

This file and others of the Closeout Package have bookmarks for ease of navigation.

FEMA Project Formulation/Closeout Documentation Checklist/Index

Project Title: Mines Rd Culvert 26 _____ DR-4066 - _____ / PW-00027 Comp. %: 100

Applicant: Town Of Lowell

Form Completed by: Robert Melillo, PS _____ Agency: FEMA _____ Date: 05/28/15 _____

Project Type: Large Small _____ Improved _____ Alternate _____ Sandy Recovery Improvement Act _____

1 Project Worksheet Documentation

- Updated Summary of Final Project Cost [see file PW27 Closeout Submittal Package_File 1 of 3 Page 52](#)
- PW-Related correspondence/approvals for scope changes or other amendments [see file PW27 Closeout Submittal Package_File 3 of 3 Pages 72 thru 103](#)

2 Partial Payment Documentation [not applicable](#)

- Summary of partial payments received
- Copies of all partial payments requests

3 Applicant Policies

- Procurement Policy [Applicant does not have a written procurement procedure per say. All contracts for this PW were publicly solicited and competitively awarded. Statement provided that "The Town of Lowell follows the procurement policy in accordance with State and Federal regulations" see file PW27 Closeout Submittal Package_File 3 of 3 Page 54](#)
- Overtime Policy [not applicable](#)
- Union contracts addressing wages, OT, and fringe benefit calculations [not applicable](#)
- Codes and Standards [see file PW27 Closeout Submittal Package_File 1 of 3 Pages 51-53](#)

4 Force Account Documentation [not applicable](#)

- Force Account Labor Summary
 - Fringe Benefits Calculations
 - Timesheets
 - Applicable union contracts, ordinances, policies, or past history that supports wages / services
- Force Account Equipment Summaries
- Summary of Materials Used
 - Purchase Receipts for material taken from stock (Actual price paid, *not replacement cost*)
 - Invoices for materials not in stock
 - Proof of Payment for materials not in stock

5 Rental Equipment [not applicable](#)

- Summary of Rented Equipment Used
 - Contracts
 - Cancelled Checks or Check Summary with numbers, dates and values
 - Fuel invoices

6 Direct Administration Costs [see file PW27 Closeout Submittal Package_File 1 of 3 Pages 55-63](#)

- DAC Summary [see file PW27 Closeout Submittal Package_File 1 of 3 Pages 55](#)
- Documentation of work completed by date and personnel [see file PW27 Closeout Submittal Package_File 1 of 3 Pages 56, 57 and 63](#)
- Time sheets

FEMA Project Formulation/Closeout Documentation Checklist

Project Title: Mines Rd Culvert 26 _____ DR-4066 - _____ / PW-00027 Comp. %: 100
Applicant: Town Of Lowell
Form Completed by: Robert Melillo, PS _____ Agency: FEMA _____ Date: __05/28/15_____
Project Type: Large __X__ Small _____ Improved__ Alternate__ Sandy Recovery Improvement Act ____

7 Contract Documentation

- Municipal Procurement Policy [see file PW27 Closeout Submittal Package_File 3 of 3 Page 54](#)
- Procurement Documentation (Procurement must be in accordance with State and Federal (CFR 44 13.36) Regulations for projects over \$150,000)
- Newspaper and other bid notifications [see file PW27 Closeout Submittal Package_File 1 of 3 Pages 4 thru 6](#)
 - Bid Tabulation and documentation of award process [see file PW27 Closeout Submittal Package_File 1 of 3 Pages 7 thru 10](#)
 - Documentation of telephone bid solicitations in lieu of formal bids *not applicable*
 - Contract(s) signed and dated by all parties [see file PW27 Closeout Submittal Package_File 2 of 3 Pages 45 thru 55](#)
 - Non-competitive proposal cost analysis *not applicable*
 - Contract Plans and Specifications (pdf format) [see file PW27 Closeout Submittal Package_File 2 of 3 Pages 56 thru 55 and file PW27 Closeout Submittal Package_File 3 of 3 pages 1 and 2](#)
- Certified Payrolls (as appropriate) *not applicable*
- Cancelled Checks or Check Summary with numbers, dates and values [see file PW27 Closeout Submittal Package_File 2 of 3 Pages 9, 12, 14,15, 23, 29, 30, 32, 35, 38, 41, 42](#)
- Change Order Summary [see file PW27 Closeout Submittal Package_File 2 of 3 Pages 2 – 3 and 8](#)
 - Copies of Executed Change Orders [see file PW27 Closeout Submittal Package_File 2 of 3 Page 8](#)
 - Revised Plans *not applicable*

8 Insurance Documentation for Insurable Losses *not applicable*

- Policy (*if available*)
- Declaration Pages (if policy is not available)
- Description of Coverage
- Exclusions
- Deductibles
- Limits of Coverage
- Statement of Loss (*Explanation and enumeration of damages*)
- Proof of Loss (*Affidavit of Proof of Insurance Payment*)

9 Environmental, Historic Preservation Documentation

- USACE Permits/ CBRA Permits [see file PW27 Closeout Submittal Package_File 3 of 3 pages 9 thru 46](#)
- Stream Alteration Permits [see file PW27 Closeout Submittal Package_File 3 of 3 pages 3 thru 8](#)
- Documentation of Debris Disposal Location *not applicable*
- SHPO letters of concurrence *not applicable*

10 Debris Removal *not applicable*

- Stump Removal Validation Log
- Hazard Limbs (hangers) Removal Log(s)
- Hazardous Tree Removal Log (s)
- Truck Trip Tickets signed by driver and applicant
- Truck Certification Lists

REVIEWED

By Bob Melillo, FEMA PS at 10:24 am, May 27, 2015

Town of Lowell

2170 VT Route 100 Lowell, VT 05847

Tel: (802) 744 6559 Fax: (802) 744 2357

Kimberly Canarecci
Public Assistance Officer
Vermont Dept. of Public Safety
Division of Emergency Management and Homeland Security
103 South Main Street
Waterbury, VT. 05671-4719

November 4, 2014

The Town of Lowell would like to request that two large projects: PA-01-VT-4066-PW-00027(1) Mines Rd Culvert 26 and PA-01-VT-4066-PW-00024(0) Cheney Rd be closed out. Both projects have been completed and all back-up paperwork has been gathered and prepared for closeout to the best of our knowledge and ability.

The PA-01-VT-4066-PW-00027(1) Mines Rd Culvert 26 project worksheet was written up for \$195,022 and the actual total cost of the project was \$182,407.21.

The PA-01-VT-4066-PW-00024(0) Cheney Rd project worksheet was written up for \$97,149.61 and the actual total cost of the project was \$102,488.44.

Please contact the Lowell Town Clerk's Office at 802-744-6559 to make closeout arrangements.

Respectfully,



Richard Pion
Selectboard Chairman

REVIEWED

By Bob Melillo, FEMA PS at 10:24 am, May 27, 2015

karen Clinger

From: Tyler Mumley <tyler@shrugg.com>
Sent: Wednesday, February 26, 2014 12:59 PM
To: Karen Clinger
Cc: Christine.emmons@state.vt.us
Subject: RE: Advertisement for Bids - Lowell Culvert Replacement
Attachments: 13062 - a. Advertisement for Bids.doc; _Certification_.htm

Hi Karen,
Could you put the Advertisement for Bids in the local newspaper? This will satisfy the need for a "public" bid. I've attached the word document, so you can cut and paste the text. Please let me know if you have any questions.
Thanks,
Tyler

From: Tyler Mumley
Sent: Monday, February 24, 2014 8:29 AM
To: Karen Clinger
Cc: Marla
Subject: Advertisement for Bids - Lowell Culvert Replacement

To All Contractors,

Please find attached the Advertisement For Bids for the Burgess Branch Culvert Replacement project along Mines Road in Lowell, Vermont. The project includes a 55-foot precast concrete box culvert (14'x6') and approximately 80 feet of paved roadway with guardrails.

If you are interested in receiving a set of bid documents and site plans, please contact me at 802-524-9300 or by email at tyler@shrugg.com.

Thank You,

Tyler

Tyler Mumley, P.E.
Ruggiano Engineering, Inc.

*Email sent to:
Barton Chronicle
Ad on wed, march 5th*

5 Lake Street

St. Albans, VT 05478

t: 802.524.9300 f: 802.524.9700

karen Clinger

From: karen Clinger <kclinger@lowelltown.org>
Sent: Wednesday, February 26, 2014 4:49 PM
To: Chronicle
Subject: Advertisement for Town of Lowell

Please format the following for an ad to go in the paper on Wednesday, March 5th.

Thank you.

ADVERTISEMENT FOR BIDS

**Town of Lowell
Burgess Branch Culvert Replacement
Mines Road, Lowell, Vermont 05847**

Receipt of proposals: Sealed proposals on forms prepared by the Engineer will be received at the office of Ruggiano Engineering, Inc., 5 Lake Street, St. Albans, VT until 3:00 P.M. (local time), Friday, March 28, 2014 for the work included with the Burgess Branch Culvert Replacement Project along Mines Road in the Town of Lowell, Vermont. Proposals will not be accepted via facsimile.

Proposals will be opened in private on Monday, March 31, 2014. Following evaluation by the Engineer and the Owner's Representative, the bids will be discussed in a public forum at the Select Board meeting on Tuesday, April 1, 2014.

Construction start date, to be agreed upon by the Owner's Representative and Contractor, shall be between April 1, 2014 and April 30, 2014, weather dependent. Substantial completion time is 90 days from receipt of Notice to Proceed, and no later than July 31, 2014. A performance bond and payment bond or other acceptable surety, equal to 100% of contractor's total project bid will be required. A bid bond will not be required. In submitting their signed bid, the Contractor is in essence providing assurance that bidder will, upon acceptance of their bid, execute the required contract documents within 15 days. Contractor must be fully insured, and able to demonstrate experience in the trades required.

Contract Documents are available for pick-up at Ruggiano Engineering, Inc., upon payment of \$50.00. For mailed documents please add \$10.00. Contract Documents can be sent as electronic PDF copies via email upon payment of \$30.00. Documents may be inspected at the office of the Engineer, Ruggiano Engineering, Inc., 5 Lake Street, St. Albans, Vermont.

Minority and women owned businesses are encouraged to bid. The Town reserves the right to reject any and all bids or to waive any formality when it is in the interest of the Town to do so.

Questions may be addressed to Tyler Mumley, P.E. at Ruggiano Engineering, Inc. by email to: tyler@shrugg.com. There will be an imposed deadline for questions of 4:00 P.M. on Tuesday, March 25, 2014.

A pre-bid meeting will be scheduled at the project site. The Engineer and Owner's Representative will coordinate with interested parties to schedule the date and time, but no later than Monday, March 24, 2014. Please contact Tyler Mumley at 802-524-9300 or at tyler@shrugg.com to be included in the interested party list.

Karen Clinger
Town Clerk
Town of Lowell
2170 VT RTE 100
Lowell, VT 05847

Phone: 802-744-6559
Fax: 802-744-2357
kclinger@lowelltown.org

No virus found in this message.
Checked by AVG - www.avg.com
Version: 2014.0.4765 / Virus Database: 4015/8194 - Release Date: 09/11/14

**MINUTES
SELECT BOARD MEETING
TOWN OF LOWELL**

Meeting held on Tuesday, April 1, 2014 at 5:30 p.m.

Board members present:

Richard Pion; Chm, Dwight Richardson, Alden Warner
Amanda Carlson/ Select Board Clerk

Guest:

Nathan Lougee – Ruggiano Engineering Inc.

- Mr. Lougee presented the Board with the results from the Burgess Branch Culvert Replacement. Contractors bids that were submitted.
- Six contracting companies bid on the project.
- Mr. Lougee explained that Ruggiano Engineering did research into the general costs to ensure needs were being met and costs justified. They saw no “red flags” or reasons for concern that the lowest bidder failed to include anything.
- **Board agreed unanimously that the lowest bidder would be awarded the contract: *G.W. Tatro***
- Mr. Lougee was to email and inform all of the contractors over the next few days of the decision.
- Ruggiano Engineering will then prepare a contract for G.W. Tatro for the work and notify the Board when the details are all finalized.
- Work is expected to start after June 15th as to comply with bylaws on construction being done to streams. Work is hopeful to be completed by July.

Board reviewed minutes of March 18, 2014 meeting; approved unanimously.

Discussion:

- Select Board approved liquor license submitted by Hidden Country Restaurant
- Richard Pion signed and approved submitted Truck Weight Permits for the season
- Board reviewed an introduction letter from *The Northeast Resource Recovery Association (NRRA)* which provides assistance with Recycling solutions. The Board agreed unanimously that the Town does not need a third party to assist with making arrangements with recycling and can continue to handle the service directly.
- Board was provided with a copy of the final invoice from *Cheney Saudek & Grayck PC* in relation to the Supreme Court case of The Town of Lowell vs. Wesolow.
- Board was presented with the current Dry Hydrant installation grant application. The subsidy has been increased from \$2500 to \$4000 for 2014. Alden Warner will bring this up at the next Fire

Station meeting and will report back if they wish to pursue the grant and installation of new dry hydrants. In the past the Town has not had much success with these devices however they will be willing to consider.

- The Board was presented with an application for the *Vermont Better Back roads Small Grants Program*. They stated that in the past the Town has not participated but depending on this year's criteria it might be worth looking at. A copy will be emailed to Alden Warner so he can review further and investigate if it would benefit the town. The discussion will be continued at the next meeting when more information is obtained.
- The Board was presented with a draft of the new signs to be posted at the Recycling receptacles. One sign lists accepted materials and the other lists the rules and regulations. They agreed the signs were needed but not to proceed as of yet. Before the town opens up the recycling hours they want some more information on installing a camera system to monitor and ensure safety. Information on the camera system will be presented at the next meeting when Pamela Tetreault is present.
- Once a monitoring system is in place then the Town will consider enforcing the "No Dumping" with a \$50 fine to any person caught dumping unaccepted materials into the recycling bins. A draft ordinance has been written up and reviewed. Once the final decision is made then the ordinance will be posted and held for public approval until it is enforced as per Vermont State Statutes.
- Further discussion and planning on changes to public recycling are to be continued at next Select Board Meeting.

Board reviewed Town Orders:

| | |
|--------------------|--------------|
| Payroll #7 | \$ 7,186.98 |
| Payroll General #7 | \$ 15,378.85 |

Signed by the board for the treasurer to draw checks on – totaling \$ **22,565.83**

Meeting adjourned at 6:25 p.m.

Next meeting date: April 15, 2014 at 5:30 p.m.

Richard Pion- Chm.

Amanda Carlson - Asst. Clerk

Alden Warner

Dwight Richardson

karen Clinger

From: Nathan Lougee <nathan@shrugg.com>
Sent: Wednesday, April 02, 2014 10:15 AM
To: Greg; cmarsh@gwtatro.com; rmbexcavating@myfairpoint.net; bcbridgesvt@pshift.com; ron@sdireland.com; brichardson@vermontsiteworks.com
Cc: kclinger@lowelltown.org; Sam Ruggiano
Subject: RE: 13062 - Burgess Branch Culvert Replacement - Lowell, VT

To all,

Below is a table of the submitted contract prices with contractor names for the Burgess Branch Culvert.

| | | |
|-----|--------------|-------------------------------|
| 1ST | \$147,850.50 | GW Tatro Construction |
| 2nd | \$163,985.00 | CCS Constructors, Inc. |
| 3rd | \$167,435.00 | RMB Excavating, Inc. |
| 4th | \$176,900.00 | Blow & Cote |
| 5th | \$236,000.00 | S.D. Ireland |
| 6th | \$245,505.00 | VT Siteworks |

Thank you,

Nathan Lougee
Ruggiano Engineering, Inc.
5 Lake Street
St. Albans, VT 05478
802-524-9300
www.Ruggianoengineering.com

From: Greg [mailto:greg@ccscraneservice.com]
Sent: Wednesday, April 02, 2014 10:07 AM
To: Nathan Lougee; cmarsh@gwtatro.com; rmbexcavating@myfairpoint.net; bcbridgesvt@pshift.com; ron@sdireland.com; brichardson@vermontsiteworks.com
Cc: kclinger@lowelltown.org; Sam Ruggiano
Subject: RE: 13062 - Burgess Branch Culvert Replacement - Lowell, VT

Nathan,

Can you please supply the contractors names on the other bid amounts?

Thank you,

Gregory J. Vasilakos

Project Manager
CCS Constructors, Inc.
138 Munson Avenue
Morrisville, VT 05661
P-802-888-7701 Ext. 217

BID RESULTS

| NO | ITEM | G.W. Tatro | CCS Construction | R.M.B. Excavating | Blow & Cote | S.D. IRELAND | VT SITEWORKS |
|--|---|---------------|------------------|-------------------|---------------|---------------|---------------|
| A - CULVERT & ROADWAY REPLACEMENT | | | | | | | |
| A-1 | SITE PREP | \$ 22,700.00 | \$ 20,000.00 | \$ 20,820.00 | \$ 12,109.00 | \$ 96,220.00 | \$ 90,000.00 |
| A-2 | 12" CRUSHED STONE | \$ 2,291.25 | \$ 2,400.00 | \$ 3,060.00 | \$ 3,196.00 | \$ 1,410.00 | \$ 3,666.00 |
| A-3 | PRE-CAST CONCRETE CULVERT (INSTALL ONLY) | \$ 15,023.00 | \$ 23,000.00 | \$ 10,500.00 | \$ 27,106.00 | \$ 15,000.00 | \$ 31,800.00 |
| A-4 | TYPE II RIP-RAP | \$ 3,477.00 | \$ 2,700.00 | \$ 3,500.00 | \$ 3,534.00 | \$ 5,700.00 | \$ 7,125.00 |
| A-5 | TYPE III RIP-RAP | \$ 7,904.00 | \$ 4,600.00 | \$ 5,300.00 | \$ 8,360.00 | \$ 7,600.00 | \$ 8,816.00 |
| A-6 | GRANULAR FILL | \$ 12,656.25 | \$ 7,770.00 | \$ 15,520.00 | \$ 9,750.00 | \$ 15,000.00 | \$ 11,625.00 |
| A-7 | 6" SAND | \$ 1,512.00 | \$ 2,000.00 | \$ 2,000.00 | \$ 1,365.00 | \$ 1,680.00 | \$ 1,386.00 |
| A-8 | GRAVEL SUBBASE | \$ 4,320.00 | \$ 4,445.00 | \$ 5,560.00 | \$ 4,644.00 | \$ 5,400.00 | \$ 4,185.00 |
| A-9 | PAVEMENT | \$ 6,300.00 | \$ 11,700.00 | \$ 8,000.00 | \$ 7,812.00 | \$ 5,400.00 | \$ 7,200.00 |
| A-10 | GUARDRAIL | \$ 3,942.00 | \$ 6,570.00 | \$ 10,000.00 | \$ 7,738.00 | \$ 5,840.00 | \$ 5,402.00 |
| A-11 | FINISH GRADE | \$ 3,675.00 | \$ 1,750.00 | \$ 4,000.00 | \$ 3,745.00 | \$ 3,500.00 | \$ 2,450.00 |
| | SUB-TOTAL | \$ 83,800.50 | \$ 86,935.00 | \$ 88,260.00 | \$ 89,359.00 | \$ 162,750.00 | \$ 173,655.00 |
| B - PRECAST CONCRETE CULVERT & HEADWALLS (MATERIAL COST ONLY) | | | | | | | |
| B-1 | PRE-CAST CONCRETE CULVERT (MATERIAL ONLY) | \$ 60,000.00 | \$ 70,000.00 | \$ 65,835.00 | \$ 60,050.00 | \$ 60,000.00 | \$ 59,850.00 |
| | SUB-TOTAL | \$ 60,000.00 | \$ 70,000.00 | \$ 65,835.00 | \$ 60,050.00 | \$ 60,000.00 | \$ 59,850.00 |
| C - LUMP SUM ITEMS | | | | | | | |
| C-1 | EROSION CONTROL | \$ 1,350.00 | \$ 1,500.00 | \$ 1,640.00 | \$ 3,410.00 | \$ 3,500.00 | \$ 500.00 |
| C-2 | TRAFFIC CONTROL | \$ 1,000.00 | \$ 2,500.00 | \$ 1,700.00 | \$ 4,125.00 | \$ 2,500.00 | \$ 500.00 |
| C-3 | CONTRACTOR'S BOND | \$ 500.00 | \$ 50.00 | \$ 1,500.00 | \$ 17,856.00 | \$ 3,500.00 | \$ 1,000.00 |
| C-4 | MISCELLANEOUS | \$ 1,200.00 | \$ 3,000.00 | \$ 8,500.00 | \$ 2,100.00 | \$ 3,750.00 | \$ 10,000.00 |
| | SUB-TOTAL | \$ 4,050.00 | \$ 7,050.00 | \$ 13,340.00 | \$ 27,491.00 | \$ 13,250.00 | \$ 12,000.00 |
| | TOTAL BID | \$ 147,850.50 | \$ 163,985.00 | \$ 167,435.00 | \$ 176,900.00 | \$ 236,000.00 | \$ 245,505.00 |

**QUOTES FOR PRE-CAST CONCRETE CULVERT (MATERIAL & DELIVERY ONLY)
DIRECTLY FROM SUPPLIER TO TOWN OF LOWELL**

| SUPPLIER | QUOTE |
|--------------|--------------|
| CAMP PRECAST | \$ 59,850.00 |
| MITCHIE CORP | \$ 65,516.00 |

REVIEWED

By Bob Melillo, FEMA PS at 10:26 am, May 27, 2015



Precast Concrete Products Inc. 78 Precast Rd., Milton, VT 05468, (802) 893-2401, Fax (802) 893-1542

ESTIMATE

TO: Town of Lowell
ATTN: Karen Clinger
PHONE:
FAX:
JOB NAME: Town of Lowell, VT.
Burgess Branch Culvert
DATE: 3/28/14
ENGINEER: Ruggiano Engineering

Precast Box Culvert :

1. 55'-0" lineal feet of 14'-0" (SPAN) x 6'-0" (RISE) Precast Box Culvert (8) 6'-10" long box sections total.
2. Two 1'-2" high precast reinforced headwalls will be supplied on each end of box culvert sections.
3. Two 15'-8" long x 2'-0" wide x 3'-2" high precast reinforced cut-off walls will be supplied for the box culvert.
4. Assumed AASHTO HL-93 Load rating capacity of the proposed box culvert sections.
5. Camp Precast will provide VT. PE stamped engineered drawings w/ supporting design calculations and working drawings for engineers review & approval prior to fabrication.
6. Two 9'-0" long reinforced precast wingwalls w/cantilever style footings will be provided on the inlet end and Two separate 2'-0" wide x 3'-2" high precast footings will be provided.
7. Two 9'-0" long reinforced precast wingwalls w/cantilever style footings will be provided on the outlet end and Two 2'-0" wide x 3'-2" high separate precast footings will be provided.
8. All precast box sections will be provided with 1'-0" wide x 1'-0" high tapered V-shaped retention sill baffles per eng. drawings.
9. A 1" x 1" neoprene gasket meeting ASTM D-1056 will be factory installed on each box section prior to field delivery.
10. Delivery of above quoted product will be shipped on flatbed trailers and to be offloaded by others!
 - a. Approximate heaviest pick is 44,500 +/- lbs ./Section

LUMP SUM \$ 59,850.00 + Sales Tax if Applicable

Note Exclusions:

All outside crane service for unloading & setting quoted precast products, permanent closure hardware or draw together hardware, all cast-in-place concrete if required for 3'-0" x 1'-8" anchor blocks for guardrail post, all guardrail posts or bridge posts and all related items for the guardrail connections, all U-Bolts for guardrail connections, all field grouting, all sheet membrane waterproofing materials & labor for installation if required, water repellent silane, all soil compaction, all site excavation & layout, site labor, backfill materials, de-watering if necessary, are all excluded and therefore are to be provided by others!

ESTIMATED BY: Mark Pfenning

This estimate is for completing the job as described above. It is based on our evaluation and does not include material price increases or additional labor and materials which may be required should unforeseen problems or adverse weather conditions arise after the work has started. Any item not specifically mentioned in this quote is not included and was not intended to be included.

Sent 8/8/13 w/ Hydraulics Unit and FEMA form 90-91

REQUEST FOR PROPOSALS
Mines Road Culvert Replacement (FEMA)

REVIEWED

By Bob Melillo, FEMA PS at 2:53 pm, May 27, 2015

Project Schedule:

Bid solicitation: August 8, 2013

Deadline for submission of proposals: August 16, 2013

Project Award & Start Date: August 20, 2013

Construction Cost Estimation Due: September 15, 2013

The Town of Lowell is soliciting bids from qualified engineering firms with proven expertise in the fields of civil engineering services to complete the survey, engineering, permitting, construction cost estimation, and construction bid management for the replacement culvert project on Mines Road in Lowell, VT. The culvert along Mines Road is undersized and has experienced significant decay and is recommended by the State of Vermont and FEMA for replacement. Please refer to attached Hydraulics Report by the Vermont Agency of Transportation and the Field Report by FEMA for additional information.

The selected engineering firm will be required to perform the following work:

1. Correspond with the Vermont Agency of Natural Resources (ANR), the Vermont Agency of Transportation (VTTrans), The Federal Emergency Management Association (FEMA), and the Army Corp of Engineers (ACOE) to complete an adequate design of the culvert replacement and acquire all necessary permits.
2. Conduct or subcontract topographic surveying operations in order to adequately design the culvert replacement based on as-found conditions.
3. Prepare engineering-grade site plan drawings and details for permitting and construction.
4. Provide an engineer's cost estimate for all construction activities, including materials, to complete the project.
5. Manage all construction bidding and work with the Town of Lowell towards selection of a general contractor to perform the work.

Proposals are due by August 16, 2013, no later than 3:00 p.m. to the Town of Lowell. Proposals can be mailed to 2170 VT Route 100, Lowell, VT 05847 or emailed as a PDF file to kclinger@lowelltown.org. The awarded engineering firm will be discussed at the Town Select Board meeting on Tuesday, August 20, 2013, at the town office. The selected engineering firm is required to complete the survey, the preliminary engineering design, and the construction cost estimation by September 15th. The project permitting and construction bid management is required to be complete by December 15, 2013.

The Select Board's decision of the awarded engineering firm will be based the proposed price to complete the work and confirmation of the firm's experience and ability to complete the scope of work within the proposed schedule.

Engineering firms are welcome to visit the site prior to bid submittal. Please contact Karen Clinger, Lowell Town Clerk, at 802-744-6559 with any questions.



i
August 15, 2013
410800X

REVIEWED

By Bob Melillo, FEMA PS at 2:59 pm, May 27, 2015

Ms. Karen Clinger
Town of Lowell
2170 VT Route 100
Lowell, VT 05847

RE: **Mine Road Culvert RFP**
Lowell, Vermont

Dear Mark:

DuBois & King, Inc. proposes to render professional engineering services in support of the design proposal issued by the Town of Lowell for the restoration of the Mines Road culvert washed out in May. The following identifies our understanding of the project scope and D&K proposed services:

PROJECT DESCRIPTION

- A. The project consists of the replacement of the existing 72" x 65 ft washed out culvert with a new structure including headwalls, wingwalls, and road repairs.

BASIC SCOPE OF SERVICES

- A. Regulatory Coordination: In conjunction with the Town of Lowell, we would coordinate with Vermont ANR, VTrans, FEMA, and ACOE to identify design requirements associated with this Mine Road culvert crossing. As identified in the RFP, the FEMA determined culvert size is significantly smaller than that determined by VTrans which may affect ability to obtain a permit for the project. Since a VT ANR Stream Alteration Permit would be necessary for this culvert installation, it is assumed that VT ANR requirements would govern the culvert size. This will be discussed with Lowell and these entities at the outset and prior to design to make a final determination.
- B. Topographic Survey & Base Plan: A topographic survey will be performed for the roadway washout, including roadway approaches, channel elevation, and Lamoille River edge.
- C. Field Reconnaissance Evaluation: A field reconnaissance would be performed to identify additional site constraints which would need to be addressed in design. Based on the available site description it has been assumed that no soil borings would be necessary for the structure since suitable backfill would be utilized for the headwall and wingwall structures. If deemed necessary, D&K could provide this additional evaluation.
- D. Regulatory Permit Submittals: An ANR Stream Alteration Application would be prepared for submission with the design documents. This would incorporate the project scope description, VTrans Hydraulics, design documents, anticipated construction sequencing, and river erosion protection requirements.

E. Preliminary & Final Plan Development: Design documents and construction cost estimates will be prepared in accordance with VTrans and Lowell Class III roadway requirements utilizing VTrans standard specifications. Preliminary Anticipated design drawings.

- Cover & Location Plan
- General Notes & Legend
- Tie & Layout Sheet
- Site & Grading Plan
- Culvert Box Geometry
- Erosion Control Plan & Details
- Civil Details
- VTrans Standard Drawings

F. Construction Bid Support: Bid drawings and contract documents would be prepared for issuance of the project out to bid. Bid support would incorporate written advertisement, pre-bid contractor meeting, and evaluation of submitted bid with the Town.

UNDERSTANDING OF THE BASIC SCOPE OF SERVICES

A. The following assumptions have been made:

1. The VTrans and/or FEMA hydraulic sized structure will meet the requirements of the ANR Stream Alteration General Permit and a structural foundation or bridge type structure would not be necessary.
2. The permitting and/or FEMA coordination will not require unusual, elaborate or lengthy design, calculations, or meeting attendance.
3. The project would be designed only one time and any major redesign work would be charged as Additional Services.

B. The following items are specifically not included in the Engineer's scope of work:

1. Geotechnical soil borings for box culvert or wingwall foundation design.
2. Bid advertisement and printing costs.
3. Construction support services including on-site inspection services and construction testing or certifications.

COMPENSATION FOR BASIC SERVICES

The Client shall reimburse Engineer for Basic Services on a lump sum fee basis, including direct project expenses, in the amount of \$15,275. Engineer will bill Client monthly for services and direct project expenses.

Authorized Additional Services will be charged on the basis of the hourly rate schedule, plus direct project expenses. Reimbursable direct project expenses include, but are not limited to: overnight delivery service, document reproduction, travel/mileage, special consultants, and similar items.

This proposal, along with the attached Contract Terms and Hourly Billing Rate Schedule, represent the entire understanding between Client and Engineer with respect to this Project, and may only be modified in writing signed by both parties.

We appreciate the opportunity to submit this proposal/agreement and hope it meets with your approval. If there are any questions, please do not hesitate to contact me at (802) 728-7225.

Very truly yours,
DUBOIS & KING, INC.

Town of Lowell



David Conger, P.E.
Senior Project Manager

By: _____
Duly Authorized Agent

Accepted this _____ day of
_____, 20____

Attachments: Statement of Design Qualifications
Hourly Billing Rate Schedule
Contract Terms and Conditions

DuBOIS & KING, INC.
2013 Rate Schedule

Site/Civil, Structural, Mechanical, Electrical Engineering Services

| Personnel | Hourly Rate |
|---|-------------|
| Senior Project Manager, Project Director, Principal, P.E. | \$ 120.00 |
| Senior Mechanical, Electrical, or Structural Engineer, P.E. | \$ 100.00 |
| Mechanical, Electrical, or Structural Engineer, P.E. | \$ 90.00 |
| Mechanical, Electrical, or Structural E.I. | \$ 75.00 |
| Senior Designer | \$ 80.00 |
| Designer | \$ 70.00 |
| Technical/CADD Support | \$ 60.00 |
| Administrative Support | \$ 60.00 |

Notes:

1. We structure each project team to provide the client with sufficient senior level oversight, quality assurance and control, while assigning the work among our team to realize the most efficient use of the project budget.
2. **DuBois & King, Inc. is a multi-discipline professional services firm. Rates for Survey, Landscape Architecture, Permitting, and Construction Phase Services can be provided upon request.**
3. Rates for Expert Witness Assistance will be quoted upon request.
4. **Overtime labor provided by non-exempt personnel will be invoiced at one and one-half (1½) times the appropriate hourly rate as detailed above.**

REIMBURSABLE EXPENSES and OTHER DIRECT COSTS including, but not limited to, the following items will be invoiced at cost plus Administrative Fee of 12%:

1. Subsistence expenses.
2. Shipping charges and insurance for hardware, samples, field test equipment, etc.
3. Long distance telephone calls and faxes.
4. Transportation to and from jobs.
 - a. Internal Revenue Service standard mileage reimbursement rate for business travel.
 - b. The use of rental cars, trucks, boats, airplanes or other means of transportation at our cost.
5. Reproduction of drawings, reports, and documents.
6. Other direct materials and expenses.

CONTRACT TERMS AND CONDITIONS

SERVICES OF OTHERS

On occasion, project needs will require the specialized services of individual consultants or other companies to participate in a project. When considered necessary, these firms or other consultants will be engaged with your approval. We expect that you will enter into an appropriate agreement with them and be directly responsible for all costs incurred by them. For work performed under this agreement for the project, we will review their invoices and forward to you a recommendation for disposition of payment. Services which are subcontracted by DuBois & King, Inc., will be billed at direct cost plus 12% overhead and fee.

ON-SITE SERVICES DURING PROJECT CONSTRUCTION

Should our services be provided on the job site during project construction, it is understood that, in accordance with generally accepted construction practices, the contractor will be solely and completely responsible for working conditions on the job site, including safety of all persons and property during the performance of the work, and compliance with OSHA regulations, and that these requirements will apply continuously and not be limited to normal working hours. Any monitoring of the contractor's performance conducted by our personnel is not intended to include review of the adequacy of the contractor's safety measures in, on or near the construction site. It is further understood that field services provided by our personnel will not relieve the contractor of his responsibilities for performing the work in accordance with the plans and specifications.

RIGHT-OF-ENTRY

Unless otherwise agreed, you will furnish right-of-entry on the land for us to make the planned studies, explorations, or investigations. We will take reasonable precautions to minimize damage to the land from use of equipment, but have not included in our fee the cost for restoration of damage that may result from our operations. If we are required to restore the land to its former condition, this will be accomplished and the cost will be added to our fee.

SCHEDULE OF FEES

DuBois & King, Inc., at its sole discretion, reserves the right to periodically modify the hourly billing rates as detailed in its published Schedule of Fees and Contract Conditions to more accurately reflect the cost of doing business, with or without notice. Invoiced amounts will be based on the Schedule of Fees in effect at the time of invoicing.

INVOICES

Invoices may be submitted periodically and not less than monthly and are payable upon receipt. Interest of one and one-half percent (1-1/2%) per month will be payable on any amount not paid within fifteen (15) days. Any attorney's fees or other costs incurred in collecting any delinquent amount shall be paid by the Client. Upon request, documentation of reimbursable expenses included in the invoice will be provided in some format itemizing the amount in excess of \$50.00. DuBois & King, Inc., reserves the right to discontinue work on any account that is not paid on a current basis in accordance with these terms. If reassignment of project personnel occurs due to non-payment on an account, project schedule and fees may be adversely impacted.

TAXES

State and Local Sales, Use and License taxes will be billed at cost. Any taxes or fees, enacted by Local, State or Federal government subsequent to the date of this contract, and based on gross receipts or revenues, will be added to amounts due under this contract, in accordance with any such fees or taxes.

OWNERSHIP OF DOCUMENTS

All reports, field data and notes, laboratory test data, calculations, estimates, and other documents which we prepare, as instruments of service, shall remain our property. We will retain all pertinent records relating to the services performed for a period of six years following the completion of our services, during which period the records will be made available to you at all reasonable times and for reasonable retrieval and reproduction costs.

INSURANCE

DuBois & King, Inc., is protected by Worker's Compensation Insurance (and/or Employer's Liability Insurance), and by Comprehensive General Liability Insurance for bodily injury and property damage. We will furnish information and certificates upon written request. We will not be responsible for any loss, damage or liability arising from your negligent acts, errors and omissions and those by your staff, consultants, contractors and agents or from those of any person for whose conduct we are not legally responsible.

PROFESSIONAL LIABILITY

The Client agrees to limit DuBois & King, Inc.'s liability to the Client arising from DuBois & King, Inc.'s negligent acts, errors, or omissions, such that the total liability of DuBois & King, Inc., to all those named shall not exceed \$50,000 or the fee amount of the agreement whichever is greater. In the event the Client is unwilling or unable to limit our liability to this amount, this limitation may be waived for additional fee consideration dependent on the limit of project liability insurance coverage desired.

WARRANTY

In performing our professional services, we will use that degree of care and skill ordinarily exercised, under similar circumstances by members of the profession practicing in the same or similar locality. This warranty is in lieu of all other warranties expressed or implied.

COST ESTIMATES

DuBois & King, Inc., has no control over the cost of labor and material, or over competitive bidding or market conditions, and therefore does not guarantee the accuracy of our project or construction cost estimates as compared to contractor bids or actual cost to the Client.

LEGAL JURISDICTION

The parties agree that this contract shall be governed by and construed in accordance with the laws of the State of Vermont in connection with all matters arising out of this contract. The parties agree that the courts of the State of Vermont shall have exclusive jurisdiction over any legal proceeding arising out of this contract.

TOWN OF LOWELL

Statement of Design Qualifications
Mine Road Culvert

August 15, 2013

Submitted to:
Town of Lowell
Attn: Karen Clinger
2170 VT Route 100
Lowell, Vermont 05847

**DuBois
& King** inc.

Randolph, South Burlington, Springfield, Vermont • Bedford, Laconia, New Hampshire

BACKGROUND AND UNDERSTANDING

The Town of Lowell is seeking design proposals for the restoration of the Mines Road (TH 3) Bridge 26 destroyed during a May 29, 2013, flood event. The purpose of the project is an expedited evaluation, design, and bidding..

DuBois & King (D&K) has significant experience in the evaluation and design of large culverts under state and town highways. For decades, D&K has assisted VTrans and municipalities on the evaluation of alternatives for large and small roadway crossings. Since Tropical Storm Irene, D&K—and specifically the Mines Road Project Team—has assisted many municipalities and state and federal agencies in the evaluation, design, and construction oversight of culverts, bridges, and town highway systems destroyed by storm events and under FEMA jurisdiction. D&K conducts our engineering in general accordance with VTrans design standards.

Mines Road is a town-owned roadway with a paved width of approximately 22 feet. The culvert crossing at this location is Burgess Branch with an approximate 2.2-square-mile drainage area.

PROJECT APPROACH

Topographic Survey. Expedited survey will be necessary to provide the project team the base information to evaluate, permit, and develop contract document from. Joe Flynn, LS, brings 25 years of survey experience in Chittenden County and throughout Vermont. Joe and our in-house D&K survey crews are experienced in developing GPS located topography in accordance with VTrans requirements. These surveys may also be quickly utilized in comparison to environmental resource information, LiDAR data, and evaluations for permit submittals.

New Culvert Size (Hydrology and Hydraulics). The size of the new culvert is a key issue, as the existing culvert is about half of its minimum span length, based on the VTrans Hydraulics Evaluation, Vermont Agency of Natural Resource's Guidelines for the Design of Stream/Road Crossings for Passage of Aquatic Organisms in Vermont, and VANR River Management stream crossing requirements. The current May 15, 2013, Stream Alteration General Permit requirements call for structures to span at least 1.2 times bankfull width, and provide 30% embedment for Aquatic Organism Passage (AOP).

The VTrans hydraulic evaluation has identified that a minimum 14 ft wide x 6 ft high structure with AOP embedment and 70 SF of waterway would meet these requirements.

Regulatory Permit Submittals. The Vermont Agency of Natural Resources, River Management Section and Wetlands Section, and the U.S. Army Corps of Engineers will have regulatory jurisdiction over this project. David Conger, PE, Project Manager, coordinated reviews and permit submittals with those agencies for five Irene-damaged crossings in the Town of Mendon to meet these requirements. The VTrans hydraulic capacity requirements will be evaluated in conjunction with the VT ANR Stream Alteration requirements to develop culvert details including headwalls, slope stabilization, and erosion control for submission to ANR. Initial evaluations indicate that the Stream Alteration requirements will govern culvert sizing, but this sizing would be coordinated with the Town and FEMA prior to initiating design. Based on the VTrans field evaluation, a modern, bankfull type structure that incorporates AOP features has been identified.

Design Plans Development. Project Manager/Lead Engineer David Conger, PE under a Master Service Agreement with the Town of Mendon has been acting as both the Town's Project Engineer as well as providing support scope of work justifications to meet FEMA requirements in their Irene recovery efforts. This MSA has covered six stream crossings (ranging from a 60-inch culvert to a 50-foot bridge) and a 60-foot vertical roadway embankment failure. David has been D&K's lead in providing the Town's FEMA Scope of Work requests and appeals to meet current Codes and Standards through mitigation funding options. Through this experience, he brings a deep understanding of the necessary alternatives evaluation and project scope development for a project subject to FEMA reimbursement.

FEMA recovery reimbursement requirements are primarily focused upon the least costly replacement alternative which meets adopted Codes and Standards requirements. Through the evaluation of the site conditions, regulatory requirements and identified hydraulic conditions, a project design will be developed that allow for FEMA approval of eligibility. Items which might also require additional mitigation funding would be flagged in this process for Town and FEMA review.

FIRM OVERVIEW

Founded in 1962, DuBois & King is a Vermont-based, consulting engineering firm providing multidisciplinary planning, design, and construction phase services to federal, state, and municipal clients. We have offices in South Burlington, Randolph, and Springfield, Vermont, and Bedford and Laconia, New Hampshire. The firm employs approximately 80 engineers, scientists, planners, designers, surveyors, technicians, permitting specialists, and support personnel.

At D&K, 50 years of experience and expertise in transportation, water and natural resources, dams, water supply, and wastewater provide the foundation for the engineers and designers who make up the firm's practice. Project engineering teams are comprised of specialists—including fluvial geomorphologists, hydrologic and hydraulic engineers, structural engineers, aquatic and terrestrial biologists, construction phase managers, registered land surveyors, and landscape architects—to provide comprehensive project services. In-house services include:

- Roadway and Bridge Design
- Transportation Planning
- Traffic Analysis & Signalization
- Environmental Clearances (NEPA) & Permitting
- Public Participation
- Utility Identification & Coordination
- Right-of-Way
- Construction Cost Estimating
- Drainage, Stormwater Management & Hydraulic Design
- Survey
- Landscape Design
- Pedestrian Facility Design
- Highway Resurfacing
- Construction Management & Inspection

We will apply the knowledge from our prior and ongoing experience working with the Vermont Agency of Transportation, Vermont Agency of Natural Resources, and municipalities to successfully develop this project. DuBois & King's dedicated and knowledgeable staff offer all of the expertise needed to successfully complete the evaluation, design, permitting, bid, and construction phases of this project.

PROJECT TEAM

DuBois & King's project team assigned to this project has extensive culvert and roadway design and water resources engineering experience. We bring expertise in watershed assessment, culvert design, permitting, and public involvement. A brief introduction to each team member follows. Resumes are located behind the "Professional Resumes" tab of this document. For information about D&K's past projects requiring similar services, please see the Representative Experience section of this document. References for the projects are provided at the end of this section.

David Conger, PE, Project Manager/Lead Engineer, has more than 20 years of experience supporting Federal, State, and municipal clients as a Project Manager and Civil Engineer involved in management, design, coordination, and execution of civil engineering projects. His experience encompasses hydrology and hydraulics, erosion and sedimentation control design and permitting, environmental assessments, scoping, and drainage.

David is currently managing five bridge/culvert replacement projects for the Town of Mendon following damage caused by Tropical Storm Irene. As Project Manager, David will provide overall project direction and manage the day-to-day development of the project. David will be the primary point of contact for the Town of Lowell.

Matthew T. Murawski, PE, Senior Hydrologist, has 16 years of experience combining the principles of watershed hydrology, hydraulic engineering, fluvial geomorphology, and environmental permitting to solve lake- and river-related problems. He has managed and been the technical lead on numerous culvert replacement, stream channel relocation and restoration, stormwater drainage designs, shoreline stabilization and erosion control, and geomorphic assessment projects. Matt's recent relevant projects include culvert replacement projects in Fayston and Rochester and in Odell and Lincoln, New Hampshire. He has a background in fluvial geomorphology and natural channel design and is adept at developing culvert options. Matt will oversee hydrologic and hydraulic assessment and assist the Project Manager in evaluating the design.

Joseph R. Flynn, LS, Senior Land Surveyor, is a licensed Vermont surveyor who brings 23 years of experience on civil/site design projects. Joe has extensive experience surveying throughout Vermont. In addition to topographical surveys, he has conducted boundary surveys including traversing, monumentation, deed research, boundary analysis, computations, and final plat review. He has provided construction layout for roads, buildings, and sewer lines. Joe recently oversaw the survey for four emergency culvert replacement and/or slope stabilization projects for the Vermont Agency of Transportation. Joe will supervise all required survey for this project.

PROFESSIONAL REFERENCES

We encourage Lowell to contact our references to inquire about D&K's responsiveness, the quality of our services, and our ability to manage schedule and cost.

Client: Town of Williston
Project: Allen Brook Flow Restoration
Contact: Bruce Hoar, DPW Director
Phone/Email: 802.878.1239 or bhoar@willistontown.com

Client: Town of Mendon
Project: Ongoing Irene Recovery Projects
Contact: Sarah Tully, Town Administrator
Phone/Email: 802.775.1662 ext 2 or mendonadmin@comcast.net

Client: City of Burlington
Project: Lake Champlain Outfalls
Contact: Steve Roy, Facility Manager
Phone/Email: 802.865.7258 or sroy@ci.burlington.vt.us

Client: Town of Warren
Project: Plunkton Road Bridge Replacement
VT Route 100, Bridge #165
Contact: Barry Simpson, Director of Public Works
Phone/Email: 802.496.2709 ext 29 or forevermont@hotmail.com

Client: Vermont Agency of Transportation
Project: Chimney Hill Bridge Replacement, Wilmington
Contact: Ande DeForge, VTrans Project Supervisor
Phone/Email: 802.828.3975 or ande.deforge@state.vt.us.

Client: Vermont Agency of Transportation
Projects: Geomorphology and Slope Stabilization Following Tropical Storm Irene
Contact: Chris Slesar, Environmental Specialist Supervisor
Phone: 802.828.5743

EDUCATION

B.S., Civil Engineering,
University of Vermont, 1992

REGISTRATIONS

Professional Engineer: VT 7689
Professional Engineer: NY 79648

Mr. Conger has more than 20 years of experience in transportation and civil engineering for municipal, private, and federal clients. David has served as Project Manager on numerous intersection and corridor scoping studies, as well as major transportation studies related to environmental impact statement evaluations. David is thoroughly familiar with transportation planning and the need for comprehensive public involvement to accomplish these evaluations.

Infrastructure Improvements, Departments of Public Works and Parks and Recreation, Burlington, VT. Project Manager for ongoing infrastructure improvements to roadways, park/roadway drainage, and athletic fields. Projects include:

- **Lake Champlain Culvert Outfall Restoration.** Project Manager for design evaluation of two existing culvert outfalls currently eroding beach area, shoreline, and presenting unsafe conditions due to rusting CMP across the beach. Provided evaluation summary of multiple alternatives to remove the CMP and replace with splash pads to enhance flow conveyance, infiltration, and erosion control.

Wheelerville Road Bridge #11, Mendon, VT. Project Manager for the rehabilitation of Bridge #11 which closed after a post-Irene structural safety inspection. This 14.6 ft by 19 ft girder structure bridge spans Eddy Brook, saw significant flow increases. The bridge roadway approach was damaged, but the structure itself was not. Funding was provided by the State of Vermont Town Highway Structure Program Grant. Design rehabilitation included replacement of one abutment and reuse of an existing, precast concrete, voided slab, deck beam superstructure from another bridge damaged during the storm. Modified bridge geometry incorporated meeting Q25 design flows and obtaining a Stream Alteration Permit from VT ANR.

Upper Notch Road, Mendon, VT. Project Manager for the rehabilitation evaluation of two damaged locations along the Upper Notch Road. Developed FEMA scope of work requests for repair of a significant embankment failure and damaged Bridge #22. Due to the significant potential for future embankment failures, three alternative relocation concepts were developed. The preferred alternative was for closure of the Upper Notch Roadway and conversion of a legal trail between Wheelerville Road and Upper Notch Road into a Class III roadway, bypassing the two failed locations.

Medway Bridge #25, Mendon, VT. Project Manager for the replacement of Medway Bridge #25, which incurred significant damage to the roadway approaches and the bridge from Tropical Storm Irene. The existing 26-ft span, precast concrete, voided slab deck beam bridge was inadequate for Q25 storm events and required HEC-RAS evaluation of the upstream and downstream channel to address extreme storm events. Prepared FEMA application and obtained full replacement funding for a new 46-ft replacement structure, roadway approaches, and stream channel modifications to accommodate Q25 storm flows. Full bid packages, advertisement, and contractor selection services will be provided.

Wheelerville Road Double Culvert, Mendon, VT. Project Manager for the replacement of a double, 4-ft barrel culvert penstock along Wheelerville Road displaced by approximately 5 ft. Prepared FEMA funding application for aquatic organism passage-friendly, clear-span 10 ft by 4 ft box culvert with baffles. The replacement design incorporated the box culvert, precast concrete headwalls, and roadway realignment. Modified geometry incorporated meeting Q25 design flows with a Stream Alteration Permit. Provided full bid packages, advertisement, and contractor selection services.

Woodward Road Pipe Arch Culvert, Mendon, VT. Project Manager for the replacement of the Woodward Road culvert (12 ft pipe arch) and repair to the roadway which were damaged during Tropical Storm Irene. Floodwater flows not only affected the roadway, but also bypassed the pipe and small headwalls and heaved a significant bottom section of this multi-plate pipe arch. Alternatives considered included: repair the culvert in place; replace the culvert with a concrete arch structure; and replace the culvert with a low profile CMP arch. Prepared FEMA funding application for a clear-span 20 ft by 9 ft CMP arch with natural channel bottom meeting AOF and Q25 requirements. Full bid packages, advertisement, and contractor selection services will be provided.

Wright Road Culvert, Mendon, VT. Project Manager to replace a culvert (30-inch pipe) damaged during TS Irene. Prepared FEMA funding application for a 60-inch, CMP culvert with precast concrete headwalls and wingwalls. Headwalls and wingwalls were integral to the crossing, which incorporated roadway cuts in excess of 15 ft and a channel slope of 13% on a narrow, Class III roadway. Full bid packages, advertisement, and contractor selection services were provided.

EDUCATION

B.S., Watershed Science,
Colorado State University, 1996

M.S., Agricultural Engineering,
Texas A&M University, 2001

REGISTRATIONS

Professional Engineer: VT 56185

Mr. Murawski is a Hydrologist with 16 years of experience in water resource planning, stormwater management, erosion control, drainage, and permitting. He is thoroughly familiar with New Hampshire's and Vermont's stormwater and river management rules and procedures. His knowledge also includes Federal regulations including NPDES, the Clean Water Act, and Corps of Engineers permits. Matthew is skilled in a variety of hydrologic, hydraulic, and water quality models including HEC-HMS, HydroCAD, HEC-RAS, QUAL2E, HSPF, and SWAT.

Bridge & Culvert Hydrologic & Hydraulic Evaluations, Federal & Municipal Clients, NH & VT. Senior Hydrologist for the hydrologic and hydraulic evaluation, design, and permitting of replacement culverts and bridges for Federal and municipal clients including:

- Four (4) USFS Bridges, Bethlehem, NH
- Huntley Road Culvert, Westford, VT
- Bellevue Street Culvert, Keene, NH
- Water Street Culvert, Keene, NH
- Roxbury Road Culvert, Keene, NH
- Pike Forest Road Culvert, Odell, NH
- Edwards Mill Pond Road Culvert, Chester, NH
- Northwood Road Bridge, Strafford, NH
- Private Surry Mountain Bridge, Surry, NH
- Johnson Hill Road, Royalton, VT
- Union Avenue Bridge, Laconia, NH
- Urstadt Road Culvert, Royalton, VT
- North River Bridge, Whitingham, VT
- Quechee Covered Bridge, Hartford, VT
- Emerald Lake Road Culvert, Hillsborough, NH
- Putnam Road Bridge, Temple, NH
- Nason Brook Culvert, Rochester, VT
- Village Road Bridge, Newbury, NH
- Sutton Road Bridge, Newbury, NH
- Fremont Road Bridge, Chester, NH
- West Street Culvert, Randolph, VT
- Nine (9) USFS Bridges, White Mountain NF, NH
- Parade Road/Anthony Drive Culverts, Laconia, NH
- Randall Road Culvert, Fayston, VT
- North Fayston Road, Fayston, VT
- Mount Tabor USFS Bridge, Mt. Tabor, VT
- Maude Laura Lane Culvert, Royalton, VT
- Evans Road Bridge, Wentworth, NH
- Happy Hollow Road Culverts (2), Royalton, VT
- South Road Bridge, Harrisville, NH
- Route 100/VTrans Bridge #165, Warren, VT
- Places Mill Road Bridge, Alton, NH
- Marsh Brook Culvert, Rochester, VT
- Johnson Brook Culvert, Rochester, VT

West Street Culvert Replacement, Braintree, Brookfield, Randolph, VT. Senior Hydrologist for replacement of an undersized culvert to promote aquatic organism passage and sediment transport. Conducted screening-level geomorphic assessment to document sediment transport patterns, channel evolution processes, and natural channel dimension. Directed hydrologic and hydraulic analysis to simulate flows through the culvert. Evaluated both open-bottom and closed-bottom culverts. Recommended 14-ft-wide precast concrete box culvert, which exceeded bankfull width, with bed-retention sills.

East Side Road Culvert Replacements and Roadway Relocation, Trout Unlimited, Lincoln, NH. Project Manager and Senior Hydrologist for the replacement of four stream crossings and the relocation of a half-mile section of roadway in the White Mountains. Identified AOP-friendly replacement alternatives for storm-damaged and undersized culverts. Replacement structures ranged in size from 16 to 36 ft. Directed hydrologic and hydraulic analysis and geomorphologic assessment. Designed bank stabilization measures. Directed relocation of new roadway onto a new alignment further removed from the river. Directed plan development and permit application. Prepared cost estimates and bid documents. Directed and performed construction observation.

Horseshoe Brook Stream Crossing, Trout Unlimited, Odell, NH. Project Manager and Senior Hydrologist for the design of a replacement stream crossing in Nash State Forest after a storm event swept the 48 inch metal culvert downstream. Identified three AOP-friendly, replacement alternatives and designed the selected replacement structure, a corrugated metal pipe arch. Directed hydrologic and hydraulic analysis, geomorphologic assessment, plan development, and permit application. Prepared cost estimates and bid documents. Directed and performed construction observation.

EDUCATION

A.A.S., Land Surveying,
Paul Smith's College, 1987

REGISTRATIONS

Land Surveying: VT 714

Mr. Flynn is a licensed Vermont surveyor with 23 years of experience on civil/site and transportation design projects. He has extensive experience in surveying throughout Vermont. In addition to topographical surveys, Joe has conducted boundary surveys including traversing, monumentation, deed research, boundary analysis, computations, and final plat review. He has provided construction layout for roads, buildings, and sewer lines.

ALTA/ACSM Land Title Survey for Lowes, Essex Junction, VT. Full overview and completion for 6-acre development. Deed research, field reconnaissance, boundary traverse, evaluation of record documents with existing monuments, review of attorney title opinion for encumbrances, layout of new facility, and drafting of all property plats.

Post-Irene Recovery Slope Stabilization Projects, Vermont Agency of Transportation, Various Locations, VT. Senior Land Surveyor for multiple roadway slope stabilization and culvert replacement projects following damage caused by Tropical Storm Irene. Performed job set-up, reviewed survey details with Project Manager, and oversaw survey crews for detailed topographic survey. Utilized MicroStation InRoads to perform a final QA/QC review of existing conditions plans. Task orders under this contract totaled approximately 3 miles and included:

- **Route 125, Hancock**
- **1500' along Route 100b in Moretown**
- **2300' along Route 14 in Sharon**
- **5800' along Route 125 in Ripton**

Culvert Repair and Replacement, Vermont Rail, Vermont Agency of Transportation, New Haven and Ferrisburg, VT. Senior Land Surveyor for four culvert repair and replacement projects in Addison County. Performed job set-up, reviewed survey details with Project Manager, and performed the topographic survey field work, created base mapping in MicroStation and InRoads and perform a final QA/QC review of existing conditions plans.

Hinesburg Silver Street Bridge Rehabilitation, Hinesburg, VT. Comprehensive field survey for bridge replacement over the LaPlatte River. Field location of existing structure, river location, highway approach, and existing configuration. Reduction of survey data and completion of existing conditions base plan with MicroStation and InRoads.

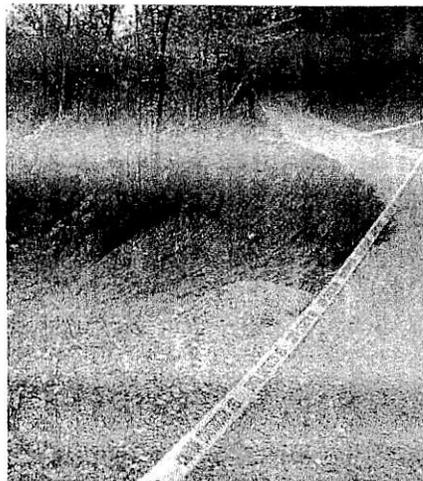
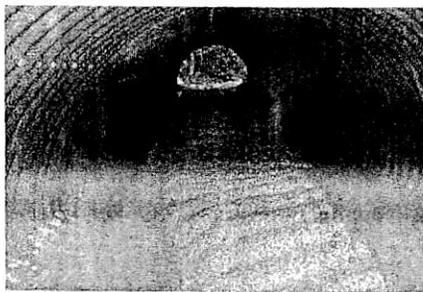
Ayers Island Dam, Bristol, NH. Field survey services for structural evaluation of Ayers Island Dam. Collection of information on the interior and exterior of a 1930s dam on the Pemigewasset River. Use of robotic survey instrument with reflectorless measurements to obtain the configuration of the interior dimensions of the support columns so that it may be upgraded to sustain an earthquake.

Marriott Hotel, Colchester, VT. Field survey services for structural evaluation of ground movement in preparation and design of a 30' high retaining wall. Daily and weekly collation of data and evaluation of the data for any substantial earth movement.

Resurvey of Route 17, VTrans, Addison, VT. Senior Land Surveyor responsible for acquisition of all relevant survey and historical documents in regards to Route 17 location and width. Assembly of the information in an archival and reviewable manner and evaluation of the information in conjunction with the actual location of the highway and its respective moments. Report the conclusions and final plans to VAOT for review and representation at public hearings.

Verizon Wireless, Various Locations, VT. On-site survey services for proposed and existing sites in Hubbardton, Essex Junction, Sharon, Jericho, Jeffersonville, New Haven, Wilder, Burke Mountain, and Jay Peak. Services included: topographical survey, tower profiles, review of record deeds with existing monuments, compilation of field data, and base mapping.

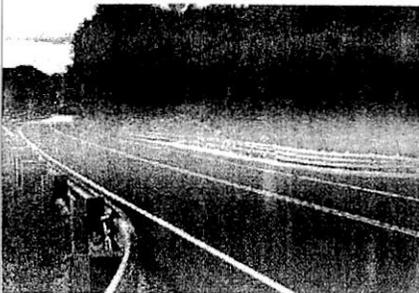
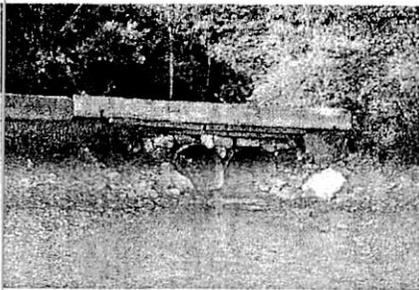
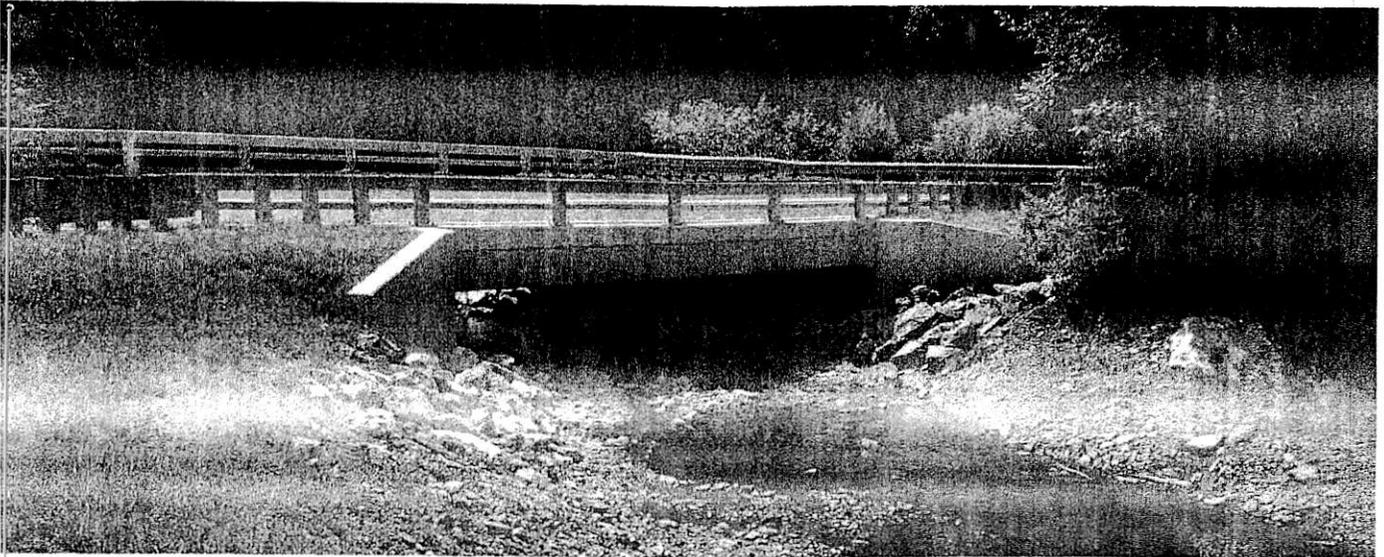
General Engineering Services, VTrans, I-89 St. Albans to Swanton, VT. Six miles of interstate survey for both northbound and southbound including traverse, topographic and benchline, and 3D survey within the existing ROW for roadway improvement project.



Mendon Master Services Agreement Mendon, Vermont

Master Service Agreement (MSA) to provide project management oversight, FEMA coordination, engineering, bid documents, and construction phase services for repairs to transportation infrastructure in the Town of Mendon. Projects included roadways, bridges, and culverts damaged by Tropical Storm Irene. Six projects are in various phases of completion:

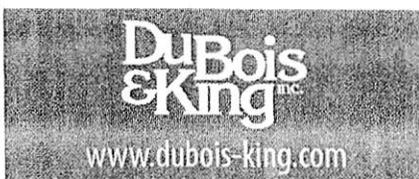
- **Bridge #11.** Design to replace a 14.6' by 19' girder structure spanning Eddy Brook. New structure is a prestressed concrete voided box beam structure to withstand Q25 storm flows.
- **Upper Notch Road and Bridge #22.** Evaluation and design of a permanent relocation of the roadway to address slope failure and rehabilitation of a damaged girder bridge.
- **Medway Bridge #25.** Evaluation of repair/replacement options for a prestressed concrete box beam bridge. Design is proceeding on a widened span bridge (46' by 10'), approach rehabilitation, and stream channel grading to accommodate Q25 storm flows.
- **Wheelerville Road Double Barrel Culvert Penstock.** Roadway realignment and replacement of a double barrel culvert penstock with a natural channel bottom structure via use of a precast box structure (10' by 4') with baffles.
- **Woodward Road Culvert.** Evaluation and replacement of a pipe arch culvert with a natural channel bottom crossing widened to 20' for Q25 flows. New structure is a multi-plate arch structure with concrete headwalls and a foundation kneewall.
- **Wright Road Culvert.** Alternatives evaluation to replace a culvert to meet current environmental requirements. New 60" culvert with headwalls for Q25 flows.

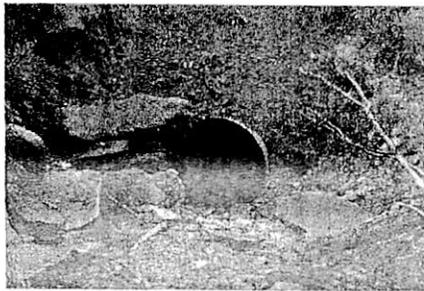
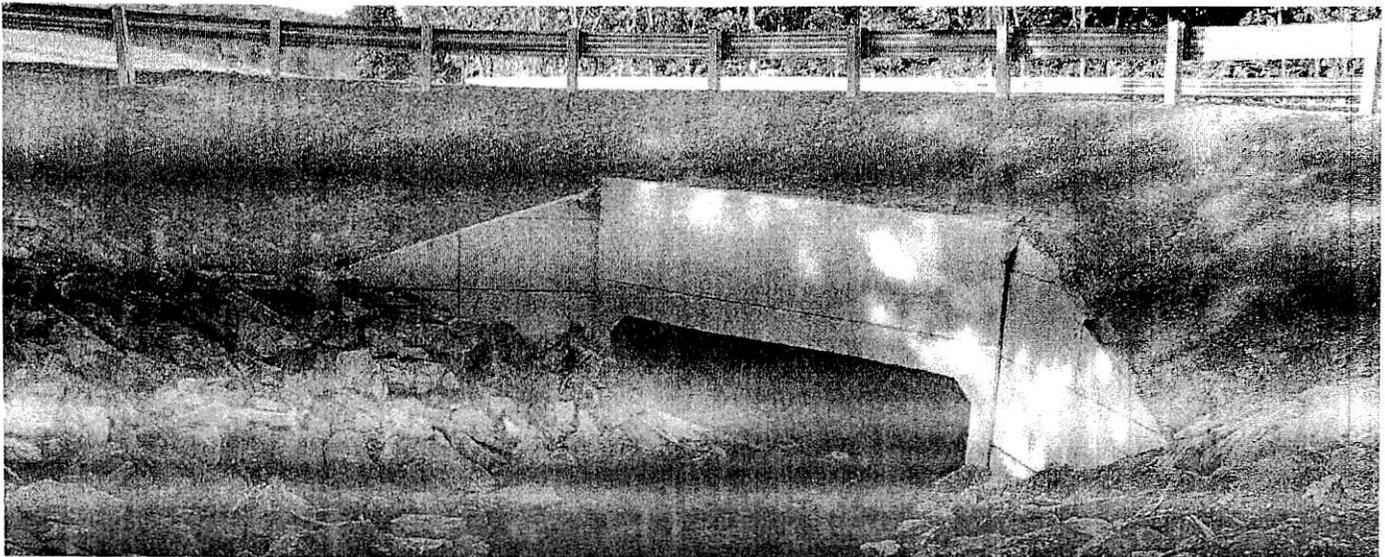


VT Route 100, Bridge #165 Vermont Agency of Transportation Warren, Vermont

Bridge #165 was heavily damaged during Tropical Storm Irene and lost one of the two concrete deck slabs. VTrans temporarily created a fill over structure by installing two large culverts; this significantly reduced the hydraulic capacity of this structure. DuBois & King (D&K) was contracted by VTrans to evaluate the condition and safety of the bridge. D&K recommended that the bridge be replaced prior to spring run-off. VTrans concurred with the recommendation and it was determined that a new permanent structure should be constructed before the spring runoff.

DuBois & King conducted a hydraulic study and retrieved geotechnical soil borings, which were used in an alternatives analysis. D&K compared cost and constructability of alternatives, as well as availability of bridge components. Consideration was given to availability of precast components to fit construction phasing. Scope included a full topographic survey, design of a new 3-sided, precast concrete rigid frame structure, and plans and cost estimates for the removal of the existing structure and the construction of a new permanent structure. The bridge was designed to allow phased construction, allowing one lane of traffic to be maintained at all times. D&K staff designed the detour layout and provided construction oversight.



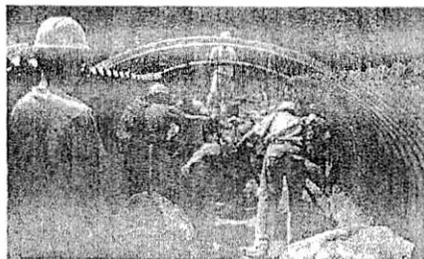
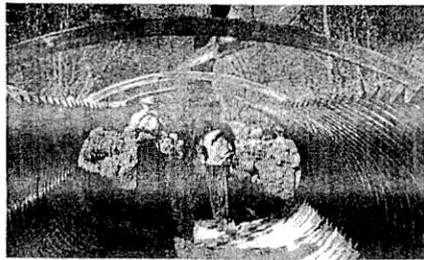
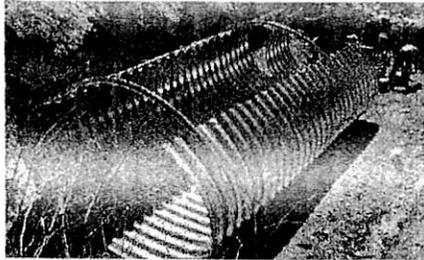
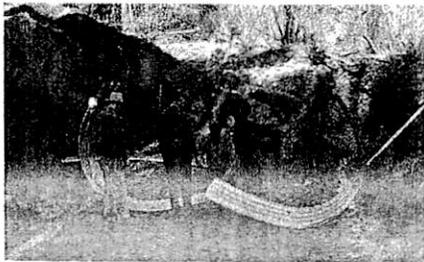


Culvert Replacement, West Street Randolph, Braintree, and Brookfield, Vermont

Evaluation, design, and construction-phase services for the replacement of an undersized stream culvert to promote aquatic organism passage and sediment transport. The existing 3-foot diameter culvert had inadequate hydraulic capacity, which had led to significant sediment deposition upstream and scour downstream. Downstream scour left the outlet perched above the channel, forming an obstacle to aquatic organism passage. Following a geomorphic assessment to determine natural channel dimensions, D&K identified and evaluated several alternatives. The selected option was a 14-foot-wide precast concrete box culvert with bed retention sills.

DuBois & King's Water Resources team performed the following tasks:

- Coordinated and met with State regulators.
- Conducted stream geomorphic assessment.
- Completed topographic site survey.
- Computed peak stream flows and simulated flows with HEC-RAS.
- Designed replacement culvert with bed retention sills.
- Prepared plans and specifications.
- Provided bid-phase and construction inspection services.

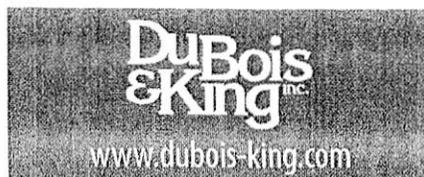


Horseshoe Brook Bridge Design/Construction Trout Unlimited Odell, New Hampshire

During 2011, a storm overtopped and eroded Nash Stream Road in Nash State Forest, and swept a 48" metal culvert crossing downstream. DuBois & King identified viable replacement alternatives and designed the selected replacement structure. All alternatives were AOP-friendly, fully spanned the bankfull channel width, and provided a natural channel bottom, including a steel superstructure bridge on concrete block abutments, a corrugated metal arch on abutments, and a recessed corrugated metal pipe arch culvert. The corrugated metal pipe arch was selected due to its low cost and speed of installation.

Professional Services

- Topographic survey and basemapping
- Hydrologic and hydraulic analysis
- Site geomorphologic assessment
- Evaluation of three replacement alternatives, including bridges/culverts
- Design of culvert placement, roadway profile, bank stabilization, and channel restoration
- Supporting documents for wetlands permitting
- Preparation of construction documents
- Construction cost estimates
- On-site resident engineering support during construction





East Side Road Stream Crossings and Road Relocation - Trout Unlimited Lincoln, New Hampshire

DuBois & King evaluated alternatives and designed four stream crossings and a half-mile of relocated roadway in the White Mountains National Forest following damage by Tropical Storm Irene. The project team identified viable replacement alternatives, and designed the selected replacement structures for both damaged and undersized culverts. All alternatives were AOP-friendly, fully spanned the bankfull channel widths, provided natural channel bottoms, and were suitable to support logging trucks. Bridge superstructure options considered included prefabricated steel, precast concrete, and corrugated arches. Replacement structures ranged from 36' to 16' spans. A 2,200-foot section of roadway adjacent to the river was relocated to a new alignment away from the river, and another half-mile of roadway was repaired.

Professional Services

- Topographic survey and basemapping
- Hydrologic and hydraulic analysis
- Site geomorphologic assessment
- Evaluation of three replacement bridge alternatives and new roadway
- Design of bridge placements, roadway relocation and repair, bank stabilization, and channel restoration
- Supporting documents for wetlands permitting
- Preparation of construction documents
- Construction cost estimates
- On-site resident engineering support during construction
- Plans/documents utilized FHWA and USDA Forest Service specifications



Civil Engineers • Land Use Planners

August 16, 2013

Karen Clinger, Town Clerk
Town of Lowell
2170 VT Route 100
Lowell, VT 05847

REVIEWED

By Bob Melillo, FEMA PS at 2:59 pm, May 27, 2015

**Re: Proposal for Engineering & Permitting Services
Mines Road Culvert Replacement (Burgess Branch) , Lowell, Vermont**

WP#13-038

Dear Karen,

Please find below our proposed scope of services and cost estimate to complete the surveying, site design & engineering, permitting, construction cost estimation, and construction bidding oversight associated with the proposed culvert replacement project along Mines Road in Lowell, Vermont. It is our understanding that the acceptable design parameters of the proposed replacement culvert are being finalized by Vermont Agency of Natural Resources (ANR), the Vermont Agency of Transportation (VTrans), and the Federal Emergency Management Association (FEMA). Ruggiano Engineering, Inc. will complete the site plan and culvert design based on the outcome of their correspondence and approvals.

SCOPE OF SERVICES

Phase 1 – Surveying

1. The topographic survey work will include any and all existing site features, utilities, drainage structures, buildings, etc., to be used for the basis of the proposed site design. Ruggiano Engineering Inc. will subcontract Button Professional Land Surveyors to complete this work. The survey team will collect field data sufficient enough to produce 1-foot contour intervals at least 50 feet beyond the location of the existing culvert and will set a benchmark to aid in construction operations. Please find attached a proposal from Button Professional Land Surveyors for your reference.

Phase 2 – Site Design & Engineering

1. Design a proposed culvert replacement based on the approved design parameters by the Vermont Agency of Natural Resources (ANR), the Vermont Agency of Transportation (VTrans), the Federal Emergency Management Association (FEMA), and the Army Corp of Engineers (ACOE).
2. Prepare a set of plans illustrating the existing conditions and the proposed site plan, including the proposed culvert and headwalls, other proposed drainage & grading,

proposed modifications to existing utilities (if necessary), and various other construction details.

3. Conduct a site visit to evaluate and confirm the various aspects of the site and surrounding areas, including access to the site, existing utilities, grading, stormwater drainage, and proximities to existing structures.
4. Design temporary and permanent erosion control measures for construction of the proposed site improvements.
5. Prepare specifications for construction.

Phase 3 – Permitting

1. Prepare and submit an application to the Vermont Department of Environmental Conservation, Watershed Management Division, for a Streams Alteration permit.
2. Prepare and submit an application to the Army Corps of Engineers for coverage under the Vermont General Permit. This assumes that the proposed construction will result in the project being classified as Category 2 activity.

Phase 4 – Construction Cost Estimation

1. Provide an estimation of construction costs based on the preliminary site design. The estimated costs will be based on recent similar types of work and/or on actual costs acquired from various suppliers or contractors. Please understand this will be an Engineer's Estimate only; actual construction costs can vary substantially based on fuel prices, raw material costs, time/schedule requirements, economic climate, and contractor work loads. Unforeseen conditions could also result in increased costs at the time of construction, which could exceed any contingency amounts included in the cost estimation. True costs will not be known until the work is competitively bid by contractors.

Phase 5 – Construction Bid Management

1. Prepare the construction bid documents and construction specifications for public solicitation of a general contractor to perform the work.
2. Coordinate with the interested bidders, including answering questions, conducting one (1) pre-bid site meeting, and submitting addendum items as necessary.
3. Coordinate with the Town of Lowell to acquire, evaluate and make recommendation of construction bids, including attendance of one (1) Town of Lowell Select Board meeting.

The following services are not included in this proposal, but can be provided upon request:

- a) Permit application fees, if required
- b) Hydraulic or hydrologic studies, if required
- c) Wetlands delineation or permitting, if required
- d) Environmental Site Assessment, if required
- e) Services of other consultants, if required
- f) Other design or permitting services not outlined above
- g) Services due to changes in the scope of the project or its design

ESTIMATED FEES

We have estimated the following fees for the above referenced services based on our attached Charge Rate Schedule:

| | |
|--|--------------------|
| Phase 1 – Surveying* | \$ 1,600.00 |
| Phase 2 – Site Design & Engineering | \$ 3,000.00 |
| Phase 3 – Permitting | \$ 1,200.00 |
| Phase 4 – Construction Cost Estimation | \$ 1,200.00 |
| <u>Phase 5 – Construction Bid Management</u> | <u>\$ 1,400.00</u> |
| Total estimated fees..... | \$ 8,400.00 |

* Please see attached proposal from Button Professional Land Surveyors

Actual fees will be based on man-hours expended in accordance with our current Charge Rate schedule (attached). Any work considered extra work or additional services not included in this proposal will be billed at an hourly rate, if it becomes necessary. Mileage and reproduction costs will be billed in addition to the quoted prices in accordance with our Charge Rate schedule. Invoices will be due and payable upon receipt and should be current at the time of submission.

If this proposal is acceptable, we would prepare a standard contract for services. We look forward to working with you toward a successful project. If you have any questions, please call us.

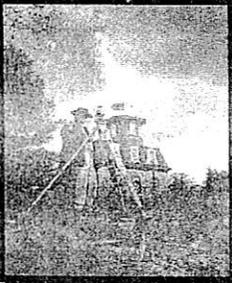
Sincerely,

Ruggiano Engineering, Inc.



Tyler R. Mumley, P.E.

Encl: Proposal from Button Professional Land Surveyors, Charge Rate Schedule



Button Professional Land Surveyors, P.C.

20 KIMBALL AVENUE, SUITE 203 NORTH
SOUTH BURLINGTON, VT 05403

(P) 802.863.1812 OR 800.570.0685
(F) 802.383.0456 (E) WWW.BAPLS.COM

1 LAKE STREET
ST. ALBANS, VT 05478

(P) 802.524.8555

LEONARD H. AMBLO, L.S. • CHRISTOPHER A. HAGGERTY, L.S. • VAUGHN C. BUTTON, L.S.

8/14/2013

Town of Lowell

RE: TOPOGRAPHIC SURVEY PER JCLOC10 Mines Road Culvert 26 Replacement Project

Thank you for the opportunity to offer our services relative to surveying your property in Lowell, VT. This service includes collection of sufficient ground data to create a working drawing for engineering and design of a replacement culvert of an existing culvert known as culvert 26, Mines Road.

We anticipate the following tasks and associated costs:

FIELD SURVEY: Collection of field data sufficient enough to produce 1 foot contour intervals 50 feet beyond the location of existing culvert 26 on Mines Road. Set benchmark to aid in construction. The vertical datum will be NAVD 88, geoid12a. \$1,300

OFFICE TASKS: Reduction of field data, drafting to produce working drawing with 1-foot contour intervals of the project area. Delivered on ACAD 2004 format to Ruggiano Engineering, Inc. \$300

D. REIMBURSABLES: Includes; copy fees, printing, survey points, etc.

TOTAL ESTIMATED COST OF THIS PROJECT: \$1,600*

*Please understand that this is an estimate, not a quote. The actual cost may be more of less than this amount due to many variables inherent to land surveying and as further explained below.

This estimate is based upon project descriptions during conversations with you and our experience with similar projects. The actual costs of the completed survey may be MORE or LESS than the amounts stated herein. Difficult terrain, thick vegetation, missing/destroyed monumentation, insufficient evidence to determine boundary line location or other similar complications may arise and significantly increase the costs to complete this survey.

Among other things, this proposal does not include any provision for boundary / property surveying, geodetic positioning, wetland mapping, construction layout, preparation or submittal of permit applications, property plat, etc.

A deposit of 25% of the estimated cost of this project (in this case, deposit is waived) is required prior to beginning work. Please notify Button Professional Land Surveyors, P.C. (BPLS) by signing the attached proposal copy, and include the deposit listed above if you accept this proposal and wish for us to proceed (by signing and returning the attached estimate, and by including the required deposit, the client and/or the person responsible for payment, agrees to the terms of this proposal). Please keep the proposal signed by a representative of BPLS for your records.

Full payment is due 30 days from the date of any invoice or statement. As standard practice, 1 ½ % of the unpaid balance will be added each month until the account is settled and payment of this interest shall be the responsibility of the client and/or person responsible for payment. The client and/or person responsible for payment shall be responsible and accountable for any attorney's fees and/or costs of collection in the event that said person fails to pay as agreed. The final Mylar and/or survey reports will not be released until all balances on this account are settled with Button Professional Land Surveyors, P.C. In recognition of the relative risks and benefits of this Project to both the Client and the Consultant (BPLS, PC), the risks have been allocated such that the Client agrees, to the fullest extent permitted by law, to limit the liability of the Consultant to the Client for any and all claims, losses, costs, damages of any nature whatsoever or claims expenses from any cause or causes, including attorneys' fees and costs and expert-witness fees and costs, so that the total aggregate liability of the Consultant to the Client shall not exceed the Consultant's total fee for services rendered on this Project. It is intended that this limitation apply to any and all liability or cause of action however alleged or arising, unless otherwise prohibited by law. All digital files (including, but not limited to AutoCAD drawing files and associated files etc), data contained therein (including, but not limited to points and point data) and other digital data (including, but not limited to, points lists, reduction lists, GPS data sheets etc.) shall remain property of BPLS.

We are prepared to proceed with field survey within 10 days after receiving your signed copy of this estimate as authorization.

If you have any questions or concerns regarding any of the items above, please contact us as soon as possible. This offer is valid until Oct 1, 2013.

Thank you and please call if you have any questions.

Very truly yours,

Leonard H. Amblo

Christopher Haggerty, L.S. Vermont, Class B Designer
Leonard Amblo, L.S. Vermont, P.L.S. New York
Jason M. Dattilio, L.S. Vermont

Please Print Name (Person responsible for payment)

Please Sign Name & Date (Person responsible for payment)

Cc: files
Culvert Replacement Project Mines Road.doc

MUNICIPAL CHARGE RATES
Effective January 1, 2012

Time:

| | |
|--|--------------------|
| Senior Engineer | \$108.00/hr |
| Project Manager/Structural Engineer | \$105.00/hr |
| Project Manager | \$ 90.00/hr |
| Project Engineer | \$ 75.00/hr |
| CAD Tech/Field Tech | \$ 56.00/hr |
| Administrative Assistant | \$ 35.00/hr |

Expenses:

| | |
|--------------------|--|
| Photocopies | .20/each |
| Prints | .40/SF |
| Mileage | .60/mile (Dependent on Gasoline Prices) |
| Other | Actual cost plus 20% |

Court Testimony & Depositions:

\$1,100.00 per Diem

\$ 800.00 minimum

Karen Clinger

From: Nathan Sicard <nate.res@myfairpoint.net>
Sent: Thursday, August 15, 2013 8:42 AM
To: kclinger@lowelltown.org
Subject: RFP Response - Mines Road Culvert Replacement (FEMA) - Due August 16, 2013
Attachments: RFP Response - Mines Rd Culvert Replacement - RES.pdf; _Certification_.htm

Hi Karen,

I have attached a RFP Response for the Mines Road Culvert Replacement Project.
Let us know if you have any issues with the pdf document.

Thank you,
Nate

Nathan P. Sicard, P.E.
Civil Engineer
Ruggles Engineering Services, Inc.
1667 Shadow Lake Road, Glover, VT 05839
Ph: 802 525-9130
C: 802 373-9903
www.rugglesengineeringservices.com

REVIEWED

By Bob Melillo, FEMA PS at 2:59 pm, May 27, 2015

1667 SHADOW LAKE ROAD
GLOVER, VT 05839
P 802 525 9130
RES@MYFAIRPOINT.NET



RUGGLES ENGINEERING SERVICES INC.

August 15, 2013

Town of Lowell
Attn: Karen Clinger
2170 VT Rte 100
Lowell, VT 05847

Re: Mines Road Culvert Replacement (FEMA)

Ruggles Engineering Services (RES) would like to offer a proposal for the Mines Road Culvert Replacement Project. Ruggles Engineering Services has the experience and the ability to complete the scope of work within the proposed schedule. RES has been a well-known engineering firm working throughout the Northeast Kingdom and northern New Hampshire for the past 20 years.

Our proposed price to complete the work is \$15,360. I have attached a breakdown of this price based on an estimated level of effort for each phase of the project. Ruggles Engineering is very familiar with culvert replacement projects. Generally we set up our projects to ensure complete and thorough preliminary engineering and design to produce quality plans and documents for bidding. We also have an excellent record for quality control with responsible construction oversight where our staff is onsite during milestones and critical periods of construction.

I have also attached a company profile and resumes of our professionally licensed staff that will be working on the project. Our staff has the experience in culvert replacement and knowledge of water resource engineering to develop a successful project in a timely manner.

I look forward to hearing from the Town.

Sincerely,

A handwritten signature in black ink, appearing to read 'Timothy J. Ruggles', written over a horizontal line.

Timothy J. Ruggles, PE
President

Enc. Breakdown of Estimated Time
Company Profile and Resumes

Estimated Level of Effort

Project: Mines Road Culvert Replacement (FEMA)

Client: Town of Lowell

Due Date: August 16, 2013

Ruggles Engineering Services, Inc., 1667 Shadow Lake Road, Glover, VT 05839, www.rugglesengineeringservices.com

| Task: | Staff Hours: | | | | | | | Total |
|--|---------------------|--------------------|---------|--|--|--|--|----------|
| | T. Ruggles, P.E. | N. Sicard, P.E. | Survey | | | | | |
| Preliminary Design Phase | | | | | | | | |
| Develop existing site plan | | | | | | | | |
| Site Topo | | | 10 | | | | | 10 |
| Prepare Existing Plan and Location Maps | 8 | 4 | | | | | | 12 |
| Environmental Permitting | | | | | | | | |
| Site Visit with ANR River Engineer | 4 | | | | | | | 4 |
| Correspond with USACE for permit review/compliance | 2 | | | | | | | 2 |
| Submit Environmental Permits with Design Plans | 4 | 6 | | | | | | 10 |
| Conceptual Plans | | | | | | | | |
| Design and Prepare Conceptual Plans | 12 | 4 | | | | | | 16 |
| Review Preliminary Design with Town/Agencies | 6 | | | | | | | 6 |
| Design Phase | | | | | | | | |
| Develop Project Documents and Plans | | | | | | | | |
| Proposed Plan, Sections, Elevations | 24 | 8 | | | | | | 32 |
| General Plans, Notes, Details | 8 | 8 | | | | | | 16 |
| Prepare Final Cost Estimate | 6 | 4 | | | | | | 10 |
| Review Final Design with Town/Agencies | 4 | | | | | | | 4 |
| Bid Phase | | | | | | | | |
| Prepare Requests for Bid | 3 | 3 | | | | | | 6 |
| Review Bids/Recommendations | 4 | 1 | | | | | | 5 |
| Meet with Town for Recommendation for Award | 4 | | | | | | | 4 |
| Construction Phase | | | | | | | | |
| Corresp. With Parties to initiate construction | 3 | | | | | | | 3 |
| Initial Baseline Control Layout | | | 8 | | | | | 8 |
| Construction Oversight and Inspection (estimate 4 weeks construction period) | 24 | 8 | | | | | | 32 |
| Corresp with Permitting Agencies | 4 | | | | | | | 4 |
| Closeout | 6 | 2 | | | | | | 8 |
| TOTALS | | | | | | | | |
| Total Hr | 126 | 48 | 18 | | | | | 192 |
| Rate | \$75 | \$70 | \$125 | | | | | |
| Total Cost | \$9,450 | \$3,360 | \$2,250 | | | | | \$15,060 |
| Reimbursible (mileage) est. from Glover | | | | | | | | \$ 300 |

| TOTAL ENGINEERING SUMMARY BY PHASE | |
|------------------------------------|--------------------|
| Preliminary Design Phase | \$4,930.00 |
| Design Phase | \$4,530.00 |
| Bid Phase | \$1,105.00 |
| Construction Phase | \$4,475.00 |
| Mileage | \$300.00 |
| Total Proposed Price | \$15,360.00 |



RUGGLES ENGINEERING SERVICES INC.

COMPANY PROFILE

RUGGLES ENGINEERING SERVICES, INC.

1667 SHADOW LAKE ROAD

GLOVER, VT 05839

COMPANY PROFILE:

Ruggles Engineering Services, Inc. (RES) was formed in 1992 by Timothy J. Ruggles, P.E.. Since 1992 RES has provided engineering, consulting and testing services to clients throughout Vermont and New Hampshire. RES has been operated as a small firm with low overhead and high efficiency. RES is able to offer very competitive rates and personalized service for our clients. RES currently operates at 1667 Shadow Lake Road in Glover, Vermont. Previously RES has maintained offices in St. Johnsbury, Vermont.

SERVICES:

RES offers engineering and consulting services for a wide range of clients. These services include planning, permitting, design and construction including:

Highway Construction including Town Highway Re-alignment, Bridge, Box Culvert and Culvert replacement

Subdivisions and Site Plan Development

Stormwater Treatment Systems

Contractor Services:

Erosion Control Plans.

Stream Diversion Plans.

Temporary Sheet Piling Designs.

Traffic Control Plans.

Mining Activities

Water Systems Design and Consultation

Onsite Wastewater Disposal Systems.

Site Evaluations

VT Land Use (Act 250) environmental permitting applications.

Wetland Delineation

Soils and Compaction testing (formerly)

Temporary Bridge Designs

Owner representative during project permitting, including working with ANR, VTRANS and USACE.

TECHNOLOGY:

RES provides engineering and consulting services with the latest equipment and technology including electronic surveying equipment and data collection equipment. (Total Station, including a Robotic Total Station for one man operation). The office maintains the latest versions of AutoCAD Civil 3D for accurate computations, engineering analysis and drawings. The office also maintains software such as HydroCAD, Quick-2, HEC-RAS2 for hydrologic modeling, AutoTurn for vehicle movement simulation, Civil Soft for sheet pile analysis and design and the latest office products including Adobe X Pro, Microsoft Word, Microsoft Excel and Outlook for easy office and professional communication.

PROFESSIONAL QUALIFICATIONS:

Timothy J. Ruggles, P.E.

Tim has operated the business as the principal consultant since the company was incorporated. Tim has lead all of the consulting and design services for municipalities, private homeowners, developers and contractors throughout the Northeast Kingdom and North Country. Prior to Tim incorporating the company in 1992, Tim had major roles in Heavy Highway and Transportation Projects.

Tim's Resume is attached.

Nathan P. Sicard, P.E.

Nathan joined Ruggles Engineering in 2012. Nathan brings over 10 years of civil engineering experience to RES. The majority of Nathan's experience is in water resource engineering. The majority of Nathan's experience includes developing municipal utility projects throughout VT from Preliminary Engineering Reports, Environmental Reports, Project Final Design to Construction Oversight. Nathan has also designed civil sitework projects for commercial projects including high school dormitories and hospital development projects.

Nathans Resume is attached.

REFERENCE PROJECTS AND CLIENTS:

□ Small Bridge / Culvert Design and Construction Oversight

Town of Danville, VT, Contact Kevin Gadapee, 684-3352

Precast box culvert (6' span x 57') (under construction)

Precast Arch Bridge (28' span)

Bridge with Voided Slab Deck (46' Span)

Town of Lyndon, VT, Contact Dan Hill, 626-5834

Precast Box Culvert (12' span x 64'): Completed 2012

Town of Waterford, VT, Contact Lyle Houghton

Precast Box Culvert (8' span x 57'): Completed 2012

Town of Sheffield, VT

Pre cast Slab Deck Bridge (50')

Town of Concord, VT

Precast Arch Bridge (36' Span)

Precast Slab Deck Bridge (50' Span)

Town of Wheelock, VT

Precast Arch Bridge (40' x 24' Span)

Town of Kirby, VT, 2013 – Pre-Con, Town of Sutton, VT 2013 – Design

Town of Newark, VT 2013 – Design,

OTHER TOWNS INCLUDING, Town of Burke, VT, Town of Barton, VT, Town of Sheffield, VT, Town of St. Johnsbury, VT, Town of Orford, NH

1667 SHADOW LAKE ROAD
GLOVER, VT 05839
P 802 525 9130
RUGGLES@HUGHES.NET



RUGGLES ENGINEERING SERVICES INC.

R E S U M E

TIMOTHY J. RUGGLES, P.E.

EDUCATION

1974-1975 Vermont Technical College Randolph Center, VT
▪ Associate Degree in Civil Engineering.

REGISTRATION

Vermont Registered Professional Engineer - #6149
New Hampshire Registered Professional Engineer - #8714

EXPERIENCE

1975-1978 Caledonia, Inc. Waterford, VT
Field Engineer
▪ Provided layout, take-off and related field engineering services on various pipe and highway projects.

1978-1984 S.G. Phillips Corp. Waitsfield, VT
Field Engineer and Project Superintendent
▪ Provided layout, take-off and related engineering services on various pipe and highway projects.
▪ Estimating, scheduling and directing the construction of various heavy, highway, bridge and hydro projects.
▪ Directed contract documentation, project meetings, contract change orders, subcontractors, and day-to-day scheduling of the projects.

1984-1990 J.A. McDonald, Inc. Lyndon Center, VT
Project Manager
▪ Estimating, scheduling and directing the construction of various heavy, highway, bridge and hydro projects.
▪ Directed contract documentation, project meetings, contract change orders, subcontractors, and day-to-day scheduling of the projects.
▪ Permit acquisition, purchasing, and project budgeting.
▪ Some of the major projects worked on in Vermont include: Manchester/Dorset Highway and Bridge Project, Manchester; Marlboro Road Project, Marlboro; Barnet Hydro Project, Barnet; Berlin Mall, Berlin; and Route 2 Highway and Bridge Project, Montpelier.

1990-1993 PRP Management Group, Inc.. Waitsfield, VT

Principal and Project Manager

- Project Manager for the Chittenden County Circumferential Highway Project.
- Responsible for preconstruction management, contract assembly and value engineering.
- In charge of four inspection contracts for the Circumferential Highway Project in Chittenden County. Responsible for maintaining communication with all contractors and AOT on a regular basis. Also for coordinating work force for inspection and layout, preparing all daily documentation, preparing Contractor's bi-weekly pay estimates, measuring and calculating final quantities.

1993-Present Ruggles Engineering Services, Inc. Glover, VT

President and Engineer

- Responsible for all day to day operations of the business including scheduling and meetings with clients.
- Prepare plans and documentation for a variety of civil engineering projects from on-site water supply and wastewater disposal to parking lot design, road design, and bridge and culvert design.
- Prepare plans and documents for various permits including water supply and wastewater disposal permits, stormwater permits and Act 250 permits.
- Some of the major projects completed include: Site design and permitting for parking lots and playing fields at St. Johnsbury Academy, St. Johnsbury, VT; Site design and permitting for Lydall building, St. Johnsbury, VT; Design and permitting for the Red Village Road and Severance Hill Road, Lyndon and St. Johnsbury, VT; Design and permitting for several precast bridge and culvert structures in St. Johnsbury, Lyndon, Wheelock and Danville, VT; Design and permitting for several bridge deck rehabilitations in St. Johnsbury, Danville and Burke, VT.

Resume

NATHAN P. SICARD, P.E.

EDUCATION

Bachelor of Science, Civil Engineering, 2004
University of Vermont, Burlington, Vermont

EMPLOYMENT HISTORY

2012-Current Ruggles Engineering Services, Inc.

2004 - 2012 Leach Engineering Consultants, St. Johnsbury, VT

REGISTRATIONS

Professional Engineer - VT#53831

VT-ANR Soil Based Designer Compliant

Draftsman/Surveyor Intern, Summer 2003

State of Vermont, Facilities Engineering, Waterbury, Vt.

Draftsmen/Intern – Ruggles Engineering 2002

PROJECT EXPERIENCE:

The majority of Mr. Sicard's career has centered around the design and construction of small community water system improvements. He has also been responsible for permitting, design and construction of many of small local commercial and residential projects.

Nathan is experienced in developing project specifications, construction plans, environmental permitting, water system O&M Manuals, source protection plans, hydraulic modeling for pipe and pump sizing.

Northeastern VT Regional Hospital, St. Johnsbury, Vermont:

Kingdom Internal Medicine 714 Breezy Hill Rd (2013)

Design project manager for civil/site work for medical office building expansion including stormwater, water/wastewater, Town and Act 250 permitting.

Pediatrics Expansion, 97 Sherman Drive (2012-2013)

Design project manager for civil/site work for medical office building expansion including stormwater, water/wastewater, Town and Act 250 permitting.

New Water System (2010-2011):

Design project manager for a new Non-Transient Non-Community Water System. Development of a basis of design, permits and construction for a 48,000 gallon water storage tank, 18 gpm well, triplex booster pump system to be operated with or without the Town of St. Johnsbury Municipal Water System. Source permitting and O&M manual.

Medical Office Building (2010-2011):

Project management for a new medical office building, including site utility permitting, Act 250 and Town permits.

Heliport(2009):

Project Designer for a Med-Evac Heliport.

Radiology Expansion Project (2007-2008):

Project Engineering for design, permitting and construction oversight of site utilities for hospital expansion.

Resume

NATHAN P. SICARD, P.E.

Simpson Dirtworx, Ilc.

Lyndon Sand and Gravel Pit, 2013

Design project manager for civil/site work for commercial building and gravel pit, including stormwater, water/wastewater, Railroad, Town and Act 250 permitting.

Canaan Fire District #1/#2, Canaan/Beecher Falls, Vermont:

Water System Improvement Project (2008-2012):

Planning, Design and Construction Project Manager for water system improvement project includes 8,900 feet of 8-inch water main replacement, source treatment and 150,000 gallon storage tank, well pump replacement and chlorine disinfection system. Construction Phase Project Management.

Canaan Fire District #1/ Town of Canaan, Canaan, Vermont:

Water Main Replacement / Sewer Collection System Extension (2012)

Planning, Design and Construction Project Manager for water system improvement project includes 2,500 feet of 8-inch water main, river crossings, 8 inch gravity sewer, 4 inch force main and sewer pump station for the new Border Patrol Station. Construction Phase Project Management.

Village of Barton, Barton, Vermont:

Water System Improvements (2006-2012):

Planning, Design and Construction Project Manager for a water system improvement project including approximately 18,000 feet of 8-inch water main replacement, storm drain systems, railroad crossings, river crossings and contaminated soils. Construction Phase Project Management.

Sewer System Improvements (2006-2012):

Project and Design engineer for planning, permitting and design to address collection system deficiencies including un-sewered areas. Construction Phase Project Management.

Village of Lyndonville, Lyndon, VT:

Water System Improvements Phase VI (2011-2012)

Team leader to finalize construction bid documents and plans for 8,500 linear feet of 8 inch water main including ANR permitting, VTrans permitting, railroad/highway crossings and contaminated soils. Oversight and project management of first two months of construction.

Watermain Improvements (2004-2006): Assistant design engineer for planning and development of plans of 8,500 LF of ductile iron water main replacement. Including construction inspection for two contracts.

Water System O&M Manual Updates, Water System Sampling Plans, Hydraulic Analysis for fire flows and new connections on the system.

West Stewartstown Water Precinct, Stewartstown, NH:

Water System Study (2010): Evaluation of water distribution system for replacement and improvements including review of deficiencies and alternative analysis for improvements.

Lyndon Institute, Lyndon, VT

Dormitoryies (2006-20010):

Design, permitting and construction of stormwater, water supply and wastewater for two 26 unit dormitories.

Ball Field (2009):

Design, permitting and construction of the ball field and storm water treatment system.

REVIEWED

By Bob Melillo, FEMA PS at 3:02 pm, May 27, 2015

MINUTES SPECIAL SELECTBOARD MEETING August 20, 2013

A duly warned meeting was held on Tuesday, August 20, 2013 at 5:30 p.m. Also posted in three public places 24 hours prior to the meeting.

Board members present: Richard Pion, Alden Warner, Pam Tetreault/ Treasurer

Board reviewed minutes of August 6, 2013 meeting; approved unanimously.

DISCUSSION:

- The Board reviewed bids received for engineering for the Mines Road Culvert Replacement Project-FEMA.
The following bids were received:
 - DuBois & King Inc. \$15,275.00
 - Ruggles Engineering Services, Inc. \$15,360.00
 - Ruggiano Engineering, Inc. \$ 8,400.00
- Motion was made to award bid to Ruggiano Engineering, Inc.; sec. voice vote/ unanimous by both board members.
- The Board reviewed a bill from Cheney Saudek & Grayck PC for Notice of Appeal filed in the Wesolow case.
- The Board reviewed Oil Supply pre- buy amount of \$3.30/ gallon for the same number of gallons as we purchased last year.

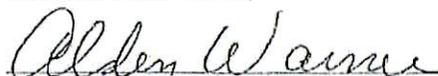
| | | | |
|-----------------------------|-----------------|------|-------------|
| Board reviewed Town Orders: | General | # 8A | \$ 3,977.87 |
| | Payroll | # 17 | \$ 4,078.33 |
| | Payroll General | # 17 | \$ 6,298.22 |

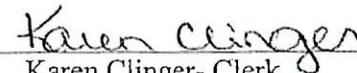
Signed by the board for the treasurer to draw checks on – totaling \$ 14,354.42

Meeting adjourned at 6:10 p.m.

Next meeting date 09/03/13 at 5:30 p.m.


Richard Pion- Chm.


Alden Warner


Karen Clinger- Clerk

Dwight Richardson

Requested bids from the following engineers: (4)

Emmons, Christine

From: Emmons, Christine
Sent: Friday, May 03, 2013 11:41 AM
To: Karen Clinger; Pamela Tetreault
Cc: Keysar, Scott; Perron, Dale
Subject: Engineering Consultants

Lowell Selectboard:

Here are some engineering consultants that you can contact for pricing & availability for survey and design on your Mines Rd Culverts. I was getting this list together for the FEMA 4066 damaged culvert but also can be utilized on your recently failed culvert. There are many other firms out there -these are just a few locally that we've dealt with recently on other projects with positive results.

If you have any questions please contact Scott Keysar or myself.

1 Ruggiano Engineering, Inc. (they are doing work for a Glover FEMA project). They have offices in St Albans and Morrisville
St. Albans, South Burlington, Morrisville
20 Kimball Ave, Suite 202N
South Burlington, VT 05403
(802) 658-2100 ph.
(802) 658-2882 fx.
www.ruggianoengineering.com

\$ 8,400

emailed 8/8/13

2 T.R. Fellows Engineering (they did the design on the Albany Chamberlain Hill bridge) * Cricket@mapleridgvt.com
163 Foss St, Morrisville, VT 05661
(802) 318-7853

No bid Received

3 Ruggles Engineering Services Inc (smaller local projects) * res@myfairpoint.net
1667 Shadow Lake Rd
Glover, VT 05839 map
Phone:
(802) 525-9130
Website:
www.rugglesengineeringservices.com

\$ 15,360.

4 Dubois & King (consultant on state paving jobs) They also have offices in Williston and Springfield * mark miller
28 North Main Street, Randolph, VT 05060 : ph: 802.728.3376 : info@dubois-king.com
mmiller@dubois-king.com

1 \$ 15,275

Christine C. Emmons

AOT District 9 Tech VI

4611 US Route 5

Newport, VT 05855

Office: 334-4347

Cell: 673-4516

Fax: 334-3337

christine.emmons@state.vt.us



COST SUMMARY ROLL-UP

| APPLICANT | | PW REF NO. | CATEGORY | DISASTER |
|-------------------------------------|---------------|---|----------|---|
| Lowell (Town of) | | 27 | C | FEMA 4066-DR-VT |
| CATEGORY | CLAIM COST | COMMENTS (FEMA USE ONLY) | | ELIGIBLE COSTS |
| FORCE ACCOUNT LABOR REGULAR TIME | \$ - | | | \$ - |
| FORCE ACCOUNT LABOR OVERTIME | \$ - | | | \$ - |
| FORCE ACCOUNT EQUIPMENT | \$ - | | | \$ - |
| MATERIALS | \$ - | | | \$ - |
| RENTAL EQUIPMENT | \$ - | | | \$ - |
| CONTRACTS | \$ 182,015.81 | | | \$  182,015.81 |
| DIRECT ADMINISTRATIVE COSTS | \$ 391.40 | | | \$  391.40 |
| TOTAL | \$ 182,407.21 | <div style="border: 1px solid red; padding: 5px; color: red;"> 182407.21 = 182015.81 + 391.4 RSM 5/27 </div> | | \$  182,407.21 |

I certify that the above information was transcribed from timesheets, payroll records, equipment log, invoices, stock records or other documents which are available for audit.

Certified by:

Paula J. Johnson

Date:

10/20/14

Applicant's records have been reviewed and found correct with the exceptions as noted.



Green check-marks by FEMA Project Specialist. Review notations in red text. RSM 5/27/15

REVIEWED

By Bob Melillo, FEMA PS at 7:05 pm, May 27, 2015