TOWN OF NORWICH DEVELOPMENT REVIEW BOARD AGENDA

Thursday, October 16, 2025

SITE VISIT at 5:15 PM: Application #54DE25: Development Envelope on undeveloped land; Applicant(s): Gregory and Emilie Calvello Hynes; 00 Dutton Hill RD; Parcel ID: 20-060.000; Rural Residential (RR) District.

MEET AT PROPERTY at 5:15 PM (directly across from 100 Dutton Hill RD)

Meeting at 6:30 PM

Via Zoom and in Person at Tracy Hall: Topic: Development Review Board

Time: October 16, 2025 06:30 PM Eastern Time (US and Canada)

Join Zoom Meeting

https://us02web.zoom.us/j/89931976970

Meeting ID: 899 3197 6970 888 475 4499 US Toll-free

Call to Order

- 1. Approve Agenda
- 2. Public Comments
- 3. Public Hearings:
 - a. **Application #54DE25:** Development Envelope Review on undeveloped land; Applicant(s): Gregory and Emilie Calvello Hynes; 00 Dutton Hill RD; Parcel ID: 20-060.000; Rural Residential (RR) District.
 - b. Application #53SPR25: Site Plan and Conditional Use Review for an Open Air Market and Multi-Use Building; Applicant(s): Upper Valley Agricultural Association (Norwich Farmers Market); Landowner: Rose Z Dyke Trust; 00 US Route 5 S; Parcel ID: 15-042.000; Rural Residential (RR) District.
- 4. Approve Minutes September 18, 2025
- 5. Zoning Administrator Update and Upcoming Matters
- 6. Other Business
- 7. Adjournment

Future Meeting: TBD

DRB Minutes available at: http://norwich.vt.us/development-review-board/

To receive copies of Town agendas and minutes, please send an email request to be added to the town email list to the Town Manager's Assistant at: manager-assistant@norwich.vt.us

TOWN OF NORWICH, VERMONT DEVELOPMENT REVIEW BOARD

Applicant Info and Exhibit List

Applicants/Landowners: Gregory Hynes and Emilie Calvello Hynes

6016 Open Range Trail Austin, TX 78749

APPLICATION #54DE25: Development Envelope Review; Applicant(s)/Landowners: Gregory Hynes and Emilie Calvello Hynes; 00 Dutton Hill RD; Parcel ID: 20-060.000; Rural Residential (RR) District.

The record in this case includes the following documents:

- 1. Application #54DE25, (9-18-25)
- 2. Overview Letter to Hynes by Sanborn, Head & Associates, Inc. (09-18-2025)
- 3. Geotechnical Summary Letter to Burnham by Sanborn, Head & Associates, Inc. (11-5-2023)
- 4. Geotechnical Investigation Report to Hynes by John Turner Consulting, Inc. (01-24-2024)
- 5. Boundary Line Plan for Hynes by Pathways Consulting, LLC (09-24-2025)
- 6. Existing Conditions Plan for Hynes by Pathways Consulting, LLC (09-2025)
- 7. Site Plan for Hynes by Pathways Consulting, LLC (09-2025)
- 8. Abutter Certificate of Mailing (10-01-2025)

TOWN OF NORWICH, VERMONT APPLICATION FOR ZONING PERMIT

#540E25 Exhibit 1

| Mail Address: 0016 Open Rang | re Trail Town Austin | ST TX Zip 78749 |
|--|--|--|
| Day Phone: 7208784084 | Eve Phone:E | mail: gthynes1@gmail.com |
| Applicant (If Different): Same | | |
| Mail Address: | Town | ST Zip |
| Day Phone: | Eve Phone:E | mail: |
| Description of Proposed Dev | elopment: Establishment of development env | elope on Lot 60 Dutton Hill Road for futur |
| accessory structures, driveway, a | and onsite septic. | The state of the s |
| | Zoning Distri | ct. RR VR I VR II VD C/I AC |
| Street Address: Dutton Hill Rd | Tax Map Lo | ot. 19 60 Int G. 13.22 |
| Building Setbacks- Road Righ | nt-of-way: 20' Right Boundary: n | /a L C 304/ D T C 4.5 ac |
| Size of Building(s)/Additions: | Structure A: Width 98' Length 24 | Left 5077- Rear n/a |
| Structure B: Width Len | orth Usight | Height |
| Additional Footprint of Structure | gthHeightArea: | Footprint of Structure A $\frac{2,352'}{}$ |
| Estimated Data of Committee | re B (if any) Total | # of Parking Spaces |
| detailed Date of Completion: | 07/30/2026 Estimated Value \$ | # of Bedrooms 3 |
| The undersigned hereby a foregoing statements, attached pl | agrees that the proposed development sha ans, and in accordance with the zoning of | ying of multi-story buildings. all be built in accordance with the |
| The undersigned hereby a foregoing statements, attached pl Town of Norwich, and certifies the of the real estate that is the subject of | agrees that the proposed development sha ans, and in accordance with the zoning an at the above is true, correct, and complete | ying of multi-story buildings. all be built in accordance with the nd subdivision regulations of the te. The owner consents to inspections |
| foregoing statements, attached pl Town of Norwich, and certifies the of the real estate that is the subject of | agrees that the proposed development sha ans, and in accordance with the zoning an at the above is true, correct, and complete | ying of multi-story buildings. all be built in accordance with the nd subdivision regulations of the te. The owner consents to inspections |
| The undersigned hereby a foregoing statements, attached pl Town of Norwich, and certifies the of the real estate that is the subject of Signature of Landowner (or Authors************************************ | agrees that the proposed development sha ans, and in accordance with the zoning and the above is true, correct, and complete of the application by the Zoning Administrative orized Agent) *********************************** | ving of multi-story buildings. all be built in accordance with the nd subdivision regulations of the te. The owner consents to inspections to at reasonable times. Date 09/07/2025 ********************************** |
| The undersigned hereby a foregoing statements, attached pl Town of Norwich, and certifies the of the real estate that is the subject of Signature of Landowner (or Authors************************************ | agrees that the proposed development sha ans, and in accordance with the zoning an at the above is true, correct, and complete of the application by the Zoning Administration orized Agent) *********** Additional Permits Required: Subdivision | ving of multi-story buildings. all be built in accordance with the nd subdivision regulations of the te. The owner consents to inspections tor at reasonable times. Date 09/07/2025 ************* Variance PRD |
| The undersigned hereby a foregoing statements, attached pl Town of Norwich, and certifies the of the real estate that is the subject of Signature of Landowner (or Authors************************************ | agrees that the proposed development sha ans, and in accordance with the zoning an at the above is true, correct, and complete of the application by the Zoning Administration orized Agent) *********** Additional Permits Required: Subdivision Conditional Use | ying of multi-story buildings. all be built in accordance with the nd subdivision regulations of the te. The owner consents to inspections tor at reasonable times. Date 09/07/2025 ************ Variance PRD Driveway Access |
| The undersigned hereby a foregoing statements, attached ple Town of Norwich, and certifies the of the real estate that is the subject of Signature of Landowner (or Authors************************************ | agrees that the proposed development sha ans, and in accordance with the zoning an at the above is true, correct, and complete of the application by the Zoning Administration orized Agent) *********** Additional Permits Required: Subdivision | ving of multi-story buildings. all be built in accordance with the nd subdivision regulations of the te. The owner consents to inspections tor at reasonable times. Date 09/07/2025 ************* Variance PRD |
| The undersigned hereby a foregoing statements, attached ple Town of Norwich, and certifies the of the real estate that is the subject of the real estate that is the subject of Signature of Landowner (or Authors************************************ | agrees that the proposed development sha ans, and in accordance with the zoning an nat the above is true, correct, and complet of the application by the Zoning Administra orized Agent) ********** Additional Permits Required: Subdivision Conditional Use Site Plan Review Fees: | ring of multi-story buildings. all be built in accordance with the nd subdivision regulations of the te. The owner consents to inspections tor at reasonable times. Date 09/07/2025 ************* Variance PRD Driveway Access Wastewater Action Dates |
| The undersigned hereby a foregoing statements, attached ple Fown of Norwich, and certifies the of the real estate that is the subject o | agrees that the proposed development sha ans, and in accordance with the zoning an at the above is true, correct, and complet of the application by the Zoning Administrat orized Agent) ************** Additional Permits Required: Subdivision Conditional Use Site Plan Review Fees: Base Fee \$ 200.05 | ying of multi-story buildings. all be built in accordance with the nd subdivision regulations of the te. The owner consents to inspections tor at reasonable times. Date 09/07/2025 ************* Variance PRD PRD Driveway Access Wastewater Action Received Dates 7-15-25 |
| The undersigned hereby a foregoing statements, attached ple Fown of Norwich, and certifies the of the real estate that is the subject of the real estate that is the subject of Signature of Landowner (or Authors************************************ | agrees that the proposed development sha ans, and in accordance with the zoning an nat the above is true, correct, and complet of the application by the Zoning Administra orized Agent) ************ Additional Permits Required: Subdivision Conditional Use Site Plan Review Fees: Base Fee \$ 200-05 Sq. Ft. x \$ | In the built in accordance with the subdivision regulations of the te. The owner consents to inspections tor at reasonable times. Date 09/07/2025 The owner consents to inspections tor at reasonable times. Date 09/07/2025 The owner consents to inspections tor at reasonable times. Date 09/07/2025 The owner consents to inspections tor at reasonable times. Date 09/07/2025 The owner consents to inspections to inspections tor at reasonable times. Date 09/07/2025 The owner consents to inspections to inspections to inspections to inspections. Date 09/07/2025 The owner consents to inspections to inspections to inspections to inspections. |
| The undersigned hereby a foregoing statements, attached placement of Norwich, and certifies the of the real estate that is the subject | agrees that the proposed development sha ans, and in accordance with the zoning an nat the above is true, correct, and complet of the application by the Zoning Administration orized Agent) ************ Additional Permits Required: Subdivision Conditional Use Site Plan Review Fees: Base Fee \$ 200-05 Sq. Ft. x \$ # of Lots \$ | ring of multi-story buildings. all be built in accordance with the nd subdivision regulations of the te. The owner consents to inspections tor at reasonable times. Date 09/07/2025 ************** Variance PRD Driveway Access Wastewater Action Received Complete Granted Dates 7-15-25 |
| The undersigned hereby a foregoing statements, attached ple form of Norwich, and certifies the of the real estate that is the subject o | agrees that the proposed development sha ans, and in accordance with the zoning an at the above is true, correct, and complet of the application by the Zoning Administrat orized Agent) ************** Additional Permits Required: Subdivision Conditional Use Site Plan Review Fees: Base Fee \$ 200.05 \$q. Ft. x # of Lots Recording \$ 15.00 | ring of multi-story buildings. all be built in accordance with the nd subdivision regulations of the te. The owner consents to inspections tor at reasonable times. Date 09/07/2025 *************** Variance PRD Driveway Access Wastewater Action Received Complete Granted Refused Dates |
| The undersigned hereby a foregoing statements, attached placement of Norwich, and certifies the subject of the real estate that is the | agrees that the proposed development sha ans, and in accordance with the zoning an nat the above is true, correct, and complet of the application by the Zoning Administration orized Agent) ************* Additional Permits Required: Subdivision Conditional Use Site Plan Review Fees: Base Fee \$ 200.05 Sq. Ft. x \$ # of Lots \$ Recording \$ 15.00 Other \$ | Action Received Complete Granted Refused Posted at Site |
| The undersigned hereby a foregoing statements, attached ple Town of Norwich, and certifies the of the real estate that is the subject of the subject of the real estate that is the subject of the real estate that is the subject of the subject of the real estate that is the subject of the real estate that is the subject of the subject of the real estate that is the subject of the real estate that is the subject of the real estate that is the subject of the subject of the real estate that is the subject of the real estate | agrees that the proposed development sha ans, and in accordance with the zoning an at the above is true, correct, and complet of the application by the Zoning Administrat orized Agent) ************** Additional Permits Required: Subdivision Conditional Use Site Plan Review Fees: Base Fee \$ 200.05 Sq. Ft. x # of Lots Recording Other Total \$ 215.00 | Action Received Complete Granted Refused Posted at Site Appeal By |
| The undersigned hereby a foregoing statements, attached ple Town of Norwich, and certifies the of the real estate that is the subject of the subject of the real estate that is the subject of the real estate that is the subject of the real estate that is the subject of the subject of the real estate that is the subject of the subject of the real estate that is the subject of the subject of the real estate that is the subject of the subject of the real estate that is the subject of the subject of the subject of the subject of the real estate that is the subject of the sub | agrees that the proposed development sha ans, and in accordance with the zoning an at the above is true, correct, and complet of the application by the Zoning Administrat orized Agent) ************** Additional Permits Required: Subdivision Conditional Use Site Plan Review Fees: Base Fee \$ 200.05 \$q. Ft. x # of Lots Recording Other \$ Total Date Paid | Action Received Complete Granted Refused Posted at Site Appeal By Effective |
| The undersigned hereby a foregoing statements, attached ple Town of Norwich, and certifies the of the real estate that is the subject o | agrees that the proposed development sha ans, and in accordance with the zoning an at the above is true, correct, and complet of the application by the Zoning Administrat orized Agent) ************** Additional Permits Required: Subdivision Conditional Use Site Plan Review Fees: Base Fee \$ 200.05 Sq. Ft. x # of Lots Recording Other Total \$ 215.00 | Action Received Complete Granted Refused Posted at Site Appeal By |
| The undersigned hereby a foregoing statements, attached ple form of Norwich, and certifies the of the real estate that is the subject o | agrees that the proposed development sha ans, and in accordance with the zoning and the above is true, correct, and complete of the application by the Zoning Administration orized Agent) *************** Additional Permits Required: Subdivision Conditional Use Site Plan Review Fees: Base Fee \$ 200.05 \$q. Ft. x # of Lots Recording Other Total Date Paid To Finance | Action Received Complete Granted Refused Posted at Site Appeal By Effective Expires |
| The undersigned hereby a foregoing statements, attached plead from of Norwich, and certifies the of the real estate that is the subject | agrees that the proposed development sha ans, and in accordance with the zoning and the above is true, correct, and complete of the application by the Zoning Administration orized Agent) *************** Additional Permits Required: Subdivision Conditional Use Site Plan Review Fees: Base Fee \$ 200.05 \$q. Ft. x # of Lots Recording Other Total Date Paid To Finance | Action Received Complete Granted Refused Posted at Site Appeal By Effective Expires All be built in accordance with the nd subdivision regulations of the tend at each accordance with the nd subdivision regulations of the tend accordance with the national subdivision regulations of the tend accordance with the national subdivision regulations of the national subdivision regulation regulations of the national subdivision regulation regulations of the national subdivision regulation regulation regulations of the national subdivision regulation regulation regulations of the national subdivision regulation regula |

DRB Roll Hearty 110-16-25 10-16-25



187 Saint Paul Street, Suite 201 Burlington, VT 05401

Mr. Greg Hynes 60 Dutton Hill Road Norwich, VT 05055 September 18, 2025 File No. 6569.000

Re:

Geotechnical Evaluation 60 Dutton Hill Road

Norwich, VT 05055

Dear Mr. Hynes:

Sanborn, Head & Associates, Inc. (Sanborn Head) is pleased to submit this memorandum to you regarding the property located on Tax Assessor Map 20, Lot 60 on Dutton Hill Road in Norwich, Vermont (Site). This work is based on our electronic correspondence with you and Jeff Goodrich of Pathways Consulting.

BACKGROUND

Based on our correspondence and previous work at the Site, the parcel is currently a vacant lot and contains a ravine and signs of erosion. It is our understanding that you are looking to build a home and on-site wastewater disposal septic system on the Site property and this parcel is owned by you. Along with our correspondence on February 6, 2025 we received a Geotechnical Investigation Report written by John Turner Consulting, Inc. (JTC) dated January 24, 2024, plans by Otterman Surveying & Septic Design with test pit logs, and plans for site development by Pathways Consulting, LLC.

ENGINEERING OPINION

It is our engineering opinion based on review of the test pits logs by others and the proposed location of the residential structure, that there is no concern for instability of the existing slope to the south (that grades down to Bragg Brook) as it relates to the proposed construction.

We have attached the following documents that support this opinion including,

- Geotechnical Summary Letter written by Sanborn, Head & Associates, Inc. dated November 5, 2023;
- Boundary Plan for Gregory Hynes by Pathways Consulting, LLC dated September 2025;
- Existing Conditions Burham Tax Map 20, Lot 60 by Pathways Consulting, LLC dated November 18 2022; and,
- Site Plan for Gregory Hynes by Pathways Consulting, LLC dated August 2025.

We do recommend that some low lying vegetation is established on exposed soil slopes to prevent further erosion as well as appropriate site grading to prevent further runoff on to the exposed soil slopes.

Should you have any questions, please do not hesitate to call us.

Very truly yours,

SANBORN, HEAD & ASSOCIATES, INC.

Shawn P. Kelley, Ph.D. P.E.

Vice President

SPK: spk

Encl. Geotechnical Summary Letter

Boundary Plan Existing Conditions

Site Plan

#54DE25 Exhibit 3



187 Saint Paul Street, Suite 201 Burlington, VT 05401

Mr. David Burnham 65 Pickney Street, #3 Boston, MA 02114 November 5, 2023 File No. 5219.00

Re:

Geotechnical Summary Letter

Lot 60 Dutton Hill Road Property Geotechnical Evaluation

Norwich, VT 05055

Dear Mr. Burnham:

This letter summarizes a site visit made on June 10, 2022, review of published data, and subsequent review of a survey performed by Pathways Consulting, LLC (Pathways) dated July 6, 2023 for Lot 60 on Dutton Hill Road in Norwich, Vermont (the Site). This letter has been prepared by Sanborn, Head & Associates, Inc. (Sanborn Head) on behalf of the Mr. David Burnham (Client) in accordance with our proposal dated May 17, 2022, and is subject to the Limitations stated in Attachment A.

BACKGROUND

Lot 60 on Dutton Hill Road is a 4.3 acre lot in Norwich, VT. It is bounded by Dutton Hill Road to the north, Bragg Hill Road to the south and residential wooded lots to the east and west. Figure 1 provides a locus plan. Figure 2 provides the boundary survey dated June 1, 1990.

The northwest corner of the site is fairly level and an existing slope that grades down to Bragg Brook (see Figure 3 LiDAR Plan on Aerial Overlay provided by Pathways). At the Bragg Brook elevation, the topography slopes back up to Bragg Hill Road just south of Bragg Brook.

Sanborn Head was provided Figure 4 presenting a proposed buildable area on Lot 60. We were asked to provide an opinion on the proposed layout and evaluate the slope condition just south of the proposed buildable area above Bragg Brook.

SITE RECONNAISSANCE

Sanborn Head personnel along with Jeff Goodrich of Pathways and Cheryl and Kelsey Herrmann of RE/MAX Group One REALTORS of Norwich, VT performed a site reconnaissance visit on June 10, 2022 that included visual observations of the slopes in question and surrounding areas. Selected photographs from that site visit are included in Attachment B. No subsurface exploration or global stability analysis was performed. Based on the topographic information from Figure 3 and visual observations, it appears that the approximately 60 to 80-foot-high slope has had three (3) historic slope movements on the southern slope face (see Figure 5 and Attachment B site photographs).

The observed slope failures had vertical soil movement at the top of slope with a two (2) to four (4) foot thick soil wedge that has slid down the slope face. The exposed soils are clay soils that

have some sand and gravel and cobbles and boulder throughout (i.e., a glacial till deposit), and the soils are saturated. The site is mapped as a Glacial Till by the State of Vermont Agency of Natural Resources ANR Natural Resources Atlas and the surficial soils are definitely more clayey than sandy. A small portion of the lot (southeast corner) is mapped as a delta gravel but not observed on site.

At the bottom of the slope (at Bragg Brook elevation) bedrock outcrops were observed. The site is mapped by the State of Vermont Agency of Natural Resources ANR Natural Resources Atlas as an Andesite rock. Directly to the east, the bedrock is mapped as slate. Visual observations of the exposed bedrock appear to be slate rock.

DISCUSSION

The face of the southern slope appears to have had substantial surface water runoff over the years (the site is graded down to the south) and the surficial soils have become weakened over time. Exposed bedrock at the bottom of slope would indicate that the observed slope failures are most likely "infinite slope" failures related to surface water drainage (i.e., surface water saturating the surficial soil and causing erosion of the slope faces) and not related to a global instability of the slopes (i.e., mass slope movements that would extend north on the property). Infinite slope failures are shallow failures and tend to continue "chewing" out the slope face because after each failure, more soil is exposed to surface water runoff which results in more erosion. Global slope failures are deeper seated and involve deeper soils on the slope face.

The stability concern at this lot is there are a number of "fresh" slope failures (we counted 3 but there may be more) where the slope faces have exposed soils (i.e., no vegetation). Additional surface water runoff onto this slope will cause further soil erosion and cause more soil to slide down to Bragg Brook. There are a few locations where it appears that some of this surface water may be coming from Dutton Hill (i.e., roadway drainage).

RECOMMENDATIONS

The following recommendations address the proposed site development:

- 1. **Buildable Lot Area.** It is our opinion that the lot is buildable only in the northwest corner (as depicted on Figure 5). The construction of the proposed residential house and septic tank should be within the clouded area on Figure 5. If building outside of this area, additional engineering and evaluation is recommended. Also, we recommend a geotechnical engineer be present during the initial earthwork (i.e., site clearing and foundation work) to evaluate the site soils and make additional recommendations as needed.
- 2. **Erosion control and surface water drainage.** To reduce the potential for continued erosion of the previously damaged slope, it is recommended that several steps are taken including establish vegetation of the exposed slope faces (hiring and consultation of a landscape architect is recommended) and regrading the site (during site development) to prevent surface water from draining down the southern slope face.

- 3. **Long Term Monitoring.** Slope monitoring is recommended after vegetation is established. Witness stakes (or similar) are recommended to be placed on the slope face and monitor for horizontal movement to the south. Witness stakes are grade stakes placed in a straight line using a string line on the slope face (along the same contour line, i.e., parallel with the topography). The end stakes should be placed outside of the historic movement and used as a frame of reference for future monitoring. Alternatively, slope monitoring stakes can be surveyed (x, y, z coordinates) and monitored with survey over time.
- 4. **Permanent Slope Stabilization.** If slope movement is observed within Slope Areas 1 through 3 (or new southern slope areas), additional engineering would be necessary which would include a subsurface evaluation program (i.e., soil borings). Based on the results of the subsurface evaluation program, a permanent stabilization program recommendation would be provided. The recommendations could include slope regrading, rip rap slope facing, etc.

CLOSING

We appreciate this opportunity to be of service to you. If you have any questions concerning this letter or require any further information, please do not hesitate to contact us.

Very truly yours,

SANBORN, HEAD & ASSOCIATES, INC.

Shawn P. Kelley, Ph.D., P.E.

Project Director

SPK: spk

Encl. Figure 1 – Locus Plan

Figure 2 – Plot Survey 20190601

Figure 3 – LiDAR on Aerial Overlay

Figure 4 – Preliminary Lot Layout

Figure 5 – Buildable Area Plan

Attachment A – Limitations

Attachment B - Photo Log

Attachment C – Surficial and Bedrock Geology Maps

P:\5200s\5219.00\Source Files\memo\20231105 Lot 60 Dutton Hill Road Summary Letter, docx

Figures

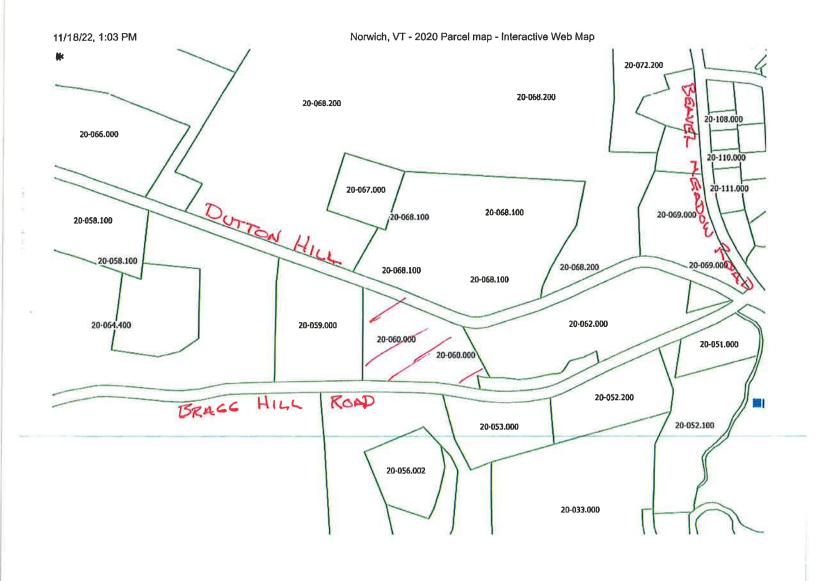
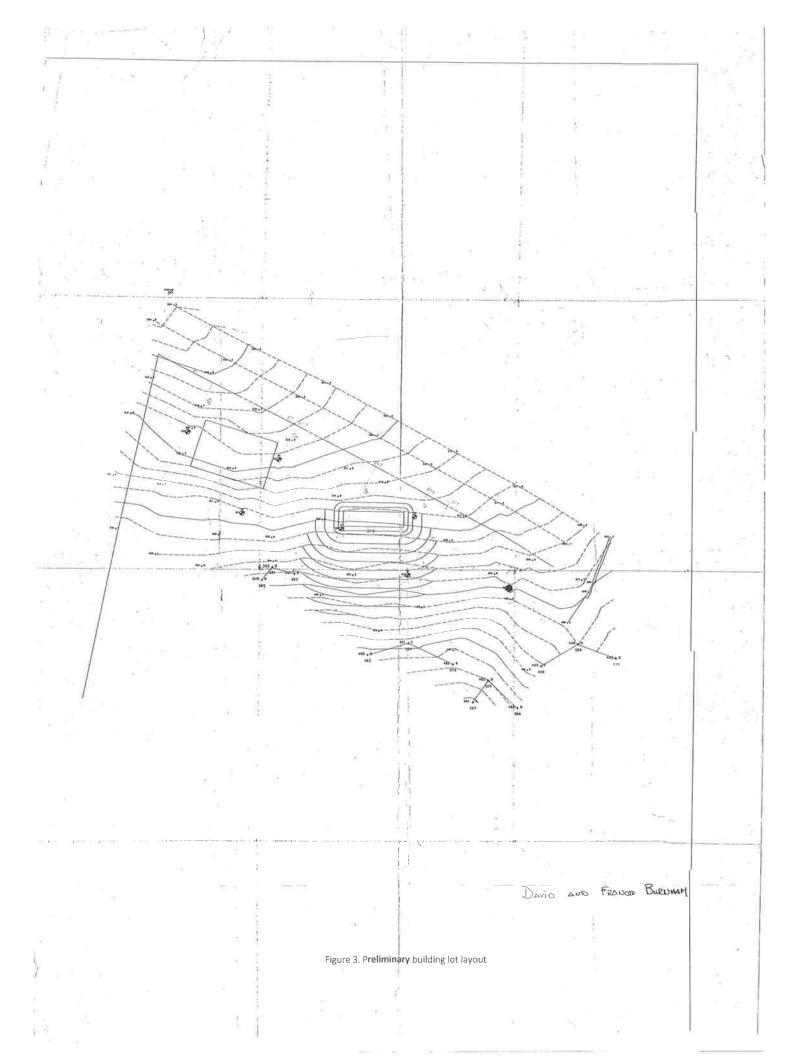
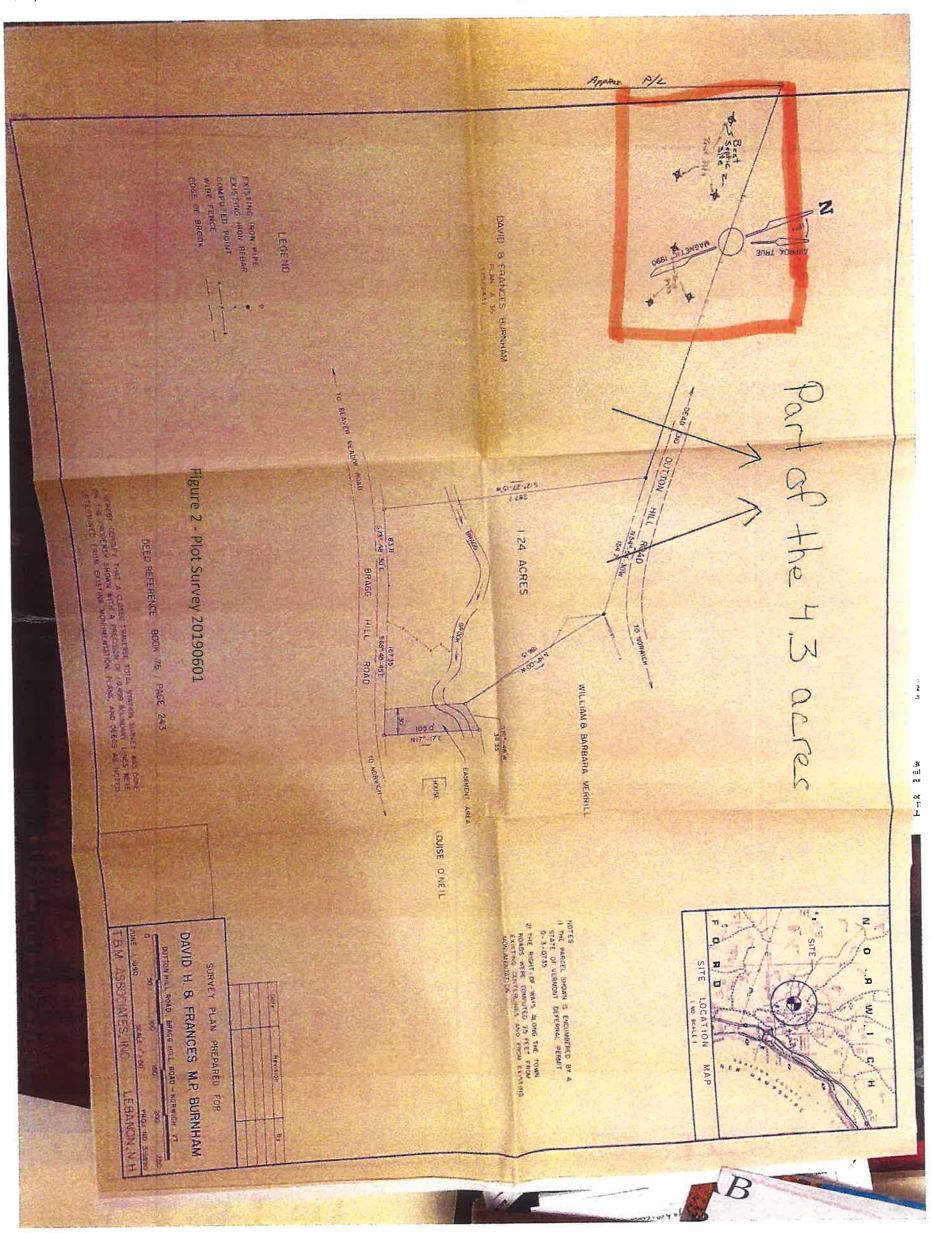
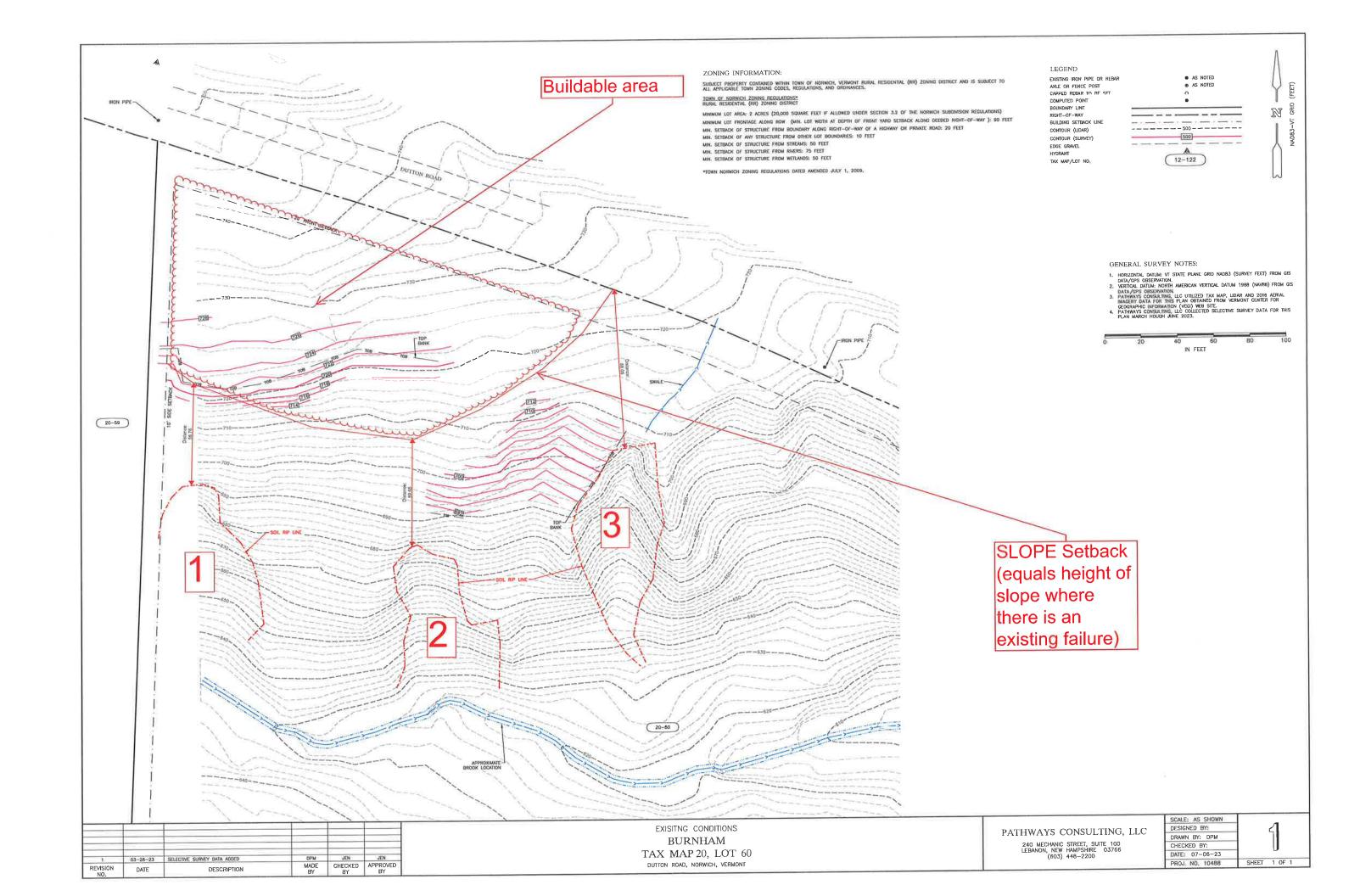


Figure 1. Locus Plan









Appendix A

Limitations

ATTACHMENT A LIMITATIONS

Explorations

The analyses and recommendations submitted in this letter are based in part on the
information provided by Cheryl Hermann of RE/MAX Group One REALTORS of Norwich, VT
and Pathways Consulting, LLC and our visual observations. The nature and extent of
variations in our visual observations may not become evident until construction. If
variations then appear evident, it will be necessary to re-evaluate the recommendations
of this report.

Review

2. In the event that any changes in the nature, design, or location of the proposed residential home are planned, the conclusions and recommendations contained in this letter shall not be considered valid unless the changes are reviewed and conclusions of the report modified or verified in writing by Sanborn Head.

Construction

3. It is recommended that this firm be retained to provide soil engineering services during the earthwork phase of the work. This is to observe compliance with the design concepts, specifications, or recommendations and to allow design changes in the event that subsurface conditions differ from those anticipated prior to the start of construction.

Use of Letter

- 4. This report has been prepared for the exclusive use of the David Burnham for the proposed residential house construction on Dutton Hill Road in Norwich, Vermont, in accordance with generally accepted soil and geotechnical engineering practices. No other warranty, expressed or implied, is made.
- 5. This soil engineering report has been prepared for this project by Sanborn Head for preliminary design purposes only and is not sufficient to prepare an accurate bid. Contractors wishing a copy of this report may secure it with the understanding that its scope is limited to preliminary design considerations only.

 $P:\S200s\S219.00\Source\ Files\mbox{\constraint} A \- Limitations. docx$

Appendix B

Photo Log

ATTACHMENT B PHOTO LOG



Photo 1. Dutton Hill Road looking west (site to left of photograph).

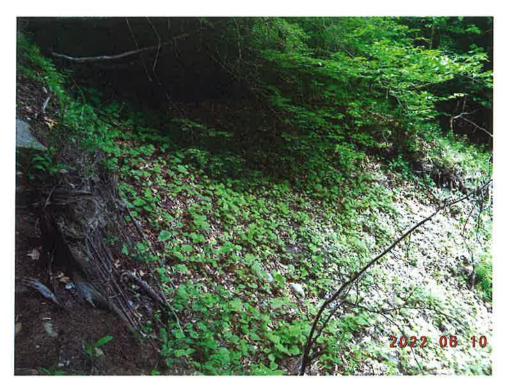


Photo 2. Slope Area 1 showing soil movement on southern slope (note vertical face on left of photograph).



Photo 3. Slope Area 2 showing soil movement on southern slope (note vertical face on left of photograph).



Photo 4. Slope Area 3 showing soil movement on southern slope (note vertical face on left of photograph).



Photo 5.Exposed soils on slope face



Photo 6. Toe of slope along Bragg Brook (note exposed bedrock in brook on right hand bank).

Appendix C Surficial and Bedrock Geology Maps



GEOTECHNICAL INVESTIGATION REPORT

PROPOSED RESIDENTIAL STRUCTURE

60 Dutton Hill Road Norwich, Vermont 05055

Prepared for:

Greg Hynes

Prepared by:

John Turner Consulting, Inc. 12 Gregory Drive, Unit 7 South Burlington, Vermont 05403

JTC Project No. 23-04-107

January 24, 2024

Stephen C. Lanne, P.E.

Vice President of Engineering

slanne@consultjtc.com

Ph: (413) 222-1675

Quentyn Guglielmo Senior Geotechnical Engineer gguglielmo@consultjtc.com Ph: (831) 578-6620



January 24, 2024

Greg Hynes P: 720-878-4084

E: gthynes1@gmail.com

RE: Geotechnical Investigation Report

Proposed Residential Structure 60 Dutton Hill Road Norwich, Vermont

Dear Mr. Hynes:

In accordance with our proposal and your authorization to proceed, John Turner Consulting, Inc. (JTC) has performed a geotechnical investigation for the above captioned project. Presented herein and attached are the results of the site subsurface investigation, laboratory analysis results, and our recommendations regarding the construction of the proposed project.

This report completes our scope of services under the approved contract. We appreciate the opportunity to assist you and we look forward to working with you on this project through its completion. Please do not hesitate to contact us if you have any questions or require additional information.

Sincerely,

JOHN TURNER CONSULTING, INC.

Stephen C. Lanne, PE

Vice President of Engineering

slanne@consultitc.com

Ph: (413) 222-1675



Table of Contents

| 1.0 | INTRODUCTION | 3 |
|--------|--|---|
| 2.0 | PROJECT INFORMATION | 3 |
| 2.1 | Site Description | 3 |
| 2.2 | Regional Geologic Setting | 3 |
| 2.3 | Proposed Development | 4 |
| 3.0 | GEOTECHNICAL EXPLORATIONS | 4 |
| 3.1 | Test Pits | 4 |
| 4.0 | GEOTECHNICAL LABORATORY TESTING | 4 |
| 5.0 | SUBSURFACE CONDITIONS | 4 |
| 5.1 | Soil Profile | 5 |
| 5.: | 1.1 Topsoil | 5 |
| 5.: | 1.2 Subsoil | 5 |
| 5.3 | 1.3 Native Silt | 5 |
| 5.: | 1.4 Glacial Till | 5 |
| 5.2 | Refusal | 5 |
| 5.3 | Groundwater | 5 |
| 6.0 | GEOTECHNICAL ANALYSIS & RECOMMENDATIONS | 5 |
| 6.1 | Slope Considerations | 5 |
| 6.2 | Foundations | 7 |
| 6.3 | Slab-On-Grade | 9 |
| 6.4 | Re-Use of Site Soils |) |
| 6.5 | Construction Monitoring and Quality Control Testing |) |
| 6.6 | Additional Considerations | |
| 7.0 | CLOSING1 | |
| APPEND | IX A: Limitations | |
| APPEND | IX B: Recommended Soil Gradation & Compaction Specifications | |
| | no a constant and a c | |

APPENDIX C: Recommended Design Parameters for Unbalanced Walls

APPENDIX D: Exploration Location Plan

APPENDIX E: Test Pit Logs & Key to Symbols and Description

APPENDIX F: Geotechnical Laboratory Testing Reports

APPENDIX G: Site Photographs





1.0 INTRODUCTION

John Turner Consulting, Inc. (JTC) is pleased to present this *Geotechnical Investigation Report* for the proposed residential structure project located at 60 Dutton Hill Road in Norwich, Vermont. JTC conducted geotechnical explorations, laboratory testing, and engineering evaluations in general accordance with our proposed scope of services submitted to Greg Hynes in *JTC Proposal #23-1441*, dated November 27, 2023.

The purpose of the geotechnical investigation was to obtain information on the subsurface conditions at the site and to provide geotechnical engineering recommendations to support the planning, design, and construction of the proposed development. Geotechnical explorations and laboratory testing services were performed in December of 2023 and January of 2024.

This report summarizes available project information, presents the geotechnical exploration and laboratory testing programs, describes the subsurface conditions encountered, and provides geotechnical engineering recommendations to support the planning, design, and construction of the proposed project. The contents of this report are subject to the attached *Limitations*.

2.0 PROJECT INFORMATION

The following subsections provide general descriptions of the site, the regional geologic setting, and the proposed development.

2.1 Site Description

According to the existing conditions plan prepared by Pathways Consulting, LLC, the site is comprised of an approximately 4.3-acre, undeveloped and wooded parcel. The site is bounded by Dutton Hill Road to the north, Bragg Hill Road to the south, and residential wooded lots to the east and west. The site slopes slightly to moderately downward in the northwest corner, from approximately Elevation (El) = 747.0 feet to the north to approximately El = 718.0 feet to the south. The slope then appears to crest and slope downward steeply to approximately El = 624.0 feet to the south, where the topography levels out at Bragg Hill Road. Elevations contained within this report are in reference to the North American Vertical Datum of 1988 (NAVD88).

The *Geotechnical Summary Letter* prepared by Sanborn Head noted three (3) observed historic slope failures within the steeper portion of the slope south, approximately 50 to 100 feet south of the crest of the slope.

2.2 Regional Geologic Setting

Based on JTC's review of the *Geotechnical Summary Letter* prepared by Sanborn Head and surficial geologic maps of the area, the subsurface conditions at the site vicinity generally consist of sand deposits and/or glacial till.



Geotechnical Investigation Report Proposed Residential Structure 60 Dutton Hill Road Norwich, Vermont Page 4 of 12

2.3 Proposed Development

JTC understands that the proposed development involves the construction of a residential structure at the northwestern portion of the site.

3.0 GEOTECHNICAL EXPLORATIONS

JTC observed the excavation of five (5) geotechnical test pits on December 21, 2023. The approximate locations of the subsurface explorations are shown in the attached *Exploration Location Plan*.

3.1 Test Pits

JTC observed the excavation of five (5) geotechnical test pits, designated TP-1 through TP-5, to depths of approximately 6.5 to 8.5 feet bgs (below ground surface) via an excavator. JTC directed the excavation, testing, and sampling activities and logged the subsurface conditions encountered at each test pit location.

The test pit locations were selected by the client and altered under the constraints of excavator access and utility / subsurface conflicts. The relative location of each test pit was established via measurements from existing site features. The approximate locations of the test pits are shown on the attached *Exploration Location Plan*.

The test pits were backfilled with spoils upon completion of excavation. Detailed records of the excavation, testing, and sampling performed, and the soil, bedrock, and groundwater conditions observed at each test pit location are provided on the attached *Exploration Logs*.

4.0 GEOTECHNICAL LABORATORY TESTING

JTC selected representative soil samples for geotechnical laboratory testing. The following tests were performed:

Two (2) washed sieve analyses and moisture content determinations

Geotechnical laboratory testing was performed in general accordance with ASTM procedures. Test results are provided in the attached *Geotechnical Laboratory Testing Reports* appendix.

5.0 SUBSURFACE CONDITIONS

The following subsections describe the site stratigraphy and groundwater conditions encountered, based on results of the geotechnical explorations and laboratory testing. Detailed descriptions of the conditions observed at each test pit are provided in the attached *Exploration Logs*.





5.1 Soil Profile

The primary soil strata are briefly described in the paragraphs below.

5.1.1 Topsoil

Approximately 4 to 10-inches of surficial Topsoil was encountered throughout the site. The Topsoil generally consists of brown well-graded Sand (SW) with Organics and Silt, and trace amounts of Gravel.

5.1.2 Subsoil

Approximately 1.2 to 3.3 feet of soils interpreted to be Subsoil were encountered underlying the Topsoil. The Subsoil generally consists of brown Sandy Silt (ML) with Organics and trace amounts of Boulders and Cobbles.

5.1.3 Native Sand

Soils interpreted to be Native Sand were encountered underlying the Subsoil to depths of approximately 2.0 to 4.0 feet bgs. The Native Silt generally consists of gray well-graded Sand (SW) with Silt and Gravel.

5.1.4 Glacial Till

Soils interpreted to be Glacial Till were encountered underlying the Native Sand. The Glacial Till generally consists of gray Silty well-graded Sand (SW) with Gravel and trace amounts of Cobbles.

5.2 Refusal

Practical refusal to further penetration of the excavator was encountered at TP-1. Refusals are not necessarily indicative of encountering competent bedrock. The approximate refusal conditions are tabulated below.

| Table 1 – Refusal Conditions | | | | |
|------------------------------|-------------------|-----------------|------------------|------------------------------|
| Exploration # | Refusal Type | Depth (feet) | Elevation (feet) | Estimated Refusal Material |
| TP-1 | Excavator Refusal | 6.5 | 733.5 | Competent Bedrock / Boulders |

5.3 Groundwater

Groundwater was encountered in TP-2 and TP-3 during the site investigation; groundwater was not observed in TP-1, TP-4, and TP-5.

JTC estimates that this investigation occurred during a period of seasonally normal groundwater.





Site groundwater levels should be expected to fluctuate seasonally and in response to precipitation events, construction activity, site use, and adjacent site use. Groundwater encountered during the explorations is most likely perched above the relatively low permeability Native Sand and/or Glacial Till soils. The approximate depths to groundwater level are tabulated below in Table 2.

| | Table 2 – Groundwater Conditions | | | |
|----------|----------------------------------|------------------------------|--|--|
| Test Pit | Groundwater Depth (feet bgs) | Groundwater Elevation (feet) | | |
| TP-2 | 3.0 | 726.0 | | |
| TP-3 | 1.0 | 725.0 | | |

6.0 GEOTECHNICAL ANALYSIS & RECOMMENDATIONS

The evaluation of the site and the proposed development was based on the subsurface conditions encountered at the exploration locations, results of geotechnical laboratory testing, and provided site plans/grading, as described herein.

6.1 Slope Considerations

The presence and past failures of the slope will have a significant impact on the siting and design of the proposed building. JTC suggests the following recommendations be followed:

- The proposed building should be located no closer than 15 feet from the crest of the slope;
- Stormwater discharge can cause erosion of the slope. Concentrated discharges tend to have greater erosion potential due to the volume and velocity of the discharge. Therefore, site grading and drainage should be designed to promote stormwater sheet flow runoff, rather than concentrated flows;
- Efforts should be made to establish and/or maintain the vegetative and tree growth on the slope surface, as they provide surficial strength and protection against erosion;
- Where concentrated discharges are necessary, for instance at roof gutter downspouts, measures should be implemented to disperse the discharge. Alternately, adequate protection measures should be installed to protect the soil against erosion;
- The owner should perform periodic, regular inspections of the slope to identify signs of instability. Establishing reference stakes along the slope can aid in long term monitoring of slope movement. In addition, leaning or falling trees can be an indicator of slope movement. Areas of erosion, sloughing, or sliding should be repaired as soon as practical, as unstable areas left unrepaired will be more susceptible to further disturbance;
- Existing slope failures will be susceptible to further disturbance. In order to limit the potential for these historic failures to grow, efforts should be made to re-stablish the vegetative growth and stabilize the slides.





6.2 Foundations

Based on the subsurface conditions encountered at the exploration locations and our current understanding and assumptions relative to the proposed development, the following foundation design recommendations are provided:

- The building can be supported on a system of continuous and/or isolated shallow spread footings bearing on native Glacial Till and/or *Structural* Fill built-up from properly prepared existing native soil subgrades;
- Shallow foundations may be designed using an allowable bearing pressure of 4,000 psf. Design bearing pressures may be increased by one-third (½) when considering seismic and or transient wind loading conditions;
- Continuous wall footings should have a minimum width of 2 feet. Isolated column footings should have a minimum width of 3 feet;
- Exterior footings should be founded at least 5 feet below the lowest adjacent grade to provide adequate frost protection. Interior footings in heated portions of the building should be founded at least 2 feet below FFE to develop adequate bearing capacity;
- Total post-construction settlements due to applied foundation loads are estimated to be less than 1 inch. Differential settlements between isolated footings are estimated to be on the order of ½ of total settlement. The estimated settlements and resulting angular distortion are anticipated to be within the allowable limits for this type of structure;
- basement, we recommend that a foundation drain system be installed around the perimeter of the building at the exterior toe of the exterior footings to remove potentially perched run off at the proposed footing/native soil interface. Foundation drains should consist of 4-inch diameter PVC-SDR35 perforated pipe encased in at least 6 inches of ¾-inch stone protected with a filter fabric such as Mirafi 140N or equal. The drains should be graded to positively drain to a suitable discharge point away from the proposed structure. Drains should not be connected to surface or roof drain discharge points. Cleanouts should be located at bends and no greater than 150 feet on-center. It is recommended that a backflow preventer be installed at the outlet of the drains to reduce the impact of potential surcharges;

Recommendations for shallow foundation subgrade preparation and construction are provided as follows:

- A geotechnical engineer or his/her representative should directly observe foundation subgrade preparation activities;
- If shallow and/or perched groundwater is encountered, it must be removed in advance of excavation and continuously maintained at least 2 feet below the bottom of excavation and subsequent construction grade until the backfilling is complete;





- Native soil subgrades should be proof-compacted with multiple passes of a heavy compaction equipment in the presence of the Geotechnical Engineer;
- The native foundation subgrade soils will be sensitive to moisture and may disturb or soften if exposed to wet conditions and construction activities. Therefore, if wet conditions are present or anticipated due to groundwater seepage, perched groundwater, and/or precipitation/stormwater, the foundation subgrade should be protected with a 6-inch (minimum) thick layer of ¾-inch minus Crushed Stone encased in a geotextile fabric. The fabric and Crushed Stone should be placed immediately upon exposure of the native foundation subgrade soils and densified with a plate compactor until exhibiting stable conditions. The purpose of the Crushed Stone is to protect the subgrade soils from disturbance, facilitate construction dewatering (if necessary), and provide a dry/stable subgrade upon which to progress construction;
 - If undocumented Fill, Clay, loose fine-grained soils, and/or otherwise unsuitable soils/materials are encountered at the foundation subgrade, over-excavations should remove all unsuitable soils within the footing zone of influence; and
 - Any over-excavations should be backfilled with properly placed and compacted *Structural Fill* or Crushed Stone, within the footing zone of influence described above, as approved by the on-site geotechnical engineer.
- Prior to setting forms and placing reinforcing steel, a geotechnical engineer should directly observe footing subgrades;
 - Footing subgrades should be level or suitably benched and free of standing water and/or debris;
 - Loose, soft, wet, frozen, or otherwise unsuitable soils should either be recompacted or over-excavated to a suitable subgrade, as approved by the on-site geotechnical engineer; and
 - Over-excavations should be backfilled with properly placed and compacted Structural Fill or crushed stone as approved by the on-site geotechnical engineer.
- Foundation subgrade soils should be protected against physical disturbance, precipitation, and/or frost throughout construction. Surface water run-on/run-off should be diverted away from open foundation excavations. The Contractor shall ultimately be responsible for the means and methods to protect the foundation subgrade during construction;
- Interior footings, piers, and/or walls and the interior side of balanced perimeter foundation walls should be backfilled with *Structural Fill*, as described in the attached *Tables*;
- Exterior footings and the exterior side of balanced perimeter foundation walls should be backfilled with non-frost-susceptible fill in order to mitigate potential adverse effects of frost. Exterior footing and foundation wall backfill should consist of well-graded, free-draining, granular soil conforming to the requirements of *Clean Granular Fill*, as described





in the attached *Tables*;

- Backfill for footings and foundation walls should be placed in uniform horizontal lifts having a maximum loose lift thickness of 8 inches and compacted to 95 percent of its modified proctor maximum dry density (MPMDD; per ASTM D1557). Thinner lifts may be required in order to achieve the required compaction criteria; and
- To minimize the potential for foundation wall damage during the backfill and compaction activities, it is recommended that foundation wall backfill be placed in a manner that maintains a balanced fill height on both sides of the wall.

6.3 Slab-On-Grade

Based on the results of the explorations, JTC believes the slab can be supported on the Native Sand, Glacial Till and/or *Structural Fill* built up from native soils. Existing Fill, Topsoil, and Subsoil should be removed from within the building footprint. Design recommendations for the floor slab-on-grade are provided as follows:

- Slabs-on-grade should be underlain by a minimum 12-inch thick layer of 1-inch minus *Clean Granular Fill* placed over previously placed *Structural Fill* to provide a capillary break and a stable working surface;
- A modulus of vertical subgrade reaction, k_{vi} , of 125 pounds per cubic inch (pci) should be available for structural design of the floor slabs-on-grade, provided that the subgrade soils and *Structural Fill* are prepared as recommended in the previous Subsections;
- The floor slab should be isolated structurally from foundation walls and columns/piers to allow for differential movement; and
- The requirement for a moisture/vapor barrier beneath floor slab-on-grade should be evaluated by the architect and/or the structural engineer, based on the building's specific interior usage requirements.

Additional recommendations for slab-on-grade subgrade preparation and construction are provided as follows:

- A geotechnical engineer should directly observe the subgrade soils prior to the placement of the recommended fill within the slab area;
- The subgrade should be level and free of standing water and/or debris;
- Loose, soft, wet, frozen, or otherwise unsuitable soils should either be re-compacted or over-excavated to a suitable subgrade, as approved by the on-site geotechnical engineer; and
- Over-excavations should be backfilled with properly placed and compacted Structural Fill.



Geotechnical Investigation Report Proposed Residential Structure 60 Dutton Hill Road Norwich, Vermont Page 10 of 12

6.4 Re-Use of Site Soils

The excavated materials encountered at the site are not expected to be suitable for re-use as *Structural Fill* or *Clean Granular Fill* due to high fines. Native Sand soils may be re-used as *Common Fill* or in areas to be landscaped, if they can be adequately compacted and subject to conformance with the project specifications.

6.5 Construction Monitoring and Quality Control Testing

A qualified geotechnical engineer or representative should be retained to review the site preparation and grading activities and foundation subgrade preparations, at a minimum. Similarly, quality control testing, including in-place field density and moisture tests, should be performed to confirm that the specified compaction is achieved. It is recommended that JTC be retained to provide earthwork construction monitoring and quality control testing services.

Quality control testing recommendations are provided as follows:

- During site grading and foundation subgrade preparation, 3 field density tests should be performed for every 5,000 square feet (per lift) of *Structural Fill* placement, at a minimum. At least 3 tests should be performed on each lift of material even if the lift is less than 5,000 square feet;
- During foundation wall backfilling, 3 field density tests should be performed for every 100 linear feet (per lift) of fill placement, at a minimum. At least 3 tests should be performed on each lift of material even if the lift is less than 100 linear feet;
- During placement and compaction of *Clean Granular Fill* as the base course below the floor slab-on-grade and sidewalks, 3 field density tests should be performed for every 5,000 square feet of placement. At least 3 tests should be performed on each lift of material even if the lift is less than 5,000 square feet;
- During backfilling of utility trenches, at least 1 test should be conducted on Structural Fill
 per 50 linear feet (per lift) of trench; and
- During site grading and pavement subgrade preparation, 3 field density tests should be performed for every 5,000 square feet (per lift) of *Common Fill*, at a minimum. At least 3 tests should be performed on each lift even if the lift is less than 5,000 square feet.

6.6 Additional Considerations

Additional design recommendations are provided as follows:

• Exterior concrete sidewalks should be underlain by at least 12 inches of *Clean Granular Fill*. The thickness of the *Clean Granular Fill* should be increased to no less than 18 inches for exterior concrete slabs located adjacent to exterior doorways and ramps to provide additional frost protection at building entry/exit points;





- Roof drains or similar features should be provided to collect roof run-off and prevent ponding near the building. Roof drains and other stormwater controls should not discharge to foundation drains; and
- The exterior ground surface adjacent to the building should be sloped away from the building to provide for positive drainage. Similarly, the final surface materials adjacent to the building should be relatively impermeable to reduce the volume of precipitation infiltrating into the subsurface proximate to building foundations. Such impermeable materials include cement concrete, bituminous concrete, and/or vegetated silty/clayey topsoil.

Additional construction considerations/recommendations are provided as follows:

- Safe temporary excavation and/or fill slopes are the responsibility of the Contractor. Excavations should be conducted in accordance with local, state, and federal (OSHA) requirements, at a minimum. If an excavation cannot be properly sloped or benched due to space limitations, adjacent structures, and/or seepage, the Contractor should install an engineered shoring system to support the temporary excavation;
- Subgrade conditions will be influenced by excavation methods, precipitation, stormwater management, groundwater control(s), and/or construction activities. Most of the site soils are poorly-drained, moisture-sensitive, and considered susceptible to disturbance when exposed to wet conditions and construction activities. As such, the Contractor should be aware of these conditions and must take precautions to minimize subgrade disturbance. Such precautions may include diverting storm run-off away from construction areas, reducing traffic in sensitive areas, minimizing the extent of exposed subgrade if inclement weather is forecast, backfilling excavations as soon as practicable, and maintaining an effective dewatering program, as necessary;
- Proper groundwater control and stormwater management are necessary to maintain site stability. Groundwater should be removed in advance and continuously maintained at least 2 feet below the working construction grade until earthworks and/or backfilling are complete;
- If groundwater seepage and/or wet soils due to shallow groundwater are observed, a ¾-inch minus crushed stone base should be placed atop the exposed subgrade soils. The stone should be immediately placed atop the undisturbed subgrade and then tamped with a plate compactor until exhibiting stable conditions. The stone should be protected, as required, with a geotextile filter fabric such as Mirafi 140N or equal. The purpose of the stone base is to protect the wet subgrade, facilitate dewatering, and provide a dry/stable base upon which to progress construction; and
- All slopes should be protected from erosion during (and after) construction.



Geotechnical Investigation Report Proposed Residential Structure 60 Dutton HIII Road Norwich, Vermont Page 12 of 12

7.0 CLOSING

We trust the contents of this report are responsive to your needs at this time. Should you have any questions or require additional assistance, please do not hesitate to contact our office.



APPENDIX A: LIMITATIONS

Explorations

- 1. The analyses and recommendations presented in this report are based in part upon the data obtained from widely-spaced subsurface explorations. Subsurface conditions between exploration locations may vary from those encountered at the exploration locations. The nature and extent of variations between explorations may not become evident until construction. If variations appear, it will be necessary to re-evaluate the recommendations of this report.
- 2. The generalized soil profile described in the text is intended to convey trends in subsurface conditions. The boundaries between strata are approximate and idealized and have been developed by interpretation of widely-spaced explorations and samples; actual strata transitions are probably more gradual. For specific information, refer to the individual test pit and/or boring logs.
- 3. Water level readings have been made in the test pits and/or borings under conditions stated on the logs. These data have been reviewed and interpretations have been made in the text of this report. However, it must be noted that fluctuations in the level of the groundwater may occur due to variations in rainfall, temperature, and other factors differing from the time the measurements were made.

Review

- 4. It is recommended that John Turner Consulting, Inc. be given the opportunity to review final design drawings and specifications to evaluate the appropriate implementation of the geotechnical engineering recommendations provided herein.
- 5. In the event that any changes in the nature, design, or location of the proposed areas are planned, the conclusions and recommendations contained in this report shall not be considered valid unless the changes are reviewed, and conclusions of the report modified or verified in writing by John Turner Consulting, Inc.

Construction

6. It is recommended that John Turner Consulting, Inc. be retained to provide geotechnical engineering services during the installation phases of the work. This is to observe compliance with the design concepts, specifications, and recommendations and to allow design changes in the event that subsurface conditions differ from those anticipated prior to the start of construction.

Use of Report

- 7. This report has been prepared for the exclusive use of the addressee for the referenced project. All considerations are based on the available information and is in accordance with generally accepted soil and foundation engineering practices. No other warranty, expressed or implied, is made.
 - This report has been prepared for this project by John Turner Consulting, Inc. This report was completed for preliminary design purposes and may be limited in its scope to complete an accurate bid. Contractors wishing a copy of the report may secure it with the understanding that its scope is limited to preliminary geotechnical design consideration.



APPENDIX B: RECOMMENDED SOIL GRADATION & COMPACTION SPECIFICATIONS

TABLE 1: Structural Fill

| SIEVE SIZE | PERCENT PASSING BY WEIGHT |
|------------|------------------------------|
| 5-inch | 100 |
| ¾-inch | 60 - 100 |
| No. 4 | 20 - 80 |
| No. 200 | 0 - 10 |

NOTES:

- 1. For use as structural load support below foundations and within the building pad. Structural Fill placed beneath building foundations should include the Footing Zone of Influence which is defined as that area extending laterally one foot from the edge of the footing then outward and downward at a 1:1.5 (H:V) splay.
- 2. ¾-inch crushed stone may be used in wet conditions.
- 3. Structural Fill should be free of construction and demolition debris, frozen soil, organic soil, peat, stumps, brush, trash, and refuse;
- 4. Structural Fill should not be placed on soft, saturated, or frozen subgrade soils;
- 5. Structural Fill should be placed in lifts not exceeding 12 inches for heavy vibratory rollers and 8 inches for vibratory plate compactors.
- 6. Place and compact within \pm 3% of optimum moisture content.
- 7. Compact to at least 95% relative compaction per ASTM D1557.
- 8. The adequacy of the compaction efforts should be verified by field density testing.



TABLE 2: Clean Granular Fill

| SIEVE SIZE | PERCENT PASSING BY WEIGHT |
|------------|------------------------------|
| 3-inch | 100 |
| ¾-inch | 60 – 90 |
| No. 4 | 20 – 70 |
| No. 200 | 2-8 |

NOTES:

- 1. Should consist of *crushed* stone beneath the concrete pad, as approved by on-site geotechnical engineer.
- 2. For minimum 9-inch base below the floor slab-on-grade.
- 3. For minimum 12-inch base for exterior concrete slabs exposed to frost.
- 4. For minimum 18-inch base at exterior ramps, aprons, and loading bays adjacent to entrances/exit ways.
- 5. For use as footing and foundation wall backfill.
- 6. For use as backfill behind unbalanced foundation/retaining walls.
- 7. Place in lifts not exceeding 12 inches for heavy vibratory rollers and 8 inches for vibratory plate compactors.
- 8. Place and compact within ± 3% of optimum moisture content.
- 9. Compact to at least 95% relative compaction per ASTM D1557.
- 10. Compact to at least 95% relative compaction per ASTM D1557 when placed as foundation wall backfill in conjunction with a bond break.
- 11. The adequacy of the compaction efforts should be verified by field density testing.

TABLE 3: Common Fill

| SIEVE SIZE | PERCENT PASSING BY WEIGHT | |
|------------|------------------------------|--|
| 6-inch | 100 | |
| ¾-inch | 60 – 100 | |
| No. 4 | 20 – 85 | |
| No. 200 | 0-25 | |

NOTES:

- 1. For use as common/subgrade fill in parking areas and roadway embankments.
- 2. For use as foundation wall backfill if used in conjunction with a bond break and sized/screened to 3-inch minus.
- 3. Place in lifts not exceeding 12 inches.
- 4. Maximum stone size should not exceed ½ the actual lift thickness.
- 5. Compact to at least 92% relative compaction per ASTM D1557 when placed as subgrade fill in parking areas or roadway embankments.
- 6. Compact to at least 95% relative compaction per ASTM D1557 when placed as foundation wall backfill in conjunction with a bond break.
- 7. The adequacy of the compaction efforts should be verified by field density testing.



APPENDIX C: RECOMMENDED DESIGN PARAMETERS FOR UNBALANCED WALLS

• The following table outlines the recommended lateral earth pressure coefficients for the design of basement retaining walls:

| Wall Condition | Lateral Movement (△/H) | Earth Pressure Coefficient (K) | Equivalent Fluid Density (K* γ) |
|---|------------------------|-----------------------------------|---|
| Cantilever – Unrestrained Active Earth Pressure | NA | NA | NA |
| Braced - Restrained - Bedrock <h behind="" ft="" wall<br="">At Rest Earth Pressure</h> | <0.002 | Ko = 0.50 | 60 pcf |
| Passive - Unrestrained | >0.02 | Kp = 3.0 | 360 pcf |

- 1. Hydrostatic pressures are not included;
- 2. A level backfill in front of and behind the wall;
- 3. Use of only small plate compactors within 3 feet horizontally of the top of wall.

where: Δ = movement at top of wall by rotation or lateral translation

H = height of wall

 γ = soil unit weight – 120 pcf – assumes compacted *Common or Structural Fill*

- Retaining walls should be designed to accommodate any possible surcharge loads, such as vehicle traffic, snow storage, pedestrian traffic, maintenance considerations, etc. A minimum surcharge load of 250 psf should be used to account for vehicle traffic. Surcharges should be analyzed as the vertical surcharge pressure multiplied by the appropriate earth pressure coefficient. Surcharge loads should be considered where they are located within a horizontal distance equivalent to 1 times the height of the wall.
- To account for possible soil softening due to saturation and freeze thaw action, we recommend passive pressure be ignored in the upper two feet below finished grade.
- Minimum Factors of Safety when calculating overturning moments and sliding should be
 2.0 and 1.5, respectively.
- A drainage system should be installed behind the wall to prevent the buildup of hydrostatic pressure. The drainage system should consist of the following:
 - Chimney Drain Minimum 12-inch-wide column of Crushed Stone protected with a geotextile separation fabric placed directly behind the wall for its full exposed height.
 - Collector Drain Minimum 4-inch diameter perforated PVC pipe encased in at least 6 inches of ¾-inch stone protected with a geotextile separation fabric. Installed at the base of the stone chimney drain. Drains should be designed to discharge into the stormwater collection system or other suitably designed discharge points that provide for drainage away from the structures. For basement walls, the drains should be at least 12 inches below the underside of the adjacent floor slab.
 - Grading should be completed to direct stormwater runoff away from retaining walls.



Drainage systems from neighboring structures and other improvements should not direct water toward retaining walls.

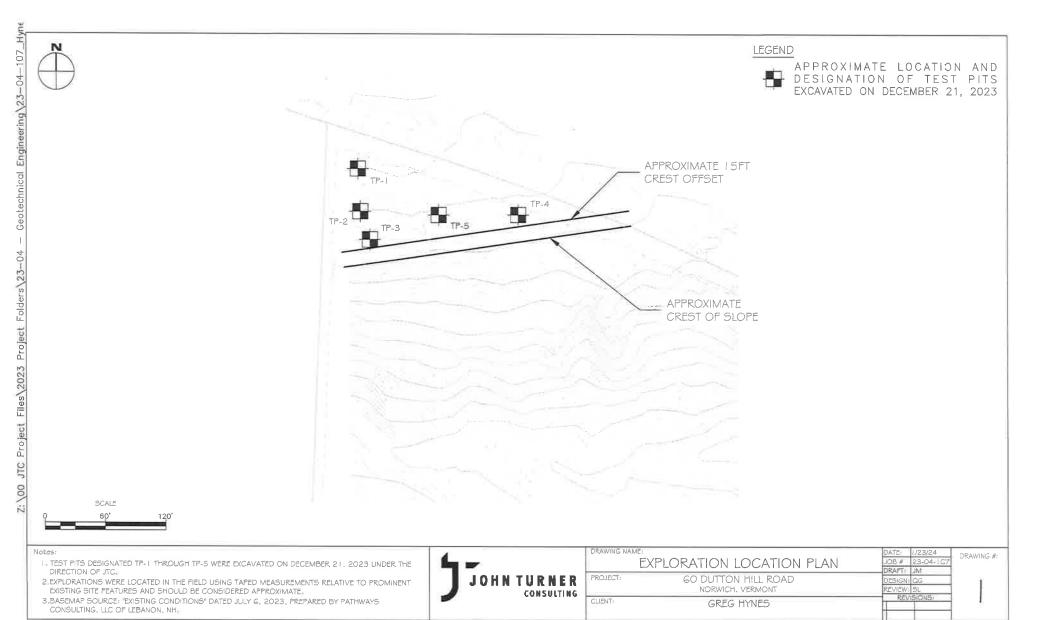
- The final surface materials adjacent to the wall should be relatively impermeable to reduce the volume of precipitation infiltrating behind the wall. Such impermeable materials include Portland cement concrete, bituminous concrete, and/or vegetated silty/clayey topsoil.
- Backfill behind the chimney drain should consist of compacted engineered fill.
- If the retaining wall is not designed to drain water, then the lateral earth pressure should be increased to include full hydrostatic pressures.

The following interface friction factors are recommended for evaluating sliding resistance.

| Condition | Friction Factor |
|--|-----------------|
| Concrete cast directly on soil, crushed stone, or bedrock | 0.50 |
| Precast concrete placed on soil, crushed stone, or bedrock | 0.40 |



APPENDIX D: EXPLORATION LOCATION PLAN





APPENDIX E: TEST PIT LOGS & KEY TO SYMBOLS AND DESCRIPTION



Notes:

TEST PIT LOG Test Pit No.: TP-1

| PROJECT | PROJECT NO. |
|---------------------------------------|--------------|
| 60 Dutton Hill Road, Norwich, Vermont | 23-04-107 |
| CLIENT | DATE |
| Greg Hynes | 12/21/2023 |
| LOCATION | ELEV. |
| 60 Dutton Hill Road, Norwich, Vermont | 740 feet |
| EXCAVATION METHOD | LOGGER |
| Bobcat E50 Compact Excavator | Q. Guglielmo |
| DEPTH TO - Water: N/E When checked: | |

| ELEVATION/ DEPTH | SOIL SYMB AND SAMPL GRAPHIC | OLS ERS USCS | DESCRIPTION |
|---|-----------------------------------|--------------------|---|
| 740 - 0 $735 - 5$ $730 - 10$ $725 - 15$ $720 - 20$ $715 - 25$ | | SW ML SW SW | [TOPSOIL] - 6 inches Dark Brown well-graded Sand (SW) with Organics, with Silt, trace Gravel [SUBSOIL] Brown Sandy Silt (ML) with Gravel, with Organics, trace Boulders, trace Cobbles [NATIVE SAND] Gray well-graded Sand (SW) with Silt, with Gravel [GLACIAL TILL] Gray Silty well-graded Sand (SW) with Gravel, trace Cobbles Refusal at 6.5 feet |

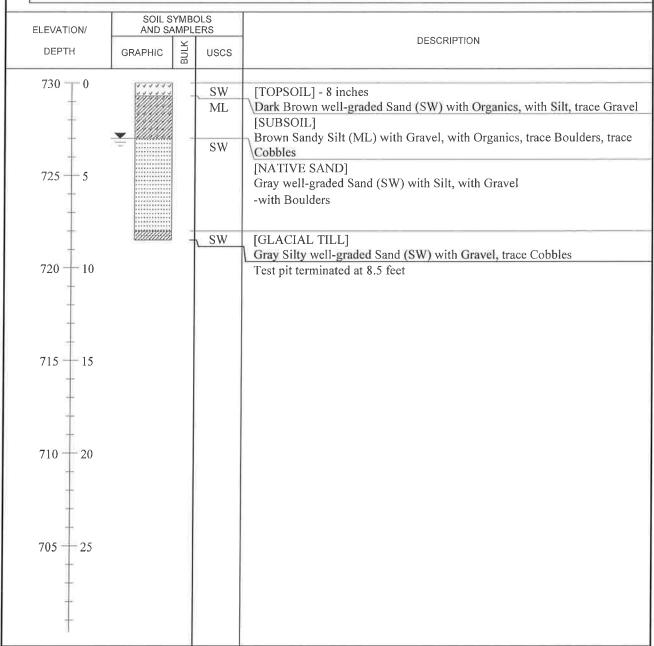
_____John Turner Consulting _____



Notes:

TEST PIT LOG Test Pit No.: TP-2

| PROJECT | PROJECT NO. |
|--|--------------|
| 60 Dutton Hill Road, Norwich, Vermont | 23-04-107 |
| CLIENT | DATE |
| Greg Hynes | 12/21/2023 |
| LOCATION | ELEV. |
| 60 Dutton Hill Road, Norwich, Vermont | 730 feet |
| EXCAVATION METHOD | LOGGER |
| Bobcat E50 Compact Excavator | Q. Guglielmo |
| DEPTH TO - Water: 3 feet When checked: | 1111 |



_____ John Turner Consulting __



TEST PIT LOG Test Pit No.: TP-3

| PROJECT | PROJECT NO. |
|--|--------------|
| 60 Dutton Hill Road, Norwich, Vermont | 23-04-107 |
| CLIENT | DATE |
| Greg Hynes | 12/21/2023 |
| LOCATION | ELEV. |
| 60 Dutton Hill Road, Norwich, Vermont | 726 feet |
| EXCAVATION METHOD | LOGGER |
| Bobcat E50 Compact Excavator | Q. Guglielmo |
| DEPTH TO - Water: 1 foot When checked: | |

SOIL SYMBOLS ELEVATION/ AND SAMPLERS DESCRIPTION DEPTH GRAPHIC USCS 726 - 0SW [TOPSOIL] - 10 inches Dark Brown well-graded Sand (SW) with Organics, with Silt, trace Gravel ML [SUBSOIL] SW Brown Sandy Silt (ML) with Gravel, with Organics, trace Boulders, trace Cobbles [NATIVE SAND] 721 - 5 Gray well-graded Sand (SW) with Silt, with Gravel SW [GLACIAL TILL] Gray Silty well-graded Sand (SW) with Gravel, trace Cobbles Test pit terminated at 8.0 feet 716 10 711 - 15706 + 20701 — 25

Notes:

John Turner Consulting



Notes:

TEST PIT LOG Test Pit No.: TP-4

| PROJECT | PROJECT NO. |
|---------------------------------------|--------------|
| 60 Dutton Hill Road, Norwich, Vermont | 23-04-107 |
| CLIENT | DATE |
| Greg Hynes | 12/21/2023 |
| LOCATION | ELEV. |
| 60 Dutton Hill Road, Norwich, Vermont | 725 feet |
| EXCAVATION METHOD | LOGGER |
| Bobcat E50 Compact Excavator | Q. Guglielmo |
| DEPTH TO - Water: N/E When checked | |

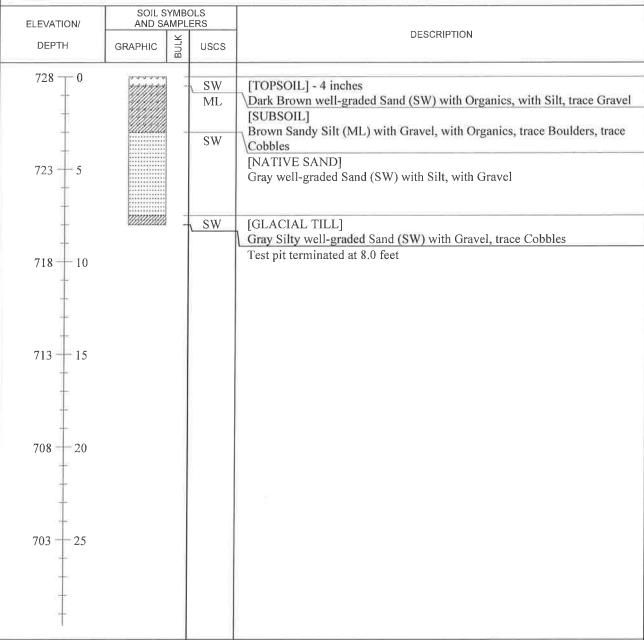
| ELEVATION/ | SOIL SYMBOLS AND SAMPLERS | | OLS ERS | DESCRIPTION | |
|-----------------------------------|------------------------------|------|------------|---|--|
| DEPTH | GRAPHIC | BULK | USCS | DESCRIPTION | |
| 725 — 0 720 — 5 715 — 10 710 — 15 | GRAPHIC | BULK | SW MIL SW | [TOPSOIL] - 8 inches Dark Brown well-graded Sand (SW) with Organics, with Silt, trace Gravel [SUBSOIL] Brown Sandy Silt (ML) with Gravel, with Organics, trace Boulders, trace Cobbles [NATIVE SAND] Gray well-graded Sand (SW) with Silt, with Gravel [GLACIAL TILL] Gray Silty well-graded Sand (SW) with Gravel, trace Cobbles Test pit terminated at 8.5 feet | |
| 705 — 20 | | | | | |
| 700 — 25 | | | | | |

John Turner Consulting _____



TEST PIT LOG Test Pit No.: TP-5

| tton Hill Road, Norwich, Vermont | 23-04-107 |
|--|---|
| A STATE OF THE STA | |
| | DATE |
| Greg Hynes | 12/21/2023 |
| Carte Paris Carte | ELEV. |
| tton Hill Road, Norwich, Vermont | 728 feet |
| | LOGGER |
| obcat E50 Compact Excavator | Q. Guglielmo |
| | |
| | Greg Hynes atton Hill Road, Norwich, Vermont bobcat E50 Compact Excavator When checked: |



Notes:

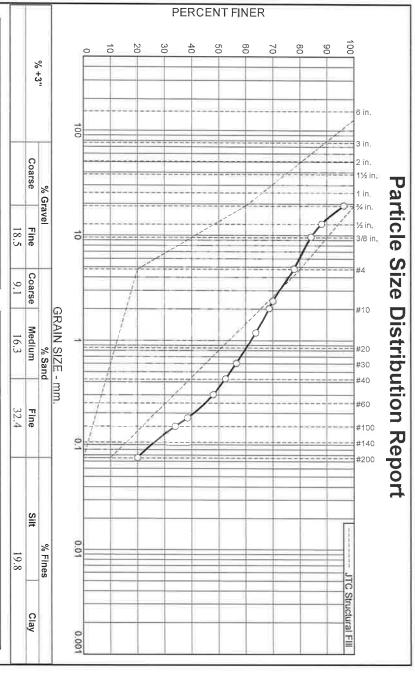
_____ John Turner Consulting ___

| | MAJOR D | IVISIONS | SYMBOLS | TYPICAL NAMES | JOHN TURNER |
|---|---|---------------------------------------|---------|--|---|
| SIZE | GRAVELS | CLEAN GRAVELS WITH LESS THAN 5% | GVV | Well-graded gravels or gravel-sand mixtures, little or no fines Poorly graded gravels or gravel-sand mixtures, little or no | KEY TO SYMBOLS AND DESCRIPTIONS |
| SOIL | MORE THAN 1/2 | FINES GRAVELS WITH | GF 100 | fines Silty gravels, gravel-sand mixtures | Shelby Tube Auger Cuttings Recessed Cover |
| RAINED | OF COARSE FRACTION > No.4 SIEVE SIZE | OVER 15% FINES | GC | Clayey gravels, gravel-sand-clay mixtures | ✓ Standard Split ✓ 3" Split Spoon Standard Split ✓ |
| ψŹ | SANDS | CLEAN SANDS WITH LESS | SW | Well-graded sand or gravelly sands, little or no fines | Spoon Sample Sample Sample Dynamic Cone Covered Riser w/ Locking Cover |
| ARSE 50% > | | THAN 5% FINES | SP | Poorly graded sands or gravelly sands, little or no fines | Penetrometer Pipe Riser |
| SH | MORE THAN 1/2 OF COARSE FRACTION < No.4 | SANDS WITH OVER 15% | SM | Silty sand, sand-silt mixtures | Vane Shear Bulk/Grab Sample Concrete Seal Sonic or |
| \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ | SIEVE SIZE | FINES | SC //// | Clayey sands, sand-clay mixtures | Vibro-Core Sample |
| S E SIZE | SILTS 8 | & CLAYS | ML | Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity | Water Table (at time of drilling) (after 24 hours) ■ Water Table (after 24 hours) ■ Bentonite Slurry |
| SOILS SIEVE | LIQUID LIMIT | 50% OR LESS | CL | Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays | TYPICAL SYMBOLS SOIL MOISTURE MODIFIERS Bentonite Pellets |
| AINEE No.200 | | | OL === | Organic silts and organic silty clays of low plasticity Inorganic silts, micaceous or diatomaceous fine sandy or | Term Description Silica Sand, blank PVC |
| NE-GR 50% < 1 | SILTS 8 | & CLAYS | MH | silty soils, elastic silts Inorganic clays of high plasticity, fat clays | Dry Absence of moisture; dusty, dry to touch Sand |
| FINE-GRAINED OVER 50% < No.200 | LIQUID LIMIT GRI | EATER THAN 50% | CH | Organic clays of medium to high plasticity, organic silty | Moist Damp but no visible water Packed in Sand Wet Visible free water Silica Sand, No |
| 0 | LIIOUU X OD | 24110 0011 0 | OH W | clays, organic silts | The descriptor "damp" should not be used (use "moist"). The descriptor "saturated" should not be used (use "moist"). WELL |
| | HIGHLY OR | GANIC SOILS | PT | I eat and other highly organic soils | SYMBOLS |

| | RANGE OF G | | TIVE DENS | SITY/ | CONSIS | TENCY | PERCENT OR PORTIONS OF SOIL | | | | |
|------------------|---------------------------------------|---------------------------------|---------------------|---------------------------------|----------|------------------|-----------------------------|-------------|---|--|--|
| CLASSIFICATION | U.S. Standard Sieve Size | Grain Size in Millimeters | | , Sand, and Silt conplastic) | Si | lt (plastic) and | d Clay | Term | Description | | |
| BOULDERS | Above 12" | Above 305 | N-Value | Relative Density | N-Value | Su | Consistency | Parting: | > 1/16 in. | | |
| COBBLES | 12" to 3" | 305 to 76.2 | 0 - 4 | Very Loose | 0 - 2 | 0 - 250 | Very Soft | Seam: | 0.5 in. to 1/16 in. | | |
| ODAY/FI | 0114 - 11 - 4 | 70.01.175 | 5 - 10 | Loose | 3 - 4 | 251 - 500 | Soft | Layer: | 12 in. to 0.5 in. | | |
| GRAVEL coarse | 3" to No. 4 3" to 3/4" | 76.2 to 4.75 76.2 to 19.1 | 11-30 | Medium Dense | 5 - 8 | 501 - 1000 | Medium Stiff | Stratum: | > 12 in. | | |
| fine | 3/4" to No. 4 | 19.1 to 4.75 | 31 - 50 | Dense | 9 - 15 | 1001 - 2000 | Stiff | Pocket: | Small erratic deposit | | |
| SAND | No. 4 to No. 200 | 4.75 to 0.075 | 51 + | Very Dense | 16 - 30 | 2001 - 4000 | Very Stiff | Lens: | Lenticular deposit | | |
| coarse medium | No. 4 to No. 10 | 4.75 to 2.00 | | | 31 + | 4001+ | Hard | Occasional: | One or less per foot of thickness | | |
| fine | No. 10 to No. 40 No. 40 to No. 200 | 2.00 to 0.425 0.425 to 0.075 | Standard | Penetration Testing | (SPT) N | 60 based on b | lows per 12 | Frequent | More than one per foot of thickness | | |
| SILT & CLAY | 110, 10 10 10, 200 0.120 10 | | inches. WR = Wei | ght of Rods; WH = | Weight o | of Hammer | | Varved | Alternating seams or layers of silt and/or clay and sometimes f. sand | | |



APPENDIX F: GEOTECHNICAL LABORATORY TESTING REPORTS



| * JTC Structural FIII | #200 19.8 | #50 47.8 | | | | | | Size Finer | Opening Percent | lest Kesults (ASIM |
|-----------------------|------------|--------------|--|--|-------------|--|--------------|------------|-----------------|--------------------|
| | 0.0 - 10.0 | | | | 20.0 - 80.0 | | 60.0 - 100.0 | (Percent) | Spec.* | C 136 & ASIM |
| | × | | | | | | | (X=Fail) | Pass? | C 117) |

| 1/8/24 | Date Tested: | | Date Received: 1/8/24 |
|--------|------------------------------|--|--|
| | | | Moisture: 15.3% |
| | S | Remarks | |
| 0.8390 | 0 D60= C _C = | Coefficients $D_{85}=10.4186$ $D_{30}=0.1276$ $C_{u}=0.1276$ | D ₉₀ = 14.3359 D ₅₀ = 0.3547 D ₁₀ = |
| | ification AASHTO (M 145)= | Classification AASHTO | USCS (D 2487)= |
| | STM D 4318) PI= | Atterberg Limits (ASTM D 4318) LL= - PI= - | PL= - Atte |
| | | | |
| | cilpuoii | avel | Sand w/ Silt and Gravel |
| | crintion | Material Dec | |

Location: TP-1 Sample Number: VT24-007 JOHN TURNER
CONSULTING Depth: 3'

Client: Project:

Checked By: Adam Allen

Title: Lab Manager

Date Sampled:

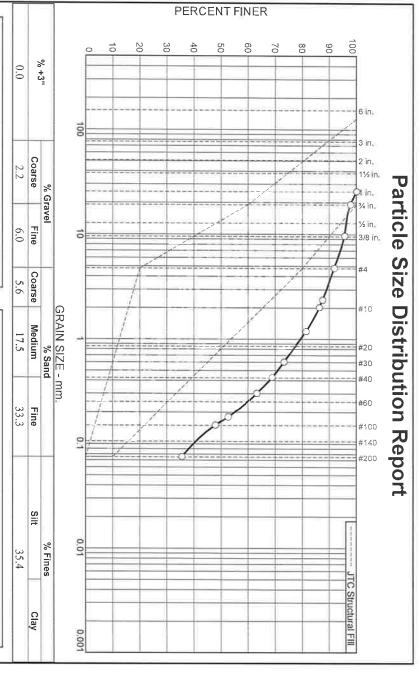
12/21/23

Tested By: SF

Greg Hynes Dutton Hill Roads Test Pits

Project No: 23-04-107

Figure



| | | | _ | | | | | _ | | | _ | _ | | | |
|---|--------------|------|------|------|------|------|------|------|-------------|--------|--------------|-------|-----------|---------|--|
| | | | | | | | | | | | | _ | _ | | |
| | #200 | #80 | #50 | #40 | #30 | #16 | #10 | #8 | #4 | 3/8" | 3/4" | 1" | Size | Opening | Test F |
| | 47.8 35.4 | 52.5 | 63.0 | 68.7 | 73.1 | 81.2 | 86.2 | 87.4 | 91.8 | 95.5 | 97.8 | 100.0 | Finer | Percent | Test Results (ASTM C 136 & ASTM C 117) |
| | 0.0 - 10.0 | | | | | | | | 20.0 - 80.0 | | 60.0 - 100.0 | | (Percent) | Spec.* | 136 & ASTM |
| | × | | | | | | | | × | | | | (X=Fail) | Pass? | C 117) |
| | | | | | | | | | | | | | | | |
| D | ₹ | | 0 | ס | 0 | | _ | : | | - P | | | | S | |

| _ | | | | | | | | |
|--------------------|------------------------|---------------|----------------------------|----------------|--|--------------------------------------|---|----------------------|
| Title: | Checked By: Adam Allen | Tested By: SF | Date Received: 1/8/24 | Moisture: 9.7% | D90≈ 3.5408 D50= 0.1637 D10= | USCS (D 2487)= | PL= . Attu | Silty Sand |
| Title: Lab Manager | Adam Allen | SF | 1/8/24 Date Tested: 1/8/24 | Remarks | $\begin{array}{c cccc} \textbf{Coefficients} & \textbf{Coefficients} \\ \textbf{D85=} & 1.7343 & \textbf{D60=} & 0.2542 \\ \textbf{D30=} & \textbf{D15=} \\ \textbf{Cu=} & \textbf{C_c=} \\ \end{array}$ | Classification SM AASHTO (M 145)= | Atterberg Limits (ASTM D 4318) LL= - PI= - | Material Description |
| | | | | 1 | | | | |

Location: TP-3
Sample Number: VT24-006 JOHN TURNER
CONSULTING Depth: 7.5'

JTC Structural FIII

Client: Project:

Date Sampled:

12/21/23

Greg Hynes
Dutton Hill Roads Test Pits

Project No:

001



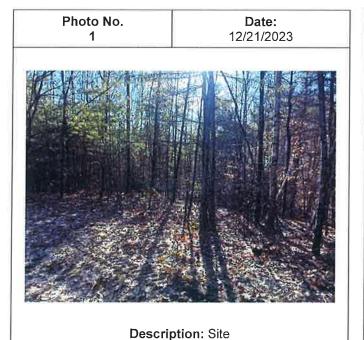
APPENDIX G: SITE PHOTOGRAPHS



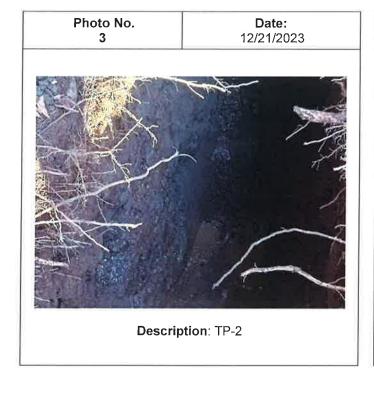
PHOTO LOG

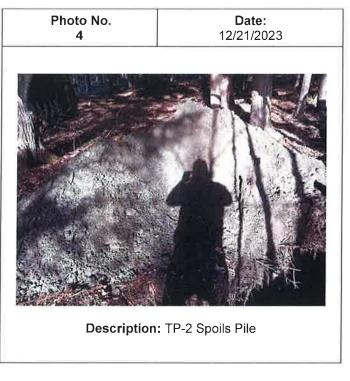
John Turner Consulting, Inc.

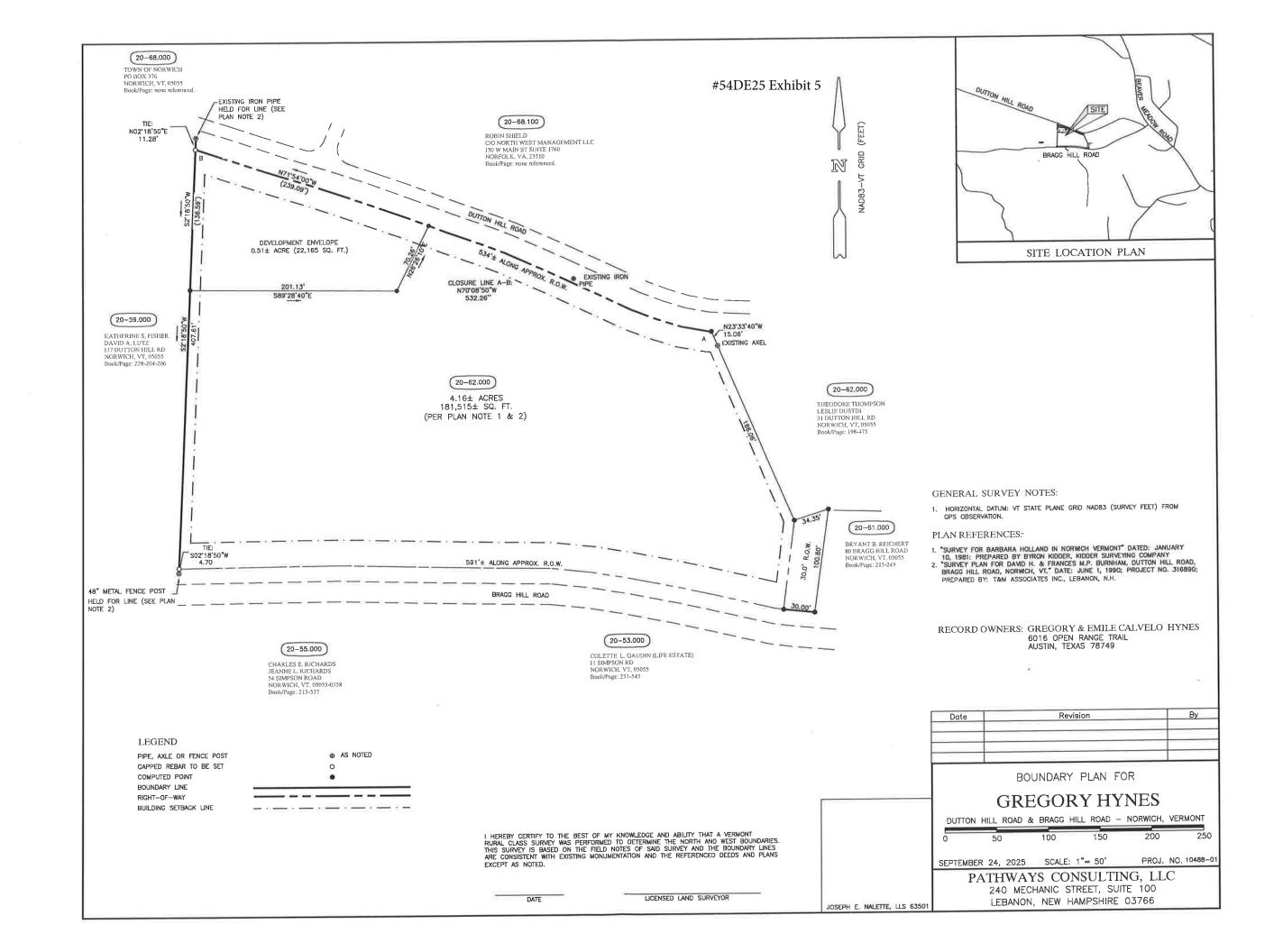
Site Location: 60 Dutton Hill Road, Norwich, VT

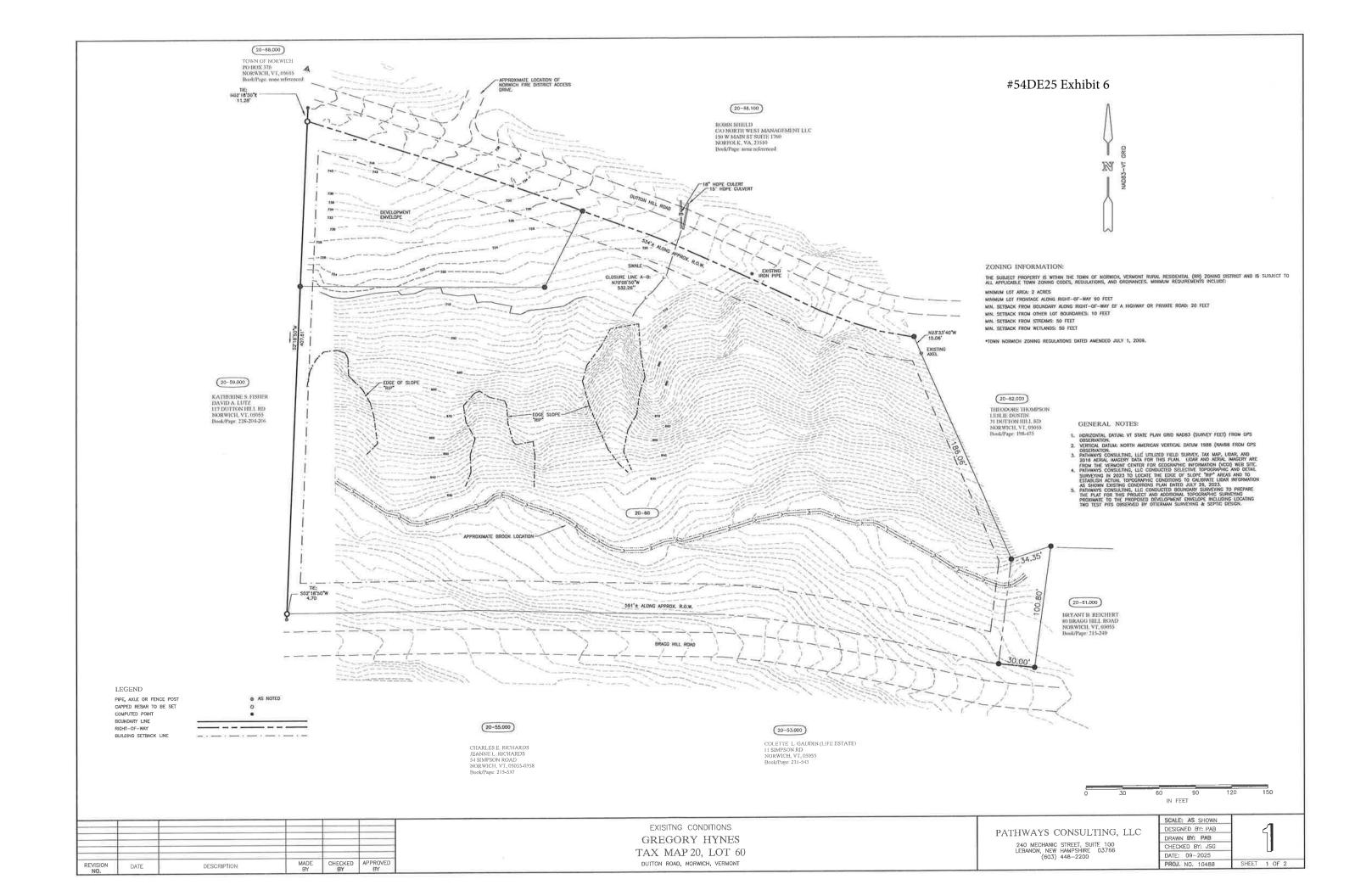


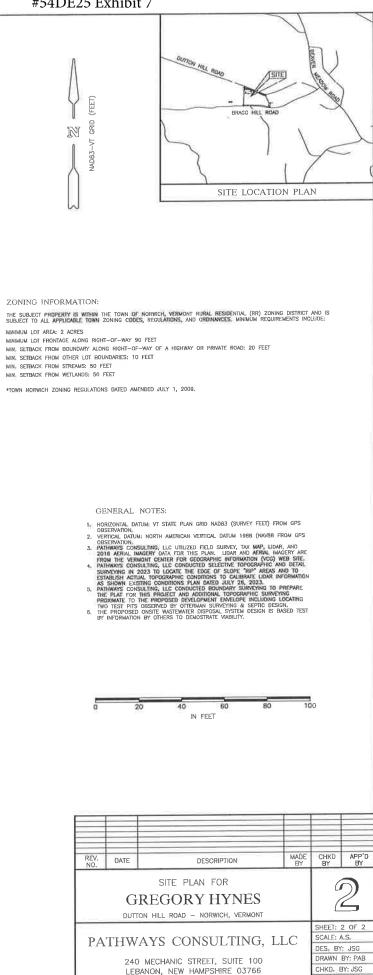






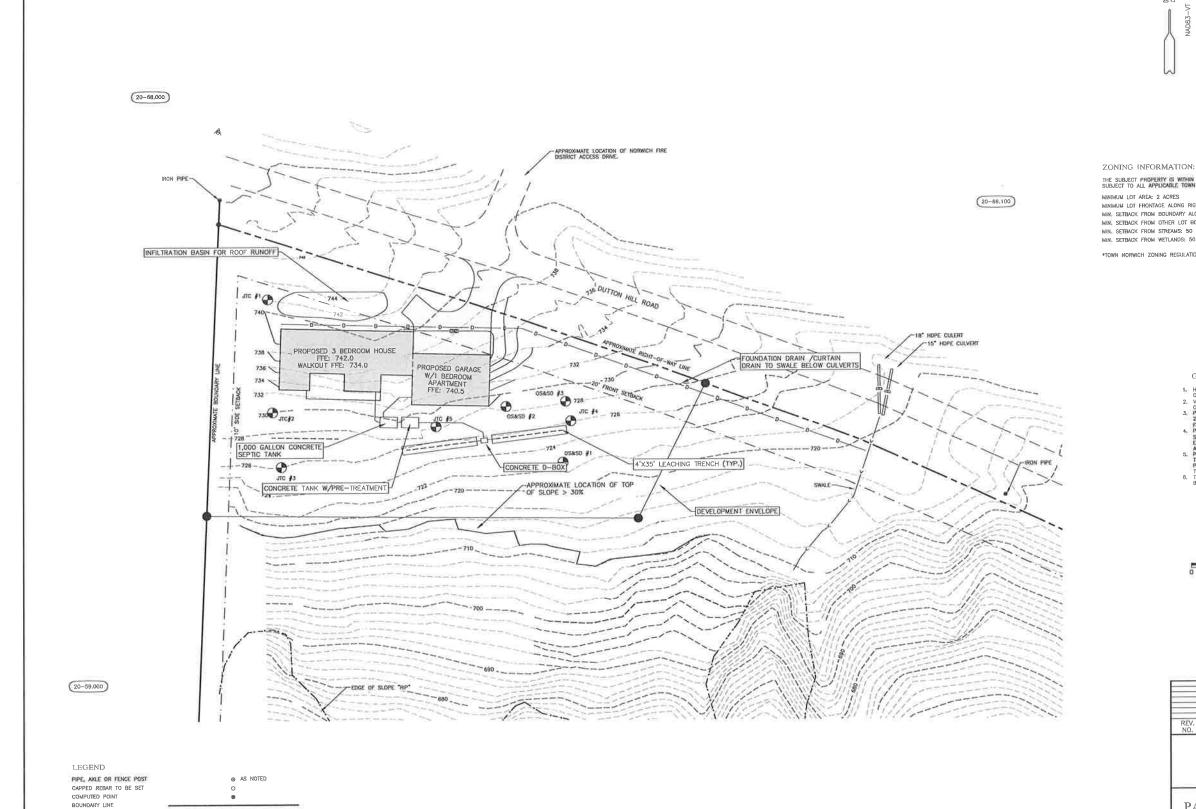






(603) 448-2200

DATE: 09/25 ROJ. NO. 10488-



RIGHT-OF-WAY

BUILDING SETBACK LINE
OTTERMAN SURVEY & DESIGN TEST PIT
JOHN TURNER CONSULTING TEST PIT

OSASD /1

CERTIFICATE OF MAILING

I hereby certify that on the 1ST day of October, 2025, a Notice for a Site Visit at 00 Dutton Hill for October 16, 2025 at 5:15PM and for a Public Hearing of the Development Review Board for October 16, 2025 to be held at the Town of Norwich and via zoom at 6:30 PM in reference to Application #54BCU25: Development Envelope Review; Applicant(s)/Landowners: Gregory Hynes and Emilie Calvello Hynes; 00 Dutton Hill RD; Parcel ID: 20-060.000; Rural Residential (RR) District. This notice was sent to the following abutters applicant and landowner.

Zoning Administrator

APPLICANTS/LANDOWNERS: HYNES, GREGORY 20-060.000 HYNES, EMILIE CALVELLO 6016 OPEN RANGE TRAIL AUSTIN, TX 78749-2804

ABUTTERS:

GAUDIN (LIFE ESTATE) COLETTE L 20-053.000 11 SIMPSON RD NORWICH, VT 05055

RICHARDS CHARLES E, RICHARDS JEANNE L 20-055.000 54 SIMPSON ROAD NORWICH, VT 05055-0358

FISHER KATHERINE S, LUTZ DAVID A 20-059.000 117 DUTTON HILL RO NORWICH, VT 05055

REICHERT BRYANT B 20-061.000 80 BRAGG HILL ROAD NORWICH, VT 05055

THOMPSON THEODORE, DUSTIN LESLIE 20-062.000 31 DUTTON HILL RD NORWICH, VT 05055

SHIELD ROBIN 20-068.100 C/O NORTH WEST MANAGEMENT LLC 150 W MAIN ST SUITE 1760 NORFOLK, VA 23510

NORWICH TOWN OF 20-068.200 PO BOX 376 NORWICH, VT 05055

TOWN OF NORWICH, VERMONT DEVELOPMENT REVIEW BOARD

Applicant Info and Exhibit List

Applicant: UPPER VALLEY AGRICULTURAL ASSOCIATION

2514 JERICHO RD HARTFORD, VT 05001

Landowner: DYKE ROSE Z TRUST

C/O JUDITH CURRIER 15391 MONTRESOR ROAD LEESBURG, VA 20176

APPLICATION #53SPR25: Site Plan and Conditional Use Review for an Open Air Market and a Multi-Use Building; Applicant(s): Upper Valley Agricultural Association (Norwich Farmers Market); Landowner: Rose Z Dyke Trust; 00 US Route 5 S; Parcel ID: 15-042.000; Rural Residential (RR) District.

The record in this case includes the following documents:

- 1. Application #53SPR25 (09-24-2025)
- 2. Narrative with Exhibit Attachments by Applicant, Upper Valley Agricultural Association (9-26-2025)

Exhibit Attachments:

- A. UVAA Traffic Comments
- B. Landscape Plan
- C. Floor Plans & Elevations
- D. Exterior Lighting Plan
- E. Wetland Report
- F. Site Plans
- G. Property Survey
- 3. Abutter Certificate of Mailing and Public Hearing Warning (10-01-2025)

TOWN OF NORWICH, VERMONT APPLICATION FOR ZONING PERMIT

53 SPR 25

| Owner(s): Rose Z. Dykes Trust | | EN EGITING I EN | TATE I | Exhibit 1 |
|--|------------------------------|---------------------------|---------------------------------|----------------------|
| Mail Address: c/o Judith Currier 15 | 391 Montresor Rd. | Town Leesburg | ST V | 7 Zip 20176 |
| Day Phone: (703) 737-2282 | Eve Phone: | Ema | | |
| Applicant (If Different): Upper \ | /alley Agricultural Associa | tion | | |
| Mail Address: 2514 Jericho Rd. | | Town Hartford | ST VT | Zip 05001 |
| Day Phone: 847-867-2374 | Eve Phone: 802- | 281-5850 Ema | il: Info@uppervalleyagricultura | alassociation.org |
| Description of Proposed Deve | lopment: | | | |
| Relocate the Norwich Farmers Market a | | rent focation and develop | a multi-use market build | dina |
| | | | RR VR I VR II | |
| Street Address: 0 US Route 5 | | _ Zonnig District. | 15 042 000 T =4 | VB C/I AQ |
| Building Setbacks- Road Right | -0f-way: 280°+/- | Light Downdown 480' | | Size: <u>54.7</u> |
| Size of Building(s)/Additions: | Structure A. Width | 53' 1 4 105' | Left 300 +/- R | lear 1,000 + |
| Structure R: Width 49' Long | AL 3559" TT 1 | col Length 105 | Height 35 + cupola | ñ E |
| Structure B: Width 49' Leng | Height | Area: Fo | otprint of Structure | e A 5818 |
| Additional Footprint of Structure | B (if any) 1/48 | Total_7566 | # of Parking S | Spaces <u>250+/-</u> |
| Estimated Date of Completion: | all '26/Spring /27 Estimate | ed Value \$ 3,000,000 | # of Bedro | oms N/A |
| ************************************** | ****** | ****** | ****** | ***** |
| Town of Norwich, and certifies the first the real estate that is the subject or signature of Landowner (or Author) | the application by the | Zoning Administrator | at reasonable times | |
| | ****** | ****** | ******* | ****** |
| Zoning Office Checklist: Flood Hazard Area | | mits Required: | Variance | |
| Wetlands | Subdivision Conditional | Hee | PRD Driveway Ac | ress |
| Septic Location | Site Plan Re | | Wastewater | |
| _ Water Supply | 19 | | | |
| Parking Shoreline | Fees: | \mathcal{D} | | ates |
| Aquifer Protection | Base Fee | 121-20 | Received Complete | 9-24-21 |
| Permit Conditions | Sq. Ft. x \$ # of Lots \$ | 11360 | Granted | 1016 |
| Agricultural Exemption | Recording S | 100 | Refused _ | |
| Comments: | Other 3 | 3.0 | Posted at Site | |
| | Total S | 1.625.26 | Appeal By | |
| | Date Paid | 9-24-26/ | Effective | |
| | To Finance | 9-24-25 | Expires | |
| Signature of Zoning Administra | tor | 676 | Data | |
| orgnature of Zonnig Administra /11 | | pplication/Permit | # 53 SPR | 35 |
| | | | | |
| DIMP MPIL HER | ing 10-16.2 | J | | |

Property Owner Consent

I Jurith Circle Trustee of the Trust Agreement dated January 27, 2010, made by Rose Z. Dyke ("Trust"), property owner of the approximately 34.7 acre parcel of land off RT5 S, Tax Parcel Id 15-042.000 and Span 450-142-12743 ("Property"), hereby consent to the Upper Valley Agricultural Association, Inc.'s ("UVAA" or "Applicant") application to the Town of Norwich for necessary zoning approvals for development of the Property for its proposed farmer's market.

9/5/2025 Date **Property Owner**

Judoth Curreer Trustee



September 26, 2025

Dear Members of the Norwich Development Review Board,

Project Description: The Upper Valley Agricultural Association (UVAA), a 501(c)3, seeks to acquire and improve a property comprising 34.7 acres with Tax Map #15-042.000 (located on US Route 5 across from the current farmer's market), to create a permanent home for the summer and winter markets for the Norwich Farmers' Market ("Market") and to provide a venue for a range of accessory and complementary activities, such as classes, demonstrations, and local food tastings that will educate and involve the community.

The Market is a popular outlet for farmers and other local vendors to sell their products and wares to the public, but site and access limitations at the existing location require this relocation to enable the Market to remain viable in the future.

This permanent home will include a 7500 plus square foot building to allow the Market to serve its vendors and clients especially during periods of inclement weather, which occur more frequently than in the past. Our plan will also include ample parking, better-defined parking spaces, and improved traffic flow.

In addition, the UVAA seeks to offer community fundraising events and to rent the facilities to interested parties to help ensure the financial viability of the enterprise.

Hours of Operation

The UVAA facilities will operate year-round with the peak times occurring on Saturdays between 9am and 1pm during the traditional weekly farmer's market event. Additional regular hours will be daytime and early evenings for classes and demonstrations.

Class sizes for these related activities will be between 15 to 45 people, and they will run for a few hours each session. Additional seasonal activities may include community events such as an apple press party, a farm to table tasting event, sheep shearing and other agricultural-related demonstrations.

Construction Phase

The phases of development of the property are contingent upon raising the necessary funds through grants and philanthropy. Our intention is to break ground in the spring of 2026 and complete the project before the snow falls in 2026. We ask for flexibility, however, on this timeline due to the uncertainty of when fundraising will be complete.

Traffic

The current summer market hosts approximately 850 cars on most Saturdays over the course of four hours.

The current summer market traffic within the site is less than ideal. With the new proposed access point, better design and additional designated spaces, the congestion on Route 5 will decrease if not be eliminated altogether, and the parking area will be much safer to navigate.

The traffic for the winter market will be significantly less due to fewer out-of-area visitors, and it will completely remove any congestion caused by the farmers' market in the village during the winter months.

Rural Residential (RR) District

Site design shall be configured to reinforce the district's rural character and historic working landscape, characterized by wooded hillsides and knolls, open fields, and a visual and functional relationship of structures to the surrounding landscape.

The proposed site is an open overgrown former hayfield. This location is suitable for this facility because, in our view, the landscape of the current open field complements and enhances Vermont's Agriculture heritage. It will be an outlet to allow local farmers to remain viable by having a central location to sell their products. We believe that the design of the building will represent the best of Vermont's agricultural heritage. The building will be representative of the scale and design of many Vermont barns throughout Vermont.

Conditional Use Criteria

(1) The capacity of existing or planned community services or facilities.

We do not believe that this project will place an undue burden on Norwich's ability to service this facility. This market facility currently exists in a more rudimentary form, and we are now merely proposing to move it across the street and upgrade some aspects of the market. Other than the proposed building, which will enhance the viability of the winter market and during times of inclement weather, the market will retain the characteristics and aura of the current market.

The winter market now occupies Tracy Hall. That winter activity will be moved to the proposed building on the site. This move will lessen the activity in the central village and keep it in roughly the same location along Route 5 in an environment that is attached to the working landscape.

(2) The character of the area affected.

This segment of Route 5 already has commercial and industrial activities as well as substantial residential development in Norwich and Wilder. The Norwich town plan envisions this parcel for

development. We believe this market will serve the residential developments along Route 5 and complement the commercial nature of the surrounding businesses yet retain some rural context with this proposed activity.

(3) Traffic on roads and highways in the vicinity.

As for the main activity of the farmers' market, there will be no additional impact on the roads than what currently exists as the relocation of this market will alleviate the traffic patterns along Route 5.

Ample space has been allotted to parking, and we believe the access and circulation of this parking arrangement will dramatically lessen the Saturday congestion along Route 5. This area is slightly larger than the current parking area.

(4) Ordinances. Bylaws and Regulations in effect.

The proposed development aligns with the new changes to the Norwich zoning ordinance in that it is specifically mentioned as a conditional use for this district.

(5) The utilization of renewable energy resources.

This Property is large enough that it will not interfere with sustainable use of energy resources of any neighboring property.

The roof of the building will be designed to accommodate solar panels which may be placed there in the future depending on the availability of grants and tax credits.

Site Plan Review Standards

(1) Maximum safety of vehicular circulation between the site and the street network.

Our entrance to the project has the preliminary approval from the Agency of Transportation as the site distances are more than adequate to place a curb cut in this location. We also chose this location to minimize the wetland impact to crossing the wetlands. **See E-mail from AOT Exhibit A**

(2) Adequacy of circulation, parking and loading facilities with particular attention to safety.

We acknowledge that this parking facility is large to accommodate the popularity of this market. We have broken the lot into two segments to minimize the asphalt...the area closest to the building will be paved and the area to the north will be a structural grassed parking area.

Adequate parking facilities for people with disabilities with ADA standards are provided.

Provisions have been made for wheelchair van parking with an area for safe loading and unloading.

Clearances and turning radii are sufficient to accommodate service and delivery vehicles required for the normal activities on the site, and fire trucks and other emergency vehicles.

(3) Landscaping.

Landscaping is proposed around the development envelope on the property as shown on the Landscape Plan submitted with this application.

The proposed plan for Norwich Farmers Market includes an overall landscape concept design to meet the town of Norwich landscape regulations.

The plans include a focus of new development within the existing mowed-field area with emphasis on maintaining the existing perimeter landscaping near the property line. In addition, we are including use of both deciduous and coniferous varieties with a mix of evergreen and flowering shrubs and bushes adjacent the building to complement shade trees and other landscape features.

All shade trees are 2.5" minimum caliper. The choice and placement of plantings in the parking area considers the special hazards of salt, vehicles, and maintenance equipment.

We also would like to note the provision of VT wetland buffer and riparian species such as red maple, white birch, yellow birch, aspen, red-twig dogwood and hemlock. These species are well suited to this climate and should thrive once established.

Lastly, the plan includes a conservation seed mix and wildflower mixtures in areas where there are cut and fill slopes, detention basin side slopes, and disturbed areas where slope conditions occur. See Landscape Plan and Detail Sheets Exhibit B

(4) Screening.

The proposed plan includes additional proposed evergreen varieties along the perimeter/property-line where appropriate and where the existing landscape conditions do not currently provide a dense buffer. In addition, the extended entry drive onto the site provides greater distance from Christian Street with a variety of new landscape plantings placed on either side of the entry drive.

(5) Bicycle & Pedestrian Access.

The plan includes on-site pedestrian circulation including a proposed walkway along the West side of the entry drive to the on-site parking areas and new building. In addition, a bicycle rack has been provided for public access and centrally located between the new building and the market vendor stations. Lastly, adequate access from the parking area to the building and vendor areas are provided as part of this proposal including ADA parking with dedicated walkway route(s) as shown on the civil plans.

(6) Outdoor Storage & Display.

There will be no outdoor storage. The vendors are all required to remove their wares upon the conclusion of a market event.

(7) Building Design.

The building's architecture will resemble a barn to fit within the context of Vermont's agricultural heritage. **See Elevations Exhibit C**

(8) Building and Site Lighting.

Building:

All exterior building mounted light fixtures being proposed are:

- 1. Shielded or cut off fixtures.
- 2. The light sources will not be visible from Route 5 or from adjacent properties.
- 3. The CRI for the fixtures is 80+ to 90+
- 4. The light fixture circuits will be on timers.

This is a light fixture mounted to the exterior wall of the vestibules and provides light at the exterior entrances as required by the building code. They are adjustable.

Site Lighting:

The proposed plan includes an overall lighting design which aligns with the intent of the town regulations, i.e., to provide appropriate lighting while minimizing its undesirable effects.

This includes the use of dark-sky-friendly recessed, shielded, and cutoff fixtures. All lighting has been designed within the paved parking area and surrounding the building in effort to provide the minimum required for safety, security, and intended use consistent with the character of the neighborhood and zoning district.

All information regarding exterior lighting fixtures, including fixture type, mounting location and height, illumination levels and distribution, and color, are submitted as part of the application lighting plan herein.

The overall lighting goal is to provide the minimum required fixtures for safety, security and intended use consistently with the character of the neighborhood. The levels of lighting have been focused within the interior portion of the paved parking area and the building perimeter.

The overall lighting design aligns with the intent of the Town regulations to provide appropriate lighting while minimizing its undesirable effects. **See Lighting Plan. Exhibit D**

(9) Stormwater Management.

We are asking for a **waiver** of a full-blown stormwater management plan at this stage. We are subject to the jurisdiction of Act 250 and are required to apply for and receive a state approved

stormwater discharge permit. Conceptually we are planning to direct storm water run-off to a detention pond on the eastern portion of the property. The preliminary stormwater management plan consists of a combination of roof top disconnections such as infiltration trenches or dry wells as feasible for groundwater recharge, utilizing grass treatment channels and deep catch basins for some pre-treatment of impervious surfaces, installing porous pavement in parking stalls where feasible to possibly provide infiltration or treatment and detention as feasible, and some combination or either dry, wet, or gravel wetland ponds for treatment and detention.

(10) Protection of Natural Resources.

The project has been designed to protect natural resources on and surrounding the Property. The project will develop less than a third of the available acreage of the Property. The forest area will remain untouched, and the site development plan incorporates a significant buffer zone between the development and the designated wetland areas on the Property except as is necessary for vehicular access. This wetland impact will require a state wetland permit and the wetland biologist for this region has toured the site and confirmed the flagging and proposed classifications of our wetland consultant. See Wetland Summary Exhibit E

(11) Fire and Public Safety.

The Property is easily accessible for emergency vehicles, and we have designed the project to allow fire vehicle access around the building in the event of a fire. The building is not proposed to have sprinklers as these are not required by the State of Vermont Department of Public Safety, Division of Fire Safety.

(12) Underground Utilities, Water and Wastewater.

All utilities will be underground.

The water and sewer may be provided by the town of Hartford as we have had some preliminary, very positive discussions with the Hartford Selectboard, the town manager and the Hartford Department of Public Works. We are working through some technical requirements and hope to have a firm commitment wrapped up soon.

(13) Site Plans

See Site Plans Exhibit F

(14) Property Survey

See Survey Exhibit G

EXHIBIT A UVAA Traffic Comments

From: Clow, Christopher < Christopher. Clow@vermont.gov>

Sent: Wednesday, August 13, 2025 3:43 PM **To:** McAvoy, Brian <Brian.McAvoy@vermont.gov>

Subject: RE: Curb cut input

Hey Brian,

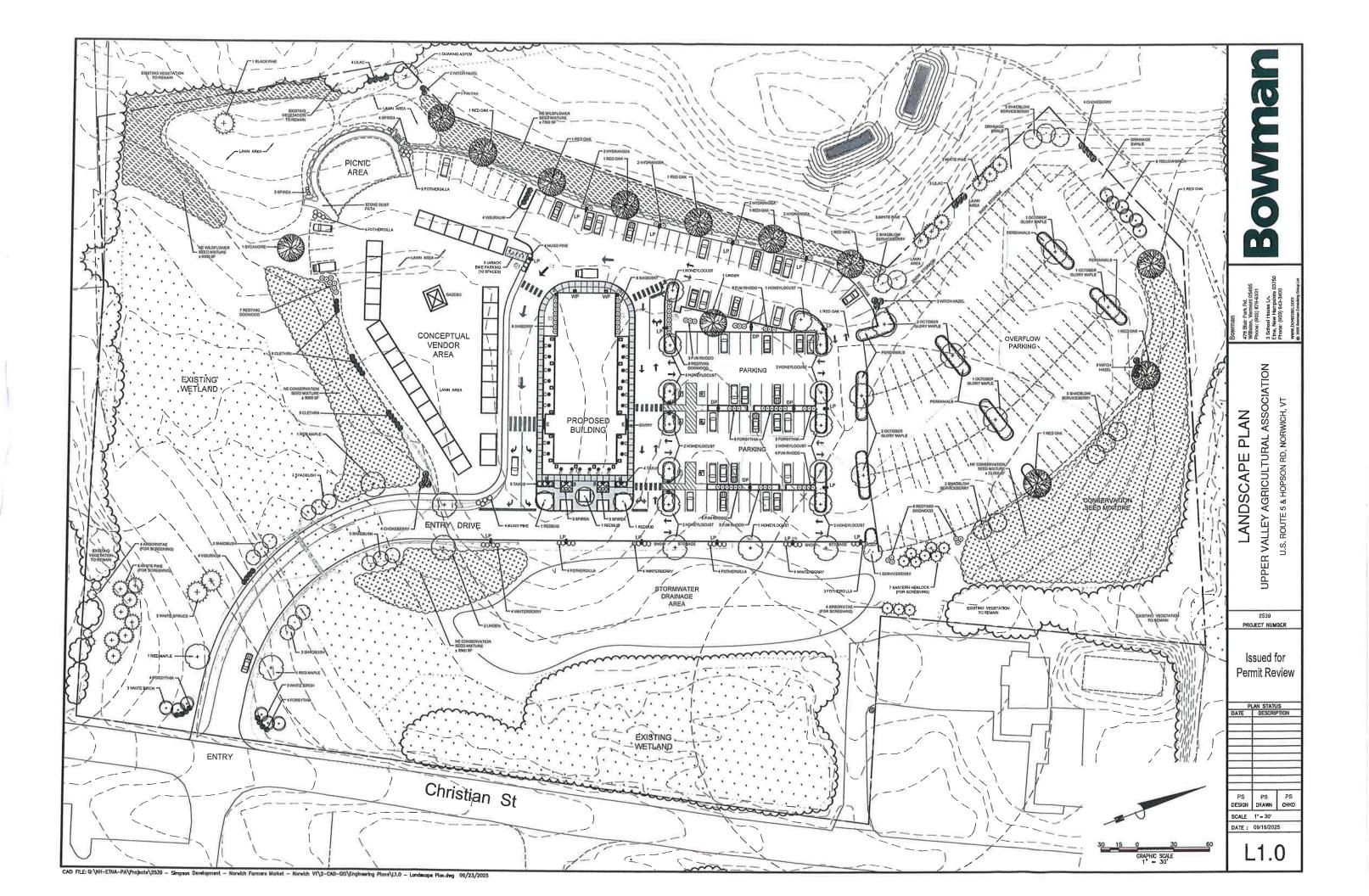
I appreciate the information. I looked this over and checked out the Norwich Farmer's Market website. Overall, I don't see any issue with this from a traffic/trip standpoint. They are already doing this venue across the street as you said so they are just shifting it over. As the applicant mentioned, there won't be much of a shift or addition in traffic because of that. The only difference will now be winter operations but as the applicant mentioned – winter operations were taking place anyway in downtown Norwich. The website affirms what you mentioned that the market is just open on Saturdays....and at a limited time at that. The farmers market looks to be open from just 9am to 1pm so we are talking about a facility that is open one day a week for approximately four hours.

As far as crash history, there are only three crashes in the vicinity of this area in the last five years. All of them are property damage only and look to be at the access of Olcott Drive and one crash at the hardware store access (rear end). That is not enough crashes in this 0.3-mile segment in five years to make this a High Crash Location. As far as US-5 volume in this area, a 2018 measurement has this road at 4,500 annual average daily traffic (AADT). However, in looking at the days, Saturdays are one of the lower volume days compared to the other days of the week. Saturday has a daily volume of approximately 4,400 vehicles per day while a Wednesday or Thursday or Friday will have over 6,000 vehicles a day. I don't see any congestion issues – 4,400 vehicles per day is a relatively low volume.

Chris

Christopher Clow, PE | Transportation Engineer
Policy, Planning, and Research Bureau / Development Review and Permitting Services
Policy, Planning, and Intermodal Development Division
Vermont Agency of Transportation
219 North Main Street | Barre, VT 05641
802-522-4901 phone | christopher.clow@vermont.gov
http://www.vtrans.vermont.gov

EXHIBIT B Landscape Plan





NORWICH VT LANDSCAPE REQUIREMENTS

SECTION 5.03 part (3)

(3) Landscaping. Landscaping shall enhance the features and conditions unique to each site, and should include a combination of shade trees (deciduous and/or coniferous), deciduous and evergreen shrubs, well kept grasses and ground covers. Landscaping is required in front and side yards, adjacent to parking areas, and where rear yards abut residential properties or public roads.

- a. Landscaping plans shall emphasize the following:
- The preservation of existing ground cover and trees, especially those that are mature or determined to be of special horticultural or landscape value. The use of both deciduous and coniferous shade trees in available yard area, especially front and side yards, parking areas and along street lines. Shade trees should be placed to interrupt the facades of buildings, break-up expanses of parking, visually reduce the scale and bulk of large buildings, integrate the site with surrounding properties, establish a linear pattern of street trees along road frontage, and enhance environmental quality (e.g., wildlife habitat, soil stabilization, storm water retention, air quality, energy conservation).

 The use of flowering ornamental trees to complement shade trees in
- instances where large yard areas exist, and where space limitations prevent the planting of shade trees. Landscaping beds which enhance the general appearance of the site,
- define planting strips and buffer areas and minimize the amount of grass lawn area. Such beds are not to be considered a substitute for tree plantings or other open space requirements.

 A mix of evergreen and flowering strubs and busites should be used
- adjacent to buildings, within planting beds and to complement shade trees and other landscaping features.
- In addition, landscaping plans are subject to the following:
 Shade trees shall be a minimum of 2.5" caliper (trunk diameter), measured at a height of 5 feet, or, in the case of coniferous trees, be a minimum of 8 feet
- at a neight of 5 tect, or, in the case of conterous trees, be a minimum of in height, unless otherwise specified by the Board upon consideration of site conditions; be a species with a substantial life expectancy and a tolerance for soil compaction, drought and, if located along street lines, salt; and be of native origin, provided that they meet the above criteria. The planting of single gender deciduous trees shall be avoided. The Board may require the submission of a three year plan for all recovered landerspine. Boding or other water to the same of a proposed to the same of the same proposed landscaping. Bonding or other surery may be required to ensure installation and maintenance.

LANDSCAPE SCREENING

SECTION 5.03 part (4)

(4) Screening. Sufficient screening shall be provided when the Development Review Board determines that adequate screening is not provided by topographical or other barriers. Screening shall be required where a more intensive land use is proposed to abut a less intensive uses adjocent to garbage collection and utility areas, stellite antennas, outdoor storage, and loading and unloading areas and other outdoor utilities. and facilities; and when the project adversely impacts adjacent properties (e.g., lighting, ourdoor storage, etc.). In addition:

- Screening shall provide a year-round visual screen, particularly from screening smail provide a year-round visual screen, particularly from roads. A diversity of materials to create a naturalized screen is encouraged rather than a large expanse of uninterrupted, uniform material so long as sufficient screening is obtained. Materials may include fencing, shade trees, evergreen and flowering shrubs, rocks, mounds or combinations thereof to achieve the same objectives.
- Arrangement of screening shall provide protection to adjacent properties and avoid damago to existing plantings. If re-contouring of the site is proposed, the side slope shall be used for plantings. A maximum of 4:1

BICYCLE & PEDESTRIAN ACCESS

SECTION 5.03 part (5)

(5) Bicycle & Pedestrian Access. On-site pedestrian circulation linked to pedestrian (3) Bicycle & Pedestrian Access, On-site pedestrian circulation linked to pedestrian facilities located on adjacent properties and/or along public roads, and to on-site parking areas, shall be provided. Such access shall take the form of sidewalks for walking and bicycling, or other facilities depending upon the property's location, site conditions and proximity to other bicycle/pedestrian facilities. Access points at property edges shall be coordinated with existing and planned development to provide pedestrian connections between uses. Bicycle racks shall be required for commercial and public uses intended for general public access. In addition, adequate access from the parking area and sidewalks to the building(s) that are open to the general public shall be provided for people with disabilities.

NE WILDFLOWER SEED MIX SPECS

NORTHEAST NATIVE WILDFLOWER SEED MIXTURE PLANTED IN AREAS SHOWN ON LANDSCAPE PLAN NORTHEAST WILDFLOWER SEED MIXTURE TO CONTAIN A MAJORITY OF > 67% PERENNIAL VARIETIES TO INSURE GROWTH OF WILDFLOWER VEGETATION IN SUCCESSIVE YEARS.

| WP,COM | SEED-MIXE | S OR A | PPROVED | EQUAL |
|--------|-----------|--------|---------|-------|
| | | | | |

| SLOPE PLANTING TYPE | QTY | SIZE |
|---|--------------------|----------|
| Custom Blend of Northeast Native Wildflower Mixture | ± 13,500 SF | SEED MIX |
| 可能是一种企业的原理 | | 3 6 |
| | * * | 150 - |
| | a Da count | |
| | Carlotte Committee | 经有价值 |
| | | |
| | H. ICHILLIAN | |

NE WILDFLOWER MIXTURE

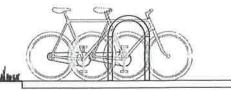
BIKE RACK INSTALLATION DETAIL

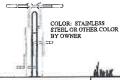






CONTRACTOR TO SURFACE MOUNT





NOTE: SEE CIVIL PLANS FOR CONCRETE PAD INSTALLATION DETAIL

NEW ENGLAND CONSERVATION SEED MIX SPECS

NEW ENGLAND CONSERVATION SEED MIXTURE PLANTED IN AREAS SHOWN ON LANDSCAPE PLAN

THE NEW ENGLAND CONSERVATION / WILDLIFE MIX PROVIDES A PERMANENT COVER OF GRASSES, WILDLOWERS, AND LEGUMES. FOR BOTH GOOD EROSION CONTROL AND WILDLIFE HABITAT YALUE. THE MIX IS DESIGNED TO BE A NO-MAINTENANCE SEEDING, AND IS APPROPRIATE FOR CUT AND FILL SLOPES, DETERTION BASIN SIDE SLOPES, AND DISTURBED AREAS ADJACENT TO COMMERCIAL AND RESIDENTIAL PROJECTS.

SEE PLAN FOR LOCATION OF SEED MIX

NEW ENGLAND CONSERVATION MIX SHALL BE PROVIDED BY NEW ENGLAND WETLAND PLANTS VISIT: WWW.NEWP.COM TEL: 413-548-8000

NEW ENGLAND WETLAND PLANTS, INC.

14 Peeri Lame South Hadiey, MA 01075 PNOME: 413-548-8000 FAX 413-549-4000 FORMEMP.COM WIEB ADDRESS: WWW.NEWP.COM New England Conservation/Wildlife Mix

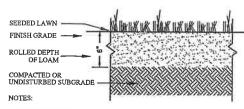
| il stand cal Norme | Common Name | Indicator | | |
|---|------------------------|-----------|--|--|
| Elyntus i legindeser | Vioginia Wild Rye | FACW- | | |
| Schizoch rium Scopperhop | Little Cinestern | FACU | | |
| Audenyngon genzahl | Big Bluestem | FAC | | |
| Feath's nibra | Red Fastue | FACU | | |
| Sorghustrum radium | ledion Grass | UPL | | |
| Panician singetum | Smalch Grants | FAC | | |
| Chemanerista funcionista | Picrtralige Pesi | FACU | | |
| Demusition canalense | Showy Tick Trefail | FAC | | |
| Asc leptus tubercou | Butterfly Millianted | 191 | | |
| Bidean frandosa | Reggar Ticks | FACW | | |
| Eigentorium purpureum (Eutrochium maculaum) | Puralle Joe Pye Weed | FAC | | |
| Bladh exhiu Idens | Black Eyed Susan | FACU- | | |
| Aster pilaras (Symphomisidum pilaram) | Heath (or Hairy) Aster | LIPL | | |
| Solidage jancees | Early Goldenrod | | | |

Rife Mix provides a permanent cover of grower, wildflowers, and legumes white habitat value. The mix is designed to be a no maintenance seeding, lopes, and disturbed areas wherein to be commented as the comment of th

| SLOPE PLANTING TYPE | QTY | SIZE | |
|-----------------------------------|-------------|----------|---|
| NEW ENGLAND CONSERVATION SEED MIX | ± 20.800 SF | SEED MIX | Т |

TURF PLANTING DETAIL

NOT TO SCALE

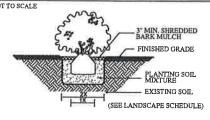


SEED ALL DISTURBED AREAS WITHIN 48 HOURS OF FINAL GRADING. SEED AFTER APRIL 15TH AND BEFORE SEPTEMBER 15TH IN ORDER TO ESTABLISH BEFORE FREEZING TEMPERATURES

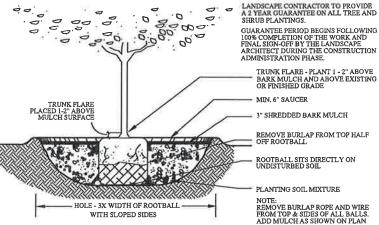
CONTRACTOR IS RESPONSIBLE TO WATER AND ESTABLISH SERDED LAWN AREAS. WARRANTY SHALL BE 9 WEEKS FOLLOWING

CONTRACTOR TO INCLUDE NECESSARY TOUCH-UP / RESERVING FOR ANY AREAS WHERE GRASS SEED DOES NOT GERMINATE DURING THE

SHRUB PLANTING DETAIL



TREE PLANTING DETAIL

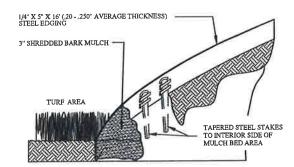


GROUNDCOVER SPACING DETAIL

STAGGER

STEEL LANDSCAPE EDGING DETAIL

STEEL LANDSCAPE EDGING AS MANUFACTURED BY: SURE-LOC ALUMINUM EDGING CORPORATION - HOLLAND MI TEL: 1-800-787-3562 OR APPROVED FOUAL



NOTES:

INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATION

SEE LANDSCAPE PLAN FOR LOCATION OF LAWN VS, MULCHED BED AREAS AND PLACEMENT OF STEEL EDGING.

CONTRACTOR TO PROVIDE SHOP DRAWING TO LANDSCAPE ARCHITECT FOR APPROVAL PRIOR TO MATERIALS ORDERING AND INSTALLATION.

ATION ASSOC1/ NORWICH, VT S DETAIL AGRICULTURAL RD, ANDSCAPE ROUTE 5 & HOPSON VALLEY U.S. PER

> 2539 PROJECT NUMBER

Issued for Permit Review

PS DESIGN DRAWN SCALE AS NOTED DATE: 09/18/2025

Issued for Permit Review

LANDSCAPE PLANTING SCHEDULE

| QIY | BOTANICAL NAME | COMMON NAME | SIZE |
|------|----------------------------------|----------------------------------|-----------------------|
| DEC | DUOUS TREES | | |
| 15 | GLEDITSIA TRIACANTHOS V. INERMIS | IMPERIAL HONEYLOCUST | 2.5" - 3" CALIPER |
| 1 | PLATANUS OCCIDENTALIS | AMERICAN SYCAMORE | 2.5" - 3" CALIPER |
| 9 | QUERCUS RUBRA | RED OAK | 2.5" - 3" CALIPER |
| 1 | QUERCUS PALUSTRIS | PIN OAK | 2.5" - 3" CALIPER |
| 7 | ACER RUBRUM 'OCTOBER GLORY' | OCTOBER GLORY RED MAPLE | 2.5" - 3" CALIPER |
| 3 | ACER RUBRUM | RED MAPLE | 2.5" - 3" CALIPER |
| 6 | BETULA PAPYRIFERA | CLUMP WHITE BIRCH | CLUMP 8'-10' HT. |
| 8 | BETULA ALLEGHANIENSIS | YELLOW BIRCH | 2.5" - 3" CALIPER |
| 3 | CERCIS CANADENSIS 'FOREST PANSY' | FOREST PANSY REDBUD | 2.5" - 3" CALIPER |
| 3 | TILIA CORDATA 'GREENSPIRE' | GREENSPIRE LITTLELEAF LINDEN | 2.5" - 3" CALIPER |
| 1 | POPULUS TREMULOIDES | QUAKING ASPEN | 2.5" - 3" CALIPER |
| 1t | AMELANCHIER CANADENSIS | SERVICEBERRY | 5'-6' HT. B&B |
| EVER | ROREEN TREES | | |
| 2 | PICEA GLAUCA | WHITE SPRUCE | 5'-10' HT. B&8 |
| 14 | PINUS STROBUS | EASTERN WHITE PINE | 8'-8' HT. B&B |
| 1 | PINUS NIGRA | AUSTRIAN BLACK PINE | 6'-8' HT. B&B |
| 7 | TSUGA CANADENSIS | EASTERN HEWLOCK | 6'-8' HT. 8&8 |
| 7 | THUJA OCCIDENTALIS | AMERICAN ARBORNIAE | 6'-8' HT. B&B |
| SHRU | JBS | | 2. 9.101.200 |
| 8 | HAMAMELIS VIRGINIANA | AMERICAN WITCH HAZEL | 30"-38" HT, 7 GAL |
| 7 | SYRINGA WILGARIS | COMMON PURPLE LILAC | 30"-38" HT, 7 GAL |
| 12 | AMELANCHIER ARBOREA | SHADBUSH | 30"-36" HT, 7 GAL |
| 8 | PRUNUS VIRGINIANA | CHOKECHERRY | 30"-38" HT, 7 GAL |
| 22 | RHODODENDRON 'PJM ELITE' | PJM RHODODENDRON | 24"-30" HT, 5 GAL |
| 12 | ILEX VERTICILLATA "MINTER RED" | WINTER RED WINTERBERRY | 24"-30" HT, 5 GAL |
| 21 | CORNUS SERICEA | RED OSIER DOGWOOD | 24"-30" HT. 5 GAL |
| 20 | FORSYTHIA X INTERMEDIA | FORSYTHIA | 24"-30" HT, 5 GAL |
| 13 | SPIREA JAP, LITTLE PRINCESS | LITTLE PRINCESS SPIREA | 18"-24" SPREAD, 7 GA |
| В | HYDRANGEA INVINCEBELLE SPIRIT II | INVINCEBELLE SPIRIT II HYDRANGEA | 18"-24" SPREAD, 7 GA |
| 20 | FOTHERGILLA MAJOR 'MT. AIRY' | MT AIRY FOTHERGILLA | 18"-24" SPREAD, 7 GA |
| 8 | MBURNUM NUDUM BRANDYMNE | BRANDYWINE VIBURNUM | 18"-24" SPREAD, 7 GA |
| 13 | CLETHRA ALNIFOLIA HUMMINGBIRD | HUMMINGBIRD SWEETSPIRE | 18"-24" SPREAD, 7 GA |
| 16 | ILEX GLABRA "COMPACTA" | COMPACT INKBERRY | 24"-30" HT, 5 GAL |
| 8 | PINUS MUGO | MUGO PINE | 24"-30" HT, 7 GAL |
| 9 | TAXUS MEDIA 'DENSIFORMIS' | DENSE SPREADING YEW | 18"-24" SPREAD, 7 GAI |
| EREN | NIALS & ORNAMENTAL GRASSES | | |
| BD | NEPETA 'SIX HILLS GIANT' | SIX HILLS GRIANT CATMINT | 2 GAL |
| 90 | RUDBECKIA FULGIDA GOLDSTURM | GOLDSTURM BLACK EYED SUSAN | 2 GAL |
| _ | HEMMEROCALLIS STELLA D'ORO | STELLA D'ORO DAYLELY | 2 GAL |
| | ANDROPOGON GERARDII 'BLACKHAWKS' | BLACKHAMKS BIG BLUESTEM | 2 GAL |
| | | | |

LANDSCAPE NOTES

- 2 THE CONTRACTOR SHALL SUPPLY PLANT MATERIAL IN QUANTITIES SUFFICIENT TO COMPLETE THE PLANTING AS SHOWN.
- 3. ALL PLANT MATERIAL SHALL BE APPROVED BY THE LANDSCAPE ARCHITECT OR THE OWNER'S REPRESENTATIVE PRIOR TO ARRIVAL ON SITE.

- 6. NO SUBSTITUTION OF PLANT MATERIALS WILL BE ALLOWED WITHOUT THE PRIOR WRITTEN APPROVAL OF THE OWNER OR LANDSCAPE ARCHITECT.
- 8. ALL OTHER DISTURBED AREAS NOT OTHERWISE INDICATED SHALL BE LOAMED AND SEEDED. CONTRACTOR SHALL PRESERVE EXISTING TREES WHERE INDICATED.
- 9. CONTRACTOR SHALL PROVIDE A 2-YEAR QUARANTEE ON ALL INSTALLED PLANT MATERIAL.
- 10. ALL PROPOSED TREES SHALL BE PLACED A MINIMUM OF 10FT FROM EXISTING AND PROPOSED UTILITIES.
- ALL TREES SPECIFIED WILL BE OF GOOD QUALITY AND IN COMPLIANCE WITH THE MOST RECENT EDITION OF ANSI Z60 1 AMERICAN STANDARD FOR NURSERY STOCK PUBLISHED BY AMERICANHORT.

PROPOSED SHRUBS:



















PROPOSED PERENNIALS & GRASSES:











PROPOSED EVERGREEN TREES:











PROPOSED DECIDUOUS TREES:























YELLOW BIRCH



UPPER VALLEY AGRICULTURAL ASSOCIATION ROUTE 5 & HOPSON RD, NORWICH, VT LANDSCAPE DETAILS

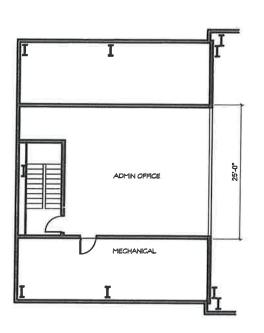
2539 PROJECT NUMBER

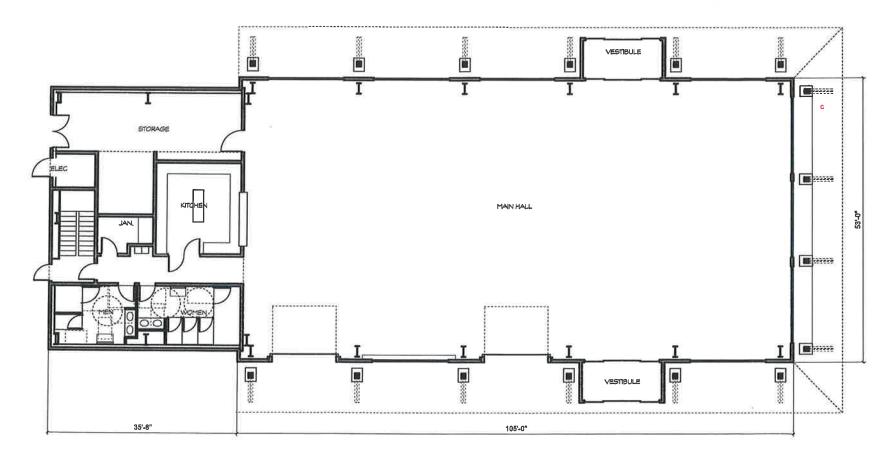
Issued for Permit Review

PLAN STATUS

| DATE | DESCRIP | MOIT |
|--------|-----------|------|
| _ | | |
| _ | | _ |
| | | |
| | | |
| | _ | _ |
| | | _ |
| | | |
| | | |
| PS | PS | PS |
| DESIGN | DRAWN | CHKD |
| SCALE | AS NOTE | 0 |
| DATE : | 09/18/202 | 5 |

EXHIBIT C Floor Plans & Elevations





FIRST FLOOR 7,554SF SECOND FLOOR 1,197SF



10 FIRST FLOOR PLAN
Scale: 1/8" = 1'-0"



UPPER VALLEY
AGRICULTURAL ASSOCIATION

Project No.

09.18.2025

Notes

Project North



FLOOR PLANS

SD-01

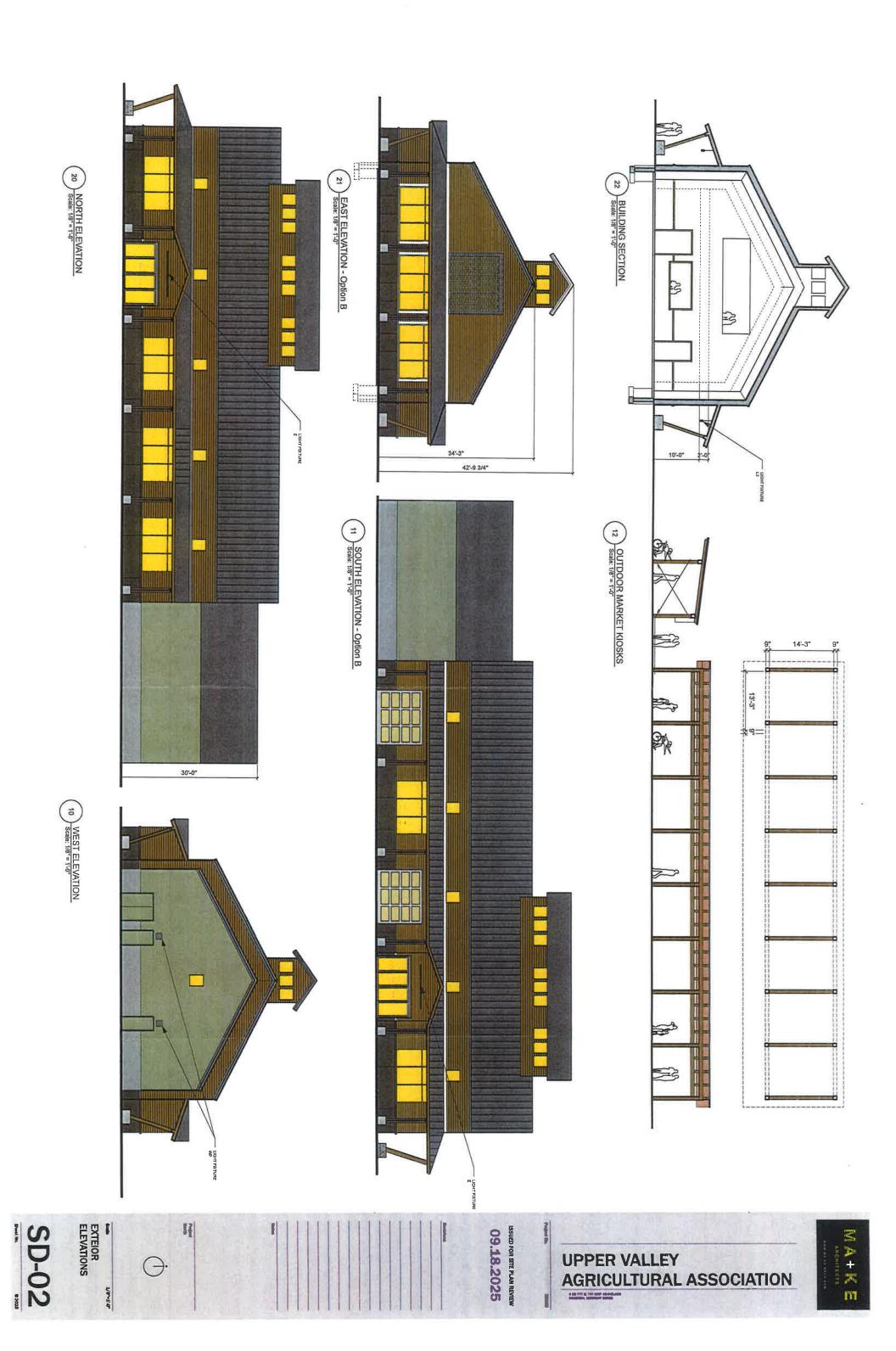
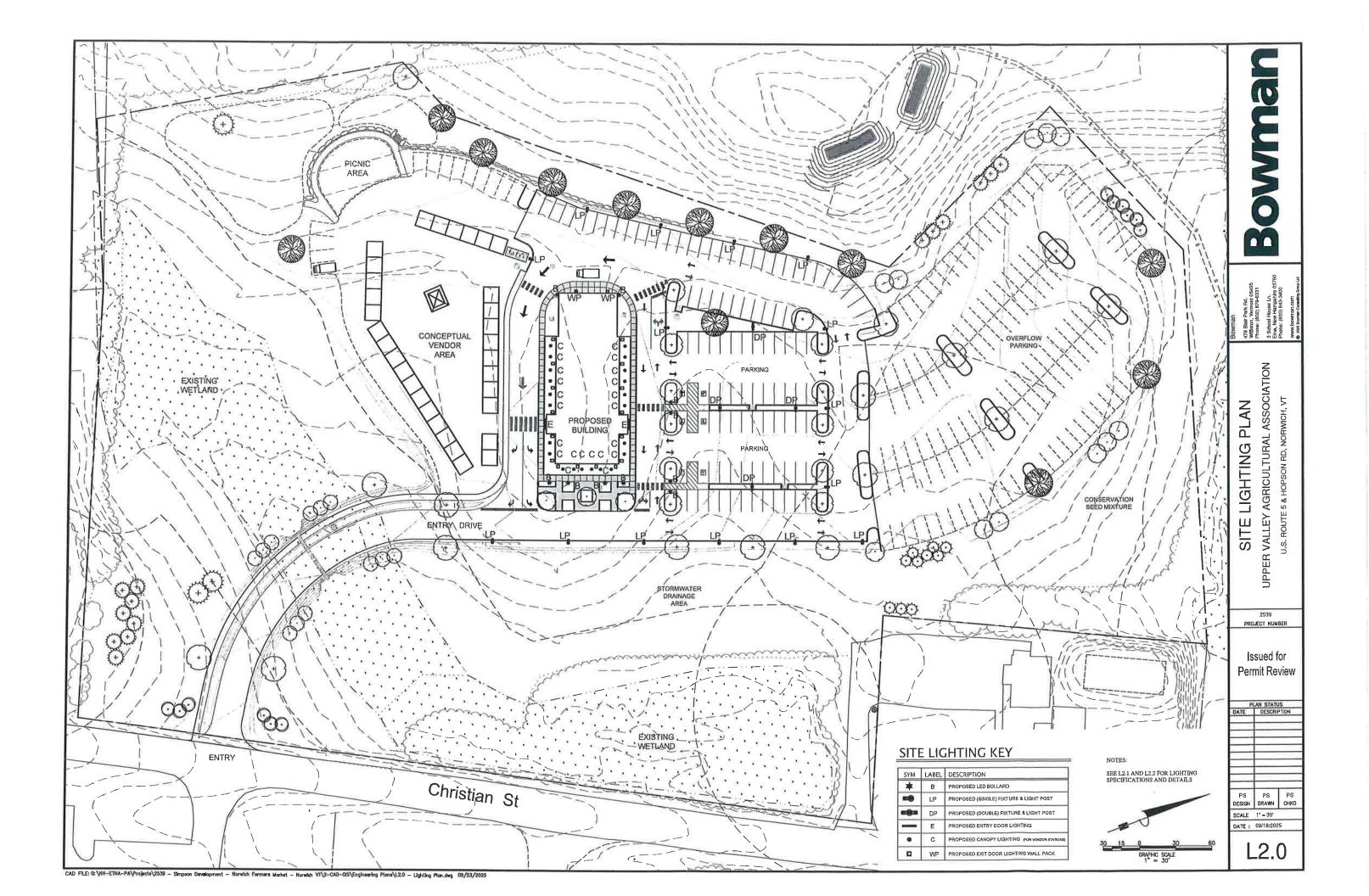
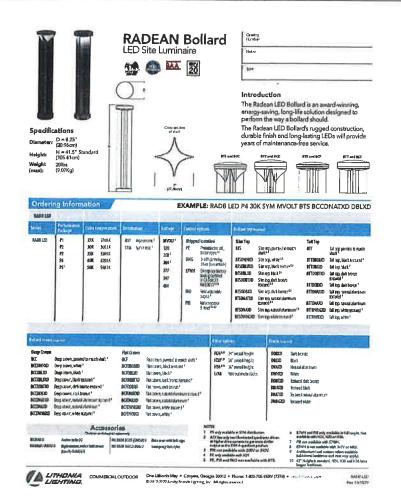


EXHIBIT D Exterior Lighting Plan

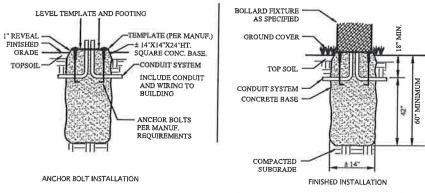


(B) BOLLARD LIGHTING SPECIFICATION



BOLLARD LIGHT BASE INSTALLATION DETAIL

NOT TO SCALE



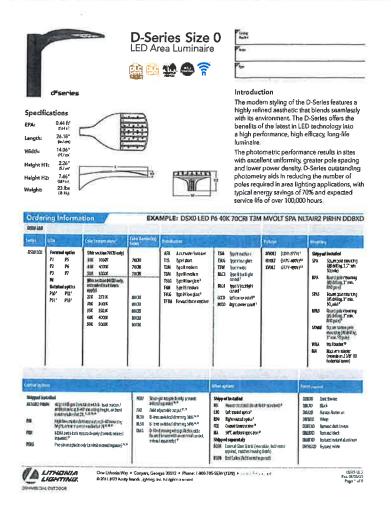
NOTE: CONTRACTOR TO PROVIDE SHOP DRAWING OF BOLLARD, CONCRETE BASE, AND INSTALLATION METHODS TO LANDSCAPE ARCHITECT FOR APPROVAL PRIOR TO ORDERING AND INSTALLATION. DEPTH AND WIDTH OF CONCRETE FOOTING SHOWN IS APPROXIMATE; CONTRACTOR SHALL PROVIDE SHOP DRAWING WITH MANUF. TEMPLATE INSTALLATION REQUIREMENTS FOR APPROVAL PRIOR ORDERING AND INSTALLATION.

SITE LIGHTING NOTES

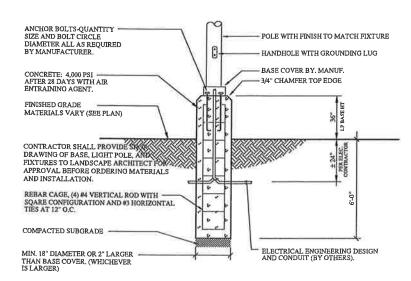
SITE LIGHTING FIXTURE NOTES

CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR APPROVAL FOR ALL LIGHTING MATERIALS, FIXTURES, POLES AND INSTALLATION METHODS TO LANDSCAPE ARCHITECT PRIOR TO CONSTRUCTION AND INSTALLATION. CONTRACTOR SHALL COORDINATE WITH LANDSCAPE ARCHITECT ON SITE TO VERIFY AND MARK LOCATION OF ALL PROPOSED SITE FIXTURES INCLUDING ALL LIGHT POLES, AND BOLLARDS PRIOR TO INSTALLATION.

(LP & DP) SERIES LIGHT POST SPECIFICATION



(RB) RAISED LIGHT POLE BASE INSTALLATION DETAIL



NOT

PARKING AREA LIGHT FIXTURE MOUNTING HEIGHT SHALL BE 15FT FROM GRADE (SEE PLAN)
 CONTRACTOR SHALL PROVIDE SHOP DRAWING AND POLE HEIGHT(S) TO LANDSCAPE ARCHITECT FOR APPROVAL PRIOR TO ORDERING OF MATERIALS AND CONSTRUCTION.

NORWICH VT SITE LIGHTING REQUIREMENTS

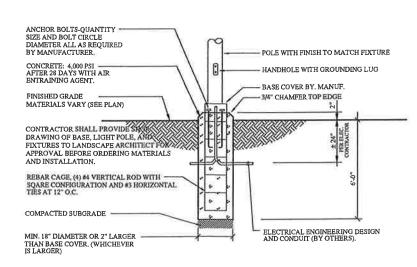
SECTION 5.03 part (8)

(8) Lighting. To ensure appropriate lighting while minimizing its undesirable effects, the following general standards apply to all outdoor lighting with the exception of temporary holiday lighting which is exempt:

- a. In addition to information regarding exterior lighting fixtures, including fixture type, mounting location and height, illumination levels and distribution, and color, submitted as part of the application, a lighting plan, prepared by a qualified engineer or lighting expert may be required for projects determined by the Development Review Board to pose a potential for significant off-site impact due to the number, location and intensity of proposed lighting fixtures.
- b. Outdoor lighting fixtures shall be limited to recessed, shielded or cutoff fixtures so that no light from fixtures is emitted directly or indirectly at an angle less than 15 degrees below the horizontal and the light source shall not be visible from adjocent lots, roads, or waters. The Color Rendering Index (CRI) shall be appropriate for the location of the site and compatible with adjacent properties. In most situations a CRI of over 80 is acceptable. Building or pole mounted, non-reflective lights using an incandescent bulb of one hundred watts or less not used to illuminate a sign are allowed.
- c. All outdoor lighting shall be kept to the minimum required for safety, security and intended use, consistent with the character of the neighborhood and zoning district in which it is located. To determine appropriate lighting levels for a particular use or site, the Board may consider technical resources, such as The Outdoor Lighting Manual for Vermont Municipalities and publications of the Illuminating Engineering Society of North America ((ESNA).
- d. Parking lot lighting shall comply with the standards for maximum mounting height, minimum illumination (at darkest spot) and uniformity ratio as set forth in The Outdoor Lighting Manual for Vermont Municipalities. The Board may waive these standards for good cause if application thereof is inappropriate or unduly burdensome so long as excessive lighting does not result and the proposed lighting scheme otherwise meets the requirements of this section. Applicants may also be required to use lower mounting heights and illumination levels. Lighting of parking lots in the Rural Residential District is generally discouraged except for minimum security needs.
- Outdoor lighting fixtures should include timers, dimmers, and/or sensors to reduce energy consumption and eliminate unneeded lighting.
- f. The use of street or security lighting is only permitted if unusual or hazardous conditions require it. Security lighting, where deemed necessary by the Board, shall be shielded and aimed so that illumination is directed only on to the designated area and not cast on other areas.
- g. Exterior building facades shall not be illuminated. The Board may approve the exterior illumination of buildings with symbolic or historic significance, provided the maximum illumination on any vertical or angular roof surface does not exceed 5.0 foot candles; fixtures are carefully aimed and shielded so that light is only directed onto the building surface; and lighting fixtures are mounted on or near the building, preferably directed downward, and are designed to "wash" the facade with light.
- h. Except for approved security lighting, outdoor fixtures shall only be illuminated during the hours of operation for non-residential uses unless specifically approved by the Board. Hours of operation shall include any time up to one hour before or after all employees and patrons or customers have vacated the premises. Inns and Bed and Breakfasts are considered open on a twenty-four hour basis.

(GB) AT-GRADE LIGHT POLE BASE INSTALLATION

NOT TO SCALE



NOTES:

 PARKING AREA LIGHT FIXTURE MOUNTING HEIGHT SHALL BE 15FT FROM GRADE (SEE PLAN)
 CONTRACTOR SHALL PROVIDE SHOP DRAWING AND POLE HEIGHT(S) TO LANDSCAPE ARCHITECT FOR APPROVAL PRIOR TO ORDERING OF MATERIALS AND CONSTRUCTION.

DRAFT

Bowman

Willston, Vermont 05495 Phone: (802) 879-6331 3 School House Ln. Eina, New Hampshire 03756 Phone: (603) 649-3400

5

ON RD, NO

ROUTE 5 & HOF

U,S,

LIGHTING DETAILS
UPPER VALLEY AGRICULTURAL ASSOCIATION

2539 PROJECT NUMBER

Issued for Permit Review

| PI | AN STATU | 5 |
|--------|-----------|------|
| DATE | DESCRIP | MOIT |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| PS | PS | PS |
| DESIGN | DRAWN | CHK |
| SCALE | AS NOTE | D |
| DATE : | 09/18/202 | 5 |

_2.2

(E) PROPOSED BUILDING ENTRY LIGHTING

Light Fixture E



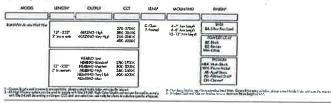




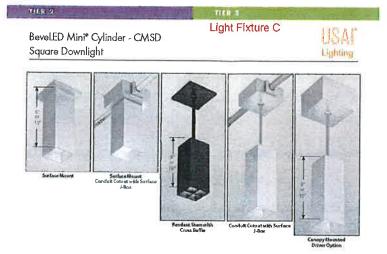
| echnical Information | | | | | | | | |
|--|--|------------|---------|----------|----------------------|-------------|----------|-----------|
| MODEL | High Col | er Quality | | High I | High Efficacy | | | |
| OUTPUT OPTIONS | 60X2H0 | 60X2YHO | HEESTO | HEMMEO | HERRINO | OHERSH | HEGAVHO | HE64XHO |
| lumana Chapus (BOOKS) John a Castriero, | 337 ks/fr | 421 ba/fi | 134 6/9 | 185 la/6 | 247 lm/h | 397 ln/h | 507 hr/h | 363 ks/fr |
| Armege Nove Caramyrian for a = mittal | 7.3 W/h | 24W/8 | J.9 W/h | 2.8 W/R | 25W/% | 6.5 W/s | 7.5 W/N | 7.6 W/9 |
| Marcy | 46 la/W | AS le/W | 73 le/W | 66 Im/W | # la/W | 61 ln/W | 67 L/W | 59 kg/W |
| Hen Rus (augh [n.orfn] | 261 | 21,6 | 49 A | 42 fi | 33 h | 21.6 | 154 | 131 |
| Addison Opening Surpressors Engir | destage* (FF-1337 (-FF-1337 (-FF-133 | | | | -U1-U11 (-35-350) | 157 - 155 F | | |

| | 18gh Cales Guelly | MOT: | 4 | | | | High Illinoy DIGA | M/WG6 | 9 | | |
|--------|------------------------------------|------|-----------|------|------------|-------|---------------------------------|-------|----|------|-----|
| cet | Multiplier (rafera (ca - 2000K) | CH | Tie Pa | 1-30 | | ccr | Multiplier Información 30000 | ou. | 13 | 130 | |
| \$7500 | 0.97 | 97 | 96 | 99 | 92 | 27900 | 094 | 92 | 95 | 00 | - 4 |
| 3000K | 1.00 | 96 | 95 | 99 | 92 | 20105 | 1.00 | 97 | 20 | 00 | 82 |
| MOOK | 101 | 76 | 95 | 100 | # 4 | 23805 | 1.01 | 92 | 90 | 00 | 38 |
| #I DOK | 134 | 97 | 90 | 102 | 92 | AMOC | 1.01 | *1 | 80 | - 04 | 53 |

Ordering Code



(C) PROPOSED PERIMETER CANOPY LIGHTING



| Saspage 6-7 for our empolyer range of performance values | _ | | | ixe | co | OR CHOICES | | | |
|---|---------------|--|-------------------|------|-----------------|------------|-----|---|------|
| | Claysic White | | Warm Glow Dimming | | C) Color Sulect | | | | |
| | 9W | | 20W | 15W | - | 20W | 12W | _ | 16W |
| Source Lumene: | 1175 | | 2475 | 1350 | | 1800 | 925 | | 1200 |
| Delivered Lumens: | 475 | | 2000 | 675 | | 1410 | 500 | - | 1075 |

| 2004192 | (APRIORITED APPROXIMENT | 68994 VIALLIC |
|----------|---------------------------------|---------------------------------|
| | 11268(earBoad | ME AREND TO PROPERTY. |
| | Here Window, MY 12559 | Georgia US Francis ROM DER |
| | TLEAS-51/5-8830 PURAS-66/1-1120 | WA-G. 212 0/17/216 AN I CAREAGE |
| tes-down | feeling a published that town | VON Front Dates, Classed his |
| | | |

(C) PROPOSED WALL PACK – BUILDING EXIT LIGHTING



| CVERV | IEW. | |
|--------------|---------------|-------------|
| Package (Im) | 1,000 - 4,000 | |
| e Range (W) | 9 - 16 | QUICK LINKS |
| Range (LPW) | 105 - 110 | |

FEATURES & SPECIFICATIONS

- Vertical fins serve as a heat sink and resist accumulation of dust and debris
- Thermal stacking heat removal technology extracts heat from within the housing moving it away from LEDs and integral components.
- Luminaire hinges open from the bottom to prevent leakage.
- Luminaire is proudly manufactured and tested in the U.S.

Optical System

- Available in 5000K, 4500K, 4000K, and 3000K color temperatures per ANSI C78 377
- * Zero uplight.

- High-performance driver features over-voltage, under voltage, short-circuit and over temperature protection.
- Standard Universal Voltage (120-277 Vac) Input 50/60 Hz
- . Total harmonic distortion: <20%

Electrical

- Driver Off-State Power is 0 watts.

- Minimum CRI of 80 for 4000K, 4500K, 5000K. Minimum CRI of 70 for 3000K.

- Surface mounts direct to J-box or wall.
- 0-10 volt dimming (10% 100%) standars
- L70 Calculated Life: >200k Hours
- Power factor: >.85
- · Input power stays constant over life.
- LEDs with integrated circuit board mounted directly to the housing to maximize heat dissipation and promote long life.
- components are fully encased in potting material for molsture resistance. Driver compiles with FCC standards Driver and key electronic components can easily be accessed. Minimum 2.5kV surge rating
- Operating temperature: -40°C to +50°C (-40°F to +122°F).
- Controls
- Optional 120V-277V electronic button Photoconiol
- Apertures for field or factory installed photocontrol.

- Features a bubble level and removable hinged face frame for ease of installatio
- Warranty

- LSI luminaires carry a 5-year ilmited warranty. Refer to https://scoor/vicorus.com/hercy/formore-information.
- 1 Year warranty on optional Button

- Listed to UL 1598 and UL 8750 . Meets Buy American Act requirement
- CSA Listed RoHS Compliant
- . State of California Title 24.
- Suitable For Wet Locations
- DesignLights Consortium* (DLC) Premium qualified product. Not all warions of this product may be DLC Premium qualified.
 Please check the DLC Qualified Products List at www.acsterbells.com/QDB, to confirm which versions are qualified.

Ell Industries fine. (8000 A Sanco Rd. Cincinnos. OH (15242 * (515) 372-3200 * provide try com (IDES:NECIDIOSE intelligence of providing can incultive debate the control of the second college of the control

BUILDING MOUNTED LIGHTING SCHEDULE

Luminairo Schodulo

| TAG | Qty | Label | Arrangement | Description | LLF | Lumens | Watts | Total Watts |
|-----|-----|----------------------|-------------|--|-----|--------|-------|-------------|
| С | 22 | CMSD-20X3-30KS-65-s | | CRT1809251256-004-001-P8, Model B3SDF-20X3-30KS-65-NCIC-UNV-D6E | 0.9 | 1654 | 20 | 440 |
| E | 4 | RUNWW-48-72VH0-30K-F | Single | | 0.9 | 710 | 20.5 | 82 |
| WP | 2 | WPSLS-01L-30 | | WPSLS-01L-30 | 0.9 | 1180 | 12.34 | 24.68 |

NOTE: SEE ARCHITECTURE PLANS FOR ADDITIONAL INFORMATION.

BUILDING LIGHTING NOTES

BUILDING LIGHTING FIXTURE NOTES:

CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR APPROVAL FOR ALL LIGHTING MATERIALS, FIXTURES, AND INSTALLATION METHODS TO ARCHITECT PRIOR TO CONSTRUCTION AND INSTALLATION. CONTRACTOR SHALL COORDINATE WITH ARCHITECT ON SITE TO VERIFY AND MARK LOCATION OF ALL PROPOSED BUILDING FIXTURES INCLUDING PROPOSED WALL PACKS, CANOPY LIGHTS, AND ENTRY LIGHTING PRIOR TO INSTALLATION.

DRAFT

AGRICULTURAL ASSOCIATION S DETAIL Š SON RD, LIGHTING VALLEY / U.S. 2539 PROJECT NUMBER Issued for Permit Review SCALE AS NOTED DATE: 09/18/2025

O

•

66

PS PS PS DESIGN DRAWN CHKD

EXHIBIT E Wetland Report



A&D Klumb Environmental, LLC

September 9, 2025

Mr. Dennis Marquise The Simpson Companies P.O. Box 1081 Norwich, VT 05055

RE: Wetland Delineation Report for Norwich Farmer's Market, Norwich, VT

Dear Mr. Marquise:

On October 3 and 8, 2024 A&D Klumb Environmental, LLC (ADKE) visited the 34+/-acre property located along the west side of Route 5 in Norwich, VT (SPAN 450-142-12743) to delineate the wetlands on the eastern 18.5-acres of the property.

Wetlands are defined by the US Army Corps of Engineers as: "Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas." Wetlands are typically determined by reviewing soils, vegetation, and hydrology. The wetlands were delineated according to the "Army Corps of Engineers Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region, (Version 2.0)"

Field Review Results:

The 18.5-acre review area included two mowed agricultural fields and the forested area that separates them. Three separate wetland areas were delineated. The wetland boundaries were flagged with pink WETLAND DELINEATION flagging labeled alphanumerically. These wetlands are shown on the included wetland sketch map and described below.

At the southern end of the property a wetland swale flows northeast across the larger field to the shrub area along Route 5 and then empties through a culvert under the road. The field had been recently mowed prior to the site visit, therefore the delineation within the field was completed utilizing soil review and observation of hydrology. The soils sampled within the wetland met the F6 hydric soil indicator. Evidence of hydrology observed included a concave, sparsely vegetated soil surface. Dominant vegetation included a mix of grasses, narrow leaf cattail (*Typha angustifolia*), spotted jewelweed (*Impatiens capensis*), climbing nightshade (*Solanum dulcamara*), grass-leaf goldenrod (*Euthamia graminifolia*), and water parsley (*Conioselinum chinense*). Within the shrub dominated ends the wetland included red osier dogwood (*Cornus incana*), honeysuckle (*Lonicera* sp.), wild raisin (*Viburnum nudum*), glossy buckthorn (*Frangula alnus*), green ash (*Fraxinus pennsylvanica*), willow (*Salix* sp.), willow-herb (*Epilobium ciliatum*), and late goldenrod (*Solidago gigantea*). The wetland boundary was flagged A-1 through A-63, the wetland extends beyond the southern property boundary.

Within the wooded area between the two fields a forested/scrub shrub wetland contains an intermittent stream channel that flows east under Route 5. The vegetation observed within the wetland includes glossy buckthorn, European buckthorn (*Rhamnus cathartica*), multiflora rose (*Rosa multiflora*), burning bush (*Euonymus alatus*), sensitive fern (*Onoclea sensibilis*),

grass-leaf goldenrod, late goldenrod, spotted jewelweed, small white aster (*Symphyotrichum racemosum*), New England aster (*Symphyotrichum novae-angliae*), and reed canary grass (*Phalaris arundinacea*). The soils sampled within the wetland met the F3 hydric soil indicator. The wetland boundaries were flagged B-1 through B-19, D-1 through D-56, and E-1 through E-8.

Along the northern property boundary a small, isolated forested wetland was flagged C-1 through C-14. This wetland holds standing water for long enough during the spring to allow for breeding and development of vernal pool species. The soils sampled within the wetland met the F6 hydric soil indicator. The wetland is sparsely vegetated but the dominant vegetation growing in the wetland included glossy buckthorn, sensitive fern, and spotted jewelweed. A follow-up site visit in June 2025 confirmed that the wetland is a functioning vernal pool.

No other wetlands were found within the review area. The wetlands were reviewed by the VT ANR DEC District Wetlands Ecologist in June 2025 and were confirmed to be Class II wetlands. Therefore, the wetlands are State jurisdictional and require a 50-foot wetland buffer. Impacts to the wetland or wetland buffer would require permitting through the VT DEC Wetlands Program. Direct wetland impacts should be avoided. Direct wetland impacts may also require permitting through the Army Corps of Engineers.

Included please find photographs of the wetlands described as well as the wetland sketch map. Please contact me with any questions regarding this wetland delineation report.

Sincerely,

Andr fll

Audra L. Klumb, NH CWS #222, CESSWI#3504

President

Resources:

Cowardin et.al., 1979. Classification of Wetlands and Deepwater Habitats of the United States; US Department of the Interior, Fish and Wildlife Service, Washington, DC

Environmental Laboratory. (1987). "Corps of Engineers Wetlands Delineation Manual." Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.

Environmental Laboratory. 2012. "Army Corps of Engineers Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region, (Version 2.0)" ERDC/EL TR-12-1, U.S. Army Engineer Research and Development Center, Vicksburg, MS.

Munsell Color (Firm). Munsell Soil Color Charts: with Genuine Munsell Color Chips. 2009. Revised, Printed in 2012. Grand Rapids, MI

United States Department of Agriculture Natural Resources Conservation Service. 2017. Field Indicators of Hydric Soils in the United States, A Guide for Identifying and Delineating Hydric Soils, Version 8.1, L.M. Vasilas, G.W. Hurt, and J.F. Berkowitz (eds.). USDA, NRCS, in cooperation with the National Technical Committee for Hydric Soils

U.S. Army Corps of Engineers. (2023). 2022 National Wetland Plant List, version 3.6. U.S. Army Engineer Research and Development Center, Vicksburg, MS. http://wetland-plants.usace.army.mil/





Photo 1. View northeast across the field along Wetland-A from the southern end of the property.



Photo 2. View northeast along Wetland-A, near wetland flag A-56.





Photo 3. View west along the south edge of the B/D/E wetland near wetland flag B-8.



Photo 4. View east within the B/D/E wetland near wetland flag D-31.





Photo 5. View south of the edge of the B/D/E wetland near wetland flag D-46.



Photo 6. View of an old cistern within the wetland near wetland flag E-1.





Photo 7. View of standing water within the C-wetland during the June 2025 site visit.



Photo 8. View of dozens of peeper tadpoles observed during the June 2025 site visit.

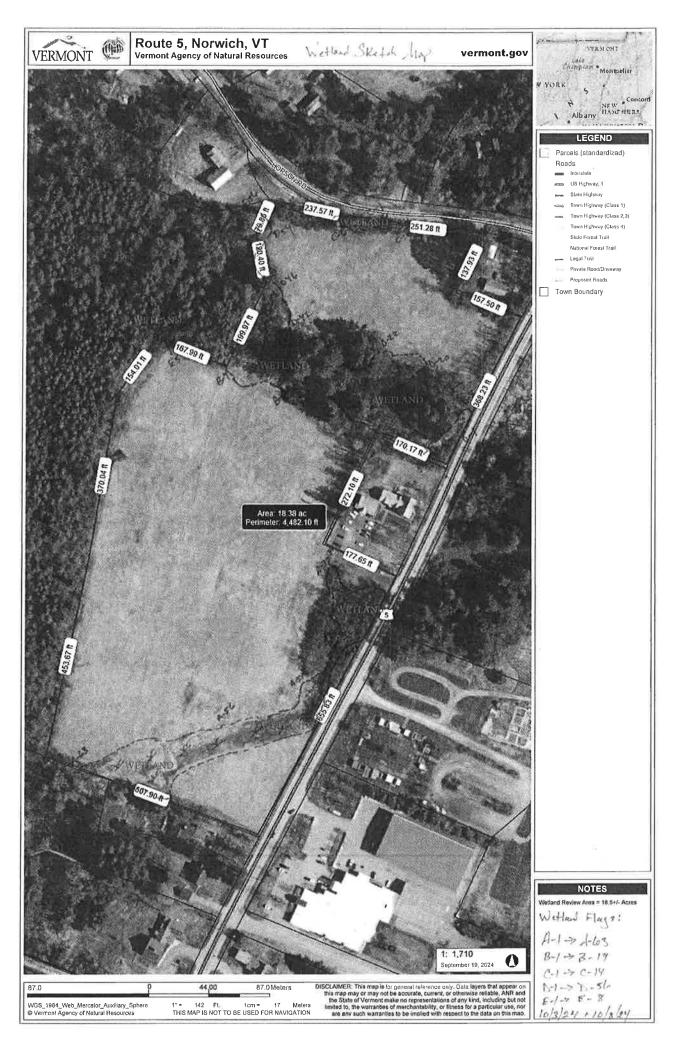
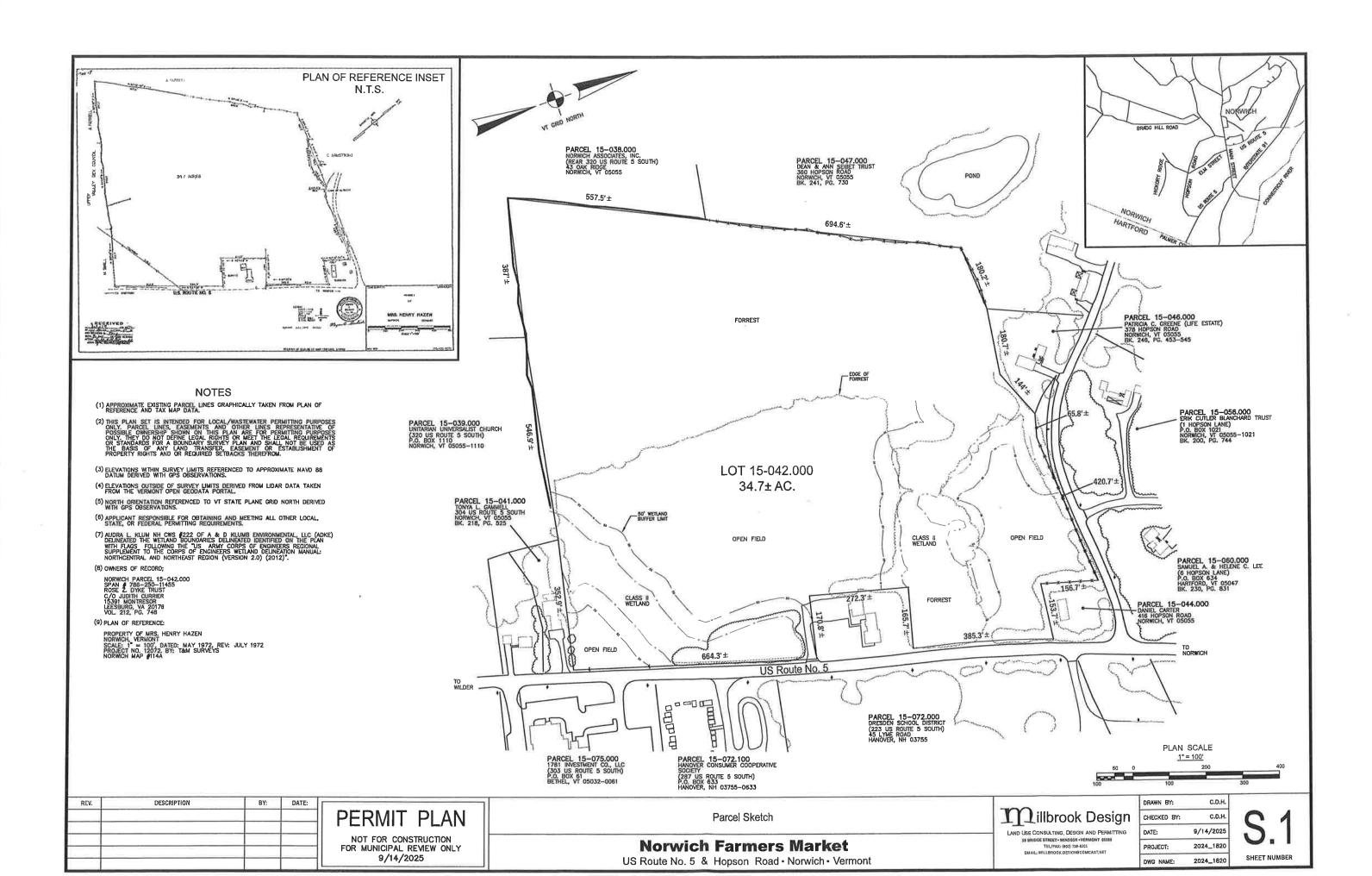
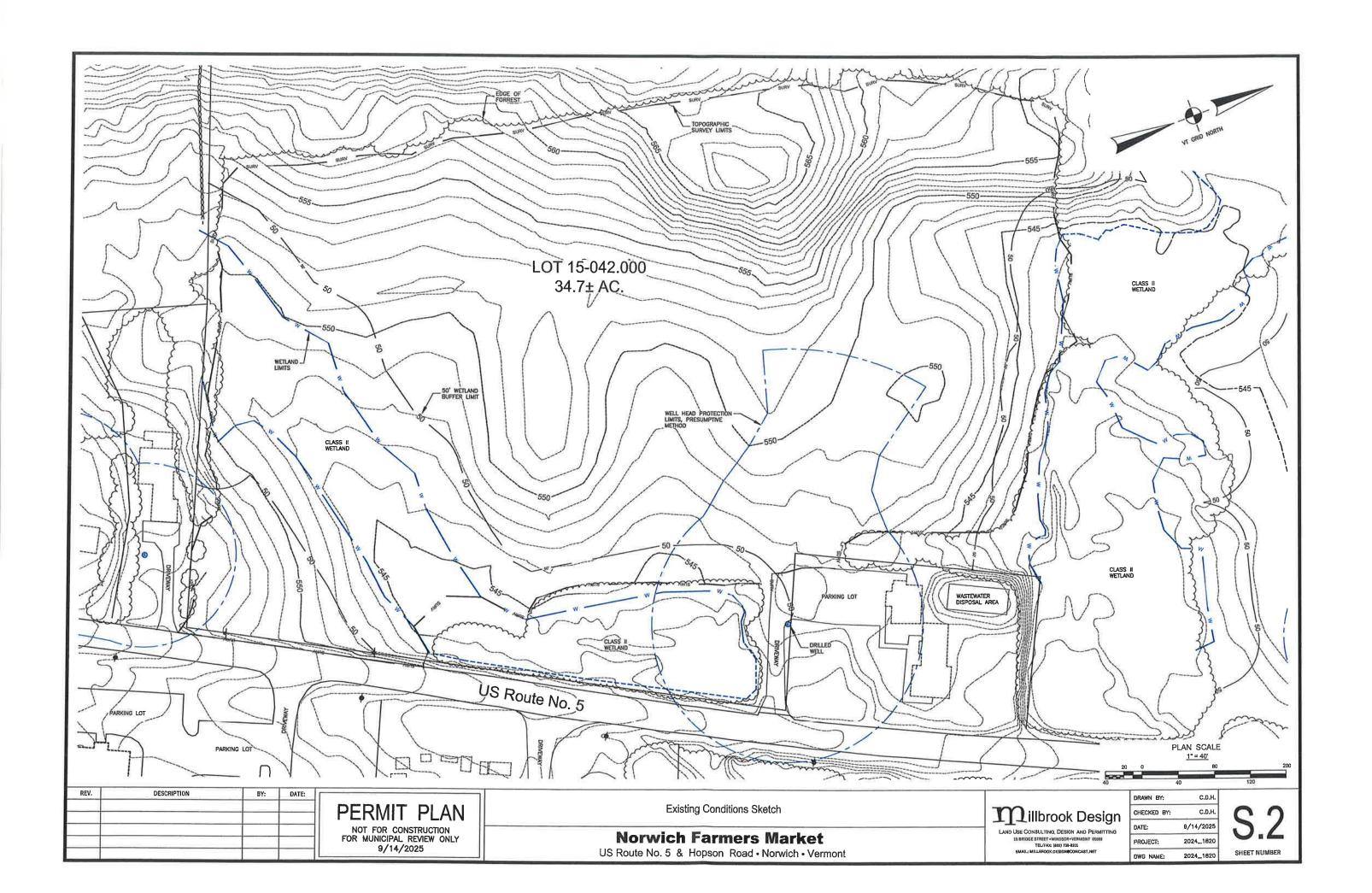
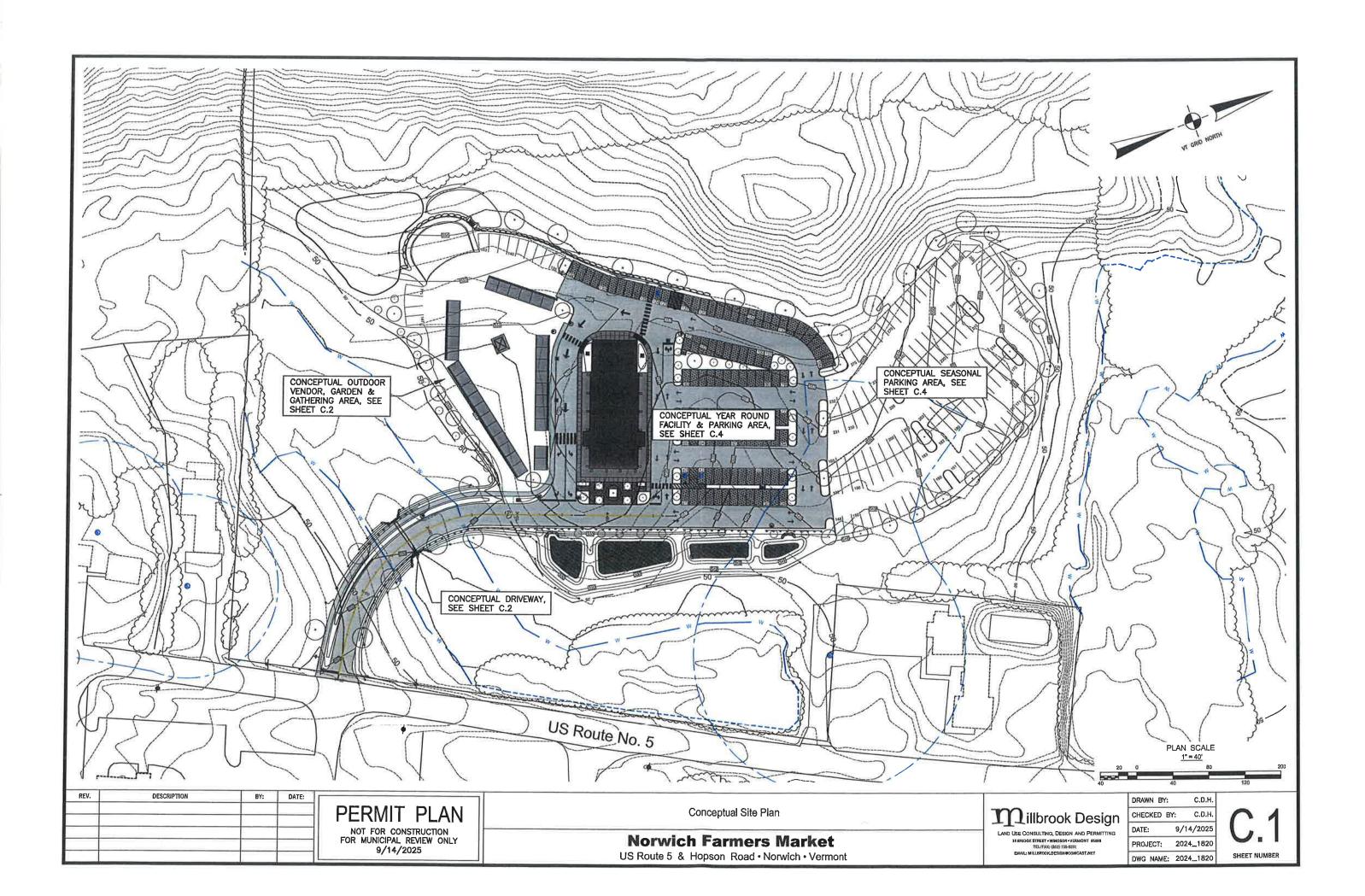
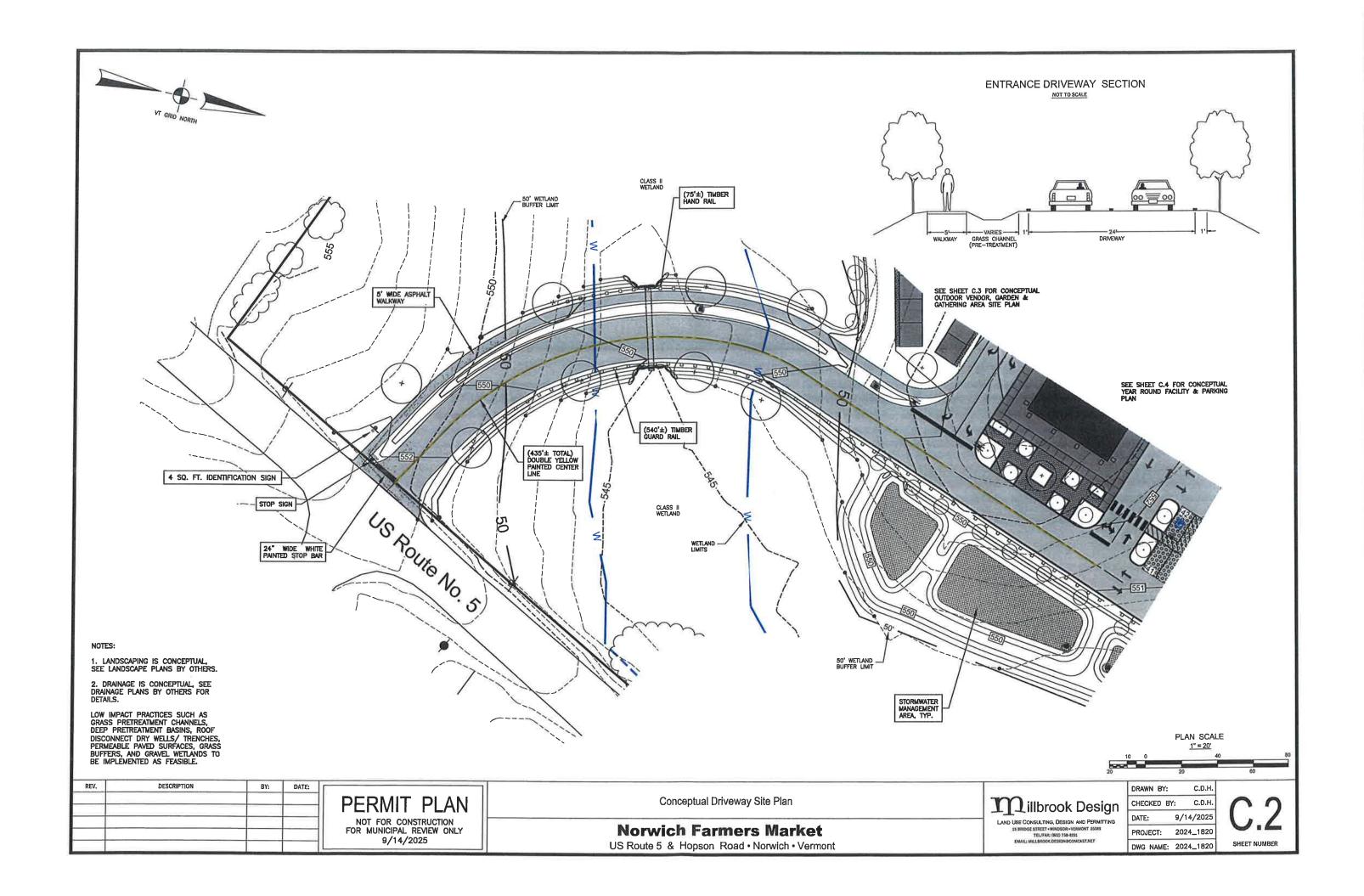


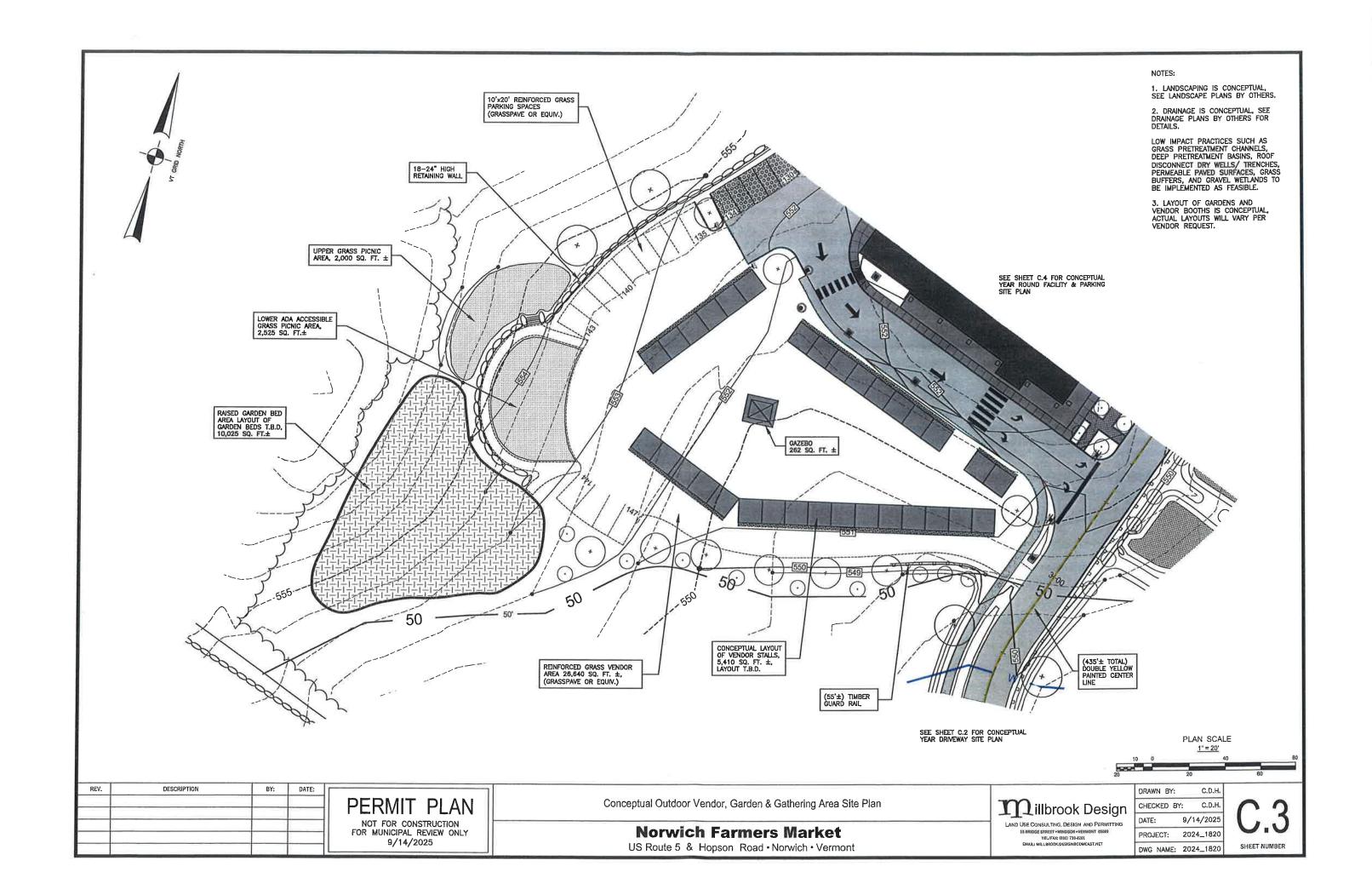
EXHIBIT F Site Plans

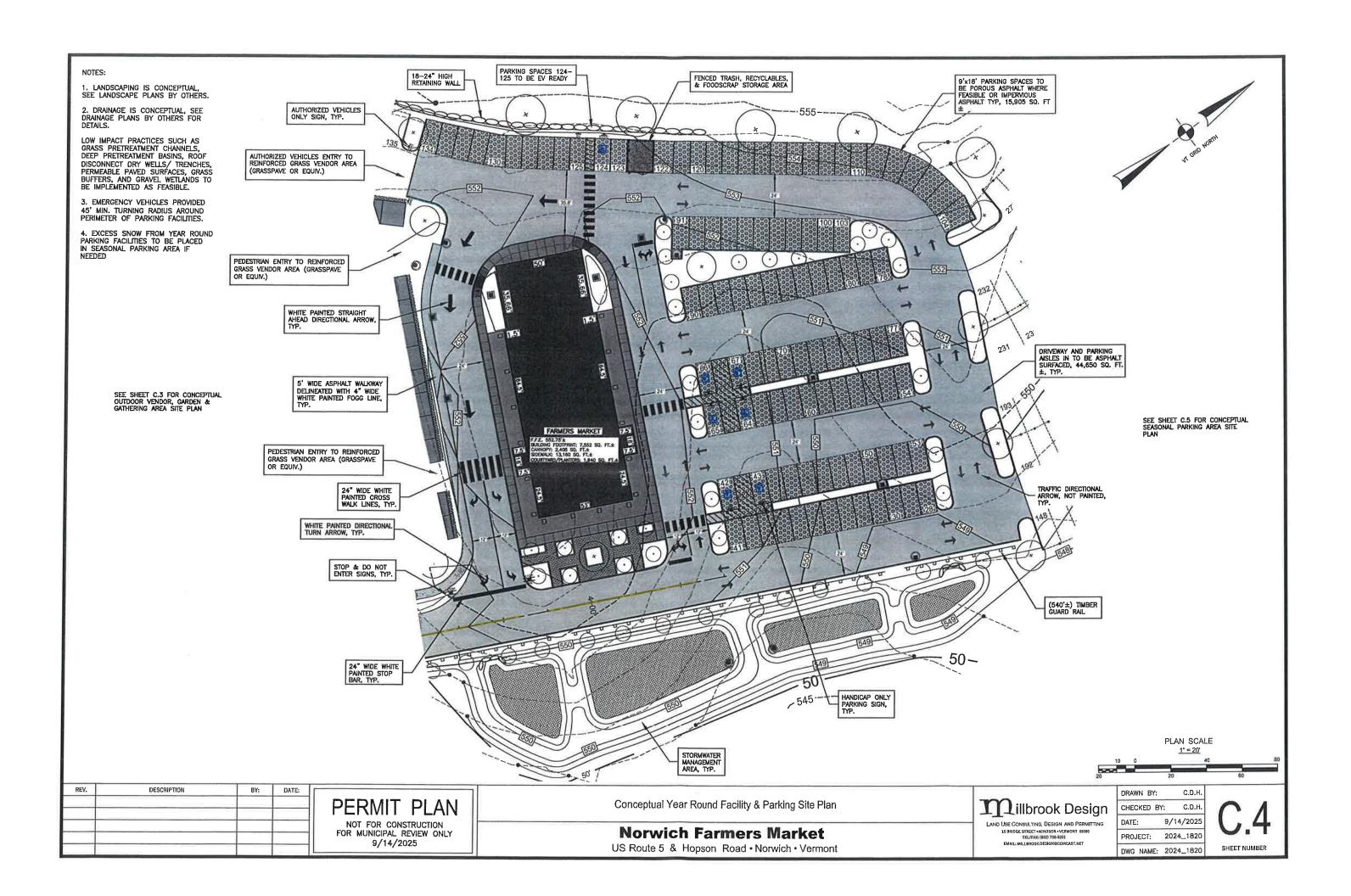












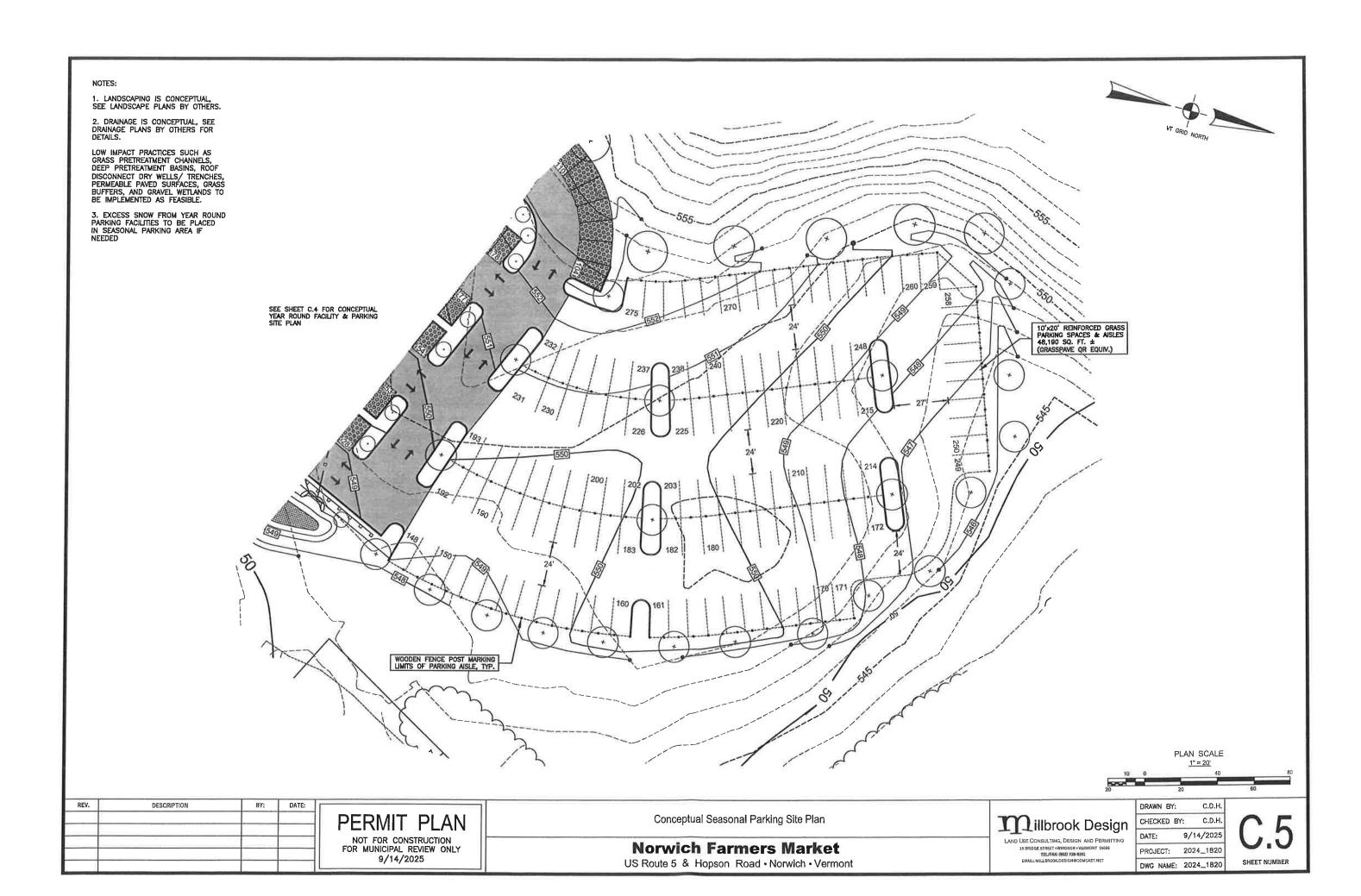
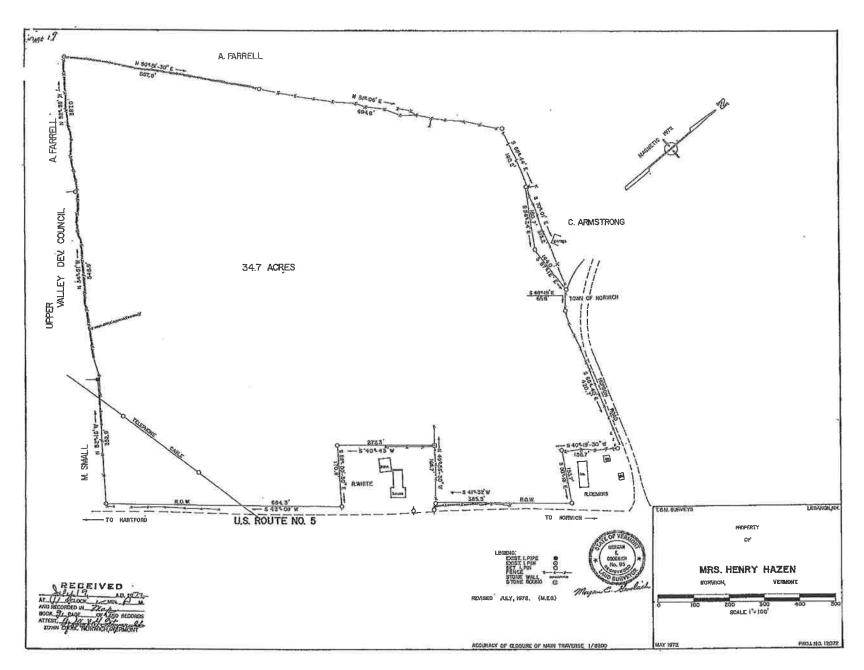


EXHIBIT G Property Survey



CERTIFICATE OF MAILING

I hereby certify that on the 1st day of October, 2025, a Notice of a Public Hearing of the Development Review Board for October 16, 2025 to be held at the Town of Norwich and via zoom at 6:30 PM in reference to Application #53SPR25: Site Plan and Conditional Use Review for an Open Air Market and a Multi-Use Building; Applicant(s): Upper Valley Agricultural Association (Norwich Farmers Market); Landowner Dyke Rose Z Trust; 0 US Route 5 S; Parcel ID: 15-042.000; Rural Residential (RR) District. This notice was sent to the following abutters applicant and landowner.

Zoning Administrator

APPLICANT: UPPER VALLEY AGRICULTURAL ASSOCIATION 2514 JERICHO RD

HARTFORD, VT 05001

LANDOWNER:
DYKE ROSE Z TRUST 15-O42.000
C/O JUDITH CURRIER
15391 MONTRESOR ROAD

LEESBURG, VA 20176

ABUTTERS:

NORWICH ASSOCIATES INC 15-038.000 43 OAK RIDGE NORWICH, VT 05055

UNITARIAN UNIVERSALIST CHURCH 15-039.000 PO BOX 1110 NORWICH, VT 05055-1110

GAMMELL TONYA L 15-041.000 304 US RTE 5 SOUTH NORWICH, VT 05055

ACORN TO SKY INVESTMENTS VT LLC 15-043.000 209 DARTMOUTH COLLEGE HWY LEBANON, NH 03766

CARTER DANIEL 15-044,000 416 HOPSON RD NORWICH, VT 05055

GREENE PATRICIA 15-046.000 378 HOPSON RD NORWICH, VT 05055 SEIBERT TRUST DEAN AND ANN 15-047.000 386 MAIN ST NORWICH, VT 05055

BLANCHARD ERIK CUTLER TRUSTEE 15-056.000 ERIK CUTLER BLANCHARD TRUST PO BOX 1021 NORWICH, VT 05055-1021

LEE SAMUEL A 15-060.000 LEE HELENE C P.O. BOX 634 HARTFORD, VT 05047

NIEM PROPERTIES LLC 15-071.000 PO BOX 584 NORWICH, VT 05055

DRESDEN SCHOOL DISTRICT 15-072.000 45 LYME RD HANOVER, NH 03755

HANOVER CONSUMER 15-072.100 COOP SOCIETY PO BOX 633 HANOVER, NH 03755-0633

1781 INVESTMENT CO LLC 15-073.040 PO BOX 61 MARSH MEADOW RD. BETHEL, VT 05032

TOWN OF NORWICH DEVELOPMENT REVIEW BOARD

Draft Minutes Thursday, September 18th, 2025 Tracy Hall and Zoom

Members present: Patrick Bradley (chair), Alec Orenstein, Linda Gray, Don McCabe, Emily

Myers, Matthew Stuart, **Alternates present:**

Members absent: Sue Pitiger, Barry Rotman, Elissa Close

Staff: Steven True, Zoning Administrator

Minute Taker: Steven True

Members of the Public: None

1. Call to Order: by Chair Bradley at 6:33 pm

- 2. **Approve Agenda**: McCabe moved, Gray seconded to approve the agenda. The motion carried unanimously.
- 3. **Approve Minutes**: Orenstein moved, Meyers seconded a motion to approve June 26th, 2025, minutes as submitted. The motion carried unanimously.
- 4. **Public Comment**: none
- 5. Review Boundary Line Adjustment #86BLA03 to correct an error in the land record: True introduced the background to the matter: In 2004, the DRB approved, and the chair signed a Boundary Survey representing a boundary line adjustment #86BLA03. Subsequently in 2005, the landowner recorded another Boundary Survey which was not approved by the DRB. After receiving this background, and reviewing the materials, Linda Gray made a MOTION authorizing the Chair to sign the mylar, and to have the Zoning Administrator record the correct PLAT in the land records. Emily Meyers seconds. The motion carried unanimously.

6. Zoning Administrator Update and Upcoming Matters:

- **a.** True had the Chair sign the Rules of Procedure and Conflict of Interest Policy approved May 25. 2025
- **b.** True had the DRB review and the Chair sign a letter to the Selectboard requesting action to correct an error in the Norwich Consolidated Ordinance's document.
- **c.** True introduced the two upcoming DRB hearings scheduled for the October 16th DRB regular meeting.
- 7. Other Business: None
- 8. **Meeting Adjournment**: 7:15 Motion to adjourn. All in favor.

AUDIO and VIDEO RECORDING available here