**REQUEST FOR BID**

**MITCHELL BROOK ROAD CULVERT No. 9**

**REPLACEMENT PROJECT**

**TOWN OF NORWICH, VERMONT**

**Issued: January 14, 2026**

## Project Location

Culvert No. 9 is located on Mitchell Brook Road in the Town of Norwich, Vermont and is to be replaced with two culverts as detailed in the "*Mitchell Brook Road and Chapel Hill Road Culvert Assessment*" in Attachment 1. The longitude and latitude are 43.757500, -72.385600.

## Project Description (Existing Conditions)

Existing Culvert No. 9, as described in the attached hydraulic report, is extremely undersized and needs to be replaced with two new culverts. The existing culvert No. 9 is a round, 24-inch diameter steel culvert that is approximately 30 feet in length and in fair condition.

## Project Work to be Completed and Project Specifications

Culvert 9 will be replaced with **two** new culverts as follows:

1. A new culvert will be required to handle the ditch conveyance and is to be a 30-inch corrugated metal pipe (CMP). **This pipe is to be an aluminized metal pipe with a minimum 12-gauge thickness.** The culvert will be approximately 35 feet in length.
2. A new culvert will be required to handle the intermittent stream that comes off the hillside from the northwest and will require a separate CMP with a minimum 87-inch x 63-inch pipe arch providing 32 square feet of waterway area or similar. **This pipe is to be an aluminized metal pipe with a minimum 10-gauge thickness.** The culvert will be approximately 35 feet in length.

The existing metal Culvert No. 9 will be excavated, removed, and disposed of by the contractor.

**It is to be noted that there is bedrock (ledge material) in the area and was observed to be directly under the existing culvert. Removal of this bedrock material will likely be required for the new culvert installations.**

Existing backfill will be removed from the trench excavation site by the contractor. Trench bottoms containing bedrock, soft muck, refuse, or other material unable to provide long-term uniform pipe support are unacceptable. All unsuitable foundation materials should be excavated before the new culvert pipe installation proceeds. **The contractor should remove rock or unyielding material 1-foot below grade and 6 inches on either side of pipe**. Soft areas within the foundation should be removed approximately 2 feet below grade and three times pipe width. A synthetic fabric (geotextile) will be required to separate unsuitable native soil from backfill material.

Installation of the new 87-inch x 63-inch pipe arch will occur at the existing culvert location within the

intermittent stream using the lines and grades of the existing culvert unless final cover depth requirements or site conditions dictate adjustments be made. The new 30-inch CMP pipe will be located near the pipe arch with the final location determined by the Public Works Director.

The minimum trench cover depth and width requirements for the new culvert pipes will be as follows:

1. The 87-inch x 63-inch pipe arch will require a minimum of 18-inches of cover.
2. The 30-inch CMP will require a minimum of 12-inches of cover.

Trenching work will be required to follow OSHA requirements per 29 CFR 1926.651 and 1926.652 or comparable OSHA-approved state plan requirements. Several key points included but not limited to:

- If a trench box is used, it must extend 18 inches above the surface to prevent cave-ins. The maximum distance between the bottom of the trench box and the bottom of the trench should be no more than 2 feet. Excavations 24 inches below the bottom of the trench box are prohibited.
- Means of egress is required every 25 feet for all trenches.
- Trenches 5 feet deep or greater require a protective system unless the excavation is made entirely in stable rock.

A **minimum of 4 inches of bedding material** will be used prior to placing the new culvert pipe. The pipe bedding material will either a fine graded crushed gravel meeting the requirements VTrans 704.05B or sand borrow meeting the requirements of VTrans 703.03A.

An initial backfill material will be used to backfill around the pipe. This initial backfill material will be a fine graded crushed gravel meeting the requirements of VTrans 704.05B. The backfill material will be carefully haunched around the pipe to eliminate voids. The initial backfill material will be compacted with appropriate compaction equipment to a minimum 6 inches above the pipe.

The remaining final cover to the surface can be suitable material removed from the original excavation that is free of organics, refuse, muck, wet, and clayey soils. The minimum depth of cover should meet the requirements as detailed above. The loading should meet the requirements of AASHTO H-25.

The culvert inlets and outlets should be armored to prevent erosion and channelization. Armoring should be made with erosion stone meeting the requirements of VTrans 706.04 (size will be based on site conditions). The extent of the armoring will depend on the topography and specific onsite conditions, but in general placed around the entire pipe ends and extend from the pipe inlet and outlet ends to an extent no less than 12 linear feet (on either side of the inlet channel) and on the downstream side of the culvert. Steep outfall topography may dictate additional armoring and should be anticipated.

**New metal culvert pipe markers (with reflectors) will be required to be installed on either side of the new pipe**. These markers should be approved by the DPW Director. The location of the new culvert pipe should be documented, and coordinates provided to the DPW.

**The road can be closed for excavation and installation of the new culvert but will require advanced notification of at least 5 days to the Public Works Director to allow public notification. Closure signs will need to be posted in both directions at least 5 days in advance of work.** Traffic control will be required as necessary and all traffic control delineation, traffic signs, and flagging will be required to follow the MUTCD latest edition.

All construction work will be performed in accordance with the technical requirements of the Vermont Agency of Transportation 2024 Standard Specifications for Construction. Payment for the work shall be based on the pay units and unit prices defined in the bid tabulation and the Request for Bids.

**Intention Of Terms**

The Town would like to have the project completed as soon as possible, **but no later than June 1, 2026.**

All work shall be performed within the existing right-of-way limits, which are approximately 25 feet on each side of the road centerline. No additional R.O.W. are anticipated for this work.

**Bidding Notification**

If you are considering entering a bid for this work, please notify Chris Kaufman at the following email address: ckaufman@norwich.vt.us. The Town will use this notification to contact you or your firm in the event that there is a change to the project, bid addenda, or bid schedule.

**Site Visit**

Although a site visit is not mandatory, it is highly recommended due to the nature of the work. Please reach out to Chris Kaufman directly to schedule a visit.

**Questions Due Date**

Questions may be submitted by email to Chris Kaufman at the following address: ckaufman@norwich.vt.us. The due date for questions is **Wednesday, February 4, 2026, at 3:00 PM.**

**Bid Submission and Due Date**

Bids are due by **Wednesday, February 11, 2026, at 10:00 AM** (prevailing time). Bids shall be submitted in a sealed envelope addressed to the Town Manager, Town of Norwich at PO Box 376, Norwich VT, 05055 or can be hand delivered to the Town of Norwich at 300 Main St, Norwich, VT 05055. The envelope should be plainly marked with the name of the bid. Bid proposals will be date stamped on the outside of the envelope immediately upon receipt by the Town. Any bid may be withdrawn in writing prior to the scheduled time for the opening of the bids. Any bid received after the date and time specified will not be considered and will be returned to the bidder unopened. Any exceptions to the bid specifications or proposed work as described must be noted by the bidder. A bidder submitting a bid certifies that the bid was made in good faith without fraud, collusion, or connection of any kind with any other bidder for the same work, and that the bidder is competing solely on his/her behalf with connection with or obligation to any undisclosed person or firm.

**Project Schedule**

The Town intends to open bids on February 11, 2026, at the Town Office; and the Selectboard intends to select a contractor in February 2026.

## Bid Information

Please provide:
- A description of proposed approach to the project
- Proposed traffic control measures
- Completed bid tabulation
- Proposed start and completion dates for all work
- A list with descriptions of similar work performed
- Two references, with contact information, who are familiar with similar work performed

## Bid Opening

Every bid received prior to the bid submission deadline will be publicly opened and read aloud and recorded by the Town Manager and the respective Department Head.

## Criteria for Bid Selection

**In evaluating bids, the Town will consider the following criteria:**
- Price
- Bidders' ability to perform within the specified time limits
- Bidders experience and reputation, including past performance for the Town
- Quality of the materials and services specified in the bid
- Bidder's ability to meet other terms and conditions, including insurance and/or bond requirements
- Bidder's financial responsibility
- Bidder's availability to provide future service, maintenance, and support
- Nature and size of the bidder
- Contract provisions that are acceptable to the Town
- Bidder is not on any debarment list related to goods and services the bidder provides
- Any other factors that the Town determines relevant and appropriate in connection with the project

**A low bid does not guarantee award of the contract.**

## Penalty for Late Completion

For every day that actual completion of the project is past the contractor's proposed completion date, excluding rain dates or issues beyond the contractor's control, $100 may be deducted from the Town's payment.

## Insurance

Prior to starting work the selected bidder will be required to provide a Certificate of Liability Insurance with commercial general liability coverage of no less than $1,000,000 per occurrence and $2,000,000 per aggregate, naming the Town of Norwich as an additional insured. The Certificate must also include Workers Compensation Insurance.

## Payment Schedule

One invoice is to be submitted following the completion of all work and inspection by the Town's Public Works Director.

**Town Contact**

Questions may be directed to Chris Kaufman at the following address: ckaufman@norwich.vt.us.

**The Town reserves the rights to select any bid for any reason, and to reject any or all bids.**

**The Town also reserves the right to award any portion of the work as listed in the Project Description and Bid Form.**

**BID FORM**

**Culvert Replacement**
**Mitchell Brook Road Culvert 9**
**Town of Norwich, Vermont**

Proposal of _____ (hereinafter called Bidder), organized and existing under the laws of the State of _____ doing business as _____

(a corporation, a partnership, of an individual)

To the Town of Norwich, Vermont (hereinafter called Owner)

The Bidder represents that this bid is genuine and not made in the interest of or on behalf of any undisclosed person, firm or corporation and is not submitted in conformity with any agreement or rules of any group, association, organization, or corporation. The bidder has not directly or indirectly induced or solicited any other bidder to submit a false bid. Bidder has not solicited or induced any person, firm, or corporation to refrain from bidding and the bidder has not sought by collusion to obtain for himself any advantage over any other bidder or Owner.

The undersigned bidder proposed and agreed, if this bid is accepted, to enter into an agreement with Owner to furnish all materials and to complete all work as specified or indicated in the Contract Documents for the contract price and within the contract time indicated in this bid and in accordance with the Contract Documents.

Bidder hereby agrees to commence Work under this contract on the date of issuance of the Notice to Proceed and that the Final Completion date for this contract is _____.

Bidder acknowledges receipt of the following Addenda:

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The Bidder agrees to perform all the Work described in the Contract Documents for the following schedule of prices. Material, labor, or construction operations not otherwise specified, are to be included in the bid item most appropriate to the work involved and otherwise considered incidental to the Contract. Unqualified bids will not be accepted.

| ITEM # | ITEM | UNIT | QUANTITY | UNIT PRICE | TOTAL PRICE |
|---|---|---|---|---|---|
| **1** | **87" x 63" CMP Arch Pipe** | | | | |
| | | LS | 1 | $_____ | $_____ |
| | Unit Price in Words_____ | | | | |
| **2** | **30-inch CMP** | | | | |
| | | LS | 1 | $_____ | $_____ |
| | Unit Price in Words_____ | | | | |
| **3** | **Mobilization/Demobilization** | | | | |
| | | LS | 1 | $_____ | $_____ |
| | Unit Price in Words_____ | | | | |

**Total Bid (Total of above)**

**$**_____

The lowest responsive and responsible bidder will be determined by the Total Base Bid.

The above unit prices shall include all labor, materials, removal, overhead, profit, insurance, etc. to cover the finished work of the several kinds called for on the drawings and specifications.

THE ABOVE PROPOSAL IS HEREBY RESPECTFULLY SUBMITTED BY:

_____

Contractor

_____

By

_____

Title

_____

Business Address

_____

City State

_____

Phone Number

_____

Email Address

_____

Date

ATTEST_____(Signature)

# ATTACHMENT 1

Patrick Ross, PE, PLLC Professional Engineering Services

To: Chris Kaufman, Norwich Public Works Director
From: Patrick Ross
Date: 6/18/2025
Subject: Mitchell Brook Road and Chapel Hill Road culvert assessments.

Please find the assessment for the Mitchell Brook Road Culverts 4-9 and Chapel Hill Road Culvert 3.

On Monday, June 16, 2025, a field evaluation of the culvert crossings, ditches, and drainage areas was completed. Following this on-site review and subsequent measurements, estimates for the drainage areas and peak flow rates were developed. To facilitate your discussions regarding grant funding with VTrans District 4 and the initial estimation of flood recovery repairs and replacements, this report has been condensed. The VTCulvert IDs have been utilized to track the sites and to develop the hydrology and hydraulic (H&H) evaluations.

The topography of Mitchell Brook Road and Chapel Hill Road in this area is characterized by a narrow valley within the mountainous terrain on the western edge of Norwich, featuring steep, mostly forested slopes with exposed bedrock. Hydrology tools were employed to delineate the individual drainage areas, and the Rational Hydrologic Method was used to estimate peak flow rates for all ditch conveyance culverts. Each existing culvert was evaluated for hydraulic conveyance capacity based on the 25-year flood event. The proposed replacement culverts have been sized to accommodate this flood event without overtopping the culvert and roadway.

**Hydrology information using the Rational Hydrologic method:**

- Drainage areas were outlined with 20 foot contours and refined with 1 foot contours as a check.
- The time of concentration was estimated at 15 minutes for all the roadway ditch cross culverts.
- Runoff coefficients were selected based on the steep terrain and mostly forested land cover.
- Rainfall depth was derived from the NOAA website for the crossing location.

Culvert 9, The hydrology for this ‘intermittent’ stream was derived using the USGS hydrologic regression equations for Vermont with flow rates selected based on the VTrans Hydraulics Manual and updates.

Hydraulics evaluations were calculated using inlet control hydraulics on all roadway ditch cross culverts and FHWA HY-8 hydraulics software was used to size the ‘intermittent’ stream crossing structure. All drainage ditch conveyance culverts were designed to the limit of the 25-year flood headwater depth at the inlet to the diameter of each culvert so that the water will not overtop the culvert or roadway.

| Culvert ID | Estimated drainage area | 25-year flow rate | Recommended pipe diameter |
|---|---|---|---|
| #4 on Mitchell Hill Rd | 16 acres | 16 cfs | 2- 24 inch* |
| #5 | 10 acres | 10 cfs | 24 inch |
| #6 | 15 acres | 15 cfs | 30 inch or 2 x 24s |
| #7 | 9 acres | 9 cfs | 24 inch |
| #8 | 8 acres | 8 cfs | 24 inch |
| #9 (ditch conveyance) | 14 acres | 14 cfs | 30 inch |
| #3 on Chapel Hill Rd | 12 acres | 12 cfs | 24 inch |

*Note: One of the 24-inch culverts needed at Culvert 4 will be placed between culverts 3 and 4.

**Mitchell Brook Road:**

**Culvert 3**, although not initially listed, requires cleaning due to blockage from flood debris. Storm water runoff would bypass this culvert, flowing towards Culvert 4. To ensure proper drainage of the ditch a berm should be installed to the height of the top of the pipe on the downhill side where storm water could bypass the culvert and continue to the next culvert crossing. As a general guideline, roadway cross culverts should be placed every 250 feet on moderate to steep roadway grades.

The ditch between Culvert 3 to Culvert 4 needs an additional culvert approximately midway between these crossings. The pipe should be a minimum of 24 inches in diameter. This will require increasing the depth of the ditch to accommodate this size pipe and provide adequate structural cover.

It is recommended that investigative excavation be performed at all locations to see if bedrock can be avoided. If bedrock is unavoidable, it will have to be hammered (or otherwise removed) to get the depth of burial required and to provide adequate ditch depth.

**Culvert 4**: Culvert 4 is an 18 inch HDPE (plastic) pipe. A 24-inch CMP culvert should be used for the replacement. Additionally, a new 24-inch culvert is needed midway between Culvert 3 and Culvert 4, as previously noted. A berm should be installed to the height of the top of the pipe on the downhill side of the ditch where storm water could bypass the culvert and continue to the next culvert crossing.

**Culvert 5**: The existing 15 inch corrugated metal pipe (CMP) should be replaced with a 24 inch CMP.

**Culvert 6**: The existing 12 inch CMP should be replaced with a 30 inch CMP or two 24 inch CMPs. If dual pipes are selected, they should be installed side by side with room for adequate compaction.

**Culvert 7**: The existing 12 inch CMP should be replaced with a 24 inch CMP.

**Culvert 8**: The existing 18 inch HDPE should be replaced with a 24 inch CMP.

**Culvert 9**: The existing 24 inch CMP is extremely undersized. The recommendation is to separate the intermittent stream flow from the storm water ditch flow. This will require two separate culverts. The new culvert to handle the ditch conveyance should be a 30 inch CMP. The intermittent stream that comes off the hillside from the northwest will require a minimum 87 inch by 63-inch pipe arch providing 32 square feet of waterway area or similar. Please note the drainage area is about 0.28 square miles and should be reviewed with VT ANR to determine if this stream might be considered perennial. A perennial stream requires permitting and stream crossing considerations.

**Chapel Hill Road:**

**Culvert 3**: The existing 18 inch CMP should be replaced with a 24 inch CMP and a berm should be installed on the downhill side of the inlet.

**General notes:**

- VTrans codes and standards require 18 inch minimum cross culverts on all town highway culvert replacements.
- Corrugated metal pipes are recommended for all locations due to structural cover concerns. Plastic pipes, being much thicker-walled, generally do not perform as well under shallow cover conditions.
- 12 gauge CMPs are recommended.
- To gain an understanding of subsurface conditions and mitigate potential construction challenges, exploratory excavation is strongly recommended at all proposed culvert locations.
- 'L' concrete headwalls could be considered where ditch berms are recommended.

## Reference - VTCulverts IDs and locations:

**Mitchell Brook Road:**

| ID | Pipe Shape | Material | Height (inches) | Width (inches) | Length (feet) | Condition | Latitude | Longitude |
|---|---|---|---|---|---|---|---|---|
| 4 | ROUND | PLASTIC | 15 | 15 | 25 | POOR | 43.762100 | -72.380000 |
| 5 | ROUND | STEEL | 15 | 15 | 25 | FAIR | 43.761600 | -72.380100 |
| 6 | ROUND | STEEL | 12 | 12 | 25 | POOR | 43.760400 | -72.380000 |
| 7 | ROUND | STEEL | 12 | 12 | 25 | GOOD | 43.759500 | -72.381000 |
| 8 | ROUND | STEEL | 15 | 15 | 20 | GOOD | 43.758700 | -72.383300 |
| 9 | ROUND | STEEL | 24 | 24 | 20 | FAIR | 43.757500 | -72.385600 |

**Chapel Hill Road:**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 3 | ROUND | STEEL | 18 | 18 | 35 | FAIR | 43.758700 | -72.381300 |