

# Additional Hearing Items

Yurek – Conditional Use Review

August 18, 2022

Item 17: Springfield Dam Follow Up Memorandum – 2022.08.11

Item 18: Email from Highway Dept. regarding Sign-off Sheet

HEARING ITEM

17



## Memorandum

**To:** Town of Weathersfield, Zoning Board of Adjustment

**From:** Roy Schiff and Jessica Louisos, SLR

**Date:** June 24, 2022, Revised August 11, 2022

**Subject:** Springfield Reservoir Dam Removal  
Conditional Use Application, Supplemental Information

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The Conditional Use application hearing for Parcel ID 12-00-42 was opened on March 10, 2022 and continued to April 15, with a further continuation to August 18, 2022 at 7:00 pm. The discussion at the March 10, 2022 was attended by Roy Schiff, who noted the following items for further discussion.

1. *Meet with Dwight and Nancy Phelps to access property where the failed stone culvert is located. We may need a temporary construction easement to work on their land. Of note is that Dwight believes that the fill for the dam may have come from a large hole on his land.*

SLR met with Dwight and Nancy Phelps onsite in mid-July. We reviewed the project details, access needs, and identified possible fill site locations, including the original source location for the dam embankment fill. The Phelps have tentatively granted access to the downstream stone culvert clogging the channel downstream of the dam. We will continue to work with the Phelps as the project progresses.

2. *Weathersfield Highway Department to reconsider project as there could be 2,500 truck trips from the site. They signed off, but may not have realized this. I told them the contractor will need to repair any damage to roads.*

Ryan Gumbart, Land Use Administrator, reported receiving comments from the highway director that any rutting in the road needs to be smoothed. We plan to add this condition to the bid information and for it to be a condition of the construction contract.

3. *VT Dam Safety Permit*

A final Dam Order has been received. A copy has been attached for your records and filed in the Town land records.

4. *US Army Corps Permit (in progress)*

The permit is pending following the results of a historic review. This is likely to be commissioned by the Mount Ascutney Regional Commission.

5. *Construction Stormwater Permit (9020)*

The Construction General Permit 3-9020 has been received. A copy has been attached for your records.

6. *Wetland clearance from Rebecca Chalmers, District Wetlands Ecologist*

We have received informal email correspondence from Rebecca that the project would be an allowed use. She is waiting to complete the paperwork until our plan set has been finalized, incorporating any edits requested from the other permits. We also plan to add a note about logs to plan when doing plan edits, specifically – “add coarse woody debris (nestle stumps or logs) to the shoreline where wetlands may occur”.

7. *Endangered species resolution (yes, no, etc)*

Northern Long-eared bat was identified by Vermont Fish and Wildlife as possibly present at the project area. This species could be influenced during tree clearing. The project will either get clearance that bat habitat is not present or limit tree clearing for the periods of the year that the bat is not present. Some other species were mapped downstream, but these do not influence the project site.

8. *No rise memo with PE stamp*

A memo describing hydraulic conditions and No Adverse impact has been attached.

9. *Ask state if ok to remove failed stone culvert. Is there SHPO concern?*

We had an initial discussion with SHPO. This would be part of the historic review.

STATE OF VERMONT

AGENCY OF NATURAL RESOURCES

DEPARTMENT OF ENVIRONMENTAL CONSERVATION

**ORDER APPROVING APPLICATION TO ALTER A DAM**

**10 V.S.A Chapter 43**

Applicant: Town of Springfield  
Application Number: DS2022-1  
Dam Name: Springfield Reservoir Dam  
Dam ID Number: 229.02  
Hazard Classification: SIGNIFICANT Hazard  
Waterbody: Springfield Reservoir, Boynton Brook, Black River Basin  
Town: Weathersfield  
Project: Remove Springfield Reservoir Dam

**\*Note: Please be aware that other VT Agency of Natural Resources (ANR) permits may be needed for your project, and it is your responsibility to secure any other required permits. To help assist in determining other VT ANR permits that might be needed, use VT ANR's Permit Navigator Tool by going to the VT Department of Environmental Conservation website ([dec.vermont.gov](http://dec.vermont.gov)). Please be aware that your project may require other local, state, or federal permits outside of VT ANR's jurisdiction which are not covered by the VT ANR Permit Navigator Tool. Failure to secure all necessary permits in advance of construction can result in significant impacts to your project's final scope and can take additional processing time\***

## FACTS

On January 27, 2022, an application under 10 V.S.A. Chapter 43 was filed with the Department of Environmental Conservation, Dam Safety Section (Department) by the Town of Springfield for alteration (removal) of a dam known as Springfield Reservoir Dam, located in Weathersfield, Vermont. The application was considered complete on January 27, 2022. The water level of the reservoir has been maintained lower than designed normal pool levels as the Town of Springfield no longer uses it as a water supply and as a risk reduction measure against an incident or dam failure.

On March 25, 2022 a public notice of the application and project was made available to State and local officials along with other interested parties, providing an opportunity to file written comments or to request a public information meeting. The end of the comment period was on April 27, 2022.

The Department reviewed the documents filed by the applicant and others and finds it has sufficient information to determine that this project will serve the public good and should be approved as provided in 10 V.S.A. §1086. A separate determination will be made by the Department of Environmental Conservation's Rivers Program regarding stream restoration work.

## FINDINGS AND CONCLUSIONS

1. **Jurisdiction:** Springfield Reservoir Dam is on Boynton Brook, capturing the flows of Aldrich Brook and Peabody Brook in Weathersfield, Vermont and is owned by the Town of Springfield (applicant). The proposed project involves the alteration (removal) of a dam that is capable of impounding more than 500,000 cubic feet of water/sediment. The dam or project does not relate to and is not incident to the generation of electric energy for public use or as a part of a public utility system. The Department has jurisdiction over this project pursuant to 10 V.S.A. §1081(a); and the Department's authorization to perform this alteration is necessary under 10 V.S.A. §1082.
2. **Project Description:** The project is the removal of the Springfield Reservoir Dam, an approximately 49-foot high by 317-foot-long concrete core wall and earthen embankment structure that is classified as a SIGNIFICANT hazard potential. The project will be conducted in a phased/iterative manner, including dam removal, lowering the water level, construction of a pilot channel, and sediment removal to proposed elevations. The project will remove approximately 67% of the concrete core and 87% of the earthen fill with a finished open channel bottom width of approximately 110 feet. The remaining portion of the dam up on the valley wall will not impound water during the 1,000-year storm event (or during lesser storms), which is the design storm for a SIGNIFICANT hazard protentional dam. Stone check dams or rock filter berms will be installed to catch sediment during the project. The accumulated sediment will be cleaned out before and after storm events, weekly, and as directed by the applicant's engineer. A natural channel will reestablish through the area after the dam is removed. The completed project will result in removal of the dam and restoration of a free-flowing brook in this location.

3. **Plans and Specifications:** The project is to be constructed in accordance with plans and specifications entitled, Springfield Reservoir Dam Removal, dated January 4, 2022. The Engineer of Record for the project is Roy Schiff, PE, of SLR, 1 South Main Street, Floor 2, Waterbury, Vermont, 05676.
4. **Project Purpose:** The purpose of the project is to remove Springfield Reservoir Dam, a SIGNIFICANT hazard potential dam and restore sections of Boynton, Aldrich, and Peabody Brook to a free-flowing and more natural condition.
5. **Public Good Determination 10 V.S.A. §1086(a)**
  - 1) **The quantity, kind and extent of cultivated agricultural land that may be rendered unfit for use by the project, including both the immediate and long-range agricultural land use impacts;** No cultivated agricultural lands will be rendered unfit for use by the project, including both the immediate and long-range agricultural use impacts.
  - 2) **Impact to scenic and recreational values;** The change to scenic and recreational values will be positive as removing the dam and restoring the flowing channel will allow the area to return to a more natural state and diverse area.
  - 3) **Impact to fish and wildlife;** In accordance with 10 VSA §1084, the Department of Fish & Wildlife investigated the potential effects on fish and wildlife habitats for the proposal to remove Springfield Reservoir Dam and restore the channel in this section of Boynton, Aldrich, and Peabody Brooks. Dams and instream impoundments degrade riverine habitats, alter sediment transport, increase water temperatures, and isolate aquatic populations. The permanent removal of this dam and elimination of an artificial impoundment will result in an overall improvement of aquatic habitat.
    - Erosion prevention and sediment control measures should be employed to prevent discharge of sediment to State waters.
    - To protect the health and population of Vermont's fisheries, the capture and transport of live fish is not allowed.
    - Do not interrupt downstream flows.
    - Monitor the riparian area of the project yearly during the growing season to ensure success of plantings.
  - 4) **Impact to forests and forest programs;** There will be no adverse impact or change in forests or forest programs from removing the existing dam.
  - 5) **[Repealed, Minimum Flows, see 10, below];**
  - 6) **The existing uses of the waters by the public for boating, fishing, swimming and other recreational uses;** The project will enhance existing public uses by restoring the natural flow regime.

- 7) **The creation of any hazard to navigation, fishing, swimming or other public uses;** The project eliminates a hazard to navigation, fishing, and swimming.
- 8) **The need for cutting clean and removal of all lumber or tree growth from all or part of the flowage area;** The project does not involve the cutting clean and removal of all lumber or all trees in the existing flowage area.
- 9) **The creation of any public benefits;** Removing the dam will create public benefits by the restoration of the original riverine flow pattern and resulting improvements to aquatic habitat and recreational uses. Other public benefits include the elimination of the potential damage threat of a SIGNIFICANT hazard potential dam.
- 10) **Attainment of the Vermont Water Quality Standards;** The project will be done in a manner that maintains and protects water quality. The completed project will result in a natural free-flowing riverine system.
- 11) **Impact to any applicable state, regional or municipal plans;** Removing the dam and restoring the area to a more natural state will not have a negative impact on any state or regional plans or municipal plans.
- 12) **Impact to municipal grand lists and revenues;** The project will not impact the value of the property on the municipal list and revenues related thereto.
- 13) **Impact to public safety;** The project will result in the removal of a SIGNIFICANT hazard potential dam which results in a reduction of risk to public safety due to an incident or dam failure. The plans entitled, Springfield Reservoir Dam Removal, dated January 4, 2022 are adequate to provide for public safety.
- 14) **Hydroelectric potential;** Springfield Reservoir Dam was not related or incident to the generation of electric energy for public use or as part of a public power utility system. There is not significant hydroelectric potential at this site.

**The Department concludes that this project satisfies and will serve the public good requirements of 10 V.S.A. §1086.**

### **SPECIAL CONDITIONS**

1. The applicant shall notify the Department's Dam Safety Section (Steven Hanna, 802-490-6123) and the Town of Weathersfield a minimum of **72 hours prior** to commencement of construction and provide the name and telephone number of the contact person for the construction project.
2. **A preconstruction meeting between the applicant or representative, the applicant's engineer or supervising representative, the selected contractor, and the Dam Safety Program shall be held prior to starting construction to review control of water plans, project schedule, and Order Conditions. The Dam Safety Section shall be provided**



**meeting minutes. In addition, if not already submitted to the Department, proof the Order has been filed in the land records of the Town of Weathersfield shall be provided to the Department.**

3. **The Dam Safety Section shall be invited to a final completion meeting. The Dam Safety Section shall be provided meeting minutes.**
4. The project is to be constructed in accordance with plans and specifications entitled, Springfield Reservoir Dam Removal, dated January 4, 2022. The Design Engineer of Record for the project is Roy Schiff, PE, SLR, 1 South Main Street, Floor 2, Waterbury, Vermont, 05676.
5. Full time construction monitoring by the applicant's engineer shall be provided during the removal of the gatehouse and piping, removal of the dam core wall and embankment structure, during construction of the pilot channel, and at such times as the engineer may consider appropriate.
6. The applicant's engineer monitoring construction shall submit via email on a weekly basis to the Dam Safety Program, a brief summary with observations and representative photographs that document the work including any materials testing results and instrumentation readings.
7. Any construction problems or unanticipated circumstances encountered during construction shall be immediately brought to the attention of the Dam Safety Program (Steven Hanna, 802-490-6123).
8. During removal of the dam, inflow shall be passed, and flow shall not be interrupted or otherwise stopped completely. The flow regime shall be run-of-river and allow for free movement of aquatic organisms to upstream reaches once the project is complete.
9. **The removal shall be completed by October 1, 2025**, unless other dates are approved in writing by the Department. The applicant shall notify the Department at least 14 days prior to a deadline if an extension appears necessary.
10. The work is subject to the following time of year restrictions:
  - Work is limited to the period between April 15 and October 15 of any year.
  - Work in the water, defined as, "work requiring water control, flow manipulation, manipulation of water levels, work directly in the water, or work below the normal water level in the reservoir," shall only occur during the period from June 1 to October 1 of any year.
  - Request to work outside of these dates must be provided to the Dam Safety Program at least 14 days prior and include the following in a written narrative and plans (if applicable).
    - i. Documentation there is no reasonable alternative and/or the task is an emergency

- ii. Updated construction schedule with a list of tasks to be completed outside of the period with their anticipated duration, completion date, and winter shutdown date, if applicable.
  - iii. A discussion of necessary water control measures and how this work will be sequenced to minimize the release of turbid waters.
  - iv. A plan of improved erosion and sediment controls and site stabilization measures to minimize the release of turbid waters, including a plan for the timely containment of sediment discharges should the improved measures fail in any way.
  - v. A monitoring plan to observe, document, and report ambient and receiving water turbidity.
  - vi. Work in the water before June 1 or after October 1 shall not be performed unless approved in writing by the Department after consultation with the Department of Fish & Wildlife.
- If requested by the Department, a site visit to observe site conditions and review work requirements shall be held. Work performed during this period may be subject to additional inspection by State personnel and may be subject to immediate work stoppage if Order or extension requirements are not being met.
11. The applicant shall ensure that every reasonable precaution is taken to prevent the discharge of petrochemicals and debris into waters of the State. Machinery shall be fueled away from waters of the State and shall be maintained in good mechanical condition in terms of integrity of hoses, seals, and gaskets.
  12. Erosion prevention and sediment control (EPSC) measures shall be employed as necessary to prevent discharge of sediment to State waters. Disturbed soils shall be effectively stabilized by October 1<sup>st</sup>. Stone check dams or rock filter berms shall be installed to catch sediment and shall be cleaned out weekly, before and after storm events, and as directed by the applicant's engineer. If elevated turbidity is observed, work shall stop immediately until corrective measures are employed. Post construction remediation measures shall be required if deemed necessary by the Agency.
  13. Any water quality problems shall be immediately brought to the attention of the Dam Safety Section (Steven Hanna, 802-490-6123).
  14. Live fish shall not be captured and transported to protect the health and population of Vermont's fisheries.
  15. Debris and excess material associated with the project and operation shall be transported and disposed of properly in accordance with State law.
  16. Monitor the riparian area of the project during the growing season to ensure success of plantings.

## GENERAL CONDITIONS

1. This Order may be appealed to the Environmental Court by an aggrieved person within thirty (30) days from its date (10 V.S.A. §1099).
2. **The applicant shall file this Order with the land records of the Town of Weathersfield within 10 days of the issuance of this Order. Proof of such filing shall be submitted to the Department within 10 days of the filing or at the preconstruction meeting, and prior to the start of construction**
3. Any proposed modifications to the approved plans and specifications shall be submitted in writing to the Department. Such proposed modifications shall not be made unless approved in writing by the Department.
4. Applicant shall engage a professional engineer registered under Title 26 V.S.A. who has experience in the design, investigation, and removal of dams to monitor the construction, alteration or other action authorized by this Order. (10 V.S.A. § 1090). The engineer shall:
  - a. Submit construction status reports with photographs or other reports required by the Special Conditions **weekly** to the Department;
  - b. Submit, **within one week** of completion of the project, record drawings of the completed work to the Department; and
  - c. Certify in writing to the Department that the project has been completed in accordance with the approved plans and specifications and that in the Engineer's opinion that the dam has been completely and satisfactorily removed and site stabilized.
5. The project shall not be considered complete and in compliance with this Order until:
  - a. the record drawings, certification, and items required by Conditions 4(a) through (c) have been received and accepted by the Department;
  - b. the Department has inspected and approved the completed project; and
  - c. the Department has given its written acknowledgment that the project has been satisfactorily completed in accordance with this Order. **The written acknowledgement shall be filed with the land records of the Town of Weathersfield. Proof of the filing shall be provided to the Department.**
6. This Order does not grant exclusive rights or privileges, which would impair any rights possessed by other riparian or littoral owners or the State of Vermont. It does not grant any right, title or easement to or over any land not owned in fee simple by the applicants. Nor does it authorize any violation of Federal, State, or local laws or regulations.

7. Nothing in this Order shall relieve the owner or operator of the authorized dam and impoundment from their legal duties, obligations and liabilities resulting from such ownership or operation.
8. The applicant shall allow the Commissioner of the Department, or a duly authorized representative, at reasonable times and upon presentation of credentials to enter upon and inspect the property and the project to determine compliance with this Order.
9. The terms and conditions of this Order shall run with the land.
10. This Order may be suspended or revoked at any time after reasonable notice and opportunity to be heard upon failure of Applicant to comply with any condition of this Order, applicable rule, or law. Continuing jurisdiction is reserved for these purposes.

### **ORDER APPROVING APPLICATION**

Based on due consideration of the factors that must be considered under the law and with the conditions contained herein, the Department hereby approves the project as applied for and authorization is hereby granted to carry out the proposed project in strict accordance with the approved plans and specifications entitled Springfield Reservoir Dam Removal, dated January 4, 2022, and the Special and General Conditions that are contained in this Order

Signed this   5<sup>th</sup>   day of   May  , 2022

John Beling, Commissioner  
Department of Environmental Conservation

By:   
Eric Blatt, Director of Engineering  
Water Investment Division

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3/3/2022

Dear Permittee(s),

The Notice of Intent for the discharge of stormwater runoff from Low Risk Construction Activity under Construction General Permit (CGP) 3-9020 (March 19, 2020) has been authorized. You will need the following documents to maintain compliance with this authorization. Enclosed with this cover letter is your **Authorization to Discharge under General Permit 3-9020** and a copy of the **Notice of Authorization** that you must post at your construction site. In addition, any additional Owners and Operators that were not identified on the Notice of Intent at the time of application must file a **Notice of Addition of Co-Permittee**. See below for more details on these and other permit requirements.

1. **Authorization to Discharge under General Permit 3-9020**

The authorization for Low Risk Construction Activity is valid for five years from the date of the authorization. If the project will proceed past the expiration date, you must reapply for coverage under this or another construction stormwater permit before that time. If the project is completed or is sold before that time, you may terminate the authorization by submitting a Notice of Termination, subject to Subpart 7.4 of CGP 3-9020. Any proposed project changes must be first evaluated in accordance with the terms, conditions, and eligibility provisions set forth in Part 5 of CGP 3-9020.

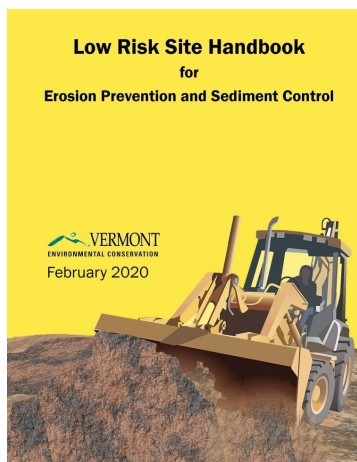
2. **Notice of Authorization for Posting**

The Notice of Authorization, which details the authorization and conditions you selected in completing Appendix A to the CGP, must be posted in a location visible to the public in accordance with Subpart 4.5.C of the CGP.

3. **Notice of Addition of Co-Permittee**

This form must be submitted for every additional Owner and/or Operator who joins the project, in accordance with Subpart 7.3 of the CGP. Use ANR Online to file all Notice of Additions. ANR Online can be accessed using the following link: <https://anronline.vermont.gov>. Instructions on creating an account are available on the main page.

### Low Risk Site Handbook for Erosion Prevention and Sediment Control



Please provide the Owner(s) and Operator(s) access to the Low Risk Site Handbook for Erosion Prevention and Sediment Control. This handbook details the practices that must be implemented throughout the construction project to prevent erosion and the discharge of sediment from the construction site. Some practices must be in place before construction begins, so please review the entire handbook before starting the project. The handbook can be found at the website below. Please email [anr.wsmdstormwatergeneral@vermont.gov](mailto:anr.wsmdstormwatergeneral@vermont.gov) to request a printing of the handbook if you are unable to do so.

The CGP, copies of pertinent forms, and an electronic version of the Low Risk Site Handbook for Erosion Prevention and Sediment Control are available on the [Stormwater Program](#) website. If you have any questions related to your authorization, please contact the Environmental Analyst in the [Stormwater District](#) where your project is located.

Sincerely,  
Stormwater Management Program

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VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION  
AUTHORIZATION TO DISCHARGE UNDER  
GENERAL PERMIT 3-9020

A determination has been made that the applicant(s) (here in after "permittee"):

Town of Springfield  
96 Main Street  
Springfield, VT 05156

meets the criteria necessary for inclusion under General Permit 3-9020 for low risk construction activities. Subject to the conditions and eligibility provisions of General Permit 3-9020, the permittee is authorized to discharge stormwater to Boynton Brook (Tributary to Black River) from the following construction activities: Removal of earthen embankment dam that is approximately 320 feet long and 50 feet tall using mechanical means. The earthen embankment and concrete core wall will be removed down to bedrock. Removal of concrete spillway, gatehouse, concrete well house, drain pipes, and remnants of stone culvert. Excavate accumulated sediment in the impoundment with depths ranging between about 3 and 6 feet, 120 feet wide immediately upstream of the dam and becoming narrower and shallower moving up the impoundment upstream of the confluence of Adrich Brook and Peabody Brook. Revegetation of 3.9 acres of riparian and access area. Construction access is via an existing woods road. The project is located at Wellwood Orchard Road in Weathersfield, Vermont.

1. **Effective Date and Expiration Date of this Authorization:** This authorization to discharge shall become effective on March 03, 2022 and shall continue until March 02, 2027. The permittee shall reapply for coverage at least 60 days prior to expiration if the project has not achieved final stabilization or if construction activities are expected after the date of expiration.
2. **Compliance with General Permit 3-9020 and this Authorization:** The permittee shall comply with this authorization and all the terms, conditions, and eligibility provisions of General Permit 3-9020. The completed Notice of Intent (NOI) and Appendix A completed for this project are incorporated by reference into this authorization and are included in the terms of this authorization. These terms include:
  - Implementation and maintenance of erosion prevention and sediment control practices required by the Low Risk Site Handbook for Erosion Prevention and Sediment Control.
  - All areas of disturbance must have temporary or final stabilization within 14 days of the initial disturbance. After this time, disturbed areas must be temporarily or permanently stabilized in advance of any runoff producing event. A runoff producing event is an event that produces runoff from the construction site. The following exception to the above stabilization requirements apply:
    - Temporary stabilization is not required if work is occurring in a self-contained excavation (i.e. no outlet) with a depth of 2 feet or greater (e.g. house foundation excavation, utility trenches). Areas of a construction site that drain to sediment basins are not considered eligible for this exemption and the exemption applies only to the excavated area itself.
  - The total authorized disturbance is 4.88 acre(s).
  - No more than 2 acres of land may be disturbed at any one time.
  - Inspections shall be conducted at least once every (7) calendar days and daily during the winter construction period (October 15 through April 15), for all areas that have been disturbed and are not yet finally stabilized. In addition:
    - If visibly discolored stormwater runs off the construction site or discharges to waters of the State, the permittee shall take immediate corrective action to inspect and maintain existing best management practices (BMPs), and to install supplemental BMPs necessary to minimize and prevent the discharge.

- If, after completing corrective action, there continues to be a discharge of discolored stormwater from the construction site to waters of the State, the permittee shall notify DEC by submitting a Discharge Report within 24 hours of discovering the discharge.
3. Transferability and Addition of Co-Permittee: This authorization to discharge is not transferable to any person, nor may any person be added as a permittee, except in compliance with General Permit 3-9020 including submission of a complete Notice of Transfer or Notice of Addition of Co-Permittee.
  4. Following receipt of authorization under General Permit 3-9020, additional Owner(s) and Operator(s) not identified on the Notice of Intent at the time of application shall be added as a co-permittee by filing a Notice of Addition of Co-Permittee with the Secretary. The co-permittee shall be subject to all terms and conditions of the permittee's authorization and Construction General Permit 3-9020.

5. Right to Appeal:

(A) Pursuant to 10 V.S.A. Chapter 220, any appeal of this permit, except for appeal of a renewable energy plant as described in (B), must be filed with the clerk of the Environmental Division of the Superior Court within 30 days of the date of the decision. The notice of appeal must specify the parties taking the appeal and the statutory provision under which each party claims party status; must designate the act or decision appealed from; must name the Environmental Division; and must be signed by the appellant or the appellant's attorney. In addition, the appeal must give the address or location and description of the property, project, or facility with which the appeal is concerned and the name of the applicant or any permit involved in the appeal. The appellant must also serve a copy of the notice of appeal in accordance with Rule 5(b)(4)(B) of the Vermont Rules for Environmental Court Proceedings. For further information, see the Vermont Rules for Environmental Court Proceedings.

(B) If this permit relates to a renewable energy plant for which a certificate of public good is required under 30 V.S.A. § 248, any appeal of this decision must be filed with the Vermont Public Utility Commission pursuant to 10 V.S.A. § 8506. This section does not apply to a facility that is subject to 10 V.S.A. § 1004 (dams before the Federal Energy Regulatory Commission), 10 V.S.A. § 1006 (certification of hydroelectric projects), or 10 V.S.A. Chapter 43 (dams). Any appeal under this section must be filed with the clerk of the Public Utility Commission within 30 days of the date of this decision; the appellant must file with the clerk an original and six copies of its appeal. The appellant shall provide notice of the filing of an appeal in accordance with 10 V.S.A. § 8504(c)(2) and shall also serve a copy of the notice of appeal on the Vermont Public Service Department. For further information, see the Rules and General Orders of the Public Utility Commission.

Dated March 03, 2022

Peter Walke, Commissioner  
Department of Environmental Conservation

By:



Christy Witters, Environmental Analyst  
Stormwater Management Program



**Notice of Authorization**  
Under Vermont Construction General Permit 3-9020  
For Low Risk Construction Activity

**Permittee Directions for Posting:**

This notice shall be placed near the construction entrance at a location visible to the public. If displaying near the main entrance is infeasible, the notice shall be posted in a local public building such as the municipal office or public library. For linear projects, the notice shall be posted at a publicly accessible location near the active part of the construction project (e.g., where a pipeline project crosses a public road) or, in the event posting in a publicly accessible location near the active part of the project is infeasible, the permittee shall post in a local public building such as the municipal office or public library.

<b>Project Name:</b>	Springfield Reservoir Dam Removal
<b>Permittee Name(s):</b>	Town of Springfield
<b>NOI Number:</b>	9358-9020
<b>Date of Authorization:</b>	March 03, 2022
<b>Date of Expiration:</b>	March 02, 2027

**The project listed above has received authorization under General Permit 3-9020 to discharge stormwater from the following construction activities:**

Removal of earthen embankment dam that is approximately 320 feet long and 50 feet tall using mechanical means. The earthen embankment and concrete core wall will be removed down to bedrock. Removal of concrete spillway, gatehouse, concrete well house, drain pipes, and remnants of stone culvert. Excavate accumulated sediment in the impoundment with depths ranging between about 3 and 6 feet, 120 feet wide immediately upstream of the dam and becoming narrower and shallower moving up the impoundment upstream of the confluence of Adrich Brook and Peabody Brook. Revegetation of 3.9 acres of riparian and access area. Construction access is via an existing woods road.

**This authorization includes the following requirements:**

- Implementation and maintenance of erosion prevention and sediment control practices required by the Low Risk Site Handbook for Erosion Prevention and Sediment Control.
- All areas of disturbance must have temporary or final stabilization within 14 days of the initial disturbance. After this time, disturbed areas must be temporarily or permanently stabilized in advance of any runoff producing event. A runoff producing event is an event that produces runoff from the construction site. The following exception to the above stabilization requirements apply:
  - Temporary stabilization is not required if the work is occurring in a self-contained excavation (i.e. no outlet) with a depth of two feet or greater (e.g. house foundation excavation, utility trenches). Areas of a construction site that drain to sediment basins are not considered eligible for this exemption and the exemption applies only to the excavated area itself.
- The total authorized disturbance is 4.88 acre(s).
- No more than 2 acres of land may be disturbed at any one time.
- Inspections shall be conducted at least once every (7) calendar days and daily during the winter construction period (October 15 through April 15), for all areas that have been disturbed and are not yet finally stabilized. In addition:
  - If visibly discolored stormwater runs off the construction site or discharges to waters of the State, the permittee shall take immediate corrective action to inspect and maintain existing best management practices (BMPs), and to install supplemental BMPs necessary to minimize and prevent the discharge.
- If, after completing corrective action, there continues to be a discharge of sediment from the construction site to waters of the State, the permittee shall notify DEC by submitting a Discharge Report within 24 hours of discovering the discharge.
- The permittee shall comply with all inspection, maintenance, corrective action, record keeping, and reporting requirements, and all other terms, conditions, and eligibility provisions, including those conditions related to project changes, as set forth in General Permit 3-9020 and this authorization.
- Following receipt of authorization under General Permit 3-9020, additional Owner(s) and Operator(s) not identified on the Notice of Intent at the time of application shall be added as a co-permittee by filing a Notice of Addition of Co-Permittee with the Secretary. The co-permittee shall be subject to all terms and conditions of the permittee's authorization and General Permit 3-9020.

To request information on this authorization, or to report compliance concerns, please contact:

**Vermont Department of Environmental Conservation**

**Watershed Management Division**

**1 National Life Drive, Davis 3**

**Montpelier, VT 05620**



## Memorandum

**To:** Town of Weathersfield, Zoning Board of Adjustment

**From:** Jessica Louisos PE and Roy Schiff PE Phd

**Date:** 6/23/2022

**Subject:** Hydraulic Model Results and No Adverse Impact  
Conditional Use Application for the Springfield Reservoir Dam Removal

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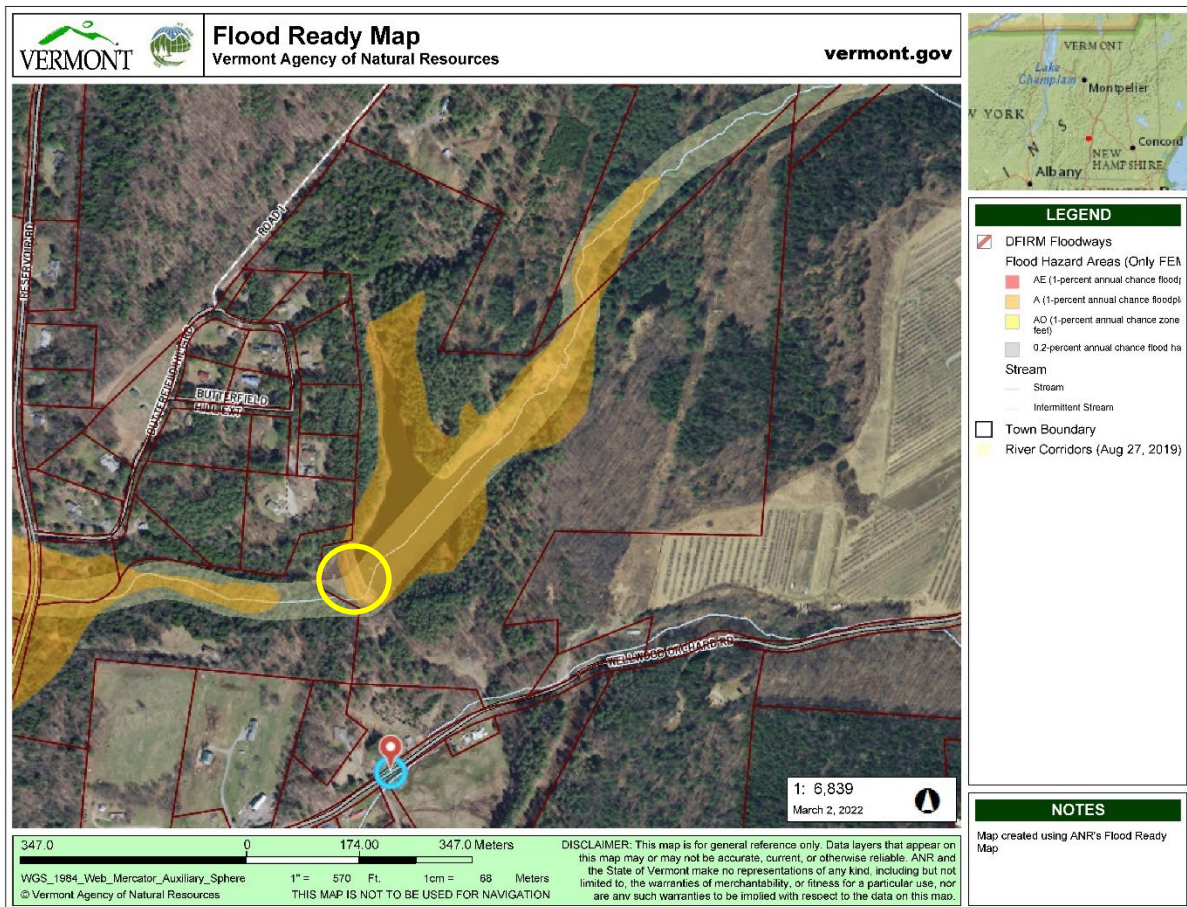
### PROJECT OVERVIEW

The Mount Ascutney Regional Commission (MARC) is leading the design of the full removal of the Springfield Reservoir Dam. The project is a collaboration among the Town of Springfield, MARC, and Vermont Department of Environmental Conservation (VTDEC). Springfield Reservoir Dam (VT# 229.02) is located on a tributary of the Black River (drainage area ~ 2.6 square miles) in Weathersfield, Vermont. This project is to remove the dam to restore a natural river channel and floodplain.

The dam is classified as a Significant Hazard, yet under the recently updated Vermont Dam Safety Rules the dam would likely be classified as a High Hazard given the potential for loss of life in the event of a dam failure. Should the dam fail, the sudden release of accumulated sediment would impact water quality, habitat, and channel stability for years. Removal of the dam will remove the risk associated with dam failure. Dam inspection has found the structure to be in Poor condition.

The project is located in a FEMA approximate floodplain Zone A. FEMA has not completed a detailed hydraulic study of the project area and no Base Flood Elevations have been determined (Figure 1). A FEMA floodway does not exist at the project site.

Our hydraulic modeling shows No Adverse Impact for this project. This project will not only reduce downstream flood risk, but will also remove a major encroachment in the river corridor, and will improve aquatic and wildlife passage and connectivity.



**Figure 1 Flood Map with FEMA Special Flood Hazard Areas (Yellow Circle = Dam Location)**

## MODELING

Hydraulic modeling was completed at the project site to explore the hydraulic changes associated with the proposed project. A HEC-RAS (USACE, 2018) model was built using survey cross section data collected in 2020 as part of this project. It was validated with observations by the Town from Tropical Storm Irene in 2011 and found to be suitable for evaluating dam removal alternatives.

Steep stream (Jacobs, 2010) regression flows were used as the design flows in the hydraulic model (Table 1) given that they fell in the middle of the range of estimates and they matched unit normalized patterns in other small streams in Vermont and the region. The flood frequency curve was extrapolated to 0.001% annual exceedance probability (AEP) to estimate the 1,000-year flood. The drainage area to the reservoir is approximately 2.5 square miles – 2.5 (87%) for the East Tributary and 0.3 (13%) for the North Tributary.

Estimated flows at the dam were weighted by area to estimate flows in each channel for the HEC-RAS hydraulic model.

Flood attenuation at the dam was estimated from the watershed scale TR-20 rainfall-runoff model (SCS, 1992) constructed using HydroCAD software by Dubois and King (D&K, 2012). This accounts for flood attenuation due to storage in the impoundment of the dam.

**Table 1 Flow Estimates Used in the Hydraulic Model**

	<b>Q2</b>	<b>Q5</b>	<b>Q10</b>	<b>Q25</b>	<b>Q50</b>	<b>Q100</b>	<b>Q500</b>	<b>Q1,000</b>
<b>East Tributary</b>	170	277	372	499	595	696	1,015	1,073
<b>North Tributary</b>	26	42	56	75	90	105	153	162
<b>Upstream of Dam</b>	196	319	428	574	685	801	1,168	1,235
<b>Downstream of Dam</b>	96	166	244	367	554	731	1,066	1,126

## RESULTS

The modeled existing conditions 0.1 % annual chance floodplain (i.e., the 100-year floodplain) was mapped and covers a smaller area than the approximate FEMA Special Flood Hazard Area.

The results of the hydraulic analysis show that the 100-year flood level will decrease within the impoundment area and have small water surface increases downstream of the dam (Table 1). The increase in flood depth in the downstream reach is 0.1 to 0.2 feet, which is near the accuracy limit of the modeling software (See Figure 2 and Table 2). The maximum increase occurs just upstream of the Reservoir Road culvert where the 100-year flood elevation increases from 557.5 feet NAVD88 to 558.1 feet NAVD88 (Figure 3).



Springfield Reservoir Dam Removal  
 Memo to: Town of Weathersfield, Zoning Board of Adjustment  
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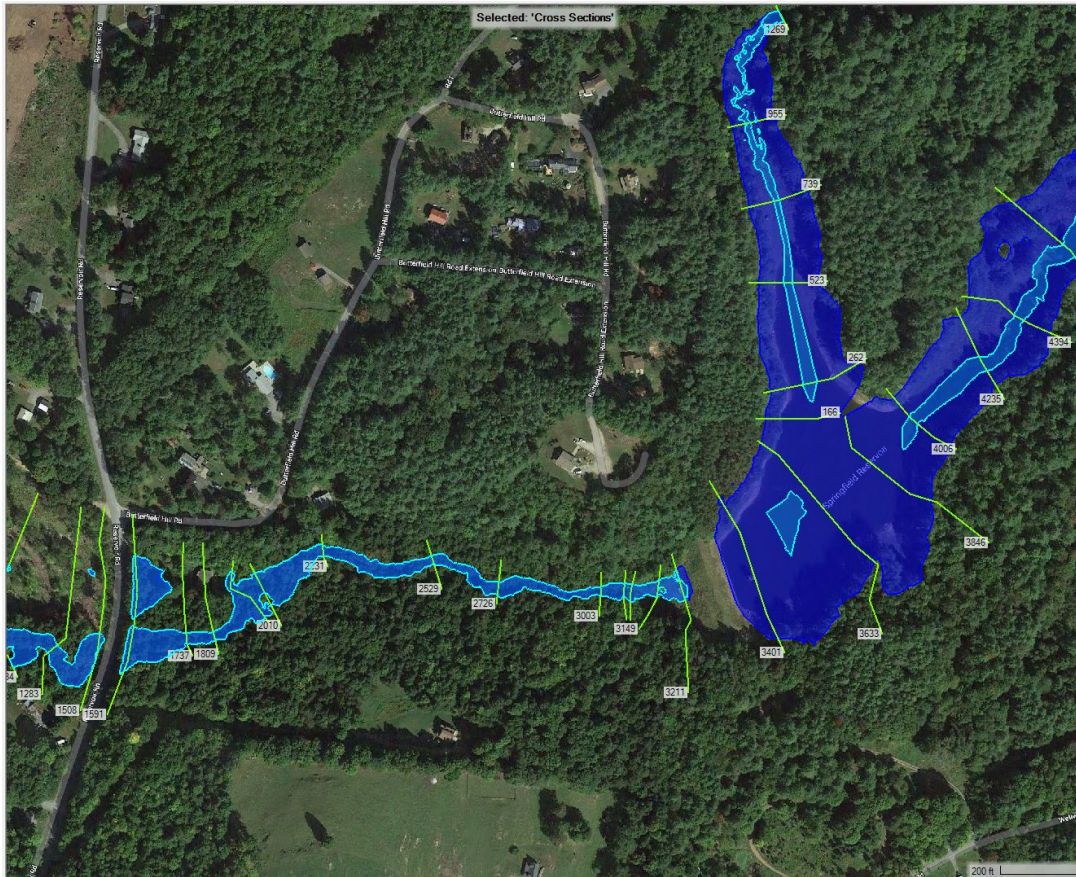


Figure 2 Hydraulic Model Results for 100-year Event (Dark Blue = Existing, Cyan = Proposed)

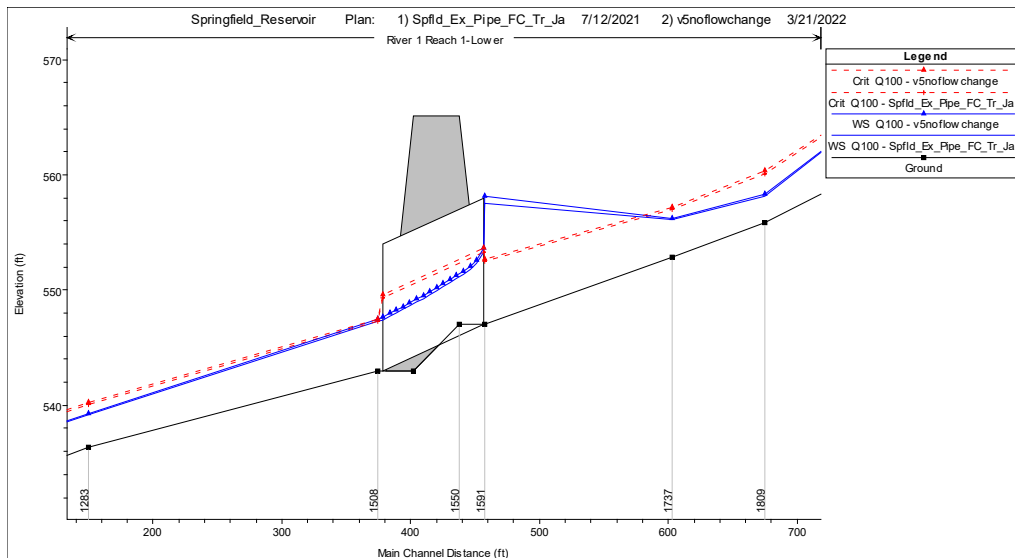


Figure 3 Hydraulic Model Results for 100-year Event at Reservoir Road Structure

**Table 2 Hydraulic Modeling Results**

Cross Section ID	Location	Existing WSE (ft)	Proposed WSE (ft)	Proposed WSE Rise (ft)
5551.0		688.3	688.3	0.0
5322.0		683.5	683.5	0.0
4645.0		683.3	672.4	-10.9
4394.0		683.3	666.3	-17.0
4235.0		683.3	665.0	-18.3
4006.0		683.3	659.6	-23.6
3846.0	Confluence	683.3	654.3	-28.9
3633.0		683.3	649.3	-33.9
3401.0		683.3	641.7	-41.6
3300.0	Dam			
3211.0		640.7	640.8	0.1
3149.0		632.4	632.5	0.1
3080.0		629.4	629.6	0.1
3063.0		626.5	626.7	0.1
3003.0		622.7	622.9	0.2
2726.0		605.0	605.1	0.1
2529.0		594.1	594.3	0.2
2231.0		576.5	576.6	0.1
2010.0		571.4	571.4	0.1
1934.0		570.9	571.0	0.1
1809.0		558.2	558.4	0.2
1737.0		556.1	556.2	0.1
1591.0		557.5	558.1	0.6
1550.0	Reservoir Road			0.0
1508.0		547.3	547.5	0.2
1283.0		539.2	539.3	0.1
1134.0		533.5	533.6	0.1

## **DISCUSSION**

Although flood levels increase 0.1 to 0.2 feet, the project does not increase the level of flood or erosion risk to any private property or infrastructure. The few residential homes and outbuildings in the area are located above the river and floodplain elevation. Existing and proposed inundation mapping shows that all buildings are outside the flood extents with and without the dam in place and will not be impacted by the 100-year flood.

A house at 1923 Reservoir Road sits above the floodplain 1,370 feet downstream of the dam (Figure 2). Near the home the existing 100-year water surface elevation is 558.2 feet and the proposed 100-year water surface elevation following dam removal is 558.4 feet, for a difference of +0.2 feet. The finished floor elevation of the house at 1923 Reservoir Road is an estimated 6 feet above the modeled 1,000-year flood without the dam. The home is many feet above the modeled floodplain and flood risk is not expected to increase.

Reservoir Road is located 1,750 feet downstream of the dam. The channel flows under the road in an 11-foot diameter round corrugated multi-plate culvert. The culvert has 7.0 feet of freeboard to the road surface during the modeled 100-year flood. The 0.6-foot water surface increase at the culvert entrance is minimal compared to the available freeboard and not expected to increase flood risk.

In summary, the removal of the Springfield Reservoir dam will not increase flood risk.

## **REFERENCES**

- D&K, 2012. Engineering Evaluation for the Weathersfield Reservoir Dam. Prepared by Dubois & King for the Town of Springfield, Springfield, VT.
- Jacobs, J., 2010. Estimating the Magnitude of Peak Flows for Steep Gradient Streams in New England. New England Transportation Consortium Report NETC81, Project No. NETC 04-3. New England Transportation Consortium in cooperation with the Federal Highway Administration, Burlington, VT.
- SCS, 1992. Technical Release 20: Computer Program for Project Formulation Hydrology (Tr-20) (V. 2.04). The Soil Conservation Service (forerunner of NRCS) Hydrology Branch in cooperation with the Agricultural Research Service, Hydrology Laboratory, U.S. Department of Agriculture.
- USACE, 2018. Hydrologic Engineering Center River Analysis System (HEC-Ras) (V. 5.0.6). U.S. Army Corps of Engineers, Hydrologic Engineering Center, Davis, CA.



HEARING ITEM

18

**Re: Driveway paving**

Ray Stapleton &lt;Highway@weathersfield.org&gt;

Wed 4/20/2022 9:35 AM

To: Land Use &lt;Landuse@weathersfield.org&gt;

Hi,

I was not aware of the exact number of trucks but knew it would be a lot. I'm assuming they are headed down to Reservoir rd with the trucks. The only thing I would want is for them to fix the wheel ruts in front of the road they are coming out of when they get bad. They also need to drive at a Reduced speed for the safety and respect for the residents.

Sent from my iPhone

On Apr 20, 2022, at 7:09 AM, Land Use <Landuse@weathersfield.org> wrote:

Hi Ray,

Just following up on this question for the ZBA hearing.

Thanks,  
Ryan

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**From:** Land Use <Landuse@weathersfield.org>  
**Sent:** Monday, April 4, 2022 6:42 AM  
**To:** Ray Stapleton <Highway@weathersfield.org>  
**Subject:** Re: Driveway paving

Got it, thanks.

On another note, the ZBA wanted me to double check with you about the highway impact from the Springfield Dam removal project. They calculated about 2,500 truck loads of concrete need to be removed via Wellwood Orchard Road. Did they make that clear to you when they asked you to sign off on the form and does that change anything for you?

Thanks,  
Ryan