



FY17 Vermont Better Roads Grant Application

Please complete this page ONCE and return with your Grant Category Application(s)

Town/Organization: Town of Castleton Contact Person(s): Paul Eagan, Forman

Address: 1655 Main Street Castleton, VT 05735

Street Address *Town* *Zip*
Email: paul.phs@myfairpoint.net Phone: (802) 468 - 5319

DUNS #: 44741627 Fiscal Year End Month (MM): 6

Accounting System: Automated Manual Combination

Please use the suggested documentation checklist below to ensure that all of the relevant items regarding your application have been included.

- Grant application cover sheet (Only submit one)
- Grant application form (One per category/project)
- Itemized Cost estimate for labor, equipment, and materials (see enclosed Cost Estimate Worksheet). If applicable, please break down funding by source (i.e. different grant sources)
- Project Location Map (please show location of affected water)
- Sketch of proposed erosion control measures or other management practices, including distances in feet
Also show approximate location of town/other right-of-way and/or property lines
- Photo(s) of the project area
- Letters of Support (RPC, VTrans District Technical Staff, ANR Rivers and Streams Engineers, etc.)
- If Category C River/Road Conflict or Category D River/Stream Structure or Culvert, you must attach ANR/ACOE consultation



Vermont Better Roads Grant Program Application

Please complete one application per category and/or project you are applying for. You may make copies of the application for multiple applications per category and/or multiple categories.

Please check the Category you are applying for:

- B. Correction of a Road Related Erosion Problem and/or Stormwater Mitigation Retrofit for both gravel and paved roads
- C. Correction of a Stream Bank or Slope Related Problem
- D. Structure/culvert upgrades

Town/Organization: Town of Castleton

Project Name: Cresci Culvert Project

Road Name: 860 Main Street TH #: _____ Structure # (if applicable): _____

Road Type: Paved Curbed

Class 1

Watershed: Castleton River

Please provide a thorough description of the problem (ex. Roadway has steep slope with no ditch which is causing roadway erosion):

Install DI at the Driveway apron will be replaced to accommodate a 36" HDPE culvert that will extend to a second DI approx. 15' from a structure. The existing culvert will be removed up to a safe distance from the structure, and the remainder of the existing structure will be filled with flowable fill, stabilized, and abandoned. The new culvert will then continue from the DI to outlet at the same point the existing structure outlets. (see attached) +

Description of Project and how you plan to complete the work (ex. Stone line 500' of ditch by reshaping ditch and stone lining, working from the top of the project down to the bottom):
yes, see above.

Expected Effects (+ & -) on water quality (ex. Erosion will be eliminated by placing the stone ditch):

Currently there is very old system, that has caved in. This is causing a safety issue and erosion. This culvert project will eliminate the erosion problem and properly mitigate water run-off from higher lands. There are only positive effects on water quality with this project.



Distance from end of project to nearest water (stream, lake, or stormwater system that outlets directly to water): 50-250'

Progress to Date:

Completion by September 2016

Is there an emergency reason this project must be completed quickly? If yes, please explain:

This project needs to be timely completed due to the safety and erosion issues on the property.

Has this project been identified through a municipal road inventory, capital budget plan, tactical basin plan, culvert inventory, or other management plan? If yes, please list which.

Yes: Culvert Inventory

No

Please list any professionals you may have contacted for assistance with this project (ANR River

Management Engineer, Army Corps of Engineers, VTrans District Technical staff, Basin Planner etc.):

Todd Eaton, VLR, Circuit Rider - Local Road; Blari Enman, PE - Enman Kesselring consulting engineers; Josh Carvajal, Rivers Program, ANR/DEC; Brian Sanderson, Supervisor, Region III VTrans; Hilary Solomon, District Manager Poultney Mettowee Natural Resources Conservation District.



Is the project located in the town "Right of Way?" Yes, No, Both (if "Both" please explain further).

Both, first 25 feet is in the ROW.

Will the town road crew complete this work? Yes, No, Some (if "some" please explain further).

Yes (also shown in budget)



Describe how the grant funds will be spent and/or attach a project budget:
(See attached budget)

How do you plan to meet the required 20% match on this grant?:
These funds have been budgeted.

Requested Grant Amount (\$20,000 max Category B, \$40,000 max Categories C & D): \$ 33,690.24

Estimated Total Project Cost (including 20% local match): \$ 6,738.40

Estimated Completion Date: 09/30/2016

REQUIRED ATTACHMENTS:

- Itemized Cost Estimate (labor, equipment, materials)
(For assistance, call Better Backroads at 802-828-4585)
- Project Location Map
(Please show location of affected water; 1:12,000 USGS map, if possible)
- Sketch of proposed erosion control measures, including:
 - Distances (ft.)
 - Estimate of waste & borrow quantities
 - Approx. location of town/other right-of-way and/or property lines
- Photo(s) of the project area.
- Agreement for Entry and/or Deed of Easement (if project is outside Town ROW).
- If project involves stream or river/road conflict, include documentation of consultation with a River Management Engineer.
- Other appropriate supporting documents.

By signing this application I certify that all the information provided is accurate to the best of my knowledge. We will comply with all the requirements of the grant including making our books available for audit if required.

SIGNATURE OF APPLICANT: (Must be Town Administrator/Manager or Select Board Chair)

Name: Mark S. Shea

Title: Town Manager

TOWN OF CASTLETON

AGREEMENT FOR ENTRY AND WORK; LIMITED RELEASE

THIS AGREEMENT, made and entered into this (date) April 13, 2016, by and between the TOWN OF CASTLETON, and Christopher + Andrea Cresci (hereinafter "Owner").

WHEREAS, the Owner, owns certain land and premises in the Town of Castleton, which adjoin VT Route 4A (860 Main Street), a state highway maintained by the Town of Castleton; and;

WHEREAS, the Town of Castleton desires, at its own expense, to perform certain work on or for the benefit of the Town highway (described more particularly below) (hereinafter "the Work"), which Work also will be of benefit to the Owner's property; and

WHEREAS, performance of the Work may require the Town of Castleton, with its own forces or those of contractors, to enter upon the Owner's property, in areas outside the existing state highway right-of-way;

NOW, THEREFORE, the parties, intending to be legally bound, hereby agree as follows:

1. Description of the Work.

Replacement of stone culvert and catch basins on property [of Cresci] located at 864 Main Street Castleton VT. Culvert replacement begins at catch basin at southern boundary of property in driveway and continues in a northerly direction approximately 220 feet. Construction will consist of installation of 2 concrete catch basins and 220 feet of 36" HDPE culvert, removal of old stone culvert only as needed paying particular attention to area near church. The stone culvert left in ground will be filled with flowable fill. Traffic control, water diversion, erosion control and reseeding will be the responsibility of town. (See attached drawing)

2. Right of Entry; Limited Release. The Owner hereby grants the Town of Castleton, with its own forces or those of contractors, the right to enter upon the Owner's property, with workers and equipment, for the purpose of undertaking the Work, and hereby waives, releases, defend and discharges any claims, whether styled as trespass or otherwise, that may arise from such entry.

3. Retention of Certain Other Rights. Notwithstanding paragraph 2 of this Agreement, the Owner retains the right to assert against the Town of Castleton, its contractors or other parties any claims that may arise from negligent acts or omissions during performance of the Work.

4. Future Maintenance. Following completion of the Work, the Town of Castleton will be responsible for future maintenance of the Work in areas that are within the boundaries of the town highway right-of-way and any necessary maintenance of “the Work” area outside of the town right-of-way.

IN PRESENCE OF:

TOWN OF CASTLETON

Paul C. Cogan
Witness

By: Mark S. Shea
Mark S. Shea, Town Manager

IN PRESENCE OF:

X Ch. A. Gu-
("Owner")

Jess McPatter
Witness (as to both)

X Andrea B. Cresci
("Owner")

Cost Estimate Worksheet

Town and Road Name:

Project Name: **CRESCI STORM DRAIN**

Rate	# Hours	Total (Rate x Hours)
30/hr/man with benefits	160 total	4800
	All men	



Rate	# Hours	Total (Rate x Hours)
85/hr	40	3400
400/wk	40	400
316/pump/wk	40	500
1841/Hose - 100'		
61/day	24 = 3 days	207

Rate	Amount	Total (Rate x Amount)
2802/ft	6164 ft	6164 ft
50' @ 38 1/4'	1920' @	5127 50
45' @ 84 1/2'	33' @	1920 50
5 bales @ 4/bale	20	33 81
41846 - Flowable F		20
est. 349d @ 144/nd - Pump 855	51751	5751

Rate	Amount	Total (Rate x Hours)
Est. Bonding	51282	5282
Paving		
12/4d x 9.2d	84	84

Miscellaneous Total

Grand Total **33690.24**

Match **6738.40**



Item	Description	Quantity	Net Price	UM	Total
A36850020IB	36X20 N12 PROLIN S/T SLD HDPE PIPE	220	28.020	FT	6164.40
	- FOR HP (GREY) PIPE: \$40.40 FT				
	- LEAD TIME FOR EITHER 1-3 DAYS				
G22484F	24X8 HD C/BASIN FRM W/ 4 FLG	1	168.750	EA	168.75
GGF24GSQH	24 HD C/BASIN SQ GRATE	1	150.000	EA	150.00
G12481F	24X8 HD RND M/HOLE FRM	1	141.250	EA	141.25
GGF24CDRN	24 HD RND M/HOLE DRN CVR	1	93.750	EA	93.75

Subtotal: \$6718.15
Inbound Freight: \$0.00
Tax: \$0.00
Order Total: \$6718.15

Quoted prices are based upon receipt of the total quantity for immediate shipment (48 hours). SHIPMENTS BEYOND 48 HOURS SHALL BE AT THE PRICE IN EFFECT AT TIME OF SHIPMENT UNLESS NOTED OTHERWISE. Seller not responsible for delays, lack of product or increase of pricing due to causes beyond our control, and/or based upon Local, State and Federal laws governing type of products that can be sold or put into commerce. This Quote is offered contingent upon the Buyer's acceptance of Seller's terms and conditions, which are incorporated by reference and found either following this document, or on the web at http://wolseley.com/terms_conditionsSale.html. Govt Buyers: All items quoted are open market unless noted otherwise. LEAD LAW WARNING: It is illegal to install products that are not "lead free" in accordance with US Federal or other applicable law in potable water systems anticipated for human consumption. Products with *NP in the description are NOT lead free and can only be installed in non-potable applications. Buyer is solely responsible for product selection.

Paul C. Eagan

From: Frank.Gonzales@Ferguson.com
Sent: Tuesday, April 12, 2016 8:32 AM
To: paul.PHS@myfairpoint.net
Subject: FW: 36" CULVERT

Paul...pricing below for the 36" culvert we spoke about this morning.

Both types of pipe are usually in stock at ADS which makes the lead time 1-3 days tops...we have the castings in stock on a regular basis.

Thank you!!

Frank Gonzales
Outside Sales
Ferguson Waterworks, A Wolseley Company
134 Park Street, Suite 3
Rutland, VT 05701
☎(800)639-1848
☎(802)747-7555
📞(802)236-4587 (Cell)
📠(802)747-7129 (Fax)
✉frank.gonzales@ferguson.com
🌐www.ferguson.com

From: Frank Gonzales - 592 COLCHESTER_WATERWORKS [mailto:frank.gonzales@ferguson.com]
Sent: Tuesday, April 12, 2016 8:25 AM
To: Gonzales, Frank [Ferguson] - 0592 Rutland
Subject: 36" CULVERT

Price Quotation # B197155

FERGUSON WATERWORKS #592

134 PARK ST.
RUTLAND, VT 05701

Phone : 802-747-7555
Fax : 802-747-7129

Bid No.....: B197155
Bid Date...: 04/12/16
Quoted By: FXG
Customer.: TOWN OF CASTLETON
BOX 727
CASTLETON, VT 05735

Cust Phone: 802-468-5319
Terms.....: NET 10TH PROX
Ship To.....: TOWN OF CASTLETON
BOX 727
CASTLETON, VT 05735

Cust PO#..:

Job Name.: 36 CULVERT



S.D. IRELAND CONCRETE
CONST CORP
193 INDUSTRIAL AVE
WILLISTON, VT 05495
Phone: (800) 339-4565
Fax: (802) 860-1528

Quote Number: 17596

Quote Date: 4/12/2016

Customer Copy

Bill to:	CASTLETON, TOWN OF P O BOX 727 CASTLETON,, VT 05735	Project:	Cresci Project Castleton, VT
Contact:		Project Manager:	Paul 802-468-2459
Phone :	(802) 468-5319	Fax:	(802) 468-5482
Phone :		Phone :	
Customer ID:	2073	PO:	
Terms:	NET 30	ShipVia:	Unassigned
		Sales Rep:	Eric Barendse
		Bid Date:	

Qty	Item	Description	Unit Price	TX	Extension
	Structure: <input type="checkbox"/> Delivery				
4	2000000	TRUCKING, FLAT BED			\$400.00
<hr/>					
	Structure: <input type="checkbox"/> CB #1	Catch Basin 72" I.D. Catch Basin			
1	6136001	24" SQ 4FLG x 6" F+G, Checkerboard, U.S.F.			
1	0572742	COVER,86" DIA W/24" SQ OPENING X 13" THK			
1	0572050S	72" I.D. X 5' MONO SPECIAL			
2	1403150	MASTIC,CON-SEAL, 1 1/2"X10' (5 ROLLS/BX) CS-102			
2	1200500	CUTOUTS for 36" HDPE in and out			
					\$2,363.75
<hr/>					
	Structure: <input type="checkbox"/> STMH #1	Storm 72" I.D. Storm Manhole			
1	6136001	24"Round Frame and Lid			
1	0572743	COVER,86" DIA W/24" RD OPENING X 13" THK			
1	0572050S	72" I.D. X 5' MONO SPECIAL			
2	1200500	CUTOUTS for 36" HDPE in and out			
2	1403150	MASTIC,CON-SEAL, 1 1/2"X10' (5 ROLLS/BX) CS-102			
					\$2,363.75



S.D. IRELAND CONCRETE
 CONST CORP
 193 INDUSTRIAL AVE
 WILLISTON, VT 05495
 Phone: (800) 339-4565
 Fax: (802) 860-1528

Quote Number: 17596

Quote Date: 4/12/2016

Customer Copy

Taxable	\$0.00
Non-Taxable	\$5,127.50
Sub Total	\$5,127.50
Tax	\$0.00
Total	\$5,127.50

****PLEASE READ CUSTOMER NOTES BELOW****

Delivered to jobsite, offloaded and set by others. Heaviest pick weight is 11,000 lbs.

Add Tax if Applicable

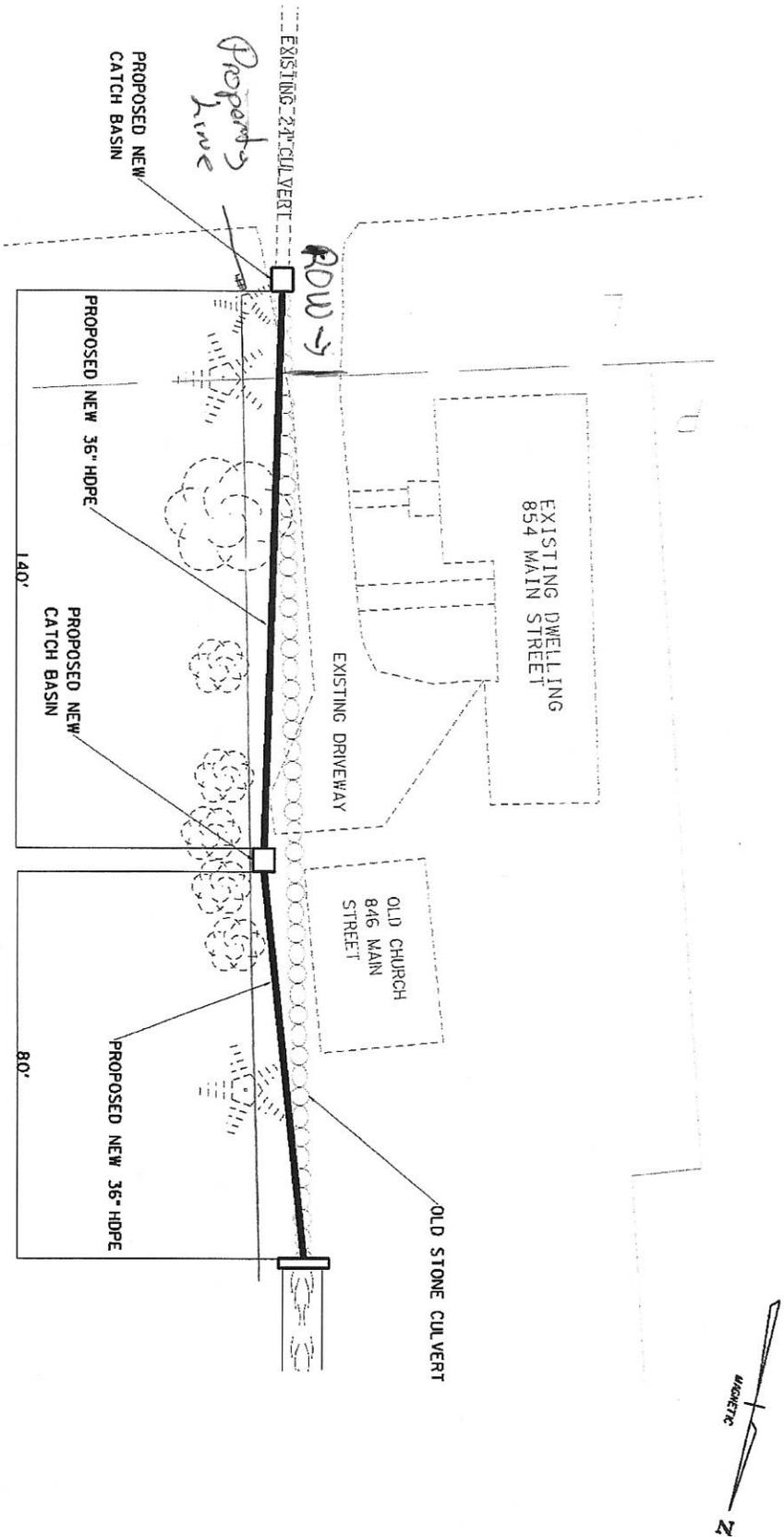
Prior to ordering the structures, the customer must confirm rim and invert elevations along with pipe types, sizes, and orientations.

POLICY: All invoices older than 30 days are subject to a FINANCE CHARGE computed at a "PERIODIC RATE" of 1.5% per month, which is an ANNUAL PERCENTAGE RATE of 18%. If collection of delinquent accounts is necessary, the customer agrees to pay all costs of collection including court costs, interest, and reasonable attorney's fees. No product shall be shipped or work performed if any invoices are over 30 days past due. Returns, requests for credit for damaged or defective products, and notice of billing discrepancies must be submitted in writing within 10 days of receipt of invoice. All returns are subject to a minimum 20% restocking fee. Changes to original quote will not be recognized unless initialed by both parties or acknowledged in writing by S. D. Ireland Companies. Quote becomes void if not accepted within 45 days of the above date. ESCALATION CLAUSE: S.D. Ireland Companies agrees to use its best efforts to obtain the lowest possible price for raw materials. However, the market for some such materials is considered volatile. The above quote was calculated using current pricing for component and raw materials and is subject to change due to sudden or severe price increases in raw material. Written notice shall be given to the contractor of such changes.

RESPECTFULLY SUBMITTED by
 S.D. Ireland Companies.
 By: _____

ACCEPTED BY: _____
 Title: _____
 Company: _____

Property line - Road ROW



PROPOSED STORM DRAIN CONCEPTUAL PLAN

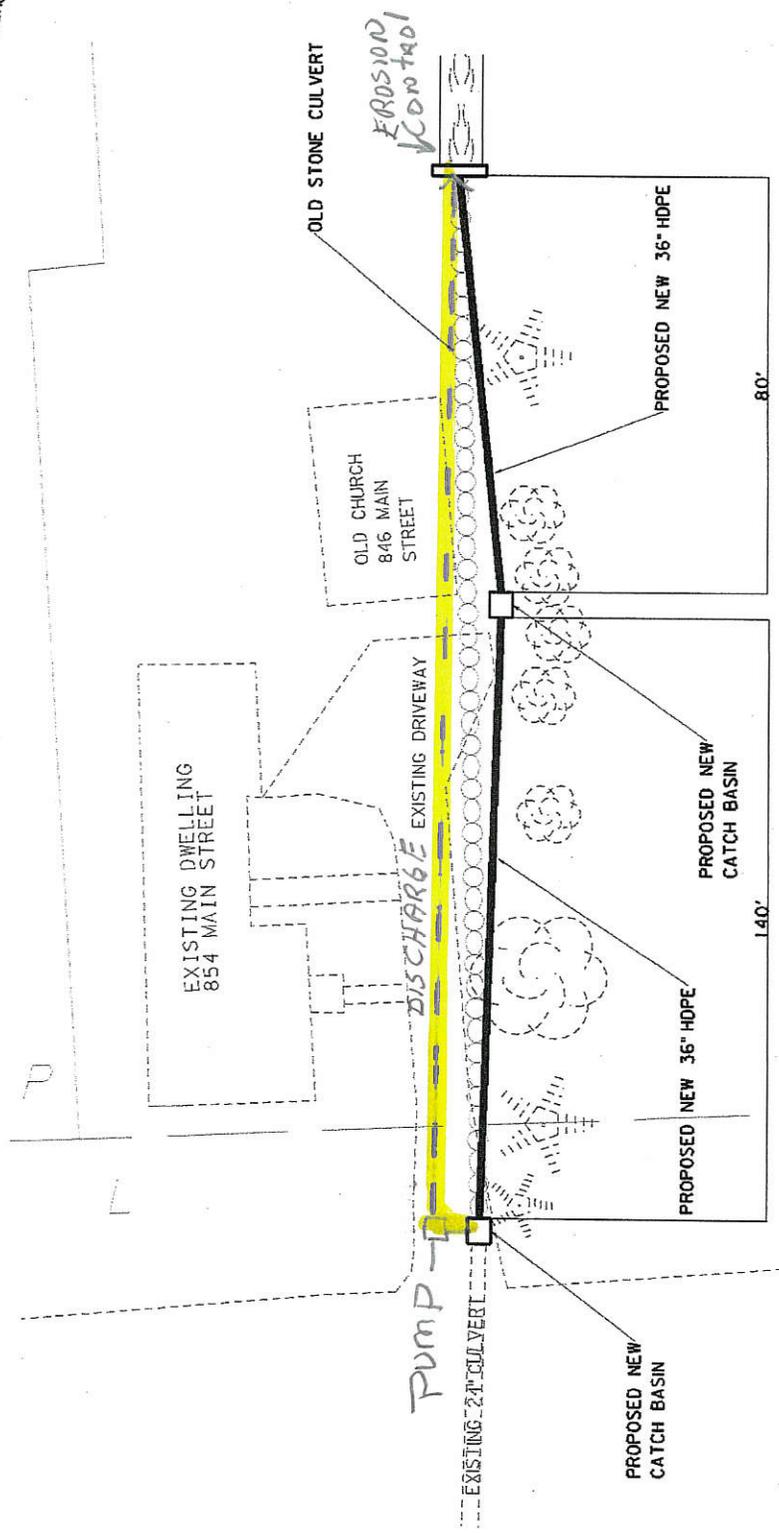
ITEM NUMBER	QUANTITY	DESCRIPTION
6012630	240'	36" HDPE
60420	2	PRECAST CATCHBASIN
50117	35 cy	FLOWABLE FILL

Town	Castleton
Route	4A
T.H.	Main St.
MM	3.15

WATER DIVERSION - CRESCI

- ① • Set pump at existing drainage inlet, located at southern end of project and also the beginning. Pump would be sized adequate in anticipation of any abnormal weather events, water then would be pumped to existing outlet where erosion control could be placed.
- ② • Would start excavation at northern end or outlet and work to beginning, it may be possible after exploratory excavation to leave existing drain in place (box culvert is 100+ years old) if this is so diversion would only be needed at northern and southern ends. Same pump method could be used.

1

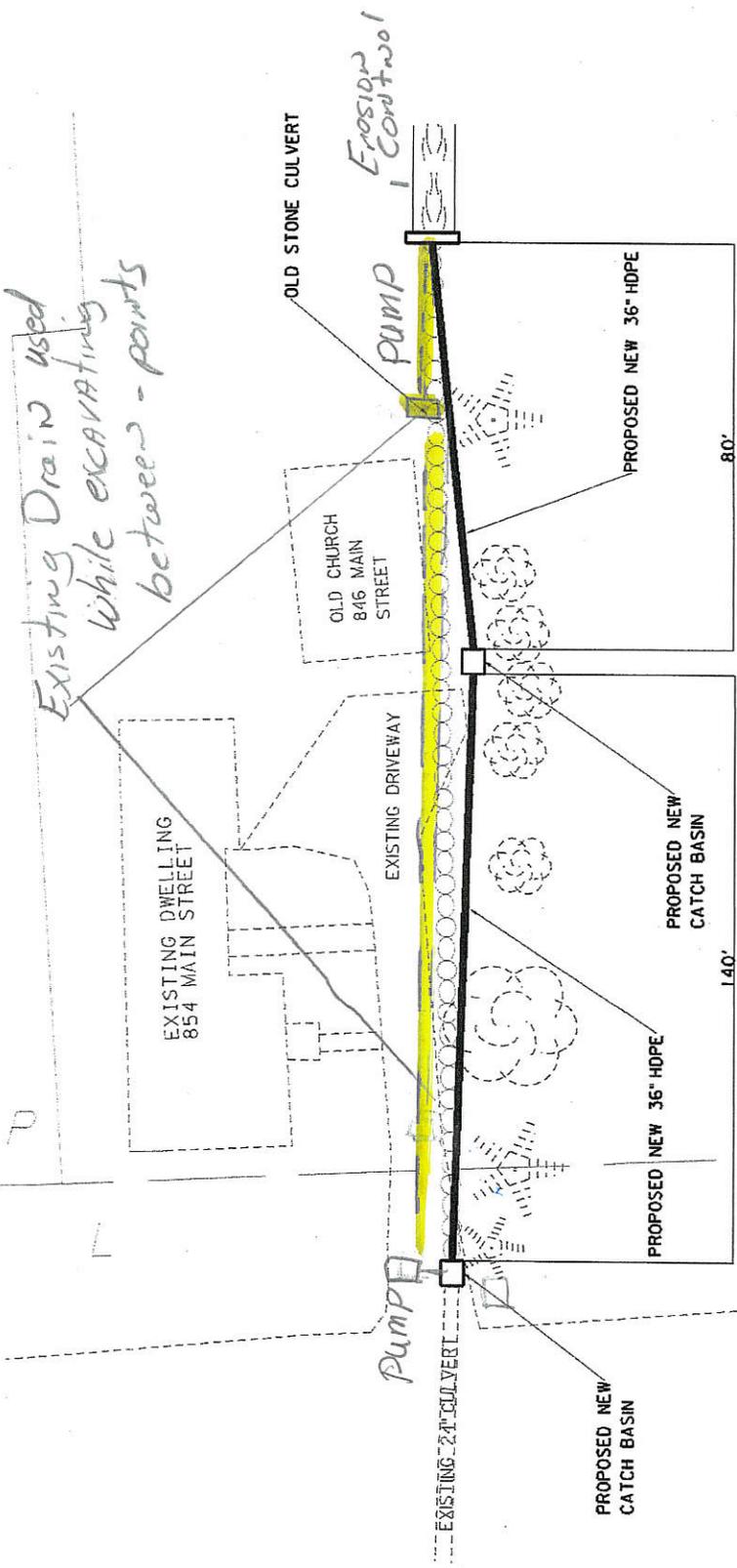


PROPOSED STORM DRAIN CONCEPTUAL PLAN

ITEM NUMBER	QUANTITY	DESCRIPTION
601.2630	240'	36" HDPE
604.20	2	PRECAST CATCHBASIN
501.17	35 CY	FLOWABLE FILL

Town	Castleton
Route	4A
T.H.	Main St.
MM	3.15

2



PROPOSED STORM DRAIN CONCEPTUAL PLAN

Town	Castleton
Route	4A
T.H.	Main St.
MM	3.15

ITEM NUMBER	QUANTITY	DESCRIPTION
601.2630	240'	36" HDPE
604.20	2	PRECAST CATCHBASIN
501.17	35 CY	FLOWABLE FILL

Richard S. DeWolfe, PE
President

Christopher J. Temple, PE
Vice President



Nathan M. Phillips, PE
David L. Frothingham, PE
Zarabeth M. Duell, PE
John J. Svagzdys, PE

December 20, 2010

Bill Allen
Castleton State College
86 Seminary Street
Castleton, VT 05735

Subject: Castleton Drainage Swale

Dear Bill:

This letter is written to present the results of our hydrologic study of the drainage swale which runs from the Castleton State College Campus to a 24" CMP culvert inlet near Main Street. The purpose of the analysis is to determine contribution of Castleton State College to the swale, the impact the proposed Facilities Barn would have on the swale, and the adequacy of the 24" culvert to which the swale drains. The point of interest for the analysis is the inlet to the 24" CMP culvert near Main Street. We have no information on the inverts or length of the culvert so no analysis of the barrel capacity was completed. The watershed of 24" culvert was broken down into four sub watersheds, first was the contributing area of the South Street ROW. Second is the contributing area that is residential properties, and finally the third is the area own by Castleton State College (CSC). The area owned CSC was further broken down into developed area and undeveloped area. This was done because the undeveloped area discharge to the wetland south of campus and the developed area mostly discharges directly to the 36" pipe under South Street. The following is a breakdown of the area of each subwatershed by ownership:

Total Watershed & Subwatershed Areas			
	Area	% Impervious	% of Total
Total Watershed Area	88.6 Ac		100%
South Street ROW	2.5 Ac	50%	2.8%
Residential Properties	31.6 Ac	30%	35.7%
Undeveloped land own by CSC	32.9 Ac	0%	37.1%
Developed Land own by CSC*	21.6 Ac	30%	24.4%

* Including the proposed Facilities Bldg

Surveying
Permitting
Site Design
Subdivisions
Timber Design
Expert Testimony
Site Development
Act 250 Permitting
Forensic Engineering
Environmental Permitting
Transportation Engineering
Structural Inspection Services
Commercial Building Design
Construction Oversight
Building Assessment
Pedestrian Bridges
Stream Alterations
Sewer Design
Water Supply
Storm Water
Hydrology
Grading

81 River Street
P.O. Box 1576
Montpelier, Vermont
05601-1576
phone: 802.223.4727
fax: 802.223.4740
www.dirtsteel.com

The exact contribution of any one area to the peak discharge to the 24" culvert is difficult to determine due to the intermingling of the runoff from each area and the detention provided by the wetland and various campus stormwater ponds. For the purposes of this discussion the discharge from the wetlands is ignored. This is a reasonable assumption because the majority of developed land does not discharge to the wetland and the peak discharge from the wetland occurs later than the peak of the swale and therefore contributes little to the swale peak. The following table summarizes areas, peak discharges, and the peak discharge per acre to the swale from the South Street ROW, the adjacent residences, and the developed Campus area:

Areas Discharging Directly to Drainage Swale (excludes Wetland watershed)					
	Area (Ac)	10-yr Peak (cfs)	25-yr Peak (cfs)	50-yr Peak (cfs)	100-yr Peak (cfs)
South Street ROW	1.25	5 (4 cfs/acres)	7 (5.6 cfs/acre)	8 (6.4 cfs/acre)	10 (8 cfs/acre)
Residences	10.2	5 (0.5 cfs/acres)	10 (1.0 cfs/acre)	16 (1.5 cfs/acre)	23 (2.3 cfs/acre)
CSC Campus, developed area*	18.2	14 (0.8 cfs/acres)	20 (1.1 cfs/acre)	25 (1.4 cfs/acre)	31 (1.7 cfs/acre)

The Castleton State College Campus contributes the most to the peak discharge due to the fact that the college owns the most land in the watershed. When the discharges are compared on a per acres basis the campus contributes less than the South Street ROW and about the same as the Residences between South Street and Glen Brook.

The proposed Facilities Barn will have no impact on the peak discharge to the 24" culvert during the any of the design storms analyzed. There is an increase in the volume runoff, but it flows there over a longer period of time. The following table summarizes the peak discharge and volume of runoff to the 24" culvert for prior to and after the construction of the new Facilities Barn.

Peak Discharges to 24" Culvert from Entire Watershed					
	2-yr	10-yr	25-yr	50-yr	100-yr
Pre-development Peak Discharge (cfs)	13	25	38	55	72
Pre-development Volume (ac-ft)	2.9	6.2	9.7	13.2	17.7
Post-development Peak Discharge (cfs)	13	25	38	55	72
Post-development Volume (ac-ft)	3	6.6	10.0	13.5	18.0

Page 3 of 3
Bill Allen
December 20, 2010

The existing 24" CMP culvert inlet does not have the capacity to pass the peak discharge from the 50-yr design storm. The 50-yr storm is the design standard recommended by the Vermont Agency of Transportation for culvert crossing under state highways. The inlet capacity for the existing 24" culvert is approx 16 cfs. The best option to address the recent flooding issue is the replacement of the entire existing culvert. Replacement of the existing culvert with a 36" concrete or HDPE pipe would increase the capacity to approx. 55 cfs. This would be enough to pass the runoff from the 50-yr rainfall event and help to prevent future flooding.

Detention upstream of the existing culvert is not feasible. In order to detain enough water to reduce the peak from 55 cfs to 16cfs the pond(s) would have to quite large. The pond(s) would also have to be located near the 36 inch pipe in South Street to be most effective. This is one of the most densely developed areas of campus and is also an area that is shallow to bedrock. Another suggestion was to divert the flow from the swale to the existing system in South Street north of campus. This system does not have the capacity to accept the flow from a 25-yr or 50-yr storm.

If you have any questions please do not hesitate to contact me.

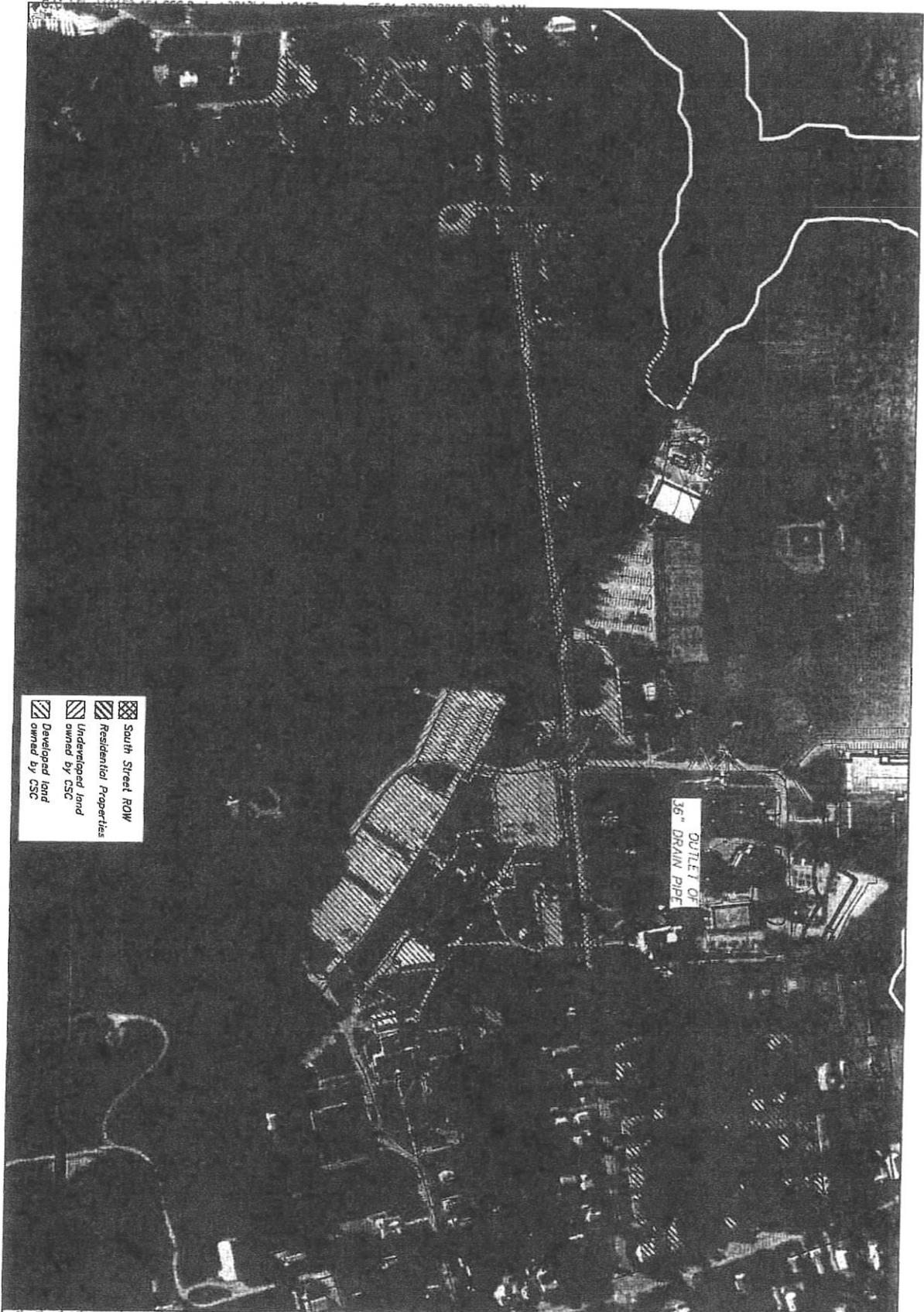
Sincerely,



David Frothingham

Enclosures

Plan of drainage swale watershed



 South Street ROW
 Residential Properties
 Undeveloped land owned by CSC
 Developed land owned by CSC

OUTLET OF
36" DRAIN PIPE

PROJECT NO.	10162
DATE	30 DEC 2010
SCALE	1"=200'
DATE	
BY	
CHECKED	

CSC PROJECT 2012
 SOUTH STREET
 CASTLETON, VERMONT
 JMZ ARCHITECTS

Civil & Structural Engineering
DeWolfe
 ENGINEERING ASSOCIATES
 CONSULTANTS
21 Wood St., P.O. Box 104, Montpelier, VT 05602-0104
 1-800-863-0207 • 802-223-4444 • www.dewolfe.com

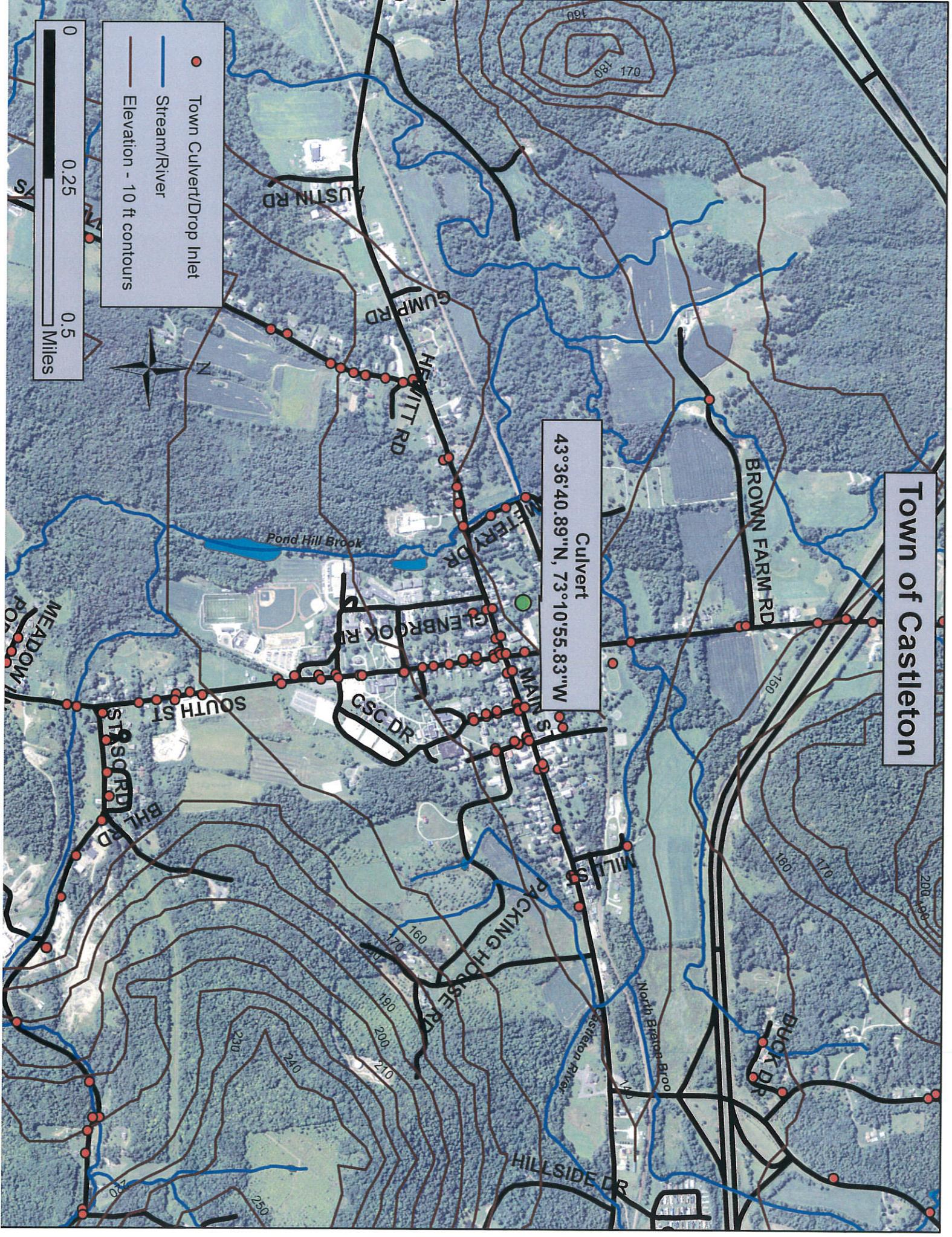
NO.	DATE	REVISION
1		
2		
3		
4		
5		



Town of Castleton

Culvert
43°36'40.89"N, 73°10'55.83"W

-  Town Culvert/Drop Inlet
-  Stream/River
-  Elevation - 10 ft contours



Southern Lake Champlain Basin with Major Sub - Basins

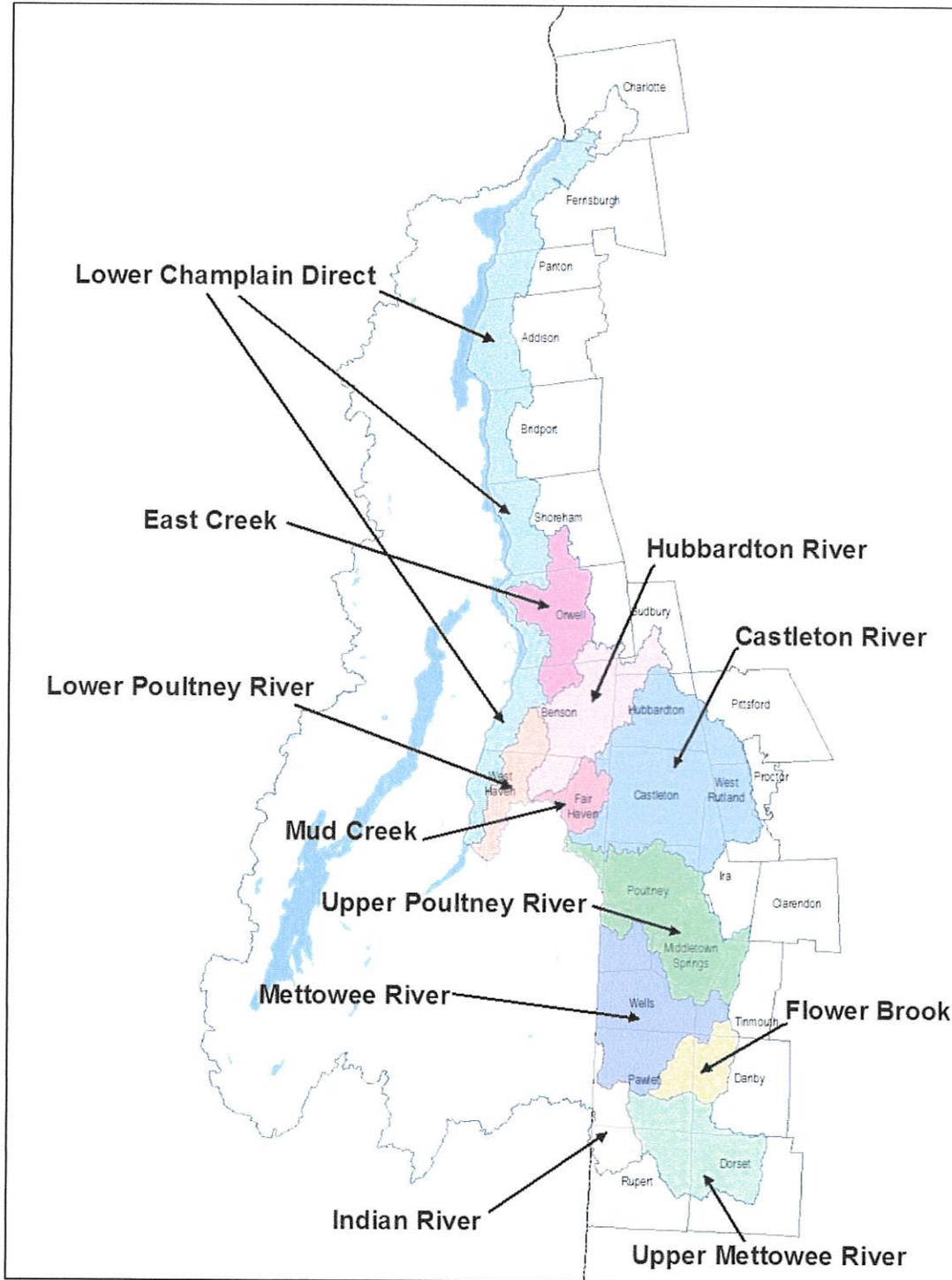


Figure 1. Southern Lake Champlain Watershed Map with Sub-watershed Delineations



CASTLETON, VT STORM WATER SYSTEM

Legend

-  Surface Water
-  Structures
-  Parcel Lines

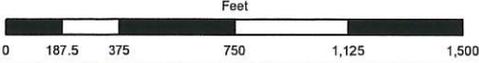
Orthophoto: VT Mapping Program 2006

Storm Water System

-  A-1-A
-  B-1-B
-  C-1-C
-  D-1-D
-  E-1-E
-  F-1-F



August 2008





Castleton main Street Stormwater

Vermont Agency of Natural Resources

vermont.gov



1: 2,638
March 30, 2016

134.0 0 67.00 134.0 Meters
1" = 220 Ft. 1cm = 26 Meters
THIS MAP IS NOT TO BE USED FOR NAVIGATION
© Vermont Agency of Natural Resources

DISCLAIMER: This map is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. ANR and the State of Vermont make no representations of any kind, including but not limited to, the warranties of merchantability, or fitness for a particular use, nor are any such warranties to be implied with respect to the data on this map.



LEGEND

- Wetland Projects
- Wetlands - VSWI
 - Class 1 Wetland
 - Class 2 Wetland
- River Corridor Easement
- DFIRM Floodways
- DFIRM Preliminary Floodways
- Special Flood Hazard Areas (A Counties)
 - AE (1-percent annual chance flood)
 - A (1-percent annual chance flood)
 - AO (1-percent annual chance zone feet)
 - 0.2-percent annual chance flood ha
- Special Flood Hazard Areas (F DFIRM)
 - AE (1-percent annual chance flood)
 - A (1-percent annual chance flood)
 - AO (1-percent annual chance zone feet)
 - 0.2-percent annual chance flood ha
- Buildings (E911)
- Act250 Permits ***INCOMPLETE
- VTRANS State and Town Long
- VTRANS State Short Structure
- Town Bridge
- Town Culvert
- Railroads
- Stream

NOTES

Map created using ANR's Natural Resources Atlas







Mark Shea

From: Eaton, Todd <Todd.Eaton@vermont.gov>
Sent: Tuesday, April 12, 2016 3:07 PM
To: Mark Shea
Cc: Paul Eagan
Subject: ROW Release

Mark,

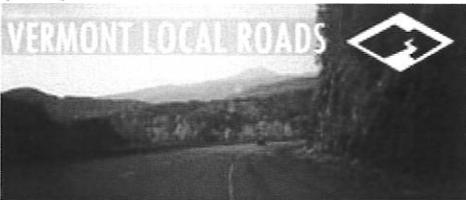
I receive your message, sorry I did not get back to sooner...

The scope of work is fairly basic... The DI at the Cresci's Driveway apron will be replaced to accommodate a 36" HDPE culvert that will extend to a second DI on the Cresci property approximately 15' from the historic structure. The existing culvert will be removed up to a safe distance from the structure, and the remainder of the existing structure will be filled with flowable fill, stabilized, and abandoned without risking excavation too close to the building. The new 36" HDPE culvert will then continue from the DI to outlet at the same point the existing structure outlets. There may be some tree and shrub removal necessary, but that should be worked out between the town and the Cresci's.

I hope that help Mark. Let me know if you need anything further.

Thanks!

Todd Eaton
VLR, Circuit Rider
(802)353-0110



Paul C. Eagan

From: Carvajal, Joshua <Joshua.Carvajal@vermont.gov>
Sent: Sunday, April 10, 2016 9:57 PM
To: Paul C. Eagan
Cc: Eaton, Todd; Sanderson, Brian; PMNRCD
Subject: Re: Main Street Drainage System
Attachments: Culverted Stream location Map.pdf; DeWolf Hydraulics Report.pdf

Hi Paul,

I stopped by on Friday to discuss this project, the hydraulics report from Castleton State College and a location map are attached. The report by Dewolfe Engineering recommended a 36" HDPE pipe to pass the Q50, which satisfies the Town Road and Bridge Standards.

After an additional field visit and review of the ANR Atlas map, I have determined the stream is not perennial and this project will not require coverage under the Stream Alteration General Permit.

I also met with the Wetlands Program staff, they confirmed this activity will not require a State Wetlands permit provided the footprint of the new pipe does not extend outward beyond the existing footprint. I will forward an email from them later this week.

Please let me know if you have any questions.

Josh Carvajal, P.E. CFM

Rivers Program

Agency of Natural Resources

Department of Environmental Conservation

cell: (802) 490-6163

www.watershedmanagement.vt.gov/rivers.htm

floodready.vermont.gov

Our email addresses have changed (@vermont.gov)

Mark Shea

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Todd Eaton
VLR, Circuit Rider
(802)353-0110





RUTLAND REGIONAL PLANNING COMMISSION

April 13, 2016

Mr. Alan May
Better Backroads Coordinator
VTrans
I National Life Drive
Montpelier, VT 05633

Dear Alan:

This letter supports the application from the Town of Castleton's Better Roads Grant application for a Category D for the Cresci culvert replacement project on Main Street. The culvert is eroded, drainage is inadequate and is eroding the property along the culvert. The potential adverse impact on the road dictates its immediate replacement.

This work is necessary and vital for the Town's infrastructure and we strongly support this application.

Sincerely,

A handwritten signature in black ink that reads "Susan Schreibman". The signature is written in a cursive, flowing style.

Susan Schreibman
Assistant Director

State of Vermont
Operations Division – District #3
61 Valley View
Mendon, VT 05701
Eric.House@state.vt.us

Agency of Transportation

[phone] 802-786-5826
[fax] 802-786-5894
[ttd] 800-253-0191

Date: 04/14/2016

Subject: Letter of Support

To whom it may concern:

This letter supports the application from the Town of Castleton's Better Roads Grant application for a Category D for the Cresci culvert replacement project on 864 Main Street storm drain culvert/perineal stream project.

After reviewing the proposed project site, and understanding the future problems of the existing drainage system failure, it is our opinion that this project is a good candidate for the Vermont Better Roads Grant program. This site has been reviewed by ANR River Management Engineer, a local engineering firm, Vermont Better Roads technical staff and representatives from the Mettowee Natural Resources Conservation District.

If we can be of further assistance, please feel free to contact me.



Eric E. House
Agency of Transportation
District 3 Tech VI

Mark Shea

From: Eaton, Todd <Todd.Eaton@vermont.gov>
Sent: Thursday, April 14, 2016 9:04 AM
To: Charels Jacien; Paul Eagan
Subject: Grand Letter of Support

To Whom it may concern,

Please accept this as my letter of support for the effort the Town of Castleton is putting forth in the attached projects to eliminate any erosion due to failing and inadequate culvert structures. In offering consultation, it is apparent to me that Castleton is proactive in utilizing any and all BMP's, as described in the BBR Manuel, applicable to these situations.

I look forward to continuing the process with Castleton and will continue to assist as necessary.

Thanks!

Todd Eaton
(802)353-0110

"A good character is the best tombstone. Those who loved you and were helped by you will remember you when forget-me-nots have withered. Carve your name on hearts, not on marble." Charles Spurgeon

POULTNEY METTOWEE NATURAL RESOURCES CONSERVATION DISTRICT

PO BOX 209, POULTNEY, VT 05757; OFFICE: (802) 287-8339; PMNRCD@GMAIL.COM; WWW.PMNRCD.ORG

April 13, 2016

Better Roads Grant Committee
Vermont Department of Transportation

To Whom It May Concern,

Poultney Mettowee Natural Resource Conservation District (PMNRCD) is pleased to support the Town of Castleton's pursuit of a Better Roads Grant. This project area has been identified as high-priority by the State of Vermont, the Town of Castleton, and the Poultney Mettowee Conservation District.

The District, Rutland Regional Planning Commission (RRPC), and the Town are partnering on a Stormwater Master Plan, which allows the Town to identify and prioritize stormwater-related projects. This project involves an undersized culvert that is collapsing internally and backing up, causing flooding in backyards. The Town of Castleton would like to upgrade the stormwater infrastructure in this area, which includes multiple drop inlets, but necessarily must first upgrade the outfall, which is undersized and collapsing, decreasing the capacity to carry water and causing sink holes and hazards above ground. This failing culvert currently passes under an historic church.

The stormwater outfall drains to a channelized ephemeral stream that has been evaluated by Vermont DEC personnel and District staff. The stream flows through a small channel and then pools in a natural infiltration area on the landscape (dropping sediment and nutrients and promoting infiltration to groundwater) prior to entering the Castleton River. The stormwater outfall is a naturally-occurring example of green stormwater treatment.

PMNRCD can be of assistance with Castleton's project by helping with management of invasive plant species along the channelized stream at the culvert outfall.

Please don't hesitate to contact me if you have further questions.

Sincerely,



Hilary Solomon, District Manager
Poultney Mettowee Natural Resource Conservation District