Technical Memorandum

To:	Greg Faust Town Administrator	**From:**	Brian Cote, PE Leah Cromer, EIT
Organization:	Town of Bristol	**SLR International Corporation**	
		Date:	September 11, 2026
		Project No.	146.14680.00004

RE: Mountain Street Stormwater Scoping Study Project Memorandum

DISTRIBUTED ELECTRONICALLY

1.0 Introduction

The Town of Bristol (Town) has retained SLR International Corporation (SLR) to provide engineering services to assess existing issues with stormwater management and to develop alternatives for improving the drainage system located on Mountain Street and Spring Street. The project area is in the eastern portion of the Town at the base of Hogback Mountain and includes the Bristol Elementary School and numerous residential properties located within the neighborhood (Figure 1).

Figure 1: Mountain Street Project Site (Source (VT ANR Atlas)

This memorandum summarizes the data collection performed, the hydrologic analysis of existing conditions that was conducted and modeling results, the alternatives that were analyzed, and storm drainage improvements that are recommended.

2.0 Existing Conditions

2.1 Existing Drainage Patterns

SLR conducted an initial site walk after several days of rainy weather to understand the existing drainage patterns within the project area (Figure 2). The existing drainage system in the project area consists of a series of swales and ditches that collect runoff generated along the western slope of Hogback Mountain and direct flow to the Mountain Street enclosed stormwater drainage system, generally found on the east side of the street. Flow discharges onto Mountain Street from the east across from the school from an intermittent watercourse that collects runoff from Hogback Mountain (Figure 3). Flow then turns southerly in a paved swale along Mountain Street and discharges into a 3-sided concrete structure (Figure 4), where runoff enters an enclosed drainage system via a 24-inch reinforced concrete pipe (RCP) inlet. Once in the pipe, flow continues in a southerly direction on the east side of Mountain Street, collecting additional flow at five grated catch basins and additional inflow from drainage swales on neighboring properties to the east. The main line of the drainage network transitions from a 24-inch RCP to a 48-inch HDPE pipe at the double-grate catch basin located approximately 30 feet south of the subsurface drainage system inlet. The double-grate catch basin appears to capture runoff from the drainage swale that runs along the side of a gravel access road that extends up into the mountainside.

At the intersection with Spring Street, the pipe network turns to the west and continues down Spring Street. The main line of the pipe network consists of a 48-inch diameter HDPE pipe. Five more grated catch basins capture stormwater runoff along Spring Street, directing flows to the main line of the drainage network. At the intersection with North Street, the drainage network turns south down North Street and continues for approximately 1,200 feet before discharging into the New Haven River.

Evidence of overland flow, where components of the existing drainage system have been overwhelmed leading to bypass, were observed while on site. It appeared that bypass flow leads to surface flooding in low points and excessive gutter flows along the roadway edges on Mountain Street and Spring Street, as well as surface ponding at low points near residential properties. Several locations where stormwater could potentially leave the street and enter private properties were observed within the project area.

N

0 50 100

Feet

SLR

1 SOUTH MAIN STREET
2ND FLOOR
WATERBURY, VT 05676
802.882.8335

PROJECT SITE BASEMAP

MOUNTAIN STREET STORMWATER IMPROVEMENTS PROJECT

BRISTOL, VERMONT

SCALE 1 IN = 60 FT

DATE 6/16/2026

PROJECT NO. 146.14680.00004

FIGURE 2

DATE SAVED: 6/16/2026 MXD: Y:\14680.00004\MAPS\MOUNTAINST_SW_WORKING.APRX

Figure 3: Flow onto the Mountain Street paved swale at the intermittent watercourse

Figure 4: Three-sided Concrete headwall and trash rack at 24-inch RCP inlet to the Mountain Street enclosed drainage system

During field work, several residents provided information about past stormwater flooding events and indicated that runoff flows regularly exceed the capacity of the existing drainage system, in particular at the concrete inlet structure on Mountain Street at the start of the subsurface pipe network. Coarse sediment, including gravel and cobble, and some woody debris, were observed inside the mainline of the stormwater system, suggesting that high velocity flows from the mountainside are causing erosion and transporting sediment and debris into the stormwater system. The stormwater system inlet has reportedly become blocked by debris during past storms, leading to localized surface flooding and bypass flow. It was reported by nearby residents that several grated inlets become clogged with debris during the bypass events, which lead to surface ponding and uncontrolled flow of stormwater onto private property during heavy rainfall events.

2.2 Data Collection

SLR completed an initial desktop review of stormwater features using GIS information available from Vermont Center for Geographic Information (VCGI). A base map was compiled including information on existing stormwater utilities, parcel boundaries, aerial imagery, and watershed boundaries.

SLR conducted a site visit in August 2025 to collect information on the existing stormwater infrastructure within the project area. Data collected included pipe sizes and material, pipe invert elevations, catch basin frame and manhole rim elevations, and GPS data of the layout of the subsurface stormwater drainage system along Mountain Street and Spring Street. Elevation data and horizontal locations of individual stormwater features were collected using a handheld GPS unit, laser range finder, and stadia rod. Photo documentation was also completed to record existing conditions.

3.0 Hydrologic & Hydraulic Modeling

A two-dimensional (2D), rain-on-grid hydrologic and hydraulic model was developed to evaluate stormwater runoff at the Mountain Street project site using the United States Army Corps of Engineers *Hydrologic Engineering Center River Analysis System (HEC-RAS)* software (USACE, 2024). For a 2D rain-on-grid model, runoff flows, water surface elevations, depths, and velocities are computed for each cell in a 2D mesh that encompasses the project site and its associated watershed. Runoff volumes are calculated using methodologies outlined in *Technical Release No. 20 (TR-20)* published by the Natural Resources Conservation Service (NRCS, formerly known as the Soil Conservation Service, SCS) using composite curve numbers for drainage areas included in the study and rainfall-runoff equations (SCS, 1992). Runoff flows are routed through the 2D mesh based on the St. Venant shallow-water approximations of the Navier-Stokes equations that are solved using a finite-volume algorithm. Frictional energy losses are computed based on Manning's roughness coefficients (N) (Chow, 1959; Arcement and Schneider, 2006), which are applied to the terrain surface and based on cover type and land use within each drainage area. The *HEC-RAS* modeling software also allows the user to input subsurface drainage systems and is capable of simulating surface flow versus flow that is captured and conveyed by the pipe system.

The hydrologic and hydraulic model was used to simulate existing conditions during different sized rainfall events to determine the potential causes of stormwater flooding issues and to simulate conditions seen during past events. The modeling was also used to evaluate alternatives by modifying the input data to reflect proposed drainage improvements. Results from modeling of the alternatives were then compared to existing conditions to determine how effective proposed improvements are at reducing surface flooding and risk of damage to public and private property due to uncontrolled stormwater runoff.

3.1 Existing Conditions Model

The 2D model mesh covers an area of 276 acres and is composed of approximately 10,100 cells. Cell size ranges from 5 feet for stream channels up to 20 feet for the upland areas of the watershed (Figure 5). The input data for each model cell includes soil type, landcover, and precipitation. Landcover and soil data were obtained from the National Land Cover Database (Fry et al., 2011) and the Soil Survey Geographic Database (SSURGO). Precipitation data was obtained from the NOAA Atlas 14 Precipitation Frequency Data Server (NOAA, 2018). Due to the small size of the watershed, rainfall depths were calculated at the centroid of the drainage area and applied equally to the entire basin (Table 1). Rainfall distributions for each storm were developed using the Frequency Storm method in the HEC-HMS software (Version 4.13) assuming a 24-hour storm duration.

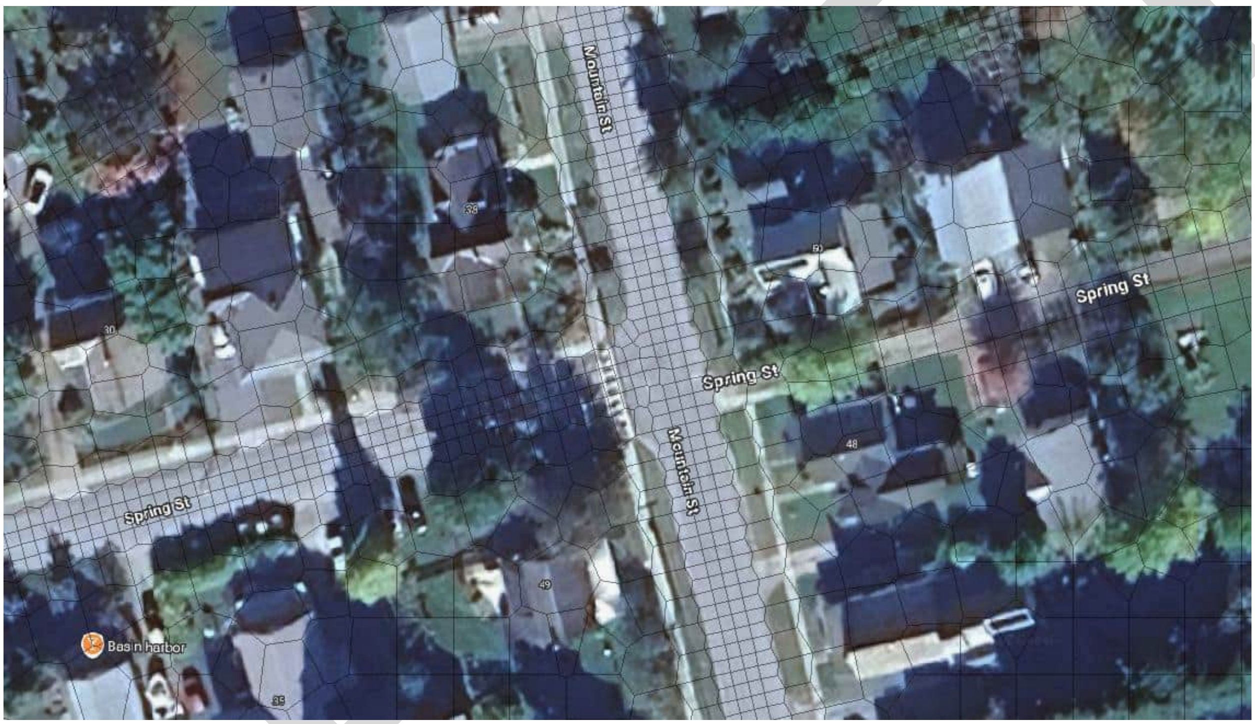


Figure 5: Portion of 2D Mesh from the Hydrologic Model showing Computational Cells

The Mountain Street storm drainage system was also entered into the hydrologic model as input data, including the inlet points and catch basin grates, as well as the pipe network connecting the Mountain Street drainage system to the North Street system. The hydrologic model is capable of simulating how much runoff is captured at the inlet points and catch basin grates and conveyed by the pipe network. Runoff that is not captured by the drainage system then becomes overland flow that is simulated using the 2D model mesh.

Table 1: NOAA Atlas 14 Precipitation Frequency Estimates for the Mountain Street Project Site

Flood Size (Year)	Annual Exceedance Probability (% AEP)	Cumulative Rainfall Depth (inches)
2	50	2.54
5	20	3.16

Flood Size (Year)	Annual Exceedance Probability (% AEP)	Cumulative Rainfall Depth (inches)
10	10	3.68
25	4	4.39
50	2	4.92
100	1	5.48

Manning's roughness coefficients were categorized by landcover and assigned based on data from the National Land Cover Database and field assessment of vegetation and land cover (Table 2).

Table 2: Manning's Roughness Coefficients

Landcover Type	Roughness Coefficient
Channel	0.04 - 0.065
Other Impervious Area	0.030
Forest	0.120
Grass-Shrubs	0.05
Bare Soil	0.03
Waterbodies	0.04
Roads	0.015
Buildings	0.25

Runoff Curve Number (CN) values were assigned based on land cover, soil type, and hydrologic conditions. The CN value defines how much rainfall infiltrates into the ground and how much runoff off. Values range between 0 and 100, where 0 means that all rainfall infiltrates and 100 means that all rainfall becomes runoff. The CN values for the 2022 land cover classifications were interpreted from the values listed in Table 2-2a of the TR-55 user's manual (SCS, 1986) and from those recommended in the National Land Cover Database (Table 3).

Table 3: Runoff Curve Numbers

2016 Land Cover	Hydrologic Soil Group			
	A	B	C	D
Tree Canopy	30	55	70	77
Grass/Shrubs	39	61	74	80
Bare Soil	72	82	87	89
Water	100	100	100	100
Buildings	98	98	98	98
Roads	98	98	98	98
Other Impervious	98	98	98	98

The topographic information for the model was obtained from the 2023, 35-centimeter-resolution LiDAR data published by the Vermont Center for Geographic Information (VCGI). Various sections of the terrain were modified based on field measurement performed by SLR. The stormwater drainage system along Mountain Street and Spring Street was incorporated into the model based on field measurements.

3.2 Model Results

The model results were evaluated to determine runoff flow paths and the extent and severity of stormwater flooding for various storm events. Overall, the runoff flow paths and flooding extent from the model results appear to agree with field observations and descriptions of past flooding provided by property owners.

For the 2- and 5-year storm events, the results show that runoff from the intermittent watercourse that drains from Hogback Mountain discharges into the paved swale along Mountain Street and enters the subsurface stormwater drainage system via the 24-inch diameter RCP inlet (Figure 6). Approximately 40 feet upstream of the swale, runoff overtops the banks of the stream channel and bypasses the paved swale entering the subsurface drainage system through the double-grate catch basin located 27 feet downstream of the RCP inlet. The stormwater system appears to contain the runoff and effectively convey flows downstream through the main lines along Mountain Street and Spring Street, eventually discharging into the North Street drainage system. Gutter flow depths along the edges of the streets between catch basins remain shallow (less than 3 inches deep). The model results show ponding of runoff behind several of the homes along the north side of Spring Street where there are low spots in the topography without stormwater drainage infrastructure. The ponded runoff appears to primarily impact the shed and garage buildings behind the house.

For the 10-year storm, runoff flows bypassing the 3-sided inlet structure begin to overwhelm the double-grate catch basin on Mountain Street (Figure 7). Runoff bypassing the double-grate catch basin flows 143 feet south along Mountain Street to the next stormwater catch basin. At the low point in the road, some of the runoff overtops the roadway crest before reaching the next catch basin and flows west into the low area in the backyards of the Spring Street properties. The additional runoff increases the depth of ponding behind the homes but does not increase the extent of flooding. Runoff depths along Mountain Street and Spring Street remain shallow. Overall, the stormwater system has sufficient capacity to convey the 10-year flood flows, even though some of the water bypasses the inlets.

Peak runoff flows for the 25-year storm exceed the capacity of the 24-inch RCP inlet, overtopping the headwall and flowing south down Mountain Street (Figure 8). The catch basins along Mountain Street capture most of the flow that does not enter the subsurface drainage system through the inlet, but some of the runoff overtops the road crest and discharges into the low area behind the Spring Street homes.

N

0 50 100

Feet

SLR

1 SOUTH MAIN STREET
2ND FLOOR
WATERBURY, VT 05676
802.882.8335

EXISTING CONDITIONS - 5-YEAR STORM

MOUNTAIN STREET STORMWATER IMPROVEMENTS PROJECT

BRISTOL, VERMONT

DRAFT

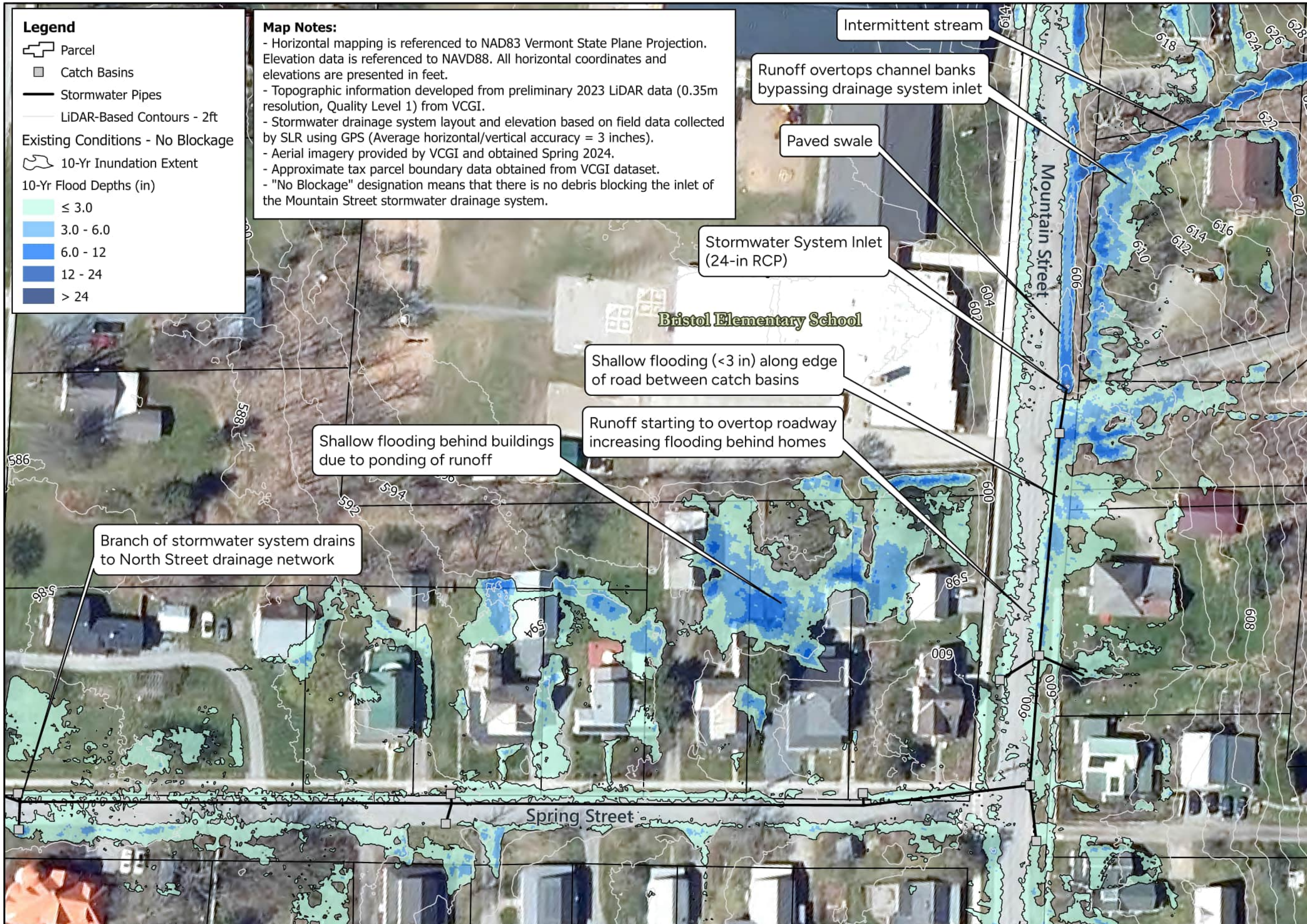
SCALE 1 IN = 60 FT

DATE 6/15/2026

PROJECT NO. 146.14680.00004

FIGURE 6

DATE SAVED: 6/15/2026 MXD: Y:\14680.00004\MAPS\MOUNTAINST_SW_WORKING.APRX



SLR

1 SOUTH MAIN STREET
2ND FLOOR
WATERBURY, VT 05676
802.882.8335

DRAFT

EXISTING CONDITIONS - 10-YEAR STORM

MOUNTAIN STREET STORMWATER IMPROVEMENTS PROJECT

BRISTOL, VERMONT

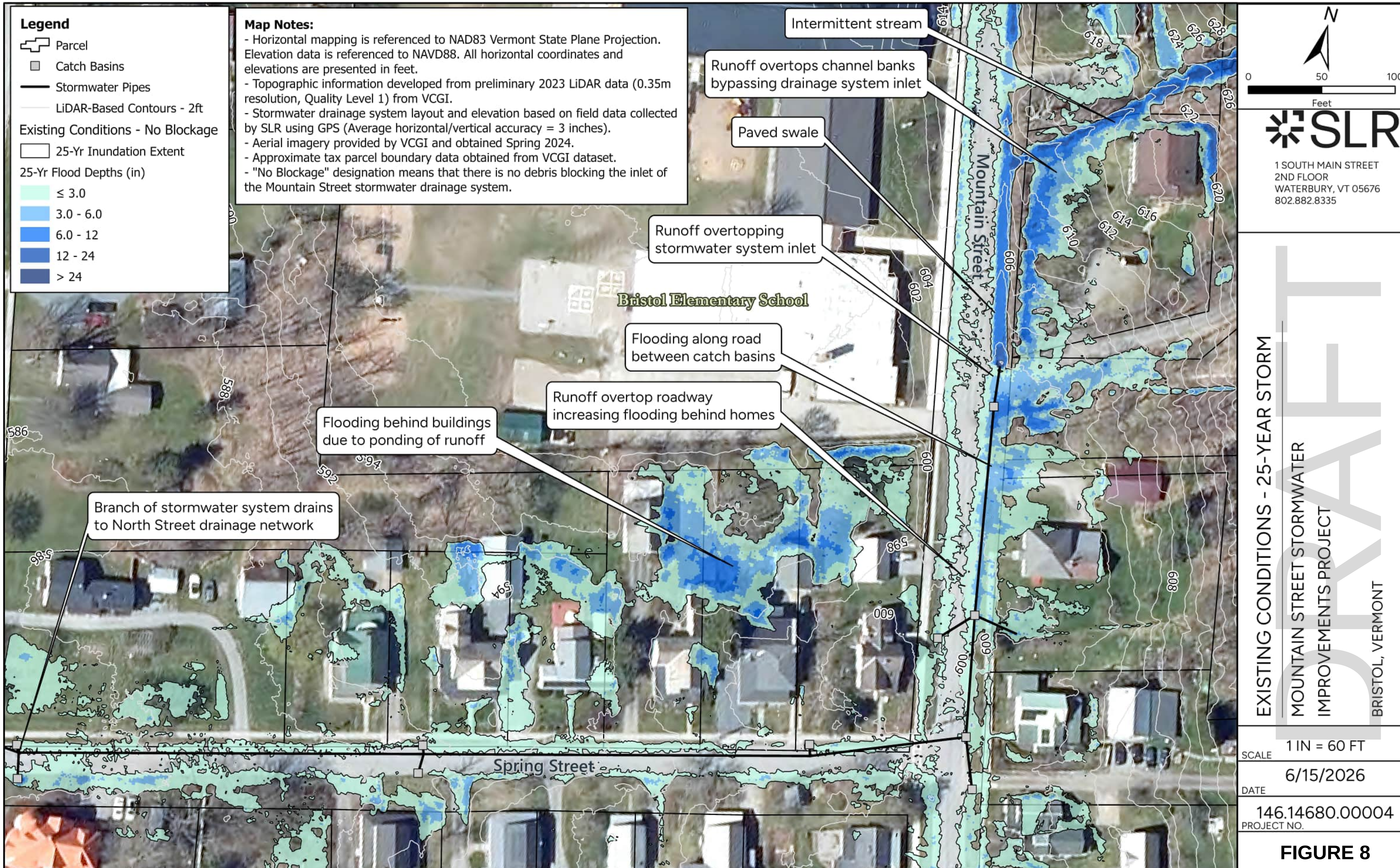
SCALE 1 IN = 60 FT

DATE 6/15/2026

PROJECT NO. 146.14680.00004

FIGURE 7

DATE SAVED: 6/15/2026 MXD: Y:\14680.00004\MAPS\MOUNTAINST_SW_WORKING.APRX



SLR

1 SOUTH MAIN STREET
2ND FLOOR
WATERBURY, VT 05676
802.882.8335

DRAFT

EXISTING CONDITIONS - 25-YEAR STORM

MOUNTAIN STREET STORMWATER IMPROVEMENTS PROJECT

BRISTOL, VERMONT

SCALE 1 IN = 60 FT

DATE 6/15/2026

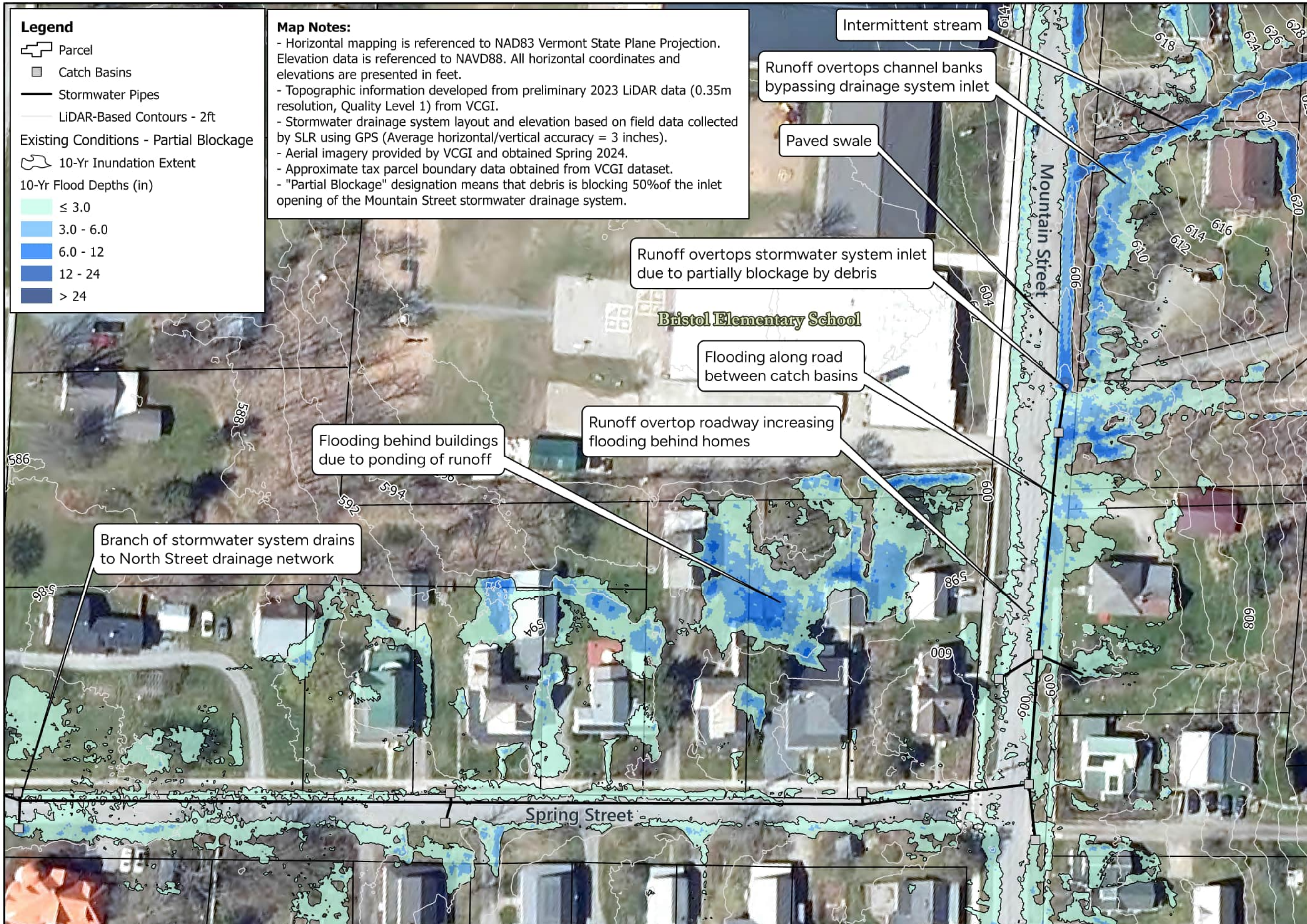
PROJECT NO. 146.14680.00004

FIGURE 8

DATE SAVED: 6/15/2026 MXD: Y:\14680.00004\MAPS\MOUNTAINST_SW_WORKING.APRX

Debris blockage of the stormwater system inlet was simulated using the hydrologic model to evaluate how it might affect flooding conditions. The majority of runoff from the mountainside enters the subsurface drainage network through the 24-inch RCP inlet or the double-grate catch basin. If debris blocks these inlets, the runoff is likely to bypass the stormwater system, flooding the roadway and residential properties. Two blockage scenarios were evaluated, including: 1) a partial blockage scenario where debris reduces the opening area of the 24-inch RCP inlet by 50% and 2) a full blockage scenario where debris completely blocks the stormwater system inlet and the double-grate catch basin. For the partial blockage scenario, runoff flows for the 10-year storm exceed the capacity of the 24-inch RCP inlet, overtopping the headwall and flowing south down Mountain Street (Figure 9). When the drainage system inlet is partially blocked with debris, the resulting flooding extents and depths for the 10-year storm are similar to the results produced by the 25-year storm. For the partial blockage scenario, Mountain Street becomes completely inundated at the low point along the road as flows exceed the capacity of the inlet and grated catch basins during the 25-year storm event (Figure 10). Flows that bypass the stormwater system cross over the road and flow down into the properties along Spring Street. The runoff eventually flows back onto Spring Street and is captured by the catch basins along that road.

Full blockage of the 24-inch RCP inlet and double-grate catch basin leads to extensive flooding along Mountain Street and Spring Street during the 25-year flood (Figure 11). Both streets become fully inundated by runoff with flooding depths of up to 6 inches along Spring Street and over 12 inches on Mountain Street. Runoff from the mountainside bypasses the portion of the stormwater system on Mountain Street, flowing through the Spring Street properties before discharging onto Spring Street where some of the runoff is captured by catch basins while the rest flows onto North Street.



SLR
1 SOUTH MAIN STREET
2ND FLOOR
WATERBURY, VT 05676
802.882.8335

EXISTING CONDITIONS - 10-YEAR STORM

MOUNTAIN STREET STORMWATER IMPROVEMENTS PROJECT

BRISTOL, VERMONT

DRAFT

SCALE 1 IN = 60 FT

DATE 6/15/2026

PROJECT NO. 146.14680.00004

FIGURE 9

DATE SAVED: 6/15/2026 MXD: Y:\14680.00004\MAPS\MOUNTAINST_SW_WORKING.APRX

Legend

- Parcel
- Catch Basins
- Stormwater Pipes
- LiDAR-Based Contours - 2ft

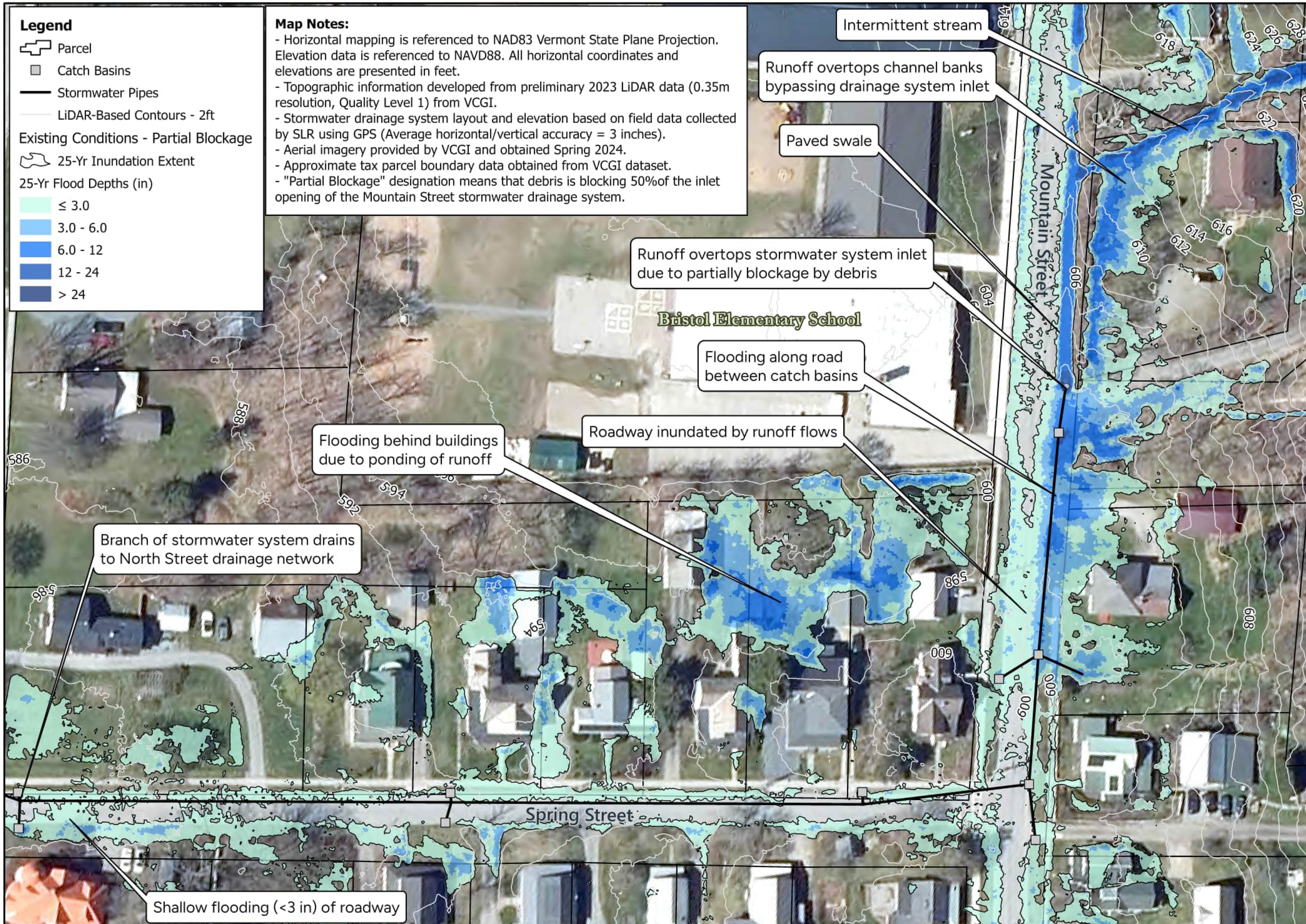
Existing Conditions - Partial Blockage

- 25-Yr Inundation Extent

25-Yr Flood Depths (in)

- ≤ 3.0
- 3.0 - 6.0
- 6.0 - 12
- 12 - 24
- > 24

Map Notes:
- Horizontal mapping is referenced to NAD83 Vermont State Plane Projection. Elevation data is referenced to NAVD88. All horizontal coordinates and elevations are presented in feet.
- Topographic information developed from preliminary 2023 LiDAR data (0.35m resolution, Quality Level 1) from VCGI.
- Stormwater drainage system layout and elevation based on field data collected by SLR using GPS (Average horizontal/vertical accuracy = 3 inches).
- Aerial imagery provided by VCGI and obtained Spring 2024.
- Approximate tax parcel boundary data obtained from VCGI dataset.
- "Partial Blockage" designation means that debris is blocking 50%of the inlet opening of the Mountain Street stormwater drainage system.



N

0 50 100

Feet

SLR

1 SOUTH MAIN STREET
2ND FLOOR
WATERBURY, VT 05676
802.882.8335

DRAFT

EXISTING CONDITIONS - 25-YEAR STORM

MOUNTAIN STREET STORMWATER IMPROVEMENTS PROJECT

BRISTOL, VERMONT

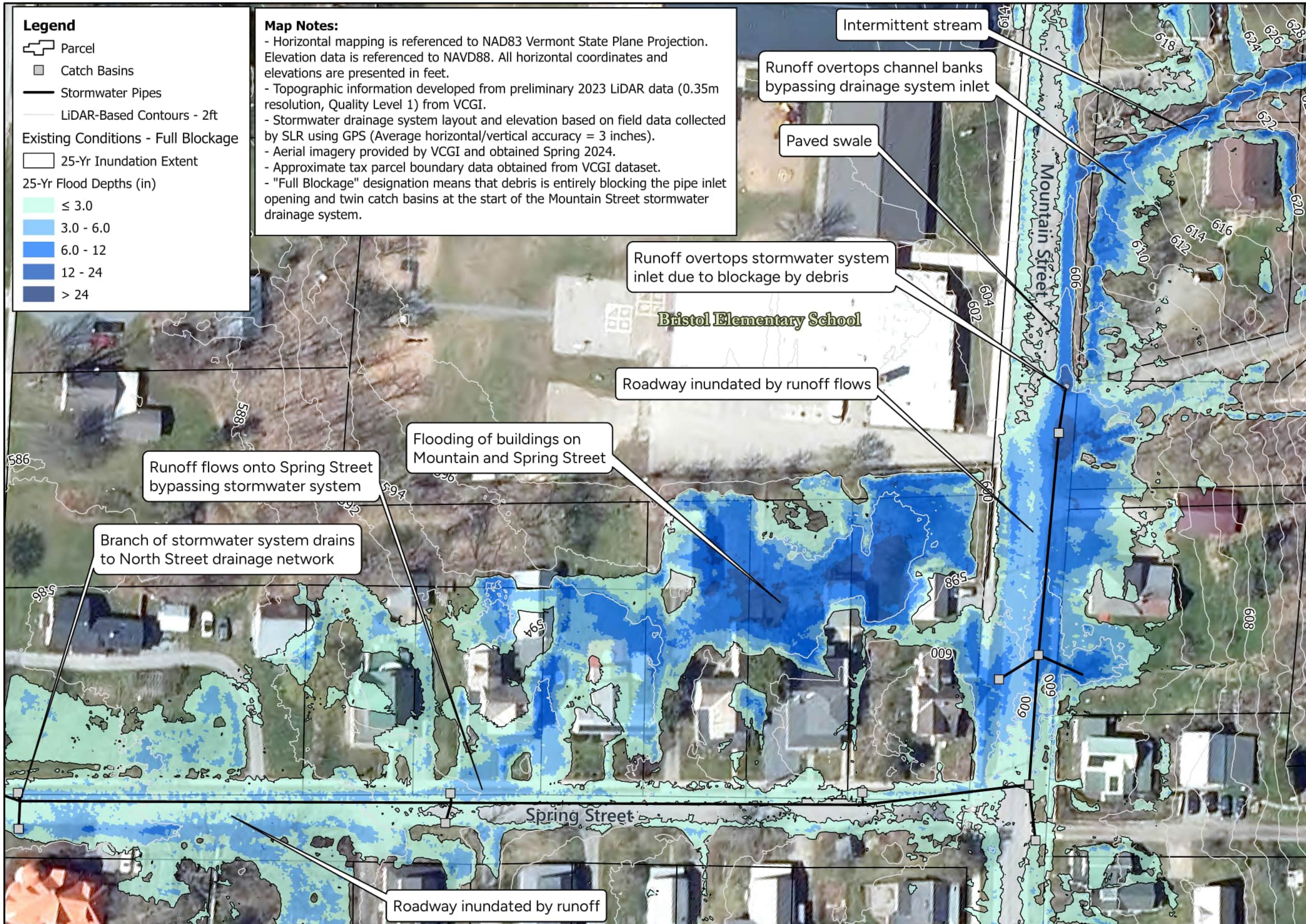
SCALE 1 IN = 60 FT

DATE 6/15/2026

PROJECT NO. 146.14680.00004

FIGURE 10

DATE SAVED: 6/15/2026 MXD: Y:\14680.00004\MAPS\MOUNTAINST_SW_WORKING.APRX



N
0 50 100
Feet

SLR

1 SOUTH MAIN STREET
2ND FLOOR
WATERBURY, VT 05676
802.882.8335

EXISTING CONDITIONS - 25-YEAR STORM

MOUNTAIN STREET STORMWATER IMPROVEMENTS PROJECT

BRISTOL, VERMONT

DRAFT

SCALE 1 IN = 60 FT

DATE 6/15/2026

PROJECT NO. 146.14680.00004

FIGURE 11

4.0 Alternatives Analysis

The hydraulic modeling results for existing conditions were used to evaluate where improvements to the stormwater drainage system could be implemented to increase the capacity to capture and transport stormwater runoff and reduce impacts due to surface flooding. The alternatives evaluated were chosen to show the incremental improvements of each alternative individually and were evaluated in an order that generally increases in complexity to implement. The "Do Nothing" alternative was also included as a baseline comparison to the other alternatives proposed as the related to project goals and objectives. An Alternates Matrix table has been developed to compare alternatives. The following sections describe the alternatives evaluated and summarize modeling results.

4.1 Alternative 1 - Do Nothing

Alternative 1 would keep the existing drainage system as is and therefore existing issues with surface flooding would continue. The need for frequent maintenance at the inlet points and the risk of damage to public and private properties would also continue. For these reasons, Alternative 1 is not recommended, however was included in the alternatives analysis as a baseline comparison for other alternatives evaluated.

4.2 Alternative 2 - Increase Capacity at 3-sided Structure

Alternative 2 consists of replacing the existing 3-sided concrete structure located at the downstream end of the paved swale on Mountain Street with a larger, more efficient structure in an effort to capture more runoff and reduce the amount of bypass flow that is not captured, which creates uncontrolled overland flow to down-gradient areas that leads to surface flooding. A more efficient trash rack system would be incorporated into the replacement structure to reduce the potential for clogging and reduce maintenance requirements.

Alternative 2 would also include enlarging the existing drainage pipe between the new 3-sided inlet structure to the first double catch basin located just downstream. The diameter of the existing drainage pipe at this location would increase in size from 24-inches to 48-inches, therefore matching the diameter of the remaining trunk line of the drainage system down Mountain Street and Spring Street to the system located in North Street. Increasing the diameter of the pipe would increase its capacity to convey stormwater that enters the drainage system at the new 3-sided inlet structure.

Existing issues with stormwater runoff from the hillside discharging onto the roadway and potentially flowing across Mountain Street, and therefore bypassing the paved swale and new 3-sided inlet structure would continue to occur. In addition, safety around the new larger structure would need to be addressed. Construction would potentially be challenging in this tight space.

4.2.1 Alternative 2 Modeling Results

A summary of the modeling results and figures for this alternative will be provided once the existing conditions analysis has been reviewed by the Town and initial feedback is received.

4.3 Alternative 3 - Increase Capacity at Catch Basin Inlets

Alternative 3 consists of increasing the capacity to intercept stormwater runoff at existing catch basin structures. The capacity would be increased by replacing existing structures that have a single grate with structures that have two grates, also known as a double catch basin. There is one existing double catch basin located just downstream of the 3-sided inlet structure; under Alternative 3 the other structures on Mountain Street where surface flooding currently exists would be fitted with double grates to increase capacity for intercepting uncontrolled flows that bypass upstream structures.

Increasing capacity to intercept stormwater runoff will benefit public and private properties on Mountain Street and Spring Street, reducing the risk of damage due to surface flooding and uncontrolled bypass flow. The conditions at the outlet of the existing watercourse, where stormwater discharges onto the roadway and has the potential to cross to the other side of Mountain Street would persist.

A total of four structures on Mountain Street would be converted to double catch basins as part of Alternative 3. No other modifications would occur under this alternative, and the existing pipes that are currently in place as part of the drainage system would continue to be used.

Construction of this alternative would be relatively straightforward as replacement of the structure top only would be anticipated at three of the four structures, with one structure likely requiring full replacement to accommodate the double grate top.

4.3.1 Alternative 3 Modeling Results

A summary of the modeling results and figures for this alternative will be provided once the existing conditions analysis has been reviewed by the Town and initial feedback is received.

4.4 Alternative 4 – Expand the Mountain Street Drainage System

Alternative 4 consists of adding new drainage structures to the existing Mountain Street drainage system in order to increase capacity to capture more stormwater runoff and reduce surface flooding. The new structures would be placed at strategic locations to intercept stormwater runoff that bypasses existing structures upstream and in areas where surface flooding is occurring.

The new drainage structures would be placed primarily on the west side of Mountain Street, with one additional structure on the east side of the street to relieve the pressure on the existing structures under Alternative 4 as well.

Although the condition where water discharging onto the roadway from the existing watercourse and flowing across Mountain Street would not be fully eliminated under this alternative, one of the new structures would be placed where the stormwater is known to cross the street on the west side of Mountain Street in front of the elementary school. Up to three additional structures would be placed on the west side of Mountain Street near the elementary school driveway entrance and in front of the property on the corner of Mountain and Spring Streets. Up to five new drainage structures with associating piping would be installed as part of this alternative.

The new drainage structures would connect to structures on the trunk line of existing drainage system at two locations, and would be connected using 24-inch diameter pipe. Either single or double grate structures would be considered depending on how much stormwater runoff is anticipated.

A challenge with Alternative 4 includes installation of the new drainage structures and piping while avoiding conflicts with existing subsurface utilities.

4.4.1 Alternative 4 Modeling Results

A summary of the modeling results and figures for this alternative will be provided once the existing conditions analysis has been reviewed by the Town and initial feedback is received.

4.5 Alternative 5 – Intercept Stormwater Prior to Mountain Street

Alternative 5 consists of extending the existing drainage system upstream of the 3-sided inlet structure along Mountain Street up to the watercourse that discharges off the hillside to intercept stormwater before it reaches Mountain Street at a new inlet structure.

A trash rack system would be incorporated into the new inlet structure that is designed to reduce the potential for clogging with debris and cobble carried by the flow of water. In addition, a small forebay would be created upstream of the new inlet to help capture sediment and debris before reaching the inlet.

The new inlet structure would connect to the existing drainage system at the existing 3-sided inlet structure using a 48-inch diameter pipe. The existing 3-sided inlet structure would be replaced with a catch basin structure with a double grate. The existing paved swale would remain to convey runoff to the drainage system. The existing 24-inch diameter pipe between the 3-sided inlet and existing double catch basin would be upsized to a 48-inch diameter pipe as well, creating a full 48-inch system from the new inlet structure all the way to North Street.

The primary disadvantage of this alternative would be potential disturbance to the area along the east side of Mountain Street and a portion of the existing watercourse, including disturbance to the adjacent properties, to install the proposed drainage system extension. It is likely that temporary construction easements and a permanent drainage easement would be required to access the new inlet for maintenance.

4.5.1 Alternative 5 Modeling Results

A summary of the modeling results and figures for this alternative will be provided once the existing conditions analysis has been reviewed by the Town and initial feedback is received.

4.6 Alternative 6 - Upstream Sediment Trap

Alternative 6 consists of designing and installing a sediment trap on the intermittent watercourse that discharges onto Mountain Street at the paved swale. The sediment trap would be constructed near a cross culvert under an existing road located approximately 550 feet upstream of Mountain Street. The existing road would be improved to allow access for construction and to be used for accessing the sediment trap for maintenance.

The sediment trap would be designed to collect and store sediment and debris that would otherwise flow towards the Mountain Street drainage system. Intercepting the sediment and debris would reduce the risk of clogging at drainage system inlets downstream.

A disadvantage of Alternative 6 includes the requirement for drainage and access easements or right-of-way over private property to access the sediment trap. In addition, there would still be the potential for some sediment and debris to be mobilized during storm events along the portion of the intermittent watercourse that is downstream of the sediment trap, although loading would be reduced. The sediment trap would also not reduce other sources of debris and litter material that is washed to drainage system inlets more locally on Mountain Street and Spring Street.

Since the analysis that was prepared for this scoping study focuses on the drainage system's ability to intercept and convey stormwater, rather than analyzing sediment load and transport, Alternative 7 was not modeled as part of the hydraulic analysis. Additional evaluation of the existing watercourse would be required to determine sources of sediment and debris and potential loading rates if Alternative 6 was considered for advanced design.

4.7 Alternatives Matrix

The Alternatives Matrix table will be provided once the existing conditions analysis has been reviewed by the Town and initial feedback is received and after any refinements to the alternatives analysis have been made.

5.0 Recommendations

The preferred alternative or alternatives and a list of recommended next steps for moving the project forward will be provided once the existing conditions analysis has been reviewed by the Town and initial feedback is received and after any refinements to the alternatives analysis are complete.