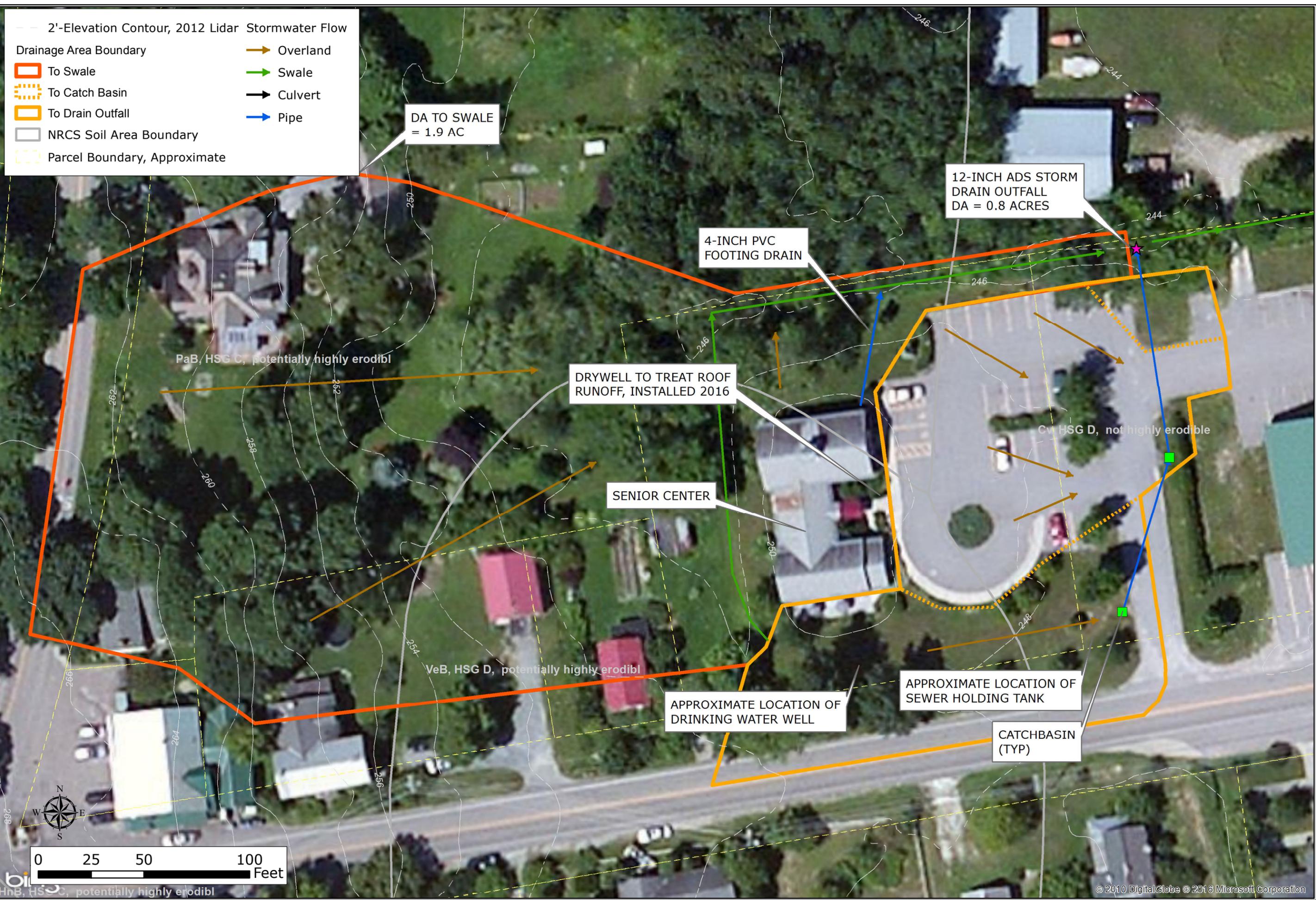


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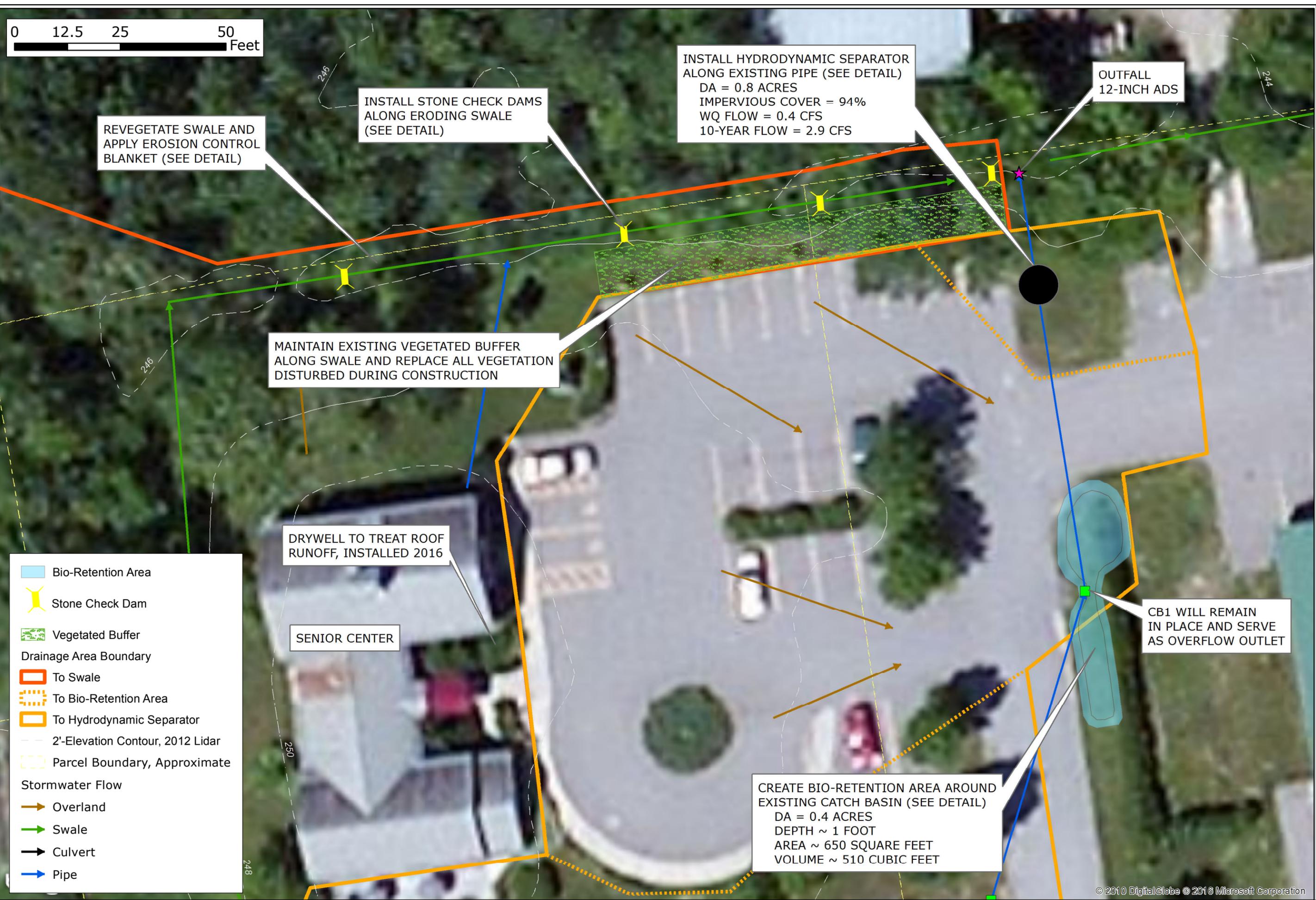
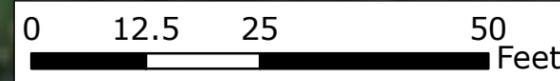
SOURCE(S):
 2012 LIDAR 2 FT CONTOURS, VCGI
 BING AERIAL
 NRCS SOIL MAPPING
 MMI FIELD DATA

EXISTING CONDITIONS
AHEAD OF THE STORM
CHARLOTTE SENIOR CENTER
 212 FERRY ROAD
 CHARLOTTE, VERMONT

CONCEPT DESIGN

Map By: JCL
 MMI #: 3452-22
 MXD:
 1st Version: 3/31/2016
 Revision: 10/3/2016
 Scale: 1"=40'

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REVEGETATE SWALE AND APPLY EROSION CONTROL BLANKET (SEE DETAIL)

INSTALL STONE CHECK DAMS ALONG ERODING SWALE (SEE DETAIL)

INSTALL HYDRODYNAMIC SEPARATOR ALONG EXISTING PIPE (SEE DETAIL)
DA = 0.8 ACRES
IMPERVIOUS COVER = 94%
WQ FLOW = 0.4 CFS
10-YEAR FLOW = 2.9 CFS

OUTFALL 12-INCH ADS

MAINTAIN EXISTING VEGETATED BUFFER ALONG SWALE AND REPLACE ALL VEGETATION DISTURBED DURING CONSTRUCTION

DRYWELL TO TREAT ROOF RUNOFF, INSTALLED 2016

SENIOR CENTER

CB1 WILL REMAIN IN PLACE AND SERVE AS OVERFLOW OUTLET

CREATE BIO-RETENTION AREA AROUND EXISTING CATCH BASIN (SEE DETAIL)
DA = 0.4 ACRES
DEPTH ~ 1 FOOT
AREA ~ 650 SQUARE FEET
VOLUME ~ 510 CUBIC FEET

- Bio-Retention Area
- Stone Check Dam
- Vegetated Buffer
- Drainage Area Boundary
- To Swale
- To Bio-Retention Area
- To Hydrodynamic Separator
- 2'-Elevation Contour, 2012 Lidar
- Parcel Boundary, Approximate
- Stormwater Flow
- Overland
- Swale
- Culvert
- Pipe

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SOURCE(S):
2012 LIDAR 2 FT CONTOURS, VCGI
BING AERIAL
NRCS SOIL MAPPING
MMI FIELD DATA
PIPE INVERT FROM 2000 SITE PLAN
ON RECORD WITH TOWN

LAYOUT
AHEAD OF THE STORM
CHARLOTTE SENIOR CENTER
212 FERRY ROAD
CHARLOTTE, VERMONT

CONCEPT DESIGN

Map By: JCL
MMI #: 3452-22
MXD:
1st Version: 10/3/2016
Revision:
Scale: 1"=20'

02

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PLAN VIEW B-B
N.T.S.

ELEVATION A-A
N.T.S.

CDS2015-4-C DESIGN NOTES

CDS2015-4-C RATED TREATMENT CAPACITY IS 0.7 CFS (19.8 L/s), OR PER LOCAL REGULATIONS. MAXIMUM HYDRAULIC INTERNAL BYPASS CAPACITY IS 10.0 CFS (283 L/s). IF THE SITE CONDITIONS EXCEED 10.0 (283 L/s) CFS, AN UPSTREAM BYPASS STRUCTURE IS REQUIRED.

THE STANDARD CDS2015-4-C CONFIGURATION IS SHOWN. ALTERNATE CONFIGURATIONS ARE AVAILABLE AND ARE LISTED BELOW. SOME CONFIGURATIONS MAY BE COMBINED TO SUIT SITE REQUIREMENTS.

CONFIGURATION DESCRIPTION	
GRATED INLET ONLY (NO INLET PIPE)	
GRATED INLET WITH INLET PIPE OR PIPES	
CURB INLET ONLY (NO INLET PIPE)	
CURB INLET WITH INLET PIPE OR PIPES	
SEPARATE OIL BAFFLE (SINGLE INLET PIPE REQUIRED FOR THIS CONFIGURATION)	
SEDIMENT WEIR FOR NUDEP / NJCAT CONFORMING UNITS	

FRAME AND COVER
(DIAMETER VARIES)
N.T.S.

SITE SPECIFIC DATA REQUIREMENTS			
STRUCTURE ID			
WATER QUALITY FLOW RATE (CFS OR L/s)			*
PEAK FLOW RATE (CFS OR L/s)			*
RETURN PERIOD OF PEAK FLOW (YRS)			*
SCREEN APERTURE (2400 OR 4700)			*
PIPE DATA:	I.E.	MATERIAL	DIAMETER
INLET PIPE 1	*	*	*
INLET PIPE 2	*	*	*
OUTLET PIPE	*	*	*
RIM ELEVATION			*
ANTI-FLOTATION BALLAST	WIDTH	HEIGHT	
	*	*	*
NOTES/SPECIAL REQUIREMENTS:			
* PER ENGINEER OF RECORD			

GENERAL NOTES

- CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
- DIMENSIONS MARKED WITH () ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY.
- FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.contechES.com
- CDS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
- STRUCTURE SHALL MEET AASHTO H220 AND CASTINGS SHALL MEET H220 (AASHTO M 308) LOAD RATING, ASSUMING GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION.
- PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE CLEANING.

INSTALLATION NOTES

- ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
- CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CDS MANHOLE STRUCTURE (LIFTING CLUTCHES PROVIDED).
- CONTRACTOR TO ADD JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS, AND ASSEMBLE STRUCTURE.
- CONTRACTOR TO PROVIDE, INSTALL, AND GROUT PIPES. MATCH PIPE INVERTS WITH ELEVATIONS SHOWN.
- CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

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800-338-1122 513-645-7000 513-645-7993 FAX

**CDS2015-4-C
INLINE CDS
STANDARD DETAIL**

CONTECH CDS 2015-4-C, TYPICAL DETAIL

NOT TO SCALE

INSTALLATION NOTES:

- INSTALLATION SHALL FOLLOW MANUFACTURERS INSTRUCTIONS.
- FINAL DESIGN OF UNIT WILL SET ELEVATIONS AND SPECIFIC DETAILS OF UNIT. A MANUFACTURERS TYPICAL DETAIL IS SHOWN FOR GENERAL REFERENCE.

OPERATION AND MAINTENANCE NOTES:

- OPERATION AND MAINTENANCE OF THE CDS UNIT SHOULD FOLLOW THE CONTECH ENGINEERED SOLUTIONS CDS OPERATION, DESIGN, PERFORMANCE AND MAINTENANCE GUIDE DOCUMENT IS AVAILABLE FROM CONTECH ENGINEERED SOLUTIONS.
- SET A REGULAR INSPECTION SCHEDULE. USE A MEASURING TOOL OR ROD TO RECORD SEDIMENT ACCUMULATION. KEEP A RECORD OF SEDIMENT DEPTH AND MAINTENANCE.
- DURING THE FIRST YEAR OF OPERATION, INSPECT THE SEDIMENT ACCUMULATED IN THE UNIT AFTER EACH LARGE STORM, OR AT MINIMUM EACH MONTH, TO SET A BASELINE FOR FUTURE YEARS.
- DURING FOLLOWING YEARS, CONSIDER REDUCING INSPECTION SCHEDULE TO A MINIMUM

- OF 2 TIMES PER YEAR, ONCE IN THE SPRING AND ONCE IN THE FALL, IF MONITORING DURING THE FIRST YEAR INDICATES THAT THIS SCHEDULE WILL BE SUFFICIENT TO ENSURE SEDIMENT ACCUMULATION IS LESS THAN 18 INCHES DEEP BETWEEN CLEANOUTS.
- CLEAN OUT SEDIMENT WHEN IT AS ACCUMULATED 12 TO 18 INCHES DEEP. USE A VACUUM TRUCK TO SUCK MATERIAL OUT OF THE SWIRL CHAMBER. SKIM FLOATING DEBRIS OFF OF THE WATER.
- ICE ACCUMULATION MAY TEMPORARILY REDUCE TREATMENT EFFICIENCY, BUT IS NOT EXPECTED AND WILL NOT DAMAGE THE SYSTEM.
- ENTRY INTO THE UNIT IS TYPICALLY NOT REQUIRED FOR MAINTENANCE. IF ENTRY DOES BECOME REQUIRED ALL LIQUID SHOULD BE EVACUATED PRIOR TO ENTRY. CONFINED SPACE ENTRY PROCEDURES MUST BE FOLLOWED IF THE UNIT IS ENTERED.
- DISPOSE OF SEDIMENTS REMOVED FROM THE SYSTEM ACCORDING TO STATE AND LOCAL REGULATIONS. SEDIMENT SHOULD BE DISPOSED TO MINIMIZE THE CHANCE OF REMOBILIZING BY RUNOFF.

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REVISIONS	CONCEPT DESIGN

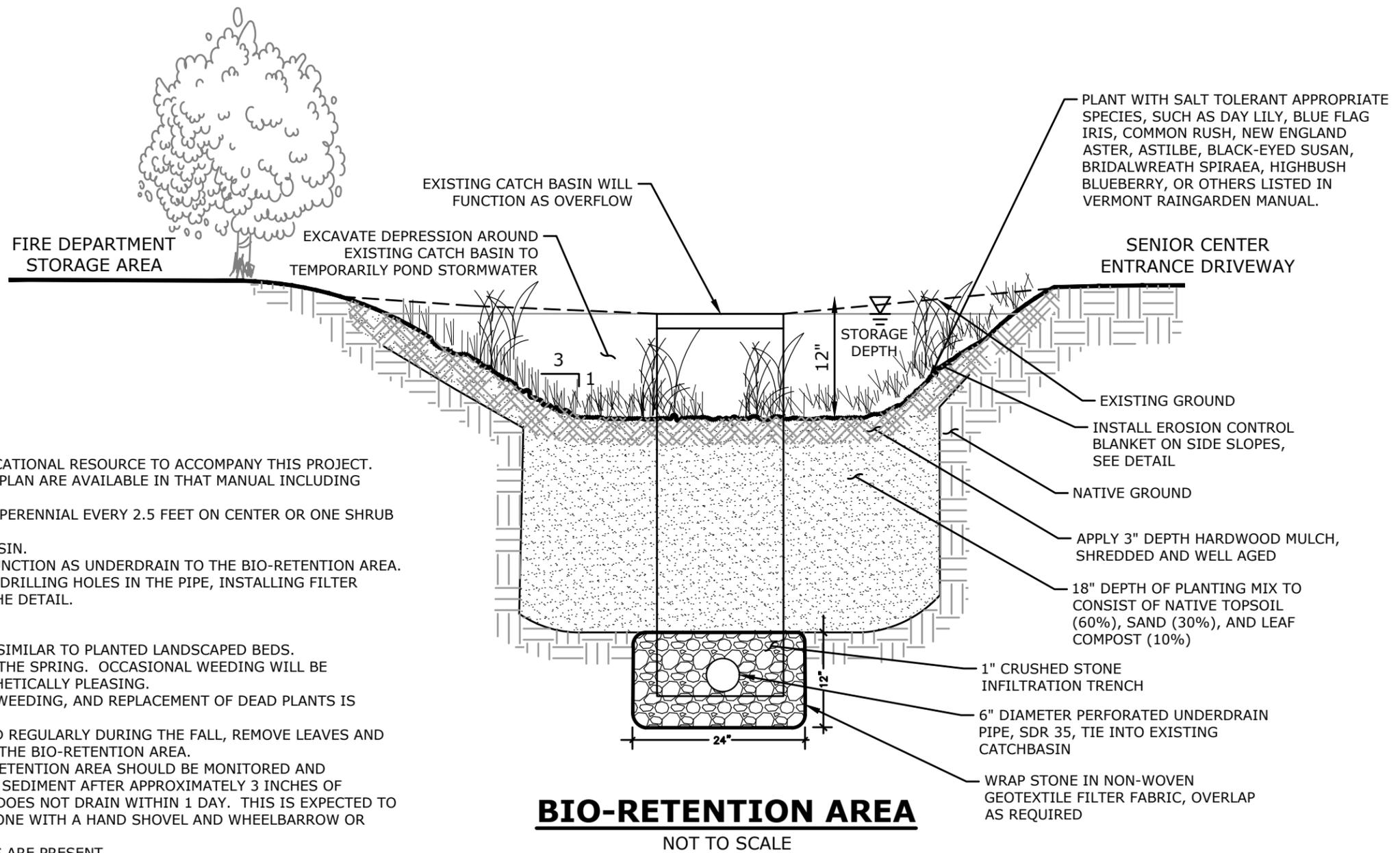
DETAILS

**AHEAD OF THE STORM
CHARLOTTE SENIOR CENTER**
212 FERRY ROAD
CHARLOTTE, VERMONT

JCL DESIGNED	JCL DRAWN	BMC CHECKED
SCALE NOT TO SCALE		
DATE 10/3/2016		
PROJECT NO. 3452-22		
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PLANT WITH SALT TOLERANT APPROPRIATE SPECIES, SUCH AS DAY LILY, BLUE FLAG IRIS, COMMON RUSH, NEW ENGLAND ASTER, ASTILBE, BLACK-EYED SUSAN, BRIDALWREATH SPIRAEA, HIGHBUSH BLUEBERRY, OR OTHERS LISTED IN VERMONT RAINGARDEN MANUAL.

INSTALLATION NOTES:

1. THE VERMONT RAINGARDEN MANUAL IS A GOOD EDUCATIONAL RESOURCE TO ACCOMPANY THIS PROJECT. ALTERNATIVES TO THE DETAILS PRESCRIBED IN THIS PLAN ARE AVAILABLE IN THAT MANUAL INCLUDING ADDITIONAL APPROPRIATE PLANT SPECIES.
2. PLANTING DENSITIES ARE RECOMMENDED TO BE ONE PERENNIAL EVERY 2.5 FEET ON CENTER OR ONE SHRUB EVERY 5 FEET ON CENTER.
3. THE UNDERDRAIN WILL TIE INTO EXISTING CATCH BASIN.
4. ALTERNATIVELY, MODIFY EXISTING STORM PIPE TO FUNCTION AS UNDERDRAIN TO THE BIO-RETENTION AREA. THIS CAN BE ACCOMPLISHED BY EXPOSING THE PIPE, DRILLING HOLES IN THE PIPE, INSTALLING FILTER FABRIC AND ROCK AROUND THE PIPE AS SHOWN IN THE DETAIL.

OPERATION AND MAINTENANCE NOTES:

1. MAINTENANCE OF THE BIO-RETENTION AREA IS VERY SIMILAR TO PLANTED LANDSCAPED BEDS. REPLACEMENT OF SOME MULCH MAY BE REQUIRED IN THE SPRING. OCCASIONAL WEEDING WILL BE REQUIRED TO MAINTAIN THE SELECTED PLANTS AESTHETICALLY PLEASING.
2. DURING THE FIRST YEAR OF OPERATION, WATERING, WEEDING, AND REPLACEMENT OF DEAD PLANTS IS IMPORTANT FOR PROPER ESTABLISHMENT.
3. PERIODICALLY, INCLUDING AFTER LARGE STORMS AND REGULARLY DURING THE FALL, REMOVE LEAVES AND DEBRIS ACCUMULATED AT CATCH BASIN AND WITHIN THE BIO-RETENTION AREA.
4. THE ACCUMULATION OF SEDIMENT WITHIN THE BIO-RETENTION AREA SHOULD BE MONITORED AND INSPECTED A MINIMUM OF ONCE ANNUALLY. REMOVE SEDIMENT AFTER APPROXIMATELY 3 INCHES OF SEDIMENT HAS ACCUMULATED OR RAKE AWAY WHEN DOES NOT DRAIN WITHIN 1 DAY. THIS IS EXPECTED TO OCCUR APPROXIMATELY EVERY TWO YEARS AND BE DONE WITH A HAND SHOVEL AND WHEELBARROW OR BUCKETS.
5. ANNUALLY INSPECT MAKE SURE NO INVASIVE SPECIES ARE PRESENT.

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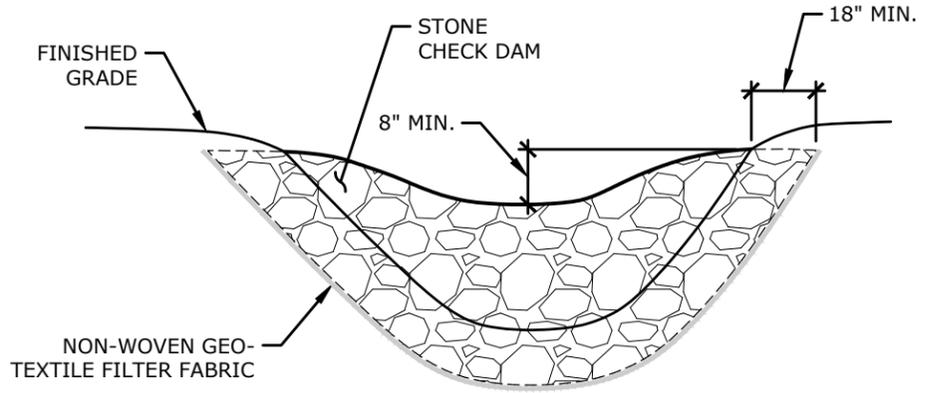
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DETAILS
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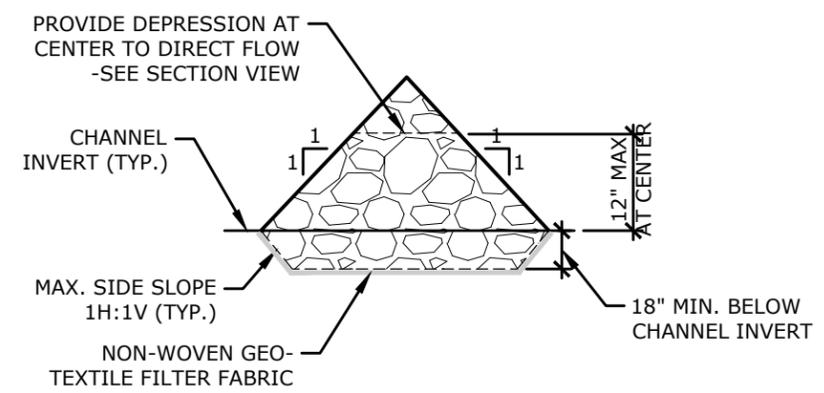
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DATE: 10/3/2016		
PROJECT NO: 3452-22		

04

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SECTION VIEW



ELEVATION VIEW

STONE CHECK DAM

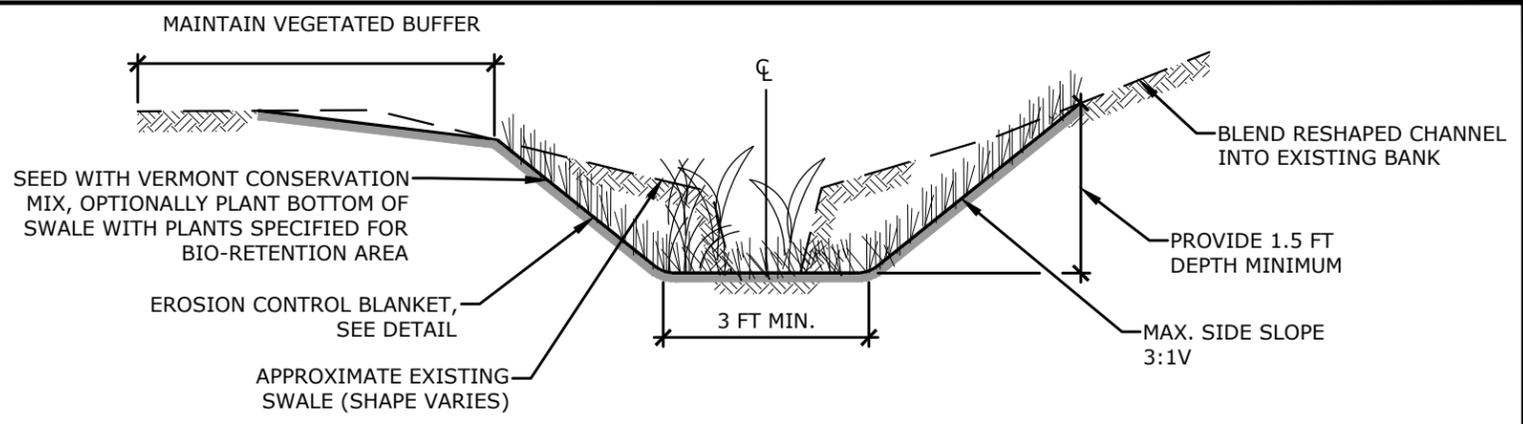
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STONE CHECK DAM INSTALLATION NOTES:

1. EXTEND THE STONE A MINIMUM OF 18 INCHES BEYOND THE BANKS AND CHANNEL INVERT OF THE SWALE TO PREVENT CUTTING AROUND THE ENDS OF OR UNDERNEATH THE CHECK DAM.
2. USE TYPE II STONE FILL (D50=12") or 6" -12" EROSION STONE AS PER PIKE INDUSTRIES, NEW HAVEN, VT.
3. USE CONTECH GEOTEX 801 NON-WOVEN GEOTEXTILE FILTER FABRIC OR APPROVED EQUAL ALONG THE BOTTOM OF THE CUTOFF TRENCH AS A FILTER

STONE CHECK DAM OPERATION AND MAINTENANCE NOTES:

1. PERIODICALLY, INCLUDING AFTER LARGE STORMS AND REGULARLY DURING THE FALL, REMOVE LEAVES AND DEBRIS ACCUMULATED AT CHECK DAMS.
2. SWALE IS EXPECTED TO REQUIRE RESHAPING AND REMOVAL OF SEDIMENT APPROXIMATELY EVERY 10-15 YEARS. WHEN RESHAPING IS NECESSARY, USE DETAIL PROVIDED FOR IDEAL CROSS SECTION.
3. RESEEDING OF VERMONT CONSERVATION SEED MIX SHOULD OCCUR AFTER REMOVAL OF SEDIMENT OR RESHAPING OF SWALE.



REVEGETATED/RESHAPED SWALE

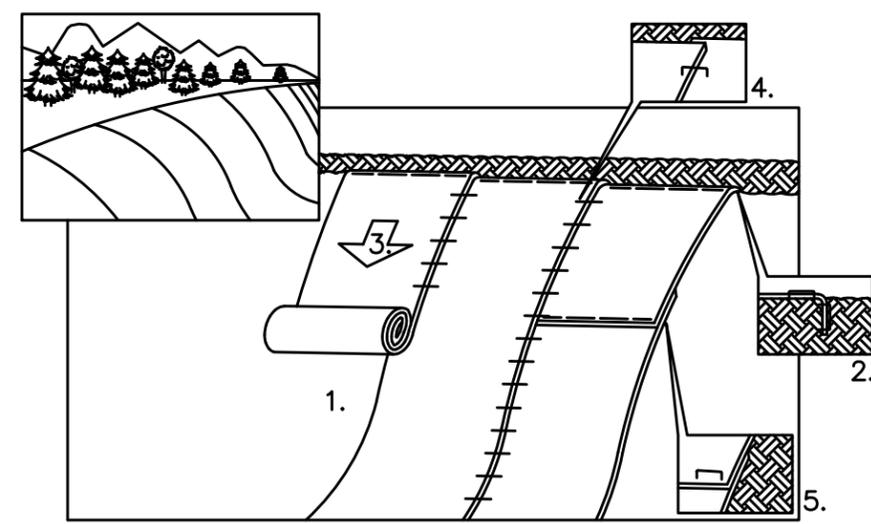
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SWALE INSTALLATION NOTES:

1. SWALE SHAPE PROVIDED HERE FOR FUTURE USE. ONLY REVEGETATION AND APPLICATION OF EROSION CONTROL BLANKET IS CURRENTLY RECOMMENDED.
2. DO NOT COMPACT THE GROUND WHEN GRADING SWALES.

SWALE OPERATION AND MAINTENANCE NOTES:

1. DURING THE FIRST YEAR OR UNTIL VEGETATION HAS BEEN ESTABLISHED, INSPECT THE SWALES AFTER ALL STORMS GREATER THAN 0.5 INCHES. REPAIR ANY EROSION THAT HAS OCCURRED AND SPOT SEED ANY BARE PATCHES.
2. SWALES ARE EXPECTED TO REQUIRE RESHAPING AND REMOVAL OF SEDIMENT EVERY 10-15 YEARS.
3. SWALES SHOULD BE ALLOWED TO GROW TALL PERENNIAL VEGETATION.



EROSION CONTROL BLANKET

NOT TO SCALE

EROSION CONTROL BLANKET INSTALLATION NOTES:

1. USE BIONET SHORT TERM BIODEGRADABLE EROSION CONTROL BLANKETS ITEM NUMBER S150BN, AS MANUFACTURED BY NORTH AMERICAN GREEN, 5401 ST. WENDEL-CYNTHIANA ROAD, POSEYVILLE, IN 47633.
2. USE BIODEGRADABLE STAPLES.
3. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING APPLICATION OF AMENDED SOIL AND SEED.
4. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6" DEEP BY 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
5. ROLL THE BLANKETS DOWN THE SLOPE IN THE DIRECTION OF THE WATER FLOW.
6. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2" OVERLAP.
7. WHEN BLANKETS MUST BE SPLICED DOWN THE SLOPE, PLACE BLANKETS END OVER END (SHINGLE STYLE) WITH APPROXIMATELY 6" OVERLAP. STAPLE THROUGH OVERLAP AREA, APPROXIMATELY 12" APART
8. REFER TO GENERAL STAPLE PATTERN GUIDE IN NORTH AMERICAN GREEN CATALOG FOR CORRECT STAPLE PATTERN RECOMMENDATIONS FOR SLOPE INSTALLATIONS.

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<p style="font-size: x-small;">JCL DESIGNED</p>	<p style="font-size: x-small;">JCL DRAWN</p>	<p style="font-size: x-small;">BMC CHECKED</p>	<p style="font-weight: bold; font-size: small;">NOT TO SCALE</p> <p style="font-size: x-small;">DATE: 10/3/2016</p> <p style="font-size: x-small;">PROJECT NO: 3452-22</p>					
<p style="font-size: large; font-weight: bold;">05</p>			<p style="font-size: x-small;">SHEET NO.</p>					