

Source Water Protection Guidance Document

For the Development and Preparation of a Source Protection Plan (SPP) and Source Protection Plan Update (SPPU). Last Revised February 6, 2024.

For use by:

Public Community and Non-Transient Non-Community public water systems and Domestic Bottled water systems.

Purpose:

This Guidance document is to be used to assist in completing the blank DWGPD source water protection templates used to develop and prepare a Source Protection Plan and a Source Protection Plan Update for a public water system. The electronic template is found at ANR Online [Source Water Protection Plan Tool form](#).

This Guidance document is based on information and requirements found in the Vermont Water Supply Rule, effective March 17, 2020; <https://dec.vermont.gov/water/laws> and the guidance document, [Protecting Public Water Sources in Vermont](#) by the ANR, DEC, Water Supply Division dated February 24, 1997; <https://dec.vermont.gov/water/drinking-water/public-drinking-water-systems/source-water-protection>.

Instructional guidance is provided that includes 1) an explanation of the individual basic plan components, 2) suggested text, 3) examples, 4) tables and figures, and 5) links to other resources for use in the preparation, development, and completion of the plan document. In cases where the water system is preparing a comprehensive rewrite of the SPP, it is okay to copy and paste language from existing SPPs into the new SPP.

The Guidance document is organized in two parts, Part 1 Source Protection Plan (SPP), and Part 2 Source Protection Plan Update (SPPU), and further by the required plan components. It can be used in whole or in part. We encourage water systems to review the full Guidance document.

All SPP/SPPU shall be submitted electronically using the ANR Online [Source Water Protection Plan Submission form](#). This form requires the water system to self-certify the completeness of the plan submittal and ensures all required plan components are addressed. This form requires certification that the water system has reviewed and agrees to the content of the Source Protection Plan and authorizes the submittal of the plan to the Drinking Water and Groundwater Protection Division. The ANR Online [Source Water Protection Plan Tool form](#) is an electronic plan template used to create a new Source Protection Plan or a Source Protection Plan Update document that can be saved in pdf form, downloaded, and then submitted to the DWGPD using the required Submission Form.

For technical assistance and support [contact the Source Protection Plan Specialist](#).

PART 1 Source Protection Plan (SPP)

COVER PAGE

Discussion of plan component:

The following information should be included on the cover page of the plan document:

- Title of Document – “Source Protection Plan”
- Public Water System Name and WSID #
- Type of Public Water System (Community, NTNC, Domestic Bottled Water)
- Location of Water System (Town/City/Gore)
- Preparer of Plan and Contact information
- Date of Plan Completion

Example:

SOURCE PROTECTION PLAN

OVERSTREET WATER SYSTEM, WSID VT0001234
A PUBLIC COMMUNITY WATER SYSTEM
OVERSTREET, VT

Plan prepared By: Joe Flow, Overstreet Water System Operator
ABC STREET
Overstreet, VT xxxxx
(xxx) – xxx-xxxx

January 10, 2023

TRACKING CHART for SOURCE PROTECTION PLAN UPDATES:

Discussion of plan component:

Include a tracking chart at the front of the SPP document to record and track the amendments, update changes, and revisions by date and by reviewer that will occur as the plan is renewed every three years, or sooner as necessary. This chart will be blank with your initial SPP document submittal and filled in as necessary going forward with plan updates. The chart allows the water system to summarize and track plan changes in one spot for historical reference, easy referral, and quick access.

Example:

UPDATE REVISIONS TRACKER

WSID #VT0001234

Reviewer	Date of Review	Comments, Changes, Revisions, Page #'s, Tables and Figures
Joe Flow, DO	1/10/2026	Updated PSOC Map, Figure 4. and PSOC analysis and assessment pages 4-5. Removal of PSOC #4-Underground storage tank, replaced in 2019 with above ground propane tank. Updated Management Plan of Risk with recent Town adoption of a SPA Overlay District to the zoning regulations, page 9. Updated Emergency Contact Information, page 11. Added new landowners located within the SPA, page 15.

TABLE OF CONTENTS

Discussion of plan component:

Provide an outline of the contents of the plan document in order of presentation. Numbering the pages in the document is recommended and the page numbers should be included in the Table of Contents.

Example:

Update Revisions Tracker chart

Page#

I. Introduction

- A. Purpose of the SPP
- B. Water System Overview and Source(s) Description
- C. SPA Delineation and SPA Maps

II. Inventory and Risk Analysis of Potential and Actual Sources of Contamination

- A. Inventory
- B. Analysis and Assessment of Risk
- C. Potential Sources of Contamination Map (PSOC Map)

III. Management Plan of Risk

- A. Preventative and Protective Strategies and Actions
- B. Summary of Remedial Actions taken
- C. Update of the SPP

IV. Contingency Plan

- A. Key Personnel & Emergency Contact List
- B. Notification Process
- C. Identification of alternative drinking water sources
 - 1. Short-term solutions
 - 2. Long-term solutions
- D. Water System Shut-down/Start-up Procedure (or cite the O&M Manual)
- E. Steps for Emergency Use of an Unpermitted Source

V. References

VI. Appendices

- A. Well Completion Report(s)
- B. Photographs
- C. Listing of Landowners located within the SPA and sample notification letter
- D. Other –
 - Reports and studies
 - Permits
 - Agreements
 - Educational fact sheets
 - Schematics and Site Plans
 - Method of Calculation of SPA

I. Introduction

Discussion of plan component:

Identify who prepared the plan and what steps were taken to develop the plan.

Identify what resource materials, including other source protection plans, as applicable, were used in the preparation of this plan.

Example:

This plan is prepared by Joe Flow, Designated Operator of the Overstreet Water System. A field investigation of the source protection area (SPA) was performed on October 11, 2022 by Joe Flow and water system board member Jackie Stomp. Conversations with landowners within the SPA took place as needed. A record review was conducted with assistance from the Town Clerk of the landowner records, the Planning and Zoning office on land use activities, and a review of the VT Department of Environmental Conservation searchable data bases along with reviewing the Agency of Natural Resources, Natural Resource Atlas for activities and land uses within the SPA.

A. Purpose

Discussion of plan component:

The basic objectives of the Source Protection Plan are to evaluate land use activities within a source water protection area, identify control measures to minimize risks from any potential sources of contamination (PSOC) and to develop a contingency plan in the event of source contamination.

Under the VT Water Supply Rule, a Source Protection Plan consists of the following basic components:

1. Source Protection Area Maps

- (a) A topographic map of the approved Source Protection Area (SPA) with delineated SPA boundaries, including any zone boundaries, and the water system water source(s) identified by name (WSID VTxxxxxxx) and the DWGPD Source Number (WLxxx or INxxx).
- (b) Tax Map or orthophoto map showing all parcels and associated landowners within the Source Protection Area unless this is shown on the topographic map.
- (c) Potential Sources of Contamination Map showing location and identification of any potential and actual sources of contamination located within the SPA.

2. An inventory of the potential and actual sources of contamination located in the SPA with an analysis and assessment of risk posed by the identified PSOC.

3. A Management Plan of Risk to address and manage the risks from the potential and actual sources of contamination.

4. A Contingency Plan.

Example:

Standard language for the "Purpose" is found in the template within the [Source Water Protection Plan Tool](#).

B. Water System Overview and Source Description

B. 1. Water System Overview

Discussion of plan component:

Provide a **narrative** description of the water system from information gathered from the Source Evaluation Report, Source Permit, Permit to Operate, Construction Permits, local knowledge, and GIS databases found on the ANR Natural Resources Atlas. The water system can find and access their records from the DWGPD using the Drinking Water Public Library tool found at the following link: <https://anrapp.vermont.gov/dwlibrary/>. If you have questions, contact the DWGPD staff found on <https://dec.vermont.gov/water/contacts>, Engineering and Water Resources.

The Source Evaluation Report can provide information on:

- Bedrock and surficial geology (rock types, depositional environment, etc.), Structure (fracture pattern, jointing, lineaments), and Soils (type, thickness, stratification, hydraulic properties).
- General land use and activities within the SPA.
- Method used to calculate and delineate the SPA.
- Well Completion Report(s).
- Date and persons conducting field investigation and evaluation.

Describe each water source, its location, and the local water source name and the DWGPD facility ID (i.e., WL001 or IN001). Describe any treatment systems and storage facilities. Describe the status of the water sources (active, inactive, abandoned, emergency back-up, proposed). Use the template tables, Table 1, 1a, and 1b, to summarize the system information.

If the water system has more than one water source, it is beneficial to have a water source summary table for all the sources.

If you find that your water source(s) is/are not accurately mapped on the ANR NR Atlas, contact the DWGPD staff found on <https://dec.vermont.gov/water/contacts>, Engineering and Water Resources.

The VT well database can be a resource for well data information and is found at the following link: <https://anrweb.vt.gov/DEC/WellDrillerReports/Default.aspx>

Example 1: *(taken from Sundance Village Water System SPP dated October 2022 by Weston and Sampson):*

2.0 WATER SYSTEM DESCRIPTION

2.1 Water System Details

According to the well log in the Drinking Water and Groundwater Protection Division (DWGPD) database the well was drilled in 2005, completed to 380 feet below ground surface (ft bgs) with 140 feet of six inch steel casing and 107 feet to bedrock. A 4" inner steel casing was installed between 10 to 141 feet with a Jaswell seal at the bottom and tremie grouted with Portland Type II cement on October 7, 2007. No static level was provided in the well report, but a 2007 pump test indicated a static level of 37.45 feet below casing. The well has a permitted yield of 12.2 gpm. A 3-horsepower pump is set at 340 feet and is on a

variable frequency drive set to pump at 10 gallons per minute. Previously completed testing indicates the well is not under the influence of surface water. Photographs of pertinent water system infrastructure and buildings taken during a September 2022 Site visit are included in Appendix A.

The general slope characteristics of this source protection area (SPA) is mountainous, sloping steeply downward to the east, and is partially wooded with ski trails present upgradient. The lower, more easterly area of the SPA contains residential homes, and a paved access road and driveways. The Source Protection Area (SPA) is owned by private landowners to the east and north and the Mount Snow ski area to the west and south. According to the Source Evaluation Report (H&N, 2008), the area is underlain by dense low permeability/impermeable till material with little downward infiltration.

Sundance Village is a Community Water System (CWS) that serves water to 14 residential properties located adjacent and east of the Mount Snow ski area. Sundance Village owns the land where the well is located west and upgradient of the Site. The well is located on the western side of Sundance Village Parcel 03 and is accessed from the Sundance ski trail which is adjacent to the west of the Sundance Village (ski in/out access). Sundance Village is accessed from Seasons Drive (accessed from Handle Road) which passes through the Seasons at Mount Snow condominium complex as it winds up to the Sundance Village. The Sundance Village and Mount Snow ski resort is located in West Dover (Site) with the locus presented in Figure 1. The well is located near the base of the ski trails with the SPA extending upgradient to the west and downgradient to the east. A copy of the well drillers log is included in Appendix B.

There are 14 residences on the water system which serves up to 140 persons (5 bedrooms per residence x 2 persons per bedroom x 14 residences) through 14 service connections, with 8 buildings under construction and 6 lots currently undeveloped. The system has a calculated average day demand (ADD) of approximately 8,775 gpd and maximum day demand (MDD) of 12.2 gpm (8,775 gal / 720 min). No outstanding Sanitary Survey derived minor or major deficiencies are present. No Sanitary Survey has been completed yet, as the system is just now coming online with up to 8 residences under construction at the writing of this SPP.

Currently, the system has one water supply well, one submersible pump, one water storage tank (~75,000 gallons), treatment for the removal of iron and manganese, treatment for the removal of volatile organic compounds (VOCs) specifically toluene, post-treatment sodium hypochlorite disinfection, a master meter, and distribution that is by gravity flow. The distribution is primarily 8-inch pipe. There are 3 hydrants used for firefighting on the 8-inch distribution pipe. Water system infrastructure and treatment schematics are included in Attachment B.

Example 2: (taken from Leicester Central School water system, NTNC, SPP dated August 2022 by Weston and Sampson):

2.1 Water System Details

The Leicester Central School is located at 68 Schoolhouse Road in Leicester (Figure 1). The Schools water system is a Non-Transient, Non-Community Water System (NTNC) that serves water to the Leicester Central School, the Leicester Town Office and the Town Meeting House, which are located immediately south of the school property along the Schoolhouse Road access. The well is located just north of the school with an open field, the septic tank and several leach field legs are north of the well.

There are up to 115 water system users via the three service connections. The system has an Average Daily Demand (ADD) of 1,725 gallons per day (gpd) and a Maximum Daily Demand (MDD) of 2.4 gpm. Currently, the system has one water supply well, one submersible pump, a master meter, disinfection with sodium hypochlorite, a horizontal contact-time pipe for disinfection, and distribution that is by hydropneumatic tanks. The distribution lines to the Town Office and Meeting Hall depart from beneath the school's kitchen and based on available information splits at the Town Office to feed the Meeting Hall. Photographs of pertinent water system infrastructure and buildings taken during a June 2022 Site visit are included in Appendix A.

The water supply well is believed to have been first installed in the late 1970s or early 1980s and deepened in the late 1980s. The well was deepened with a high yielding fracture encountered at 350 feet. Since the well was deepened in the 1980's it has met the demand requirements for the school without the need for additional storage. The deepened well yield was estimated to be 80 gpm following a short-term blow test.

Weston & Sampson completed a supply well investigation in 2021 due to the persistent presence of poly and perfluorinated alkyl substances (PFAS). The investigation determined that the well extends to 364 feet below top of casing (ft. BTOC) with 50 feet of casing. Several water bearing fractures were observed in the well bore, with the highest yielding being at 360 ft. BOC. This fracture was also found to be nearly free of PFAS. A construction permit was issued in 2022 to modify the well based upon Weston & Sampsons investigation and modification design. A sleeve and series of seals were installed to isolate water withdrawal from the deep fracture. A schematic depicting the seal installations and the well details is included in Appendix B. The well pump is set at 340 ft. BTOC and provides 10 gallons per minute (gpm). The well has a permitted yield of 4.17 gpm.

The general slope characteristics of this source protection area is relatively flat with a gentle slope towards the north and the south from the wellhead, with wooded land and residential homes to the west, a gasoline/convenience store and residence to the east and the Town Office, Town Meeting Hall, a church and residences to the south. The Source Protection Area (SPA) is owned by private landowners, The Town of Leicester and the Leicester Central School.

TABLE Example:**Table 1. Water System Overview Summary**

DWGPD Water System Name	Overstreet Water System
Water System WSID #	VT0001234
Type of Public Water System (PC,NTNC, DBW, Consecutive, TNC)	Public Community Water System
Name of Community Served	Overstreet, VT
Population served	140
Number of connections	14
Designated Operator	Joseph Flow
Water Sources Facility ID and local name (i.e., WL001, Hatfield well #1)	WL001- old well, well #1 WL002 – new well, well #2 WL003 – Upper spring (abandoned, inactive)
Water System Treatment	Sodium hypochlorite - standby
Water System chemical storage	Sodium hypochlorite in 50 gallon drums using secondary containment measures (no more than 3 drums on site at a time)
Water System Storage	75,000-gallon concrete storage tank
Date of Effective Permit to Operate	April 14, 2018
Approved Permitted Yield (gpm)	12.2 gpm
Maximum Daily Demand Rate (gpd)	
Waivers (SOC, VOC, IOC)	SOC- expires 3/1/2026
Date of Last Sanitary Survey	May 5, 2021
Emergency Sources	Well #7, physically disconnected, estimated well driller's yield 8 gpm
Redundant Sources	

TABLE Example:

Table 1a. Summary of Water Sources

DWGPD Facility ID	Local Water System Source Name	Type of Source	Status (active, inactive, abandoned, proposed, emergency)	Date of installation completion	Depth of source	Casing type and length and sealant	Well Drillers Yield	Permitted Approved Yield	Well Completion Report or Well Tag ID number
WL001	Old well, well #1	Bedrock well	Active	1975	130'	Steel , 80', drive shoe, grouted Portland cement	6 gpm	2.2 gpm	WCR 54
WL002	New well, well #3	Bedrock well	Active	2000	240'	Steel , 120', drive shoe, grouted Portland cement	20 gpm	10 gpm	TAG# 67801
WL003	Upper Spring	Dug well	Abandoned	1903	15 '				
WL004	Well #2	Bedrock well	Inactive, physically disconnected Emergency unpermitted	1976	150	unknown	3 gpm		WCR 63 TAG# 63

Table 1b. Water Source Coordinates

DWGPD Water Source Name and ID	Latitudinal coordinates (degrees, minutes, seconds or Decimal degrees)	Longitudinal coordinates (degrees, minutes, seconds or Decimal degrees)	WELL TAG ID
WL001, well 1	44.33880°N	-73.11950°W	WCR 54
WL002, well #3	44.33919°N	-73.11920°W	TAG 67801
Method used to gather coordinates - iPhone			

The VT well data base can be a resource for well data information and is found at the following link:

<https://anrweb.vt.gov/DEC/WellDrillerReports/Default.aspx>

C. SPA DELINEATION and SPA MAPS

Discussion of plan component:

A Source Protection Area (SPA) is the surface and subsurface area from or through which contaminants are reasonably likely to reach a water system source. There are groundwater and surface water SPAs.

In the SPP describe the Source Protection Area and provide a brief summary of the land use and activities occurring in the SPA. Identify any significant activities. Describe the method(s) used to delineate the SPA/SPAs and identify any applicable zone boundaries.

The SPA for the water system must be identified and mapped for all active water sources. Provide a Topographic Map of the approved Source Protection Area (SPA) with delineated boundaries, including any zone boundaries. Include all water sources identified by name (WSID VTxxxxxx) and DWGPD Facility ID Number (WLxxx or INxxx) on the map.

In addition, provide a Tax Map or orthophoto map showing all parcels and associated landowners within the Source Protection Area. Parcels must be identified and must include all parcels fully or partially located within the SPA boundary.

In addition to the above, Maps must include the following basic information:

1. Town.
2. DWGPD Name of the water system.
3. DWGPD Water System Identification (WSID) number.
4. Name of person preparing the map.
5. Scale of the map.
6. North arrow.
7. Date of Map; and
8. Any other information requested by the DWGPD.

As background:

Every SPP needs a clearly delineated Source Protection Area (SPA) within which the Source Protection Plan (SPP) will be implemented. Before a SPP can be prepared, the water system must know where the boundaries of its approved and permitted Source Protection Area(s) are. The Source Permit Approval process includes the delineation, public notice, and approval of a SPA for each permitted water source. The method and calculations used to delineate the SPA is found in the Source Permit Pump Test and Evaluation Report and is based on the requirements outlined in the VT Water Supply Rule. The approved SPA Map is found with the Source Permit and appears on the ANR Natural Resources Atlas. To access the Natural Resource Atlas, follow the link at: <https://anrmaps.vermont.gov/websites/anra5/>

In some cases, prior to DWGPD jurisdiction, a water system received approval from the VT Department of Health for their water source(s) and aquifer protection area(s) (now called a SPA). These water

sources and delineated SPAs are shown on the ANR NR Atlas. The water system should inquire with the DWGPD to see what information, if any is available in the water system's archived records.

The SPA for the water system must be identified and mapped for all active water sources. If your source protection area is not mapped, or you find it is mapped incorrectly, contact the Drinking Water and Groundwater Protection Division staff hydrogeologist found on the DEC website, Engineering and Water Resources at: <https://dec.vermont.gov/water/contacts>. Any change to a permitted SPA requires application to the DWGPD for a new Source Permit and new SPA delineation.

A **Groundwater SPA** shall be delineated with the following zones, in a manner that reflects the hydrogeologic setting. The delineated zone boundaries of a groundwater SPA depict the recharge areas that supply water to a public water source. Typically, there is a primary recharge area and a secondary recharge area.

Zone 1 is typically a 200-foot radius around the groundwater source (well, spring, infiltration gallery). This is the isolation zone, a protective zone, where impacts from contaminants is likely to be immediate and certain. This isolation zone is the most critical for protection of the public drinking water source and is under the control of the water system.

The VT Water Supply Rule has a list of permitted and prohibited land uses for this zone 1 boundary found in Appendix A Subpart 3.3.1.2(e).

Zone 2 is the area where impacts are probable from potential sources of contamination. This is the primary recharge area. This zone encompasses the area that is within the zone of influence of the well, calculated by conducting a pump test and is influenced by water usage and pumping rates. It consists of contributions from the monitoring radius as established as part of the Source Interference Testing for new systems under the requirements of a Source Permit and is outside the Zone 1 boundary.

Zone 3 is the area where possible impacts from potential sources of contamination may occur. It is the outer most boundary of the Source Protection Area, topographically above Zone 2, and consists of the remaining recharge area not delineated in Zone 2. It is known as the secondary recharge area and can be thought of as the area supplying recharge to the public source simply by natural groundwater flow.

Two-year Time of Travel (2YTT) zone shall be used to identify a protection area to provide adequate protection from pathogen threats resulting from onsite disposal of sewage.

A **Surface Water SPA** includes all tributary streams and basins, natural lakes and artificial or natural impoundments above the point of water supply intake. Source protection area delineation for surface water sources shall include the following zones:

Zone 1 shall consist of an area 200 feet in radius around the intake or as otherwise determined by the Secretary of the Agency of Natural Resources.

The VT Water Supply Rule has a list of permitted and prohibited land uses for this zone 1 boundary found in Appendix A Subpart 3.3.1.2(e).

Zone 2 shall consist of areas within the watershed located within 200 feet of perennial surface water and limited to 17,000 acres.

Zone 3 shall consist of the remaining watershed area beyond Zones 1 and 2, except as may be reduced by the Secretary on a case-by-case basis giving consideration to the size of the watershed and the likelihood of contamination of the source.

A **Public Community** water system SPA is based on the hydrogeologic characteristics of the aquifer and has zone boundaries, including the isolation zone (zone 1) or area of protection. The source isolation zone is defined as a water system controlled 200' radius around the proposed source. The VT Water Supply Rule has a list of permitted and prohibited land uses for this isolation zone boundary found in Appendix A Subpart 3.3.1.2(e).

An **NTNC** water system SPA is generally a circle centered on each water source with a radius, determined by the maximum amount of water used daily (in 12 hours) by the water system. NTNCs with a circular radius SPA do not have zone boundaries or an isolation zone. Protection of the NTNC water source from potential contaminants is described in the VT Water Supply Rule, in Appendix A, Part 11, 11.4 Isolation and Separation Distances.

The methods for calculating the SPA are found in the VT Water Supply Rule found at the following link: <https://dec.vermont.gov/laws> and the guidance document, PROTECTING PUBLIC WATER SOURCES IN VERMONT, February 24, 1997, found at the following link: <https://dec.vermont.gov/water/drinking-water/public-drinking-water-systems/source-water-protection>

Example 1: (taken from Leicester Central School water system, NTNC, SPP dated August 2022 by Weston and Sampson):

Method of Source Protection Area Delineation

Figure 2 shows the approved 500-foot radius Source Protection Area (SPA) for the Leicester Central School supply well on a topographic map, and Figure 3 shows the SPA on an orthophoto map. The 500-foot radius SPA was generated by comparing the water systems maximum daily demand (MDD) of 2.4 gpm with the table in Section 4.3.2 in the VT ANR "Protecting Public Water Sources in Vermont, Agency of Natural Resources Guidance document, February 24, 1997" and included in Appendix C. The table specifies the SPA radius based on the MDD range of 0-4.9 gpm which indicated a 500-foot SPA.

The general slope characteristics of this source protection area is relatively flat with a gentle slope towards the north and the south from the wellhead, with wooded land and residential homes to the west, a gasoline/convenience store and residence to the east and the Town Office, Town Meeting Hall, a church and residences to the south. The Source Protection Area (SPA) is owned by private landowners, The Town of Leicester and the Leicester Central School.

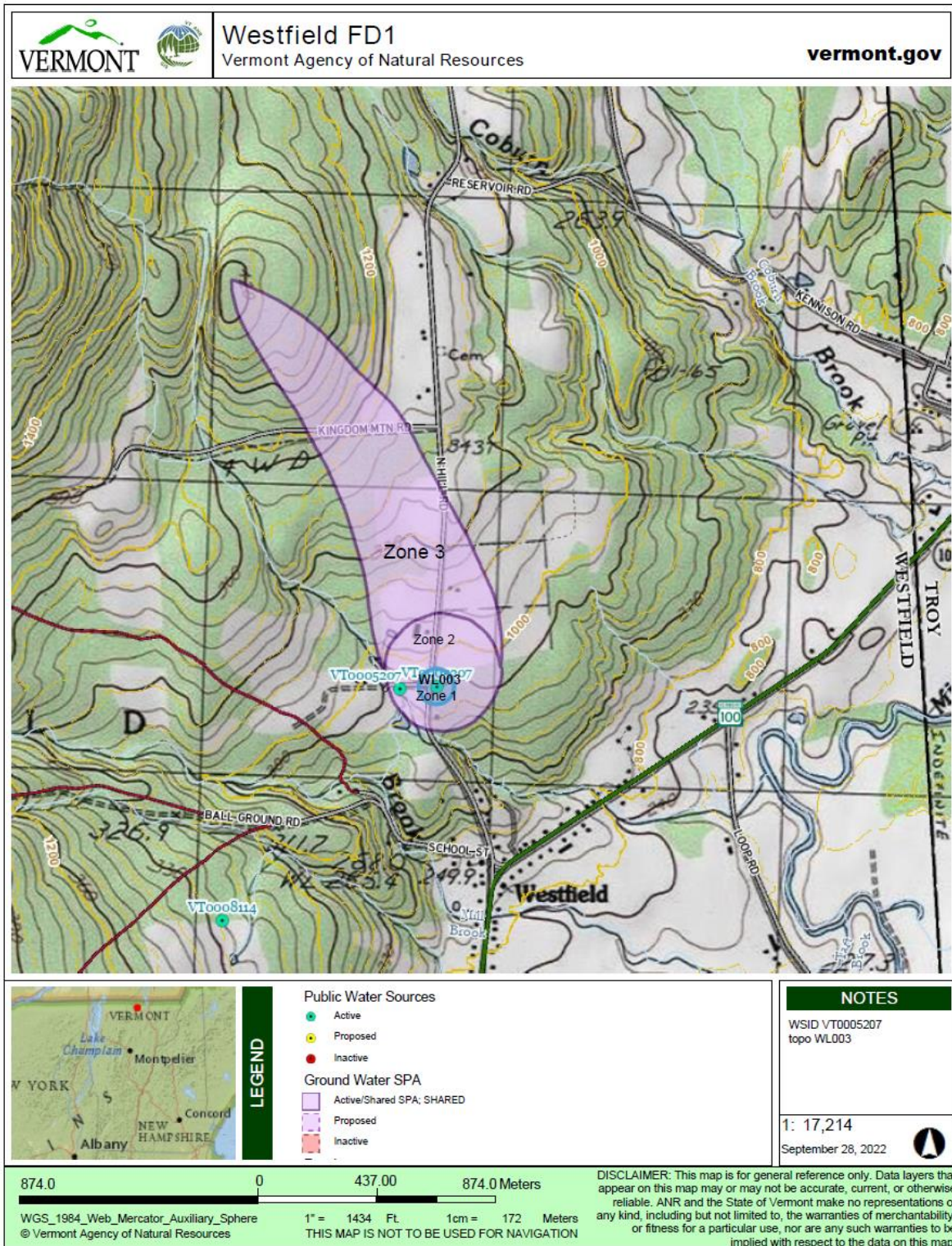
Example 2: (taken from Westfield FD1 SPPU, September 2022, VRWA)

The combined SPA's cover approximately 136 acres of agricultural, residential, and commercial, land use. Most of the SPA is either forested or agricultural fields. Each source has an approved separate SPA. The Spring (WL002) which has been in use as a water source since 1894 has zones 1 and 2 delineated. Well 3 (WL003) was constructed in 2014 and has all 3 zones delineated.

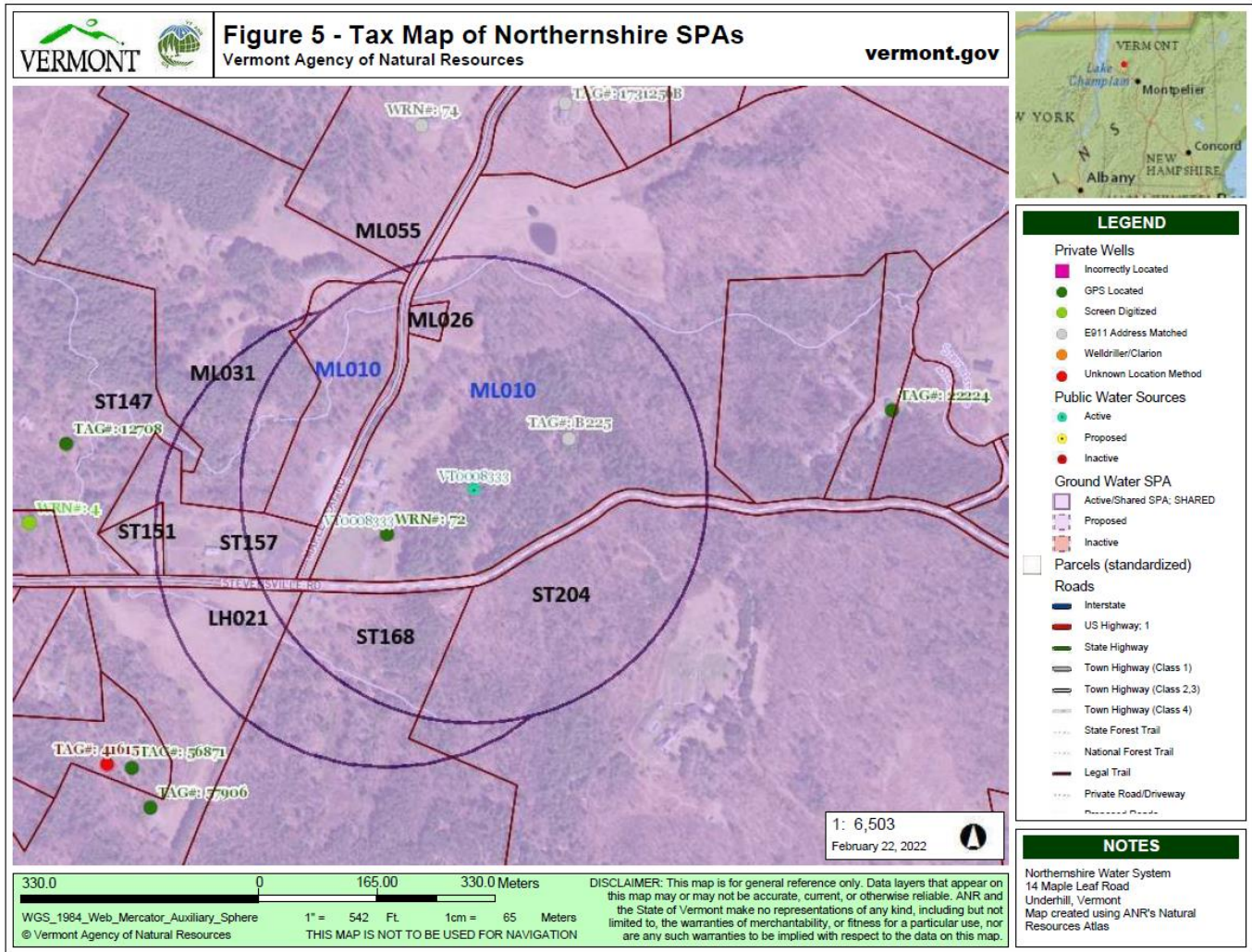
The ANR Atlas indicates that the SPA contains Prime agricultural soils:

North Hill Road is a paved class 2 Town highway located in zone 1. Other roadways are gravel dead end roads including Bessette road which is located in zone 1 of WL002. There is a surface water pond upslope of WL002 and a class 2 wetland area downslope. A small scale commercial self-storage business is located in zone 2 of WL003 and zone 3 of WL002.

SPA MAP Example:



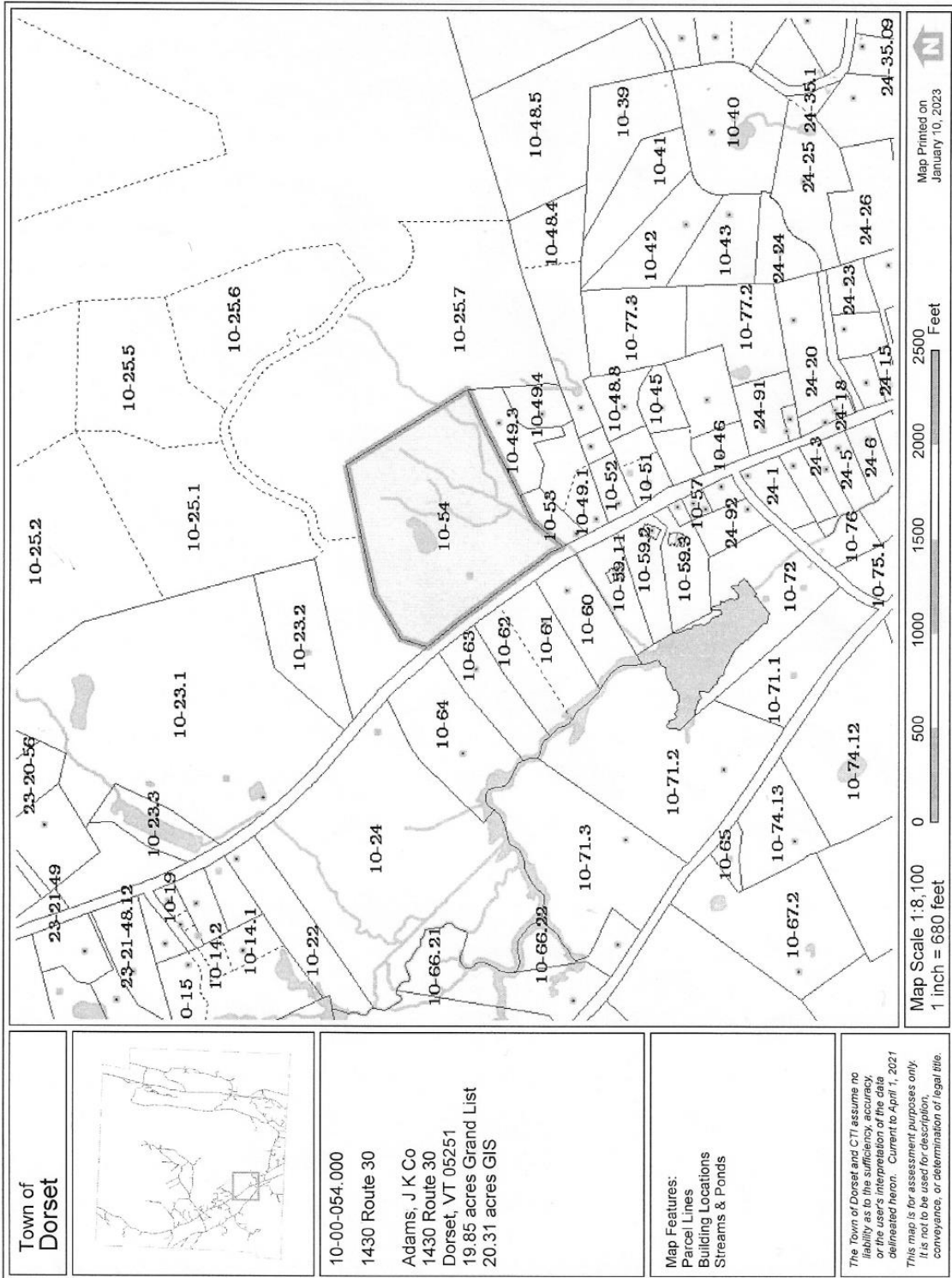
Parcel Map Example- orthophoto



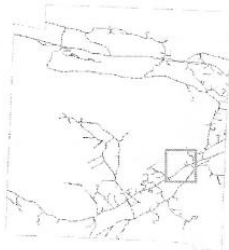
Town Parcel Map Example:

Fig 3

10-3 De



Town of Dorset



10-00-054.000
1430 Route 30
Adams, J K Co
1430 Route 30
Dorset, VT 05251
19.85 acres Grand List
20.31 acres GIS

Map Features:
Parcel Lines
Building Locations
Streams & Ponds

The Town of Dorset and CTI assume no liability as to the sufficiency, accuracy or the user's interpretation of the data delineated herein. Current to April 1, 2021. This map is for assessment purposes only. It is not to be used for the conveyance, or determination of legal title.

II. Inventory and Analysis of Potential and Actual Sources of Contamination

Discussion of plan component:

Every SPP will need an inventory and an assessment of the Potential Sources of Contamination (PSOCs) that occur within the SPA. Each PSOC will have some level of risk (low, medium, or high) which must be determined in order to select the appropriate management technique. Gathering information specific to each potential contaminant source within the drinking water source protection areas will allow the water system to focus their protection efforts. A list of resources and links to data bases for assistance in performing the PSOC inventory and assessment is found in the Guidance document [Appendix](#).

A PSOC Map must be provided which shows the delineated approved SPA with the location of all the inventoried PSOC identified and accurately located on the map. The unique PSOC number assigned in the PSOC inventory and risk evaluation will be shown on the map. All maps and tables need to coordinate with one another.

Provide a descriptive narrative for the identified PSOC. A summary of the findings for the Inventory (section A below) and the Analysis and Assessment of Risk (section B below) can be put into a Table. See example Table 2. Summary of PSOC Inventory and Assessment of Risk following these sections.

Examples of an inventory, analysis, and assessment of risk are found at the end of the *Discussion of plan components* (sections A. and B.) and after example Table 2.

A. Inventory

Discussion of plan component:

Identifying Potential Sources of Contamination (PSOCs) within Public Water Source Protection Areas (SPA) is one of the more critical steps towards protecting water quality at the source. Many human activities and natural processes can contaminate water. However, not all potential sources of contamination are of equal concern in determining risk to human health. Most contaminants can be linked to a limited number of activities or land uses. A list of many of the Potential Sources of Contamination (PSOCs) which are of particular concern to drinking water quality in Vermont is found in the Guidance Document [Appendix](#). The list is not complete. There may be other PSOCs within your Public Water Source Protection Area (SPA) which you should address.

Gather relevant information for each individual potential contaminant source located within the water system's established SPA.

The inventory shall include the following:

- facility/business/landowner name and the land use activity occurring,
- the contact's name and address for the facility /business/landowner,
- the nature of the contaminants, and
- the location within the SPA (specify the distance to water source or the zone boundary the PSOC is located in).

The DWGPD may give permission to the water system to group certain PSOC together, rather than having them listed individually in the plan.

B. Potential Sources of Contamination Analysis and Assessment of Risk

Discussion of plan component:

Not all PSOCs are of equal threat to public water supply sources. The risk to the water source is assessed by considering a variety of factors. The purpose of the assessment is to allow for the management of PSOCs in the SPA and to focus first on those high-risk activities and last on the lower risk ones. The assessment is performed to determine how susceptible or vulnerable the water source is to the potential contaminant. A list of common PSOC in Vermont and the contaminant(s) of concern is found in the Guidance Document [Appendix](#).

The Source Protection Plan shall include an assessment of low, medium, or high risk for the potential source of contamination affecting the public water source(s). Please note, by VT Water Supply Rule, for a Public Community Water System, in Zone 1 areas (the isolation zone), the risk ranking shall be “high” for any activity identified as a “prohibited land use” in Appendix A Subpart 3.3.1.2(e). Also, for any actual sources of contamination located in the zone 1 area, the risk ranking shall be “high.”

<https://dec.vermont.gov/water/laws>. This is because the impact from a contaminant is likely to be immediate and certain.

In the assessment description identify, 1) who performed the assessment, 2) the resources and information used to make the assessment, and 3) the factors considered. The Source Protection Plan must include justification for the ranking. Therefore, provide the rationale and justification used in the evaluation and assessment of each PSOC that determined the assigned risk level (low, medium, high) for that PSOC.

The actual risk to the source and the health of persons from each contaminant at each activity shall be made upon considering the following factors:

- (a) distance from potential or actual source of contamination to drinking water source
- (b) toxicity of contaminants (if chemical)
- (c) the relative elevation of the bottom of source compared to discharge point or potential discharge point at the PSOC
- (d) level of control exerted over PSOC (is the PSOC regulated by a permit, such as a pesticide or herbicide application? Is it under the control of the water system?)
- (e) volume of contaminant which is, or might be, released at the PSOC
- (f) a past, present and ongoing, or a potential discharge
- (g) the nature of the soils between the PSOC and the source
- (h) the aquifer characteristics, if known
- (i) type and severity of illness associated with the PSOC if contaminants are disease causing
- (j) source construction integrity
- (k) detection of chemical or microbiological contaminants; and

(l) other factors which might help evaluate the level of risk as low, medium, or high.

Further considerations in assessing a risk level may include the following:

- ✓ What, if any, impact does the PSOC have on critical/significant/vulnerable populations located within the SPA.
- ✓ Do applicable facilities/businesses operate under a Spill Prevention, Control, and Countermeasure (SPCC) Plan to help prevent a discharge of oils and petroleum products into the water resources, thus reducing and actively managing the level of risk for the PSOC. What other management practices are required by the facility?
- ✓ Are Best Management Practices followed in the SPA that help to reduce the level of risk for a given PSOC, for example agricultural practices?
- ✓ Does the municipality's Town Plan consider public water systems and source water protection in local planning?
- ✓ Are there local Land Use regulations such as Zoning and Overlay Districts in place that provide added protection of the public water system water source and SPA, helping to reduce the level of risk?
- ✓ Is the SPA protected by the use of Land Trust easements and conservation areas?
- ✓ Is the facility or activity regulated? If yes, who is the regulatory authority?
- ✓ Is there a history of violations? If yes, how have they been addressed?
- ✓ What is the age of the facility and has equipment been properly maintained and/or upgraded?
- ✓ Are contaminants stored and/or disposed of correctly?
- ✓ What is the quantity of contaminant(s) being handled, stored and/or discharged?
- ✓ Is the potential contaminant source identified in other watershed-based management plans? If yes, how is it being addressed?

TABLE Example:

Table 2. PSOC Inventory and Assessment Risk Table

PSOC #	Tax Map Parcel ID #, Lot #	Landowner/Facility/Business Name and Contact Address	Land Use Activity/Type of Use	PSOC Description	Contaminant(s) of Concern	Zone and/or Distance to source	Risk Level		
							Low	Med.	High
1	L-2-30	Robert Smith 25 Smith Hill Rd West Overshoe, VT 05000	Residential	On-site sewage disposal, UST fuel oil, lawn care, hazardous household waste	Pathogens, VOCs, SOCs, lawn fertilizers, Nitrates, metals	Zone 3 1000 ft	X		
2	L-2-45	BTL Enterprise 115 Smith Hill Road West Overshoe, VT 05000	Commercial	20 year old underground storage tank 1,000 gallon gasoline fuel	VOCs, petroleum products, SOCs	Zone 2 250 ft			X

Example 1: (Westfield FD1, SPPU, Sept.2022, VRWA)

Potential sources of contamination (PSOC) within the SPA for these sources were identified using the data available from the Vermont Natural Resources Atlas, field inspections, and interviews with Water System personnel to obtain local knowledge. Each PSOC is assigned a risk level (**Low**, **Medium**, or **High**) based on several factors. To determine these risk levels, the nature and quantity of the contaminants; the level of control the Water System may have over the PSOC; the distance from the source; and the routes by which the PSOC could potentially reach groundwater, were considered. The descriptions of individual PSOC's below match the summary provided.

Inventory & Risk Assessment Table					
PSOC	Description	Property Type/Use	Zone	PSOC's	Risk
VOC's – Volatile Organic Chemicals SOC's-Synthetic Organic Chemicals IOC's- Inorganic Chemicals					
1	Residential Properties: Heating Fuel Storage Tanks Parked/leaking Vehicles Fertilizers/Pesticides/Algaecide Household Hazardous Waste Onsite Wastewater Disposal Systems Private Wells	Residential	1/2/3	VOC's SOC's IOC's Nitrates Bacteria	High
2	Roadways: North Hill Road Bessette Road Deslandes Road Kingdom Mountain Road	Transportation	1/2	VOC's SOC's IOC's Sodium Chloride	High
3	Agriculture: Manure Spreading/Spraying Agrochemicals	Agriculture	1/2/3	Nitrates Bacteria VOC's SOC's IOC's	High

PSOC 2 Roadways: North Hill Road is a paved class 2 Town highway located in zone 1 of WL003. Paved roads are a prohibited land use within zone 1 according to the VT Water Supply Rule (March 2020 revision) Appendix A Subpart 3.3.1.2(e). Prohibited land uses within the isolation zone are given a high risk ranking according to the VT Water Supply Rule (March 2020 revision) section 16.2.4. The other roads are gravel dead end roads with low slow traffic. Bessette Road is a private drive to a residence, it is located in zone 1 of WL002. Spills/leaks from vehicle accidents including trucks which may haul chemicals or residential heating fuel is a concern on all the roadways within the SPA. Roads have to be maintained during winter months for public safety. Salt and salted sand are applied to North Hill Road, salt is not applied to gravel roads. Salt runoff from roadways can have an effect on groundwater quality. Because of the types of hazards associated with vehicle accidents/spills and because North Hill Road is within zone 1 of WL003, this is considered a High Risk.

PSOC 3 Agriculture: The source is located in an agricultural community, there are approximately 40 acres of active agriculture within the boundary. These areas are a mixture of mowed hay fields and planted crops. There is active field directly upslope from WL002 within zone 1. Manure spreading and agrochemicals may be used on any of the agricultural fields within the SPA to promote/inhibit grow. Vehicle/equipment spills/leaks could also occur. Because of the proximity of the active agriculture to the sources this is considered a High Risk.

Example 2: (Hinesburg SPPU, July 2022, Sprague GeoScience, LLC).

The following presents the PSOCs located within Zone 2 of the SPA.

PSOC #1A and 1B: Hinesburg Jiffy Mart Gas Station/Convenience Store (Former Ballard’s Store)

Span#: 10072, Owner: Global Montello Group.

PSOC 1A: Hazardous Waste Site # 931409. According to information available from the State of Vermont Natural Resources Atlas the site is considered a low priority. Petroleum contamination is present in the soils and shallow groundwater, but has had no effect on sensitive receptors. The property was destroyed by fire in 2011. As part of the rebuilding process, contaminated soils were removed from the site. Ongoing groundwater monitoring is currently being conducted at the site. The potential risks consist of petroleum contamination. Given the low priority status, the fact that sensitive receptors have not been affected, and that the site is underlain by clay, this is considered a low risk.

PSOC 1B: Underground Storage Tanks (USTs). A list of the active USTs located at the Hinesburg Jiffy Mart is presented in Appendix H. There are a total of five (5) permitted Category 1 USTs located on the property. These are used to store gasoline, diesel fuel, and off-road diesel. The potential risks consist of a release of petroleum to the environment, either by a leak or overfill of the tanks, or a spill/overfill by the customers. The tanks are double-walled and are equipped with leak and overfill protection. In addition, the site is underlain by clay which provides protection to the underlying bedrock aquifer. Because the tanks are only about 820 feet up gradient of the wells, and petroleum constituents can move relatively quickly in the groundwater this site is considered medium risk.

**Table 2A.
Potential Sources of Contamination (PSOCs) -
Inventory and Risk Evaluation (Wells 4 & 5 SPA)**

Span #* (Plan 1)	Property Use	Potential Source Of Contamination (PSOC)	Associated Contaminants	PSOC ID#	Risk		
					L o w	M e d	H i g h
10072	Hinesburg Citco (Jiffy Mart): Gas Station – Haz Waste Site 931409	Petroleum contamination	VOCs/ SOCs	1A	X		
10072	Hinesburg Citco: Gas Station – USTs	Gasoline, Diesel, Off- Road Diesel	VOCs/ SOCs	1B		X	
10371	Bus Maintenance Garage Haz Site 972248	Petroleum contamination	VOCs/ SOCs	2	X		

Example 3: (Leicester Central School Water System, SPP, August 2022, Weston & Sampson)

3.0 The Leicester Central School is situated in the small town of Leicester in a primarily rural residential and municipal office area. Properties within the SPA consist of residences, municipal buildings and access roadways/parking areas. The localized topography slopes northward from the well, but the area wide topography slopes gently to the west. The school property is generally mowed weekly when children are present, and no pesticides, herbicides or fertilizer are used on the property.

3.1 Past, Present and Future PSOC

The below Table 1 and included Figure 4 list the identified PSOCs in the SPA at the Leicester Central School. The SPA PSOCs are presented and evaluated in the Risk Evaluation below. Currently, no additional development in the SPA is being planned.

Table 1 - Identified PSOCs of Source No. 001 & 002				
Unique PSOC ID No./Parcel ID (See Fig.4)	Property Use	On-Site PSOCs	Risk Evaluation (High, Medium, Low) & Well Impacted	Contaminant Name (List Individual Contaminants)
1 / 345-107-10719	Leicester Central School	Petroleum - Fuel Oil UST, Septic System, Roadway	High	Volatile Organic Compounds (VOCs); nitrate, bacteria, viruses & PFAS; petroleum products, metals, PAHs, salt
2 / 345-107-10815	Town of Leicester (Town Office)	Septic System, Roadway	Medium	Nitrate, Bacteria, Viruses, PFAS; petroleum products, metals, PAHs, salt
3 / 345-107-10069	Brush Residence	Septic, Fuel Oil AST, Roadway, Horse Stable	Medium	Nitrate, Bacteria, Viruses; VOCs; petroleum products, PAHs, Metals, Salt

PSOC No. 1. The school has an underground storage tank (UST) containing #2 fuel oil for heating purposes. The tank is located approximately 60 feet east of the supply well. Fuel storage tanks are PSOCs as a release of petroleum could impact the overburden or bedrock aquifer and the supply well. The tank was installed in 2005 after the removal of a previous 6,000-gallon fuel oil UST (Facility ID 5559728). The database does not contain information regarding the current UST. The previous UST had released fuel oil into the subsurface. A Site Investigation was completed in 2006 and 2007 with groundwater monitoring wells installed and impacted soils removed from the tank grave and transported to a nearby gravel pit for storage and eventual thin-spreading. Groundwater was not impacted by volatile organic compounds (VOCs) indicative of petroleum fuels. The Site was closed in 2013 after the off-Site impacted soils were deemed clean. The fuel delivery company should be informed of the SPA and a request should be made for extra care during fuel transfer to avoid spillage to the ground surface. Any spills should be

immediately cleaned up and the regulatory authority (VTDEC Spills Hotline 1-800-641-5005) should be informed if a release of two gallons or more occurs. This PSOC is considered a high risk to Well Source WL001 due to the close proximity to the supply well and potential for a release related to the use of the current UST.

A septic leach field and tank are present sixty to eighty feet north of the supply well. Septic systems are PSOCs due to the presence of viruses, bacteria, and nitrates. The water system regularly tests for nitrates and bacteria and their presence would be noticed. However, PFAS were detected in the drinking water above the Maximum Contaminant Level and in the on-Site septic tank. As a result of the well sleeve and seals installed in December 2021, PFAS has not been detected above laboratory reporting limits since. It is recommended the septic system be inspected and monitored, and the septic tank pumped out every two years. This PSOC have is considered a high risk to Well Source WL001 due to the close proximity to the supply well.

The access roadway, Schoolhouse Road, and school staff/visitor parking are present to the south and northeast of the supply well. Roadways and parking lots present potential fuel or vehicle related petroleum product, such as oils, lubricants, brake or steering fluid releases, which in sufficient quantity could impact the supply well. This PSOC is a medium risk of impacting source well WL001 due to the parking's close proximity to the supply well.

PSOC No. 2, The Town Office has a septic leach field and tank located 185 feet southeast of the supply well. Septic systems are PSOCs due to the presence of viruses, bacteria, and nitrates. The Town Office receives its drinking water from the school's well. The water system regularly tests for nitrates and bacteria and their presence would be noticed. It is recommended the septic system be inspected and monitored, and the septic tank pumped out every two years. This PSOC is considered a medium risk to Well Source WL001 due to the PFAS impacts and relative proximity to the supply well.

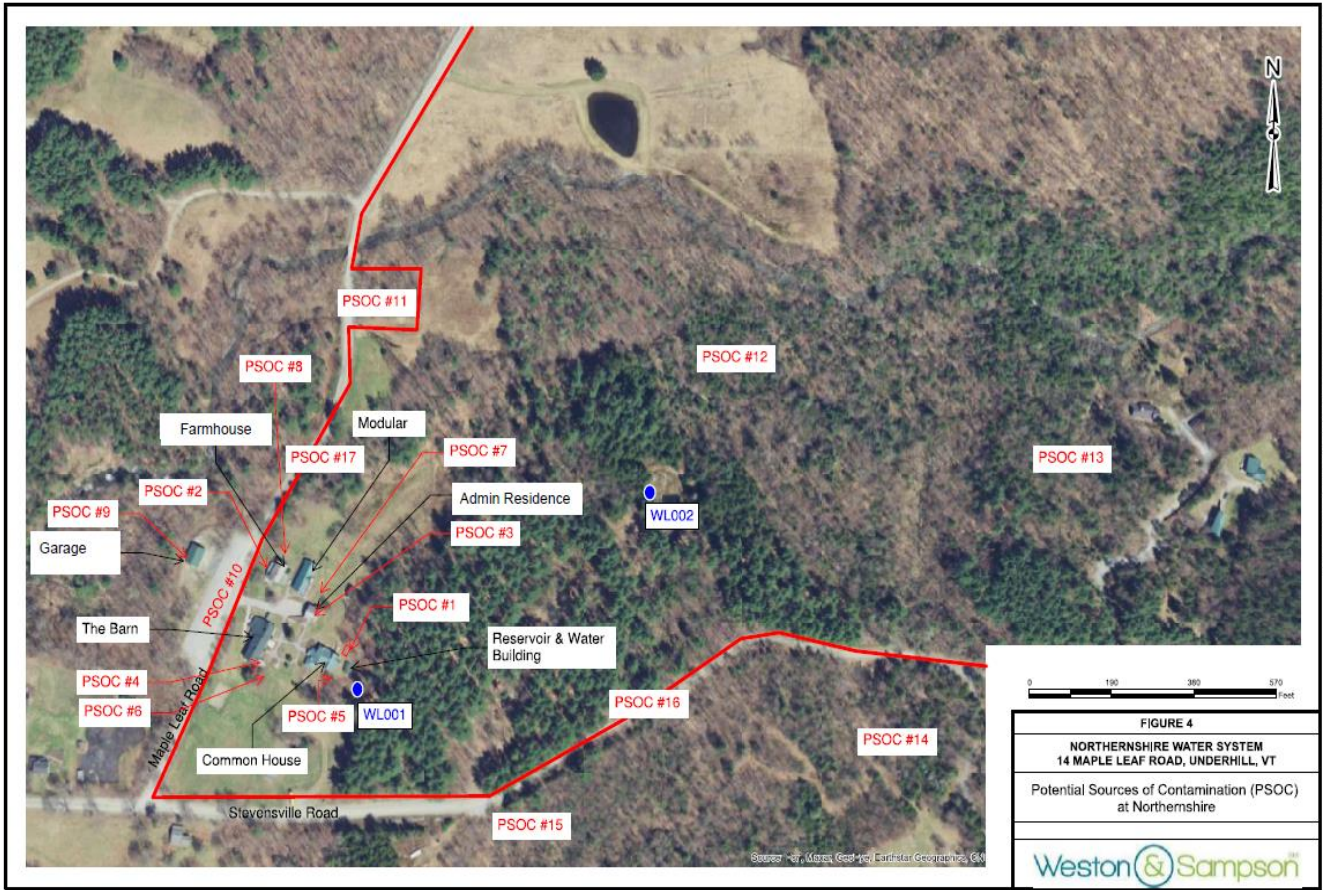
The access roadway, Schoolhouse Road, and Town Office staff/visitor parking are present to the south of the supply well. Roadways and parking lots present potential fuel or vehicle related petroleum product, such as oils, lubricants, brake or steering fluid releases and metals, which in sufficient quantity could impact the supply well. This PSOC is a medium risk of impacting source well WL001 due to the PSOCs relative proximity to the supply well.

C. Potential Sources of Contamination (PSOC) Map

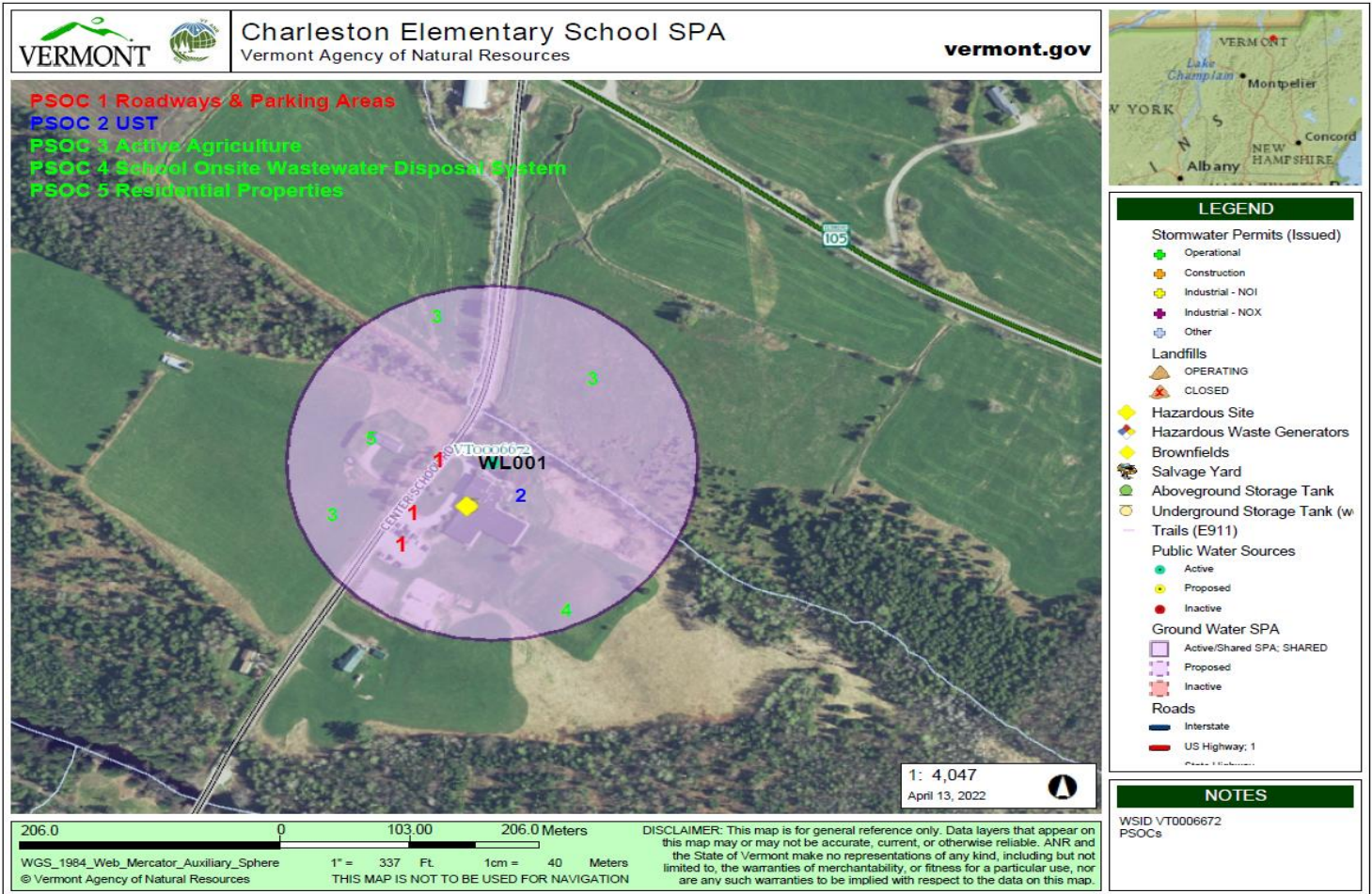
Discussion of plan component:

The identified PSOC must be recorded on the tax or orthophoto map showing the relative location within the SPA. Show each PSOC on the map with a small symbol or label at the correct location and identify it with the unique PSOC number taken from the PSOC Inventory and Risk Evaluation.

Example 1 PSOC MAP:



Example 2 PSOC MAP:



III. Management Plan of Risk – actions and strategies

A. Preventative and Protective Strategies and Actions

Discussion of plan component:

The Source Protection Plan shall contain a plan for managing the potential and actual sources of contamination in an effort to reduce, mitigate, or eliminate the risk to the drinking water supply. This plan shall be directed towards controlling existing potential sources of contamination and, where possible, reducing risks of future potential contamination. Public education and awareness are key to managing risk and protecting the public drinking water supply because everyone poses a risk to groundwater and surface water. Most homeowners and business owners will work to try to protect their local water resources if they know how to minimize contamination risks.

Key points:

- Emphasis should be on identifying and implementing management strategies and actions for those Potential Sources of Contamination (PSOC) identified with a high-risk level or needing immediate action.
- Choose which methods best address the water systems' needs and capacity.
- Consider the type of PSOC and devise an activity that you could reasonably undertake to reduce the risk of contamination. This can be something you have direct control over, or it could be just reaching out to your neighbor.
- A single PSOC may have multiple strategies and actions aimed at managing its risk to the public drinking water source.
- A list of Management Actions and Strategies by category is found in the [Appendix](#) of the Guidance document.
- The VT Water Supply Rule requires a water system at a minimum, to notify all landowners located within the Source Protection Area of the water system's Source Protection Plan. This includes properties with only a portion of the land located within the SPA boundary. The tone of the letter should be neighborly and cooperative and open the door for effective management and education. A list of the current landowners located within the SPA must be included in the plan document with their mailing addresses. The Town Clerk can assist you in confirming the landowners with property in the SPA.
- Water systems using Lake Champlain as a source shall include information about watershed protection in their management plan. Water systems should refer to the Agency of Natural Resources, Watershed Management Division for a copy of the watersheds Basin Plan at <https://dec.vermont.gov/water-investment/watershed-planning/tactical-basin-planning>

Considerations when developing implementation actions and strategies:

Ask, how will actions address the contaminant of concern? What is the timeline for implementation and by who? What partnerships are needed? Does the risk require an immediate, short-term, long-term, or on-going action or strategy? Creating an implementation timeline will allow the water system to organize protection efforts, develop reasonable expectations, and encourage completion of the work.

The SPP should identify how the water system will manage the risks in conjunction with the PSOC's responsible party. During this process, the water system should evaluate the options for its local government to participate in SPA protection. In most cases, local governmental support will greatly facilitate source protection. Remember, the management of contaminants from PSOC is a process which requires at least some level of cooperation from the person or persons responsible for the activity which is the PSOC.

Think broadly. Consider a variety of educational efforts on protecting groundwater and surface water, adopt a zoning ordinance that includes a source protection overlay district, increase the water systems control of the SPA by the purchase of land or conservation easements to protect the drinking water quality, maintain a vegetative buffer zone for surface water sources, provide educational materials to residents on proper septic system care and maintenance, work with area school programs, collaborate on efforts for household hazardous waste recycling and disposal collection days, make facility upgrades and improvements as necessary, install fencing and protective barriers around the water source, encourage local and state road maintenance programs to limit the use of salts and deicing agents on roadways in the SPA, promote and encourage the use of Best Management Practices in the watershed for agricultural and forestry land use activities. Having good forest cover in the SPA is considered one of the best ways for maintaining, or improving, both the quantity and the quality of groundwater and surface water. Maximizing tree coverage within the watershed increases groundwater infiltration, reduces erosion, and reduces the probability of contaminant releases into the watershed.

A table can be used to organize the management plan information. Use the list of Management Actions and Strategies by category found in the Guidance Document [Appendix](#) to complete Table 3. Management Plan of Risk Overview.

Example: *Standard language for Table 3. Management Plan of Risk Overview is found in the template within the [Source Water Protection Plan Tool](#).*

TABLE EXAMPLE:

Table 3. Management Plan of Risk Overview

Potential Source of Contamination	Management Actions	Methodology (i.e., education, land use planning and regulation, communication, PWS facility, Partnership, acquisition/control, Forestry Stewardship, Ag. Conservation Practices)	Time Frame (ongoing, short-term, long-term, immediate)
Herbicides and pesticides	Prohibit application of herbicides and pesticides on school athletic fields within 200 feet of water source	Best Management Practices	Ongoing
Vehicular damage; VOCs	Place bollards around water source to protect it from accidental damage by vehicular traffic	PWS facility	Immediate
UST/AST VOCs, metals, petroleum products	Plan and budget for replacement of aging UST single walled, 28 years old, 210 feet from water source; consider replacement with propane as a fuel source; consider AST double walled with alarm system installed with secondary containment; explore alternative heating systems.	Education, Planning, Regulatory	Short term
Residential Uses	Send landowner letters with educational information out every three years to all landowners within the SPA. Yearly for any new or change in landowners prior to SPPU renewal.	Education, communication	Ongoing

B. Summary of Remedial Action

Discussion of plan component:

A required component of the source protection plan update is, “A summary of any remedial or corrective actions taken on potential sources of contamination.” Therefore, having a tracking and reporting mechanism in place will facilitate the development of the summary of remedial and corrective actions when the water system is required to update the SPP. The water system can use Table 4. Management Plan of Risk Implementation Report to track and record their implementation progress between plan updates. The table can act as the required brief summary of actions taken on PSOC.

Example: *The template for Table 4. Management Plan of Risk Implementation Report is found in the template within the [Source Water Protection Plan Tool](#).*

TABLE EXAMPLE:

Table 4. Management Plan of Risk Implementation Report

MANAGEMENT PLAN OF RISK IMPLEMENTATION REPORT					
DATE	PSOC and Risk level	Mitigation Action	Responsible person	Status of Action	Comments
4/15/2021	Herbicides and pesticides use on athletic fields- high – medium risk	Adopt policy to limit application of herbicides and pesticides on school grounds; prohibit use within 200 ft of source well; prohibit application in rain; limit application to twice a year.	Athletic Director and School Facility Maintenance Supervisor	Policy adopted and effective 6/15/2021	
2/5/2022	Residential land use – low to medium risk	Send out landowner letter with flyer on proper care & maintenance of your on-site sewage disposal system	Water System Administrative Contact	completed	Notice to new landowners in the SPA.

C. Update of the Source Protection Plan

Discussion of plan component:

The Source Protection Plan is a working document that requires renewal to stay current and remain effective. Water Systems are required to renew their SPP every three years. In some instances, a water system may update the SPP sooner than the required renewal schedule. The water system can use Table 4. Management Plan of Risk Implementation Report to record and track their progress in implementing the Source Protection Plan and provide a brief summary of actions taken on PSOC between plan updates.

Example: *Standard language found in the template within the [Source Water Protection Plan Tool](#).*

IV. Contingency Plan

Discussion of plan component:

All Source Protection Plans (SPP) must include a Contingency Plan enabling the water system to respond to unforeseen events. At a minimum, the three basic components of the Contingency Plan include the following:

- 1) Identification of alternative drinking water sources, both long and short term,
- 2) A list of key personnel to be notified in case of a water emergency, and
- 3) A shut-down/start-up procedure, if one is not already contained in an approved Operations & Maintenance (O&M) Manual

Example: *Standard language found in the template within the [Source Water Protection Plan Tool](#).*

Discussion of plan component:

A. A List Of Key Personnel To Be Notified In Case Of A Water Emergency.

This can be done using the [Emergency Contact template, example below](#), which should be modified to meet the water systems unique circumstances. Add all contacts the water system uses in an emergency situation. This list should be similar to the list found in the O&M Manual.

Think broadly. Remember to check for updates.

List of Key Personnel in an Emergency- LISTING Example: *names and numbers in italics are fabricated for purpose of example. State Agency numbers, alternative water suppliers, and labs are actual current numbers and contacts.*

EMERGENCY CONTACTS

NAME	Title/Occupation	Phone Number	Alternate number
<i>Joe Flow</i>	Designated Operator	802-555-3000	802-555-2707
	Operator		
<i>Overstreet Water System</i>	Water System (WS) Owner	802-555-0000	
<i>Ray Waters</i>	WS Administrative Contact	802-555-2100	802-555-2323
Drinking Water and Ground Water Protection Division	Business Line	802-828-1535	911
DWGPD - David Love	Compliance Analyst (Boil Water Notices, Bulk Water Hauling, Total Coliform Rule)	802-585-4902	
DWGPD – Janelle Wilbur	Compliance Section Supervisor	802-585-4898	
VT Emergency Management	Duty Officer	802-244-8721	800-347-0488
Waste Management and Prevention Division	24-Hour HAZMAT HOTLINE to report a Spill	800-641-5005	
Waste Management and Prevention Division	Business Line	802-828-1138	
National Response Center: (for impacts or potential impacts to surface water)		800-424-8802	
<i>Chief Max Gray</i>	Fire Department Chief	911	
<i>Chief Earl Gray</i>	Police Department Chief	911	
<i>Xyz Barracks</i>	State Police	911	
<i>John Smith</i>	Plumber	802-555-3232	802-555-4141
<i>Sue Wire</i>	Electrician	802-555-1011	802-555-9606
Endyne Labs (Williston)	Laboratory	802-879-4333	
<i>Leo Grade</i>	Health Officer	802-555-8787	
<i>Betty Lou Star</i>	Town Clerk	802-555-2223	
<i>Julia Sid</i>	Selectboard Chair	802-555-5666	
<i>(where you place notices)</i>	Radio		
<i>(where you place notices)</i>	Newspaper		
VT Department of Health (VDH)	Main Office	802-863-7200	800-464-4343
VDH Environmental Health Division	Env. Health Division 108 Cherry Street P.O. Box 70 – Drawer 30 Burlington, VT 05402-0070	802-863-7220	800-439-8550
VT Department of Health (VDH)	Public Health Laboratory 359 South Park Drive Colchester, VT 05446	802-338-4724	800-660-9997
Fresh Water Hauler	Bulk Water Supplier/Hauler	802-658-2223	802-355-4321
Crystal Rock	Bottled Water Supplier	800-201-6218	800-492-8277

	DEC Regional Engineer		
	Consultant/Hydrogeologist		
VT Hazardous Materials Response Team Division of Fire Safety	State of VT Chief	Cell (802) 585-4468	
Patrick McLaughlin	Tier II Compliance Program, Div. Fire Safety	802-479-7586	
Neighboring Public water systems and Operator contact			

B. Notification Process

Discussion of plan component:

The notification process established in the O&M Manual covering chain of command for water system personnel and how notification to customers is to occur would be beneficial to have in the SPP.

Example 1: (provided from VRWA SPP template)

During any type of emergency, either water quality or water quantity, the Water System should notify water users so that they will be informed of the emergency. In the case of a contamination of the water supply, the water system users should be notified by the quickest and most reliable means. This includes public notice to its users prior to any use of or connection to an unpermitted source. The Water System operator will issue a Boil Water Notice or a Do Not Drink notification when applicable and at the direction of the DWGP Division. User notification will occur in accordance with the Agency's public notification requirements. Notification methods include social media, local television and radio stations, as well as appropriate printed methods.

Water System users' notification should include the following information:

- *An explanation of what has happened.*
- *How the emergency is being handled.*
- *What the customer must do.*
- *How long the measures are anticipated to last.*
- *Who they can contact for additional information.*

C. Identification of alternative drinking water sources

Discussion of plan component:

Provide a description and contact information for the alternative water source(s) to be used. A list of Bottled Water Suppliers and Bulk Water Haulers is found below. The water system should consider redundancy in their long-term solutions. Also, consider conservation measures in the solutions. Are there any vulnerable populations served and any critical or significant customers to consider? If you are hauling bulk water, do you have storage capacity to hold it?

Bulk Water Haulers					
Name	Phone #	Alternate	Website	Capacity	Water Source
Fresh Water Hauler (Underhill)	802-658-2223	802 355 4321	www.freshwaterhaulers.com	4600 gallon	Stowe Water District
Pristine Mountain Springs (Stockbridge)	802-746-8186	802-236-3989 cell	https://pristine-mountain-springs.business.site/	8000 gallon (4)	Colton Springs Water Supply
Lynde Well Drilling (Guilford)	802-254-2250	800 242-5516	https://lyndewelldrilling.com	4200 gallon 5300 gallon	Brattleboro
A-1 Water Delivery (St Albans)	802-355-4892	gwright@surfglobal.net	http://a1waterdeliveryvt.com/	4250 gallon	Purchase from Municipality
H2O Express Transport, LLC (Schuylerville, NY)	518-791-2484		www.h2oexpress.com	6200 gallon	City of Troy

Bottler Water Providers		
Misty Meadows	Rutland, VT	802 775 1172
Vermont Heritage	Newport, VT	802 334 2528
Crystal Rock	Williston, VT	800-201-6218
JMJ Beverages/Vermont Pure	Sandwich, MA	508-833-7873
Monadnock Mountain Spring Water	Wilton, NH	603-654-2728
Reinhart Foods	Essex, VT	800-272-5302 802 288 5000
Vermont Natural Water (PEPSI)	Brattleboro, VT	802-254-6093

C1. Short-term alternative solutions

Discussion of plan component:

Identify the water system's short term alternative water solutions.

C2. Long-term alternative solutions

Discussion of plan component:

Identify the water system's long term alternative water solutions.

D. SYSTEM SHUT-DOWN/START-UP PROCEDURE (or cite the O&M Manual)

Discussion of plan component:

If the water system addresses the shut down and start up procedure in the O & M Manual, they do not need to add it to the SPP, however it is recommended to do so. At a minimum, the water system must identify where the O&M Manual is kept and how to access it. Otherwise, describe the shut down and start up procedure. Make sure any improvements to the infrastructure or treatment systems that impact the shut-down and start-up procedure are addressed and accounted for.

E. STEPS FOR EMERGENCY USE OF AN UNPERMITTED SOURCE

Discussion of plan component:

As a reminder, the DWGPD must be notified of emergency use of an unpermitted water source. This is also covered in the water systems Permit to Operate.

Example: Standard language found in the template within the [Source Water Protection Plan Tool](#).

VI. REFERENCES

Discussion of plan component: Include a reference list of the resources used to develop the SPP.

VII Appendices

A. Well Completion Report(s)

B. Photographs

C. Listing of Landowners located within the SPA and sample notification letter

D. Other –

Reports and studies

Permits

Agreements

Educational fact sheets

Schematics and Site Plans

Method of Calculation of SPA

Discussion of plan component: The Appendix will include the support items related to the SPP development and plan content. The list above is suggestive.

PART 2 -Source Protection Plan Update

Discussion of SPPU:

Source Protection Plans shall be updated by the public water system every three years. All Source Protection Plan Updates must include, but are not limited to, the seven components as outlined in the VT Water Supply Rule under Subchapter 21-16, section 16.3 Updates of Source Protection Plans. VT Water Supply Rule, <https://dec.vermont.gov/water/laws>. The seven components are further described in this Guidance Document.

The nature of the water systems Source Protection Plan will determine how the plan will be updated and the best means to address the required update components. The Source Protection Plan Update (SPPU) template must be adapted to meet the water systems individual circumstance.

Options:

1. Water Systems with a comprehensive complete Source Protection Plan containing all basic plan components of a SPP are encouraged to incorporate changes and revisions to the Source Protection Plan directly into the plan document when performing the Source Protection Plan Update. A summary of the changes made to the SPP should be provided in an introductory paragraph at the beginning of the plan document that describes and explains the updates made to the plan at that time. The specific changes are made directly into the relevant sections of the plan. (See discussion and examples found later in this guidance document). The Update Revisions Tracker chart should be completed to record where the changes are made in the plan document for ease of referral and will provide a historical record for the water system with each update.
2. Water Systems with a comprehensive complete Source Protection Plan containing all basic plan components of a SPP can choose to provide a *detailed* addendum to the SPP that addresses each plan update component as outlined in the Rule and further described in this guidance. The water system must reference the plan sections that are being updated, revised, or unchanged. A cover page must be provided with the addendum. A letter or email, broadly stating nothing has changed will not be accepted.
3. In cases where the water system is doing a comprehensive rewrite of the SPP they must follow **Part 1** of the Guidance document and provide a full source protection plan to the DWGPD. Do not use Part 2 of this Guidance document to complete a comprehensive rewrite of the SPP. The water system can copy relevant and pertinent language from their existing plan(s) into the new plan.
4. Water systems with SPPs dated 10 or more years ago are strongly encouraged to prepare a comprehensive rewrite of their SPP prior to the next renewal due date. If the DWGPD does not have a record archive of the water system's complete approved source protection plan and the water system cannot provide the Division with a copy, then the water system will be required to prepare and submit a full comprehensive SPP to the DWGPD for review and approval.
5. In cases where a water systems Source Protection Plan is missing information relative to a basic plan component and or figures are not legible, the water system will be required to provide the missing information and updated figures as part of the SPPU submittal.

Basic Components of a Source Protection Plan Update:

Discussion of plan component:

When performing a source protection plan update, the following seven (7) components must be addressed as numbered below and taken from the VT Water Supply Rule, <https://dec.vermont.gov/water/laws>.

At this time, because every water system uses a different format in the development of their Source Protection Plan, the SPPU template provides an outline of the seven required components along with the blank templates for the Tables and lists found in Part 1.

The Guidance Document Appendix provides important resource materials and is found following this link: [Appendix](#).

1. Inspection reports of potential sources of contamination - including the date(s) of inspection(s), type of inspection (windshield survey, on-site walk, record review, etc.), persons performing the inspection, and observations. Report on any changes observed or known.

Discussion: For instance, On (insert date of the inspection), (name of who did the inspection) performed a walking field investigation of the Source Protection Area (SPA). (Indicate what was found). Has the land use changed? For example, a change from corn field to pasture or hayfields? Provide information on the resources used to perform the investigation and inspection. For instance, a review of the town permit and subdivision records to see if any change in land use activity in the source protection area occurred. A review of the Agency of Natural Resources Atlas, Waste Management layer to see if there are any new hazardous sites or hazardous waste generators, or underground storage tanks located in the SPA. A review of the DEC environmental record database. A list of resources and links to data bases for assistance in performing the PSOC inventory and assessment is found in the Guidance document [Appendix](#).

2. Inventory and assessment of new potential and actual sources of contamination in source protection area(s). (Include any changes to identify PSOC as applicable).

Discussion: Note changes in the PSOC as applicable. If there are no changes, then state this. Provide a description and analysis of any new PSOC and the risk level associated with the identified PSOC. Also, include any changes to the risk level associated with previously identified PSOC as applicable. For example, if an underground storage heating fuel tank was removed and now replaced with an above ground propane heating fuel tank, the risk level for heating fuel and storage tank has changed. A list of common PSOC in Vermont and the contaminant(s) of concern is found in the Guidance Document [Appendix](#).

3. Update SPP Map with location of new potential and actual sources of contamination (PSOC).

Discussion: Provide an updated PSOC map identifying the location of the PSOC. The map should also identify and label any new parcels and new landowners. If maps are hard to read in existing plans, consider replacing them with new maps.

4. Update Management plans to address new potential sources of contamination and/or changes in management strategies and actions.

Discussion: Note changes and additions to the Management Plan of Risk here. For example, if the Selectboard adopted a no salt policy for the section of roadway running through the SPA. A list of Management Actions and Strategies by category is found in the [Appendix](#) of the Guidance document.

5. Provide a summary of any remedial or corrective actions taken on potential sources of contamination to control, limit or reduce the risk to the public water source(s).

Discussion: Provide a brief summary of the actions that the water system has taken to reduce the risk of contamination to the drinking water source(s). For example, this may include educational letters to new landowners, implementing a road salt reduction policy, improvements to the water systems infrastructure, acquisition of land, etc. See Table 4. Mitigation Plan of Risk Implementation Report found in this Guidance Document and the SPP Tool. *The template is found in the [Source Water Protection Plan Tool](#).*

6. Changes in landowners; key town, county, or state officials; management techniques; source protection area; or other pertinent information.

Discussion: Provide a list or summary of the changes and updates made to the source protection plan. It is helpful to include a page number or section heading as a reference point. Be sure the Emergency contact list is current. Include an updated landowner listing with parcel ID numbers and corresponding map. Include updated figures.

7. Pertinent new requirements of state and federal rules which may have been adopted since the last update.

Discussion: Be alert to changes in regulations affecting stormwater management, pesticide use, human burial, wastewater systems, etc. that have recently been updated and include minimum isolation and separation distances from potential sources of contamination to a public water system drinking water supply.

COVER PAGE

Discussion of plan component:

The following elements should be included on the cover page of the plan document or addendum:

- Title of Document – “Source Protection Plan”
- Public Water System Name and WSID #
- Type of Public Water System (Community, NTNC, Domestic Bottled Water)
- Location of Water System (Town/City/Gore)
- Preparer of Plan and Contact information
- Date of Plan Completion (original SPP date)
- Date of revisions (date of plan update(s))
- Preparer of Update document

Example:

SOURCE PROTECTION PLAN

OVERSTREET WATER SYSTEM, WSID VT0001234

A PUBLIC COMMUNITY WATER SYSTEM

OVERSTREET, VT

Plan prepared By: Joe Flow, Overstreet Water System Operator

ABC STREET

Overstreet, VT xxxxx

(xxx) – xxx-xxxx

February 2, 2020

UPDATED February 1, 2023

Update Revisions Tracking Record:

Discussion of plan component:

Complete a tracking chart with a summary of the amendments, update changes, and revisions by date and reviewer that comprise this SPPU. The chart allows the water system to summarize and track plan changes in one spot for historical reference, easy referral, and quick access. Look to see if an Update Revisions Tracking Record sheet is already included in the SPP, if not, create one and attach it with the SPP and the SPPU.

Example: *The template is found in the [Source Water Protection Plan Tool](#).*

UPDATE REVISIONS TRACKER

WSID #VT0001234

Reviewer	Date of Review	Comments, Changes, Revisions, Page #'s, Tables and Figures
Joe Flow, DO	2/1/2023	Figure 4 - Updated PSOC Map Page 4-5 Updated PSOC Inventory and Analysis - removal of PSOC#3 UST Page 10 Updated Emergency Contact List Appendix A Updated Landowner listing. Added Management of Risk Actions completed

FOR UPDATES MADE DIRECTLY INTO THE SPP DOCUMENT

I. Introduction

Update Summary:

Discussion of plan component:

Identify who prepared the plan update and what steps were taken to develop the plan update.

Identify what resource materials, including other source protection plans, as applicable, were used in the preparation of this plan. Provide a brief summary of the revisions and changes made to the SPP document for this plan update. Make sure all required components are addressed.

Example 1:

This plan has been updated by Joe Flow, Designated Operator of the Overstreet Water System. A field investigation of the source protection area (SPA) was performed on March 3, 2023, by Joe Flow and water system board member Jackie Ball. Conversations with landowners within the SPA took place as needed. A record review was conducted with assistance from the Town Clerk for landowner records, the Planning and Zoning office on land use activities, and a review of the VT Department of Environmental Conservation searchable data bases along with reviewing the ANR Natural Resources Atlas for activities and land uses within the SPA.

Example 2: use when preparing a comprehensive rewrite of the SPP.

This plan is a comprehensive rewrite of the original 1998 Source Protection Plan and subsequent plan updates including most recently the 2012, 2017, 2020 plan updates.

Example 3: (amended, taken from the Hinesburg SPPU of July 2022 by Sprague GeoScience LLC)

A PSOC inspection was conducted on December 8, 2021. The following updates were made to this Source Protection Plan to reflect changes in the Town of Hinesburg, Wells 4, 5, & 6 SPAs:

- * This SPPU now includes the Well 6 SPA*
- * Emergency Contact list reviewed and updated.*
- * Management Plan reviewed and updated.*
- * Landowner list for Wells 4 & 5 SPA updated with new property owners highlighted and added a list of landowners for the well 6 SPA.*
- * SPA created; new SPA Map located in Appendix F.*
- * Letter to landowners updated, located in Appendix G.*
- * Letters to additional businesses added, located in Appendix I.*
- * Updated PSOC inventory, located in Tables 2A & B.*
- * Added additional maps and plan, located in Appendix B and M (Well 6 maps).*
- * Added additional photos, located in Appendix A.*

Discussion of plan component:

Blank templates for Tables 1, 2, 3, and 4 and the Emergency Personnel Contact List template are included with the SPPU template document for use in the plan update preparation. *The template is found in the [Source Water Protection Plan Tool](#).*