GRANITE STREET FLOOD RESILIENCY

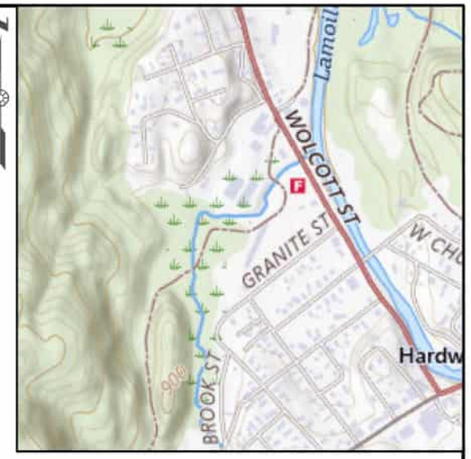
GRANITE STREET NEIGHBORHOOD
HARDWICK, VERMONT

10% DESIGN
10/29/2026



PROJECT SITE VICINITY MAP:

0 150 300 Feet
SCALE 1" = 300'



LOCATION MAP:

0 750 1,500 Feet
SCALE 1" = 1,500'

PREPARED FOR:
TOWN OF HARDWICK

LIST OF DRAWINGS:

NO.	NAME	TITLE
01	--	TITLE SHEET
02	EX-1	EXISTING CONDITIONS - OVERVIEW
03	PR-1	PROPOSED FLOODPLAIN RESTORATION
04	EX-2	EXISTING CONDITIONS - GRANITE ST
05	PR-2	PROPOSED DRAINAGE IMPROVEMENTS

PREPARED BY:

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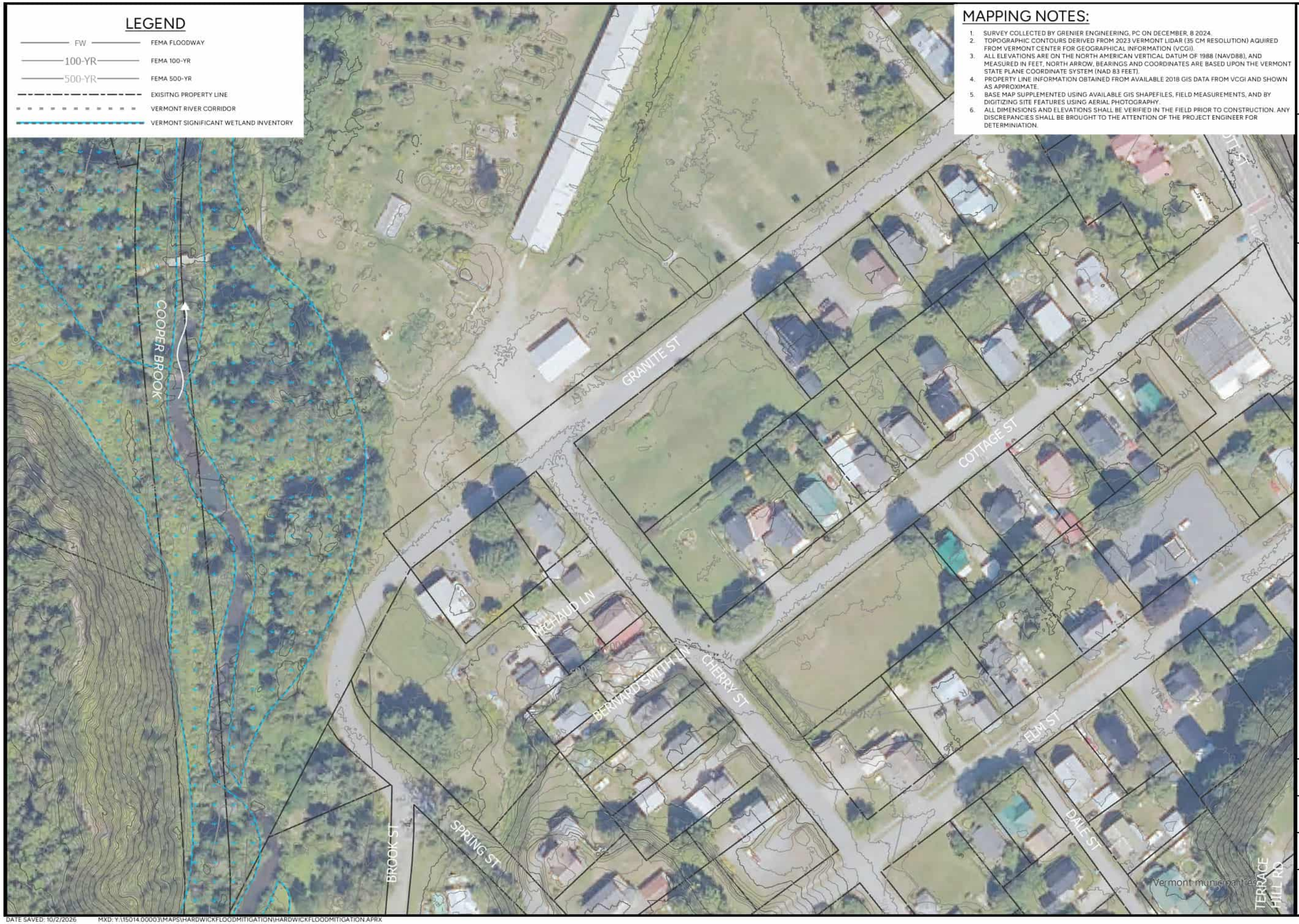
811 Know what's below. Call before you dig.

LEGEND

- FW — FEMA FLOODWAY
- 100-YR — FEMA 100-YR
- 500-YR — FEMA 500-YR
- EXISITNG PROPERTY LINE
- VERMONT RIVER CORRIDOR
- VERMONT SIGNIFICANT WETLAND INVENTORY

MAPPING NOTES:

1. SURVEY COLLECTED BY GRENIER ENGINEERING, PC ON DECEMBER, 8 2024.
2. TOPOGRAPHIC CONTOURS DERIVED FROM 2023 VERMONT LIDAR (35 CM RESOLUTION) AQUIRED FROM VERMONT CENTER FOR GEOGRAPHICAL INFORMATION (VCGI).
3. ALL ELEVATIONS ARE ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88), AND MEASURED IN FEET, NORTH ARROW, BEARINGS AND COORDINATES ARE BASED UPON THE VERMONT STATE PLANE COORDINATE SYSTEM (NAD 83 FEET).
4. PROPERTY LINE INFORMATION OBTAINED FROM AVAILABLE 2018 GIS DATA FROM VCGI AND SHOWN AS APPROXIMATE.
5. BASE MAP SUPPLEMENTED USING AVAILABLE GIS SHAPEFILES, FIELD MEASUREMENTS, AND BY DIGITIZING SITE FEATURES USING AERIAL PHOTOGRAPHY.
6. ALL DIMENSIONS AND ELEVATIONS SHALL BE VERIFIED IN THE FIELD PRIOR TO CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE PROJECT ENGINEER FOR DETERMINIATION.



N

0 50 100

Feet

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EXISTING CONDITIONS - OVERVIEW

GRANITE STREET FLOOD RESILIENCY
TOWN OF HARDWICK
HARDWICK, VERMONT

SCALE	1 IN = 100 FT
DATE	10/29/2026
PROJECT NO.	15014.00003

EX-1

DATE SAVED: 10/2/2026 MXD: Y:\15014.00003\MAPS\HARDWICKFLOODMITIGATION\HARDWICKFLOODMITIGATION.APRX

LEGEND

- FW — FEMA FLOODWAY
- 100-YR — FEMA 100-YR
- 500-YR — FEMA 500-YR
- EXISITNG PROPERTY LINE
- VERMONT RIVER CORRIDOR
- VERMONT SIGNIFICANT WETLAND INVENTORY

FLOODPLAIN RESTORATION AREA
AREA ~ 2.0 ACRES
VOLUME ~ 3,300 CY
AVERAGE DEPTH ~ 2.5 - 3.0 FT

PRESERVE MATURE TREES WHILE LOWERING AREAS BETWEEN PATCHES OF LARGE TREES. TREES TO KEEP TO BE IDENTIFIED IN NEXT PHASE OF DESIGN.

SLOPE FLOODPLAIN EXCAVATION TO TIE INTO ROAD. MAX SLOPE 2H:1V. SLOPE ROAD EDGE TO DRAIN TOWARDS FLOODPLAIN.

CLEAR AREAS OF POOR VEGETATION AND INVASIVE SPECIES. AREAS TO BE COMPLETELY LOWERED TO FLOODPLAIN ELEVATION AND REVEGETATED.

COOPER BROOK
BROOK ST
GRANITE ST
COTTAGE ST
BERNARD SMITH LN
CHERRY ST
SPRING ST
ELM ST
Vermont municipalities., VCGI

N

0 50 100
Feet

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PROPOSED FLOODPLAIN RESTORATION

GRANITE STREET FLOOD RESILIENCY
TOWN OF HARDWICK
HARDWICK, VERMONT

SCALE	1 IN = 100 FT
DATE	10/29/2026
PROJECT NO.	15014.00003

PR-1

DATE SAVED: 10/2/2026 MXD: Y:\15014.00003\MAPS\HARDWICKFLOODMITIGATION\HARDWICKFLOODMITIGATION.APRX

LEGEND

- MINOR CONTOUR - 1 FT
- MAJOR CONTOUR - 5 FT
- FW — FEMA FLOODWAY
- 100-YR — FEMA 100-YR
- 500-YR — FEMA 500-YR
- EXISITNG PROPERTY LINE
- VERMONT RIVER CORRIDOR
- VERMONT SIGNIFICANT WETLAND INVENTORY

MAPPING NOTES:

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ELEV. AT SWALE OUTLET INTO COOPER BROOK ~ 802.0 FT

EXISTING SWALE

EXISTING CULVERT

EXISTING SWALE

EXISTING SWALE

EXISTING CULVERT

ELEV. AT FENCE ~ 806.3 FT

MINIMUM ELEV. IN LAWN DEPRESSION ~ 806.5 FT

MINIMUM ELEV. IN LAWN DEPRESSION ~ 805.1 FT

COOPER BROOK

LAMOILLE RIVER

WOLCOTT ST

GRANITE ST

FERRY ST

100-YR

N

0 50 100

Feet

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EXISTING CONDITIONS - GRANITE ST

GRANITE STREET FLOOD RESILIENCY
TOWN OF HARDWICK
HARDWICK, VERMONT

SCALE	1 IN = 100 FT
DATE	10/29/2026
PROJECT NO.	15014.00003

EX-2

DATE SAVED: 10/2/2026
MXD: Y:\15014.00003\MAPS\HARDWICKFLOODMITIGATION\HARDWICKFLOODMITIGATION.APRX

LEGEND

- MINOR CONTOUR - 1 FT
- MAJOR CONTOUR - 5 FT
- FW — FEMA FLOODWAY
- 100-YR — FEMA 100-YR
- 500-YR — FEMA 500-YR
- EXISITNG PROPERTY LINE (VCGI APPROX.)
- VERMONT RIVER CORRIDOR
- VERMONT SIGNIFICANT WETLAND INVENTORY

ELEV. AT SWALE OUTLET INTO COOPER BROOK ~ 802.0 FT

EXISTING SWALE

INSTALL BACKFLOW PREVENTER ON EXISTING CULVERT OUTLET

EXISTING CULVERT

EXISTING SWALE

INSTALL BACKFLOW PREVENTER ON PROPOSED CULVERT OUTLET

PROPOSED 18" CULVERT

DUE TO LOW COVER CONSIDER AN ELLIPICAL OR RPC PIPE. ALTERNATIVELY, ADDITIONAL SWALE WORK MAY BE REQUIRED TO LOWER DOWNSTREAM SWALE ELEVATIONS

LENGTH ~ 80 FT
PROPOSED INLET ELEV. ~ 806 FT
PROPOSED OUTLET ELEV. ~ 805.7 FT

CONSTRUCT SHALLOW SWALE TO DRAIN LOW LYING AREAS

LENGTH ~ 130 FT
BOTTOM WIDTH ~ 4 FT
SIDE SLOPES ~ 1H:5V
PROPOSED SLOPE ~ 0.4%

COOPER BROOK

REGRADE EXISTING SWALE TO DRAIN INTO COOPER BROOK

LENGTH ~ 685 FT
BOTTOM WIDTH ~ 4 FT
PROPOSED SLOPE ~ 0.3%

PERIODICALLY BRUSH HOG TO MAINTAIN A CLEAR FLOW PATH

EXISTING SWALE

INSTALL BACKFLOW PREVENTER ON PROPOSED CULVERT OUTLET

REMOVE TREE

REPLACE EXISTING CULVERT WITH 18" CULVERT AND MODIFY INVERT ELEVATIONS

LENGTH ~ 40 FT
PROPOSED INLET ELEV. ~ 804.6 FT
PROPOSED OUTLET ELEV. ~ 804.3 FT

GRANITE ST

EXISTING CULVERT

MINIMUM ELEV. IN LAWN DEPRESSION ~ 806.5 FT

REGRADE LAWN AND CONSTRUCT SHALLOW SWALE TO DRAIN LOW LYING AREAS TOWARDS PROPOSED CULVERT

LENGTH ~ 200 FT
BOTTOM WIDTH ~ 4 FT
SIDE SLOPES ~ 1H:5V
PROPOSED SLOPE ~ 0.9%

MINIMUM ELEV. IN LAWN DEPRESSION ~ 805.1 FT

CONSTRUCT SHALLOW SWALE TO DRAIN LOW LYING AREAS TOWARDS PROPOSED CULVERT

LENGTH ~ 200 FT
BOTTOM WIDTH ~ 4 FT
SIDE SLOPES ~ 1H:5V
PROPOSED SLOPE ~ 0.3%

FINAL DESIGN OF THE NORTHERN PORTION NEEDS ADDITIONAL ENGINEERING AND CONSULTATION WITH NEIGHBORS TO DETERMINE IF A CULVERT OR SWALE CONNECTION

ELEV. AT FENCE ~ 806.3 FT

N

0 50 100
Feet

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PROPOSED DRAINAGE IMPROVEMENTS

GRANITE STREET FLOOD RESILIENCY
TOWN OF HARDWICK
HARDWICK, VERMONT

SCALE 1 IN = 100 FT

DATE 10/29/2026

PROJECT NO. 15014.00003

PR-2

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