APPLICATION OVERVIEW
PRELIMINARY SUBDIVISION REVIEW (§ 7.5)
& FINAL SUBDIVISION REVIEW (§ 7.6)

DRB DOCKET #:	DRB-18-13
APPLICANT(S):	Peter M. Bingham
CONSULTANT(S):	Justin Willis (Engineer) Krebs & Lansing Consulting Engineers Brad Holden (Surveyor)
PROPERTY ADDRESS (PARCEL ID CODE):	59 Lower English Settlement Road (LE059)
ZONING DISTRICT(S):	Rural Residential
INITIAL FILING DATE:	February 28, 2019
APPLICATION COMPLETION DATE:	February 28, 2019
SCHEDULED HEARING DATE:	April 1, 2019

PROJECT DESCRIPTION:	The Applicant seeks to subdivision his land at 59 Lower English Settlement Road (LE059) into three (3) lots.
MOST RELEVANT ULUDR SECTIONS:	§ 3.18 (Steep Slopes); § 3.19 (Surface Waters & Wetlands; § 7. 5 (Preliminary Subdivision Review); § 7.6 (Final Subdivision Review); and Appendix A (*Underhill Road, Driveway & Trail Ordinance*).
REASON FOR SUBDIVISION REVIEW:	Proposed subdivisions are required to be reviewed by the Development Review Board per Article VII. A combined Preliminary Subdivision Review & Final Subdivision Review requires a formal hearing that allows the public to provide comments. Should the Board require additional information during their review, the option to continue the hearing to a date and time certain is available.
APPLICABILITY OF ROAD ORDINANCE:	The 2015 Road Ordinance, as amended thru December 18, 2018 **APPLIES**.
STATE PERMIT INFORMATION:	• A wastewater permit has yet to be obtained. • A wetlands permit is required and is being sought.
COMMENTS/NOTABLE ISSUES:	• The widening of the proposed shared driveway serving Lots 1 & 2 requires a wetlands permit, as the widening will encroach upon the existing wetlands buffer. • Clarification should be obtained regarding the slope of the existing driveway. • The driveway layout to Lot 3 contains potential issues, such as a horseshoe-like configuration, as well as failing to meet the sight distance by five feet. • Inquire about expanding the building envelopes for Lots 2 & 3, at least for ancillary structures. • All turning radii shall be at least 35 feet (various radii illustrated as 20 ft.).

TOWN OF UNDERHILL

Development Review Board

PETER M. BINGHAM
PRELIMINARY & FINAL SUBDIVISION REVIEW
Docket #: DRB-18-13

Applicant(s):	Peter M. Bingham
Consultant:	Brad Holden & Justin Willis
Property Location:	59 Lower English Settlement Road (LE059)
Acreage:	± 15.1 Acres
Zoning District(s):	Rural Residential
Project Proposal:	Review of a Preliminary & Final Subdivision Application submitted by of Peter M. Bingham for a three (3) lot subdivision of property located at the aforementioned address.

2018 UNDERHILL UNIFIED LAND USE & DEVELOPMENT REGULATIONS RELEVANT REGULATIONS:

- Article II, Table 2.4 – Rural Resident (pg. 15)
- Article III, Section 3.2 – Access (pg. 30)
- Article III, Section 3.7 – Lot, Yard & Setback Requirements (pg. 38)
- Article III, Section 3.13 – Parking, Loading & Service Areas (pg. 44)
- Article III, Section 3.17 – Source Protection Areas (pg. 55)
- Article III, Section 3.18 – Steep Slopes (pg. 56)
- Article III, Section 3.19 – Surface Waters & Wetlands (pg. 63)
- Article III, Section 3.23 – Water Supply & Wastewater Systems (pg. 68)
- Article VI – Flood Hazard Area Review (pg. 127)
- Article VII, Section 7.2 – Applicability (pg. 139)
- Article VII, Section 7.3 – Sketch Plan Review (pg. 141)
- Article VII, Section 7.5 – Preliminary Subdivision Review (pg. 144)
- Article VII, Section 7.6 – Final Subdivision Review (pg. 146)
- Article VIII – Subdivision Standards (pg. 150)
- Appendix A – Underhill Road, Driveway & Trail Ordinance

CONTENTS:

a. Exhibit A – Bingham Preliminary & Final Subdivision Review Staff Report
b. Exhibit B - Bingham (LE059) Preliminary & Final Subdivision Review Rules of Procedure
c. Exhibit C - Application for Subdivision
d. Exhibit D - Access Permit Application
e. Exhibit E - BFP Notice
f. Exhibit F - Certificate of Service
g. Exhibit G - Project Narrative

h. Exhibit H - Correspondence from Krebs & Lansing
i. Exhibit I - Correspondence re Wetlands
j. Exhibit J - MMUSD Ability to Serve Letter
k. Exhibit K – Survey
l. Exhibit L - Driveway Site Plan
   Exhibit L Supp - Driveway Site Plan with Highlights
m. Exhibit M - Lot 2 Driveway Site Plan & Profile
n. Exhibit N - Lot 3 Driveway Site Plan & Profile
o. Exhibit O - Water-Wastewater Site Plan (1 of 2)
p. Exhibit P - Water-Wastewater Site Plan (2 of 2)
q. Exhibit Q - Water-Wastewater Details (1 of 2)
r. Exhibit R - Water-Wastewater Details (2 of 2)
s. Exhibit S - Bingham Sketch Plan Review Letter

COMMENTS/QUESTIONS

1. ***TABLES 2.4 – RURAL RESIDENTIAL DISTRICT:*** The Board should clarify whether the front property line is the east property line or the north property line to provide clarity in subsequent zoning permit applications.
2. ***SECTION 3.2 – ACCESS:*** The applicant should confirm if the existing driveway traverses a steep slope, as widening the driveway to 14 ft. in conformance with the *Road, Driveway & Trail Ordinance* will be considered widening a nonconformity.
3. ***SECTION 3.2 – ACCESS:*** Since the existing driveway serving Lot 1, and soon-to-be Lot 2, will need to be widened to meet the requirements under the *Road, Driveway & Trail ordinance*, a Wetlands Permit from the State of Vermont will be required, which is currently being sought.
4. ***SECTION 3.19 – SURFACE WATERS & WETLANDS:*** As Section 3.19.D.6 reads, Conditional Use Review does not appear necessary, as the setback distances for Class II Wetland areas may be reduced in accordance with a State of Vermont Wetlands Permit. Conditional Use Review appears to only be required when a reduction to a Class III Wetland setback and buffer area is being sought.
5. ***SECTION 3.23 – WATER SUPPLY & WASTEWATER SYSTEMS:*** More information pertaining to the existing wastewater system on Lot 1should be obtained during the hearing.
6. ***SECTION 8.2.G – BUILDING ENVELOPES:*** The Board should inquire if the Lot 2 envelope can be extended to the south, at least to accommodate ancillary buildings.
7. ***SECTION 8.2.G – BUILDING ENVELOPES:*** The Board should inquire if the Lot 3 envelope can be extended to the west, at least to accommodate ancillary buildings.
8. ***SECTION 8.2.J – ENERGY CONSERVATION:*** Questions pertaining to zoning regulations for the applicant to answer during the hearing:
   a. Do the proposed locations of the SFDs maximize southern exposure?
   b. Are the SFDs clustered enough to allow for group net-metering?
9. ***SECTION 8.5 – STORMWATER MANAGEMENT EROSION CONTROL:*** Staff recommends that the Board require as a condition of approval that the Applicant adheres to this Section, as well as conform to the guidelines set out in the Vermont DEC Low Risk Site Handbook for Erosion Prevention and Sediment Control.
10. ***SECTION 8.8 – LEGAL REQUIREMENTS & SECTION 7.3 – SKETCH PLAN REVIEW – REQUEST FOR INFORMATION #3:*** At this time, no legal documentation relating to a road maintenance agreement between Lots 1 and 2, or any applicable easements, have been submitted.
11. ***APPENDIX A, SECTION 4.C.1 – GRADES:*** If the proposed shared portion of the existing driveway exceeds a 10% grade, the widening of the driveway would be widening a nonconforming

driveway, and would need to be waived in accordance with Section 8.E, and possibly Section 3.2.D.9 of the *Underhill Unified Land Use & Development Regulations*.

12. ***APPENDIX A, SECTION 4.C.2 – TOPOGRAPHY:*** The applicant should confirm the grade of the existing driveway.
13. ***APPENDIX A, SECTION 4.C.2 – TOPOGRAPHY:*** A State Wetlands Permit is required to widen the proposed shared portion of the (currently existing) driveway.
14. ***APPENDIX A, SECTION 4.C.3 – RADII:*** The turning radii where the proposed driveways meet the shared driveway (Lot 2) and Lower English Settlement Road (Lot 3) fail to meet the 35 ft. turning radius requirement (illustrated as 20 ft.).
15. ***APPENDIX A, SECTION 4.C.6 – DRAINAGE:*** The Applicant shall ensure that no drainage will occur in the Town's right-of-way, nor will drainage impact Lower English Settlement Road (which includes sedimentation, erosion or impounding of water).
16. ***APPENDIX A, SECTION 4.C.7 – SLOPES, BANKS & DITCHES:*** The Applicant shall ensure that ditches will be provided where necessary to prevent infiltration of water into the gravel subbase, and to conduct storm drainage to waterways and absorption areas.
17. ***APPENDIX A, SECTION 5.A.1 – CONSTRUCTION & DESIGN REQUIREMENTS:*** According to AOT B-71 standards, at 30 MPH, the minimum intersection sight distance is 335 ft. As proposed, the sight distance for Lot 3 is 330 ft. to the north and 800 ft. to the south.
18. ***APPENDIX A, SECTION 5.A.2 – LOCATION:*** The Applicant shall ensure that the proposed driveway for Lot 3 is at least 100 ft. from another intersection.
19. ***APPENDIX A, GENERAL COMMENTS:*** The applicant should advise further about the configuration of the Lot 3 driveway, and why the inclusion of a horseshoe-like layout was proposed.

STAFF FINDINGS OF RELEVANT SECTIONS

ARTICLE II – ZONING DISTRICTS

		Rural Residential	Proposed Lot 1	Proposed Lot 2	Proposed Lot 3
Lot Size:		3.0 Acres	±4.9 Acres	±5.4 Acres	±4.6 Acres
Frontage:		250 Feet	See § 8.6.A.2.a	±325 Feet	±682 Feet
Setbacks:			*Existing SFD*	*Building Envelope to Property Line*	
• Front	East	30 Feet	65 Feet	331 Feet	30 Feet
• Side 1	North	50 Feet	404 Feet	55 Feet	227 Feet
• Side 2	South	50 Feet	420 Feet	166 Feet	132 Feet
• Rear	West	50 Feet	78 Feet	50 Feet	137 Feet
Max. Building Coverage:		25%	TBD	TBD	TBD
Max. Lot Coverage:		50%	TBD	TBD	TBD
Maximum Height:		35 Feet	TBD	TBD	TBD

TABLE 2.4 – RURAL RESIDENTIAL DISTRICT **PG. 15**

Purpose Statement: Accommodate medium density development on land that has access to public roads where traditional development has taken place, where soil cover is thicker than on the hillside. The Rural Residential district allows for the continuation of existing commercial, residential, and public uses and to encourage future development, particularly along Route 15, Poker Hill Road and Irish Settlement Road that is compatible with these historic uses.

- The three-lot subdivision satisfies the intent of the purpose statement, as the proposed subdivision conforms with the medium density intent of the district.
- Lot 1 fails to satisfy the frontage requirement; however, the Board can waive the frontage requirement for minor subdivisions per Sections 3.2.A.1.a, 3.7.E.3.a, and Section 8.6.A.2.a.
- The building envelope for Lot 2 appears to satisfy the setback requirements.
- The Board should clarify whether the front property line is the east property line or the north property line to provide clarity in subsequent zoning permit applications.
    - As currently configured, should the north property line be considered the front property line, the building envelope will be 30 feet from the right-of-way easement (north). Should the Board find the front boundary line is the east boundary line, then the building envelope will be 50 feet from the north property line.

ARTICLE III – GENERAL REGULATIONS

SECTION 3.2 – ACCESS **PG. 30**

- See bullet point 2 under Article II, Table 2.4 above.
- The proposed Lot 1 is already served by an existing driveway accessing Lower English Settlement Road, a Class III Highway.
- The proposed Lot 2 will access the existing driveway currently serving Lot 1, which will require an upgrade in accordance with the *Road, Driveway & Trail Ordinance* (see § 3.2 and Appendix A).
- The proposed Lot 3 will access Lower English Settlement Road, a Class III Highway, directly.
- The Selectboard has delegated authority to approve access permits to the Development Review

Board when reviewing applications involving access components. An access permit application has been submitted (see Exhibits D, L, M & N).

- The applicant has depicted driveways for both Lots 2 & 3 that satisfy the 12 ft. setback requirement. The driveway that will serve Lot 1 is already existing.
- According to the ANR Website (see Sketch Plan Exhibit G), the existing driveway appears to traverse a steep slope (15% to 25%). The applicant should confirm if this is the case, as widening the driveway to 14 ft. in conformance with the *Road, Driveway & Trail ordinance* will be considered widening a nonconformity.
- The existing driveway currently bisects a Class II Wetlands (see Exhibits L & O). Since the existing driveway serving Lot 1, and soon-to-be Lot 2, will need to be widened to meet the requirements under the *Road, Driveway & Trail ordinance*, a Wetlands Permit from the State of Vermont will be required, which is currently being sought.

SECTION 3.7 – LOT, YARD & SETBACK REQUIREMENTS **PG. 38**

- All proposed lots meet the minimum three (3) acre requirement (see Chart on Page 3).
- The existing structures on Lot 1, and the proposed building envelopes on Lots 2 & 3, meet the setback requirements (see Chart on Page 3).
- A Wetlands Permit is required from the State of Vermont (see bullet point 8 under Article III, Section 3.2 directly above).

SECTION 3.13 – PARKING, LOADING & SERVICE AREAS **PG. 44**

- Anticipated development for Lots 2 & 3 (single-family dwellings) are likely to satisfy the parking requirement – 2 parking spaces/dwelling unit (to be confirmed during zoning permit review).

SECTION 3.17 – SOURCE PROTECTION AREAS **PG. 55**

- The existing lot is located within a Groundwater Source Protection Area.
- The anticipated SFD will be exempt from additional review per Section 3.17.B.

SECTION 3.18 – STEEP SLOPES **PG. 56**

- Areas of steep slopes (15-25%) and very steep slopes (>25%) exist on the subject lot (see Sketch Plan Exhibit G), more so on the proposed Lots 1 & 2.
- Anticipated development on Lots 2 & 3 does not appear to impact the identified slopes.
- The existing development on Lot 1 does not appear to impact steep slopes.
- See bullet point 7 under Article III, Section 3.2 above regarding the existing driveway traversing an identified steep slope (source: ANR Website).

SECTION 3.19 – SURFACE WATERS & WETLANDS **PG. 63**

- An unnamed stream serves as the rear property line for Lot 1, thereby containing a 25-foot setback (see Sketch Plan Exhibit I). This requirement has been satisfied (see Exhibit L Supp).
- Class II Wetlands and their associated 50-foot buffers are located on each lot:
    - The Class II Wetland on Lot 1 remains undisturbed.
    - The Class II Wetland Buffer on both Lots 2 & 3 will be impacted as a result of the existing driveway being widened from 12 feet to 14 feet. A State of Vermont Wetlands Permit will be required.
        - As Section 3.19.D.6 reads, Conditional Use Review does not appear necessary, as the setback distances for Class II Wetland areas may be reduced in accordance with a State of Vermont Wetlands Permit. Conditional Use Review appears to only be required when a reduction to a Class III Wetland setback and buffer area is being sought.

- The other Class II Wetland on Lot 3 to remain undisturbed.

SECTION 3.23 – WATER SUPPLY & WASTEWATER SYSTEMS **PG. 68**

- According to the ANR Website and the proposed plans (see Exhibits O, P, Q & R), the proposed Water Supply & Wastewater Systems will be as follows:
  - Lot 1: Existing 4-bedroom single-family dwelling with an existing drilled well. More information pertaining to the existing wastewater system should be obtained during the hearing.
  - Lot 2: Proposed 5-bedroom single-family dwelling with a proposed drilled well and wastewater mound system.
  - Lot 3: Proposed 3-bedroon single-family dwelling with a proposed drilled well and wastewater mound system.
- Applications without a Wastewater System & Potable Water Supply Permit being submitted as part of the subdivision application have been approved with the condition of subsequently obtaining a permit from the State of Vermont.

ARTICLE VI – FLOOD HAZARD AREA REVIEW

- No Special Flood Hazard Areas are depicted on the existing lot (source: ANR Website); therefore, review under this Article is not required.

ARTICLE VII – SUBDIVISION REVIEW

SECTION 7.2 – APPLICABILITY **PG. 139**

- A three (3) lot subdivision meeting the requirements of Section 7.2.E.1.a is proposed.
- The Board voted to waive preliminary subdivision review during their sketch plan review meeting.
- The Board classified the project as a minor subdivision during their sketch plan review meeting, and memorialized that decision in the Sketch Plan Review Letter (see Exhibit S).

SECTION 7.3 – SKETCH PLAN REVIEW **PG. 141**

- The Board accepted the proposed subdivision during the Sketch Plan Review meeting on August 21, 2018, noting the following items to be address:

1. All surface waters, including streams and brooks, wetlands and floodplains shall be identified and delineated on the submitted site plan.	➢ *Completed, see Site Plan* (Exhibit L).
2. The survey plat prepared by a licensed surveyor shall depict all easements and/or rights-of-way that area located on the existing parcel of land to be subdivided, including easements for potential utilities.	➢ *Completed, see Survey (Exhibit K).*
3. The applicant should prepare and submit a draft Shared Road Maintenance Agreement if access between the two lots will be shared.	➢ *Not yet submitted.*
4. The applicant shall identify the well shield and isolation distances on the submitted site plans and how those distances will impact the adjacent property owners.	➢ *Completed, see Site Plan* (Exhibits O & P).
5. A Preliminary Subdivision Findings Checklist and a Final Subdivision Findings Checklist shall be submitted in accordance with the criteria listed in § 7.5 & § 7.6 of the Underhill Land Use & Development Regulations.	➢ *Staff has advised the applicant to forgo submitting the Findings Checklist, and in place, providing a narration*

of the proposed project (see Exhibit G).

6. The site plan shall depict any proposed building envelopes, which should incorporate setback requirements and exclude steep slopes where feasible.
   - *Completed, see Site Plan (Exhibit L Supp).*
7. The applicant shall submit engineering drawings in conformance with the application requirements in the *Underhill Unified Land Use & Development Regulations*, specifically:
   a. Areas of steep slopes, flood hazards, stream water setbacks, septic setbacks, and well shields & isolation distances; and
      - *Completed, see Site Plan & Survey (Exhibit L).*
   b. The requisite size culverts shall also be illustrated on the plans.
      - *Completed, see Site Plan (Exhibits L, M & N).*
8. A Final Subdivision Application shall be submitted in accordance with the criteria listed in Section 7.5 "Preliminary Subdivision Review" and Section 7.6 "Final Subdivision Review of the *Underhill Unified Land Use & Development Regulations*.
   - *Completed, see Application (Exhibit C).*
9. The applicant and/or representative(s) shall inquire with the MacDonalds (record landowner of 49 Lower English Settlement Road) regarding the potential for contamination of a spring on their property serving as a replacement well. The Board desires clarification regarding the location of the spring referred to in the MacDonald's communication and any construction or improvements related to this sub-division that may impact it.
   - *Unknown – the Board should inquire with the applicant about if this task has been completed.*
10. The scheduling of a site visit prior to the final subdivision review hearing.
    - *Scheduled site vist for 6:00 PM on Monday, April 1, 2019.*

SECTION 7.5 – PRELIMINARY SUBDIVISION REVIEW **PG. 144**

- The Board waived preliminary subdivision review (see Exhibit S).
- Staff has advised the applicant to forgo the findings checklist for Preliminary Subdivision Review.

SECTION 7.6 – FINAL SUBDIVISION REVIEW **PG. 146**

- The applicant submitted the necessary materials to make a decision pertaining to the Final Subdivision Review application.

ARTICLE VIII – SUBDIVISION STANDARDS

SECTION 8.1 – APPLICABILITY

SECTION 8.1.B – REQUEST FOR MORE INFORMATION **PG. 150**

- Technical review does not appear to be necessary.

SECTION 8.1.C – FINDINGS OF FACT **PG. 150**

- Staff advised the applicant to submit a project narrative (see Exhibit S) in place of the Findings of Facts.

SECTION 8.1.D – MODIFICATIONS & WAIVERS **PG. 150**

- No waivers were explicitly requested from the applicant.
- A waiver of the Lot 1 frontage requirement is required, as allowed under Sections 3.2.A.1.a, 3.7.E.3.a and 8.6.A.2 since the Lot does not directly abut a public or private road.

- The lot will be accessed by a shared driveway with Lot 2 (Section 8.6.A.2.a).

SECTION 8.2 – GENERAL STANDARDS

SECTION 8.2.A – DEVELOPMENT SUITABILITY **PG. 151**

- No unforeseen undue adverse impacts to the public health, safety or the character of the area in which the proposed development is located are anticipated.
- The Applicant has not expressed any intention of setting aside land as open space that would exclude from subsequent development lands that periodically flood, have poor drainage, contain very steep slopes (>25%), or have other known hazards, or that is otherwise not suitable to support structures or infrastructure.

SECTION 8.2.B – DEVELOPMENT DENSITY **PG. 151**

- The proposed subdivision meets the density requirements of this Section.

SECTION 8.2.C – EXISTING SITE CONDITIONS **PG. 151**

- The existing lot is almost entirely comprised of statewide prime agricultural soils (see Sketch Plan Exhibit H).
- Areas of steep slopes (15% - 25%) and very steep slopes (>25%) exist – largely on Lots 1 & 2 (see Sketch Plan Exhibit G).
- Proposed development appears to be situated in an area that will not impact steep slopes.
- Subsequent development impacting statewide prime agricultural soils appears unavoidable.
- The proposed layout of the subdivision and development does not appear to adversely affect any of the other existing site features and/or natural amenities listed in this subsection.

SECTION 8.2.D – UNDERHILL TOWN PLAN & REGULATIONS **PG. 152**

- The proposed project appears to conform to the *Underhill Town Plan* and the *Underhill Unified Land Use & Development Regulations.*

SECTION 8.2.E – DISTRICT SETTLEMENT PATTERNS **PG. 152**

Rural Districts. Subdivisions within the Rural Residential, Water Conservation and Scenic Preservation Districts shall be designed and configured to reinforce the rural character and historic working landscape of these districts, characterized by forested hillsides and hilltops, open fields, and moderate to low densities of residential development interspersed with large contiguous tracts of undeveloped land. Lots shall be configured to maintain contiguous tracts of open land between adjoining parcels.

- The proposed project appears to conform with the Rural Districts settlement patterns outlined in Section 8.2.E.1 (see district settlement pattern statement to the left).

SECTION 8.2.F - LAYOUT **PG. 153**

- The proposed subdivision configuration inhibits future subdivisions of land, as each lot is under six (6) acres (the minimum acreage requirement to subdivide a lot in the Rural Residential District – three (3) acre minimum lot size).
- Each proposed lot satisfies the standards enumerated in this section.

SECTION 8.2.G – BUILDING ENVELOPES **PG. 153**

- A building envelope has not been depicted for Lot 1; therefore, the building envelope is

presumed be the least restrictive building envelope allowed by the zoning district's requirements and other constraints at the time of submitting a zoning permit application.

- The building envelope for Lot 2 appears to be the most liberal envelope that the lot allows, as it appears to incorporate the site's setback requirements and constraints.
    - The Board should inquire if the envelope can be extended to the south, at least to accommodate ancillary buildings.
- The building envelope for Lot 3 appears to be more restrictive than the lot allows.
    - The Board should inquire if the envelope can be extended to the west, at least to accommodate ancillary buildings.

SECTION 8.2.H – SURVEY MONUMENTS **PG. 153**

- No findings.

SECTION 8.2.I – LANDSCAPING & SCREENING **PG. 153**

- The Board should take note of the existing vegetation as it relates to this Section during the scheduled site visit – 6:00 PM @ April 1, 2019.

SECTION 8.2.J – ENERGY CONSERVATION **PG. 154**

- No findings made by Staff.
- Questions pertaining to zoning regulations for the applicant to answer during the hearing:
    - Do the proposed locations of the SFDs maximize southern exposure?
    - Are the SFDs clustered enough to allow for group net-metering?

SECTION 8.3 – NATURAL CULTURAL RESOURCES

SECTION 8.3.A – RESOURCE IDENTIFICATION & PROTECTION **PG. 154**

- No information pertaining to, nor has any identification relating to, significant cultural and natural features necessitating protection has been submitted for consideration.

SECTION 8.3.B – SURFACE WATERS, WETLANDS & FLOODPLAINS **PG. 155**

- See Section 3.19 and Article VI above for more information.

SECTION 8.3.C – ROCK OUTCROPS, STEEP SLOPES, HILLSIDES & RIDGELINES **PG. 155**

- See Section 3.18 above for more information.

SECTION 8.3.D – NATURAL AREAS & WILDLIFE HABITAT **PG. 156**

- No wintering deer yards have been identified to be on the existing lot.
- A priority level 7 habitat block is located on the exist lot (see Sketch Plan Exhibit F and submitted Exhibit L Supp).
    - All anticipated development is located out of the habitat block; however, the driveway serving Lot 3 is located in the corner of the identified habitat block.
- In regards to the subject property, the following priority characteristics have been identified using the ANR Biofinder Website:
    - The area along Lower English Settlement Road has been identified as a highest priority wildlife crossing.
    - The unnamed stream that comprises the rear property line of Lot 1 has been identified as a riparian wildlife connectivity area.
    - The unnamed stream that comprises the rear property line of Lot 1 has been identified as the highest priority surface water and riparian area.
    - Areas of the subject lot have been identified as the highest priority interior forest block.

- Areas of the subject lot have been identified as the highest priority connectivity block.
- In regards to physical landscape diversity (areas with a diverse mix of topography, bedrock and surficial geology and aspect), areas of the subject lot have been identified as representative landscape.

SECTION 8.3.E – HISTORIC & CULTURAL RESOURCES **PG. 157**

- Staff is unaware of any historic and cultural resources located on the existing lot.

SECTION 8.3.F – FARMLAND **PG. 157**

- The existing lot is almost entirely comprised of statewide prime agricultural soils (see Sketch Plan Exhibit H), and therefore, subsequent development anywhere on the subject lot appears unavoidable.

SECTION 8.3.G - FORESTLAND **PG. 158**

- The proposed Lot 1 contains areas of forestland.
- Proposed Lots 2 & 3 are largely open fields with some forest.
- Proposed development sites do not appear to impact the forested land proposed Lots 2 & 3.

SECTION 8.4 – OPEN SPACE & COMMON LAND

SECTION 8.4.A – OPEN SPACE **PG. 159**

- The applicants are not proposing to designate any land as open space.

SECTION 8.4.B – COMMON LAND **PG. 160**

- The applicants are not proposing to designate any land as common land.

SECTION 8.4.C – LEGAL REQUIREMENTS **PG. 160**

- No findings.

SECTION 8.5 – STORMWATER MANAGEMENT EROSION CONTROL **PG. 160**

- Staff recommends that the Board require as a condition of approval that the Applicant adheres to this Section, as well as conform to the guidelines set out in the Vermont DEC Low Risk Site Handbook for Erosion Prevention and Sediment Control.

SECTION 8.6 – TRANSPORTATION FACILITIES

SECTION 8.6.A – ACCESS & DRIVEWAY **PG. 162**

- Lots 1 and 2 will be served by a shared driveway accessing Lower English Settlement Road.
- Lot 3 will be served by its own driveway accessing Lower English Settlement Road.
- Since each proposed access way will serve two or less lots, only the requirements under Sections 3.2 & 8.6.A apply.
- See Section 3.2 for more info as it relates to the *Unified Land Use & Development Regulations*.
- See Appendix A for more info as it relates to the *Underhill Road, Driveway & Trail Ordinance.*

SECTION 8.6.B – DEVELOPMENT ROADS **PG. 164**

- This subsection does not apply.

SECTION 8.6.C – PARKING FACILITIES **PG. 167**

- This subsection does not apply.

SECTION 8.6.D – TRANSIT FACILITIES **PG. 167**

- This subsection does not apply.

SECTION 8.6.E – PEDESTRIAN ACCESS **PG. 167**

- This subsection does not apply.

SECTION 8.7 – PUBLIC FACILITIES & UTILITIES

SECTION 8.7.A – PUBLIC FACILITIES **PG. 168**

- An undue burden on existing and/or planned public facilities is not anticipated.
- The MMU School District has confirmed that there will not be an adverse impact on the school system (see Exhibit J).
- Comments have been requested from the Underhill Road Foreman regarding the driveways and will be submitted into the record upon receipt.

SECTION 8.7.B – FIRE PROTECTION **PG. 168**

- An undue burden on the Underhill-Jericho Fire Department is not anticipated.
- Comments from the Underhill-Jericho Fire Department have been requested and will be submitted into the record upon receipt.

SECTION 8.7.C – WATER SYSTEMS **PG. 168**

- See Section 3.23 above and Exhibits O, P, Q & R.

SECTION 8.7.D – WASTEWATER SYSTEMS **PG. 169**

- See Section 3.23 above and Exhibits O, P, Q & R.

SECTION 8.8 – LEGAL REQUIREMENTS **PG. 170**

- At this time, no legal documentation relating to a road maintenance agreement between Lots 1 and 2, or any applicable easements, have been submitted.

APPENDIX A – ROAD & DRIVEWAY STANDARDS

SECTION 4 – GENERAL PROVISIONS RELATING TO ACCESSWAYS

SECTION 4.B – REASONABLE ACCESS **PG. 8**

- The proposed locations of the access ways appear to satisfy the standards of this section.

SECTION 4.C – DEVELOPMENT ROAD & DRIVEWAY STANDARDS **PG. 8**

1. GRADES	• The driveway profiles illustrate that the proposed driveways to Lots 2 & 3 will not exceed a 10% grade (see Exhibits M & N). • If the proposed shared portion of the existing driveway exceeds a 10% grade, the widening of the driveway would be widening a nonconforming driveway, and would need to be waived in accordance with Section 8.E, and possibly Section 3.2.D.9 of the *Underhill Unified Land Use & Development Regulations*.
2. TOPOGRAPHY	• The applicant should confirm the grade of the existing driveway. • Impacting primary agricultural soils are unavoidable. • A State Wetlands Permit is required to widen the proposed shared portion of the (currently existing) driveway.
3. RADII	• The turning radii where the proposed driveways meet the shared driveway (Lot 2) and Lower English Settlement Road

	(Lot 3) fail to meet the 35 ft. turning radius requirement (illustrated as 20 ft.) (see Exhibits L, M & N). • The Applicant shall ensure that all turning radii are 35 ft.
4. CURBS	• Does not apply.
5. GEOTEXTILES	• Does not apply.
6. DRAINAGE	• The Applicant shall ensure that no drainage will occur in the Town's right-of-way, nor will drainage impact Lower English Settlement Road (which includes sedimentation, erosion or impounding of water).
7. SLOPES, BANKS & DITCHES	• The Applicant shall ensure that ditches will be provided where necessary to prevent infiltration of water into the gravel subbase, and to conduct storm drainage to waterways and absorption areas.
8. WET AREAS	• A wetland's permit is being sought.
9. CULVERS	• Comments have been requested from the Road Foreman and will be submitted into the record upon receipt.
10. STREAM CROSSINGS	• Does not apply.
11. BRIDGES	• Does not apply.
12. DESIGN	• The Applicant shall confirm that the 12.5 ft. by 37.5 ft. turnaround areas are measured from the edge of the driveway rather than the centerline of the driveway.
GENERAL COMMENTS	• The applicant should advise further about the configuration of the Lot 3 driveway, and why the inclusion of a horseshoe-like layout was proposed (see Exhibits L & N).

SECTION 5 – SPECIFIC PROVISIONS: DRIVEWAYS & DEVELOPMENT ROADS

SECTION 5.A - DRIVEWAYS **PG. 11**

1. CONSTRUCTION & DESIGN REQUIREMENTS	• The proposed driveways shall be built in accordance with the AOT B-71 Standards. • According to AOT B-71 standards, at 30 MPH, the minimum intersection sight distance is 335 ft. As proposed, the sight distance for Lot 3 is 330 ft. to the north and 800 ft. to the south (see Exhibit L).
2. LOCATION	• One new access point along a Town highway (Lower English Settlement Road) is proposed. • The Applicant shall ensure that the proposed driveway for Lot 3 is at least 100 ft. from another intersection.
3. WIDTHS	• The shared portion of the driveway to serve Lots 1 and 2 shall be at least 14 ft. in width. • The portion of the driveway to serve only Lot 1 shall be at least 12 ft. in width. • The portion of the driveway to serve only Lot 2 shall be at least 12 ft. in width. • The driveway serving Lot 3 shall be at least 12 ft. in width.
4. NONCONFORMING LOTS	• Does not apply.

EXHIBIT
B

UNDERHILL DEVELOPMENT REVIEW BOARD

PRELIMINARY & FINAL SUBDIVISION REVIEW
HEARING PROCEDURES
6:35 PM, Monday, April 1, 2019

Applicant(s): Peter M. Bingham
Docket #: DRB-18-13

State the following:

1. This is a combined preliminary subdivision & final subdivision review hearing on the application of Peter M. Bingham for a proposed three 3-Lot subdivision on the land he owns at 59 Lower English Settlement Road in Underhill, Vermont.

   This application is subject to review under the 2011 *Unified Land Use & Development Regulations*, as amended March 6, 2018 and the 2015 *Road, Driveway and Trail Ordinance*, as amended December 18, 2018, and was classified as a minor subdivision during the sketch plan review meeting on August 21, 2018.

   While preliminary subdivision review has been waived, the Board still reviews the draft subdivision plat and supporting documentation to determine that the proposed subdivision conforms with the municipal plan, these regulations and other municipal ordinances in effect at the time of application; to identify particular issues or concerns associated with a proposed subdivision; to recommend modifications necessary to achieve conformance; and to identify any additional information prior to the final subdivision plans, engineering plans and legal documents for the subdivision and related site improvements are finalized. Should additional information be required, the Board reserves the option to continue the hearing to a time and date certain in order for that information to be submitted and reviewed by this Board.

2. Copies of the Rules of Procedure that the Board follows are available for review at the front counter, and can be obtained from the Planning & Zoning Administrator.

3. The order of speakers tonight will be:

   a. We will hear from, and ask questions of, the applicant(s) and his or her representative(s);
   b. Then we will hear and ask questions of the Planning & Zoning Administrator;
   c. Then we will give other persons in the room a chance to speak. Under our Rules of Procedure, each speaker is limited to five minutes; however, that time can be extended upon request to the Board and majority consent of the Board; then
   d. The applicant(s) and/or their representative(s) will have an opportunity to respond; then;
   e. Final comments will be solicited from all parties.

   All speakers should address their comments to the Board, not to other parties present at the hearing. Board Members may feel free to ask questions of any speaker.

4. Are any state or municipal representatives present, and acting in their representative capacities?

5. An Interested Parties Info Sheet is available to all attendees at the front counter or from the Planning & Zoning Administrator. Please review it for further information.

Then state:

Only those interested persons who have participated, either orally or through written statements in a DRB proceeding may appeal a decision rendered in that proceeding to the Environmental Division of Superior Court.

6. If you are an applicant, representative of the applicant(s), or an interested party who wants to participate in the hearing, we will have you come up to the witness chair and clearly state your name, residential address, and mailing address if it differs.

7. I am now going to swear in all those present who wish to speak tonight. All individuals who plan to testify must take the following oath by responding **"I do"** at the end: ***"Do you hereby swear that the evidence you give in the cause under consideration shall be the whole truth and nothing but the truth under pains and penalties of perjury?"***

8. Are there any conflicts of interest or have there been any ex parte communications on the part of the Board Members?

9. At this point I am going to enter into the record the information package that was sent by the Planning & Zoning Administrator prior to the hearing. The information included in this package relevant to this hearing is:

Exhibit A – Bingham Preliminary & Final Subdivision Review Staff Report
Exhibit B - Bingham (LE059) Preliminary & Final Subdivision Review Rules of Procedure
Exhibit C - Application for Subdivision
Exhibit D - Access Permit Application
Exhibit E - BFP Notice
Exhibit F - Certificate of Service
Exhibit G - Project Narrative
Exhibit H - Correspondence from Krebs & Lansing
Exhibit I - Correspondence re Wetlands
Exhibit J - MMUSD Ability to Serve Letter
Exhibit K – Survey
Exhibit L - Driveway Site Plan
Exhibit L Supp - Driveway Site Plan with Highlights
Exhibit M - Lot 2 Driveway Site Plan & Profile
Exhibit N - Lot 3 Driveway Site Plan & Profile
Exhibit O - Water-Wastewater Site Plan (1 of 2)
Exhibit P - Water-Wastewater Site Plan (2 of 2)
Exhibit Q - Water-Wastewater Details (1 of 2)
Exhibit R - Water-Wastewater Details (2 of 2)
Exhibit S - Bingham Sketch Plan Review Letter

These exhibits are available in the Bingham combined preliminary subdivision & final subdivision review file DRB-18-13 at the Underhill Zoning & Planning Office and on the Town's website.

10. We'll begin testimony, and hear from the applicant(s) and/or their representative(s).

11. Next we will hear from the Planning & Zoning Administrator.

12. Are there members of the public who would like to speak?

13. Any final comments from the Board or applicant(s) and/or their representative(s)?

14. Does the Board feel that they have enough information at this time to make a decision on the application?

    a. *If more information is needed to make a decision on the application, continue the hearing to a date and time certain, and outline for the Applicant(s) what is required at that continued hearing; or*
    b. *If, by consensus, enough information has been presented to make a decision on the application, ask for a motion to close the evidentiary portion of the hearing.*

15. Ask for a motion to approve or deny the application, as well as asking the Board if they wish to discuss the application in open deliberative or closed deliberative session? (After the ruling, continue with the info below.)

    "Within 45 days from this hearing, the Planning & Zoning Administrator, on behalf of the Board, will send a copy of the decision to the Applicant(s), their representative(s), and those who have participated in tonight's hearing. A 30-day appeal period will begin on the date the decision is signed. The letter will outline the next steps in the process. If there are no other comments or questions we will close this portion of the meeting."

EXHIBIT C

TOWN OF UNDERHILL

APPLICATION FOR SUBDIVISION

OFFICE USE ONLY

PROPERTY CODE: LE059

DRB DOCKET #: DRB-18-13

MEETING DATE: 4/1/2019

ZONING DISTRICT(S):

- ☐ Underhill Flats Village Center
- ☐ Underhill Center Village
- ■ Rural Residential
- ☐ Water Conservation
- ☐ Mt. Mansfield Scenic Preservation
- ☐ Soil & Water Conservation

APPLICATION TYPE:

- ☐ Sketch Plan Review
- ☐ Preliminary Subdivision Review
- ☐ Final Subdivision Review
- ■ Preliminary & Final Subdivision Review
- ☐ Subdivision Amendment

PROPERTY OWNER INFORMATION:

RECORD OWNER OF PROPERTY:
Peter M. Bingham

MAILING ADDRESS:
51 Lakeside Avenue

EMAIL ADDRESS:
peter.bingham@uvmhealth.org

PHONE NUMBER:
802-343-2728

DESIGNER/ENGINEER INFORMATION:

DESIGNER/ENGINER:
Willis Design Associates, Inc.

MAILING ADDRESS:
PO Box 1001 Jericho VT 05465

EMAIL ADDRESS:
willisdesignvt@gmail.com

PHONE NUMBER:
802-858-9228

SURVEYOR INFORMATION:

SURVEYOR:
Brad Holden, L.S.

MAILING ADDRESS:
60 Covey Road Underhill VT 05489

EMAIL ADDRESS:
bholdenvt@gmail.com

PHONE NUMBER:
802-578-7401

DEVELOPER INFORMATION (IF KNOWN):

~~**SURVEYOR:**~~ Developer
N/A

MAILING ADDRESS:
N/A

EMAIL ADDRESS:
N/A

PHONE NUMBER:
N/A

Project Information

Property Location: LE059
Underhill, VT 05489

Acreage in Original Parcel: +/- 14.5 acres

Proposed Number of Lots: 3 Lots

Is this a Planned Residential Development?
- ☐ Yes
- ■ No

Is this a Planned Unit Development?
- ☐ Yes
- ■ No

Is the parent lot part of a previously approved subdivision?
- ☐ Yes
- ■ No

If so, when was the previous subdivision approved?

Year: N/A

If known, what was the application number:

Application Number: N/A

If the proposed project is to amend a subdivision, what is the proposed amendment?

N/A

TOWN OF UNDERHILL

APPLICATION FOR SUBDIVISION

Sketch Plan Application Materials (Only)

Applicable:
- ☐ Yes
- ☐ No

The following Sketch Plan Review materials must be submitted at least 10 business days prior to a regularly scheduled Development Review Board:

Checklist
- ☐ Sketch of Proposed Subdivision
- ☐ Project Description
- ☐ Description of Proposed Modifications or Waivers
- ☐ Application Fee ($100.00)

Please Checkoff All Submitted Materials

Requirements for All Other Applications

Checklist
- ■ Surveys (see Section A)
- ■ Engineering Plans (see Section B)
- ■ Written Materials (see Section C)
- ☐ State of VT Materials (see Section D)
- ☐ Application Fee (see Fee Schedule)

Please Checkoff All Submitted Materials

Section A (Survey Requirements)

Checklist
- ☐ Two Large (to Scale) Copies
- ☐ Twelve 11" x 17" Copies
- ☐ Prepared by a Licensed Surveyor
- ☐ Date, Including Revision Date(s)
- ☐ North Arrow
- ☐ Scale
- ☐ Legend
- ☐ Property Codes of Adjacent Properties
- ☐ Record Owners of Adjacent Properties
- ☐ Existing/Proposed Easements
- ☐ Existing/Proposed Rights-of-Ways
- ☐ Existing/Proposed Roads
- ☐ Existing/Proposed Utility Corridors
  Proposed Utility Easements Shall Be Centered On As-Built Utility Lines
- ☐ Existing/Proposed Open Space Areas
- ☐ Existing/Proposed Lot Lines with Dimensions
- ☐ Vicinity Map
  To Show Area within 2,000 ft. of the Subject Lot Proposed to be Subdivided

Please Checkoff All Submitted Materials

Section B (Engineering Plans Requirements)

Checklist
- ☐ Two Large (to Scale) Copies
- ☐ Twelve 11" x 17" Copies
- ☐ Prepared by a Professional Engineer
- ☐ Date, Including Revision Date(s)
- ☐ North Arrow, Scale, Legend
- ☐ Proposed New Lot Lines & New Acreages
- ☐ Proposed Building Envelopes (including Setbacks)
- ☐ Extent of Site Clearing & Disturbance
- ☐ Existing/Proposed Open Space
- ☐ Existing/Proposed Common Land
- ☐ Existing/Proposed Building Footprints
- ☐ Zoning District Boundary
- ☐ Property Codes of Adjacent Properties
- ☐ Record Owners of Adjacent Properties
- ☐ Existing/Proposed Easements
- ☐ Existing/Proposed Rights-of-Ways
- ☐ Existing/Proposed Roads
- ☐ Existing/Proposed Utility Corridors
- ☐ Locations/Designs of Proposed Water & Wastewater Disposal Systems (including Isolation & Well Shields)
- ☐ Existing/Proposed Curb Cut, Driveways, Roads and/or Parking Areas (includes: cuts, fills, grades, drainage, culverts, travel lane widths, shoulder widths, surfacing etc.)
- ☐ Topography
  Existing Surface Grades /Contours
  Post-Development Contours/Grades
- ☐ Existing Outcrops, Ledges, Visually Prominent Ridgelines and Peaks
- ☐ Surface Waters & Associated Buffers
- ☐ Wetlands & Associated Buffers
- ☐ Vernal Pools & Associated Buffers
- ☐ Mapped Floodplains
- ☐ Drainage Patterns
- ☐ Natural Vegetative Cover

Where Applicable:
- ☐ Location & Size of Existing Culverts and Drains
- ☐ Location & Size of Existing Sewerage Systems & Water Supplies
- ☐ Existing/Proposed Pedestrian Walkways
- ☐ Designated Source Protection Areas
- ☐ Existing or Preserved Forestland
- ☐ Preserved Natural, Cultural & Historic Features (e.g. Sites & Structures)
- ☐ Other Unique Topographical or Geographical Features
- ☐ Areas of Steep or Very Steep Slopes
- ☐ Primary Agricultural Soils

Please Checkoff All Submitted Materials

Section C (Written Materials)

Checklist
- ☐ Written Disclosure of Intended Use of Land to be Subdivided
- ☐ General Plans for Subsequent Development of Land to be Retained by Applicant/Landowner
- ☐ Written Requests for Modifications or Waivers (including Justifications)
- ☐ Draft Deeds
- ☐ Draft Easements
- ☐ Draft Homeowners Associations
- ☐ Draft Maintenance Agreements
- ☐ Snow Removal & Management Plan

Please Checkoff All Submitted Materials

Section D (Non-Town Related Materials)

Checklist
- ☐ Project Review Sheet
- ☐ Wastewater System & Potable Water Supply Permit (Permit #: _____)
- ☐ Act 250 Permit (Permit #: _____)
- ☐ Stormwater/Erosion Permit (Permit #: _____)
- ☐ Agency of Natural Resources Wetlands Permit (Permit #: _____)
- ☐ Army Corps of Engineers Permit (Permit #: _____)

Please Checkoff All Submitted Materials

Other Required Plans Where Applicable

Checklist
- ☐ Outdoor Lighting Plan
- ☐ Landscaping and Screening Plan
- ☐ Temporary & Permanent Stormwater Management Plans
- ☐ Temporary & Permanent Erosion Control Measures/Plans (including Areas Impacted by Downstream Runoff)
- ☐ Significant Wildlife Habitat Areas & Corridors (including Areas Impacted by Downstream Runoff)
- ☐ Areas of Rare, Threatened and Endangered Plant and Animal Communities (and Associated Buffers)
- ☐ Master Plan (if Applicable-see § 8.1.B.1.a)

APPLICANT SIGNATURE	DATE
Peter Bingham	2/24/19
RECEIVED	**DATE**
	2/28/2019

EXHIBIT D

TOWN OF UNDERHILL

ACCESS PERMIT APPLICATION

OFFICE USE ONLY

APPLICATION #: A-19-03

PROPERTY CODE: LE059

ZONING DISTRICT(S):

- ☐ Underhill Flats Village Center
- ☐ Underhill Center Village
- ☑ Rural Residential
- ☐ Water Conservation
- ☐ Mt. Mansfield Scenic Preservation
- ☐ Soil & Water Conservation

All Driveways and private roads shall conform to the standards of the 2015 Underhill Driveway, Road and Trail Ordinance, as amended December 18, 2018, which includes the AOT A-76 and B-71 standards. Waiver requests must be submitted at the time application. Applications shall be referred by the Zoning Administrator to the Selectboard and/or the Development Review Board where applicable.

APPLICANT:
Peter M. Bingham

PROPERTY LOCATION:
59 Lower English Settlement Road

MAILING ADDRESS:
51 Lakeside Avenue Burlington VT 05401

EMAIL ADDRESS:
peter.bingham@uvmhealth.org

PHONE NUMBER:
802-343-2728

LANDOWNER (IF DIFFERENT FROM APPLICANT):
N/A

LANDOWNER'S CONTACT INFORMATION:
N/A

CONTRACTOR:
N/A

CONTRACTOR'S CONTACT INFORMATION:
N/A

PROJECT DESCRIPTION:

Three Lot Subdivision

APPLICATION TYPE

- ☑ Access Permit
- ☐ Access Permit Amendment
- ☐ Administrative Access Permit Amendment
- ☐ Temporary Access Permit

REVIEWING BODY

- ☐ Administration/Staff
- ☑ Development Review Board
- ☐ Selectboard

Review Date: 4/1/2019

OFFICE REVIEW

Received by: Andrew Striste

Received Date: 2/28/2019

Site Visit Date: ___/___/___

Road Classification: III

Speed Limit /Average Running Speed: 30 mph (if applicable) Lot 3

Sight Distances: Lot 3

Left: 330(N) ft.

Right: 800(S) ft.

Culvert Required?

- ☐ No
- ☐ Yes; Size: _____

Comments, Restrictions, Conditions Recommended:

REQUIRED APPLICATION MATERIALS

Required Materials

- ☑ Application
- ☑ Application Fee ($50.00 + Recording Fees)
- ☑ Copies of a Site Plan Illustrating (please submit 3 copies):
  - ☑ Proposed Access on a Public or Private Road
  - ☑ Property Boundaries with Measurements to Proposed Curb Cut
  - ☑ Landmarks Sufficient to Determine Access Point and Path of Traveled Way
  - ☑ Distance From All Waterways
  - ☑ All Easements, Covenants, and Abutting Property Owners
- ☐ Written Waivers/Modifications Requests
- ☑ Stake the Centerline of the Proposed Driveway/Road at 50 ft. Intervals

Please Checkoff All Submitted Materials

APPLICANT SIGNATURE	DATE	LANDOWNER SIGNATURE	DATE
Peter Bingham	2/24/19	Same as Applicant	

All construction is to be completed in accordance with the Town of Underhill Unified Land Use & Development Regulations, as amended, and any & all federal and/or State regulations currently in effect. Once approved, notice of the permit is required to be posed in a conspicuous location on the property during the appeal period. The Town recommends that that notice be posted during the duration of the construction period. The applicant and/or landowner is required to contact the necessary State agencies to obtain permits: (802) 477-2241 (permit specialist). Interest persons have the right to appeal the approval of a permit to the Development Review Board within fifteen days (15) from the date of issuance.

EXHIBIT
E

To: **Burlington Free Press**
Classifieds/Legals
legals@bfp.burlingtonfreepress.com
860-5329

From: **Town of Underhill**
Zoning & Planning
P.O. Box 120
Underhill, VT 05489

LEGAL AD

Please e-mail to confirm receipt of this ad.

Release Date: NO LATER THAN 03/16/2019

****

NOTICE OF PUBLIC MEETING

Town of Underhill Development Review Board (DRB)
Monday, April 1, 2019
At the Underhill Town Hall, 12 Pleasant Valley Road, Underhill, VT

The DRB will hold a hearing on the combined Preliminary & Final Subdivision Review application by Peter M. Bingham for a proposed three (3) lot subdivision of property he owns at 59 Lower English Settlement Road (LE059). This property is located in the Rural Residential zoning district. A site visit at the property's location will begin at 6:00 PM on Monday, April 1, 2019, and the hearing will commence at Underhill Town Hall at 6:35 PM on Monday, April 1, 2019.

Additional information may be obtained at the Underhill Town Hall. The hearing(s) are open to the public. Pursuant to 24 VSA §§4464(a)(1)(C) and 4471(a), participation in this local proceeding is a prerequisite to the right to take any subsequent appeal. If you cannot attend the hearing(s), comments may be made in writing prior to the meeting and mailed to: Andrew Strniste, Planning Director & Zoning Administrator, P.O. Box 120 Underhill, VT 05489 or to astrniste@underhillvt.gov.

****

Please call Andrew Strniste at the Planning & Zoning Administrator's office at 899-4434 x106 with any questions concerning this ad and to confirm receipt. Please remit bill to: Town of Underhill, RE: 04-01-19 DRB Hearing, P.O. Box 120, Underhill, VT 05489. Thank you.

EXHIBIT
F

Town of Underhill
Development Review Board

P.O. Box 120, Underhill, VT 05489
www.underhillvt.gov

Phone: (802) 899-4434, x106
Fax: (802) 899-2137

Certificate of Service

I hereby certify that on this 12 day of March, 2019, a copy of the following documents were delivered to the below recipients and corresponding addresses by United States certified mail, return receipt requested.

Documents:
Notice to abutting nieghbors regarding a combined Preliminary & Final Subdivision Review hearing for a proposed 3-lot subdivision of land located at 59 Lower English Settlement Road (LE059), Underhill, Vermont, owned by Peter M. Bingham.

Recipeients and Corresponding Address: $6.67

59 LOWER ENGLISH SETTLEMENT ROAD (LE059)
Peter M. Bingham
51 Lakeside Avenue
Burlington, VT 05401

10 HEDGEHOG HILL ROAD (HH010)
Andrew R. & Nicole L. Blodgett
10 Hedgehog Hill Road
Underhill, VT 05489

15 HEDGEHOG HILL ROAD (HH015)
Eric & Kristin Barker
15 Hedgehog Hill Road
Underhill, VT 05489

22 HEDGEHOG HILL ROAD (HH022)
Peter Mutolo & Shelby Evans
22 Hedgehog Hill Road
Underhill, VT 05489

49 LOWER ENGLISH SETTLEMENT ROAD (LE049)
James D. & Elizabeth A. MacDonald
49 Lower English Settlement Road
Underhill, VT 05489

54 LOWER ENGLISH SETTLEMENT ROAD (LE054)
John Pedrin
P.O. Box 62
Underhill, VT 05489

68 LOWER ENGLISH SETTLEMENT ROAD (LE068)
Katherine I. Lesser Trustee
68 Lower English Settlement Road
Underhill, VT 05489

72 LOWER ENGLISH SETTLEMENT ROAD (LE072)
Bradley J. & Nancy L. Eldred
72 Lower English Settlement Road
Underhill, VT 05489

44 ORCHARD ROAD (OR044)
Mark & Dawn Weir
43 Orchard Road
Underhill, VT 05489

Date: 3/12/2019

Andrew Strniste
Planning Director & Zoning Administrator
12 Pleasant Valley Road
Underhill, VT 05489

EXHIBIT
G

Bradford Holden, L.S.
60 Covey Road
Underhill VT 05489

February 25, 2019

Town of Underhill
PO Box 120
Underhill VT 05489
Attn: Andrew Strniste, Planning Director – Zoning Administrator

RE: Findings of Fact – Bingham Subdivision 59 Lower English Settlement Road

The 14.9 acre subject property is the site of an early farm that was occupied by the Atchinsons in the early to mid 19th century. What appear to be the original house and one barn remain. The parcel was subdivided in 1979 from a portion of the farm consisting of 112 acres, owned by Raymond and Betty Bliven, the 112 acres was located on the westerly side of Lower English Settlement Road.

The Bingham parcel is bounded on the north by the Rokke Haefen Highlands Five Lot Subdivision now known as Hedgehog Hill Road, developed by the Blivens in 1988. Bounded on the east by 1007 feet of road frontage along Lower English Settlement Road, on the south by a stonewall that demarcates the south boundary of the original farm and on the west by an unnamed stream that flows south. The stream leaves the property continuing south then turns west eventually crossing River Road and connecting into the Brown's River and is part of the greater Lamoille Basin. The land which was once nearly 100 percent open is now a mix of overgrown meadow and pasture land. A majority of the pasture land has become wooded. The open land consists of rolling moderate slopes, south and west facing. The former pasture land, now in the late pioneer stage of becoming a more mature forest, has become wet due to the lack of use, in my opinion, but now serves a different purpose for vegetative and wildlife habitat.

The property lies in the 3 acre rural residential zoning district and could theoretically be subdivided into 4 lots; however that would be more than the land could accept. The existing driveway leading to the farmhouse is approximately 3000 feet north of River Road. In traveling that distance there are 8 homes fronting the westerly side of Lower English. The lots range in size from 1 to 5 acres. Romar Drive, a small cluster development consisting of five 1-2 acre lots, also lies on the westerly side of Lower English leading to the subject property. The westerly side of Lower English, up to and including this property, is better suited for development mainly due to topography and is different from the east side where the slopes are significantly steeper.

The proposed three lot subdivision has been configured in such a way as to utilize the existing driveway, a proposed 50 feet right of way in common, as a natural divider. Lot 1 consists of 4.9 acres and the existing buildings. Most of the frontage along the unnamed

stream is included with lot 1. This will ensure the streams protection against any new development. Primary underground power from Lower English parallels the existing drive and serves lot 1. The replacement septic area for lot 1 will be located on lot 3 and benefit from an easement should the need arise to replace the existing septic system.

Lot 2 is simply all the remaining land on the south side of the existing drive and consists of 5.4 acres. The land between the proposed building envelope and Lower English is protected Class II wetland. While lot 2 meets the minimum frontage requirement the proposed access utilizes the existing drive. This will ensure the least amount of impact to the land. Lot 2 will also utilize the existing underground utilities already in place.

Lot 3 is all the remaining land north of the existing drive. The lot also meets the minimum road frontage requirement and is proposed to be 4.6 acres in size. The land between the proposed building envelope and Hedgehog Hill Road is a protected Class II wetland. To ensure the integrity of the open space it is much more practical for lot 3 to have its own curb cut and driveway, thus creating the least amount of impact to the land. Underground utilities will be installed from Lower English in the most direct least impactful route possible.

Driveway design drawings have been prepared by Krebs and Lansing Consulting Engineers for the new drives accessing lots 2 and 3 and show improvements to be made to the existing driveway/right of way in common. The designs depict proposed grades, widths, and turnarounds consistent with the Town of Underhill's 2018 Road Ordinance and are consistent with previous designs approved by the Town and the Underhill-Jericho Fire Department. A water source designated by Vermont E-911 as a hydrant exists less than a mile away on Snyder Road. A shared maintenance agreement will be drawn up between the parties.

The widening of the existing drive will not affect the mapped wetland itself but will have a minimal impact of 1250 square feet on the wetland buffer. Erosion control methods will be implemented during the construction phase to ensure protection of the land and wetland buffers.

In conclusion the proposed development utilizes the minimum amount of open space while protecting the now existing wetland, forest land and stream, creating the least amount of impact, all things consistent with Underhill's Town Plan. The proposed subdivision is consistent with the adjacent lands on the west side of Lower English Settlement Road and meets the requirements of the Rural Residential Zoning District, where in it lies.

Respectfully submitted,

Brad Holden, L.S.

KREBS & LANSING
CONSULTING ENGINEERS

164 Main Street, Suite 201
Colchester, VT 05446

P: (802) 878-0375 | email@krebsandlansing.com

EXHIBIT
H

February 22, 2019

Andrew Strniste
Planning Director & Zoning Administrator
Town of Underhill
P.O. Box 120
Underhill, VT 05489
astrniste@underhillvt.gov

RE: Bingham 3-Lot Subdivision

Dear Andrew:

We are writing in regards to the proposed Bingham 3-Lot Subdivision located on Lower English Settlement Road. As part of the project's design team, we have prepared driveway designs for the project. In addition, we were asked to comment on the project's possible impacts to the southerly neighbor's existing water supply.

It is our understanding that the water supply in question is a shallow well, or spring, located approximately 140 feet south of the shared property line between the parcels. The stated concern is that excavation and drainage alterations upslope of the well could cause pollution to the spring. It is our professional opinion that the proposed project will not impact the existing shallow well water supply. We offer the following in support of this conclusion:

- The nearest proposed driveway excavation is approximately 425 feet from the existing well. For reference, the State of Vermont Water Supply Rule recommends a minimum distance of 15 feet from a driveway to a potable water supply.
- In addition to the long distance, the area between the proposed project and the existing water supply is bisected by a stream and wetland. These watercourses will intercept any runoff from the project and carry it to the west around the existing water supply.
- The proposed project maintains existing drainage patterns.
- The closest proposed wastewater disposal system for the project is located approximately 350 feet from the existing water supply, and is to the side, rather than directly upslope. This separation distance is over double the State of Vermont Environmental Protection Rules standard of 150 feet separation from a wastewater system to a shallow well. In addition, there are again streams and wetlands that would intercept drainage between the wastewater system and the shallow well.

In conclusion, the proposed project has been sited and designed to avoid impacts to neighboring water supplies. Please contact us with any additional questions or comments regarding this matter.

Best Regards,

Scott Homsted

Scott Homsted, P.E.

19126\Bingham-neighbor-well.docx

#2018-239: 59 Lower Eng Settlement Rd Underhill Wetland Classification Report

EXHIBIT I

Tuesday, May 15, 2018 10:32 AM

Please add this document to your land records for reference

Wetland is Class II: Please be advised that I have confirmed that one or more wetlands on your property has characteristics that make it a Class II significant wetland. Class II significant wetlands and their 50 ft buffers are protected under the Vermont Wetland Rules (VWR). This report outlines the reasons for this decision, and serves as notice that any activity in the wetland or 50ft buffer zone may need a Vermont wetland permit before you start work. If you disagree with this decision you can petition for a formal wetland classification determination of Class III as outlined under the petition section of this report. The following table(s) document the reasons for this decision.

Wetland Name:	A and B
Wetland Location:	West sides of Lower English Settlement Road
Desktop Review Only?	☐ Yes ☑ No
Site Visit Date:	5/2/2018
People Present:	Tina Heath and Justin Willis
Wetland is Mapped:	☐ Yes ☑ No - Wetland B
Wetland is contiguous to mapped wetland:	☑ Yes - Wetland A ☐ No
Wetland was found to meet the following presumption(s) of significance:	☐ Presumptions have not been assessed. Wetland meets classification by other means. ☑ §4.6(a) over half an acre in size; Wetland B ☐ §4.6(b) contains woody vegetation and is adjacent to a stream, river, or open body of water; ☑ §4.6(c) contains dense, persistent non-woody vegetation and is adjacent to a stream, river, or open body of water; Wetland A ☐ §4.6(d) is a vernal pool that provides amphibian breeding habitat; ☐ §4.6(e) is a headwater wetland; ☐ §4.6(f) adjacent to impaired waters and the impairment is related to wetland water quality functions; ☐ §4.6(g) the wetland contains a species that appears in the NNHP database as rare, threatened, endangered or uncommon; or is a natural community type that is rare or uncommon; ☐ §4.6(h) has been previously designated as a significant wetland.
Presumption Description:	Wetland A is contiguous to mapped wetland associated with a tributary to the Browns River, just north of subject property on adjacent property. Wetland B begins in the lower southern field of subject property and continues southwest towards same tributary. Appears to be an upland break from the tributary, but is well over a half acre in size.

Sketch Map of general wetland area (not a delineation): [Mapped wetland in teal, hydric soils in orange, advisory wetlands in green, wetland sketch in light blue, area reviewed in yellow]	
Photo:	
Preliminary Classification:	☑ **Class II- Wetlands A and B** ☐ **Class III**
Class III justification:	

Wetlands Determination Petition Process

If you disagree with this report, you may request a formal determination of wetland classification, pursuant to Section 8 of the VWR. To request a §8 formal determination of wetland classification, please fill out and submit the petition form located on the Vermont Wetlands Program's website "Permit Information" page. Formal determinations are appealable pursuant to 10 V.S.A. § 917.

Pursuant to 10 V.S.A. chapter 220, any appeal of this decision must be filed with the clerk of the Environmental Division of the Superior Court within 30 days of the date of the decision. The Notice of Appeal must specify the parties taking the appeal and the statutory provision under which each party claims party status; must designate the act or decision appealed from; must name the Environmental Division; and must be signed by the appellant or their attorney.

In addition, the appeal must give the address or location and description of the property, project, or facility with which the appeal is concerned; the name of the permittee; and any permit involved in the appeal. The appellant must also serve a copy of the Notice of Appeal in accordance with Rule 5(b)(4)(B) of the Vermont Rules for Environmental Court Proceedings. For further information, see the Vermont Rules for Environmental Court

Proceedings, available on line at www.vermontjudiciary.org. The address for the Environmental Division is: 32 Cherry Street, 2nd Floor, Suite 303, Burlington, VT 05401 (Tel. # 802-951-1740).

VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION
WATERSHED MANAGEMENT DIVISION
WETLANDS PROGRAM

More Information is Available on the Wetlands Program Website

For more on state wetland permitting and how to apply for a permit visit the Wetlands Permit Information Page, **at** http://dec.vermont.gov/watershed/wetlands/jurisdictional/permit-info
For more on wetland classifications visit the Jurisdictional Wetland Page **at** http://dec.vermont.gov/watershed/wetlands/jurisdictional
For more about Allowed Uses visit the Allowed Uses Page **at** http://dec.vermont.gov/watershed/wetlands/bmps
For more on wetland classification petitions and forms visit the Wetlands Permit Information Page, **at** http://dec.vermont.gov/watershed/wetlands/jurisdictional/permit-info
To find a wetland consultant to help with applying for a permit or petitioning see our Wetland Consultant List Page **at** http://dec.vermont.gov/watershed/wetlands/what/id/wetland-consultant-list

Other Wetland Permit Obligations

In addition, the U.S. Army Corps of Engineers (Corps) regulates the discharge of dredged and/or fill material, including mechanized land clearing and grading, in all waters of the United States, including inland rivers, lakes, streams and wetlands. For detailed information on Corps permits and regulations call (802) 872-2893. It is the applicants responsibility to determine if your project also requires an Corps permit. In addition, your town may have local regulations regarding wetland protection. Please call your town clerk to verify any local regulations.

Please add this document to your land records for reference

EXHIBIT
J

Administrative Offices
PO Box 282, 211 Bridge Street
Richmond, Vermont 05477
(802) 434-2128
(802) 434-2196 (fax)
www.cesu.k12.vt.us

Mt.Mansfield Modified Union School District

March 13, 2019

Andrew Strniste
Zoning Administrator
Underhill Town Offices
PO Box 120
Underhill, VT 05489

Dear Andrew:

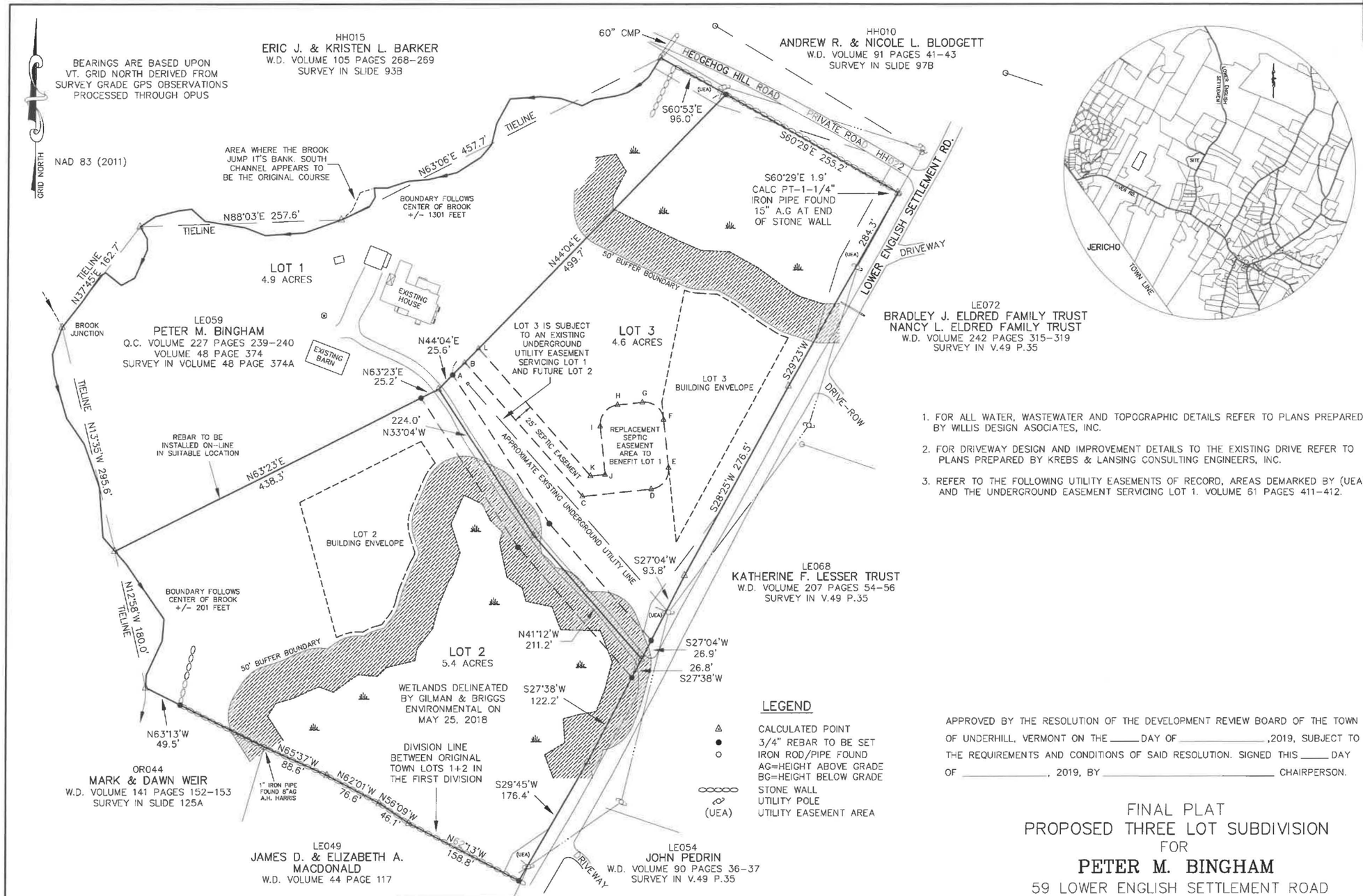
I am writing regarding the proposed 3-lot subdivision at 59 Lower English Settlement Road in Underhill. Mt. Mansfield Modified Union School District will be able to provide services for students this development may generate at Underhill Central School, Browns River Middle School or Mt. Mansfield Union High School.

If you have any questions or concerns, contact me at your convenience.

Sincerely,

John R. Alberghini, Ed.D.
Superintendent

EXHIBIT
K



1. FOR ALL WATER, WASTEWATER AND TOPOGRAPHIC DETAILS REFER TO PLANS PREPARED BY WILLIS DESIGN ASOCIATES, INC.
2. FOR DRIVEWAY DESIGN AND IMPROVEMENT DETAILS TO THE EXISTING DRIVE REFER TO PLANS PREPARED BY KREBS & LANSING CONSULTING ENGINEERS, INC.
3. REFER TO THE FOLLOWING UTILITY EASEMENTS OF RECORD, AREAS DEMARKED BY (UEA) AND THE UNDERGROUND EASEMENT SERVICING LOT 1. VOLUME 61 PAGES 411-412.

APPROVED BY THE RESOLUTION OF THE DEVELOPMENT REVIEW BOARD OF THE TOWN OF UNDERHILL, VERMONT ON THE _____ DAY OF _____ ,2019, SUBJECT TO THE REQUIREMENTS AND CONDITIONS OF SAID RESOLUTION. SIGNED THIS _____ DAY OF _____, 2019, BY _____ CHAIRPERSON.

RECEIVED FOR RECORD _____ ,2019
AT _____O'CLOCK AM/PM AND RECORDED IN
HANGING FILE _____ OF THE UNDERHILL LAND
RECORDS ATTEST: _____
TOWN CLERK

SCALE : 1 INCH = 80 FEET

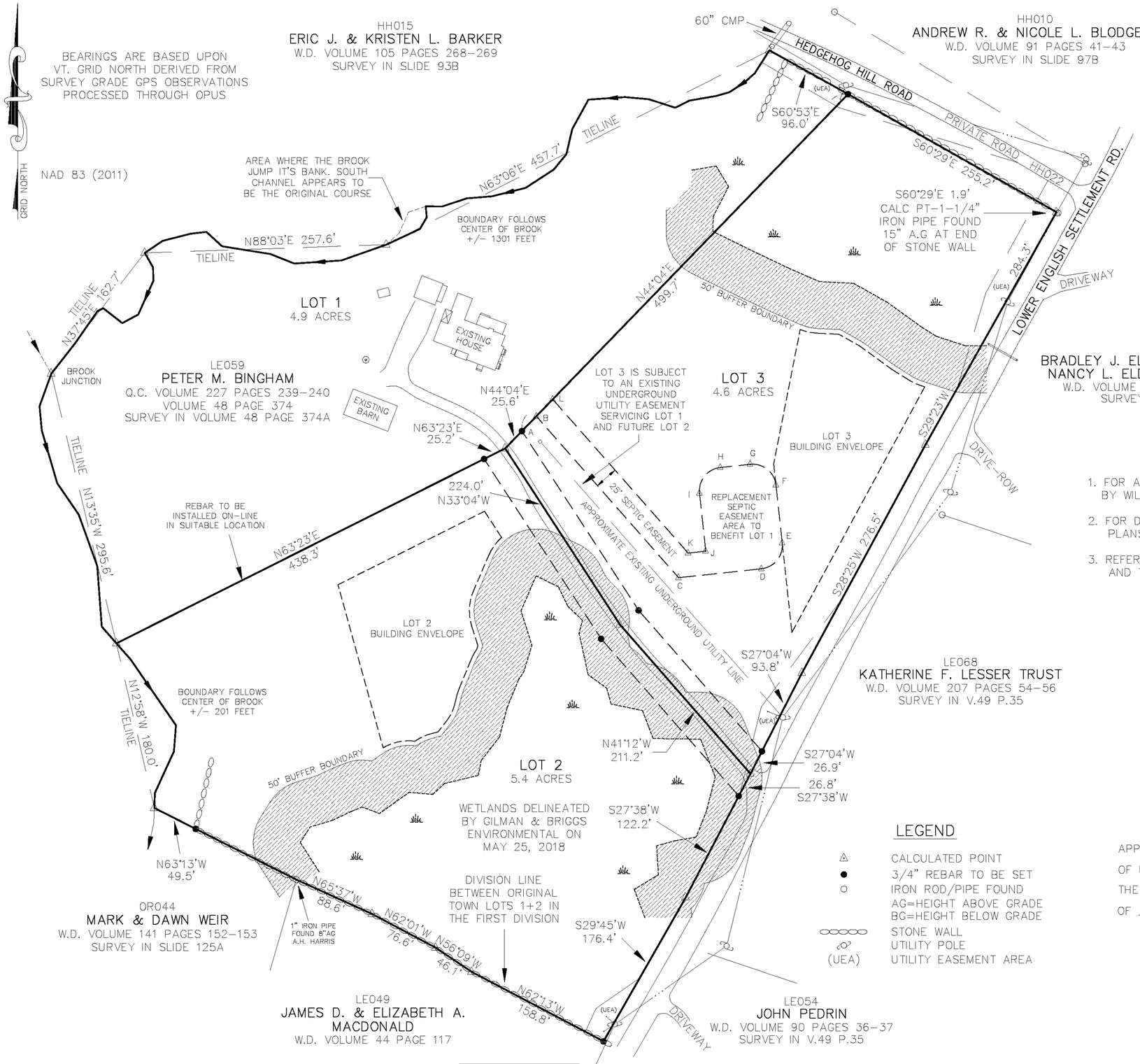
80 0 40 80 160 320

SEPTIC EASEMENT TABLE		
LINE	BEARING	LENGTH
A-B	N44°04'E	22.1'
B-C	N41°23'W	229.3'
C-D	N83°52'E	88.8'
D-E	R=25.0'	L=39.3'
E-F	N06°08'W	62.0'
F-G	R=25.0'	L=39.3'
G-H	S83°52'W	32.0'
H-I	R=25.0'	L=39.3'
I-J	S06°08'E	62.0'
J-K	S83°52'W	18.8'
K-L	N41°23'W	218.3'
L-B	S44°04'W	25.1'

I CERTIFY THIS PLAT IS BASED UPON THE RECORD RESEARCH AND PRIOR SURVEYS REFERENCED HEREON, PHYSICAL EVIDENCE FOUND AND INFORMATION PROVIDED BY THE CLIENT. MEASUREMENTS ARE BASED UPON A TOTAL STATION SURVEY IN CONJUNCTION WITH SURVEY GRADE GPS OBSERVATIONS. THIS PLAT MEETS THE MINIMUM STANDARD OF TITLE 27 VSA SECTION 1403.

FINAL PLAT
PROPOSED THREE LOT SUBDIVISION
FOR
PETER M. BINGHAM
59 LOWER ENGLISH SETTLEMENT ROAD
UNDERHILL, VERMONT
JANUARY 23, 2019

PREPARED BY
BRADFORD L. HOLDEN
LAND SURVEYOR
60 COVEY ROAD
UNDERHILL, VERMONT



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LEGEND

- △ CALCULATED POINT
- ● 3/4" REBAR TO BE SET
- ○ IRON ROD/PIPE FOUND
  AG=HEIGHT ABOVE GRADE
  BG=HEIGHT BELOW GRADE
- STONE WALL
- UTILITY POLE
- (UEA) UTILITY EASEMENT AREA

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EXHIBIT
L

BINGHAM SUBDIVISION

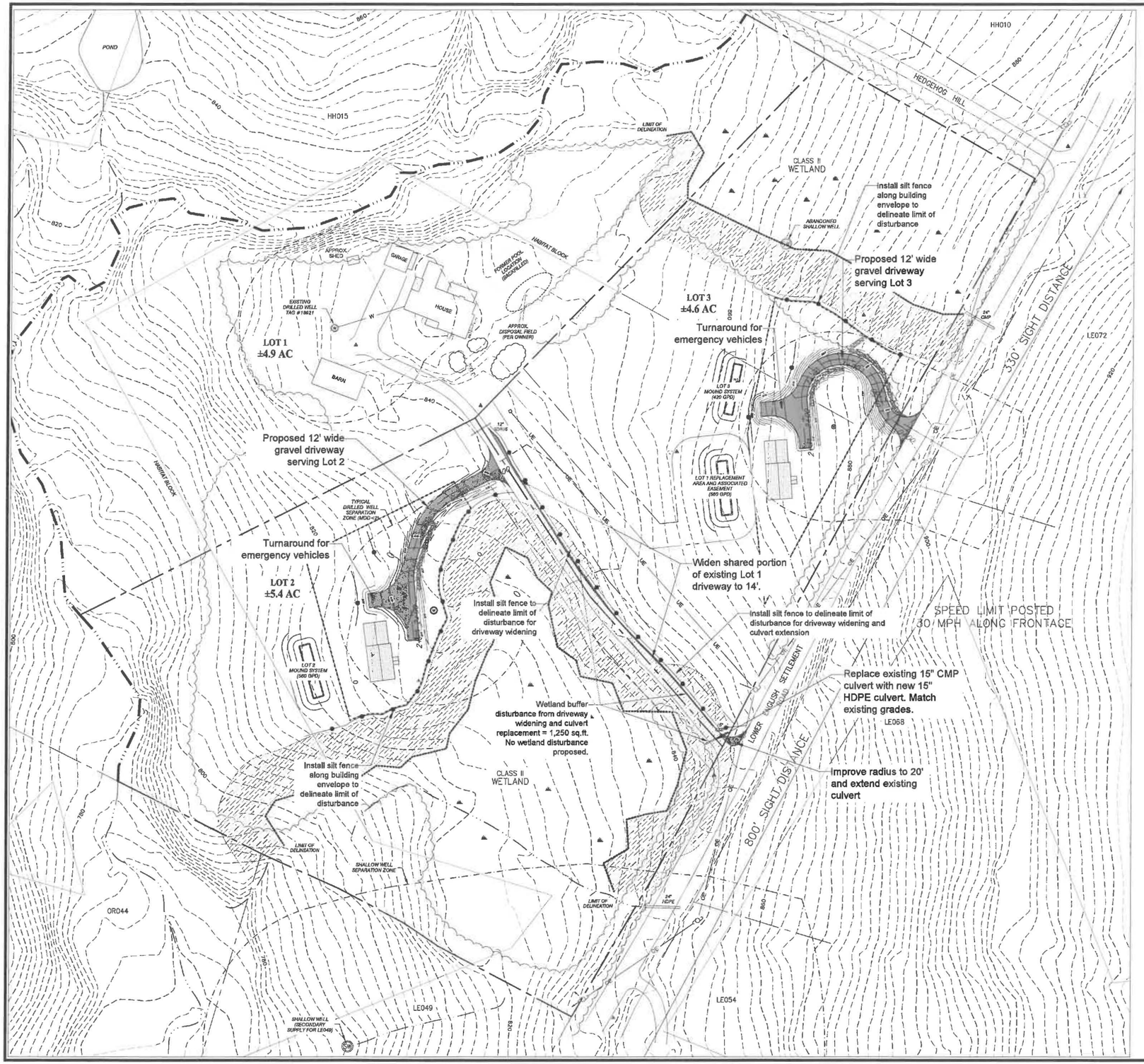
Lower English Settlement Road
Underhill, Vermont

KREBS & LANSING
CONSULTING ENGINEERS
164 Main Street, Suite 201
Colchester, Vermont 05446
P: (802) 878-0375
www.krebsandlansing.com

ISSUED FOR PERMIT REVIEW
NOT FOR CONSTRUCTION

OWNER AND APPLICANT:
Peter Bingham
51 Lakeside Avenue
Burlington, VT 05401

PROPERTY INFORMATION:
59 Lower English Settlement Road
(LE059)
Underhill, VT 05489



Legend

- Existing stream
- Existing Tree Line
- Existing Well/water service
- Existing Wetland
- Existing Wetland Buffer
- Existing Contour
- Existing Underground Electric Line
- Existing Overhead Electric Line/Power Pole
- Approximate Property Line
- Proposed easement line
- Finish Contour
- New gravel driveway
- New building envelope
- Silt Fence

Notes:

1. Existing Conditions Plan provided by Bradford L. Holden, Land Surveyor.
2. This plan is not a boundary survey. The property lines shown are based on a plan provided by Bradford L. Holden, Land Surveyor.
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4. Refer to plans by Justin Willis, Willis Design Associates for design and details of wastewater disposal and potable water supply systems.

STAMP:

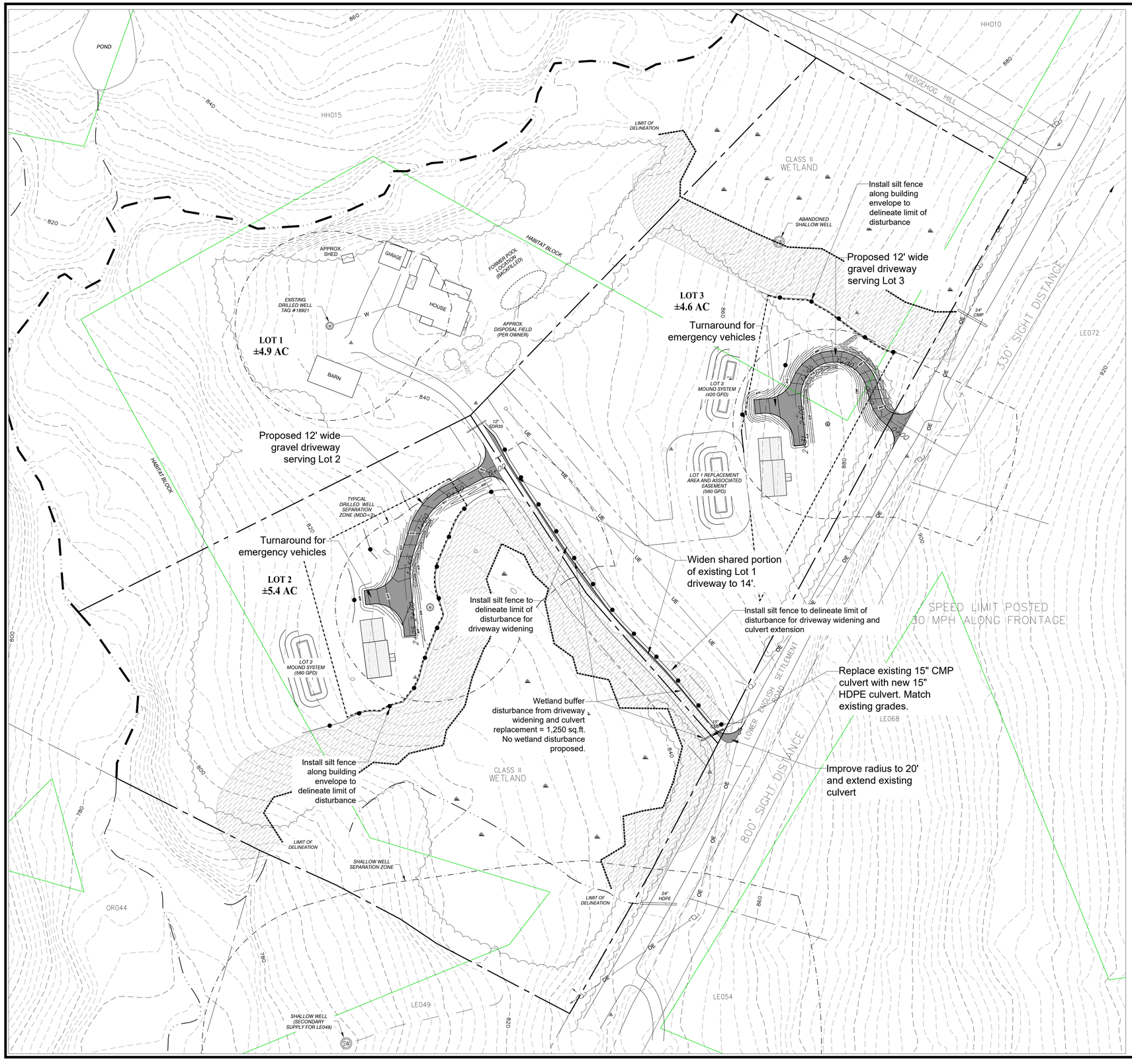
0' 50' 100' 150'
Bar Scale 1" = 50'

REV. NO.	REVISIONS/COMMENTS	DATE
1	Silt fence LOD	3/7/19

DRAWING TITLE:
OVERALL SITE PLAN

DATE ISSUED: 02/22/19
DRAWN BY: SWH CHECKED BY:
PROJECT NO.: 19126 SCALE: 1" = 50'
DRAWING NO.: C-1 REV. NO.:

DWG NAME: 19126 Bingham Drive.dwg



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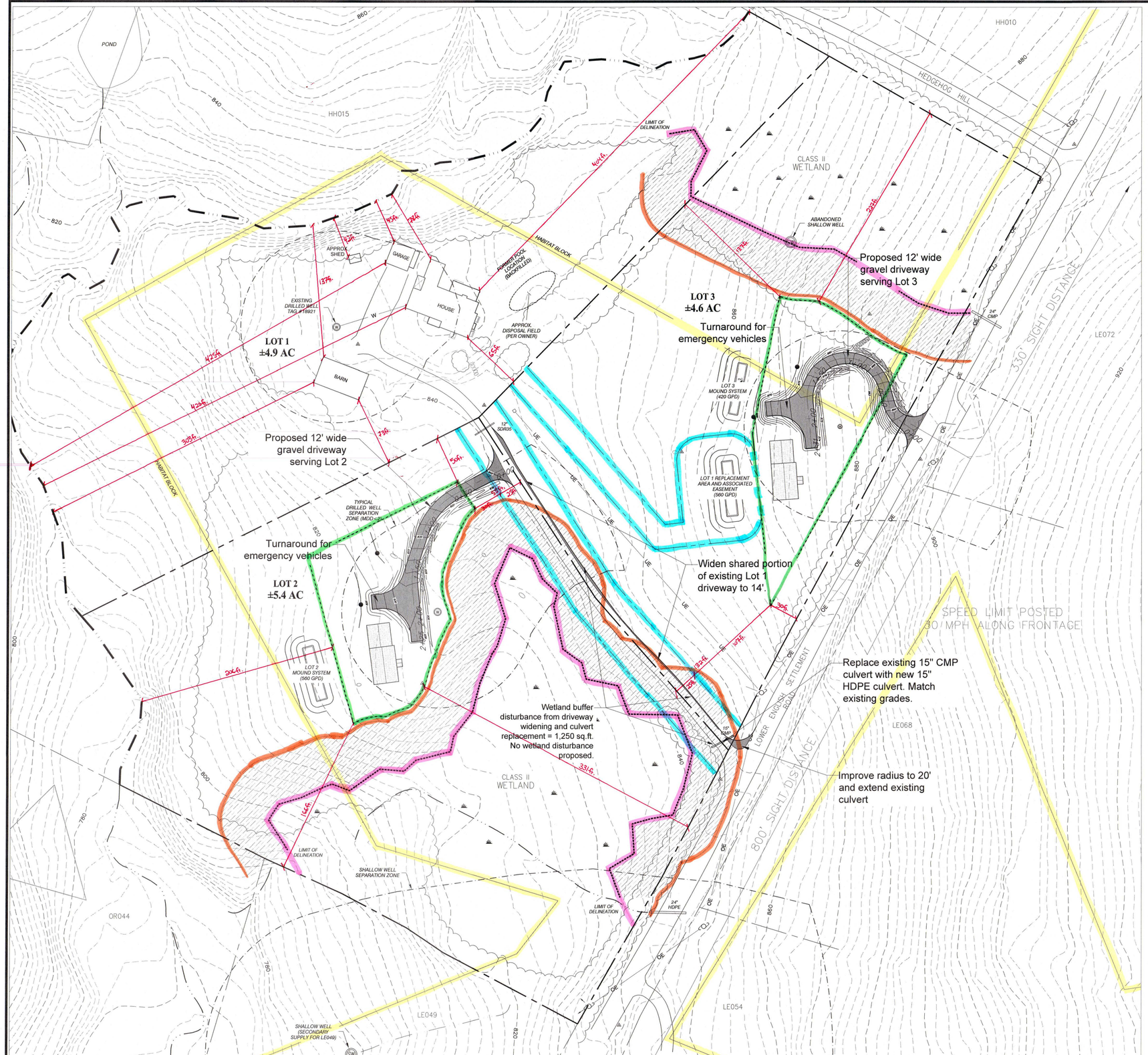

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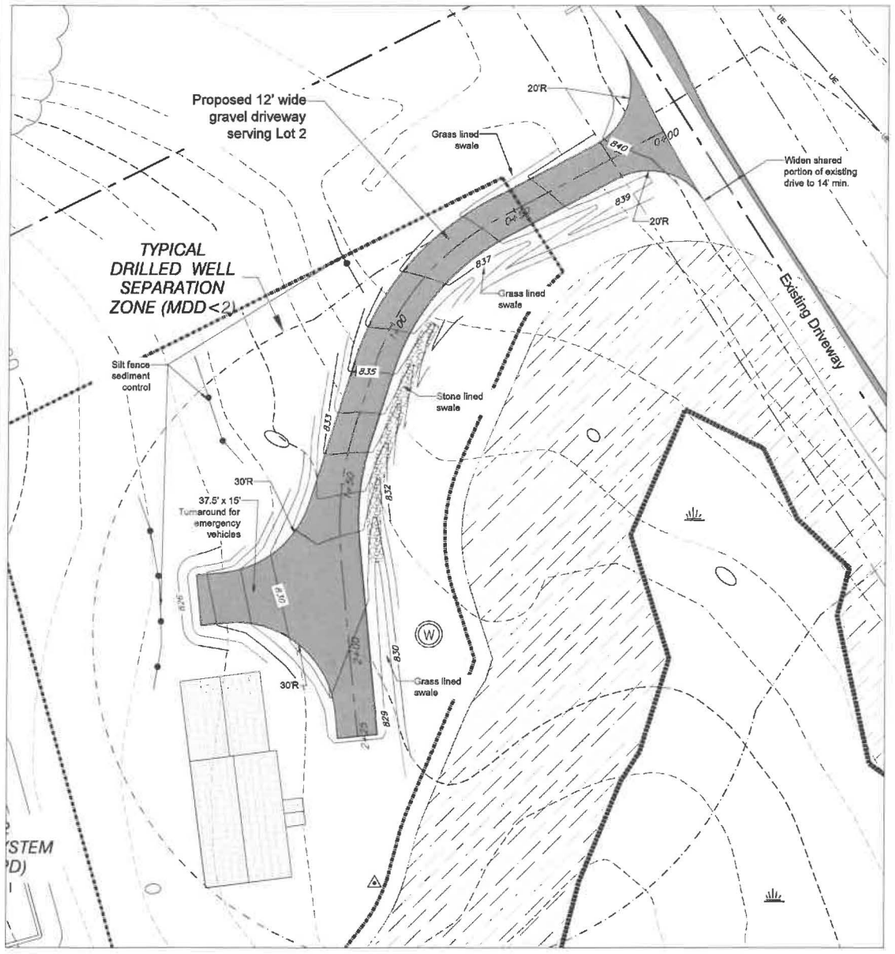
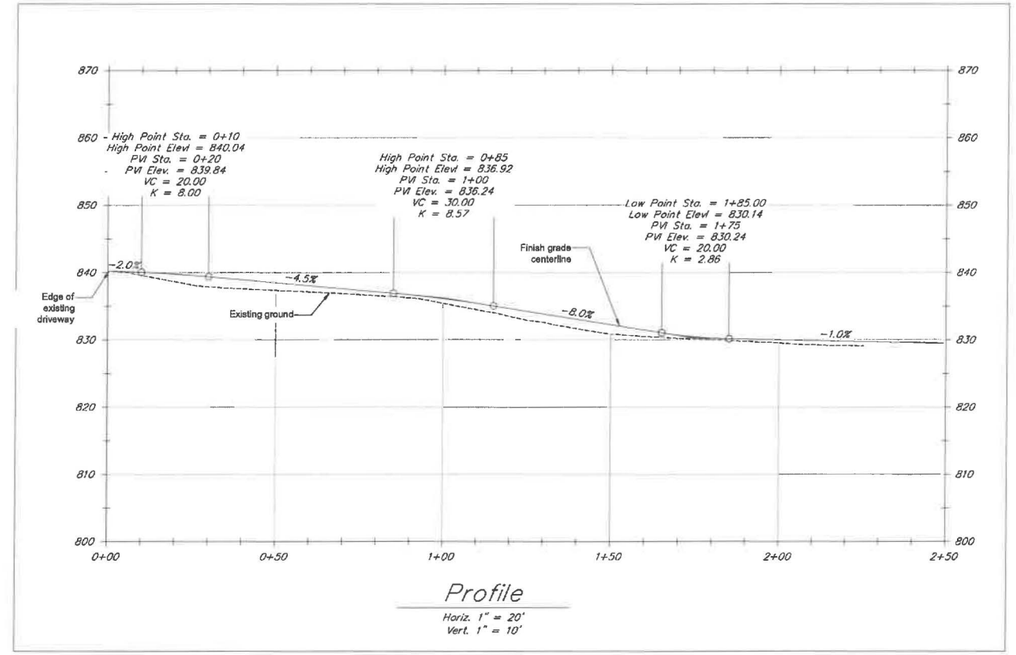


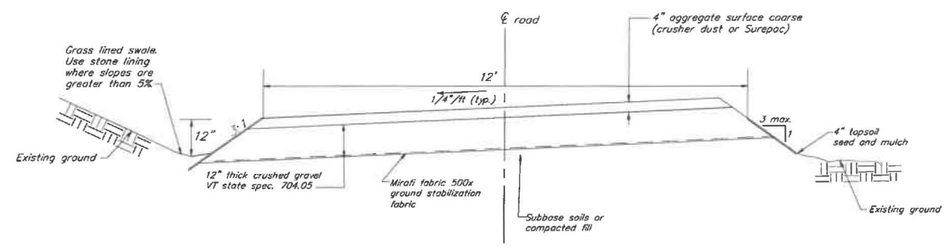
Plan

1" = 20'



Profile

Horiz. 1" = 20'
Vert. 1" = 10'



Typical Section

12' Driveway

N.T.S.

Legend

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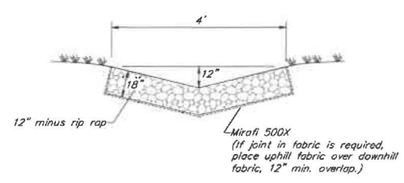
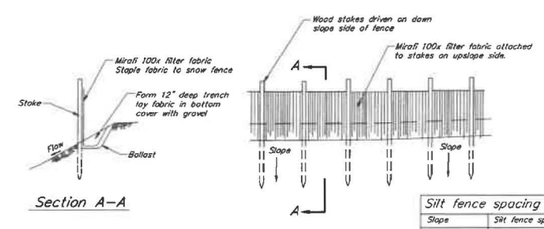


Stone Lined Waterway

N.T.S.



Silt fence spacing chart	
Slope	Silt fence spacing
5% to 10%	50 ft. or less
10% to 20%	25 ft. or less
> 20%	15 ft. or less

Typical Temporary Silt Fence Erosion Control Barrier

N.T.S.

EXHIBIT
M

BINGHAM SUBDIVISION

Lower English Settlement Road
Underhill, Vermont

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STAMP:

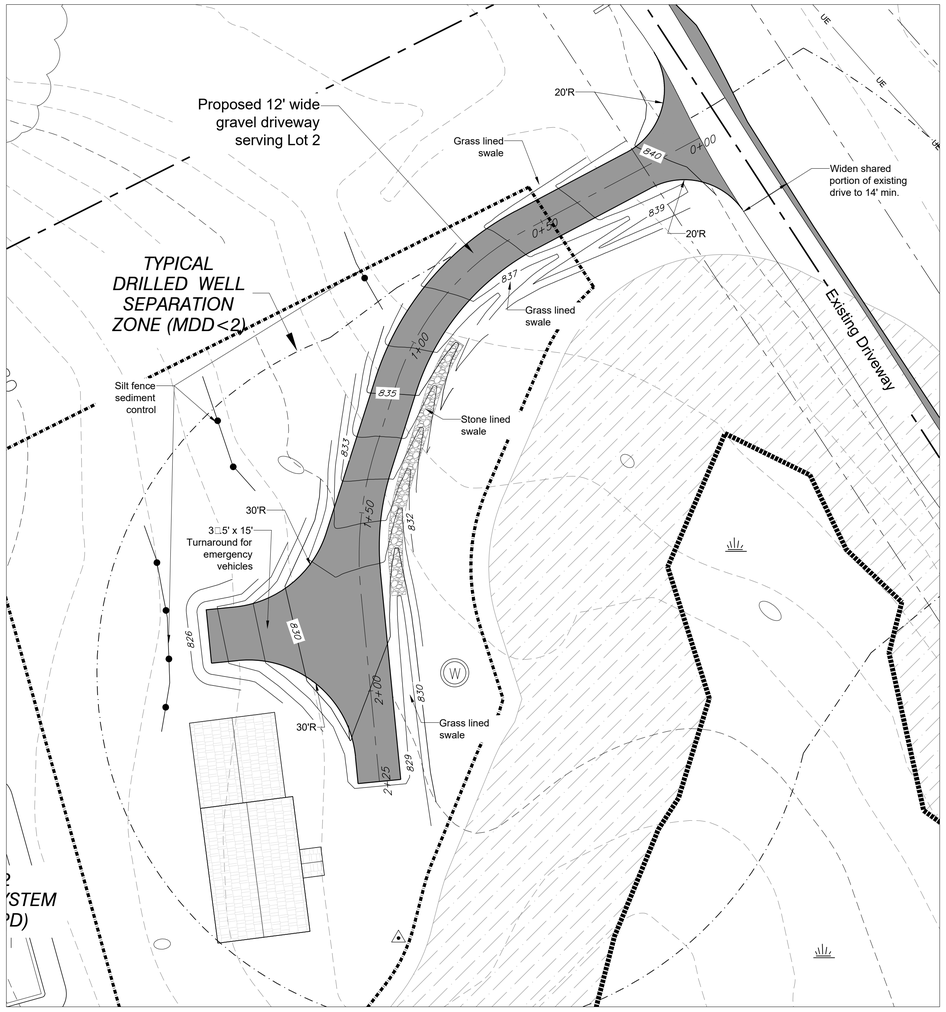
0' 20' 40' 60'
Bar Scale 1" = 20'

REV. NO.	REVISIONS/COMMENTS	DATE

DRAWING TITLE:
LOT 2 DRIVEWAY
PLAN & PROFILE

DATE ISSUED: 02/22/19
DRAWN BY: SWH
CHECKED BY:
PROJECT NO.: 19126
SCALE: 1" = 20'
DRAWING NO.: C-2
REV. NO.:

DWG NAME: 19126 Bingham Drive.dwg



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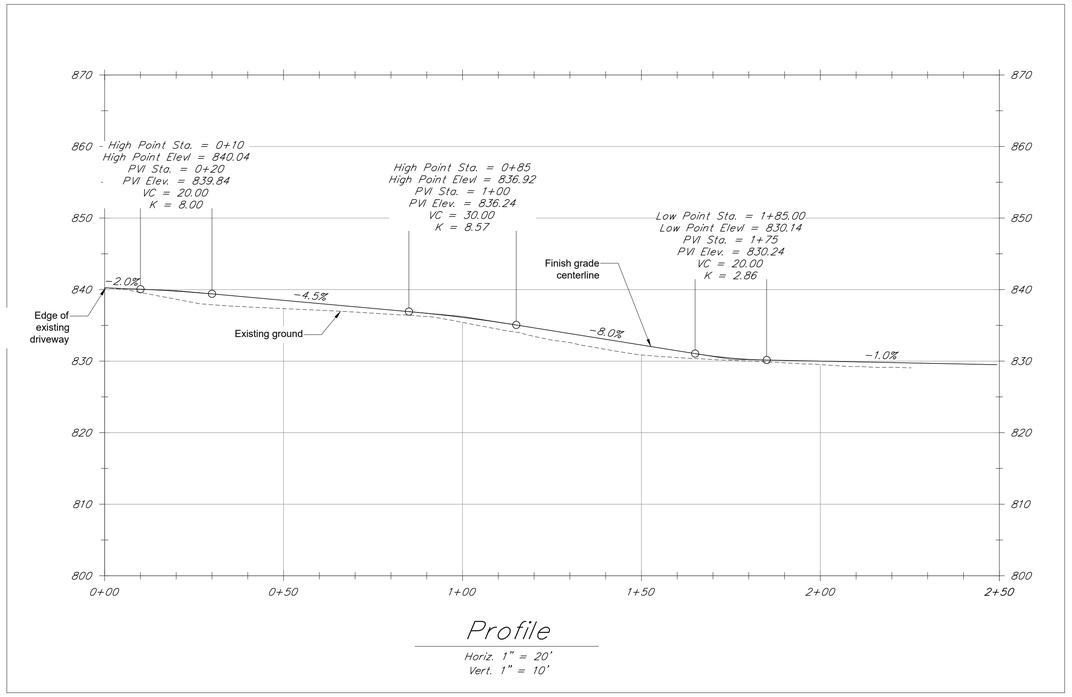

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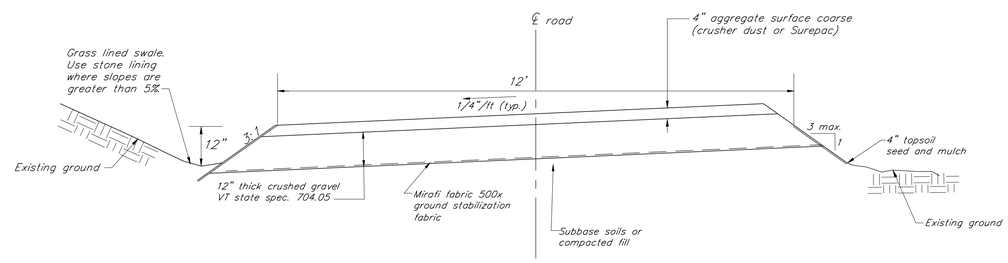

Typical Section

12' Driveway

N.T.S.

Legend

- Existing stream
- Existing Tree Line
- W — Existing Well/water service
- Existing Wetland
- Existing Wetland Buffer
- 150 — Existing Contour
- UE — Existing Underground Electric Line
- OE — Existing Overhead Electric Line/Power Pole
- Approximate Property Line
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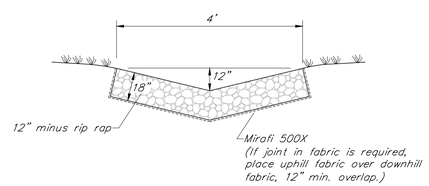

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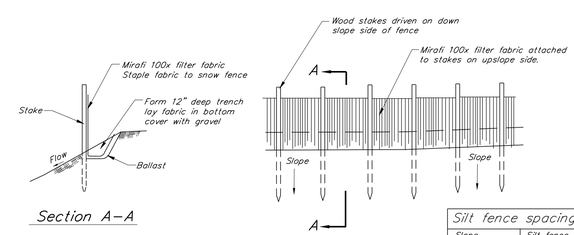

Section A–A

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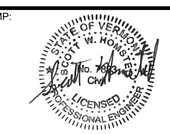
Underhill, VT 05489

STAMP:



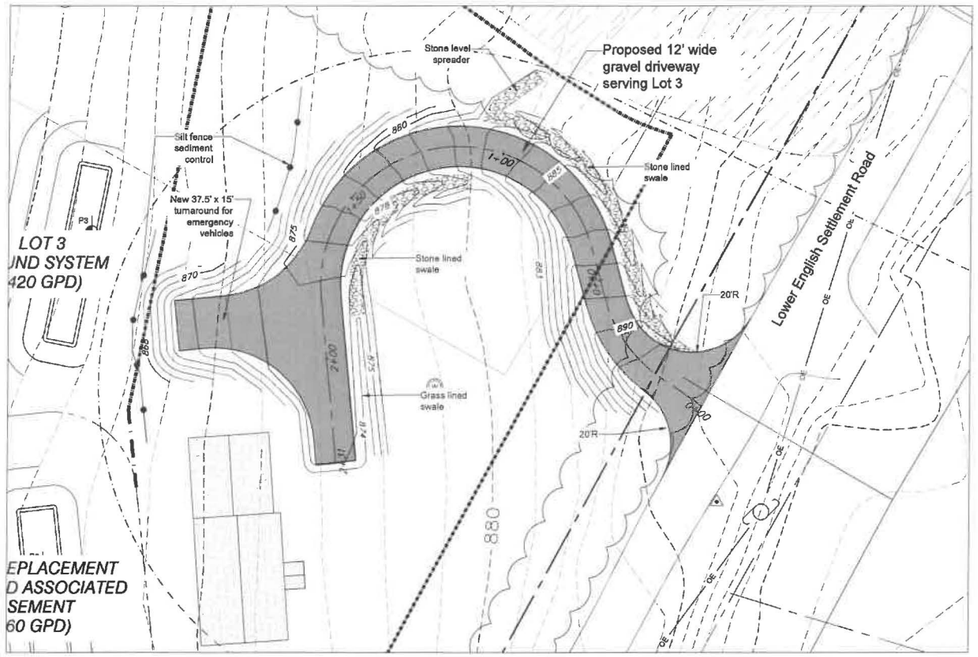
0' 20' 40' 60'
Bar Scale 1" = 20'

REV. NO.	REVISIONS/COMMENTS	DATE

DRAWING TITLE:
LOT 2 DRIVEWAY
PLAN □ PROFILE

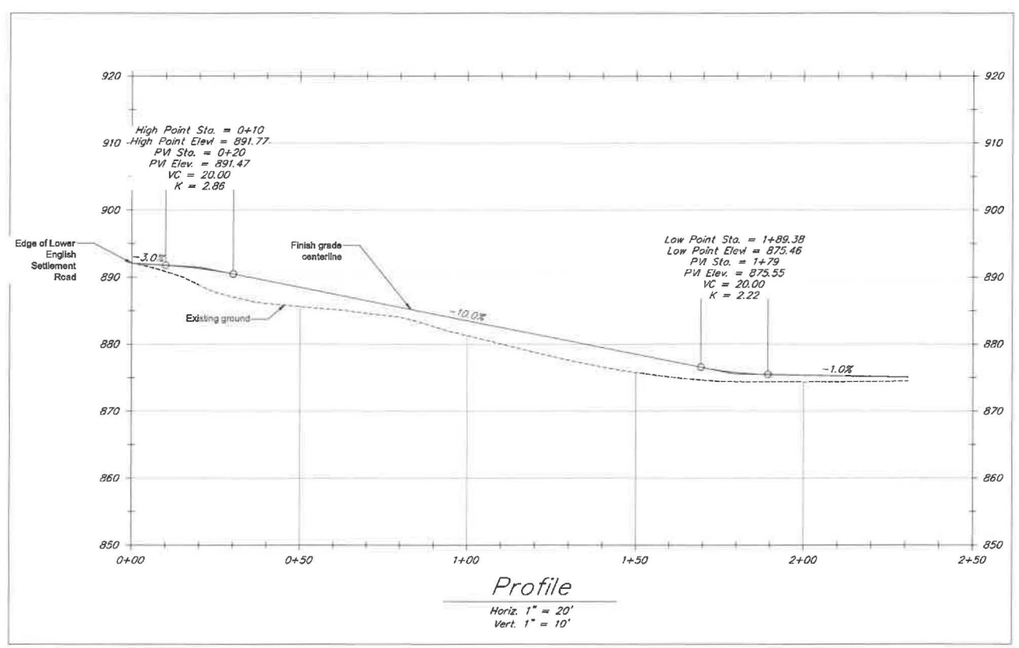
DATE ISSUED: 02/22/19
DRAWN BY: SWH
CHECKED BY:
PROJECT NO.: 19126
SCALE: 1" = 20'
DRAWING NO.: C-2
REV. NO.:

DWG NAME: 19126 Bingham Drive.dwg



Plan

1" = 20'



Profile

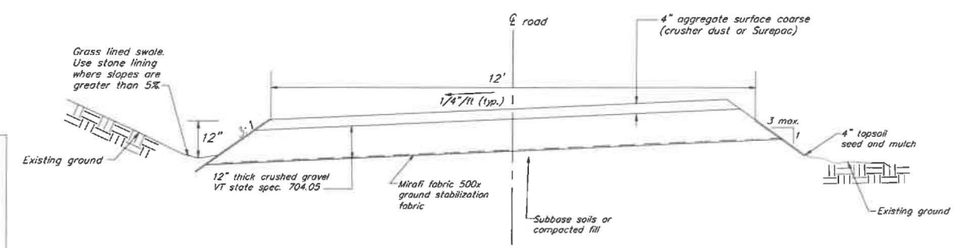
Horiz. 1" = 20'
Vert. 1" = 10'

Legend

- Existing stream
- Existing Tree Line
- Existing Well/water service
- Existing Wetland
- Existing Wetland Buffer
- Existing Contour
- Existing Underground Electric Line
- Existing Overhead Electric Line/Power Pole
- Approximate Property Line
- Proposed easement line
- Finish Contour
- New gravel driveway
- Silt Fence
- New building envelope

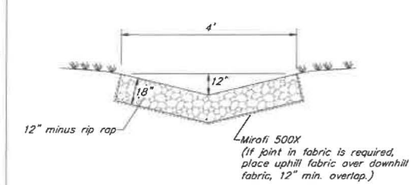
Notes:

1. Existing Conditions Plan provided by Bradford L. Holden, Land Surveyor.
2. This plan is not a boundary survey. The property lines shown are based on a plan provided by Bradford L. Holden, Land Surveyor.
3. The underground utilities shown on this plan are based on visible utilities located during a topographic survey performed by Bradford L. Holden, Land Surveyor in 2018. Underground utilities are approximate and not warranted to be exact or complete. Dig Safe shall be contacted prior to any excavation.
4. Refer to plans by Justin Willis, Willis Design Associates for design and details of wastewater disposal and potable water supply systems.



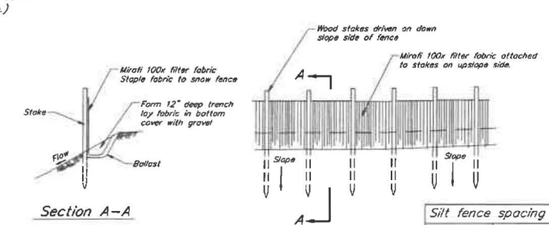
Typical Section
12' Driveway

N.T.S.



Stone Lined Waterway

N.T.S.



Section A–A

Typical Temporary Silt Fence Erosion Control Barrier

N.T.S.

Silt fence spacing chart	
Slope	Silt fence spacing
5% to 10%	50 ft. or less
10% to 20%	25 ft. or less
> 20%	15 ft. or less

EXHIBIT
N

BINGHAM SUBDIVISION

Lower English Settlement Road
Underhill, Vermont

KREBS & LANSING
CONSULTING ENGINEERS
164 Main Street, Suite 201
Colchester, Vermont 05446
P: (802) 878-0375
www.krebsandlansing.com

ISSUED FOR PERMIT REVIEW
NOT FOR CONSTRUCTION

OWNER AND APPLICANT:
Peter Bingham
51 Lakeside Avenue
Burlington, VT 05401

PROPERTY INFORMATION:
59 Lower English Settlement Road
(LE060)
Underhill, VT 05489

STAMP:

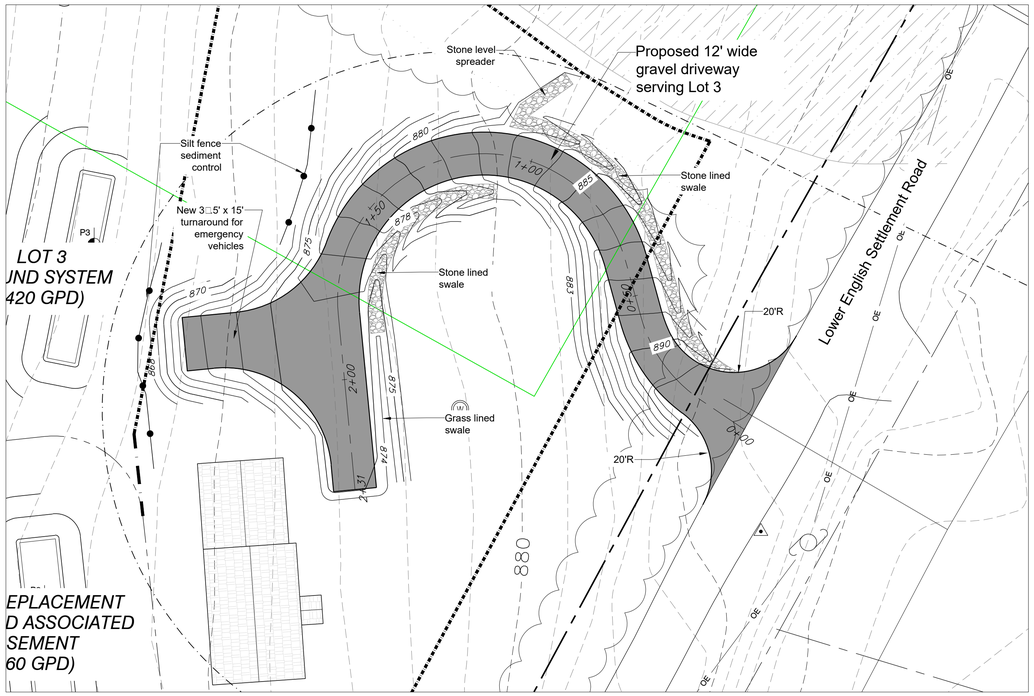
0' 20' 40' 60'
Bar Scale 1" = 20'

REV. NO.	REVISIONS/COMMENTS	DATE

DRAWING TITLE:
LOT 3 DRIVEWAY
PLAN & PROFILE

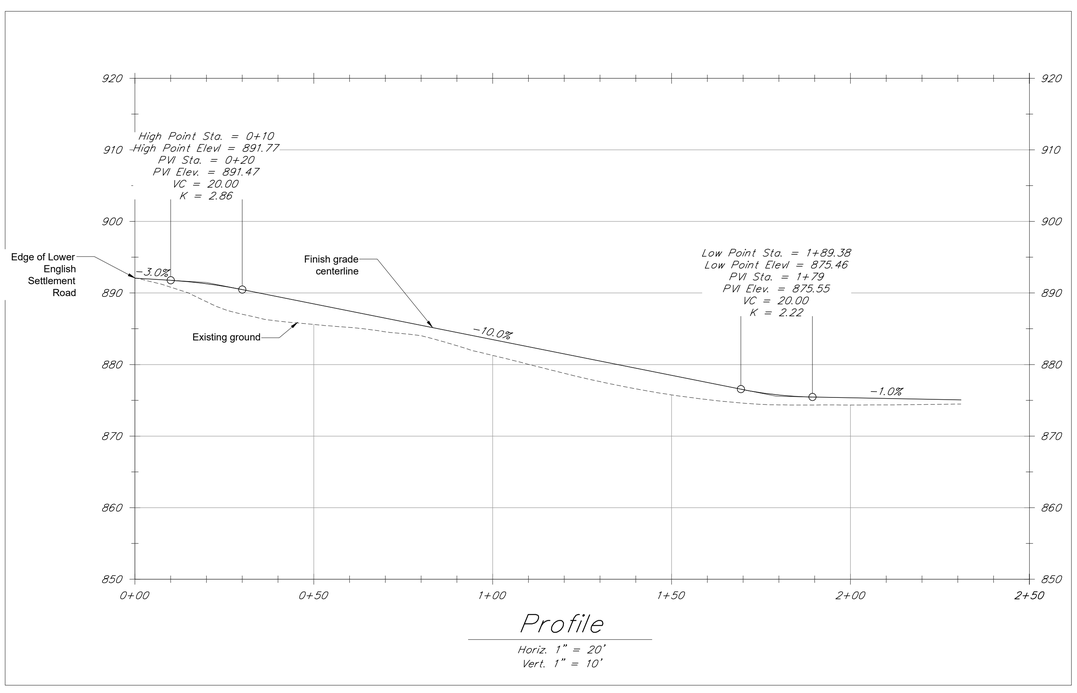
DATE ISSUED: 02/22/19
DRAWN BY: SWH CHECKED BY:
PROJECT NO.: 19126 SCALE: 1" = 20'
DRAWING NO.: C-3 REV. NO.:

DWG NAME: 19126 Bingham Drive.dwg



Plan

1" = 20'



Profile

Horiz. 1" = 20'
Vert. 1" = 10'

Vermont State Plane Grid North (NAD83)

Legend

- Existing stream
- Existing Tree Line
- W — Existing Well/water service
- Existing Wetland
- Existing Wetland Buffer
- 150 — Existing Contour
- UE — Existing Underground Electric Line
- OE — Existing Overhead Electric Line/Power Pole
- Approximate Property Line
- Proposed easement line
- 150 — Finish Contour
- New gravel driveway
- Silt Fence
- New building envelope

Notes:

1. Existing Conditions Plan provided by Bradford L. Holden, Land Surveyor.
2. This plan is not a boundary survey. The property lines shown are based on a plan provided by Bradford L. Holden, Land Surveyor.
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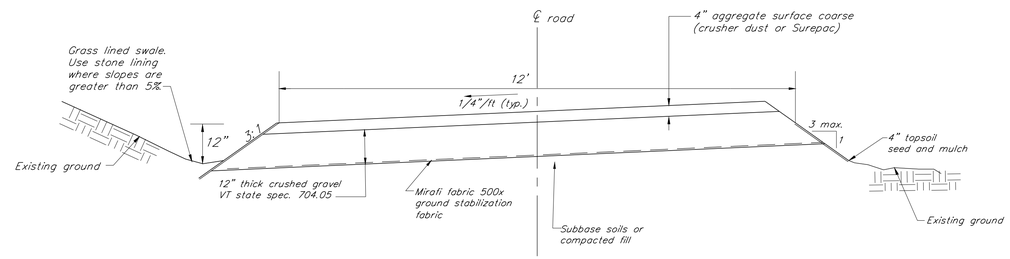
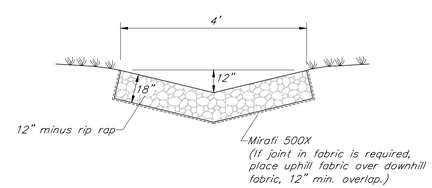


Typical Section

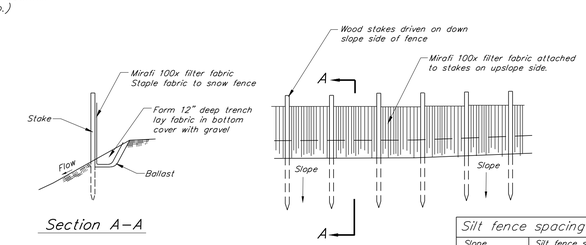
12' Driveway

N.T.S.



Stone Lined Waterway

N.T.S.



Section A–A

Typical Temporary Silt Fence Erosion Control Barrier

N.T.S.

Silt fence spacing chart	
Slope	Silt fence spacing
5% to 10%	50 ft. or less
10% to 20%	25 ft. or less
> 20%	15 ft. or less

BINGHAM SUBDIVISION

Lower English Settlement Road
Underhill, Vermont

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ISSUED FOR PERMIT REVIEW
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OWNER AND APPLICANT:
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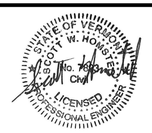
51 Lakeside Avenue
Burlington, VT 05401

PROPERTY INFORMATION:
59 Lower English Settlement Road
(LE059)
Underhill, VT 05489

STAMP:



0' 20' 40' 60'
Bar Scale 1" = 20'

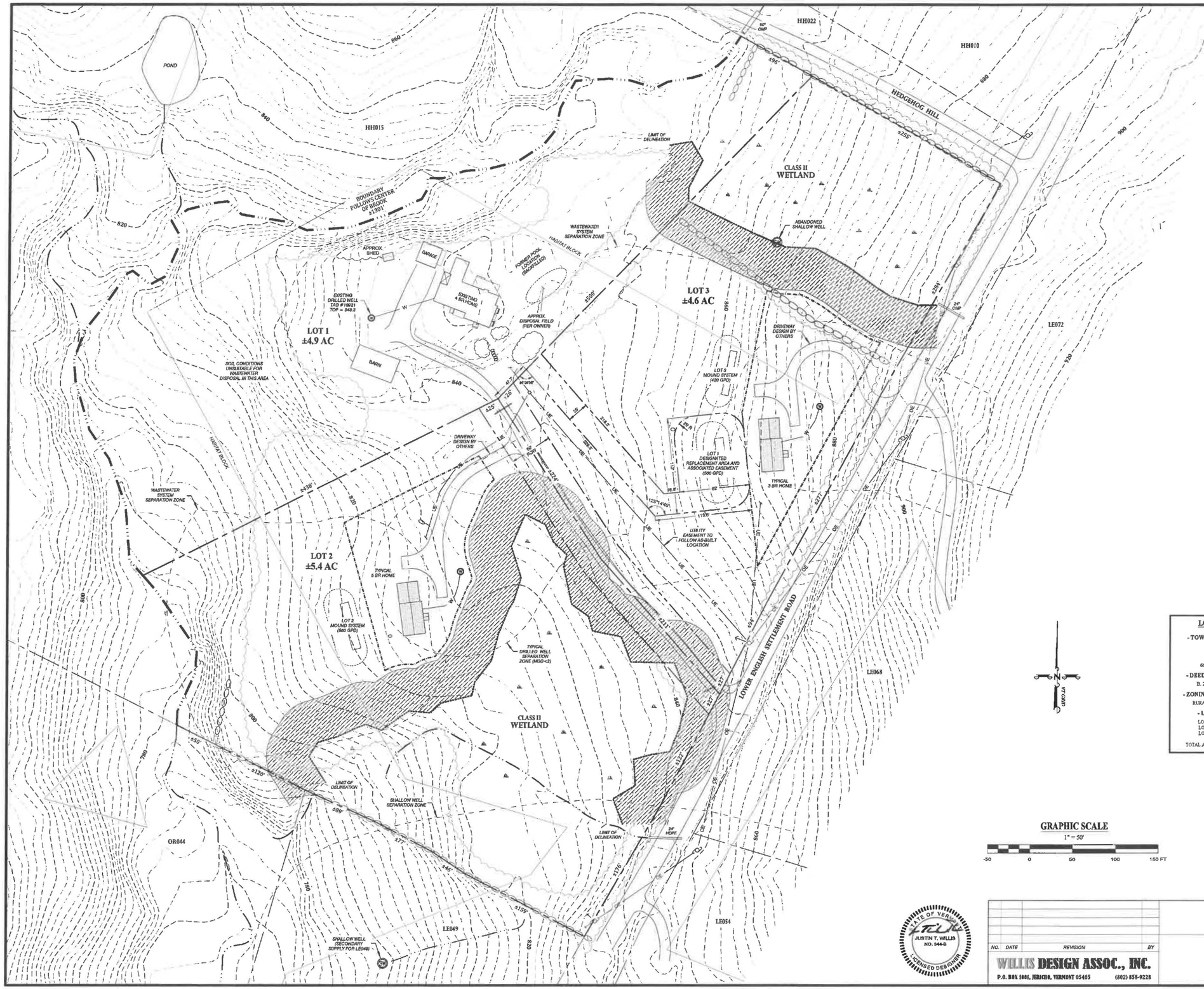
REV. NO.	REVISIONS/COMMENTS	DATE

DRAWING TITLE:
LOT 3 DRIVEWAY
PLAN □ PROFILE

DATE ISSUED: 02/22/19
DRAWN BY: SWH
CHECKED BY:
PROJECT NO.: 19126
SCALE: 1" = 20'
DRAWING NO.: C-3
REV. NO.:

DWG NAME: 19126 Bingham Drive.dwg

EXHIBIT
0



NOTES:

- PARCEL IS LOCATED WITHIN JERICHO-UNDERHILL WATER DISTRICT GROUNDWATER SPA.
- WETLANDS ARE DEPICTED PER DELINEATION COMPLETED BY GILMAN & BRIGGS ENVIRONMENTAL, INC. REFER TO STATE WETLAND CLASSIFICATION REPORT #2019-625.
- REFER TO PLAT OF SURVEY PREPARED BY BRADFORD L. HOLDEN, L.S.
- REFER TO PLANS BY KREISS AND LANSING CONSULTING ENGINEERS, INC. FOR PROPOSED DRIVEWAY INSTALLATION AND MODIFICATIONS.

LOT DATA

- TOWN PARCEL ID -
LE059
- SPAN -
650-209-10403
- DEED REFERENCE -
B. 227, P. 239-240
- ZONING DISTRICT(S) -
RURAL RESIDENTIAL
- LOT AREA -
LOT 1 = 4.98 AC
LOT 2 = 5.44 AC
LOT 3 = 4.64 AC
TOTAL AREA = 14.96 ACRES

LEGEND

- TEST PIT (DEPTH TO SHWT)
- PERCOLATION TEST
- CONTROL POINT (SPIKE IN GROUND)
- BOUNDARY CORNER
- UTILITY POLE
- DRILLED WELL
- EXISTING CONTOURS
- APPROX. BOUNDARY
- EASEMENT
- BUFFER ZONE
- EDGE OF WETLAND
- WETLAND
- TREE LINE
- STONE WALL
- BUILDING ENVELOPE
- STREAM
- FM — FORCE MAIN
- W — WATER LINE
- OE — O/H UTILITIES
- UE — U/G UTILITIES

GRAPHIC SCALE
1" = 50'
-50 0 50 100 150 FT

STATE OF VERMONT
JUSTIN T. WILLIS
NO. 344-B
LICENSED DESIGNER

NO.	DATE	REVISION	BY

WILLIS DESIGN ASSOC., INC.
P.O. BOX 1001, JERICHO, VERMONT 05465 (802) 858-9228

SITE PLAN
3 LOT SUBDIVISION

PETER M. BINGHAM
59 LOWER ENGLISH SETTLEMENT ROAD
UNDERHILL - VERMONT

DRAWN: JTW
DESIGN: JTW
DATE: 2/26/19
PROJECT: 16-027
DRAWING: 16027-1
SCALE: 1"=50'
SHEET: S1

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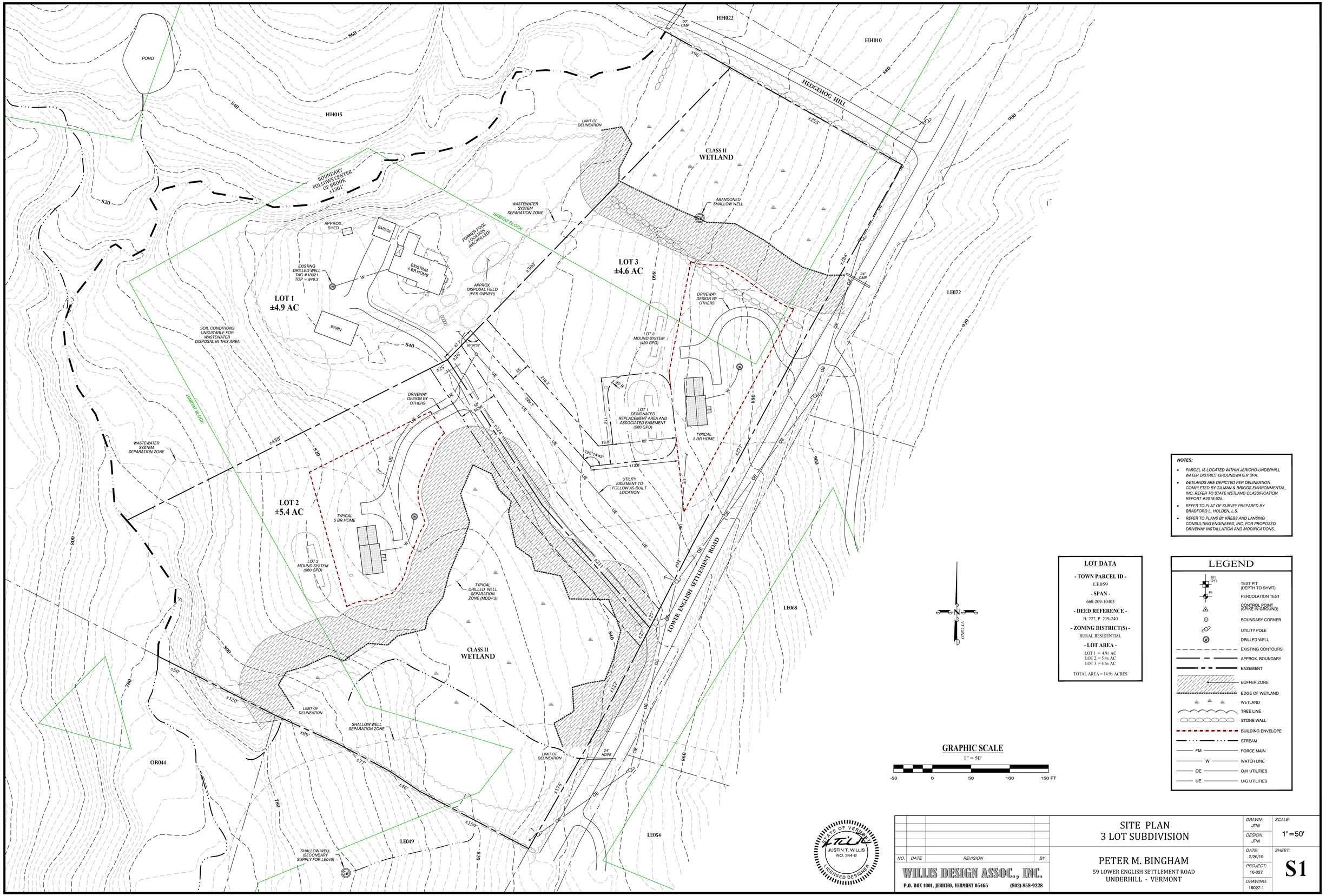

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LOT DATA

- TOWN PARCEL ID -
LE059

- SPAN -
660-209-10403

- DEED REFERENCE -
B. 227, P. 239-240

- ZONING DISTRICT(S) -
RURAL RESIDENTIAL

- LOT AREA -
LOT 1 = 4.9± AC
LOT 2 = 5.4± AC
LOT 3 = 4.6± AC

TOTAL AREA = 14.9± ACRES

LEGEND

101 (D4")	TEST PIT (DEPTH TO SHWT)
P1	PERCOLATION TEST
	CONTROL POINT (SPIKE IN GROUND)
	BOUNDARY CORNER
	UTILITY POLE
W	DRILLED WELL
	EXISTING CONTOURS
	APPROX. BOUNDARY
	EASEMENT
	BUFFER ZONE
	EDGE OF WETLAND
	WETLAND
	TREE LINE
	STONE WALL
	BUILDING ENVELOPE
	STREAM
FM	FORCE MAIN
W	WATER LINE
OE	O/H UTILITIES
UE	U/G UTILITIES

GRAPHIC SCALE
1" = 50'
-50 0 50 100 150 FT

STATE OF VERMONT
JUSTIN T. WILLIS
NO. 344-B
LICENSED DESIGNER

NO.	DATE	REVISION	BY

WILLIS DESIGN ASSOC., INC.
P.O. BOX 1001, JERICHO, VERMONT 05465 (802) 858-9228

SITE PLAN
3 LOT SUBDIVISION

PETER M. BINGHAM
59 LOWER ENGLISH SETTLEMENT ROAD
UNDERHILL - VERMONT

DRAWN: JTW	SCALE: 1"=50'
DESIGN: JTW	
DATE: 2/26/19	SHEET: S1
PROJECT: 16-027	
DRAWING: 16027-1	

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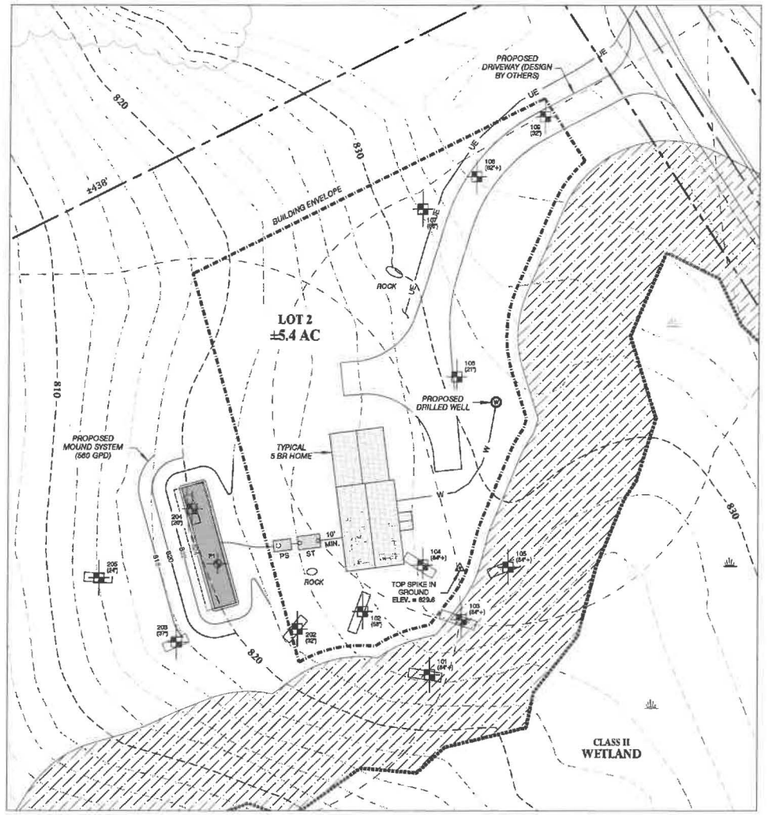
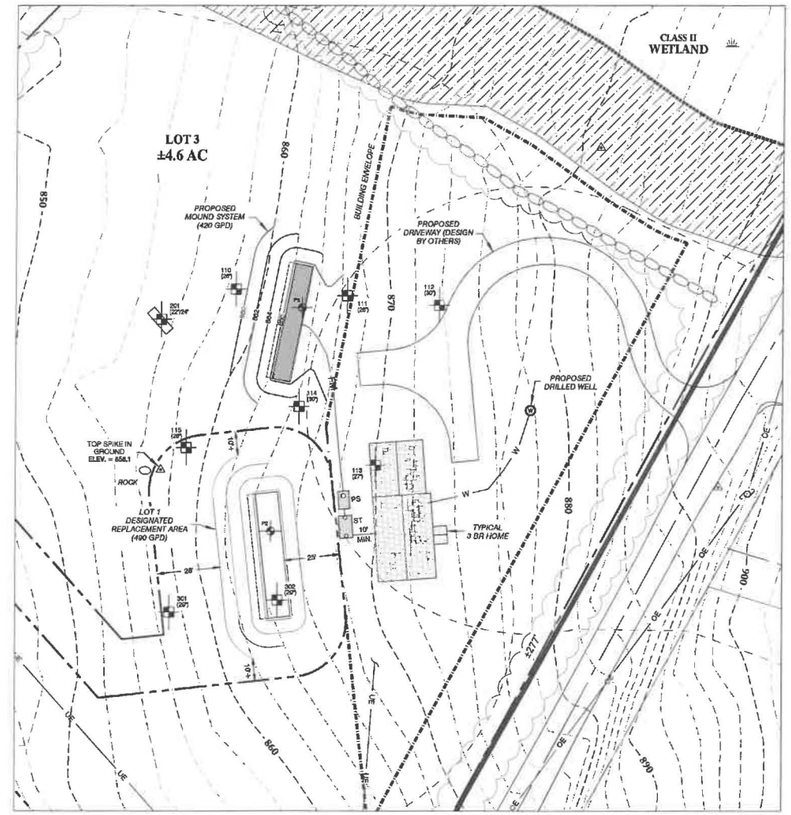
EXHIBIT
P



LOT 2
SITE DETAIL
1" = 30'



LOT 3
SITE DETAIL
1" = 30'

- MOUND NOTE -

THE LAND AREA 20' DOWNGRADIENT OF THE ELEVATED SAND MOUND IS THE EFFLUENT DISPERSAL AREA AND SOIL IN THIS AREA MAY NOT BE REMOVED OR DISTURBED (TO EXTEND OF OWNERSHIP). DO NOT DISTURB SOIL WITHIN 10' OF ALL OTHER TOES.

NO CONSTRUCTION, VEHICULAR TRAFFIC OR PARKING IS PERMITTED ON TOP OF THE MOUND OR SUBSURFACE TANKS. CONTACT THE DESIGNER AS NECESSARY FOR MORE INFORMATION.

VT GRID

LEGEND

- TEST PIT (DEPTH TO SHWT)
- PERCOLATION TEST
- CONTROL POINT (SPIKE IN GROUND)
- BOUNDARY CORNER
- UTILITY POLE
- DRILLED WELL
- EXISTING CONTOURS
- APPROX. BOUNDARY
- EASEMENT
- BUFFER ZONE
- EDGE OF WETLAND
- WETLAND
- TREE LINE
- STONE WALL
- BUILDING ENVELOPE
- STREAM
- FM — FORCE MAIN
- W — WATER LINE
- OE — O/H UTILITIES
- UE — U/G UTILITIES

STATE OF VERMONT
JUSTIN T. WILLIS
NO. 344-0
LICENSED DESIGNER

NO.	DATE	REVISION	BY

WILLIS DESIGN ASSOC., INC.
P.O. BOX 1001, JERICHO, VERMONT 05465 (802) 858-9228

SITE PLAN
3 LOT SUBDIVISION

PETER M. BINGHAM
59 LOWER ENGLISH SETTLEMENT ROAD
UNDERHILL - VERMONT

DRAWN: JTW	SCALE: 1"=30'
DESIGN: JTW	
DATE: 2/26/19	SHEET: S2
PROJECT: 16-027	
DRAWING: 16027-1	

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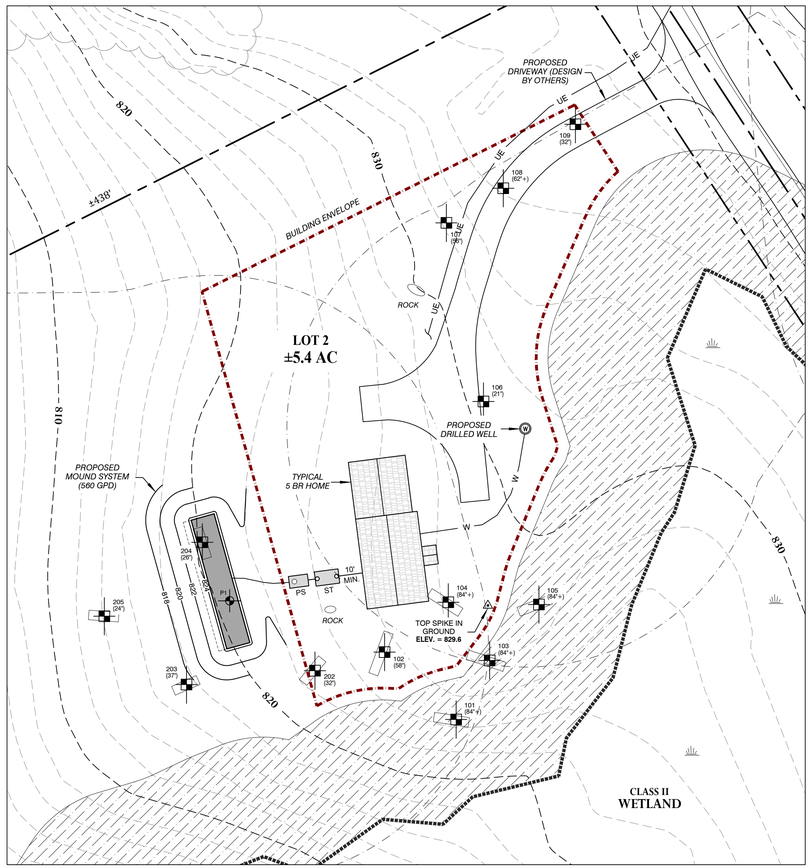
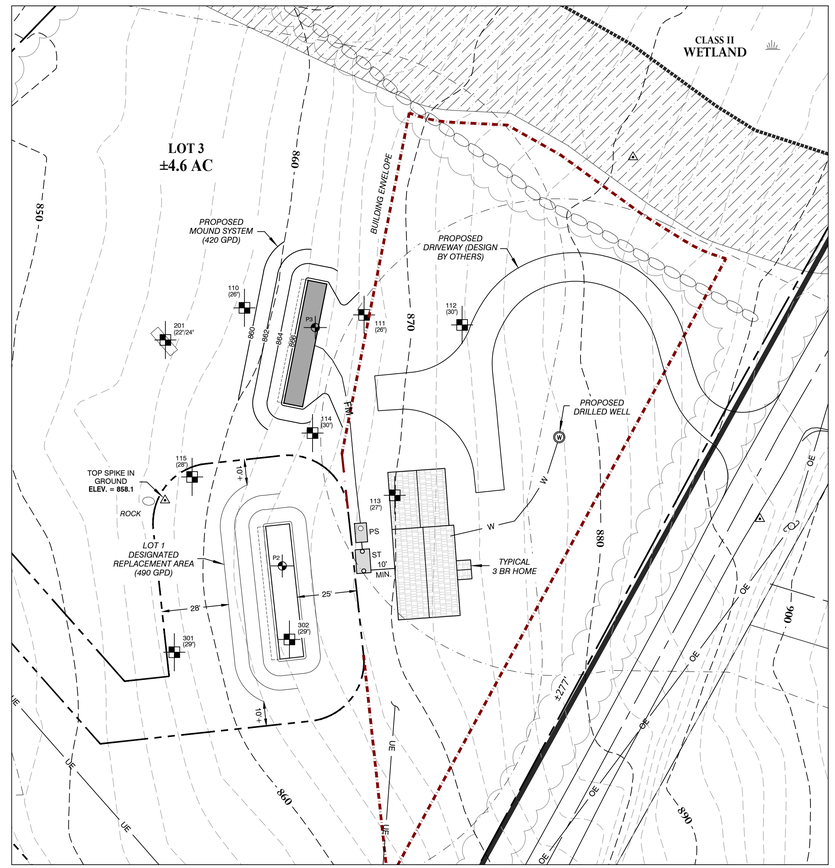


LOT 2

SITE DETAIL

1" = 30'

-30 0 30 60 90 FT



LOT 3

SITE DETAIL

1" = 30'

-30 0 30 60 90 FT

- MOUND NOTE -

THE LAND AREA 25' DOWNGRADIENT OF THE ELEVATED SAND MOUND IS THE EFFLUENT DISPERSAL AREA AND SOIL IN THIS AREA MAY NOT BE REMOVED OR DISTURBED (TO EXTEND OF OWNERSHIP). DO NOT DISTURB SOIL WITHIN 10' OF ALL OTHER TOES.

NO CONSTRUCTION, VEHICULAR TRAFFIC OR PARKING IS PERMITTED ON TOP OF THE MOUND OR SUBSURFACE TANKS. CONTACT THE DESIGNER AS NECESSARY FOR MORE INFORMATION.

VT GRID

LEGEND

- TEST PIT (DEPTH TO SHWT)
- PERCOLATION TEST
- CONTROL POINT (SPIKE IN GROUND)
- BOUNDARY CORNER
- UTILITY POLE
- DRILLED WELL
- EXISTING CONTOURS
- APPROX. BOUNDARY
- EASEMENT
- BUFFER ZONE
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- WETLAND
- TREE LINE
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STATE OF VERMONT
JUSTIN T. WILLIS
NO. 344-B
LICENSED DESIGNER

NO.	DATE	REVISION	BY

WILLIS DESIGN ASSOC., INC.
P.O. BOX 1001, JERICHO, VERMONT 05465 (802) 858-9228

SITE PLAN
3 LOT SUBDIVISION

PETER M. BINGHAM
59 LOWER ENGLISH SETTLEMENT ROAD
UNDERHILL - VERMONT

DRAWN: JTW	SCALE: 1"=30'
DESIGN: JTW	
DATE: 2/26/19	SHEET: S2
PROJECT: 16-027	
DRAWING: 16027-1	

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EXHIBIT
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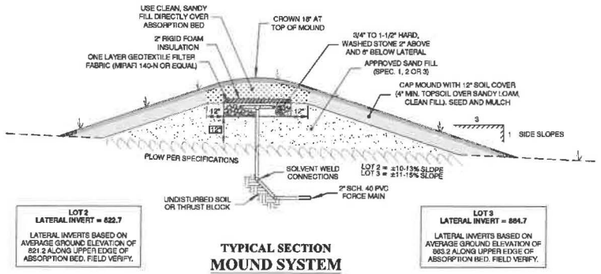
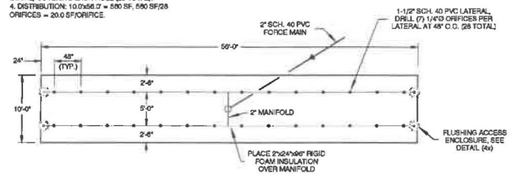


TYPICAL SECTION
MOUND SYSTEM
NTS

ABSORPTION BED NOTES

1. EXCAVATE BED BOTTOM LEVEL. RAKE TO SCARIFY SURFACE.
2. PRIME AND SOLVENT WELD ALL CONNECTIONS.
3. ORIFICES SHALL POINT DOWNWARDS WITH A 'SIMTECH' ORIFICE SHIELD (OR APPROVED EQUAL) COVERING EACH HOLE (28 TOTAL).
4. DISTRIBUTION: 10.0x66.0' = 660 SF, 660 SF/28 ORIFICES = 20.0 SF/ORIFICE.

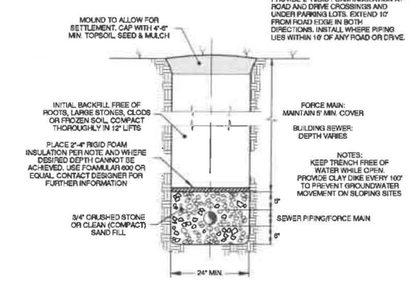


LOT 2 PLAN
MOUND SYSTEM
1" = 10'

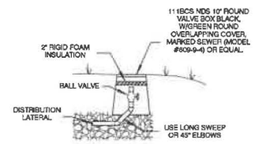
§1-913(c) SAND FILL SPECIFICATIONS		
(1)		
SIEVE NO.	OPENING (MM)	% PASSING (BY WGT)
3/8	9.500	85 - 100
40	0.420	25 - 75
60	0.240	0 - 30
100	0.149	0 - 10
200	0.074	0 - 5
(3)		
SIEVE NO.	OPENING (MM)	% PASSING (BY WGT)
4	4.750	95 - 100
8	2.360	80 - 100
16	1.190	50 - 85
30	0.590	25 - 60
50	0.297	10 - 30
100	0.149	2 - 10
200	0.075	0 - X*
ASTM SPECIFICATION C-33, INTENDED FOR MANUFACTURED MATERIAL.		
(3)		
SIEVE NO.	OPENING (MM)	% PASSING (BY WGT)
3/8	9.500	85 - 100
40	0.420	30 - 50
200	0.074	0 - 5
THE FILL MATERIAL MUST MEET SPECIFICATIONS (1), (2), OR (3) ABOVE. INTERPOLATION OF ANALYSIS IS NOT PERMITTED.		
*X = 3% FOR SYSTEM SAND; X = 5% FOR SAND FILL.		

SYSTEM SAND

INSULATION NOTE:
PROVIDE 2" RIGID FOAM INSULATION AT ROAD AND DRIVE CROSSINGS AND UNDER PARKING LOTS. EXTEND 10' FROM ROAD EDGE IN BOTH DIRECTIONS. INSTALL WHERE PIPING LIES WITHIN 18' OF ANY ROAD OR DRIVE.



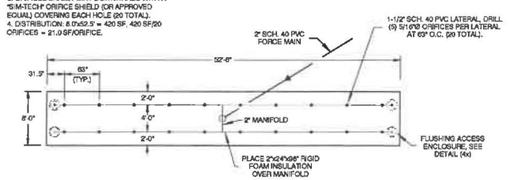
SECTION
SEWER TRENCH
NTS



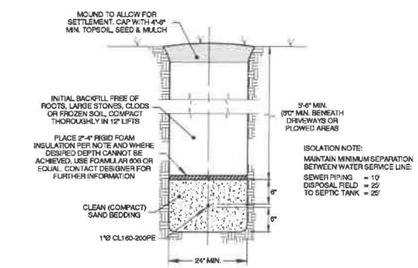
FLUSHING ENCLOSURE
NTS

ABSORPTION BED NOTES

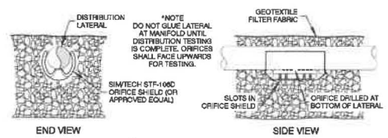
1. EXCAVATE BED BOTTOM LEVEL. RAKE TO SCARIFY SURFACE.
2. PRIME AND SOLVENT WELD ALL CONNECTIONS.
3. ORIFICES SHALL POINT DOWNWARDS WITH A 'SIMTECH' ORIFICE SHIELD (OR APPROVED EQUAL) COVERING EACH HOLE (20 TOTAL).
4. DISTRIBUTION: 8.0x52.5' = 420 SF, 420 SF/20 ORIFICES = 21.0 SF/ORIFICE.



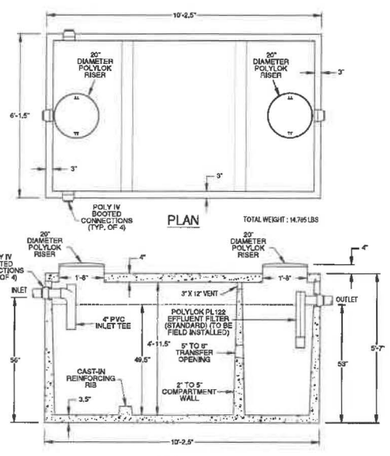
LOT 3 PLAN
ABSORPTION BED
1"=10'



SECTION
WATER SERVICE TRENCH
NTS



ORIFICE SHIELD
NTS



SECTION

1,500 GAL.
2 COMPARTMENT
SEPTIC TANK
CAMP PRECAST #1500STL2CW
NTS

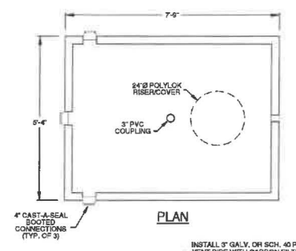
SPECIFICATIONS:

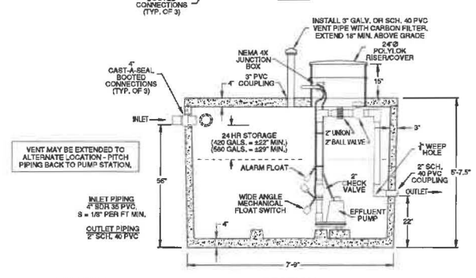
- CONCRETE MINIMUM STRENGTH 5000PSI @ 28 DAYS.
- STEEL REINFORCEMENT GRADE 60.
- EFFLUENT FILTER TO BE FIELD INSTALLED BY CONTRACTOR.
- TOP SEAM CONSTRUCTION.
- WATER TIGHT TO TOP OF CONCRETE.
- BOOTED PIPE CONNECTIONS.
- EFFLUENT FILTER ALARM AVAILABLE.
- WEIGHTS SUBJECT TO VARIATION.

*PROVIDE ADDITIONAL RISER EXTENSIONS TO GRADE AS NECESSARY. COVERS TO BE BOLTED DOWN W/SS SCREWS.

- CAUTION -
GAS WITHIN SEPTIC TANKS AND PUMP STATIONS CAN CAUSE DEATH IF ENTERED WITHOUT PROPER RESPIRATORY EQUIPMENT. SUCH SPACES ARE SUBJECT TO CONFINED-SPACE ENTRY REGULATIONS PUBLISHED BY THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA STANDARD CFR 1910.146).

SUBSURFACE TANK MINIMUM ISOLATION REQUIREMENTS	
FOUNDATION/FOOTING DRAIN	10'
WATER SERVICE	25'
DRILLED WELL	50'
DRIVEWAY	5'





SECTION

1,000 GAL.
PUMP STATION
CAMP PRECAST #1000PS
NTS

SPECIFICATIONS:

- CONCRETE MINIMUM STRENGTH 5000PSI @ 28 DAYS.
- STEEL REINFORCEMENT GRADE 60.
- TOP SEAM CONSTRUCTION.
- WATER TIGHT TO TOP OF CONCRETE.
- 4" CAST-A-SEAL BOOTED CONNECTIONS.
- WEIGHTS SUBJECT TO VARIATION

*PROVIDE ADDITIONAL RISER EXTENSIONS TO GRADE AS NECESSARY. COVERS TO BE BOLTED DOWN W/SS SCREWS.

SUBSURFACE TANK NOTE

THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING AN AREA WHICH CONTAINS SUFFICIENT SOIL DEPTH FOR TANK PLACEMENT. ALTERNATE LOCATIONS MAY BE REQUIRED TO ACHIEVE DESIRED ELEVATIONS AND PROPER SOIL COVER OVER TANK. SOIL DEPTH SHOULD VERIFIED PRIOR TO ORDERING OR DELIVERY OF TANK(S).

CONSULT WITH DESIGNER PRIOR TO DETERMINING FINAL TANK DEPTHS. SHALLOW DEPTHS MAY BE NECESSARY TO OVERCOME BUOYANT FORCES.

KEEP EXCAVATION FREE OF WATER DURING INSTALLATION. PLACE 3"–6" CRUSHED STONE BED BENEATH TANK.

PROVIDE INTERIOR OR EXTERIOR AUDIO-VISUAL ALARM PANEL IN LOCATION APPROVED BY OWNER. ALL ELECTRICAL WORK SHALL BE COMPLETED BY A LICENSED ELECTRICIAN.

LOT 2:

TANK VOLUME: ±235 GALS./FT. (AVG.)

MIN. 4 DOSES PER DAY: 560 GPD/4 = 140 GAL./DOSE.

NETWORK VOLUME = ±10 GALS. 10 GAL.x5 = 50 GAL. MIN. DOSE.

SET FLOAT TO DISCHARGE ±100 GALS./DOSE = ±5-6 DOSES/DAY.

SELECT EFFLUENT PUMP CAPABLE OF DISCHARGING 40 GPM @ 10' TDH.

LOT 3:

TANK VOLUME: ±235 GALS./FT. (AVG.)

MIN. 4 DOSES PER DAY: 420 GPD/4 = 105 GAL./DOSE.

NETWORK VOLUME = ±9 GALS. 9 GAL.x5 = 45 GAL. MIN. DOSE.

SET FLOAT TO DISCHARGE ±100 GALS./DOSE = 4+ DOSES/DAY.

SELECT EFFLUENT PUMP CAPABLE OF DISCHARGING 40 GPM @ 10' TDH.

STATE OF VERMONT
JUSTIN T. WILLIS
NO. 344-8
LICENSED DESIGNER

NO.	DATE	REVISION	BY

WILLIS DESIGN ASSOC., INC.
P.O. BOX 1001, JERICHO, VERMONT 05465 (802) 858-9228

DETAILS
3 LOT SUBDIVISION

PETER M. BINGHAM
59 LOWER ENGLISH SETTLEMENT ROAD
UNDERHILL - VERMONT

DRAWN: JTW
DESIGN: JTW
DATE: 2/28/19
PROJECT: 18-027
DRAWING: 18027-1
SCALE: NOTED
SHEET: D1

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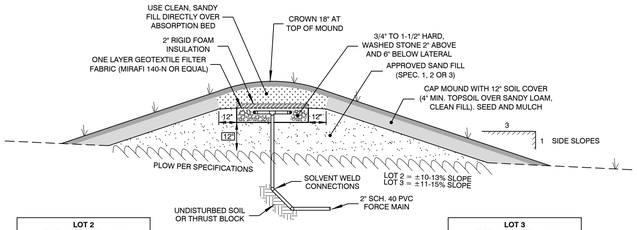


LOT 2
LATERAL INVERT = 822.7

LATERAL INVERTS BASED ON AVERAGE GROUND ELEVATION OF 821.2 ALONG UPPER EDGE OF ABSORPTION BED. FIELD VERIFY.

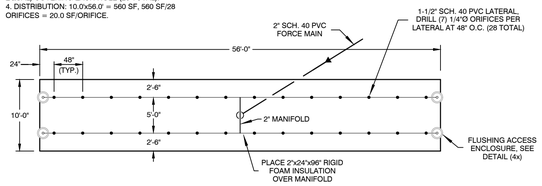
LOT 3
LATERAL INVERT = 864.7

LATERAL INVERTS BASED ON AVERAGE GROUND ELEVATION OF 863.2 ALONG UPPER EDGE OF ABSORPTION BED. FIELD VERIFY.

TYPICAL SECTION
MOUND SYSTEM
NTS

ABSORPTION BED NOTES

1. EXCAVATE BED BOTTOM LEVEL. RAKE TO SCARIFY SURFACE.
2. PRIME AND SOLVENT WELD ALL CONNECTIONS.
3. ORIFICES SHALL POINT DOWNWARDS WITH A "SIM-TECH" ORIFICE SHIELD (OR APPROVED EQUAL) COVERING EACH HOLE (28 TOTAL).
4. DISTRIBUTION: 10.0x56.0' = 560 SF, 560 SF;28 ORIFICES = 20.0 SF/ORIFICE.

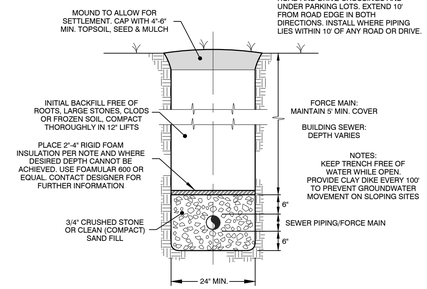


LOT 2 PLAN
MOUND SYSTEM
1" = 10'

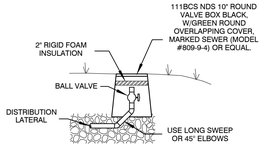
§1-913(c) SAND FILL SPECIFICATIONS		
(1)		
SIEVE NO.	OPENING (MM)	% PASSING (BY WGT)
3/8	9.500	85 - 100
40	0.420	25 - 75
60	0.240	0 - 30
100	0.149	0 - 10
200	0.074	0 - 5
(2)		
SIEVE NO.	OPENING (MM)	% PASSING (BY WGT)
4	4.750	95 - 100
8	2.380	80 - 100
16	1.190	50 - 85
30	0.590	25 - 60
50	0.297	10 - 30
100	0.149	2 - 10
200	0.075	0 - X*
ASTM SPECIFICATION C-33, INTENDED FOR MANUFACTURED MATERIAL.		
(3)		
SIEVE NO.	OPENING (MM)	% PASSING (BY WGT)
3/8	9.500	85 - 100
40	0.420	30 - 50
200	0.074	0 - 5
THE FILL MATERIAL MUST MEET SPECIFICATIONS (1), (2), OR (3) ABOVE. INTERPOLATION OF ANALYSIS IS NOT PERMITTED.		
*X = 3% FOR SYSTEM SAND; X = 5% FOR SAND FILL.		

SYSTEM SAND

INSULATION NOTE:
PROVIDE 2" RIGID FOAM INSULATION AT ROAD AND DRIVE CROSSINGS AND UNDER PARKING LOTS. EXTEND 10' FROM ROAD EDGE IN BOTH DIRECTIONS. INSTALL WHERE PIPING LIES WITHIN 10' OF ANY ROAD OR DRIVE.



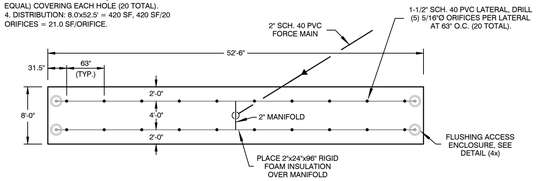
SECTION
SEWER TRENCH
NTS



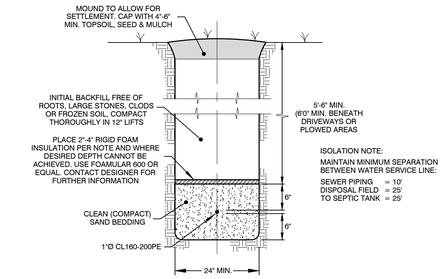
FLUSHING ENCLOSURE
NTS

ABSORPTION BED NOTES

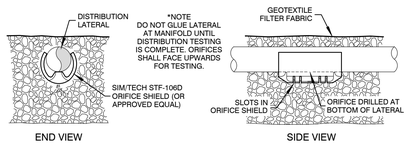
1. EXCAVATE BED BOTTOM LEVEL. RAKE TO SCARIFY SURFACE.
2. PRIME AND SOLVENT WELD ALL CONNECTIONS.
3. ORIFICES SHALL POINT DOWNWARDS WITH A "SIM-TECH" ORIFICE SHIELD (OR APPROVED EQUAL) COVERING EACH HOLE (20 TOTAL).
4. DISTRIBUTION: 8.0x52.5' = 420 SF, 420 SF;20 ORIFICES = 21.0 SF/ORIFICE.



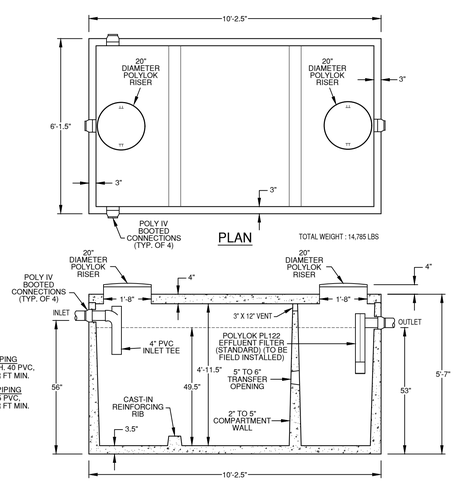
LOT 3 PLAN
ABSORPTION BED
1"=10'



SECTION
WATER SERVICE TRENCH
NTS



ORIFICE SHIELD
NTS



SECTION

1,500 GAL.
2 COMPARTMENT
SEPTIC TANK
CAMP PRECAST #1500STL2CW
NTS

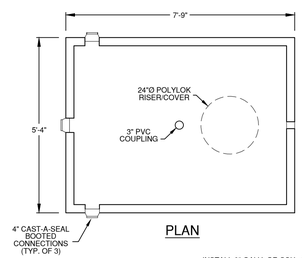
SPECIFICATIONS:

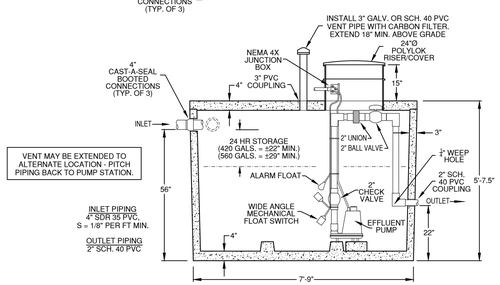
- CONCRETE MINIMUM STRENGTH 5000PSI @ 28 DAYS.
- STEEL REINFORCEMENT GRADE 60.
- EFFLUENT FILTER TO BE FIELD INSTALLED BY CONTRACTOR.
- TOP SEAM CONSTRUCTION.
- WATER TIGHT TO TOP OF CONCRETE.
- BOOTED PIPE CONNECTIONS.
- EFFLUENT FILTER ALARM AVAILABLE.
- WEIGHTS SUBJECT TO VARIATION.

*PROVIDE ADDITIONAL RISER EXTENSIONS TO GRADE AS NECESSARY. COVERS TO BE BOLTED DOWN W/SS SCREWS.

- CAUTION -
GAS WITHIN SEPTIC TANKS AND PUMP STATIONS CAN CAUSE DEATH IF ENTERED WITHOUT PROPER RESPIRATORY EQUIPMENT. SUCH SPACES ARE SUBJECT TO CONFINED-SPACE ENTRY REGULATIONS PUBLISHED BY THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA STANDARD CFR 1910.146).

SUBSURFACE TANK MINIMUM ISOLATION REQUIREMENTS	
FOUNDATION/FOOTING DRAIN	10'
WATER SERVICE	25'
DRILLED WELL	50'
DRIVEWAY	5'





SECTION

1,000 GAL.
PUMP STATION
CAMP PRECAST #1000PS
NTS

SPECIFICATIONS:

- CONCRETE MINIMUM STRENGTH 5000PSI @ 28 DAYS.
- STEEL REINFORCEMENT GRADE 60.
- TOP SEAM CONSTRUCTION.
- WATER TIGHT TO TOP OF CONCRETE.
- 4" CAST-A-SEAL BOOTED CONNECTIONS.
- WEIGHTS SUBJECT TO VARIATION

*PROVIDE ADDITIONAL RISER EXTENSIONS TO GRADE AS NECESSARY. COVERS TO BE BOLTED DOWN W/SS SCREWS.

SUBSURFACE TANK NOTE

THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING AN AREA WHICH CONTAINS SUFFICIENT SOIL DEPTH FOR TANK PLACEMENT. ALTERNATE LOCATIONS MAY BE REQUIRED TO ACHIEVE DESIRED ELEVATIONS AND PROPER SOIL COVER OVER TANK. SOIL DEPTH SHOULD VERIFIED PRIOR TO ORDERING OR DELIVERY OF TANK(S).

CONSULT WITH DESIGNER PRIOR TO DETERMINING FINAL TANK DEPTHS. SHALLOW DEPTHS MAY BE NECESSARY TO OVERCOME BUOYANT FORCES.

KEEP EXCAVATION FREE OF WATER DURING INSTALLATION. PLACE 3"–6" CRUSHED STONE BED BENEATH TANK.

PROVIDE INTERIOR OR EXTERIOR AUDIO-VISUAL ALARM PANEL IN LOCATION APPROVED BY OWNER. ALL ELECTRICAL WORK SHALL BE COMPLETED BY A LICENSED ELECTRICIAN.

LOT 2:

TANK VOLUME: ±235 GALS./FT. (AVG.)

MIN. 4 DOSES PER DAY: 560 GPD/4 = 140 GAL./DOSE.

NETWORK VOLUME = ±10 GALS. 10 GAL.x5 = 50 GAL. MIN. DOSE.

SET FLOAT TO DISCHARGE ±100 GALS./DOSE = ±5-6 DOSES/DAY.

SELECT EFFLUENT PUMP CAPABLE OF DISCHARGING 40 GPM @10' TDH.

LOT 3:

TANK VOLUME: ±235 GALS./FT. (AVG.)

MIN. 4 DOSES PER DAY: 420 GPD/4 = 105 GAL./DOSE.

NETWORK VOLUME = ±9 GALS. 9 GAL.x5 = 45 GAL. MIN. DOSE.

SET FLOAT TO DISCHARGE ±100 GALS./DOSE = 4+ DOSES/DAY.

SELECT EFFLUENT PUMP CAPABLE OF DISCHARGING 40 GPM @10' TDH.

STATE OF VERMONT
JUSTIN T. WILLIS
NO. 344-B
LICENSED DESIGNER

NO.	DATE	REVISION	BY

WILLIS DESIGN ASSOC., INC.
P.O. BOX 1001, JERICHO, VERMONT 05465 (802) 858-9228

DETAILS
3 LOT SUBDIVISION

PETER M. BINGHAM
59 LOWER ENGLISH SETTLEMENT ROAD
UNDERHILL - VERMONT

DRAWN: JTW	SCALE: NOTED
DESIGN: JTW	
DATE: 2/26/19	SHEET: D1
PROJECT: 16-027	
DRAWING: 16027-1	

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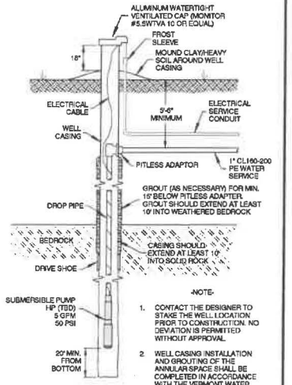
EXHIBIT R



-NOTE-

1. CONTACT THE DESIGNER TO STAKE THE WELL LOCATION PRIOR TO CONSTRUCTION. NO DEVIATION IS PERMITTED WITHOUT APPROVAL.
2. WELL CASING INSTALLATION AND GROUTING OF THE ANNULAR SPACE SHALL BE COMPLETED IN ACCORDANCE WITH THE VERMONT WATER SUPPLY RULES.

TYPICAL
DRILLED WELL
NTS

DRILLED WELL ISOLATION DISTANCES (CH. 21)

CONTAMINATION SOURCES	MINIMUM
ROADWAY/PARKING LOT (EDGE OF SHOULDER)	25 FT
DRIVEWAY (LESS THAN 3 RESIDENCES)	15 FT
DISPOSAL FIELD/BASAL AREA OF MOUND	100-200 FT (1)
SUBSURFACE WASTEWATER PIPING/TANKS	50 FT
PROPERTY LINE	10 FT (2)
LIMIT OF HERBICIDE APPLICATION (UTILITY R.O.W.)	100 FT (3)
BUILDINGS	10 FT
CONCENTRATED LIVESTOCK HOLDING AREA AND MANURE STORAGE SYSTEMS	200 FT

1. AS DEPICTED BY WELLHEAD PROTECTION ZONE.
2. INCREASE TO 50 FT ADJACENT TO AGRICULTURAL CROPLAND.
3. APPLICATION IN LAST 12 MO. OR IN FUTURE.

* WELLHEAD PROTECTION ZONE DEPICTED ON PLAN.
** NO WELL PERMITTED WITHIN FLOODWAY.

NOTES:
1. DRILLED WELL(S) SHALL BE INSTALLED WHERE SHOWN (LOCATION TO BE STAKED BY DESIGNER). A PERMIT AMENDMENT WILL BE REQUIRED IF CONSTRUCTED IN ANY OTHER LOCATION.
2. WELL LOCATION(S) HAVE BEEN SELECTED ONLY ON THE BASIS OF SEWAGE DISPOSAL ISOLATION DISTANCES. NO HYDROGEOLOGIC INFORMATION WAS GATHERED OR ANALYZED TO ESTABLISH THAT THESE LOCATIONS WILL SUPPLY POTABLE WATER OF SUFFICIENT QUALITY AND QUANTITY.
3. WATER SERVICE(S) TO BE 1"ø PE OR APPROVED EQUAL. MAINTAIN 25' MIN. ISOLATION FROM WATER SERVICE TO DISPOSAL FIELD OR SEPTIC TANK AND 10' MIN. TO SEWER PIPING.

DRILLED WELL LOCATION NOTE

PROPOSED WELL LOCATION(S) ARE GENERALLY BASED ON ISOLATION DISTANCES TO WASTEWATER DISPOSAL SYSTEM(S). NO HYDROGEOLOGIC INFORMATION WAS USED TO ESTABLISH THE LOCATION OR THAT THE LOCATION(S) WILL SUPPLY THE PROJECT WITH SUFFICIENT QUANTITY OR QUALITY.

LOT 2 WATER SYSTEM DEMAND (11.3)

PROPOSED WELL TO SERVE NEW 5 BR HOME.

AVERAGE DAY DEMAND (11.3.0)

PROPOSED: 3 BRx140 GPD/BR = 420 GPD
2 BRx70 GPD/BR = 140
ADD TOTAL = 560 GPD

MAXIMUM DAY DEMAND (11.3.1)

MDD = 560 GPD/720 MIN. = 0.78 GPM

INSTANTANEOUS PEAK DEMAND (11.3.2)

IPD: 1 UNIT @5 GPM/UNIT = 5 GPM

YIELD TO BE DETERMINED.

PRESSURE TANK, WATER SERVICE AND PUMP SIZE MUST BE CAPABLE OF DISCHARGING 5 GPM @50 PSI.

LOT 3 WATER SYSTEM DEMAND (11.3)

PROPOSED WELL TO SERVE NEW 3 BR HOME.

AVERAGE DAY DEMAND (11.3.0)

PROPOSED: 3 BRx140 GPD/BR = 420 GPD

ADD TOTAL = 420 GPD

MAXIMUM DAY DEMAND (11.3.1)

MDD = 420 GPD/720 MIN. = 0.58 GPM

INSTANTANEOUS PEAK DEMAND (11.3.2)

IPD: 1 UNIT @5 GPM/UNIT = 5 GPM

YIELD TO BE DETERMINED.

PRESSURE TANK, WATER SERVICE AND PUMP SIZE MUST BE CAPABLE OF DISCHARGING 5 GPM @50 PSI.

LOT 1 WASTEWATER SYSTEM BASIS OF DESIGN

(EXAMPLE DESIGNATED REPLACEMENT)

PROJECT: EXISTING 4 BR HOME.

DESIGN FLOWS: 3 BRx140 GPD/BR = 420 GPD
1 BRx70 GPD/BR = 70

ADD TOTAL = 490 GPD

DESIGN PERCOLATION RATE: 14.4 MPI.

APPLICATION RATE: (0.8)(3+√14.4) = 0.63 GDSF (USE 1.0 MAX. RATE)
490 GPD÷1.0 GDSF = 490.0 SF REQUIRED AREA.

DESIGN SCENARIO: 10.0'Wx56.0'L ABSORPTION BED = 560.0 SF.

BASAL AREA: 490÷0.74 GDSF = 662.2 SF = 11.8'Wx56.0'L.

NOTE:

THE EXISTING WASTEWATER SYSTEM IS NOT CURRENTLY FAILED PER OWNER (NO EVIDENCE OF SURFACING OR REPORTED BACKUPS).

THIS DESIGN CONFIGURATION IS INTENDED TO PROVIDE AN EXAMPLE OF WHAT MAY BE CONSTRUCTED FOR A 4 BR HOME. AN APPLICATION AND FEE MUST BE SUBMITTED TO THE STATE OF VERMONT WHEN THE REPLACEMENT SYSTEM (WITHIN OFF-SITE EASEMENT) IS REQUIRED. THE APPLICATION SHALL INCLUDE ALL DESIGN DETAILS NECESSARY TO CONSTRUCT THE SYSTEM.

LOT 2 WASTEWATER SYSTEM BASIS OF DESIGN

PROJECT: PROPOSED 5 BR HOME.

DESIGN FLOWS: 3 BRx140 GPD/BR = 420 GPD
2 BRx70 GPD/BR = 140

ADD TOTAL = 560 GPD

DESIGN PERCOLATION RATE: 22.6 MPI.

APPLICATION RATE: (0.8)(3+√22.6) = 0.50 GDSF (USE 1.0 MAX. RATE)
560 GPD÷1.0 GDSF = 560.0 SF REQUIRED AREA.

CONSTRUCT A 10.0'Wx56.0'L ABSORPTION BED = 560.0 SF.

BASAL AREA: 560÷0.74 GDSF = 756.8 SF = 13.5'Wx56.0'L.

LOT 3 WASTEWATER SYSTEM BASIS OF DESIGN

PROJECT: PROPOSED 3 BR HOME.

DESIGN FLOWS: 3 BRx140 GPD/BR = 420 GPD

ADD TOTAL = 420 GPD

DESIGN PERCOLATION RATE: 13.0 MPI.

APPLICATION RATE: (0.8)(3+√13.0) = 0.67 GDSF (USE 1.0 MAX. RATE)
420 GPD÷1.0 GDSF = 420.0 SF REQUIRED AREA.

CONSTRUCT AN 8.0'Wx52.5'L ABSORPTION BED = 420.0 SF.

BASAL AREA: 420÷0.74 GDSF = 567.6 SF = 10.8'Wx52.5'L.

LOT 2 HEAD LOSS CALCULATIONS

REQUIRED GPM:

(28) 1/4"ø ORIFICES = 1.82 GPM/ORIF. @2.5'	=	32.8 GPM
1/4"ø WEEP HOLE (±)	=	1.5
TOTAL	=	34.3 GPM

FRICTION LOSS:

BASED UPON 50 FT EQUIVALENT LENGTH OF 2" FM	=	± 1.3 FT
ELEVATION LOSS = 822.7 (AT FIELD) – ±819.0 (PUMP OFF)	=	± 3.7
NETWORK LOSS = 1.31 X 2.5'	=	3.3
TOTAL LOSS	=	± 8.3 FT

LOT 3 HEAD LOSS CALCULATIONS

REQUIRED GPM:

(20) 5/16"ø ORIFICES = 1.82 GPM/ORIF. @2.5'	=	36.4 GPM
1/4"ø WEEP HOLE (±)	=	1.5
TOTAL	=	38.7 GPM

FRICTION LOSS:

BASED UPON 120 FT EQUIVALENT LENGTH OF 2" FM	=	± 3.8 FT
ELEVATION LOSS = 864.7 (LATERAL) – ±863 (PUMP OFF)	=	± 1.7
NETWORK LOSS = 1.31 X 2.5'	=	3.3
TOTAL LOSS	=	± 8.8 FT

TEST PIT LOG

DATE 7/21/16
METHOD BACKHOE (J. BEDELL)
PRESENT J. WILLIS, L.D.
J. WYMAN, VT DEC

101
0"-9": 10YR 3/3 (DARK BROWN) SANDY LOAM, LOOSE.
9"-13": 10YR 3/6 (DARK YELLOWISH-BROWN) LOAMY SAND, LOOSE.
13"-26": 2.5Y 4/3 (OLIVE-BROWN) FINE SANDY LOAM, FRIABLE.
26"-34": MIXED SINGLE GRAIN VERY GRAVELLY COARSE SAND, LOOSE.
34"-44": 2.5Y 4/2 (DARK GRAYISH-BROWN) SAND, LOOSE.
44"-84": MIXED SINGLE GRAIN VERY GRAVELLY COARSE SAND, LOOSE.

SEASONAL HIGH WATER TABLE (SHWT) NONE TO DEPTH.
BEDROCK NONE TO DEPTH.

102
0"-4": 10YR 3/3 (DARK BROWN) FINE SANDY LOAM, VERY FRIABLE.
4"-14": 10YR 3/6 (DARK YELLOWISH-BROWN) FINE SANDY LOAM, VERY FRIABLE.
14"-23": 2.5Y 4/3 (OLIVE-BROWN) FINE SANDY LOAM, FRIABLE.
23"-39": MIXED SINGLE GRAIN VERY COARSE SAND, LOOSE.
39"-58": 2.5Y 4/2 (DARK GRAYISH-BROWN) SAND, LOOSE.
58"-75": 2.5Y 4/3 (OLIVE-BROWN) FINE SANDY LOAM, FIRM, REDOX. FEATURES.

SHWT 58".
BEDROCK NONE TO DEPTH.

103
0"-9": 10YR 3/3 (DARK BROWN) SANDY LOAM, LOOSE.
9"-84": MIXED SINGLE GRAIN FINE GRAVELLY COARSE SAND, LOOSE.

SHWT NONE TO DEPTH.
BEDROCK NONE TO DEPTH.

104
0"-9": 10YR 3/3 (DARK BROWN) SANDY LOAM, LOOSE.
9"-21": 10YR 4/6 (DARK YELLOWISH-BROWN) FINE SAND, VERY FRIABLE.
21"-35": 10YR 3/6 (DARK YELLOWISH-BROWN) SAND, LOOSE.
35"-84": MIXED SINGLE GRAIN FINE GRAVELLY COARSE SAND, LOOSE.

SHWT NONE TO DEPTH.
BEDROCK NONE TO DEPTH.

105
0"-8": 10YR 3/3 (DARK BROWN) SANDY LOAM, LOOSE.
8"-14": 10YR 3/6 (DARK YELLOWISH-BROWN) FINE SANDY LOAM, FRIABLE.
14"-84": MIXED SINGLE GRAIN FINE GRAVELLY COARSE SAND, LOOSE.
WEST END OF PIT: 36"-48": 2.5Y 4/2 (DARK GRAYISH-BROWN) ALTERNATING LAYERS OF FINE SAND AND FINE SANDY LOAM, REDOX. FEATURES AT 38"-40".

SHWT NONE TO DEPTH, PERCHED AT 38"-40" AT WEST END.
BEDROCK NONE TO DEPTH.

106
0"-7": 10YR 3/3 (DARK BROWN) FINE SANDY LOAM, FRIABLE.
7"-21": 2.5Y 4/4 (OLIVE-BROWN) FINE SANDY LOAM, FRIABLE.
21"-38": 2.5Y 4/2 (DARK GRAYISH-BROWN) VERY FINE SANDY LOAM, FIRM, REDOX. FEATURES.

SHWT 21".
BEDROCK NONE TO DEPTH.

107
0"-5": 10YR 3/3 (DARK BROWN) FINE SANDY LOAM, FRIABLE.
5"-46": 10YR 4/6 (DARK YELLOWISH-BROWN) SANDY LOAM, VERY FRIABLE.
46"-56": 2.5Y 4/2 (DARK GRAYISH-BROWN) SAND, LOOSE.
56"-66": 2.5Y 4/2 (DARK GRAYISH-BROWN) VERY FINE SANDY LOAM, FIRM, REDOX. FEATURES.

SHWT 56".
BEDROCK NONE TO DEPTH.

108
0"-8": 10YR 3/3 (DARK BROWN) SANDY LOAM, FRIABLE.
8"-15": 10YR 4/4 (DARK YELLOWISH-BROWN) GRAVELLY COARSE SAND, LOOSE.
15"-52": MIXED SINGLE GRAIN VERY GRAVELLY COARSE SAND, LOOSE.
52"-62": 2.5Y 5/2 (GRAYISH-BROWN) FINE SAND, VERY FRIABLE.

SHWT NONE TO DEPTH.
BEDROCK NONE TO DEPTH.

109
0"-5": 10YR 3/3 (DARK BROWN) SANDY LOAM, FRIABLE.
5"-24": 10YR 4/6 (DARK YELLOWISH-BROWN) VERY FINE SANDY LOAM, FRIABLE.
24"-28" (NORTH)/34" (SOUTH): 2.5Y 4/3 (OLIVE-BROWN) VERY FINE SANDY LOAM, FIRM (BROKEN HORIZON).
28"/34"-48": MIXED SINGLE GRAIN VERY GRAVELLY VERY COARSE SAND, LOOSE. IRON STAINS AT 32" AT NORTH END.

SHWT 32".
BEDROCK NONE TO DEPTH.

110
0"-10": 10YR 3/3 (DARK BROWN) VERY FINE SANDY LOAM, VERY FRIABLE.
10"-26": 10YR 3/4 (DARK YELLOWISH-BROWN) VERY FINE SANDY LOAM, FRIABLE.
26"-42": 2.5Y 4/3 (OLIVE-BROWN) VERY FINE SANDY LOAM, VERY FIRM, FEW STONES, REDOX. FEATURES.

SHWT 26".
BEDROCK NONE TO DEPTH.

111
0"-8": 10YR 3/3 (DARK BROWN) VERY FINE SANDY LOAM, VERY FRIABLE.
8"-26": 10YR 3/4 (DARK YELLOWISH-BROWN) VERY FINE SANDY LOAM, VERY FRIABLE.
26"-50": 2.5Y 4/3 (OLIVE-BROWN) VERY FINE SANDY LOAM, FIRM, FEW STONES, REDOX. FEATURES.

SHWT 26".
BEDROCK NONE TO DEPTH.

112
0"-8": 10YR 3/3 (DARK BROWN) VERY FINE SANDY LOAM, VERY FRIABLE.
8"-30": 10YR 3/4 (DARK YELLOWISH-BROWN) VERY FINE SANDY LOAM, VERY FRIABLE.
30"-48": 2.5Y 4/3 (OLIVE-BROWN) VERY FINE SANDY LOAM, FIRM, FEW STONES, REDOX. FEATURES.

SHWT 30".
BEDROCK NONE TO DEPTH.

113
0"-5": 10YR 3/3 (DARK BROWN) VERY FINE SANDY LOAM, VERY FRIABLE.
5"-27": 10YR 3/4 (DARK YELLOWISH-BROWN) VERY FINE SANDY LOAM, VERY FRIABLE.
27"-36": 2.5Y 4/3 (OLIVE-BROWN) VERY FINE SANDY LOAM, FIRM, FEW STONES, REDOX. FEATURES.
36"-52": 2.5Y 4/2 (DARK GRAYISH-BROWN) LOAMY FINE SAND AND GRAVEL, FIRM IN PLACE, LOOSE IN HAND, REDOX. FEATURES.

SHWT 27".
BEDROCK NONE TO DEPTH.

114
0"-6": 10YR 3/3 (DARK BROWN) VERY FINE SANDY LOAM, VERY FRIABLE.
6"-30": 10YR 3/4 (DARK YELLOWISH-BROWN) VERY FINE SANDY LOAM, VERY FRIABLE.
30"-48": 2.5Y 4/3 (OLIVE-BROWN) VERY FINE SANDY LOAM, FIRM, FEW STONES, REDOX. FEATURES.

SHWT 30".
BEDROCK NONE TO DEPTH.

115
0"-5": 10YR 3/3 (DARK BROWN) VERY FINE SANDY LOAM, VERY FRIABLE.
5"-28": 10YR 3/4 (DARK YELLOWISH-BROWN) VERY FINE SANDY LOAM, VERY FRIABLE.
28"-42": 2.5Y 4/3 (OLIVE-BROWN) VERY FINE SANDY LOAM, FIRM, FEW STONES, REDOX. FEATURES.

SHWT 28".
BEDROCK NONE TO DEPTH.

TEST PIT LOG

DATE 6/15/18
METHOD BACKHOE (J. BEDELL)
PRESENT J. WILLIS, L.D.

201
0"-8": 10YR 3/3 (DARK BROWN) SANDY LOAM, LOOSE.
8"-20" (WEST)/24" (EAST): 10YR 3/6 (DARK YELLOWISH-BROWN) LOAMY FINE SAND, LOOSE.
20"/24"-36": 2.5Y 4/4 (OLIVE-BROWN) FINE SANDY LOAM, FIRM, REDOX. FEATURES.

SEASONAL HIGH WATER TABLE (SHWT) 20"-24".
BEDROCK NONE TO DEPTH.

202
0"-5": 10YR 3/3 (DARK BROWN) FINE SANDY LOAM, VERY FRIABLE.
5"-19": 7.5YR 4/6 (STRONG BROWN) LOAMY VERY FINE SAND, FRIABLE.
19"-25": 10YR 5/4 (YELLOWISH-BROWN) LOAMY VERY FINE SAND, FRIABLE.
25"-29": 10YR 5/4 (YELLOWISH-BROWN) SAND, LOOSE.
29"-32": MIXED SINGLE GRAIN COARSE SAND, LOOSE.
32"-54": 2.5Y 4/3 (OLIVE-BROWN) FINE SANDY LOAM, FIRM, POCKETS OF SAND, REDOX. FEATURES.

SHWT 32".
BEDROCK NONE TO DEPTH.

203
0"-8": 10YR 3/3 (DARK BROWN) FINE SANDY LOAM, VERY FRIABLE.
8"-22": 10YR 4/4 (DARK YELLOWISH-BROWN) LOAMY FINE SAND, VERY FRIABLE.
22"-27": 2.5Y 4/4 (OLIVE-BROWN) FINE SANDY LOAM, FIRM.
27"-37": 10YR 3/4 (DARK YELLOWISH-BROWN) SAND, LOOSE.
37"-48": 2.5Y 4/3 (OLIVE-BROWN) FINE SANDY LOAM, FIRM, REDOX. FEATURES.

SHWT 37".
BEDROCK NONE TO DEPTH.

204
0"-5": 10YR 3/3 (DARK BROWN) FINE SANDY LOAM, VERY FRIABLE.
5"-15": 10YR 4/4 (DARK YELLOWISH-BROWN) LOAMY FINE SAND, VERY FRIABLE.
15"-26": 10YR 3/6 (DARK YELLOWISH-BROWN) SAND, LOOSE.
26"-40": 2.5Y 4/3 (OLIVE-BROWN) FINE SANDY LOAM, FIRM, REDOX. FEATURES.

SHWT 26".
BEDROCK NONE TO DEPTH.

205
0"-4": 10YR 3/3 (DARK BROWN) FINE SANDY LOAM, VERY FRIABLE.
4"-20": 10YR 4/4 (DARK YELLOWISH-BROWN) LOAMY FINE SAND, VERY FRIABLE.
20"-24": 10YR 3/6 (DARK YELLOWISH-BROWN) SAND, LOOSE.
24"-40": 2.5Y 4/3 (OLIVE-BROWN) FINE SANDY LOAM, FIRM, REDOX. FEATURES.

SHWT 24".
BEDROCK NONE TO DEPTH.

TEST PIT LOG

DATE 6/21/18
METHOD BACKHOE (J. BEDELL)
PRESENT J. WILLIS, L.D.

301
0"-8": 10YR 3/3 (DARK BROWN) VERY FINE SANDY LOAM, LOOSE.
8"-29": 10YR 3/6 (DARK YELLOWISH-BROWN) FINE SANDY LOAM, VERY FRIABLE.
29"-38": 2.5Y 4/4 (OLIVE-BROWN) VERY FINE SANDY LOAM, FIRM, REDOX. FEATURES.

SEASONAL HIGH WATER TABLE (SHWT) 29".
BEDROCK NONE TO DEPTH.

302
0"-7": 10YR 3/3 (DARK BROWN) VERY FINE SANDY LOAM, LOOSE.
7"-29": 10YR 3/6 (DARK YELLOWISH-BROWN) FINE SANDY LOAM, VERY FRIABLE.
29"-36": 2.5Y 4/4 (OLIVE-BROWN) VERY FINE SANDY LOAM, FIRM, REDOX. FEATURES.

SHWT 29".
BEDROCK NONE TO DEPTH.

PERCOLATION TEST RESULTS

CONDUCTED 10/28/18.

NUMBER	DEPTH	DROP	RUNS	RATE (EXTRAPOLATED)
P1	16"	0.5"	7	22.6 MPI*
P2	16"	0.5"	7	14.4 MPI*
P3	16"	0.5"	7	13.0 MPI*

*DESIGN RATE.

MOUND CONSTRUCTION SPECIFICATIONS

1. CONTACT THE DESIGNER PRIOR TO ANY CONSTRUCTION FOR AN ONSITE MEETING WITH THE CONTRACTOR TO STAKE-OUT THE MOUND SYSTEM AND TO DISCUSS CONSTRUCTION REQUIREMENTS. ALL ELEVATIONS REFERENCE SUCH AS FLOOR, SEPTIC TANK AND PUMP STATION ELEVATIONS. CONTACT DESIGNER TO VERIFY PUMP SIZE IF ELEVATIONS DEVIATE FROM THOSE NOTED ON THE PLAN. REPORT ANY PROPOSED CHANGES IN THE LOCATIONS OF THE HOUSE, SUB-GRADE TANKS, DRIVEWAY, ETC.
2. THE CONTRACTOR SHALL SUBMIT A RECENT SIEVE ANALYSIS (<6 MONTHS) OF THE SAND FILL. GRAIN SIZE DISTRIBUTION SHALL COMPLY WITH EITHER SPECIFICATION (1. 2 OR 3) NOTED ON PLAN.
3. ABOVE GROUND VEGETATION SHALL BE CLOSELY CUT AND REMOVED FROM THE MOUND AREA AND 10 FEET FROM EDGE OF THE SYSTEM AS MEASURED FROM THE TOE(S). PRIOR TO PLOWING, THE PUMP DISCHARGE LINE FROM THE PUMP STATION TO THE DISTRIBUTION PIPING HEADER SHALL BE INSTALLED.
4. THE FORCE MAIN SHALL BE PRESSURE AND LEAKAGE TESTED IN ACCORDANCE WITH ENVIRONMENTAL PROTECTION RULES, SECTION A-04. THE MINIMUM TEST PRESSURE SHALL BE 50 PSI AT THE HIGHEST POINT IN THE LINE. CONTRACTOR TO FURNISH WATER AND EQUIPMENT TO PERFORM TEST AND NOTIFY DESIGNER 48 HOURS PRIOR TO TEST.
5. PLOW THE MOUND AREA TO A DEPTH OF 7" TO 8" PARALLEL TO THE LAND CONTOUR WITH THE PLOW THROWING THE SOIL UPSLOPE TO PROVIDE A PROPER INTERFACE BETWEEN THE FILL AND NATURAL SOIL. TREE STUMPS SHOULD NOT BE PULLED. PLOW WITH A MOLD-BOARD PLOW OR A CHISEL POINT ADAPTED TO A BACKHOE BUCKET (USED IN WOODED AREAS ONLY).
6. THE MOUND PERIMETER SHALL BE GRADED TO ENSURE DIVERSION OF SURFACE WATER RUN-OFF (DIVERSION DITCH OR SWALE AS SHOWN).
7. ONCE PLOWING IS COMPLETE, CONTACT THE DESIGNER FOR AN INSPECTION OF THE SITE PRIOR TO PLACEMENT OF FILL.
8. DUMP THE APPROVED SAND FILL AROUND THE EDGE OF THE PLOWED AREA WHILE KEEPING THE TRUCK WHEELS OFF THE PLOWED AREA. WHEEL TRACKS IN THE PLOWED AREA WILL LEAD TO COMPACTION AND RUTS, ADVERSELY AFFECTING THE OPERATION OF THE SYSTEM.
9. MOVE THE SAND AROUND INTO PLACE WHILE MAINTAINING AT LEAST 12" OF SAND UNDER THE EQUIPMENT TO MINIMIZE COMPACTION OF PLOWED LAYER. SHAPE THE SIDES TO THE REQUIRED SLOPES.
10. FORM THE TRENCH/BED BY MOVING ALONG ITS LENGTH. BOTTOM OF TRENCH/BED MUST BE LEVEL. HAND WORK WILL BE NECESSARY.
11. DUMP THE STONE IN THE TRENCH/BED BY MOVING UP THE SIDE SLOPE. LEVEL THE STONE TO REQUIRED ELEVATION.
12. CHANNEL STONE FOR LATERALS. LAY PIPE LEVEL WITH ORIFICES POINTING UPWARDS (WITHOUT ORIFICE SHIELDS INSTALLED UNTIL PRESSURE TESTING IS COMPLETE).
13. CONTACT THE DESIGNER PRIOR TO BACKFILLING THE LATERALS TO TEST FOR COMPLETE AND EQUAL DISTRIBUTION. DISCHARGE RATES SHOULD NOT EXCEED 10% BETWEEN ORIFICES IN A SINGLE TRENCH/BED (OR PER SQUARE FOOT LOADING RATE IF STEPPED TRENCHES). TANKS AND FORCE MAIN SHALL NOT BE BACKFILLED UNTIL INSPECTED AS WELL.
14. FILL REMAINING 2" OF STONE OVER LATERALS AFTER TEST IS COMPLETE.
15. COVER ENTIRE TRENCH/BED WITH "MIRAFI 140-N" GEO-TEXTILE FILTER FABRIC (OR EQUAL).
16. PLACE A MINIMUM OF 4" OF TOPSOIL OVER 8" OF NATIVE SOIL OVER THE ENTIRE MOUND. CROWN 18" TOTAL IN CENTER AND SHAPE SURFACE AS SHOWN.
17. LANDSCAPE THE MOUND BY PLANTING GRASSES ON THE SURFACE. SHRUBS PLACED AT THE FOOT AND UP THE SLOPE ON THE SIDES AND ENDS ARE OPTIONAL. SHRUBS PLACED ON TOP OF THE MOUND MAY INTERFERE WITH THE DISTRIBUTION SYSTEM. UPON COMPLETION OF CONSTRUCTION, CONTACT THE DESIGNER.

OPERATION AND MAINTENANCE NOTES

1. THE DISPOSAL SYSTEM MAY REQUIRE ADJUSTMENTS OR MODIFICATIONS DURING STARTUP AS WELL AS DURING THE LIFETIME OF THE SYSTEM. THESE ADJUSTMENTS INCLUDE RE-LEVELING SUBSURFACE TANKS OR DISTRIBUTION BOXES DUE TO FROST ACTION OR SETTLEMENT. FILL MAY BE ADDED TO REPAIR EROSION OR LEVEL SETTLED AREAS.
2. IN GENERAL, SEPTIC TANKS MUST BE PUMPED EVERY 2 TO 3 YEARS (OR MORE FREQUENTLY DEPENDING UPON USAGE). AT LEAST ONCE A YEAR, THE DEPTH OF SLUDGE AND SCUM IN THE SEPTIC TANK BE MEASURED. THE TANK SHOULD BE PUMPED IF:

(A) THE SLUDGE IS CLOSER THAN TWELVE INCHES TO THE OUTLET BAFFLE.
(B) THE SCUM LAYER IS CLOSER THAN THREE INCHES TO THE SEPTIC TANK BAFFLE.
(C) FOLLOWING SEPTIC TANK CLEANING IN UNITS OVER 5,000 GALLONS, SURFACES OF THE TANK SHOULD BE INSPECTED FOR LEAKS AND CRACKS).

3. AT LEAST ONCE A YEAR, DOSING TANKS AND DISTRIBUTION BOXES SHOULD BE OPENED AND SETTLED SOLIDS REMOVED AS NECESSARY AND THE DOSING TANK OR DISTRIBUTION BOX CHECKED FOR LEVELNESS.
4. PLUMBING AND ELECTRICAL COMPONENTS ASSOCIATED WITH PUMP STATIONS OR ADVANCED TREATMENT UNITS MUST BE CHECKED REGULARLY FOR OPERATION AND LEAKS.
5. TOXIC OR HAZARDOUS SUBSTANCES SHOULD IN GENERAL NOT BE DISPOSED OF IN SEPTIC SYSTEMS. THESE SUBSTANCES MAY PASS THROUGH THE SYSTEM IN AN UNALTERED STATE AND CONTAMINATE GROUNDWATER OR REMAIN IN THE SEPTAGE AND SUBSEQUENTLY CONTAMINATE THE SOIL OR CROPS AT THE SITE OF ULTIMATE DISPOSAL.
6. FLOW ADJUSTMENT DIALS WITHIN DISTRIBUTION BOXES SHOULD BE CHECKED AND ADJUSTED AS NECESSARY TO ENSURE EQUAL FLOW TO EACH LATERAL. ADJUSTMENT MUST BE PERFORMED WITHIN ONE YEAR OF INSTALLATION AND WHENEVER THE SEPTIC TANK IS PUMPED. FAILURE TO DO SO MAY OVERLOAD AND CAUSE THE PREMATURE FAILURE OF AN ABSORPTION TRENCH OR BED SYSTEM.
7. THE EFFLUENT FILTER IN THE SEPTIC TANK OUTLET BAFFLE SHOULD BE CLEANED (HOSED-OFF) EVERY 3-6 MONTHS OR MORE FREQUENTLY DEPENDING ON USAGE. THE EFFLUENT FILTER MUST BE CLEANED IF SEWAGE BEGINS TO DRAIN SLOWLY FROM THE HOUSE. THE SEPTIC TANK MAY REQUIRE PUMPING IF THE FILTER BECOMES PLUGGED.
8. IMPROPER MAINTENANCE OF THE PRETREATMENT UNIT (SEPTIC TANK) AND RELATED COMPONENTS MAY RESULT IN PLUGGING WITHIN THE DISTRIBUTION NETWORK. THE LIFE OF THE DISPOSAL SYSTEM CANNOT BE ESTIMATED DUE TO A VARIETY OF OPERATIONAL AND ENVIRONMENTAL FACTORS. INTRODUCTION OF MATERIAL OTHER THAN HUMAN WASTES (E.G. USE OF NON-BIODEGRADABLE DETERGENTS, CHEMICALS AND USE OF A GARBAGE DISPOSAL). EXCESSIVE SEWAGE FLOWS OR RAINFALL WILL ADVERSELY AFFECT THE OPERATION OF THE DISPOSAL SYSTEM. SOIL SETTLEMENT, FREEZING OF COMPONENTS AND CLOGGING DUE TO ORGANIC SOLIDS ACCUMULATION WILL REQUIRE REPAIRS.

- USE OF A GARBAGE DISPOSAL IS NOT PERMITTED WITHOUT INCREASING SEPTIC TANK CAPACITY;
- IMPROPERLY OPERATING WATER SOFTENERS CAN ADVERSELY AFFECT THE OPERATION OF THE SYSTEM. DEMAND-DOSED SYSTEMS ARE RECOMMENDED VERSUS TIME-DOSED. DONNECTION TO A WASTEWATER DISPOSAL SYSTEM SHOULD BE AVOIDED IF POSSIBLE.

9. THE OWNER ASSUMES FULL RESPONSIBILITY FOR THE CONTINUED PROPER USE AND MAINTENANCE OF THE SYSTEM.

STATE OF VERMONT
JUSTIN T. WILLIS
NO. 344-9
LICENSED DESIGNER

NO.	DATE	REVISION	BY

WILLIS DESIGN ASSOC., INC.
P.O. BOX 1001, JERICHO, VERMONT 05465 (802) 858-9228

DETAILS
3 LOT SUBDIVISION

PETER M. BINGHAM
59 LOWER ENGLISH SETTLEMENT ROAD
UNDERHILL - VERMONT

DRAWN: JTW	SCALE: NOTED
DESIGN: JTW	
DATE: 2/26/19	SHEET: D2
PROJECT: 16-027	
DRAWING: 16027-1	

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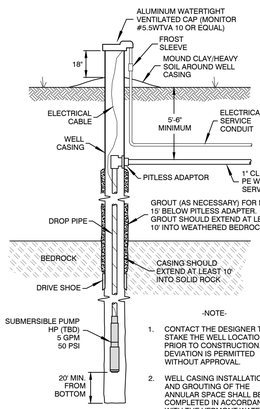

-NOTE-

1. CONTACT THE DESIGNER TO STAKE THE WELL LOCATION PRIOR TO CONSTRUCTION. NO DEVIATION IS PERMITTED WITHOUT APPROVAL.
2. WELL CASING INSTALLATION AND GROUTING OF THE ANNULAR SPACE SHALL BE COMPLETED IN ACCORDANCE WITH THE VERMONT WATER SUPPLY RULES.

TYPICAL

DRILLED WELL

NTS

DRILLED WELL ISOLATION DISTANCES (CH. 21)

CONTAMINATION SOURCES	MINIMUM
ROADWAY/PARKING LOT (EDGE OF SHOULDER)	25 FT
DRIVEWAY (LESS THAN 3 RESIDENCES)	15 FT
DISPOSAL FIELD/BASAL AREA OF MOUND	100–200 FT (1)
SUBSURFACE WASTEWATER PIPING/TANKS	50 FT
PROPERTY LINE	10 FT (2)
LIMIT OF HERBICIDE APPLICATION (UTILITY R.O.W.)	100 FT (3)
BUILDINGS	10 FT
CONCENTRATED LIVESTOCK HOLDING AREA AND MANURE STORAGE SYSTEMS	200 FT

1. AS DEPICTED BY WELLHEAD PROTECTION ZONE.
2. INCREASE TO 50 FT ADJACENT TO AGRICULTURAL CROPLAND.
3. APPLICATION IN LAST 12 MO. OR IN FUTURE.

* WELLHEAD PROTECTION ZONE DEPICTED ON PLAN.
** NO WELL PERMITTED WITHIN FLOODWAY.

NOTES:
1. DRILLED WELL(S) SHALL BE INSTALLED WHERE SHOWN (LOCATION TO BE STAKED BY DESIGNER). A PERMIT AMENDMENT WILL BE REQUIRED IF CONSTRUCTED IN ANY OTHER LOCATION.
2. WELL LOCATION(S) HAVE BEEN SELECTED ONLY ON THE BASIS OF SEWAGE DISPOSAL ISOLATION DISTANCES. NO HYDROGEOLOGIC INFORMATION WAS GATHERED OR ANALYZED TO ESTABLISH THAT THESE LOCATIONS WILL SUPPLY POTABLE WATER OF SUFFICIENT QUALITY AND QUANTITY.
3. WATER SERVICE(S) TO BE 1"ø PE OR APPROVED EQUAL. MAINTAIN 25' MIN. ISOLATION FROM WATER SERVICE TO DISPOSAL FIELD OR SEPTIC TANK AND 10' MIN. TO SEWER PIPING.

DRILLED WELL LOCATION NOTE

PROPOSED WELL LOCATION(S) ARE GENERALLY BASED ON ISOLATION DISTANCES TO WASTEWATER DISPOSAL SYSTEM(S). NO HYDROGEOLOGIC INFORMATION WAS USED TO ESTABLISH THE LOCATION OR THAT THE LOCATION(S) WILL SUPPLY THE PROJECT WITH SUFFICIENT QUANTITY OR QUALITY.

LOT 2
WATER SYSTEM DEMAND (11.3)

PROPOSED WELL TO SERVE NEW 5 BR HOME.

AVERAGE DAY DEMAND (11.3.0)

PROPOSED: 3 BR×140 GPD/BR = 420 GPD
2 BR×70 GPD/BR = 140
ADD TOTAL = 560 GPD

MAXIMUM DAY DEMAND (11.3.1)

MDD = 560 GPD/720 MIN. = 0.78 GPM

INSTANTANEOUS PEAK DEMAND (11.3.2)

IPD: 1 UNIT @5 GPM/UNIT = 5 GPM

YIELD TO BE DETERMINED.

PRESSURE TANK, WATER SERVICE AND PUMP SIZE MUST BE CAPABLE OF DISCHARGING 5 GPM @50 PSI.

LOT 3
WATER SYSTEM DEMAND (11.3)

PROPOSED WELL TO SERVE NEW 3 BR HOME.

AVERAGE DAY DEMAND (11.3.0)

PROPOSED: 3 BR×140 GPD/BR = 420 GPD

ADD TOTAL = 420 GPD

MAXIMUM DAY DEMAND (11.3.1)

MDD = 420 GPD/720 MIN. = 0.58 GPM

INSTANTANEOUS PEAK DEMAND (11.3.2)

IPD: 1 UNIT @5 GPM/UNIT = 5 GPM

YIELD TO BE DETERMINED.

PRESSURE TANK, WATER SERVICE AND PUMP SIZE MUST BE CAPABLE OF DISCHARGING 5 GPM @50 PSI.

LOT 1
WASTEWATER SYSTEM BASIS OF DESIGN

(EXAMPLE DESIGNATED REPLACEMENT)

PROJECT: EXISTING 4 BR HOME.

DESIGN FLOWS: 3 BR×140 GPD/BR = 420 GPD
1 BR×70 GPD/BR = 70

ADD TOTAL = 490 GPD

DESIGN PERCOLATION RATE: 14.4 MPI.

APPLICATION RATE: $(0.8)(3 \div \sqrt{14.4}) = 0.63$ GDSF (USE 1.0 MAX. RATE)
490 GPD ÷ 1.0 GDSF = 490.0 SF REQUIRED AREA.

DESIGN SCENARIO: 10.0'Wx56.0'L ABSORPTION BED = 560.0 SF.

BASAL AREA: 490 ÷ 0.74 GDSF = 662.2 SF = 11.8'Wx56.0'L.

NOTE:

THE EXISTING WASTEWATER SYSTEM IS NOT CURRENTLY FAILED PER OWNER (NO EVIDENCE OF SURFACING OR REPORTED BACKUPS).

THIS DESIGN CONFIGURATION IS INTENDED TO PROVIDE AN EXAMPLE OF WHAT MAY BE CONSTRUCTED FOR A 4 BR HOME. AN APPLICATION AND FEE MUST BE SUBMITTED TO THE STATE OF VERMONT WHEN THE REPLACEMENT SYSTEM (WITHIN OFF-SITE EASEMENT) IS REQUIRED. THE APPLICATION SHALL INCLUDE ALL DESIGN DETAILS NECESSARY TO CONSTRUCT THE SYSTEM.

LOT 2
WASTEWATER SYSTEM BASIS OF DESIGN

PROJECT: PROPOSED 5 BR HOME.

DESIGN FLOWS: 3 BR×140 GPD/BR = 420 GPD
2 BR×70 GPD/BR = 140

ADD TOTAL = 560 GPD

DESIGN PERCOLATION RATE: 22.6 MPI.

APPLICATION RATE: $(0.8)(3 \div \sqrt{22.6}) = 0.50$ GDSF (USE 1.0 MAX. RATE)
560 GPD ÷ 1.0 GDSF = 560.0 SF REQUIRED AREA.

CONSTRUCT A 10.0'Wx56.0'L ABSORPTION BED = 560.0 SF.

BASAL AREA: 560 ÷ 0.74 GDSF = 756.8 SF = 13.5'Wx56.0'L.

LOT 3
WASTEWATER SYSTEM BASIS OF DESIGN

PROJECT: PROPOSED 3 BR HOME.

DESIGN FLOWS: 3 BR×140 GPD/BR = 420 GPD

ADD TOTAL = 420 GPD

DESIGN PERCOLATION RATE: 13.0 MPI.

APPLICATION RATE: $(0.8)(3 \div \sqrt{13.0}) = 0.67$ GDSF (USE 1.0 MAX. RATE)
420 GPD ÷ 1.0 GDSF = 420.0 SF REQUIRED AREA.

CONSTRUCT AN 8.0'Wx52.5'L ABSORPTION BED = 420.0 SF.

BASAL AREA: 420 ÷ 0.74 GDSF = 567.6 SF = 10.8'Wx52.5'L.

LOT 2
HEAD LOSS CALCULATIONS

REQUIRED GPM:

(28) 1/4"ø ORIFICES = 1.82 GPM/ORIF. @2.5'	=	32.8 GPM
1/4"ø WEEP HOLE (±)	=	1.5
TOTAL	=	34.3 GPM

FRICTION LOSS:

BASED UPON 50 FT EQUIVALENT LENGTH OF 2" FM	=	± 1.3 FT
ELEVATION LOSS = 822.7 (AT FIELD) – ±819.0 (PUMP OFF)	=	± 3.7
NETWORK LOSS = 1.31 X 2.5'	=	3.3
TOTAL LOSS	=	± 8.3 FT

LOT 3
HEAD LOSS CALCULATIONS

REQUIRED GPM:

(20) 5/16"ø ORIFICES = 1.82 GPM/ORIF. @2.5'	=	36.4 GPM
1/4"ø WEEP HOLE (±)	=	1.5
TOTAL	=	38.7 GPM

FRICTION LOSS:

BASED UPON 120 FT EQUIVALENT LENGTH OF 2" FM	=	± 3.8 FT
ELEVATION LOSS = 864.7 (LATERAL) – ±863 (PUMP OFF)	=	± 1.7
NETWORK LOSS = 1.31 X 2.5'	=	3.3
TOTAL LOSS	=	± 8.8 FT

TEST PIT LOG

DATE 7/21/16
METHOD BACKHOE (J. BEDELL)
PRESENT J. WILLIS, L.D.
J. WYMAN, VT DEC

101
0"–9": 10YR 3/3 (DARK BROWN) SANDY LOAM, LOOSE.
9"–13": 10YR 3/6 (DARK YELLOWISH–BROWN) LOAMY SAND, LOOSE.
13"–26": 2.5Y 4/3 (OLIVE–BROWN) FINE SANDY LOAM, FRIABLE.
26"–34": MIXED SINGLE GRAIN VERY GRAVELLY COARSE SAND, LOOSE.
34"–44": 2.5Y 4/2 (DARK GRAYISH–BROWN) SAND, LOOSE.
44"–84": MIXED SINGLE GRAIN VERY GRAVELLY COARSE SAND, LOOSE.

SEASONAL HIGH WATER TABLE (SHWT) NONE TO DEPTH.
BEDROCK NONE TO DEPTH.

102
0"–4": 10YR 3/3 (DARK BROWN) FINE SANDY LOAM, VERY FRIABLE.
4"–14": 10YR 3/6 (DARK YELLOWISH–BROWN) FINE SANDY LOAM, VERY FRIABLE.
14"–23": 2.5Y 4/3 (OLIVE–BROWN) FINE SANDY LOAM, FRIABLE.
23"–39": MIXED SINGLE GRAIN VERY COARSE SAND, LOOSE.
39"–58": 2.5Y 4/2 (DARK GRAYISH–BROWN) SAND, LOOSE.
58"–75": 2.5Y 4/3 (OLIVE–BROWN) FINE SANDY LOAM, FIRM, REDOX. FEATURES.

SHWT 58".
BEDROCK NONE TO DEPTH.

103
0"–9": 10YR 3/3 (DARK BROWN) SANDY LOAM, LOOSE.
9"–84": MIXED SINGLE GRAIN FINE GRAVELLY COARSE SAND, LOOSE.

SHWT NONE TO DEPTH.
BEDROCK NONE TO DEPTH.

104
0"–9": 10YR 3/3 (DARK BROWN) SANDY LOAM, LOOSE.
9"–21": 10YR 4/6 (DARK YELLOWISH–BROWN) FINE SAND, VERY FRIABLE.
21"–35": 10YR 3/6 (DARK YELLOWISH–BROWN) SAND, LOOSE.
35"–84": MIXED SINGLE GRAIN FINE GRAVELLY COARSE SAND, LOOSE.

SHWT NONE TO DEPTH.
BEDROCK NONE TO DEPTH.

105
0"–6": 10YR 3/3 (DARK BROWN) SANDY LOAM, LOOSE.
6"–14": 10YR 3/6 (DARK YELLOWISH–BROWN) FINE SANDY LOAM, FRIABLE.
14"–84": MIXED SINGLE GRAIN FINE GRAVELLY COARSE SAND, LOOSE.
WEST END OF PIT: 36"–48": 2.5Y 4/2 (DARK GRAYISH–BROWN) ALTERNATING LAYERS OF FINE SAND AND FINE SANDY LOAM, REDOX. FEATURES AT 38"–40".

SHWT NONE TO DEPTH. PERCHED AT 38"–40" AT WEST END.
BEDROCK NONE TO DEPTH.

106
0"–7": 10YR 3/3 (DARK BROWN) FINE SANDY LOAM, FRIABLE.
7"–21": 2.5Y 4/4 (OLIVE–BROWN) FINE SANDY LOAM, FRIABLE.
21"–36": 2.5Y 4/2 (DARK GRAYISH–BROWN) VERY FINE SANDY LOAM, FIRM, REDOX. FEATURES.

SHWT 21".
BEDROCK NONE TO DEPTH.

107
0"–5": 10YR 3/3 (DARK BROWN) FINE SANDY LOAM, FRIABLE.
5"–46": 10YR 4/6 (DARK YELLOWISH–BROWN) SANDY LOAM, VERY FRIABLE.
46"–56": 2.5Y 4/2 (DARK GRAYISH–BROWN) SAND, LOOSE.
56"–66": 2.5Y 4/2 (DARK GRAYISH–BROWN) VERY FINE SANDY LOAM, FIRM, REDOX. FEATURES.

SHWT 56".
BEDROCK NONE TO DEPTH.

108
0"–8": 10YR 3/3 (DARK BROWN) SANDY LOAM, FRIABLE.
8"–15": 10YR 4/4 (DARK YELLOWISH–BROWN) GRAVELLY COARSE SAND, LOOSE.
15"–52": MIXED SINGLE GRAIN VERY GRAVELLY COARSE SAND, LOOSE.
52"–62": 2.5Y 5/2 (GRAYISH–BROWN) FINE SAND, VERY FRIABLE.

SHWT NONE TO DEPTH.
BEDROCK NONE TO DEPTH.

109
0"–5": 10YR 3/3 (DARK BROWN) SANDY LOAM, FRIABLE.
5"–24": 10YR 4/6 (DARK YELLOWISH–BROWN) VERY FINE SANDY LOAM, FRIABLE.
24"–28" (NORTH)/34" (SOUTH): 2.5Y 4/3 (OLIVE–BROWN) VERY FINE SANDY LOAM, FIRM (BROKEN HORIZON).
28"/34"–48": MIXED SINGLE GRAIN VERY GRAVELLY VERY COARSE SAND, LOOSE. IRON STAINS AT 32" AT NORTH END.

SHWT 32".
BEDROCK NONE TO DEPTH.

110
0"–10": 10YR 3/3 (DARK BROWN) VERY FINE SANDY LOAM, VERY FRIABLE.
10"–26": 10YR 3/4 (DARK YELLOWISH–BROWN) VERY FINE SANDY LOAM, FRIABLE.
26"–42": 2.5Y 4/3 (OLIVE–BROWN) VERY FINE SANDY LOAM, VERY FIRM, FEW STONES, REDOX. FEATURES.

SHWT 26".
BEDROCK NONE TO DEPTH.

111
0"–8": 10YR 3/3 (DARK BROWN) VERY FINE SANDY LOAM, VERY FRIABLE.
8"–26": 10YR 3/4 (DARK YELLOWISH–BROWN) VERY FINE SANDY LOAM, VERY FRIABLE.
26"–50": 2.5Y 4/3 (OLIVE–BROWN) VERY FINE SANDY LOAM, FIRM, FEW STONES, REDOX. FEATURES.

SHWT 26".
BEDROCK NONE TO DEPTH.

112
0"–8": 10YR 3/3 (DARK BROWN) VERY FINE SANDY LOAM, VERY FRIABLE.
8"–30": 10YR 3/4 (DARK YELLOWISH–BROWN) VERY FINE SANDY LOAM, VERY FRIABLE.
30"–48": 2.5Y 4/3 (OLIVE–BROWN) VERY FINE SANDY LOAM, FIRM, FEW STONES, REDOX. FEATURES.

SHWT 30".
BEDROCK NONE TO DEPTH.

113
0"–5": 10YR 3/3 (DARK BROWN) VERY FINE SANDY LOAM, VERY FRIABLE.
5"–27": 10YR 3/4 (DARK YELLOWISH–BROWN) VERY FINE SANDY LOAM, VERY FRIABLE.
27"–36": 2.5Y 4/3 (OLIVE–BROWN) VERY FINE SANDY LOAM, FIRM, FEW STONES, REDOX. FEATURES.
36"–52": 2.5Y 4/2 (DARK GRAYISH–BROWN) LOAMY FINE SAND AND GRAVEL, FIRM IN PLACE, LOOSE IN HAND, REDOX. FEATURES.

SHWT 27".
BEDROCK NONE TO DEPTH.

114
0"–6": 10YR 3/3 (DARK BROWN) VERY FINE SANDY LOAM, VERY FRIABLE.
6"–30": 10YR 3/4 (DARK YELLOWISH–BROWN) VERY FINE SANDY LOAM, VERY FRIABLE.
30"–48": 2.5Y 4/3 (OLIVE–BROWN) VERY FINE SANDY LOAM, FIRM, FEW STONES, REDOX. FEATURES.

SHWT 30".
BEDROCK NONE TO DEPTH.

115
0"–5": 10YR 3/3 (DARK BROWN) VERY FINE SANDY LOAM, VERY FRIABLE.
5"–28": 10YR 3/4 (DARK YELLOWISH–BROWN) VERY FINE SANDY LOAM, VERY FRIABLE.
28"–42": 2.5Y 4/3 (OLIVE–BROWN) VERY FINE SANDY LOAM, FIRM, FEW STONES, REDOX. FEATURES.

SHWT 28".
BEDROCK NONE TO DEPTH.

TEST PIT LOG

DATE 6/15/18
METHOD BACKHOE (J. BEDELL)
PRESENT J. WILLIS, L.D.

201
0"–5": 10YR 3/3 (DARK BROWN) SANDY LOAM, LOOSE.
6"–20" (WEST)/24" (EAST): 10YR 3/6 (DARK YELLOWISH–BROWN) LOAMY FINE SAND, LOOSE.
20"/24"–36": 2.5Y 4/4 (OLIVE–BROWN) FINE SANDY LOAM, FIRM, REDOX. FEATURES.

SEASONAL HIGH WATER TABLE (SHWT) 20"–24".
BEDROCK NONE TO DEPTH.

202
0"–5": 10YR 3/3 (DARK BROWN) FINE SANDY LOAM, VERY FRIABLE.
5"–19": 7.5YR 4/6 (STRONG BROWN) LOAMY VERY FINE SAND, FRIABLE.
19"–25": 10YR 5/4 (YELLOWISH–BROWN) LOAMY VERY FINE SAND, FRIABLE.
25"–29": 10YR 5/4 (YELLOWISH–BROWN) SAND, LOOSE.
29"–32": MIXED SINGLE GRAIN COARSE SAND, LOOSE.
32"–54": 2.5Y 4/3 (OLIVE–BROWN) FINE SANDY LOAM, FIRM, POCKETS OF SAND, REDOX. FEATURES.

SHWT 32".
BEDROCK NONE TO DEPTH.

203
0"–6": 10YR 3/3 (DARK BROWN) FINE SANDY LOAM, VERY FRIABLE.
6"–22": 10YR 4/4 (DARK YELLOWISH–BROWN) LOAMY FINE SAND, VERY FRIABLE.
22"–27": 2.5Y 4/4 (OLIVE–BROWN) FINE SANDY LOAM, FIRM.
27"–37": 10YR 3/4 (DARK YELLOWISH–BROWN) SAND, LOOSE.
37"–48": 2.5Y 4/3 (OLIVE–BROWN) FINE SANDY LOAM, FIRM, REDOX. FEATURES.

SHWT 37".
BEDROCK NONE TO DEPTH.

204
0"–5": 10YR 3/3 (DARK BROWN) FINE SANDY LOAM, VERY FRIABLE.
5"–15": 10YR 4/4 (DARK YELLOWISH–BROWN) LOAMY FINE SAND, VERY FRIABLE.
15"–26": 10YR 3/6 (DARK YELLOWISH–BROWN) SAND, LOOSE.
26"–40": 2.5Y 4/3 (OLIVE–BROWN) FINE SANDY LOAM, FIRM, REDOX. FEATURES.

SHWT 26".
BEDROCK NONE TO DEPTH.

205
0"–4": 10YR 3/3 (DARK BROWN) FINE SANDY LOAM, VERY FRIABLE.
4"–20": 10YR 4/4 (DARK YELLOWISH–BROWN) LOAMY FINE SAND, VERY FRIABLE.
20"–24": 10YR 3/6 (DARK YELLOWISH–BROWN) SAND, LOOSE.
24"–40": 2.5Y 4/3 (OLIVE–BROWN) FINE SANDY LOAM, FIRM, REDOX. FEATURES.

SHWT 24".
BEDROCK NONE TO DEPTH.

TEST PIT LOG

DATE 6/21/18
METHOD BACKHOE (J. BEDELL)
PRESENT J. WILLIS, L.D.

301
0"–8": 10YR 3/3 (DARK BROWN) VERY FINE SANDY LOAM, LOOSE.
8"–29": 10YR 3/6 (DARK YELLOWISH–BROWN) FINE SANDY LOAM, VERY FRIABLE.
29"–38": 2.5Y 4/4 (OLIVE–BROWN) VERY FINE SANDY LOAM, FIRM, REDOX. FEATURES.

SEASONAL HIGH WATER TABLE (SHWT) 29".
BEDROCK NONE TO DEPTH.

302
0"–7": 10YR 3/3 (DARK BROWN) VERY FINE SANDY LOAM, LOOSE.
7"–29": 10YR 3/6 (DARK YELLOWISH–BROWN) FINE SANDY LOAM, VERY FRIABLE.
29"–36": 2.5Y 4/4 (OLIVE–BROWN) VERY FINE SANDY LOAM, FIRM, REDOX. FEATURES.

SHWT 29".
BEDROCK NONE TO DEPTH.

PERCOLATION TEST RESULTS

CONDUCTED 10/26/18.

NUMBER	DEPTH	DROP	RUNS	RATE (EXTRAPOLATED)
P1	16"	0.5"	7	22.6 MPI*
P2	16"	0.5"	7	14.4 MPI*
P3	16"	0.5"	7	13.0 MPI*

*DESIGN RATE.

MOUND CONSTRUCTION SPECIFICATIONS

1. CONTACT THE DESIGNER PRIOR TO ANY CONSTRUCTION FOR AN ONSITE MEETING WITH THE CONTRACTOR TO STAKE-OUT THE MOUND SYSTEM AND TO DISCUSS CONSTRUCTION REQUIREMENTS. ALL ELEVATIONS OF FEATURES SUCH AS FLOOR, SEPTIC TANK AND PUMP STATION TO BE FIELD VERIFIED. CONTACT DESIGNER TO VERIFY PUMP SIZE IF ELEVATIONS DEVIATE FROM THOSE NOTED ON THE PLAN. REPORT ANY PROPOSED CHANGES IN THE LOCATIONS OF THE HOUSE, SUB-GRADE TANKS, DRIVEWAY, ETC.
2. THE CONTRACTOR SHALL SUBMIT A RECENT SIEVE ANALYSIS (<6 MONTHS) OF THE SAND FILL. GRAIN SIZE DISTRIBUTION SHALL COMPLY WITH EITHER SPECIFICATION (1, 2 OR 3) NOTED ON PLAN.
3. ABOVE GROUND VEGETATION SHALL BE CLOSELY CUT AND REMOVED FROM THE MOUND AREA AND 10 FEET FROM EDGE OF THE SYSTEM AS MEASURED FROM THE TOE(S). PRIOR TO PLOWING, THE PUMP DISCHARGE LINE FROM THE PUMP STATION TO THE DISTRIBUTION PIPING HEADER SHALL BE INSTALLED.
4. THE FORCE MAIN SHALL BE PRESSURE AND LEAKAGE TESTED IN ACCORDANCE WITH ENVIRONMENTAL PROTECTION RULES, SECTION A-04. THE MINIMUM TEST PRESSURE SHALL BE 50 PSI AT THE HIGHEST POINT IN THE LINE. CONTRACTOR TO FURNISH WATER AND EQUIPMENT TO PERFORM TEST AND NOTIFY DESIGNER 48 HOURS PRIOR TO TEST.
5. PLOW THE MOUND AREA TO A DEPTH OF 7" TO 8" PARALLEL TO THE LAND CONTOUR WITH THE PLOW THROWING THE SOIL UPSLOPE TO PROVIDE A PROPER INTERFACE BETWEEN THE FILL AND NATURAL SOIL. TREE STUMPS SHOULD NOT BE PULLED. PLOW WITH A MOLD-BOARD PLOW OR A CHISEL POINT ADAPTED TO A BACKHOE BUCKET (USED IN WOODED AREAS ONLY).
6. THE MOUND PERIMETER SHALL BE GRADED TO ENSURE DIVERSION OF SURFACE WATER RUN-OFF (DIVERSION DITCH OR SWALE AS SHOWN).
7. ONCE PLOWING IS COMPLETE, CONTACT THE DESIGNER FOR AN INSPECTION OF THE SITE PRIOR TO PLACEMENT OF FILL.
8. DUMP THE APPROVED SAND FILL AROUND THE EDGE OF THE PLOWED AREA WHILE KEEPING THE TRUCK WHEELS OFF THE PLOWED AREA. WHEEL TRACKS IN THE PLOWED AREA WILL LEAD TO COMPACTION AND RUTS, ADVERSELY AFFECTING THE OPERATION OF THE SYSTEM.
9. MOVE THE SAND AROUND INTO PLACE WHILE MAINTAINING AT LEAST 12" OF SAND UNDER THE EQUIPMENT TO MINIMIZE COMPACTION OF PLOWED LAYER. SHAPE THE SIDES TO THE REQUIRED SLOPES.
10. FORM THE TRENCH/BED BY MOVING ALONG ITS LENGTH. BOTTOM OF TRENCH/BED MUST BE LEVEL. HAND WORK WILL BE NECESSARY.
11. DUMP THE STONE IN THE TRENCH/BED BY MOVING UP THE SIDE SLOPE. LEVEL THE STONE TO REQUIRED ELEVATION.
12. CHANNEL STONE FOR LATERALS. LAY PIPE LEVEL WITH ORIFICES POINTING UPWARDS (WITHOUT ORIFICE SHIELDS INSTALLED UNTIL PRESSURE TESTING IS COMPLETE).
13. CONTACT THE DESIGNER PRIOR TO BACKFILLING THE LATERALS TO TEST FOR COMPLETE AND EQUAL DISTRIBUTION. DISCHARGE RATES SHOULD NOT EXCEED 10% BETWEEN ORIFICES IN A SINGLE TRENCH/BED (OR PER SQUARE FOOT LOADING RATE IF STEPPED TRENCHES). TANKS AND FORCE MAIN SHALL NOT BE BACKFILLED UNTIL INSPECTED AS WELL.
14. FILL REMAINING 2" OF STONE OVER LATERALS AFTER TEST IS COMPLETE.
15. COVER ENTIRE TRENCH/BED WITH "MIRAFI 140-N" GEO-TEXTILE FILTER FABRIC (OR EQUAL).
16. PLACE A MINIMUM OF 4" OF TOPSOIL OVER 8" OF NATIVE SOIL OVER THE ENTIRE MOUND. CROWN 18" TOTAL IN CENTER AND SHAPE SURFACE AS SHOWN.
17. LANDSCAPE THE MOUND BY PLANTING GRASSES ON THE SURFACE. SHRUBS PLACED AT THE FOOT AND UP THE SLOPE ON THE SIDES AND ENDS ARE OPTIONAL. SHRUBS PLACED ON TOP OF THE MOUND MAY INTERFERE WITH THE DISTRIBUTION SYSTEM. UPON COMPLETION OF CONSTRUCTION, CONTACT THE DESIGNER.

OPERATION AND MAINTENANCE NOTES

1. THE DISPOSAL SYSTEM MAY REQUIRE ADJUSTMENTS OR MODIFICATIONS DURING STARTUP AS WELL AS DURING THE LIFETIME OF THE SYSTEM. THESE ADJUSTMENTS INCLUDE RE-LEVELING SUBSURFACE TANKS OR DISTRIBUTION BOXES DUE TO FROST ACTION OR SETTLEMENT. FILL MAY BE ADDED TO REPAIR EROSION OR LEVEL SETTLED AREAS.
2. IN GENERAL, SEPTIC TANKS MUST BE PUMPED EVERY 2 TO 3 YEARS (OR MORE FREQUENTLY DEPENDING UPON USAGE). AT LEAST ONCE A YEAR, THE DEPTH OF SLUDGE AND SCUM IN THE SEPTIC TANK BE MEASURED. THE TANK SHOULD BE PUMPED IF:

(A) THE SLUDGE IS CLOSER THAN TWELVE INCHES TO THE OUTLET BAFFLE,
(B) THE SCUM LAYER IS CLOSER THAN THREE INCHES TO THE SEPTIC TANK BAFFLE.
(C) FOLLOWING SEPTIC TANK CLEANING IN UNITS OVER 5,000 GALLONS, SURFACES OF THE TANK SHOULD BE INSPECTED FOR LEAKS AND CRACKS).

3. AT LEAST ONCE A YEAR, DOSING TANKS AND DISTRIBUTION BOXES SHOULD BE OPENED AND SETTLED SOLIDS REMOVED AS NECESSARY AND THE DOSING TANK OR DISTRIBUTION BOX CHECKED FOR LEVELNESS.
4. PLUMBING AND ELECTRICAL COMPONENTS ASSOCIATED WITH PUMP STATIONS OR ADVANCED TREATMENT UNITS MUST BE CHECKED REGULARLY FOR OPERATION AND LEAKS.
5. TOXIC OR HAZARDOUS SUBSTANCES SHOULD IN GENERAL NOT BE DISPOSED OF IN SEPTIC SYSTEMS. THESE SUBSTANCES MAY PASS THROUGH THE SYSTEM IN AN UNALTERED STATE AND CONTAMINATE GROUNDWATER OR REMAIN IN THE SEPTAGE AND SUBSEQUENTLY CONTAMINATE THE SOIL OR CROPS AT THE SITE OF ULTIMATE DISPOSAL.
6. FLOW ADJUSTMENT DIALS WITHIN DISTRIBUTION BOXES SHOULD BE CHECKED AND ADJUSTED AS NECESSARY TO ENSURE EQUAL FLOW TO EACH LATERAL. ADJUSTMENT MUST BE PERFORMED WITHIN ONE YEAR OF INSTALLATION AND WHENEVER THE SEPTIC TANK IS PUMPED. FAILURE TO DO SO MAY OVERLOAD AND CAUSE THE PREMATURE FAILURE OF AN ABSORPTION TRENCH OR BED SYSTEM.
7. THE EFFLUENT FILTER IN THE SEPTIC TANK OUTLET BAFFLE SHOULD BE CLEANED (HOSED-OFF) EVERY 3-6 MONTHS OR MORE FREQUENTLY DEPENDING ON USAGE. THE EFFLUENT FILTER MUST BE CLEANED IF SEWAGE BEGINS TO DRAIN SLOWLY FROM THE HOUSE. THE SEPTIC TANK MAY REQUIRE PUMPING IF THE FILTER BECOMES PLUGGED.
8. IMPROPER MAINTENANCE OF THE PRETREATMENT UNIT (SEPTIC TANK) AND RELATED COMPONENTS MAY RESULT IN PLUGGING WITHIN THE DISTRIBUTION NETWORK. THE LIFE OF THE DISPOSAL SYSTEM CANNOT BE ESTIMATED DUE TO A VARIETY OF OPERATIONAL AND ENVIRONMENTAL FACTORS. INTRODUCTION OF MATERIAL OTHER THAN HUMAN WASTES (E.G. USE OF NON-BIODEGRADABLE DETERGENTS, CHEMICALS AND USE OF A GARBAGE DISPOSAL). EXCESSIVE SEWAGE FLOWS OR RAINFALL WILL ADVERSELY AFFECT THE OPERATION OF THE DISPOSAL SYSTEM. SOIL SETTLEMENT, FREEZING OF COMPONENTS AND CLOGGING DUE TO ORGANIC SOLIDS ACCUMULATION WILL REQUIRE REPAIRS.

- USE OF A GARBAGE DISPOSAL IS NOT PERMITTED WITHOUT INCREASING SEPTIC TANK CAPACITY.
- IMPROPERLY OPERATING WATER SOFTENERS CAN ADVERSELY AFFECT THE OPERATION OF THE SYSTEM. DEMAND-DOSED SYSTEMS ARE RECOMMENDED VERSUS TIME-DOSED. CONNECTION TO A WASTEWATER DISPOSAL SYSTEM SHOULD BE AVOIDED IF POSSIBLE.

9. THE OWNER ASSUMES FULL RESPONSIBILITY FOR THE CONTINUED PROPER USE AND MAINTENANCE OF THE SYSTEM.

STATE OF VERMONT
JUSTIN T. WILLIS
NO. 344-B
LICENSED DESIGNER

NO.	DATE	REVISION	BY

WILLIS DESIGN ASSOC., INC.
P.O. BOX 1001, JERICHO, VERMONT 05465 (802) 858-9228

DETAILS
3 LOT SUBDIVISION

PETER M. BINGHAM
59 LOWER ENGLISH SETTLEMENT ROAD
UNDERHILL - VERMONT

DRAWN: JTW	SCALE: NOTED
DESIGN: JTW	
DATE: 2/26/19	SHEET: D2
PROJECT: 16-027	
DRAWING: 16027-1	

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EXHIBIT
S

Town of Underhill

Development Review Board
Sketch Plan Findings & Decision

Application of Bingham for a 3-Lot Subdivision

Peter M. Bingham
51 Lakeside Avenue
Burlington, VT 05401

August 21, 2018

During the August 6, 2018 meeting, the Development Review Board reviewed and accepted your sketch plan application for a 3-lot subdivision of property located at 59 Lower English Settlement Road (LE059) in Underhill, VT. This letter is provided per Section 7.3.D of the *Unified Land Use and Development Regulations* and is valid for one year. If a preliminary/final subdivision application is not filed within a year of the date this letter was issued, another sketch plan review meeting shall be required [Section 7.3.E].

SUBDIVISION CLASSIFICATION
This application was reviewed under the *Unified Land Use & Development Regulations* adopted March 2011, as amended through March 6, 2018. The subdivision process must distinguish between major and minor classifications. Due to the nature of your submitted proposal, the DRB has classified this as a "minor subdivision" [Section 7.2.E]. Also, as you know, the Board voted to waive preliminary subdivision review, and therefore, only a final subdivision hearing will be required [Section 7.5.B].

REGULATION CONFORMANCE
Based upon the information submitted at the sketch plan hearing, the proposed subdivision appears to have the potential to conform to the regulations. However, you and your consultant(s) should ensure that all subdivision review standards in Article VIII are addressed and satisfied, as well as all applicable preliminary subdivision requirements in Section 7.5 and all final subdivision requirements in Section 7.6.

REVIEW CRITERIA & ISSUES TO BE ADDRESSED
This sketch plan letter outlines "specific areas of concern to address" per Section 7.3.D, and is meant to provide recommendations and guidance to the applicant. During the sketch review meeting, the Board felt that the following items and concerns should be addressed in your application for final subdivision approval:

1. All surface waters, including streams and brooks, wetlands and floodplains shall be identified and delineated on the submitted site plan;
2. The survey plat prepared by a licensed surveyor shall depict all easements and/or rights-of-way that are located on the existing parcel of land to be subdivided, including easements for potential utilities;

3. The applicant should prepare and submit a draft Shared Road Maintenance Agreement if access between the two lots will be shared;
4. The applicant shall identify the well shield and isolation distances on the submitted site plans and how those distances will impact the adjacent property owners;
5. A Preliminary Subdivision Findings Checklist and a Final Subdivision Findings Checklist shall be submitted in accordance with the criteria listed in § 7.5 & § 7.6 of the Underhill Unified Land Use & Development Regulations;
6. The site plan shall depict any proposed building envelopes, which should incorporate setback requirements and exclude steep slopes where feasible;
7. The applicant shall submit engineering drawings in conformance with the application requirements in the *Underhill Unified Land Use & Development Regulations*, specifically:
    a. Areas of steep slopes, flood hazards, stream water setbacks, septic setbacks, and well shields, isolation distances; and
    b. The requisite size culverts shall also be illustrated on the plans.
8. A Final Subdivision Application shall be submitted in accordance with the criteria listed in Section 7.5 "Preliminary Subdivision Review" and Section 7.6 "Final Subdivision Review" of the *Underhill Unified Land Use & Development Regulations.*
9. The applicant and/or representative(s) shall inquire with the MacDonalds (record landowner of 49 Lower English Settlement Road) regarding the potential for contamination of a spring on their property serving as a replacement well. The Board desires clarification regarding the location of the spring referred to in the MacDonald's communication and any construction or improvements related to this sub-division that may impact it.
10. The scheduling of a site visit prior to the final subdivision review hearing.

Other preliminary/final subdivision review requirements are outlined in the accompanying Preliminary and Final Subdivision checklists and in the Unified Land Use & Development Regulations. The Board expects that all the requirements of both the preliminary subdivision review application and final subdivision review application be satisfied.

FINAL SUBDIVISION APPLICATION/HEARING – PROCESS

Per Section 7.5.B and at your request, the Board has waived the preliminary subdivision review hearing, and therefore, only a final subdivision review hearing is required - the next step in the subdivision process. The application requirements for this step are detailed in Section 7.6 "Final Subdivision Review" and Article VIII "Subdivision Standards" of the Unified Land Use & Development Regulations. However, please note that requirements under Section 7.5 "Preliminary Subdivision Review" still apply to your application, despite the waiver of the preliminary hearing.

Directly below is a general overview of the Final Subdivision Application/Hearing process.

The following documentation is to be submitted to the Zoning Administrator:

- Two full-size copies of the plat to scale, seven 11" x 17" reduced copies of the plat and the engineering drawings, seven copies of draft legal documents, as well as the associated pdf digital files (which can be submitted by email).
- Information addressing the items under "Review Criteria & Issues To Be Addressed" (see above).
- Completed application form for the Final Subdivision Hearing.

- Information or materials required by the checklists included with this letter. The checklists will assist you in preparation for your hearing submission and will also aid the Board in reviewing the required documents.

Once the completed final application package is received, the site visit and final hearing will be scheduled and warned. You will be asked to post a red "Z" sign on the lot no later than 15 days prior to the scheduled hearing. Planning staff will take care of the notice requirements, which includes certified mail to your neighbors and publication in a newspaper. The cost for notice and the newspaper fee is borne by you and will be included in the invoice with your final decision.

After the Final Subdivision Hearing, the Board will have 45 days to issue a written decision. You will receive a copy of the signed decision via certified mail. Any interested parties who participated in the hearing will also receive a copy of the decision. A 30-day appeal period will begin from the date of the signed decision.

If you have any questions or need assistance with the required submissions, please feel free to contact me by phone: (802) 899-4434, ext. 106; or by email: astrniste@underhillvt.gov.

Sincerely,

Andrew Strniste
Planning Director & Zoning Administrator

cc: Brad Holden, 60 Covey Road, Underhill, VT 05489
Willis Design Associates, P.O. Box 1001, Jericho, VT 05465
James D. & Elizabeth A. MacDonald, 49 Lower English Settlement Road, Underhill, VT 05489
John Pedrin, P.O. Box 62, Underhill, VT 05489
Katerine Lesser & Ian Roos, 68 Lower English Settlement Road, Underhill, VT 05489

encl: Application for Subdivision: Final
Subdivision Checklists: Preliminary Hearing & Final Hearing
Article VIII. Subdivision Standards. Findings Checklist