITIONS AS SHOWN ON THE APPROVED PLAN AND IN ACCORDANCE WITH NORTH LEBANON TOWNSHIP STORMWATER MANAGEMENT ORDINANCE.
3. ANY DRAINAGE AND UTILITY EASEMENTS SHOWN ON THE PLAN SHALL BE CONSTRUCTED, OWNED, AND MAINTAINED IN ACCORDANCE WITH THE APPROVED PLAN AND SHALL BE REFERENCED WITHIN THE PROPERTY DEED.
4. RUNOFF FROM THE LOT IMPROVEMENTS SHALL BE DIRECTED TO THE STORMWATER MANAGEMENT FACILITIES. STORMWATER RUNOFF FROM EXISTING NATURAL SWALES AND/OR OTHER EXISTING DRAINAGE CONVEYORS SHALL NOT BE DIRECTED TOWARDS OR INTERCEPTED BY THE STORMWATER MANAGEMENT FACILITIES.
5. TOWNSHIP OFFICIALS AND THEIR AGENTS OR EMPLOYEES HAVE THE RIGHT OF ACCESS FOR INSPECTION AND, IN CASES OF CONSTRUCTION DEFAULT, CONSTRUCTION OF THE STORMWATER MANAGEMENT FACILITIES.
6. CONTACT NORTH LEBANON TOWNSHIP AT (717) 273-7132 PRIOR TO CONSTRUCTION TO COORDINATE INSPECTIONS OF STORMWATER MANAGEMENT FACILITIES BY THE TOWNSHIP ENGINEER. NO OCCUPANCY IS PERMITTED UNTIL STORMWATER MANAGEMENT FACILITIES HAVE BEEN INSTALLED AND APPROVED THROUGH INSPECTION BY THE TOWNSHIP ENGINEER.
7. WHEN BEDROCK IS ENCOUNTERED, OVER-EXCAVATION SHALL PROCEED TO ESTABLISH TWO (2) FEET SEPARATION BETWEEN BOTTOM OF INFILTRATION FACILITY AND LIMITING ZONE. REGARDLESS OF LIMITING ZONE CONDITIONS, POST-CONSTRUCTION INFILTRATION TESTING SHALL BE CONDUCTED AT LOWEST ELEVATION PRIOR TO INFILTRATION FACILITY PLACEMENT.

ADDITIONAL NORTH LEBANON TOWNSHIP REQUIREMENTS:

1. CONTRACTORS AND PROPERTY OWNERS SHALL NOT STORE CONSTRUCTION MATERIALS OR LOCATE TRASH RECEPTACLES (I.E. DUMPSTERS) ON THE PAVED CARTWAY STREETS.
2. ALL MUD FROM CONSTRUCTION ACTIVITIES THAT IS TRACKED ONTO STREETS SHALL BE CLEANED BY THE RESPONSIBLE CONTRACTOR OR PROPERTY OWNER AT THE END OF EACH WORKDAY.
3. STORMWATER INLETS OR DRAINAGE PIPES WHICH BECOME FILLED WITH MUD OR DEBRIS FROM CONSTRUCTION ACTIVITIES SHALL BE CLEANED BY THE RESPONSIBLE CONTRACTOR OR PROPERTY OWNER.
4. IF IT IS NECESSARY TO PLACE OR STORE CONSTRUCTION MATERIAL, EQUIPMENT, DUMPSTERS, ETC. IN THE STREET, THIS OBSTACLE MUST BE CLEARLY MARKED WITH WORKING BLINKING BARRICADE(S). IF THE CONTRACTOR FAILS TO DO SO, THERE WILL BE A SEPARATE PENALTY ESTABLISHED BY THE BOARD OF SUPERVISORS. THE BOARD OF SUPERVISORS SHALL BE ABLE TO HAVE THE AREA PROPERLY MARKED AND BARRICADED AND TO HAVE THE COSTS AND PENALTY PAID FROM THE FINANCIAL SECURITY POSTED WITH THE TOWNSHIP.

PENNSYLVANIA ONE CALL SYSTEM, INC.
1-800-242-1776
STOP-CALL BEFORE YOU DIG!

SERIAL NUMBER: 20261043858 (NORTH LEBANON TOWNSHIP) DATE: 4/14/2026

NORTH LEBANON TOWNSHIP
MUNICIPAL AUTHORITY
725 KIMERLINGS ROAD
LEBANON, PA 17046
717-273-7132

COMCAST CABLE LEBANON
C/O CLS LOCATING SERVICES INC
9045 RIVER ROAD, STE 300
INDIANAPOLIS, IN 46240
CONTACT - CLS PERSONNEL
317-575-7800

FIRSTENERGY CORP
76 S MAIN ST
AKRON, OH 44308-1890
CONTACT - OFFICE PERSONNEL
800-633-4766

NORTH LEBANON TOWNSHIP
722 KIMERLINGS ROAD
LEBANON, PA 17046
CONTACT - CHERI GRUMBINE
717-273-7132

CITY OF LEBANON AUTHORITY
2311 RIDGEVIEW RD
LEBANON, PA 17042
717-675-2181

CHRISLAND ENGINEERING, INC., HEREBY STATES THAT, PURSUANT TO THE PROVISIONS OF ACT NO. 287 OF 1974 AS AMENDED BY ACT 121 OF 2008 OF THE PENNSYLVANIA GENERAL ASSEMBLY, IT HAS PERFORMED THE FOLLOWING IN PREPARING THESE DRAWINGS REQUIRING EXCAVATION OR DEMOLITION WORK AT SITES WITHIN THE POLITICAL SUBDIVISION(S) SHOWN ON THE DRAWINGS:

(1) PURSUANT TO SECTION 4, CLAUSE (2) OF SAID ACT, CHRISLAND ENGINEERING, INC. REQUESTED THE LINE AND FACILITY INFORMATION PRESCRIBED BY SECTION 2, CLAUSE (4) FROM A ONE CALL SYSTEM NOT LESS THAN TEN NOR MORE THAN NINETY WORKING DAYS BEFORE FINAL DESIGN IS TO BE COMPLETED.

(2) PURSUANT TO SECTION 4, CLAUSE (3) OF SAID ACT, CHRISLAND ENGINEERING, INC. SHOWN UPON THE DRAWING(S) THE POSITION AND TYPE OF EACH FACILITY OWNERS LINE, DERIVED PURSUANT TO THE REQUEST MADE AS REQUIRED BY SECTION 4, CLAUSE (2), AND THE NAME OF THE FACILITY OWNER, AND THE FACILITY OWNERS DESIGNATED OFFICE ADDRESS AND THE TELEPHONE NUMBER AS SHOWN ON THE LIST REFERRED TO IN SECTION 3.

(3) PURSUANT TO SECTION 4, CLAUSE (4) OF SAID ACT, CHRISLAND ENGINEERING, INC. MADE A REASONABLE EFFORT TO PREPARE THE CONSTRUCTION DRAWING(S) TO AVOID DAMAGE TO AND MINIMIZE INTERFERENCE WITH A FACILITY OWNERS FACILITIES IN THE CONSTRUCTION AREA BY MAINTAINING AN EIGHTEEN-INCH CLEARANCE OF THE FACILITY OWNERS FACILITIES WHERE POSSIBLE.

(4) PURSUANT TO SECTION 4, CLAUSE (5) OF SAID ACT, CHRISLAND ENGINEERING, INC., SHALL BE DEEMED TO HAVE MET THE OBLIGATIONS OF CLAUSE (2) BY CALLING A ONE CALL SYSTEM AND SHOWING AS PROOF THE SERIAL NUMBER OF THE ONE CALL NOTICE ON THE DRAWING(S).

AND CHRISLAND ENGINEERING, INC. DOES NOT MAKE ANY REPRESENTATION, WARRANTY, ASSURANCE OR GUARANTEE THAT THE INFORMATION RECEIVED PURSUANT TO SAID REQUEST AND AS REFLECTED ON THESE DRAWINGS IS CORRECT OR ACCURATE, BUT CHRISLAND ENGINEERING, INC. IS REFLECTING SAID INFORMATION ON THESE DRAWINGS ONLY DUE TO THE REQUIREMENTS OF THE SAID ACT 187, DECEMBER 19, 1996.

REQUIRED INSPECTIONS DURING SITE CONSTRUCTION

THE NORTH LEBANON TOWNSHIP ENGINEER SHALL INSPECT THE IMPROVEMENTS DURING CONSTRUCTION. THE DEVELOPERS OR SITE WORK CONTRACTOR SHALL PROVIDE AT LEAST 2 WORKING DAYS NOTICE PRIOR TO THE START OF ANY IMPROVEMENTS WHICH REQUIRE INSPECTION BY CALLING THE NORTH LEBANON TOWNSHIP ENGINEER AT 717-272-7110.

ALL INSPECTIONS OF COMPLETED ITEMS SHALL BE REQUESTED IN WRITING AT LEAST 48 HOURS IN ADVANCE OF THE FINAL INSPECTION DATE & TIME.

INSPECTIONS ARE REQUIRED FOR THE FOLLOWING ACTIVITIES:

GENERAL SITE CONSTRUCTION

1. UPON COMPLETION OF PRELIMINARY SITE PREPARATION INCLUDING STRIPING OF VEGETATION, STOCKPILING OF TOPSOIL AND TEMPORARY EROSION AND SEDIMENTATION CONTROL DEVICES.
2. UPON COMPLETION OF ROUGH GRADING, BUT PRIOR TO PLACING TOPSOIL, PERMANENT DRAINAGE OR OTHER SITE IMPROVEMENTS AND GROUND COVERS.
3. UPON FINAL COMPLETION OF PERMANENT STORM WATER MANAGEMENT AND BMP FACILITIES AND THE ESTABLISHMENT OF GROUND COVERS AND PLANTINGS.
4. AFTER REVIEW OF THE AS-BUILT DRAWINGS BUT PRIOR TO THE RELEASE OF THE FINAL FINANCIAL GUARANTEE FOR COMPLETION OF FINAL GRADING, VEGETATIVE CONTROLS REQUIRED BY THE BMP STANDARDS OR OTHER SITE RESTORATION.
5. FINANCIAL SECURITY FOR THE IMPROVEMENTS WILL NOT BE CONSIDERED FOR RELEASE UNLESS THE TOWNSHIP ENGINEER IS PROPERLY NOTIFIED AND THE SUBSURFACE IMPROVEMENTS ARE INSPECTED PRIOR TO BACKFILLING.

ZONING HEARING BOARD SPECIAL EXCEPTION:

SPECIAL EXCEPTION GRANTED BY THE NORTH LEBANON TOWNSHIP ZONING HEARING BOARD AT A HEARING ON NOVEMBER 17, 2020.

THE SPECIAL EXCEPTION WAS APPROVED TO ALLOW THE SELF-STORAGE USE.

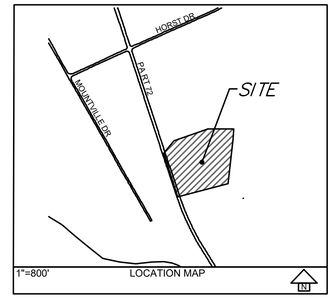
PRELIMINARY PLAN NOTE:

A PRELIMINARY/FINAL PHASE 1 PLAN FOR 1840 STATE ROUTE 72 - NORTH LEBANON SELF STORAGE DATED JULY 16, 2020, LAST REVISED DECEMBER 7, 2020 WAS APPROVED AT THE BOARD OF SUPERVISORS' MEETING HELD ON DECEMBER 21, 2020. RECORDED IN PLAN BOOK 96, PAGE 62.

SHEET INDEX

*TO BE RECORDED

PHASE 3 FINAL
LAND DEVELOPMENT PLAN
FOR
1840 STATE ROUTE 72 N
NORTH LEBANON
SELF STORAGE
MAY 4, 2026
LAST REVISED:



1"=800' LOCATION MAP

OWNER DATA

STORAGE MALL DEWITT, LLC
C/O - PAT BAILEY
3400 MONROE AVE, SUITE 251
ROCHESTER, NY 14618
585-615-9901
pat@thestoragemall.com

SITE DATA

ADDRESS:	1840 STATE ROUTE 72 N LEBANON, PA 17046
DEED BOOK/PAGE:	2360-8854
PARCEL NO.:	27-2325043-381506-0000
SITE AREA:	10.06 ACRES
WATER:	EXISTING ON SITE WELL
SEWER:	EXISTING ON SITE SEPTIC

ZONING DATA
ZONING DISTRICT: NEIGHBORHOOD COMMERCIAL (C-1)

	REQUIRED	
MIN. LOT SIZE:	1 ACRE	
MIN. LOT WIDTH:	250 FT.	
MAX. LOT COVERAGE:	50%	PROPOSED: 37.2%
FRONT YARD:	50' SET-BACK	
REAR YARD:	50' SET-BACK (50' ADJOINING RESIDENTIAL DISTRICT)	
SIDE YARD EACH:	20' SET-BACK (50' ADJOINING RESIDENTIAL DISTRICT)	
SIDE YARD TOTAL:	40'	

NO BUILDING SHALL EXCEED 2 1/2 STORIES OR 35 FEET IN HEIGHT UNLESS AUTHORIZED AS A SPECIAL EXCEPTION BY THE ZONING HEARING BOARD.

PURPOSE OF PLAN

THE PURPOSE OF THIS PLAN IS TO DEPICT PHASE 3 STORAGE UNITS, PAVING, PARKING AND ASSOCIATED STORMWATER MANAGEMENT FACILITIES.

THIS PLAN IS A REVISION TO THE LAND DEVELOPMENT PLAN FOR PAUL N. AND HOWARD M. HORST RECORDED FEBRUARY 13, 1992 (BOOK 40, PAGE 48)

PRELIMINARY/ FINAL PHASE 1 LAND DEVELOPMENT PLAN RECORDED FEBRUARY 26, 2021 (BOOK 96, PAGE 62)

PHASE 2 FINAL LAND DEVELOPMENT PLAN RECORDED APRIL 19, 2023 (BOOK 103, PAGE 79)

CONSTRUCTION TIME TABLE

PHASE 1 - DECEMBER 2020 - NOVEMBER 2021
PHASE 2 - APRIL 2023 - NOVEMBER 2023
PHASE 3 - MAY 2026 - DECEMBER 2026.

PAG-02 NPDES GENERAL PERMIT COVERAGE

NPDES PERMIT NO. PAC380182 IS EFFECTIVE DECEMBER 8, 2024 AND WILL EXPIRE ON DECEMBER 7, 2029.

PARKING REQUIREMENTS

ONE OFF-STREET PARKING SPACE SHALL BE PROVIDED FOR EACH 25 STORAGE UNITS, PLUS ONE PER EACH 250 SQUARE FEET OF OFFICE SPACE, PLUS TWO PER ANY RESIDENTIAL USE ASSOCIATED WITH AN ON-SITE MANAGER.

EXISTING STRUCTURE: 90 UNITS	REQUIRED PARKING: 4 SPACES
OFFICE: 400 SF	REQUIRED PARKING: 2 SPACES
	PROVIDED PARKING: 7 SPACES

PARKING SHALL BE PROVIDED BY PARKING/DRIVING LANES ADJACENT TO THE BUILDINGS. THESE LANES SHALL BE AT LEAST 26 FEET WIDE WHEN CUBICLES OPEN ONTO ONE SIDE OF THE LANE ONLY, AND AT LEAST 30 FEET WIDE WHEN CUBICLES OPEN ONTO BOTH SIDES OF THE LANE.

PROPOSED BUILDINGS: 390 UNITS REQUIRED PARKING: 16 SPACES

PHASE 1 - 66 UNITS
PHASE 2 - 152 UNITS
PHASE 3 - 68 UNITS
PHASE 4 - 104 UNITS

PARKING PROVIDED WITHIN ADJACENT LANES: 148 SPACES

BMP FACILITY LOCATION

FACILITY NAME	LATITUDE	LONGITUDE
INFILTRATION BASIN 1	40.373283	-76.470718
INFILTRATION BASIN 2	40.373923	-76.470990

SEWAGE DISPOSAL NOTE:

1. SEWAGE DISPOSAL FOR THE PROPERTY WILL BE SUPPLIED BY THE EXISTING ON SITE SEPTIC SYSTEM.

WATER SUPPLY NOTE:

1. WATER SUPPLY FOR THE PROPERTY WILL BE SUPPLIED BY THE EXISTING ON SITE WELL.

BUILDING CODE NOTE:

1. ALL STRUCTURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PENNSYLVANIA UNIFORM CONSTRUCTION CODE (UCC).

REVISION	DATE	BY

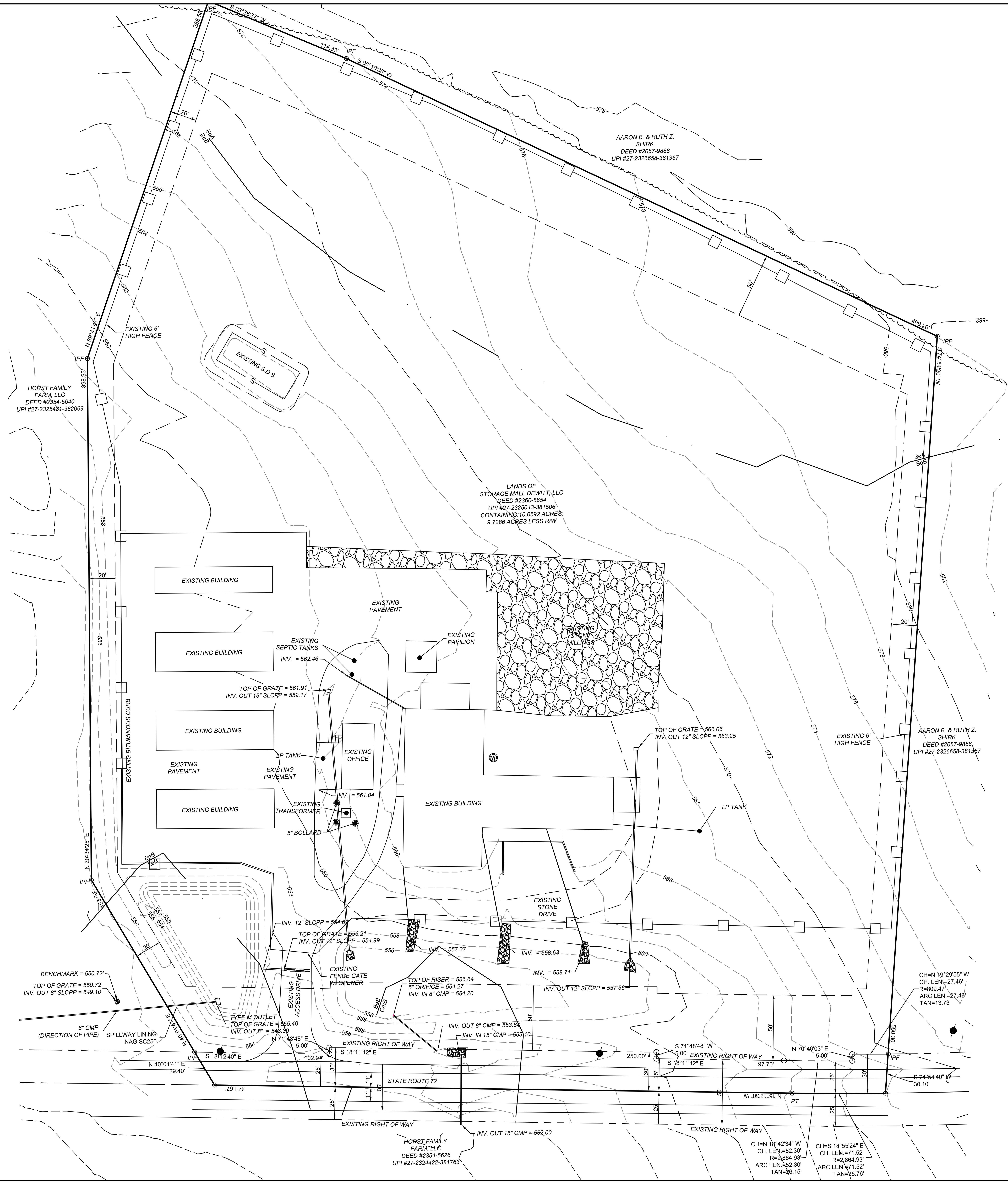
NORTH LEBANON SELF STORAGE
1840 ROUTE 72 N, LEBANON, PA 17046

MANAGER: JOSHUA T. WEABER, P.E.
DESIGN BY: JTW CHECKED BY: MJT
DRAWN BY: GLZ CHECKED BY: JTW
SURVEY: M&H PLAN DATE: MAY 4, 2026
PROJECT #: GO2.26.1

CHRISLAND ENGINEERING
Chrisland Engineering, Inc.
2016 State Drive - Suite 4, Lebanon, PA 17042
www.chrislandengineering.com

PHASE 3 FINAL
LAND DEVELOPMENT PLAN
FOR
NORTH LEBANON SELF STORAGE
NORTH LEBANON TOWNSHIP, LEBANON COUNTY, PA

Coversheet


AARON B. & RUTH Z. SHIRK
DEED #2087-9888
UPI #27-2326658-381357
HORST FAMILY FARM, LLC
DEED #2354-5640
UPI #27-2325481-382069
EXISTING 6' HIGH FENCE
EXISTING S.D.S.
LANDS OF STORAGE MALL DEWITT, LLC
DEED #2360-8854
UPI #27-2325043-381506
CONTAINING:10.0592 ACRES,
9.7286 ACRES LESS R/W
EXISTING BUILDING
EXISTING PAVEMENT
EXISTING SEPTIC TANKS
EXISTING PAVILION
EXISTING STONE MILLINGS
EXISTING OFFICE
LP TANK
EXISTING TRANSFORMER
5" BOLLARD
EXISTING BITUMINOUS CURB
EXISTING STONE DRIVE
EXISTING FENCE GATE W/ OPENER
EXISTING ACCESS DRIVE
BENCHMARK = 550.72'
TOP OF GRATE = 550.72
INV. OUT 8" SLCPP = 549.10
8" CMP (DIRECTION OF PIPE)
SPILLWAY LINING NAG SC250
TYPE M OUTLET
TOP OF RISER = 556.64
5" ORIFICE = 554.27
INV. IN 8" CMP = 554.20
EXISTING RIGHT OF WAY
STATE ROUTE 72
HORST FAMILY FARM, LLC
DEED #2354-5626
UPI #27-2324422-381763
INV. OUT 15" CMP = 552.00
CH=N 19°29'55" W
CH. LEN.=27.46'
R=809.47'
ARC LEN.=27.46'
TAN=13.73'
CH=N 18°42'34" W
CH. LEN.=52.30'
R=2,864.93'
ARC LEN.=52.30'
TAN=26.15'
CH=S 18°55'24" E
CH. LEN.=71.52'
R=2,864.93'
ARC LEN.=71.52'
TAN=35.76'

LEGEND

EXISTING FEATURES

- EXISTING ADJOINER LINE
- EXISTING BOUNDARY LINE AND CORNERS
- EXISTING EDGE OF PAVEMENT AND CURB LINE
- EXISTING RIGHT-OF-WAY
- EXISTING FENCE
- EXISTING SEWER (CLEAN OUT, MANHOLE)
- EXISTING STORMWATER (MANHOLE, INLET, RIP-RAP, HEADWALL, ENDWALL)
- EXISTING WATERLINE (GATE VALVE, FIRE HYDRANT)
- EXISTING GASLINE (GAS VALVE)
- EXISTING SIDEWALK/CONCRETE
- EXISTING CONTOURS (100 MAJOR, MINOR)
- EXISTING TREELINE
- EXISTING SOILS (SOIL TYPE / SOIL TYPE)
- EXISTING UTLITY POLE
- EXISTING LIGHT POLE
- EXISTING WETLANDS
- IRON PIN FOUND (IPF)

GRAPHIC SCALE

0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

NOTE:
IMPROVEMENTS SHOWN WITHIN PHASE 1 ARE AS DESIGNED ON THE APPROVED PRELIMINARY/ FINAL PHASE 1 PLANS.

Map Unit Symbol	Map Unit Name	Acres	HSG	% of Disturbed Area	Depth (ft)	Hydric
BeA	Bedington shaly silt loam	1.8	B	17.6	60"-90"	No
BeB	Bedington shaly silt loam	7.9	B	77.8	60"-80"	No
CmB	Comly silt loam	0.2	C	1.6	20"- 35"	No
LeB	Leck kill shaly silt	0.3	A	3.0	40"-80"	No

REVISION | DATE | BY

NORTH LEBANON SELF STORAGE
1840 ROUTE 72 N, LEBANON, PA 17046
MANAGER: JOSHUA T. WEABER, P.E.
DESIGN BY: JTW CHECKED BY: MJT
DRAWN BY: GLZ CHECKED BY: JTW
SURVEY: M&H PLAN DATE: MAY 4, 2026
PROJECT #: GO2.26.1

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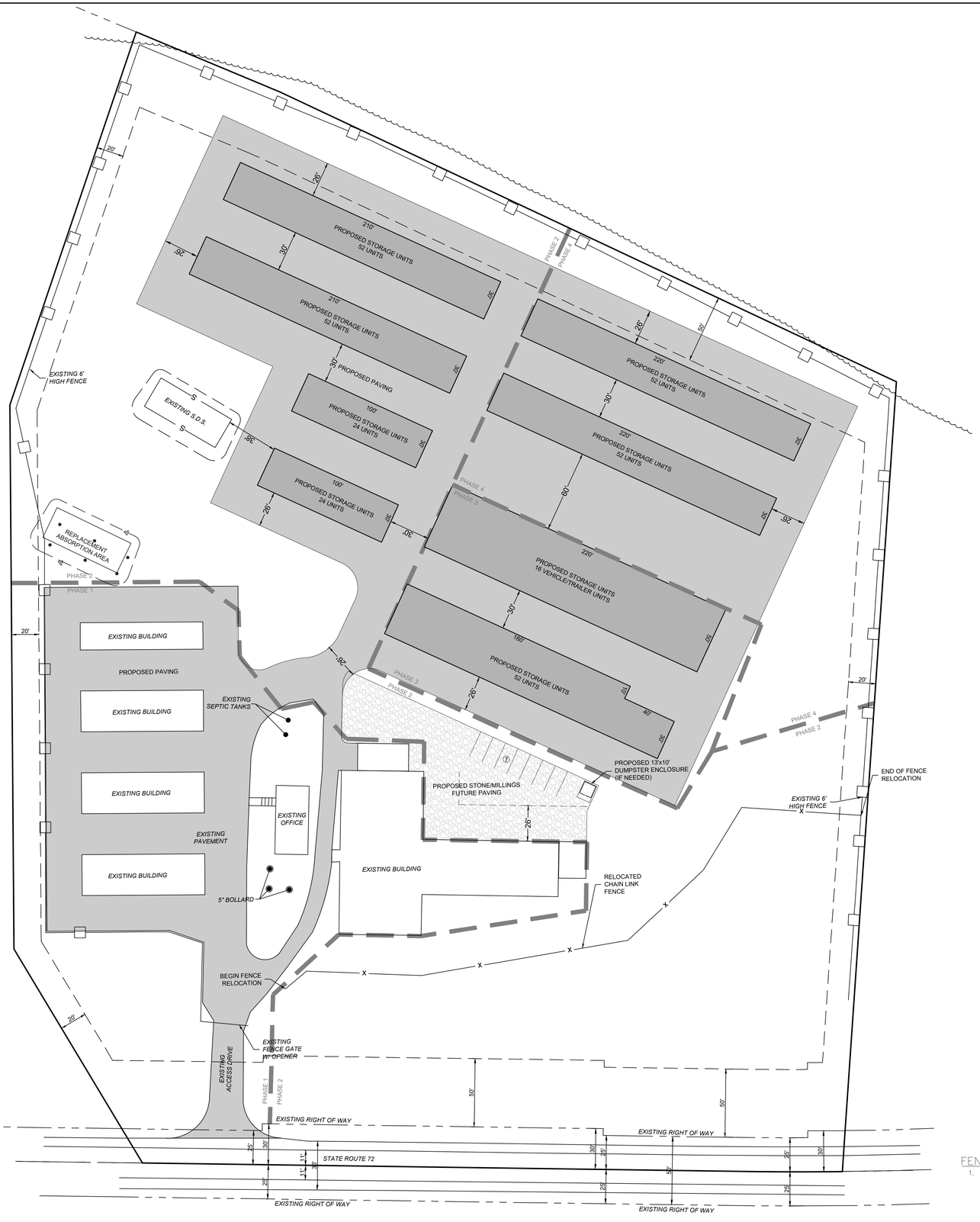
2016 State Drive - Suite 4, Lebanon, PA 17042
www.chrislandengineering.com

PHASE 3 FINAL LAND DEVELOPMENT PLAN
FOR
NORTH LEBANON SELF STORAGE
NORTH LEBANON TOWNSHIP, LEBANON COUNTY, PA

Existing Conditions Plan



LEGEND

EXISTING FEATURES

- EXISTING ADJOINER LINE
- EXISTING BOUNDARY LINE AND CORNERS
- EXISTING EDGE OF PAVEMENT AND CURB LINE
- EXISTING RIGHT-OF-WAY
- EXISTING FENCE
- CLEAN OUT, MANHOLE
- EXISTING SEWER
- MANHOLE, INLET, RIP-RAP, HEADWALL, ENDWALL
- EXISTING STORMWATER
- GATE VALVE, FIRE HYDRANT
- EXISTING WATERLINE
- GAS VALVE
- EXISTING GASLINE
- EXISTING SIDEWALK/CONCRETE
- 100 MAJOR, MINOR — EXISTING CONTOURS
- EXISTING TREELINE
- SOIL TYPE, SOIL TYPE — EXISTING SOILS
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE
- EXISTING WETLANDS

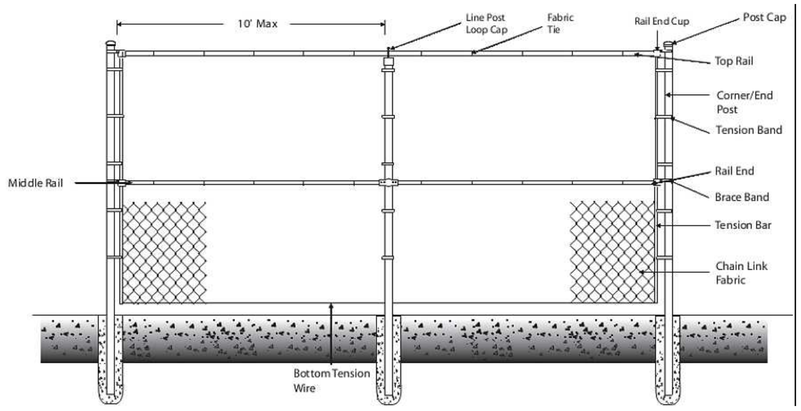
PROPOSED FEATURES

- PROPOSED BUILDING SETBACK
- IRON PIN, CONC. MONUMENT
- PROPOSED BOUNDARY LINE AND CORNERS
- PROPOSED EDGE OF PAVEMENT AND CURB LINE
- PROPOSED RIGHT-OF-WAY
- PROPOSED FENCE
- CLEAN OUT, MANHOLE
- PROPOSED SEWER
- HEADWALL, INLET, RIP-RAP, MANHOLE, ENDWALL
- PROPOSED STORMWATER
- PROPOSED DRAINAGE EASEMENT
- GATE VALVE, FIRE HYDRANT
- PROPOSED DOMESTIC WATERLINE
- GAS VALVE
- PROPOSED GASLINE
- PROPOSED CONCRETE/SIDEWALK
- 100 MAJOR, MINOR — PROPOSED CONTOURS
- PROPOSED TREELINE
- PROPOSED UTILITY POLE
- PROPOSED LIGHT POLE
- PROPOSED PAVING

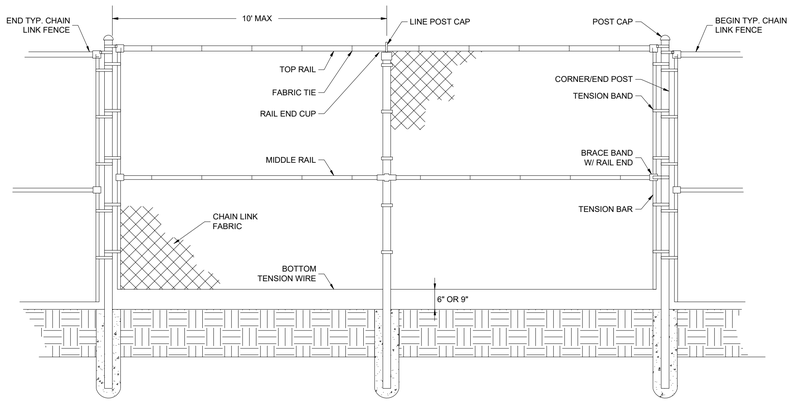
GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.



CHAIN LINK FENCE DETAIL (TYP.)
NOT TO SCALE



RAISED CHAIN LINK FENCE DETAIL
NOT TO SCALE

FENCE NOTE

1. ALL PROPOSED FENCE POSTS SHALL BE INSTALLED AT A MINIMUM OF 5" FROM THE BASIN OUTLET PIPE.

1. THE FENCE CROSSING THE EMERGENCY SPILLWAY OF INFILTRATION BASIN 1 WILL BE RAISED 6" ABOVE GRADE SO THAT DEBRIS DOES NOT INTERFERE WITH OPERATION OF THE SPILLWAY.
2. THE FENCE CROSSING SWALE C WILL BE RAISED 9" ABOVE GRADE AS TO NOT INTERFERE WITH THE OPERATION OF THE SWALE.

REVISION	DATE	BY

NORTH LEBANON SELF STORAGE
1840 ROUTE 72 N, LEBANON, PA 17046

MANAGER: JOSHUA T. WEABER, P.E.
DESIGN BY: JTW CHECKED BY: MJT
DRAWN BY: GLZ CHECKED BY: JTW
SURVEY: M&H PLAN DATE: MAY 4, 2026
PROJECT #: GOZ 26.1

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2016 State Drive, Suite 4, Lebanon, PA 17042
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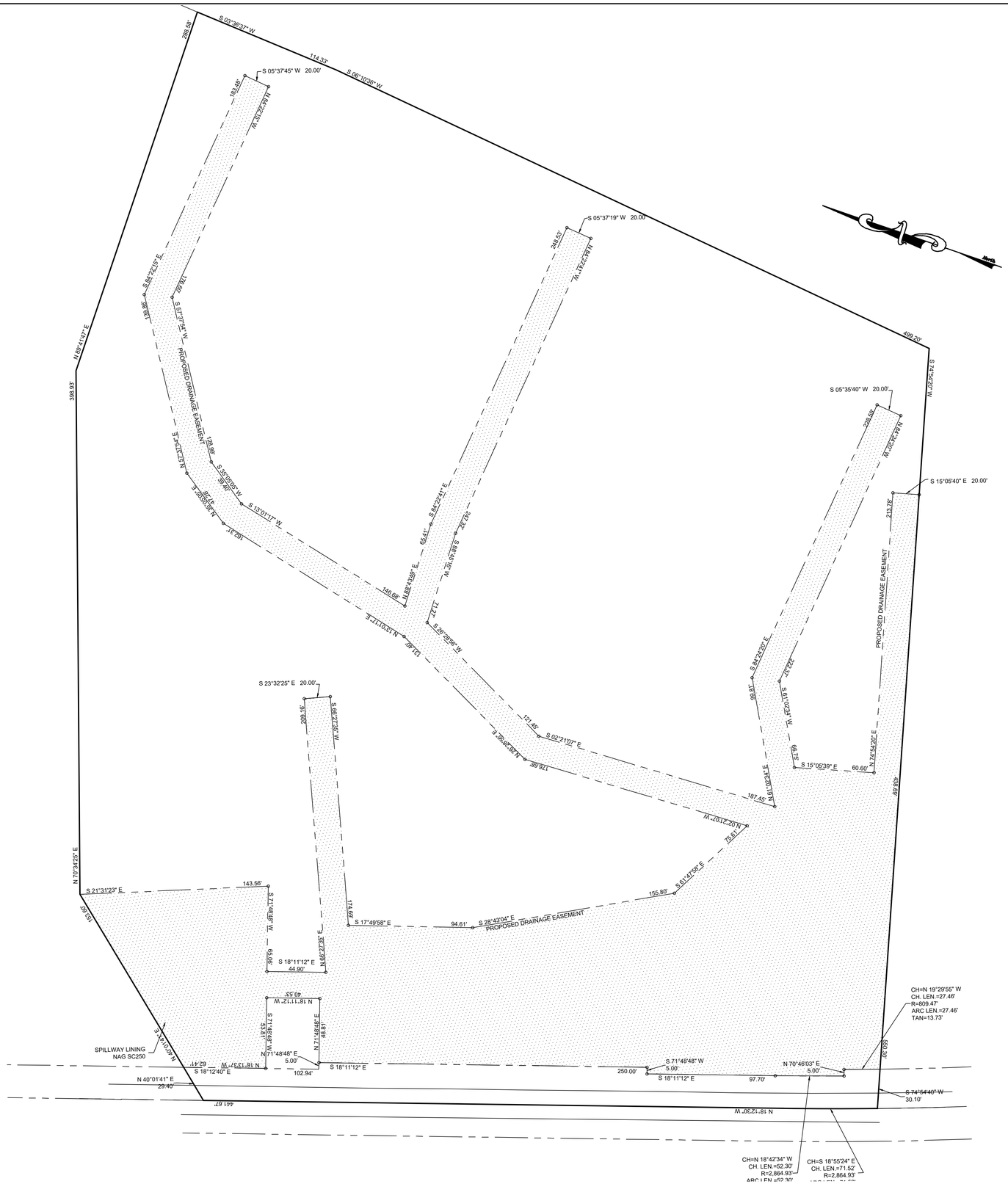
PHASE 3 FINAL
LAND DEVELOPMENT PLAN
FOR
NORTH LEBANON SELF STORAGE
NORTH LEBANON TOWNSHIP, LEBANON COUNTY, PA

Layout Plan

3

OF 17



LEGEND

EXISTING FEATURES

- EXISTING ADJOINER LINE
- EXISTING BOUNDARY LINE AND CORNERS
- EXISTING EDGE OF PAVEMENT AND CURB LINE
- EXISTING RIGHT-OF-WAY

PROPOSED FEATURES

- PROPOSED BUILDING SETBACK
- IRON PIN / CONC. MONUMENT — PROPOSED BOUNDARY LINE AND CORNERS
- PROPOSED EDGE OF PAVEMENT AND CURB LINE
- PROPOSED RIGHT-OF-WAY
- PROPOSED ACCESS EASEMENT
- PROPOSED DRAINAGE EASEMENT
- PROPOSED UTILITY/DRAINAGE EASEMENT
- PROPOSED SNOW PLOW EASEMENT
- EXISTING ELECTRIC EASEMENT

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

EASEMENT NOTES:

1. A STORMWATER MANAGEMENT CONVEYANCE EASEMENT SHALL BE LOCATED AROUND EACH CONVEYANCE FACILITY (I.E. SWALES, PIPES, ETC.) AND SHALL BE TWENTY (20) FEET IN WIDTH. THE EASEMENT SHALL EXTEND TEN (10) FEET FROM THE CENTERLINE OF THE CONVEYANCE FACILITY.
2. A STORMWATER MANAGEMENT EASEMENTS SHALL BE LOCATED AROUND EACH STORMWATER MANAGEMENT FACILITY (I.E. DETENTION BASINS, INFILTRATION TRENCHES, RAIN GARDENS, ETC.) AND SHALL ENCOMPASS ALL COMPONENTS OF THE FACILITY.
3. THE GRANTOR, FOR ITSELF, ITS SUCCESSORS, AND ASSIGNS, AUTHORIZES THE TOWNSHIP AND ITS AUTHORIZED REPRESENTATIVES TO ENTER UPON THE PREMISES TO INSPECT THE FACILITIES LOCATED WITHIN THE EASEMENT.
4. ALL FACILITIES LOCATED WITHIN THE ABOVE MENTIONS EASEMENTS SHALL BE SUBJECT TO THE PROVISIONS OF THE STORMWATER MAINTENANCE AND OWNERSHIP PROGRAM.
5. NOTHING SHALL BE PLACED, PLANTED, SET, OR PUT WITHIN THE AREA OF AN EASEMENT THAT WOULD ADVERSELY AFFECT THE FUNCTION OF THE EASEMENT OR CONFLICT WITH THE EASEMENT AGREEMENT.

REVISION	DATE	BY

NORTH LEBANON SELF STORAGE
1840 ROUTE 72 N, LEBANON, PA 17046

MANAGER: JOSHUA T. WEABER, P.E.
DESIGN BY: JTW CHECKED BY: MJT
DRAWN BY: GLZ CHECKED BY: JTW
SURVEY: MAH PLAN DATE: MAY 4, 2026
PROJECT #: GO2.26.1

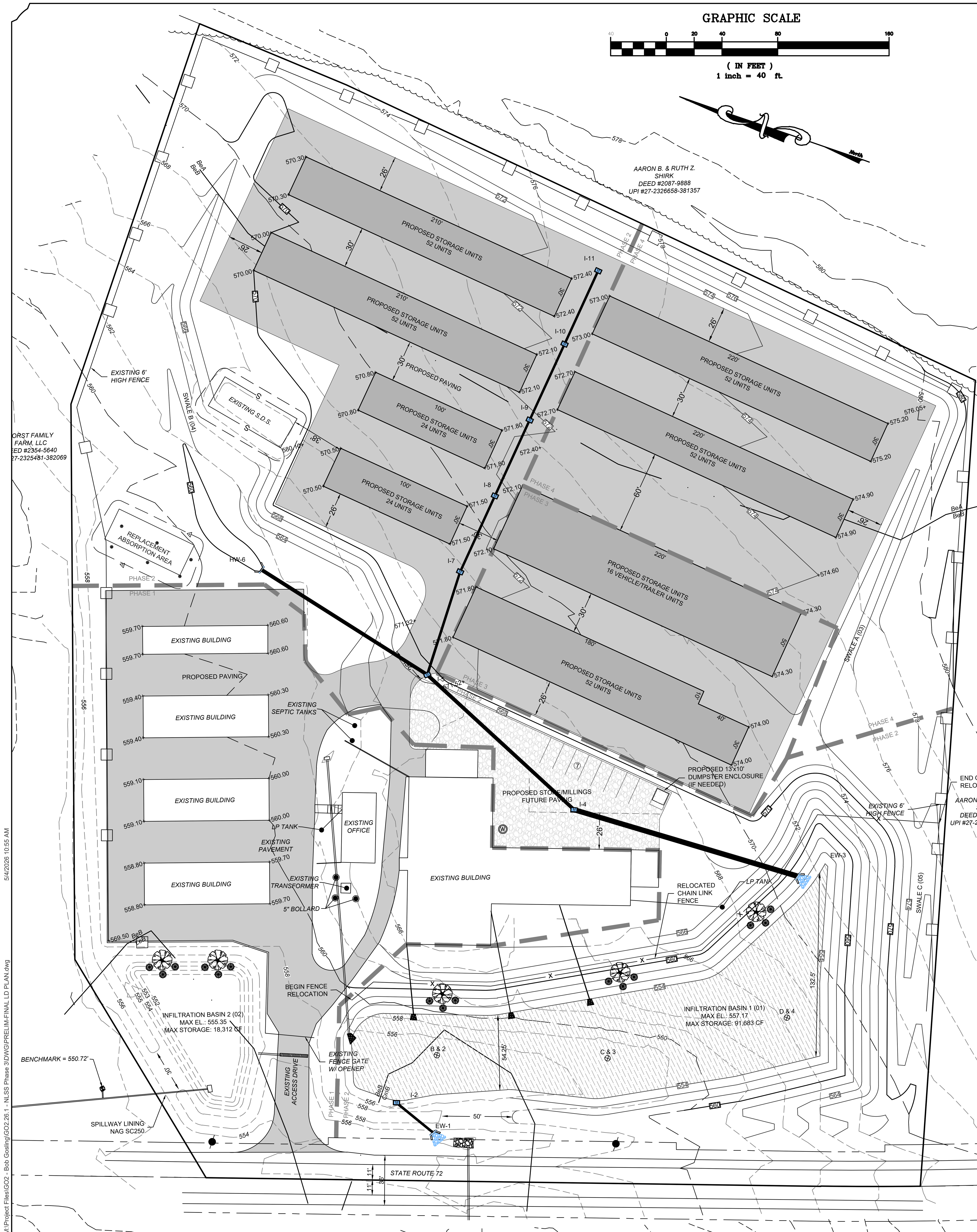
Christland Engineering, Inc.
2016 Stevo Drive, Suite 4, Lebanon, PA 17042
www.christlandengineering.com

PHASE 3 FINAL
LAND DEVELOPMENT PLAN
FOR
NORTH LEBANON SELF STORAGE
NORTH LEBANON TOWNSHIP, LEBANON COUNTY, PA

Easement Plan

4

OF 17



LEGEND

EXISTING FEATURES

- EXISTING ADJOINER LINE
- EXISTING BOUNDARY LINE AND CORNERS
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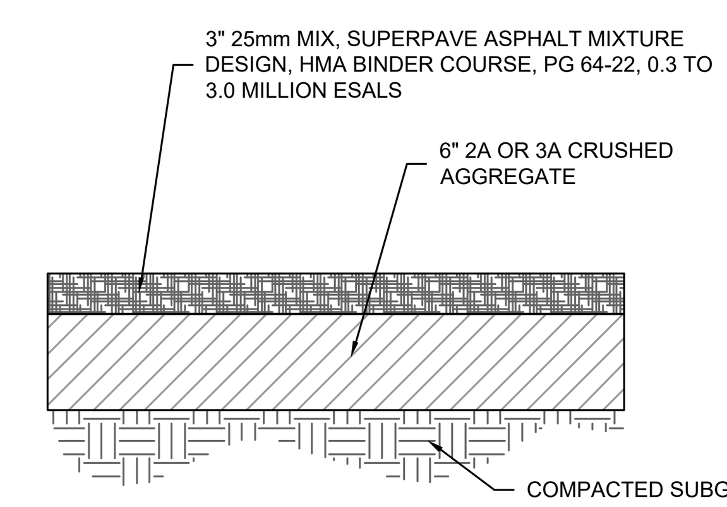
- EXISTING SIDEWALK/CONCRETE
- EXISTING CONTOURS (MAJOR, MINOR)
- EXISTING TREELINE
- EXISTING SOILS (SOIL TYPE)
- EXISTING UTLITY POLE
- EXISTING LIGHT POLE

PROPOSED FEATURES

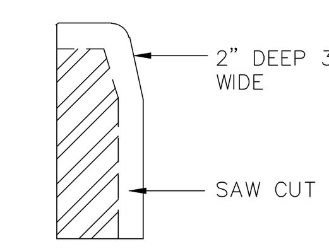
- PROPOSED BUILDING SETBACK
- PROPOSED BOUNDARY LINE AND CORNERS (IRON PIN, CONC. MONUMENT)
- PROPOSED EDGE OF PAVEMENT AND CURB LINE
- PROPOSED RIGHT-OF-WAY
- PROPOSED FENCE
- PROPOSED SEWER (CLEAN OUT, MANHOLE)
- PROPOSED STORMWATER (HEADWALL, INLET, MANHOLE, RIP-RAP, ENDWALL)
- PROPOSED ACCESS EASEMENT
- PROPOSED DRAINAGE EASEMENT
- PROPOSED UTILITY/DRAINAGE EASEMENT
- PROPOSED SNOW PLOW EASEMENT
- EXISTING ELECTRIC EASEMENT
- PROPOSED DOMESTIC WATERLINE (GATE VALVE, FIRE HYDRANT)
- PROPOSED GASLINE (GAS VALVE)
- PROPOSED CONCRETE/SIDEWALK
- PROPOSED CONTOURS (MAJOR, MINOR)
- PROPOSED TREELINE
- PROPOSED UTLITY POLE
- PROPOSED LIGHT POLE
- PROPOSED PAVING



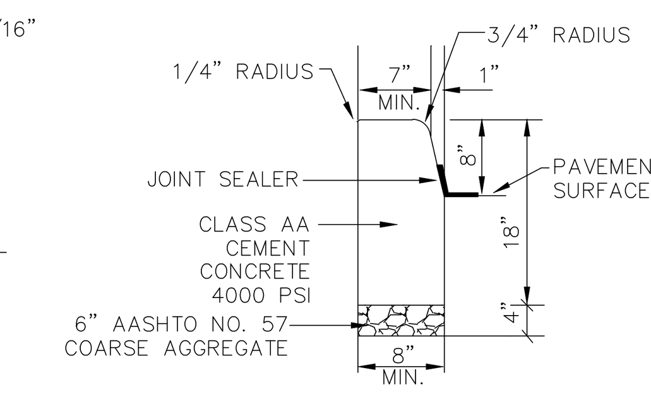
BITUMINOUS PAVEMENT DETAIL (DRIVEWAY AND ACCESS LANES)

NOT TO SCALE

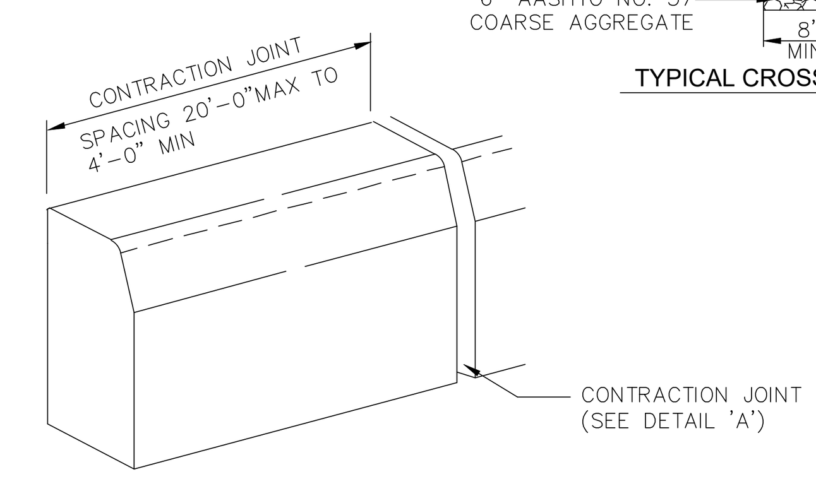
Map Unit Symbol	Map Unit Name	Acres	HSG	% of Disturbed Area	Depth (ft)	Hydric
BeA	Bedington shaly silt loam	1.8	B	17.6	60"-90"	No
BeB	Bedington shaly silt loam	7.9	B	77.8	60"-80"	No
CmB	Comly silt loam	0.2	C	1.6	20"-35"	No
LeB	Leck kill shaly silt	0.3	A	3.0	40"-80"	No



DETAIL 'A' CONTRACTION JOINT



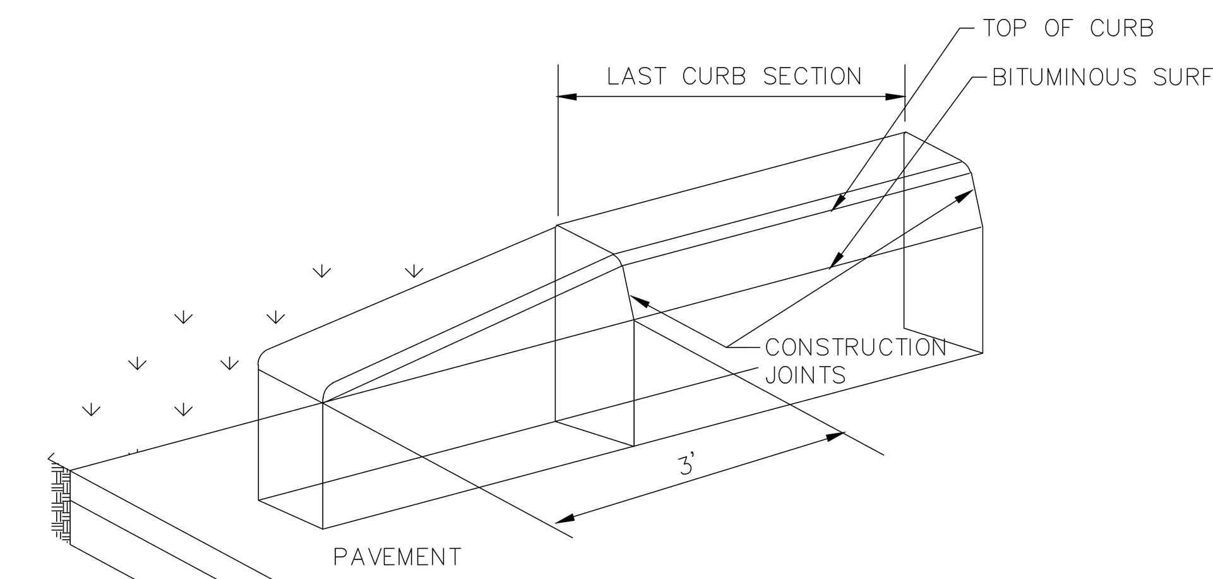
TYPICAL CROSS-SECTION



NOTES:
1. MATERIALS AND CONSTRUCTION SHALL MEET THE REQUIREMENTS OF PUBLICATION 408, SECTION 630, FOR PLAIN CEMENT CONCRETE CURB AND DEPRESSED CURB, SECTION 640 FOR PLAIN CEMENT CONCRETE CURB AND FOR PLAIN CEMENT CONCRETE CURB GUTTER.
2. PLACE 3/4-INCH PREMOLDED EXPANSION JOINT AT MAXIMUM INTERVALS OF 50'-0" AT ALL STRUCTURES /INLETS AND AT THE END OF EACH WORKDAY.
3. SEE RC-50 FOR PLAIN CEMENT CONCRETE CURB SLOPED TOP TREATMENT AT END OF STRUCTURES.
4. CONCRETE CURB CONSTRUCTED PER SECTION 641 "PLAIN CEMENT CONCRETE CURB GUTTER" PA DOT SPECIFICATION, 1970, AS AMENDED.

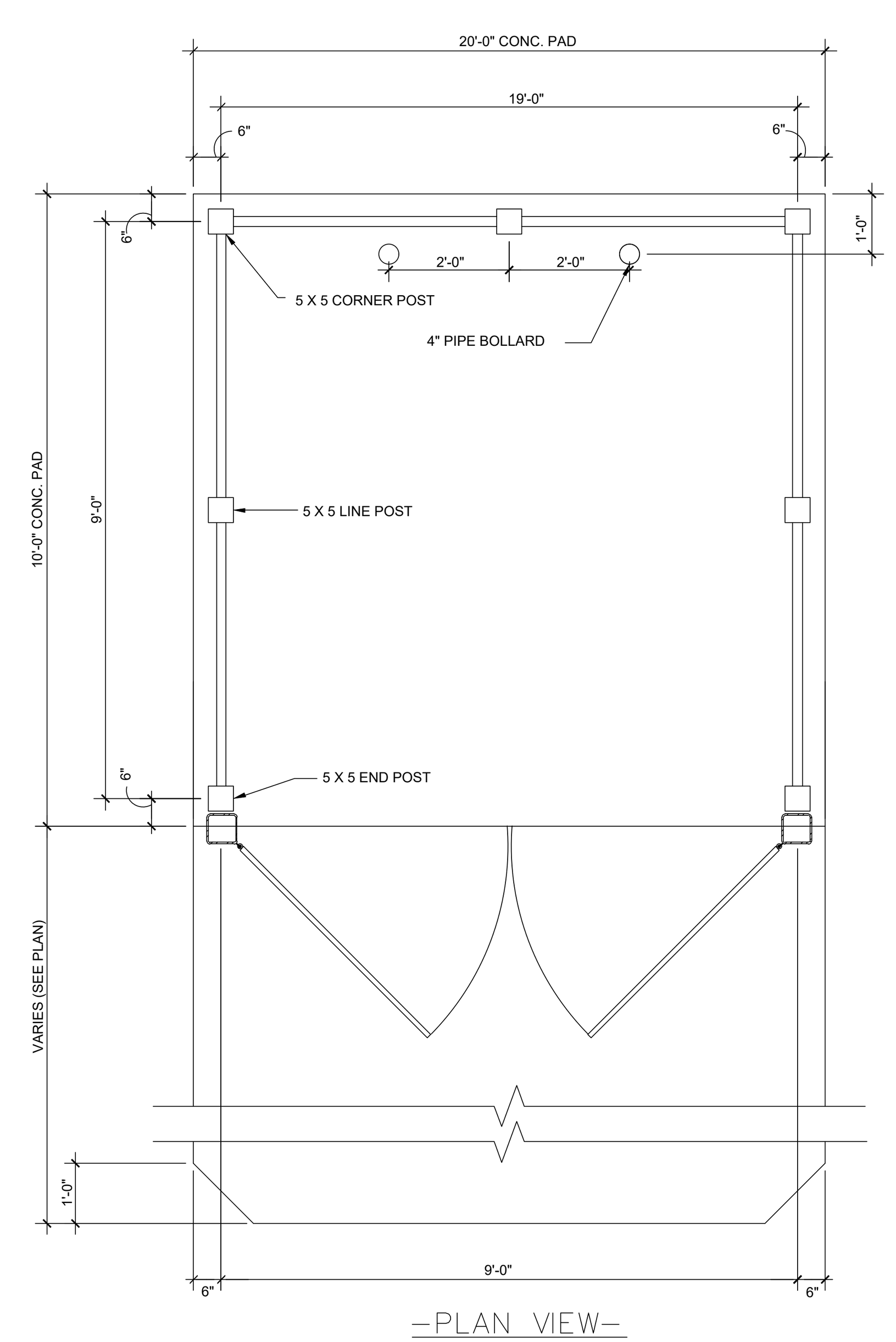
PLAIN CEMENT CONCRETE CURB DETAIL

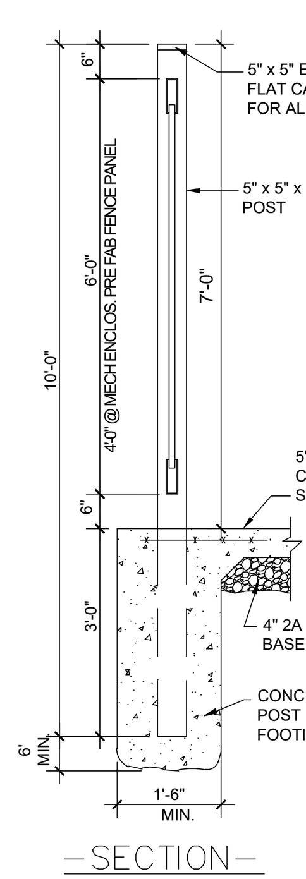
NOT TO SCALE

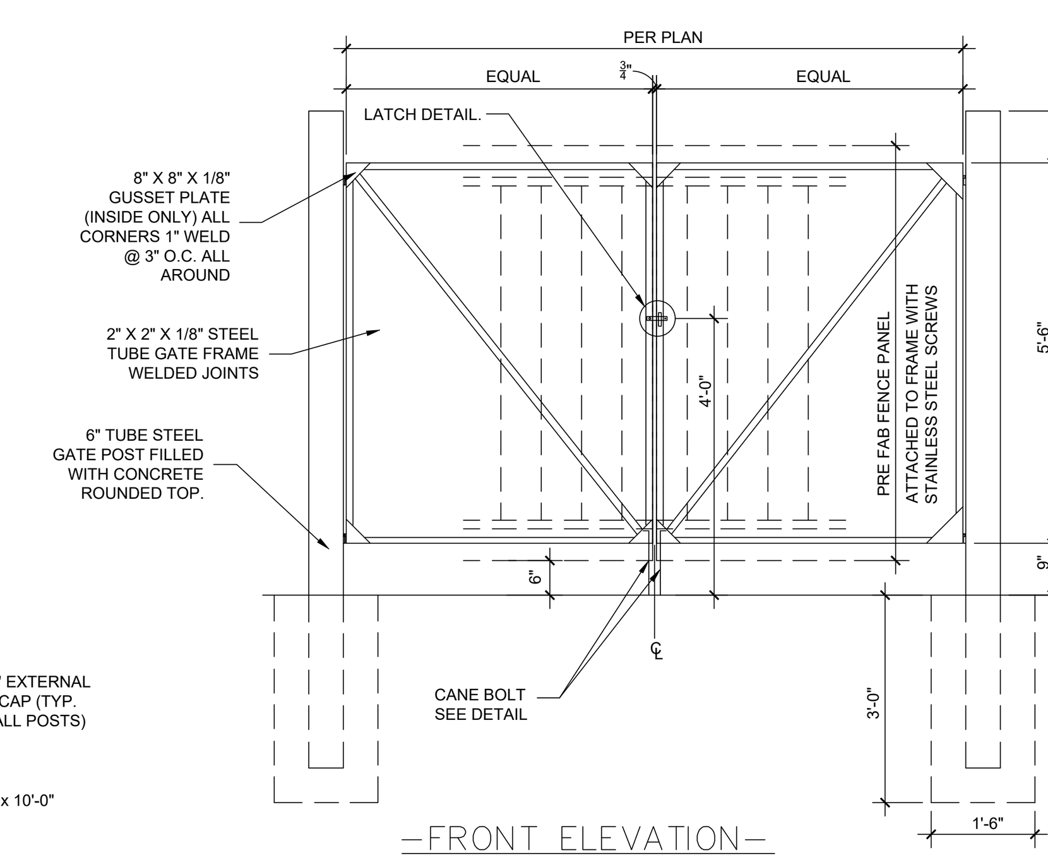


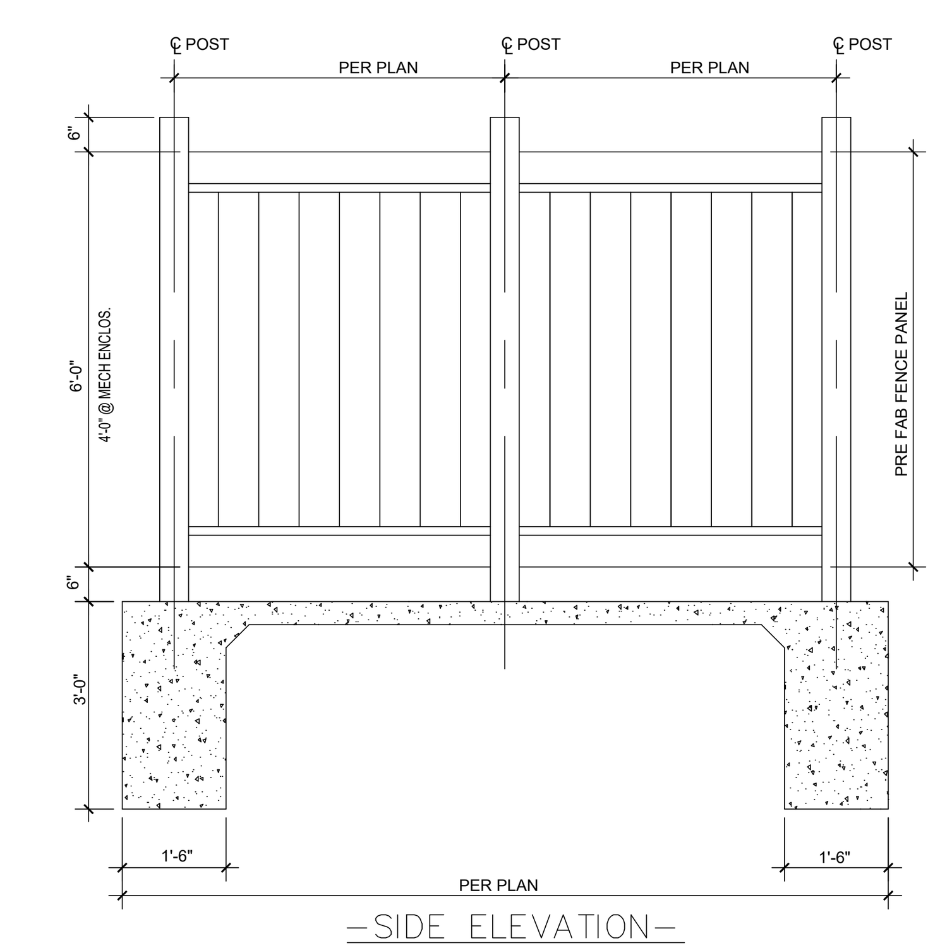
CURB TERMINAL END SECTION DETAIL

NOT TO SCALE









FENCE NOTE
1. ALL PROPOSED FENCE POSTS SHALL BE INSTALLED AT A MINIMUM OF 5" FROM THE BASIN OUTLET PIPE.

DUMPSTER ENCLOSURE NOTES:
1. DUMPSTER ENCLOSURE SHALL ONLY BE REQUIRED IF A DUMPSTER, OR EXTERIOR TRASH STORAGE, IS TO BE PROVIDED ON-SITE.
2. POSTS, FENCING, AND ACCESSORIES TO BE POLYVINYL CHLORIDE (PVC) COMPONENTS.
3. MATERIALS TO BE 6'-0" HIGH PRIVACY FENCING, CHESTERFIELD STYLE, WHITE, TAN OR CLAY COLOR AVAILABLE. ACTUAL COLOR TO BE SELECTED BY OWNER.
4. INSTALL DUMPSTER ENCLOSURE COMPONENTS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
5. ALL GATE ASSEMBLIES TO INCLUDE HINGES, HARDWARE, LATCH ASSEMBLY AND DROP-PIN KIT.
6. PAINT ALL GATE FRAMES AND PIPES.
7. ALTERNATE ENCLOSURES MAY BE ACCEPTABLE TO THE TOWNSHIP. ALTERNATE ENCLOSURES SHALL BE APPROVED BY THE TOWNSHIP PRIOR TO INSTALLATION.

DUMPSTER ENCLOSURE DETAIL

NOT TO SCALE

5/4/2026 10:55 AM
M:\Project Files\GO2 - Bob Gosling\GO2.26.1 - NLSS Phase 3\DWG\PRELIM-FINAL LD PLAN.dwg

REVISION | DATE | BY

NORTH LEBANON SELF STORAGE
1840 ROUTE 72 N, LEBANON, PA 17046
MANAGER: JOSHUA T. WEABER, P.E.
DESIGN BY: JTW CHECKED BY: MJT
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SURVEY: M&H PLAN DATE: MAY 4, 2026
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PHASE 3 FINAL LAND DEVELOPMENT PLAN FOR NORTH LEBANON SELF STORAGE

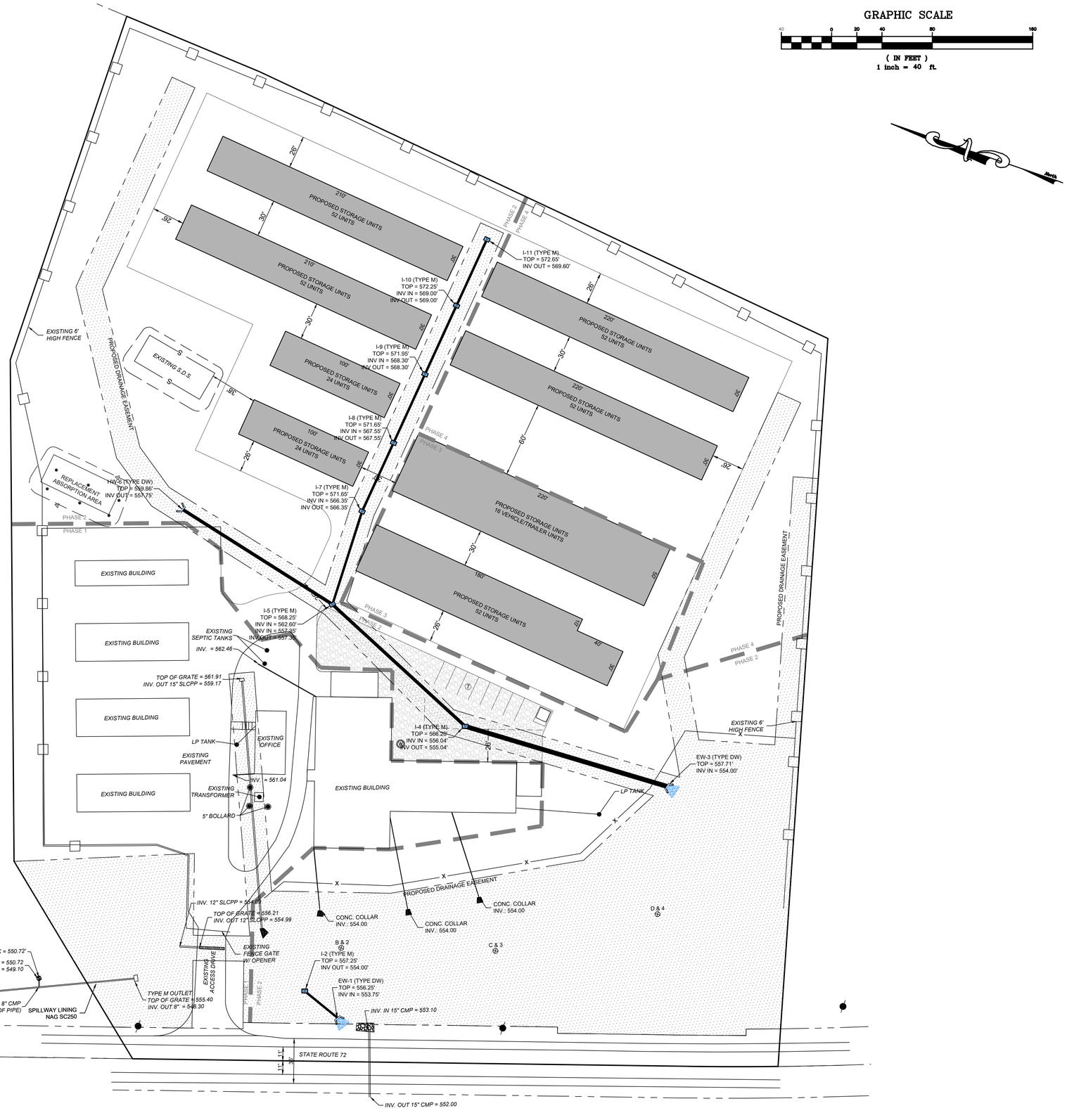
NORTH LEBANON TOWNSHIP, LEBANON COUNTY, PA

Grading Plan

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.



LEGEND

EXISTING FEATURES

- EXISTING ADJOINER LINE
- EXISTING BOUNDARY LINE AND CORNERS
- EXISTING EDGE OF PAVEMENT AND CURB LINE
- EXISTING RIGHT-OF-WAY
- EXISTING FENCE
- EXISTING SEWER (CLEAN OUT, MANHOLE)
- EXISTING STORMWATER (MANHOLE, INLET, RIP-RAP, HEADWALL, ENDWALL)
- EXISTING WATERLINE (GATE VALVE, FIRE HYDRANT)
- EXISTING GASLINE (GAS VALVE)
- EXISTING SIDEWALK/CONCRETE
- EXISTING CONTOURS (100 MAJOR, MINOR)
- EXISTING TREELINE
- EXISTING SOILS (SOIL TYPE)
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE

PROPOSED FEATURES

- PROPOSED BUILDING SETBACK
- PROPOSED BOUNDARY LINE AND CORNERS (IRON PIN, CONC. MONUMENT)
- PROPOSED EDGE OF PAVEMENT AND CURB LINE
- PROPOSED RIGHT-OF-WAY
- PROPOSED FENCE
- PROPOSED SEWER (CLEAN OUT, MANHOLE)
- PROPOSED STORMWATER (HEADWALL, INLET, RIP-RAP, MANHOLE, ENDWALL)
- PROPOSED DOMESTIC WATERLINE (GATE VALVE, FIRE HYDRANT)
- PROPOSED GASLINE (GAS VALVE)
- PROPOSED CONCRETE/SIDEWALK
- PROPOSED CONTOURS (1000 MAJOR, MINOR)
- PROPOSED TREELINE
- PROPOSED UTILITY POLE
- PROPOSED LIGHT POLE
- PROPOSED PAVING

REVISION	DATE	BY

NORTH LEBANON SELF STORAGE
1840 ROUTE 72 N, LEBANON, PA 17046

MANAGER: JOSHUA T. WEABER, P.E.
DESIGN BY: JTW CHECKED BY: MJT
DRAWN BY: GLZ CHECKED BY: JTW
SURVEY: M&H PLAN DATE: MAY 4, 2026
PROJECT #: GOZ 26.1

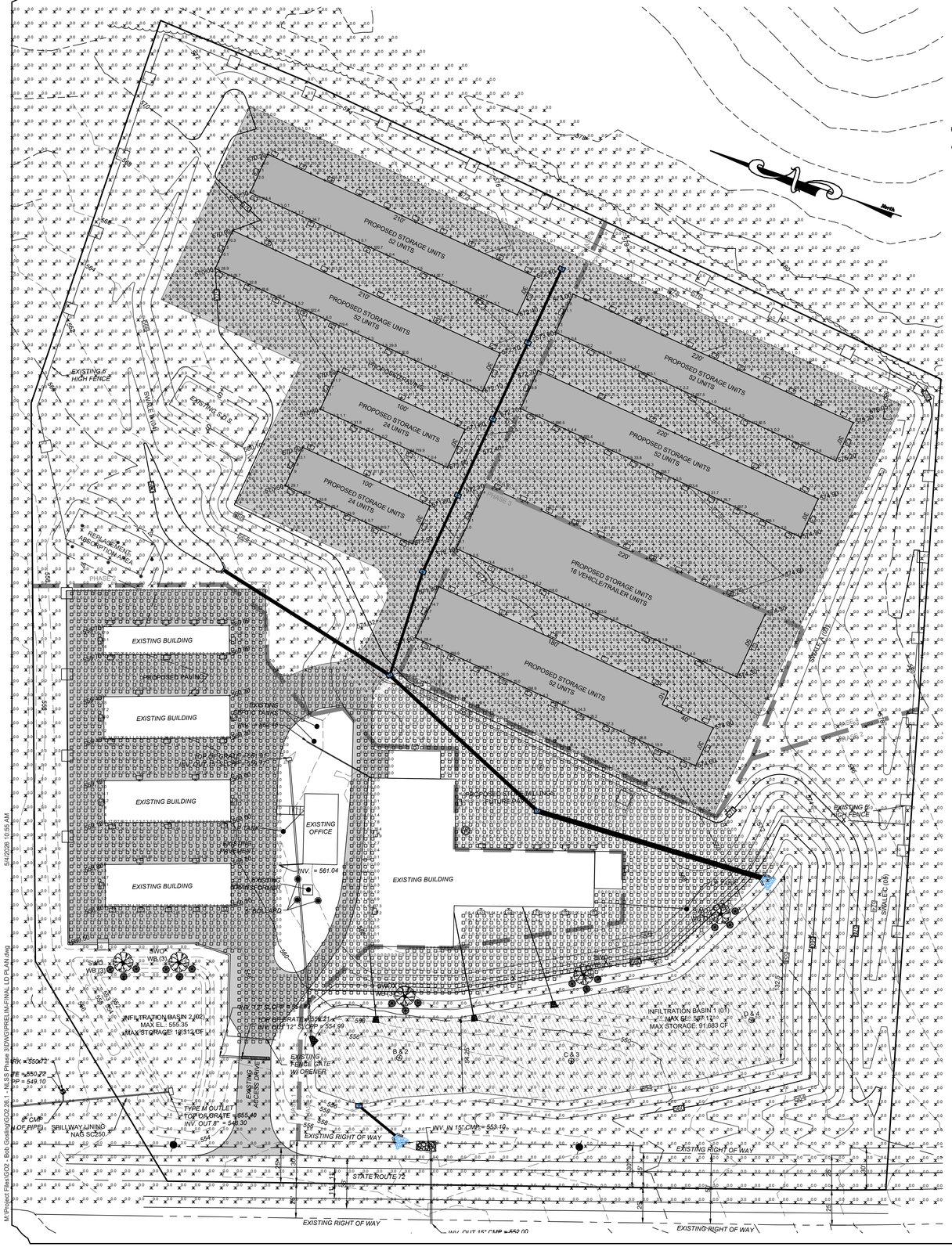
Christ & Land Engineering
Christ and Land Engineering, Inc.
2016 State Drive, Suite 4, Lebanon, PA 17042
www.christlandengineering.com

PHASE 3 FINAL
LAND DEVELOPMENT PLAN
FOR
NORTH LEBANON SELF STORAGE
NORTH LEBANON TOWNSHIP, LEBANON COUNTY, PA

Utility Plan

6

OF 17



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LEGEND

EXISTING FEATURES

- EXISTING ADJOINER LINE
- EXISTING BOUNDARY LINE AND CORNERS
- EXISTING EDGE OF PAVEMENT AND CURB LINE
- EXISTING RIGHT-OF-WAY
- EXISTING FENCE
- EXISTING SEWER
- EXISTING STORMWATER
- EXISTING WATERLINE
- EXISTING GASLINE
- EXISTING SIDEWALK/CONCRETE
- EXISTING CONTOURS (100 MAJOR, MINOR)
- EXISTING TREELINE
- EXISTING SOILS (SOIL TYPE / SOIL TYPE)
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE
- EXISTING WETLANDS
- EXISTING FLOODPLAIN

(CLEAN OUT, MANHOLE, MANHOLE, INLET, RIP-RAP, HEADWALL, ENDWALL, GATE VALVE, FIRE HYDRANT, GAS VALVE)

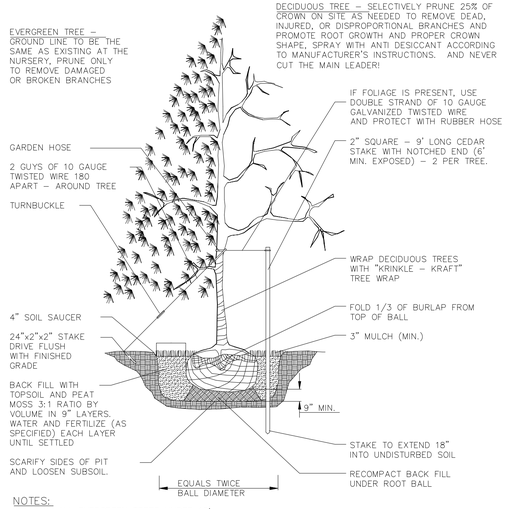
PROPOSED FEATURES

- PROPOSED BUILDING SETBACK
- PROPOSED BOUNDARY LINE AND CORNERS (IRON PIN, CONC. MONUMENT)
- PROPOSED EDGE OF PAVEMENT AND CURB LINE
- PROPOSED RIGHT-OF-WAY
- PROPOSED FENCE
- PROPOSED SEWER
- PROPOSED STORMWATER
- PROPOSED INFILTRATION BASIN
- PROPOSED AMENDED SOILS/WETLAND SEEDING F.M. BROWN CONSERVE-WETLAND MIX PLS 20 LBS PER ACRE
- PROPOSED DOMESTIC WATERLINE
- PROPOSED GASLINE
- PROPOSED CONCRETE/SIDEWALK
- PROPOSED CONTOURS (100 MAJOR, MINOR)
- PROPOSED TREELINE
- PROPOSED UTILITY POLE
- PROPOSED LIGHT POLE
- PROPOSED PAVING

(GATE VALVE, FIRE HYDRANT, GAS VALVE, CLEAN OUT, MANHOLE, HEADWALL, INLET, RIP-RAP, MANHOLE, ENDWALL)

Schedule

Symbol	Label	Image	Quantity	Catalog Number	Description	Number Lamps	Lumens Per Lamp	Light Loss Factor	Wattage
	A		172	PLT-20224	LED SLIM CUTOFF WALL PACK 30W/50K/120-277V - MOUNTED AT 8 FT. AFG	1	3188	1	27.8



NOTES:
1. STAKE ALL EVERGREEN TREES UNDER 12'
2. GUY TREES 12' AND OVER AS SPECIFIED FOR DECIDUOUS TREES
3. TREE SHALL BEAR SAME RELATION TO FINISHED GRADE AS IT BORE TO PREVIOUS GRADE
4. NEVER CUT LEADERS
5. PLASTIC ROOT BARRIERS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS, ALONG PAVEMENT, CURBS OR UTILITIES WITHIN 10' OF ROOT BALL. "DEEP ROOT UB-24-2" OR EQUAL.

TYPICAL TREE PLANTING DETAIL
NOT TO SCALE

DECIDUOUS TREES

KEY	QTY.	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	NOTES
SWO	5	Quercus Bicolor	Swamp White Oak	2" - 2 1/2" Cal.	B&B	

SHRUBS

KEY	QTY.	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	NOTES
WB	15	Ilex Verticillata	Winterberry	18"-24" cont.	---	

TREE PLANTING NOTES:
Street trees shall be required by the Township in accordance with the following standards:

1. The trees shall be nursery grown in a climate similar to that of the locality of the project. Varieties of trees shall be subject to the approval of the Township.
2. All trees shall have a normal habit of growth and shall be sound, healthy and vigorous; they shall be free from disease, insects, insect eggs, and larvae.
3. The caliper of the trunk, measured at a height of six (6) inches above finished grade, shall be a minimum of two (2) inches.
4. Trees shall be planted between the street right-of-way line and the building setback line except where the Township has authorized placement of trees within the street right-of-way. The tree growth shall not interfere with the street cartway, sidewalk or utility line.
5. All planting shall be performed in conformance with good nursery and landscape practice including proper guying and staking.
6. Requirements for the measurements, branching, grading, quality, balling, and burlapping of trees shall follow the code of standards recommended by the American Association of Nurserymen, Inc., in the American Standard for Nursery Stock, ANSIZ60, 1-1973, as amended.

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

REVISION	DATE	BY

NORTH LEBANON SELF STORAGE
1840 ROUTE 72 N, LEBANON, PA 17046

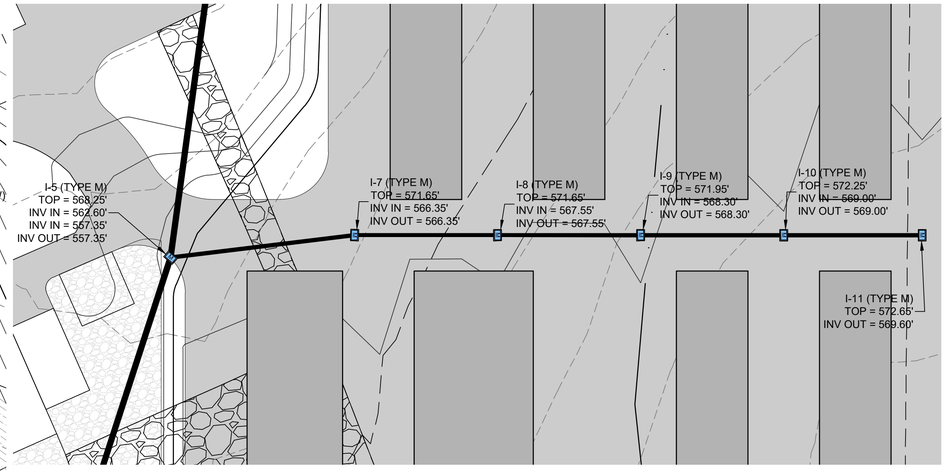
MANAGER: JOSHUA T. WEABER, P.E.
DESIGN BY: JTW CHECKED BY: MJT
DRAWN BY: GLZ CHECKED BY: JTW
SURVEY: M&H PLAN DATE: MAY 4, 2026
PROJECT #: GO2.26.1

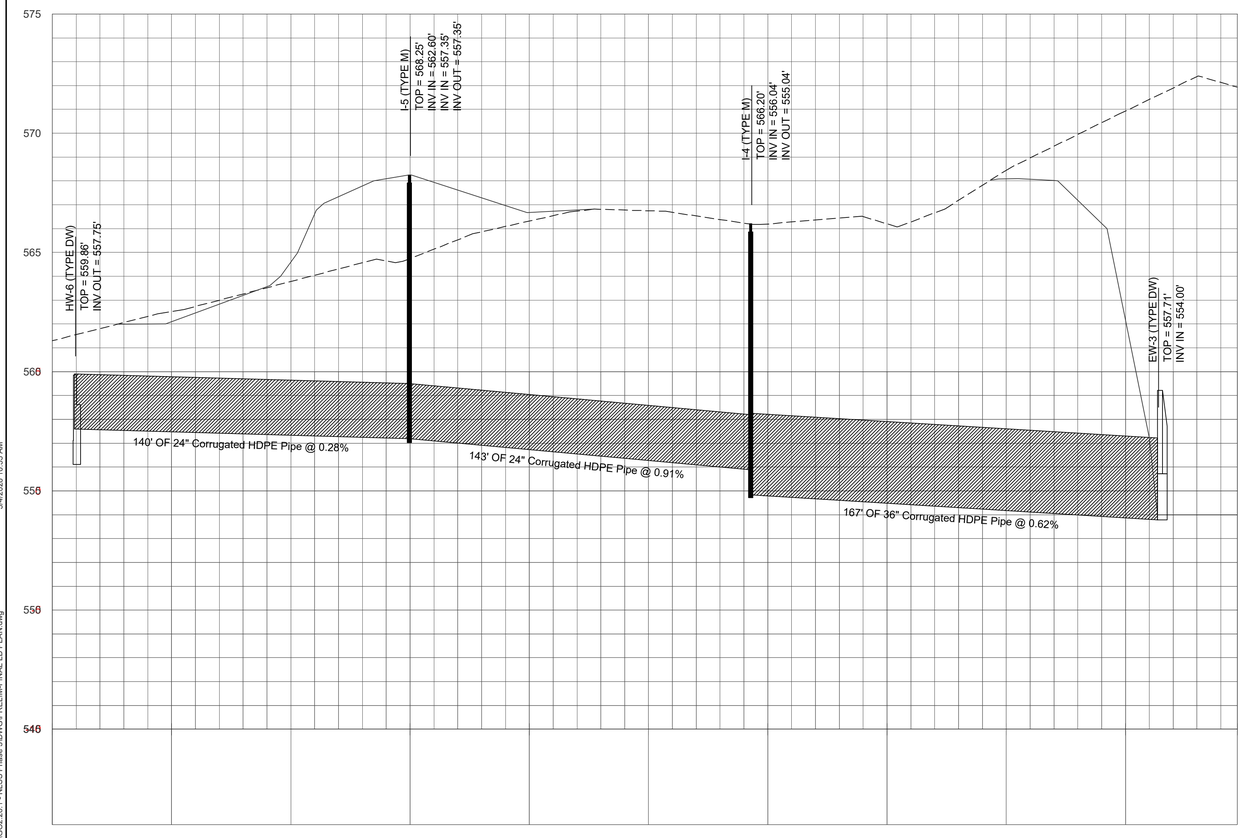
Christianl Engineering, Inc.
2016 State Drive, Suite 4, Lebanon, PA 17042
www.christianlengineering.com

PHASE 3 FINAL LAND DEVELOPMENT PLAN
FOR
NORTH LEBANON SELF STORAGE
NORTH LEBANON TOWNSHIP, LEBANON COUNTY, PA

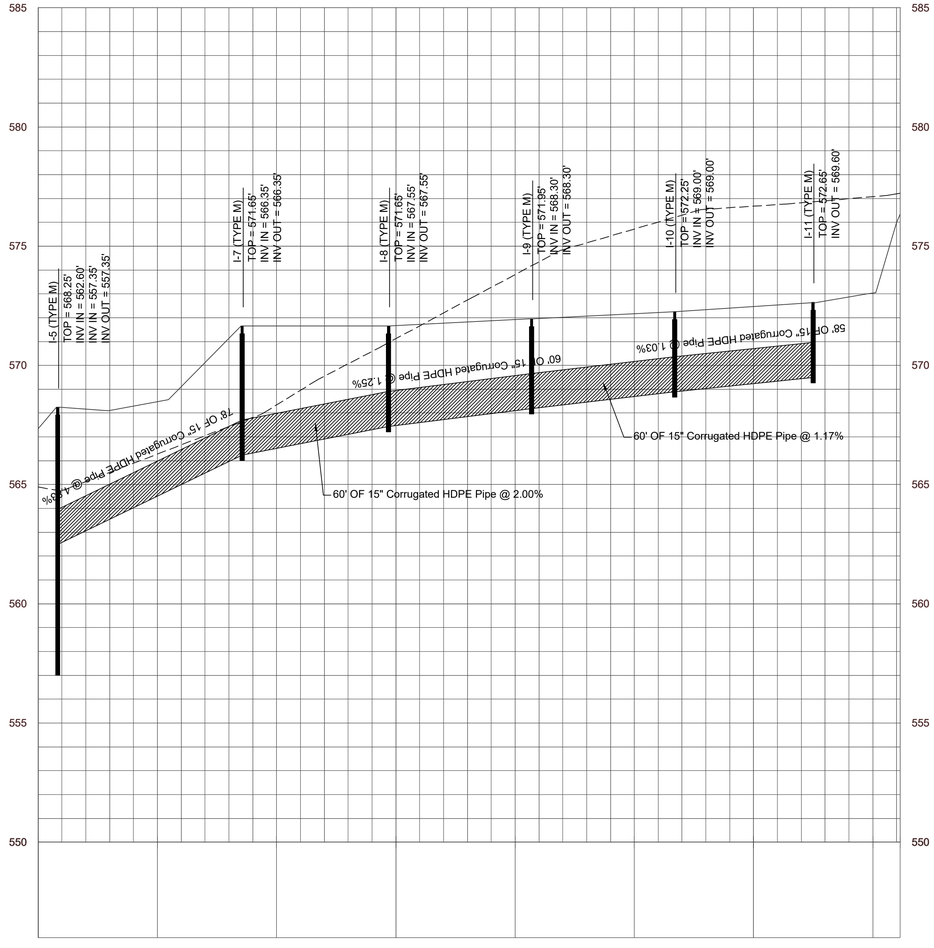
Landscaping & Lighting Plan

7





HW-6 TO EW-3



I-11 TO I-5

PROFILE NOTES:
1. THE CONSTRUCTION OF ALL DRAINAGE STRUCTURES (INCLUDING INLETS, STORM MANHOLES, ENDWALLS, ETC.) PROPOSED FOR DEDICATION OR LOCATED WITHIN A STREET SECTION SHALL BE CAPABLE OF HANDLING AN HS-25 LOADING. IN ADDITION, ALL STORM SEWER PIPES, CULVERTS, MANHOLES, INLETS, ENDWALLS, AND END SECTIONS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE SPECIFICATIONS SET FORTH IN THE PENNSYLVANIA DEPARTMENT OF TRANSPORTATION (PENNDOT) PUBLICATION 408, AS AMENDED, AND SHALL CONFORM TO THE REQUIREMENTS OF THE PENNDOT, BUREAU OF DESIGN, STANDARDS FOR ROADWAY CONSTRUCTION (RC), PUBLICATION NO. 72.
2. ALL STORM SEWERS SHALL BE CONSTRUCTED WITH WATER TIGHT JOINTS.
3. ALL HDPE PIPE SHALL BE SMOOTH-LINED, ADS N-12 OR EQUAL.
4. BACKFILL COMPACTION SHALL BE 95% MINIMUM AT OPTIMUM MOISTURE DENSITY PER ASTM D1557.

VERTICAL
GRAPHIC SCALE
3 0 1.5 3 6 12
(IN FEET)
1 inch = 3 ft.

HORIZONTAL
GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)
1 inch = 30 ft.

REVISION	DATE	BY

NORTH LEBANON SELF STORAGE
1840 ROUTE 72 N, LEBANON, PA 17046

MANAGER: JOSHUA T. WEABER, P.E.
DESIGN BY: JTW CHECKED BY: MJT
DRAWN BY: GLZ CHECKED BY: JTW
SURVEY: MAH PLAN DATE: MAY 4, 2026
PROJECT #: GO2.26.1

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2016 State Drive, Suite 4, Lebanon, PA 17042
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PHASE 3 FINAL
LAND DEVELOPMENT PLAN
FOR
NORTH LEBANON SELF STORAGE
NORTH LEBANON TOWNSHIP, LEBANON COUNTY, PA

Profiles

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OF 17

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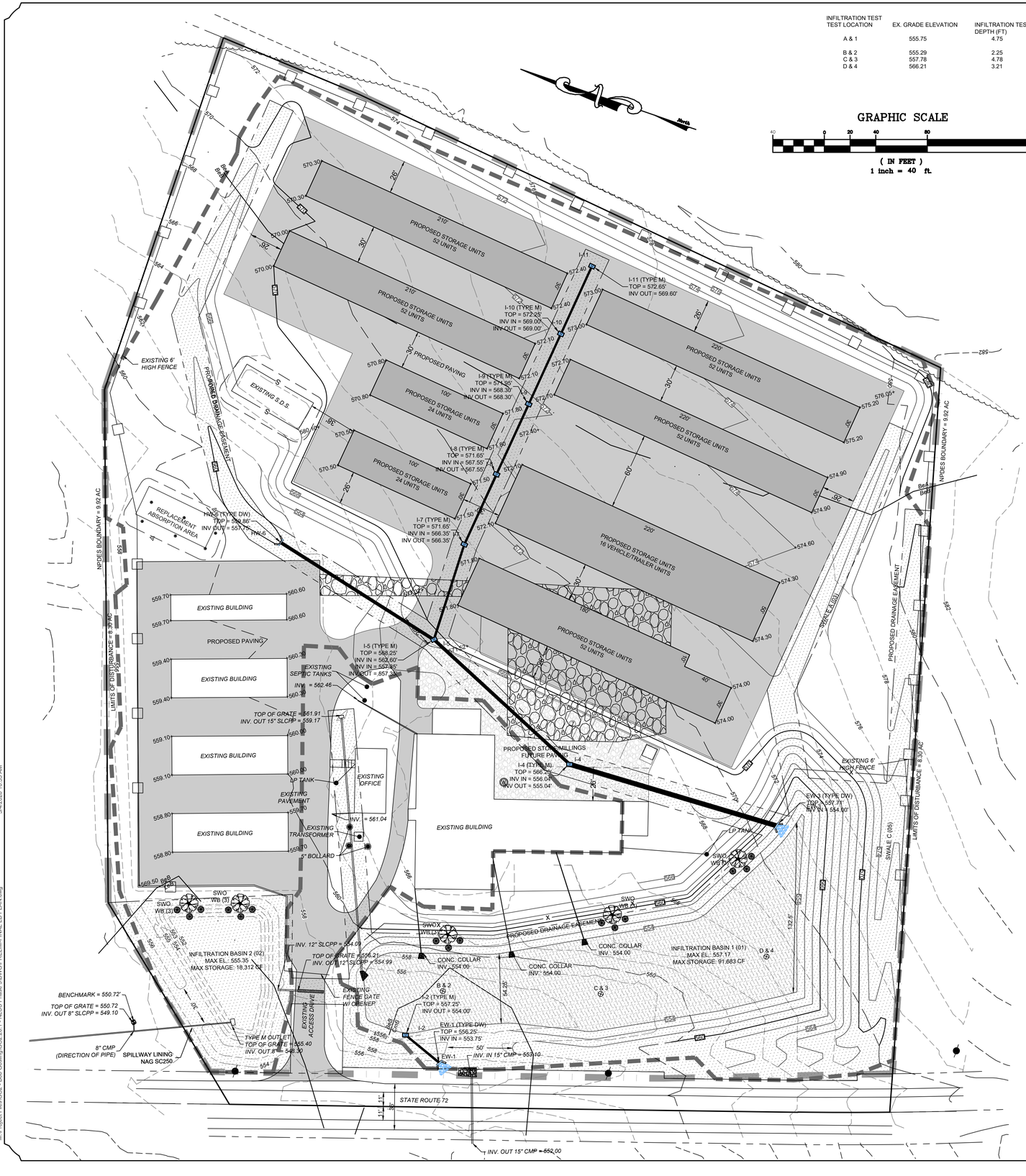
INFILTRATION TEST TEST LOCATION	EX. GRADE ELEVATION	INFILTRATION TEST DEPTH (FT)	INFILTRATION TEST ELEVATION	BASIN BOTTOM ELEVATION	PROBE TEST DEPTH (FT)	PROBE TEST ELEVATION	PERC. RATE (IN/HR)	FACTOR OF SAFETY	DESIGN RATE (IN/HR)
A & 1	555.75	4.75	551.00	552.00	7	548.75	2.25	3	0.75
B & 2	555.29	2.25	553.00	554.00	4.4	550.87	1.75	3	0.58
C & 3	557.78	4.78	553.00	554.00	6.84	550.94	5.25	3	1.75
D & 4	566.21	3.21	553.00	554.00	15.4	550.71	6.75	3	2.25

Map Unit Symbol	Map Unit Name	Acres	HSG	% of Disturbed Area	Depth (ft)	Hydric
BeA	Bedington shaly silt loam	1.8	B	17.6	60"-90"	No
BeB	Bedington shaly silt loam	7.9	B	77.8	60"-80"	No
CmB	Comly silt loam	0.2	C	1.6	20"-35"	No
LeB	Leck kill shaly silt	0.3	A	3.0	40"-80"	No



LEGEND

EXISTING FEATURES

- EXISTING ADJOINER LINE
- EXISTING BOUNDARY LINE AND CORNERS
- EXISTING EDGE OF PAVEMENT AND CURB LINE
- EXISTING RIGHT-OF-WAY
- EXISTING FENCE
- CLEAN OUT, MANHOLE — EXISTING SEWER
- MANHOLE, INLET, RIP-RAP, HEADWALL, ENDWALL — EXISTING STORMWATER
- GATE VALVE, FIRE HYDRANT — EXISTING WATERLINE
- GAS VALVE — EXISTING GASLINE
- EXISTING SIDEWALK/CONCRETE
- 100 MAJOR, MINOR — EXISTING CONTOURS
- EXISTING TREELINE
- SOIL TYPE — EXISTING SOILS
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE

PROPOSED FEATURES

- PROPOSED BUILDING SETBACK
- IRON PIN, CAPPED MONUMENT — PROPOSED BOUNDARY LINE AND CORNERS
- PROPOSED EDGE OF PAVEMENT AND CURB LINE
- PROPOSED RIGHT-OF-WAY
- PROPOSED FENCE
- CLEAN OUT, MANHOLE — PROPOSED SEWER
- HEADWALL, INLET, RIP-RAP, MANHOLE, ENDWALL — PROPOSED STORMWATER
- PROPOSED ACCESS EASEMENT
- PROPOSED DRAINAGE EASEMENT
- PROPOSED UTILITY/DRAINAGE EASEMENT
- PROPOSED SNOW PLOW EASEMENT
- EXISTING ELECTRIC EASEMENT
- GATE VALVE, FIRE HYDRANT — PROPOSED DOMESTIC WATERLINE
- GAS VALVE — PROPOSED GASLINE
- PROPOSED CONCRETE/SIDEWALK
- 1100 MAJOR, MINOR — PROPOSED CONTOURS
- PROPOSED TREELINE
- PROPOSED UTLITY POLE
- PROPOSED LIGHT POLE
- PROPOSED PAVING

GRAPHIC SCALE
500 0 250 500 1000 2000
(IN FEET)
1 inch = 500 ft.

DATE	BY	REVISION

NORTH LEBANON SELF STORAGE
1840 ROUTE 72 N, LEBANON, PA 17046

MANAGER: JOSHUA T. WEABER, P.E.
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2016 State Drive, Suite 4, Lemoyne, PA 17043
www.christandlandengineering.com

PHASE 3 FINAL LAND DEVELOPMENT PLAN
FOR
NORTH LEBANON SELF STORAGE
NORTH LEBANON TOWNSHIP, LEBANON COUNTY, PA

Post Construction Stormwater Management Plan
PCSM1

POST CONSTRUCTION STORMWATER MANAGEMENT (PCSM) STANDARD NOTES

PCSM REQUIREMENTS

A LICENSED PROFESSIONAL OR A DESIGNEE SHALL BE PRESENT ONSITE AND BE RESPONSIBLE DURING CRITICAL STAGES OF IMPLEMENTATION OF THE APPROVED PCSM PLAN. THE CRITICAL STAGES MAY INCLUDE THE INSTALLATION OF UNDERGROUND TREATMENT OR STORAGE BMPS, STRUCTURALLY ENGINEERED BMPS, OR OTHER BMPS AS DEEMED APPROPRIATE BY THE DEPARTMENT OR THE CONSERVATION DISTRICT.

THE PCSM PLAN, INSPECTION REPORTS, AND MONITORING RECORDS SHALL BE AVAILABLE FOR REVIEW AND INSPECTION BY THE DEPARTMENT OR THE CONSERVATION DISTRICT.

PCSM LONG TERM OPERATIONS AND MAINTENANCE REQUIREMENTS

THE PERMITTEE OR CO-PERMITTEE SHALL BE RESPONSIBLE FOR LONG-TERM OPERATION AND MAINTENANCE OF PCSM BMPS UNLESS A DIFFERENT PERSON IS IDENTIFIED IN THE NOTICE OF TERMINATION AND HAS AGREED TO LONG-TERM OPERATION AND MAINTENANCE OF PCSM BMPS.

A PERMITTEE OR CO-PERMITTEE THAT FAILS TO TRANSFER LONG-TERM OPERATION AND MAINTENANCE OF THE PCSM BMP OR OTHERWISE FAILS TO COMPLY WITH THIS REQUIREMENT SHALL REMAIN JOINTLY AND SEVERALLY RESPONSIBLE WITH THE LANDOWNER FOR LONG-TERM OPERATION AND MAINTENANCE OF THE PCSM BMPS LOCATED ON THE PROPERTY.

PERMIT TERMINATION

UPON PERMANENT STABILIZATION OF THE EARTH DISTURBANCE ACTIVITY AND INSTALLATION OF BMPS IN ACCORDANCE WITH AN APPROVED PLAN, THE PERMITTEE OR CO-PERMITTEE SHALL SUBMIT A NOTICE OF TERMINATION TO THE DEPARTMENT OR CONSERVATION DISTRICT.

THE NOTICE OF TERMINATION MUST INCLUDE:

(1) THE FACILITY NAME, ADDRESS AND LOCATION

(2) THE OPERATOR NAME AND ADDRESS

(3) THE NPDES PERMIT NUMBER

(4) THE REASON FOR PERMIT TERMINATION

(5) IDENTIFICATION OF THE PERSONS WHO HAVE AGREED TO AND WILL BE RESPONSIBLE FOR LONG-TERM OPERATION AND MAINTENANCE OF THE PCSM

(6) COPY OF LEGAL INSTRUMENT: FOR ANY PROPERTY CONTAINING A PCSM BMP, THE PERMITTEE OR CO-PERMITTEE SHALL RECORD AN INSTRUMENT WITH THE RECORDER OF DEEDS WHICH WILL ASSURE DISCLOSURE OF THE PCSM BMP AND THE RELATED OBLIGATIONS IN THE ORDINARY COURSE OF A TITLE SEARCH OF THE SUBJECT PROPERTY. THE RECORDED INSTRUMENT MUST IDENTIFY THE PCSM BMP, PROVIDE FOR NECESSARY ACCESS RELATED TO LONG-TERM OPERATION AND MAINTENANCE FOR PCSM BMPS AND PROVIDE NOTICE THAT THE RESPONSIBILITY FOR LONG-TERM OPERATION AND MAINTENANCE OF THE PCSM BMP IS A COVENANT THAT RUNS WITH THE LAND THAT IS BINDING UPON AND ENFORCEABLE BY SUBSEQUENT GRANTEES, AND PROVIDE PROOF OF FILING WITH THE NOTICE OF TERMINATION.

(7) FINAL CERTIFICATION: THE PERMITTEE SHALL INCLUDE WITH THE NOTICE OF TERMINATION "RECORD DRAWINGS" WITH A FINAL CERTIFICATION STATEMENT FROM A LICENSED PROFESSIONAL, WHICH READS AS FOLLOWS:

"I (NAME) DO HEREBY CERTIFY PURSUANT TO THE PENALTIES OF 18 PA. C.S.A. §4904 TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF, THAT THE ACCOMPANYING RECORD DRAWINGS ACCURATELY REFLECT THE AS-BUILT CONDITIONS, ARE TRUE AND CORRECT, AND ARE IN CONFORMANCE WITH CHAPTER 102 OF THE RULES AND REGULATIONS OF THE DEPARTMENT OF ENVIRONMENTAL PROTECTION AND THAT THE PROJECT SITE WAS CONSTRUCTED IN ACCORDANCE WITH THE APPROVED PCSM PLAN, ALL APPROVED PLAN CHANGES AND ACCEPTED CONSTRUCTION PRACTICES."

(1) THE PERMITTEE SHALL RETAIN A COPY OF THE RECORD DRAWINGS AS A PART OF THE APPROVED PCSM PLAN.

(2) THE PERMITTEE SHALL PROVIDE A COPY OF THE RECORD DRAWINGS AS PART OF THE APPROVED PCSM PLAN TO THE PERSON IDENTIFIED IN THIS SECTION AS BEING RESPONSIBLE FOR THE LONG-TERM OPERATION AND MAINTENANCE OF THE PCSM BMPS.

INFILTRATION BASINS (BASINS 1 & 2)

INFILTRATION BASINS ARE SHALLOW, IMPOUNDED AREAS DESIGNED TO TEMPORARILY STORE AND INFILTRATE STORMWATER RUNOFF. THE SIZE AND SHAPE CAN VARY FROM ONE LARGE BASIN TO MULTIPLE, SMALLER BASINS THROUGHOUT A SITE. IDEALLY, THE BASIN SHOULD AVOID DISTURBANCE OF EXISTING VEGETATION. IF DISTURBANCE IS UNAVOIDABLE, REPLANTING AND LANDSCAPING MAY BE NECESSARY AND SHOULD INTEGRATE THE EXISTING LANDSCAPE AS SUBTLY AS POSSIBLE AND COMPACTION OF THE SOIL MUST BE PREVENTED INFILTRATION BASINS USE THE EXISTING SOIL MANTLE TO REDUCE THE VOLUME OF STORMWATER RUNOFF BY INFILTRATION AND EVAPOTRANSPIRATION. THE QUALITY OF THE RUNOFF IS ALSO IMPROVED BY THE NATURAL CLEANSING PROCESSES OF THE EXISTING SOIL MANTLE AND ALSO BY THE VEGETATION PLANTED IN THE BASINS.

CONSTRUCTION SEQUENCE

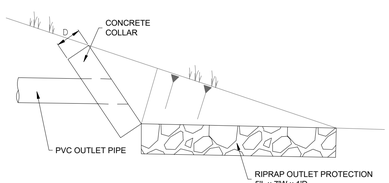
1. PROTECT INFILTRATION BASIN AREA FROM COMPACTION PRIOR TO INSTALLATION.
2. IF POSSIBLE, INSTALL INFILTRATION BASIN DURING LATER PHASES OF SITE CONSTRUCTION TO PREVENT SEDIMENTATION AND/OR DAMAGE FROM CONSTRUCTION ACTIVITY. AFTER INSTALLATION, PREVENT SEDIMENT LADEN WATER FROM ENTERING INLETS AND PIPES.
3. INSTALL AND MAINTAIN PROPER EROSION AND SEDIMENT CONTROL MEASURES DURING CONSTRUCTION.
4. IF NECESSARY, EXCAVATE INFILTRATION BASIN BOTTOM TO AN UNCOMPACTED SUBGRADE FREE FROM ROCKS AND DEBRIS. DO NOT COMPACT SUBGRADE.
5. INSTALL OUTLET CONTROL STRUCTURES.
6. SEED AND STABILIZE TOPSOIL. (VEGETATE IF APPROPRIATE WITH NATIVE PLANTINGS.)
7. DO NOT REMOVE INLET PROTECTION OR OTHER EROSION AND SEDIMENT CONTROL MEASURES UNTIL SITE IS FULLY STABILIZED.

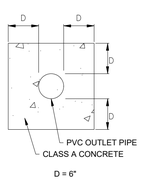
MAINTENANCE ISSUES

PROPERLY DESIGNED AND INSTALLED RETENTION AREAS REQUIRE SOME REGULAR MAINTENANCE:

MAINTENANCE ACTIVITIES TO BE DONE ANNUALLY AND WITHIN 48 HOURS AFTER EVERY MAJOR STORM EVENT (> 1 INCH RAINFALL DEPTH):

1. REMOVE TRASH AND DEBRIS FROM THE BIORETENTION BASIN OR RAIN GARDEN AS NECESSARY.
2. MOW AND TRIM VEGETATION A MINIMUM OF TWICE PER YEAR TO ENSURE SAFETY, AESTHETICS, PROPER BASIN OPERATION, AND TO SUPPRESS WEEDS AND INVASIVE VEGETATION. DISPOSE OF CUTTINGS IN A LOCAL COMPOSTING FACILITY. MOW ONLY WHEN THE BASIN IS DRY TO AVOID RUTTING.
3. WHILE VEGETATION IS BEING ESTABLISHED, PRUNING AND WEEDING MAY BE REQUIRED.
4. TREES AND SHRUBS SHOULD BE INSPECTED TWICE PER YEAR TO EVALUATE HEALTH. REPLACE ANY DEAD OR DYING VEGETATION WITHOUT DISTURBING REMAINING VEGETATION.
5. DETRITUS MAY ALSO NEED TO BE REMOVED EVERY YEAR. PERENNIAL PLANTINGS MAY BE CUT DOWN AT THE END OF THE GROWING SEASON.
6. MULCH SHOULD BE RE-SPREAD WHEN EROSION IS EVIDENT AND BE REPLENISHED AS NEEDED. ONCE EVERY 2 TO 3 YEARS THE ENTIRE AREA MAY REQUIRE MULCH REPLACEMENT.
7. DURING PERIODS OF EXTENDED DROUGHT, BIORETENTION AREAS MAY REQUIRE WATERING.
8. THE UNDERLYING SOIL IN THE RAIN GARDEN/ BIORETENTION BASIN MAY NEED TO BE ROTOTILLED OR OTHERWISE AERATED IF THE DRAW DOWN TIME IN THE BASIN IS MORE THAN 48 HOURS. THIS SOIL RESTORATION PROCESS MAY NEED TO BE REPEATED OVER TIME DUE TO NATURAL SOIL COMPACTION AND SETTLING.
9. SEDIMENT REMOVAL SHOULD BE CONDUCTED WHEN THE BASIN IS COMPLETELY DRY. SEDIMENT SHOULD BE DISPOSED OF PROPERLY, AND ONCE SEDIMENT IS REMOVED, DISTURBED AREAS NEED TO BE IMMEDIATELY STABILIZED AND REVEGETATED.
10. INSPECTIONS OF THE BASIN SHALL BE CONDUCTED WITHIN 48 HOURS AFTER A STORM EVENT OF GREATER THAT ONE (1) INCH OF RAIN, OR TWICE PER YEAR AT A MINIMUM.
    - A. INSPECT AND CORRECT EROSION PROBLEMS, DAMAGE TO VEGETATION, AND THE GROWTH OF UNWANTED OR INVASIVE VEGETATION.
    - B. ALL BASIN STRUCTURES EXPECTED TO RECEIVE AND /OR TRAP DEBRIS AND SEDIMENT, INCLUDING THE BASIN BOTTOM, TRASH RACKS, OUTLET STRUCTURES, RIPRAP OR GABION STRUCTURES, AND INLETS, SHOULD BE INSPECTED FOR CLOGGING AND EXCESSIVE DEBRIS AND SEDIMENT ACCUMULATION. SEDIMENT ACCUMULATION SHALL BE ADDRESSED WHEN SEDIMENT IS GREATER THAN 3 INCHES DEEP AT ANY SPOT OR IS COVERING VEGETATION.
    - C. INSPECT FOR CONFORMANCE WITH ORIGINAL DESIGN CROSS-SECTION, AND CORRECT AS NEEDED.
    - D. INSPECT ALL PIPES, CATCH BASINS, INLET AND OUTLET STRUCTURES FOR DEFICIENCIES AND REPAIR OR REPLACE IF REQUIRED. COMMON DEFICIENCIES INCLUDE BROKEN CONCRETE, CRUSHED OR RUSTED PIPES, MISSING GROUT, OR CLOCKAGES CAUSED BY LITTER OR FOREIGN MATERIALS.
11. ACCESS SHALL BE GRANTED TO ALL AUTHORIZED LOCAL, STATE, AND FEDERAL AGENCIES FOR BMP INSPECTIONS AT REASONABLE TIMES AND WITH REASONABLE FREQUENCY.
12. WRITTEN REPORTS DOCUMENTING INSPECTIONS, REPAIRS, AND MAINTENANCE ACTIVITIES SHALL BE MAINTAINED ON SITE BY THE PROPERTY OWNER AT ALL TIMES.





CONCRETE COLLAR DETAIL
NOT TO SCALE

VEGETATED SWALE (SWALES A, B, & C)

VEGETATED SWALES ARE BROAD, SHALLOW CHANNELS DESIGNED TO SLOW RUNOFF, PROMOTE INFILTRATION, AND FILTER POLLUTANTS AND SEDIMENTS IN THE PROCESS OF CONVEYING RUNOFF. VEGETATED SWALES PROVIDE AN ENVIRONMENTALLY SUPERIOR ALTERNATIVE TO CONVENTIONAL CURB AND GUTTER CONVEYANCE SYSTEMS, WHILE PROVIDING PARTIALLY TREATED (PRETREATMENT) AND PARTIALLY DISTRIBUTED STORMWATER FLOWS TO SUBSEQUENT BMPS. SWALES ARE OFTEN HEAVILY VEGETATED WITH A DENSE AND DIVERSE SELECTION OF NATIVE, CLOSE-GROWING, WATER-RESISTANT PLANTS WITH HIGH POLLUTANT REMOVAL POTENTIAL. THE VARIOUS POLLUTANT REMOVAL MECHANISMS OF A SWALE INCLUDE: SEDIMENTARY FILTERING BY THE SWALE VEGETATION (BOTH ON SIDE SLOPES AND ON BOTTOM), FILTERING THROUGH A SUBSOIL MATRIX, AND/OR INFILTRATION INTO THE UNDERLYING SOILS WITH THE FULL ARRAY OF INFILTRATION-ORIENTED POLLUTANT REMOVAL MECHANISMS.

A VEGETATED SWALE TYPICALLY CONSISTS OF A BAND OF DENSE VEGETATION, UNDERLAIN BY AT LEAST 24 INCHES OF PERMEABLE SOIL. SWALES CONSTRUCTED WITH AN UNDERLYING 12 TO 24 INCH AGGREGATE LAYER PROVIDE SIGNIFICANT VOLUME REDUCTION AND REDUCE THE STORMWATER CONVEYANCE RATE. THE PERMEABLE SOIL MEDIA SHOULD HAVE A MINIMUM INFILTRATION RATE OF 0.5 INCHES PER HOUR AND CONTAIN A HIGH LEVEL OF ORGANIC MATERIAL TO ENHANCE POLLUTANT REMOVAL. A NONWOVEN GEOTEXTILE SHOULD COMPLETELY WRAP THE AGGREGATE TRENCH.

CONSTRUCTION SEQUENCE

1. BEGIN VEGETATED SWALE CONSTRUCTION ONLY WHEN THE UPGRADIENT TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES ARE IN PLACE. VEGETATED SWALES SHOULD BE CONSTRUCTED AND STABILIZED EARLY IN THE CONSTRUCTION SCHEDULE, PREFERABLY BEFORE MASS EARTHWORK AND PAVING INCREASE THE RATE AND VOLUME OF RUNOFF. (EROSION AND SEDIMENT CONTROL METHODS SHALL ADHERE TO THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION'S EROSION AND SEDIMENT POLLUTION CONTROL PROGRAM MANUAL, MARCH 2000 OR LATEST EDITION.)
2. ROUGH GRADE THE VEGETATED SWALE. EQUIPMENT SHALL AVOID EXCESSIVE COMPACTION AND/OR LAND DISTURBANCE. EXCAVATING EQUIPMENT SHOULD OPERATE FROM THE SIDE OF THE SWALE AND NEVER ON THE BOTTOM. IF EXCAVATION LEADS TO SUBSTANTIAL COMPACTION OF THE SUBGRADE (WHERE AN INFILTRATION TRENCH IS NOT PROPOSED), 18 INCHES SHALL BE REMOVED AND REPLACED WITH A BLEND OF TOPSOIL AND SAND TO PROMOTE INFILTRATION AND BIOLOGICAL GROWTH. AT THE VERY LEAST, TOPSOIL SHALL BE THOROUGHLY DEEP PLOWED INTO THE SUBGRADE IN ORDER TO PENETRATE THE COMPACTED ZONE AND PROMOTE AERATION AND THE FORMATION OF MACROPORES. FOLLOWING THIS, THE AREA SHOULD BE DISKED PRIOR TO FINAL GRADING OF TOPSOIL.
3. CONSTRUCT FILTER SOCK CHECK DAMS, IF REQUIRED. INSTALL IN ACCORDANCE WITH FILTER SOCK DETAIL AT LOCATIONS INDICATED ON THE PLANS.
4. FINE GRADE THE VEGETATED SWALE. ACCURATE GRADING IS CRUCIAL FOR SWALES. EVEN THE SMALLEST NONCONFORMITIES MAY COMPROMISE FLOW CONDITIONS.
5. SEED, VEGETATE AND INSTALL PROTECTIVE LINING AS PER APPROVED PLANS AND ACCORDING TO FINAL PLANTING LIST. PLANT THE SWALE AT A TIME OF THE YEAR WHEN SUCCESSFUL ESTABLISHMENT WITHOUT IRRIGATION IS MOST LIKELY. HOWEVER, TEMPORARY IRRIGATION MAY BE NEEDED IN PERIODS OF LITTLE RAIN OR DROUGHT. VEGETATION SHOULD BE ESTABLISHED AS SOON AS POSSIBLE TO PREVENT EROSION AND SCOUR.
6. ONCE ALL TRIBUTARY AREAS ARE SUFFICIENTLY STABILIZED, REMOVE TEMPORARY EROSION AND SEDIMENT CONTROLS. IT IS VERY IMPORTANT THAT THE SWALE BE STABILIZED BEFORE RECEIVING UPLAND STORMWATER FLOW.
7. FOLLOW MAINTENANCE GUIDELINES, AS DESCRIBED BELOW.

NOTE: IF A VEGETATED SWALE IS USED FOR CONVEYANCE DURING CONSTRUCTION, IT SHOULD BE REGRADED AND RESEEDED IMMEDIATELY AFTER CONSTRUCTION AND STABILIZATION HAS OCCURRED. ANY DAMAGED AREAS SHOULD BE FULLY RESTORED TO ENSURE FUTURE FUNCTIONALITY OF THE SWALE.

MAINTENANCE ISSUES

COMPARED TO OTHER STORMWATER MANAGEMENT MEASURES, THE REQUIRED UPKEEP OF VEGETATED SWALES IS RELATIVELY LOW. IN GENERAL, MAINTENANCE STRATEGIES FOR SWALES FOCUS ON SUSTAINING THE HYDRAULIC AND POLLUTANT REMOVAL EFFICIENCY OF THE CHANNEL, AS WELL AS MAINTAINING A DENSE VEGETATIVE COVER. EXPERIENCE HAS PROVEN THAT PROPER MAINTENANCE ACTIVITIES ENSURE THE FUNCTIONALITY OF VEGETATED SWALES FOR MANY YEARS. THE FOLLOWING SCHEDULE OF INSPECTION AND MAINTENANCE ACTIVITIES IS RECOMMENDED:

MAINTENANCE ACTIVITIES TO BE DONE ANNUALLY AND WITHIN 48 HOURS AFTER EVERY MAJOR STORM EVENT (> 1 INCH RAINFALL DEPTH):

1. INSPECT AND CORRECT EROSION PROBLEMS, DAMAGE TO VEGETATION, AND SEDIMENT AND DEBRIS ACCUMULATION (ADDRESS WHEN > 3 INCHES AT ANY SPOT OR COVERING VEGETATION)
2. INSPECT VEGETATION ON SIDE SLOPES FOR EROSION AND FORMATION OF RILLS OR GULLIES, CORRECT AS NEEDED
3. INSPECT FOR POOLS OF STANDING WATER; DEWATER AND DISCHARGE TO AN APPROVED LOCATION AND RESTORE TO DESIGN GRADE
4. MOW AND TRIM VEGETATION TO ENSURE SAFETY, AESTHETICS, PROPER SWALE OPERATION, OR TO SUPPRESS WEEDS AND INVASIVE VEGETATION; DISPOSE OF CUTTINGS IN A LOCAL COMPOSTING FACILITY; MOW ONLY WHEN SWALE IS DRY TO AVOID RUTTING
5. INSPECT FOR LITTER; REMOVE PRIOR TO MOWING
6. INSPECT FOR UNIFORMITY IN CROSS-SECTION AND LONGITUDINAL SLOPE, CORRECT AS NEEDED
7. INSPECT SWALE INLET (CURB CUTS, PIPES, ETC.) AND OUTLET FOR SIGNS OF EROSION OR BLOCKAGE, CORRECT AS NEEDED

MAINTENANCE ACTIVITIES TO BE DONE AS NEEDED:

1. RE-PLANT SPECIFIED GRASS SPECIES IN THE EVENT OF UNSUCCESSFUL ESTABLISHMENT. INSTALL NAG S75 MATTING IN AREAS WHERE INITIAL GRASS ESTABLISHMENT WAS NOT SUCCESSFUL.
2. RESEED BARE AREAS; INSTALL APPROPRIATE EROSION CONTROL MEASURES WHEN NATIVE SOIL IS EXPOSED OR EROSION CHANNELS ARE FORMING
3. ROTOTILL AND REPLANT SWALE IF DRAW DOWN TIME IS MORE THAN 48 HOURS
4. INSPECT AND CORRECT CHECK DAMS WHEN SIGNS OF ALTERED WATER FLOW (CHANNELIZATION, OBSTRUCTIONS, EROSION, ETC.) ARE IDENTIFIED
5. WATER DURING DRY PERIODS, FERTILIZE, AND APPLY PESTICIDE ONLY WHEN ABSOLUTELY NECESSARY

MOST OF THE ABOVE MAINTENANCE ACTIVITIES ARE REASONABLY WITHIN THE ABILITY OF INDIVIDUAL HOMEOWNERS. MORE INTENSIVE SWALES (I.E. MORE SUBSTANTIAL VEGETATION, CHECK DAMS, ETC.) MAY WARRANT MORE INTENSIVE MAINTENANCE DUTIES AND SHOULD BE VESTED WITH A RESPONSIBLE AGENCY. A LEGALLY BINDING AND ENFORCEABLE MAINTENANCE AGREEMENT BETWEEN THE FACILITY OWNER AND THE LOCAL REVIEW AUTHORITY MIGHT BE WARRANTED TO ENSURE SUSTAINED MAINTENANCE EXECUTION. WINTER CONDITIONS ALSO NECESSITATE ADDITIONAL MAINTENANCE CONCERNS, WHICH INCLUDE THE FOLLOWING:

1. INSPECT SWALE IMMEDIATELY AFTER THE SPRING MELT, REMOVE RESIDUALS (E.G. SAND) AND REPLACE DAMAGED VEGETATION WITHOUT DISTURBING REMAINING VEGETATION.
2. IF ROADSIDE OR PARKING LOT RUNOFF IS DIRECTED TO THE SWALE, MULCHING AND/OR SOIL AERATION/MANIPULATION MAY BE REQUIRED IN THE SPRING TO RESTORE SOIL STRUCTURE AND MOISTURE CAPACITY AND TO REDUCE HE IMPACTS OF DEICING AGENTS.
3. USE NONTOXIC, ORGANIC DEICING AGENTS, APPLIED EITHER AS BLENDED, MAGNESIUM CHLORIDE-BAS LIQUID PRODUCTS OR AS PRETREATED SALT
4. USE SALT-TOLERANT VEGETATION IN SWALES.

SPECIFICATIONS

THE FOLLOWING SPECIFICATIONS ARE PROVIDED FOR INFORMATION PURPOSES ONLY. THESE SPECIFICATIONS INCLUDE INFORMATION ON ACCEPTABLE MATERIALS FOR TYPICAL APPLICATIONS, BUT ARE BY NO MEANS EXCLUSIVE OR LIMITING. THE DESIGNER IS RESPONSIBLE FOR DEVELOPING DETAILED SPECIFICATIONS FOR INDIVIDUAL DESIGN PROJECTS IN ACCORDANCE WITH THE PROJECT CONDITIONS.

1. SWALE SOIL SHALL BE USCS CLASS ML (INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS WITH SLIGHT PLASTICITY), SM (SILTY SANDS, POORLY GRADED SAND-SILT MIXTURES), SW (WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES) OR SC (CLAYEY SANDS, POORLY GRADED SAN CLAY MIXTURES). THE FIRST THREE OF THESE DESIGNATIONS ARE PREFERRED FOR SWALES IN COLD CLIMATES. IN GENERAL, SOIL WITH A HIGHER PERCENT ORGANIC CONTENT IS PREFERRED.
2. SWALE SAND SHALL BE ASTM C-33 FINE AGGREGATE CONCRETE SAND (0.02 IN TO 0.04 IN).
3. CHECK DAMS CONSTRUCTED OF NATURAL WOOD SHALL BE 6 IN TO 12 IN DIAMETER AND NOTCHED AS NECESSARY. THE FOLLOWING SPECIES ARE ACCEPTABLE: BLACK LOCUST, RED MULBERRY, CEDARS, CATALPA, WHITE OAK, CHESTNUT OAK, BLACK WALNUT. THE FOLLOWING SPECIES ARE NOT ACCEPTABLE, AS THEY CAN ROT OVER TIME: ASH, BEECH, BIRCH, ELM, HACKBERRY, HEMLOCK, HICKORIES, MAPLES, RED AND BLACK OAK, PINES, POPLAR, SPRUCE, SWEETGUM, AND WILLOW. AN EARTHEN CHECK DAM SHALL BE CONSTRUCTED OF SAND, GRAVEL, AND SANDY LOAM TO ENCOURAGE GRASS COVER (SAND: ASTM C-33 FINE CHECK DAM AGGREGATE CONCRETE SAND 0.02 IN TO 0.04 IN, GRAVEL: AASHTO M-43 0.5 IN TO 1.0 IN). A STONE SHALL BE CONSTRUCTED OF R-4 RIP RAP, OR EQUIVALENT.
4. DEVELOP A NATIVE PLANTING MIX.

CRITICAL STAGES OF CONSTRUCTION

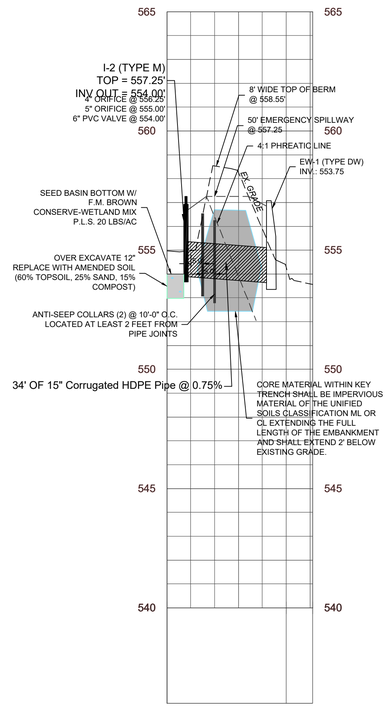
CHRISLAND ENGINEERING SHALL BE CONTACTED AT 717-954-6513 FOR INSPECTION AT THE FOLLOWING CRITICAL STAGES OF CONSTRUCTION:

VEGETATED SWALE

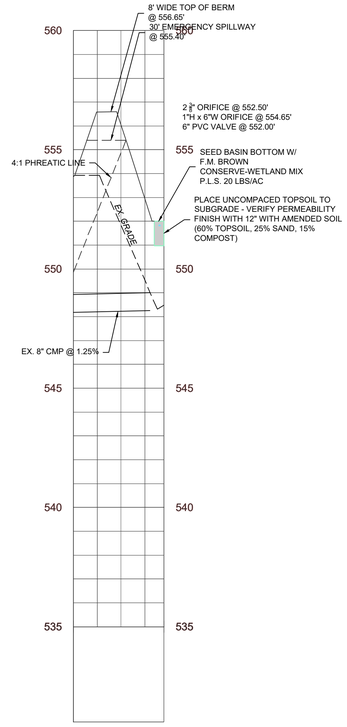
1. AT THE COMPLETION OF ROUGH GRADING OF THE VEGETATED SWALE.
2. AT THE COMPLETION OF FINE GRADE THE VEGETATED SWALE.
3. AT THE COMPLETION OF SEEDING AND INSTALLATION OF PROTECTIVE LINING.
4. WHEN ALL TRIBUTARY AREAS ARE SUFFICIENTLY STABILIZED.

INFILTRATION BASIN

1. AT THE COMPLETION OF ROUGH GRADING OF THE BOTTOM OF THE INFILTRATION BASIN.
2. AT THE COMPLETION OF PLACEMENT OF THE AMENDED SOILS.
3. AT THE COMPLETION OF INSTALLATION OF THE CATCH BASINS AND OUTLET PIPE.
4. AT THE COMPLETION OF THE INSTALLATION OF THE CLAY CORE PRIOR TO THE BACKFILLING OF THE BERM.
5. AT THE COMPLETION OF BACKFILLING AND STABILIZATION.
6. WHEN ALL TRIBUTARY AREAS ARE SUFFICIENTLY STABILIZED.



BASIN 1 DETAIL
NOT TO SCALE



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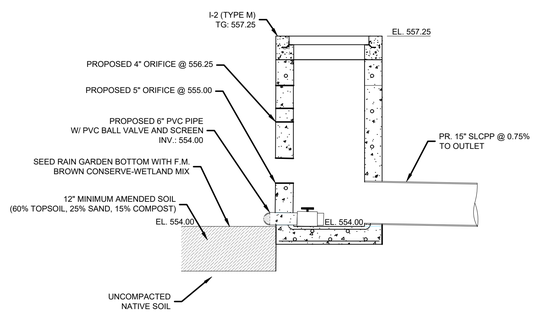
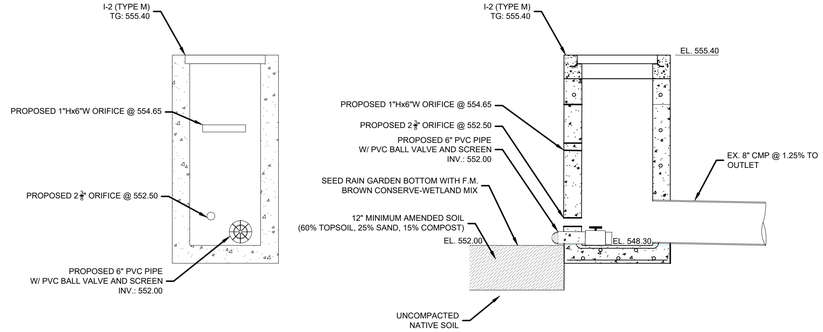


SAND NOTE:
1. SILICA SAND SHALL MEET THE SPECIFICATIONS IDENTIFIED IN AASHTO M-6 AND/OR ASTM C-33 FOR SILICA CONCRETE SAND. CALCIUM CARBONATE, MAGNESIUM CARBONATE, AND/OR DIABASE SUBSTITUTIONS ARE NOT ACCEPTABLE. NEITHER STONE DUST NOR # 10 SCREENINGS MAY BE SUBSTITUTED FOR SAND.

VALVE NOTES:
1. EACH PVC DRAWDOWN PIPE AND VALVE SHALL BE PROVIDED WITH APPROPRIATELY SIZED PVC TRASH SCREEN AT INTAKE.
2. THE 6" PVC VALVE SHALL REMAIN CLOSED DURING NORMAL OPERATION OF THE RAIN GARDEN. THE VALVE SHALL ONLY BE OPENED TO DEWATER THE RAIN GARDEN FOR MAINTENANCE PURPOSES.
3. THE VALVE SHALL BE OPENED AND CLOSED AT LEAST TWICE PER YEAR TO ENSURE IT IS FUNCTIONING PROPERLY.

BASIN 1 OUTLET DETAIL
NOT TO SCALE



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BASIN 2 OUTLET DETAIL
NOT TO SCALE

REVISION	DATE	BY

NORTH LEBANON SELF STORAGE
1840 ROUTE 72 N, LEBANON, PA 17046

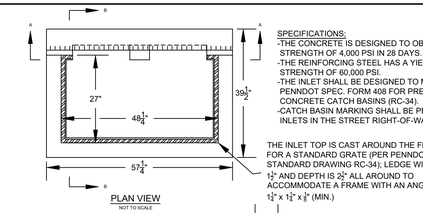
MANAGER: JOSHUA T. WEABER, P.E.
DESIGN BY: JTW CHECKED BY: MJT
DRAWN BY: GLZ CHECKED BY: JTW
SURVEY: MAH PLAN DATE: MAY 4, 2026
PROJECT #: GO2.26.1

CHRISLAND ENGINEERING
Chrisland Engineering, Inc.
2016 State Drive, Suite 4, Lebanon, PA 17042
www.chrislandengineering.com

PHASE 3 FINAL
LAND DEVELOPMENT PLAN
FOR
NORTH LEBANON SELF STORAGE
NORTH LEBANON TOWNSHIP, LEBANON COUNTY, PA

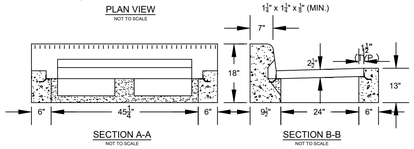
Post-Construction Stormwater Management Details

PCSM2



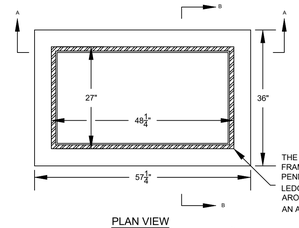
SPECIFICATIONS:
-THE CONCRETE IS DESIGNED TO OBTAIN A STRENGTH OF 4,000 PSI IN 28 DAYS.
-THE REINFORCING STEEL HAS A YIELD STRENGTH OF 60,000 PSI.
-THE INLET SHALL BE DESIGNED TO MEET PENNDOT SPEC. FORM 408 FOR PRECAST CONCRETE CATCH BASINS (RC-34).
-CATCH BASIN MARKING SHALL BE PROVIDED FOR INLETS IN THE STREET RIGHT-OF-WAY

THE INLET TOP IS CAST AROUND THE FRAME FOR A STANDARD GRATE (PER PENNDOT STANDARD DRAWING RC-34); LEDGE WIDTH IS 1½" AND DEPTH IS 2½" ALL AROUND TO ACCOMMODATE A FRAME WITH AN ANGLE OF 1½" x 1½" x ⅛" (MIN.)



1. ALL CATCH BASINS SHALL BE PROVIDED IN ACCORDANCE WITH PENNDOT PUB 72, RC-45M.
2. ALL CATCH BASINS SHALL BE PROVIDED WITH MARKERS IN ACCORDANCE WITH CHAPTER 21, EXHIBIT "L."
3. AN ADDITIONAL 2" STRUCTURE HEIGHT SHALL BE PROVIDED (20") WHERE INLET IS SUMPED 2" BELOW SURROUNDING GRADE.

PENNDOT TYPE "C" INLET
NOT TO SCALE



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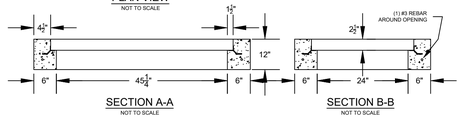

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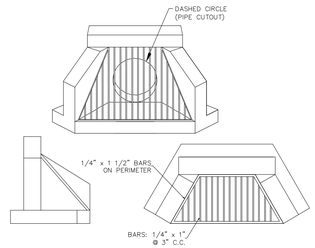
2. ALL CATCH BASINS SHALL BE PROVIDED WITH MARKERS IN ACCORDANCE WITH CHAPTER 21, EXHIBIT "L."

PENNDOT TYPE "M" INLET
NOT TO SCALE

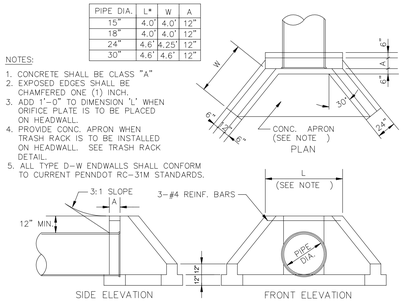


NOTES:
1. MATERIALS TO BE HOT DIPPED GALVANIZED STEEL.
2. ATTACH TRASH RACK TO HEADWALL WITH 3/8" DIA. S.S. ANCHOR BOLTS.
3. TRASH RACKS SHALL BE HINGED AND LOCKABLE WITH A CHILD SAFETY GRATE.
4. TRASH RACK SHALL BE PROVIDED ON ALL HEADWALLS, ENDWALLS, AND OPEN END HORIZONTAL PIPES OF 15" DIAMETER AND LARGER.
5. ALL TYPE D-W ENDWALLS SHALL CONFORM TO CURRENT PENNDOT RC-31M STANDARDS.

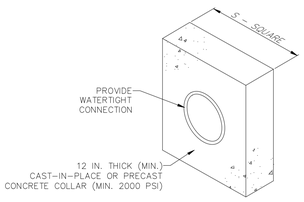
TYPE DW ENDWALL & HEADWALL WITH TRASHRACK DETAIL
NOT TO SCALE

PIPE DIA.	L*	W	A
15"	4.0'	4.0'	12"
18"	4.0'	4.0'	12"
24"	4.6'	4.25'	12"
30"	4.6'	4.6'	12"

NOTES:
1. CONCRETE SHALL BE CLASS "A"
2. EXPOSED EDGES SHALL BE CHAMFERED ONE (1) INCH.
3. ADD 1'-0" TO DIMENSION "L" WHEN ORIFICE PLATE IS TO BE PLACED ON HEADWALL.
4. PROVIDE CONC. APRON WHEN TRASH RACK IS TO BE INSTALLED ON HEADWALL. SEE TRASH RACK DETAIL.
5. ALL TYPE D-W ENDWALLS SHALL CONFORM TO CURRENT PENNDOT RC-31M STANDARDS.



STANDARD TYPE DW ENDWALL DETAIL
NOT TO SCALE



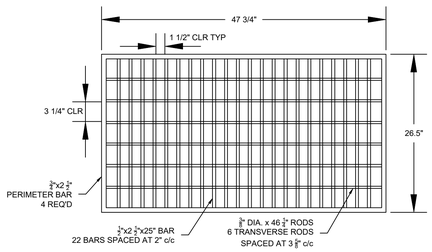
Basin	y (ft)	D (ft)	Size (ft)
1	3.25	1.75	3.51

NOTES:

ALL COLLARS SHALL BE INSTALLED SO AS TO BE WATERTIGHT.

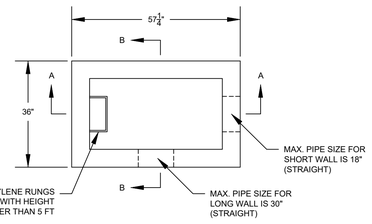
COLLAR SIZE AND SPACING SHALL BE AS INDICATED WITHIN TABLE.

STANDARD CONSTRUCTION DETAIL #7-16
CONCRETE ANTI-SEEP COLLAR FOR PERMANENT BASINS OR TRAPS
NOT TO SCALE

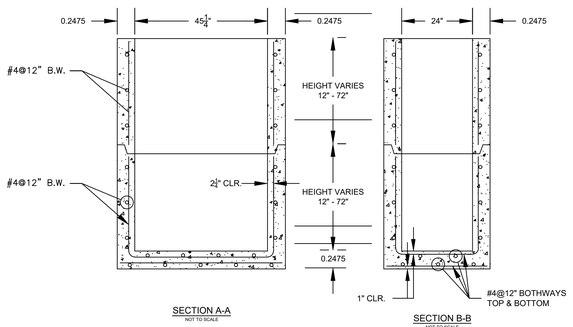


PENNDOT BICYCLE SAFE GRATE
NOT TO SCALE

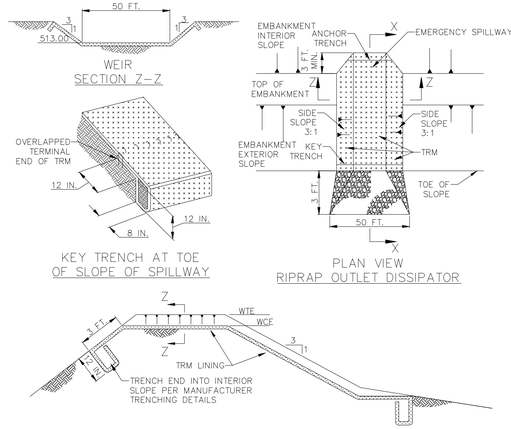
SPECIFICATIONS:
1. THE CONCRETE IS DESIGNED TO OBTAIN A STRENGTH OF 4,000 PSI IN 28 DAYS.
2. THE REINFORCING STEEL HAS A YIELD STRENGTH OF 60,000 PSI.
3. THE INLET SHALL BE DESIGNED TO MEET PENNDOT SPEC. FORM 408 FOR PRECAST CONCRETE CATCH BASINS (RC-34).
4. THE REINFORCED CONCRETE BASE SLAB IS DESIGNED FOR A MAXIMUM DEPTH OF 20 FT (DEPTH = F.G. TO TOP OF BASE SLAB).
5. THE OPTIONAL A-LOK STORM GASKET IS DESIGNED TO MEET THE REQUIREMENTS OF ASTM C-1478, "STORM DRAIN RESILIENT CONNECTORS BETWEEN REINFORCED CONCRETE STORM SEWER STRUCTURES, PIPES, AND LATERALS."
6. PROVIDE STEPS WHERE STRUCTURE DEPTH IS GRATER THAN 48".



PLAN VIEW
NOT TO SCALE



PENNDOT INLET BOX
NOT TO SCALE



EMBANKMENT SECTION ALONG EMERGENCY SPILLWAY
SECTION X-X

BASIN NO.	Q100 (CFS)	Z3 (FT)	Z4 (FT)	Z5 (FT)	C	WIDTH Ww (FT)	FLOW HEIGHT (FT)	CREST ELEV WCE	TOP ELEV WTE	TRM TYPE	STAPLE PATTERN	FREEBOARD
1	24.25	3	3	3	3	50	0.30	557.25	558.55	SC250	E	1.00
2	8.45	3	3	3	3	30	0.21	555.4	556.65	SC250	E	1.04

NOTES:

HEAVY EQUIPMENT SHALL NOT CROSS OVER SPILLWAY WITHOUT PRECAUTIONS TAKEN TO PROTECT TRM LINING.

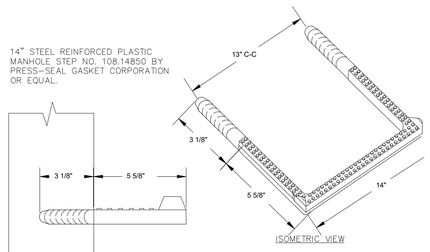
DISPLACED LINER WITHIN THE SPILLWAY AND/OR OUTLET CHANNEL SHALL BE REPLACED IMMEDIATELY.

RIPRAP AT TOE OF EMBANKMENT SHALL BE EXTENDED A SUFFICIENT LENGTH IN BOTH DIRECTIONS TO PREVENT SCOUR.

THE USE OF BAFFLES THAT REQUIRE SUPPORT POSTS ARE RESTRICTED FROM USE IN BASINS REQUIRING IMPERVIOUS LINERS.

TRM TYPE: C350, STAPLE PATTERN E.

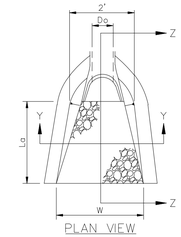
STANDARD CONSTRUCTION DETAIL #7-13
EMERGENCY SPILLWAY WITH TRM LINING
NOT TO SCALE

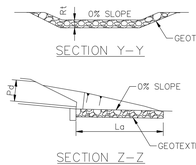


STEP SPECIFICATIONS:
STEPS SHALL BE 1/2"ø GRADE 60 DEFORMED STEEL REINFORCING ROD CONFORMING TO ASTM A615 AND COMPLETING ENCAPSULATED IN POLYPROPYLENE COPOLYMER COMPOUND TYPE II CONFORMING TO ASTM D4101.

STEP INSTALLATION:
STEPS SHALL BE CAST IN-PLACE BY THE MANUFACTURE. STEPS SHALL BE ALIGNED VERTICALLY NOT MORE THAN 12" ON CENTER.

STEEL REINFORCED PLASTIC INLET/MANHOLE STEPS
NOT TO SCALE





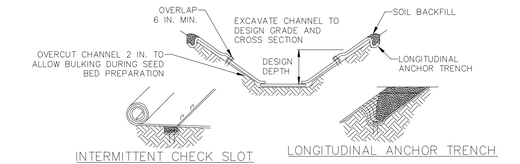
OUTLET NO.	PIPE DIA., D_O (in)	TAILWATER CONDITION	L_0 (ft)	W (ft)	Q (cfs)	V (fps)	RIPRAP (R-?)	DEPTH (ft)
EW-1	15	Min	8	12	1.29	3.59	3	1
EW-3	36	Max	9	13	25.65	4.06	4	1.5
Ex. EW	12	Max	10	7	1.71	2.47	3	1
Roof Leader	6	Max	8	5	<3		3	1

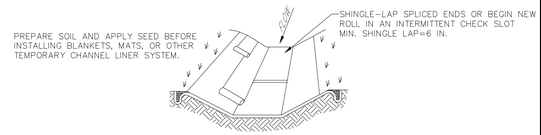
NOTES:

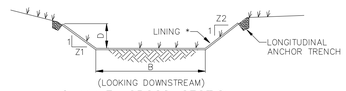
ALL APRONS SHALL BE CONSTRUCTED TO THE DIMENSIONS SHOWN. TERMINAL WIDTHS SHALL BE ADJUSTED AS NECESSARY TO MATCH RECEIVING CHANNELS.

ALL APRONS SHALL BE INSPECTED AT LEAST WEEKLY AND AFTER EACH RUNOFF EVENT. DISPLACED RIPRAP WITHIN THE APRON SHALL BE REPLACED IMMEDIATELY.

RIPRAP APRON AT PIPE OUTLET WITH FLARED END SECTION OR ENDWALL
NOT TO SCALE







* SEE MANUFACTURER'S LINING INSTALLATION DETAIL FOR STAPLE PATTERNS, VEGETATIVE STABILIZATION FOR SOIL AMENDMENTS, SEED MIXTURES AND MULCHING INFORMATION

CHANNEL	STATIONS	B (ft)	D (ft)	Z_1	Z_2	LINING	Staple Pattern
A (03)	All	2	1	3	3	Grass/N.A.G. S75	D
B (04)	All	2	1.25	3	3	Grass/N.A.G. S75	D
C (05)	All	2	1	3	3	Grass/N.A.G. S75	D

NOTES:

ANCHOR TRENCHES SHALL BE INSTALLED AT BEGINNING AND END OF CHANNEL IN THE SAME MANNER AS LONGITUDINAL ANCHOR TRENCHES.

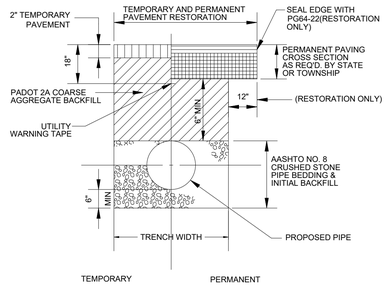
CHANNEL DIMENSIONS SHALL BE CONSTANTLY MAINTAINED. CHANNEL SHALL BE CLEANED WHENEVER TOTAL CHANNEL DEPTH IS REDUCED BY 25% AT ANY LOCATION.
SEDIMENT DEPOSITS SHALL BE REMOVED WITHIN 24 HOURS OF DISCOVERY OR AS SOON AS SOIL CONDITIONS PERMIT ACCESS TO CHANNEL WITHOUT FURTHER DAMAGE. DAMAGED LINING SHALL BE REPAIRED OR REPLACED WITHIN 48 HOURS OF DISCOVERY.

NO MORE THAN ONE THIRD OF THE SHOOT (GRASS LEAF) SHALL BE REMOVED IN ANY MOWING. GRASS HEIGHT SHALL BE MAINTAINED BETWEEN 2 AND 3 INCHES UNLESS OTHERWISE SPECIFIED. EXCESS VEGETATION SHALL BE REMOVED FROM PERMANENT CHANNELS TO ENSURE SUFFICIENT CHANNEL CAPACITY.

STANDARD CONSTRUCTION DETAIL #6-1
VEGETATED CHANNEL
NOT TO SCALE

APPLICATION	SPECIES	APPLICATION RATE 1 (P.L.S. IN LBS/AC)	FERTILIZER (LBS/ACRE)	LIMING RATE 2 (TONS/ACRE)	FINAL SEEDING DATE
TEMPORARY	ANNUAL RYE	174	50-50-50 $N\text{-}P_2O_5\text{-}K_2O$	1 AG GRADE	OCTOBER 30
PERMANENT	FINE FESCUES	60			
	KENTUCKY BLUEGRASS	90	100-200-200 $N\text{-}P_2O_5\text{-}K_2O$	6 AG GRADE	AUGUST 30 AND OCTOBER 30
	PERENNIAL RYEGRASS	25			
ATHLETIC FIELDS	KENTUCKY BLUEGRASS	150	100-200-200 $N\text{-}P_2O_5\text{-}K_2O$	6 AG GRADE	AUGUST 30 AND OCTOBER 30
	PERENNIAL RYEGRASS	25			
RIPARIAN BUFFER	ERNST MIX ERNMX-178	20	100-200-200 $N\text{-}P_2O_5\text{-}K_2O$	6 AG GRADE	AUGUST 30 AND OCTOBER 30
STEEP SLOPES					
NURSE CROP	ANNUAL RYE	64	50-50-50 $N\text{-}P_2O_5\text{-}K_2O$	1 TON/AC AG GRADE*	OCT. 15
PERMANENT	BIRDSFOOT TREFOIL PLUS	10			
	CROWN VETCH PLUS	20	100-200-200 $N\text{-}P_2O_5\text{-}K_2O$	1 TON/AC AG GRADE*	MARCH 15 AND OCT. 15
	PLUS TALL FESCUE	30			

1. PLS IS PURE LIVE SEED. PLS IS THE PRODUCT OF THE PERCENTAGE OF PURE SEED TIMES PERCENTAGE GERMINATION DIVIDED BY 100. TO SECURE THE ACTUAL PLANTING RATE, DIVIDE THE POUNDS PLS BY THE PLS PERCENTAGE SHOWN ON THE SEED TAG OR AS PREVIOUSLY DISCUSSED. THUS, IF THE PLS CONTENT OF FINE FESCUES IS 50%, DIVIDE 7 PLS BY 0.50 TO OBTAIN 140 POUNDS OF SEED PER ACRE.
2. LIMING RATE SHALL BE IN ACCORDANCE WITH SOIL TEST RESULTS. APPLY 6 TONS OF AGRICULTURAL GRADE LIMESTONE/AC OF LAND DISTURBED BY DIVERSIONS AND DAMS.
   - ALL SEEDED AREAS SHALL BE MULCHED WITH STRAW APPLIED AT A RATE OF 3 TONS/ACRE. MULCH TO BE ANCHORED WITH WOOD CELLULOSE FIBER @ 750 LBS/AC.



1. ALL TRENCH RESTORATION SHALL BE IN ACCORDANCE WITH PENNDOT RC-30M.

(TYPICAL FOR STATE HIGHWAYS, AND TOWNSHIP ROADS, SHOULDER & DRIVEWAYS)

TRENCH RESTORATION DETAIL
NOT TO SCALE

DATE | BY | REVISION

NORTH LEBANON SELF STORAGE
1840 ROUTE 72 N, LEBANON, PA 17046
MANAGER: JOSHUA T. WEABER, P.E.
DESIGN BY: JTW CHECKED BY: MJT
DRAWN BY: GLZ CHECKED BY: JTW
SURVEY: MAH PLAN DATE: MAY 4, 2026
PROJECT #: GOZ 26.1

Christianl Engineering, Inc.
2016 State Drive, Suite 4, Lemoyne, PA 17043
www.christianlengineering.com

PHASE 3 FINAL LAND DEVELOPMENT PLAN
FOR
NORTH LEBANON SELF STORAGE
NORTH LEBANON TOWNSHIP, LEBANON COUNTY, PA

Post-Construction Stormwater Management Details

PCSM3

OF 17

LEGEND

EXISTING FEATURES

	EXISTING ADJOINER LINE
	EXISTING BOUNDARY LINE AND CORNERS
	EXISTING EDGE OF PAVEMENT AND CURB LINE
	EXISTING RIGHT-OF-WAY
	EXISTING FENCE
CLEAN OUT MANHOLE	EXISTING SEWER
MANHOLE RIP-RAP HEADWALL INLET ENDWALL	EXISTING STORMWATER
GATE VALVE FIRE HYDRANT	EXISTING WATERLINE
GAS VALVE	EXISTING GASLINE
	EXISTING SIDEWALK/CONCRETE
100 MAJOR MINOR	EXISTING CONTOURS
	EXISTING TREELINE
SOIL TYPE SOIL TYPE	EXISTING SOILS
	EXISTING UTLITY POLE
☼	EXISTING LIGHT POLE
	EXISTING WETLANDS
	EXISTING FLOODPLAIN

PROPOSED FEATURES

	PROPOSED BUILDING SETBACK
IRON PIN CONC. MONUMENT	PROPOSED BOUNDARY LINE AND CORNERS
	PROPOSED EDGE OF PAVEMENT AND CURB LINE
	PROPOSED RIGHT-OF-WAY
X X	PROPOSED FENCE
CLEAN OUT MANHOLE	PROPOSED SEWER
HEADWALL INLET RIP-RAP MANHOLE ENDWALL	PROPOSED STORMWATER
	PROPOSED ACCESS EASEMENT
	PROPOSED DRAINAGE EASEMENT
	PROPOSED UTILITY/DRAINAGE EASEMENT
	PROPOSED SNOW PLOW EASEMENT
	EXISTING ELECTRIC EASEMENT
GATE VALVE FIRE HYDRANT	PROPOSED DOMESTIC WATERLINE
GAS VALVE	PROPOSED GASLINE
	PROPOSED CONCRETE/SIDEWALK
100 MAJOR MINOR	PROPOSED CONTOURS
	PROPOSED TREELINE
	PROPOSED UTLITY POLE
☼	PROPOSED LIGHT POLE
	PROPOSED PAVING
#1	INFILTRATION TEST LOCATION
	PROPOSED AMENDED SOILS AND WETLANDS SEEDING

PRE-DEVELOPMENT DRAINAGE AREA NOTE
STORMWATER MANAGEMENT FACILITIES EXIST ON-SITE WHICH ARE MODIFIED AND EXPANDED FOR THE CURRENT PROJECT. THE INITIAL STORMWATER MANAGEMENT PLAN WAS APPROVED IN 1991. THE PRE-DEVELOPMENT DRAINAGE AREAS WERE MATCHED TO CONDITIONS AS THEY EXISTED PRIOR TO 1991.

NOTE:
IMPROVEMENTS SHOWN WITHIN PHASE 1 ARE AS DESIGNED ON THE APPROVED PRELIMINARY/ FINAL PHASE 1 PLANS.

GRAPHIC SCALE
60 0 30 60 120 240
(IN FEET)
1 inch = 60 ft.

REVISION	DATE	BY

NORTH LEBANON
SELF STORAGE
1840 ROUTE 72 N, LEBANON, PA 17046

MANAGER: JOSHUA T. WEABER, P.E.
DESIGN BY: JTW CHECKED BY: MJT
DRAWN BY: GLZ CHECKED BY: JTW
SURVEY: M&H PLAN DATE: MAY 4, 2026
PROJECT #: GO2.26.1

Chrisland Engineering, Inc.
2016 State Drive - Suite 4, Lebanon, PA 17042
www.chrislandengineering.com

PHASE 3 FINAL
LAND DEVELOPMENT PLAN
FOR
NORTH LEBANON SELF STORAGE
NORTH LEBANON TOWNSHIP, LEBANON COUNTY, PA

Pre-Development
Drainage Plan

PCSM4

OF 17

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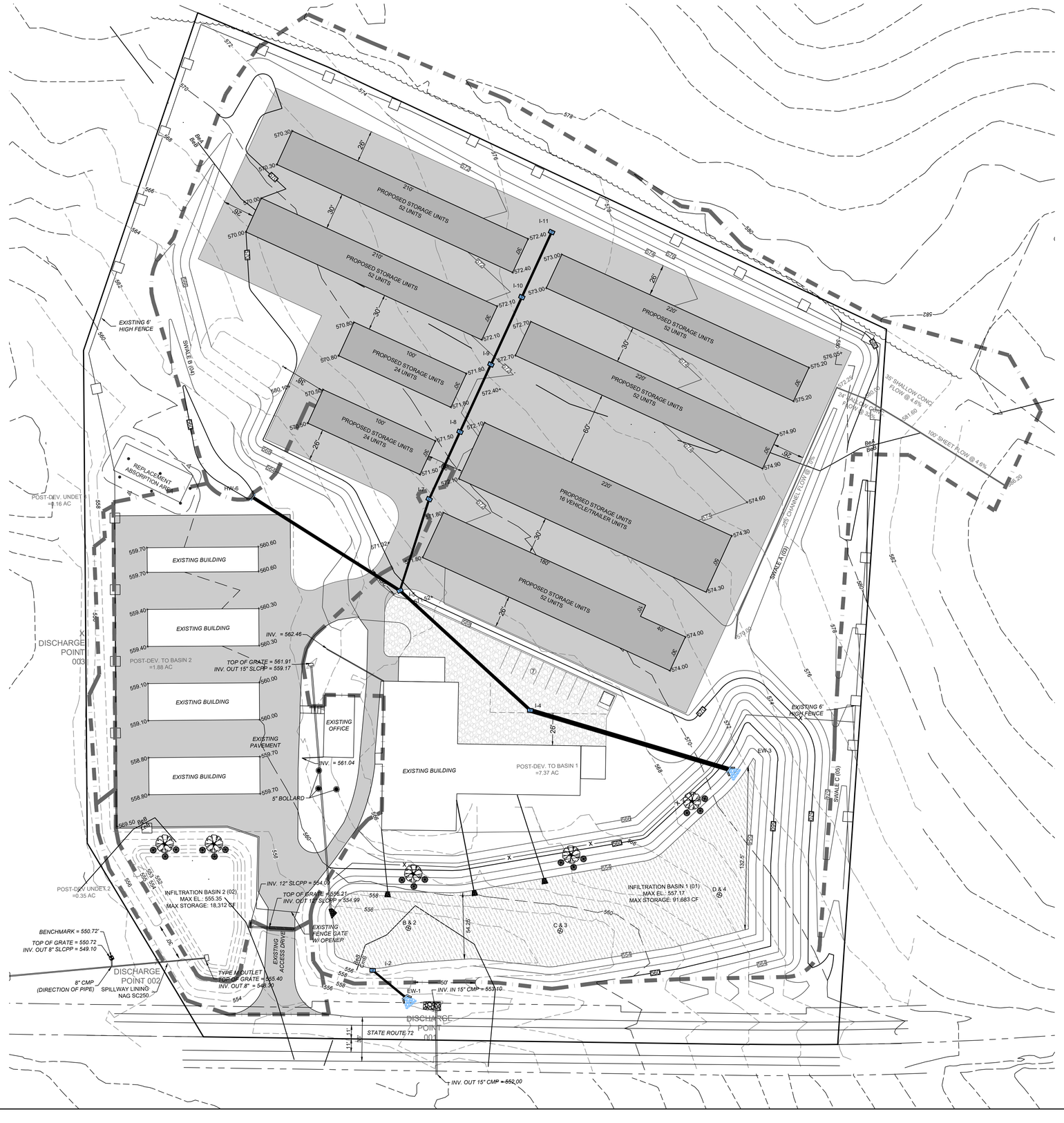

LEGEND

EXISTING FEATURES

- EXISTING ADJOINER LINE
- EXISTING BOUNDARY LINE AND CORNERS
- EXISTING EDGE OF PAVEMENT AND CURB LINE
- EXISTING RIGHT-OF-WAY
- EXISTING FENCE
- CLEAN OUT / MANHOLE — EXISTING SEWER
- MANHOLE / INLET / RIP-RAP / HEADWALL / ENDWALL — EXISTING STORMWATER
- GATE VALVE / FIRE HYDRANT — EXISTING WATERLINE
- GAS VALVE — EXISTING GASLINE
- EXISTING SIDEWALK/CONCRETE
- 100 MAJOR / MINOR — EXISTING CONTOURS
- EXISTING TREELINE
- SOIL TYPE / SOIL TYPE — EXISTING SOILS
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE
- EXISTING WETLANDS
- EXISTING FLOODPLAIN

PROPOSED FEATURES

- PROPOSED BUILDING SETBACK
- IRON PIN / CONC. MONUMENT — PROPOSED BOUNDARY LINE AND CORNERS
- PROPOSED EDGE OF PAVEMENT AND CURB LINE
- PROPOSED RIGHT-OF-WAY
- CLEAN OUT / MANHOLE — PROPOSED FENCE
- HEADWALL / INLET / MANHOLE / RIP-RAP / ENDWALL — PROPOSED SEWER
- PROPOSED STORMWATER
- PROPOSED ACCESS EASEMENT
- PROPOSED DRAINAGE EASEMENT
- PROPOSED UTILITY/DRAINAGE EASEMENT
- PROPOSED SNOW PLOW EASEMENT
- EXISTING ELECTRIC EASEMENT
- GATE VALVE / FIRE HYDRANT — PROPOSED DOMESTIC WATERLINE
- GAS VALVE — PROPOSED GASLINE
- PROPOSED CONCRETE/SIDEWALK
- 100 MAJOR / MINOR — PROPOSED CONTOURS
- PROPOSED TREELINE
- PROPOSED UTILITY POLE
- PROPOSED LIGHT POLE
- PROPOSED PAVING
- #1 — INFILTRATION TEST LOCATION
- PROPOSED AMENDED SOILS AND WETLANDS SEEDING

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

REVISION	DATE	BY

NORTH LEBANON SELF STORAGE
1840 ROUTE 72 N, LEBANON, PA 17046

MANAGER: JOSHUA T. WEABER, P.E.
DESIGN BY: JTW CHECKED BY: MJT
DRAWN BY: GLZ CHECKED BY: JTW
SURVEY: MAH PLAN DATE: MAY 4, 2026
PROJECT #: GO2.26.1

Christland Engineering, Inc.
2016 State Drive, Suite 4, Lebanon, PA 17042
www.christlandengineering.com

PHASE 3 FINAL
LAND DEVELOPMENT PLAN
FOR
NORTH LEBANON SELF STORAGE
NORTH LEBANON TOWNSHIP, LEBANON COUNTY, PA

Post-Development Drainage Plan

PCSM5

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LEGEND

EXISTING FEATURES

- EXISTING ADJOINER LINE
- EXISTING BOUNDARY LINE AND CORNERS
- EXISTING EDGE OF PAVEMENT AND CURB LINE
- EXISTING RIGHT-OF-WAY
- EXISTING FENCE
- CLEAN OUT, MANHOLE — EXISTING SEWER
- MANHOLE, INLET, RIP-RAP, HEADWALL, ENDWALL — EXISTING STORMWATER
- GATE VALVE, FIRE HYDRANT — EXISTING WATERLINE
- GAS VALVE — EXISTING GASLINE
- EXISTING SIDEWALK/CONCRETE
- 100 MAJOR, MINOR — EXISTING CONTOURS
- EXISTING TREELINE
- SOIL TYPE — EXISTING SOILS
- EXISTING UTLITY POLE
- EXISTING LIGHT POLE
- EXISTING WETLANDS
- EXISTING FLOODPLAIN

PROPOSED FEATURES

- PROPOSED BUILDING SETBACK
- IRON PIN, CONC. MONUMENT — PROPOSED BOUNDARY LINE AND CORNERS
- PROPOSED EDGE OF PAVEMENT AND CURB LINE
- PROPOSED RIGHT-OF-WAY
- PROPOSED FENCE
- CLEAN OUT, MANHOLE — PROPOSED SEWER
- HEADWALL, INLET, RIP-RAP, MANHOLE, ENDWALL — PROPOSED STORMWATER
- PROPOSED ACCESS EASEMENT
- PROPOSED DRAINAGE EASEMENT
- PROPOSED UTILITY/DRAINAGE EASEMENT
- PROPOSED SNOW PLOW EASEMENT
- EXISTING ELECTRIC EASEMENT
- GATE VALVE, FIRE HYDRANT — PROPOSED DOMESTIC WATERLINE
- GAS VALVE — PROPOSED GASLINE
- PROPOSED CONCRETE/SIDEWALK
- 100 MAJOR, MINOR — PROPOSED CONTOURS
- PROPOSED TREELINE
- PROPOSED UTILITY POLE
- PROPOSED LIGHT POLE
- PROPOSED PAVING
- #1 — INFILTRATION TEST LOCATION
- PROPOSED AMENDED SOILS AND WETLANDS SEEDING

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

REVISION	DATE	BY

NORTH LEBANON SELF STORAGE
1840 ROUTE 72 N, LEBANON, PA 17046

MANAGER: JOSHUA T. WEABER, P.E.
DESIGN BY: JTW CHECKED BY: MJT
DRAWN BY: GLZ CHECKED BY: JTW
SURVEY: MAH PLAN DATE: MAY 4, 2026
PROJECT #: GOZ 26.1

Christland Engineering, Inc.
2016 State Route 934, Suite 4, Lebanon, PA 17042
www.christlandengineering.com

PHASE 3 FINAL
LAND DEVELOPMENT PLAN
FOR
NORTH LEBANON SELF STORAGE
NORTH LEBANON TOWNSHIP, LEBANON COUNTY, PA

Post-Development Inlet Drainage Plan

PCSM6

LEGEND

EXISTING FEATURES

EXISTING ADJOINER LINE
EXISTING BOUNDARY LINE AND CORNERS
EXISTING EDGE OF PAVEMENT AND CURB LINE
EXISTING RIGHT-OF-WAY
EXISTING FENCE
CLEAN OUT — MANHOLE — EXISTING SEWER
MANHOLE — INLET — RIP-RAP — HEADWALL — ENDWALL — EXISTING STORMWATER
GATE VALVE — FIRE HYDRANT — EXISTING WATERLINE
GAS VALVE — EXISTING GASLINE
EXISTING SIDEWALK/CONCRETE
100 — MAJOR — MINOR — EXISTING CONTOURS
EXISTING TREELINE
SOIL TYPE / SOIL TYPE — EXISTING SOILS
EXISTING UTLITY POLE
EXISTING LIGHT POLE

PROPOSED FEATURES

PROPOSED BUILDING SETBACK
IRON PIN — CONC. MONUMENT — PROPOSED BOUNDARY LINE AND CORNERS
PROPOSED EDGE OF PAVEMENT AND CURB LINE
PROPOSED RIGHT-OF-WAY
PROPOSED FENCE
CLEAN OUT — MANHOLE — PROPOSED SEWER
HEADWALL — INLET — RIP-RAP — MANHOLE — ENDWALL — PROPOSED STORMWATER
PROPOSED AMENDED SOILS AND WETLANDS SEEDING
GATE VALVE — FIRE HYDRANT — PROPOSED DOMESTIC WATERLINE
GAS VALVE — PROPOSED GASLINE
PROPOSED CONCRETE/SIDEWALK
100 — MAJOR — MINOR — PROPOSED CONTOURS
PROPOSED TREELINE
PROPOSED UTLITY POLE
PROPOSED LIGHT POLE
PROPOSED PAVING
#1 — INFILTRATION TEST LOCATION
ROCK CONSTRUCTION ENTRANCE
TOPSOIL/SPOILS STOCKPILE — TOPSOIL STOCKPILE
FS — FILTER SOCK
SWALE/SLOPE MATTING
INLET PROTECTION
DISTURBANCE LIMITS
NPDES LIMITS

REVISION
DATE
BY

NORTH LEBANON SELF STORAGE
1840 ROUTE 72 N, LEBANON, PA 17046

MANAGER: JOSHUA T. WEABER, P.E.
DESIGN BY: JTW CHECKED BY: MJT
DRAWN BY: GLZ CHECKED BY: JTW
SURVEY: M&H PLAN DATE: MAY 4, 2026
PROJECT #: GO2.26.1

CHRISLAND ENGINEERING

Chrisland Engineering, Inc.
2016 State Drive - Suite 4, Lebanon, PA 17042
www.chrislandengineering.com

PHASE 3 FINAL LAND DEVELOPMENT PLAN

FOR

NORTH LEBANON SELF STORAGE

NORTH LEBANON TOWNSHIP, LEBANON COUNTY, PA

Erosion and Sediment Pollution Control Plan

ES1

OF 17

EROSION AND SEDIMENT POLLUTION CONTROL NARRATIVE
North Lebanon Storage, LLC

A. SITE LOCATION

The site is located at 1840 State Route 72 N, PA 17046, North Lebanon Township, Lebanon County, PA (See USGS Map).

B. PROJECT DESCRIPTION

The project consists of the addition of Storage Units to the property, paving and expansion of the existing stormwater management facilities. The improvements are planned in three (3) phases. (See Site Plan).

C. EXISTING SITE CONDITIONS & DOWNSTREAM DRAINAGE PATH

The is site currently a commercial establishment and open meadow. The property is zoned C1 Neighborhood Commercial and is surrounded by land zoned Agricultural. The property had been used for agriculture at least since 1937 and continued in that use at least until 1970. It was planted in row crops during that time period according to research done on the Penn Pilot website. The site slopes west toward the existing basin and then on to an UNT of the Swatara Creek, in the Swatara Creek Watershed. Chapter 93 designation is Warm Water Fishes (WWF).

IR 2014 Aquatic Life
Assessed Use: Aquatic Life
Status: Impaired
Category: 5
Impairment Source: Agriculture
Impairment Cause: Siltation

IR 2014 Aquatic Life
Assessed Use: Aquatic Life
Status: 4c
Impairment Source: Agriculture
Impairment Cause: Flow Alterations

Attaining Streams Assessments
Assessed Use: Fish Consumption
Attain Use: Supporting
Attained: Y

Non Attaining Streams Assessments
Assessed Use: Aquatic Life
Attain Use: Impaired
Source Cause: Agriculture - Siltation; Agriculture - Flow Regime Modification

D. SOIL LIMITATIONS AND RESOLUTIONS

The following soils are found within or adjacent to the area disturbed by earth moving activities.

Map Unit Symbol	Map Unit Name	Acres	HSG	% of Disturbed Area	Depth (ft)	Hydric
BeA	Bedington shaly silt loam	1.8	B	17.6	60"-90"	No
BeB	Bedington shaly silt loam	7.9	B	77.8	60"-80"	No
CmB	Comly silt loam	0.2	C	1.6	20"- 35"	No
LeB	Leck kil shaly silt	0.3	A	3.0	40"-80"	No

Few soil limitations existing for the proposed project. The Web Soil Survey indicates lawns and landscaping establishment limitations classified as somewhat limited for all soil types due to dusty, droughty, low exchange capacity, depth to bedrock, gravel content, large stone content, depth to cemented pan, and depth to saturated zone. This potential limitation should not be a problem since the project site is currently meadow. In addition, the site will be stabilized with building, pavement, and grass cover over newly graded topsoil.

The Web Soil Survey indicates that soil type CmB is very limited for small commercial buildings due to depth to thick cemented pan, slope, shrink-swell and depth to saturated zone and BeB and LeB soil types is somewhat limited due to slope and BeA soil type is not limited. This limitation will be taken into consideration when stabilizing the site for construction.

The Soil Rutting Hazard limitation for CmB is classified as severe due to low strength and BeA, BeB, and LeB soil types are classified as slight due to strength. Standard construction practices will be utilized to avoid excessive rutting and erosion associated with rutting will be controlled with standard erosion and sediment pollution controls.

E. CALCULATIONS

Temporary and permanent erosion control facilitates were designed in accordance with the standards established in the Erosion and Sediment Pollution Control Manual (PA DEP Bureau of Soil and Water Conservation, March 2012).

F. STAGING OF EARTHMOVING

All earth disturbance activities shall proceed in accordance with the sequence provided on the plan drawings. **Deviation from that sequence must be approved by the Lebanon County Conservation District or by the Department prior to implementation. Each step of the sequence shall be completed before proceeding to the next step, except where noted.**

Construction of the site improvements is expected to begin fall of 2020. Construction will proceed in a timely manner in order to limit the potential for accelerated erosion and sedimentation. If the controls shown on the plan are incapable of addressing the erosion and sediment control problems on the lot, the owner/developer shall be responsible for adapting adequate alternative measures.

The construction sequence for development of the project shall be as follows:

1. At least 7 days prior to starting any earth disturbance activities (including clearing and grubbing), the owner and/or operator shall invite all contractors, the landowner, appropriate municipal officials, the E&S plan preparer, the PCSM plan preparer, and a representative from the Lebanon County Conservation District (717-277-5275) to an on-site preconstruction meeting.

   Also, at least 3 days prior to starting any earth disturbance activities, or expanding into an area previously unmarked, the Pennsylvania One Call System Inc. shall be notified at 1-800-242-1776 for the location of existing underground utilities.

2. Install stabilized construction entrance(s). The base course shall be AASHTO #1 installed at a minimum of 20-ft wide and 50-ft long.

3. Install filter sock at topsoil stockpile and other areas as indicated on the attached plan. Filter sock is to be installed along the contour at a level grade.

   Upon installation or stabilization of all perimeter sediment control BMPs, and at least 3 days prior to proceeding with the bulk earth disturbance activities, the permittee or co-permittee shall provide notification to the Department or authorized conservation district.

4. Strip areas as necessary to construct improvements. Excess topsoil shall be placed on the "Topsoil/Spoil Stockpile" shown hereon. Immediately stabilize topsoil stockpile.

5. Rough grade site for installation of building, driveways, and stormwater management facility facilities. Take care to avoid unnecessary compaction of the infiltration basins bottom. Excavation shall take place from outside the limits of the infiltration basins. If compaction occurs, the infiltration basin bottoms shall be scarified to loosen the soils prior to placement of the amended soils.

6. Backfill and bring site to necessary grade for buildings, driveways, and parking areas. Place stone base as soon as practicable.

7. Modify infiltration basins and modify basin berm, outlet pipe, outlet structure, riprap outlet protection, and filter sock check dams.

   Take care to avoid unnecessary compaction of the infiltration area bottoms. Excavation shall take place from outside the limits of the infiltration basin. If compaction occurs, the infiltration basin bottoms shall be scarified to loosen the soils prior to placement of the amended soils.

8. Install storm sewer and backfill. Utilize pumped filter bag to dewater utility trenches as necessary.

9. Construct storage buildings and connect utilities as necessary.

10. Fine grade any remaining areas as shown on the grading plan, install swales, and install erosion matting as depicted on the plans. Spread 6-in of topsoil on freshly graded areas. Final passes during fine grading shall be made at right angles to the slopes. Prepare the remainder of the disturbed area for permanent stabilization.

11. Install trees, shrubs and landscaping areas.

12. Remove any sediment from basin and install amended soils and basin seeding.

13. Install slope matting as indicated on the plan. Seedbed shall be prepared in accordance with accepted practices. Seed mixture shall be applied in accordance with the manufacturer's rates and instructions.

14. Mulch all remaining disturbed areas and seeded areas with hay or straw at a minimum rate of three (3) tons per acre (or mulch as a part of hydroseeding).

15. Remove all temporary erosion and sediment controls once the site is completely stabilized (defined as a minimum uniform 70% perennial vegetative cover, with a density capable of resisting accelerated erosion and sedimentation in all areas tributary to the controls). All areas disturbed during this process shall be stabilized immediately through seeding and mulching.

16. The operator shall remove from the site, recycle or dispose of all building materials and wastes in accordance with the Department's Solid Waste Management Regulations at 25 PA Code 260.1 et seq., 271.1 et seq., and 287.1 et seq. The contractor shall not illegally bury dump or discharge any building material or wastes on or off the site.

G. TEMPORARY CONTROL MEASURES

1. Topsoil Stockpile

a. A stockpile shall be used to contain all stripped topsoil in a limited area in order to keep disturbance to a minimum.
b. Stockpiles shall be stabilized immediately in accordance with the temporary seeding specification contained hereon.
c. Stockpiles shall be located so that all swales can function as designed.
d. Stockpile heights must not exceed 35' in height. Side slopes shall be 2:1 or flatter.

2. Filter Sock

a. Filter sock shall be used to intercept sediment-laden runoff from small watersheds.
b. Filter sock must be installed at level grade.
c. Sediment must be removed when accumulations reach ½ the above ground height of sock.
d. All areas of concentrated flow and at all areas where the filter sock has been undercut due to excessive flows, rock filters shall be installed (see Temporary Control Measures, item 3.)

3. Rock Filter Outlets (Filter Sock Locations)

a. A gravel berm shall be provided where shown on the plan and at all locations of concentrated flows or where failures in the silt fence occur due to excessive sedimentation or concentrated flows.
b. Rock filters shall be constructed of AASHTO #67 and R-4 stone in accordance with the specified dimensions on the detail.
c. Rock filters will be removed when clogged with sediment. The stone shall be washed free of all sediment or new stone shall be used to rebuild the filter.

4. Interim Stabilization

a. Temporary seeding and mulching shall be applied where indicated to provide interim stabilization to exposed areas.
b. Temporary seeding/mulching shall be as applied as specified on the Seeding Schedule contained on the E&SPC Plan.
c. Any disturbed area on which activity has ceased and which will remain exposed must be stabilized immediately. During non-germinating periods, mulch must be applied at the recommended rates. Disturbed areas that are not at finished grade and will be re-disturbed within 1 year may be stabilized in accordance with the temporary seeding specification contained hereon. Disturbed areas that are at finished grade or will not be re-disturbed within 1 year must be stabilized in accordance with the permanent seeding specifications contained hereon.

5. Rock Construction Entrance

a. A stabilized pad of crushed stone (AASHTO #1) shall be located where construction traffic will be entering and leaving the site. The rock construction entrance is used to eliminate the tracking of flowing of sediment onto the existing cartway.

H. PERMANENT CONTROL MEASURES

1. Permanent Grass or Legume Cover

a. All disturbed areas that are not paved shall be permanently stabilized with grass to minimize erosion. All swales shall be permanently seeded as required in accordance with the seeding specification shown on the attached E&SPC Plan.
b. Permanent grass cover shall be applied as specified in accordance with the Seeding Schedule and Notes contained on the attached E&SPC Plan.

2. Mulch

a. Mulch shall be applied to all seeded areas to help establish a permanent grass cover and to prevent erosion on all areas permanently stabilized with seed.
b. Mulch shall be applied at a rate of 3 tons per acre. Mulch shall be anchored with wood cellulose fiber at 750 lbs/acre.

3. Sod

a. Sod shall be installed in areas where permanent stabilization with seed alone is difficult.
b. Sod materials and installation shall meet the approval of the Lebanon County Conservation District.
c. All permanent and temporary spillways are to be sodded to provide immediate erosion protection. Sod shall extend from the spillway to the top of the slope of the trap embankment.

4. Rip-Rap Outlet Protection

a. Rip-rap shall be used at all pipe outlets to reduce the outflow velocity and minimize erosion potential at the outlet pipe.
b. Rip-rap shall be installed in accordance with the dimensions and materials shown on the attached plan.

I. MAINTENANCE

1. The Applicant/or His Designee shall be responsible for maintaining all facilitates shown on this plan.

2. Until the site is stabilized, all erosion and sedimentation must be maintained properly. Maintenance must include inspections of all erosion and sedimentation control after each runoff event and on a weekly basis. All preventative and remedial maintenance work, including clean-out, repair, replacement, regrading, reseeding, re-mulching, and re-netting, must be performed immediately.

3. Stockpiles must be stabilized immediately.

4. All sediment removed from sediment trapping devices shall be disposed within the site in a manner that will not cause erosion or sedimentation. All areas disturbed during this process will be mulched and permanently stabilized with seed.

5. Any permanently seeded area that becomes eroded or disturbed shall have the topsoil replaced, the grass re-sown and mulch reapplied or, at the discretion of the owner, sod installed.

6. Filter sock must be installed at level grade. Sediment must be removed when accumulations reach ½ the above ground height of the sock.

7. Any sock section that has been undermined or topped must be immediately replaced with a rock filter outlet. See rock filter outlet detail.

8. Stockpile heights must not exceed 35 feet. Stockpile slopes must be 2:1 or flatter.

9. Any disturbed area on which activity has ceased and which will remain exposed must be stabilized immediately. During non-germinating periods, mulch must be applied at the recommended rates. Disturbed areas which are not at finished grade and which will be re-disturbed within one (1) year may be stabilized in accordance with temporary seeding specifications. Disturbed areas which are either at finished grade or will not be re-disturbed within one (1) year must be stabilized in accordance with permanent seeding specifications.

10. After final site stabilization has been achieved (defined as a minimum uniform 70% perennial vegetative cover, with a density capable of resisting accelerated erosion and sedimentation in all areas tributary to the controls), temporary erosion and sedimentation controls must be removed. Areas disturbed during removal of the controls must be stabilized immediately.

J. FILL MATERIALS

If the site will need to have fill imported from an off-site location, the responsibility for performing environmental due diligence and the determination of clean fill will in most cases reside with the Operator. If the site will have excess fill that will need to be exported to an off-site location, the responsibility of clean fill determination and environmental due diligence rests on the applicant.

K. CLEAN FILL

Uncontaminated, non-water soluble, non-decomposable, inert, solid material. The term includes soil, rock, stone, dredged material, used asphalt, and brick, block, or concrete from construction and demolition activities that is separate from other waste and is recognizable as such. The term does not include materials placed in or on the waters of the Commonwealth unless otherwise authorized.

L. CLEAN FILL AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE

Fill materials affected by a spill or release of a regulated substance still qualifies as a clean fill provided the testing reveals that the fill material contains concentrations of regulated substances that are below the residential limits in Tables FP-1a and FP-1b found in the Department's policy "Management of Fill."

M. ENVIRONMENTAL DUE DILIGENCE

Investigative techniques, including, but not limited to, visual property inspections, electronic data base searches, review of property ownership, review of property use history, Sanborn maps, environmental questionnaires, transaction screens, analytical testing, environmental assessments or audits.

N. POTENTIAL POLLUTANT CAUSING MATERIALS

The site consists of Bedington, Comly, and Leck kil soils which have the potential to erode when disturbed. Standard erosion controls such as rock construction entrances, filter socks, rock filters, and temporary and final seeding will be utilized to minimize the potential for erosion.

O. MINIMIZE THE EXTEND AND DURATION OF EARTH DISTURBANCE

The construction sequence addresses the anticipated sequence of construction and provides provisions for interim stabilization and a periodic stabilization schedule to minimize the duration and extend of disturbance at any one time.

P. E&S PLAN MINIMIZES SOIL COMPACTION

The project will compact fill only as needed to provide the necessary structural stability. It is not anticipated there will be any unnecessary compaction by construction equipment since the project is limited in size and construction equipment will generally to concentrated in areas of proposed driveways immediately adjacent to the proposed structures. Topsoil will be placed in accordance with industry standards and will not be overly compacted. The topsoil placement and stabilization will be the last steps of the project with limited potential for unwarranted compaction.

Q. E&S PLAN UTILIZES OTHER MEASURES OR CONTROLS THAT PREVENT OF MINIMIZE GENERATION OF INCREASED STORMWATER RUNOFF

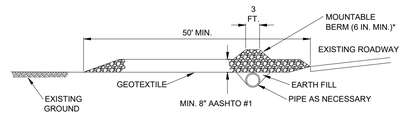
A stormwater management system is proposed to reduce peak rates of runoff and the volume of runoff. Disturbed areas will be restored to meadow/grass conditions similar to pre-development conditions.

R. THERMAL IMPACTS ANALYSIS

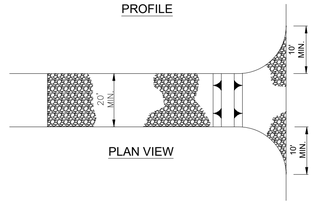
No thermal impacts are expected from this project. The runoff is collected and conveyed to the expanded retention basins which will retain the runoff and allow it to cool prior to discharging. Tree plantings are proposed around the basins to further shade the basin and allow the runoff to cool. The basins discharge at the existing discharge points and flow through cultivated field prior to entering the stream which will allow further cooling prior to entering the stream.

S. OFF-SITE DISCHARGE ANALYSIS

The expanded basins discharge to the existing pipe discharge points and follow along existing drainage patterns to the UNT Swatara Creek. The existing drainage path is currently stable in satisfactory condition. No adverse impacts are expected as part of this development. The proposed stormwater management system proposes to reduce the peak flow rates for all storms and 2-year runoff volume to less than pre-development conditions. Therefore, the conveyance capacity of the downstream drainage path will be improved. The current drainage path is stable and expected to continue to be so in post-development conditions.



PROFILE



PLAN VIEW

* MOUNTABLE BERM USED TO PROVIDE PROPER COVER FOR PIPE

NOTES:

REMOVE TOPSOIL PRIOR TO INSTALLATION OF ROCK CONSTRUCTION ENTRANCE. EXTEND ROCK OVER FULL WIDTH OF ENTRANCE.

RUNOFF SHALL BE DIVERTED FROM ROADWAY TO A SUITABLE SEDIMENT REMOVAL BMP PRIOR TO ENTERING ROCK CONSTRUCTION ENTRANCE.

MOUNTABLE BERM SHALL BE INSTALLED WHEREVER OPTIONAL CULVERT PIPE IS USED AND PROPER PIPE COVER AS SPECIFIED BY MANUFACTURER IS NOT OTHERWISE PROVIDED. PIPE SHALL BE SIZED APPROPRIATELY FOR SIZE OF DITCH BEING CROSSED.

MAINTENANCE- ROCK CONSTRUCTION ENTRANCE THICKNESS SHALL BE CONSTANTLY MAINTAINED TO THE SPECIFIED DIMENSIONS BY ADDING ROCK. A STOCKPILE SHALL BE MAINTAINED ON SITE FOR THIS PURPOSE. ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS SHALL BE REMOVED AND RETURNED TO THE CONSTRUCTION SITE IMMEDIATELY. IF EXCESSIVE AMOUNTS OF SEDIMENT ARE BEING DEPOSITED ON ROADWAY, EXTEND LENGTH OF ROCK CONSTRUCTION ENTRANCE BY 50 FOOT INCREMENTS UNTIL CONDITION IS ALLEVIATED OR INSTALL WASH RACK. WASHING THE ROADWAY OR SWEEPING THE DEPOSITS INTO ROADWAY DITCHES, SEWERS, CULVERTS, OR OTHER DRAINAGE COURSES IS NOT ACCEPTABLE.

PUBLIC STREET SWEEPING WITH A VACUUM SWEEPER AND ROLLING OF DIRT AND GRAVEL ROADS TO BE COMPLETED AT THE END OF EACH WORK DAY (OR MORE FREQUENTLY AS NEEDED). TIRES SHALL BE MANUALLY CLEANED PRIOR TO SITE EGRESS.

STANDARD CONSTRUCTION DETAIL #3-1
ROCK CONSTRUCTION ENTRANCE

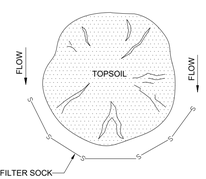
NOT TO SCALE

APPLICATION	SPECIES	APPLICATION RATE [1] (P.L.S. IN LBS/AC)	FERTILIZER (LBS/ACRE)	LIMING RATE [2] (TONS/ACRE)	FINAL SEEDING DATE
TEMPORARY	ANNUAL RYE	174	50-50-50 N_2-P_2O_5-K_2O	1 AG GRADE	OCTOBER 30
PERMANENT	FINE FESCUES	60	100-200-200 N_2-P_2O_5-K_2O	6 AG GRADE	AUGUST 30 AND OCTOBER 30
	KENTUCKY BLUEGRASS	90			
	PERENNIAL RYEGRASS	25			
ATHLETIC FIELDS	KENTUCKY BLUEGRASS	150			
	PERENNIAL RYEGRASS	25			
RIPARIAN BUFFER	ERNST MIX ERNMX-178	20			
STEEP SLOPES					
NURSE CROP	ANNUAL RYE	64	50-50-50 N_2-P_2O_5-K_2O	1 TON/AC AG GRADE*	OCT. 15
PERMANENT	BIRDSFOOT TREFOIL PLUS	10	100-200-200 N_2-P_2O_5-K_2O	1 TON/AC AG GRADE*	MARCH 15 AND OCT. 15
	CROWN VETCH PLUS	20			
	PLUS TALL FESCUE	30			

1. PLS IS PURE LIVE SEED. PLS IS THE PRODUCT OF THE PERCENTAGE OF PURE SEED TIMES PERCENTAGE GERMINATION DIVIDED BY 100. TO SECURE THE ACTUAL PLANTING RATE, DIVIDE THE POUNDS PLS BY THE PLS PERCENTAGE SHOWN ON THE SEED TAG OR AS PREVIOUSLY DISCUSSED. THUS, IF THE PLS CONTENT OF FINE FESCUES IS 50%, DIVIDE 7 PLS BY 0.50 TO OBTAIN 140 POUNDS OF SEED PER ACRE.
2. LIMING RATE SHALL BE IN ACCORDANCE WITH SOIL TEST RESULTS. APPLY 6 TONS OF AGRICULTURAL GRADE LIMESTONE/AC OF LAND DISTURBED BY DIVERSIONS AND DAMS.
   - ALL SEEDED AREAS SHALL BE MULCHED WITH STRAW APPLIED AT A RATE OF 3 TONS/ACRE. MULCH TO BE ANCHORED WITH WOOD CELLULOSE FIBER @ 750 LBS/AC.
   - ALL DIVERSIONS, CHANNELS, SED TRAPS AND STOCKPILES MUST BE STABILIZED IMMEDIATELY.

SEEDING & FERTILIZER SPECIFICATIONS

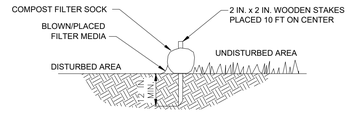
NOT TO SCALE



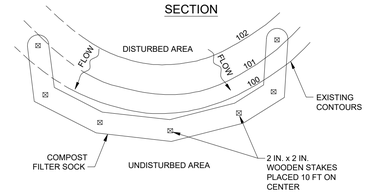
1) A STOCKPILE SHALL BE USED TO CONTAIN ALL STRIPPED TOPSOIL IN A LIMITED AREA IN ORDER TO KEEP DISTURBANCE TO A MINIMUM.
2) STOCKPILES ARE TO BE STABILIZED IMMEDIATELY.
3) STOCKPILE HEIGHTS MUST NOT EXCEED 35 FEET.
4) STOCKPILE SLOPES MUST BE 2:1 OR FLATTER.
5) STOCKPILES SHALL BE LOCATED SO THAT ALL SWALES CAN FUNCTION AS DESIGNED.

TOPSOIL STOCKPILE

NO SCALE



SECTION



PLAN VIEW

NOTES:

SOCK FABRIC SHALL MEET STANDARDS OF TABLE 4.1 OF THE PA DEP EROSION CONTROL MANUAL. COMPOST SHALL MEET THE STANDARDS OF TABLE 4.2 OF THE PA DEP EROSION CONTROL MANUAL.

COMPOST FILTER SOCK SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE BARRIER SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN BARRIER ALIGNMENT. MAXIMUM SLOPE LENGTH ABOVE ANY BARRIER SHALL NOT EXCEED THAT SPECIFIED FOR THE SIZE OF THE SOCK AND THE SLOPE OF ITS TRIBUTARY AREA.

TRAFFIC SHALL NOT BE PERMITTED TO CROSS COMPOST FILTER SOCKS.

ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES 1/2 THE ABOVE GROUND HEIGHT OF THE BARRIER AND DISPOSED IN THE MANNER DESCRIBED ELSEWHERE IN THE PLAN.

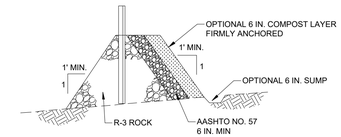
COMPOST FILTER SOCKS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS OF INSPECTION.

BIODEGRADABLE COMPOST FILTER SOCKS SHALL BE REPLACED AFTER 6 MONTHS; PHOTODEGRADABLE SOCKS AFTER 1 YEAR. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.

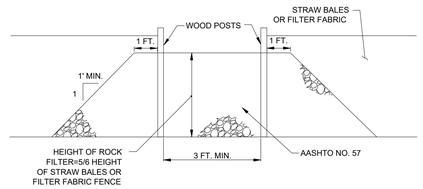
UPON STABILIZATION OF THE AREA TRIBUTARY TO THE SOCK, STAKES SHALL BE REMOVED. THE SOCK MAY BE LEFT IN PLACE AND VEGETATED OR REMOVED. IN THE LATTER CASE, THE MESH SHALL BE CUT OPEN AND THE MULCH SPREAD AS A SOIL SUPPLEMENT.

STANDARD CONSTRUCTION DETAIL #4-1
COMPOST FILTER SOCK

NOT TO SCALE



OUTLET CROSS-SECTION



UP-SLOPE FACE

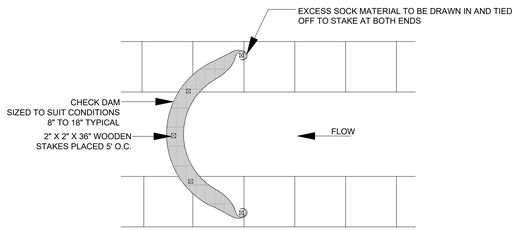
NOTES:

A ROCK FILTER OUTLET SHALL BE INSTALLED WHERE FAILURE OF A SILT FENCE OR STRAW BALE BARRIER HAS OCCURRED DUE TO CONCENTRATED FLOW. ANCHORED COMPOST LAYER SHALL BE USED ON UPSLOPE FACE IN HQ AND EV WATERSHEDS.

SEDIMENT SHALL BE REMOVED WHEN ACCUMULATIONS REACH 1/3 THE HEIGHT OF THE OUTLET.

STANDARD CONSTRUCTION DETAIL #4-6
ROCK FILTER OUTLET

NOT TO SCALE



NOTES:
1. ALL MATERIAL TO MEET MANUFACTURER'S SPECIFICATIONS.
2. CHECK DAM SHOULD BE USED IN AREAS THAT DRAIN 10 ACRES OR LESS.
3. SEDIMENT SHOULD BE REMOVED FROM BEHIND CHECK DAM ONCE THE ACCUMULATED HEIGHT HAS REACHED ½ THE HEIGHT OF THE CHECK DAM.
4. CHECK DAM CAN BE DIRECT SEEDED AT THE TIME OF INSTALLATION.

STANDARD CONSTRUCTION DETAIL #4-1.2
COMPOST FILTER SOCK CHECK DAM

NOT TO SCALE

DATE | BY | REVISION

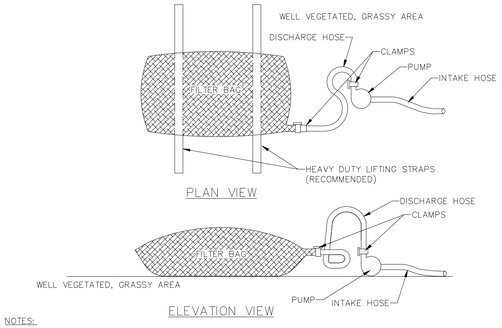
NORTH LEBANON SELF STORAGE
1840 ROUTE 72 N, LEBANON, PA 17046
MANAGER: JOSHUA T. WEABER, P.E.
DESIGN BY: JTW CHECKED BY: MJT
DRAWN BY: GLZ CHECKED BY: JTW
SURVEY: MAH PLAN DATE: MAY 4, 2026
PROJECT #: GOZ 26.1

Christand Engineering, Inc.
2016 State Drive, Suite 4, Lebanon, PA 17042
www.christandengineering.com

PHASE 3 FINAL LAND DEVELOPMENT PLAN
FOR
NORTH LEBANON SELF STORAGE
NORTH LEBANON TOWNSHIP, LEBANON COUNTY, PA

Erosion and Sediment Pollution Control Details

ES2



NOTES:

LOW VOLUME FILTER BAGS SHALL BE MADE FROM NON-WOVEN GEOTEXTILE MATERIAL SEWN WITH HIGH STRENGTH, DOUBLE STITCHED "J" TYPE SEAMS. THEY SHALL BE CAPABLE OF TRAPPING PARTICLES LARGER THAN 150 MICRONS. HIGH VOLUME FILTER BAGS SHALL BE MADE FROM WOVEN GEOTEXTILES THAT MEET THE FOLLOWING STANDARDS:

PROPERTY	TEST METHOD	MINIMUM STANDARD
AVG. WIDE WIDTH STRENGTH	ASTM D-4884	60 LB/IN.
GRAB TENSILE	ASTM D-4632	205 LB
PUNCTURE	ASTM D-4833	110 LB
MULLEN BURST	ASTM D-3786	350 PSI
UV RESISTANCE	ASTM D-4355	70%
AOS % RETAINED	ASTM D-4751	80 SIEVE

A SUITABLE MEANS OF ACCESSING THE BAG WITH MACHINERY REQUIRED FOR DISPOSAL PURPOSES SHALL BE PROVIDED. FILTER BAGS SHALL BE REPLACED WHEN THEY BECOME 1/2 FULL OF SEDIMENT. SPARE BAGS SHALL BE KEPT AVAILABLE FOR REPLACEMENT OF THOSE THAT HAVE FAILED OR ARE FILLED. BAGS SHALL BE PLACED ON STRAPS TO FACILITATE REMOVAL UNLESS BAGS COME WITH LIFTING STRAPS ALREADY ATTACHED.

BAGS SHALL BE LOCATED IN WELL-VEGETATED (GRASSY) AREA, AND DISCHARGE ONTO STABLE, EROSION RESISTANT AREAS. WHERE THIS IS NOT POSSIBLE, A GEOTEXTILE UNDERLAYMENT AND FLOW PATH SHALL BE PROVIDED. BAGS MAY BE PLACED ON FILTER STONE TO INCREASE DISCHARGE CAPACITY. BAGS SHALL NOT BE PLACED ON SLOPES GREATER THAN 5%, FOR SLOPES EXCEEDING 5%, CLEAN ROCK OR OTHER NON-ERODIBLE AND NON-POLLUTING MATERIAL MAY BE PLACED UNDER THE BAG TO REDUCE SLOPE STEEPNESS.

NO DOWNSLOPE SEDIMENT BARRIER IS REQUIRED FOR MOST INSTALLATIONS. COMPOST BERM OR COMPOST FILTER SOCK SHALL BE INSTALLED BELOW BAGS LOCATED IN HQ OR EV WATERSHEDS, WITHIN 50 FEET OF ANY RECEIVING SURFACE WATER OR WHERE GRASSY AREA IS NOT AVAILABLE.

THE PUMP DISCHARGE HOSE SHALL BE INSERTED INTO THE BAGS IN THE MANNER SPECIFIED BY THE MANUFACTURER AND SECURELY CLAMPED. A PIECE OF PVC PIPE IS RECOMMENDED FOR THIS PURPOSE.

THE PUMPING RATE SHALL BE NO GREATER THAN 750 GPM OR 1/2 THE MAXIMUM SPECIFIED BY THE MANUFACTURER, WHICHEVER IS LESS. PUMP INTAKES SHALL BE FLOATING AND SCREENED.

FILTER BAGS SHALL BE INSPECTED DAILY. IF ANY PROBLEM IS DETECTED, PUMPING SHALL CEASE IMMEDIATELY AND NOT RESUME UNTIL THE PROBLEM IS CORRECTED.

STANDARD CONSTRUCTION DETAIL #3-16
PUMPED WATER FILTER BAG

NOT TO SCALE

NOTES:

INLET PROTECTION SHALL NOT BE REQUIRED FOR INLET TRIBUTARY TO SEDIMENT BASIN OR TRAP. BERMS SHALL BE REQUIRED FOR ALL INSTALLATIONS NOT LOCATED AT A LOW POINT.

ROLLED EARTHEN BERM IN ROADWAY SHALL BE PROVIDED AND MAINTAINED IMMEDIATELY DOWN GRADIENT OF THE PROTECTED INLET UNTIL ROADWAY IS STONED. ROAD SUBBASE BERM ON ROADWAY SHALL BE MAINTAINED UNTIL ROADWAY IS PAVED. EARTHEN BERM IN CHANNEL SHALL BE MAINTAINED UNTIL PERMANENT STABILIZATION IS COMPLETED OR TO REMAIN PERMANENTLY.

STONE INLET PROTECTION AND BERM FOR A TYPE M INLET CAN BE USED IN ONE ACRE MAXIMUM DRAINAGE AREA WITH 15 IN. OVERFLOW PIPE AND 4 IN. HEAD. A PERFORATED PLATE WELDED TO A METAL RISER MAY NOT BE SUBSTITUTED FOR THE WIRE MESH. A SLOTTED PLATE WELDED TO THE RISER MAY BE USED IN CONJUNCTION WITH THE WIRE MESH IF CALCULATIONS ARE PROVIDED TO SHOW SUFFICIENT CAPACITY OF THE INLET TO ACCEPT THE PEAK RUNOFF FOR A 2-YEAR STORM EVENT FROM THE TRIBUTARY DRAINAGE AREA. TOP OF PIPE SHALL BE AT LEAST 6 INCHES BELOW ADJACENT ROADWAY IF PONDED WATER WOULD POSE A SAFETY HAZARD TO TRAFFIC. EARTHEN BERM SHALL BE ROLLED.

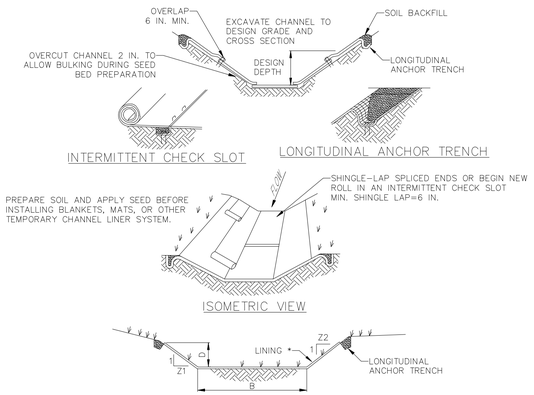
SEDIMENT SHALL BE REMOVED WHEN IT REACHES HALF THE HEIGHT OF THE STONE. DAMAGED OR CLOGGED INSTALLATIONS SHALL BE REPAIRED OR REPLACED IMMEDIATELY.

FOR SYSTEMS DISCHARGING TO HQ OR EV SURFACE WATER, A 6 IN. THICK COMPOST LAYER SHALL BE SECURELY ANCHORED ON OUTSIDE AND OVER TOP OF STONE. COMPOST SHALL MEET THE STANDARDS IN TABLE 4.2 OF THE PA DEP EROSION CONTROL MANUAL.

DO NOT USE ON MAJOR PAVED ROADWAYS WHERE PONDING MAY CAUSE TRAFFIC HAZARDS.

STANDARD CONSTRUCTION DETAIL #4-20
STONE INLET PROTECTION AND BERM - TYPE M INLET

NOT TO SCALE



* SEE MANUFACTURER'S LINING INSTALLATION DETAIL FOR STAPLE PATTERNS, VEGETATIVE STABILIZATION FOR SOIL AMENDMENTS, SEED MIXTURES AND MULCHING INFORMATION

CHANNEL	STATIONS	B (ft)	D (ft)	Z_1	Z_2	LINING	Staple Pattern
A (03)	All	2	1	3	3	Grass/N.A.G. S75	D
B (04)	All	2	1.25	3	3	Grass/N.A.G. S75	D
C (05)	All	2	1	3	3	Grass/N.A.G. S75	D

NOTES:

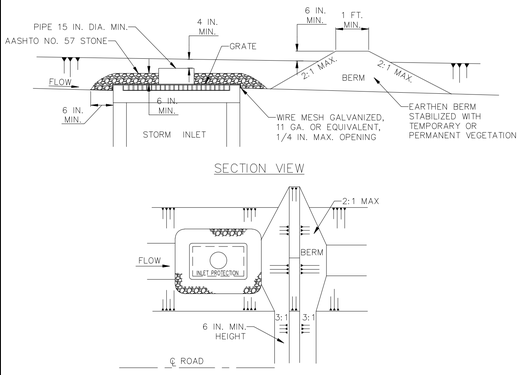
ANCHOR TRENCHES SHALL BE INSTALLED AT BEGINNING AND END OF CHANNEL IN THE SAME MANNER AS LONGITUDINAL ANCHOR TRENCHES.

CHANNEL DIMENSIONS SHALL BE CONSTANTLY MAINTAINED. CHANNEL SHALL BE CLEANED WHENEVER TOTAL CHANNEL DEPTH IS REDUCED BY 25% AT ANY LOCATION.
SEDIMENT DEPOSITS SHALL BE REMOVED WITHIN 24 HOURS OF DISCOVERY OR AS SOON AS SOIL CONDITIONS PERMIT ACCESS TO CHANNEL WITHOUT FURTHER DAMAGE. DAMAGED LINING SHALL BE REPAIRED OR REPLACED WITHIN 48 HOURS OF DISCOVERY.

NO MORE THAN ONE THIRD OF THE SHOOT (GRASS LEAF) SHALL BE REMOVED IN ANY MOWING. GRASS HEIGHT SHALL BE MAINTAINED BETWEEN 2 AND 3 INCHES UNLESS OTHERWISE SPECIFIED. EXCESS VEGETATION SHALL BE REMOVED FROM PERMANENT CHANNELS TO ENSURE SUFFICIENT CHANNEL CAPACITY.

STANDARD CONSTRUCTION DETAIL #6-1
VEGETATED CHANNEL

NOT TO SCALE



NOTES:

SEED AND SOIL AMENDMENTS SHALL BE APPLIED ACCORDING TO THE RATES IN THE PLAN DRAWINGS PRIOR TO INSTALLING THE BLANKET.

PROVIDE ANCHOR TRENCH AT TOE OF SLOPE IN SIMILAR FASHION AS AT TOP OF SLOPE.

SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS, AND GRASS.

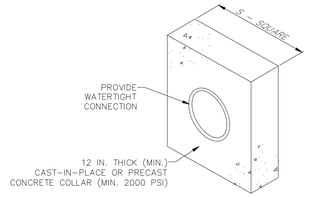
BLANKET SHALL HAVE GOOD CONTINUOUS CONTACT WITH UNDERLYING SOIL THROUGHOUT ENTIRE LENGTH. LAY BLANKET LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH SOIL. DO NOT STRETCH BLANKET.

THE BLANKET SHALL BE STAPLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

BLANKETED AREAS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT UNTIL PERENNIAL VEGETATION IS ESTABLISHED TO A MINIMUM UNIFORM 70% COVERAGE THROUGHOUT THE BLANKETED AREA. DAMAGED OR DISPLACED BLANKETS SHALL BE RESTORED OR REPLACED WITHIN 4 CALENDAR DAYS.

STANDARD CONSTRUCTION DETAIL #11-1
EROSION CONTROL BLANKET INSTALLATION

NOT TO SCALE



Basin	y (ft)	D (ft)	Size (ft)
1	3.25	1.75	3.51

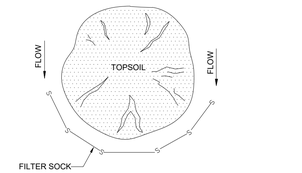
NOTES:

ALL COLLARS SHALL BE INSTALLED SO AS TO BE WATERTIGHT.

COLLAR SIZE AND SPACING SHALL BE AS INDICATED WITHIN TABLE.

STANDARD CONSTRUCTION DETAIL #7-16
CONCRETE ANTI-SEEP COLLAR FOR PERMANENT BASINS OR TRAPS

NOT TO SCALE

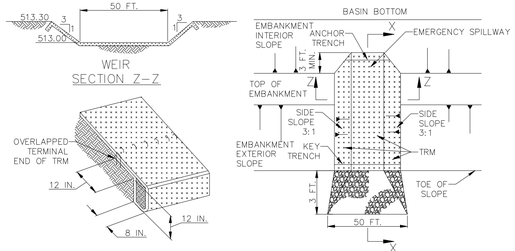


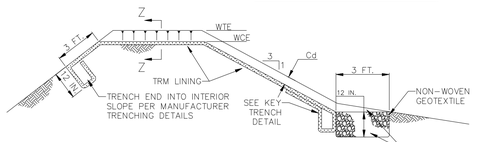
NOTE:

1) A STOCKPILE SHALL BE USED TO CONTAIN ALL STRIPPED TOPSOIL IN A LIMITED AREA IN ORDER TO KEEP DISTURBANCE TO A MINIMUM.
2) STOCKPILES ARE TO BE STABILIZED IMMEDIATELY.
3) STOCKPILE HEIGHTS MUST NOT EXCEED 35 FEET.
4) STOCKPILE SLOPES MUST BE 2:1 OR FLATTER.
5) STOCKPILES SHALL BE LOCATED SO THAT ALL SWALES CAN FUNCTION AS DESIGNED.

TOPSOIL STOCKPILE

NO SCALE





NOTES:

HEAVY EQUIPMENT SHALL NOT CROSS OVER SPILLWAY WITHOUT PRECAUTIONS TAKEN TO PROTECT TRM LINING.

DISPLACED LINER WITHIN THE SPILLWAY AND/OR OUTLET CHANNEL SHALL BE REPLACED IMMEDIATELY.

RIPRAP AT TOE OF EMBANKMENT SHALL BE EXTENDED A SUFFICIENT LENGTH IN BOTH DIRECTIONS TO PREVENT SCOUR.

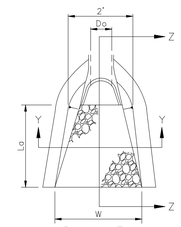
THE USE OF BAFFLES THAT REQUIRE SUPPORT POSTS ARE RESTRICTED FROM USE IN BASINS REQUIRING IMPERVIOUS LINERS.

TRM TYPE: C350, STAPLE PATTERN E.

BASIN NO.	Q100 (CFS)	Z3 (FT)	Z4 (FT)	Z5 (FT)	C	WIDTH Ww (FT)	FLOW HEIGHT (FT)	CREST ELEV WCE	TOP ELEV WTE	TRM TYPE	STAPLE PATTERN	FREEBOARD
1	24.25	3	3	3	3	50	0.30	557.25	558.55	SC250	E	1.00
2	8.45	3	3	3	3	30	0.21	555.4	556.65	SC250	E	1.04

STANDARD CONSTRUCTION DETAIL #7-13
BASIN EMERGENCY SPILLWAY WITH TRM LINING

NOT TO SCALE



OUTLET NO.	PIPE DIA., D_O (in)	TAILWATER CONDITION	L_a (ft)	W (ft)	Q (cfs)	V (fps)	RIPRAP (R-?)	DEPTH (ft)
EW-1	15	Min	8	12	1.29	3.59	3	1
EW-3	36	Max	9	13	25.65	4.06	4	1.5
Ex. EW	12	Max	10	7	1.71	2.47	3	1
Roof Leader	6	Max	8	5	<3		3	1

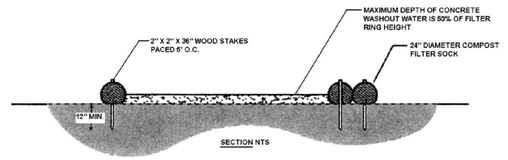
NOTES:

ALL APRONS SHALL BE CONSTRUCTED TO THE DIMENSIONS SHOWN. TERMINAL WIDTHS SHALL BE ADJUSTED AS NECESSARY TO MATCH RECEIVING CHANNELS.

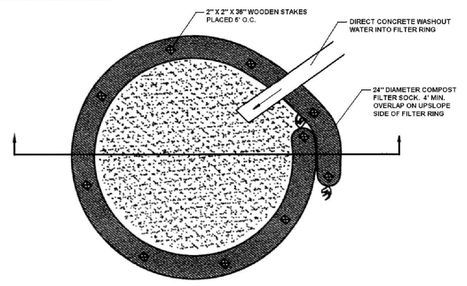
ALL APRONS SHALL BE INSPECTED AT LEAST WEEKLY AND AFTER EACH RUNOFF EVENT. DISPLACED RIPRAP WITHIN THE APRON SHALL BE REPLACED IMMEDIATELY.

STANDARD CONSTRUCTION DETAIL #9-1
RIPRAP APRON AT PIPE OUTLET WITH FLARED END SECTION OR ENDWALL

NOT TO SCALE



NOTES:
1. INSTALL ON FLAT GRADE FOR OPTIMUM PERFORMANCE
2. 18" DIAMETER FILTER SOCK MAY BE STACKED ONTO DOUBLE 24" DIAMETER SOCKS IN PYRAMIDAL CONFIGURATION FOR ADDED HEIGHT.



NOTE:

1. A SUITABLE IMPERVIOUS GEOMEMBRANE SHALL BE PLACED AT THE LOCATION OF THE WASHOUT PRIOR TO INSTALLING THE SOCKS.
2. PROVIDE 10' MINIMUM INSIDE DIAMETER.
3. PROVIDE AT LEAST ONE WASHOUT PER GROUPING OF TOWNHOUSES AND EACH APARTMENT BUILDING.

TYPICAL COMPOST SOCK WASHOUT INSTALLATION

NOT TO SCALE

DATE BY REVISION

NORTH LEBANON SELF STORAGE
1840 ROUTE 72 N, LEBANON, PA 17046

MANAGER: JOSHUA T. WEABER, P.E.
DESIGN BY: JTW CHECKED BY: MJT
DRAWN BY: GLZ CHECKED BY: JTW
SURVEY: MAH PLAN DATE: MAY 4, 2026
PROJECT #: GOZ 26.1

Christland Engineering, Inc.
2016 Stevo Drive, Suite 4, Lebanon, PA 17042
www.christlandengineering.com

PHASE 3 FINAL LAND DEVELOPMENT PLAN
FOR
NORTH LEBANON SELF STORAGE
NORTH LEBANON TOWNSHIP, LEBANON COUNTY, PA

Erosion and Sediment Pollution Control Details

ES3

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