



Transmittal Cover Sheet

Detailed, Grouped by Each Transmittal Number

Precon Jericho Market **Project # 1141029-01** **PeakCM, LLC**
 Tel: Fax:

Date: 1/29/2015 **Reference Number: 0002**

Transmitted To Michelle Patrick Town of Jericho Jericho, VT 05465 Tel: 802-899-2287 X104 Fax:	Transmitted By Trent Statton PeakCM, LLC 450 Weaver Street Suite #3 Winooski, VT 05404 Tel: 802-988-1092 Fax: 802-988-1093
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Acknowledgement Required

Package Transmitted For	Delivered Via	Tracking Number
	Hand	

Item #	Qty	Item	Reference	Description	Notes	Status
0001	9.00			Doc Log		
0002	9.00			Cover Letter		
0003	9.00			Permit Fee Schedule		
0004	9.00			Town of Jericho DRB Subdivision Application - Final Plat		
0005	9.00			Town of Jericho DRB Hearing Application		
0006	9.00			Jericho-Underhill Water District Application for Water Allocation		
0007	9.00			Jericho-Underhill Fire Department Ability to Serve Letter		
0008	9.00			Property Adjoiner List		
0009	9.00			Lighting Fixture Cut Sheets		
0010	9.00			Plant List With Cost Estimate		
0011	9.00			Flood Insurance Rate Map		
0012	9.00			Natural Resource Map		
0013	9.00			District Overlay Map		
0014	9.00			Surface Water Resources Map		
0015	9.00			Wastewater System Design Brief		
0016	9.00			Erosion Control Permit Appendix A - Risk Evaluation		
0017	9.00			Stormwater Design Brief		
0018	9.00			Sawmill PUD Amended Narrative		



Transmittal Cover Sheet
Detailed, Grouped by Each Transmittal Number

0019	9.00	Sawmill PUD Amended Cumulative Impact Chart
0020	9.00	Sawmill PUD Revised Concept Plan
0021	9.00	Traffic Impact Study
0022	9.00	Email Letter of Intent to Permit VAOT
0023	1.00	CD With Application Materials in .pdf Form

Cc: Company Name	Contact Name	Copies	Notes
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Remarks

Proposed Jericho Market final submission.

Attached are 2 full size sets and 9 11X17 sets and 9 supporting documents including PeakCM Doc Log for DRB final review.

Signature

Signed Date



Current Document Log

Type, Discipline & No Obsolete

Precon Jericho Market

Project # 1141029-01

PeakCM, LLC

Tel: Fax:

Number	Rev	Title	Rev Date	Bulletin	% Complete	Status	Category	Attachments/Documents
Drawing								
Architectural								
A1.1	1	First Floor Plan	1/27/2015	Design/Development	49	Design/Development	Design Set	
A1.2	1	Roof Plan	1/27/2015	Design/Development	49	Design/Development	Design Set	
A2.1	2	Building Elevations	1/27/2015	Design/Development	49	Design/Development	Design Set	
A2.2	2	Building Elevations	1/27/2015	Design/Development	49	Design/Development	Design Set	
A3.1	1	Building Sections	1/27/2015	Design/Development	49	Design/Development	Design Set	
A4.1	1	Wall Sections	1/27/2015	Design/Development	49	Design/Development	Design Set	
Civil								
C1-01	2	Cover Sheet	1/27/2015	Design/Development	49	Design/Development	Design Set	
C1-02	2	Legend & Notes	1/27/2015	Design/Development	49	Design/Development	Design Set	
C1-03	2	Boundry Line Adjustment plat	1/27/2015	Design/Development	49	Design/Development	Design Set	
C1-04	2	Existing Conditions	1/27/2015	Design/Development	49	Design/Development	Design Set	
C1-05	2	Deomolition Plan	1/27/2015	Design/Development	49	Design/Development	Design Set	
C2-01	2	Overall Site Plan	1/27/2015	Design/Development	49	Design/Development	Design Set	
C2-02	2	Site Plan	1/27/2015	Design/Development	49	Design/Development	Design Set	
C5-01	2	EPSC Plan	1/27/2015	Design/Development	49	Design/Development	Design Set	



Current Document Log
Type, Discipline & No Obsolete

Number	Rev	Title	Rev Date	Bulletin	% Complete	Status	Category	Attachments/Documents
C8-01	2	Sanitary Details	1/27/2015	Design/Development	49	Design/Development	Design Set	
C8-02	2	Sanitary Details	1/27/2015	Design/Development	49	Design/Development	Design Set	
C8-03	2	Sanitary Notes	1/27/2015	Design/Development	49	Design/Development	Design Set	
C8-04	2	Water Details	1/27/2015	Design/Development	49	Design/Development	Design Set	
C8-05	2	Water Details & Notes	1/27/2015	Design/Development	49	Design/Development	Design Set	
C8-06	2	Site Details	1/27/2015	Design/Development	49	Design/Development	Design Set	
C8-07	2	EPSC Details	1/27/2015	Design/Development	49	Design/Development	Design Set	
C8-08	2	Stormwater Details	1/27/2015	Design/Development	49	Design/Development	Design Set	
L1-01	2	Landscaping Plan	1/27/2015	Design/Development	49	Design/Development	Design Set	
L1-02	1	Colored Landscaping Plan	1/27/2015	Design/Development	49	Design/Development	Design Set	
L2-01	2	Lighting Plan	1/27/2015	Design/Development	49	Design/Development	Design Set	



PeakCM, LLC
450 Weaver Street
Suite #3
Winooski, VT 05404
PH: 802-988-1092

January 27, 2015

Barry King
Chair
Jericho Development Review Board
Town of Jericho
Planning and Zoning Office
PO Box 39
Jericho, VT 05465

Ref: Proposed Jericho Market, 364 VT Route 15, Jericho, VT
Applicants Response to Preliminary Decision December 18, 2014

Dear Barry,

At the December 18, 2014 meeting of the Jericho Development Review Board, the Board voted to approve the application of Mr. David Villeneuve and Mr. Jerry Davis for the proposed "Jericho Market", with conditions. Below, find the co-applicants response to the conditions set forth by the Board.

Mr. Villeneuve and Mr. Davis are excited to be before the Board for the final hearing of this application, and expect you will find that every effort has been made to meet both the letter, and spirit, of the Boards conditions.

Condition 1

The final proposal shall provide public access to the proposed green space at the corner of Dickenson Street.

The applicants have added a concrete sidewalk at the corner of Dickenson and Route 15 that extends across the green to a crosswalk that provides access to the market and is shown on the revised plan.

Condition 2

The final proposal shall provide a sidewalk to connect from the proposed crosswalk location to the internal walkways of the proposed store. The sidewalk across the Green shown on the proposed site plan as "proposed by others" shall be installed by the Applicant and referenced as such on the Final plan.



The applicants have added a concrete sidewalk at the corner of Dickenson and Route 15 that extends across the green to a crosswalk that provides access to the market and is shown on the revised plan.

Condition 3

The final proposal shall grant 15 foot wide easements for future construction of streetscape improvements along Dickenson Street and along Route 15.

Based on our analysis and review, Dickenson Street currently has enough width to accommodate a street and sidewalk. If in the future, with planning and upgrade of the Dickenson Street, it becomes necessary to encroach on the property line, the applicants offer an easement, not to exceed, 5 feet in width along Dickenson. Also, during our review we have not found any State Road standard for easement width, but 10 feet is typical, and is consistent with other Villeneuve projects in Jericho. The applicants offer a 10 foot easement along Route 15.

Condition 4

The final proposal shall not provide parking spaces adjacent to the green.

The applicants have removed the parallel parking spaces adjacent to the green.

Condition 5

The final proposal shall provide landscaping, including street trees, to provide intermittent sight lines to the building, and provide partial screening of the front yard parking and the West (RT 15) façade of the building. The landscaping shall not provide hedge or other continuous visual barriers between Route 15, the green, and the building.

The applicants have modified the landscaping on the final landscaping plan, as described in condition 5. The modifications include reducing the number of plants along the hedge row on the West side of building to provide intermittent sight lines to the building, rather than a continuous visual barrier. The partial hedge consists of mixed broadleaf evergreen shrubs and deciduous shrubs.

Condition 6

The final proposal shall show additional landscaping in the vicinity of the west side parking and covered sidewalk, in accordance with FOF 21.

The applicants have added landscaping on the final landscaping plan in accordance with condition 6. The area adjacent to the primary entrance on the East and West sides of the building, in the vicinity of the West side parking and covered sidewalks, has been adjusted by changing the species and adding an additional small (crabapple) tree to each side.

Condition 7

In accordance with Jericho Land Use and Development Regulations 11.8.5, the final proposal shall provide internal landscaping in the parking lot areas.

The applicants have added the additional landscaping on the final landscaping plan in accordance with condition 7. The proposed Serviceberry trees have been adjusted to include the tree-form selection of the large shrub/small tree. A landscape island has been added to the northern parking lot and planted



with the deciduous Serviceberry tree (AAR). This addition landscaping brings the total number of deciduous trees in internal parking lot islands to 7, for a parking lot of 69 spaces, which meets the requirement of 1 tree per ten (10) spaces.

Condition 8

In accordance with the Jericho Land Use and Development Regulations 11.1.5, a traffic study is required to be submitted for the proposed project. In accordance with 10.8.6, the DRB will conduct an independent technical review of the traffic study using a Consultant of their choice. The traffic study shall include the items listed in 11.1.5, including: details of the existing and proposed ingress and egress, traffic volumes, turning movements, levels of service, traffic control, physical conditions of the existing street network, and pedestrian access and safety, wait times for turning left off Route 15 and for turning onto Dickenson Street, and likely impacts to Dickenson Street, including the impact on the future reconfiguration of Dickenson Street. Traffic volume assumptions have to take into account the anticipated high turnover at peak times of people stopping into the proposed store only briefly for a few items.

The applicants have provided the traffic study, as described, with the final proposal.

Condition 9

In accordance with FOF 16, the stormwater retention swale shall be designed with sufficient holding capacity so that the existing culvert crossing Dickenson Street is not overwhelmed during storm events. Any future repair issues arising with regard to overflow and erosion of this culvert will be at the Owner's expense, until such time as Dickenson Street is upgraded.

The applicants agree to condition 9.

Condition 10

In accordance with FOF 16, the stormwater retention swale shall be maintained as mowed grass.

The applicants agree to condition 10.

Condition 11

The final proposal shall minimize security lighting that is always on. In accordance with FOF 20, the lighting in the vicinity of the loading dock shall be on motion sensors to improve the appearance from Dickenson Street. Parking lot lights shall be controlled by seasonal time of day timers or motion detectors as appropriate.

The applicants agree to minimize security lighting that is "always on". The lighting at the loading dock shall be on motion sensors, and the parking lot lights will be controlled by seasonal time of day timers or motion detectors as appropriate.

Condition 12

Sign permits shall be obtained for any sign, and any associated sign lighting.

The applicants agree to obtain permits for any sign and its associated lighting.



Condition 13

The final proposal shall propose hours of operation, including deliveries.

The proposed hours of operation are 6am to 8pm daily with deliveries starting at approximately 5am.

Condition 14

The final proposal shall show larger traditional-style windows on the western façade in accordance with FOF22.

The applicants have added additional, traditional-style windows on the West elevation.

Condition 15

The proposed private roads shall be constructed in accordance with the public works standards and Jericho Land Use and Development Regulations 11.1.3.

The applicants show the construction of the private roads per condition 15 on the final proposal.

Condition 16

Building permits will be conditioned on obtaining a state Wastewater permit.

The applicants agree to condition 16.

Condition 17

Certificate of occupancy will be conditioned on obtaining all required state permits.

The applicants agree to condition 17.

Condition 18

In accordance with 24 VSA 4416 as amended, the final application must include a letter of intent that VTrans is prepared to issue an access permit for the proposed, for the access to Rt 15.

The applicants have provided this with the final proposal.

Condition 19

In accordance with the Jericho Land Use and Development Regulations 10.12.8.4, approval of the preliminary plan shall not constitute approval of the final subdivision plan and associated plat.

The applicants agree to condition 19.

Condition 20

In accordance with the Jericho Land Use and Development Regulations 10.12.9.1, the applicant shall within twelve (12) months of the date of the preliminary plan approval submit an application for final approval. If the applicant fails to do so he/she shall be required to submit a new preliminary plan for review by the DRB. The DRB may grant up to two (2) 3-month extensions of preliminary plan approval for reasonable and substantial cause.



The applicants agree to condition 20.

Condition 21

In accordance with the Jericho Land Use and Development Regulations 10.12.9.3, prior to final plan approval, all street details shall be reviewed and approved by the Jericho Selectboard. The Selectboard's findings shall be reflected in the DRB's final decision.

The applicants agree to condition 21.

Condition 22

In accordance with the Jericho Land Use and Development Regulations 10.12.9.4, the Final Plat must be accompanied by information on all easements, including the warranty deed to be recorded.

The applicants will provide all required legal documents based on the final decision. The applicants are seeking clarity in regards to this condition and condition 3. The applicants would like to engage the board further on what is being asked and will provide documents based on the outcome of the decision, per the regulation, for review by the Towns attorney.

Please find, with this letter, our complete Final Application for review and subsequent Final Hearing before the Jericho Development Review Board.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Jerry Davis', is written over a large, faint watermark of the PEAKCM CONSTRUCTION logo.

Jerry Davis

Managing Partner, 41 WTC, LLC



TOWN of JERICOH ■ PLANNING + ZONING ■ PERMIT FEE SCHEDULE

ADMINISTRATIVE ACTIONS

SIGN PERMIT	\$50+
BUILDING PERMIT - new construction <ul style="list-style-type: none"> ▪ Residential - single family <ul style="list-style-type: none"> - multi family - additions and garages - nonstructural¹ renovations - accessory structures (decks, sheds) ▪ Agricultural structures ▪ Commercial, Residential and Municipal ▪ Public Facility (schools, places of worship, etc.) ▪ Miscellaneous Structures <ul style="list-style-type: none"> Above-ground pool, satellite dishes greater than 24" in diameter In-ground pool (fence required) Non net-metered solar or wind collector ▪ Other (reissue/renew, boundary adjustment, permitted home occupation, misc.) 	\$700+ \$450/dwelling unit+ \$75/per room or .14 per sq ft. + \$35+ \$35+ no permit fee, but \$10 Recording Fee applies \$500 plus \$5 per 100 square feet+ \$150 plus \$5 per 100 square feet+ \$35+ \$75+ \$35+ \$35+
CERTIFICATE of OCCUPANCY	\$75+ – required for new construction with sanitation facilities (septic) only
+ RECORDING FEE for permits listed above	\$10 per page
ROAD ACCESS PERMIT	\$100
GIS MAPS	\$2 per page

¹ "Non-structural renovations" are those that do not affect an existing building footprint or exterior facade

DELIBERATIVE ACTIONS

HEARINGS - before Development Review Board² <ul style="list-style-type: none"> Sketch Plan Final Plat review (site plan) Appeal of Administrative Decision ▪ SUBDIVISIONS <ul style="list-style-type: none"> Minor Major Preliminary Plat Major Final Plat ▪ BOUNDARY ADJUSTMENT ▪ AMENDMENTS ▪ VARIANCES and WAIVERS ▪ LOTS without Road Frontage ▪ CONDITIONAL USES <ul style="list-style-type: none"> Residential Forestry and Agricultural Home Occupation, B+B, general merchandise Commercial, Industrial and Retail 	\$100 – applicable toward Final Plat Review \$150* \$150* \$250 + \$100 per lot/unit* \$500 + \$100 per lot/unit* 600 \$250 + \$100 per lot/unit* 350 \$150* 150 \$150* 150 \$150* \$200* \$150* \$150* \$150* \$150* 150
* ADDITIONAL FEE required for advertising and abutters notice for all DRB Hearings	\$75 (+ prevailing US postage rate/each abutter) 75.00 + 0.49 X 22 Abutters = 85.78
MYLARS to memorialize in Town Land Records	\$15.00 per page 15

² Additional charges for outside consultants review may be charged applications requiring approval by DRB. **sum = 1500.78**

NOTE THIS FEE WAS PAID PREVIOUSLY WITH INITIAL SUBMITTAL

NOTE: The Town of Jericho ceased issuing Certifications of Compliance related to Title Searches in July 2004

EFFECTIVE DATE: 2011.05.06

Town of Jericho

Development Review Board SUBDIVISION Application

Application #: _____

Parcel Code: _____

1. The undersigned hereby applies to appear before the Development Review Board for the following (check one):

- Boundary Line Adjustment**
- Sketch Plan Review**
- Preliminary Plan Review**
- Amendment to Subdivision Approval**

Final Plan Review:

- MINOR** Subdivision (1-3 lots) - *must complete all requirements in Section 10 of the Jericho Land Use and Development Regulations (see checklist).*
- MAJOR** Subdivision (4+ lots) - *must complete all requirements in Section 10 of the Jericho Land Use and Development Regulations (see checklist).*

Number of lots resulting from subdivision: 0

2. Project Information

Description: Remove ~4630 SF ex building, renovate existing ~12,800 SF building add ~5200 SF for ~18,000 SF Retail Market w/ associated utilities, parking. Adjust subdivision lot lines, acreages

Location: 364 Vt. Route 15 (corner Dickenson St.)

Zoning District(s) in which property is located: **AGR** **COM** **FOR** **OS** **RR** **VCTR** **VIL**

3. Interested Parties

David Villeneuve (owner, P.O. Box 360 applicant) 41 WTC, LLC (co-applicant, option to purchase)
 Applicant Name: Underhill, VT c/o Jerry Davis
 Email address: bcoldinvt@hotmail.com -450 Weaver St, Suite #3 Winooski, VT 05404
(802) 899-1239 jpgdavis@peakcm.com (802) 988-1092

Phone: _____ Applicant's relationship to parcel (check one): Owner Option to purchase

Landowner of Record Name (if not applicant): Villejo Ventures, LLC c/o David Villeneuve (Owner Lot 2)

Address/Phone: P.O. Box 360, Underhill, VT bcoldinvt@hotmail.com (802) 899-1239

Professional advisor(s) Give name, address, phone, title:

Professional Engineer Jeremy Matosky, PE Trudell Consulting Engineers (TCE) 478 Blair Park Rd Williston VT 05495

Other (specify) _____ (802) 879-6331

Name(s) of current adjacent landowner(s):

See Attached Abutter's List

X Brenda J. Villeneuve
for Villejo Ventures, LLC (Lot 2)

X _____
for 41 WTC (co-applicant)

X David Villeneuve
Landowner Signature (Date) David Villeneuve (Lot 3)

X David Villeneuve
Applicant Signature (Date) David Villeneuve (applicant)

FOR OFFICE USE ONLY

Public Hearing(s): Date

DRB Action taken:

Fee Paid: _____

Application Date: _____

Decision Date: _____

Town of Jericho

Development Review Board HEARING Application

Application #: _____

Parcel Code: _____

1. The undersigned hereby applies to appear before the Development Review Board for the following (check one):

- Conditional Use Approval
- Zoning Variance
- Sketch Plan Review
- Site Plan Review

- Amendment to DRB Approval
- Dimensional Waiver
- Appeal of Administrative Decision
- Other _____

Section[s] of Zoning Regulations relating to this application: See Attached

2. Project Information

Description: Remove ~4630 SF ex building, renovate existing ~12,800 SF building add ~5200 SF for ~18,000 SF Retail Market w/ associated utilities, parking. Adjust subdivision lot lines, acreages

Location: 364 Vt. Route 15 (corner Dickenson St.)

Zoning District(s) in which property is located: **AGR** **COM** **FOR** **OS** **RR** **VCTR** **VIL**

3. Interested Parties

David Villeneuve (owner, P.O. Box 360 applicant) 41 WTC, LLC (co-applicant, option to purchase)
 Applicant Name: Underhill, VT c/o Jerry Davis
 Email address: bcoldinvt@hotmail.com 450 Weaver St, Suite #3 Winooski, VT 05404
(802) 899-1239 jpDavis@peakcm.com (802) 988-1092

Phone: _____ Applicant's relationship to parcel (check one): Owner Option to purchase

Landowner of Record Name (if not applicant): Villejo Ventures, LLC c/o David Villeneuve (Owner Lot 2)

Address/Phone: P.O. Box 360, Underhill, VT bcoldinvt@hotmail.com (802) 899-1239

Professional advisor(s) Give name, address, phone, title:

Professional Engineer Jeremy Matosky, PE Trudell Consulting Engineers (TCE) 478 Blair Park Rd Williston VT 05495

Other (specify) _____ (802) 879-6331

Name(s) of current adjacent landowner(s):

See Attached Abutter's List

X Brenda J. Villeneuve
for Villejo Ventures, LLC (Lot 2)

X David Villeneuve
Landowner Signature (Date) David Villeneuve (Lot 3)

X [Signature]
for 41 WTC (co-applicant)

X David Villeneuve
Applicant Signature (Date) David Villeneuve (applicant)

FOR OFFICE USE ONLY

Public Hearing(s): Date _____

DRB Action taken: _____

Fee Paid: _____

Application Date: _____

Decision Date: _____

JERICHO-UNDERHILL WATER DISTRICT
P.O. Box 174, Underhill, Vermont 05489

(802) 899-3810

APPLICATION FOR WATER ALLOCATION

Date: 9/30/14

Customer Name: David Villeneuve

Customer Address: P.O. Box 360
Underhill, VT 05489

Tax Property Code 333-253-10704
Property Address (if different): 364 VT RTE. 15
Jericho, VT 05465

David Villeneuve hereby requests allocation of drinking water.
(Customer)

The requested allocation is 1350 gallons per day.

The use or purpose of this allocation is grocery/market.

This allocation request is based on the following considerations and calculations:

Section 1-808 tbl.3 pg.72 "VT Environmental Protection Rules" Chapter 1 and part 2 appendix A
of the VT Water Supply Rule, "Large Supermarkets with meat dept., without garbage grinder"
Calculation based on 18,000 sF: $18,000 \text{ sF} \times 7.5 \text{ GPD}/100\text{sF} = 1350 \text{ GPD}$

This allocation is in conformance with the design flow specified in the currently effective version of the State of Vermont, Environmental Protection Rules, Chapter 1 Wastewater System and Potable Water Supply Rules, Subchapter 1-504.

Jeffrey A. Davis owners Rep. (JEFFREY A. DAVIS)
(Signature of customer)

Reviewed by the District Board on October 6, 2014
(Date)

Accepted ;

Rejected . Reason (if rejected) _____

Jane Maher
(Signature of Clerk)



October 8, 2014

Jericho Market
364 VT Route 15
Jericho Vermont 05465

Re: Conversion of existing structure (with a section of new addition to the structure) into the Jericho Market

Dear David Villeneuve,

We have reviewed your request to convert the existing structure (along with a section of new addition to the existing structure) located at 364 Vermont Route 15 into a market. The plans given to us included Site Plan C2-01 (dated 9/18/14) and ALT PLAN A1.1 (Dated 9/30/14).

We were glad to see the following items have been included in the plans:

- The installation of a hydrant on site (to be located as you enter the parking lot) from Route 15
- There is 360 degree access to the building for apparatus (and fire attack).
- 2 access points (curb cuts) into the parking lot, rather than just 1
- The size of the travel lane widths all the way around the building

Reminder a permit needs to be obtained from the State of Vermont Division of Fire Safety Division.

All codes set forth by the Division of Fire Safety will need to be met. Under code this building being over 12,000 square feet will be required to have a sprinkler system installed.

Things we are requesting:

- Sprinkler system Fire Department Connection will be installed on the exterior located either to the left or right of the main entrance into the store. It should be a 5" Stortz connection.
- A fire alarm system will be installed to the State of Vermont Code and will include smoke detectors in key areas, as well as sprinkler flow and tamper. The system will be monitored 24/7 by an alarm monitoring company. The Panel, or at least an annunciator panel to be located in the area of the entrance to store.
- A Knox box will be purchased and installed on the building exterior, on the side facing Route 15 near the entrance to the store. I would be happy to show exactly where we want it installed when the time comes to mount it. I have attached an application to purchase the Knox box with this letter.
- 911 address numbers are to be posted at the driveway entrance and one on the Building. These must be a minimum of 4" in height and of contrasting colors, i.e. white on green.

The conversion to a Market would not add any undo burden on the fire department's ability to provide reasonable fire protection to the Jericho Market or the community.

If you have any questions you may contact me at 899-4025 or by e-mail at Harry@ujfd.org

Sincerely,


Harry Schoppmann III
Duty Captain

Cc: Jen Murray, Town of Jericho

UNDERHILL-JERICHO FIRE DEPARTMENT, INC.

P.O. Box 150 • Underhill, Vermont 05489 • Station: 802-899-4025

September 17, 2014



Jericho Market Property Adjoiner List
Vermont Rte. 15, Jericho, VT

Town of Jericho Tax Parcel Map, Page 2

Subject Parcel: VT 364,a & VT 364,b:
David Villeneuve, P.O. Box 360, Underhill, Vt. 05489

VT 368:
Ville JO Ventures, LLC, P.O. Box 360, Underhill, Vt. 05489

VT 372x:
Trustees of the Episcopal Diocese, Rock Point, Burlington, Vt. 05401

VT 374:
Deutsche Bank, National Trust Co., c/o/ Karrington Mortgage Services, 1610 East St., Andrew Place B-1E, Santa Anna, Ca., 92701

VT 376:
Tomas & Kathleen Cummings, 376 Vt. Rte. 15, Jericho, Vt. 05465

VT 378:
Louis & Diane St. Cyr, P.O. Box 194, Underhill, Vt. 05489

VT380:
Wayland 7 Patricia Mayotte, P.O. Box 72, Jericho, Vt. 05465

VT354:
Mari McClure, 354 Vt. Rte. 15, Jericho, Vt. 05465

VT355:
William & Martha Tortolano, P.O. Box 93, Underhill, Vt. 05489

VT357:
Carl & Joanne Putzier, 144 Raceway Road, Jericho, Vt. 05465

RW146:
Stephen Whiteley & Regina Christianson, 146 Raceway Road, Jericho, Vt. 05465

GP010 & GP009:
James & Susan Carter, 10 Gar Place, Underhill, Vt. 05489

TRUDELL CONSULTING ENGINEERS

478 BLAIR PARK ROAD, WILLISTON, VT 05495 | 802.879.6331 | WWW.TCEVT.COM

PK016:
Philip & Cynthia Jacobs, 73 Upper English Settlement Road, Underhill, Vt. 05489

PK020:
Brian Dreibelbis & Maria Angolano, 20 Park St., Underhill, Vt. 05489

PK022:
Robert Martell & Mary Davaris, P.O. Box 311, Underhill, Vt. 05489

PK024:
Telephone Operation Co. Vt. LLC, P.O. Box 1659, Bangor Me., 04402-1659

PK026:
Thomas & Sandra Owen, 26 Park Street, Underhill, Vt. 05489

PK034:
Daniel & Denise Gerard, 11 Heath Street, S. Burlington, Vt. 05403

PK038:
Robin & Patricia Bartlett, 63 Browns Trace, Jericho, Vt. 05465

RV037:
Kim Ann Thurston, 37 River Road, Jericho, Vt. 05465

DK009:
David Villeneuve, P.O. Box 360, Underhill, Vt. 05489

DK008:
Anne Villeneuve, 37 Sky View Drive, Jericho, Vt. 05465

VT361
Paula Kolb & Amos Hemingway, 361 Vt. Route 15, Jericho, Vt. 05465

cc: copy to file
Enclosed: None.

ARE-EDG-3MB/3MP-DL

Cree Edge™ Area Luminaire – Type III Medium w/ Backlight Control – Direct Arm Mount Long

Product Description

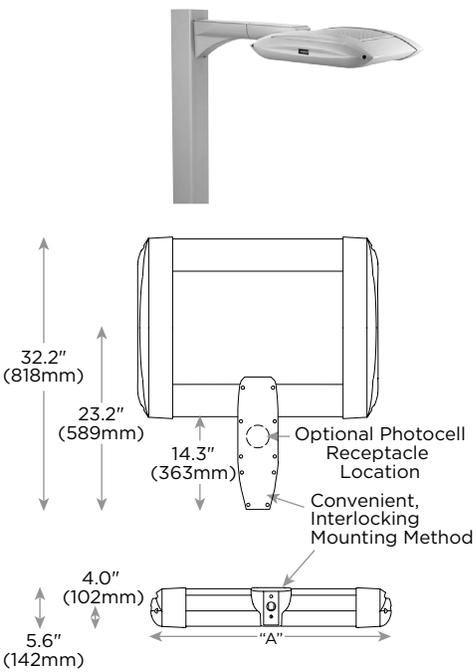
Slim, low profile design minimizes wind load requirements. Luminaire sides are rugged cast aluminum with integral, weathertight LED driver compartments and high performance aluminum heat sinks. Convenient, interlocking mounting method. Mounting housing is rugged die cast aluminum and mounts to 3–6" (76–152mm) square or round pole. Luminaire is secured by two 5/16-18 UNC bolts spaced on 2" (51mm) centers.

Performance Summary

- Utilizes BetaLED® Technology
- Patented NanoOptic® Product Technology
- Made in the U.S.A. of U.S. and imported parts
- CRI:** Minimum 70 CRI
- CCT:** 5700K (+ / - 500K) Standard, 4000K (+ / - 300K)
- Limited Warranty*:** 10 years on luminaire / 10 years on Colorfast DeltaGuard® finish
- EPA and Weight:** Reference EPA and Weight spec sheet

Accessories

Field Installed Accessories
XA-BRDSPK Bird Spikes



LED Count (x10)	Dim. "A"
04	12.1" (306mm)
06	14.1" (357mm)
08	16.1" (408mm)
10	18.1" (459mm)
12	20.1" (510mm)
14	22.1" (560mm)
16	24.1" (611mm)
20	28.1" (713mm)
24	32.1" (814mm)

Ordering Information

Example: ARE-EDG-3MB-DL-04-E-UL-SV-350-OPTIONS

ARE-EDG		DL		E				
Product	Optic	Mounting	LED Count (x10)	Series	Voltage	Color Options	Drive Current	Options
ARE-EDG	3MB Type III Medium w/ BLS 3MP Type III Medium w/ Partial BLS	DL Direct Arm Long	04 06 08 10 12 14 16 20 24	E	UL Universal 120–277V UH Universal 347–480V 34 347V	SV Silver (Standard) BK Black BZ Bronze PB Platinum Bronze WH White	350* 350mA 525** 525mA 700*** 700mA	40K 4000K Color Temperature - Color temperature per luminaire DIM 0–10V Dimming - Control by others - Refer to dimming spec sheet for details - Can't exceed specified drive current F Fuse - When code dictates fusing, use time delay fuse - Not available with all ML options. Refer to ML spec sheet for availability with ML options HL Hi / Low (175 / 350 / 525 Dual Circuit Input) - Refer to ML spec sheet for details - Sensor not included P Photocell - Not available with all ML options. Refer to ML spec sheet for availability with ML options - Must specify voltage other than UH R NEMA Photocell Receptacle - Not available with all ML options. Refer to ML spec sheet for availability with ML options - Photocell by others ML Multi-Level - Refer to ML spec sheet for details

* See www.cree.com/lighting/products/warranty for warranty terms * Available on luminaires with 60–240 LEDs.
 ** Available on luminaires with 40–160 LEDs. *** Available on luminaires with 40–60 LEDs.



Rev. Date: 09/27/13



Product Specifications

CONSTRUCTION & MATERIALS

- Slim, low profile, minimizing wind load requirements
- Luminaire sides are rugged die cast aluminum with integral, weathertight LED driver compartments and high performance heat sinks
- Convenient interlocking mounting method. Mounting housing is rugged die cast aluminum mounting to 3-6" (76-152mm) square or round pole, secured by two 5 / 16-18 UNC bolts spaced on 2" (51mm) centers.
- Includes leaf / debris guard
- Exclusive Colorfast DeltaGuard® finish features an E-Coat epoxy primer with an ultra-durable powder topcoat, providing excellent resistance to corrosion, ultraviolet degradation and abrasion. Standard is silver. Bronze, black, white, and platinum bronze are also available

ELECTRICAL SYSTEM

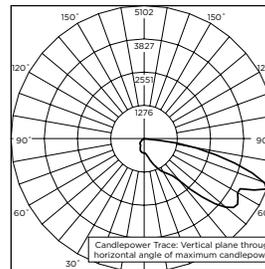
- **Input Voltage:** 120-277V or 347-480V, 50 / 60Hz, Class 1 drivers
- **Power Factor:** > 0.9 at full load
- **Total Harmonic Distortion:** < 20% at full load
- Integral weathertight electrical box with terminal strips (12Ga-20Ga) for easy power hookup
- Integral 10kV surge suppression protection standard
- To address inrush current, slow blow fuse or type C / D breaker should be used

REGULATORY & VOLUNTARY QUALIFICATIONS

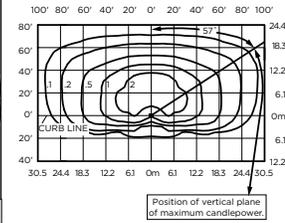
- cULus Listed
- Suitable for wet locations
- Enclosure rated IP66 per IEC 60529 when ordered without P or R options
- Consult factory for CE Certified products
- Certified to ANSI C136.31-2001, 3G bridge and overpass vibration standards
- 10kV surge suppression protection tested in accordance with IEEE / ANSI C62.41.2
- Luminaire and finish endurance tested to withstand 5,000 hours of elevated ambient salt fog conditions as defined in ASTM Standard B 117
- Product qualified on the DesignLights Consortium™ ("DLC") Qualified Products List ("QPL") when ordered without full backlight control shield
- Meets Buy American requirements within ARRA

Photometry

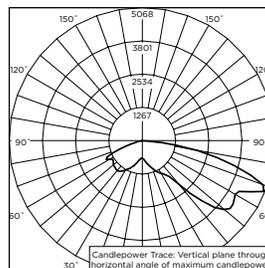
All published luminaire photometric testing performed to IESNA LM-79-08 standards by a NVLAP certified laboratory.



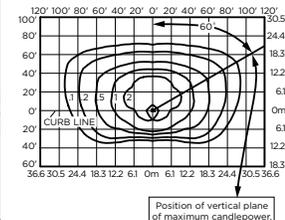
ITL Test Report #: 77235
STR-LWY-3MB--06-E-UL-700-40K
Initial Delivered Lumens: 7,998



ARE-EDG-3MB--12-E-UL-525-40K
Mounting Height: 25' (7.6m) A.F.G.
Initial Delivered Lumens: 12,420
Initial FC at grade



CSA Test Report #: 6385
ARE-EDG-3MP--06-E-UL-700-40K
Initial Delivered Lumens: 9,619



ARE-EDG-3MP--12-E-UL-525-40K
Mounting Height: 25' (7.6m) A.F.G.
Initial Delivered Lumens: 14,720
Initial FC at grade

IES Files

To obtain an IES file specific to your project consult:
<http://www.cree.com/lighting/tools-and-support/exterior-ies-configuration-tool>

Lumen Output, Electrical, and Lumen Maintenance Data

Type III Medium Distribution w/ BLS													50K Hours Projected Lumen Maintenance Factor @ 15° C (59° F)***			
LED Count (x10)	5700K				4000K				System Watts 120-480V	TOTAL CURRENT						
	Initial Delivered Lumens w/ BLS*	BUG Ratings** Per TM-15-II	Initial Delivered Lumens w/ Partial BLS*	BUG Ratings** Per TM-15-II	Initial Delivered Lumens w/ BLS*	BUG Ratings** Per TM-15-II	Initial Delivered Lumens w/ Partial BLS*	BUG Ratings** Per TM-15-II		120V	208V	240V		277V	347V	480V
350mA @ 25° C (77° F)													93%			
06	4,617	B1 U0 G1	5,473	B1 U0 G2	4,446	B1 U0 G1	5,270	B1 U0 G2	66	0.52	0.31	0.28		0.26	0.20	0.15
08	6,157	B1 U0 G2	7,297	B2 U0 G2	5,929	B1 U0 G2	7,026	B2 U0 G2	90	0.75	0.44	0.38		0.34	0.26	0.20
10	7,677	B1 U0 G2	9,099	B2 U0 G2	7,393	B1 U0 G2	8,762	B2 U0 G2	110	0.92	0.53	0.47		0.41	0.32	0.24
12	9,213	B1 U0 G2	10,919	B2 U0 G3	8,872	B1 U0 G2	10,514	B2 U0 G3	130	1.10	0.63	0.55		0.48	0.38	0.28
14	10,680	B1 U0 G2	12,658	B2 U0 G3	10,285	B1 U0 G2	12,189	B2 U0 G3	158	1.32	0.77	0.68		0.62	0.47	0.35
16	12,206	B1 U0 G3	14,466	B3 U0 G3	11,754	B1 U0 G3	13,930	B3 U0 G3	179	1.49	0.87	0.77	0.68	0.53	0.39	
20	15,257	B2 U0 G3	18,083	B3 U0 G3	14,692	B1 U0 G3	17,413	B3 U0 G3	220	1.84	1.06	0.93	0.83	0.64	0.47	
24	18,309	B2 U0 G3	21,699	B3 U0 G3	17,631	B2 U0 G3	20,896	B3 U0 G3	261	2.19	1.26	1.10	0.97	0.76	0.56	
525mA @ 25° C (77° F)													92%			
04	4,359	B1 U0 G1	5,167	B1 U0 G2	4,198	B1 U0 G1	4,975	B1 U0 G2	70	0.58	0.34	0.31		0.28	0.21	0.16
06	6,464	B1 U0 G2	7,662	B2 U0 G2	6,225	B1 U0 G2	7,378	B2 U0 G2	101	0.84	0.49	0.43		0.38	0.30	0.22
08	8,619	B1 U0 G2	10,215	B2 U0 G2	8,300	B1 U0 G2	9,837	B2 U0 G2	133	1.13	0.66	0.58		0.51	0.39	0.28
10	10,748	B1 U0 G2	12,739	B2 U0 G3	10,350	B1 U0 G2	12,267	B2 U0 G3	171	1.43	0.83	0.74		0.66	0.50	0.38
12	12,898	B1 U0 G3	15,286	B3 U0 G3	12,420	B1 U0 G3	14,720	B3 U0 G3	202	1.69	0.98	0.86		0.77	0.59	0.44
14	14,952	B2 U0 G3	17,721	B3 U0 G3	14,398	B1 U0 G3	17,065	B3 U0 G3	232	1.94	1.12	0.98	0.87	0.68	0.50	
16	17,088	B2 U0 G3	20,253	B3 U0 G3	16,455	B2 U0 G3	19,503	B3 U0 G3	263	2.21	1.27	1.11	0.97	0.77	0.56	
700mA @ 25° C (77° F)													90%			
04	5,325	B1 U0 G2	6,311	B1 U0 G2	5,127	B1 U0 G2	6,077	B1 U0 G2	92	0.78	0.46	0.40		0.36	0.27	0.20
06	7,896	B1 U0 G2	9,358	B2 U0 G2	7,603	B1 U0 G2	9,011	B2 U0 G2	134	1.14	0.65	0.57	0.50	0.39	0.29	

* Actual production yield may vary between -4 and +10% of initial delivered lumens.
 ** For more information on the IES BUG (Backlight-Uplight-Glare) Rating visit www.iesna.org/PDF/Erratas/TM-15-11BugRatingsAddendum.pdf.
 *** For recommended lumen maintenance factor data see TD-13. Calculated L₈₀ based on 6,000 hours LM-80-08 testing; > 150,000 hours.

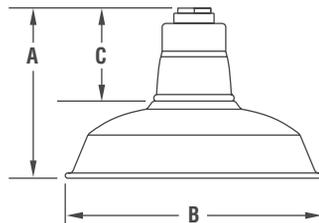


LSI ABOLITE® LED STANDARD DOME (RD)



Symmetrical Optics

DIMENSIONS



Prefix	Height (A)	Diameter (B)	Neck (C)	Weight (lbs./kg)
RD 100	8-1/4" (210mm)	12" (305mm)	4-1/2" (114mm)	2.5 (1.13kg)
RD 150	9-1/2" (241mm)	14" (356mm)	4-1/2" (114mm)	3.0 (1.36kg)
RD 200	10" (254mm)	16" (406mm)	4-1/2" (114mm)	3.5 (1.59kg)
RD 300	11" (279mm)	18" (457mm)	5" (127mm)	3.5 (1.59kg)

US patents D581584 & D598162 & D581585 CN patent 2630873 and US & Int'l. patents pending

APPLICATIONS - Ambient Lighting and Accent Lighting. Interior or Exterior.

PRODUCT HIGHLIGHTS

- **“Green” Energy-Saving** - Reduces greenhouse gas emissions, slashes operating costs, extends life and eliminates costly lamp disposal involving mercury waste.
- **Long Lasting Sparkle** - LED light beam contains no heat, and no UV, which means degradation in color or quality of the product under display is minimized.
- **Dramatically Lower Maintenance Costs** - 60,000-hour LED source extends life 3 to 5 times as compared to conventional HID sources, 30 times incandescent.
- **Integrated Power Supply** - Built into fixture allowing RLM to be connected directly to line voltage.

EXPECTED LIFE - Minimum 60,000 hours to 100,000 hours depending upon the ambient temperature of the installation location.

LEDS - Select high-brightness LEDs in Cool White (5000K nominal), Neutral White (4000K nominal), and Warm White (3500K nominal) color temperature. 70 CRI (nominal) CW. 80 CRI (nominal) NW and WW.

REFLECTOR - Heavy duty spun galvanized steel construction with polyester powder coat finish.

LIGHT OUTPUT - With an input power of 11 watts: Cool White - 1055 lumens (nominal), Neutral White - 870 lumens (nominal), and Warm White - 800 lumens (nominal).

MOUNTING - Fixed hub tapped for 3/4" NPT conduit. Pre-wired with 96" leads. Not designed for uplight applications.

ELECTRICAL - Integral, surge protected power supply operates on 120-240 VAC (50/60Hz) input; no external power supplies required.

DRIVER - State-of-the-art driver designed specifically for RLM fixtures provides unsurpassed system efficiency. Components are fully encased in potting material for moisture resistance. Driver complies with IEC and FCC standards.

OPERATING TEMPERATURE - -40°C to +50°C (-40°F to +122°F).

FINISH - Available in either architectural textured, high gloss or satin finish.

WARRANTY - LSI LED fixtures carry a limited 5-year warranty.

LISTING - Listed to U.S. and Canadian safety standards. Suitable for wet locations.

Also available in traditional light sources

This product, or selected versions of this product, meet the standards listed below. Please consult factory for your specific requirements.



LSI ABOLITE® LED STANDARD DOME (RD)

LUMINAIRE ORDERING INFORMATION

TYPICAL ORDER EXAMPLE: **RD 200 10 CW LED UE MSV LDS96 WL**

BY ARCH/OWNER

Prefix	# of LED's	Color Temperature	Light Source	Input Voltage	Reflector Color	Mounting
RD 100 RD 150 RD 200 RD 300	10	CW - Cool White NW - Neutral White WW - Warm White	LED	120-240 ¹	MSV-Metallic Silver GWT-Gloss White GBK-Gloss Black GRD-Gloss Red GPT-Textured Graphite RUS-Textured Rust SCP-Satin Copper STQ-Satin Turquoise SVG-Satin Verde Green	LDS96WL- Prewired leads. For use with stem or bracket mounting in wet or indoor locations. CA120WHT - 10' prewired white cord set and canopy ² CA120BLK - 10' prewired black cord set and canopy ² CA120WHTS - 10' prewired white cord set and canopy with SWAG option ² CA120BLKS - 10' prewired black cord set and canopy with SWAG option ² RC72BLK - 6' prewired black coiled cord set and canopy. Includes SWAG cable ²

- 1- Fixture will not operate on 277VAC (120-240 only).
- 2- Cordsets are damp location only.

CANOPY ORDERING INFORMATION (Accessories are field installed)

Description	Order Number
3/4" (19mm) Tap Decorative Box Cover Aligner - Gloss White	BC600 3 GWT
3/4" (19mm) Tap Round Box Cover Aligner - Zinc	BC585 ZINC
3/4" (19mm) Tap Square Box Cover Aligner - Zinc	BC585SQ ZINC

- Standard BC600 finish is Gloss White Powder; other RLM colors available.

WIRE GUARD ORDERING INFORMATION (Accessories are field installed)

Description	Order Number
12" (.3m) Convex Wire Guard - Metallic Silver	COG 12 MSV
14" (.4m) Convex Wire Guard - Metallic Silver	COG 14 MSV
16" (.4m) Convex Wire Guard - Metallic Silver	COG 16 MSV
18" (.5m) Convex Wire Guard - Metallic Silver	COG 18 MSV

- Standard finish is Metallic Silver Powder; other RLM colors available.

CONDUIT SYSTEM ORDERING INFORMATION (Accessories are field installed)

Description	Order Number
3/4" x 3" (19mm x76mm) Aluminum Stem - Gloss White	ST 3 3 GWT
3/4" x 6" (19mm x152mm) Aluminum Stem - Gloss White	ST 6 3 GWT
3/4" x 12" (19mm x .4m) Aluminum Stem - Gloss White	ST 12 3 GWT
3/4" x 18" (19mm x .5m) Aluminum Stem - Gloss White	ST 18 3 GWT
3/4" x 24" (19mm x .6m) Aluminum Stem - Gloss White	ST 24 3 GWT
3/4" x 36" (19mm x .9m) Aluminum Stem - Gloss White	ST 36 3 GWT
3/4" x 48" (19mm x 1.2m) Aluminum Stem - Gloss White	ST 48 3 GWT
3/4" x 60" (19mm x 1.5m) Aluminum Stem - Gloss White	ST 60 3 GWT
3/4" x 72" (19mm x 1.8m) Aluminum Stem - Gloss White	ST 72 3 GWT
3/4" (19mm) Alum. Stem Coupler - Gloss White	COP 3 GWT

- Standard finish is Gloss White Powder; other RLM colors available.

GOOSE NECK BRACKET ORDERING INFORMATION (Accessories are field installed)

Description	Order Number
3/4" (19mm) Aluminum Gooseneck Bracket - Gloss White	GB A 3 GWT
3/4" (19mm) Aluminum Gooseneck Bracket - Gloss White	GB B 3 GWT
3/4" (19mm) Aluminum Gooseneck Bracket - Gloss White	GB C 3 GWT
3/4" (19mm) Aluminum Gooseneck Bracket - Gloss White	GB D 3 GWT
3/4" (19mm) Aluminum Gooseneck Bracket - Gloss White	GB E 3 GWT
3/4" (19mm) Aluminum Gooseneck Bracket - Gloss White	GB F 3 GWT
3/4" (19mm) Aluminum Gooseneck Bracket - Gloss White	GB G 3 GWT
3/4" (19mm) Aluminum Gooseneck Bracket - Gloss White	GB H 3 GWT
3/4" (19mm) Aluminum Gooseneck Bracket - Gloss White	GB J 3 GWT
3/4" (19mm) Aluminum Gooseneck Bracket - Gloss White	GB K 3 GWT
3/4" (19mm) Aluminum Gooseneck Bracket - Gloss White	GB P 3 GWT
3/4" (19mm) Aluminum Gooseneck Bracket - Gloss White	GB U 3 GWT

WALL BRACKETS ORDERING INFORMATION (Accessories are field installed)

Description	Order Number
Contemporary Wall Bracket - Medium - Gloss White	CWBM 1 GWT
Contemporary Wall Bracket - Long - Gloss White	CWBL 1 GWT
Nostalgic Aluminum Wall Scroll Bracket - Gloss White	DWB 1 GWT

BRACKETS

- See Indoor section for detail on bracket sizes and shapes.
- Standard finish is Gloss White Powder; colors available.
- Designed for mounting to recessed 4" (102mm) octagon box (by others).

WPLED13N/PC

LED 10W & 13 Wallpacks. Patent Pending thermal management system. 100,000 hour L70 lifespan. 5 Year Warranty.

JERICHO MARKET
TYPE SR - WALL PACK
W/ PHOTOCCELL
PREPARED BY DuBois & King
10-07-2014

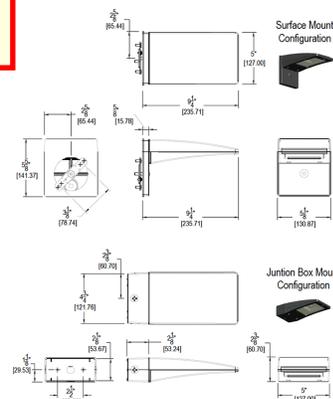
Weight: 3.3 lbs

LED Info

Watts: 13W
 Color Temp: 4000K (Neutral)
 Color Accuracy: 86
 L70 Lifespan: 100000
 LM79 Lumens: 673
 Efficacy: 45 LPW

Driver Info

Type: Constant Current
 120V: 0.13A
 208V: N/A
 240V: N/A
 277V: N/A
 Input Watts: 15W
 Efficiency: 87%



Technical Specifications

WPLED13 with Photocell:

120V Button Photocell Included. Photocell is only compatible with 120V.

UL Listing:

Suitable for Wet Locations as a Downlight. Suitable for Damp Locations as an Uplight. Wall Mount only. Suitable for Mounting within 4ft. of ground.

Lumen Maintenance:

The LED will deliver 70% of its initial lumens at 100,000 hours of operation.

Cold Weather Starting:

The minimum starting temperature is -40°F/-40°C.

Ambient Temperature:

Suitable for use in 50°C (122°F) ambient temperatures.

Driver:

Multi-chip 13W high output long life LED Driver
 Constant Current, Class 2 100V - 277V, 50/60 Hz.

Surge Protection:

4KV

Color Temperature (Nominal CCT):

4000K

Fixture Efficacy:

44.6 Lumens per Watt

Color Accuracy:

86 CRI

Finish:

Our environmentally friendly polyester powder coatings are formulated for high-durability and long-lasting color, and contains no VOC or toxic heavy metals.

Color Consistency:

3-step MacAdam Ellipse binning to achieve consistent fixture-to-fixture color.

Color Stability:

LED color temperature is warranted to shift no more than 200K in CCT over a 5 year period.

Color Uniformity:

RAB's range of CCT (Correlated color temperature) follows the guidelines of the American National Standard for Specifications for the Chromaticity of Solid State Lighting (SSL) Products, ANSI C78.377-2008.

Green Technology:

RAB LEDs are Mercury and UV free.

Dark Sky Approved:

The International Dark Sky Association has approved this product as a full cutoff, fully shielded luminaire.

For use on LEED Buildings:

IDA Dark Sky Approval means that this fixture can be used to achieve LEED Credits for Light Pollution Reduction.

Patents:

The design of the LPACK is protected by U.S. Pat. D604,004 and patents pending in Canada, China and Taiwan.

California Title 24:

WPLED13/PC complies with 2013 California Title 24 building and electrical codes as a commercial outdoor non-pole-mounted fixture <30 Watts.



WPLED13N/PC - continued

IESNA LM-79 & IESNA LM-80 Testing:

RAB LED luminaires have been tested by an independent laboratory in accordance with IESNA LM-79 and 80, and have received the Department of Energy "Lighting Facts" label.

Gaskets:

High Temperature Silicone.

Warranty:

RAB warrants that our LED products will be free from defects in materials and workmanship for a period of five (5) years from the date of delivery to the end user, including coverage of light output, color stability, driver performance and fixture finish.

Equivalency:

The WPLED13 is Equivalent in delivered lumens to a 100W Metal Halide Wallpack.

HID Replacement Range:

The WPLED13 can be used to replace 70-150W Metal Halide Wallpacks based on delivered lumens.

Country of Origin:

Designed by RAB in New Jersey and assembled in the USA by RAB's IBEW Local 3 workers.

Buy American Act Compliant:

This product is a COTS item manufactured in the United States, and is compliant with the Buy American Act.

Recovery Act (ARRA) Compliant:

This product complies with the 52.225-21 "Required Use of American Iron, Steel, and Manufactured Goods-- Buy American Act-- Construction Materials (October 2010).

Trade Agreements Act Compliant:

This product is a COTS item manufactured in the United States, and is compliant with the Trade Agreements Act.

GSA Schedule:

Suitable in accordance with FAR Subpart 25.4.



LSI ABOLITE® LED ANGLED REFLECTOR (AD)

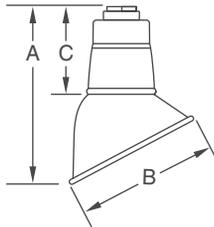


Directional Optics



Symmetrical Optics

DIMENSIONS



Prefix	Height (A)	Diameter (B)	Neck (C)	Weight (lbs./kg)
AD 100	10" (254mm)	7" (178mm)	5" (127mm)	2.0 (.9kg)
AD 150	11-1/2" (292mm)	9" (229mm)	5-1/4" (133mm)	2.0 (.9kg)
AD 200	13-1/2" (343mm)	11" (279mm)	5-1/2" (140mm)	2.5 (1.1kg)

US patents D598162 & D581585 & D581544 & 7697766 and US & Int'l. patents pending

APPLICATIONS - Signage Lighting and Accent Lighting. Interior or Exterior.

PRODUCT HIGHLIGHTS

- **“Green” Energy-Saving** - Reduces greenhouse gas emissions, slashes operating costs, extends life and eliminates costly lamp disposal involving mercury waste.
- **Long Lasting Sparkle** - LED light beam contains no heat, and no UV, which means degradation in color or quality of the product under display is minimized.
- **Dramatically Lower Maintenance Costs** - 60,000-hour LED source extends life 3 to 5 times as compared to conventional HID sources, 30 times incandescent.
- **Integrated Power Supply** - Built into fixture allowing RLM to be connected directly to line voltage.

EXPECTED LIFE - Minimum 60,000 hours to 100,000 hours depending upon the ambient temperature of the installation location.

LEDS - Select high-brightness LEDs in Cool White (5000K nominal), Neutral White (4000K nominal), and Warm White (3500K nominal) color temperature. 70 CRI (nominal) CW. 80 CRI (nominal) NW and WW.

OPTIONAL DIRECTIONAL OPTICS - Allows field adjustment of the light beam for directional illumination of signage.

REFLECTOR - Heavy duty spun galvanized steel construction with polyester powder coat finish.

LIGHT OUTPUT - With an input power of 11 watts: DO - Optional Directional Optics (nominal) - Cool White - 970 lumen, Neutral White - 810 lumens and Warm White - 745 lumens. Symmetric Optics (nominal) - Cool White - 905 lumens, Neutral White - 760 lumens and Warm White - 700 lumens

MOUNTING - Fixed hub tapped for 3/4" NPT conduit. Pre-wired with 96" leads. Not designed for uplight applications.

ELECTRICAL - Integral, surge protected power supply operates on 120-240 VAC (50/60Hz) input; no external power supplies required.

DRIVER - State-of-the-art driver designed specifically for RLM fixtures provides unsurpassed system efficiency. Components are fully encased in potting material for moisture resistance. Driver complies with IEC and FCC standards.

OPERATING TEMPERATURE - -40°C to +50°C (-40°F to +122°F).

FINISH - Available in either architectural textured, high gloss or satin finish.

WARRANTY - LSI LED fixtures carry a limited 5-year warranty.

LISTING - Listed to U.S. and Canadian safety standards. Suitable for wet locations.

Also available in traditional light sources

This product, or selected versions of this product, meet the standards listed below. Please consult factory for your specific requirements.

ARRA
Funding Compliant



LSI ABOLITE® LED ANGLED REFLECTOR (AD)

LUMINAIRE ORDERING INFORMATION

TYPICAL ORDER EXAMPLE: **AD 200 10 CW LED UE MSV LDS96 WL DO**

Prefix	# of LED's	Color Temperature	Light Source	Input Voltage	Reflector Color	Mounting	Options
AD 100 ¹ AD 150 ¹ AD 200 ¹	10	CW - Cool White NW - Neutral White WW - Warm White	LED	120-240 ²	MSV-Metallic Silver GWT-Gloss White GBK-Gloss Black GRD-Gloss Red GPT-Textured Graphite RUS-Textured Rust SCP-Satin Copper STQ-Satin Turquoise SVG-Satin Verde Green	LDS96 WL - Factory prewired leads for use with stem or bracket mounting	DO - Directional Optics

- 1- Cordsets not available for AD Series.
- 2- Fixture will not operate on 277VAC (120-240 only).

CANOPY ORDERING INFORMATION (Accessories are field installed)	
Description	Order Number
3/4" (19mm) Tap Decorative Box Cover Aligner - Gloss White	BC600 3 GWT
3/4" (19mm) Tap Round Box Cover Aligner - Zinc	BC585 ZINC
3/4" (19mm) Tap Square Box Cover Aligner - Zinc	BC585SQ ZINC

- Standard BC600 finish is Gloss White Powder; other RLM colors available.

WIRE GUARD ORDERING INFORMATION (Accessories are field installed)	
Description	Order Number
7" (178mm) Convex Wire Guard - Metallic Silver	COG 7 MSV
9" (229mm) Convex Wire Guard - Metallic Silver	COG 9 MSV
11" (279mm) Convex Wire Guard - Metallic Silver	COG 11 MSV

- Standard finish is Metallic Silver Powder; other RLM colors available.

CONDUIT SYSTEM ORDERING INFORMATION (Accessories are field installed)	
Description	Order Number
3/4" x 3" (19mm x76mm) Aluminum Stem - Gloss White	ST 3 3 GWT
3/4" x 6" (19mm x152mm) Aluminum Stem - Gloss White	ST 6 3 GWT
3/4" x 12" (19mm x .4m) Aluminum Stem - Gloss White	ST 12 3 GWT
3/4" x 18" (19mm x .5m) Aluminum Stem - Gloss White	ST 18 3 GWT
3/4" x 24" (19mm x .6m) Aluminum Stem - Gloss White	ST 24 3 GWT
3/4" x 36" (19mm x .9m) Aluminum Stem - Gloss White	ST 36 3 GWT
3/4" x 48" (19mm x 1.2m) Aluminum Stem - Gloss White	ST 48 3 GWT
3/4" x 60" (19mm x 1.5m) Aluminum Stem - Gloss White	ST 60 3 GWT
3/4" x 72" (19mm x 1.8m) Aluminum Stem - Gloss White	ST 72 3 GWT
3/4" (19mm) Alum. Stem Coupler - Gloss White	COP 3 GWT

- Standard finish is Gloss White Powder; other RLM colors available.

GOOSE NECK BRACKET ORDERING INFORMATION (Accessories are field installed)	
Description	Order Number
3/4" (19mm) Aluminum Gooseneck Bracket - Gloss White	GB A 3 GWT
3/4" (19mm) Aluminum Gooseneck Bracket - Gloss White	GB B 3 GWT
3/4" (19mm) Aluminum Gooseneck Bracket - Gloss White	GB C 3 GWT
3/4" (19mm) Aluminum Gooseneck Bracket - Gloss White	GB D 3 GWT
3/4" (19mm) Aluminum Gooseneck Bracket - Gloss White	GB E 3 GWT
3/4" (19mm) Aluminum Gooseneck Bracket - Gloss White	GB F 3 GWT
3/4" (19mm) Aluminum Gooseneck Bracket - Gloss White	GB G 3 GWT
3/4" (19mm) Aluminum Gooseneck Bracket - Gloss White	GB H 3 GWT
3/4" (19mm) Aluminum Gooseneck Bracket - Gloss White	GB J 3 GWT
3/4" (19mm) Aluminum Gooseneck Bracket - Gloss White	GB K 3 GWT
3/4" (19mm) Aluminum Gooseneck Bracket - Gloss White	GB P 3 GWT
3/4" (19mm) Aluminum Gooseneck Bracket - Gloss White	GB U 3 GWT

WALL BRACKETS ORDERING INFORMATION (Accessories are field installed)	
Description	Order Number
Contemporary Wall Bracket - Medium - Gloss White	CWBM 1 GWT
Contemporary Wall Bracket - Long - Gloss White	CWBL 1 GWT
Nostalgic Aluminum Wall Scroll Bracket - Gloss White	DWB 1 GWT

BRACKETS

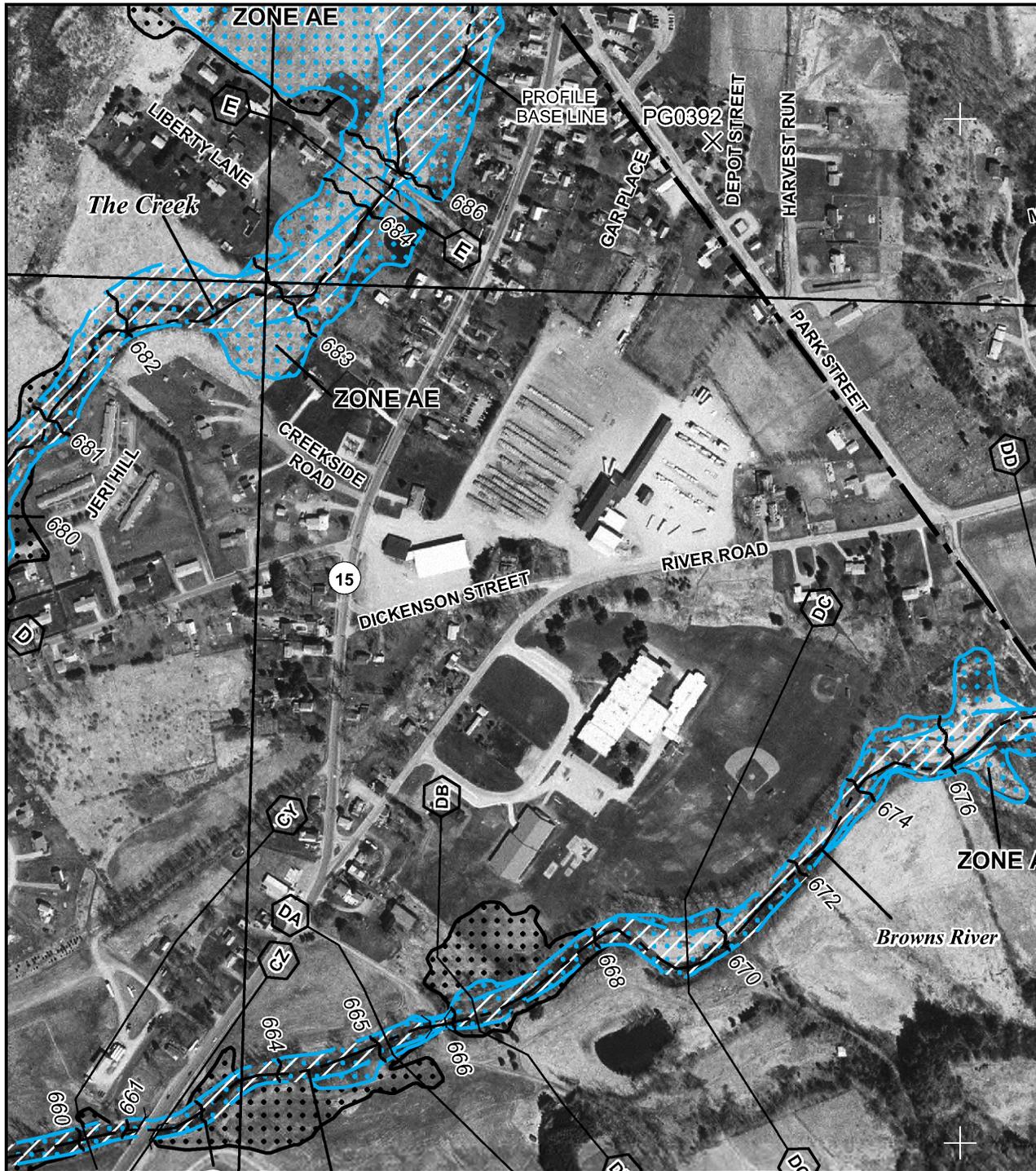
- See Indoor section for detail on bracket sizes and shapes.
- Standard finish is Gloss White Powder; colors available.
- Designed for mounting to recessed 4" (102mm) octagon box (by others).

Jericho Market
2014-139

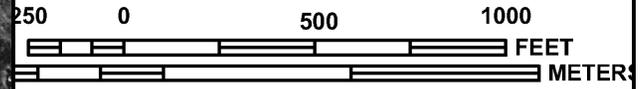
Prepared by Trudell Consulting Engineers
Ben Oxender, Landscape Architect

1/21/2015

SCIENTIFIC NAME	COMMON NAME	QUAN.	SIZE	PRICE/PLANT	TOTAL
<i>Acer x freemanii</i> 'Autumn Blaze'	Autumn Blaze Maple	6	2 1/2 - 3"	\$590.00	\$3,540.00
<i>Amelanchier arborea</i>	Serviceberry	5	2 - 2 1/2"	\$460.00	\$2,300.00
<i>Ilex verticillata</i> 'Red Sprite & Jim Dandy'	Winterberry	15	3 gal.	\$44.00	\$660.00
<i>Malus sargentii</i> 'Tina'	Tina Crabapple	4	15 gal.	\$280.00	\$1,120.00
<i>Malus</i> 'Centzam'	Centurion Crabapple	9	2 - 2 1/2"	\$460.00	\$4,140.00
<i>Myrica pensylvanica</i>	Northern Bayberry	4	3 gal.	\$46.00	\$184.00
<i>Nyssa sylvatica</i>	Black Tupelo	3	2 1/2 - 3"	\$590.00	\$1,770.00
<i>Ostrya virginiana</i>	Ironwood	7	2 1/2 - 3"	\$590.00	\$4,130.00
<i>Physocarpus opulifolius</i> 'Diablo'	Red Leaf Ninebark	45	5 gal.	\$54.00	\$2,430.00
<i>Rhododendron</i> PJM 'Compact'	Compact PJM Rhododendron	4	5 gal.	\$92.00	\$368.00
<i>Taxus bacata</i> 'Repandens'	Repandens English Yew	17	18"-24"	\$58.00	\$986.00
TOTAL					\$21,628.00



MAP SCALE 1" = 500'



Zone AE = 100 Year Flood Zone

PANEL 0189D

FIRM
FLOOD INSURANCE RATE MAP
CHITTENDEN COUNTY,
VERMONT
 (ALL JURISDICTIONS)

PANEL 189 OF 500
 (SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
JERICO, TOWN OF	500037	0189	D
UNDERHILL, TOWN OF	500042	0189	D

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.



MAP NUMBER
50007C0189D
EFFECTIVE DATE
JULY 18, 2011

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

NATIONAL FLOOD INSURANCE PROGRAM



Soil Key	Ag Value	Forest Group	Hydric	Hydrogroup	Prime
StA	3	1	N	A	Prime

Project Location



Legend

- Project Area
- Tax Parcel Boundary
- Contours (20')
- VT Significant Wetland
- Stream
- Deer Wintering Area
- VT Class 3 Wetland
- Significant Natural Communities
- Soil
- Natural Areas
- Rare, Threatened and Endangered Species

Notes

Sources: Bing Aerial Photography (2012); Streams by ANR (2012); Project Area by TCE (2014); Deer Wintering Area by ANR (2011); VT E911 Roads (2011); VT Significant Wetland and VT Class III by ANR (2012); Soils by NRCS (2011); 20 ft Contours by VCGI (2012); RTE Species and Significant Natural Communities by VT Fish & Wildlife (2013); Natural Areas by ANR (2011).

Disclaimer: The accuracy of information presented is determined by its sources. TCE is not responsible for any errors or omissions that may exist. Questions of on-the-ground location can be resolved by site inspections and/or surveys by a registered surveyor. This map is not a replacement for surveyed information or engineering studies.

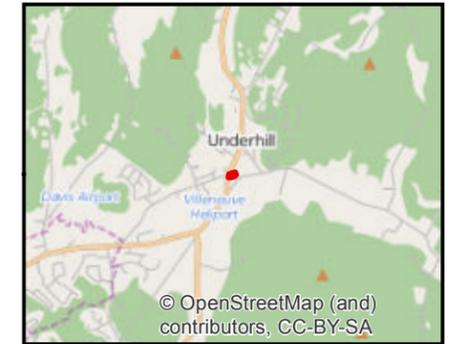
**Jericho Market
Route 15
Jericho, VT**

Natural Resource Map

Project: 14-139
Prepared By: LMJ
10/3/2014
1 inch = 300 feet



Project Location



© OpenStreetMap (and contributors), CC-BY-SA

Legend

- Project Area
- Natural Resource District
- River Overlay District
- Wetland District
- Wellhead Protection Area District
- Stream
- Tax Parcel Boundary

Notes

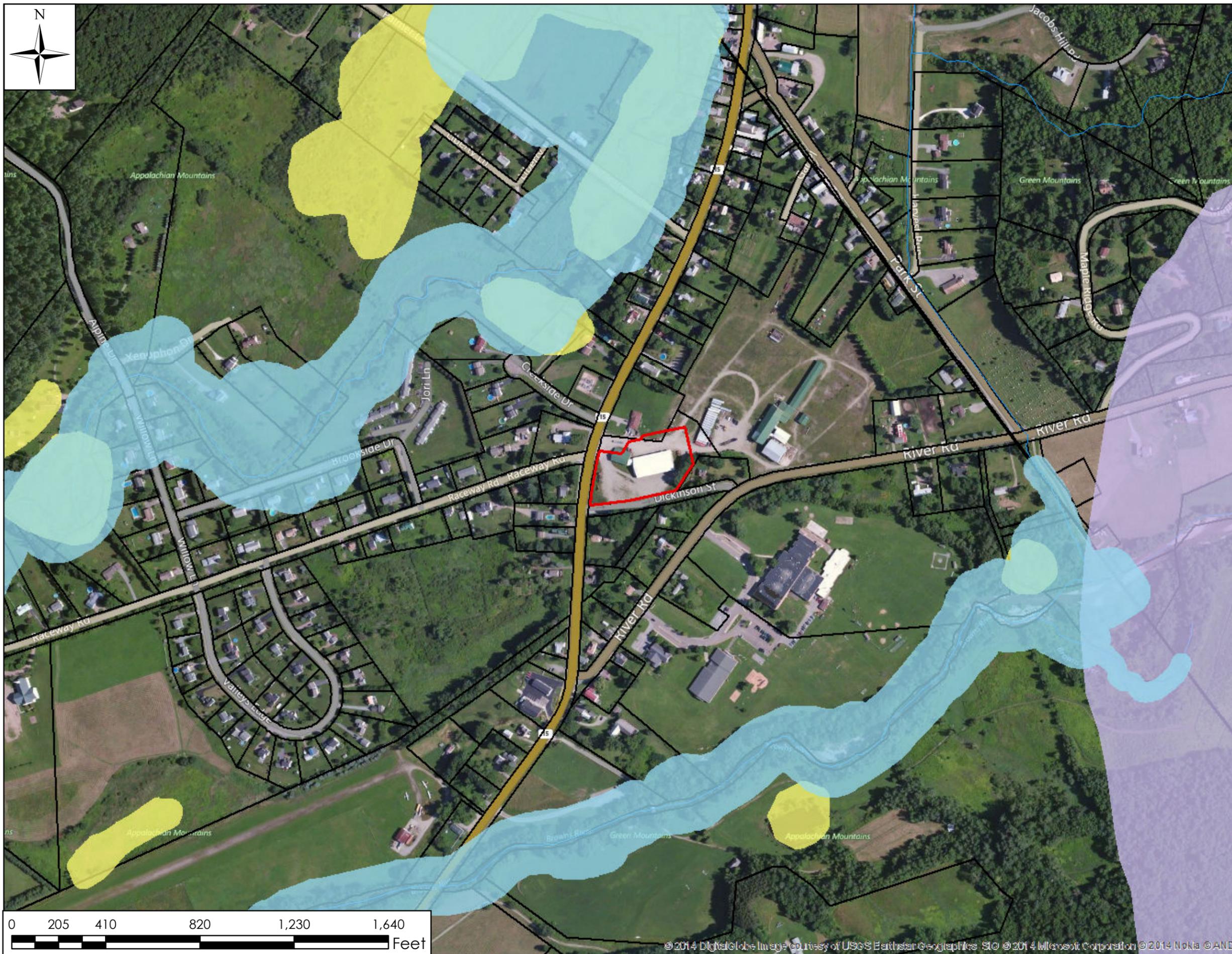
Sources: Bing Aerial Photography (2012); Streams by ANR (2012); Project Area by TCE (2014); Wellhead Protection Area District Overlay, River District Overlay, Natural Resource Overlay, Wetland District Overlay, and River District Overlay from CCRPC (2014).

Disclaimer: The accuracy of information presented is determined by its sources. TCE is not responsible for any errors or omissions that may exist. Questions of on-the-ground location can be resolved by site inspections and/or surveys by a registered surveyor. This map is not a replacement for surveyed information or engineering studies.

**Jericho Market
 Route 15
 Jericho, VT**

District Overlay Map

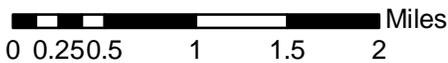
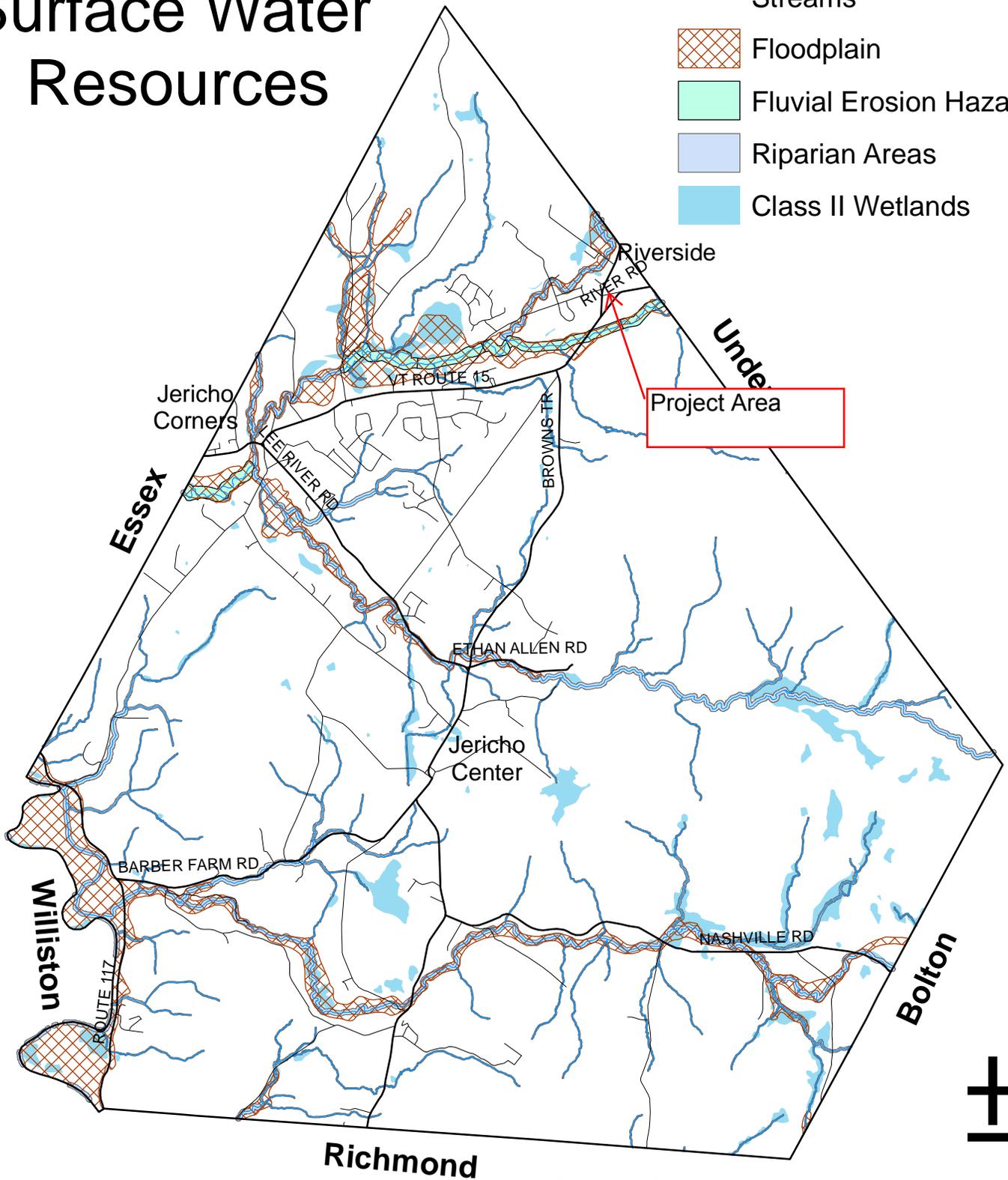
Project: 14-139
 Prepared By: LMJ
 10/09/2014
 1 inch = 400 feet



Map 4: Surface Water Resources

Legend

-  Streams
-  Floodplain
-  Fluvial Erosion Hazard
-  Riparian Areas
-  Class II Wetlands



Base data for this map is derived from coverages generated by the town's Geographic Information System. State, regional and locally generated data sources are used.

Planning and Zoning Office
Town of Jericho, Vermont

Jericho Market Wastewater System Design Brief

Local Permitting Submittal 10/10/14

Nathan Howells, P.E.

Overview and Design Flow

The proposed septic disposal system serving the proposed Jericho Market is a Prescriptive, In-Ground, Absorption Trench system with pressure distribution and effluent treatment via series grease trap and septic tankage designed to comply fully with the requirements of the current EPR Chapter 1 Wastewater rules. A WW permit application is pending. Design flow is based on section 1-808 Table 3 for "Shopping Centers/Stores: Large Supermarkets with Meat Department, without Garbage Grinder". A review of the WW permits issued for similar markets in the region shows this determination to be consistent. Furthermore, daily tracking of similar markets operated by the proposed proprietor of the Jericho Market indicate that the State design flow for the stated "Large Supermarket" type is conservative, i.e. its theoretical design flowrate is above that empirically metered for stores of similar size and function. The state defines the design flow definition by store square footage multiplied by a flow per area as follows:

$$18,000 \text{ SF} \times 7.5 \text{ GPD}/100\text{SF} = 1350 \text{ GPD}$$

Note that no reduction for low flow fixtures is taken due to the commercial application and possibly nutrient-rich waste stream.

Waste Strength Considerations

Waste strength is an important consideration for a soil based disposal system. The Vermont DEC's "High Strength Wastewater Considerations" document (Pg 7) gives guidance on non-hydraulic based loading rates for these systems. BOD and chemical load testing has been initiated at a similar market site nearby, and these test results will be incorporated into the design when they become available.

Soil Conditions

Soil conditions onsite in the proposed "greenspace" area tested via excavation on September 17, 2014 by Class A Designer Andre Lambert and Assistant Regional Engineer Bill Zabiloski were found to be very favorable for soil based septic effluent dispersal. Between 16" and 36" of gravel fill, presumably obtained from the same site, was found to create the existing drive and parking surface. Below this was fine and medium sand and medium sandy gravel, with no indication of ledge or groundwater down to at least 100" (8.3'). The testers estimated the perc rate to be about 6 min/inch. All of these results are consistent with previous test pits and percs in the area, the latter of which tested to be 4, 5 and 7 min/inch at 36" in 2002. These soil conditions allow for an in-ground, prescriptive system design.

Collection and Treatment System

Effluent from the building plumbing system is proposed to be segregated into two waste streams; that from the kitchen/foodservice and that from the bathrooms. These wastes will flow via gravity through a PVC service lateral to a series of precast concrete treatment and settling tanks before entering a pump station of similar construction. The tanks will be tested for water tightness after installation. The kitchen wastewater will exit the building and enter a 1500 gal grease trap. This effluent will then pass into a single chamber 1500 gal septic tank, a dual chamber 1500 gal septic tank with industrial grade effluent filter on the outlet end, and finally to a 1500 gal pump station wetwell. Wastewater from the bathrooms will enter the system at the second of the 4 series tanks, bypassing the grease trap. Excess fluids passing through the grease trap can hinder its function and thus harm the system downstream, so only the kitchen-based effluent will pass through the grease trap. From here the effluent will be delivered via submersible effluent pump to the disposal field.

Per Section 1-904 Chapter 1 EPRs

$1350 \text{ GPD} \times 1.5 = 2025 \text{ GAL}$ Septic tankage required

$2 \times 1500 \text{ GAL} = 3000 \text{ GAL}$ Septic tankage provided

Per Section 1-905(b)(1) Chapter 1 EPRs

Number of Meals per Peak Hour X Peak Factor X Wastewater Flow Rate X Retention Time X Storage Factor = Grease Trap Size Requirement in Liquid Capacity

Per Section 1-905(b)(1)(A)(ii) Chapter 1 EPR, Since the number of meals at peak operating hour (seating capacity) is not known, this will be solved for from the proposed 1500 GAL grease trap. The Peak Factor = 1, as this is non fast food.

Per Section 1-905(b)(1)(B)(i) Chapter 1 EPR, and since the dishwasher type is not known, the most conservative value of 6 gallon flow is used for wastewater flow rate.

Per Section 1-905(b)(1)(C)(i) Chapter 1 EPR, a 2.5 hour retention time is used for "commercial kitchen waste / dishwasher"

Per Section 1-905(b)(1)(D)(ii) Chapter 1 EPR, a fully equipped commercial kitchen with 16 hour operation is used to determine a storage factor of 2

Therefore

$Y = \#$ of peak operating hour meals

$Y \times 1 \times 6 \text{ GAL} \times 2.5 \times 2 = 1500 \text{ GAL}$

$Y = 50$ meals during peak hour

Therefore the market would have to serve over 50 meals/hour at peak to exceed the proposed grease trap volume. Note that the state methodology of determining grease trap size by meal quantity may not apply to this project, but the conservative factors used show that the tankage proposed is sufficient.

Delivery and Forcemain

Treated effluent collected via gravity in the watertight precast concrete wetwell will be pumped via submersible effluent pump through a PVC forcemain to the disposal field area. Here the effluent will pass through an alternation valve system prior to dispersal. All applicable requirements of Section 1-A-04 Chapter 1 EPRs will be met, including emergency storage space, pumping rates, etc.

Soil Based Disposal System

The soil based system is designed to be "dual alternating", meaning that the primary septic system and replacement system required by State regulation are valved to receive pumped effluent from the treatment tanks and pump station on an alternating basis. The systems are usually manually alternated annually, allowing each field to alternatively disperse effluent and then "rest" every other year, prolonging system life, function, and also allowing any signs of field stress to be "rested" with the turn of two valves.

With the favorable soils onsite, the prescriptive, in ground design method of design was used. Disposal absorption trenches 4' in width, with 4' of native soil separating each trench, are specified. These are filled with clean, hard stone to effectively disperse the effluent into the native soils matrix below. 2" pressurized laterals with specifically spaced and sized orifices delivering the effluent pumped from the pump station will run along these trenches. A flow equalization ball valve will be included on the proximal end of each trench, where effluent is fed from the forcemain manifold and alternating valves. These can be used during construction and testing to ensure that even effluent distribution between the trenches, despite slight elevation difference, is achieved. The distal end of each trench will house a flushing valve for periodic maintenance and testing if necessary. Furthermore, the system design places the uppermost part of the disposal trench 12" below finished grade, the allowed maximum, to help minimize the penetration of frost into the system during cold months.

Calculations for the sizing of the proposed system follow:

$$18,000 \text{ SF} \times 7.5 \text{ GPD}/100\text{SF} = 1350 \text{ GPD Design Flow}$$

Per Section 1-907 Chapter 1 EPRs

$$\text{Hydraulic Loading Rate} = 3/\sqrt{t} \text{ where } t = 2^{\text{nd}} \text{ lowest perc rate from testing}$$

$$\text{Loading Rate} = 3/\sqrt{7} = 1.13 \text{ GPD/SF}$$

$$\text{Disposal Area Required} = \text{Design Flow} / \text{Loading Rate} = 1350\text{GPD} / 1.13 \text{ GPD/SF} = 1195 \text{ SF}$$

Per Section 1-907(p) Chapter 1 EPRs, a 25% reduction in Disposal Area Required is allowed for absorption trenches 4' in width with 18" of stone vertically under the distribution lateral on sites where this can be achieved with proper vertical separation to limiting layers. This site allows 18" of stone, so the reduction is

$$\text{Disposal Area Required} \times .75 = 1195 \text{ SF} \times .75 = 896 \text{ SF}$$

Disposal Area Required = 896 SF

$896 \text{ SF} / 4' \text{ trench width} = 224'$ Total Trench Length Required (Hydraulically)

The design shown on the site plan meets this requirement by providing 244' of length in the western trench series and 258' of length in the eastern trench series. The number of trenches could also be increased to the NE to account for chemical loading should the pending tests require this.

APPENDIX A - RISK EVALUATION

Accurately answering the questions in this appendix will allow you to determine whether a proposed construction project is considered a Low Risk or Moderate Risk project, which defines the application and permit requirements that are applicable to your project.

The risk evaluation procedure consists of two parts. Part I is a Basic Risk Evaluation, which determines if a project is automatically categorized as Low Risk based upon the answers to a few basic questions.

If a project is not automatically categorized as Low Risk based upon the Basic Risk Evaluation, you must complete Part II, Detailed Risk Evaluation, to determine the risk category for your project. This part includes questions on more detailed aspects of the project.

Once the appropriate risk category has been determined, refer to Part III for the application requirements.

You should be aware that each completed Appendix A is incorporated by reference and included in the terms of this general permit, and each permittee shall undertake its construction activities in accordance with the completed Appendix A, as a condition of this permit. Failure to comply with the completed Appendix A shall be deemed a violation of this permit and subject to enforcement action.

APPENDIX A

Part I – Basic Risk Evaluation

A project may automatically be categorized as Low Risk based on a few basic project characteristics. Answer each question below to determine if a project is automatically categorized as Low Risk. For definitions of terms used in the following questions (e.g. disturbance, vegetated buffer) refer to Appendix C.

Basic Risk Evaluation				
	Criteria	Answer	Score Direction	Enter Score
1.	Will the proposed independent project alone disturb more than 2 acres of land?	YES NO	If YES, enter 1, if NO enter 0	
2.	Is the project within a watershed impaired due to stormwater or sediment as specified on Part A of the Vermont 303(d) list?	YES NO	If YES, enter 1, if NO enter 0	
3.	Will the project have any stormwater discharges from the construction site to receiving water(s) that do not first pass through a 50 ft vegetated buffer area?	YES NO	If YES, enter 1, if NO enter 0	
4.	Will the project have disturbed earth in any one location for more than 14 consecutive calendar days without temporary or final stabilization?	YES NO	If YES, enter 1, if NO enter 0	
5.	Will the project have more than five acres of disturbed earth at any one time?	YES NO	If YES, enter 1, if NO enter 0	
Total Score for Basic Risk Evaluation (add score from questions 1-5)				

If the Total Score for Basic Risk Evaluation is 0, the proposed project is eligible for coverage under this permit as a Low Risk project. Proceed to Part IV of Appendix A for a summary of the application requirements for Low Risk Projects. If not, proceed to Part II.

Criterion 1: Only include the disturbance planned for an independent project. For example, if a lot owner is only building on a single house lot in a residential subdivision, only consider the disturbance associated with that lot, not the entire common plan. Refer to Appendix C for definitions of independent project and disturbance.

Criterion 2: Refer to the following web page for a list of waters in these categories:
http://www.vtwaterquality.org/stormwater/htm/sw_cgpeligibility.htm

Criterion 3: Refer to the Appendix C for the definition of vegetated buffer area.

Criterion 4: Refer to Appendix C for definitions of temporary and final stabilization.

Criterion 5: Refer to Appendix C for the definition of disturbed earth.

Part II – Detailed Risk Evaluation

For projects not automatically categorized as Low Risk in Part I, this Detailed Risk Evaluation must be completed to determine if a project is Low Risk, Moderate Risk, or requires an Individual Permit. This evaluation determines the risk category by weighing the balance of factors which contribute to and mitigate against the risk of a discharge of sediment from the construction project. Complete all questions in Part II for the independent project. For definitions of terms used in the evaluation, refer to Appendix C.

Detailed Risk Evaluation – Identify Risk Factors				
Criteria		Answer	Score Direction	Enter Score
A.	Will the proposed project have earth disturbance within 100 ft (horizontal) upslope of any lake or pond or 50 feet (horizontal) upslope of any rivers or stream (perennial or seasonal)?	YES NO	If YES, enter 1, if NO enter 0	
B.	Will the project have stormwater discharges by direct conveyance (tributary, channel, ditch, storm sewer, etc.) to a water of the state listed on the 303 (d) Part A list as being impaired by stormwater or sediment; a Class A Water; or an Outstanding Resource Water?	YES NO	If YES, enter 1, if NO enter 0	
C.	Will the project have more than five acres of disturbed earth at any one time?	YES NO	If YES, enter 1, if NO enter 0	
D.	Will the project have disturbed earth in any one location for more than 14 consecutive calendar days without temporary or final stabilization?	YES NO	If YES, enter 1, if NO enter 0	
E.	Will the project include more than one acre of disturbance on soil that is greater than 15% slope?	YES NO	If YES, enter 1, if NO enter 0	
F.	Will the project include more than one acre of disturbance of soils with a high ($K > 0.36$) erodibility rating?	YES NO	If YES, enter 1, if NO enter 0	
G.	Total Score for Risk Factors (add A through F)			

Criterion A: Measure lake distance from mean water level, and stream or river distance from top of bank. Do not include disturbance for the installation of stormwater treatment facilities or road stream crossings if there are no reasonable alternative locations.

Criterion B: Refer to http://www.vtwaterquality.org/stormwater/htm/sw_cgpeeligibility.htm for the listing.

Criterion C: The maximum allowable for Low Risk Projects is 7 acres. **Moderate risk projects over 5 acres may be required to file an Individual Discharge Permit application if determined necessary by the Secretary.**

Criterion D: The maximum allowable for Low Risk Projects is 21 days. **Moderate risk projects over 21 days may be required to file an Individual Discharge Permit application if determined necessary by the Secretary.**

Criterion E: Include disturbance for the duration of the project, not at any one point in time. Slope determinations should be based on a site survey of the future disturbance area.

Criterion F: Include disturbance for the entire individual project, not at any one point in time. The Erosion Factor K, is a measure of the inherent erodibility of a soil type. Refer to NRCS soil maps for your county. If soils data is not available (e.g. if the site is built on assorted fill material), contact ANR for directions on evaluating soil erodibility.

Part II Continued – Detailed Risk Mitigation Factor Evaluation

Detailed Risk Evaluation – Identify Risk Mitigation Factors				
Criteria		Answer	Score Direction	Enter Score
H.	Will stormwater leaving the construction site pass through at least 50 feet of established vegetated buffer before entering a receiving water?	YES NO	If YES, enter 1, if NO enter 0	
I.	Will the project be limited to two acres or less of disturbed earth at any one time?	YES NO	If YES, enter 1, if NO enter 0	
J.	Will the project have a maximum of 7 consecutive days of disturbed earth exposure in any location before temporary or final stabilization is implemented?	YES NO	If YES, enter 1, if NO enter 0	
K.	Will the project disturb less than two acres of soil with an erodibility higher than K=0.17?	YES NO	If YES, enter 1, if NO enter 0	
L.	Will the project include less than two acres of disturbance on soil that is greater than 5% slope?	YES NO	If YES, enter 1, if NO enter 0	
M.	Total Score for Risk Mitigation Factors (add H through L.)			

Criterion H: Refer to Appendix C for a definition of vegetated buffer.

Criterion I: Refer to Appendix C for a definition of earth disturbance.

Criterion J: Refer to Appendix C for definitions of temporary and final stabilization.

Criterion K: Include disturbance for the duration of the project, not at any one point in time. The Erosion Factor K, is a measure of the inherent erodibility of a soil type. Refer to NRCS soil maps available at USDA-NRCS District Offices. If soils data are not available (e.g. if the site is built on assorted fill material), contact DEC for directions on evaluating soil erodibility.

Criterion L: Include disturbance for the duration of the project, not at any one point in time. Slope determinations should be based on a site survey of the proposed disturbance area.

Total Risk Score		
N.	Moderate Risk Base Score	
O.	Enter Score from Line G above (Risk Factor Total)	
P.	Add lines N and O	
Q.	Enter Score from Line M above (Risk Mitigation Factor Total)	
R.	<u>OVERALL RISK SCORE:</u> Subtract line Q from line P	

Part III– Interpreting the Detailed Risk Evaluation

OVERALL SCORE	Risk Category	Directions for Filing for Permits
<1	Low Risk	<p>The proposed project is eligible for the Construction General Permit as a Low Risk project provided that the requirements of Subpart 2 are met. If these requirements cannot be met, contact DEC to determine if the project should seek coverage as a Moderate Risk project or under an Individual Discharge Permit.</p> <p>Refer to Part IV of Appendix A for a summary of the application requirements for Low Risk projects.</p>
1-2	Moderate Risk	<p>The proposed project is eligible for the Construction General Permit as a Moderate Risk project provided that the requirements of Subpart 3 are met. If these requirements cannot be met, contact DEC to determine if the project should seek coverage as a Moderate Risk project or under an Individual Discharge Permit.</p> <p>Refer to Part IV of Appendix A for a summary of the application requirements for Moderate Risk projects.</p>
>2	Requires Individual Permit	<p>The proposed project is not eligible for coverage under the Construction General Permit, and therefore requires coverage under an Individual Discharge Permit. Please refer to Stormwater Section on the Water Quality Division website for more information: www.vtwaterquality.org/stormwater.htm.</p>

Part IV – Filing Directions

1. Low Risk Projects

Projects that qualify as Low Risk are required to implement the applicable practices detailed in the *Low Risk Site Handbook for Erosion Prevention and Sediment Control*. To obtain coverage under General Permit 3-9020 as a Low Risk project, applicants must submit the following to DEC:

1. A completed Notice of Intent form for General Permit 3-9020;
2. A completed Appendix A;
3. The required processing fee.

To satisfy the public comment requirement, **applicants must file a copy of the completed Notice of Intent form, including a copy of Appendix A, with the municipal clerk in the municipalities where the project will occur prior to submitting this information to ANR. Details of the public notice process are in Part 2 of the general permit.**

2. Moderate Risk Projects

Projects that qualify as Moderate Risk are required to implement a site-specific Erosion Prevention and Sediment Control (EPSC) Plan that conforms to *The Vermont Standards and Specifications for Erosion Prevention and Sediment Control*. To obtain coverage under General Permit 3-9020 as a Moderate Risk project, applicants must submit the following to DEC:

1. A completed Notice of Intent form for General Permit 3-9020;
2. A completed Appendix A;
3. A site-specific EPSC Plan;
4. A certification by the plan preparer that the EPSC Plan conforms to *The Vermont Standards and Specifications for Erosion Prevention and Sediment Control*;
5. The required processing fee.

To satisfy the public comment requirement, **applicants must file a copy of the completed Notice of Intent form, including a copy of Appendix A, with the municipal clerk in the municipalities where the project will occur prior to submitting this information to ANR. Details of the public notice process are in Part 3 of the general permit.**

Jericho Market
Stormwater Design Brief

1. Project Description

David Villeneuve (Landowner/Applicant) and 41 WTC, LLC (Co-Applicant) propos the redevelopment of an existing truck garage located on Lot 3 of a Planned Unit Development at 364 Vermont Route 15 in Jericho, Vermont (Project). Some impervious surface will be converted to lawn, one building will be demolished, and one building will be renovated into a retail grocery market.

The stormwater treatment system described in this narrative addresses the impervious surfaces within the Project's boundaries, consisting of 2.32 acres in total area and 1.43 acres of redeveloped impervious surface. The system has been designed to meet the Town of Jericho's standards for stormwater, which require that recharge and water quality volume be addressed, and that information is presented regarding runoff during the 25-year storm event.

2. Receiving Waters

Stormwater runoff from this site currently discharges to Browns River, located approximately 1,200 feet to the southeast of the Project area.

3. Existing Conditions

The Project area currently consists of an existing truck garage and gravel driveway/parking areas. A small amount of lawn is located in the southwest corner of the site, at the intersection of VT Route 15 and Dickinson Road. The soils consist of Stetson gravelly fine sandy loam, which is characterized as Hydrologic Soil Group (HSG) A. Slopes on the parcel are relatively flat, below 5%. Total impervious cover within the proposed project boundary is 2.08 acres.

4. Existing Stormwater System

There is no existing stormwater treatment in the Project area. Runoff primarily travels via overland flow to a drainage structure in the southeast corner of the project parcel. The western portion of the site drains southwesterly towards a culvert along Route 15, running underneath Dickinson Road.

5. Proposed Stormwater System

The site has been designed to treat stormwater from new impervious surfaces through impervious surface reduction and dry swales designed in accordance with the Vermont Stormwater Management Manual (VSMM). As designed, the project discharges stormwater runoff from four distinct Drainage Areas (DAs):

DA1 – Western portion of property comprised of the entrance drive and wastewater disposal system. This area discharges via overland flow to a culvert underneath Dickinson Street.

DA2 – Center portion of property, comprised of most of the proposed building and parking areas. This area discharges to a Dry Swale (DS1) that infiltrates most storm events and overflows to a catch basin that leads to the existing drainage swale on the south side of Dickinson Street

DA3 – Northeast portion of property comprised of a small portion of the building and parking areas. This area discharges either into a diversion swale on the north side of the parcel or via sheet flow to an existing drainage structure.

DA4 – East portion of property, discharging via overland flow offsite.

Refer to Appendix A for a map illustrating the drainage boundaries described above. A summary of the site's compliance with the applicable State and local regulations follows.

Water Quality Treatment Standard

As the entire project parcel is located on existing impervious surfaces that are not currently under the jurisdiction of an ANR stormwater permit, the proposed work constitutes "redevelopment". For redevelopment sites, Section 1.1.1 (2) of the VSMM states the following:

- a. *The existing impervious surface shall be reduced by 20%; or*
- b. *An STP shall be designed to capture and treat 20% of the water quality volume from the existing impervious area; or*
- c. *An combination of a. or b. that when combined equal a minimum 20% reduction/treatment.*

For this project, the existing impervious cover is 2.08 acres, and the proposed impervious cover is 1.54 acres, or a reduction of 26%, which satisfies a above. In addition to this reduction, swales are proposed at the northern and southern boundaries of the site. In particular, dry swale DS1 along Dickinson Road has

been designed to fully infiltrate the 0.9-inch storm. This storm event represents the 90th percentile of all storms that occur in a given year. To demonstrate compliance with this standard, a HydroCAD model has been prepared. As small-storm hydrology requires a modification of the standard curve numbers for land covers, a modified curve number has been determined using ANR-supplied worksheets. Infiltration rates for the site were taken from previous investigations by this office to support the design of an onsite wastewater disposal system.

Refer to Appendix B for calculation worksheets and HydroCAD modeling supporting site performance for the 0.9-inch storm event.

Groundwater Recharge Treatment Standard

The project is located on soils mapped as HSG A. Using the VSMM methodology, 2,178 cubic feet of runoff storage is required. The project uses dry swales with 2,246 cubic feet of storage for runoff to infiltrate into the subsurface. By constructing these measures, the finished site will improve the existing site's recharge capabilities by reducing impervious cover and directing redeveloped impervious towards structures that infiltrate runoff instead of directly discharging to closed drainage systems (i.e. culverts/catch basins). Appendix C contains a recharge calculation worksheet for the project.

25-Year Storm Event

For this storm event (3.9" total depth for a 24-hour rainfall), the peak runoff rate of the existing site is 12.77 cubic feet per second (cfs). Due to the reduction of impervious surfaces, and the installation of treatment practices outlined above, the post-development peak discharge rate for the entire project is reduced to 6.30 cfs. Refer to Appendix D for a HydroCAD model of the 25-year storm event in the existing and proposed site conditions.

Other State Design Criteria

In addition to the criteria outlined above, there are three others outlined in the State of Vermont's VSMM. These are the channel protection criterion (C_{pv}), overbank flood criterion (Q_{p10}), and extreme flood protection (Q_{p100}) criterion.

For the C_{pv} criterion, the Project qualifies for a waiver since the site directly discharges to the Browns River, which has a drainage area greater than 10 square miles at the discharge point. Refer to Appendix A for an upstream drainage map to support this waiver.

For the Qp10 criterion, the Project qualifies for a waiver due to its direct discharge to the Browns River as discussed above.

For the Qp100 criterion, the Project will not generate more than 10 acres of impervious surface, and therefore qualifies for a waiver.

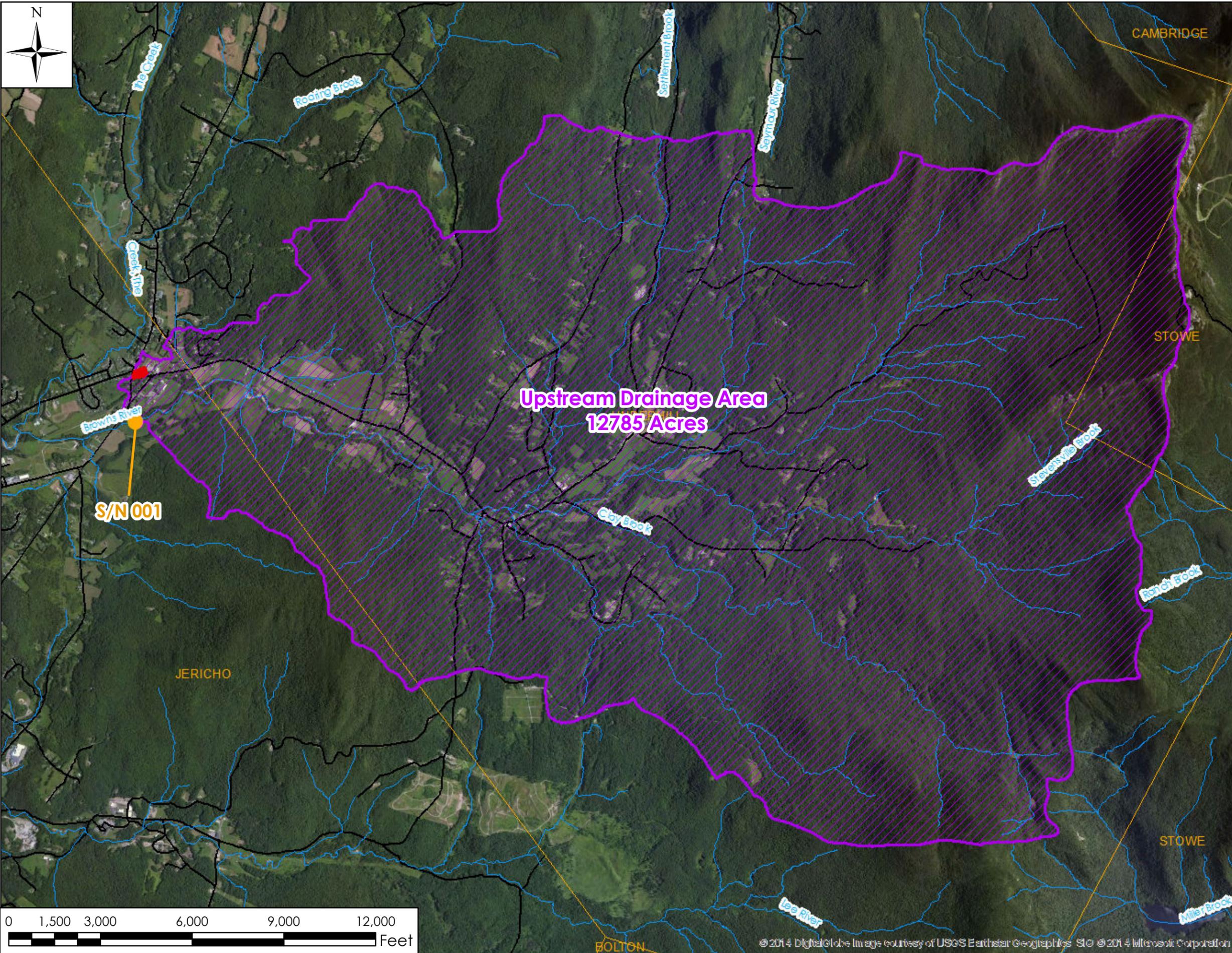
6. Conclusions

Currently, the site area consists of non-jurisdictional impervious surfaces, including large expanses of gravel parking lot. The amount of sediment wash-off from this area will be substantially reduced with the construction of this project. Gravel surfaces will be replaced by asphalt pavement, which reduces the sediment in runoff during storm events. Furthermore, the current site is relatively flat, with discharge occurring via overland flow directly offsite. By constructing the dry swales, runoff is allowed to infiltrate into the subsurface, reducing the volume and rate of runoff leaving the site.

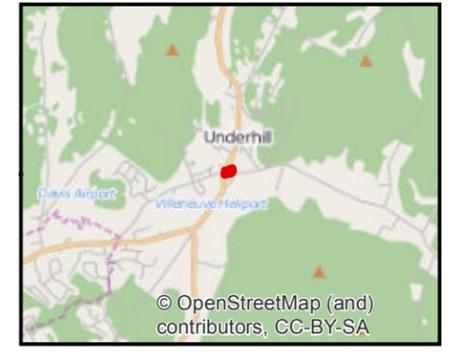
The design of this project will provide improved water quality to the Browns River.

Attachment A

Site Drainage Area Map
Upstream Receiving Water Drainage Area Map



Project Location



Legend

- Project Property
- S/N 001
- Upstream Watershed
- Stream
- Roads

Notes

Sources: S/N 001 and Upstream Drainage Area by TCE (2014); Bing Aerial Photography (2012); Streams by ANR (2012); Project Area by TCE (2014); Deer Wintering Area by ANR (2011); VT E911 Roads (2011); VT Significant Wetland by ANR (2012); Soils by NRCS (2011); 20 ft Contours by VCGI (2012); RTE Species and Natural Community by VT Fish & Wildlife (2013).

Disclaimer: The accuracy of information presented is determined by its sources. TCE is not responsible for any errors or omissions that may exist. Questions of on-the-ground location can be resolved by site inspections and/or surveys by a registered surveyor. This map is not a replacement for surveyed information or engineering studies.

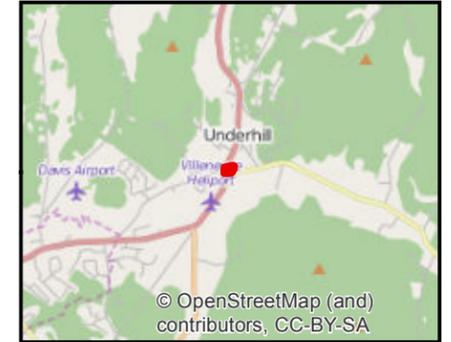
**Jericho Market
 Route 15
 Jericho, VT**

**Upstream Drainage
 Area Map**
 Project: 14-139
 Prepared By: LMJ
 10/02/2014
 1 inch = 3000 feet





Project Location



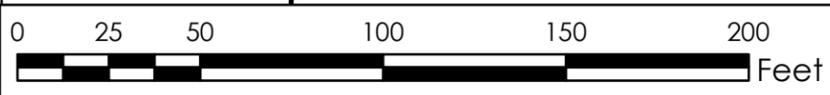
Legend

- Drainage Area Boundary
- Dry Swale
- Building
- Grass
- Pavement
- Stream
- Roads

Notes

Sources: Drainage Areas, Dry Swale, Building, Grass, and Pavement by TCE (2015); VT E911 Roads (2011).

Disclaimer: The accuracy of information presented is determined by its sources. TCE is not responsible for any errors or omissions that may exist. Questions of on-the-ground location can be resolved by site inspections and/or surveys by a registered surveyor. This map is not a replacement for surveyed information or engineering studies.



**Jericho Market
 Route 15
 Jericho, VT**

**Drainage Area
 Boundary Map**
 Project: 14-139
 Prepared By: LMJ
 01/26/2015
 1 inch = 50 feet

Attachment B

ANR Water Quality Volume Calculation Worksheet
HydroCAD Modeling – 0.9-Inch Storm Event

For the area draining to*:

Browns River

 Located in drainage area for S/N:

001

WQ Volume and Modified Curve Number Calculation for Water Quality Treatment in Flow-Based Practice

Use this worksheet to calculate your WQv if you need to determine the Peak Q for the WQ storm (i.e. designing a grass channel, flow-splitter or other flow based practice) and you are not using any of the site design credits in section 3 of the 2002 VSWMM. See page 2 for "Calculating Peak WQ Discharge Rate (0.9" storm) using the Modified Curve Number." Please note that in the case of grass channels you must include any off-site area draining to the practice as this will affect the peak discharge rate which will ultimately affect the hydraulics, and thus residence time, in your channel.

Water Quality Volume Calculations				
Line		value/calculation	units	
1	Area draining to practice	A=	2.29	acres
2	Impervious area		1.50	acres
3	Percent Impervious Area = [(line 2/line 1) * 100] =	I =	65.47	% (whole #)
4	Precipitation	P =	0.9	inches
5	Runoff coefficient calculation = (0.05 + (0.009*I))	Rv =	0.639	
6	WQ Volume (in watershed inches) Calculation =(P * Rv) =		0.575	Qa (watershed inches, a.k.a. inches of runoff)
7	Minimum WQ Volume ¹		0.2	watershed inches
8	Enter the greater of line 6 or line 7	WQv =	0.575	watershed inches
9	WQ Volume Calculation = (line 8 * A)/12 =	WQv =	0.110	ac. ft.
10	WQ Volume Calculation = (line 9 * 43560) =	WQv =	4785	cu. ft.

Notes:

1: Sites with low impervious cover (~19%) but that do not employ a significant use of the stormwater design credits in Section 3 of the VSWMM are required to treat the minimum water quality volume of 0.2 watershed inches. Sites that have a significant portion of their impervious cover addressed via the stormwater credits (section 3 of the VSWMM) will be able to reduce this WQv and will only be required to treat the volume calculated on the "WQ Volume (with credit reduction)" worksheet which will be less than the 0.2 watershed inches.

* Enter the name of the STP (both type and label) which has been designed to treat this particular WQv (e.g. Wet Pond #2)

For the area draining to*:

Browns River

Located in drainage area for S/N:

001

Calculating Peak WQ Peak Discharge Rate (0.9" storm) using the Modified Curve Number

Because NRCS methods underestimate the peak discharge for rainfall events of less than 2", simply plugging in 0.9" of rainfall into your hydrologic model with the standard curve numbers will not produce the correct peak discharge during the WQv storm, nor will it produce a volume of runoff equivalent to that which you have calculated using the WQv formula ($WQv = P \cdot Rv \cdot A/12$). In order to calculate the peak discharge for the 0.9" storm, a modified curve number must be calculated. This modified curve number is based on the runoff (in inches) calculated using the short cut method formula ($WQv = P \cdot Rv$) that is also the basis of the familiar WQv calculations provided in the 2002 VSWMM (and on the WQv calculation worksheets). Essentially, the curve number that is calculated using the methods below is the curve number that will generate the volume of runoff calculated using the WQv formula.

Above, you should have calculated the WQv in watershed inches draining to the facility/practice for which you need to calculate the WQ-peak discharge. As provided in the guidance listed on the grass channel worksheet, please remember that the WQv calculation should include runoff from on-site as well as off-site area draining to the grass channel since this will have an impact on the channel hydraulics and thus the velocity and residence time.

Steps:

1. Transfer information from WQv calculation worksheets.

Enter the Qa (line 8 from WQv sheet)

Qa = 0.575 inches

Enter the area (site +off-site draining to practice) used in calculating the percent impervious (I)

A = 2.3 acres

2. Use the following equation to calculate a corresponding curve number

where P = 0.9 inches

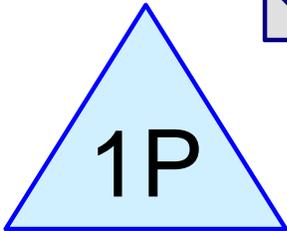
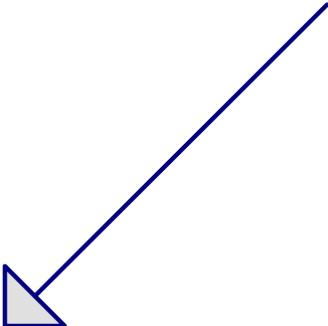
$$CN = 1000 / (10 + (5 \cdot P) + (10 \cdot Qa) - (10 \cdot (Qa^2 + (1.25 \cdot Qa \cdot P))^{0.5}))$$

CN = 96.5

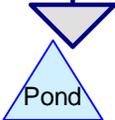
3. If you are using hand hydrologic runoff calculations, use the computed CN above along with your calculated time of concentration and the drainage area (A) to calculate the peak discharge (Qwq) for the water quality storm using the TR-55 Graphical Peak Discharge Method.

OR

3. If you are using a computer aided hydrologic model, simply revise the curve number for your subwatershed(s) draining to the practice using the curve number calculated above; the computed curve number should be applied to the total area (A) used in the WQv calculation. As a check, you should note that now when you run the 0.9" storm, your runoff depth should be roughly equal to Qa (WQ runoff in inches) and your total runoff volume roughly equal to your WQv (in ac. ft.). If this is not the case, make sure that the time span for your modelling run is long enough to capture the entire storm. Small variations are likely due to having to round your computed CN to a whole number. Remember that for storms larger than 2", you do not need to use the modified curve number and you should calculate your composite curve number based on the accepted values for different types of land-use (see TR-55).



dry swale



Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 2 MCN:

Runoff Area=1.027 ac 0.00% Impervious Runoff Depth=0.58"
Flow Length=413' Tc=2.3 min CN=96.5 Runoff=1.17 cfs 0.049 af

Pond 1P: dry swale

Peak Elev=685.98' Storage=666 cf Inflow=1.17 cfs 0.049 af
Discarded=0.25 cfs 0.049 af Primary=0.00 cfs 0.000 af Outflow=0.25 cfs 0.049 af

Total Runoff Area = 1.027 ac Runoff Volume = 0.049 af Average Runoff Depth = 0.58"
100.00% Pervious = 1.027 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment 2 MCN:

Runoff = 1.17 cfs @ 11.93 hrs, Volume= 0.049 af, Depth= 0.58"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type II 24-hr WQv Rainfall=0.90"

Area (ac)	CN	Description
* 1.027	96.5	mod CN
1.027		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	44	0.3330	3.05		Sheet Flow, rooftop Smooth surfaces n= 0.011 P2= 2.30"
1.2	145	0.0100	2.03		Shallow Concentrated Flow, surface flow to CB Paved Kv= 20.3 fps
0.9	224	0.0060	4.08	5.00	Pipe Channel, culverts to dry swale 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013
2.3	413	Total			

Summary for Pond 1P: dry swale

exfiltration based on AOL perc test rate of 6 min/in

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=496)

Inflow Area = 1.027 ac, 0.00% Impervious, Inflow Depth = 0.58" for WQv event
 Inflow = 1.17 cfs @ 11.93 hrs, Volume= 0.049 af
 Outflow = 0.25 cfs @ 12.03 hrs, Volume= 0.049 af, Atten= 78%, Lag= 6.3 min
 Discarded = 0.25 cfs @ 12.03 hrs, Volume= 0.049 af
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
 Peak Elev= 685.98' @ 12.03 hrs Surf.Area= 1,100 sf Storage= 666 cf
 Flood Elev= 688.50' Surf.Area= 3,109 sf Storage= 4,806 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 18.3 min (824.5 - 806.3)

Volume	Invert	Avail.Storage	Storage Description
#1	685.00'	4,806 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
685.00	254	0	0
686.00	1,114	684	684
687.00	2,010	1,562	2,246
688.00	3,109	2,560	4,806

Device	Routing	Invert	Outlet Devices
#1	Discarded	685.00'	10.000 in/hr Exfiltration over Surface area
#2	Primary	683.32'	24.0" Round Culvert L= 40.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 683.32' / 683.00' S= 0.0080 ' / ' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

#3 Device 2 687.00' 24.0" Horiz. overflow grate C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.25 cfs @ 12.03 hrs HW=685.98' (Free Discharge)

└1=Exfiltration (Exfiltration Controls 0.25 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=685.00' TW=0.00' (Dynamic Tailwater)

└2=Culvert (Passes 0.00 cfs of 9.88 cfs potential flow)

└3=overflow grate (Controls 0.00 cfs)

Appendix C

ANR Recharge Calculation Worksheet

Version: 2/12

 For the area draining to*: Brown's River
 Located in drainage area for S/N: 001

Groundwater Recharge Treatment Standard - Calculation & Waiver Worksheet

The average annual groundwater recharge rate for the prevailing hydrologic soil groups (HSG) must be maintained in order to preserve existing water table elevations. Recharge is determined as a function of annual predevelopment recharge for a given HSG, the average annual rainfall and the amount of impervious surface at the site. The Groundwater Recharge Treatment Standard can be met by using one or both of the following methods: volume method and/or percent area method. See Table 2.2 in the VSMM - Volume I for a list of acceptable STPs or credits that satisfy this requirement. Use NRCS's Web Soil Survey to obtain specific soil data at your site, available at:

<http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm>

Site Information		value/calculation	units
Site Area (impervious + disturbed pervious)	A=	2.29	acres
Impervious area		1.50	acres
Percent Impervious Area = [(line 2/line 1)] =	I =	0.66	% (decimal percent)

Composite Recharge Factor Calculation

Enter site acreage of each HSG draining to POI or S/N		value/calculation	
HSG A		2.29	acres
HSG B			acres
HSG C			acres
HSG D			acres
	Total Site Area	yes	
Composite Recharge Factor		0.400	

ReV (Percent Volume Method)	0.050	acre feet
	2178	cubic feet

The percent volume method is commonly used to meet recharge. Designers must demonstrate that a proposed STP allows at least the Rev to enter the ground. The Rev is contained within the WQv. So, if a practice is infiltrating the entire WQv, then Rev is automatically met. Please use the applicable STP worksheets to verify the Groundwater Recharge Treatment Standard has been met. Note that not all STPs can be used to meet this standard.

ReA (Percent Area Method)	0.600	acres
	26136	square feet

The percent area method is used when meeting recharge via nonstructural design credits (disconnection of rooftop/non-rooftop surfaces, stream buffer, grass channel credit, or ESRD). In this case, the designer must demonstrate that stormwater runoff from a portion of the new impervious area, equivalent to the area calculated under the percent area method, drains into a nonstructural design credit practice.

Additional notes:

*Recharge is one of the unified sizing criteria that can be achieved site wide, rather than at each point of interest (POI) or discharge point (S/N), assuming the receiving water is the same for each discharge point.

Appendix D

HydroCAD Modeling – 25-Year Storm Event, Existing Conditions
HydroCAD Modeling – 25-Year Storm Event, Proposed Conditions

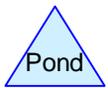
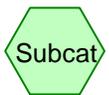
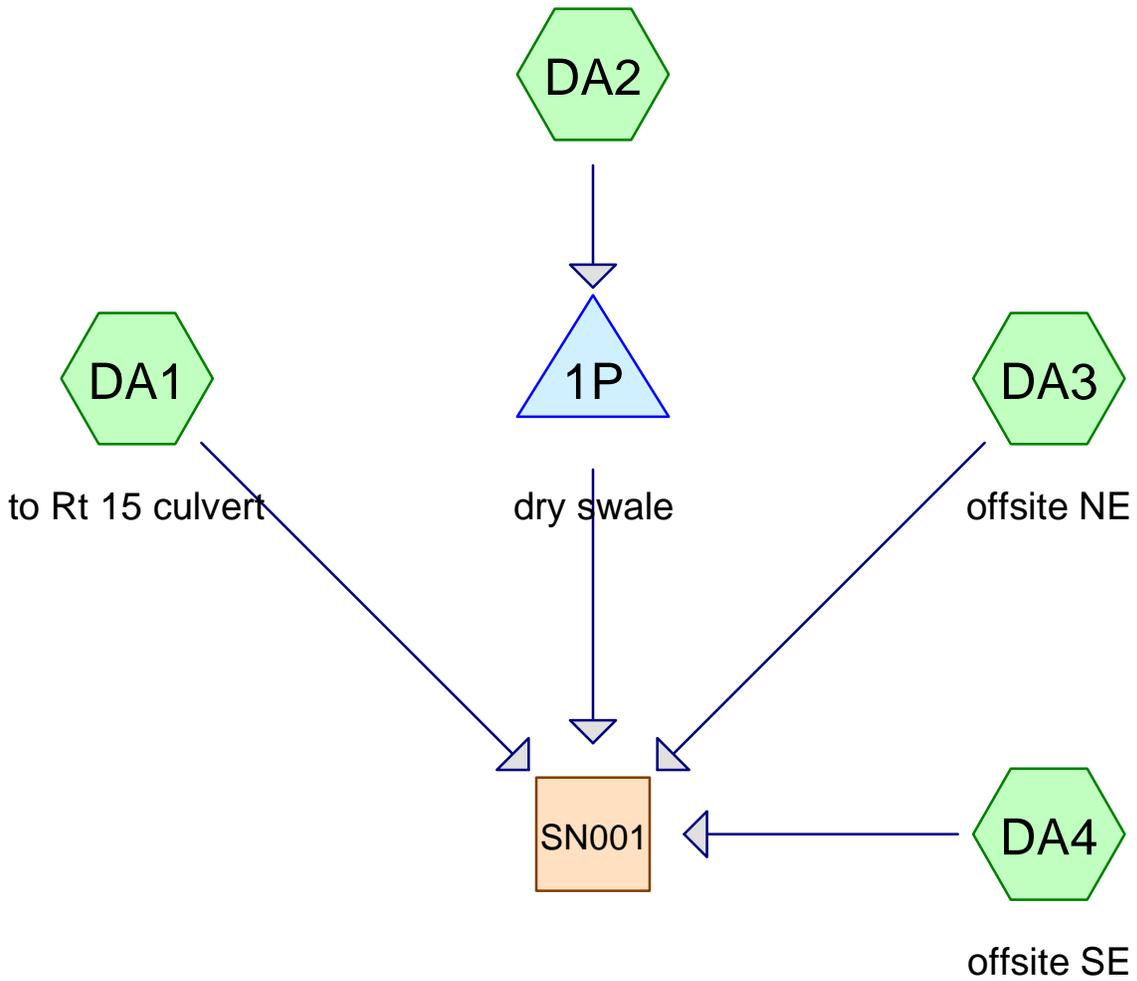
Summary for Subcatchment EX: existing conditions

Runoff = 12.77 cfs @ 11.94 hrs, Volume= 0.582 af, Depth= 3.01"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
 Type II 24-hr 25-year Rainfall=3.90"

Area (ac)	CN	Description
2.080	98.0	Paved parking, HSG A
0.240	39.0	>75% Grass cover, Good, HSG A
2.320	91.9	Weighted Average
0.240		10.34% Pervious Area
2.080		89.66% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.5	100	0.0180	1.12		Sheet Flow, 0 - 100' Smooth surfaces n= 0.011 P2= 2.30"
0.9	117	0.0180	2.16		Shallow Concentrated Flow, 100' - EOG Unpaved Kv= 16.1 fps
0.8	65	0.0340	1.29		Shallow Concentrated Flow, EOG to culvert Short Grass Pasture Kv= 7.0 fps
3.2	282	Total			



Routing Diagram for 14-139 - Post 2014 1002
 Prepared by Trudell Consulting Engineers, Printed 10/8/2014
 HydroCAD® 10.00-12 s/n 02145 © 2014 HydroCAD Software Solutions LLC

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.790	39.0	>75% Grass cover, Good, HSG A (DA1, DA2, DA3, DA4)
1.501	98.0	Paved parking, HSG A (DA1, DA2, DA3, DA4)
2.291	77.7	TOTAL AREA

Soil Listing (selected nodes)

Area (acres)	Soil Group	Subcatchment Numbers
2.291	HSG A	DA1, DA2, DA3, DA4
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
0.000	Other	
2.291		TOTAL AREA

Ground Covers (selected nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.790	0.000	0.000	0.000	0.000	0.790	>75% Grass cover, Good	DA1, DA2, DA3, DA4
1.501	0.000	0.000	0.000	0.000	1.501	Paved parking	DA1, DA2, DA3, DA4
2.291	0.000	0.000	0.000	0.000	2.291	TOTAL AREA	

Summary for Subcatchment DA1: to Rt 15 culvert

Runoff = 0.02 cfs @ 12.38 hrs, Volume= 0.010 af, Depth= 0.18"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type II 24-hr 25-year Rainfall=3.90"

Area (ac)	CN	Description
0.081	98.0	Paved parking, HSG A
0.618	39.0	>75% Grass cover, Good, HSG A
0.699	45.8	Weighted Average
0.618		88.41% Pervious Area
0.081		11.59% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	35	0.0200	0.95		Sheet Flow, HP to EOP Smooth surfaces n= 0.011 P2= 2.30"
7.5	65	0.0250	0.14		Sheet Flow, EOP to 100' Grass: Short n= 0.150 P2= 2.30"
2.5	163	0.0250	1.11		Shallow Concentrated Flow, 100' - culvert Short Grass Pasture Kv= 7.0 fps
10.6	263	Total			

Summary for Subcatchment DA2:

Runoff = 5.62 cfs @ 11.93 hrs, Volume= 0.245 af, Depth= 2.86"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type II 24-hr 25-year Rainfall=3.90"

Area (ac)	CN	Description
0.895	98.0	Paved parking, HSG A
0.132	39.0	>75% Grass cover, Good, HSG A
1.027	90.4	Weighted Average
0.132		12.85% Pervious Area
0.895		87.15% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	44	0.3330	3.05		Sheet Flow, rooftop Smooth surfaces n= 0.011 P2= 2.30"
1.2	145	0.0100	2.03		Shallow Concentrated Flow, surface flow to CB Paved Kv= 20.3 fps
0.9	224	0.0060	4.08	5.00	Pipe Channel, culverts to dry swale 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013
2.3	413	Total			

Summary for Subcatchment DA3: offsite NE

[49] Hint: Tc<2dt may require smaller dt

Runoff = 2.41 cfs @ 11.91 hrs, Volume= 0.103 af, Depth= 3.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type II 24-hr 25-year Rainfall=3.90"

Area (ac)	CN	Description
0.365	98.0	Paved parking, HSG A
0.036	39.0	>75% Grass cover, Good, HSG A
0.401	92.7	Weighted Average
0.036		8.98% Pervious Area
0.365		91.02% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	46	0.3330	3.08		Sheet Flow, roof Smooth surfaces n= 0.011 P2= 2.30"
0.5	90	0.0200	2.87		Shallow Concentrated Flow, driveway to swale Paved Kv= 20.3 fps
0.2	70	0.0100	5.25	84.05	Trap/Vee/Rect Channel Flow, swale to prop line Bot.W=2.00' D=2.00' Z= 3.0 ' /' Top.W=14.00' n= 0.030
0.9	206	Total			

Summary for Subcatchment DA4: offsite SE

Runoff = 1.03 cfs @ 11.91 hrs, Volume= 0.048 af, Depth= 3.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type II 24-hr 25-year Rainfall=3.90"

Area (ac)	CN	Description
0.160	98.0	Paved parking, HSG A
0.004	39.0	>75% Grass cover, Good, HSG A
0.164	96.6	Weighted Average
0.004		2.44% Pervious Area
0.160		97.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	80	0.0200	1.12		Sheet Flow, 0 - EOP Smooth surfaces n= 0.011 P2= 2.30"

Summary for Reach SN001:

Brown's River

DA @ discharge point = 20 sq mi

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 2.291 ac, 65.52% Impervious, Inflow Depth = 1.10" for 25-year event
 Inflow = 6.30 cfs @ 11.94 hrs, Volume= 0.210 af
 Outflow = 6.30 cfs @ 11.94 hrs, Volume= 0.210 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Summary for Pond 1P: dry swale

exfiltration based on AOL perc test rate of 6 min/in

Inflow Area = 1.027 ac, 87.15% Impervious, Inflow Depth = 2.86" for 25-year event
 Inflow = 5.62 cfs @ 11.93 hrs, Volume= 0.245 af
 Outflow = 4.48 cfs @ 11.96 hrs, Volume= 0.245 af, Atten= 20%, Lag= 2.3 min
 Discarded = 0.55 cfs @ 11.96 hrs, Volume= 0.196 af
 Primary = 3.93 cfs @ 11.96 hrs, Volume= 0.049 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
 Peak Elev= 687.33' @ 11.96 hrs Surf.Area= 2,375 sf Storage= 2,974 cf
 Flood Elev= 688.50' Surf.Area= 3,109 sf Storage= 4,806 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 34.8 min (826.0 - 791.2)

Volume	Invert	Avail.Storage	Storage Description
#1	685.00'	4,806 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
685.00	254	0	0
686.00	1,114	684	684
687.00	2,010	1,562	2,246
688.00	3,109	2,560	4,806

Device	Routing	Invert	Outlet Devices
#1	Discarded	685.00'	10.000 in/hr Exfiltration over Surface area
#2	Primary	683.32'	24.0" Round Culvert L= 40.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 683.32' / 683.00' S= 0.0080 '/ Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#3	Device 2	687.00'	24.0" Horiz. overflow grate C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.55 cfs @ 11.96 hrs HW=687.33' (Free Discharge)

↑1=Exfiltration (Exfiltration Controls 0.55 cfs)

Primary OutFlow Max=3.92 cfs @ 11.96 hrs HW=687.33' TW=0.00' (Dynamic Tailwater)

↑2=Culvert (Passes 3.92 cfs of 23.16 cfs potential flow)

↑3=overflow grate (Weir Controls 3.92 cfs @ 1.88 fps)

CONCEPT PLAN NARRATIVE

THE SAWMILL
PLANNED UNIT DEVELOPMENT
RIVERSIDE AREA, JERICHO, VERMONT

Amended October 30, 2014
Trudell Consulting Engineers

This document is intended to accompany an amendment to the March 11, 2010 previously approved Planned Unit Development (PUD) called The Sawmill located in the Jericho Village Center District.

DEVELOPMENT PROPOSAL:

The proposed Sawmill PUD amendment is consistent with Town Plan and the objectives in Section 3.2.7 of the Jericho Land Use Development Regulations (LUDR). The Sawmill site is a large tract of land in the center of the Riverside area. This property contains the now defunct sawmill that once served as the hub of commercial activity in this area, and is currently comprised of 5 separate parcels. Since being shut down in 2002, the Sawmill property has served as a focal point for planning efforts to allow a redevelopment of this property that supports the goals and objectives of the Town and the landowner. The Jericho Town Plan and the current Jericho Land Use and Development Regulations allow for, and support, the development of a mixed use, planned unit development (PUD), with increased residential density, grid streets, pedestrian scale development, and mix of residential types of housing and commercial uses to enhance and compliment the existing Village center area surrounding this parcel. Senior and affordable housing developments, as well as, green building standards, are also encouraged and allow additional density bonuses when included.

Due to the potential scale of The Sawmill Project, a phased approach is planned. The overall PUD boundary has been updated to include approx 20 acres as shown on the attached plan entitled, "The Sawmill – Planned Unit Development, Jericho, VT - Conceptual Plan", by Trudell Consulting Engineers, dated, February 11, 2010, last revised October 29, 2014. Lot 2, which was previously excluded is now included into the Sawmill PUD with this application.

Currently, existing uses within the Sawmill PUD boundary include a single family dwelling, the former sawmill, various outbuildings, and a truck maintenance garage with fuel sales. Most of the land is open areas with existing vegetation limited to trees on a few of the parcel boundaries.

THE SAWMILL - PLANNED UNIT DEVELOPMENT
RIVERSIDE AREA, JERICHO, VERMONT

This amendment proposes a new 18,000 square foot market and deli use within the Sawmill PUD on Lot 3 and will replace the existing truck maintenance garage and reuse a part of the structure. The following is intended to serve as a general description of the future development plan for the proposed Sawmill PUD pursuant to Section 10.13.12.

TOTAL SAWMILL PUD PARCEL SIZE: 20.12 acres +/-

Consists of the following pre-existing and separately deeded parcels:

Tax Map # PK028, Lot 1:	14.24 acre
Tax Map # VT368, Lot 2:	1.63 acre
Tax Map # VT364, Lot 3:	2.32 acre
Tax Map # PK028, Lot 4:	1.28 acre
Tax Map # DK009	0.65 acre

Notes:

- 1) As per §10.13.12.2, the individual lots listed above represent the future development areas for the PUD.
- 2) Tax Map # VT368, Lot 2 (which formerly had a 6,000 SF restaurant approved) Villejo Ventures, LLC, is proposing to now be included in the Sawmill PUD.
- 3) The pre-existing property lines will not be merged at this time as they are separately deeded lots with distinct pre-existing uses. Refer to Boundary Line Adjustment Plat, David Villeneuve, 364 VT Route 15, Jericho, Vermont by Trudell Consulting Engineers, dated October 10, 2014. (A small portion of Lot 1 falls within the Town of Underhill)

EXISTING USES:

Lot 1:	Existing Sawmill and various storage buildings.
Lot 2:	Existing Office
Lot 3:	Existing Truck Maintenance Garage and Fuel Sales
Lot 4:	Vacant Parcel
Tax Map# DK009:	Existing 3BR Single Family Residence off Dickenson St.

THE SAWMILL - PLANNED UNIT DEVELOPMENT
RIVERSIDE AREA, JERICHO, VERMONT

POSSIBLE USES within the Sawmill Planned Unit Development, allowed per §4.4 Table of uses including, but not limited to:

Agricultural & Related Uses:

- Veterinarian
- Farmers Market

Residential Uses:

- Village Scale Single Family Lots
- Townhouses
- Multi-family Condominiums and/or apartments
- Affordable housing
- Senior housing

Commercial Uses:

- Retail
- Personal & Professional Services
- Commercial Indoor Recreation / Fitness Center
- Restaurant or Café
- Lodging
- Bank or Office
- Community Medical Center or similar

Other PUD elements:

- Reservation of land for septic dispersal is identified on the Sawmill PUD
- Pedestrian Circulation

Notes:

- 1) for a more complete description of allowed uses refer to Table 4.4 of the LUDR
- 2) The PUD future development will not impact natural resources and thus complies with section 10.13.12.3.
- 3) *The above list is intended to indicate broad categories for future uses within the project. Such indication shall be for reference purposes only, and shall not obligate the DRB to approve a specified use or category of uses when more detailed, formal plans are submitted. § 10.13.12.5.*

THE SAWMILL - PLANNED UNIT DEVELOPMENT
RIVERSIDE AREA, JERICHO, VERMONT

PROPOSED MINIMUM LOT SIZE: 0.10 acres minimum § 5.8 PUD

0.25 acres minimum see § 5.7. Conventional Developments (for density calculation only)

PROJECT DENSITY CALCULATIONS:

Maximum # of residential units or lots:

Up to a maximum 80 conventional lots
(based on 20.12 acres/.25 acres per lot = 80)
See § 10.13.7. Permitted Density

Density Bonus: If the PUD contains (1) affordable (2) elderly housing or (3) 'green building standards' used or public access to resource lands provided the maximum density shall be: $80 * 1.5$ or a total maximum of 120 lots or units (50% more) § 10.13.8

The Sawmill PUD will likely contain one or more of the elements to obtain the 50% density bonus and therefore proposes the Sawmill PUD be allowed up to 120 units of residential housing.

Notes:

1. PUDs in VCTR Districts not required to subtract 25% for restrictions when calculating density See § 10.13.7.1 Permitted Density
2. Future open space per section 10.13.12.1 shall not be required for PUDs located in the VCTR District See § 10.13.4
3. PUDs in the VCTR District are encouraged to be publicly accessible and to provide for public or semipublic spaces, such as central greens, commons, parks, playgrounds, outdoor seating areas, or similar outdoor spaces See § 10.13.10.2. Note, the Jericho Market project incorporates a semi-public green space.
4. Affordable/elderly units are limited by lot coverage, and not by the above calculation. Each of these affordable/elderly units shall not exceed 1,300 s.f.

THE SAWMILL - PLANNED UNIT DEVELOPMENT
RIVERSIDE AREA, JERICHO, VERMONT

excluding garages, unfinished basements, porches, or decks See § 5.6 Density, and 10.13.7 Permitted Density

5. Gas sales use only allowed in a PUD § 10.13.2.4

FRONTAGE, SETBACKS AND HEIGHT: § 5.8 PUD Table

- 15' minimum lot frontage
- 10' min. front yard setback along Route 15
- 0' min. front yard setback along other roads
- 5' min. side yard setback
- 10' min. rear yard setback
- 20' min. between structures
- buffer around perimeter: none required
- 45' maximum building height

EXISTING BUILDING / LOT COVERAGE:

Lot 1:	13.83 acre	Buildings & Impervious 6.90%
Lot 2:	1.51acre	Buildings & Impervious 22.08%
Lot 3:	2.85 acre	Buildings & Impervious 89.73%
Lot 4#	1.28 acre	Buildings & Impervious 0.0%
DK009:	0.65 acre lot	Buildings & Impervious 8.74%

PROPOSED LOT COVERAGE:

- 60% min. § 5.8 PUD Table
- Plus a 15% allowable increase § 10.13.8 Density Bonus
- Maximum of 75% overall Lot Coverage
- Within the 20.12 acre Sawmill parcel a maximum total combined area on all lots of 15.09 acres (.75 x 20.12) of impervious surface is allowed.
- The Sawmill project intends to utilize Low Impact Development practices and techniques to manage stormwater. Such practices shall allow for the on-site infiltration, recharge, and treatment of stormwater, such that it will not contaminate or inhibit the recharge of groundwater. § 6.6.5.1; &§ 10.1312.7

Lot 1:	14.24 acre	Buildings & Impervious 6.7%
Lot 2:	1.63 acre	Buildings & Impervious 19.0%
Lot 3:	2.32 acre	Buildings & Impervious 64.3%
Lot 4:	1.28 acre	Buildings & Impervious 0.0%
Parcel DK009:	0.65 acre	Buildings & Impervious 8.7%

THE SAWMILL - PLANNED UNIT DEVELOPMENT
RIVERSIDE AREA, JERICHO, VERMONT

Total Combined Current Proposed Lot Coverage 122,492 SF (13.98%)

Notes:

1. Lot coverage can be averaged over the entire PUD § 10.13.9.3, and 10.13.11
2. As the project is built out each additional project will recalculate the lot coverage to insure the total does not exceed 75% for the project as a whole, §10.1312.4. This will be reflected in a revised Cumulative Impact Chart that accompanies this Narrative.

PARKING Requirements § 11.2

In VCTR District parking may be within side or rear yard setbacks § 11.2.3.1 (b), and non-residential parking shall not be permitted between front building line and the street, except DRB may consider exceptions due to site specific constraints and where overall site layout otherwise conforms to the purpose of the district § 11.2.3.3.

Within VCTR District parking may be located within side or rear yard setback.

Alternative Parking Arrangements § 11.2.5 – The Sawmill PUD will encourage alternative parking i.e. shared parking, off-site parking, and/or on-street parking, to reduce and excess conventional on-site parking where deemed appropriate.

Note the proposed Jericho Market incorporates areas for Shared Parking as well as On-Street Parking.

Vehicular and Pedestrian Circulation Requirement § 11.3

All access ways will be designed to the greatest extent possible to promote safe and convenient movement throughout the PUD phases for pedestrian and vehicular circulation. Connections to existing neighboring properties will be made via public and private access ways per §10.13.12.6.



Cumulative Impact Chart
 SAWMILL PLANNED UNIT DEVELOPMENT
 Last Revised: 31-Oct-14

Lot #	Parcel Size				Use	Density				Density Bonuses				Lot Coverage						Parking			Trip Generation		Water/Wastewater				
	Existing Lot Size (acres)	Existing Lot Size (SF)	Proposed Lot Size (acres)	Proposed Lot Size (SF)		Per Acre Allowable Base Residential Density (# of Units)	Per Acre Allowable Residential Density w/ 50% Bonus ¹	Existing Residential Density (# of units)	Proposed # of Residential Units	Total # of Residential Units in PUD	Additional # of Affordable Units ²	Additional # of Senior Housing Units ²	Green Building (Y/N) ³	Ex. Buildings (SF)	Ex. Impervious (SF)	Existing Buildings & Impervious (SF)	Existing Lot Coverage (%)	Prop. Buildings (SF)	Prop. Impervious (SF)	Proposed Buildings & Impervious (SF)	Proposed Lot Coverage (%) ⁴	Existing # of Parking Spaces	Proposed # of Parking Spaces	Total # of Parking Spaces	ITE Land Use Code	ITE Trip Generation - PM Peak Hour	ITE Trip Generation - Weekday	Existing Design Flow (GPD)	Proposed Design Flow (GPD)
Parcel DK009	0.65	28,097	0.65	28,097	Ex. Single Fam.	2.58	3.87	1				N	1402.83	1053.32	2,456	8.74%	1402.83	1053.32	2,456	8.74%	2		2	210	1	10	420		420
Lot 1	13.83	602,092	14.24	620,294	Ex. Sawmill ⁵	56.98	85.48	0				N	29538.21	12030.10	41,568	6.90%	29538.21	12030.10	41,568	6.70%	10		10	110	4	30	150		150
Lot 2	1.51	65,776	1.63	71,003	Ex. Office	6.52	9.78	0				N	2225.00	12770.00	14,995	22.80%	2225.00	11265.00	13,490	19.00%	15		15	710	4	8	225		225
Lot 3	2.85	124,339	2.32	101,059	Market	9.28	13.93	0				N	17540.91	94030.00	111,571	89.73%	19631.00	45347.00	64,978	64.30%	10	73	73	850	169	1817	150	1350	1350
Lot 4	1.28	55,595	1.28	55,595	Vacant	5.11	7.66	0				Y	0.00	0.00	-	0.00%	0.00	0.00	-	0.00%				495	36	340		600	600
PUD Totals	18.61	810,123	20.12	876,048		80	120	1	0	1			50706.95	119883.42	170,590	21.06%	52797.04	69695.42	122,492	13.98%	37	73	100		214	2205	945	1950	2745

Notes:

- 1) No residential development is proposed on Lot 3. Lot 3 development will transfer residential development rights to other lots in the PUD.
- 2) Existing Traffic estimates for Lot 1 and 3 do not include log trucks and are based solely on assumed # of employees

Footnotes:

- 1) Only applicable if a density bonus is granted by DRB per Section 10.13.8 of the LUDR
- 2) Affordable/elderly units must be 1300 SF or less and are not included in max. density See Section 5.6 Density, and 10.13.7 Permitted Density of the LUDR
- 3) Green Building Standards as defined per 10.13.8.1(b) of the LUDR, and density credits
- 4) Combined Overall Lot Coverage is a maximum of 60% or 75% if a density bonus is granted per Section 10.13.8 of the LUDR
Lot coverage can be averaged over the entire PUD § 10.13.9.3, and 10.13.11
- 5) Existing Mill assumed to have 10 employees - based on WW-4-1745 issued 1-7-03



NOTE: THIS PLAN IS FOR ILLUSTRATIVE PURPOSES ONLY. FUTURE ROAD LOCATIONS AND ACCESS POINTS MAY VARY.

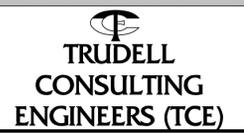
TRUDELL CONSULTING ENGINEERS (802) 879-6331 (phone) (802) 879-0060 (fax) 478 Blair Park Road P.O. Box 308 Williston, Vermont 05495 Visit Us on the Web at: www.TrudellConsulting.com

No.	Description	Date	By
2	Final Plan Review	01/23/15	DAB
1	Updated PUD	10/29/14	DAB

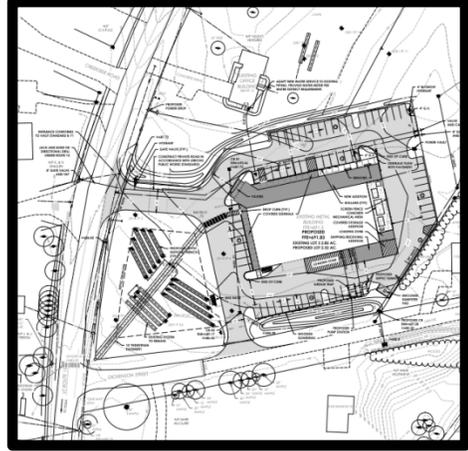
Project Title:
**The Sawmill
 Jericho, Vermont**

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Project manager:	JMM	Drawn:	NPC
Date:	2/11/2010	F.B.:	XXX
Project reference:	2005148	Scale:	1" = 60'
Ortho Photo Year:	XXXX	X-Ref:	XXX
		Bench File:	XXX

Sheet Title:
**Planned Unit Development
 Concept Plan**



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TRAFFIC IMPACT STUDY

TCE# 14-139 | JERICHO MARKET
JERICHO, VERMONT

Date:

January 22, 2015

Prepared For:

41 WTC, LLC

Prepared By:

Abigail Dery, P.E.

TRUDELL
CONSULTING ENGINEERS



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- G. Scoping Report for Dickenson Street Improvements

I. Introduction

David Villeneuve and 41 WTC, LLC are proposing the construction of a +/- 17,700 SF retail general merchandise store, with an accessory use of deli and food service, to be located on a lot within the Saw Mill (Villeneuve) subdivision in Jericho, Vermont. The project address is 364 Vermont Route 15 (VT 15), which is located on the east side the highway, just north of Dickinson Street. The following Traffic Impact Study has been prepared to identify the impact of project-generated traffic on the adjacent roadway network, in accordance with Vermont Agency of Transportation (VTrans) guidelines and methodology. The study area encompasses two intersections – the VT 15/Raceway Road/Project Driveway intersection and the VT 15/Dickenson Street intersection.

II. Existing Conditions

A. Geometrics and Speed Limit

The proposed project is located on the northeast corner of the intersection of VT Route 15 and Dickenson Street. The site contains a gravel parking area with a large metal garage and a smaller wooden garage, currently used for storage. Access to the existing parking area is via wide, undefined curb cuts on both VT 15 and Dickenson Street.

Raceway Road intersects VT 15 approximately 230 ft north of Dickenson Street. VT 15 is classified as a Rural Minor Arterial under the jurisdiction of VTrans and has a posted speed of 35 mph. The highway has a single lane for each the north and southbound direction of travel. Dickenson Street is a local gravel road open to travel only in the eastbound direction, connecting to River Road (also called Steam Mill Road) on the east end. Raceway Road is a local road open to two-way travel, serving mainly residential properties. A Location Map and Existing Conditions Plan is located in the Appendix.

B. Committed VTrans or Town Highway Improvements

There are currently no immediate VTrans plans for highway improvements in the study area. The Town of Jericho has had several studies done in conjunction with the Chittenden County Regional Planning Commission (CCRPC) relating to Dickenson Street, the most recent being a study identifying potential VT 15 Park and Ride locations by Lamoureux & Dickinson Consulting Engineers in January 2014. This study identifies the existing gravel parking area on subject parcel as a preferred location for a 45-space Park & Ride.

A comprehensive *Scoping Report for Dickenson Street Improvements*, dated June 2011 by Stantec, explored the impacts and benefits of widening Dickenson Street to create two-way travel. This study included the full build-out of the Sawmill PUD and contemplated improvements for the Underhill Flats Area to improve overall safety and circulation. In 2011, the Selectboard voted to approve the design alternative that provided two-way travel on Dickenson with an unsignalized VT 15/Dickenson intersection, while acknowledging that future Jericho growth may require signalization of the intersection at some point. A copy of this study is located in the Appendix.

Other prior studies include:

- Dickenson Street Alternatives Analysis dated October 2007 by RSG, Inc.
- Route 15 Corridor Study for the Chittenden County Metropolitan Planning Organization (CCMPO) and VTrans by BFJ planning and RSG, Inc. dated August 2008
- VT 15 Corridor Management Plan for the Lamoille County Planning Commission and the CCMPO dated November 2004.

C. Other Planned Development

There is a sketch level master plan for the build-out potential of the Saw Mill property, its impacts which have been studied conceptually in the Scoping Report. For the purpose of this impact analysis, traffic from those future projects has not been included in any build scenarios, as it is still conceptual in nature. Specific impacts from these developments will be analyzed as they are permitted.

D. Public Transportation

An existing temporary Park & Ride, as identified in the VT 15 Park and Ride Study, is located on the subject property and will be removed during construction of the proposed project. Traffic from the Park & Ride was counted during the turning movement short counts conducted in December 2014; however, a very low volume of vehicles was recorded as utilizing this facility at this time. The landowner has indicated that the parking area can be relocated on a separate lot under his ownership within the subdivision, but the final location has yet to be determined.

The project is located on Chittenden County Transportation Authority's (CCTA) commuter bus route "The Jeffersonville Commuter". There is a bus stop located off of VT 15 within the Park & Ride, which will be relocated along with the parking facility. Until which time the Park & Ride is relocated, the bus stop could be located directly on VT 15 near Dickenson Street.

E. Bicycle & Pedestrian Facilities

An existing sidewalk is located on the west side of VT Route 15. Paved shoulders on VT 15 are between 3 and 4 ft in width, which are often used for bicycle travel, most frequently during the summer months.

III. Proposed Project

A. General Description

The project consists of an approximately 17,700 sq. ft. retail market with 69 paved parking spaces to be located on a 2.32 acre corner lot within the Saw Mill subdivision. The store will partially utilize the existing metal building with constructed addition and the existing wooden garage on the parcel will be removed.

B. Layout/Circulation

Access will be provided on the east side of VT Route 15 at an existing curb cut directly across from Raceway Road. The driveway is approximately 30 ft wide at the throat, with one lane for ingress and one lane for egress. There is a secondary 24 ft wide driveway onto Dickinson Street. Because Dickinson is currently limited to one-way travel, this driveway will be posted to prohibit a right-turn exit.

C. Project-Generated Traffic

Based on ITE Trip Generation, 9th Edition, the proposed market is estimated to generate 169 PM peak hour trips. The ITE use most resembling the project is 850 – Supermarket, which is described as “free-standing retail stores selling a complete assortment of food, food preparation, and household cleaning items. Supermarkets may also contain ATMs, auto supplies, bakeries, etc...” A percentage (36%) of those trips are “pass-by” trips, which are not new trips on the highway, rather existing vehicles that alter their travel pattern to make a stop at the store. The table below provides the calculation for weekday, morning peak and evening peak hour project traffic volume.

Table 1: Project-Generated Traffic Volume

	Building Size (sq. ft.)	Average Rate	Trips	Pass-By	Non Pass-By
Weekday	17,770	102.24/1000 sq. ft.*	1817		
Peak Hour of Adjacent Street Traffic One Hour Between 7 and 9 AM		3.4 trips/1000 sq. ft.	61		
Peak Hour of Adjacent Street Traffic One Hour Between 4 and 6 PM		9.48 trips/1000 sq. ft.	169	61	108

*Caution – very small sample size and varying hours of operation for daily estimate, do not use.

Distribution of vehicle trips from project-generated traffic was determined using analogy to the short count and commuting patterns. The diagrams below illustrate the estimated turning movement distribution at the study intersections. Negative trips denote a pass-by movement. Vehicles will have full access via the VT 15 driveway, but the Dickenson Street driveway will be limited to ingress from the west and egress toward the east only.

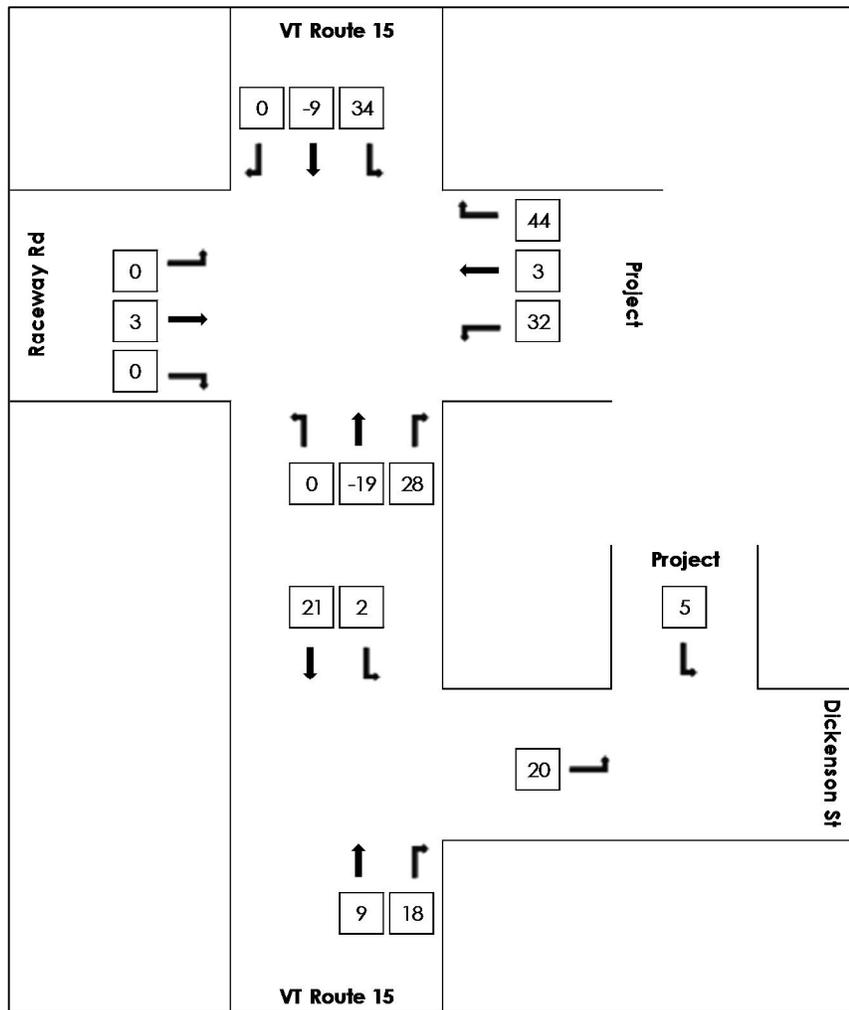


Figure 1: Peak Hour Project-Generated Traffic (PM)

D. Proposed Public Transportation and Pedestrian Facilities

While there are currently no facilities on the east side of VT 15, the Town has requested an easement for future development of a sidewalk or shared-use path to run parallel to VT 15. Additionally, there will be sidewalks either planned or constructed, to provide connection for pedestrians between both VT 15 and Dickenson Street and the

proposed market. The Town is currently seeking proposals to design crosswalks to traverse VT 15, one of which will be located just north of Dickenson Street.

IV. Traffic Volume

A. Existing Traffic Data (AADT and DHV)

According to a recent corridor study, VT Route 15 has an Average Annual Daily Traffic (AADT) volume of 9500 vehicles per day (vpd) in the study area and Dickenson Street has an AADT of 100 vpd. An AADT of 660 vpd was recorded on Raceway Road in 2010. A VT 15 Design Hour Volume (DHV) of 1070 was calculated using the “k” value from VTrans’ *DHV Determination Based on AADTs and Highway Class-General Highway* for a “Rural” roadway.

B. Growth Factors

Rural highways in Vermont have not experienced significant growth over the past 10 years, according to the VTrans Continuous Traffic Counter Grouping Study and Regression Analysis (2013). A growth factor of 1.01 was applied to the 2015 DHV to project future traffic for a 2020 horizon year.

C. Traffic Projection Scenarios

Traffic impact was analyzed for four scenarios at the two intersections within the study area. The design hour in the study area occurs during the afternoon peak, generally between 4:15-5:15 PM. Morning peak traffic volume is slightly lower than afternoon peak, and AM project-generated traffic is much lower than PM project-generated traffic; therefore, the morning volumes were not included in the analysis.

- 2015 No-Build – Background traffic
- 2015 Build – Background traffic plus project-generated traffic
- 2020 No-Build – Background traffic with growth factor plus expanded Park & Ride
- 2020 Build – Background traffic with growth factor plus project-generated traffic

Each scenario assumes the existing intersection geometry will be in place. As previously discussed, the Town is currently exploring creating a two-way Dickenson Street, which would change the configuration of the VT 15/Dickenson Street intersection. The impact of project traffic on this scenario has been studied and presented in the 2011 *Scoping Report for Dickenson Street Improvements*. These improvements are not currently scheduled for construction.

While the existing Park & Ride does currently have high usage, a future No-Build scenario could see the Park & Ride being utilized to its full potential. Additional trips were added to the 2020 No-Build scenario to account for this.

D. Traffic Counts & Calculations

Trudell Consulting Engineers performed a manual Turning Movement Count (TMC) at the VT 15/Raceway Road/Project Driveway intersection and the VT 15/Dickenson Street intersection on 12/16/2014 to determine background traffic distribution. The overall PM peak hour for the study is from 4:15 to 5:15PM. Turning movement short counts were adjusted to correspond to the DHV for each intersection.

V. Capacity and Warrant Analysis

A. Level of Service

Vehicle delay, level of service (LOS), volume to capacity ratio (v/c ratio), and 95th percentile queue length were calculated at the intersections using Synchro8 w/ 2010 HCM methodology. A peak hour factor of 1.0 with a 60 minute analysis period was used, as recommended by VTrans. Level of service grades correspond directly to a range of vehicular delay at intersection approaches. The following table describes the delay range, in seconds per vehicle, for each grade of LOS.

Table 2: Level of Service Descriptions

Level of Service	Control Delay (s)
A	≤ 10
B	>10 and ≤15
C	>15 and ≤25
D	>25 and ≤35
E	>35 and ≤50
F	>50

The tables below show the results of the analysis for each intersection. As indicated in the tables, the intersections have adequate capacity for the addition of project-generated traffic. Level of service on the stop controlled project driveway remains a D under “Build” conditions and there will be no change to delay on VT 15. VTrans LOS Policy for two-way stop controlled intersections is to maintain a D or better for side roads with volumes exceeding 100 vehicles/hour for a single lane approach. No LOS criteria are in effect for volumes less than 100 vph.

Table 3: Peak Hour Intersection Analysis – VT 15/ Raceway/ Project

	2015 No-Build				2015 Build			
	Delay (s)	LOS	v/c ratio	Queue (veh)	Delay (s)	LOS	v/c ratio	Queue (veh)
Northbound (VT 15)	8	A	0.042	0.1	8	A	0.042	0.1
Eastbound (Raceway Rd)	12.1	B	0.086	0.3	13.8	B	0.111	0.4
Westbound (Access)	0	A	0	0	27	D	0.326	1.4

Table 4: Peak Hour Intersection Analysis – VT 15/ Dickenson Street

	2015 No-Build				2015 Build			
	Approach Delay (s)	LOS	v/c ratio	Queue (veh)	Approach Delay (s)	LOS	v/c ratio	Queue (veh)
Southbound (VT 15)	9.1	A	0.003	0	9.2	A	0.006	0
Northbound (VT 15)	0	A	0	0	0	A	0	0

Table 5: Peak Hour Intersection Analysis – VT 15/ Raceway/ Project

	2020 No-Build				2020 Build			
	Delay (s)	LOS	v/c ratio	Queue (veh)	Delay (s)	LOS	v/c ratio	Queue (veh)
Northbound (VT 15)	8	A	0.043	0.1	8	A	0.043	0.1
Eastbound (Raceway Rd)	12.7	B	0.097	0.3	14.3	B	0.12	0.4
Westbound (Access)	19.7	C	0.155	0.5	27.6	D	0.332	1.5

Table 6: Peak Hour Intersection Analysis – VT 15/ Dickenson Street

	2020 No-Build				2020 Build			
	Approach Delay (s)	LOS	v/c ratio	Queue (veh)	Approach Delay (s)	LOS	v/c ratio	Queue (veh)
Southbound (VT 15)	9.1	A	0.003	0	9.2	A	0.006	0
Northbound (VT 15)	0	A	0	0	0	A	0	0

B. Auxiliary Turn Lanes

According to the ITE Guidelines for Left-Turn Lanes, August 2000, which uses the Harmelink model, the projected volume of project-generated traffic during the peak hour exceeds the warrant threshold for an exclusive left-turn lane in the southbound direction at the project access intersection. In the 2015 Build scenario, opposing volume is projected to be 662 vehicles during the peak hour, advancing volume is 348 vph, total number of left turns is 34, and the left turn percentage is 9.8%. The guideline graphs are located in the Appendix.

A right-turn lane warrant analysis was performed using VTrans Warrant for Right Turn Auxiliary Lanes at Unsignalized Intersections. The need for a right turn lane is not met for the project access intersection, as the calculated volume exceeds the proposed advancing volume. Calculations are located in the Appendix.

VI. Safety Analysis

A. VTrans High Crash Locations

A review of the 2008-2012 *General Yearly Summaries – Crash Listing* for both State and Town highways shows two crashes occurring at the VT 15/Raceway Rd intersection during the 5-year period. Two additional crashes were reported on VT 15 within the study area. The VTrans *High Crash Location Report: Sections and Intersections 2008-2012* does not list any intersections on VT 15 in Jericho or Underhill as High Crash Locations. Additionally, no segments of VT 15 in Jericho or Underhill are listed as High Crash Locations.

B. Sight Distance

The sight distance for the project driveway on VT 15 is 695 feet southerly (towards Essex) and 616 feet northerly (towards Underhill). The minimum recommended intersection sight distances for the project access are 390 feet for a left-turn and 335 feet for a right turn. Measured sight distance is greater than minimum recommended sight distance.

VII. Summary of Findings

Based on review and analysis of the existing and proposed traffic conditions, the following conclusions are presented:

1. The proposed Jericho Market project located on the northeast corner of the intersection of VT Route 15 and Dickenson Street will have both direct access on VT 15 and a driveway on Dickenson Street.

2. AADT on VT 15 within the study area is approximately 9500 vpd, with a DHV of 1070 vph. Based on turning movement counts performed by TCE, the peak hour of traffic on VT 15 occurs from 4:15 to 5:15 PM.
3. According to ITE, the project is expected to generate approximately 169 total peak hour (PM) trips. 61 of those trips will be considered "Pass-by" and 108 will be new trips. The new trips added to VT 15 during the peak hour represent 9% of overall peak hour traffic.
4. Level of Service on VT 15 will remain an A through 2020. LOS on Raceway Road is currently a B, and will remain a B through the 2020 Build scenario. Project Access (westbound) Level of Service at the VT 15 intersection is expected to be a D, with 27 seconds of delay and a queue of less than 2 vehicles. VTrans LOS Policy for two-way stop controlled intersections is to maintain or D or better for side roads with volumes exceeding 100 vehicles/hour.
5. Review of crash data on VT 15 show 4 crashes recorded within the study area during the five-year period between 2008 and 2012. Two of those crashes occurred at the VT 15/ Raceway Road intersection. No segments of VT 15 or intersections along VT 15 in Jericho or Underhill are listed as High Crash Locations.
6. Available sight distance at the project access will exceed minimum recommendations for intersection sight distance.
7. The proposed project will not have an undue adverse impact on traffic on roads and highways within the study area.

VIII. Impact Mitigation Recommendations

A. Access Management Improvements

Access management improvements include the narrowing of wide, undefined curb cuts on VT 15 and Dickenson Street. The existing 127 ft wide curb cut on VT 15 will be reduced to 41 ft at the property line. Additionally, the existing 280 ft wide gravel access along Dickenson Street will be narrowed to 34 ft at the property line and paved.

B. Public Transportation, Pedestrian, and Bicycle Facilities

Easements may be provided along both the property's VT 15 and Dickenson Street frontages for future pedestrian facilities. A sidewalk connection will be provided from the southwest corner of the property to the proposed market.

C. Monitoring Conditions

An analysis of projected left-turning volume identified that, according to the Harmelink model, a left-turn lane may be warranted on southbound VT 15 at the project access during the peak hour. It is recommended that the traffic volume be monitored six months to one year after the project has been in operation to determine if the volumes are as projected. If it is determined that the volumes are above the warrant threshold at that time, the applicant should work with VTrans to determine if a turn lane is appropriate in this location.

D. Future Improvements

A proportional share contribution or other funding mechanism consistent with the new Act 250 policy should be developed to partially fund future transportation improvements at Dickenson Street or elsewhere within the Jericho/Underhill flats area should the Town proceed with capacity improvements outlined in previous scoping studies.

Similarly, funds can be contributed for the warranted left-turn lane at the project access so that this improvement can be constructed in association with the Dickenson Street widening in order to minimize overall cost and traffic disruption. Should the larger project be postponed for a period of greater than 3 years, the funds can be returned to the applicant for the construction of the left-turn lane.

Appendix A - Location Maps



Project Location



Legend

■ Project Parcel

Notes

Sources: USGS 24k Topographic Map (2013); Project Area by TCE (2014).
 Disclaimer: The accuracy of information presented is determined by its sources. TCE is not responsible for any errors or omissions that may exist. Questions of on-the-ground location can be resolved by site inspections and/or surveys by a registered surveyor. This map is not a replacement for surveyed information or engineering studies.

**Jericho Market
 Route 15
 Jericho, VT**

Location Map

Project: 14-139
 Prepared By: LMJ
 09/30/2014
 1 inch = 1000 feet



Soil Key	Ag Value	Forest Group	Hydric	Hydrogroup	Prime
StA	3	1	N	A	Prime

Project Location



Legend

- Project Area
- Tax Parcel Boundary
- Contours (20')
- VT Significant Wetland
- Stream
- Deer Wintering Area
- VT Class 3 Wetland
- Significant Natural Communities
- Soil
- Natural Areas
- Rare, Threatened and Endangered Species

Notes

Sources: Bing Aerial Photography (2012); Streams by ANR (2012); Project Area by TCE (2014); Deer Wintering Area by ANR (2011); VT E911 Roads (2011); VT Significant Wetland and VT Class III by ANR (2012); Soils by NRCS (2011); 20 ft Contours by VCGI (2012); RTE Species and Significant Natural Communities by VT Fish & Wildlife (2013); Natural Areas by ANR (2011).

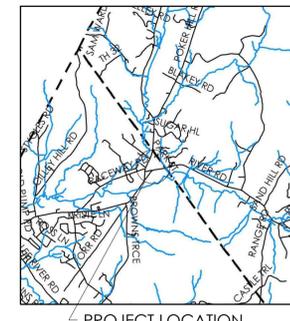
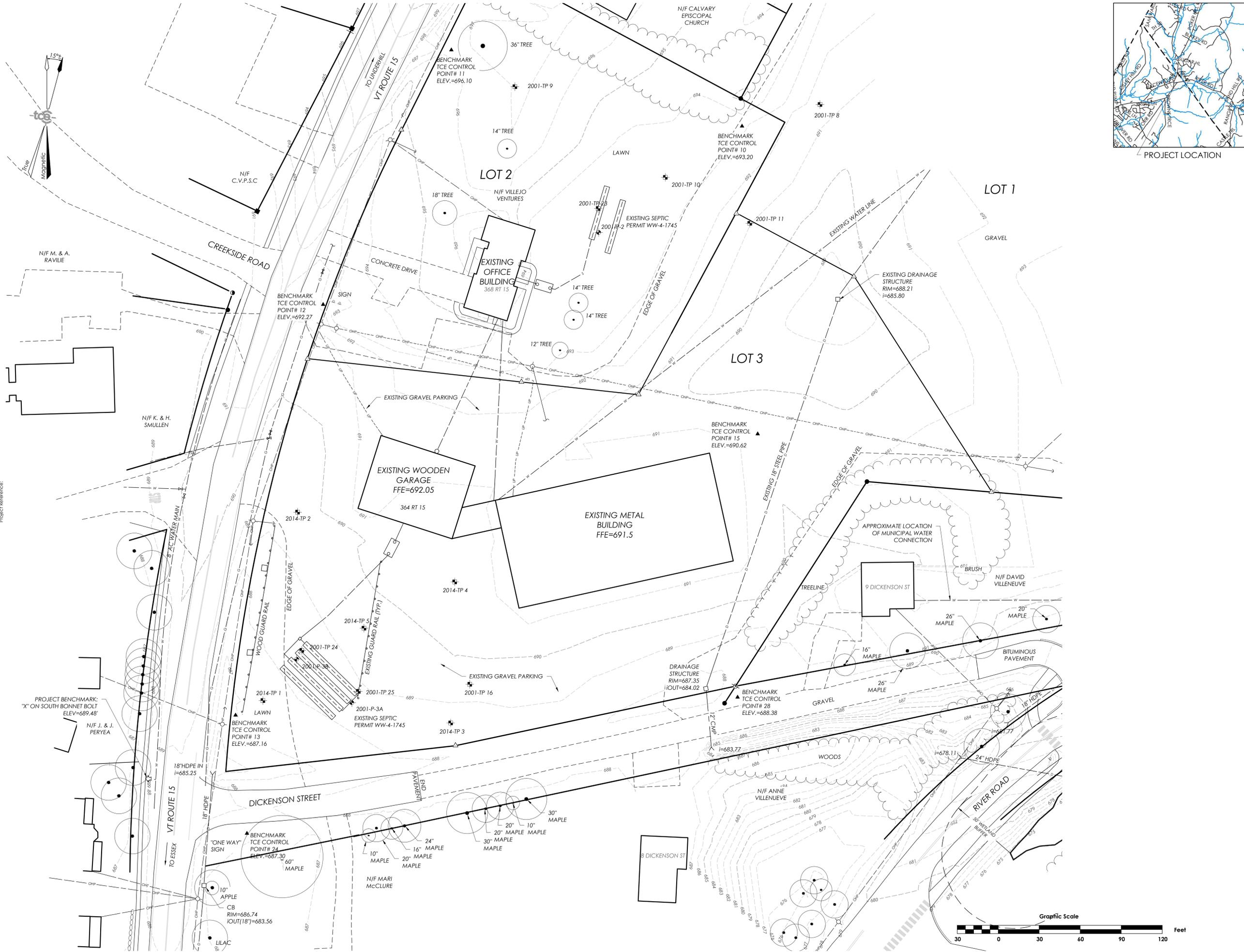
Disclaimer: The accuracy of information presented is determined by its sources. TCE is not responsible for any errors or omissions that may exist. Questions of on-the-ground location can be resolved by site inspections and/or surveys by a registered surveyor. This map is not a replacement for surveyed information or engineering studies.

**Jericho Market
Route 15
Jericho, VT**

Natural Resource Map

Project: 14-139
Prepared By: LMJ
10/3/2014
1 inch = 300 feet

Appendix B - Existing Conditions and Site Plans



Revisions	No.	Description	Date	By
Final Plan Review			01/23/15	NTH

- Use of These Drawings**
- Unless otherwise noted, these Drawings are intended for preliminary planning, coordination with other disciplines or utilities, and/or approval from the regulatory authorities. They are not intended as construction drawings unless noted as such.
 - Only drawings specifically marked "For Construction" are intended to be used in conjunction with contract documents, specifications, owner/contractor agreements and to be fully coordinated with other disciplines, including but not limited to, the Architect, if applicable. These Drawings shall not be used for construction layout. Contact TCE for any construction surveying services or to obtain electronic data suitable for construction layout.
 - These Drawings are specific to the Project and are not transferable. As instruments of service, these drawings, and copies thereof, furnished by TCE are its exclusive property. Changes to the drawings may only be made by TCE. If errors or omissions are discovered, they shall be brought to the attention of TCE immediately.
 - By use of these drawings for construction of the Project, the Owner represents that they have reviewed, approved, and accepted the drawings and have met with all applicable parties/disciplines to insure these plans are properly coordinated with other aspects of the Project. The Owner and Architect, are responsible for any buildings shown, including an area measured a minimum five (5) feet around any building.
 - It is the User's responsibility to ensure this copy contains the most current revisions.



For Local Permitting Only

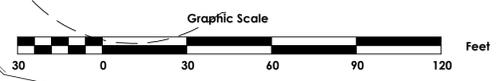
Project Title

Jericho Market
 364 VT Route 15 Jericho, VT

Sheet Title

Existing Conditions

Date:	10/10/14
Scale:	1" = 30'
Project Number:	14-139
Drawn By:	NPC
Project Engineer:	NTH
Approved By:	
Field Book:	



C1-04

Project Reference:



TRUPELL CONSULTING ENGINEERS
478 BLAIR PARK ROAD | WILLISTON, VERMONT 05495
802.879.4331 | WWW.TCEVT.COM

Revisions	No.	Description	Date	By
	1	Final Plan Review	01/23/15	NTH

Use of These Drawings
1. Unless otherwise noted, these Drawings are intended for preliminary planning, coordination with other disciplines or utilities, and/or approval from the regulatory authorities. They are not intended as construction drawings unless noted as such.

2. Only drawings specifically marked "For Construction" are intended to be used in conjunction with contract documents, specifications, owner/contractor agreements and to be fully coordinated with other disciplines, including but not limited to, the Architect, if applicable. These Drawings shall not be used for construction layout. Contact TCE for any construction surveying services or to obtain electronic data suitable for construction layout.

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5. It is the User's responsibility to ensure this copy contains the most current revisions.



For Local Permitting Only

Project Title

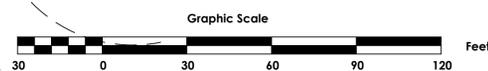
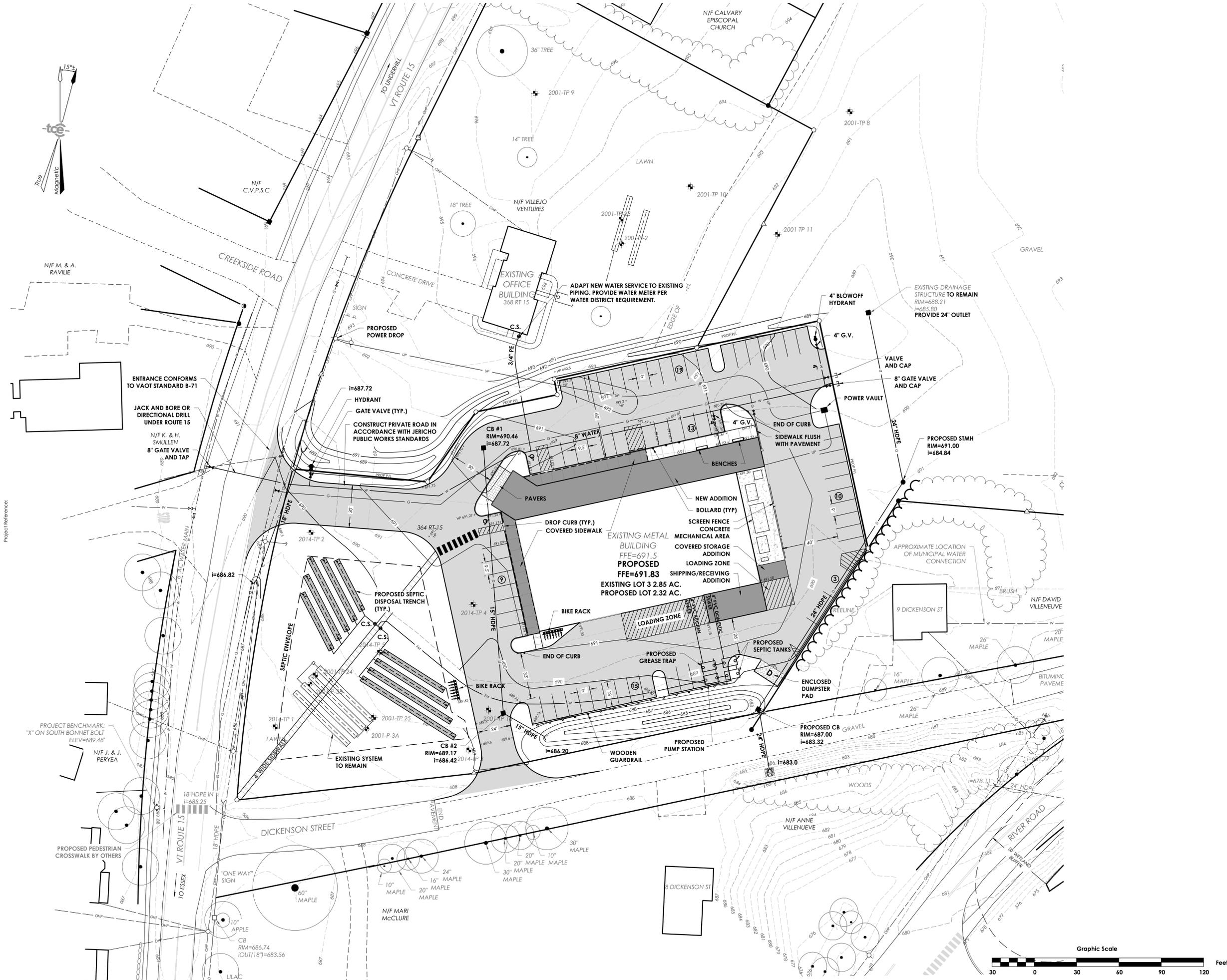
Jericho Market
364 VT Route 15 Jericho, VT

Sheet Title

Site Plan

Date:	10/10/14
Scale:	1" = 30'
Project Number:	14-139
Drawn By:	NPC
Project Engineer:	NTH
Approved By:	
Field Book:	

C2-02



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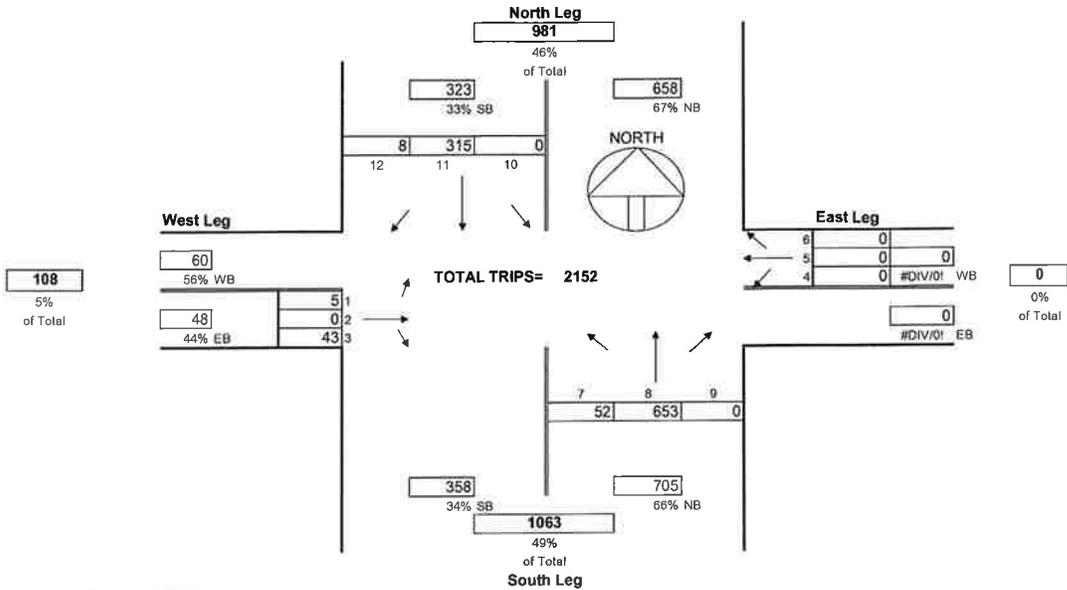
Project Reference:

PROJECT BENCHMARK:
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ELEV=689.48'

Appendix C - Turning Movement Diagrams

Intersection: VT 15/ Raceway/ Project Access
 Time: 4:15-5:15 PM

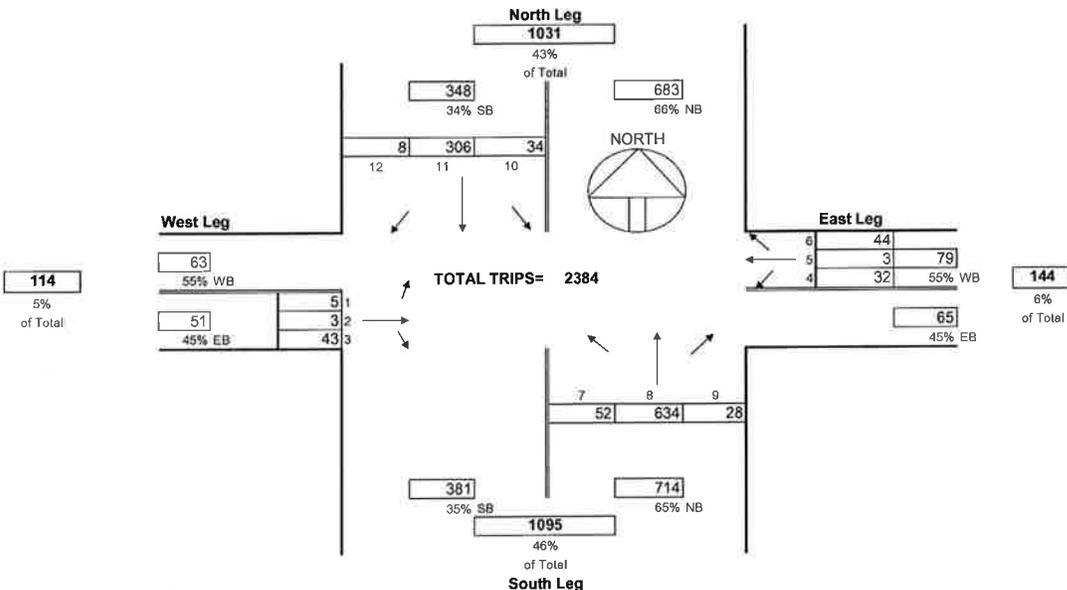
2015 NO BUILD SCENARIO



NOTE DISTRIBUTION PATTERN BASED ON ANALOGY TO SHORT COUNT

Intersection: VT 15/ Raceway/ Project Access
 Time: 4:15-5:15 PM

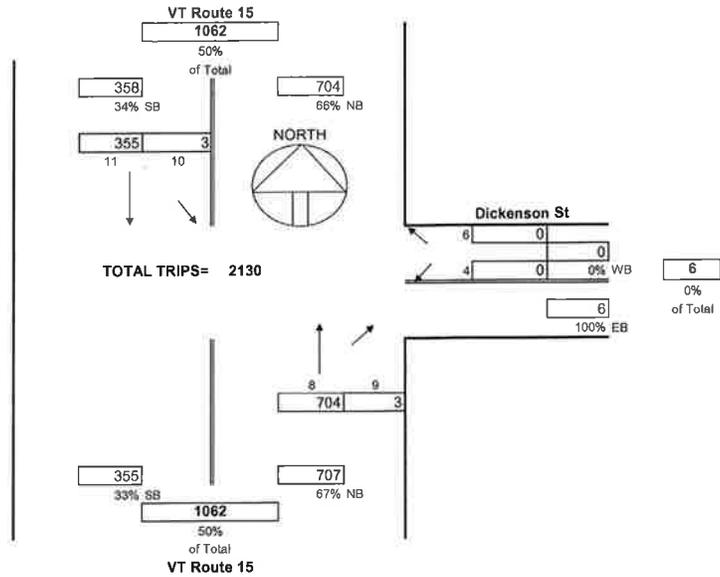
2015 BUILD SCENARIO



NOTE DISTRIBUTION PATTERN BASED ON ANALOGY TO SHORT COUNT

Intersection: VT Route 15 & Dickenson Street
 Time: 4:15-5:15 PM

2015 NO BUILD SCENARIO



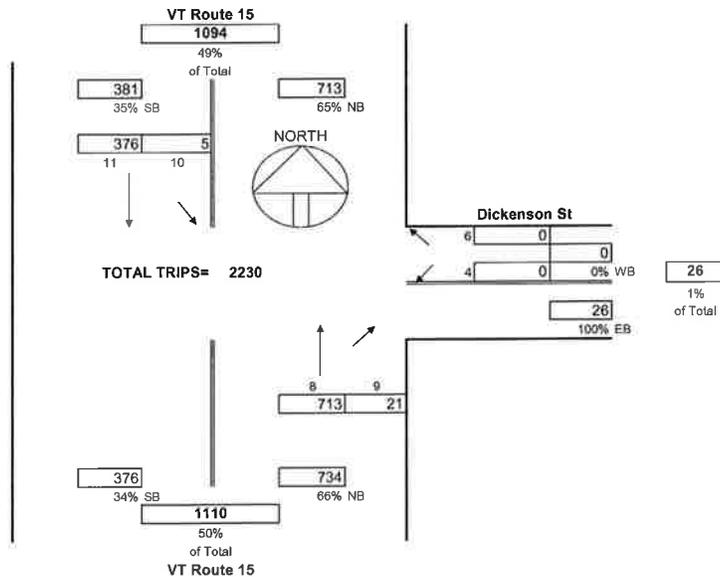
Summary of Volumes

WB		WB		NB		NB		SB		SB	
L	R	L	R	T	R	L	R	L	T	L	T
4	0	6	0	8	3	10	3	10	11	0	0
0	0	0	0	704	3	3	3	355	0	0	0

NOTE DISTRIBUTION PATTERN BASED ON ANALOGY TO SHORT COUNT

Intersection: VT Route 15 & Dickenson Street
 Time: 4:15-5:15 PM

2015 BUILD SCENARIO
 TOTAL TRAFFIC



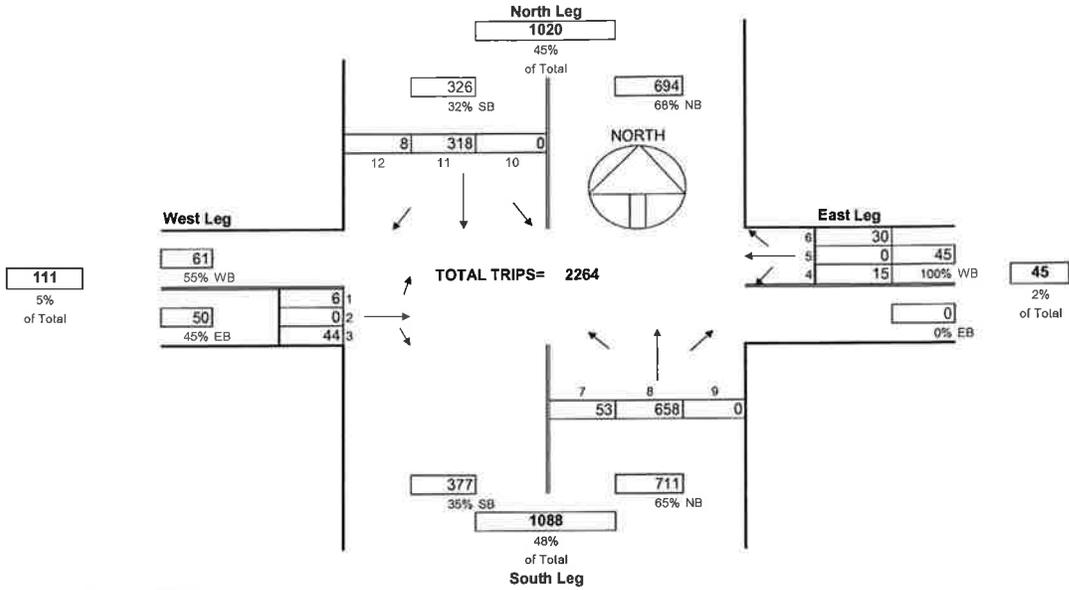
Summary of Volumes

WB		WB		NB		NB		SB		SB	
L	R	L	R	T	R	L	R	L	T	L	T
4	0	6	0	8	3	10	3	10	11	0	0
0	0	0	0	713	21	5	3	376	0	0	0

NOTE DISTRIBUTION PATTERN BASED ON ANALOGY TO SHORT COUNT

Intersection: VT 15/ Raceway/ Project Access
 Time: 4:15-5:15 PM

2020 NO BUILD SCENARIO



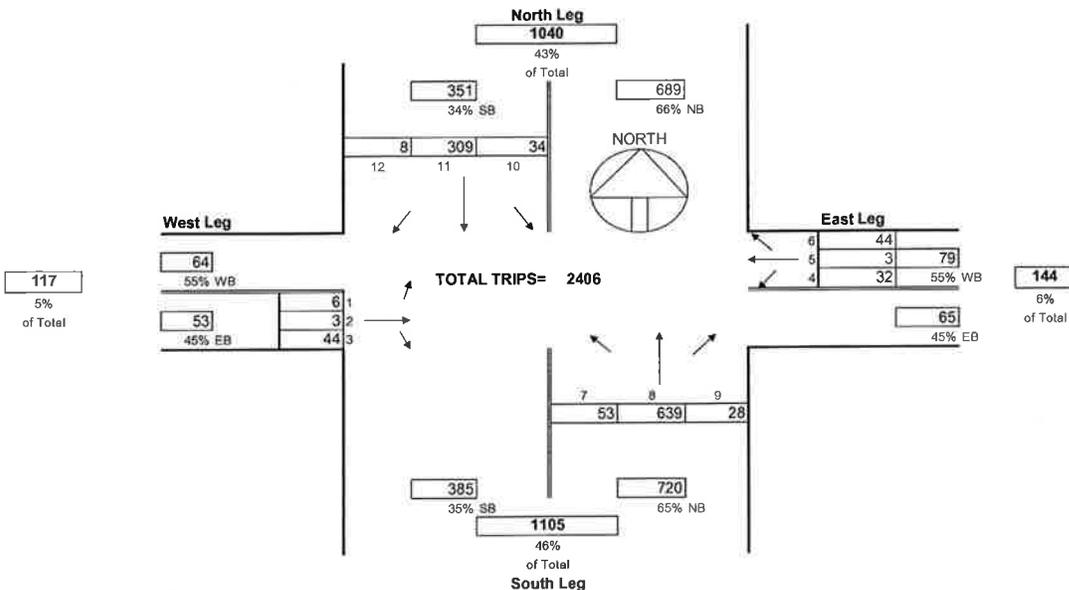
Summary of Volumes

EB			WB			NB			SB		
L	T	R	L	T	R	L	T	R	L	T	R
1	2	3	4	5	6	7	8	9	10	11	12
6	0	44	15	0	30	53	658	0	0	318	8

NOTE DISTRIBUTION PATTERN BASED ON ANALOGY TO SHORT COUNT

Intersection: VT 15/ Raceway/ Project Access
 Time: 4:15-5:15 PM

2020 BUILD SCENARIO



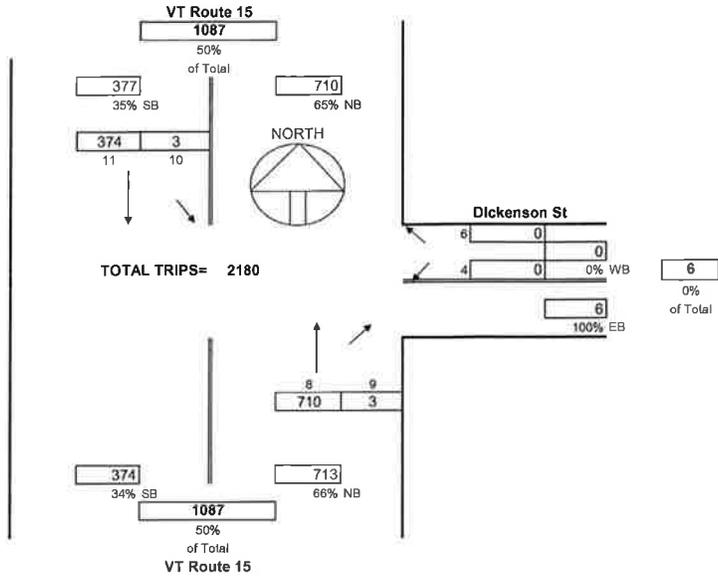
Summary of Volumes

EB			WB			NB			SB		
L	T	R	L	T	R	L	T	R	L	T	R
1	2	3	4	5	6	7	8	9	10	11	12
6	3	44	32	3	44	53	639	28	34	309	8

NOTE DISTRIBUTION PATTERN BASED ON ANALOGY TO SHORT COUNT

Intersection: VT Route 15 & Dickenson Street
 Time: 4:15-5:15 PM

2020 NO BUILD SCENARIO



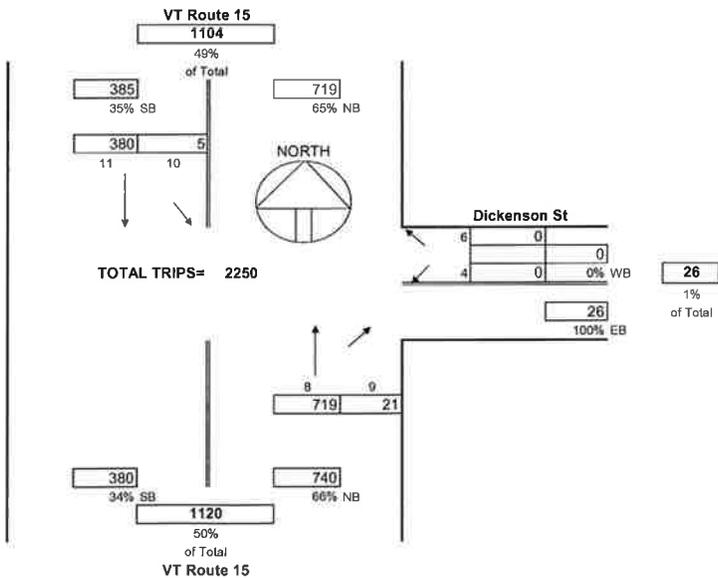
Summary of Volumes

WB		WB		NB		NB		SB		SB	
L	R	T	R	L	T	L	T	L	T	L	T
4	8	8	9	10	11	0	0	0	0	0	0
0	0	710	3	3	374						

NOTE DISTRIBUTION PATTERN BASED ON ANALOGY TO SHORT COUNT

Intersection: VT Route 15 & Dickenson Street
 Time: 4:15-5:15 PM

2020 BUILD SCENARIO
 TOTAL TRAFFIC



Summary of Volumes

WB		WB		NB		NB		SB		SB	
L	R	T	R	L	T	L	T	L	T	L	T
4	8	8	9	10	11	0	0	0	0	0	0
0	0	719	21	5	380						

NOTE DISTRIBUTION PATTERN BASED ON ANALOGY TO SHORT COUNT

Intersection

Int Delay, s/veh 0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	5	0	43	0	0	0	52	653	0	0	315	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	0	43	0	0	0	52	653	0	0	315	8

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1076	1076	319	1098	1080	653	323	0	0	653	0	0
Stage 1	319	319	-	757	757	-	-	-	-	-	-	-
Stage 2	757	757	-	341	323	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	197	219	722	190	218	467	1237	-	-	934	-	-
Stage 1	693	653	-	400	416	-	-	-	-	-	-	-
Stage 2	400	416	-	674	650	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	187	205	722	170	204	467	1237	-	-	934	-	-
Mov Cap-2 Maneuver	187	205	-	170	204	-	-	-	-	-	-	-
Stage 1	647	653	-	374	389	-	-	-	-	-	-	-
Stage 2	374	389	-	634	650	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.1	0	0.6	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1237	-	-	556	-	934	-
HCM Lane V/C Ratio	0.042	-	-	0.086	-	-	-
HCM Control Delay (s)	8	0	-	12.1	0	0	-
HCM Lane LOS	A	A	-	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	-	0	-

Intersection

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	0	704	3	3	355
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	704	3	3	355

Major/Minor	Minor1	Minor2	Major1	Major2	Major3	Major4
Conflicting Flow All	1067	706	0	0	707	0
Stage 1	706	-	-	-	-	-
Stage 2	361	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	246	436	-	-	891	-
Stage 1	489	-	-	-	-	-
Stage 2	705	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	245	436	-	-	891	-
Mov Cap-2 Maneuver	245	-	-	-	-	-
Stage 1	489	-	-	-	-	-
Stage 2	702	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0.1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	891	-
HCM Lane V/C Ratio	-	-	-	0.003	-
HCM Control Delay (s)	-	-	0	9.1	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	-	0	-

HCM 2010 TWSC
2: Raceway Rd/Access & VT 15

1/22/2015

Intersection

Int Delay, s/veh 3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	5	3	43	32	3	44	52	634	28	34	306	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	3	43	32	3	44	52	634	28	34	306	8

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1154	1144	310	1153	1134	648	314	0	0	662	0	0
Stage 1	378	378	-	752	752	-	-	-	-	-	-	-
Stage 2	776	766	-	401	382	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	174	200	730	174	203	470	1246	-	-	927	-	-
Stage 1	644	615	-	402	418	-	-	-	-	-	-	-
Stage 2	390	412	-	626	613	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	143	179	730	148	181	470	1246	-	-	927	-	-
Mov Cap-2 Maneuver	143	179	-	148	181	-	-	-	-	-	-	-
Stage 1	601	588	-	375	390	-	-	-	-	-	-	-
Stage 2	328	385	-	560	586	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.8	27	0.6	0.9
HCM LOS	B	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1246	-	-	461	242	927	-
HCM Lane V/C Ratio	0.042	-	-	0.111	0.326	0.037	-
HCM Control Delay (s)	8	0	-	13.8	27	9	0
HCM Lane LOS	A	A	-	B	D	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.4	1.4	0.1	-

Intersection

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	0	713	21	5	376
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	713	21	5	376

Major/Minor	Minor1	Minor2	Major1	Major2	Major3	Major4
Conflicting Flow All	1110	724	0	0	734	0
Stage 1	724	-	-	-	-	-
Stage 2	386	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	232	426	-	-	871	-
Stage 1	480	-	-	-	-	-
Stage 2	687	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	230	426	-	-	871	-
Mov Cap-2 Maneuver	230	-	-	-	-	-
Stage 1	480	-	-	-	-	-
Stage 2	682	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0.1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	871	-
HCM Lane V/C Ratio	-	-	-	0.006	-
HCM Control Delay (s)	-	-	0	9.2	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection

Int Delay, s/veh 1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	6	0	44	15	0	30	53	658	0	0	318	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	0	44	15	0	30	53	658	0	0	318	8

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1101	1086	322	1108	1090	658	326	0	0	658	0	0
Stage 1	322	322	-	764	764	-	-	-	-	-	-	-
Stage 2	779	764	-	344	326	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	189	216	719	187	215	464	1234	-	-	930	-	-
Stage 1	690	651	-	396	413	-	-	-	-	-	-	-
Stage 2	389	413	-	671	648	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	168	201	719	166	200	464	1234	-	-	930	-	-
Mov Cap-2 Maneuver	168	201	-	166	200	-	-	-	-	-	-	-
Stage 1	643	651	-	369	385	-	-	-	-	-	-	-
Stage 2	339	385	-	630	648	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.7	19.7	0.6	0
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1234	-	-	516	290	930	-	-
HCM Lane V/C Ratio	0.043	-	-	0.097	0.155	-	-	-
HCM Control Delay (s)	8	0	-	12.7	19.7	0	-	-
HCM Lane LOS	A	A	-	B	C	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0.5	0	-	-

Intersection

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	0	710	3	3	374
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	710	3	3	374

Major/Minor	Minor1	Minor2	Major1	Major2	Major3	Major4
Conflicting Flow All	1092	712	0	0	713	0
Stage 1	712	-	-	-	-	-
Stage 2	380	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	237	432	-	-	887	-
Stage 1	486	-	-	-	-	-
Stage 2	691	-	-	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	236	432	-	-	887	-
Mov Cap-2 Maneuver	236	-	-	-	-	-
Stage 1	486	-	-	-	-	-
Stage 2	688	-	-	-	-	-

Approach	WB	WB	NB	SB
HCM Control Delay, s	0	0	0	0.1
HCM LOS	A	A	A	A

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	887	-
HCM Lane V/C Ratio	-	-	-	0.003	-
HCM Control Delay (s)	-	-	0	9.1	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection

Int Delay, s/veh 3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	6	3	44	32	3	44	53	639	28	34	309	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	3	44	32	3	44	53	639	28	34	309	8

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1164	1154	313	1164	1144	653	317	0	0	667	0	0
Stage 1	381	381	-	759	759	-	-	-	-	-	-	-
Stage 2	783	773	-	405	385	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	171	197	727	171	200	467	1243	-	-	923	-	-
Stage 1	641	613	-	399	415	-	-	-	-	-	-	-
Stage 2	387	409	-	622	611	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	140	175	727	145	178	467	1243	-	-	923	-	-
Mov Cap-2 Maneuver	140	175	-	145	178	-	-	-	-	-	-	-
Stage 1	597	585	-	372	387	-	-	-	-	-	-	-
Stage 2	324	381	-	555	584	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.3	27.6	0.6	0.9
HCM LOS	B	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1243	-	-	440	238	923	-	-
HCM Lane V/C Ratio	0.043	-	-	0.12	0.332	0.037	-	-
HCM Control Delay (s)	8	0	-	14.3	27.6	9	0	-
HCM Lane LOS	A	A	-	B	D	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.4	1.5	0.1	-	-

Intersection

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	0	719	21	5	380
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	719	21	5	380

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1120	730	0 0 740 0
Stage 1	730	-	- - - -
Stage 2	390	-	- - - -
Critical Hdwy	6.42	6.22	- - 4.12 -
Critical Hdwy Stg 1	5.42	-	- - - -
Critical Hdwy Stg 2	5.42	-	- - - -
Follow-up Hdwy	3.518	3.318	- - 2.218 -
Pot Cap-1 Maneuver	228	422	- - 867 -
Stage 1	477	-	- - - -
Stage 2	684	-	- - - -
Platoon blocked, %			- - -
Mov Cap-1 Maneuver	226	422	- - 867 -
Mov Cap-2 Maneuver	226	-	- - - -
Stage 1	477	-	- - - -
Stage 2	679	-	- - - -

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0.1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	867	-
HCM Lane V/C Ratio	-	-	0.006	-
HCM Control Delay (s)	-	-	0	9.2
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	-

Appendix E - Crash Data

General Yearly Summaries - Crash Listing: State Highways and All Federal Aid Highway Systems
From 01/01/08 To 12/31/12 General Yearly Summaries Information

* Reporting Agency/ Number	Town	Mile Marker	Date MM/DD/YY	Time	Weather	Contributing Circumstances	Direction Of Collision	Number Of Injuries	Number Of Fatalities	Number Of Untimely Deaths	Direction	Road Group
Route: VT-15 Continued ...												
VT0040200/12ES0 0973	Essex	7.88	02/20/2012	16:00	Cloudy		Rear End	0	0	0	E	SH
VT0040200/09ES0 9399	Essex	7.89	12/13/2009	18:40	Clear	No improper driving, Failed to yield right of way	Left Turn and Thru, Angle Broadside -->v--	0	0	0	E	SH
VT0040200/11ES0 4303	Essex	7.89	06/24/2011	10:09	Cloudy	Followed too closely, No improper driving	Rear End	0	0	0	E	SH
VT0040200/08ES0 2478	Essex	7.92	04/21/2008	04:55	Clear	Failure to keep in proper lane	Single Vehicle Crash	0	0	0		SH
VT0040200/11ES0 3814	Essex	7.92	06/06/2011	17:31	Clear	Unknown	Single Vehicle Crash	1	0	0		SH
VT0040200/12ES0 1275	Essex	7.98	03/10/2012	09:09	Clear	Followed too closely, No improper driving	Rear End	0	0	0		SH
VT0040200/12ES0 6991	Essex	8.04	11/26/2012	07:20	Snow	Driving too fast for conditions	Other - Explain in Narrative	0	0	0		SH
VT0040200/08ES0 311	Essex	8.08	01/14/2008	16:09	Unknown	Unknown	Other - Explain in Narrative	0	0	0		SH
VT0040200/09ES0 5928	Essex	UNK	08/10/2009	15:14	Not Reported	Unknown, No improper driving	Rear End	0	0	0		SH
VT0040200/09ES0 9492	Essex	UNK	12/16/2009	23:00	Snow	No improper driving, Driving too fast for conditions	Rear End	0	0	0		SH
VT0040200/10ES0 1333	Essex	UNK	02/25/2010	14:02	Cloudy		Rear End	0	0	0	E	SH
VT0040200/10ES0 5874	Essex	UNK	08/07/2010	11:23	Clear	Followed too closely, No improper driving	Rear End	0	0	0		SH
VT0040200/10ES0 8096	Essex	UNK	10/12/2010	09:24	Clear	Inattention, No improper driving	Rear End	0	0	0	E	SH
VT0040200/10ES0 8540	Essex	UNK	10/28/2010	14:33	Clear		Rear End	0	0	0	W	SH
VT0040200/11ES0 4745	Essex	UNK	07/11/2011	12:58	Cloudy		Rear End	0	0	0	W	SH
VT0040200/12ES0 7396	Essex	UNK	12/13/2012	09:58	Clear		Other - Explain in Narrative	0	0	0	E	SH
VTVSP0100/09A10 5156	Jericho	0.25	12/23/2009	18:41	Snow	No improper driving, Driving too fast for conditions, Failure to keep in proper lane	Opp Direction Sideswipe	0	0	0	E	SH
VTVSP0100/12A10 4606	Jericho	0.29	11/25/2012	09:45	Clear	Followed too closely, No improper driving	Rear End	0	0	0	E	SH
VTVSP0100/09A10 3948	Jericho	0.36	09/28/2009	07:52	Clear	Inattention, Followed too closely, No improper driving	Rear End	0	0	0	W	SH
VTVSP0100/11A10 1156	Jericho	0.43	03/12/2011	07:25	Snow	No improper driving, Driving too fast for conditions, Failure to keep in proper lane	Opp Direction Sideswipe	0	0	0	E	SH
VTVSP0100/09A10 2037	Jericho	0.45	05/15/2009	17:32	Clear	No improper driving, Failed to yield right of way	No Turns, Thru moves only, Broadside ^<	0	0	0	E	SH
VTVSP0100/12A10 1962	Jericho	0.45	05/31/2012	17:30	Cloudy	Failure to keep in proper lane, Visibility obstructed	Single Vehicle Crash	2	0	0	E	SH
VTVSP0100/09A10 3957	Jericho	0.49	09/28/2009	19:58	Rain	Driving too fast for conditions, Failure to keep in proper lane	Single Vehicle Crash	0	0	0	W	SH
VTVSP0100/11A10 2300	Jericho	0.49	06/06/2011	06:36	Clear	Driving too fast for conditions	Single Vehicle Crash	0	0	0		SH
VTVSP0100/10A10 3224	Jericho	0.56	08/10/2010	15:15	Clear	No improper driving, Driving too fast for conditions, Technology Related Distraction	Rear End	1	0	0	E	SH
VTVSP0100/08A10 2055	Jericho	0.57	05/01/2008	11:14	Clear	Failure to keep in proper lane, Inattention, No improper driving	Opp Direction Sideswipe	1	0	0	E	SH
VTVSP0100/10A10 3873	Jericho	0.75	09/19/2010	14:35	Cloudy	No improper driving, Followed too closely, Inattention	Rear End	0	0	0	E	SH
VTVSP0700/12A10 4693	Jericho	0.78	11/29/2012	19:16	Snow	Driving too fast for conditions	Single Vehicle Crash	0	0	0	E	SH
VTVSP0100/09A10 1486	Jericho	0.81	04/02/2009	13:08	Clear	Failed to yield right of way	Opp Direction Sideswipe	0	0	0	E	SH

*Crash occurred prior to the last Highway Improvement Project. This data should not be used in a crash analysis. UNK indicates the Mile Marker is Unknown.

General Yearly Summaries - Crash Listing: State Highways and All Federal Aid Highway Systems
From 01/01/08 To 12/31/12 General Yearly Summaries Information

* Reporting Agency/ Number	Town	Mile Marker	Date MM/DD/YY	Time	Weather	Contributing Circumstances	Direction Of Collision	Number Of Injuries	Number Of Fatalities	Number Of Untimely Deaths	Direction	Road Group
Route: VT-15 Continued ...												
VTVSP0100/10A10 0098	Jericho	0.81	01/04/2010	08:10	Cloudy	Failure to keep in proper lane, No improper driving	Head On	0	0	0	E	SH
VTVSP0100/10A10 0405	Jericho	0.81	01/25/2010	16:45	Rain	Failed to yield right of way, No improper driving	Left Turn and Thru, Angle Broadside -->v--	0	0	0		SH
VTVSP0100/11A10 1993	Jericho	0.81	05/14/2011	18:45	Rain	No improper driving	Same Direction Sideswipe	0	0	0		SH
VTVSP0100/08A10 2518	Jericho	0.84	06/03/2008	06:35	Clear	Failure to keep in proper lane, Inattention, No improper driving	Head On	2	0	0		SH
VTVSP0100/09A10 1091	Jericho	0.87	03/02/2009	12:15	Cloudy	Other improper action	Other - Explain in Narrative	2	0	0	E	SH
VTVSP0100/08A10 1878	Jericho	0.91	04/19/2008	18:15	Clear	Failure to keep in proper lane	Single Vehicle Crash	1	0	0		SH
VTVSP0100/10A10 1787	Jericho	1.06	05/06/2010	12:57	Cloudy	Followed too closely, Inattention, No improper driving	Rear End	0	0	0		SH
VTVSP0100/10A10 4854	Jericho	1.07	11/24/2010	14:57	Clear	No improper driving, Followed too closely	Rear End	1	0	0	W	SH
VTVSP0100/08A10 3630	Jericho	1.16	08/09/2008	17:44	Clear	Followed too closely	Rear End	0	0	0	E	SH
VTVSP0100/10A10 4026	Jericho	1.32	09/29/2010	20:18	Clear	Followed too closely, Distracted, No improper driving	Rear End	0	0	0	W	SH
VTVSP0100/11A10 3947	Jericho	1.34	09/22/2011	15:00	Cloudy	Fatigued, asleep, Unknown	Head On	0	0	0	E	SH
VTVSP0100/10A10 2509	Jericho	1.67	06/25/2010	12:11	Clear	No improper driving, Failure to keep in proper lane, Distracted	Opp Direction Sideswipe	0	0	0		SH
VTVSP0100/08A10 0743	Jericho	1.8	02/04/2008	15:20	Cloudy	Followed too closely, No improper driving	Rear End	0	0	0	W	SH
VTVSP0100/09A10 1130	Jericho	1.8	03/03/2009	17:30	Clear	No improper driving, Followed too closely, Inattention	Rear End	0	0	0		SH
VTVSP0100/10A10 3889	Jericho	1.8	09/20/2010	16:05	Clear	No improper driving, Driving too fast for conditions, Distracted	Rear End	1	0	0		SH
VTVSP0100/10A10 4943	Jericho	1.8	11/30/2010	15:11	Rain	No improper driving, Failure to keep in proper lane, Fatigued, asleep	Head On	1	0	0	E	SH
VTVSP0100/12A10 0508	Jericho	1.8	02/10/2012	14:27	Clear	No improper driving, Followed too closely, Inattention	Rear End	0	0	0	W	SH
VTVSP0100/12A10 4762	Jericho	1.8	12/04/2012	07:53	Cloudy	Other improper action, Failed to yield right of way	No Turns, Thru moves only, Broadside ^<	0	0	0	E	SH
VTVSP0100/11A10 0605	Jericho	2.03	02/03/2011	18:21	Clear	Failed to yield right of way, Operating vehicle in erratic, reckless, careless, negligent, or aggressive manner, No improper driving	No Turns, Thru moves only, Broadside ^<	0	0	0		SH
VTVSP0100/12A10 2284	Jericho	2.14	06/21/2012	22:14	Clear	Failed to yield right of way, No improper driving	Rear End	0	0	0	W	SH
VTVSP0100/09A10 4481	Jericho	2.16	11/09/2009	09:38	Clear	No improper driving, Other improper action, Inattention	Rear End	1	0	0	W	SH
VTVSP0100/11A10 0364	Jericho	2.42	01/21/2011	15:55	Clear	Failure to keep in proper lane, Wrong side or wrong way, No improper driving	Head On	2	0	0	E	SH
VTVSP0100/08A10 4552	Jericho	2.51	10/06/2008	20:03	Clear	No improper driving, Under the influence of medication/drugs/alcohol, Wrong side or wrong way, Failed to yield right of way	Left Turn and Thru, Broadside v<--	0	0	0		SH
VTVSP0100/11A10 4613	Jericho	2.54	11/09/2011	14:26	Clear	Unknown	Single Vehicle Crash	1	0	0	E	SH
VTVSP0100/12A10 0470	Jericho	2.61	02/07/2012	16:46	Clear	Followed too closely, Inattention	Rear End	1	0	0	W	SH
VTVSP0100/08A10 1479	Jericho	2.71	03/18/2008	16:50	Clear	No improper driving, Inattention, Followed too closely	Rear End	0	0	0	W	SH
VTVSP0100/08A10 1665	Jericho	2.71	04/02/2008	08:00	Cloudy	Failure to keep in proper lane, Failed to yield right of way	Left Turn and Thru, Angle Broadside -->v--	0	0	0	E	SH

*Crash occurred prior to the last Highway Improvement Project. This data should not be used in a crash analysis. UNK indicates the Mile Marker is Unknown.

General Yearly Summaries - Crash Listing: State Highways and All Federal Aid Highway Systems
From 01/01/08 To 12/31/12 General Yearly Summaries Information

* Reporting Agency/Number	Town	Mile Marker	Date MM/DD/YY	Time	Weather	Contributing Circumstances	Direction Of Collision	Number Of Injuries	Number Of Fatalities	Number Of Untimely Deaths	Direction	Road Group
Route: VT-15 Continued ...												
VTVSP0100/08A10 5052	Jericho	2.71	11/09/2008	09:13	Cloudy	Failed to yield right of way, No improper driving	Left Turn and Thru, Angle Broadside -->v--	1	0	0	E	SH
VTVSP0100/10A10 5131	Jericho	2.71	12/10/2010	15:09	Cloudy	No improper driving, Inattention, Other improper action	Rear End	0	0	0	W	SH
VTVSP0100/11A10 2840	Jericho	2.71	07/09/2011	16:12	Clear	No improper driving, Followed too closely	Rear End	4	0	0	E	SH
VTVSP0100/12A10 0100	Jericho	2.71	01/09/2012	16:02	Cloudy	No improper driving, Followed too closely, Inattention	Rear End	2	0	0	N	SH
VTVSP0100/08A10 2071	Jericho	2.75	05/02/2008	10:45	Cloudy	Followed too closely, Inattention, No improper driving	Rear End	0	0	0	E	SH
VTVSP0100/12A10 1846	Jericho	3.12	05/24/2012	08:04	Clear	Followed too closely, No improper driving	Rear End	0	0	0	S	SH
VTVSP0100/11A10 2347	Jericho	3.17	06/08/2011	11:29	Clear	No improper driving, Failure to keep in proper lane, Fatigued, asleep	Same Direction Sideswipe	1	0	0	E	SH
VTVSP0100/08A10 1669	Jericho	3.22	04/02/2008	14:30	Clear	No improper driving, Failure to keep in proper lane, Unknown	Opp Direction Sideswipe	2	0	0		SH
VTVSP0100/09A10 2410	Jericho	3.22	06/10/2009	20:41	Clear	Failed to yield right of way, Made an improper turn, No improper driving	Left Turn and Thru, Angle Broadside -->v--	0	0	0		SH
VTVSP0100/11A10 0414	Jericho	3.24	01/24/2011	09:21	Clear	Failed to yield right of way, No improper driving	Left Turn and Thru, Angle Broadside -->v--	1	0	0	E	SH
VTVSP0100/10A10 3839	Jericho	3.46	09/17/2010	13:40	Cloudy	Driving too fast for conditions, Followed too closely	Rear End	0	0	0		SH
VTVSP0100/12A10 4527	Jericho	3.53	11/19/2012	13:27	Clear	Driving too fast for conditions, Inattention	Rear End	1	0	0	W	SH
VTVSP0100/08A10 5059	Jericho	3.64	11/10/2008	02:59	Rain	Failure to keep in proper lane	Single Vehicle Crash	0	0	0	W	SH
VTVSP0700/12A10 4359	Underhill	0.04	11/05/2012	07:32	Cloudy	No improper driving, Failed to yield right of way	Left Turn and Thru, Angle Broadside -->v--	0	0	0	E	SH
VTVSP0100/09A10 2783	Underhill	0.18	07/07/2009	17:19	Cloudy	Fatigued, asleep	Single Vehicle Crash	0	0	0		SH
VTVSP0100/08A10 4466	Underhill	0.25	09/30/2008	16:42	Clear	No improper driving, Followed too closely, Inattention	Rear End	0	0	0	E	SH
VTVSP0100/10A10 1213	Underhill	0.25	03/21/2010	12:01	Snow	Fatigued, asleep	Single Vehicle Crash	1	0	0		SH
VTVSP0100/12A10 0011	Underhill	0.37	01/01/2012	15:15	Cloudy	Fatigued, asleep, Other improper action	Single Vehicle Crash	1	0	0	N	SH
VTVSP0100/08A10 0982	Underhill	0.72	02/15/2008	15:30	Cloudy	Fatigued, asleep	Single Vehicle Crash	0	0	0	W	SH
VTVSP0100/08A10 2502	Underhill	0.78	06/01/2008	22:33	Cloudy	Under the influence of medication/drugs/alcohol, Failure to keep in proper lane	Single Vehicle Crash	0	0	0		SH
VTVSP0100/12A10 3379	Underhill	0.81	09/01/2012	02:00	Clear	Failure to keep in proper lane, Driving too fast for conditions	Single Vehicle Crash	1	0	0		SH
VTVSP0100/09A10 1485	Underhill	1.2	04/02/2009	08:20	Clear	Failure to keep in proper lane	Single Vehicle Crash	0	0	0	W	SH
VTVSP0100/12A10 4639	Underhill	1.31	11/26/2012	12:58	Clear		No Turns, Thru moves only, Broadside ^<	0	0	0		SH
VTVSP0100/08A10 1994	Underhill	1.44	04/26/2008	21:15	Clear	No improper driving	Single Vehicle Crash	0	0	0	W	SH
VTVSP0100/09A10 4320	Underhill	1.44	10/27/2009	06:45	Clear	Failure to keep in proper lane	Single Vehicle Crash	1	0	0	W	SH
VTVSP0100/08A10 0968	Underhill	2.35	02/15/2008	08:26	Cloudy	Driving too fast for conditions, Failure to keep in proper lane	Single Vehicle Crash	0	0	0	W	SH
VTVSP0100/11A10 0564	Underhill	2.41	02/01/2011	19:55	Snow	Failure to keep in proper lane	Single Vehicle Crash	0	0	0	N	SH
VTVSP0100/11A10 1629	Underhill	2.48	04/16/2011	20:03	Sleet, Hail (Freezing Rain or Drizzle)		Single Vehicle Crash	1	0	0	S	SH

*Crash occurred prior to the last Highway Improvement Project. This data should not be used in a crash analysis. UNK indicates the Mile Marker is Unknown.

General Yearly Summaries - Town Highway Crash Listing: Non-Federal Aid Highways-Local
From 01/01/08 To 12/31/12 General Yearly Summaries Information

Reporting Agency/ Number	County	Town	Route	Date MM/DD/YY	Time	Weather	Contributing Circumstances	Direction Of Collision	Number Of Injuries	Number Of Fatalities	Number Of Untimely Deaths	Location
VTVSP0100/12 A102676	Chittenden	Huntington	T0030	07/18/2012	07:45	Clear	Inattention	Single Vehicle Crash	1	0	0	TH-30 (649 Moody Rd) at Main Rd
VTVSP0100/08 A100777	Chittenden	Jericho	T0003	02/06/2008	08:08	Snow	Driving too fast for conditions, Failure to keep in proper lane, No improper driving	No Turns, Thru moves only, Broadside ^<	0	0	0	TH-3 Nashville Road at Tourin Road
VTVSP0100/08 A103545	Chittenden	Jericho	T0003	08/04/2008	12:14	Clear	Driving too fast for conditions	Single Vehicle Crash	0	0	0	TH-3 Nashville Rd; Box 49
VTVSP0100/08 A104745	Chittenden	Jericho	T0003	10/19/2008	01:00	Clear	Failure to keep in proper lane, Under the influence of medication/drugs/alcohol	Single Vehicle Crash	0	0	0	TH-3 Nashville Road at Bentley Lane
VTVSP0100/10 A102534	Chittenden	Jericho	T0003	06/26/2010	11:08	Cloudy	Driving too fast for conditions, Followed too closely, No improper driving	Rear End	3	0	0	TH-3 (Nashville Rd) at Browns Trace
VTVSP0100/12 A102412	Chittenden	Jericho	T0003	07/01/2012	15:23	Clear	Other improper action	Single Vehicle Crash	2	0	0	TH-3 Nashville Rd at Browns Trace
VTVSP0100/08 A100511	Chittenden	Jericho	T0006	01/25/2008	04:34	Clear	Failure to keep in proper lane	Rear End	0	0	0	TH-6 (149 Skunk Hollow) at Driveway To 149 Skunk Hollow
VT0040800/09 RM00044	Chittenden	Jericho	T0006	01/19/2009	23:25	Snow	Driving too fast for conditions	Single Vehicle Crash	0	0	0	TH-6 (Skunk Hollow Road) at Vt Rt 117
VT0040800/09 RM00064	Chittenden	Jericho	T0006	01/25/2009	18:15	Snow	Driving too fast for conditions	Single Vehicle Crash	1	0	0	TH-6 Skunk Hollow Road at VT Rt 117
VTVSP0100/09 A105193	Chittenden	Jericho	T0006	12/27/2009	14:30	Cloudy	Followed too closely, Distracted, No improper driving	Head On	0	0	0	TH-6 (30 Plains Rd) at Skunk Hollow Rd
VTVSP0100/10 A100697	Chittenden	Jericho	T0006	02/14/2010	08:30	Other - Explain in Narrative	Failure to keep in proper lane, Driving too fast for conditions, No improper driving	Head On	0	0	0	TH-6 Skunk Hollow Road at Vermont Route 117
VTVSP0100/10 A101061	Chittenden	Jericho	T0006	03/09/2010	22:52	Clear	Operating vehicle in erratic, reckless, careless, negligent, or aggressive manner	Single Vehicle Crash	0	0	0	TH-6 (149 Skunk Hollow Road) at Route 15
VTVSP0100/12 A104279	Chittenden	Jericho	T0006	10/30/2012	22:56	Rain	Failure to keep in proper lane, Driving too fast for conditions, No improper driving	Head On	2	0	0	TH-6 Skunk Hollow Rd at White Oak Dr
VTVSP0100/12 A105027	Chittenden	Jericho	T0006	12/21/2012	18:24	Cloudy	Failure to keep in proper lane	Single Vehicle Crash	0	0	0	TH-6 Skunk Hollow Rd at Plains Rd/Box #149
VTVSP0100/12 A105111	Chittenden	Jericho	T0006	12/27/2012	12:20		No improper driving	Opp Direction Sideswipe	0	0	0	TH-6 (87 Skunk Hollow Rd)
VTVSP0100/09 A103099	Chittenden	Jericho	T0013	07/28/2009	07:40	Cloudy	Driving too fast for conditions, Failure to keep in proper lane, No improper driving	No Turns, Thru moves only, Broadside ^<	1	0	0	TH-13 Raceway Rd at VT Route 15
VTVSP0100/12 A102886	Chittenden	Jericho	T0013	07/29/2012	19:47	Clear	Operating vehicle in erratic, reckless, careless, negligent, or aggressive manner	Single Vehicle Crash	0	0	0	TH-13 Raceway Road at VT Route 15
VTVSP0100/12 A100486	Chittenden	Jericho	T0015	02/09/2012	06:16	Clear	Swerving or avoiding due to wind, slippery surface, vehicle, object non-motorist in roadway etc, No improper driving	Single Vehicle Crash	1	0	0	TH-15 Orr Rd at Brown's Trace Rd
VTVSP0100/08 A104337	Chittenden	Jericho	T0019	09/23/2008	15:28	Cloudy	Exceeded authorized speed limit, Driving too fast for conditions	Single Vehicle Crash	2	0	0	TH-19 Plains Rd at Browns Trace
VTVSP0100/12 A104715	Chittenden	Jericho	T0019	12/01/2012	00:56	Clear	Failure to keep in proper lane	Single Vehicle Crash	0	0	0	TH-19 Plains Rd at Browns Trace
VTVSP0100/10 A104194	Chittenden	Jericho	T0029	10/13/2010	12:35	Clear	Failure to keep in proper lane	Single Vehicle Crash	1	0	0	TH-29 Fields Lane at Nashville Road
VT0040000/11 CHC058	Chittenden	Jericho	T0032	09/08/2011	18:45	Cloudy	Other improper action	Right Turn, Same Direction, Rear End ^--^--	0	0	0	TH-32 Tyler Pl./Skunk Hollow at Skunk Hollow
VTVSP0100/09 A105112	Chittenden	Jericho	T0035	12/21/2009	19:33	Cloudy	Failure to keep in proper lane	Single Vehicle Crash	0	0	0	TH-35 (Tarbox Rd) at Barber Farm
VTVSP0100/10 A104554	Chittenden	Jericho	T0059	11/05/2010	05:00	Rain	Failure to keep in proper lane, Under the influence of medication/drugs/alcohol	Single Vehicle Crash	1	0	0	TH-59 at 82 Alpine Dr
VT0040600/08 MT00311	Chittenden	Milton	0000	01/25/2008	08:27	Cloudy		Other - Explain in Narrative	0	0	0	101 West Milton Road at IFO 3rd Entrance

Appendix F - Left & Right Turn Analysis

Appendix H: Right Turn Lanes at Unsignalized Intersections

VERMONT AGENCY OF TRANSPORTATION TRAFFIC VOLUME WARRANTS FOR RIGHT TURN AUXILLARY LANES At Unsignalized Intersections

Problem Statement:

Upon review of current literature, with improved traffic operation and reduced accident experience the principal concerns, the following procedure is recommended based on traffic volume and speed warrants. Where the approach highway speed limit is 25 MPH, or the difference between the speed limit and the intersection design speed for right turning vehicles (reference 1990 AASHTO Publication A Policy on Geometric Design of Highways and Streets, Table III-17, etc.) does not exceed 15 MPH, these criteria are generally exempt.

- The need for a right turn lane shall be met for two-lane highways where the advancing (total approach volume excluding lefts utilizing a separate left turn lane) traffic volume (V) exceeds the relationship

$$V = 33 \sqrt{\frac{80 - S}{R(1 - R)}} ;$$

where S is the highway speed (speed limit assumed), in MPH, and R is the ratio of right turns to the advancing traffic volume for design conditions, expressed as a decimal.

- The need for a right-turn lane shall be met for four-lane highways where the above two-lane warrant is met and a minimum of 50 right turning vehicles is exceeded. Two-lane versus four-lanes highway determination is based on the number of advancing volume lanes used to carry through traffic; e.g. where one approach lane carries through traffic it is considered a two-lane highway.

Specific safety concerns may also be cause for inclusion, on a case by case basis, such as restricted sight distance or other severe geometric conditions. In any event it shall be the Agency's prerogative to determine the implementation of any improvements in considering any impacts or hardships that might result from such improvements.

APPROVED: Original Signed
Arthur Goss
Director of Planning

DATE: 11/06/89

S = 35 R = 28/714 = 0.039 V = 1150 Advancing Volume = 714 NOT MET

Table 5
GUIDELINES FOR LEFT-TURN LANE AT UNSIGNALIZED INTERSECTION

Two-lane Roadway Opposing Volume (vph)	Advancing Volume - vph																									Operating Speed = 30 mph Speed Limit = 35 mph Design Speed = 40 mph				
	0.50	0.75	1.00	1.25	1.50	1.75	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	8.0	9.0	10	15	20	30	40	50	Left-turn - percent				
50	2224	1818	1576	1412	1290	1196	1120	1005	920	854	800	757	720	688	660	636	615	578	548	523	439	392	342	320	314					
100	1958	1601	1388	1243	1136	1053	987	885	810	752	705	666	634	606	582	560	541	509	483	460	387	345	301	282	276					
150	1749	1430	1240	1111	1015	941	881	790	723	671	630	595	566	541	520	501	484	455	431	411	346	308	269	252	247					
200	1598	1306	1133	1015	927	860	805	722	661	613	575	544	517	494	475	457	442	415	394	376	316	282	246	230	225					
250	1436	1174	1018	912	833	772	723	649	594	551	517	489	465	444	426	411	397	373	354	338	284	253	221	207	203					
300	1331	1088	944	845	773	716	671	601	550	511	479	453	431	412	395	381	368	346	328	313	263	235	205	192	188					
350	1214	992	861	771	704	653	612	548	502	466	437	413	393	376	361	347	336	316	299	285	240	214	187	175	171					
400	1118	914	793	710	649	602	564	505	462	429	403	381	362	346	332	320	309	291	276	263	221	197	172	161	158					
450	1026	839	728	652	596	552	517	464	424	394	369	349	332	318	305	294	284	267	253	241	203	181	158	148	145					
500	937	766	664	595	544	504	472	423	388	360	337	319	303	290	278	268	259	244	231	220	185	165	144	135	132					
550	869	711	616	552	504	468	438	393	359	334	313	296	281	269	258	249	240	226	214	204	172	153	134	125	123					
600	823	672	583	522	477	442	414	372	340	316	296	280	266	254	244	235	227	214	203	193	162	145	127	118	116					
650	759	621	538	482	441	408	382	343	314	291	273	258	246	235	225	217	210	197	187	178	150	134	117	109	107					
700	717	586	508	455	416	385	361	324	296	275	258	244	232	222	213	205	198	186	177	168	142	126	110	103	101					
750	657	537	466	417	381	353	331	297	272	252	236	223	213	203	195	188	182	171	162	154	130	116	101	95	93					
800	598	489	424	380	347	322	301	270	247	230	215	203	194	185	178	171	165	155	147	141	118	105	92	86	84					
850	560	458	397	356	325	301	282	253	232	215	202	191	181	173	166	160	155	146	138	132	111	99	86	81	79					
900	524	428	371	332	304	282	264	237	217	201	188	178	169	162	156	150	145	136	129	123	103	92	81	75	74					
950	488	399	346	310	283	263	246	221	202	187	176	166	158	151	145	140	135	127	120	115	96	86	75	70	69					
1000	454	371	322	288	263	244	229	205	188	174	163	154	147	140	135	130	125	118	112	107	90	80	70	65	64					
1050	420	343	298	267	244	226	212	190	174	161	151	143	136	130	125	120	116	109	103	99	83	74	65	60	59					
1100	365	298	258	231	212	196	184	165	151	140	131	124	118	113	108	104	101	95	90	86	72	64	56	52	51					
1150	331	271	235	210	192	178	167	150	137	127	119	113	107	102	98	95	92	86	82	78	65	58	51	48	47					
1200	272	222	193	173	158	146	137	123	112	104	98	93	88	84	81	78	75	71	67	64	54	48	42	39	38					
1250	236	193	168	150	137	127	119	107	98	91	85	80	76	73	70	68	65	61	58	56	47	42	36	34	33					
1300	199	163	141	126	115	107	100	90	82	76	72	68	64	62	59	57	55	52	49	47	39	35	31	29	28					

Lefts = 34
Opposing = 662
Advancing = 348
% Lefts = 9.8

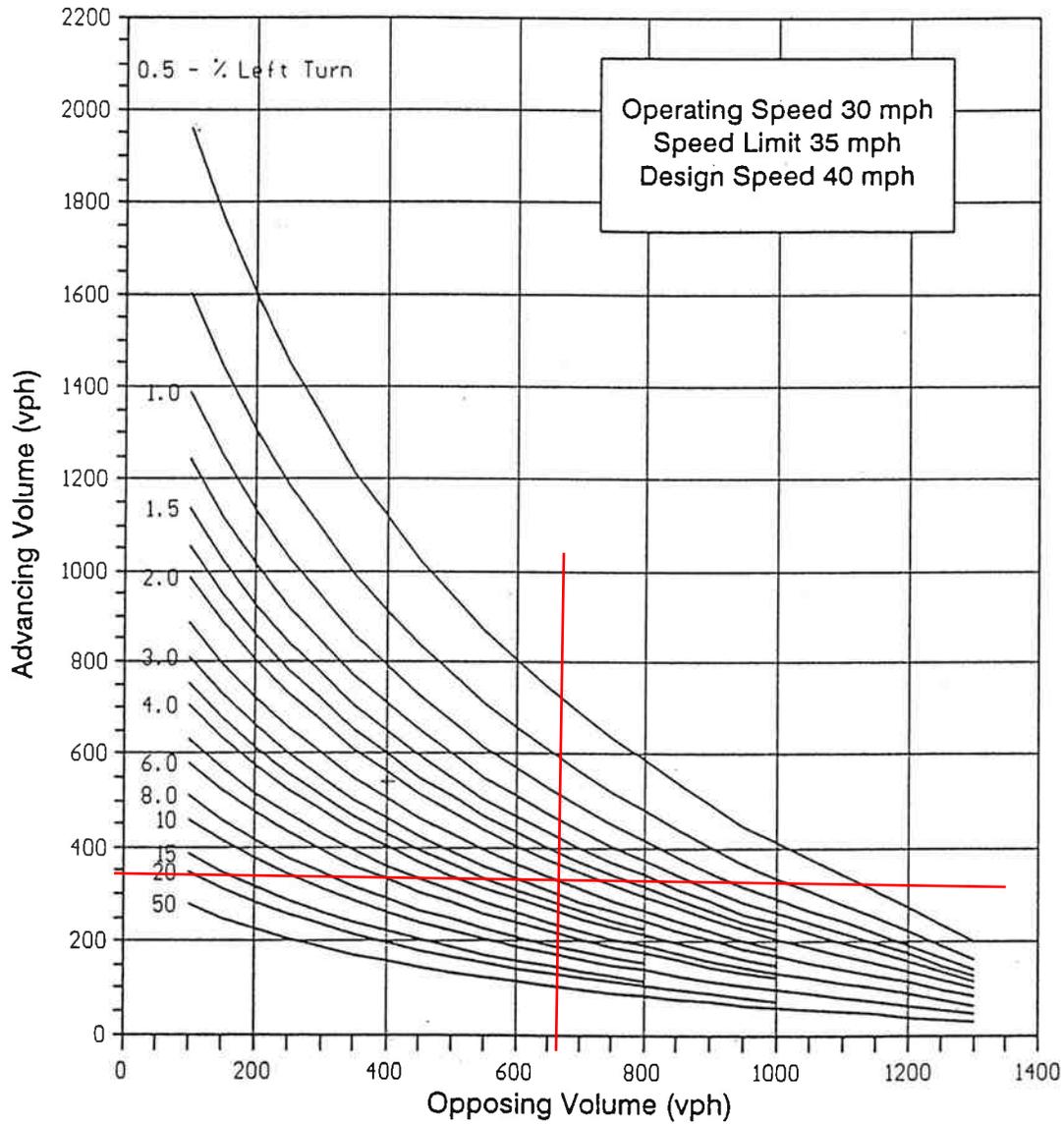


Figure 5 Guidelines for Left-turn Lane at Unsignalized Intersection - Two-lane Roadway

Above curve: warrant met

Lefts=34
 Opposing = 662
 Advancing = 348
 % Lefts = 9.8

Table 6
GUIDELINES FOR LEFT-TURN LANE AT UNSIGNALIZED INTERSECTION

Two-lane Roadway Opposing Volume (vph)	Left-turn Volume - vph																									Operating Speed = 30 mph Speed Limit = 35 mph Design Speed = 40 mph		
	Left-turn - percent																											
	0.50	0.75	1.00	1.25	1.50	1.75	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	8.0	9.0	10	15	20	30	40	50			
50	11	14	16	18	19	21	22	25	28	30	32	34	36	38	40	41	43	46	49	52	66	78	103	128	157			
100	10	12	14	16	17	18	20	22	24	26	28	30	32	33	35	36	38	41	43	46	58	69	90	113	138			
150	9	11	12	14	15	16	18	20	22	23	25	27	28	30	31	33	34	36	39	41	52	62	81	101	123			
200	8	10	11	13	14	15	16	18	20	21	23	24	26	27	28	30	31	33	35	38	47	56	74	92	113			
250	7	9	10	11	12	14	14	16	18	19	21	22	23	24	26	27	28	30	32	34	43	51	66	83	101			
300	7	8	9	11	12	13	13	15	17	18	19	20	22	23	24	25	26	28	30	31	39	47	61	77	94			
350	6	7	9	10	11	11	12	14	15	16	17	19	20	21	22	23	23	25	27	29	36	43	56	70	86			
400	6	7	8	9	10	11	11	13	14	15	16	17	18	19	20	21	22	23	25	26	33	39	52	64	79			
450	5	6	7	8	9	10	10	12	13	14	15	16	17	17	18	19	20	21	23	24	30	36	47	59	72			
500	5	6	7	7	8	9	9	11	12	13	13	14	15	16	17	17	18	19	21	22	28	33	43	54	66			
550	4	5	6	7	8	8	9	10	11	12	13	13	14	15	15	16	17	18	19	20	26	31	40	50	61			
600	4	5	6	7	7	8	8	9	10	11	12	13	13	14	15	15	16	17	18	19	24	29	38	47	58			
650	4	5	5	6	7	7	8	9	9	10	11	12	12	13	14	14	15	16	17	18	22	27	35	44	54			
700	4	4	5	6	6	7	7	8	9	10	10	11	12	12	13	13	14	15	16	17	21	25	33	41	51			
750	3	4	5	5	6	6	7	7	8	9	9	10	11	11	12	12	13	14	15	15	19	23	30	38	46			
800	3	4	4	5	5	6	6	7	7	8	9	9	10	10	11	11	12	12	13	14	18	21	28	34	42			
850	3	3	4	4	5	5	6	6	7	8	8	9	9	10	10	10	11	12	12	13	17	20	26	32	40			
900	3	3	4	4	5	5	5	6	6	7	8	8	8	9	9	10	10	11	12	12	16	18	24	30	37			
950	2	3	3	4	4	5	5	6	6	7	7	7	8	8	9	9	9	10	11	11	14	17	23	28	34			
1000	2	3	3	4	4	4	5	5	6	6	7	7	7	8	8	8	9	9	10	11	13	16	21	26	32			
1050	2	3	3	3	4	4	4	5	5	6	6	6	7	7	7	8	8	9	9	10	12	15	19	24	30			
1100	2	2	3	3	3	3	4	4	5	5	5	6	6	6	6	7	7	8	8	9	11	13	17	21	26			
1150	2	2	2	3	3	3	3	4	4	4	5	5	5	6	6	6	6	7	7	8	10	12	15	19	23			
1200	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5	5	6	6	6	8	10	13	16	19			
1250	1	1	2	2	2	2	2	3	3	3	3	4	4	4	4	4	5	5	5	6	7	8	11	14	17			
1300	1	1	1	2	2	2	2	2	2	3	3	3	3	3	4	4	4	4	4	5	6	7	9	11	14			

Lefts = 34
Opposing = 662
Advancing = 348
% Lefts = 9.8

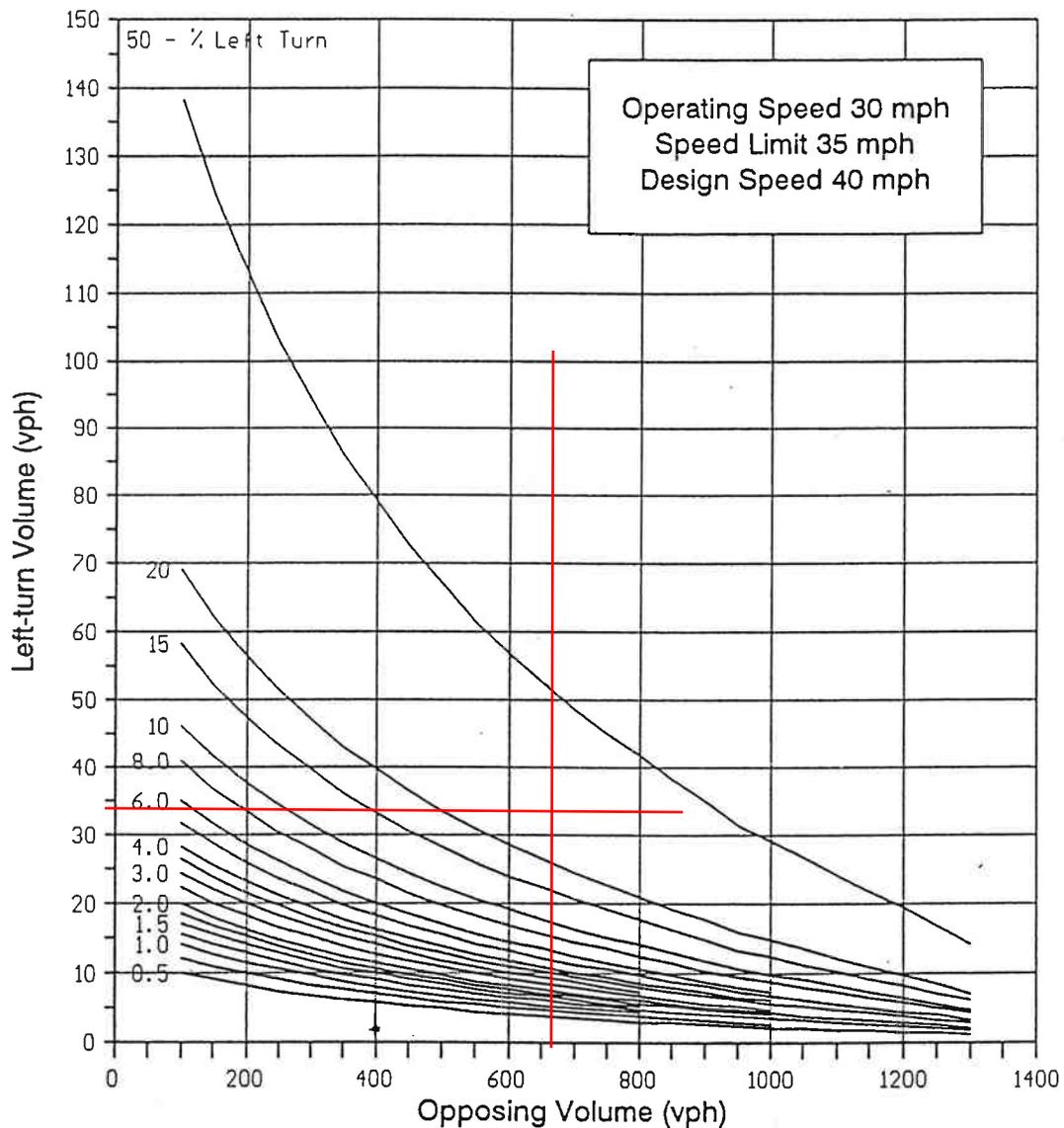


Figure 6 Guidelines for Left-turn Lane at Unsignalized Intersection - Two-lane Roadway

Lefts=34
 Opposing = 662
 Advancing = 348
 % Lefts = 9.8

Above curve: warrant met

From: Clancy, James [<mailto:James.Clancy@state.vt.us>]
Sent: Tuesday, January 27, 2015 1:04 PM
To: Abby A. Dery, P.E.
Cc: Clancy, James
Subject: Jericho Market Permit

Hello Abby,

As you know VTrans is reviewing the stormwater and traffic for this permit and I have preliminary comments back from Stormwater Management with minor concerns as we discussed earlier. The Traffic review is still out but given that VTrans considers this an improvement to access management I expect this too will be favourable. My boss and I will have a brief meeting with Traffic later this week or early next week to discuss any concerns; but at this time, given the initial comments from our Stormwater people I see no reason that once the reviews are finished, and that the project will be constructed in accordance with the plans I have (save for any minor stormwater comments to address) I feel comfortable in writing that this project will be permitted.

Sincerely,

Jim Clancy

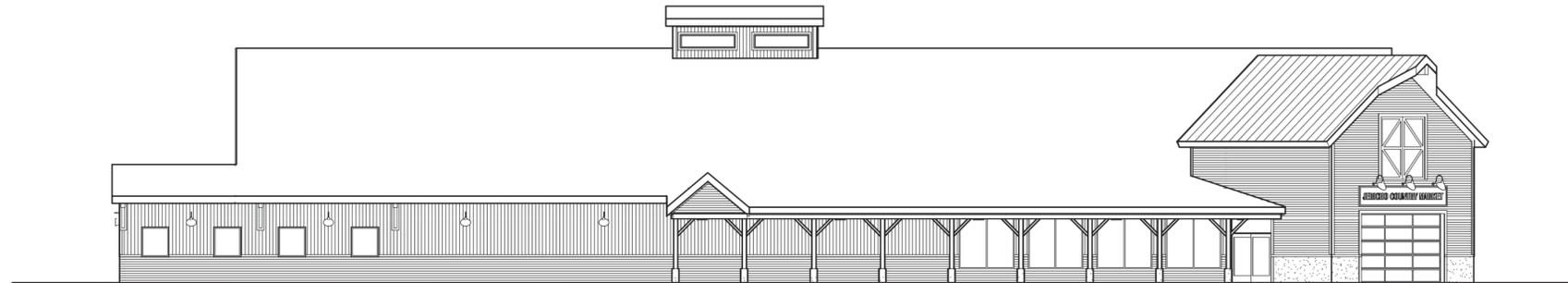
Project Supervisor
Utilities and Permits Unit
Vermont Agency of Transportation
One National Life Drive
Montpelier, Vermont 05633
(802) 828-2486

JERICHO MARKET

364 VT ROUTE 15 JERICHO, VT

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PROJECT DESCRIPTION:
 REDEVELOP EXISTING 12,800 SF ± GARAGE TO CONSTRUCT NEW
 18,000 SF ± RETAIL MARKET AND RELATED SITE IMPROVEMENTS.
 THESE PLANS ARE INTENDED TO ACCOMPANY LOCAL PERMIT
 APPLICATIONS.

Owner/Applicant
 DAVID VILLENUEVE
 P.O. BOX 360
 UNDERHILL, VT 05489
 bcoldinvt@hotmail.com
 (802) 899-1239

Co-Applicant
 41 WTC, LLC
 C/O JERRY DAVIS
 450 WEAVER ST, SUITE #3
 WINOOSKI, VT 05404
 jpdavis@peakcm.com
 (802) 988-1092

Architect:
 GARDNER KILCOYNE ARCHITECTS
 147 ALLEN BROOK LANE
 WILLISTON, VT 05495
 (802) 879-6331

Civil Engineer:
 TRUDELL CONSULTING ENGINEERS (TCE)
 478 BLAIR PARK ROAD
 WILLISTON, VT 05495
 (802) 879-6331

APPROVED BY THE JERICHO REVIEW BOARD
 ON THE _____ DAY OF _____ 201____ SUBJECT TO ALL
 CONDITIONS AND REQUIREMENTS ATTACHED TO PERMIT # _____ CHAIR
 JERICHO DEVELOPMENT REVIEW BOARD
 DATE _____ 201____

TCE PROJECT NO: 14-139

USE AND INTERPRETATION OF THE DRAWINGS

- Unless otherwise noted, these Drawings are intended for preliminary planning, coordination with other disciplines or utilities, and/or approval from the regulatory authorities. They are not intended as construction drawings unless noted as such.
- Only drawings specifically marked "For Construction" are intended to be used in conjunction with contract documents, specifications, owner/contractor agreements and to be fully coordinated with other disciplines, including but not limited to, the Architect, if applicable. These Drawings shall not be used for construction layout. Contact TCE for any construction surveying services or to obtain electronic data suitable for construction layout.
- These Drawings are specific to the Project and are not transferable. As instruments of service, these drawings, and copies thereof, furnished by TCE are its exclusive property. Changes to the drawings may only be made by TCE. If errors or omissions are discovered, they shall be brought to the attention of TCE immediately.
- By use of these drawings for construction of the Project, the Owner represents that they have reviewed, approved, and accepted the drawings and have met with all applicable participants to ensure these plans are properly coordinated with other aspects of the Project. The Owner and Architect are responsible for any buildings shown, including an area measured five (5) feet around any building.
- It is the User's responsibility to ensure the copy contains the most current revision.

BEFORE USING THESE PLANS ENSURE THAT YOU HAVE THE LATEST REVISION

DATE: 01/27/15 ISSUED FOR LOCAL APPROVAL

Revisions:	No.	Description	Date	By
	△	Cover Sheet Edits Per PeakCM	10/28/14	NTH
	△	Cover Sheet Edits	01/27/15	NTH



TRUDELL CONSULTING ENGINEERS
 478 BLAIR PARK ROAD | WILLISTON, VERMONT 05495
 802 879 6331 | WWW.TCEVT.COM

C1-01



RECEIVED
 1/26/15
 PeakCM

SITE	LINE			SITE	SYMBOL		
	EXISTING	PROPOSED	REMOVED/ABANDONED		EXISTING	PROPOSED	REMOVED/ABANDONED
PAVED DRIVE OR ROAD				SIGN			
GRAVEL DRIVE OR ROAD				UTILITIES			
PAVED DRIVE OR ROAD WITH CURB				SEWER MANHOLE (SMH)			
TREE LINE				SEWER CLEANOUT (CO)			
TRAIL				PUMP STATION (PS)			
WETLAND LIMIT				STORM DRAINAGE MANHOLE (DMH)			
TOPOGRAPHIC CONTOURS				CATCH BASIN (CB)			
STREAM				STORM DRAINAGE CLEANOUT			
GUARD RAIL				OUTLET OR END SECTION			
UTILITIES				VALVE			
SEWER MAINS AND SERVICES				CURB STOP (CS)			
SEWER FORCEMAIN				FIRE HYDRANT (HYD)			
WATER MAINS AND SERVICES				WATER SUPPLY WELL			
STORM DRAINAGE				END CAP			
CURTAIN DRAIN				BLOWOFF			
UNDERDRAIN				UTILITY POLE			
ROOF DRAIN				MTC OR TRANSFORMER			
FOOTING DRAIN				TELEPHONE MANHOLE			
LIQUID PROPANE OR NATURAL GAS				TELEPHONE PEDESTAL			
OVERHEAD POWER				LUMINAIRE			
UNDERGROUND POWER				BOLLARD LIGHT			
OVERHEAD TELEPHONE				TELEVISION PEDESTAL			
UNDERGROUND TELEPHONE				FIELD			
OVERHEAD POWER & TELEPHONE				CALCULATED POINT			
UNDERGROUND POWER & TELEPHONE				TCE CONTROL POINT			
OVERHEAD POWER, TELEPHONE & CABLE				STEEL REBAR			
UNDERGROUND POWER, TELEPHONE & CABLE				TCE CONTROL POINT			
CABLE TELEVISION				MAG NAIL			
FIBER OPTIC				OBSERVATION WELL			
SURVEY				PERCOLATION TEST			
PROPERTY LINE				SOIL TEST PIT			
RIGHT-OF-WAY LINE				SOIL BORING			
EASEMENTS				BENCHMARK			
FENCE				SURVEY			
STONEWALL				IRON PIPE			
BUILDING SETBACKS				STEEL REBAR			
				CONCRETE MONUMENT			
				MARBLE OR STONE MONUMENT			
				IRON PIN (IP)			

LEGEND NOTE:
SOME INFORMATION MAY BE PROVIDED BY OTHERS AND COULD BE SHOWN WITH A DIFFERENT SYMBOL NOT SHOWN ON THIS LEGEND. HOWEVER, THEY ARE LABELED ON RESPECTIVE PLANS. IN SOME CASES A CHANGE IN SCALE OR PRINTER CAN ALTER INFORMATION TO NOT SHOW AN EXACT MATCH ON THIS LEGEND. IF ANY QUESTIONS EXIST CONTACT THE ENGINEER TO CLARIFY. ADDITIONAL LEGEND INFORMATION IS SUPPLIED SEPARATELY ON EROSION CONTROL PLANS AND SOME SURVEY PLANS.

SURVEY NOTES:

1. THE PURPOSE OF THE EXISTING CONDITIONS PLAN IS TO DEPICT PERTINENT EXISTING CONDITIONS AS OF THE DATE OF SURVEY.
2. BEARINGS SHOWN ARE BASED UPON VERMONT GRID NORTH.
3. VERTICAL DATUM IS BASED ON NAVD88 (GEOID 12).
4. COORDINATE SYSTEM IS BASED ON VERMONT STATE PLANE (U.S. SURVEY FEET).
5. HORIZONTAL AND VERTICAL CONTROL ESTABLISHED WITH RTK GPS OBSERVATIONS FROM THE UVM CORS STATION VTUV. A TRIMBLE R6 RTK GPS UNIT WAS EMPLOYED FOR THESE OBSERVATIONS.
6. BOUNDARIES SHOWN BASED ON DEEDS RESEARCHED IN THE TOWNS OF JERICHO AND UNDERHILL LAND RECORDS AND A CLOSED FIELD TRAVERSE CONDUCTED WITH A TOTAL STATION ON 10/18/01. BEARINGS ARE BASED ON VERMONT STATE GRID.

RECORD DRAWING REQUIREMENTS:

- 1) A CLEAN SET OF UP TO DATE RECORD DRAWINGS IS TO BE AVAILABLE FOR REVIEW ON SITE AT ALL TIMES. FOR JOBS LASTING MORE THAN 4 WEEKS A REVIEW OF THE RECORD DRAWINGS WILL BE DONE BY THE ENGINEER EVERY 2 WEEKS AND COMMENTS OR DEFICIENCIES MAY BE PROVIDED.
- 2) TIES TO ALL BENDS, VALVES, JOINTS, CONNECTIONS AND DESIGN FEATURES SHALL BE PROVIDED. TIES SHALL BE PULLED FROM EASILY LOCATABLE PERMANENT ABOVE GROUND FEATURES THAT ARE VISIBLE YEAR AROUND SUCH AS BUILDING CORNERS, HYDRANTS, SEWER AND STORM DRAIN COVERS THAT WILL BE CLEARED IN WINTER, UTILITY POLES, ETC. REFRAIN FROM PROVIDING TIES WITH ACUTE ANGLES. TIES SHOULD BE PULLED AT ANGLES AS CLOSE TO 90 DEGREES AS POSSIBLE. TIES WITH ANGLE TOO ACUTE MAY BE REJECTED.
- 3) RECORD INFORMATION NEEDS TO BE PROVIDED ON THE APPROPRIATE DESIGN PLANS ON A WEEKLY BASIS. RECORD INFORMATION REGARDING TCE DESIGN ITEMS PLACED ON INAPPROPRIATE DESIGN PLANS WILL NOT BE ACCEPTED.
- 4) IF ENGINEERING SERVICES FOR BI-WEEKLY REVIEW OF RECORD INFORMATION HAVE NOT BEEN OBTAINED FOR THE PROJECT ALL RECORD INFORMATION FOR TCE DESIGN ITEMS SHALL BE PROVIDED TO TCE WITHIN 7 BUSINESS DAYS OF THE COMPLETION OF THE WORK.
- 5) PLANS SUBMITTED AT THE END OF THE PROJECT SHALL BE REVIEWED FOR COMPLETENESS. ALL REQUIREMENTS LISTED ABOVE APPLY.
- 6) IF DESIGN FEATURES WERE INSTALLED EXACTLY PER THE DESIGN PLANS TIES TO THE FEATURE ARE STILL REQUIRED TO BE PROVIDED BY THE CONTRACTOR FOR THE OWNERS USE. ANY FEATURE NOT INDICATED AS DIFFERENT IN RED WILL BE CONSIDERED TO BE EXACTLY PER DESIGN.
- 7) RECORD INFORMATION SHALL INCLUDE BOTH VERTICAL AND HORIZONTAL LOCATIONS. THIS INCLUDES BUT IS NOT LIMITED TO FINISHED FLOOR ELEVATIONS, RIMS AND INVERTS OF STRUCTURES AND PIPING, INVERTS AT CROSSINGS, ETC.
- 8) ANY UTILITIES ENCOUNTERED THAT ARE NOT SHOWN ON THE PLANS SHALL BE ADDED TO THE PLANS WITH APPROPRIATE TIES.
- 9) TIES SHALL INCLUDE ALL UTILITIES INSTALLED BY CONTRACTOR WHICH INCLUDE BUT ARE NOT LIMITED TO SEWER, WATER, STORM, ELECTRIC, CABLE, TELEPHONE, GAS, ETC.
- 10) RECORD DRAWINGS SHALL BE SUPPLIED ON BOTH HARD COPY AND ELECTRONIC DATA. ELECTRONIC DATA SHALL BE COMPUTER-AIDED DESIGN (CAD) FILES INCLUDING NATIVE FILE FORMATS (DWG).
- 11) THE CONTRACTOR SHALL SUBMIT ON A WEEKLY BASIS PROJECT PHOTOGRAPHS. THE INFORMATION WILL BE SUBMITTED TO THE ENGINEER IN ELECTRONIC FORMAT WITH EACH PICTURE BEING LABELED BY DATE, LOCATION AND ACTIVITY. AT A MINIMUM THE CONTRACTOR WILL SUBMIT PICTURES OF ALL THRUST BLOCKS, CONNECTIONS TO EXISTING FACILITIES AND STRUCTURES BEFORE AND AFTER BACKFILL. PROVIDE AUXILIARY LIGHTING AS REQUIRED TO PRODUCE CLEAR, WELL-LIT PHOTOGRAPHS WITHOUT OBSCURING SHADOWS. THE CONTRACTOR SHALL MAINTAIN ONE CHECK SET OF PHOTOGRAPHS AT THE SITE FOR REFERENCE. UPON REQUEST THE CONTRACTOR SHALL PROVIDE PICTURES OF VARIOUS AREAS DEEMED NECESSARY BY THE ENGINEER OR OWNER.
- 12) CERTIFICATIONS BY THE ENGINEER AND SUCCESSFUL TEST RESULTS DO NOT RELIEVE THE CONTRACTOR OF FULL COMPLIANCE WITH THE DESIGN PLANS, SPECIFICATIONS AND PERMITS SHOULD A DEFICIENCY BE DISCOVERED AFTER SAID CERTIFICATION OR TESTING.

PROJECT INFORMATION:

1. OWNER OF RECORD: DAVID VILLENUEVE
P.O. BOX 360
UNDERHILL, VERMONT 05489
2. TAX PARCEL ID: VT364A & VT364B
3. PHYSICAL ADDRESS OF PROPERTY: VERMONT ROUTE 15
JERICHO, VERMONT 05456
4. EXISTING PARCEL SIZE: 2.85 ACRES
5. ZONING DISTRICT: VCTR - VILLAGE CENTER

APPLICANT:

DAVID VILLENUEVE
P.O. BOX 360
UNDERHILL, VT 05489
bcoldinvt@hotmail.com
(802) 899-1239

CO-APPLICANT:

41 WTC, LLC
JERRY DAVIS
450 WEAVER ST, SUITE #3
WINOOSKI, VT 05404
jpdavis@peakcm.com
(802) 988-1092

CIVIL ENGINEER:

TRUDELL CONSULTING ENGINEERS (TCE)
ATTN: JEREMY MATOSKY, PE, CPESC
478 BLAIR PARK ROAD
WILLISTON, VT 05495
PHONE: (802)879-6331



CONSTRUCTION NOTES FOR CONTRACTOR & CLIENT/OWNER:

1. CONTRACT DOCUMENTS THESE PLANS WERE PREPARED BY TRUDELL CONSULTING ENGINEERS (TCE) AND ARE INTENDED TO BE USED IN CONJUNCTION WITH THE STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT, #C-700 PREPARED BY THE ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE (EJCDC), LATEST EDITION. COPIES ARE AVAILABLE AT WWW.NBSE.ORG/EJCDC.
2. UNDERGROUND IMPROVEMENTS: THE LOCATION OF EXISTING UNDERGROUND UTILITIES AND IMPROVEMENTS SHOWN ARE ASSUMED BASED ON RESEARCH. UTILITY PLANS PROVIDED BY OTHERS, AND/OR SURFACE EVIDENCE AVAILABLE AND WERE OBTAINED IN A MANNER CONSISTENT WITH THE ORDINARY STANDARD OF PROFESSIONAL CARE AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR THE DESIGN ENGINEER.
3. DIFFERING SUBSURFACE OR PHYSICAL CONDITIONS: IF CONTRACTOR BELIEVES THAT ANY SUBSURFACE OR PHYSICAL CONDITION AT OR CONTIGUOUS TO THE SITE THAT IS UNCOVERED OR REVEALED EITHER: (1) IS OF SUCH A NATURE AS TO ESTABLISH THAT ANY "TECHNICAL DATA" ON WHICH CONTRACTOR RELIED IS MATERIALLY INACCURATE, OR (2) IS OF SUCH A NATURE AS TO REQUIRE A CHANGE IN THE PLANS/ CONTRACT DOCUMENTS, OR (3) DIFFERS MATERIALLY FROM THAT SHOWN OR INDICATED IN THE PLANS/CONTRACT DOCUMENTS, OR (4) IS OF AN UNUSUAL NATURE, AND DIFFERS MATERIALLY FROM CONDITIONS ORDINARILY ENCOUNTERED AND GENERALLY RECOGNIZED AS INHERENT IN WORK OF THE CHARACTER PROVIDED FOR IN THE PLANS/CONTRACT DOCUMENTS, THEN CONTRACTOR SHALL PROMPTLY AFTER BECOMING AWARE THEREOF AND BEFORE FURTHER DISTURBING THE SUBSURFACE OR PHYSICAL CONDITIONS OR PERFORMING ANY WORK IN CONNECTION THEREWITH (EXCEPT IN AN EMERGENCY), NOTIFY OWNER AND ENGINEER ABOUT SUCH CONDITION. CONTRACTOR SHALL NOT FURTHER DISTURB SUCH CONDITION OR PERFORM ANY WORK IN CONNECTION THEREWITH (EXCEPT AS AFORESAID) UNTIL RECEIPT OF WRITTEN ORDER TO DO SO. ALL PARTIES INVOLVED (OWNER, ENGINEER, ARCHITECT, AND MUNICIPALITY IF APPLICABLE) SHALL AGREE UPON HOW TO PROCEED AND ANY RELATED COST IMPLICATIONS.
4. UTILITIES: PRIVATE AND PUBLIC UTILITIES SUCH AS ELECTRIC, TELEPHONE, GAS, CABLE, FIBER OPTIC ETC. ARE THE RESPONSIBILITY OF THE RESPECTIVE UTILITY COMPANY. ANY INFORMATION SHOWN BY TCE SHOULD BE CONSIDERED PRELIMINARY (USUALLY TO ASSIST WITH PERMITTING). FINAL DESIGN, CONSTRUCTION AND MAINTENANCE ARE THE RESPONSIBILITY OF RESPECTIVE UTILITY COMPANIES. COMPLIANCE WITH EASEMENTS AND REGULATIONS (STATE AND LOCAL) ARE THE RESPONSIBILITY OF RESPECTIVE UTILITY COMPANY.
5. DIGSAFE: IN ACCORDANCE WITH VERMONT STATE LAW (VSA TITLE 30 CHAPTER 86 AND PSB RULE 3.800) THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTACT DIGSAFE SYSTEMS, INC. "DIGSAFE" AT LEAST 48 HOURS, EXCLUDING SATURDAYS, SUNDAYS, AND LEGAL HOLIDAYS, BUT NOT MORE THAN 30 DAYS BEFORE COMMENCING EXCAVATION ACTIVITIES, EXCEPT IN AN EMERGENCY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PRE-MARKING THE SITE AND MAINTAINING DESIGNATED MARKINGS. FOR MORE INFORMATION ON DIGSAFE REQUIREMENTS SEE WWW.DIGSAFE.COM. THE TOWN OF ESSEX WATER AND SEWER SYSTEMS ARE CONSIDERED A PRIVATE UTILITY AND ARE NOT INCLUDED IN THE DIGSAFE SYSTEM. AS SUCH, THE CONTRACTOR SHALL CONTACT THE TOWN OF ESSEX AT LEAST 48 HOURS BEFORE COMMENCING WORK TO LOCATE ALL WATER AND SEWER UTILITIES WITHIN THE PROJECT LIMITS.
6. JOBSITE SAFETY: NEITHER THE PROFESSIONAL ACTIVITIES OF TRUDELL CONSULTING ENGINEERS (TCE), NOR THE PRESENCE OF TCE OR ITS EMPLOYEES AND SUB CONSULTANTS AT A CONSTRUCTION SITE, SHALL RELIEVE THE GENERAL CONTRACTOR AND ANY OTHER ENTITY OF THEIR OBLIGATIONS, DUTIES AND RESPONSIBILITIES INCLUDING, BUT NOT LIMITED TO, CONSTRUCTION MEANS, METHODS, SEQUENCES OR PROCEDURES NECESSARY FOR PERFORMING, SUPERINTENDING OR COORDINATING ALL PORTIONS OF THE WORK OF CONSTRUCTION IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND ANY HEALTH OR SAFETY PRECAUTIONS REQUIRED BY ANY REGULATORY AGENCIES. TCE AND ITS PERSONNEL HAVE NO AUTHORITY TO EXERCISE ANY CONTROL OVER ANY CONSTRUCTION CONTRACTOR OR OTHER ENTITY OR THEIR EMPLOYEES IN CONNECTION WITH THEIR WORK OR ANY HEALTH OR SAFETY PRECAUTIONS. THE CLIENT AGREES THAT THE GENERAL CONTRACTOR IS SOLELY RESPONSIBLE FOR JOBSITE SAFETY, AND WARRANTIES THAT THIS INTENT SHALL BE MADE EVIDENT IN THE CLIENT'S AGREEMENT WITH THE GENERAL CONTRACTOR. THE CLIENT ALSO AGREES THAT THE CLIENT, TCE AND TCE'S CONSULTANTS SHALL BE INDEMNIFIED AND SHALL BE MADE ADDITIONAL INSURED UNDER THE GENERAL CONTRACTOR'S GENERAL LIABILITY INSURANCE POLICY.
7. CODES AND STANDARDS COMPLIANCE: TCE SHALL EXERCISE USUAL AND CUSTOMARY PROFESSIONAL CARE IN ITS EFFORTS TO COMPLY WITH CODES, STANDARDS, REGULATIONS, AND ORDINANCES IN EFFECT. THE OWNER ACKNOWLEDGES THAT SUCH REQUIREMENTS MAY BE SUBJECT TO VARIOUS AND CONTRADICTORY INTERPRETATIONS. TCE, THEREFORE, WILL USE ITS REASONABLE PROFESSIONAL EFFORTS AND JUDGMENT TO INTERPRET APPLICABLE REQUIREMENTS AS THEY APPLY TO THE PROJECT. TCE, HOWEVER, CANNOT AND DOES NOT WARRANT OR GUARANTEE THAT THE PROJECT WILL COMPLY WITH ALL INTERPRETATIONS OF SUCH REQUIREMENTS.
8. CONSTRUCTION OBSERVATION: TCE MAY VISIT THE PROJECT AT APPROPRIATE INTERVALS DURING CONSTRUCTION TO BECOME GENERALLY FAMILIAR WITH THE PROGRESS AND QUALITY OF THE CONTRACTOR'S WORK AND TO DETERMINE IF THE WORK IS PRECEDING IN GENERAL ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE OWNER HAS NOT RETAINED TCE TO MAKE DETAILED INSPECTIONS OR TO PROVIDE EXHAUSTIVE OR CONTINUOUS PROJECT REVIEW AND OBSERVATION SERVICES. TCE DOES NOT GUARANTEE THE PERFORMANCE OF, AND SHALL NOT HAVE RESPONSIBILITY FOR, THE ACTS OR OMISSIONS OF ANY CONTRACTOR, SUB-CONTRACTOR, SUPPLIER OR ANY OTHER ENTITY FURNISHING MATERIALS OR PERFORMING ANY WORK ON THE PROJECT. TCE SHALL NOT SUPERVISE, DIRECT OR HAVE CONTROL OVER THE CONTRACTOR'S WORK NOR HAVE ANY RESPONSIBILITY FOR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES OF THE CONTRACTOR. IF THE OWNER DESIRES MORE EXTENSIVE PROJECT OBSERVATION OR FULL-TIME PROJECT REPRESENTATION, THE OWNER SHALL REQUEST SUCH SERVICES BE PROVIDED BY TCE AS ADDITIONAL SERVICES.
9. UTILITIES SHOWN ARE APPROXIMATE AND DO NOT NECESSARILY REPRESENT ALL UTILITIES LOCATED ON OR ADJACENT TO THE AREA SURVEYED. THE CONTRACTOR SHALL FIELD VERIFY ALL UTILITY CONFLICTS. ALL DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER.
10. ALL EXISTING UTILITIES NOT INCORPORATED INTO THE FINAL DESIGN ARE TO BE REMOVED OR ABANDONED AS INDICATED ON THE PLANS.
11. THE CONTRACTOR SHALL MAINTAIN AS-BUILT PLANS (WITH TIES), FOR ALL UNDERGROUND UTILITIES. THOSE PLANS SHALL BE SUBMITTED TO THE OWNER AT THE COMPLETION OF THE PROJECT.
12. THE CONTRACTOR SHALL REPAIR/RESTORE ALL DISTURBED AREAS (ON OR OFF THE SITE) AS A DIRECT OR INDIRECT RESULT OF THE CONSTRUCTION.
13. ALL GRASSED AREAS SHALL BE MAINTAINED UNTIL FULL VEGETATION IS ESTABLISHED.
14. MAINTAIN ALL TREES OUTSIDE OF CONSTRUCTION LIMITS.
15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK NECESSARY FOR COMPLETE AND OPERABLE FACILITIES AND UTILITIES.
16. IN ADDITION TO THE REQUIREMENTS SET IN THESE PLANS AND SPECIFICATIONS, THE CONTRACTOR SHALL COMPLETE THE WORK IN ACCORDANCE WITH ALL PERMIT CONDITIONS, LOCAL PUBLIC WORKS STANDARDS AND ALL CONSTRUCTION SAFETY REGULATIONS.
17. ANY DEWATERING NECESSARY FOR THE COMPLETION OF THE SITEWORK SHALL BE CONSIDERED AS PART OF THE CONTRACT, AND SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
18. IF THERE ARE ANY CONFLICTS OR INCONSISTENCIES WITH THE PLANS OR SPECIFICATIONS, THE CONTRACTOR SHALL CONTACT THE ENGINEER FOR VERIFICATION BEFORE WORK CONTINUES ON THE ITEM(S) IN QUESTION.
19. ALL SYSTEM COMPONENTS (TANKS, PIPES, JOINTS) SHALL BE WATERTIGHT.

CONSTRUCTION PHASE:

- LISTED BELOW IS A BRIEF SUMMARY OF CONSTRUCTION PHASE REQUIREMENTS. THIS LIST IS NOT INTENDED TO BE ALL-INCLUSIVE. CONSTRUCTION SPECIFICATIONS, PERMIT REQUIREMENTS AND SUBSEQUENT CONTRACTUAL AGREEMENTS FROM PARTIES INVOLVED SHALL PREVAIL.
- PRE-CONSTRUCTION**
- OWNER TO ESTABLISH SCOPE OF SERVICES WITH PROJECT ENGINEER(S)
 - OWNER TO IDENTIFY WORK SCOPE AND SCHEDULE
 - UPON OWNER REQUEST, ASSIST WITH CONTRACTOR BID AND SELECTION PROCESS
 - FINALIZE PLANS FOR CONSTRUCTION READINESS INCLUDING SPECIFICATIONS
 - MEETING BETWEEN OWNER, ENGINEER(S), CONTRACTOR(S), ARCHITECT(S), REGULATORY AUTHORITIES AND OTHER PERTINENT PARTIES TO REVIEW AND DISCUSS THE WORK

PRE-CONSTRUCTION MEETING:

- CONTRACTOR TO IDENTIFY SUBCONTRACTORS
- CONTRACTOR TO ESTABLISH SCHEDULE
- CONTRACTOR TO DESIGNATE RESPONSIBLE PERSONNEL
- CONFIRM PROCEDURE FOR RFIs, CHANGE ORDERS, EXTRAS AND PAY REQUESTS
- CONTRACTOR TO SUBMIT SHOP DRAWINGS
- CONTRACTOR TO OUTLINE SAFETY, SECURITY, AND WORKING HOURS
- CONTRACTOR OR OWNER TO IDENTIFY TESTING COMPANY

CONSTRUCTION PHASE:

- INITIAL CONTROL SUPPLIED BY OWNER AND CONTRACTOR RESPONSIBLE FOR LAYOUT
- OWNER TO PROVIDE PROJECT ENGINEER TO OBSERVE CONSTRUCTION PERIODICALLY, DURING CRITICAL PHASES AND TESTING
- WEEKLY JOB MEETINGS DURING CONSTRUCTION
- OWNER TO PROVIDE PROJECT ENGINEER TO REVIEW AND DISCUSS PLANS, ANSWER QUESTIONS, RESPOND TO CHANGES AND OTHER BUSINESS COMMON TO CONSTRUCTION SERVICES.
- OBSERVE TESTING AND COLLECT RESULTS
- OWNER AND CONTRACTOR TO COMPLY WITH PERMITS

GENERAL NOTES:

1. CONTRACTOR TO ADJUST ANY POTABLE WATER LINE CROSSINGS AND CONSULT WITH ENGINEER TO MEET REQUIREMENTS SHOWN ON THE DETAIL SHEET "WATER/SEWER CROSSING" DETAIL.
2. SEWER LATERAL CONNECTIONS ARE SHOWN FOR CLARITY. CONTRACTOR TO CONSULT WITH ENGINEER AND SUPPLY BENDS, CLEANOUTS, ETC. AS NECESSARY TO FACILITATE PROPER CONNECTION BETWEEN FOUNDATION WALL AND SEWER MAIN LINE.
3. CONTRACTOR IS RESPONSIBLE FOR COORDINATION WITH ALL RELEVANT PARTIES (INCLUDING, BUT NOT LIMITED TO OWNER, ARCHITECT AND UTILITY COMPANIES) TO DETERMINE FINAL LAYOUT AND DESIGN.
4. DESIGN AND CONSTRUCTION OF PEDESTRIAN WALKS, RAMPS AND DECKS BETWEEN BUILDINGS AND PARKING LOTS IS PROVIDED BY THE ARCHITECT AND INCORPORATED INTO THE BUILDING DESIGN.
5. ALL CURB STOP VALVES TO BE INSTALLED WITH ACCESS COVER AT FINISHED GRADE.
6. ALL WATER LINE TAPS SHALL BE LIVE TAPS. EXISTING WATER LINE MUST REMAIN IN SERVICE DURING CONNECTION, UNLESS INDICATED OTHERWISE TO BACKFILL.
7. THRUST BLOCKS FOR PRESSURE LINES NOT SHOWN FOR CLARITY. PROVIDE THRUST BLOCKS AT ALL BENDS, TEE AND REDUCES. PROJECT ENGINEER TO OBSERVE ALL THRUST BLOCKS PRIOR TO BACKFILL.
8. WATER MAIN OPERATED AT HIGH PRESSURE. ALL BUILDINGS SHALL CONFIRM STATIC INTAKE PRESSURE AND PROVIDE PRESSURE-REDUCING VALVES AS DEEMED APPROPRIATE BY THE MECHANICAL ENGINEER (OR ARCHITECT)
9. CONTRACTOR TO SUPPLY DAYLIGHT PIPING FOR FOOTING DRAINS WITHIN CONSTRUCTION LIMITS. THE EXACT LOCATION IS NOT CRITICAL.
10. SEWER CONNECTIONS TO EXISTING MANHOLES SHALL INCLUDE WATERRIGHT CONNECTIONS, REFORMING INVERT TO PROVIDE SMOOTH FLOW STREAM AND TESTING TO ENSURE STRUCTURE IS WATERRIGHT. IF AN EXISTING MANHOLE IS FOUND NOT TO BE WATERRIGHT IT SHALL BE EXPOSED AND REPAIRED ON THE OUTSIDE, PRIOR TO CONNECTING TO EXISTING MANHOLES. SUBMIT SHOP DRAWINGS ON CORE LOCATION, ANY REQUIRED PIPING (FOR DROP MANHOLES) AND CHANGES TO INVERT FORM.
12. FINAL RIMS OF SEWER MANHOLES AND WATER VALVES SHALL BE CONFIRMED AND COORDINATED WITH FINAL SITE GRADING. MINOR ADJUSTMENTS FROM DESIGN GRADES MAY BE REQUIRED BY OWNER OR ENGINEER AND SHALL BE INCLUDED.
13. ROCK REMOVAL WORK FOR BOULDERS UNDER 2.5 CUBIC YARDS IS INCLUDED AS PART OF EXCAVATION. ANY ROCK REMOVAL FOR 2.5 CUBIC YARDS OR GREATER SHALL BE TREATED AS LEDGE REMOVAL.
14. THE GENERAL CONTRACTOR IS REQUIRED TO CONFORM TO THE STRICTEST INTERPRETATION OF THE CONTRACT DRAWING, SPECIFICATION, PERMITS AND CONSTRUCTION CONTRACT. ALL EARTH MATERIAL RECEIVED OR DISPOSED FROM OUTSIDE SOURCES SHALL COMPLY WITH APPLICABLE PERMITS AND REGULATIONS. SHOP DRAWING SUBMITTALS SHALL INCLUDE CONTRACTOR'S CERTIFICATION STATEMENT OF COMPLIANCE AND COPIES OF RELEVANT PERMITS FOR OUTSIDE SOURCES.
15. CONTRACTOR SHALL PAY FOR ALL REQUIRED TESTING. THIS SHALL INCLUDE BUT IS NOT LIMITED TO: SOIL TESTING, COMPACTION TESTING, SEVE ANALYSIS, CONCRETE TESTING, ASPHALT PENETRATION TESTING, BACTERIOLOGICAL TESTING FOR WATER AND OTHER TESTING AS PART OF STANDARD PRACTICE FOR A CONSTRUCTION PROJECT OF THIS NATURE, UNLESS INDICATED OTHERWISE AND APPROVED BY THE OWNER.



Revisions			
No.	Description	Date	By
1	Final Plan Review	01/23/15	NTH

Use of These Drawings
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For Local Permitting Only

Project Title: Jericho Market
364 VT Route 15 Jericho, VT

Sheet Title:

Legend & Notes

Date:	10/10/14
Scale:	N/A
Project Number:	14-139
Drawn By:	NPC
Project Engineer:	
Approved By:	
Field Book:	

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1/26/15
PeakCM

C1-02

NOTES:

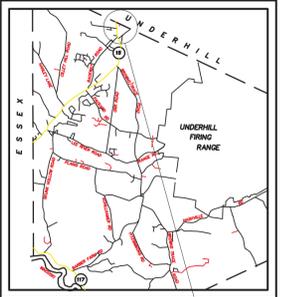
- THIS PLAT IS BASED ON DEEDS RESEARCHED IN THE TOWNS OF JERICHO AND UNDERHILL LAND RECORDS AND A CLOSED FIELD TRAVERSE CONDUCTED WITH A TOTAL STATION ON 10/18/01. BEARINGS ARE BASED ON VERMONT STATE GRID.
- UNLESS OTHERWISE NOTED, IRON PIPES FOUND ARE 2-1/2" OUTSIDE DIAMETER IRON PIPES PAINTED RED. REBARS SET ARE NO. 5 REINFORCING BARS WITH ALUMINUM CAPS STAMPED "TRUDELL CONSULTING ENGINEERS, LS 488".
- LOTS 1 AND 3 WERE CONVEYED TO DAVID VILLENEUVE IN VOLUME 247 PAGE 365 OF THE JERICHO LAND RECORDS AND VOLUME 100 PAGE 432 OF THE UNDERHILL LAND RECORDS. LOT 2 WAS CONVEYED TO VILLEJO VENTURES, LLC IN VOLUME 259 PAGE 280 OF THE JERICHO LAND RECORDS. THESE LOTS ARE SHOWN ON A PLAT ENTITLED "DAVID VILLENEUVE", WHICH IS RECORDED IN MAP SLIDE 348B OF THE JERICHO LAND RECORDS. A SMALL PORTION OF LOT 1 LIES WITHIN THE TOWN OF UNDERHILL AS SHOWN.
- DISTANCES ARE SHOWN TO THE HUNDREDTH OF A FOOT AND BEARINGS ARE SHOWN TO THE SECOND FOR MATHEMATICAL CLOSURE PURPOSES ONLY.
- AN ATTEMPT HAS BEEN MADE TO IDENTIFY OR DELINEATE EASEMENTS, RIGHTS OF WAY, LEASE LANDS, ENCROACHMENTS, ETC. OBSERVED IN THE FIELD OR READILY FOUND IN THE LAND RECORDS. ADDITIONAL ENCUMBRANCES MAY EXIST WHICH ARE NOT SHOWN ON THIS PLAT.
- ROUTE 15 IS FOUR RODS WIDE BASED ON INFORMATION AND PLANS FROM THE VERMONT AGENCY OF TRANSPORTATION. DICKENSON STREET, PARK STREET AND RIVER ROAD ARE ASSUMED TO BE THREE RODS WIDE.
- THE TWO EASEMENTS FOR OVERHEAD UTILITY LINES CALL FOR A WIDTH OF 50' FOR TREE AND BRUSH TRIMMING PURPOSES AND A WIDTH OF 20' FOR BUILDING SETBACKS.
- UNDERGROUND UTILITY LINES SHOWN ARE BASED ON ABOVE GROUND STRUCTURES. ACTUAL LOCATIONS OF UNDERGROUND LINES MAY VARY.



JERICHO, VT. TOWN CLERK'S OFFICE
 REC'D FOR RECORD AT _____ O'CLOCK _____ M
 AND RECORDED MAP VOL. _____ PAGE _____
 OF THE JERICHO _____ RECORDS
 _____ TOWN CLERK

CURVE DATA TABLE				
CURVE	DELTA ANGLE	RADIUS	ARC LENGTH	CHORD BEARING
C1	8°14'58"	1240.59'	178.62'	N 22°27'00" E
C2	3°13'54"	1240.59'	69.98'	N 16°42'34" E
C3	10°57'17"	1240.59'	237.19'	S 09°36'58" W

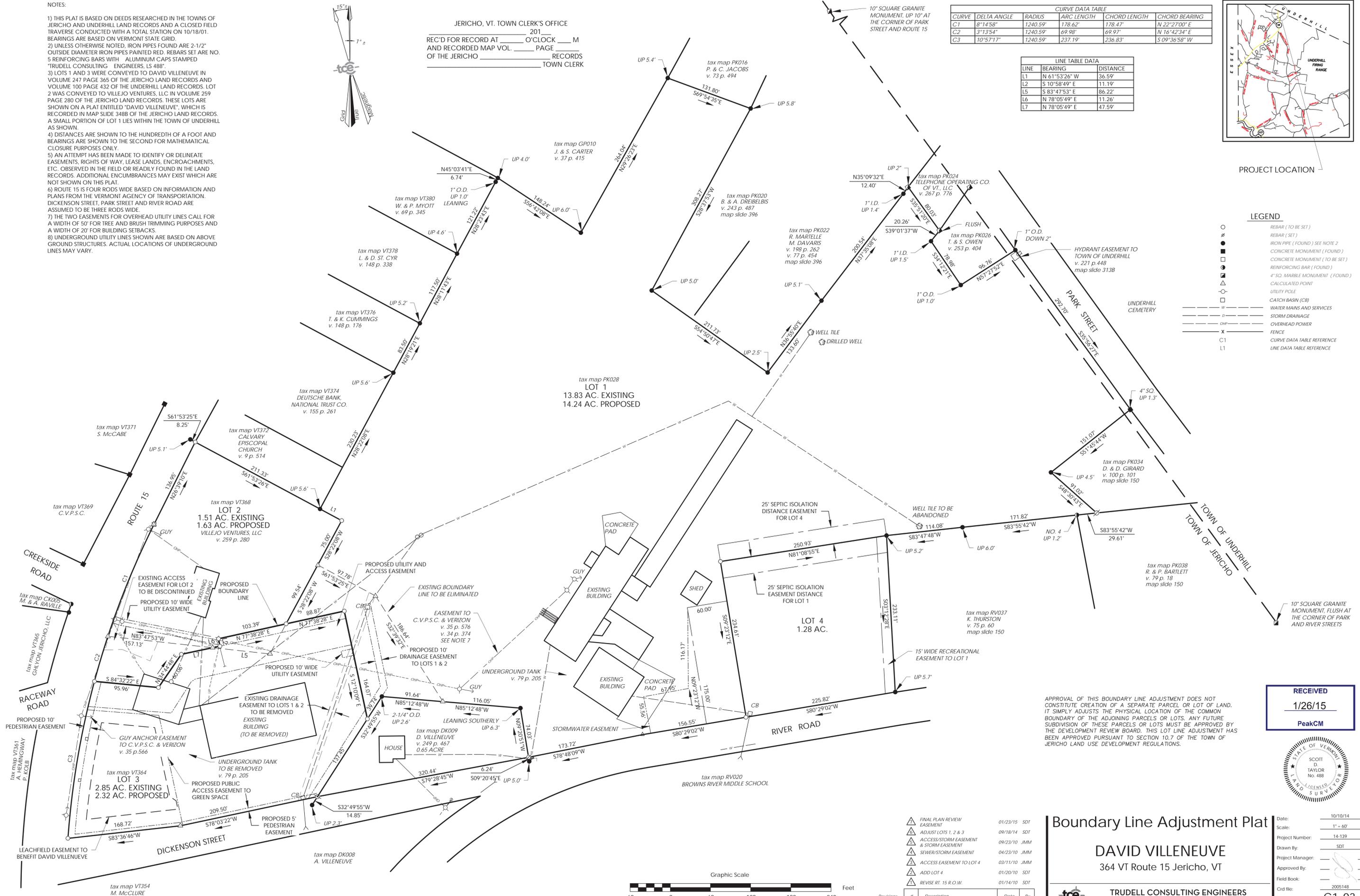
LINE TABLE DATA		
LINE	BEARING	DISTANCE
L1	N 61°53'26" W	36.59'
L2	S 10°58'49" E	11.19'
L5	S 83°47'53" E	86.22'
L6	N 78°05'49" E	11.26'
L7	N 78°05'49" E	47.59'



PROJECT LOCATION

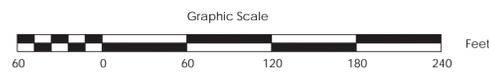
LEGEND

- REBAR (TO BE SET)
- REBAR (SET)
- IRON PIPE (FOUND) SEE NOTE 2
- CONCRETE MONUMENT (TO BE SET)
- CONCRETE MONUMENT (FOUND)
- REINFORCING BAR (FOUND)
- 4" SQ. MARBLE MONUMENT (FOUND)
- △ CALCULATED POINT
- UTILITY POLE
- CATCH BASIN (CB)
- WATER MAINS AND SERVICES
- STORM DRAINAGE
- OVERHEAD POWER
- X FENCE
- C1 CURVE DATA TABLE REFERENCE
- L1 LINE DATA TABLE REFERENCE



APPROVAL OF THIS BOUNDARY LINE ADJUSTMENT DOES NOT CONSTITUTE CREATION OF A SEPARATE PARCEL OR LOT OF LAND. IT SIMPLY ADJUSTS THE PHYSICAL LOCATION OF THE COMMON BOUNDARY OF THE ADJOINING PARCELS OR LOTS. ANY FUTURE SUBDIVISION OF THESE PARCELS OR LOTS MUST BE APPROVED BY THE DEVELOPMENT REVIEW BOARD. THIS LOT LINE ADJUSTMENT HAS BEEN APPROVED PURSUANT TO SECTION 10.7 OF THE TOWN OF JERICHO LAND USE DEVELOPMENT REGULATIONS.

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 1/26/15
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Revisions	#	Description	Date	By
	1	FINAL PLAN REVIEW EASEMENT	01/23/15	SDT
	2	ADJUST LOTS 1, 2 & 3	09/18/14	SDT
	3	ACCESS/STORM EASEMENT & STORM EASEMENT	09/23/10	JMM
	4	SEWER/STORM EASEMENT	04/23/10	JMM
	5	ACCESS EASEMENT TO LOT 4	03/11/10	JMM
	6	ADD LOT 4	01/20/10	SDT
	7	REVISE RT. 15 R.O.W.	01/14/10	SDT

Boundary Line Adjustment Plat

Date: 10/10/14
 Scale: 1" = 60'
 Project Number: 14-139
 Drawn By: SDT
 Project Manager: SDT
 Approved By:

DAVID VILLENEUVE
 364 VT Route 15 Jericho, VT

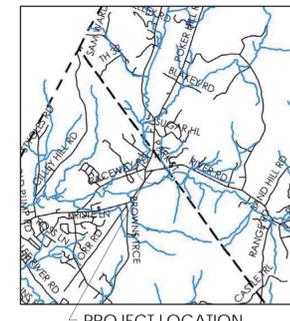
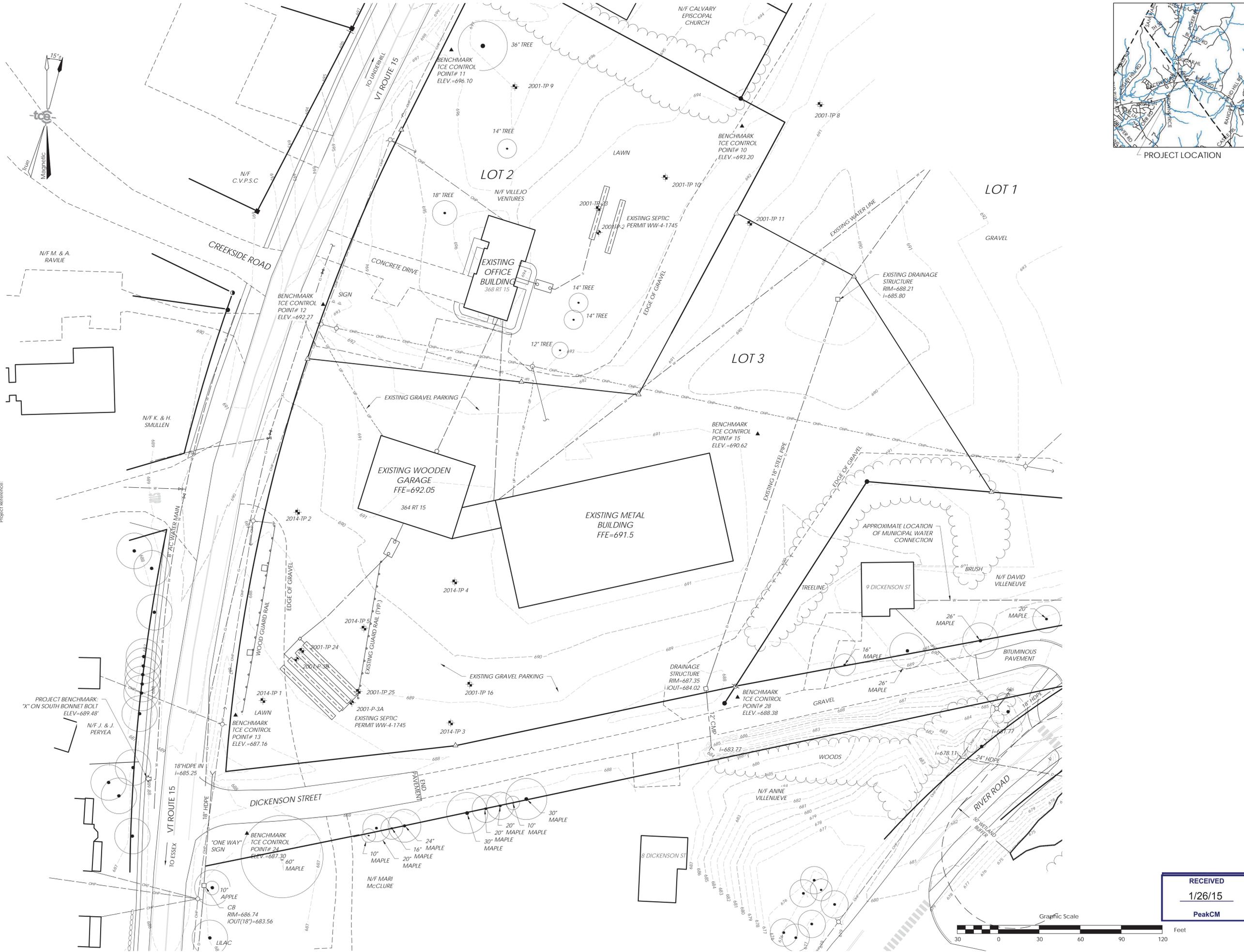
TRUDELL CONSULTING ENGINEERS
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Field Book: 2005148
 Crd file: C1-03
 Sheet: C1-03

This plat meets the requirements of 27 VSA 1403.

S:\TCE DRAWINGS\2005\148 Villeneuve\2005148 - Plat.dwg, 1/22/2015, 1:04:42 PM

(Signature)



Revisions	No.	Description	Date	By
Final Plan Review			01/23/15	NTH

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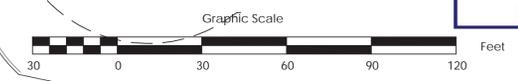


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Project Title
Jericho Market
 364 VT Route 15 Jericho, VT

Sheet Title
Existing Conditions

Date:	10/10/14
Scale:	1" = 30'
Project Number:	14-139
Drawn By:	NPC
Project Engineer:	
Approved By:	
Field Book:	



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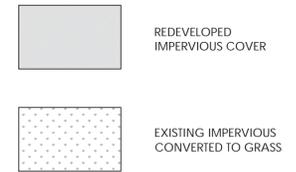
Project Reference:



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Revisions	No.	Description	Date	By
	1	Final Plan Review	01/23/15	NTH

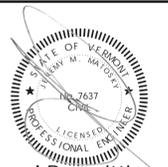
LEGEND



NOTES:

- PROPOSED LOT 3 AREA = 2.32 AC.
- EXISTING IMPERVIOUS COVER = 2.080 AC.
- REDEVELOPED IMPERVIOUS COVER = 1.434 AC.
- PERCENT CONVERTED TO VEGETATED COVER = 27.9%

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Project Title

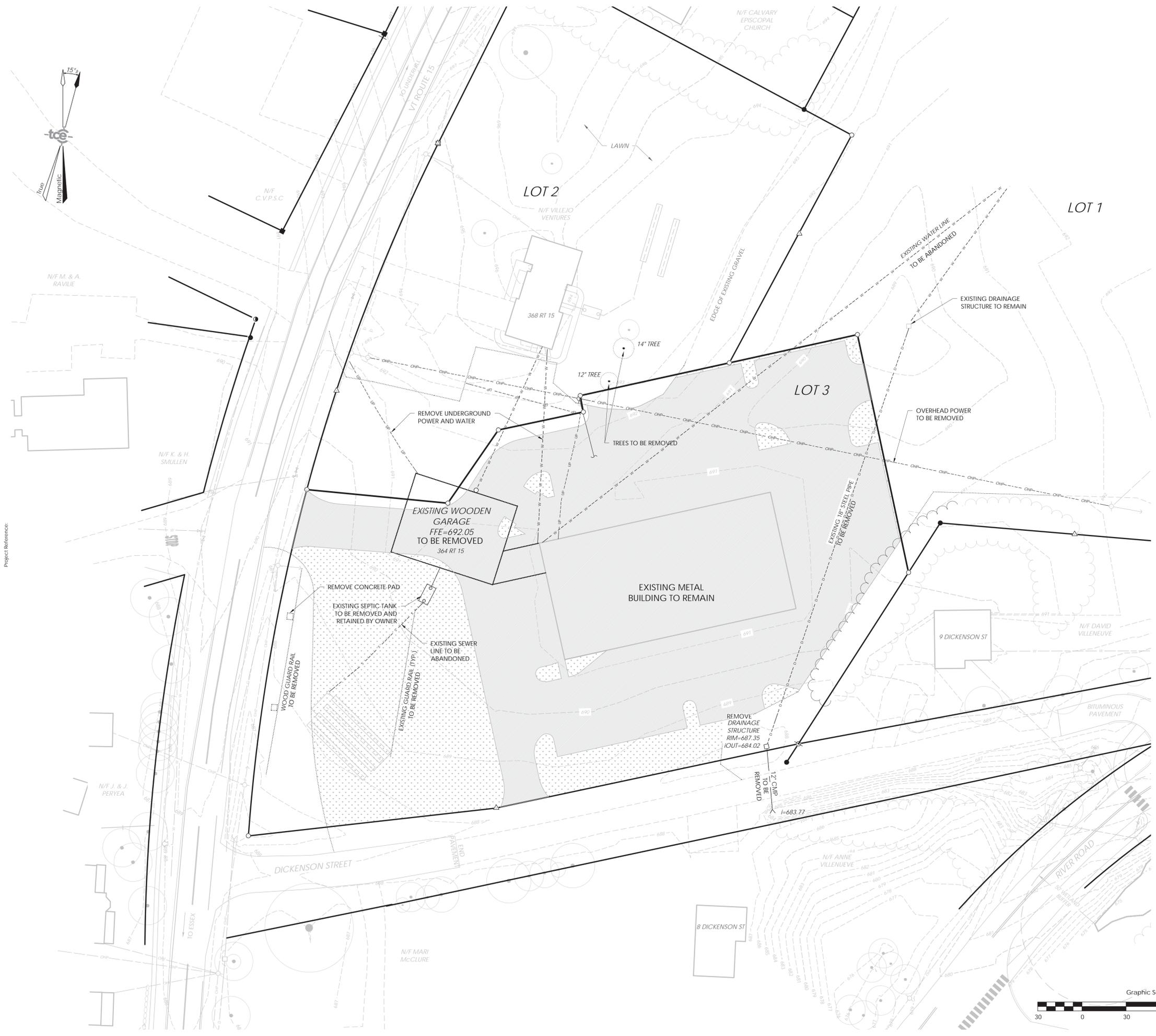
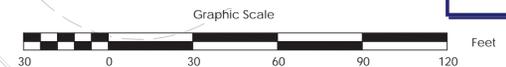
Jericho Market
364 VT Route 15 Jericho, VT

Sheet Title

Demolition Plan

Date:	10/10/14
Scale:	1" = 30'
Project Number:	14-139
Drawn By:	NPC
Project Engineer:	
Approved By:	
Field Book:	

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1/26/15
PeakCM

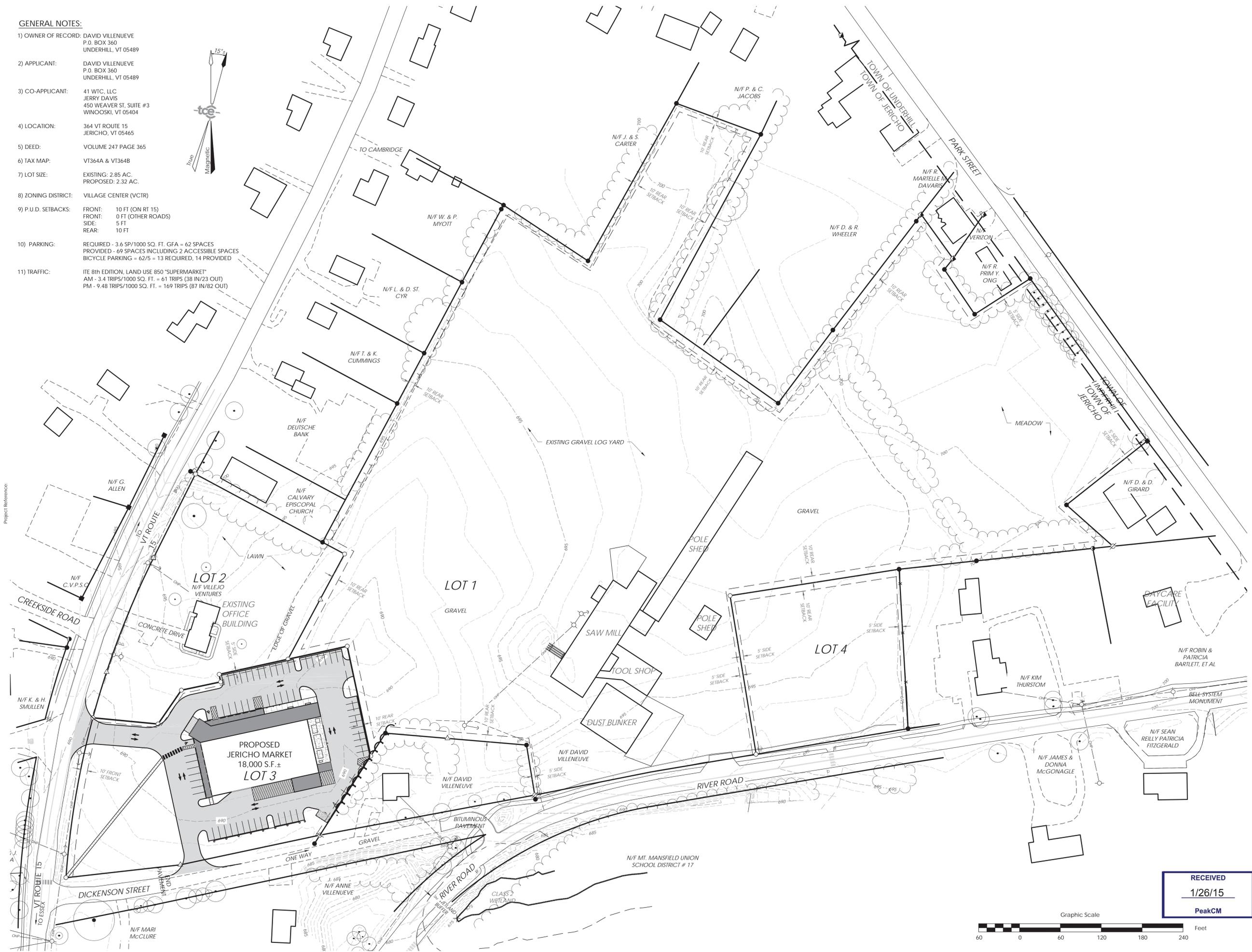


S:_TCE DRAWINGS\2014\139 - Jericho Market - Demolition Plan - EC.dwg, 1/22/2015 11:32:06 AM

Project Reference:

GENERAL NOTES:

- 1) OWNER OF RECORD: DAVID VILLENEUVE
P.O. BOX 360
UNDERHILL, VT 05489
- 2) APPLICANT: DAVID VILLENEUVE
P.O. BOX 360
UNDERHILL, VT 05489
- 3) CO-APPLICANT: 41 WTC, LLC
JERRY DAVIS
450 WEAVER ST, SUITE #3
WINOOSKI, VT 05404
- 4) LOCATION: 364 VT ROUTE 15
JERICHO, VT 05465
- 5) DEED: VOLUME 247 PAGE 365
- 6) TAX MAP: VT364A & VT364B
- 7) LOT SIZE: EXISTING: 2.85 AC.
PROPOSED: 2.32 AC.
- 8) ZONING DISTRICT: VILLAGE CENTER (VCTR)
- 9) P.U.D. SETBACKS: FRONT: 10 FT (ON RT 15)
FRONT: 0 FT (OTHER ROADS)
SIDE: 5 FT
REAR: 10 FT
- 10) PARKING: REQUIRED - 3.6 SP/1000 SQ. FT. GFA = 62 SPACES
PROVIDED - 69 SPACES INCLUDING 2 ACCESSIBLE SPACES
BICYCLE PARKING = 62/5 = 13 REQUIRED, 14 PROVIDED
- 11) TRAFFIC: ITE 8th EDITION, LAND USE 850 "SUPERMARKET"
AM - 3.4 TRIPS/1000 SQ. FT. = 61 TRIPS (38 IN/23 OUT)
PM - 9.48 TRIPS/1000 SQ. FT. = 169 TRIPS (87 IN/82 OUT)



Revisions	No.	Description	Date	By
Final Plan Review			01/23/15	NTH

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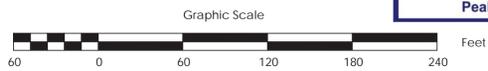
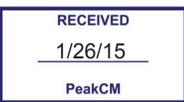
Project Title

Jericho Market
364 VT Route 15 Jericho, VT

Sheet Title

Overall Site Plan

Date:	10/10/14
Scale:	1" = 60'
Project Number:	14-139
Drawn By:	NPC
Project Engineer:	
Approved By:	
Field Book:	



C2-01

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Revisions	No.	Description	Date	By
	1	Final Plan Review	01/23/15	NTH

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Project Title

Jericho Market
364 VT Route 15 Jericho, VT

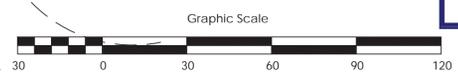
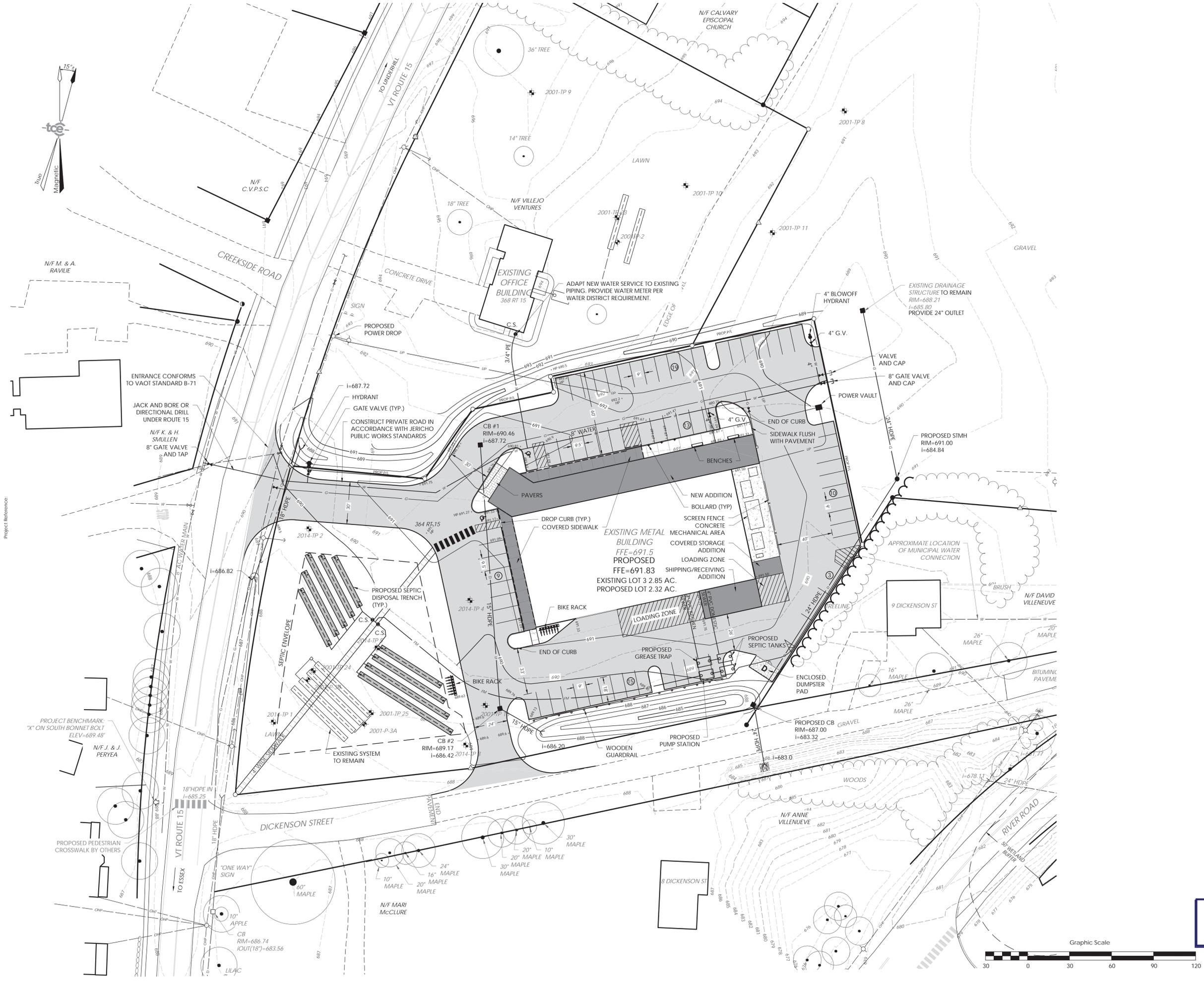
Sheet Title

Site Plan

Date:	10/10/14
Scale:	1" = 30'
Project Number:	14-139
Drawn By:	NPC
Project Engineer:	
Approved By:	
Field Book:	

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1/26/15
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C2-02



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Project Reference:

PROJECT BENCHMARK:
"X" ON SOUTH BONNET BOLT
ELEV=689.48'

18" HDPE IN
I=685.25

CB RIM=686.74
IOUT(18")=683.56

Graphic Scale

Feet



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Revisions	No.	Description	Date	By
	1	Final Plan Review	01/23/15	NTH

EPSC Legend

- PROJECT AREA
- PHASE LIMIT
- BARRIER TAPE
- SILT FENCE
- SOIL STOCK PILE
- STONE CHECK DAM
- INLET PROTECTION
- STABILIZED CONSTRUCTION ENTRANCE
- SEDIMENT TRAP
- FIBER ROLL
- TEMPORARY VEGETATED DIVERSION SWALE

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1/26/15
PeakCM

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Project Title

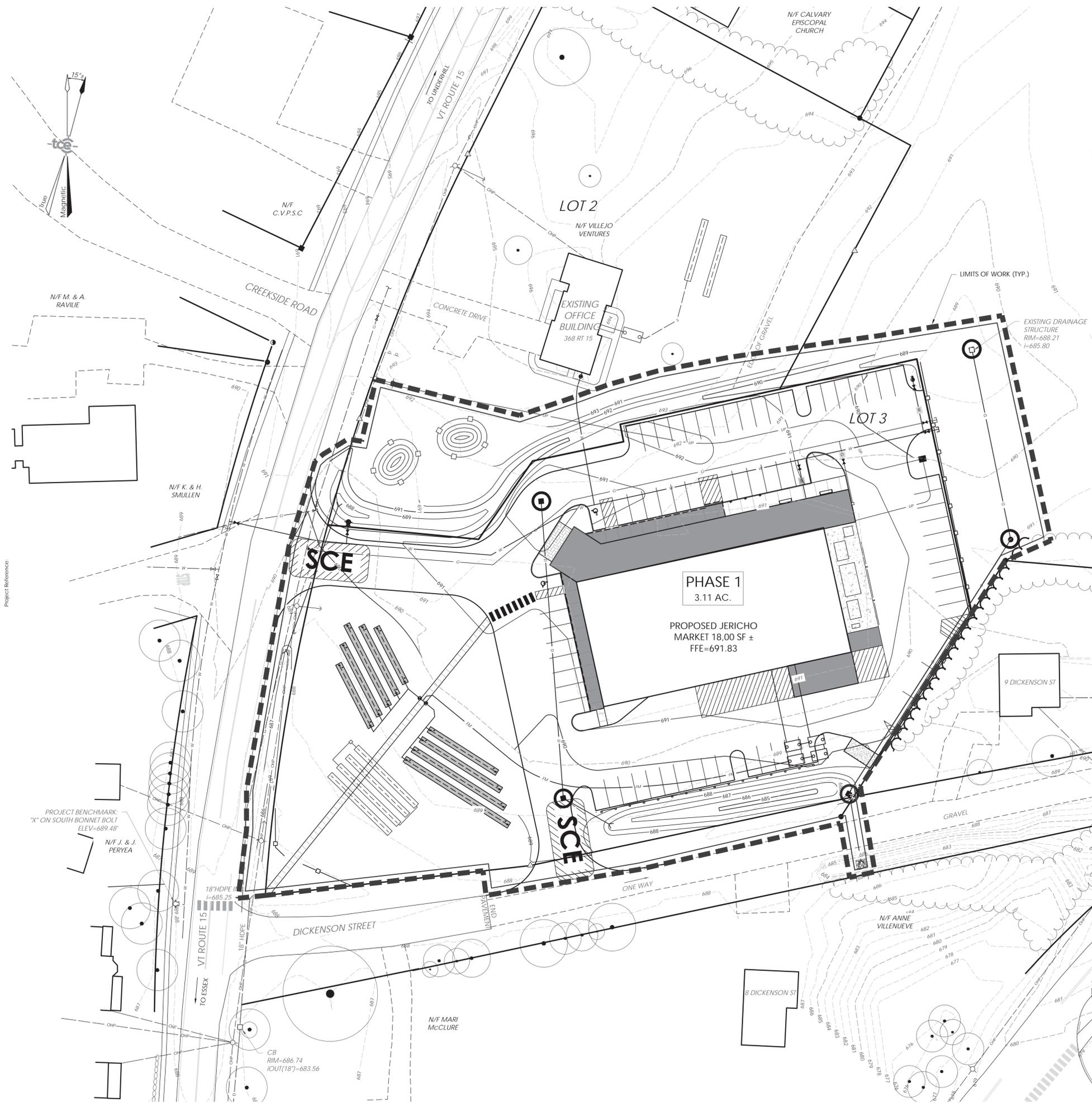
Jericho Market
364 VT Route 15 Jericho, VT

Sheet Title

EPSC Plan

Date:	10/10/14
Scale:	1" = 30'
Project Number:	14-139
Drawn By:	NPC
Project Engineer:	
Approved By:	
Field Book:	

C5-01



EPSC NARRATIVE

GENERAL DESCRIPTION OF PROJECT
THIS PROJECT CONSISTS OF THE DEMOLITION OF AN EXISTING BUILDING, CONSTRUCTING A NEW BUILDING WITH NEW PARKING AND UTILITIES ON ROUTE 15 IN JERICHO, VERMONT. EARTHWORK FOR THIS PROJECT CONSISTS OF THE CONSTRUCTION OF A NEW BUILDING, NEW PARKING AREA, STORMWATER TREATMENT SYSTEM, AND TRENCHING FOR UTILITIES. DUE TO THE SCOPE OF THE PROJECT, THIS SITE QUALIFIES FOR THE LOW-RISK CONSTRUCTION GENERAL PERMIT. LOCAL REGULATIONS REQUIRE A SITE SPECIFIC PLAN FOR EROSION PREVENTION AND SEDIMENT CONTROL.

SITE DRAINAGE CHARACTERISTICS
THE SITE GENERALLY SLOPES FROM WEST TO EAST, DRAINING TO AN EXISTING CATCH BASIN AND CULVERT SYSTEM. A SMALL PORTION OF THE WEST SIDE OF THE SITE DRAINS SOUTHWARD TO THE INTERSECTION OF ROUTE 15 AND DICKINSON STREET. THE ENTIRE SITE DOES NOT EXCEED 5% ANYWHERE IN THE PROJECT AREA.

DRAINAGE, WATERWAYS AND BODIES OF WATER
BROWNS RIVER IS THE ULTIMATE RECEIVING WATER FOR THE PROJECT. RUNOFF WILL BE CONVEYED TO THE RIVER BY STORMWATER SYSTEM DISCHARGING TO ROADSIDE SWALES.

LOCATION, EXISTING FEATURES, BUILDINGS & UTILITIES
THE PROPERTY IS LOCATED ON ROUTE 15 IN JERICHO TO THE NORTH OF DICKINSON ST. THERE IS A CURRENT BUILDING ON THE SITE NOW WITH GRAVEL PARKING.

VEGETATION
THE SITE IS CURRENTLY MOSTLY GRAVEL DRIVE AND PARKING AREA AROUND THE BUILDING WITH SOME SMALL AREAS OF VEGETATION.

SOILS
SOILS IN THE AREA OF EARTHWORK CONSIST OF STETSON GRAVELLY FINE SANDY LOAM (K = 0.10).

PROXIMITY TO NATURAL AND MAN-MADE WATER FEATURES
BROWNS RIVER IS APPROXIMATELY 1200 FEET SOUTHEAST OF THE PROJECT AREA.

GRADING PLAN, TIMETABLE & CONSTRUCTION SEQUENCE
FIRST, THE DISTURBANCE LIMITS ARE TO BE MARKED WITH BARRIER TAPE AS INDICATED ON THE PLANS. PERIMETER SEDIMENT CONTROL FEATURES (E.G. SILT FENCE) AND STABILIZED CONSTRUCTION ENTRANCE WILL BE INSTALLED. ONCE THESE ITEMS ARE INSTALLED, EARTHWORK MAY PROCEED ACCORDING TO THE EPSC PLAN. DUE TO THE SMALL SIZE OF THE SITE (APPROXIMATELY 2.3 ACRES), THE ENTIRE SITE MAY BE OPEN AT ONE TIME. THE SITE SHALL REMAIN COMPLIANT WITH THE SITE STABILIZATION REQUIREMENTS NOTED ON THE EPSC PLAN SET.

EPSC PLAN & TIMETABLE
BY PROVIDING PERIMETER SEDIMENT CONTROL MEASURES AND THE SIZE OF THE SITE, THE RECEIVING WATERS ARE PROTECTED FROM EROSION FROM THE SITE. ALL MEASURES WILL BE REMOVED ONCE THE SITE HAS ACHIEVED FINAL STABILIZATION (PAVEMENT AND VEGETATIVE COVER).

STABILIZATION REQUIREMENTS
ALL AREAS OF DISTURBANCE MUST HAVE TEMPORARY OR FINAL STABILIZATION WITHIN FOURTEEN (14) CALENDAR DAYS OF THE INITIAL DISTURBANCE. AFTER THIS TIME, ANY DISTURBANCE IN THE AREA MUST BE STABILIZED AT THE END OF EACH WORK DAY. HOWEVER, THE FOLLOWING EXCEPTIONS APPLY:

- IF WORK IS TO CONTINUE IN THE AREA WITHIN THE NEXT 24 HOURS AND THERE IS NO PRECIPITATION FORECASTED IN THAT TIME PERIOD, WORK MAY CONTINUE WITHOUT STABILIZATION, AND
- IF THE WORK IS OCCURRING IN A SELF-CONTAINED EXCAVATION WITH A DEPTH OF TWO (2) FEET OR GREATER (E.G. FOUNDATION EXCAVATION, UTILITY TRENCH), STABILIZATION IS NOT REQUIRED.

STABILIZATION IS TO BE ACCOMPLISHED IN ACCORDANCE WITH THE DETAILS PROVIDED IN THE PLAN SET.

REQUIREMENTS FOR WINTER CONSTRUCTION
THE FOLLOWING MEASURES MUST BE ADHERED TO FOR CONSTRUCTION BETWEEN OCTOBER 15 AND APRIL 15.

TO ENSURE COVER OF DISTURBED SOIL IN ADVANCE OF A MELT EVENT, AREAS OF DISTURBED SOIL MUST BE STABILIZED AT THE END OF EACH WORK DAY, WITH THE FOLLOWING EXCEPTIONS:

- IF NO PRECIPITATION WITHIN 24 HOURS IS FORECAST AND WORK WILL RESUME IN THE SAME DISTURBED AREA WITHIN 24 HOURS, DAILY STABILIZATION IS NOT NECESSARY.
- DISTURBED AREAS THAT COLLECT AND RETAIN RUNOFF, SUCH AS HOUSE FOUNDATIONS OR OPEN UTILITY TRENCHES.

PRIOR TO STABILIZATION, SNOW OR ICE MUST BE REMOVED TO A THICKNESS OF NO MORE THAN 1 INCH.

MULCH USED FOR TEMPORARY STABILIZATION MUST BE APPLIED AT DOUBLE THE STANDARD RATE, OR A MINIMUM OF 3 INCHES WITH AN 80-90% COVER.

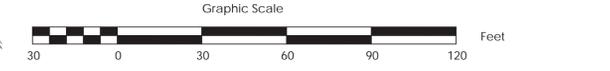
SILT FENCE AND OTHER PRACTICES REQUIRING EARTH DISTURBANCE MUST BE INSTALLED PRIOR TO GROUND FREEZE.

DRAINAGE STRUCTURES MUST BE KEPT OPEN AND FREE OF SNOW AND ICE DAMS.

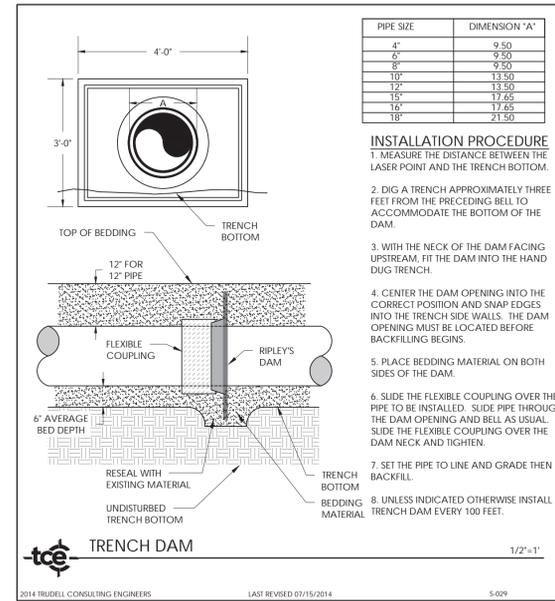
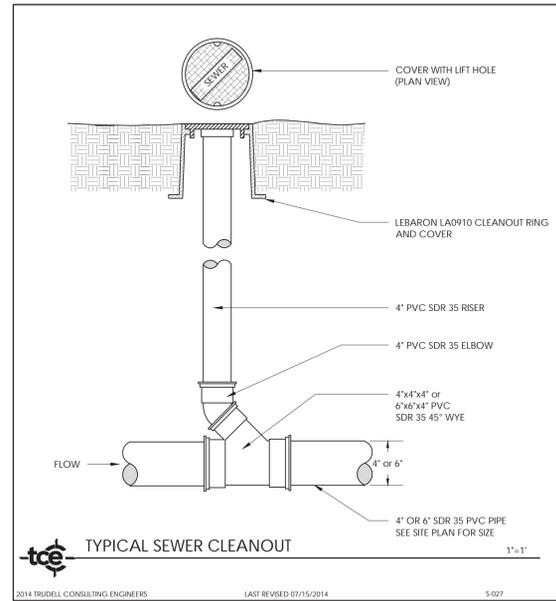
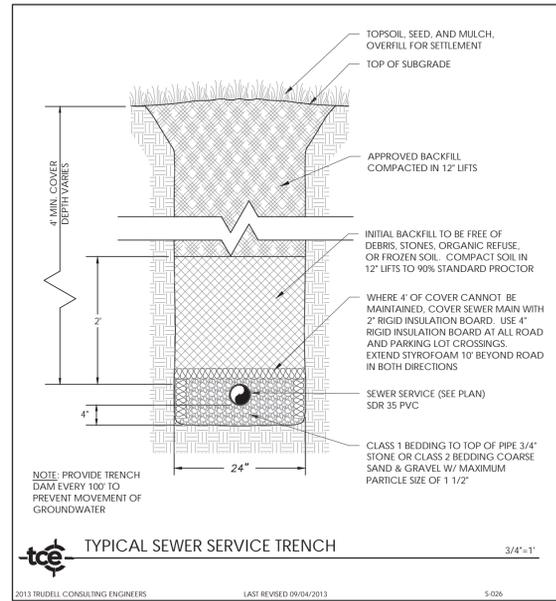
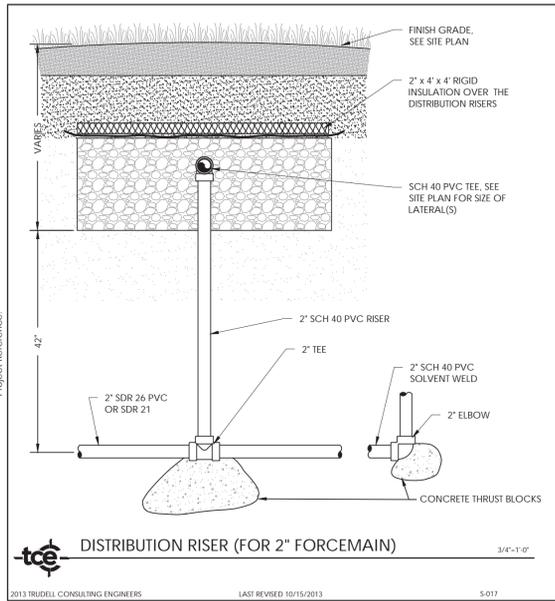
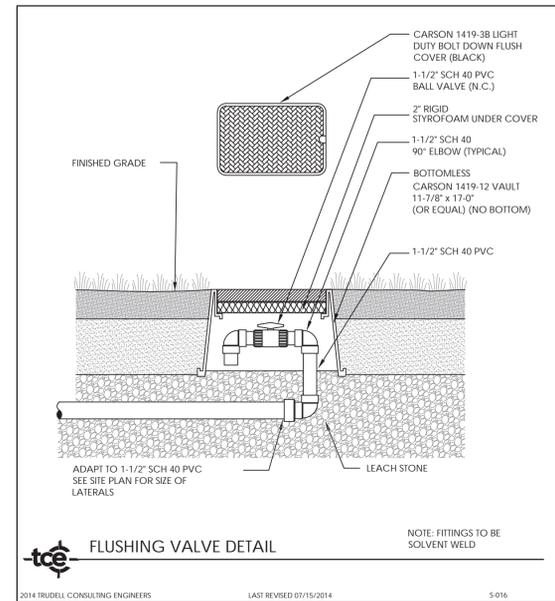
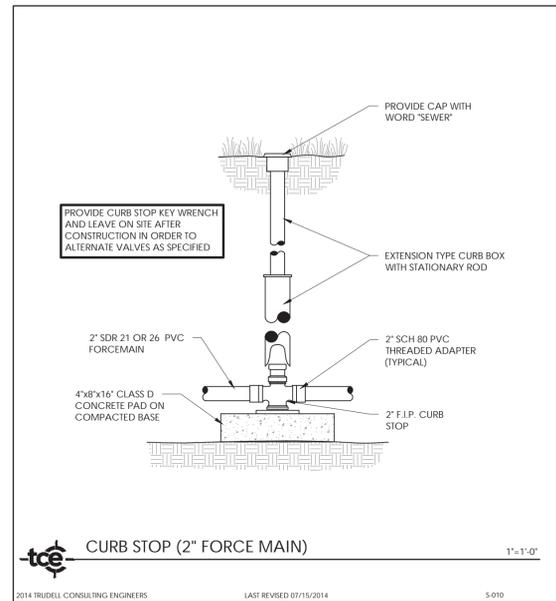
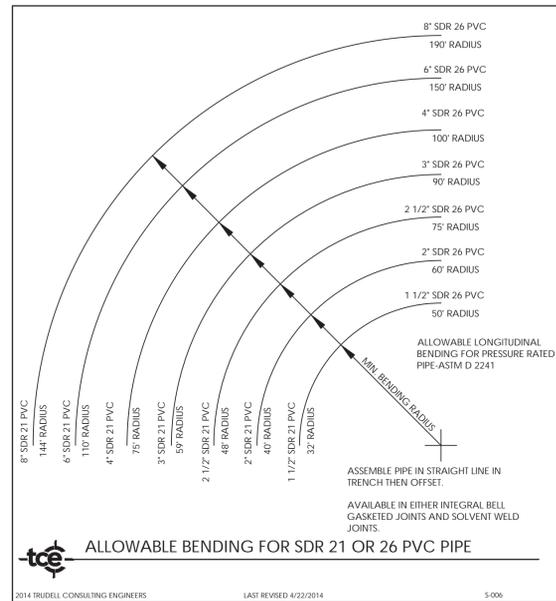
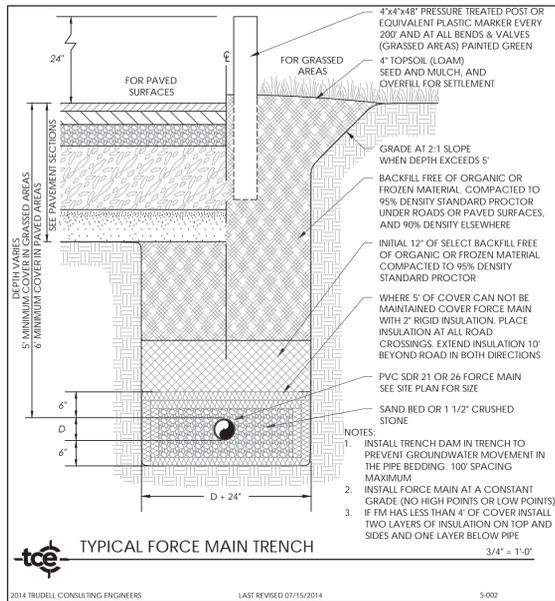
A MINIMUM 25 FOOT BUFFER SHALL BE MAINTAINED FROM PERIMETER CONTROLS SUCH AS SILT FENCES.

IN AREAS OF DISTURBANCE THAT DRAIN TO A WATER BODY WITHIN 100 FEET, SILT FENCE SHALL BE REINFORCED.

ALL AREAS THAT ARE DISTURBED DURING WINTER CONSTRUCTION SHALL BE STABILIZED BY APPLYING SEED AND MULCH AT TWICE THE NORMAL RATE AND THEN COVERED WITH STRAW MATTING.



S:_TCE DRAWINGS\2014\139 - Jericho Market - EPSC.dwg, 1/22/2015 1:14:03 PM



USE CLASS D (2500 PSI) CONCRETE FOR THRUST BLOCKS. PLACE 4 MIL. POLYETHYLENE BETWEEN FITTING AND THRUST BLOCK. PLACE THRUST BLOCK AGAINST UNDISTURBED TRENCH WALL. CONCRETE BEARING AREA ON FITTING TO BE A MINIMUM OF 1/2 SQUARE FOOT. THRUST BLOCKS BASED ON 50 PSI TEST PRESSURE IF CHANGE IN ELEVATION BETWEEN ANY 2 POINTS IN THE LINE IS GREATER THAN 110" THRUST BLOCKS WILL HAVE TO BE ENLARGED.

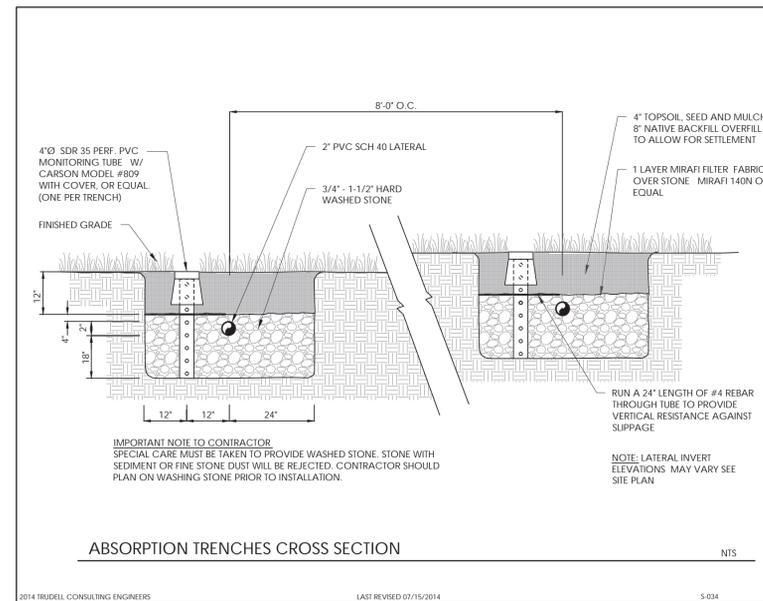
MINIMUM BEARING AREA IN SQUARE FEET ON UNDISTURBED TRENCH WALL

SOIL TYPE	SAFE BEARING LOAD LBS/FT ²	2'			2 1/2'			3'			4'		
		TEE	90°	45°	TEE	90°	45°	TEE	90°	45°	TEE	90°	45°
CLAY	1000	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
SAND	2000	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
GRAVEL	3000	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
TILL	4000	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
SHALE	10000	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5

NOTE: ENGINEER TO OBSERVE ALL THRUST BLOCKS PRIOR TO BACKFILL.

FORCE MAIN THRUST BLOCK SPECIFICATIONS

2013 TRUDELL CONSULTING ENGINEERS LAST REVISED 03/08/2013 5-015



TRUDELL CONSULTING ENGINEERS
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Revisions

No.	Description	Date	By
1	Final Plan Review	01/23/15	NTH

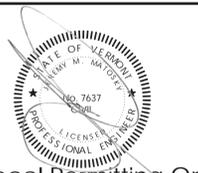
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4. By use of these drawings for construction of the Project, the Owner represents that they have reviewed, approved, and accepted the drawings and have met with all applicable parties/disciplines to insure these plans are properly coordinated with other aspects of the Project. The Owner and Architect, are responsible for any buildings shown, including an area measured a minimum five (5) feet around any building.

5. It is the User's responsibility to ensure this copy contains the most current revisions.



For Local Permitting Only

Project Title

Jericho Market
364 VT Route 15 Jericho, VT

Sheet Title

Sanitary Details

Date: 10/10/14

Scale: SHOWN

Project Number: 14-139

Drawn By: NPC

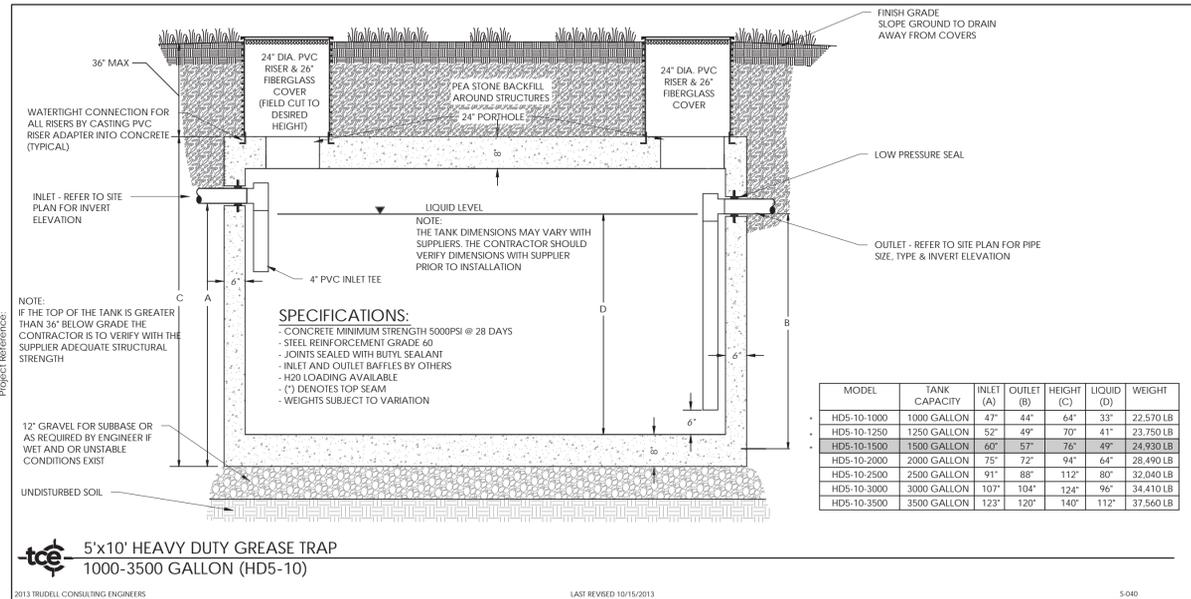
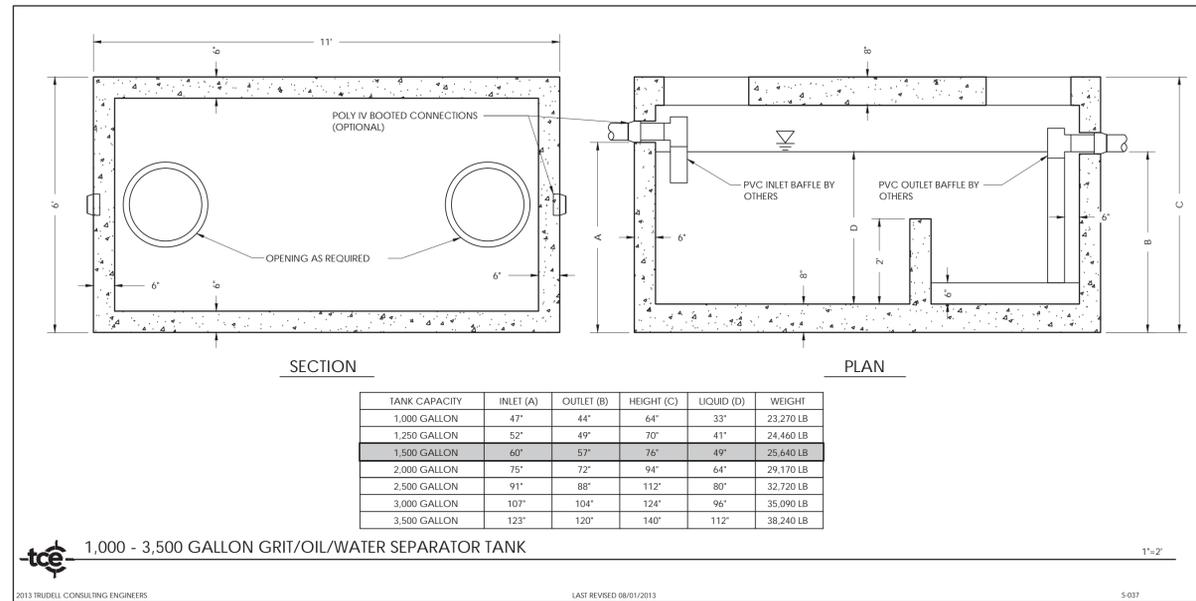
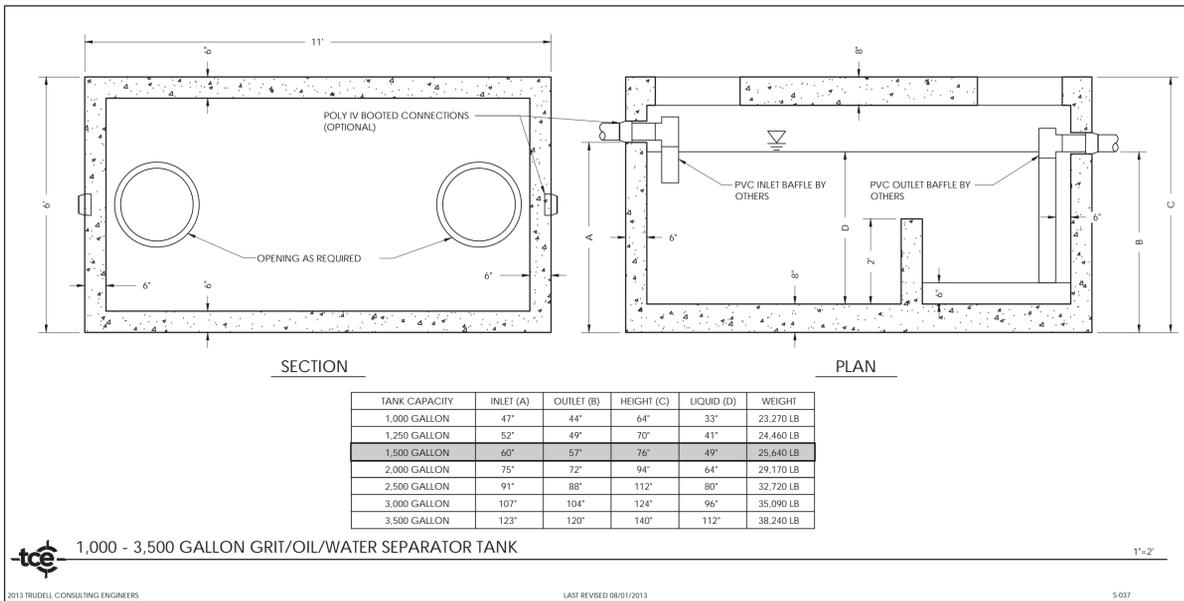
Project Engineer: _____

Approved By: _____

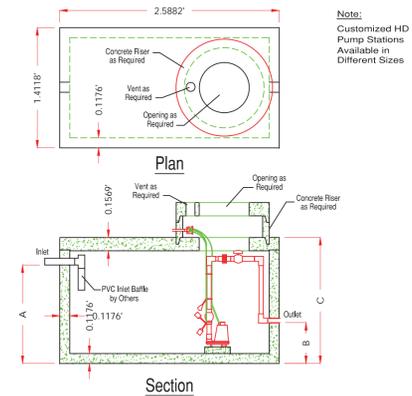
Field Book: _____

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1/26/15
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C8-01



5' x 10' Heavy Duty (Pump Station) 1,000 - 3,500 Gallon (HD5-10)



Tank Capacity	Inlet (A)	Outlet (B)	Height (C)	Weight
1000 gallon	43"	As Required	62"	21,000 lbs
1250 gallon	50"	As Required	68"	22,200 lbs
1500 gallon	58"	As Required	74"	23,300 lbs
2000 gallon	73"	As Required	92"	26,900 lbs
2500 gallon	89"	As Required	110"	30,400 lbs
3000 gallon	105"	As Required	122"	32,800 lbs
3500 gallon	121"	As Required	138"	36,000 lbs

- SPECIFICATIONS:**
- Concrete Minimum Strength 5000psi @ 28 days
 - Steel Reinforcement Grade 60
 - Joints Sealed with Butyl Sealant
 - Inlet Baffle by Others
 - H2O Loading
 - (*) Denotes Top Seam Construction
 - Weights Subject to Variation



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TOLL FREE 1.888.259.2401 FAX 802.853.1542

Revision Date : 2/7/2012 Section : 5



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Revisions	No.	Description	Date	By
	1	Final Plan Review	01/23/15	NTH

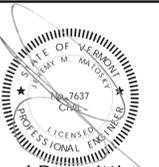
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For Local Permitting Only

Project Title

Jericho Market
364 VT Route 15 Jericho, VT

Sheet Title

Sanitary Details

Date:	10/10/14
Scale:	SHOWN
Project Number:	14-139
Drawn By:	NPC
Project Engineer:	
Approved By:	
Field Book:	

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C8-02



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No.	Description	Date	By
△	Final Plan Review	01/23/15	NTH

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For Local Permitting, Only

Project Title

Jericho Market
364 VT Route 15 Jericho, VT

Sheet Title

Sanitary Notes

Date:	10/10/14
Scale:	SHOWN
Project Number:	14-139
Drawn By:	NPC
Project Engineer:	
Approved By:	
Field Book:	

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C8-03

PRESSURE TEST
UPON COMPLETION OF CONSTRUCTION OF A FORCE MAIN, THE LINE SHALL BE PRESSURE AND LEAKAGE TESTED IN ACCORDANCE WITH THE FOLLOWING PROCEDURE.
AFTER THE PIPE HAS BEEN LAID, ALL NEWLY LAID PIPE OR ANY VALVED SECTION THEREOF SHALL BE SUBJECT TO A HYDROSTATIC PRESSURE OF AT LEAST 1.5 X THE HIGHEST WORKING PRESSURE IN THE SECTION.

- TEST PRESSURE RESTRICTIONS. TEST PRESSURES SHALL:
 - NOT BE LESS THAN 50 PSI AT THE HIGHEST POINT ALONG THE TEST SECTION.
 - NOT EXCEED PIPE OR THRUST RESTRAINT DESIGN PRESSURES.
 - BE OF AT LEAST 2 (TWO) HOUR DURATION.
 - NOT VARY BY MORE THAN ± 5 PSI.
 - NOT EXCEED TWICE THE RATED PRESSURE OF THE VALVES WHEN THE PRESSURE BOUNDARY OF THE TEST SECTION INCLUDES CLOSED GATE VALVES.
- PRESSURIZATION.
 - EACH VALVED SECTION OF PIPE SHALL BE FILLED WITH WATER SLOWLY AND THE SPECIFIED TEST PRESSURE, BASED ON THE ELEVATION OF THE LOWEST POINT IN THE LINE OR SECTION UNDER TEST AND CORRECTED TO THE ELEVATION OF THE TEST GAUGE, SHALL BE APPLIED BY MEANS OF A PUMP CONNECTED TO THE PIPE.
 - AIR REMOVAL. BEFORE APPLYING THE SPECIFIED TEST PRESSURE, AIR SHALL BE EXPELLED COMPLETELY FROM THE PIPE VALVES.
 - EXAMINATION. ALL EXPOSED PIPE, FITTINGS, VALVES, AND JOINTS SHALL BE EXAMINED CAREFULLY DURING THE TEST. ANY DAMAGED OR DEFECTIVE PIPE, FITTINGS, OR VALVES THAT ARE DISCOVERED FOLLOWING THE PRESSURE TEST SHALL BE REPAIRED OR REPLACED WITH SOUND MATERIAL AND THE TEST SHALL BE REPEATED AT NO EXPENSE TO OWNER.

LEAKAGE TEST
A LEAKAGE TEST SHALL BE CONDUCTED CONCURRENTLY WITH THE PRESSURE TESTS.

- LEAKAGE SHALL BE DEFINED AS THE QUANTITY OF WATER THAT MUST BE SUPPLIED INTO THE NEWLY LAID PIPE, OR ANY VALVED SECTION THEREOF, TO MAINTAIN PRESSURE WITHIN 5 PSI OF THE SPECIFIED TEST PRESSURE AFTER THE AIR IN THE PIPELINE HAS BEEN EXPELLED AND THE PIPE HAS BEEN FILLED WITH WATER.
- ALLOWABLE LEAKAGE. NO PIPE INSTALLATION WILL BE ACCEPTED IF THE LEAKAGE IS GREATER THAN THAT DETERMINED BY THE FOLLOWING FORMULA:
$$L = \frac{ND\sqrt{P}}{7400}$$

WHERE:
L IS THE ALLOWABLE LEAKAGE, IN GALLONS PER HOUR;
N IS THE NUMBER OF JOINTS IN THE LENGTH OF PIPELINE TESTED;
D IS THE NOMINAL DIAMETER OF THE PIPE, IN INCHES; AND
P IS THE AVERAGE TEST PRESSURE DURING THE LEAKAGE TEST, IN POUNDS PER SQUARE INCH GAUGE.

NOTE: IN THE EVENT THAT THE FORCE MAIN IS RELATIVELY SHORT (100 FEET OR LESS), THE PROJECT ENGINEER CAN UTILIZE DISCRETION IN TEST REQUIREMENTS.

TESTING FORCE MAINS
(ENVIRONMENTAL PROTECTION RULES CH1, EFFECTIVE 9/29/07 SECTION 1-A-05(g))

2013 TRUDELL CONSULTING ENGINEERS LAST REVISED 3/6/2013 SN-001

CONTRACTOR'S CERTIFICATION REQUIRED

PRIOR TO THE DESIGN ENGINEER CERTIFYING THAT THE INSTALLATION HAS BEEN INSTALLED IN ACCORDANCE WITH THE PERMITTED DESIGN, THE CONTRACTOR SHALL PROVIDE A CERTIFICATION THAT THE WASTEWATER SYSTEM WAS INSTALLED AND TESTED IN ACCORDANCE WITH THE APPROVED DESIGN PLANS. STATE PERMITS REQUIRE THERE SHALL BE NO DEVIATIONS FROM THE APPROVED PLANS WITHOUT PRIOR APPROVALS. THE DESIGN ENGINEER SHALL BE NOTIFIED AND ALLOWED TO OBSERVE THE CRITICAL PHASES OF CONSTRUCTION INCLUDING ANY REQUIRED TESTS. LIKEWISE, THE DESIGN ENGINEER SHALL BE NOTIFIED OF ANY DEVIATIONS FROM THE APPROVED PLANS. SINCE THE DESIGN ENGINEER DOES NOT CUSTOMARILY OBSERVE ALL PHASES OF THE WORK, OR ALL TESTING, HE MAY RELY ON THE CONTRACTOR'S CERTIFICATION AS THE BASIS FOR FINAL CERTIFICATION. THE CONTRACTOR SHALL THEREFORE SIGN AND RETURN A COPY OF THE FOLLOWING CERTIFICATION UPON COMPLETION OF THE WORK:

"I HEREBY CERTIFY THAT I HAVE INSTALLED, PROPERLY TESTED, AND SUCCESSFULLY PASSED THOSE TESTS, AND THE WASTEWATER DISPOSAL AND COLLECTION SYSTEMS ARE BUILT IN ACCORDANCE WITH THE APPROVED DESIGN PLANS AND APPLICABLE PERMIT CONDITIONS."

CONTRACTOR NAME _____

AUTHORIZED AGENIS NAME _____

SIGNATURE _____ DATE _____

NOTE ANY DEVIATIONS FROM APPROVED PLANS HERE: _____

CONTRACTOR CERTIFICATION FOR WASTEWATER SYSTEM

2013 TRUDELL CONSULTING ENGINEERS LAST REVISED 3/6/2013 SN-002

IMPORTANT NOTE
CHECK WITH STATE OR ENGINEER TO VERIFY SETBACK DISTANCES. SETBACK DISTANCES CAN VARY FROM WHAT IS SHOWN HEREON BASED ON THE SIZE AND SCOPE OF THE PROJECT OR NEWLY PUBLISHED RULES FROM OTHER STATE AGENCIES.

ITEM	HORIZONTAL DISTANCE (FEET) *		
	DISPOSAL FIELD	SEPTIC TANK	SEWER
DRILLED WELL	b	50	50
GRAVEL PACK WELL, SHALLOW WELL OR SPRING	b	75	75
LAKES, PONDS, IMPOUNDMENTS	50	25	25
RIVERS AND STREAMS	50	25	10
DRAINAGE SWALES, ROADWAY DITCHES	25	--	--
MAIN OR MUNICIPAL WATER LINES	50	50	d
ATMOSPHERIC WATER STORAGE TANKS	50	50	50
SERVICE WATER LINES	25	25	d
ROADWAYS, DRIVEWAYS, PARKING LOTS	10	5	c
TOP OF EMBANKMENT OR SLOPE GREATER THAN 30%	25	10	--
PROPERTY LINE (a)	25 ²	10	10
TREES	10	10	10
OTHER DISPOSAL FIELD OR REPLACEMENT SYSTEM	10 ³	--	--
FOUNDATION DRAINS, FOOTING DRAINS, CURTAIN DRAINS	35 ⁴	10	--
PUBLIC WATER SUPPLY (e)	f	f	f
SUCTION WATER LINE	100	50	50

* THESE DISTANCES MAY BE REDUCED WHEN EVIDENT THAT THE DISTANCE IS UNNECESSARY TO PROTECT AN ITEM, OR INCREASED IF NECESSARY TO PROVIDE ADEQUATE PROTECTION.
* INDIRECT DISCHARGE REQUIREMENTS SUPERSEDE THIS IF DIFFERENT.
* WATER SUPPLY RULES SUPERSEDE THIS IF DIFFERENT.

ISOLATION DISTANCES
ENVIRONMENTAL PROTECTION RULES, CHAPTER 21, EFFECTIVE 9/29/07 SECTION 1-807

2013 TRUDELL CONSULTING ENGINEERS LAST REVISED 3/6/2013 SN-003

- CONTACT THE DESIGN ENGINEER PRIOR TO CONSTRUCTION FOR AN ON SITE MEETING WITH THE CONTRACTOR TO STAKE OUT AND DISCUSS THE CONSTRUCTION OF THE PROPOSED DISPOSAL SYSTEM. CONTACT OTHER STATE AND LOCAL AUTHORITIES AS APPROPRIATE.
- REMOVE ALL ABOVE GROUND VEGETATION AND TOPSOIL FROM THE DISPOSAL FIELD AREA. THE TOPSOIL SHALL BE CLEANED OF ALL DEBRIS AND STOCKPILED FOR LATER USE.
- STARTING ON THE UPHILL SIDE OF THE DISPOSAL FIELD, EACH ABSORPTION TRENCH AND/OR SEEPAGE BED SHALL BE EXCAVATED TO THE RESPECTIVE SUBGRADE ELEVATION. THE SIDES AND BOTTOM OF EACH TRENCH AND/OR BED SHALL THEN BE BAKED.
- ONCE BAKED, A 12" MINIMUM OF 3/4" - 1 1/2" HARD WASHED STONE IS PLACED IN THE BOTTOM OF THE TRENCH AND/OR BED. USE THE BUCKET OF A CRAWLER TO INSTALL THE STONE. COMPLETE ONE ABSORPTION TRENCH AT A TIME. SPECIAL CARE MUST BE TAKEN TO PROVIDE CLEAN STONE. STONE WITH DIRT OR STONE DUST MIXED IN WILL BE REJECTED.
- IN THE CENTER OF EACH TRENCH AND/OR BED, USE SHOVELS TO EXCAVATE 2" DEEP CHANNELS. LAY THE DISTRIBUTION PIPE LEVEL IN THE CHANNELS. LINE SHALL BE CAPPED UNLESS CONNECTED BY A REAR MANIFOLD.
- CONTACT DESIGN ENGINEER UPON THE COMPLETION ON ALL TRENCHES AND/OR BEDS AND PRIOR TO BACKFILLING TO INSPECT THE DISTRIBUTION PIPING. CONTACT OTHER AUTHORITIES AS APPROPRIATE.
- EACH TRENCH AND/OR BED SHALL BE FINISHED BY PLACING 2" OF STONE OVER THE DISTRIBUTION PIPE AND THEN ONE LAYER OF FILTER FABRIC OVER THE STONE.
- THE STOCKPILED TOPSOIL SHALL THEN BE USED TO COVER THE DISPOSAL FIELD. OVERFILL EACH TRENCH AND/OR BED TO ALLOW FOR SETTLEMENT. SEED AND MULCH THE TOPSOIL UPON PLACEMENT.
- UPON COMPLETION OF CONSTRUCTION, CONTACT THE DESIGN ENGINEER. IF THE DISPOSAL FIELD IS SATISFACTORY, THE DESIGN ENGINEER WILL PROVIDE WRITTEN CERTIFICATION THAT THE CONSTRUCTION WAS DONE IN GENERAL ACCORDANCE WITH THE APPROVED PLANS. THIS CERTIFICATION WILL BE SPECIFIC TO THE AMOUNT OF OBSERVATION BY THE ENGINEER AND WILL IN NO WAY RELIEVE THE CONTRACTOR OF THEIR WARRANTY OBLIGATIONS.
- SINCE THE DESIGN ENGINEER DOES NOT CUSTOMARILY OBSERVE ALL CONSTRUCTION, THE DESIGN ENGINEER WILL REQUIRE THE CONTRACTOR TO CERTIFY THEY BUILT AND TESTED THE SYSTEM PER THE DESIGN PLANS AND PERMIT CONDITIONS.

SUBSURFACE DISPOSAL FIELD CONSTRUCTION SPECIFICATIONS

2013 TRUDELL CONSULTING ENGINEERS LAST REVISED 03/11/2013 SN-006

- THE ENGINEER HAS DETERMINED A LOCATION FOR ON SITE SANITARY DISPOSAL ON THE PROPERTY, BASED ON A SITE INVESTIGATION AND SOIL TESTS. THE REQUIRED DISPOSAL AREA AND SYSTEM DESIGN WERE DETERMINED BY CODE REQUIREMENTS AND SUBMITTED TO APPROVING AUTHORITIES. UPON APPROVAL, THE OWNER ASSUMES RESPONSIBILITY FOR PROPER CONSTRUCTION AND CONTINUED PROPER OPERATION OF THE SYSTEM.
- THE OWNER IS RESPONSIBLE FOR OPERATING THE DISPOSAL SYSTEM IN A MANNER WHICH WILL PROTECT THE PUBLIC HEALTH AND PREVENT POLLUTION.
- NEW DISPOSAL SYSTEMS REQUIRE ADJUSTMENTS OR MODIFICATIONS DURING START UP, AND DURING THE LIFE OF THE SYSTEM. THESE ADJUSTMENTS INCLUDE LEVELING UP THE DISTRIBUTION BOX, SEPTIC TANK, AND PUMP STATION, DUE TO SETTLEMENT OR FROST ACTION. FILL MAY BE ADDED TO REPAIR EROSION OR LEVEL SETTLED AREAS.
- ON SITE SANITARY DISPOSAL SYSTEMS REQUIRE REGULAR INSPECTION AND MAINTENANCE. THE SEPTIC TANK, BIO-FILTER AND DISTRIBUTION BOX SHOULD BE INSPECTED ANNUALLY AND PUMPED OUT AND CLEANED EVERY 3 YEARS. THE PLUMBING AND ELECTRICAL SYSTEMS, IF APPLICABLE, SHOULD BE CHECKED FOR PROPER OPERATION AND LEAKS.
- THE LIFE OF THE DISPOSAL SYSTEM CAN BE AFFECTED BY A VARIETY OF OPERATIONAL AND ENVIRONMENTAL FACTORS. THE PRESENCE OF EXCESS GROUNDWATER, RAINWATER, INTRODUCTION OF MATERIAL OTHER THAN HUMAN WASTES, OR EXCESSIVE SEWAGE FLOWS WILL ADVERSELY AFFECT OPERATION OF ANY DISPOSAL SYSTEM. SOIL SETTLEMENT, FREEZING OF COMPONENTS, AND CLOGGING DUE TO ORGANIC SOLIDS ACCUMULATION WILL REQUIRE REPAIRS.
- THE OWNER IS RESPONSIBLE FOR COMPLIANCE WITH STATE AND LOCAL OPERATION AND MAINTENANCE REQUIREMENTS. THE ENGINEER AND CONTRACTOR ASSUMES NO RESPONSIBILITY FOR THE IMPROPER USE AND/OR MAINTENANCE OF THE SYSTEM.
- WARNING: WITH SUCH FINE FILTRATION (SEPTIC TANK EFFLUENT FILTER), A SCHEDULED MAINTENANCE PROGRAM MUST BE FOLLOWED.
- THE OWNER IS RESPONSIBLE FOR ALL STATE AND LOCAL PERMITS AND REQUIRED CONDITIONS OF SAID PERMITS. THIS INCLUDES BUT IS NOT LIMITED TO ANNUAL INSPECTIONS AND REPORTING. THE OWNER IS ALSO RESPONSIBLE FOR RECORDING PERMITS IN THE TOWN LAND RECORDS OFFICE. IF CONSTRUCTION DOESNT OCCUR IN THE TIME FRAMES ESTABLISHED BY SAID PERMITS THEN THE OWNER IS RESPONSIBLE FOR REVISING DESIGN PLANS AS NEEDED AND RE-PERMITTING. IF CHANGES IN THE REGULATIONS OCCUR ONCE THE PERMITS HAVE EXPIRED, TRUDELL CONSULTING ENGINEERS DOES NOT OFFER ANY GUARANTEES THAT THE PERMIT WILL BE RE-ISSUED. CHANGING REQUIREMENT MAY PREVENT COMPLIANCE AND CAUSE CERTAIN PROPERTIES TO BE UN-DEVELOPABLE.
- IF THE SYSTEM IS DESIGNED USING THE PERFORMANCE BASED DESIGN ACCORDING TO PREVIOUS STATE PERMITS THE SYSTEM SHALL BE INSPECTED EACH SPRING FOR THREE CONSECUTIVE YEARS BY A LICENSED ENGINEER TO DEMONSTRATE THAT THE SYSTEM IS WORKING AS DESIGNED.

SUBSURFACE DISPOSAL FIELD OPERATION AND MAINTENANCE

2014 TRUDELL CONSULTING ENGINEERS LAST REVISED 07/16/2014 SN-010

WATER PRESSURE TEST

UPON COMPLETION OF INSTALLATION ALL TANKAGE SHALL BE TESTED WITH CLEAN WATER TO DEMONSTRATE THAT THE STRUCTURES ARE WATER TIGHT. THE TESTING SHALL BE CONDUCTED BEFORE THE TANKAGE AND STRUCTURES ARE BACKFILLED. THE TEST SHALL BE CONDUCTED BY COMPLETELY FILLING THE TANKAGE TO THE TOP OF THE STRUCTURES AND PROVIDING A HYDROSTATIC HEAD OF AT LEAST TWO FEET ABOVE THE SURROUNDING GROUNDWATER LEVEL AT THE TIME OF TESTING. THE TEST SHALL BE AT LEAST 24 HOURS, WITH NO LEAKAGE RESULTING. IF ANY LEAKAGE OCCURS DURING THE TEST PERIOD THE TANKS SHALL BE REPAIRED AND RETESTED (PER ASTM C1227-9.2.2 STANDARDS).

VACUUM TEST

UPON COMPLETION OF INSTALLATION ALL TANKAGE SHALL BE TESTED TO DEMONSTRATE THAT THE STRUCTURES ARE WATER TIGHT. THE TESTING SHALL BE CONDUCTED BEFORE THE TANKAGE AND STRUCTURES ARE BACKFILLED. THE TEST SHALL BE CONDUCTED BY SEALING THE EMPTY TANK AND APPLYING A VACUUM TO 2 INCHES (50MM) OF MERCURY. THE TANK IS APPROVED IF 90% OF THE VACUUM IS HELD FOR A MINIMUM OF 2 MINUTES (PER ASTM C1227-9.2.1 STANDARDS).

TANK LEAKAGE TESTING

2013 TRUDELL CONSULTING ENGINEERS LAST REVISED 3/4/2013 WN-004

SOILS TEST PIT INFORMATION:

SOIL PROFILES WERE CONDUCTED BY TRUDELL CONSULTING ENGINEERS ON 09/17/14 BY ANDRE LAMBERT, #406 WITH BILL ZABLOSKI FROM THE STATE IN ATTENDANCE. OTHER TESTING CONDUCTED ON 11/06/02 & 01/02/03 BY TCE AND KENT KOPIUICH ON 11/07/01.	2014-TP5: 0-36" GRAVEL FILL 36-45" 10YR 6/4, MEDIUM LIGHT TAN SANDY GRAVEL 45-55" 10YR 4/3, MEDIUM BROWN AND DARK GRAY SILTY TILL 55-149" 10YR 6/4, TAN MEDIUM SAND WITH SMALL STONES NO MIGRATING WATER, NO MOTTLING, NO LEDGE. SHWT: NO INDICATED MOTTLING TO 149", MIGRATING WATER @ 186".
2014-TP1: 0-10" 10YR 6/4, MEDIUM BROWN SANDY TOPSOIL, CLOVER COVER 10-34" 5YR 5/6, ORANGE BROWN FINE SAND, 21" GRAVEL FILL 34-58" 5YR 5/8, RED & ORANGE MEDIUM GRAINED SAND 58-120" 5YR 5/6, TAN & RED MEDIUM WITH > THAN 3" STONES, CLEAR TO 120". NO MIGRATING WATER, NO MOTTLING, NO LEDGE. SHWT: NO INDICATED MOTTLING TO 120"	2001-TP24: 0-36" GRAYISH BROWN, COARSE GRAVEL AND COARSE SAND WITH MANY COBBLES 36-87" DRY GRAY MEDIUM TO COARSE SANDS AND COARSE GRAVEL, LOOSE, NO ROOTS NO GROUNDWATER OR LEDGE ENCOUNTERED
2014-TP2: 0-16" GRAVEL FILL. 16-58" 10YR 4/4, DARK BROWN MEDIUM COBBLY SAND, STONES > THAN 2", RED & ORANGE HORIZON @ 55-58". 58-84" 10YR 4/3, MEDIUM GRAY FINE SILTY SAND 84-100" 10YR 6/1, TAN & GRAY MEDIUM COARSE SANDY GRAVEL, MANY STONES > 3". NO MIGRATING WATER, NO MOTTLING, NO LEDGE. SHWT: NO INDICATED MOTTLING TO 100"	2001-TP25: 0-36" GRAYISH BROWN, COARSE GRAVEL AND COARSE SAND WITH MANY FINE TO COARSE COBBLES, LOOSE 36-90" DRY GRAYISH BROWN MEDIUM TO COARSE SANDS WITH COARSE GRAVEL AND MANY MEDIUM COBBLES, LOOSE CONSISTENCY, NO ROOTS, GROUNDWATER OR LEDGE ENCOUNTERED
2014-TP3: 0-24" GRAVEL FILL. 24-36" 2.5YR 4/6, BRICK RED MEDIUM SAND W/ 2" STONES. 36-46" 10YR 6/4, MEDIUM TAN FINE SAND, WAVY BOUNDARY. 46-108" 10YR 6/1, GRAY MEDIUM COARSE SANDY GRAVEL, LOOSE, LAYERED VARIED LENSES, WAVY BOUNDARY. NO MIGRATING WATER, NO MOTTLING, NO LEDGE. SHWT: NO INDICATED MOTTLING TO 108"	PERCOLATION TEST RESULTS: TESTING CONDUCTED ON 11/06/02 BY TRUDELL CONSULTING ENGINEERS 2001-P-3A 5 MINUTES PER INCH 36" 2001-P-3B 7 MINUTES PER INCH 36"
2014-TP4: 0-28" GRAVEL FILL. 28-96" 10YR 6/4, MEDIUM LIGHT TAN SANDY GRAVEL 96-120" 10YR 6/4, TAN MEDIUM SAND WITH SMALL STONES.	

BASIS OF DESIGN FOR DISPOSAL SYSTEM:

WASTEWATER SYSTEM DESIGN IS BASED ON THE PRESCRIPTIVE APPROACH FOR AN IN-GROUND ABSORPTION TRENCH DISPOSAL FIELD.

BUILDING USE CLASSIFICATION = LARGE SUPERMARKET WITH A 18,000 S.F. MAXIMUM FOOTPRINT

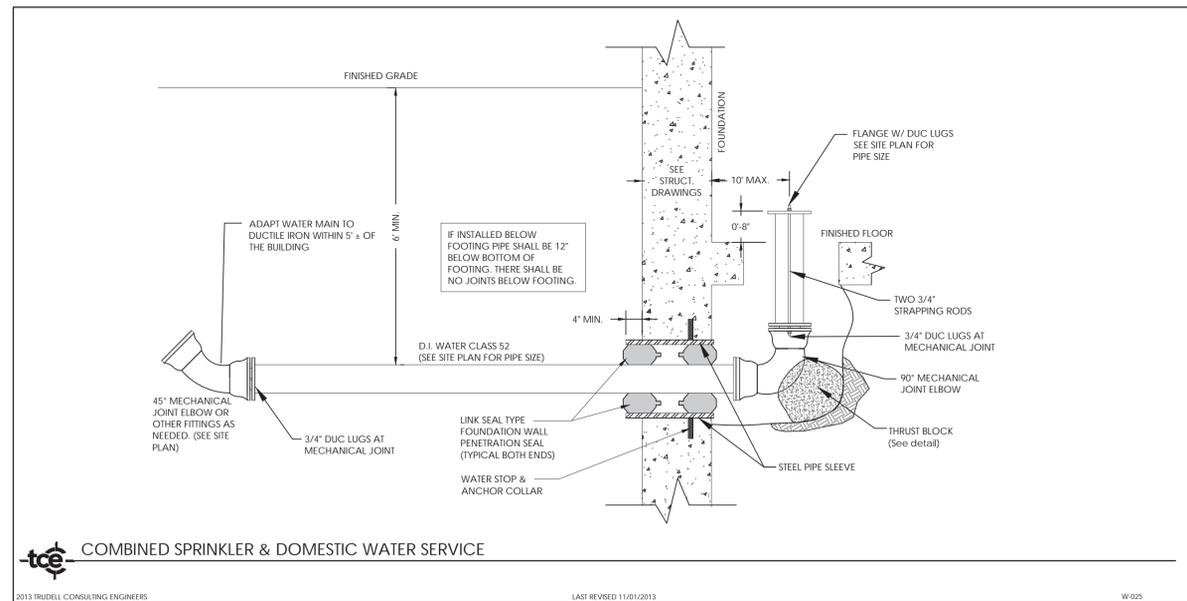
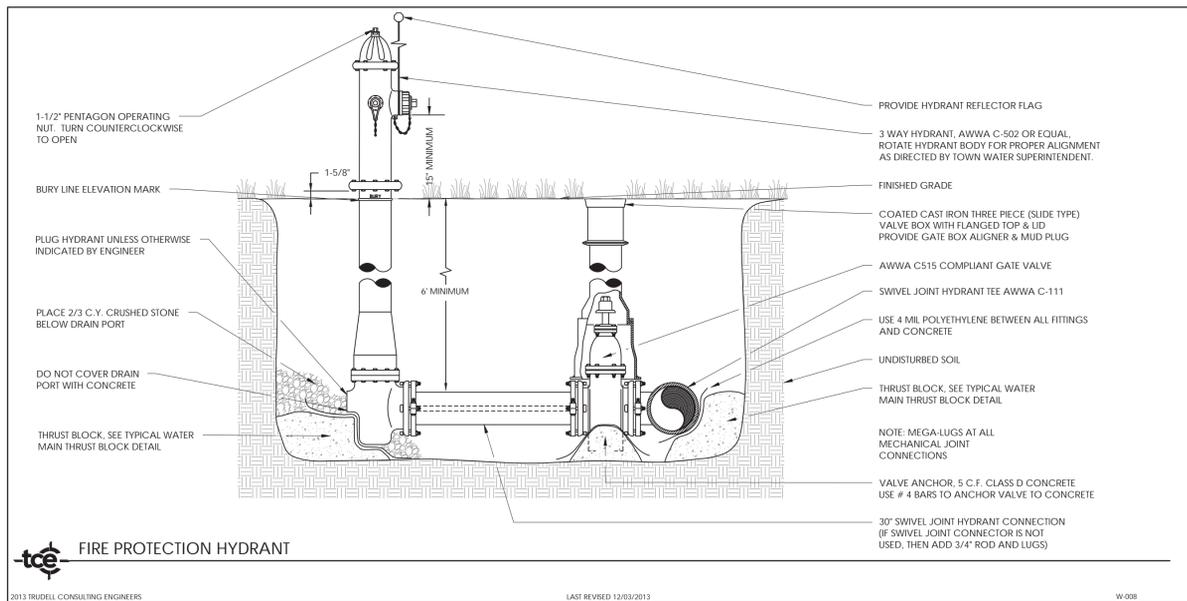
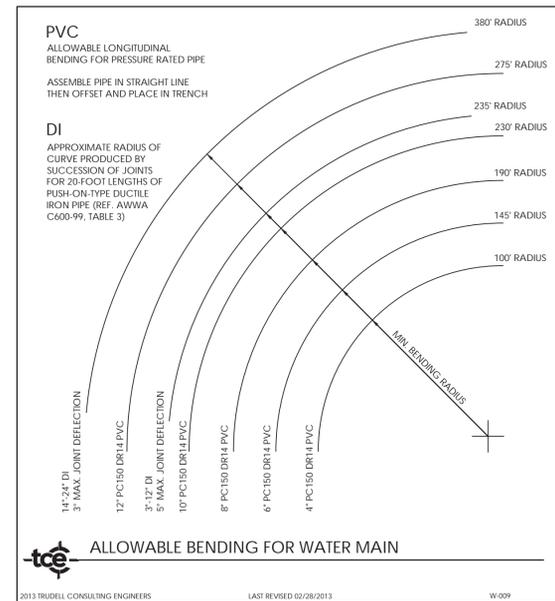
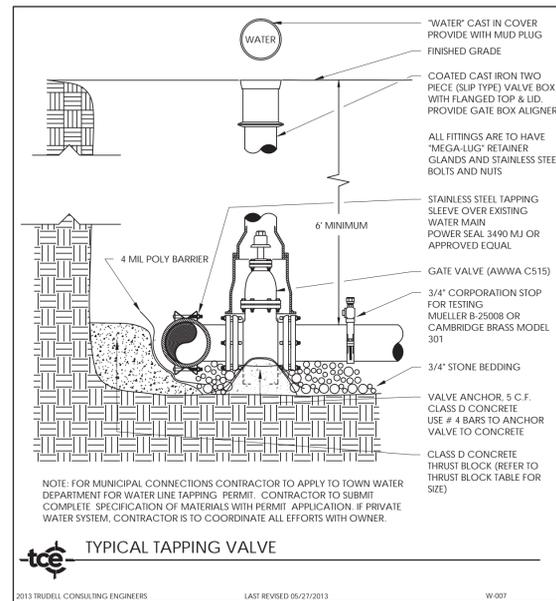
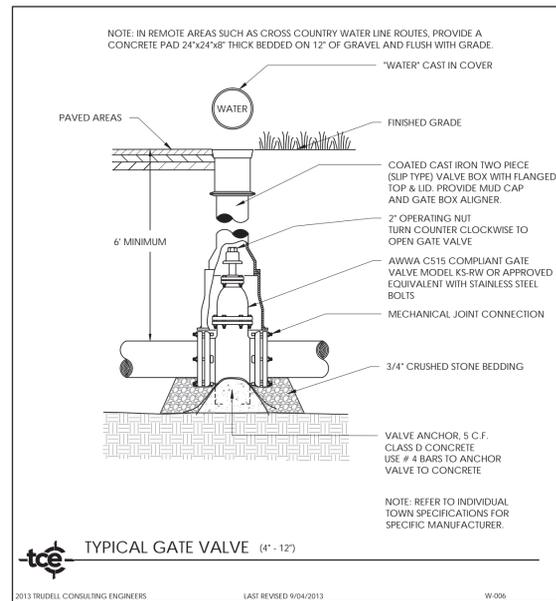
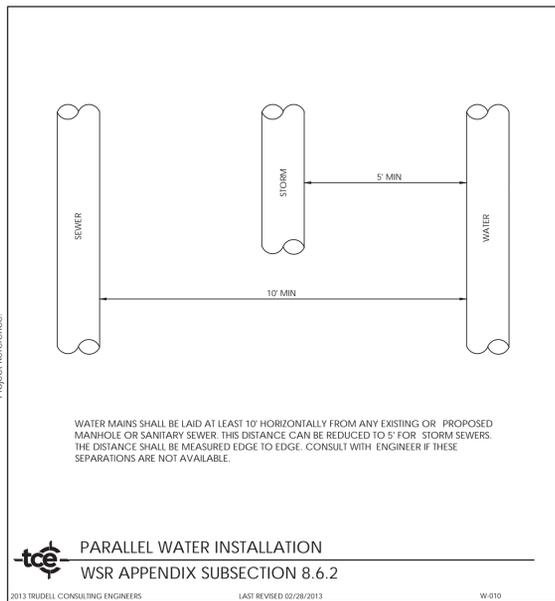
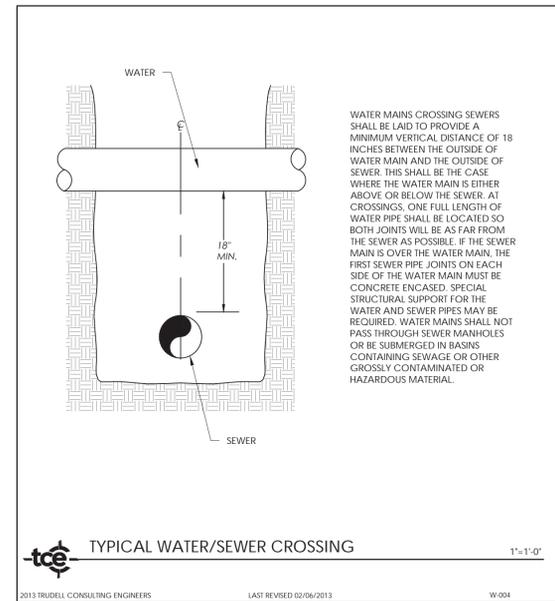
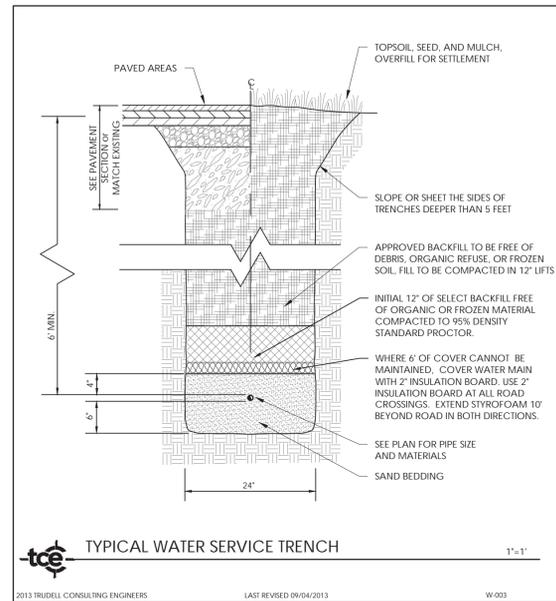
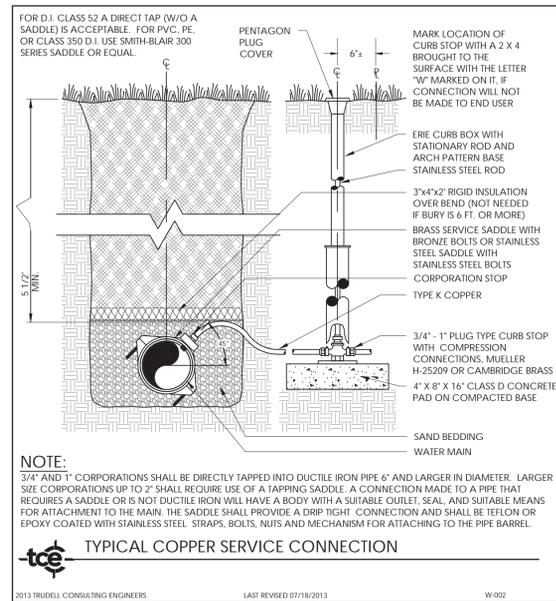
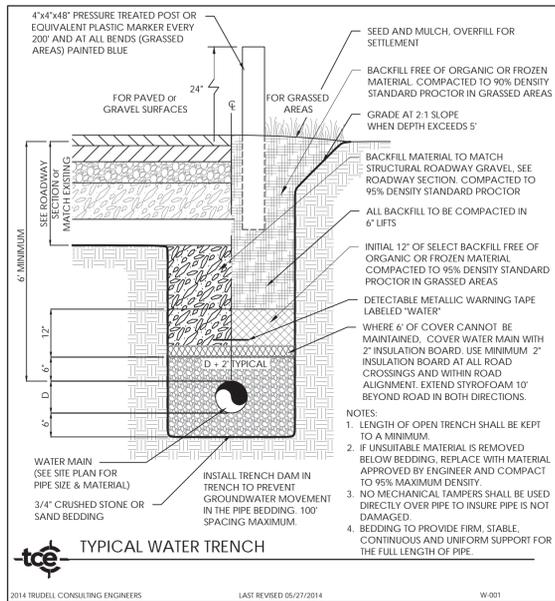
WASTEWATER DESIGN FLOW USED = 18,000 S.F. / 7.5 GPD PER 100 S.F. = 1,350 GPD

USING THE SLOWEST PERCOLATION RATE = (P-3B) = 7 MIN/IN. = 1
THE LOAD RATING (LR) = 3/√t = 3/√2.64 = 1.13 GAL/S.F./DAY (APPLICATION RATE)

1,350 GPD / 1.13 = 1,195 S.F.

USING A VALUE OF 1,195 S.F., AND 18" OF STONE UNDER THE DISPOSAL PIPE (SEE PAGE 84, SECTION 1-907(P)); THE LINEAR LENGTH OF THE FIELD CAN BE REDUCED BY 25%

THUS, 1,195 S.F. x 0.75 = 896 S.F. REQUIRED TRENCH AREA
896 S.F. / 4' WIDTH = 224 L.F. OF TRENCH LENGTH REQUIRED
244 AND 258 L.F. PROVIDED



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No.	Description	Date	By
1	Final Plan Review	01/23/15	NTH

RECEIVED
1/26/15
PeakCM

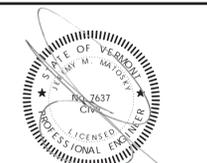
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5. It is the User's responsibility to ensure this copy contains the most current revisions.



For Local Permitting, Only

Project Title

Jericho Market
364 VT Route 15 Jericho, VT

Sheet Title

Water Details

Date:	10/10/14
Scale:	SHOWN
Project Number:	14-139
Drawn By:	NPC
Project Engineer:	
Approved By:	
Field Book:	

C8-04

SPRINKLER WATER SERVICE NOTES

- SCOPE OF WORK**
Install new 4 inch underground sprinkler water service connection. Work begins 5 feet from building exterior and ends with a flanged adapter connection 12 inches inside building. Flange connection to be restrained from movement by rodding back to mechanical joint on a 4" 90° elbow, 90° elbow to be restrained from movement by rodding back to mechanical joint on a 4 inch 45° elbow. Foundation penetration shall be sealed on the interior of building with non-shrink grout and on the exterior of the building with 4000 psi ready mix concrete to provide waterproofing. See Civil drawings and specifications for connection outside building. See Mechanical drawings and specifications for connection inside building.
- CODES AND REGULATIONS**
The equipment and installation shall be in conformity with all city, state, and federal codes, laws, and regulations as well as National Fire Protection Association Standards, as follows:
A. National Fire Protection Association Standards:
NFPA 13-2002, Installation of Sprinkler Systems.
NFPA 24-2002, Installation of Private Fire Service Mains and Their Appurtenances.
B. Boca Code (BOCA) 1999.
C. Local Building Codes.
The system design and equipment furnished shall be in accordance with the specifications herein and the applicable code requirements of municipality. The Contractor shall be held strictly responsible for any violations of codes, laws, or regulations and shall make all changes in work to conform with the above without cost to the Owner.
- PIPING**
All underground pipe and fittings shall be listed for fire protection service and comply with AWWA standards. Steel piping shall not be used. Piping shall be ductile iron class 52.
- JOINTS**
Joints shall be of an approved type.
The following apply to joints used with the various types of pipe:
AWWA C111, Rubber Gasket Joints for Ductile Iron Pressure Pipe and Fittings.
AWWA C115, Flanged Ductile Iron Pipe with Threaded Flanges.
- FITTINGS**
Fittings shall be of an approved type with joints and pressure class ratings compatible with the pipe used.
Fittings shall be ductile iron with joints to specifications of the manufacturer of the particular type of pipe. Sprinkler lead-in shall terminate with flange adapter connection. The following standards apply to fittings:
AWWA C110, Ductile Iron and Gray Iron Fittings, 3-in. Through 48-in., for Water and Other Liquids.
- RESTRAINING RODS**
Restraining rods shall be 3/4 inch. Threaded sections of rods shall not be formed or bent. Rods shall

be used in pairs. Rods shall be steel. When more than one section of rod needs to be used, rods shall be joined by approved rod couplings of malleable iron in accordance with ASIM A 197.

- CORROSION RESISTANCE OF RESTRAINTS**
After installation, rods, nuts, bolts, washers, clamps, and other restraining devices shall be cleaned and thoroughly coated with a bituminous or other acceptable corrosion-retarding material.
- FLUSHING**
See Engineering drawings for additional flushing requirements.
Lead-in connections to system risers shall be flushed thoroughly before connection is made to system piping in order to remove foreign material that might have entered the main during the course of installation or that might have been present in existing pipe. The minimum rate of flow shall be not less than the water demand rate of the system, which is determined by the system design, or not less than that necessary to provide a velocity of 10 fps whichever is greater. For all systems the flushing operations shall be continued for sufficient time to ensure thorough cleaning. When planning the flushing operations consideration shall be given to disposal of wastewater from the test. Adequate thrust restraint shall be provided during flushing and testing.
- TESTING**
See Engineering drawings for additional testing requirements.
a. The installing company shall furnish a Contractor's Material and Test Certificate for Underground Piping countersigned by the property owner or representative prior to requesting final approval from the authority having jurisdiction.
b. The trench shall be backfilled between joints before testing to prevent movement of pipe.
c. All new lead-in connections shall be tested hydrostatically at not less than 200 psi pressure for two hours, or at 50 psi in excess of the maximum static pressure when the maximum static pressure is in excess of 150 psi.
d. The amount of leakage in buried piping shall be measured at the specified test pressure by pumping from a calibrated container. For new pipe, the amount of leakage at the joints shall not exceed two quarts per hour per 100 gaskets or joints irrespective of pipe diameter. See Civil Engineering drawings for additional flushing and testing requirements.
e. The amount of allowable leakage specified above shall be permitted to be increased by one fluid ounce per inch valve diameter per hour for each metal sealed valve isolating the test section.
f. Tests shall be made by the contractor in the presence of the authority having jurisdiction or the representative of the owner.
g. Additives, corrosive chemicals such as sodium silicate, brine, or other chemicals shall not be used while hydrostatically testing systems or for stopping leaks.
h. All control valves shall be fully closed and opened under system water pressure to ensure proper operation.

ACKNOWLEDGEMENT:
This information was supplied by the Architect. We have reviewed this and made minor amendments on the note and specification to customize it for Jay Peak Resort. The purpose of this plan is to provide the contractor with a detail and specification that brings the water main into the building.

COMBINED SPRINKLER & DOMESTIC WATER SERVICE NOTES

2013 TRUDELL CONSULTING ENGINEERS LAST REVISED 11/01/2013 W-025b

TESTING WATER MAINS

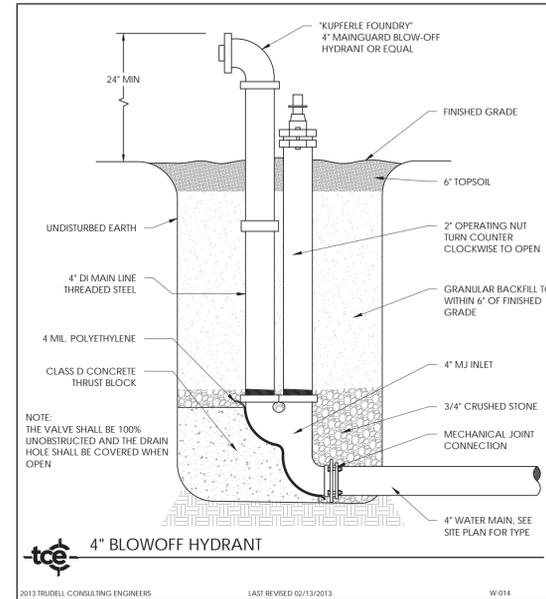
- *ALL TESTING SHALL BE PERFORMED IN THE PRESENCE OF THE TOWN ENGINEER OR PUBLIC WORKS DEPARTMENT IF APPLICABLE OR PRIVATE OWNER/OPERATOR AND PROJECT ENGINEER (AS DESIGNATED BY OWNER). CONTRACTOR SHALL PRE-TEST SUCCESSFULLY PRIOR TO CONTACTING PROJECT ENGINEER. THE PRE-TEST IS TO ENSURE PASSING RESULTS PRIOR TO OFFICIAL TESTING OBSERVATION.
- AFTER THE PIPE HAS BEEN LAID AND 7 DAYS AFTER THE CONCRETE THRUST BLOCKS AND ANCHORS HAVE BEEN PLACED, THE WATER MAIN SHALL BE HYDROSTATICALLY TESTED ACCORDING TO THE LATEST EDITION OF THE AWWA SPECIFICATION C-600.
 - CONTRACTOR SHALL SUPPLY ALL NECESSARY APPARATUS TO PERFORM THE HYDROSTATIC TEST.
 - TEST PRESSURE SHALL BE 200 POUNDS PER SQUARE INCH OR 1.5 TIMES THE WORKING PRESSURE MEASURED AT OR NEAR THE HIGH POINT IN THE SYSTEM, WHICHEVER IS GREATER. TEST SHALL BE A MINIMUM OF 2 HOURS IN DURATION. TESTING ALLOWANCE SHALL BE DEFINED AS THE QUANTITY OF MAKEUP WATER THAT MUST BE SUPPLIED INTO THE NEWLY LAID PIPE OR ANY VALVED SECTION THEREOF TO MAINTAIN PRESSURE WITHIN 5 PSI (34.5 KPA) OF THE SPECIFIED TEST PRESSURE AFTER THE PIPE HAS BEEN FILLED WITH WATER AND THE AIR HAS BEEN EXPELLED. TESTING ALLOWANCE SHALL NOT BE MEASURED BY A DROP IN PRESSURE IN A TEST SECTION OVER A PERIOD OF TIME. REFER TO PIPE MANUFACTURERS RECOMMENDED TESTING PROCEDURE INCLUDING PIPE STABILIZATION PRIOR TO START OF TEST.
 - THE PROJECT ENGINEER AND THE MUNICIPALITY SHALL BE CONTACTED 48 HOURS PRIOR TO TESTING.
 - ALL VALVES SHOULD BE VERIFIED AS BEING OPEN OR CLOSED AS APPROPRIATE FOR THE PORTION OF THE WATER MAIN BEING TESTED.
 - ALLOWABLE LEAKAGE SHALL BE COMPUTED BY THE FORMULA: $L = (S \times D \times \sqrt{P}) / 148,000$ WHERE L IS LEAKAGE IN GALLONS PER HOUR, S IS THE LENGTH OF PIPE TESTED IN FEET, D IS THE NOMINAL DIAMETER OF THE PIPE IN INCHES AND P IS THE AVERAGE TEST PRESSURE IN POUNDS PER SQUARE INCH DURING THE TEST.
 - REPLACE AND RETEST ANY WORK FOUND TO BE DEFECTIVE AT NO EXPENSE TO OWNER.

TESTING HYDRANTS (IF APPLICABLE)

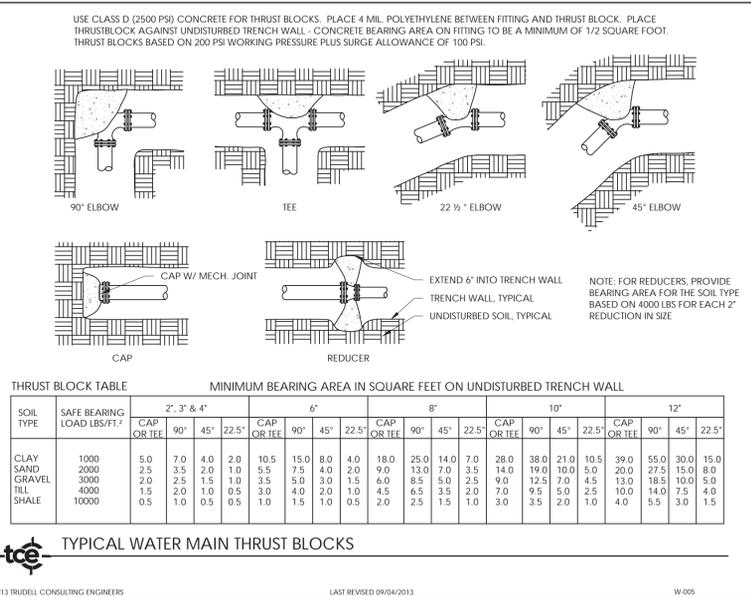
- AFTER TESTING THE WATER MAINS, OPEN THE HYDRANT FULLY AND FILL WITH WATER. TO PREVENT CAPS FROM BEING BLOWN OFF, VENT AIR FROM ONE OF THE CAPS WHILE IT IS BEING FILLED. WHEN ALL THE AIR HAS ESCAPED, TIGHTEN THE CAP.
- ALLOW THE PRESSURE TO BUILD UP TO MAIN LINE PRESSURE AND CHECK FOR LEAKAGE AT FLANGES, NOZZLES AND THE OPERATING STEM.
- CLOSE THE HYDRANT, REMOVE ONE NOZZLE CAP AND PLACE THE PALM OF YOUR HAND OVER THE OPENING. DRAINAGE SHOULD CREATE A NOTICEABLE SUCTION. IF NO SUCTION OR HYDRANT DOESN'T HAVE DRAIN, MANUALLY PUMP WATER OUT OF BARREL.
- AT PROJECT ENGINEER DISCRETION ASSIST WITH FLOW TESTING. ENGINEER TO RECORD STATUS AND RESIDUAL PRESSURE AS WELL AS FLOW RATE.

TESTING WATER MAINS AND HYDRANTS

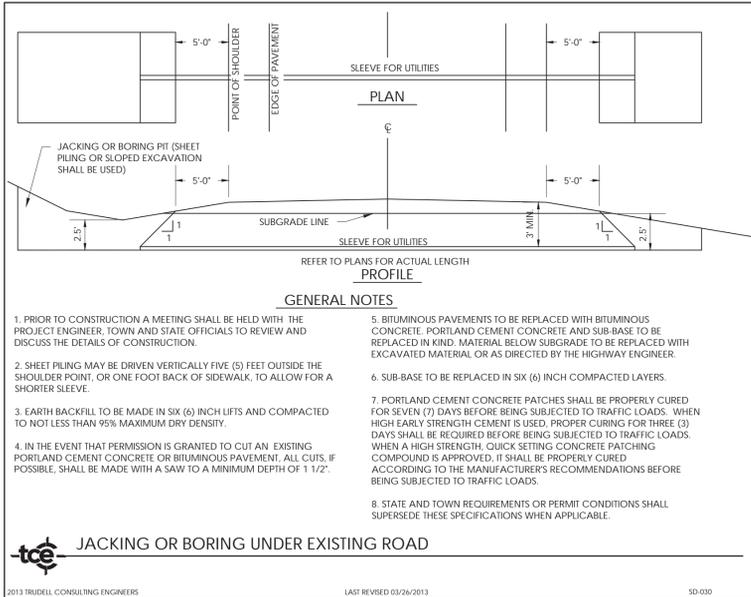
2013 TRUDELL CONSULTING ENGINEERS LAST REVISED 11/08/2013 WN-001



2013 TRUDELL CONSULTING ENGINEERS LAST REVISED 02/13/2013 W-014



2013 TRUDELL CONSULTING ENGINEERS LAST REVISED 09/04/2013 W-005



2013 TRUDELL CONSULTING ENGINEERS LAST REVISED 03/26/2013 SD-030

CONTRACTOR'S CERTIFICATION REQUIRED

PRIOR TO THE DESIGN ENGINEER CERTIFYING THAT THE INSTALLATION HAS BEEN INSTALLED IN ACCORDANCE WITH THE PERMITTED DESIGN, THE CONTRACTOR SHALL PROVIDE A CERTIFICATION THAT THE WATER SYSTEM WAS INSTALLED AND TESTED IN ACCORDANCE WITH THE APPROVED DESIGN PLANS. STATE PERMITS REQUIRE THERE SHALL BE NO DEVIATIONS FROM THE APPROVED PLANS WITHOUT PRIOR APPROVALS. THE DESIGN ENGINEER SHALL BE NOTIFIED AND ALLOWED TO OBSERVE THE CRITICAL PHASES OF CONSTRUCTION INCLUDING ANY REQUIRED TESTS. LIKEWISE, THE DESIGN ENGINEER SHALL BE NOTIFIED OF ANY DEVIATIONS FROM THE APPROVED PLANS. SINCE THE DESIGN ENGINEER DOES NOT CUSTOMARILY OBSERVE ALL PHASES OF THE WORK OR ALL TESTING, HE MAY RELY ON THE CONTRACTOR'S CERTIFICATION AS THE BASIS FOR FINAL CERTIFICATION. THE CONTRACTOR SHALL THEREFORE SIGN AND RETURN A COPY OF THE FOLLOWING CERTIFICATION UPON COMPLETION OF THE WORK:

I HEREBY CERTIFY THAT I HAVE INSTALLED, PROPERLY TESTED, AND SUCCESSFULLY PASSED THOSE TESTS, AND THE WATER SYSTEM(S) ARE BUILT IN ACCORDANCE WITH THE APPROVED DESIGN PLANS AND APPLICABLE PERMIT CONDITIONS.

CONTRACTOR NAME: _____
 AUTHORIZED AGENTS NAME: _____
 SIGNATURE: _____ DATE: _____

NOTE ANY DEVIATIONS FROM APPROVED PLANS HERE: _____

CONTRACTOR'S CERTIFICATION FOR POTABLE WATER SYSTEMS

2013 TRUDELL CONSULTING ENGINEERS LAST REVISED 3/4/2013 WN-002

DISINFECTING WATER MAINS AND SYSTEMS

- *ALL TESTING SHALL BE PERFORMED IN THE PRESENCE OF THE TOWN ENGINEER OR PUBLIC WORKS DEPARTMENT AND PROJECT ENGINEER (AS DESIGNATED BY OWNER).
- PRIOR TO BEING PUT INTO SERVICE, WATER MAINS SHALL BE DISINFECTED ACCORDING TO THE LATEST EDITION OF AWWA SPECIFICATION C-651. THE TABLE METHOD IN AWWA STANDARD 651 IS NOT ACCEPTABLE.
 - THE NEW LINE SHALL BE FLUSHED AT A VELOCITY OF NOT LESS THAN 2.5 FEET PER SECOND (OPEN 2-1/2 INCH HYDRANT CONNECTION). FLUSH FOR A PERIOD DETERMINED BY THE PROJECT ENGINEER FOR THE LENGTH OF MAIN TO BE DISINFECTED.
 - CHLORINATION SHALL BE ACCOMPLISHED BY INTRODUCING A SODIUM HYPOCHLORITE SOLUTION FOR A RESULTANT CONCENTRATION OF GREATER THAN 25 PARTS PER MILLION OF FREE CHLORINE.
 - USING A NOZZLE AT EACH END HYDRANT, CONTROL THE RATE OF FLOW INTO THE NEW MAIN AND PROPORTIONALLY FEED THE SODIUM HYPOCHLORITE SOLUTION INTO THE MAIN. AFTER THE SOLUTION HAS REACHED ALL POINTS IN THE SYSTEM, CLOSE THE VALVE SUPPLYING WATER FROM THE EXISTING MAIN AND THE END HYDRANTS. MAINTAIN THE HEAVILY CHLORINATED WATER IN THE MAIN FOR 24 HOURS DURING WHICH TIME ALL MAIN LINE VALVES SHOULD BE OPERATED. AFTER 24 HOURS THE MINIMUM CHLORINE RESIDUAL MUST BE AT LEAST 10 PARTS PER MILLION.
 - FLUSH HEAVILY CHLORINATED WATER FROM THE LINE AND REFILL THE LINE FOR SERVICE (USE CHLORINE DIFFUSER). TAKE AND SUBMIT TWO BACTERIOLOGICAL SAMPLES (TAKEN 24 HOURS APART) OF THE WATER TO THE STATE OF VERMONT OR A STATE APPROVED TESTING LABORATORY. IF THE RESULTS ARE UNSATISFACTORY, THE DISINFECTION PROCEDURE WILL BE REPEATED UNTIL SATISFACTORY RESULTS ARE OBTAINED.
 - FINISHED WATER STORAGE STRUCTURES SHALL BE DISINFECTED IF APPLICABLE, IN ACCORDANCE WITH CURRENT AWWA STANDARD C652. TWO OR MORE SUCCESSIVE SETS OF SAMPLES, TAKEN AT 24 HOUR INTERVALS, SHALL INDICATE MICROBIOLOGICALLY SATISFACTORY WATER BEFORE THE FACILITY IS PLACED INTO OPERATION.
 - DISPOSAL OF HEAVILY CHLORINATED WATER FROM THE DISINFECTION PROCESS SHALL BE DE-CHLORINATED OR OTHERWISE HANDLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE VERMONT AGENCY OF NATURAL RESOURCES.
 - THE DISINFECTION PROCEDURE (AWWA CHLORINATION METHOD 3, SECTION 4.3 C652) WHICH ALLOWS USE OF THE CHLORINATED WATER HELD IN THE STORAGE TANK FOR DISINFECTION PURPOSES IS NOT RECOMMENDED. WHEN THAT PROCEDURE IS USED, IT IS REQUIRED THAT THE INITIAL HEAVILY CHLORINATED WATER BE PROPERLY DISPOSED IN ORDER TO PREVENT RELEASE OF WATER WHICH MAY CONTAIN VARIOUS CHLORINATED ORGANIC COMPOUNDS INTO THE DISTRIBUTION SYSTEM.

DISINFECTION OF WATER SYSTEM

2013 TRUDELL CONSULTING ENGINEERS LAST REVISED 7/12/2013 WN-003



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No.	Description	Date	By
1	Final Plan Review	01/23/15	NTH

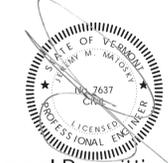
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5. It is the User's responsibility to ensure this copy contains the most current revisions.



For Local Permitting Only

Project Title

Jericho Market
 364 VT Route 15 Jericho, VT

Sheet Title

Water Details & Notes

Date: _____ 10/10/14
 Scale: _____
 Project Number: _____ 14-139
 Drawn By: _____
 Project Engineer: _____
 Approved By: _____
 Field Book: _____

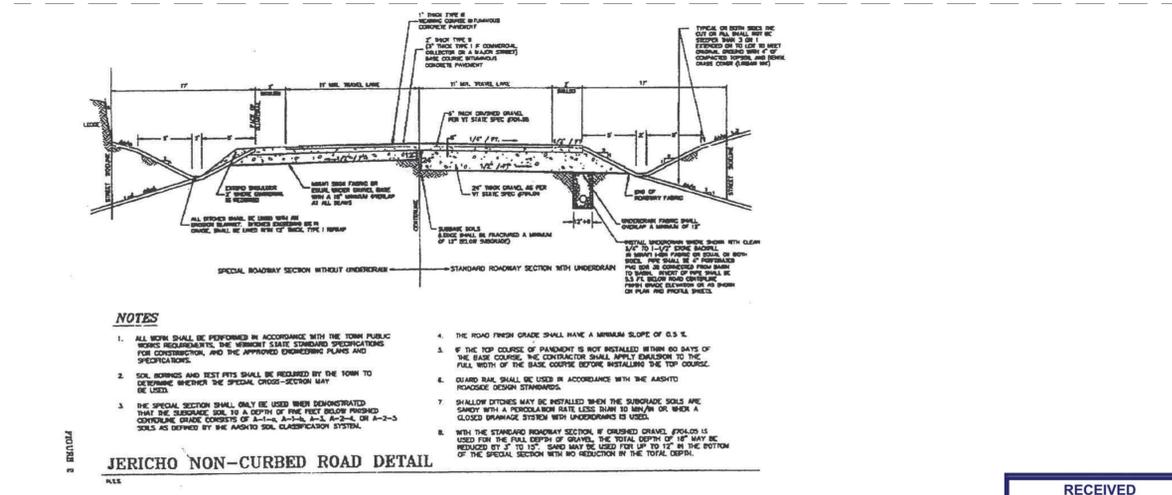
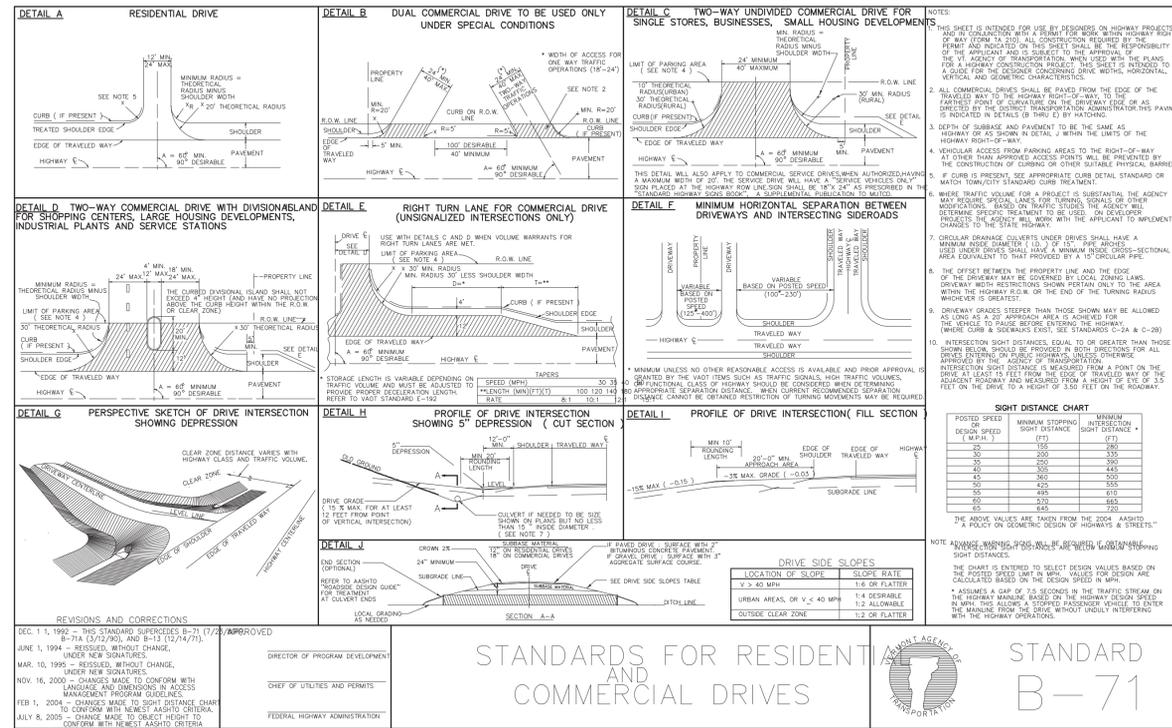
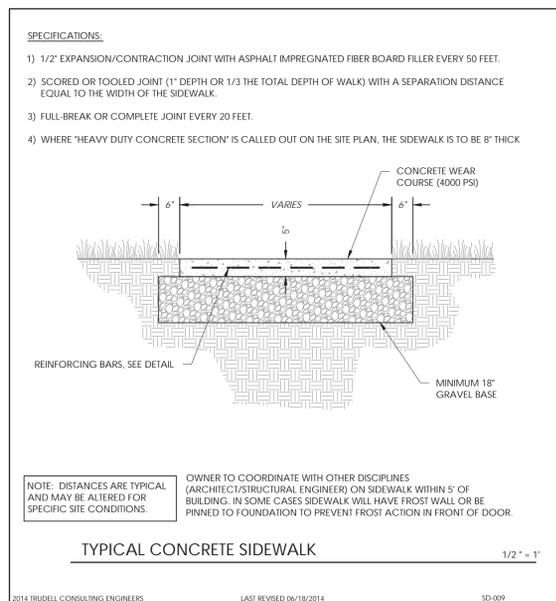
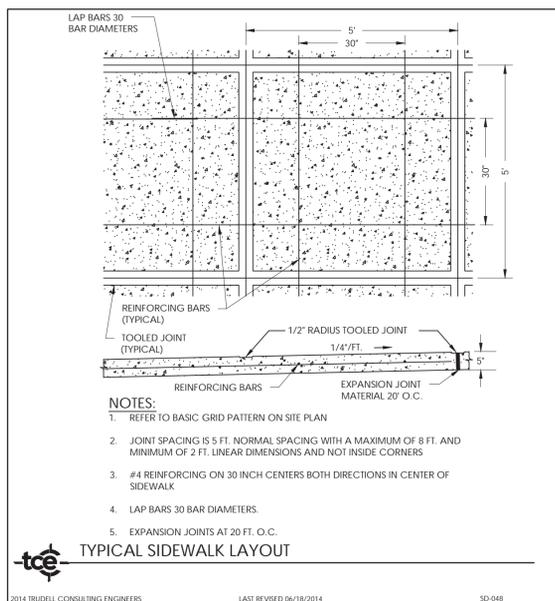
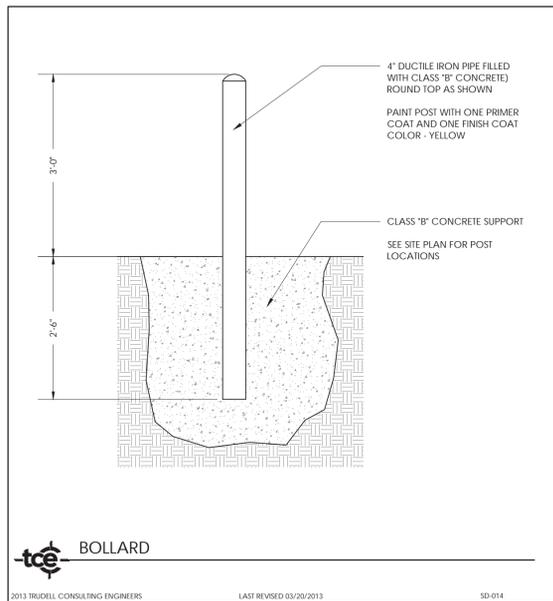
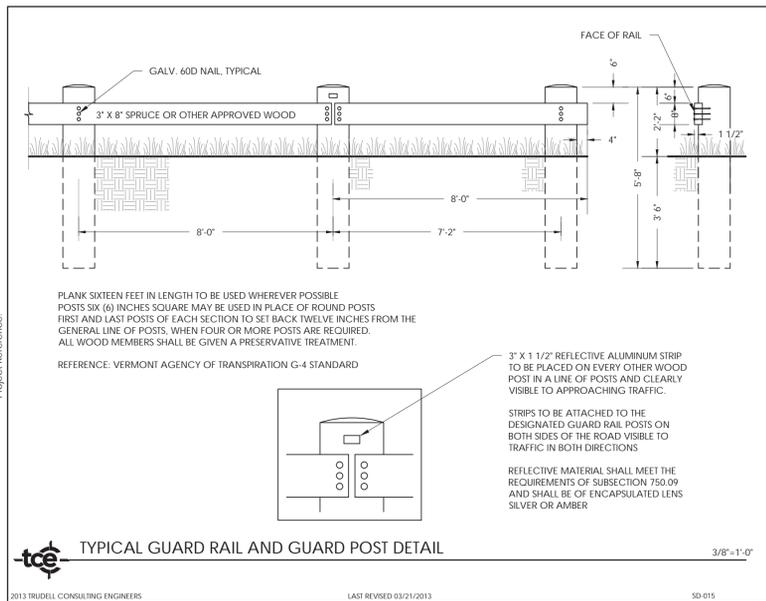
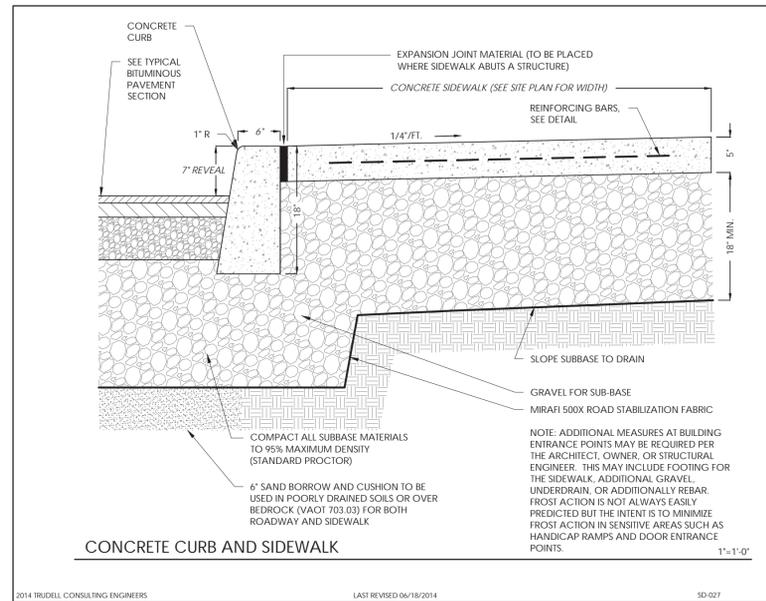
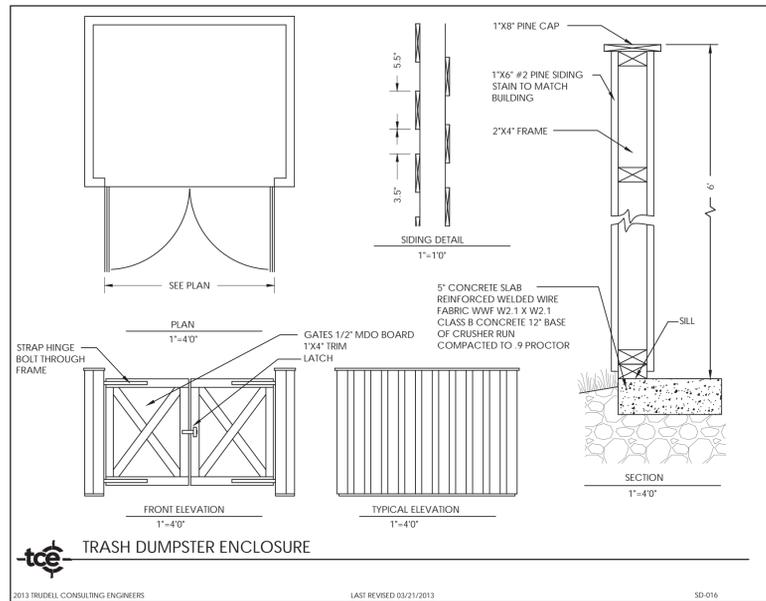
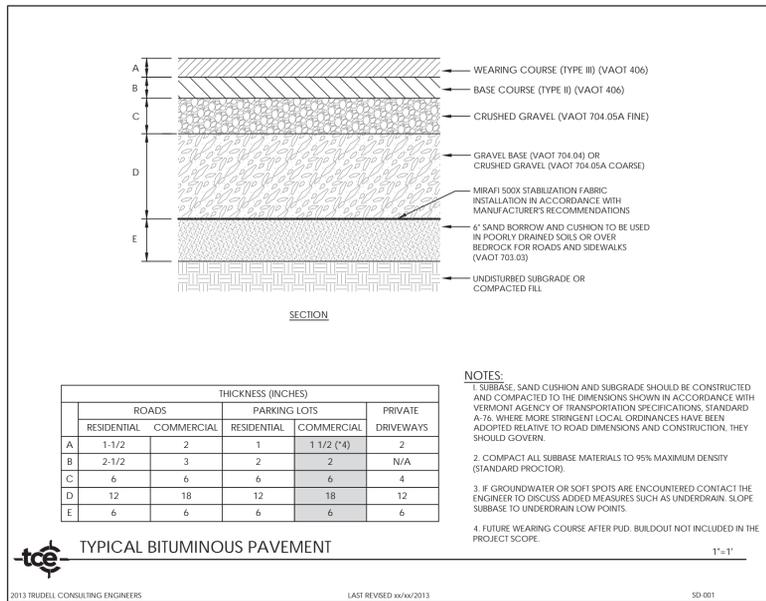
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Revisions
No. Description Date By
Final Plan Review 01/23/15 NTH



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Project Title

Jericho Market
364 VT Route 15 Jericho, VT

Sheet Title

Site Details

Date: 10/10/14

Scale: SHOWN

Project Number: 14-139

Drawn By: NPC

Project Engineer:

Approved By:

Field Book:

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478 BLAIR PARK ROAD | WILLISTON, VERMONT 05495
802.879.4331 | WWW.TCEVT.COM

Revisions	No.	Description	Date	By
Final Plan Review			01/23/15	NTH

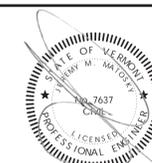
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Project Title

Jericho Market
364 VT Route 15 Jericho, VT

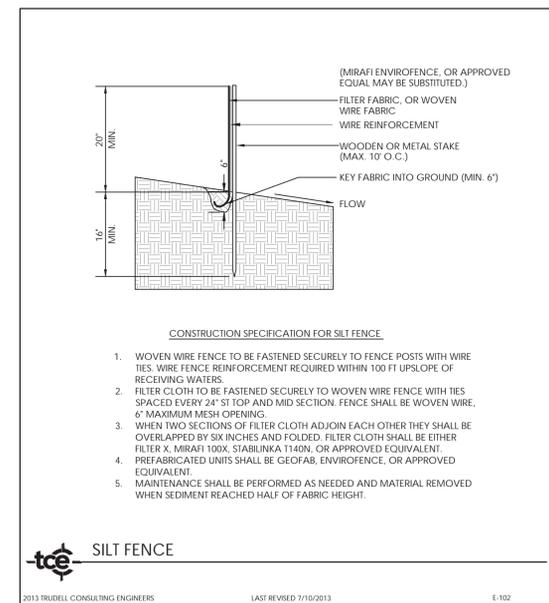
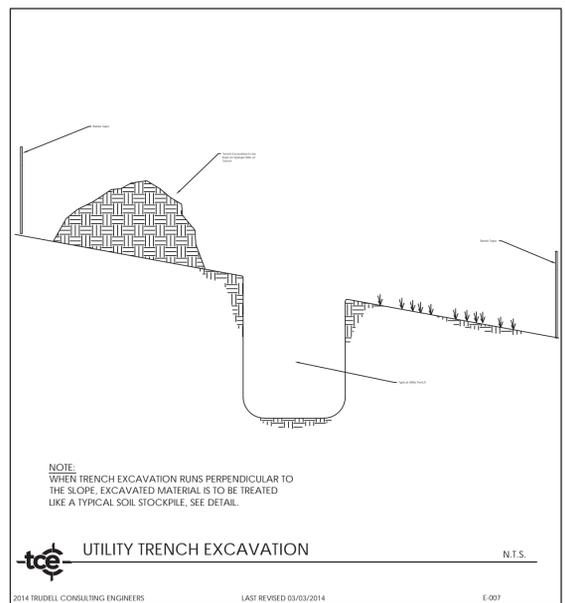
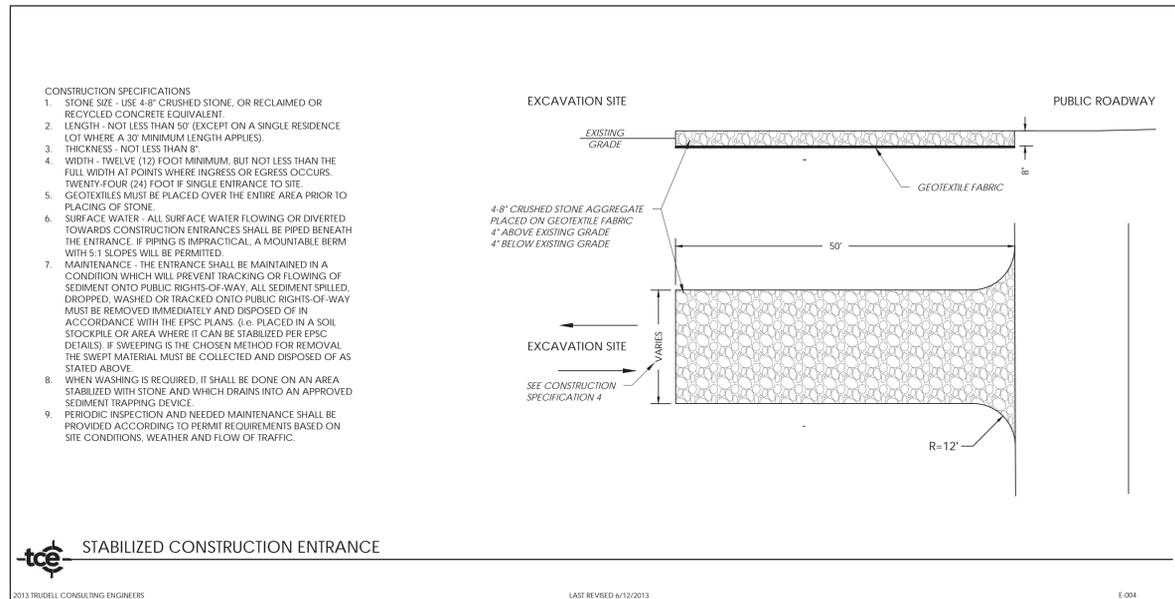
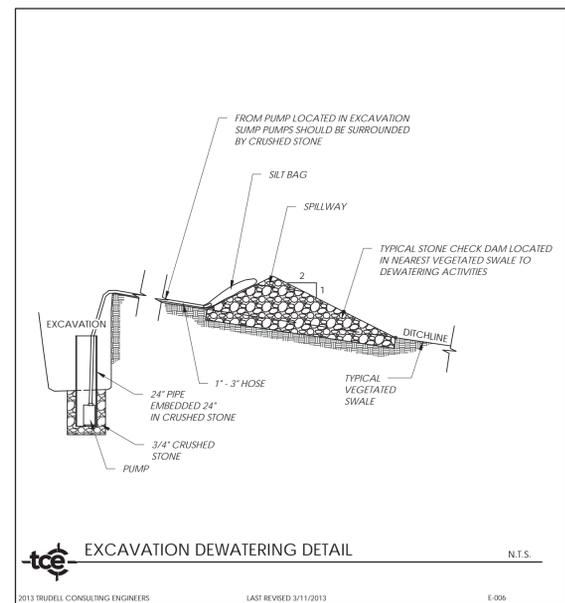
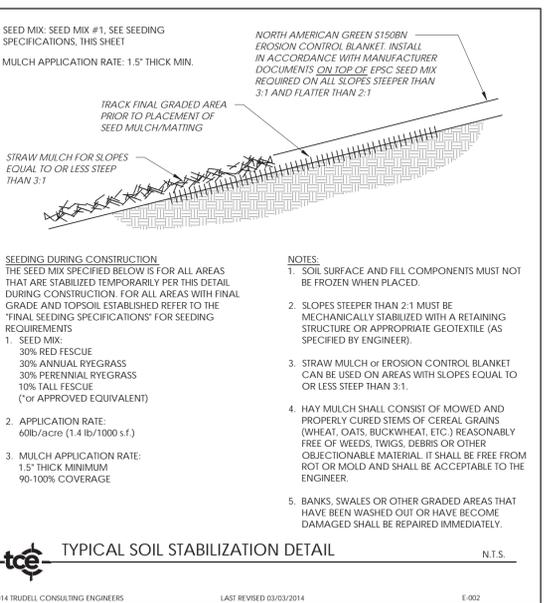
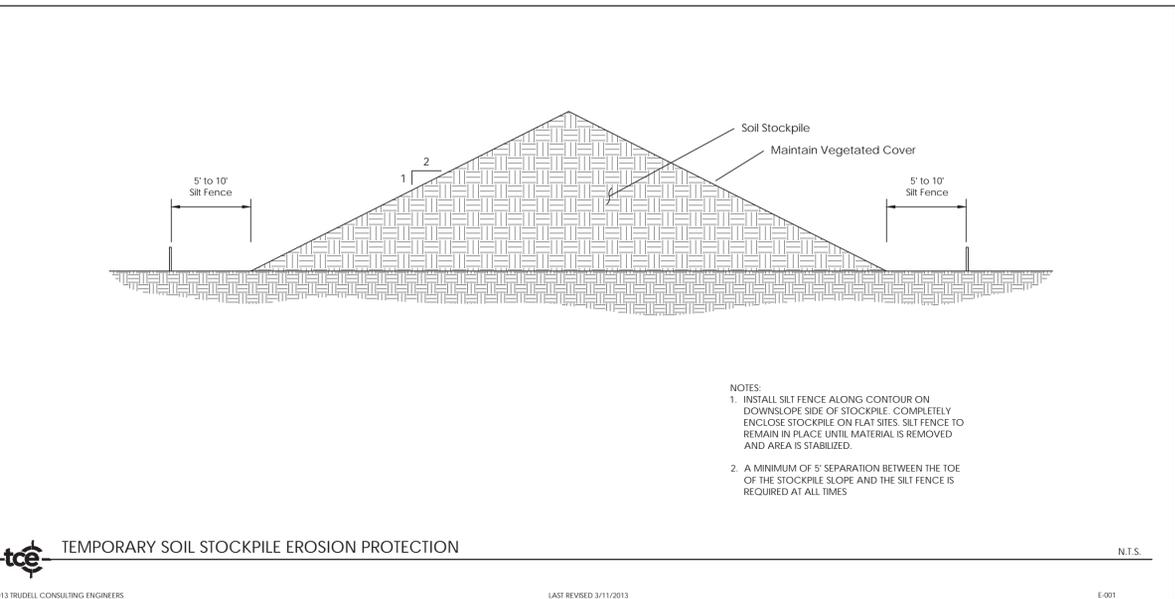
Sheet Title

EPSC Details

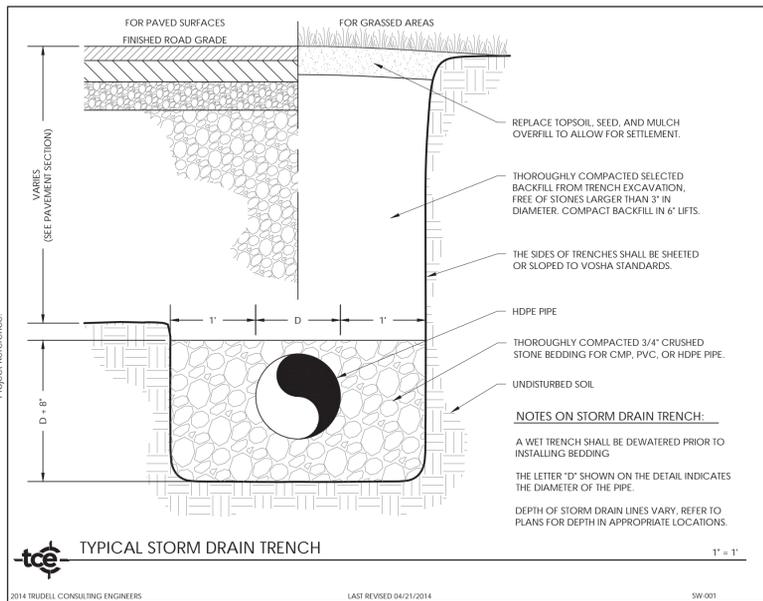
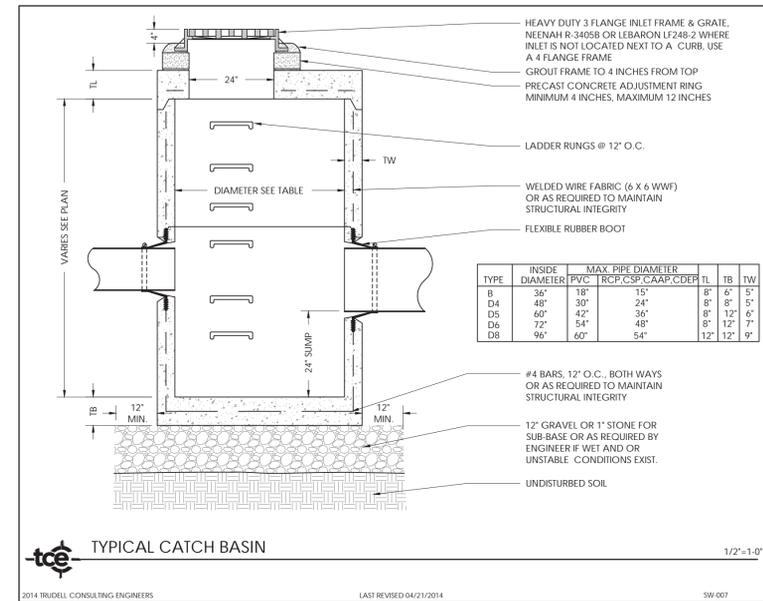
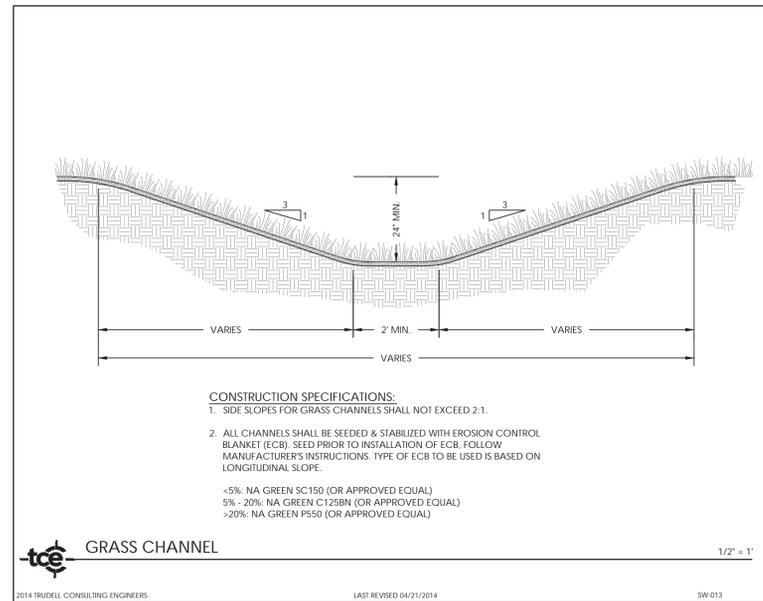
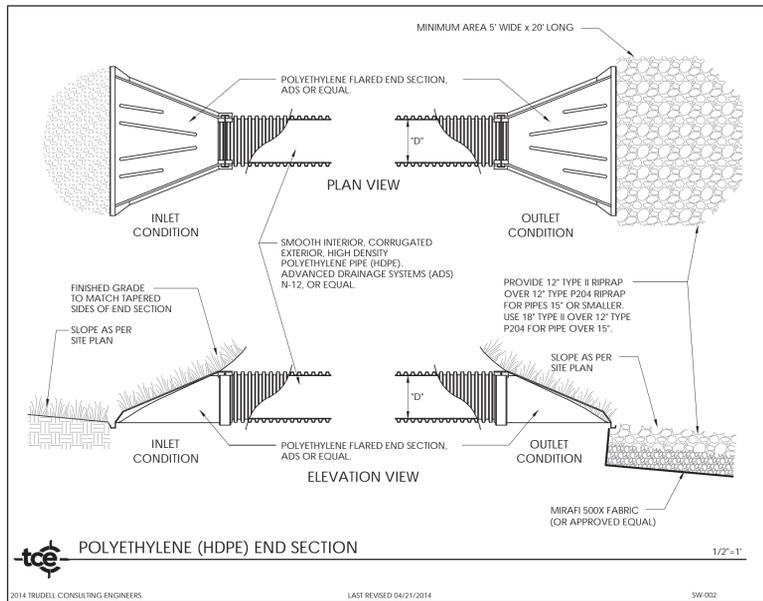
Date:	10/10/14
Scale:	SHOWN
Project Number:	14-139
Drawn By:	NPC
Project Engineer:	
Approved By:	
Field Book:	

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Revisions

No.	Description	Date	By
1	Final Plan Review	01/23/15	NTH

Use of These Drawings

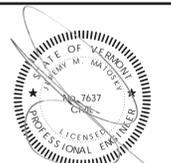
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Project Title

Jericho Market
364 VT Route 15 Jericho, VT

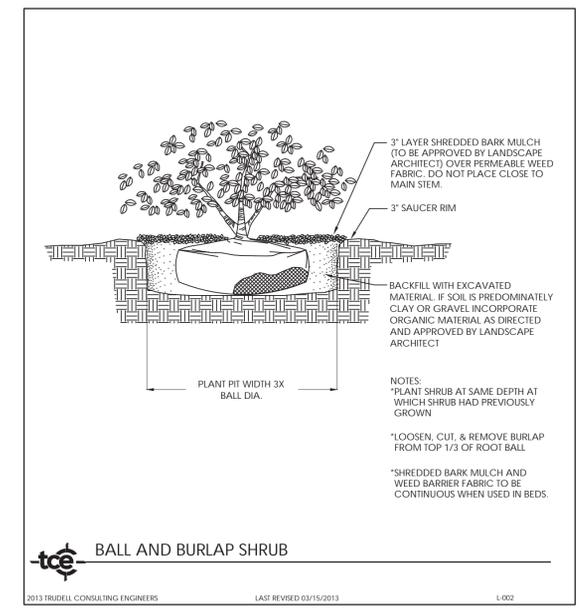
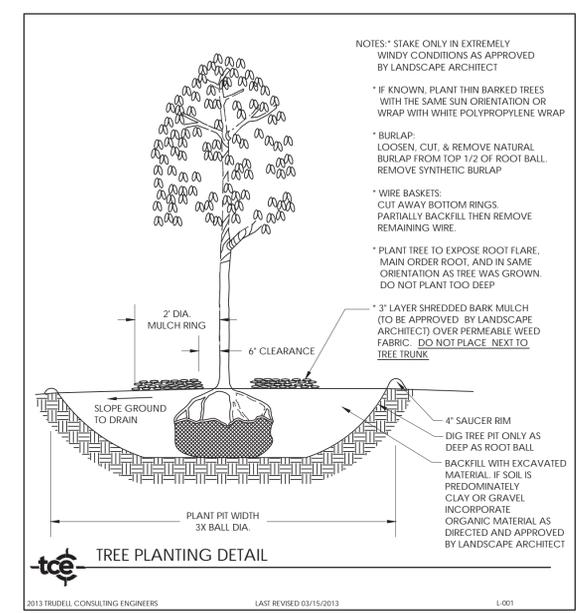
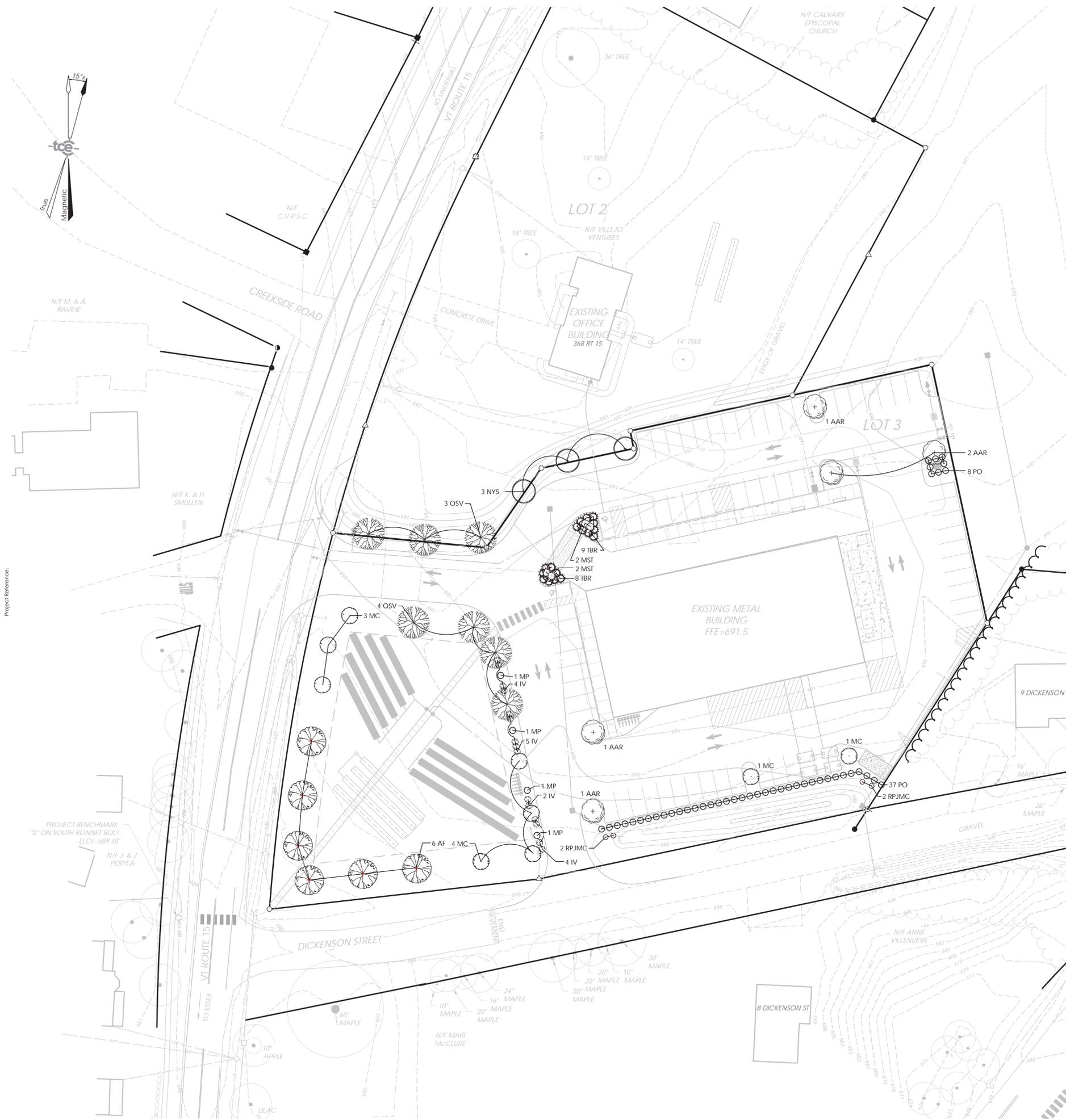
Sheet Title

Stormwater Details

Date:	10/10/14
Scale:	SHOWN
Project Number:	14-139
Drawn By:	NPC
Project Engineer:	
Approved By:	
Field Book:	

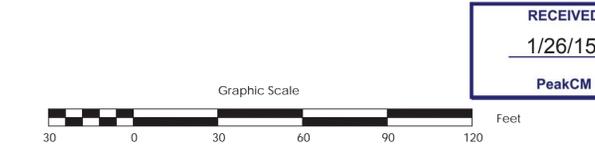
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PLANTING LIST

KEY	SCIENTIFIC NAME	COMMON NAME	QUAN.	SIZE	COMMENTS
AF	<i>Acer x freemanii</i> 'Autumn Blaze'	Autumn Blaze Maple	6	2 1/2'-3'	B&B
AAR	<i>Amelanchier arborea</i>	Serviceberry	5	10 gal.	B&B
IV	<i>Ilex verticillata</i> 'Red Sprite' & 'Jim Dandy'	Winterberry	15	3 gal.	CONT.
MST	<i>Malus sargentii</i> 'Tina'	Tina Crabapple	4	15 gal.	CONT.
MC	<i>Malus 'Centzam'</i>	Centurion Crabapple	9	15 gal.	CONT.
MP	<i>Myrica pensylvanica</i>	Northern Bayberry	4	3 gal.	CONT.
NYS	<i>Nyssa sylvatica</i>	Black Tupelo	3	2' - 2 1/2'	B & B
OSV	<i>Ostrya virginiana</i>	Ironwood	7	2'-2 1/2'	B & B
PO	<i>Physocarpus opulifolius</i> 'Diablo'	Red Leaf Ninebark	45	5 gal.	CONT.
RPJMC	<i>Rhododendron PJM</i> 'Compact'	Compact P.J.M. Rhododendron	4	5 gal.	CONT.
TBR	<i>Taxus bacata</i> 'Repandens'	Repandens English Yew	17	18"-24"	CONT.



Revisions

No.	Description	Date	By
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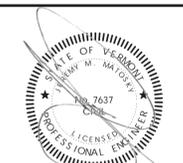
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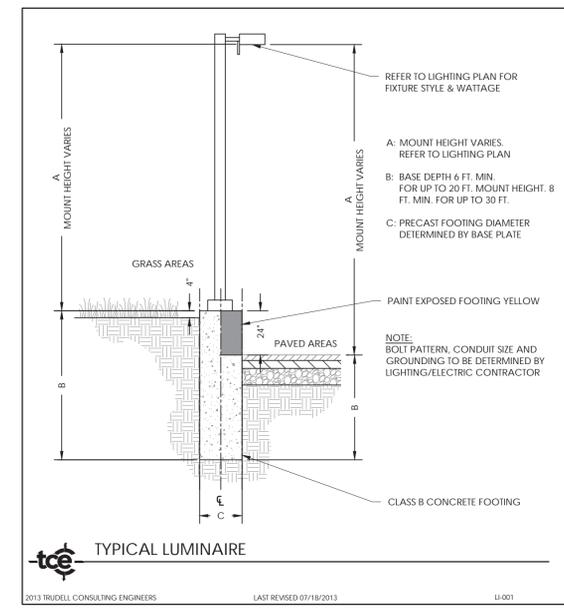
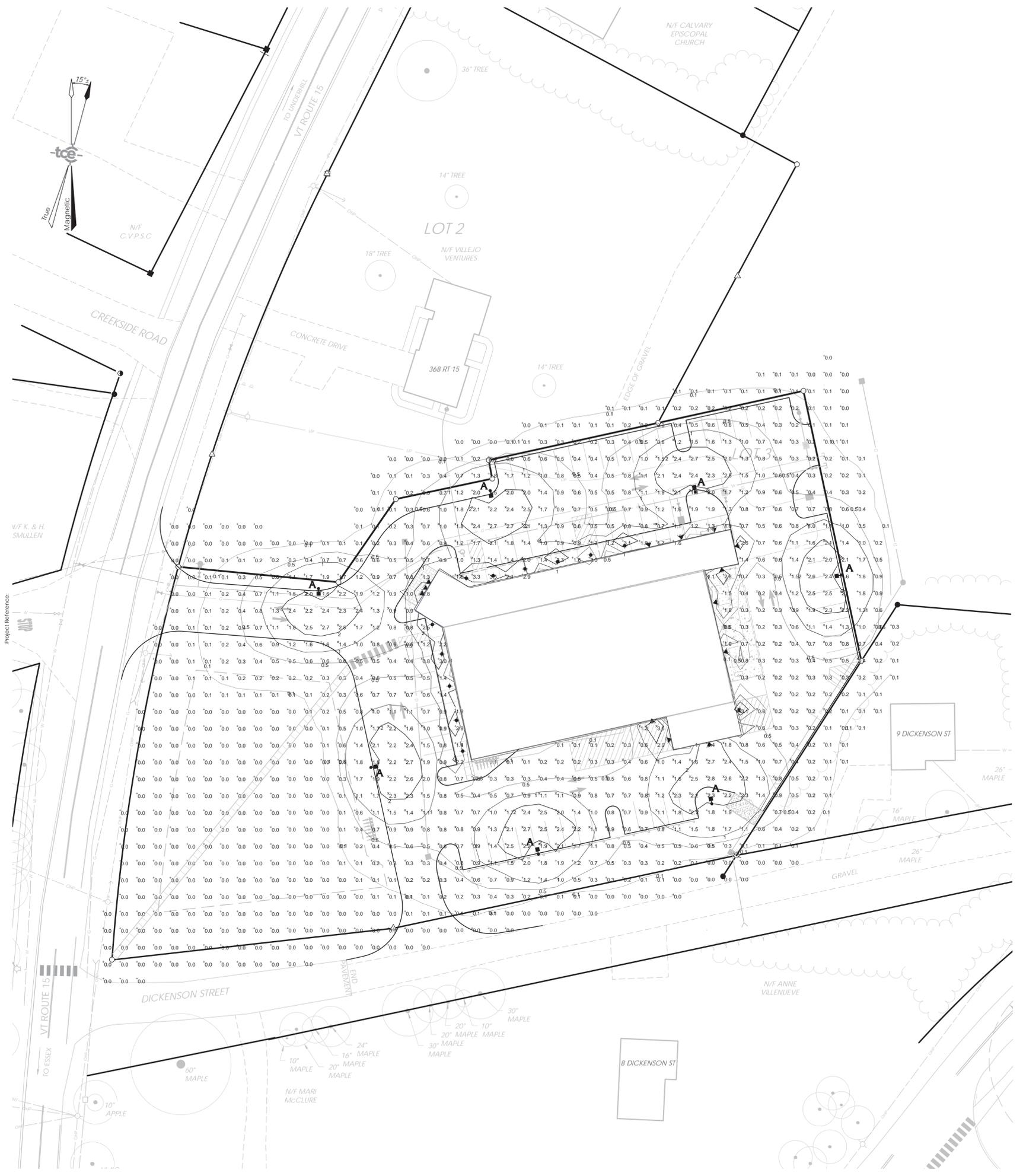
Sheet Title

Landscaping Plan

Date:	10/10/14
Scale:	1" = 30'
Project Number:	14-139
Drawn By:	NPC
Project Engineer:	
Approved By:	
Field Book:	

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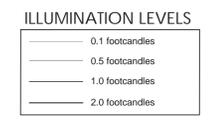


TYPICAL LUMINAIRE
 2013 TRUDELL CONSULTING ENGINEERS LAST REVISED 07/18/2013 LI-001

Symbol	Label	Qty	Catalog Number	Description	Lamp	Mount Height
▲	A	7	ARE-EDG-3MP-xx-06	Cree Edge Area Light - Type III w/ partial Backlight Shield	60 LEDs	20 ft
+	SP		RD300-10-WW-LED-UE	LSI Abolite LED Standard Dome RD 300	LED	per elevation
◀	SW		AD200-10-WW-LED-UE	LSI Abolite LED Gose-neck Sign Light - AD 200	LED	per elevation
◀	SR		WPLED 13N	RAB Lighting WPLED 13N Wallpack	13W LED	per elevation

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Overall	+	0.4 fc	3.2 fc	0.0 fc	N/A	N/A
Parking	✕	1.0 fc	3.4 fc	0.1 fc	34.0:1	10.0:1

- NOTES:**
1. PARKING AREA LIGHT LAYOUT AS SHOWN FOR PERMITTING AND INSTALLATION PURPOSES. BUILDING-MOUNTED FIXTURES ARE SHOWN FOR PERMITTING PURPOSES ONLY. INSTALLATION OF BUILDING-MOUNTED FIXTURES SHALL BE PER BUILDING ELEVATIONS.
 2. DISCREPANCIES BETWEEN L2-01 AND OTHER CIVIL ELECTRICAL OR ARCHITECTURAL PLANS SHOULD BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO INSTALLATION.
 3. QUANTITIES AND CATALOG NUMBER SHOWN IN TABLE SHOULD BE VERIFIED BY ELECTRIC CONTRACTOR PRIOR TO ORDERING.
 4. CONTRACTOR IS RESPONSIBLE FOR REMOVAL AND DISPOSAL OF ANY EXISTING LUMINAIRES, POLE BASES, ETC. AS PART OF THE DEMOLITION OF EXISTING IMPROVEMENTS.



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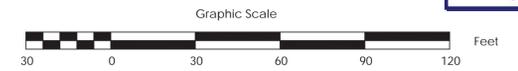
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Jericho Market
 364 VT Route 15 Jericho, VT

Lighting Plan

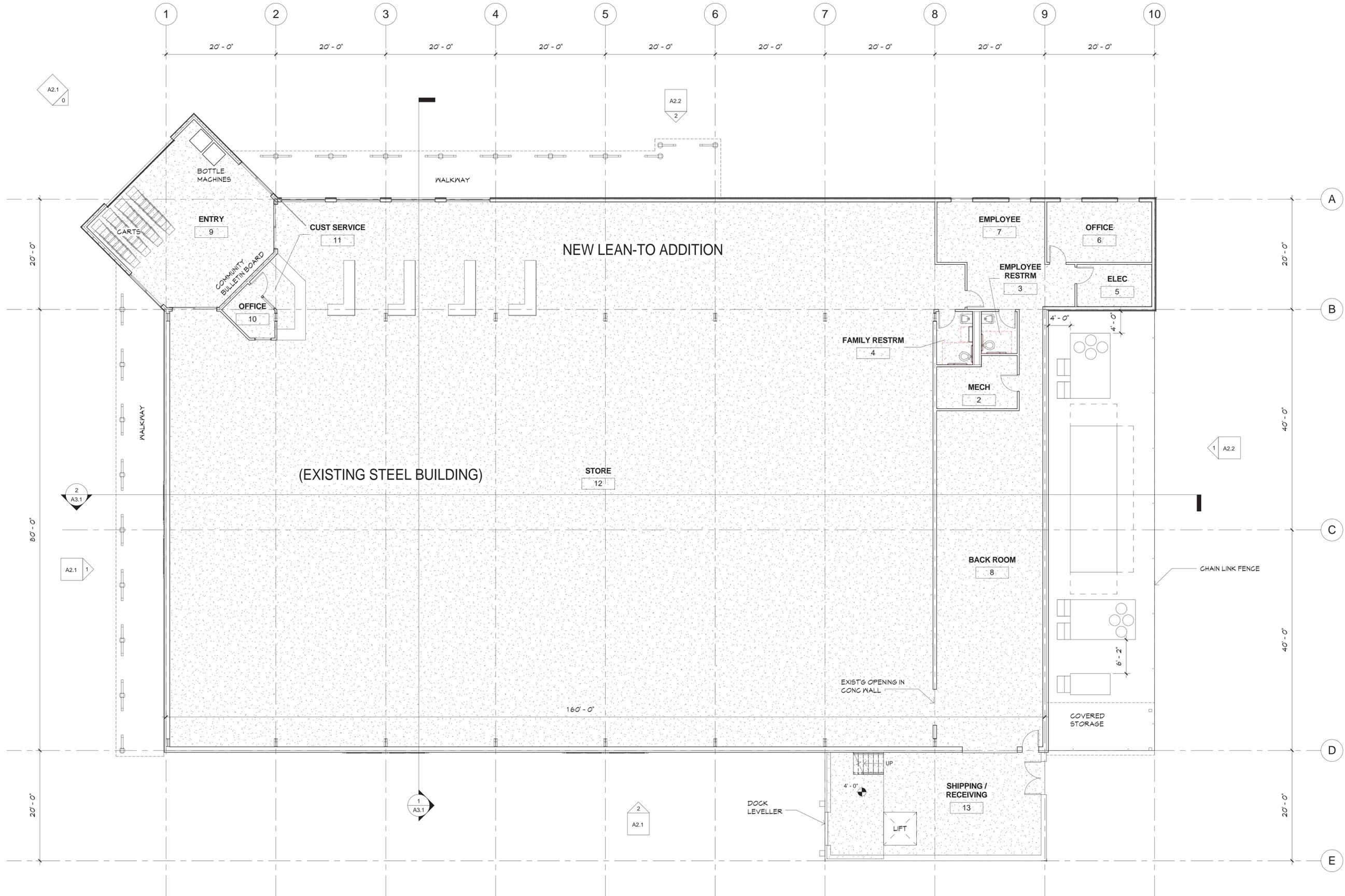
Date: 10/10/14
 Scale: 1" = 30'
 Project Number: 14-139
 Drawn By: AAD
 Project Engineer: _____
 Approved By: _____
 Field Book: _____

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GENERAL NOTES
 1 DIMENSIONS ARE FROM FRAMING-TO-FRAMING, UNLESS NOTED OTHERWISE.

KEYED NOTES

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GARDNER KILCOYNE architects

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Phone 802 655 0145
www.gk-architects.com

Civil
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14 Morse Dr.
Essex Junction, VT 05452
802-878-4450
www.ldengineering.com

Structural
Jeffords Steel and Eng. Co.
4398 Route 22 • PO Box 40
Plattsburgh, NY 12901
518-561-4061
www.jeffordssteel.com

Mechanical & Electrical

VT Registration:

Project:

JERICO
COUNTRY
MARKET
JERICO, VT

Proj. No.:
XX-XXX

Drawing Title:

ROOF PLAN

Scale: 1/8" = 1'-0"

NO.	DATE	NOTE

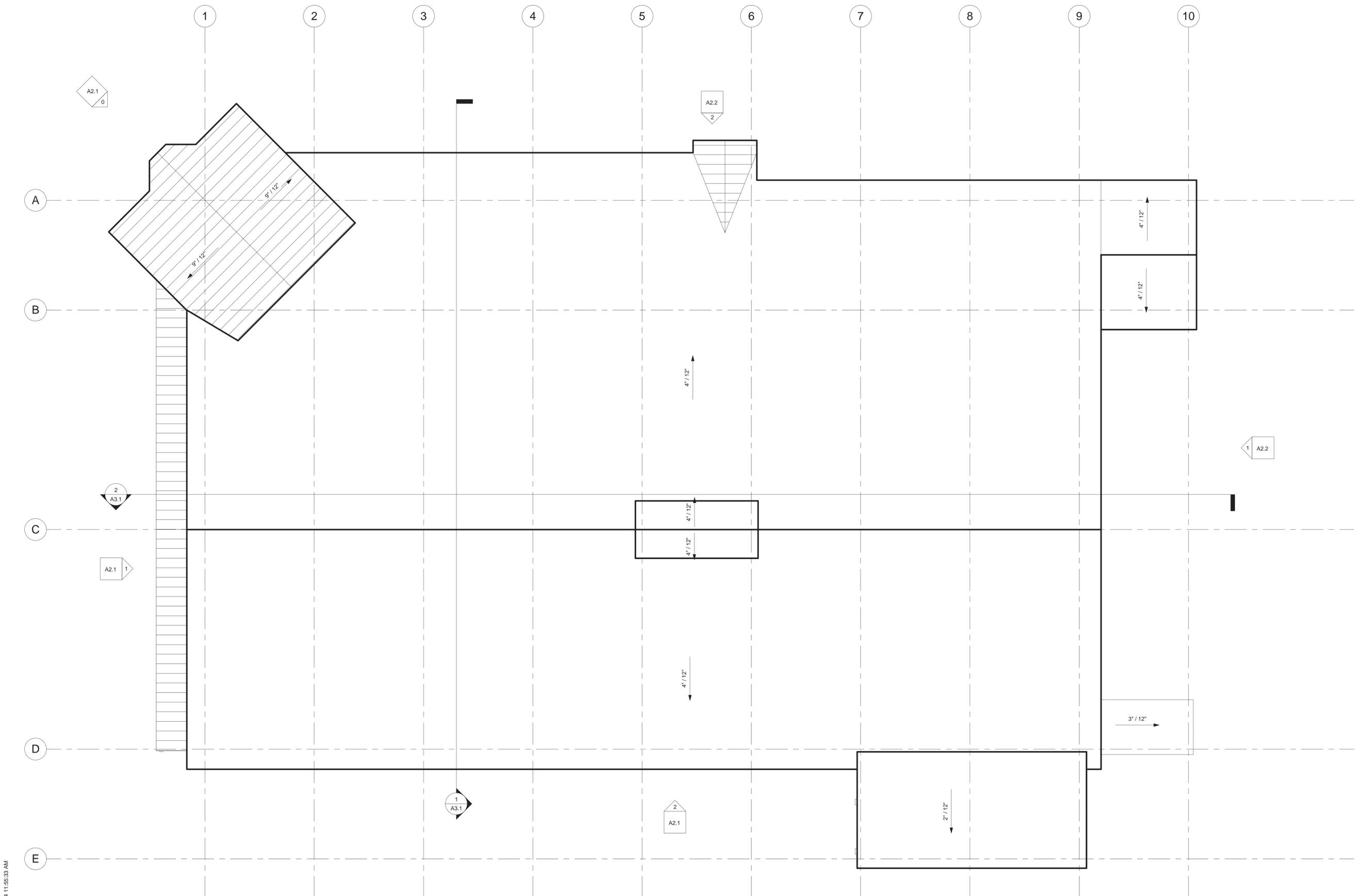
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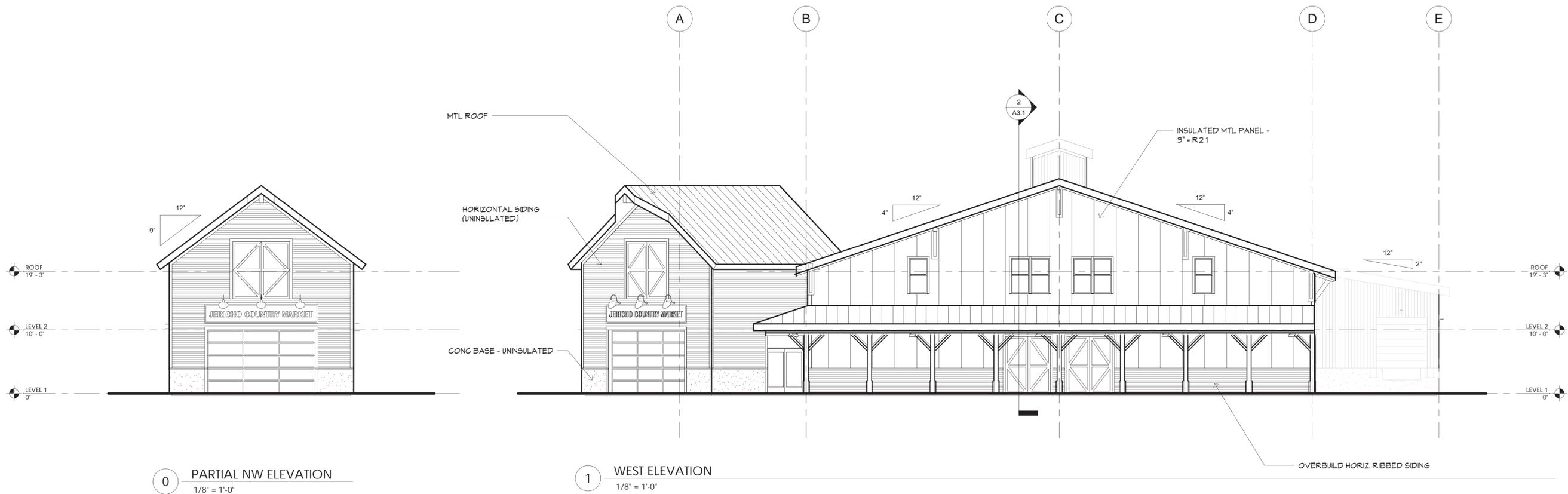
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Drawn by: DW Date: 10/10/14

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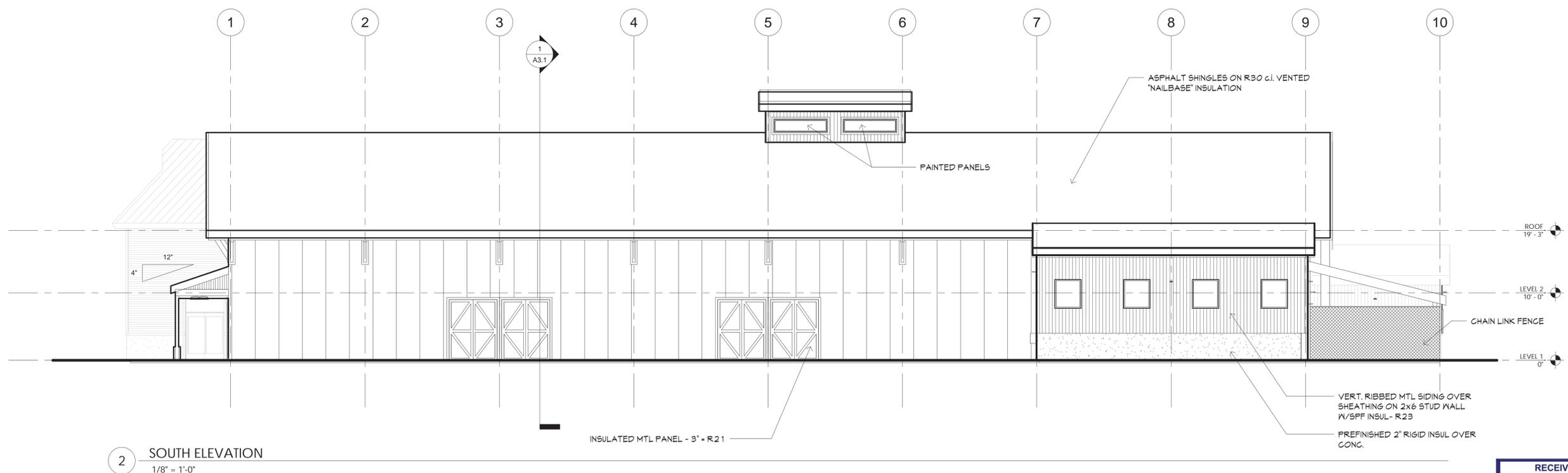


PLOT DATE & TIME: 10/23/2014 11:56:33 AM



0 PARTIAL NW ELEVATION
 1/8" = 1'-0"

1 WEST ELEVATION
 1/8" = 1'-0"



2 SOUTH ELEVATION
 1/8" = 1'-0"

VT Registration:

Project:
**JERICO
 COUNTRY
 MARKET**
 JERICO, VT

Proj. No.:
 14-23

Drawing Title:
**BUILDING
 ELEVATIONS**

Scale: 1/8" = 1'-0"

NO.	DATE	NOTE
REVISIONS		

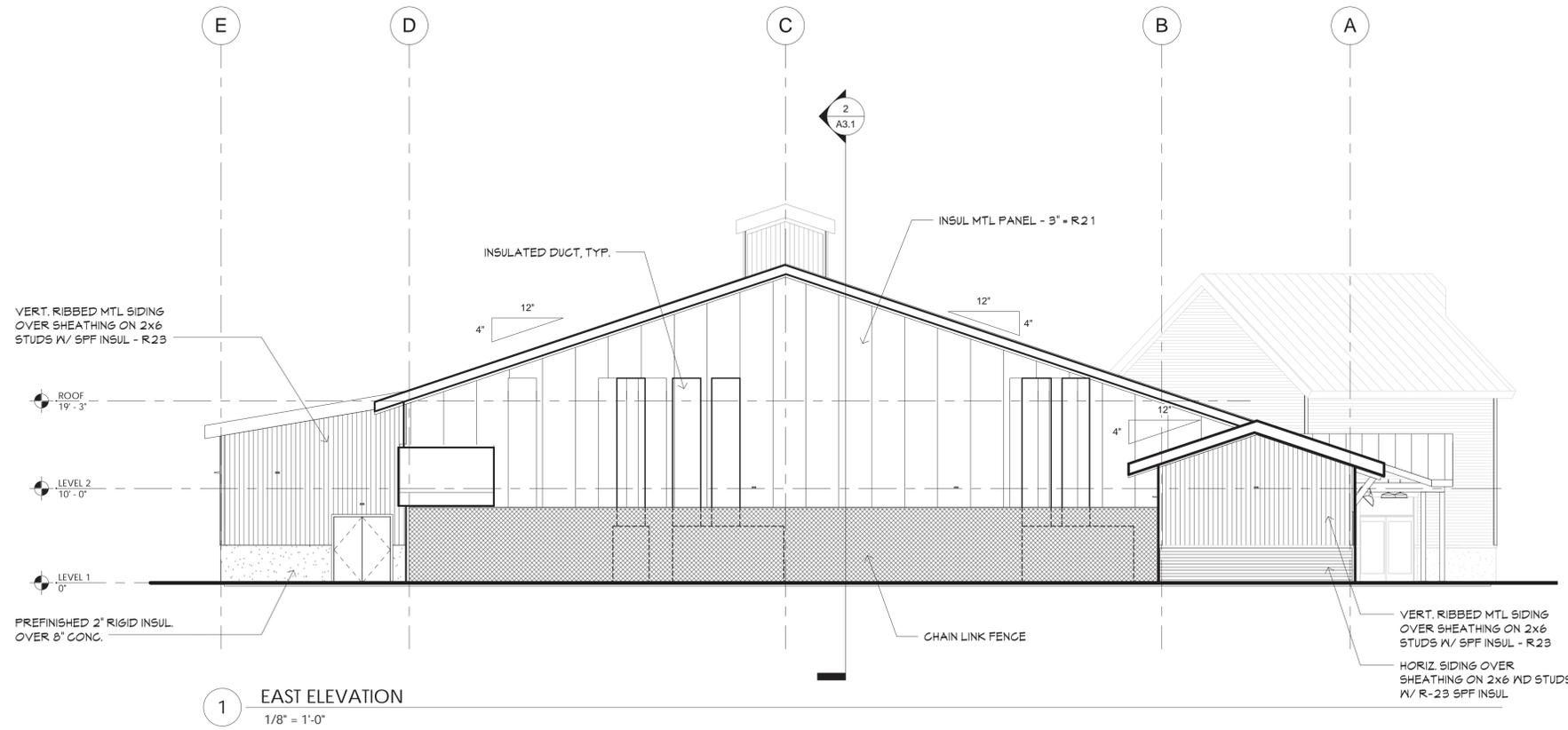
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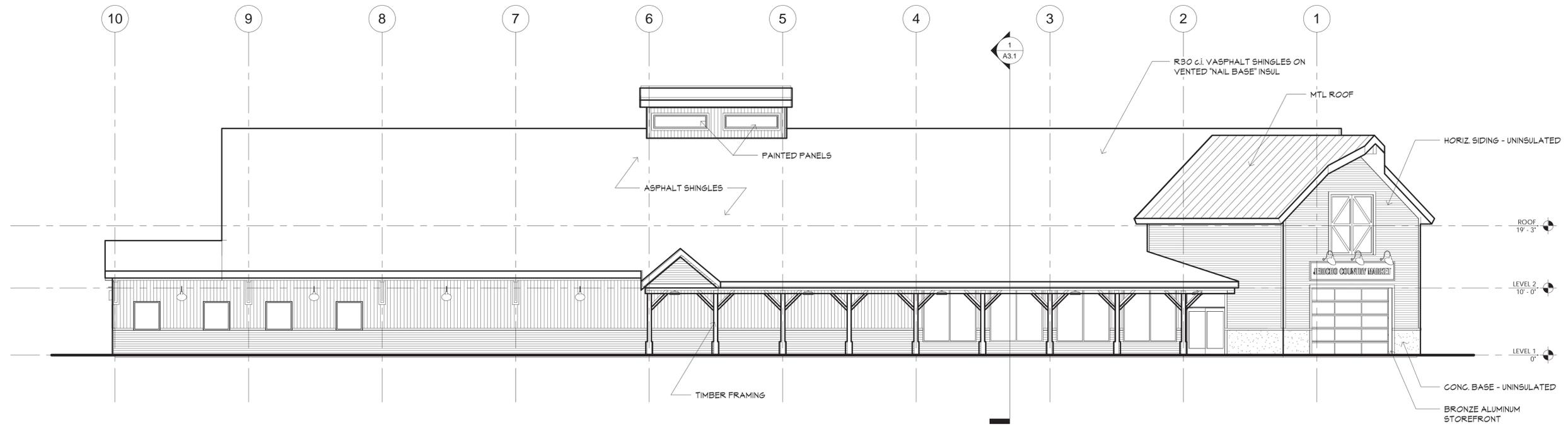
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PERMIT SET REV. 1-20-15



1 EAST ELEVATION
1/8" = 1'-0"



2 NORTH ELEVATION
1/8" = 1'-0"

VT Registration:

Project:
**JERICOHO
COUNTRY
MARKET**
JERICOHO, VT

Proj. No.:
14-23

Drawing Title:
**BUILDING
ELEVATIONS**

Scale: 1/8" = 1'-0"

NO.	DATE	NOTE

REVISIONS

SHEET No.

A2.2

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KILCOYNE
architects

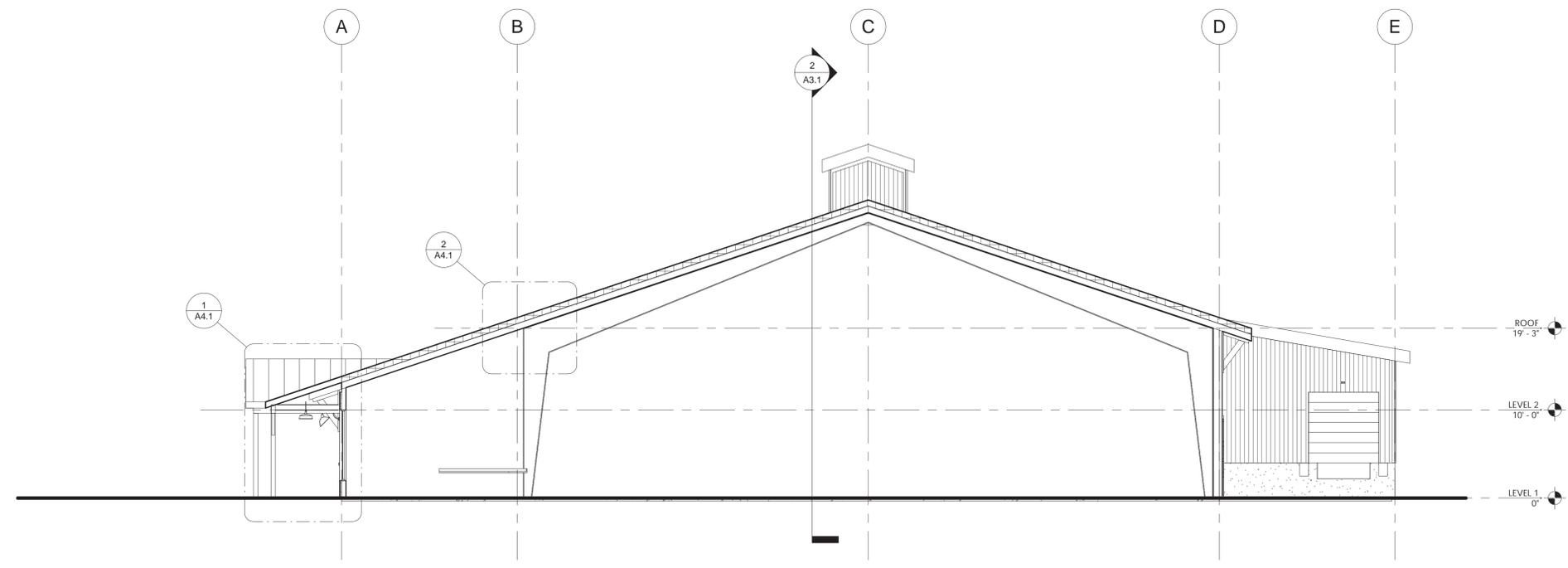
289 Leroy Road, Suite 102
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www.gk-architects.com

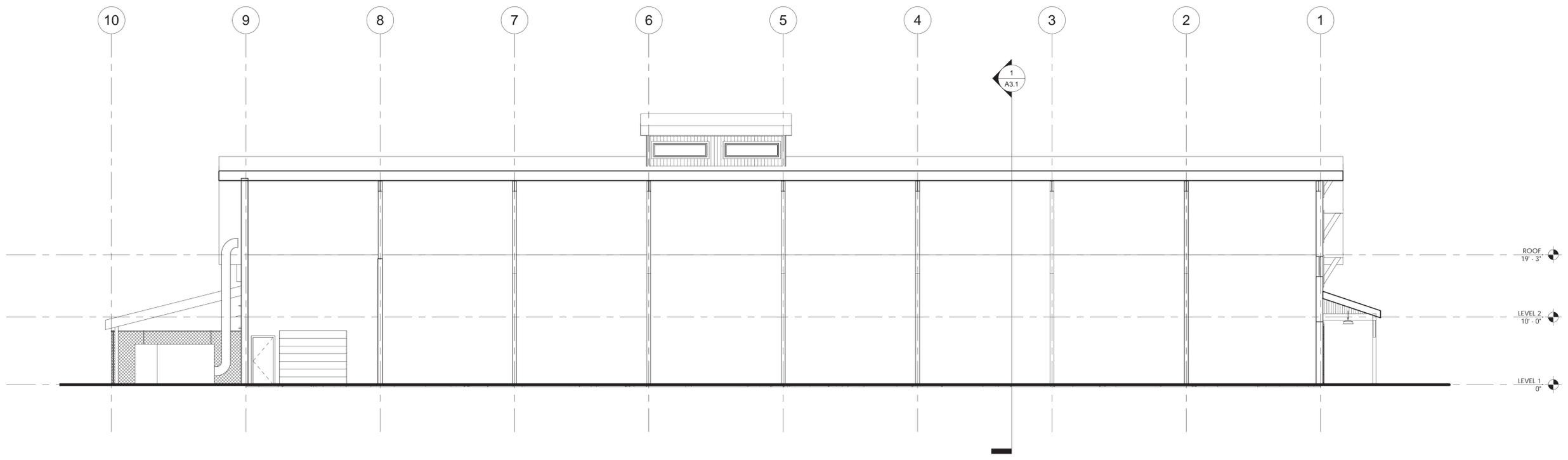
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www.jeffordssteel.com

Mechanical & Electrical



1 Section 5
1/8" = 1'-0"



2 Section 6
1/8" = 1'-0"

VT Registration:

Project:
**JERICO
COUNTRY
MARKET**
JERICO, VT

Proj. No.:
XX-XXX

Drawing Title:
**BUILDING
SECTIONS**

Scale: 1/8" = 1'-0"

NO.	DATE	NOTE

REVISIONS

SHEET No.

A3.1

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NORTHWEST PERSPECTIVE



SOUTHWEST PERSPECTIVE

JERICHO COUNTRY MARKET



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