

PLANNING BOARD DECISION

Property Ownership: **Stellmach Family Revocable Trust
23 Spindle Tree Road Amesbury, MA 01913**

Applicant: **AC Land LLC
15 Lincoln St. Suite 325 Wakefield, MA 01880**

Application Type: **SPECIAL PERMIT and SITE PLAN
Water Resource Protection District**

Project: **New single family dwelling and site improvements**

Location: **31 Newton Road, Amesbury, MA 01913**

Date: **March 24, 2025**

A. GENERAL

On or about 09/23/24, the Amesbury Planning Board (the “Board”) received a Site Plan Review application and a Special Permit application pursuant to Section XIV of the Amesbury Zoning Ordinance for a proposed new single family dwelling structure (“Project”) at 31 Newton Road in Amesbury MA. The application was submitted along with a Site Plan (the “Plan”) drawn on 8/9/24 by HD Design 161 W High St. Avon, MA 02322 last revised on 2/18/2025 and submitted along with supporting documents by Hazem Dani, P.E on behalf of AC Land LLC (the “Applicant”). The set of plans consists of 9 sheets and includes site plan, stormwater design, grading and erosion control plans and other construction details.

The initial public hearing was held on 9/23/24 and subsequent continued public hearings through 03/24/2025. The public hearing was closed, and a decision was rendered on 03/24/2025. This is the Final Action of the Board ("Decision") on the Special Permit and Site Plan applications.

B. FINDINGS:

1. **Project Site:** The subject parcel is located in both, Zone A and Zone B, of the Water Resource Protection District as shown on the Plan. The proposed activities are allowed subject to Special Permit approvals from the Planning Board under Sections XIV.E.8 and XIV.I.B.7;
2. **Existing Conditions:** The approximately 1.95 acre parcel is shown on Map 33 Lot 32. The site is located in the R-80 district. The site is substantially vegetated. The project site is currently vacant and undeveloped;
3. **Project Description:** The Applicant proposes to build a new single family residential structure. The new structure shall be located in Zone B but the access from Newton Road is in Zone A. The long access driveway requires extensive earthwork and grading on the site. It also requires the construction of detention basins and other stormwater management systems to control stormwater run-off. The proposed improvements are required to minimize erosion and sedimentation, maintain natural drainage patterns and water quality as required under Section XIV.E.4 (Exhibit #1);
4. **Stormwater Management:** The site plan shows extensive changes to the existing grades. Given the limitations on building in Zone A, the proposed house is located further back from Newton Road in Zone B portion of the parcel. The proposed work requires significant regrading of the parcel to construct the access driveway and associated drainage and stormwater management improvements. Although, stormwater management is being designed to meet minimum standards, the design itself requires several different BMPs on the site to manage and control stormwater run-off (Exhibit #2). The Board finds that the significant alteration of the site due to grading and the engineered BMPs has the potential for impacting Zone A resources. Further, the Board finds that stormwater basins, swales

and other utility infrastructure should be completed before any construction starts on the residential structure to avoid potential impacts to resource areas and reduce potential stormwater runoff. The Board finds that these construction activities need to be closely monitored during construction to ensure that they are properly installed as per approved engineering plans and details and to minimize any impacts from potential stormwater runoff.

5. **Access Driveway and utilities:** The primary access to the building location on site is via the access driveway. Majority of the driveway is located in Zone A. The residential structure is located in Zone B. Given the extensive length of the driveway to reach it and the re-grading needed to access the building for construction along with the majority of the site construction work being in Zone A, the Board finds that this phase of site disturbance should be completed expeditiously, and the site should be stabilized before building related construction starts on site. The grade changes require significant retaining walls that need to be structurally designed to support the slope cut to create parking. The Board finds that the height of these walls in certain locations exceeds four feet and therefore structural design plans and guardrail designs should be reviewed before installation. The entrance driveway work will also require work within the Newton Road Right of Way (RoW). The Board finds that this should be further reviewed by DPW prior to start of any construction work within the RoW;
6. **Neighborhood Impacts:** The final site plan shows grading along the westerly property line and both stormwater management and other site improvements along the easterly property line. The Board finds that these proposed activities may require temporary or permanent easements for proposed work from the abutting property owners. The Board finds that this should be confirmed by the applicant's engineering representative before any construction activity takes place and further that the property lines should be clearly identified by flagging on site before the start of any construction work. No other additional uses are proposed on the site; and
7. **Other Permits Needed:** The Project requires an Order of Conditions from the Amesbury Conservation Commission (ACC or the "Commission"). The Board has determined that it

will incorporate the Order of Conditions and terms therein by reference here to ensure that the proposed development and improvements on the subject property are made with no detrimental to environmental resource areas, water resource zones or otherwise endanger public health.

Based on the findings noted above, the Board finds that the Project satisfies the Special Permit Criteria under Section X.J and XIV of the Amesbury Zoning Ordinance (the "Ordinance").

C. APPROVAL OF THE SITE PLAN AND CONDITIONS THERETO

Upon notice and after a public hearing in accordance with the statute (General Laws, Chapter 40A, section 11) and the Amesbury Zoning Ordinance, and after full consideration of the evidence presented, and upon the findings made in Section B of this Decision, and with conditions hereinafter set forth, a Site Plan and Special Permit for proposed activity within the Water Resource Protection District at 31 Newton Road in Amesbury, MA is granted with the following conditions to the Applicant for the premises described in the application.

I. COMPLIANCE WITH LOCAL, STATE AND FEDERAL REQUIREMENTS:

The Project and all construction, utilities, drainage and related appurtenances with respect to the Project, shall comply with all applicable local, state and federal regulations except as waived specifically by this Decision. The Applicant shall be responsible for acquiring all other local, state and federal permits and approvals as necessary to construct the Project as approved by the Board. Final action on all other permits shall be submitted to the Board for record prior to start of any construction activity on the site.

II. PRIOR TO START OF ANY CONSTRUCTION ACTIVITY ON SITE

The Applicant or their assignees shall file with the Board and all other relevant public agencies for review and for consistency with this Decision any documents and shall have completed the following actions:

1. **Legal Documents:** The following documents shall be submitted to the Board and the Building Inspector:
 - a) *Documents Recorded at the Southern Essex Registry of Deeds:*
 - i. A copy of this Decision and Site Plan Set (Final Plans, endorsed by Board); and
 - ii. A copy of the Order of Conditions issued by ACC.
2. **Peer Review Invoices:** The Applicant shall provide funds towards any outstanding peer review invoices for services rendered by the Board's consultants for review of the special

permit application and including but not limited to, supporting supplemental information, final plans and revised stormwater management design and reports as required by this Decision and submitted to the Board;

3. **Supplemental Information and Plan Revisions:** The Applicant's engineer shall address comments from the Board's peer review consultant last memo dated 03/12/2025 by making plan revisions and providing additional information and/or documents as indicated therein.
4. **Endorsement of Final Site Plan:** The Site Plan set shall be revised as needed and mylars and two paper copies of the Final Plans shall be submitted for endorsement by the Board.
5. **Covenant:** The Applicant or their assignees shall submit a Covenant for the Board's endorsement that requires that the following performance requirements be met prior to making application for a building permit for the proposed residential structure:
 - a) Copy of written approval by DPW for proposed work within the Newton Road Right of Way (RoW).
 - b) Copy of plan showing the location of the septic system and written approval from the Board of Health.
 - c) Copy of any easements needed to construct the project, any component of the drainage system, stormwater management system or final grading along any property lines and within the RoW.
 - d) Written confirmation from the Board's observation consultant that all stormwater management systems have been sufficiently built and are functioning properly to manage stormwater during the construction phase.
 - e) Environmental Monitor's report that the site has been sufficiently graded and stabilized to prevent erosion due to stormwater runoff that would impact abutting properties or sensitive environmental resources.
 - f) Receipt of a written confirmation from the Fire Department that the primary access has been completed to the extent that it provides safe access to the building site from Newton Road.

6. **Retaining Wall Construction Details:** Detailed construction drawings for all walls greater than four (4) feet in height, drawn by a certified structural engineer registered in Massachusetts, shall be prepared and submitted for review and approval. Limits of tree clearing shall be verified or revised to incorporate grading and drainage work associated with retaining wall construction. Any temporary or permanent easements for any site work, grading or drainage shall be secured and presented to the Board indicating the ability to build them in the location and manner shown on construction drawings. Prior to commencement of any site work, construction details and description of means and methods for the retaining walls shall be submitted to the Board for review and approval by its representatives.
7. **Erosion Control Measures:** The Board's representative shall verify the limit of work and ensure that erosion control measures have been established as shown on the approved plan and that stockpile areas have been clearly identified.
8. **Sedimentation and Erosion Control Bond** – The Applicant shall be required to post Surety with the Board for Sedimentation and Erosion to ensure that access driveway drainage, stormwater runoff management, erosion control measures, landscaping and site grades are implemented on site as per Final Plans and other engineering drawings and to ensure that remedial actions can be taken to address any detrimental impacts from erosion and sedimentation during construction and until all improvements have been completed.
9. **Detailed Architectural Drawings:** The Applicant has provided a building footprint and a rendering of the proposed structure. Final architectural drawings for the residential structure shall be provided to the Board for determination of compliance with the approved plan and this decision.
10. **Pre-Construction Conference:** Upon authorization by the Board and at least five (5) business days prior to any initial site work, a Pre-Construction conference shall be held with the Applicant, Applicant's contractor, a representative of the Board, its consulting engineer, and representatives of the City Departments having an interest in the Plan. Said meeting shall be for the purpose of familiarization with the project, the conditions of

approval, and the project's construction sequence and timetable. This meeting may be held in conjunction with the meeting required under the Order of Conditions; and

11. **Request for Pre-construction Conference:** The request for a Pre-construction Conference shall be acted upon by the Board only AFTER the Board has received and reviewed ALL of the documents required per this Decision before start of construction and has determined that the Project is ready to proceed to the construction phase. Upon authorization by the Board, its representatives shall schedule the Pre-construction Conference.

III. PRIOR TO MAKING REQUEST FOR A BUILDING PERMIT

The Applicant or their assignees shall submit an affirmative letter from the Board stating that all conditions necessary to start construction have been met prior to making request for a Building Permit associated with the proposed residential structure:

1. **Driveway construction:** The access driveway from Newton Road shall be sufficiently built to provide safe access to emergency vehicles. The Applicant's engineer shall provide an interim as-built plan showing that the driveway has been built as per approved plans.
2. **Retaining Walls:** All retaining walls greater than four (4) feet in height, shall be constructed and installed in the location shown on the site plan. A certified as-built plan certified by a structural engineer registered in Massachusetts shall be submitted indicating that the actual location and height of the wall is as per approved site plan and that the construction of the wall is as per approved structural plans.
3. **Restrictive Covenant:** The Applicant shall submit a restrictive covenant for approval and endorsement by the Board and upon such endorsement shall be recorded at the Essex Registry of Deeds. Such covenant shall reference this Decision and clearly state that the stormwater management BMPs, operation and maintenance plan for those BMPs, the any other improvements shown on the Final Plans and acknowledges that they shall be maintained, repaired and operated by the property owner in perpetuity and that it shall not become the responsibility of the City. A note shall be added to the final site plan

referencing the requirement of the restrictive covenant and the responsibilities of the property owner to maintain utilities, access and stormwater infrastructure.

IV. DURING CONSTRUCTION

The following shall apply to all construction activity as per approved Site Plan:

1. **Stockpiles** - All earth stockpiles shall be established in locations as approved by the ACC or at a distance no less than fifty (50') feet from the edge of environmental resource boundaries, whichever is greater. Long term stockpiles over 30 days shall be shaped stabilized and circled by siltation fence and haybales and shall be stabilized by temporary seeding, sheeting or netting.
2. **Erosion Control and Stormwater Maintenance Requirement:** The Applicant's designee or assignee shall on a quarterly basis submit interim reports and supporting documents to the Board showing that stormwater runoff is being adequately managed during the construction phase. The proposed sediment and erosion control measures shall be properly maintained at all times during the construction phase. These control measures may be removed only upon completion of all site work and approval of the Board's oversight engineer.

V. PERPETUITY CONDITONS:

1. **Allowed Use:** This Decision allows the proposed improvements in the location shown on the Final Plan. No alterations, changes to the approved improvements, other additional uses or additional improvements shall be allowed without further review and approval by the Board. For the purpose of this Decision, the "Applicant" shall include and is intended to be the Applicant or their assignees.
2. **Limit of Work:** The limit of work including site clearing shown on the approved plan shall not be expanded or modified without the written approval of the Board.

3. **Final Plans:** The Applicant shall coordinate across all local and state permit applications to ensure that site plan set, construction details, site improvements, proposed off-site work and stormwater management design, drainage reports and operation and maintenance plans are consistent across all permits and approvals. In case of any inconsistency, the Board shall rely only on Final Plans that are endorsed by the Board.
4. **Permeable Paver “Unilock” Driveway:** The access driveway shall be maintained in perpetuity as a permeable paver driveway and shall not be converted to bituminous pavement without written approval from the ACC and the Board. This change shall constitute a major modification and shall be administered accordingly. A note shall be added to the final site plan indicating that the property owner shall be required to make a new application to the ACC and the Board and get approval to replace the pavers with asphalt/bituminous pavement.
5. **Construction Activity within Environmental Buffers & Approvals:** This approval is contingent upon the issuance of an Order of Conditions (OoC) by the Amesbury Conservation Commission (ACC or the “Commission”) and its continuous validity until all improvements are complete per the Final Plans. The Decision of the ACC and all the conditions stated therein shall be included in this Decision by reference. In order to effectively coordinate and integrate the required observation and inspection reports for this project, the Board recognizes that the Plan(s) shown under the Notice of Intent (NoI) Application (as revised) and the Order of Conditions (OoC), issued by the ACC, shall also be carried out to the satisfaction of the Commission or its agents. Also,
 - a. Except as waived by a decision of the Commission, the construction of this project shall comply with the Amesbury Wetlands Ordinance and Amesbury Conservation Commission Regulations in effect at the time any building permit is sought for the project or for any jurisdiction for roadway-associated construction, and with all rules, regulations, filing and permit requirements and certifications of the Commission with respect to natural resource protection, construction of storm water management structures within the Buffer zone and their disposal, construction of other structures including retaining walls within the Buffer Zone, and stormwater management systems;

- b. Any request for alteration or amendment to the Order of Conditions made by the Applicant to the Commission (or to Massachusetts Department of Environmental Protection (Mass DEP), upon appeal) shall be simultaneously provided to the Board. The proposed work shall comply with the Order of Conditions issued by the Commission upon the said premises.
 - c. The OoC from the Commission shall be carried out to the satisfaction of the Commission. Any violation of the OoC issued by the Commission shall be deemed to be a violation of this Approval, with all remedies to the City of Amesbury or the Board as provided by law;
 - d. The Applicant shall submit a copy of the recorded Certificate of Compliance (CoC) as issued by the Commission within six (6) months of issuance of final CoC or completion of all work included in the OoC, whichever is earlier;
6. **As-Built Plans and Repairs:** To ensure compliance with the terms and conditions of this Decision and any approval or order by any federal or state agency, the Applicant shall submit to the Board complete and detailed Progress "As-Built" Plans with its request for a Certificate of Completion for all remedial work approved in this Decision. The accuracy of such Progress or Final As-Built Plans shall be certified by a Land Surveyor or a Professional Engineer, registered in the Commonwealth of Massachusetts, retained by the Applicant. Any damage to public roads and walkways shall be repaired and/or replaced to the satisfaction of the Director of DPW.
7. **Right to Enter Site for Inspection:** The Applicant shall provide access to the site to all City officials and its representatives as needed for them to carry out their responsibilities and to provide the necessary services in assisting the Board to ensure that all work is performed, and improvements are made pursuant to the approved Plans and the Board's decision.

8. **Inspections** - The Board shall require the inspection of drainage, stormwater management structures, access driveway, and other site improvements to ensure that the work is carried out in accordance with the Final Site Plan and to ensure that all improvements are in compliance with the conditions stated in this Decision. The Board shall require the establishment of a construction observation account and the Applicant shall provide the funds necessary for inspection by the Board's consultant prior to start of any construction activity;
9. **Release of the Sedimentation and Erosion Control Bond:** Prior to release of any Surety, the Board shall verify with its construction observation consultant and the Commission that the soils and slopes have stabilized and that there is evidence of healthy mature grass growing on slopes and lawns. Further, the Board shall verify that the stormwater BMPs and associated plant materials are functioning as designed and that the roadway drainage is being maintained as per O&M Plan. Partial releases shall be allowed in amounts not less than fifty percent (50%) of the total initial surety bond amount held by the Board only after completion of all improvements within the 25 feet Buffer Zone as shown on the Final Plan and submission of Progress As-built Plan. Final release shall be made upon submission of Final As-built Plan and after all planting materials have survived two (2) growing seasons;
10. **Stormwater Operation and Maintenance Plan:** The applicant or their assignees shall maintain the stormwater BMPs as shown on the final site plan as per revised Operation and Maintenance Plan dated March 21, 2025 (Exhibit #2 and #3). The Inspection and Maintenance Report for the BMPs shall be prepared as per this Plan by a registered engineer and submitted to the Board as part of post construction observation to monitor the quality and condition of the bio-retention areas, grass swales and associated plant materials necessary for the operation of these BMPs. A note shall be added to the final site plan referencing the maintenance requirements under the O&M Plan.
11. **Modification of the Approved Site Plan or Special Permit conditions:** Any change to the Final Plans or proposed improvements, including, but not limited to, building footprint, impervious area, final grading, areas of disturbances, location of decks, walkways

or steps shall only be allowed after review and approval by the Board. No changes shall be made without the written approval of the Board.

12. **Plan Modification Process:** Prior to making any modifications, the Applicant shall provide detailed information and plans along with a formal written request for modification to the approved Plan and/or Special Permit for determination of minor or major modification and approval by the Board. Any modifications to the approved Site Plan, changes that impact the Performance Standards applicable to this Project or conditions of approval of this Decision, shall be subject to review and approval of the Board. The Board shall, if it so determines, require the applicant to submit a new application for modification to the approved Site Plan and/or Special Permit and hold a new public hearing for review of the requested modifications; and
13. **Validity:** This permit is valid only for the use and structure as approved in the Decision and shall expire within two years from the issuance date if construction is not started in that time period. Any changes to the site plan, uses or other improvements shown on the approved plan without the approval of the Board shall render those unauthorized improvements or changes null and void. This permit is contingent upon the issuance of an Order of Conditions from ACC in compliance with the Massachusetts Wetlands Protection Act and related regulations, G. L. c. 131, § 40-40A, and the Amesbury Wetlands Ordinance and Regulations or if said permit(s) is appealed, a subsequent issuance of a Super-ceding Order of Conditions from the Massachusetts Department of Environmental Protection (Mass DEP).

Chair, Amesbury Planning Board

EXHIBITS:

Exhibit #1:

Site Plan Set consisting of ten (9) sheets prepared for AC Land LLC, 15 Lincoln St. Suite 325, Wakefield, MA 01880 by HD Design, 161 W. High St. Avon, MA 02322 and dated 2/18/25.

Exhibit #2:

Stormwater Report, prepared for AC Land LLC, 15 Lincoln St. Suite 325, Wakefield, MA 01880 by HD Design, 161 W. High St. Avon, MA 02322 and dated 2/18/25 (pages 1- 16).

Exhibit #3:

Long Term Stormwater Pollution Prevention and Operation and Maintenance Plan prepared for AC Land LLC, 15 Lincoln St. Suite 325, Wakefield, MA 01880 by HD Design, 161 W. High St. Avon, MA 02322 and dated 03/21/ 2025 (pages 1- 12).

PROPOSED SINGLE-FAMILY DWELLING

31 Newton Rd,
Amesbury, Massachusetts

APPLICANT:
AC LAND LLC
15 LINCOLN STREET, SUITE 325,
WAKEFIELD, MA 01880

OWNER:
STELLMACH FAMILY
REVOCABLE TRUST OF 2017



DRAWING INDEX	
SHEET NO.	SHEET TITLE
C-001	TITLE SHEET
C-002	SITE LAYOUT AND UTILITIES PLAN
C-003	DEM O AND SEDIMENTATION EROSION CONTROL
C-101	SITE LAYOUT AND UTILITIES PLAN
C-201	SITE DETAILS - 1
C-202	SITE DETAILS - 2
C-203	SITE DETAILS - 3
C-301	WETLAND REPLICATION PLAN
- -	EXISTING CONDITIONS PLAN (BY OTHERS)

HD Design
161 W. Traft Street,
Amesbury, MA 01825
Cell: (508) 440-1045
Email: hdesign@earthlink.net

PREPARED FOR:
AC LAND LLC

AC Homes LLC

15 LINCOLN STREET,
SUITE 325,
WAKEFIELD, MA 01880

SITE PLANS
5-BEDROOM
SINGLE-FAMILY
DWELLING

31 NEWTON ROAD,
AMESBURY, MA

TITLE SHEET

Owner: AC Land LLC
Design By: HD
Project No.: 10000
Issue Date: 07/01/2024
Scale: 1" = 250'
Drawing No.: C-001

FILE: C:\Users\ksh001\OneDrive\My Documents\2024\07\15\1117_SHEETING\1117_SHEETING.dwg
PLOT: 12/18/2024 1:14:29 PM PLOT: 2/11/2025 3:22:28 PM Current User: David H. Deane, License: 10000, State: MA



No.	Subtotal / Reason	By	Date
0	NOTES OF INTEREST	HO	27/02/2014
1	Personal Payment	HO	08/02/2014
2	Payment based on Request to Commodity	HO	17/02/2015
3	Payment based on Request to Commodity	HO	20/02/2015

PREPARED FOR:
AC LAND LLC

15 LINCOLN STREET,
SUITE 325,
WAKEFIELD, MA 01880

SITE PLANS
5-BEDROOM
SINGLE-FAMILY
DWELLING

31 NEWTON ROAD,
AMESBURY, MA

Test Pit Plan

Designed By: HD	Drawn By: HD	Checked By: S
Issue Date: 07/01/2024	Project No: 13025	Scale: 1" = 20'

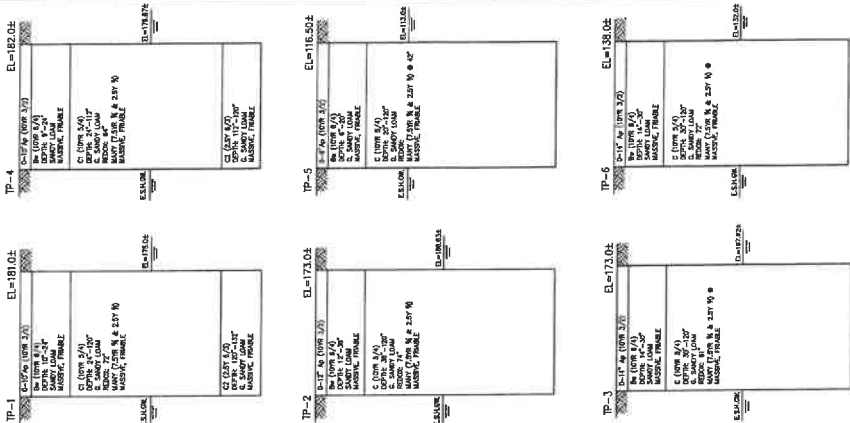
C-002



PERC TESTS RESULT			
PERFORMED BY HAZARD ANAL. WITNESSED BY DEP. MORROWELL			
LOCATION #	DATE	DEPTH	PERC RATE
TP-2	9/7/2024	36"-54"	14 MIN/INCH
TP-4	9/7/2024	24"-42"	14 MIN/INCH

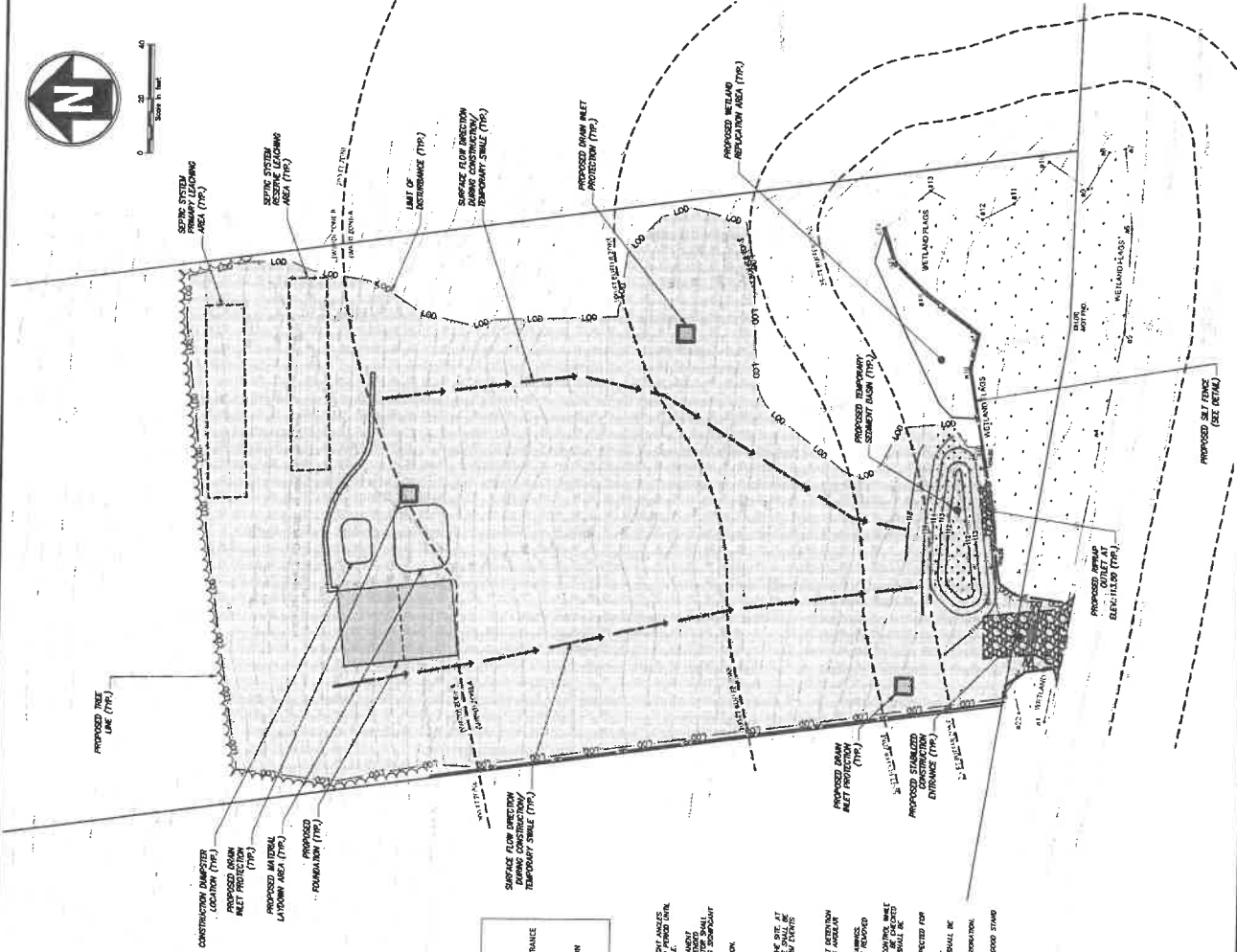
SOIL TEST DATA:

DATE: 05/07/2024
PERFORMED BY HAZEM DANI, SE#13902



SILVER DALLARD INCORPORATED AND HOLDINGS LIMITED

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[illegible]

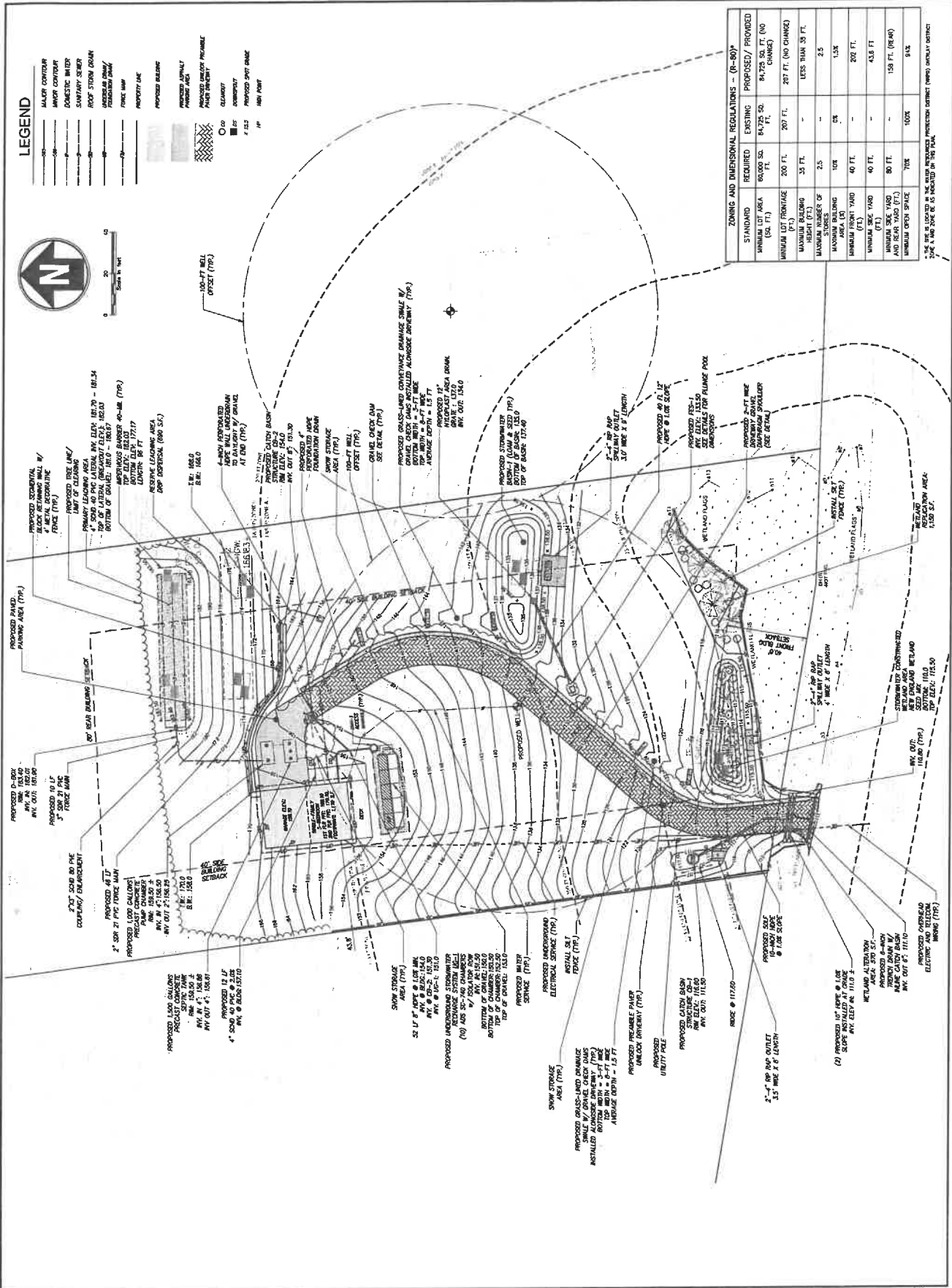


LEGEND

MAJOR	—
MINOR	—
DOWN	—
UP	—
ROAD	—

ZONING AND DIMENSIONAL REGULATIONS – (R-80)		EXISTING		PROPOSED / PROVIDED	
STANDARD		84,725 SQ. FT.		84,725 SQ. FT. (NO CHANGE)	237 FT. (NO CHANGE)
MINIMUM LOT AREA (SQ. FT.)	60,000	60,000	FT.	84,725	237
MINIMUM LOT FRONTAGE (FT.)	200	200	FT.	200	237
MAXIMUM BUILDING COVERAGE (%)	35	35	FT.	LESS THAN 35	35
MAXIMUM NUMBER OF STORES	2.5	-		-	2.5
MAXIMUM HEIGHT (FT.)	100	100	FT.	100	150
MINIMUM FRONT YARD SETBACK (FT.)	40	40	FT.	-	200
MINIMUM SIDE YARD SETBACK (FT.)	40	40	FT.	-	43.8
MINIMUM REAR YARD AND REAR YARD (FT.)	50	-		-	150 FT. (REAR)
MINIMUM OPEN SPACE	70%	100%			84%

* THE SITE IS LOCATED IN THE WATER RESOURCES PROTECTION DISTRICT (WRPD) OUTLAY DISTRICT ZONE A AND ZONE BE AS INDICATED ON THIS PLAN.



HD Design
161 W. High Street,
Amesbury, MA 02725
C-11 (508) 840-1144
Email: hdesign@earthlink.net



AC LAND LLC
AC LAND LLC
AC HOMES LLC

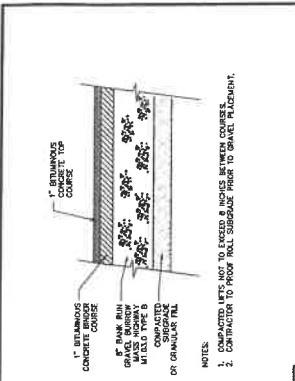
15 LINCOLN STREET,
SUITE 325,
WAKEFIELD, MA 01880

SITE PLANS
5-BEDROOM
SINGLE-FAMILY
DWELLING

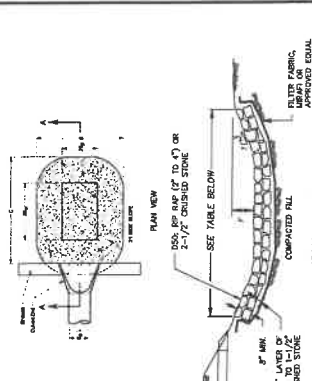
31 NEWTON ROAD,
AMESBURY, MA

SITE DETAILS - 1

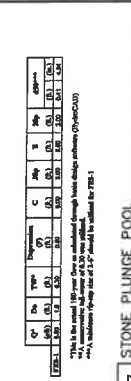
C-201



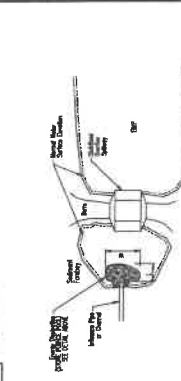
4 BITUMINOUS PAVEMENT SECTION
SCALE: NO SCALE



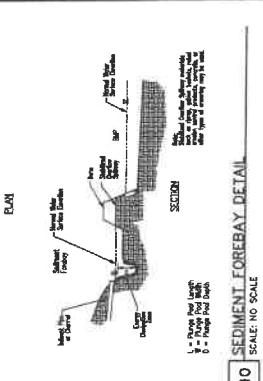
3 TEMPORARY SEDIMENT BASIN
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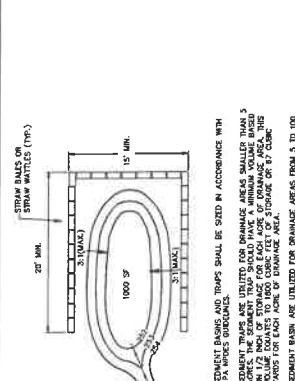
11 CLEAN OUT DETAIL
SCALE: NO SCALE



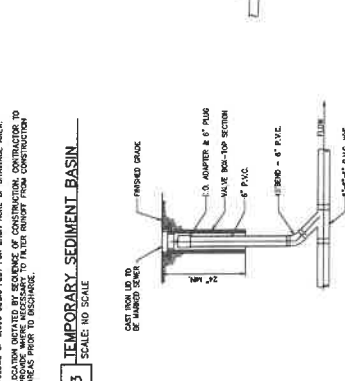
7 STONE BLUNGE POOL
SCALE: NO SCALE



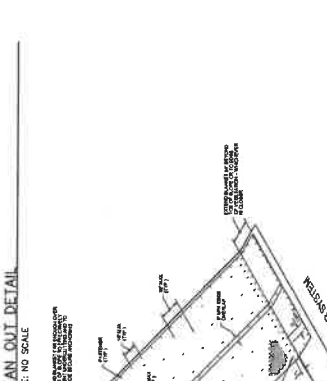
5 STONE CHECK DAM DETAIL
SCALE: NO SCALE



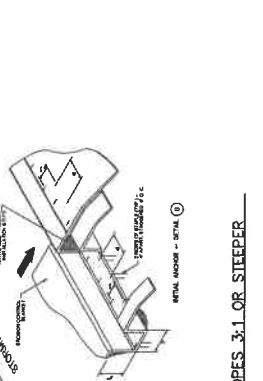
2 SOIL STOCKPILE
SCALE: NO SCALE



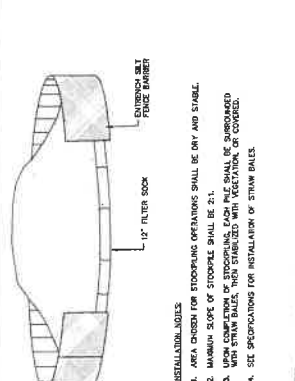
6 SILT FENCE DETAIL
SCALE: NO SCALE



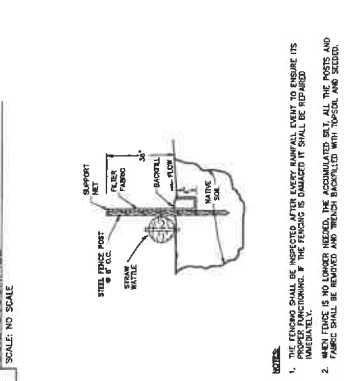
8 DRIVEWAY & GRASS-LINED SWALE CROSS SECTION
SCALE: NO SCALE



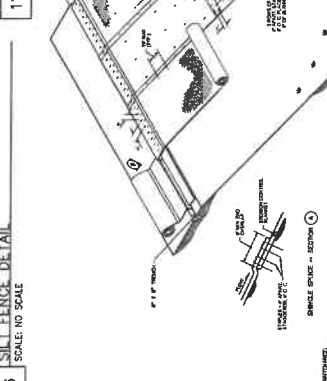
9 BIODEGRADABLE EROSION CONTROL BLANKET FOR SLOPES 3:1 OR STEEPER
SCALE: NO SCALE



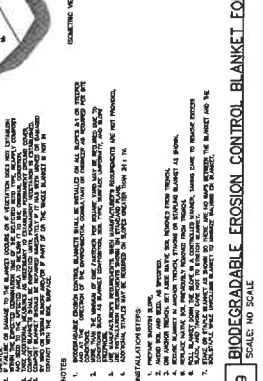
10 SEDIMENT FOREBAY DETAIL
SCALE: NO SCALE



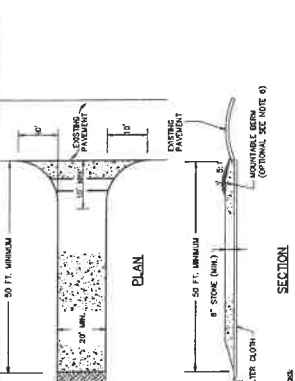
7 STONE BLUNGE POOL
SCALE: NO SCALE



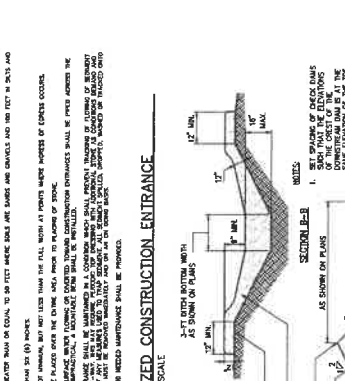
5 STONE CHECK DAM DETAIL
SCALE: NO SCALE



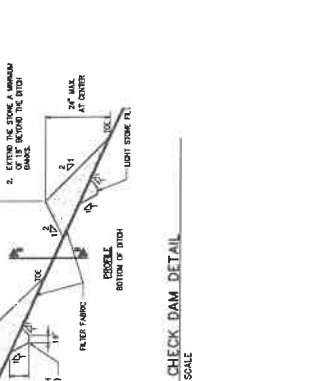
8 DRIVEWAY & GRASS-LINED SWALE CROSS SECTION
SCALE: NO SCALE



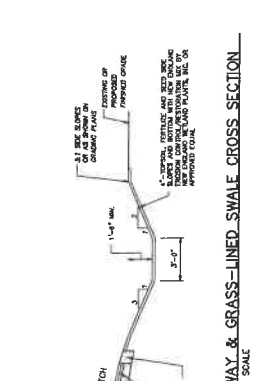
1 STABILIZED CONSTRUCTION ENTRANCE
SCALE: NO SCALE



7 STONE BLUNGE POOL
SCALE: NO SCALE



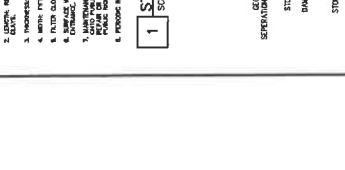
5 STONE CHECK DAM DETAIL
SCALE: NO SCALE



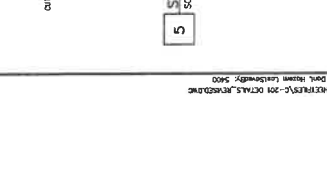
8 DRIVEWAY & GRASS-LINED SWALE CROSS SECTION
SCALE: NO SCALE



10 SEDIMENT FOREBAY DETAIL
SCALE: NO SCALE



7 STONE BLUNGE POOL
SCALE: NO SCALE



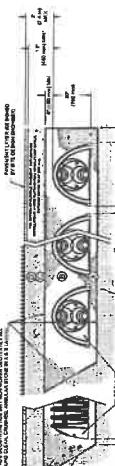
5 STONE CHECK DAM DETAIL
SCALE: NO SCALE



8 DRIVEWAY & GRASS-LINED SWALE CROSS SECTION
SCALE: NO SCALE

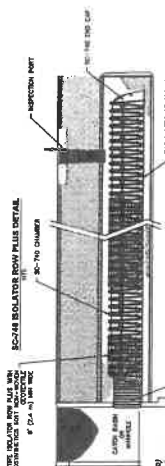
ACCEPTABLE FILL MATERIALS: STORMTECH SC-740 CHAMBER SYSTEMS

	MATERIAL LOCATION	DESCRIPTION	ESTIMATED MATERIAL QUANTITY	REMARKS
a	IN THE NORTH SIDE OF A 20' x 20' PAVED AREA LOCATED IN THE NORTH CORNER OF THE PROPERTY, APPROXIMATELY 10' FROM THE NORTH PROPERTY LINE AND 10' FROM THE EAST PROPERTY LINE.	ASBESTOS-CONTAINING MATERIAL, SUCH AS CEMENT, CONCRETE, BRICK, AND OTHER MATERIALS, WHICH MAY BE CONTAMINATED BY ASBESTOS.	100	ASBESTOS-CONTAINING MATERIAL, SUCH AS CEMENT, CONCRETE, BRICK, AND OTHER MATERIALS, WHICH MAY BE CONTAMINATED BY ASBESTOS.
b	IN THE NORTH SIDE OF A 20' x 20' PAVED AREA LOCATED IN THE NORTH CORNER OF THE PROPERTY, APPROXIMATELY 10' FROM THE NORTH PROPERTY LINE AND 10' FROM THE EAST PROPERTY LINE.	ASBESTOS-CONTAINING MATERIAL, SUCH AS CEMENT, CONCRETE, BRICK, AND OTHER MATERIALS, WHICH MAY BE CONTAMINATED BY ASBESTOS.	100	ASBESTOS-CONTAINING MATERIAL, SUCH AS CEMENT, CONCRETE, BRICK, AND OTHER MATERIALS, WHICH MAY BE CONTAMINATED BY ASBESTOS.
c	IN THE NORTH SIDE OF A 20' x 20' PAVED AREA LOCATED IN THE NORTH CORNER OF THE PROPERTY, APPROXIMATELY 10' FROM THE NORTH PROPERTY LINE AND 10' FROM THE EAST PROPERTY LINE.	ASBESTOS-CONTAINING MATERIAL, SUCH AS CEMENT, CONCRETE, BRICK, AND OTHER MATERIALS, WHICH MAY BE CONTAMINATED BY ASBESTOS.	100	ASBESTOS-CONTAINING MATERIAL, SUCH AS CEMENT, CONCRETE, BRICK, AND OTHER MATERIALS, WHICH MAY BE CONTAMINATED BY ASBESTOS.
d	IN THE NORTH SIDE OF A 20' x 20' PAVED AREA LOCATED IN THE NORTH CORNER OF THE PROPERTY, APPROXIMATELY 10' FROM THE NORTH PROPERTY LINE AND 10' FROM THE EAST PROPERTY LINE.	ASBESTOS-CONTAINING MATERIAL, SUCH AS CEMENT, CONCRETE, BRICK, AND OTHER MATERIALS, WHICH MAY BE CONTAMINATED BY ASBESTOS.	100	ASBESTOS-CONTAINING MATERIAL, SUCH AS CEMENT, CONCRETE, BRICK, AND OTHER MATERIALS, WHICH MAY BE CONTAMINATED BY ASBESTOS.
e	IN THE NORTH SIDE OF A 20' x 20' PAVED AREA LOCATED IN THE NORTH CORNER OF THE PROPERTY, APPROXIMATELY 10' FROM THE NORTH PROPERTY LINE AND 10' FROM THE EAST PROPERTY LINE.	ASBESTOS-CONTAINING MATERIAL, SUCH AS CEMENT, CONCRETE, BRICK, AND OTHER MATERIALS, WHICH MAY BE CONTAMINATED BY ASBESTOS.	100	ASBESTOS-CONTAINING MATERIAL, SUCH AS CEMENT, CONCRETE, BRICK, AND OTHER MATERIALS, WHICH MAY BE CONTAMINATED BY ASBESTOS.
f	IN THE NORTH SIDE OF A 20' x 20' PAVED AREA LOCATED IN THE NORTH CORNER OF THE PROPERTY, APPROXIMATELY 10' FROM THE NORTH PROPERTY LINE AND 10' FROM THE EAST PROPERTY LINE.	ASBESTOS-CONTAINING MATERIAL, SUCH AS CEMENT, CONCRETE, BRICK, AND OTHER MATERIALS, WHICH MAY BE CONTAMINATED BY ASBESTOS.	100	ASBESTOS-CONTAINING MATERIAL, SUCH AS CEMENT, CONCRETE, BRICK, AND OTHER MATERIALS, WHICH MAY BE CONTAMINATED BY ASBESTOS.



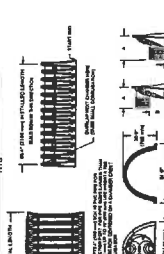
NOTE8:

- THE FOLLOWING INFORMATION IS FOR THE INFORMATION OF THE UNITED STATES DEPARTMENT OF JUSTICE, AND IS NOT TO BE USED FOR ANY OTHER PURPOSE. IT IS THE POLICY OF THE DEPARTMENT OF JUSTICE TO MAKE AVAILABLE TO THE PUBLIC, IN A TIMELY MANNER, ALL INFORMATION IN ITS POSSESSION OR CONTROL, INCLUDING INFORMATION OF A FINANCIAL, ECONOMIC, OR SCIENTIFIC NATURE, UNLESS IT IS DETERMINED THAT DISCLOSURE OF SUCH INFORMATION WOULD BE DETRIMENTAL TO THE NATIONAL DEFENSE. INFORMATION OF A FINANCIAL, ECONOMIC, OR SCIENTIFIC NATURE, UNLESS IT IS DETERMINED THAT DISCLOSURE OF SUCH INFORMATION WOULD BE DETRIMENTAL TO THE NATIONAL DEFENSE. INFORMATION OF A FINANCIAL, ECONOMIC, OR SCIENTIFIC NATURE, UNLESS IT IS DETERMINED THAT DISCLOSURE OF SUCH INFORMATION WOULD BE DETRIMENTAL TO THE NATIONAL DEFENSE.

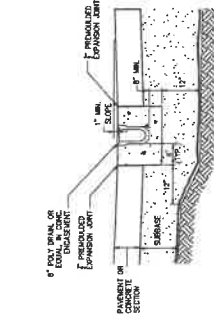


INSPECTION & MAINTENANCE

- STEP 1: IMPROVE QUALITY AND SAVE COSTS FOR THE CUSTOMER
1. IDENTIFY THE CUSTOMER'S NEEDS
2. IDENTIFY THE CURRENT QUALITY LEVEL
3. IDENTIFY THE CURRENT COST LEVEL
4. IDENTIFY THE CURRENT LEAD TIME
5. IDENTIFY THE CURRENT DEFECT RATE
6. IDENTIFY THE CURRENT WASTE LEVEL
7. IDENTIFY THE CURRENT INVENTORY LEVEL
8. IDENTIFY THE CURRENT DELIVERY RELIABILITY
9. IDENTIFY THE CURRENT CUSTOMER SATISFACTION
10. IDENTIFY THE CURRENT COMPETITOR PERFORMANCE
- STEP 2: ANALYZE THE CURRENT QUALITY AND COST LEVELS
1. ANALYZE THE CURRENT QUALITY LEVEL
2. ANALYZE THE CURRENT COST LEVEL
3. ANALYZE THE CURRENT LEAD TIME
4. ANALYZE THE CURRENT DEFECT RATE
5. ANALYZE THE CURRENT WASTE LEVEL
6. ANALYZE THE CURRENT INVENTORY LEVEL
7. ANALYZE THE CURRENT DELIVERY RELIABILITY
8. ANALYZE THE CURRENT CUSTOMER SATISFACTION
9. ANALYZE THE CURRENT COMPETITOR PERFORMANCE
- STEP 3: IDENTIFY THE CAUSES OF THE CURRENT QUALITY AND COST LEVELS
1. IDENTIFY THE CAUSES OF THE CURRENT QUALITY LEVEL
2. IDENTIFY THE CAUSES OF THE CURRENT COST LEVEL
3. IDENTIFY THE CAUSES OF THE CURRENT LEAD TIME
4. IDENTIFY THE CAUSES OF THE CURRENT DEFECT RATE
5. IDENTIFY THE CAUSES OF THE CURRENT WASTE LEVEL
6. IDENTIFY THE CAUSES OF THE CURRENT INVENTORY LEVEL
7. IDENTIFY THE CAUSES OF THE CURRENT DELIVERY RELIABILITY
8. IDENTIFY THE CAUSES OF THE CURRENT CUSTOMER SATISFACTION
9. IDENTIFY THE CAUSES OF THE CURRENT COMPETITOR PERFORMANCE
- STEP 4: IDENTIFY THE OPPORTUNITIES FOR IMPROVING QUALITY AND COSTS
1. IDENTIFY THE OPPORTUNITIES FOR IMPROVING QUALITY LEVEL
2. IDENTIFY THE OPPORTUNITIES FOR IMPROVING COST LEVEL
3. IDENTIFY THE OPPORTUNITIES FOR IMPROVING LEAD TIME
4. IDENTIFY THE OPPORTUNITIES FOR IMPROVING DEFECT RATE
5. IDENTIFY THE OPPORTUNITIES FOR IMPROVING WASTE LEVEL
6. IDENTIFY THE OPPORTUNITIES FOR IMPROVING INVENTORY LEVEL
7. IDENTIFY THE OPPORTUNITIES FOR IMPROVING DELIVERY RELIABILITY
8. IDENTIFY THE OPPORTUNITIES FOR IMPROVING CUSTOMER SATISFACTION
9. IDENTIFY THE OPPORTUNITIES FOR IMPROVING COMPETITOR PERFORMANCE
- STEP 5: IMPLEMENT THE IMPROVEMENTS
1. IMPLEMENT THE IMPROVEMENTS FOR QUALITY LEVEL
2. IMPLEMENT THE IMPROVEMENTS FOR COST LEVEL
3. IMPLEMENT THE IMPROVEMENTS FOR LEAD TIME
4. IMPLEMENT THE IMPROVEMENTS FOR DEFECT RATE
5. IMPLEMENT THE IMPROVEMENTS FOR WASTE LEVEL
6. IMPLEMENT THE IMPROVEMENTS FOR INVENTORY LEVEL
7. IMPLEMENT THE IMPROVEMENTS FOR DELIVERY RELIABILITY
8. IMPLEMENT THE IMPROVEMENTS FOR CUSTOMER SATISFACTION
9. IMPLEMENT THE IMPROVEMENTS FOR COMPETITOR PERFORMANCE
- STEP 6: MONITOR THE RESULTS
1. MONITOR THE RESULTS FOR QUALITY LEVEL
2. MONITOR THE RESULTS FOR COST LEVEL
3. MONITOR THE RESULTS FOR LEAD TIME
4. MONITOR THE RESULTS FOR DEFECT RATE
5. MONITOR THE RESULTS FOR WASTE LEVEL
6. MONITOR THE RESULTS FOR INVENTORY LEVEL
7. MONITOR THE RESULTS FOR DELIVERY RELIABILITY
8. MONITOR THE RESULTS FOR CUSTOMER SATISFACTION
9. MONITOR THE RESULTS FOR COMPETITOR PERFORMANCE
- STEP 7: EVALUATE THE RESULTS
1. EVALUATE THE RESULTS FOR QUALITY LEVEL
2. EVALUATE THE RESULTS FOR COST LEVEL
3. EVALUATE THE RESULTS FOR LEAD TIME
4. EVALUATE THE RESULTS FOR DEFECT RATE
5. EVALUATE THE RESULTS FOR WASTE LEVEL
6. EVALUATE THE RESULTS FOR INVENTORY LEVEL
7. EVALUATE THE RESULTS FOR DELIVERY RELIABILITY
8. EVALUATE THE RESULTS FOR CUSTOMER SATISFACTION
9. EVALUATE THE RESULTS FOR COMPETITOR PERFORMANCE
- STEP 8: REPORT THE RESULTS
1. REPORT THE RESULTS FOR QUALITY LEVEL
2. REPORT THE RESULTS FOR COST LEVEL
3. REPORT THE RESULTS FOR LEAD TIME
4. REPORT THE RESULTS FOR DEFECT RATE
5. REPORT THE RESULTS FOR WASTE LEVEL
6. REPORT THE RESULTS FOR INVENTORY LEVEL
7. REPORT THE RESULTS FOR DELIVERY RELIABILITY
8. REPORT THE RESULTS FOR CUSTOMER SATISFACTION
9. REPORT THE RESULTS FOR COMPETITOR PERFORMANCE
- STEP 9: REVIEW THE RESULTS
1. REVIEW THE RESULTS FOR QUALITY LEVEL
2. REVIEW THE RESULTS FOR COST LEVEL
3. REVIEW THE RESULTS FOR LEAD TIME
4. REVIEW THE RESULTS FOR DEFECT RATE
5. REVIEW THE RESULTS FOR WASTE LEVEL
6. REVIEW THE RESULTS FOR INVENTORY LEVEL
7. REVIEW THE RESULTS FOR DELIVERY RELIABILITY
8. REVIEW THE RESULTS FOR CUSTOMER SATISFACTION
9. REVIEW THE RESULTS FOR COMPETITOR PERFORMANCE
- STEP 10: CELEBRATE THE RESULTS
1. CELEBRATE THE RESULTS FOR QUALITY LEVEL
2. CELEBRATE THE RESULTS FOR COST LEVEL
3. CELEBRATE THE RESULTS FOR LEAD TIME
4. CELEBRATE THE RESULTS FOR DEFECT RATE
5. CELEBRATE THE RESULTS FOR WASTE LEVEL
6. CELEBRATE THE RESULTS FOR INVENTORY LEVEL
7. CELEBRATE THE RESULTS FOR DELIVERY RELIABILITY
8. CELEBRATE THE RESULTS FOR CUSTOMER SATISFACTION
9. CELEBRATE THE RESULTS FOR COMPETITOR PERFORMANCE

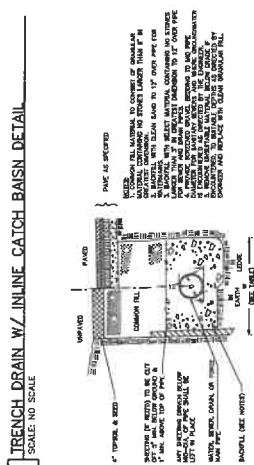
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3	ADS STORMTECH SC-740 INSTALLATION DETAIL
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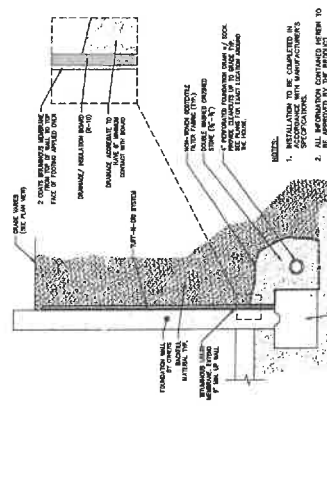
NOTES:

1. PROVIDE HEEL PROOF AND H-20 FRAME AND GRATE.
2. CHANNEL SECTIONS TO BE 24-INCH IN LENGTH.
3. INSTALL AN INLINE CATCH BASIN AT THE OUTLET.
4. PROVIDE SHOP DRAWINGS FOR APPROVAL PRIOR TO INSTALLATION.



THERMOCENT		
QUANTITY OF PIPE	UNINSULATED	INSULATED
10' TO 12'	1	1
12' TO 14'	1	1
14' TO 16'	1	1
16' TO 18'	1	1

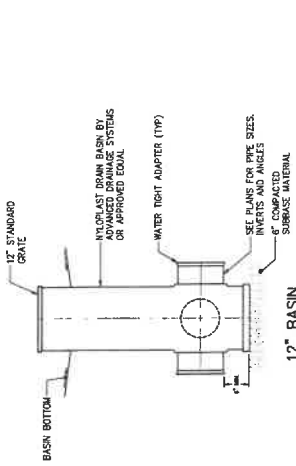
TYPICAL TRENCH SECTION DETAIL



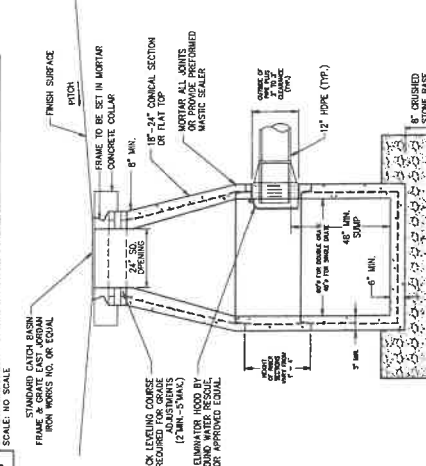
MANUSCRIPT

- 1

7 FOUNDATION DRAIN SYSTEM DETAIL

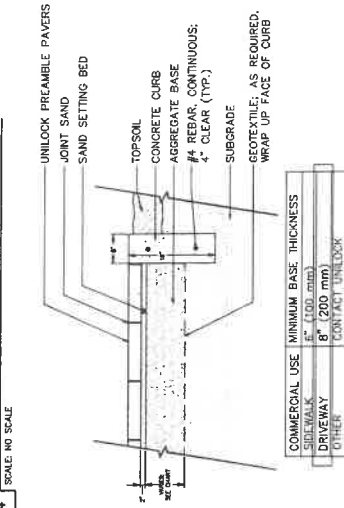


NYLOPLAST AREA DRAIN DETAIL



NOTES:
1. STANDARD PRECAST DRAIN MANHOLE. BY SITUATE PRECAST OR
APPROVED EQUAL. CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR
APPROVAL PRIOR TO CONSTRUCTION.

CATCH BASIN STRUCTURE DETAIL



6 UNILOCK PERMEABLE PAVER INSTALLATION DETAIL

SCALE: NO SCALE

HD Design
161 W. High Street,
Ave. MA 02122
C: (617) 866-1041
Email: hdesign@hdesign.com



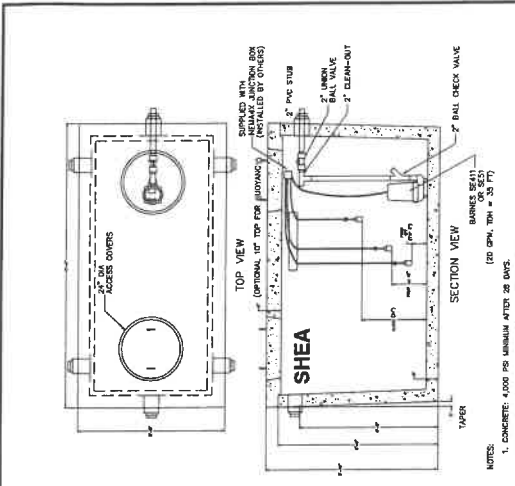
Rev	Description	Date
1	Initial Design	10/1/2023
2	Revised Design	10/1/2023
3	Final Design	10/1/2023

AC LAND LLC
15 LINCOLN STREET,
SUITE 325,
WAKEFIELD, MA 01880

AC HOMES LLC
31 NEWTON ROAD,
AMESBURY, MA

SITE DETAILS-3
Designed By: HD
Drawn By: HD
Issue Date: 10/1/2023
Project No: 2023-001

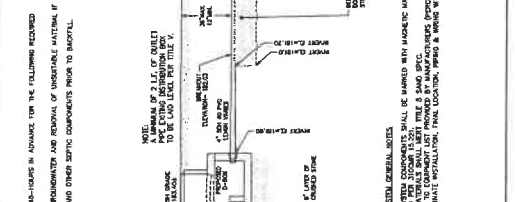
C-203



1 SANITARY SYSTEM PROFILE
SCALE: NO SCALE

DESIGN NOTES:

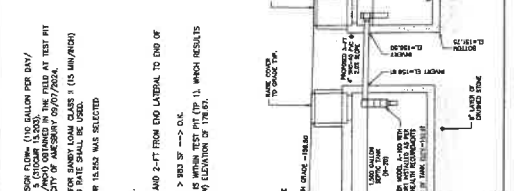
- SEPTIC TANK SHALL BE TO THE DIMENSIONS AS SHOWN ON THE PLAN AND ELEVATION. THE TANK SHALL BE PRECAST OR CONCRETE.
- CONSTRUCTION JOINT TO HAVE MINIMUM 1" BUTYL SEALANT.
- CONTRACTOR IS RESPONSIBLE FOR VERIFYING DIMENSIONS AND TANKS SHALL BE CONSTRUCTED TO MEET ALL SPECIFICATIONS AND STANDARDS.
- NECESSARY BALLAST TO INSURE TANK STABILITY.



6 TYPICAL SECTION RESIDENTIAL RETAINING WALL
SCALE: NO SCALE

NOTES:

- THE WALL SHALL BE CONSTRUCTED TO MEET ALL CITY AND STATE REQUIREMENTS FOR RETAINING WALLS.
- CONTRACTOR TO VERIFY ALL DIMENSIONS AND APPROVE PRIOR TO INSTALLATION.



2 1,500 PRECAST CONCRETE SEPTIC TANK
SCALE: NO SCALE

DESIGN NOTES:

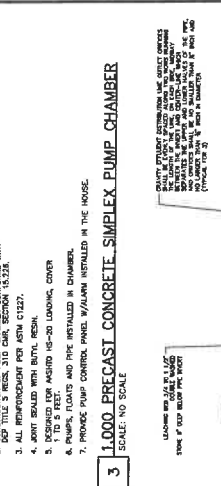
- SEPTIC TANK SHALL BE TO THE DIMENSIONS AS SHOWN ON THE PLAN AND ELEVATION. THE TANK SHALL BE PRECAST OR CONCRETE.
- CONSTRUCTION JOINT TO HAVE MINIMUM 1" BUTYL SEALANT.
- CONTRACTOR IS RESPONSIBLE FOR VERIFYING DIMENSIONS AND TANKS SHALL BE CONSTRUCTED TO MEET ALL SPECIFICATIONS AND STANDARDS.
- NECESSARY BALLAST TO INSURE TANK STABILITY.



1 SANITARY SYSTEM PROFILE
SCALE: NO SCALE

DESIGN NOTES:

- SEPTIC TANK SHALL BE TO THE DIMENSIONS AS SHOWN ON THE PLAN AND ELEVATION. THE TANK SHALL BE PRECAST OR CONCRETE.
- CONSTRUCTION JOINT TO HAVE MINIMUM 1" BUTYL SEALANT.
- CONTRACTOR IS RESPONSIBLE FOR VERIFYING DIMENSIONS AND TANKS SHALL BE CONSTRUCTED TO MEET ALL SPECIFICATIONS AND STANDARDS.
- NECESSARY BALLAST TO INSURE TANK STABILITY.



3 1,000 PRECAST CONCRETE SIMPLEX PUMP CHAMBER
SCALE: NO SCALE

NOTES:

- CONCRETE: 4,000 PSI MINIMUM AFTER 28 DAYS.
- CONSTRUCTION OF PUMP CHAMBER CONFORMS WITH SECTION 15.02, 15.03, 15.04, 15.05, 15.06, 15.07, 15.08, 15.09, 15.10, 15.11, 15.12, 15.13, 15.14, 15.15, 15.16, 15.17, 15.18, 15.19, 15.20, 15.21, 15.22, 15.23, 15.24, 15.25, 15.26, 15.27, 15.28, 15.29, 15.30, 15.31, 15.32, 15.33, 15.34, 15.35, 15.36, 15.37, 15.38, 15.39, 15.40, 15.41, 15.42, 15.43, 15.44, 15.45, 15.46, 15.47, 15.48, 15.49, 15.50, 15.51, 15.52, 15.53, 15.54, 15.55, 15.56, 15.57, 15.58, 15.59, 15.60, 15.61, 15.62, 15.63, 15.64, 15.65, 15.66, 15.67, 15.68, 15.69, 15.70, 15.71, 15.72, 15.73, 15.74, 15.75, 15.76, 15.77, 15.78, 15.79, 15.80, 15.81, 15.82, 15.83, 15.84, 15.85, 15.86, 15.87, 15.88, 15.89, 15.90, 15.91, 15.92, 15.93, 15.94, 15.95, 15.96, 15.97, 15.98, 15.99, 16.00, 16.01, 16.02, 16.03, 16.04, 16.05, 16.06, 16.07, 16.08, 16.09, 16.10, 16.11, 16.12, 16.13, 16.14, 16.15, 16.16, 16.17, 16.18, 16.19, 16.20, 16.21, 16.22, 16.23, 16.24, 16.25, 16.26, 16.27, 16.28, 16.29, 16.30, 16.31, 16.32, 16.33, 16.34, 16.35, 16.36, 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PREPARED FOR:
AC LAND LLC

AC Land LLC
AC Homes LLC

15 LINCOLN STREET,
SUITE 325,
WAKEFIELD, MA 01880

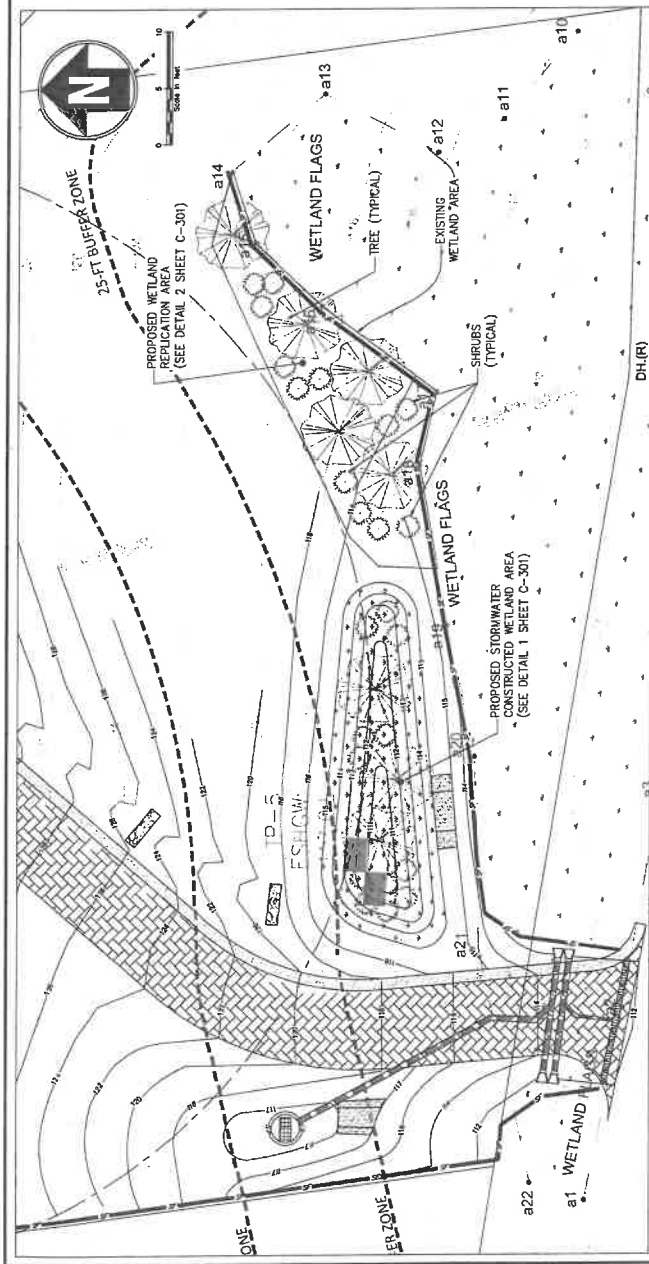
SITE PLANS
5-BEDROOM
SINGLE-FAMILY
DWELLING

31 NEWTON ROAD,
AMESBURY, MA

WETLAND
REPLICATION AREA
PLAN

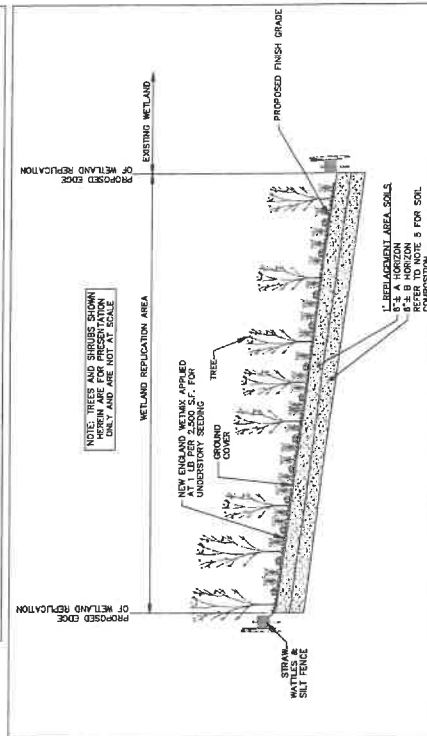
Designed By: HDO	Drawn By: HDO	Checked By: .
Issue Date: 07/01/2024	Project No: 13023	Scale: 1" = 20'

Drawing No:
C-301



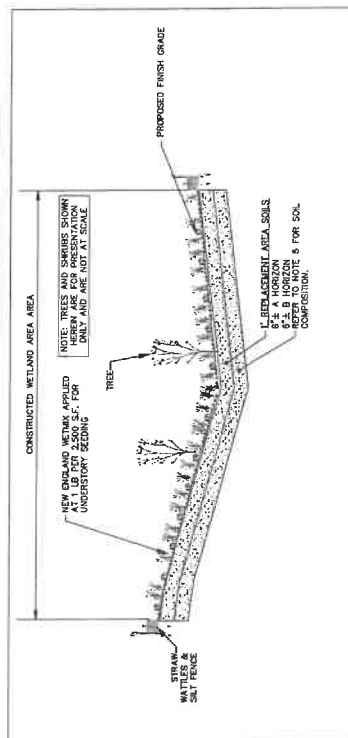
WETLAND REPLICATION AREA & STORMWATER CONSTRUCTED WETLAND AREA PLAN VIEW

PROPOSED VEGETATION IN WETLAND REPLICATION AREA (1,150 S.F.)					
SPECIES TYPE	COMMON NAME	LATIN NAME	STATUS	PLANTING DENSITY	PROPOSED NUMBER
TREE	RED MAPLE	AQUILARIA	FAC	1 TREE / 200 S.F.	5
SHRUB	HIGHBUSH BLUEBERRY	VACCINIUM	FAC	1 SHRUB / 200 S.F.	5
SHRUB	SWEET PEPPER BUSH	CLETHRA ALPINA	FAC	1 SHRUB / 200 S.F.	6
GROUND COVER	NEW ENGLAND WAXMA	-	-	1.1/2,500 S.F.	1/2 LB

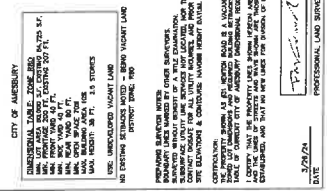


WETLAND REPLICATION AREA CROSS SECTION (DETAIL-2)

PROPOSED VEGETATION IN STORMWATER CONSTRUCTED WETLAND AREA					
SPECIES TYPE	COMMON NAME	LATIN NAME	STATUS	PLANTING COMMENTS	PROPOSED NUMBER
TREE	RED MAPLE	ACELE RUBRA	TAC	1 1/2" x 300 S.F.	3
SHRUB	HIGHBUSH BLUEBERRY	VACCINIUM	TAC	1 1/2" x 300 S.F.	6
SHRUB	SWEET PEPPER BUSH	CLETHRA ALABAMA	TAC	1 1/2" x 300 S.F.	6
GROUND COVER	NEW ENGLAND WETWICK	-	-	1 1/2" x 500 S.F.	1/2 LB



STORMWATER CONSTRUCTED WETLAND AREA (DETAIL-1)



ASSESSORS
PARCEL ID. 33-32
TITLE REFERENCE
OWNER STELLIACH FAMILY REVOC. TRUST
SEAN STELLIACH, NANNAN STELLIACH, THE
WIFE: 23 SPUNKYTREE ROAD
AMESSURY, MA 01913
RECORD DEED BOOK 30738 PL 1188
L2 BY PLAN BOOK 308 PLAN 1040 CORP.
ESSEX COUNTY REGISTRY OF DEEDS

EXISTING CONDITIONS PLAN
#31 NEWTON ROAD
AMESBURY, MA 01913
SCALE 1" = 20'
MARCH 26, 2024
NORDE-EAST SURVEY
27 CONGRESS STREET, #1008, SALEM, MA 01970
TEL. (878)5421920 E-MAIL: NORDE-EAST@CIGNON.NET

[illegible]

I CERTIFY THAT THE PROPERTY LINES SHOWN HEREON ARE THE LINES DEDUCED EXISTING ENCLOSURES, AND THE LINES OF SURVEY AND WAYS SHOWN ARE THOSE OF PUBLIC OR PRIVATE RIGHTS ON WAYS OR ALLEYS OF CURRENT CITY OF ANCHORAGE DIMENSIONAL REQUIREMENTS NOTED BY THIS PLAN.

3/26/24
DATE

Stormwater Report
Single-Family Dwelling
31 Newton Road,
Amesbury, Massachusetts

Applicant:
AC Land, LLC
15 Lincoln Street
Suite 325
Wakefield, MA 01880

Prepared by:
HD Design
161 W High St,
Avon, MA 02322



February 18, 2025

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 Test Pit Data
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LIST OF ACRONYMS & ABBREVIATIONS

BFE	Base Flood Elevation
BMP	Best Management Practice
BVW	Bordering Vegetated Wetland
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
HSG	Hydrologic Soil Group
IWPA	Interim Wellhead Protection Area
MAHW	Mean Annual High-Water
MassDEP	Massachusetts Department of Environmental Protection
NAVD	North American Vertical Datum
NRCS	Natural Resources Conservation Service
SHGW	Seasonal High Groundwater
SWMSH	Stormwater Management Standards Handbook
Tc	Time of Concentration
TSS	Total Suspended Solids
USGS	United States Geological Survey

1.0 NARRATIVE

1.1 EXECUTIVE SUMMARY

1.1.1 EXISTING CONDITIONS:

The Applicant, AC Land LLC, proposes to develop the vacant single-family lot 31 Newton Road, Amesbury MA, a 1.95 acre +/- located on the north side of Newton Road in Amesbury MA. The lot fronts on Newton Road and is currently an undeveloped vacant lot located in the Residential R-80 Zoning District. The site is situated on a hillside/ steep uniform slope (greater than 15%) that drains toward the southern property line/ Newton Road. The property has the highest elevation near the northern property boundary with an elevation of 212 feet and the lowest elevation of 112 (NAVD 88) near Newton Road to the south. The property includes wooded area to the north, brush areas, and a bordering vegetated wetland Series A, that spans the entire property frontage to the south. Surface water overflows from Wetland A through an outflow pipe that runs under Newton Road and discharges to an offsite downstream channel with defined banks. BVW A was delineated in the field by Environmental Consulting & Restoration LLC and surveyed by Norde-East Survey, and the wetland boundary was confirmed by the former Conservation Agent Ms. Alison McKay as part of the pending Notice of Intent review. The extent of BVW A and the outflow pipe are shown on the attached site plans. The site is currently stabilized, and the wetland buffers are established. A review of the City of Amesbury Zoning Map indicates that the southern portion of the site is located in the Water Resource Protection District (WRPD) overlay Districts Zone A while the northern portion of the site is located in WRPD Zone B. The 200 ft of wetland A defines the boundary of the WRPD Zone A per the Zoning Definition.

A review of MassGIS indicates that:

1. The site is not located within mapped Priority or Estimated Habitat according to MANHESP.
2. The site does not contain Land Subject to Flooding (FEMA flood zone).
3. The site is not located near a USGS-mapped stream.
4. The site is not located near a mapped Vernal Pool.
5. The site is not located within an Area of Critical Environmental Concern (ACEC).
6. The site is located in the Powwow River Public Water Supply Watershed.

1.1.2 PROPOSED PROJECT:

The applicant proposes to clear and regrade a portion of the lot that is approximately 45,000+ s.f. in area. This cleared area will be utilized to accommodate the new driveway, 5-bedroom single-family dwelling, new septic system, and a new stormwater management system. The site design has located the new building and septic components outside of the WRPD Zone A as required by the Zoning Regulations.

The proposed grading generally follows the existing topography and has no significant changes to the existing drainage patterns. Stormwater runoff from the proposed house and driveway is collected through the use of a drainage channel and directed to a new Infiltration Basin area (Low Impact Development) to mitigate the increased stormwater runoff and flows as required by the Zoning Ordinance. Disturbed areas will be loamed and seeded and converted into landscape/lawn areas associated with the proposed house.

According to the NRCS, the onsite soils consist of Hinckley Loamy Sand (Hydraulic Soil Group A) on the southern portion of the site, while the northern portion of the site consists of Paxton fine sandy loam (Hydraulic Soil Group C). An onsite soil test pits were conducted for the proposed Septic System in addition to onsite test pits were conducted for the proposed infiltration and detention BMPs. Based on the test pit results a stormwater infiltration basin (Basin #1) is proposed to be located outside of the 50-ft buffer to wetland and a constructed stormwater wetland area located within the 25-ft buffer zone to wetland A. Onsite test pit perc rates indicate that the soils have an infiltration rate of 14 minutes per inch which is equal to 4.28 inch per hour where the infiltration practice is proposed. Per Volume 3 Chapter 1 of the MA Stormwater Regulations, 50% of the actual *in-situ saturated hydraulic conductivity* rate equal to 2.14 inch per hour is considered rapid infiltration rate. Refer to rate specified by Rawls 1982 (see MA Stormwater Table 2.3.3) for the soil type at the location where infiltration is proposed based on a soil textual analysis. The stormwater system also incorporates low impact development techniques such as grass-lined conveyance channels, and previous paves in addition to check dams, slope stabilization biodegradable mats and a constructed wetland area.

As part of this Project the proposed driveway connection will cross wetland A at the narrowest section, to the west, leading to the least possible impact to the wetland resource area. The wetland alteration area is approximately 570 square feet. Per the MA Wetland Protection Act a wetland replication area with ratio of 2:1 is proposed.

1.2 OBJECTIVE OF CALCULATIONS

The purpose of this stormwater analysis is to assess and quantify the existing and proposed stormwater runoff conditions from the site based upon the Massachusetts Department of Environmental Protection (MassDEP) Stormwater Management Standards and the applicable provisions of the City of Amesbury Regulations.

The goals of the stormwater management system design for this project are to provide improved water quality, reduce post-development peak runoff rates as compared to pre-development peak runoff rates, maximize infiltration to the maximum extent practicable, and to protect the surrounding area from any potential flooding and/or environmental impacts. The following stormwater routing calculations were performed using the 2-year, 10-year, 25-year, and 100-year frequency. Type III, 24-hour SCS design storms and were compared for both pre-development and post-development conditions.

1.3 METHODOLOGY

The HydroCAD Stormwater Modeling System computer program, version 10.0, by Applied Microcomputer Systems, Inc. is used to develop stormwater runoff rates and volumes for the existing and proposed conditions at the project site. The HydroCAD software is a hydrograph generation and routing program similar to TR-20. The software uses Soil Conservation Service (SCS) Unit Hydrograph Methodology. This drainage analysis was developed utilizing a Type III, 24-hour storm as developed by the Soil Conservation Service (SCS). Information regarding the equations and calculation procedures utilized in HydroCAD will be made available upon request. The following basic steps are employed in the procedure:

1. A rainfall distribution is selected which indicates how the storm depth will be distributed over time. This is the standardized Type III SCS distribution based upon the project's location.
2. The design storm depth is determined from rainfall frequency atlas based upon the return period being modeled. Combined with the distribution of rainfall will yield the cumulative depth at each period during the storm.
3. Based upon the Time of Concentration (T_c), the storm is divided into bursts of equal duration. For each burst, the SCS runoff equation and the average Curve Number are used to determine the portion of that burst that will appear as runoff.
4. A unit hydrograph representing the runoff resulting from one inch of precipitation excess

generated uniformly over the watershed in conduction with the Time of Concentration is used to determine how the runoff from a burst is distributed over time. The result is a runoff hydrograph for a single burst.

5. Individual hydrographs are added together for all bursts in the storm yielding the complete runoff hydrograph for each storm.

The SCS rainfall distributions are derived from observations that were used to develop the Intensity-Duration-Frequency relationship or IDF curve. By studying the Weather Bureau's Rainfall Frequency Atlases, the SCS developed four "mass curves" that could be used to represent the characteristics of the rainfall distribution throughout the continental United States. The mass curve is a dimensionless distribution of rainfall over time, which indicates the fraction of the rainfall event that occurs at a given time within a 24-hour precipitation event. This synthetic distribution develops peak rates for storms of varying durations and intensities. The SCS distribution provides a cumulative rainfall at any point in time and allows volume dependent routing runoff calculations to occur.

The HydroCAD software has the additional capability to describe shallow concentrated flow. The "NEH-4 Upland Method" included in the HydroCAD software is applicable for conditions which occur in the headwaters of a watershed up to 2000 acres. The NEH-4 Upland Method allows the Time of Concentration (T_c) to reflect ground conditions such as overland flow, grassed waterways, paved areas and upland gullies. This results in a model that more accurately reflects the ground surface for shallow concentrated flow conditions, than TR-20, which is limited to distinguishing only paved and unpaved surfaces. T_c is the time required for water to flow from the most distant point on a runoff area to the measurement or collection point. In instances where the watersheds are small and impervious, T_c has been directly entered as a 5-minute minimum. This is consistent with standard engineering practice and Technical Release (TR-55) Urban Hydrology for Small Watersheds graphical method. A lower boundary of 5 minutes will yield a conservative, yet practical measure of stormwater runoff flow for small watersheds contained within the development.

The curve number or CN is a land sensitive coefficient that dictates the relationship between total rainfall depth and direct stormwater runoff. Based upon the cover in each sub-watershed a weighted average CN value was determined. The area, CN values, and time of concentration were entered into HydroCAD to develop hydrographs for the pre and post developed conditions.

1.4 SITE HYDROLOGY

Hydrologic soil groups (HSG) are used primarily to estimate runoff from precipitation in engineering calculations. HSG designations vary from “A” to “D” with “A” having the highest infiltration rate and “D” the slowest. Test pits were performed by a licensed soil evaluator in locations proximate to the proposed stormwater systems to confirm the infiltration rates and groundwater data used in the design and were witnessed by a peer review consultant of the Town.

Soils on the site have designations as hydrologic soil groups (HSG) “A” & “C” based on the U.S. Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS), Soil Survey of Essex County. Soils within the property are classified as: Paxton fine sandy loam, 15 to 25 percent slopes, very stony (Hydrologic Group: Group C) on the northern portion of the site, and Hinckley loamy sand, 15 to 25 percent slopes Hinckley gravely sandy loam (Hydrologic Group: Group A) on the southern portion of the site.

Test pits and site visits indicate permeable soils located on the northern portion of the lot where the infiltration BMP is proposed with soils that are less permeable toward the southern portion of the site where Wetland A is located. Refer to the watershed plans in Section 3.3 of this report for more information.

One Discharge Point (DP-1) was chosen at down gradient points in the drainage (downstream of Wetland A) to compare development conditions for each of the following SCS Type III 24-hour design storm events. The design storm frequencies and corresponding rainfall depths were compiled from the “Atlas of Precipitation Extremes for the Northeastern United States and Southeastern Canada.” Rainfall Frequency Atlas of the United States for Durations from 30 Minutes to 24 Hours and 1 to 100 Years” and have been estimated as follows for Plymouth County:

<u>Storm Frequency (Years)</u>	<u>Rainfall Depth (Inches)</u>
2	3.15
10	4.86
25	6.16
100	8.94

Drainage watershed plans for both pre- and post-development conditions have been included in Section 3.3 of this report.

1.4.1 ESTIMATED SEASONAL HIGH GROUNDWATER

Seasonal high groundwater represents the highest groundwater elevation. Depth to seasonal high groundwater may be identified based on Redoximorphic (Redox) Features in the soil. Field test pits (TP-1 through TP-6) were conducted onsite on September 2024 to identify the soils texture and determine the probable seasonal high groundwater elevation based on redox features if any were present. Redox features were observed in Test pits and a Test Pits Plan was developed in addition to MassDEP Form 11 and attached to this report.

1.4.2 PRE-DEVELOPMENT HYDROLOGY

The predevelopment catchment area tributary to wetland A consists of an upland area totaling up to 6.025 acres and located north of Newton Road. The general topography slopes from North to South and is typically between 10-25%. The general landcover consists of herbaceous and wooded/grass combination areas. The existing condition catchment area is divided into three subcatchment areas (1S, Office-1, and Offsite-2) as indicated on the attached drainage area maps and HydroCAD model. Times of concentration for the predeveloped areas were modeled in accordance with the time takes for water to travel from the furthest point in a drainage basin to the outlet. The minimum Time of Concentration is modeled as 5 minutes unless otherwise noted in the HydroCAD model. Refer to the attached drainage area plan and HydroCAD model for additional information.

1.4.3 POST-DEVELOPMENT HYDROLOGY

The postdevelopment catchment area tributary to wetland A consists of an upland area totaling up to 6.025 acres and located north of Newton Road that will include the proposed single-family dwelling, driveway and associated septic system and utilities. The general topography of the land slopes from North to South and is typically between 10-25% matching the existing slope and direction of the existing topography. The general landcover consists of herbaceous and wooded/grass combination areas. The existing condition catchment area is divided into 10 subcatchment areas (1P-6P, Office-1, and Offsite-2) as indicated on the attached drainage area maps and HydroCAD model. Times of concentration for the postdeveloped areas were modeled in accordance with the time takes for water to travel from the furthest point in a drainage basin to the outlet. The minimum

Time of Concentration is modeled as 5 minutes unless otherwise noted in the HydroCAD model. Refer to the attached drainage area plan and HydroCAD model for additional information.

1.5 STORMWATER MANAGEMENT

This project includes a Stormwater Management System that has been designed to satisfy and comply with the requirements of the MassDEP Stormwater Standards (2008) and City of Amesbury requirements. The following is an explanation on how the proposed project will address the 2008 MassDEP Stormwater Management Policy.

Standard 1: No New Untreated Discharges – No new stormwater system conveyances will discharge untreated runoff or cause erosion in wetlands or waters of the Commonwealth.

All new stormwater system conveyances will be treated prior to discharge and will not cause erosion in wetlands or waters of the Commonwealth. Stormwater will be directed to various structural and non-structural Best Management Practices. The project employs a stormwater management system that ensures no untreated runoff will be discharged into wetlands or waters of the Commonwealth. This standard is fully met.

Standard 2: Peak Rate Attenuation – Stormwater management systems shall be designed so that post-development peak discharge rates do not exceed pre-development peak discharge rates.

The peak discharge rates are calculated with the aid of a hydrograph routing program using TR-20 methodology called HydroCAD. The HydroCAD calculations of the Pre- and Post-Development runoff peak rates have been performed. The proposed stormwater system reduces post-development peak rates of runoff below that of pre-development levels at each Design Point. This standard is fully met.

Standard 3: Recharge – Loss of annual recharge to groundwater shall be eliminated or minimized using infiltration measures including environmentally sensitive site design, low impact development techniques, stormwater best management practices, and good operation and maintenance. At a minimum, the annual recharge from the post-development site shall approximate the annual recharge from pre-development conditions based on soil type. This standard is met when the stormwater management system is designed to infiltrate the required recharge volume as determined in accordance with the Massachusetts Stormwater Handbook.

Recharge to groundwater will be provided through volume within the Basin #1 below the outlet and within the proposed preamble pavers driveway. The recharge provided satisfies Standard 3 and exceeds the recharge requirement. Please see the calculations provided in this report in Section 4.3. This standard is fully met.

Standard 4: Water Quality – Stormwater management systems shall be designed to remove 80% of the average annual post-construction load of Total Suspended Solids (TSS).

This Standard is met when:

- a. Suitable practices for source control and pollution prevention are identified in a long-term pollution prevention plan, and thereafter are implemented and maintained;*
- b. Structural stormwater best management practices are sized to capture the required water quality volume determined in accordance with the Massachusetts Stormwater Handbook; and*
- c. Pretreatment is provided in accordance with the Massachusetts Stormwater Handbook.*

The project proposes the use of deep sump hooded catch basins, stone diaphragm, grass-lined conveyance channels, preamble paver, trench drain with an inline catch basin before discharging into an infiltration or detention practice to remove the required post-construction load of TSS to the extent practicable while minimizing the alteration to the nearby wetland area per the Massachusetts DEP Stormwater Management Standards. The TSS removal worksheets are located within Section 4.2 of this report. The Long-Term Pollution Prevention Plan is also included in conjunction with the Operation and Maintenance Plan required by Standard 9 (see Section 2 of this report). This standard is fully met.

Standard 5: Land Uses with Higher Potential Pollutant Loads – For land uses with higher potential pollutant loads, source control and pollution prevention shall be implemented in accordance with the Massachusetts Stormwater Handbook to eliminate or reduce the discharge of stormwater runoff from such land uses to the maximum extent practicable. If through source control and/or pollution prevention all land uses with higher potential pollutant loads cannot be completely protected from exposure to rain, snow, snow melt, and stormwater runoff, the proponent shall use the specific structural stormwater BMPs determined by the Department to be suitable for such uses as provided in the Massachusetts Stormwater Handbook. Stormwater discharges from land uses with higher potential pollutant loads shall also comply with the

requirements of the Massachusetts Clean Waters Act, M.G.L. c. 21, §§ 26-53 and the regulations promulgated there under at 314 CMR 3.00, 314 CMR 4.00 and 314 CMR 5.00.

The site is not considered a LUHPL.

***Standard 6: Critical Areas**– Critical areas are Outstanding Resource Waters as designated in 314 CMR 4.00, Special Resource Waters as designated in 314 CMR 4.00, recharge areas for public water supplies as defined in 310 CMR 22.02 (Zone Is, Zone IIs, and Interim Wellhead Protection Areas for groundwater sources and Zone (A)s for surface water sources.)*

There will be no untreated stormwater discharge to a “Critical Area,” however, the project is located in the Water Protection District per the local Zoning Ordinance. The site design has located the new building and septic components outside of the WRPD Zone A as required by the Zoning Regulations. This standard is fully met.

***Standard 7: Redevelopment Projects** – A redevelopment project is required to meet the following Stormwater Management Standards only to the maximum extent practicable: Standard 2, Standard 3, and the pretreatment and structural best management practice requirements of Standards 4, 5, and 6. Existing stormwater discharges shall comply with Standard 1 only to the maximum extent practicable. A redevelopment project shall also comply with all other requirements of the Stormwater Management Standards and improve existing conditions.*

The Project is not a redevelopment project. The Project is designed to meet the MA Stormwater Standards. All reasonable efforts were explored to achieve compliance with MA Stormwater Standards, and the pretreatment and structural best management practice requirements of Standards 4, 5, and 6.

***Standard 8: Construction Period Pollution Prevention Plan and Erosion and Sedimentation Control** – A plan to control construction-related impacts including erosion, sedimentation and other pollutant sources during construction and land disturbance activities (construction period erosion, sedimentation, and pollution prevention plan) shall be developed and implemented.*

A Construction Pollution Prevention Plan has been prepared for the project (see Section 2). Provisions to maintain runoff control devices have been assured through non-structural, structural BMPs, and construction management approaches.

Standard 9: Operation and Maintenance Plan – A long-term operation and maintenance plan shall be developed and implemented to ensure that stormwater management systems function as designed.

A Long-Term Operation and Maintenance Plan has been prepared for the project (see Section 2). Provisions to maintain runoff control devices have been assured through non-structural, structural, and construction management approaches.

Standard 10: Prohibition of Illicit Discharges – All illicit discharges to the stormwater management system are prohibited.

The Operation and Maintenance plan required by Standard 9 includes measures to prevent illicit discharges (see Section 2). An Illicit Discharge Compliance Statement is included in Section 4.7.

1.6 BEST MANAGEMENT PRACTICES (BMPS)

A treatment train of deep sump catch basins, permeable paver, constructed wetland, and infiltration basin system are proposed to treat stormwater runoff on the site. See Section 4.2 for the Total Suspended Solids (TSS) Removal Calculations. A description of the devices incorporated is indicated below.

1.6.1 PROPOSED STRUCTURAL AND TREATMENT BMPs

1. DEEP SUMP HOODED CATCH BASINS

Deep sump catch basins are modified versions of inlet structures installed to collect and convey stormwater on the site. The deep sumps, typically a 4-ft dimension below the outlet pipe invert, are most effective if placed “off-line” which means that they do not have inlet pipes. The catch basins contain traps or hoods on the outlet pipes and serve as pretreatment for other downstream BMPs. Deep sump catch basins will be installed throughout the site to remove trash, debris, sediment and a limited amount of oil and grease from stormwater runoff. To ensure maximum capacity and efficiency, the catch basins shall be inspected monthly and cleaned, in dry weather, when half of the sump capacity is filled or at a minimum quarterly or as required and at the end of construction.

2. INFILTRATION BASIN & SEDIMENT FOREBAY:

Premature failure of Infiltration Basin areas is a significant issue caused by lack of regular maintenance. Ensuring long-term maintenance involves sustained public education and deed restrictions or covenants for privately owned cells. Infiltration Basins require careful attention while plants are being established and seasonal landscaping maintenance thereafter. Inspect pretreatment devices regularly for sediment build-up, structural damage, and standing water. Inspect soil and repair eroded areas monthly. Re-mulch void areas as needed. Remove litter and debris monthly. Treat diseased vegetation as needed. Remove and replace dead vegetation twice per year (spring and fall). Remove invasive species as needed to prevent these species from spreading into the rain garden area. Never store snow in Infiltration Basin areas. Semi-annual efforts should involve sediment depth monitoring and addressing erosion around inlets and outlets. Annually, accumulated sediment exceeding 50% of the forebay's capacity should be removed, with proper disposal following local environmental regulations. After major storm events, emergency inspections should be conducted to clear blockages and address structural damage. Recordkeeping is essential for tracking maintenance activities, sediment volumes, and ensuring compliance with Massachusetts stormwater management standards. Proper training and safety measures should also be prioritized for personnel conducting maintenance activities.

3. CONSTRUCTED WETLAND:

Construed wetlands require regular maintenance to comply with the MA Stormwater Handbook and ensure long-term performance. Quarterly inspections should identify sediment buildup, vegetation overgrowth, and blockages, with immediate debris removal and minor repairs as needed. After major storm events, inspections should address erosion, scouring, and sediment displacement. Annually, accumulated sediment should be removed from pretreatment areas when it reaches 50% of capacity, and inlet and outlet structures should be cleaned and repaired. Vegetation management includes trimming, replanting native species, and removing invasives to maintain ecological balance. Erosion control measures, such as using riprap or bioengineering techniques, should stabilize damaged areas. Detailed records of all maintenance activities, sediment volumes, and repairs must be kept monitoring performance and adapt practices as needed.

4. UNILOCK PREAMBLE PAVERS:

Permeable pavers require regular maintenance to ensure proper function and longevity. Quarterly inspections should check for debris, sediment buildup, pooling water, or clogged joints, while post-storm inspections assess surface ponding, displaced pavers, or edge erosion. Annual maintenance includes vacuum sweeping or power washing to remove sediment, replenishing joint materials, repairing displaced or damaged pavers, and stabilizing edges to prevent erosion. Vegetation management involves removing weeds and invasive plants from joints, with herbicides used as needed under local guidelines. Maintenance activities should be documented, including sediment removal volumes, cleaning methods, and repairs. A recommended schedule includes quarterly inspections and cleaning, additional checks after major storm events, and comprehensive annual maintenance to restore full system functionality and maintain compliance with stormwater management standards. Refer to the manufacturer's maintenance requirement attached in Section 2 of this report for additional information.

5. PLUNGE POOL / ENERGY DISSIPATER AND DOWNSTREAM SLOPES

The plunge pool/energy dissipaters are utilized at the outlet pipes prior to discharge to the wetland to prevent erosions. The plunge pool/energy dissipaters should be inspected at least once a year for sand accumulation and debris which may impact their effectiveness to slow water. Cleaning should take place during the early spring, although, additional inspections and cleaning may be needed. Slopes downstream for the first three years of operation, should be inspected after every storm of 1" or greater to assure no erosion of the slope. After the first three years, we recommend inspections after any large storm (25+ year event) for erosion. If no erosion is evident, then the stone size and level spreader design is adequate. Should there be erosion evident at the outlet, stone size should be increased, or additional large stones added to enhance energy dissipation of water. If downstream slopes exhibit signs of erosion, repairs to soils and slope should be made and then a treatment such as an erosion control matting should be instituted to reinforce soils until vegetative cover can be restored. We recommend that the aprons and downstream slopes be inspected and cleaned annually as part of the outlet maintenance to ensure future adequacy.

6. GRASS-LINED CONVEYANCE CHANNELS WITH CHECK DAMS

Grass-lined channels with gravel check dams require consistent maintenance to ensure proper stormwater conveyance and sediment control. Quarterly inspections should check for debris accumulation, sediment buildup, bare or eroded areas, and obstructions to flow within the channel and around check dams. After major storm events, inspect for displaced gravel, scouring, or structural damage to the check dams and surrounding areas. Vegetation in the channel should be mowed periodically to maintain a grass height of 4–6 inches, with replanting or reseeding as needed to address bare spots or erosion. Sediment should be removed from both the channel and check dams when it accumulates to 25% of the design depth. Gravel check dams should be regraded or replenished if displacement occurs or if the gravel becomes compacted and reduces permeability. Annual maintenance should include repairing eroded areas with stabilization techniques, reseeding the channel for dense vegetation cover, and checking the integrity of check dams. A recommended schedule includes quarterly inspections, mowing, and sediment removal, additional post-storm checks for erosion or blockages, and annual gravel replenishment, erosion repair, and vegetation management. Detailed documentation of all maintenance activities, including sediment removal volumes and gravel adjustments, ensures proper tracking and continued functionality of the system.

7. TRENCH DRAIN

Trench drains with inline catch basins require regular maintenance to ensure proper stormwater management and prevent blockages. Quarterly inspections should check for debris, sediment accumulation, or blockages in the trench drain and catch basin. After major storm events, inspect for excessive sediment, standing water, or structural damage to the drain and basin components. Sediment and debris should be removed from the trench drain grates and catch basin to maintain optimal flow and prevent clogs. Annual maintenance should include a thorough cleaning of the trench drain using high-pressure water or vacuum equipment and sediment removal from the catch basin when sediment levels exceed 25% of the sump depth. Inspect the grates, basin structure, and connections for damage, and repair or replace components as necessary. A maintenance schedule includes quarterly inspections and cleaning, post-storm checks for blockages or damage, and annual deep cleaning and structural repairs. Documenting all activities, including sediment removal volumes and repairs, ensures continued functionality and compliance with stormwater management requirements.

8. *SC-740 ADS STORMTECH® SUBSURFACE CHAMBERS WITH ISOLATOR ROW PLUS*

The proposed subsurface system consists of high-density polyethylene plastic chambers (ADS StormTech®) set in a stone bed to remove total suspended solids (TSS) from stormwater runoff. The system is designed to fully drain between storm events due to the large footprint of the stone beds. To facilitate inspection and maintenance, manhole risers and manufacturer-recommended inspection ports will be installed at the ground surface. Once the system becomes operational, inspections should be conducted after each storm event for the first six months to ensure proper stabilization, functionality, and that outlets remain free of obstructions.

Preventative maintenance should be performed at least twice per year and after any major storm event exceeding 1.5 inches of rainfall. Regular inspections should focus on identifying differential settlement, cracking, structural breakout, clogged outlets or vents, root intrusion, and accumulated sediment. Additionally, water levels should be recorded and compared against rainfall amounts to confirm that the system drains within 72 hours. If drainage exceeds this timeframe, corrective action—such as sediment removal, jetting, or outlet adjustments—should be taken to restore proper function.

1.7 SUMMARY OF HYDROLOGY & STORMWATER CALCULATIONS

The results of the pre and post-development hydrology calculations provided in Section 3 are summarized in the following tables. The table corresponds to the design points as indicated on the drainage area maps and hydrograph routing calculations.

- **Summary of Design Point 1 (DP-1):**

TOTAL RUNOFF PEAK FLOW RATE (CFS) - DESIGN POINT 1 (DP-1)

STORM SCS 24-HR	EXISTING	PROPOSED	DIFFERENCE
2-YEAR	3.87	3.35	-0.52
10-YEAR	9.09	7.13	-1.96
25-YEAR	22.22	17.28	-4.94
100-YEAR	31.96	29.21	-2.75

TOTAL RUNOFF VOL. (AC-FT) - DESIGN POINT 1 (DP-1)

STORM SCS 24-HR	EXISTING	PROPOSED	DIFFERENCE
2-YEAR	0.470	0.449	-0.021
10-YEAR	1.067	1.042	-0.025
25-YEAR	1.604	1.579	-0.025
100-YEAR	2.820	2.795	-0.025

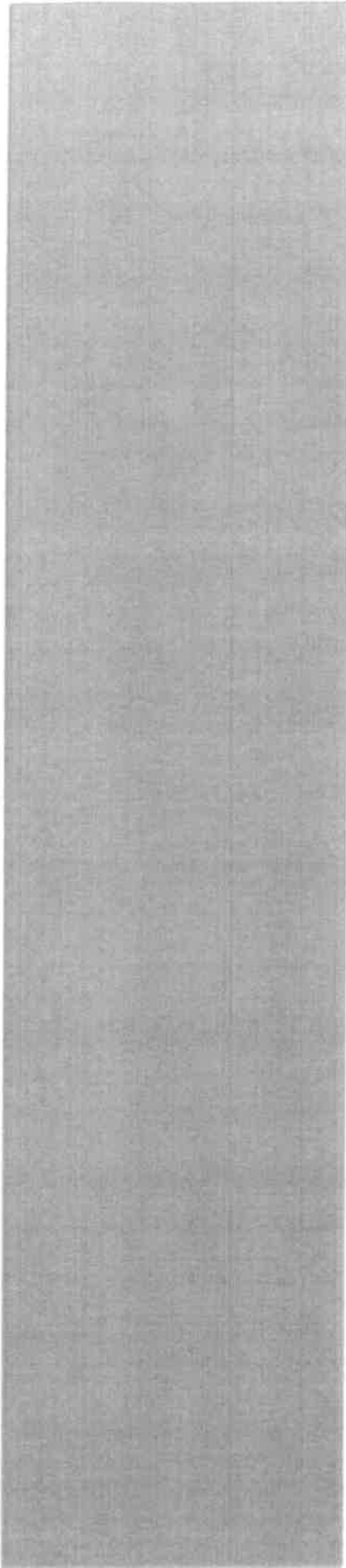
As seen above, the project design reduces the peak flow rates and volumes in the post-developed condition at the DP-1 in all storm events as required by the City of Amesbury.

1.8 CONCLUSION

In conclusion, the project incorporates a series of structural and nonstructural Best Management Practices (BMPs) that are designed to reduce stormwater runoff rates and increase the detention time for the site and enhance the stormwater runoff quality by providing the required TSS removal.

The stormwater system has been designed to control peak discharge rates and volumes up to and including the 100-yr design storm event. The proposed stormwater system has been designed to meet Massachusetts Stormwater Management Standards for TSS removal and water quality treatment.

It is our professional opinion that the proposed development project does not adversely affect the surrounding drainage patterns while minimizing the alteration to the nearby wetland area to the driveway crossing. The following routing calculations, Best Management Practices design, and associated documentation within this report have been prepared to illustrate that runoff discharge rates from the project has been mitigated and that the design provides the required recharge for the increase in proposed impervious area.



LONG-TERM STORMWATER POLLUTION PREVENTION AND OPERATION & MAINTENANCE PLAN

**Single Family Dwelling
31 Newton Road
Amesbury, Massachusetts**

Applicant:
AC Land LLC
15 Lincoln Street
Suite 325
Wakefield, MA 01880

Prepared by:
HD Design

161 W High St
Avon, MA 02322
Phone: (508) 840-1045

March 21, 2025

LONG-TERM STORMWATER POLLUTION PREVENTION AND OPERATION & MAINTENANCE PLAN TO COMPLY WITH STORMWATER STANDARDS 4, 6, & 9

APPLICABILITY

This document identifies constituents of concern that have the potential to contaminate stormwater from the proposed Single-family home at 31 Newton Road, Amesbury, and provides a framework of Best Management Practices (BMPs) for handling stormwater runoff. It also outlines an inspection and maintenance program to ensure the continued effectiveness of the proposed stormwater management system. The proposed BMP's are shown on the plans prepared by HD Design, Avon MA.

PROJECT OVERVIEW:

The proposed project located on the north side of Newton Road, in the City of Amesbury MA and includes the construction of a new single-family home with associated driveway, septic system and utility services. The project has been designed to meet State standards for TSS removal through the use of BMPs. Runoff from the roof and other impervious surfaces will be collected and treated by grass-lined conveyance channels equipped with check dams, then directed into an infiltration basin and constructed wetland area prior to discharging to the adjacent wetland area. Appended to this document is a sample maintenance form and a chart describing the anticipated frequency of tasks.

OWNER AND RESPONSIBLE PARTY:

Owner:

Homeowner

Day-to-day Operation and Maintenance:

Homeowner / Qualified Landscaping Contractor hired by the Homeowner.

ON-GOING MAINTENANCE CONTRACT

The non-structural and structural approaches recommended below, as well as the required BMP maintenance, will be completed by an appropriate contractor. Adequate personnel with appropriate training and access to proper equipment will be available to complete the tasks. Future responsible parties must be notified of their responsibility to operate and maintain the system in perpetuity.

LIVING DOCUMENT PROVISIONS

Due to the difficulty of identifying all sources of potential stormwater contamination and maintenance activities, this document should be updated as necessary to reflect new procedures, technologies or requirements.

MAINTENANCE LOG

The Responsible Party shall develop and maintain a log of inspections, maintenance, repairs, and disposal (including location of disposal) during the life of the project. Records will be maintained for at least 3 years and be made available to the Massachusetts Department of Environmental Protection or the City of Amesbury in accordance with the provisions of the Massachusetts Stormwater Handbook. Copies of the BMP inspection logs shall be provided to the Planning Board on an annual basis.

MINIMIZING EXPOSURE

The Responsible Party shall minimize exposure of potential pollutant sources, including debris from coming into contact with precipitation and being picked up by stormwater and carried into drains and surface waters using the following steps:

- Storing all containerized materials in a protected, secure location away from drains and plainly labeled.
- Containing all activities that can generate sources of contaminants from reaching the receiving water or the stormwater management system.
- Securing any equipment or supplies so that they are not transported during storm events into receiving waters or stormwater management system.

BEST MANAGEMENT PRACTICES (BMP) MAINTENANCE

The proposed stormwater management system has been designed with appropriate BMPs aimed at reducing the discharge of pollutants based on the intended use of the proposed development. All BMPs require regular maintenance to function as intended. Some management measures have simple maintenance requirements; others are more involved. The Responsible Party must have all BMPs regularly inspected to ensure they are operating properly on an as-needed basis, including during runoff events exceeding 0.5 inches of rainfall.

A description of the non-structural and structural approaches to be incorporated is indicated below. The following Best Management Practices are proposed to be incorporated into the stormwater management design to reduce source runoff and improve stormwater runoff discharge quality. The Responsible Party will regularly inspect all BMPs to ensure they are operating properly. If any deficiencies are identified during these inspections, action to resolve it will be initiated and documented on the maintenance log.

NON-STRUCTURAL BEST MANAGEMENT PRACTICES (BMPs)

STREET SWEEPING

This practice, considered by MassDEP to be a non-structural BMP, provides effective removal of Total Suspended Solids (TSS) in a comprehensive stormwater management program. A maintenance program of roadway/driveway sweeping with a High-Efficiency Vacuum Sweeper or a Regenerative Air Sweeper to reduce sediment accumulation in the deep sump catch basins and subsurface systems shall be implemented based on the owner discretion. Sweeping can be conducted on a quarterly basis (primarily in the spring and fall) to keep low impact BMPs operating effectively.

GRADING

Steep slopes will be permanently vegetated to dissipate energy and reduce potential erosion. No constructed vegetated slopes shall exceed 3H:1V without providing additional reinforcement. Steep slopes may require soil reinforcement and additional vegetation.

SNOW STORAGE AND DEICING

Snow storage will be located adjacent to driveway/ parking area as indicated; allowing snow melt to drain to pretreatment and conveyance devices prior to discharging into the proposed BMPs.

In the interest of reducing the volume of dissolved salt that enters the watershed, the operator of the development will rely on sand alone where traction on snowy surfaces is the primary objective. However, parking areas, driveways, and sidewalks which require deicing for safety during winter months will typically be treated with calcium magnesium acetate or another alternative as approved by the Conservation Commission.

FERTILIZER:

Due to the project's location within an environmentally sensitive area, any use of fertilizers will be prohibited onsite.

PESTICIDES/HERBICIDES:

Due to the project's location within an environmentally sensitive area, any use of pesticides/herbicides will be prohibited unless otherwise approved by the Conservation Commission.

WASTE MANAGEMENT:

Solid waste will be contained within enclosed containers. Waste deposition in these receptacles will be consistent with state and local permits. The covers and doors of the dumpsters will be kept closed to limit rainwater/wildlife intrusion.

VEHICLE WASHING CONTROLS:

The Massachusetts Stormwater Management Standards outline clear protocols for addressing vehicle washing activities, which have the potential to introduce harmful pollutants into the stormwater system. Vehicle washing can release contaminants such as oils, grease, detergents, heavy metals, and other harmful chemicals that, if allowed to flow untreated, can degrade water quality and harm aquatic ecosystems. To mitigate this risk, the Standards require that vehicle washing be conducted in controlled environments designed to capture and treat runoff before it enters the stormwater system.

Designated wash stations should be utilized and be equipped with impervious surfaces, proper drainage systems, and treatment mechanisms, such as oil/water separators or filtration devices, that treat wash water before discharge. These measures are vital for ensuring that pollutants are removed or neutralized before the water is released back into the environment.

Additionally, facilities should be designed to prevent wash water from entering storm drains or nearby water bodies. The use of environmentally friendly cleaning products, such as biodegradable soaps and detergents, is also strongly encouraged as part of the stormwater management plan, as these products reduce the environmental impact and minimize harmful chemical runoff.

MAINTENANCE OF LAWNS, GARDENS, AND LANDSCAPED AREAS:

Routine maintenance of lawns, gardens, and landscaped areas should focus on preventing chemical use, conserving water, and preventing erosion. Avoiding fertilizers and pesticides, especially near water bodies, helps protect water quality, while organic compost and mulch improve soil health naturally. Efficient irrigation systems, such as drip irrigation, should be used, and watering should be done early or late in the day to minimize evaporation. Maintaining ground cover with grass, mulch, or native drought-tolerant plants helps control erosion and reduces the need for chemicals. Stormwater management practices, including rain gardens and permeable pavements, can help absorb runoff and prevent sediment from entering waterways. Regular inspections should be conducted, and a Best Management Practices (BMP) Maintenance Log should be kept to track irrigation, fertilization, erosion control, and any necessary adjustments, ensuring long-term sustainability and compliance.

PET WASTE MANAGEMENT:

Homeowners play a crucial role in managing pet waste to prevent stormwater pollution and protect local water quality, as required by Massachusetts Stormwater Regulations. Pet waste contains harmful bacteria, nutrients, and pathogens that can contaminate stormwater when left on the ground, posing risks to both the environment and public health. To minimize these risks, homeowners should consistently pick up after their pets and dispose of waste properly in trash bins or designated pet waste stations. Waste should never be left on lawns, sidewalks, or near storm drains and water bodies, as rainwater can wash it into the stormwater system, leading to pollution of local rivers, lakes, and wetlands. Proper disposal not only prevents water contamination but also helps reduce unpleasant odors and pest infestations. Homeowners can further support responsible waste management by providing pet waste bags on their property, maintaining clean outdoor areas, and encouraging neighbors to follow best practices. Public education and clear signage in shared spaces can also help raise awareness about the environmental impact of improper pet waste disposal. By taking measures, homeowners contribute to cleaner communities, healthier ecosystems, and compliance with stormwater management regulations.

STRUCTURAL BEST MANAGEMENT PRACTICES:

Prior to final completion and full occupancy of the development, it is recommended that a representative of the Contractor, Manufacturer, and/or Engineer either designing or building the facility for the Owner properly instruct the Responsible Party as to the maintenance practices required to responsibly maintain the effectiveness of the drainage system. These frequencies and requirements are recommendations to maintain minimum effectiveness in most typical environments. Ultimately, the Responsible Party will implement the procedures and frequencies as they see fit under their current plan and inspect the systems as needed to maintain minimum effectiveness as recommended by the manufacturer. The following maintenance of structural BMPs

will be implemented:

STORM DRAIN INLETS:

Catch basins and area drains associated with the existing and/or proposed stormwater management system located within the project limits and the adjacent Right-of-Ways may collect and convey sediment and sediment-laden stormwater runoff. Therefore, all catch basins and area drains, existing and proposed, within construction zones, will be protected with silt sacks during construction and until final site stabilization is complete.

SEDIMENT BASINS/ CONSTRUCTED WETLAND:

The removal and disposal of collected water from construction areas is a potential source of sediment and can lead to erosion during construction activities. Temporary sedimentation basins shall be constructed according to the site plans and EPA regulations. The temporary sedimentation basins shall be monitored daily. Stormwater shall be directed toward the existing pipe conveyance system to help prevent overflow from leaving the construction work area.

Temporary sediment basins/traps are instrumental in controlling sediment-laden stormwater runoff during initial phases of construction involving earthmoving activities before permanent stormwater management systems are in place. Sediment basins and traps will be constructed in accordance with Environmental Protection Agency (EPA) guidelines (See Project Plans). Sediment traps should have a minimum volume, based on 0.5-inch of storage for each acre of drainage area. Temporary sedimentation basins/traps shall be monitored daily. Stormwater shall be directed towards the existing conveyance system to help prevent overflow from leaving the construction work area.

ROOF DRAIN GUTTERS AND DOWNSPOUTS:

Roof drain gutters and downspouts should be inspected and cleaned twice a year, once in the fall after leaf drop and in the spring after snow melt. Cleaning will take place at the completion of construction and in early spring after snow melt. Any obstructions, sediment, and debris that could potentially cause clogging shall be removed within the roof drain gutter and downspout system as necessary.

SC-740 ADS STORMTECH® SUBSURFACE CHAMBERS WITH ISOLATOR ROW PLUS:

The proposed subsurface system consists of high-density polyethylene plastic chambers (ADS StormTech®) set in a stone bed to remove total suspended solids (TSS) from stormwater runoff. The system is designed to fully drain between storm events due to the large footprint of the stone beds. To facilitate inspection and maintenance, manhole risers and manufacturer-recommended inspection ports will be installed at the ground surface. Once the system becomes operational, inspections should be conducted after each storm event for the first six months to ensure proper stabilization, functionality, and that outlets remain free of obstructions.

Preventative maintenance should be performed at least twice per year and after any major storm event exceeding 1.5 inches of rainfall. Regular inspections should focus on identifying differential settlement, cracking, structural breakout, clogged outlets or vents, root intrusion, and accumulated sediment. Additionally, water levels should be recorded and compared against rainfall amounts to confirm that the system drains within 72 hours. If drainage exceeds this timeframe, corrective action—such as sediment removal, jetting, or outlet adjustments—should be taken to restore proper function.

DEEP SUMP CATCH BASINS AND MANHOLE STRUCTURES:

Catch basins shall be cleaned, in dry weather, when half of the sump capacity is filled or at a minimum quarterly or as required through periodic inspection. Cleaning will take place at the completion of construction and in early spring after sanding of roadways has ceased or as needed depending on the frequency of major storm events (greater than 1-inch of rainfall). All manholes shall be inspected at least once annually. Any obstructions, sediment, and debris that could potentially cause clogging shall be removed within the conveyance system as necessary. Inverts, grates, and hoods shall be checked and replaced as necessary to maintain hydraulic effectiveness.

PLUNGE POOL/ENERGY DISSIPATER AND DOWNSTREAM SLOPES:

The level spreader/plunge pool/energy dissipaters are utilized at the outlet pipes prior to discharge to the wetland to prevent erosions. The level spreader/plunge pool/energy dissipaters should be inspected per the inspection and maintenance schedule (see section below) for sand accumulation and debris which may impact its effectiveness to slow water. In order to ensure that the level spreader systems are working, the outlets as well as slopes downstream should be inspected after every storm of 1" or greater to assure no erosion of the slope. If no erosion is evident, then the stone size and level spreader design is adequate. Should there be erosion of the level spreader, stone size should be increased, or additional large stones added to enhance energy dissipation of water. If downstream slopes exhibit signs of erosion, repairs to soils and slope should be made and then a treatment such as an erosion control matting should be instituted to reinforce soils until vegetative cover can be restored. The aprons and downstream slopes shall be inspected and cleaned at the completion of construction.

UNILOCK PREAMBLE PAVERS:

Permeable pavers require regular maintenance to ensure proper function and longevity. Quarterly inspections should check for debris, sediment buildup, pooling water, or clogged joints, while post-storm inspections assess surface ponding, displaced pavers, or edge erosion. Annual maintenance includes vacuum sweeping or power washing to remove sediment, replenishing joint materials, repairing displaced or damaged pavers, and stabilizing edges to prevent erosion. Vegetation management involves removing weeds and invasive plants from joints, with herbicides used as needed under local guidelines. Maintenance activities should be documented, including sediment removal volumes, cleaning methods, and repairs. A recommended schedule includes quarterly inspections and cleaning, additional checks after major storm events, and comprehensive annual maintenance to restore full

system functionality and maintain compliance with stormwater management standards. Refer to the manufacturer's maintenance requirement attached in Section 2 of this report for additional information.

GRASS-LINED CONVEYANCE CHANNELS WITH CHECK DAMS:

Grass-lined channels with gravel check dams require consistent maintenance to ensure proper stormwater conveyance and sediment control. Quarterly inspections should check for debris accumulation, sediment buildup, bare or eroded areas, and obstructions to flow within the channel and around check dams. After major storm events, inspect for displaced gravel, scouring, or structural damage to the check dams and surrounding areas. Vegetation in the channel should be mowed periodically to maintain a grass height of 4–6 inches, with replanting or reseeding as needed to address bare spots or erosion. Sediment should be removed from both the channel and check dams when it accumulates to 25% of the design depth. Gravel check dams should be regraded or replenished if displacement occurs or if the gravel becomes compacted and reduces permeability. Annual maintenance should include repairing eroded areas with stabilization techniques, reseeding the channel for dense vegetation cover, and checking the integrity of check dams. A recommended schedule includes quarterly inspections, mowing, and sediment removal, additional post-storm checks for erosion or blockages, and annual gravel replenishment, erosion repair, and vegetation management. Detailed documentation of all maintenance activities, including sediment removal volumes and gravel adjustments, ensures proper tracking and continued functionality of the system.

TRENCH DRAIN:

Trench drains with inline catch basins require regular maintenance to ensure proper stormwater management and prevent blockages. Quarterly inspections should check for debris, sediment accumulation, or blockages in the trench drain and catch basin. After major storm events, inspect for excessive sediment, standing water, or structural damage to the drain and basin components. Sediment and debris should be removed from the trench drain grates and catch basin to maintain optimal flow and prevent clogs. Annual maintenance should include a thorough cleaning of the trench drain using high-pressure water or vacuum equipment and sediment removal from the catch basin when sediment levels exceed 25% of the sump depth. Inspect the grates, basin structure, and connections for damage, and repair or replace components as necessary. A maintenance schedule includes quarterly inspections and cleaning, post-storm checks for blockages or damage, and annual deep cleaning and structural repairs. Documenting all activities, including sediment removal volumes and repairs, ensures continued functionality and compliance with stormwater management requirements.

SPILL CONTROL:

The development consists of a gas station and associated commercial building. It is recommended that if there is no existing contingency plan to address the spillage/release of petroleum products and any hazardous material be implemented for the development the one be fully developed. The recommendation includes that the Owner have all MassDEP emergency spill response information

posted onsite at all times. It is also recommended an emergency spill response kit including absorbent pillows be stored on-site along with instructions for the kit, a copy of applicable regulations regarding spills, and a list of individuals to contact (local and state officials) in the event of a spill.

Spills or leaks will be treated properly according to material type, volume of spillage, and location of the spill. Mitigation will include preventing further spillage, containing the spilled material in the smallest practical area, removing spilled material in a safe and environmentally friendly manner, and remediating any damage to the environment.

TRAINING FOR STAFF IMPLEMENTING THE LONG-TERM POLLUTION PREVENTION PLAN:

The purpose of this training is to ensure that all staff responsible for carrying out the Long-Term Pollution Prevention Plan (LTPPP) are well-equipped to comply with Massachusetts Stormwater Regulations. The training covers essential topics, including an overview of relevant regulations, best management practices (BMPs), spill prevention and response, site-specific procedures, and documentation requirements.

Staff will learn how to properly implement BMPs to reduce stormwater pollution, including regular inspections, maintenance routines, and responsible waste management. Spill prevention training will focus on identifying potential pollution sources, taking immediate containment actions, and following proper reporting procedures. Site-specific procedures will help employees understand the facility's drainage system, potential pollutant sources, and the correct use of materials and equipment in compliance with environmental standards.

Documentation and reporting are crucial for regulatory compliance. Employees will be trained on maintaining accurate records of inspections, training sessions, and incident reports. This ensures accountability and proper communication with regulatory agencies.

Training will be provided to all new personnel before they begin stormwater management tasks. Annual refresher training will keep staff updated on regulatory changes and best practices, with additional sessions conducted as needed for procedural updates or corrective actions. To measure training effectiveness, attendance records, training materials, and assessments will be documented. Staff competency will be evaluated through quizzes, site inspections, and practical exercises. If any knowledge gaps or non-compliance issues arise, corrective training will be provided.

By ensuring all staff understand their role in pollution prevention, this training supports water quality protection and regulatory compliance. Regular education and assessments will help maintain the successful implementation of the Long-Term Pollution Prevention Plan.

LONG-TERM OPERATION AND MAINTENANCE BUDGET:

Consistent with Standard 9 of the Massachusetts Department of Environmental Protection Stormwater Handbook (February 2008) the approximate cost of inspections and maintenance based on the abovementioned post-construction activities and frequencies is as follows:

- Pavement Sweeping - \$750 per year based on annual sweepings.
- Deep Sump Catch Basins - inspection/cleaning - \$400 per year/per catch basin based on quarterly inspections and sediment removal of both single and double grate deep sump catch basins.
- Infiltration/Detention System - inspection - \$250 per year based on semi-annual inspections. Cleaning/debris removal - \$500 per year for accumulated sediment and trash removal.

Additional costs may be incurred if it is determined during routine inspections of the BMP's that further corrective actions are necessary.

LONG TERM STRUCTURAL BEST MANAGEMENT PRACTICE INSPECTION & MAINTENANCE MATRIX AFTER CONSTRUCTION

Note: BMP's shall be visually inspected and repaired by a qualified party in accordance with the following chart. Note these are minimum inspection criteria/frequencies and should be adjusted throughout the project lifespan as required to maintain effectiveness. Refer to maintenance standards for drainage facilities and structural best management practices in the "Recommended Long-Term Stormwater Pollution Prevention Plan."

BMP ID #	Conventional & LID Best Management Practices	Recommended Minimum Inspection & Maintenance Frequency	Erosion/Scouring	Tree Growth Hazards	Differential Settlement/Seepage	Structural Damage/Obstructions	Trash & Debris	Removal of Accumulated Sediment	Slope Integrity	Mow Vegetation/Poor	Remove/Reset Filter Fabric & Stone As Required	Remove & Replace Hardwood mulch/media	Vac Truck Sediment & Contaminants	Remove/Reset Riprap as Required
#1	Catch Basin/ Area Drain/ Trench Drain	Semi-annually		☒	☒	☒	☒	☒					☒	
#2	Roof Drain Gutters and Downspouts	Semi-annually		☒	☒	☒	☒	☒					☒	
#3	Flared End / Plunge Pool/ Riprap Outlet	Semi-annually	☒	☒	☒	☒	☒	☒	☒		☒			☒
#4	Sediment Forebay/ Infiltration Basin/ Gravel Spillway	Semi-annually	☒	☒	☒	☒	☒	☒	☒	☒	☒			☒
#5	Constructed Wetland	Semi-annually	☒	☒	☒	☒	☒	☒	☒		☒			☒
#6	Swales/ Grass Channel/ Check Dams	Semi-annually	☒	☒	☒	☒	☒	☒	☒	☒	☒			☒
#7	Unlock Preamble Pavers	Annually	☒	☒	☒	☒	☒	☒	☒				☒	☒
#8	Gravel Diaphragm Shoulder	Annually	☒	☒	☒	☒	☒	☒	☒				☒	☒
#9	Driveway/parking Area sweeping	Semi-annually	☒	☒	☒	☒	☒	☒	☒				☒	
#10	LAWNS, GARDENS, AND LANDSCAPED AREAS	Regularly	☒	☒			☒	☒	☒	☒		☒	☒	

[illegible]

Stormwater BMP Inspection and Maintenance Log

Facility Name
Address
Begin Date
End Date

[illegible]

Instructions: Record all inspections and maintenance for all treatment BMPs on this form. Use additional log sheets and/or attach extended comments or documentation as necessary.

- **BMP ID#** — Always use ID# from the Operation and Maintenance Manual or Approved Plans.
- **Inspected by** — Note all inspections and maintenance on this form, including the required independent annual inspection.
- **Cause for inspection** — Note if the inspection is routine, pre-rainy-season, post-storm, annual, or in response to a noted problem or complaint.
- **Exceptions noted** — Note any condition that requires correction or indicates a need for maintenance.
- **Comments and actions taken** — Describe any maintenance done and need for follow-up.

TO:

Property Owner:

**Stellmach Family Revocable Trust
Sean & Hannah Stellmach (Trustees)
23 Spindletree Road
Amesbury, MA 01913**

Applicant:

**AC Land LLC
15 Lincoln Street, Suite 325
Wakefield, MA 01880**

PLANNING BOARD VOTE:

On 3/24/2025, the Amesbury Planning Board voted 5-0 in favor of the approval of the Site Plan Review and Special Permit for the construction of a single-family dwelling structure at 31 Newton Road in Amesbury, MA as per the approved plans included in the application, subject to the findings, waivers and conditions stated in this Decision.



Filed with the City Clerk on April 22, 2025



City Clerk

A Building Permit is required for any construction or remodeling. It is your responsibility to file this Special Permit Decision with the Registry of Deeds and to record the plans after endorsement; forms may be obtained from the City Clerk's Office.

Any appeal shall be made pursuant to Mass. General Laws, Section 17, Chapter 40A, and shall be filed within twenty (20) days after the date of filing of such notice in the City Clerk's Office.