



FIELD ASSESSMENT NOTES

- | | |
|---|--|
| <input checked="" type="checkbox"/> Stormwater Retrofit | <input checked="" type="checkbox"/> Pollution Prevention |
| <input type="checkbox"/> Stream/Wetland Restoration | <input type="checkbox"/> Infrastructure Repair |
| <input type="checkbox"/> Residential Stewardship | <input type="checkbox"/> Illicit Discharge |
| <input type="checkbox"/> Land Conservation | <input type="checkbox"/> Other _____ |

Subwatershed: Bavon

Site Name: BCB School (BO-1)

Description of Existing Conditions:

used to have flooding problem, fixed it with a 6-foot pipe from behind the school down to the gut. Inlet to pipe is clogged with vegetation. Some roof drains connected to a cistern that overflows since it isn't used.
Septic/Sewer? Sewer
cisterns? Yes, one big cistern → irrigation. Next to cafeteria
How does H₂O enter 6' pipe? There is an inlet, but we couldn't find it.

Courtyards all have "rain gardens" that could be retrofitted to function better. Graded slope in main courtyard. All catchbasins flow down to same outfall area at corner of parking lot → into gut. Some H₂O may eventually flow into unused ball field. Dumpsters are right by gut, uncovered, and leaking into catchbasin.

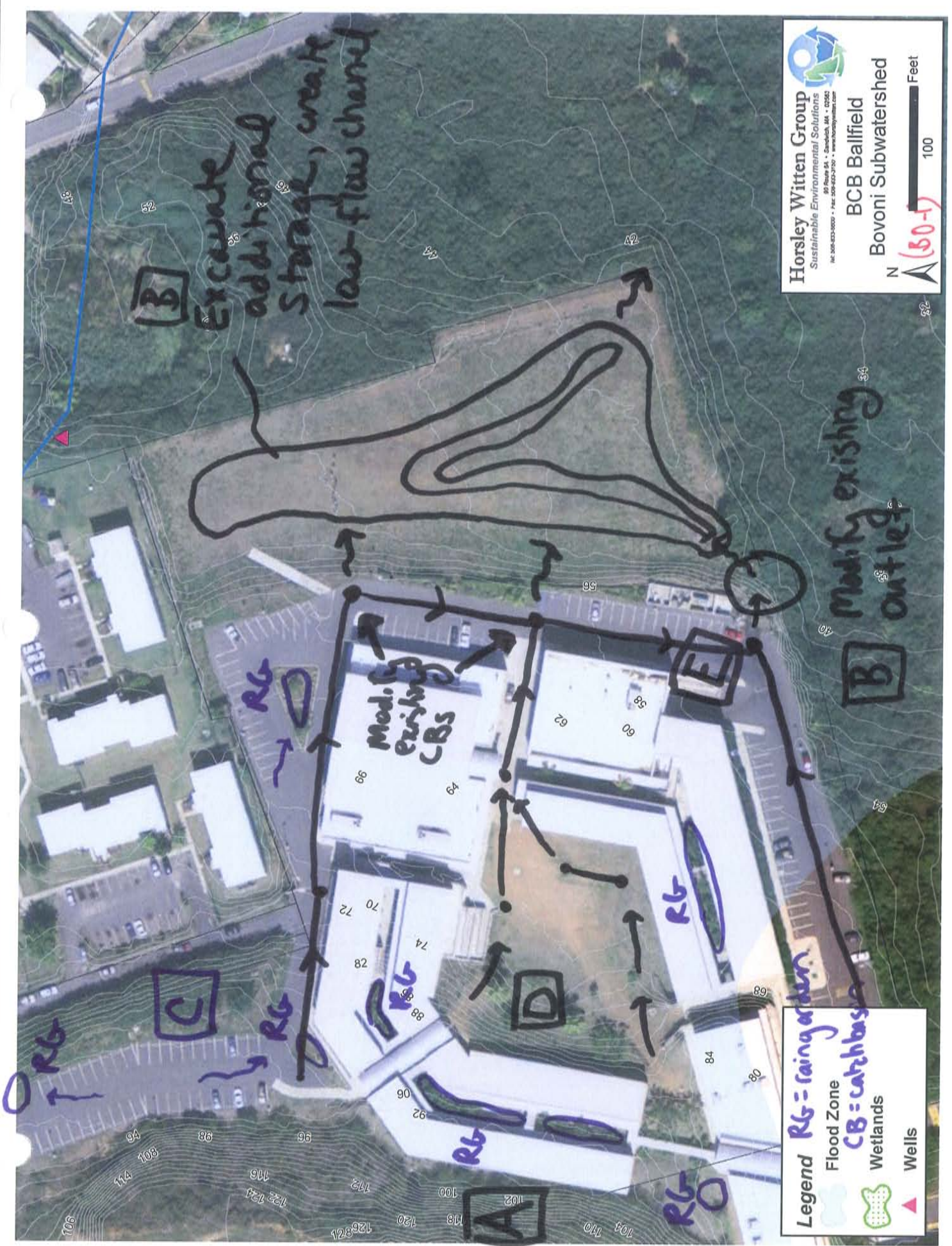
Additional Notes and/or Sketch Information:

Description of Proposed Project:

- Retrofit concrete swales with baffles and detention to slow H₂O down and infiltrate as possible
- Convert courtyard gardens into rain gardens
- Stabilize eroded slope in courtyard and redirect H₂O (prevent driving there?)
- Move dumpsters to better location and cover
- Redirect stormwater into ball field to create stormwater wetland
- Convert a few other areas near catch basins/parking areas into rain gardens as demo projects
- Reduce unnecessary impervious cover throughout school property (excessive parking lots?)

Additional Notes and/or Sketch Information:

Site Priority: Love it Has Potential Not Likely Enforcement Needed




Horsley Witten Group
 Sustainable Environmental Solutions
 99 Route 54 • Sandwich, MA • 01963
 Tel: 508-833-8000 • Fax: 508-833-3100 • www.horsleywitten.com

BCB Ballfield
Bovoni Subwatershed

N  100 Feet

Legend

-  Flood Zone
-  Wetlands
-  Wells

RG = raingarden
CB = catchbasin



FIELD ASSESSMENT NOTES

<input checked="" type="checkbox"/> Stormwater Retrofit	<input checked="" type="checkbox"/> Pollution Prevention
<input checked="" type="checkbox"/> Stream/Wetland Restoration	<input type="checkbox"/> Infrastructure Repair
<input type="checkbox"/> Residential Stewardship	<input type="checkbox"/> Illicit Discharge
<input type="checkbox"/> Land Conservation	<input type="checkbox"/> Other _____

Subwatershed: Bavoni

Site Name: Thomsville Cooperative (BO-2)

Description of Existing Conditions:

HAVE SEWER, HAVE WATER
HAVE CISTERNS w/ CISTERN OVERFLOW
Under parking LOT
Sydney → MAINTENANCE SUPERVISION

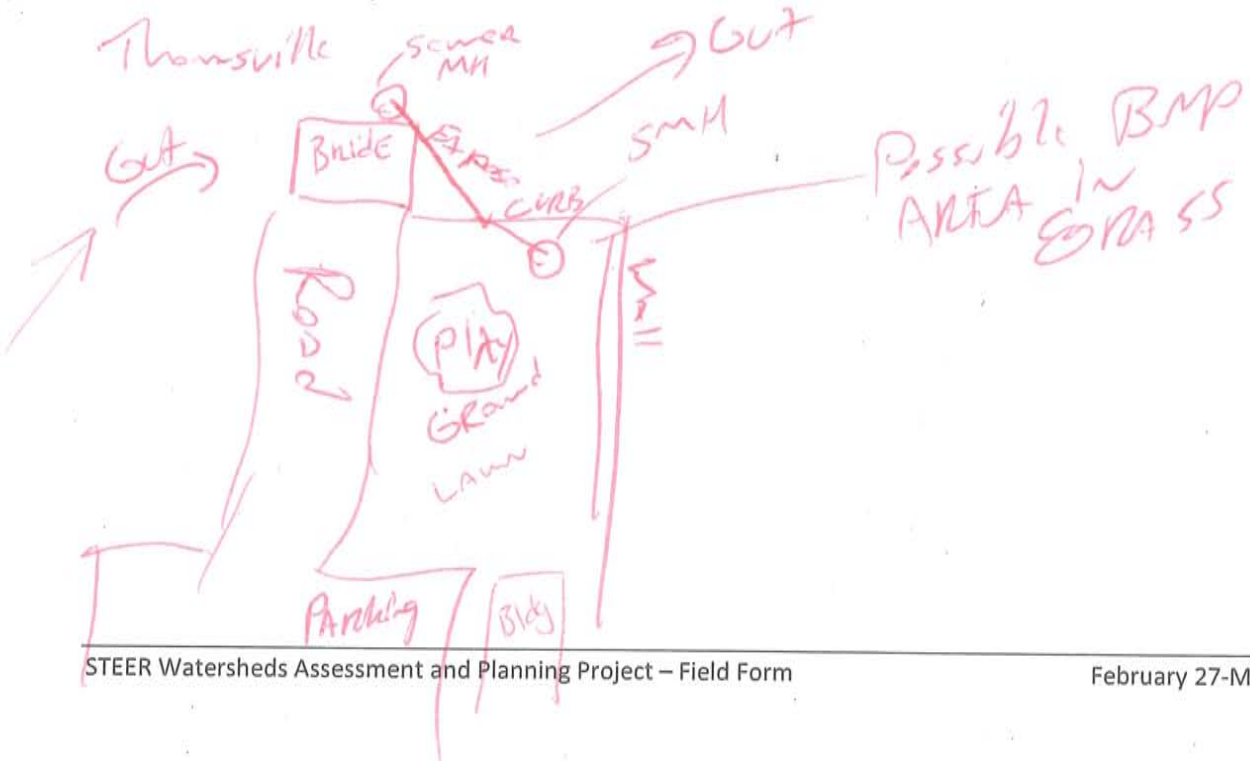
SOME EROSION IN LAWN GET
UPPER → FAIRLY GOOD SHAPE

SOME TRASH MOSTLY LAWN

AREA 7 → GUT DOWN CENTER OF ROAD OF
RESIDENTIAL DEVELOPMENT & COVERTED ROAD

* FURTHER INVESTIGATE SITE FOR R.G. OPTIONS

Additional Notes and/or Sketch Information:





FIELD ASSESSMENT NOTES

- | | |
|--|--|
| <input checked="" type="checkbox"/> Stormwater Retrofit | <input type="checkbox"/> Pollution Prevention |
| <input checked="" type="checkbox"/> Stream/Wetland Restoration | <input type="checkbox"/> Infrastructure Repair |
| <input type="checkbox"/> Residential Stewardship | <input type="checkbox"/> Illicit Discharge |
| <input type="checkbox"/> Land Conservation | <input type="checkbox"/> Other _____ |

Subwatershed: BOVON

Site Name: (30-3) Wooded Parcel @ Thomasville Co-op

Description of Existing Conditions:

UPSTREAM OF SITE, GUT WAS DIVERTED WHEN CO-OP ROAD CONSTRUCTED (REPORTED BY CO-OP FACILITY MANAGER)

NOW GUT GOES DOWN ROAD TO TEXACO (30-7).

CONSIDER OPTION FOR RESTORING GUT TO ORIGINAL PATH; PIPE IT BEHIND HOMES, OPEN UP INTO AN INFILTRATION ~~AT~~ OR UNDERGROUND STORAGE TANK (TO USE FOR IRRIGATION AT CO-OP) AND THEN OVERFLOW TO WOODEN LOT.

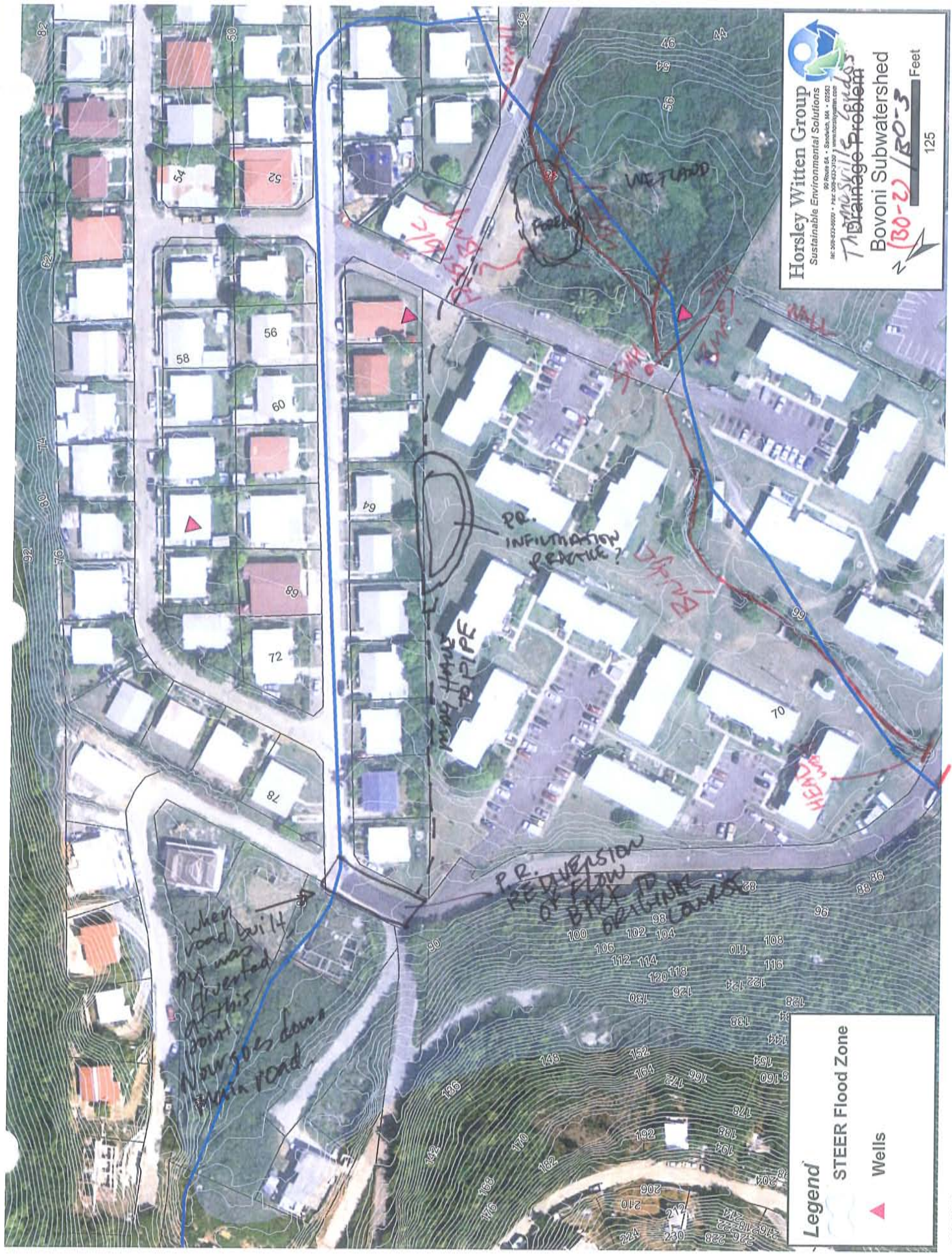
WOODEN LOT HAS WETLAND AREA IN IT THAT NEEDS TO BE DELINEATED. FIRST, BUT THERE IS POTENTIAL

Additional Notes and/or Sketch Information:

FOR A LOT OF STORMWATER MANAGEMENT HERE.

CURRENTLY, THE AREA USED FOR COCK/DOG FIGHTING AND OTHER SHADY ACTIVITIES.

DEPENDING ON OWNERSHIP, THIS COULD BE A SIGNIFICANT OP. FOR A COMMUNITY PARK & REGIONAL STORMWATER FACILITY WITH PATHS TO SCHOOL FOR KIDS.




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 99 Ross Rd. • Stevens, MA • 02555
 413-268-5200 • Fax: 413-268-5201 • hws@hws.com


The Muskege Project
 Bovoni Subwatershed
 (B0-2) / (B0-3)

125 Feet

when road built
 it was diverted
 down this
 gully down
 with road

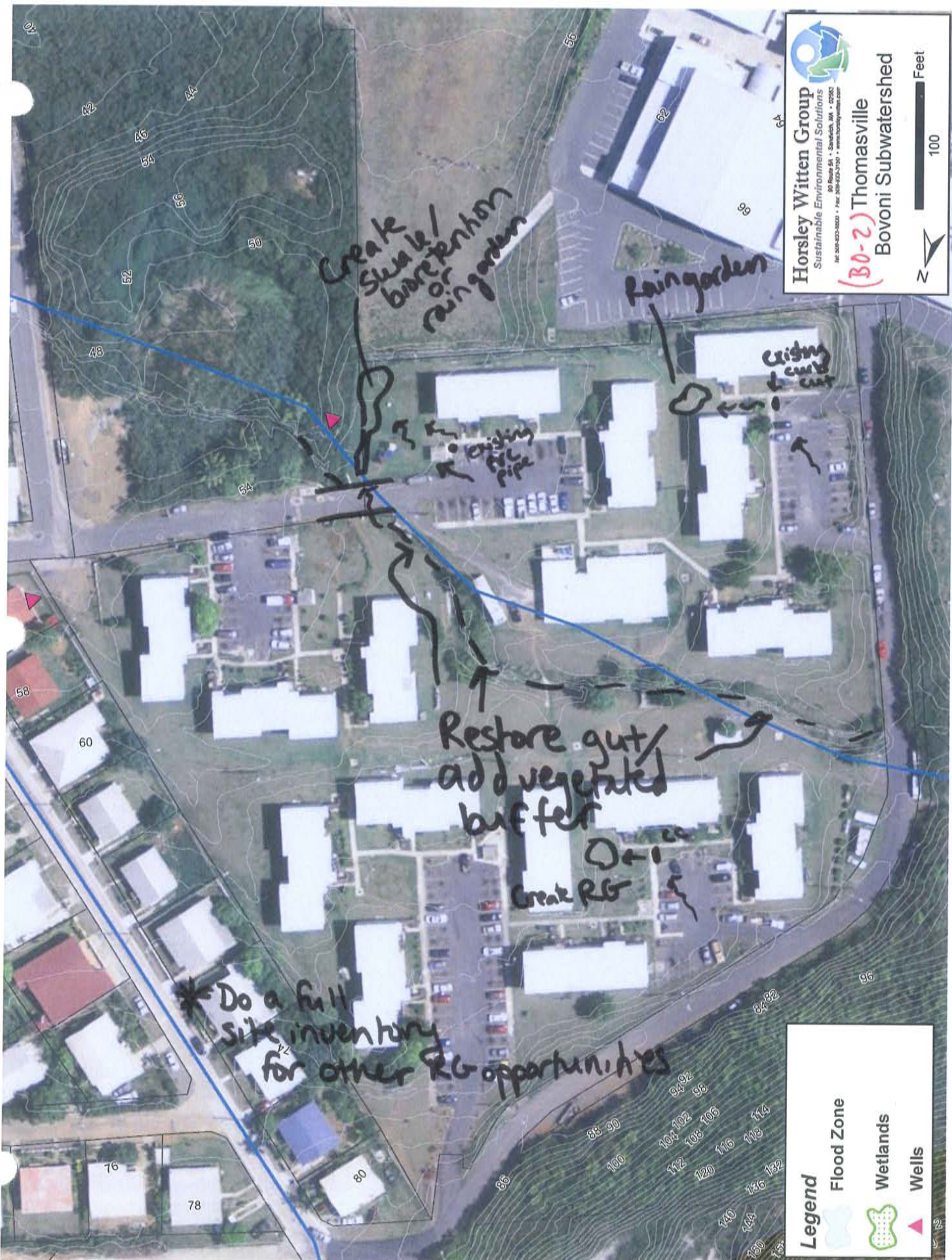
may have
 to PIPE

P.R.
 INFILTRATION
 PROTECTIVE?

P.R. DIVERSION
 OF FLOW
 BACK TO
 DRAINAGE
 CANAL

Legend

- STEER Flood Zone
- Wells




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 Tel: 508-833-3830 • Fax: 508-833-3150 • www.horsleywitten.com
(30-2) Thomasville
Bovoni Subwatershed
 Feet
 100
 N

Legend
 Flood Zone
 Wetlands
 Wells




Horsley Witten Group
 Sustainable Environmental Solutions
 80 Route 66 • Southwick, MA • 01084
 Tel: 508-833-8000 • Fax: 508-833-9100 • www.horsleywitten.com

Drainage Problem
Bovoni Subwatershed
 B2-3

0 125 Feet
 N

Legend
 STEER Flood Zone
 Wells



FIELD ASSESSMENT NOTES

- | | |
|---|--|
| <input type="checkbox"/> Stormwater Retrofit | <input type="checkbox"/> Pollution Prevention |
| <input type="checkbox"/> Stream/Wetland Restoration | <input type="checkbox"/> Infrastructure Repair |
| <input type="checkbox"/> Residential Stewardship | <input type="checkbox"/> Illicit Discharge |
| <input type="checkbox"/> Land Conservation | <input type="checkbox"/> Other _____ |

Subwatershed: Bovoni

Site Name: (BO-4) Bovoni Projects

Description of Existing Conditions:

HAVE cisterns → not used Pigeons. Also mentioned a NATURAL spring

Erosion outside from spring and on Runoff (most likely). Regarding ~~water~~ FIRE in Progress → MR Austin

MR Austin is the Maintenance Supervisor (very nice)

Stormwater collects by Comb cuts that direct under buildings that ARE ^{occupied} TRASH RACKS. TRASH RACKS have maintenance doors for access & MR Austin said they clean regularly. Cisterns → slowly release to ground to help storage.

cisterns ~~was~~ pump chambers were closed up.

SOLAR Hot water Heaters.

Additional Notes and/or Sketch Information:

Dumpsters uncovered. MR Austin mentioned that he has a problem with Air borne Trash & Debris Around the site.

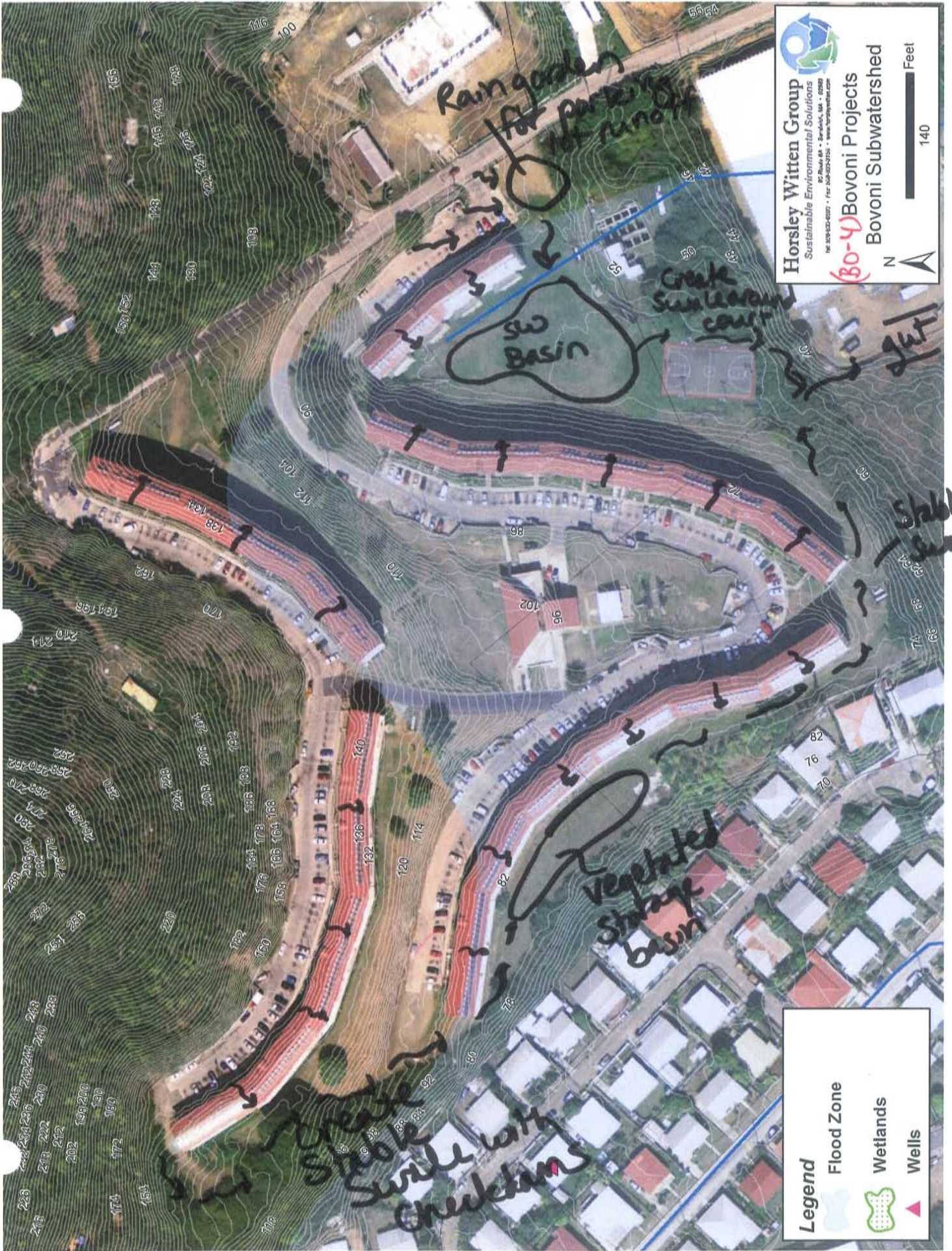
Abandoned ww treatment Facility to the South of the Development.

Description of Proposed Project:

- Cover dumpsters
- Stabilize steep slopes with vegetation to reduce erosion
- Consider using cisterns again for gray water
- Formalize stable swales add stormwater vegetated stormwater basins for water quality and storage → prevent/reduce downstream issues.
- Construct rain garden near easternmost parking lot

Additional Notes and/or Sketch Information:

Site Priority: Love it Has Potential Not Likely Enforcement Needed



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 Sustainable Environmental Solutions
 14000 E. 15th Avenue, Suite 100
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(30-4) Bovoni Projects
 Bovoni Subwatershed



Legend

- Flood Zone
- Wetlands
- Wells



FIELD ASSESSMENT NOTES

- | | |
|---|--|
| <input type="checkbox"/> Stormwater Retrofit | <input type="checkbox"/> Pollution Prevention |
| <input type="checkbox"/> Stream/Wetland Restoration | <input type="checkbox"/> Infrastructure Repair |
| <input type="checkbox"/> Residential Stewardship | <input type="checkbox"/> Illicit Discharge |
| <input type="checkbox"/> Land Conservation | <input type="checkbox"/> Other _____ |

Subwatershed: Bayon

Site Name: Winery (Premier) (BO-5)

Description of Existing Conditions: Managerial
Met with one operation. Hesitant to talk to us.

Winery ->
Onsite septic, Own water source -> Cistern

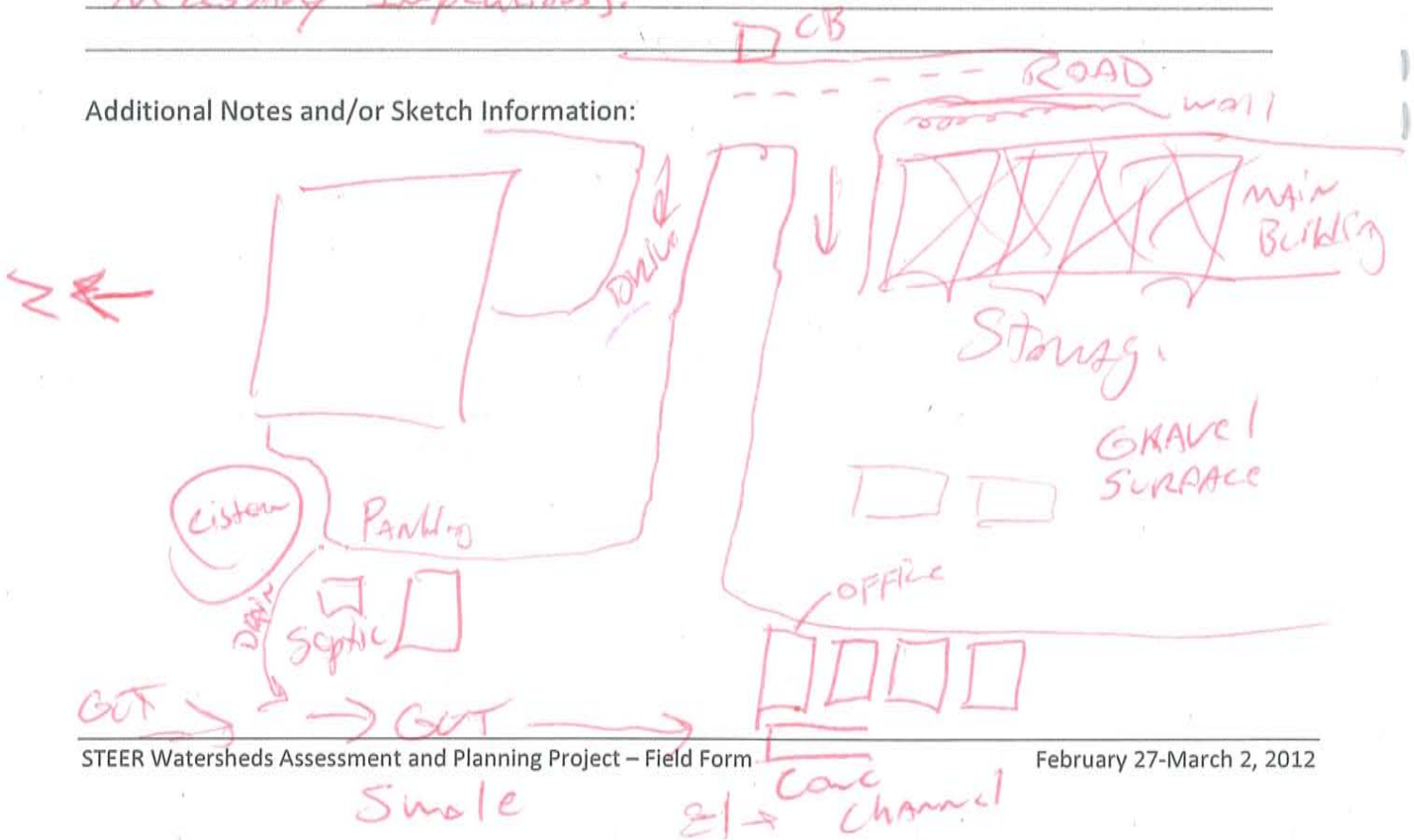
DRAIN TO A gut out behind Building

They have not had Flooding Issues According to Manager

Field
Septic directly adjacent to gut w/ BANANA TREES
over & around. Has what appears to be
A septic tank.

Site is fairly clean & mostly impervious (mostly
necessary impervious).

Additional Notes and/or Sketch Information:



Description of Proposed Project:

Recommendations:
Monitor/maintenance of septic system

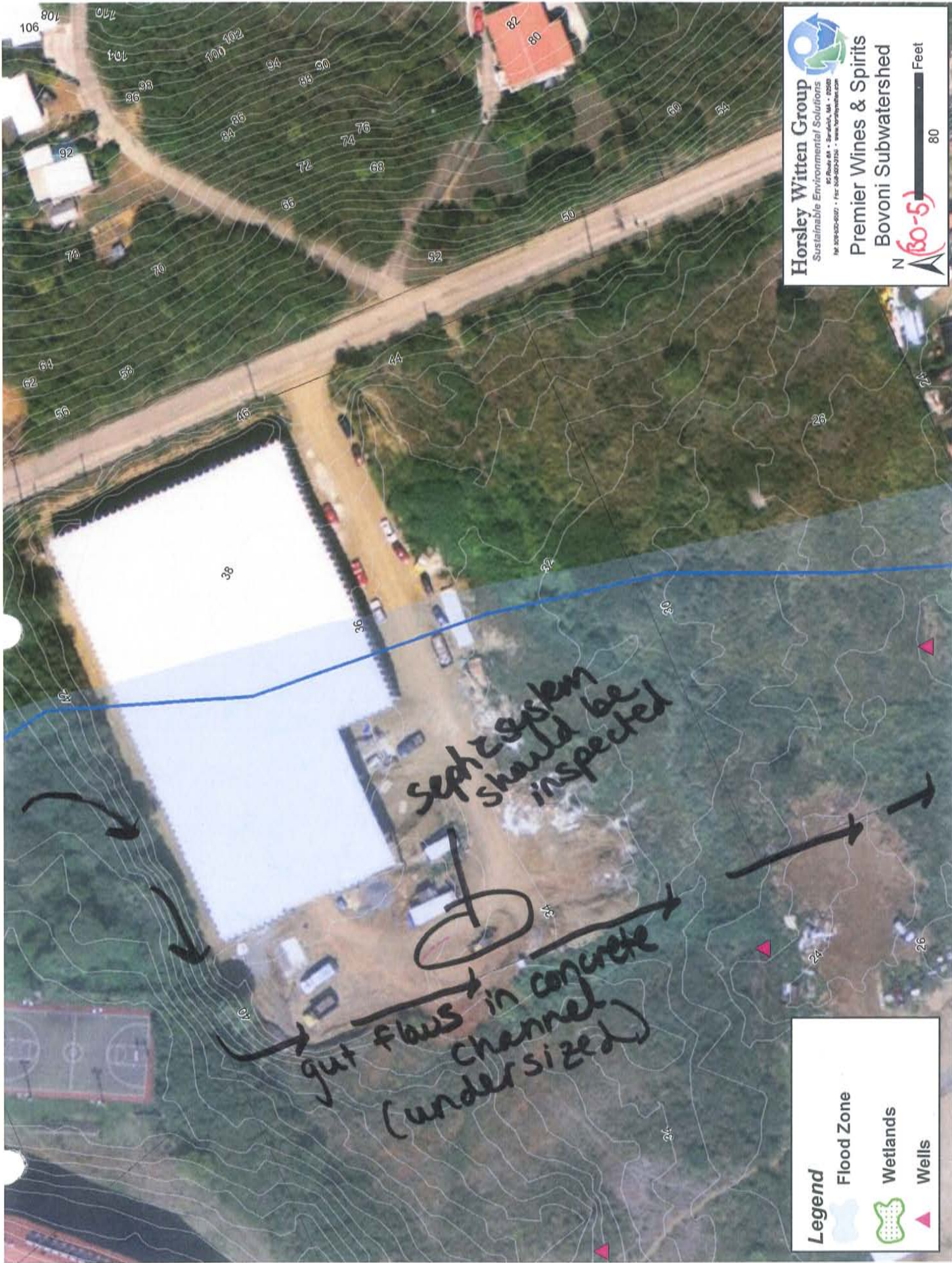
Additional Notes and/or Sketch Information:




St. Thomas – Main Office
7020 Estate Bovoni
P.O.Box 502790
St. Thomas, VI 00805-2790
T. 340.775.1275
F. 340.777.3695


St. Croix – Branch
57-C Eliza's Retreat
P.O. Box 922
St. Croix, VI 00821
T. 340.773.6437
F. 340.773.5034

Site Priority: Love it Has Potential Not Likely Enforcement Needed




Horsley Witten Group
 Sustainable Environmental Solutions
 1000 Main Street, Suite 200
 Westport, MA 01886
 Tel: 351-925-6500 • Fax: 351-925-6501 • www.horsleywitten.com

Premier Wines & Spirits
Bovoni Subwatershed

N  80 Feet

Legend

-  Flood Zone
-  Wetlands
-  Wells



FIELD ASSESSMENT NOTES

- | | |
|--|--|
| <input type="checkbox"/> Stormwater Retrofit | <input checked="" type="checkbox"/> Pollution Prevention |
| <input checked="" type="checkbox"/> Stream/Wetland Restoration | <input type="checkbox"/> Infrastructure Repair |
| <input type="checkbox"/> Residential Stewardship | <input checked="" type="checkbox"/> Illicit Discharge |
| <input type="checkbox"/> Land Conservation | <input type="checkbox"/> Other _____ |

Subwatershed: Bovoni

Site Name: Bulk Storage (B0-6)

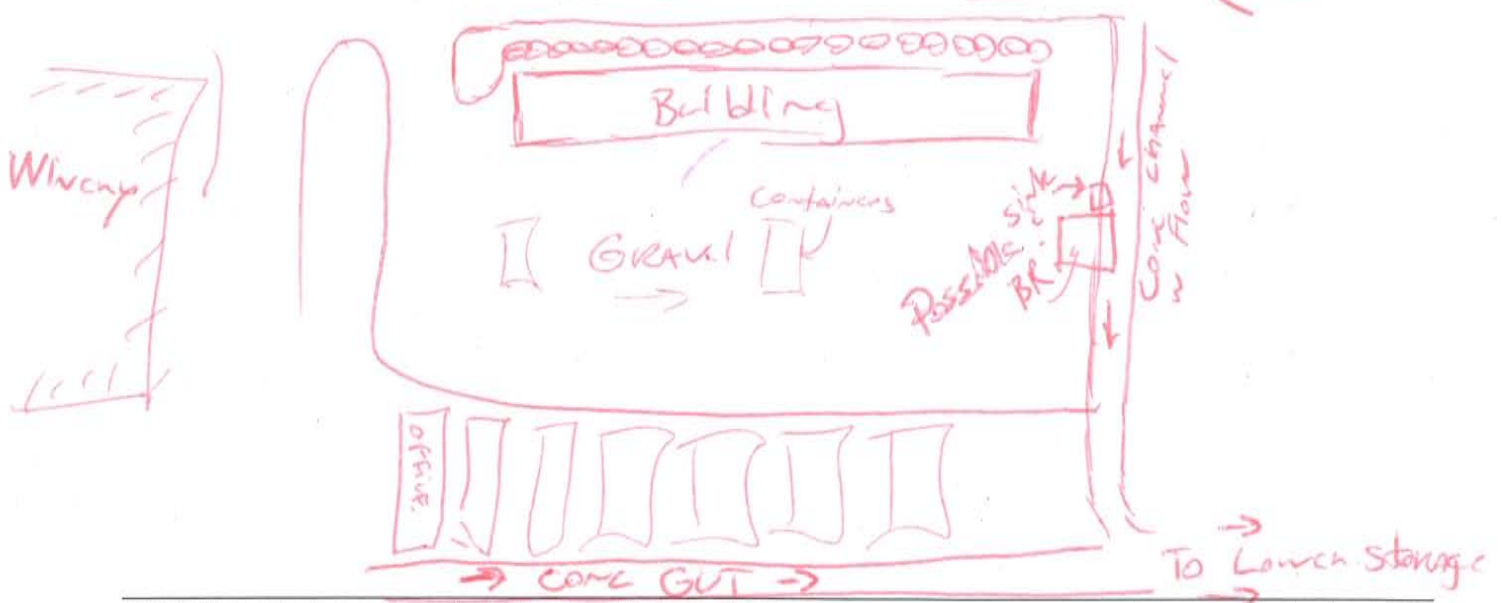
Description of Existing Conditions:

Site is mostly gravel surface. Talked to Christian Rosenberg and she said she has not had Flooding ISSUES. They lease property from storage facility along Bovoni Rd. Have a retaining wall along Projects Road and one main building. Other AREAS used for storage containers. Gut runs along back property (fence) in concrete channel (~~about~~ About 40" wide AT Top) $\sqrt{24" \pm}$ / $18" \pm$

Runoff from site collected in concrete channel along southern property line. Also discharging a sink and spray down cleaning from within main building. Appears roof runoff also goes to channel. Possible water closet adjacent to sink. Not sure where it discharges but did not appear to be the channel.

Additional Notes and/or Sketch Information:

Projects Bovoni Road



Description of Proposed Project:

Retrofit would be education of cleaning operations and containment impacts.

Additional Notes and/or Sketch Information:

CHRISTIAN ROSENBERG



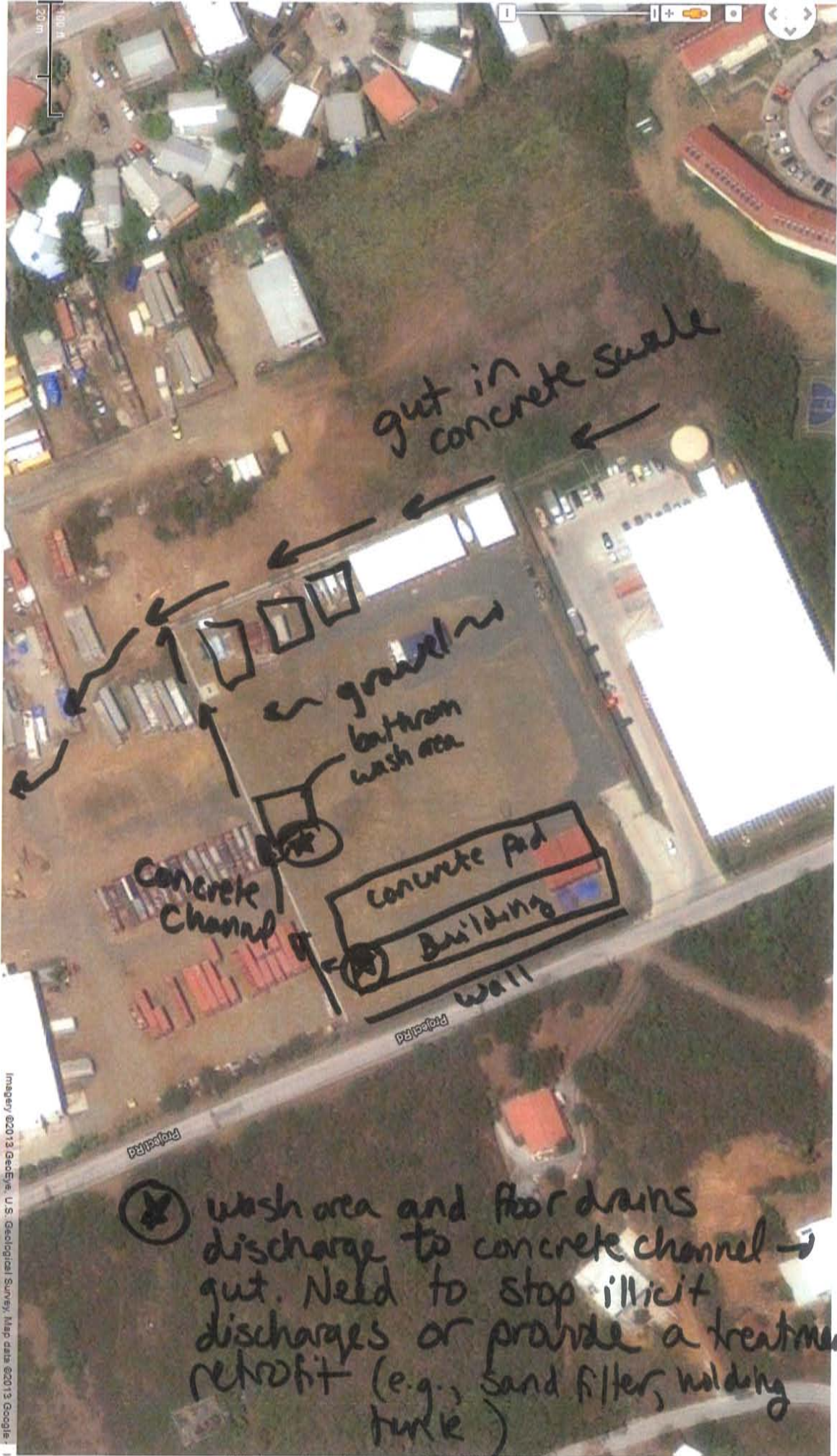
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- Shrink Wrapping
- Long/Short Term

(P) 340-779-2222
(F) 340-776-3017
(E) info@bulkstorage.com

Mailing Address:
6370 Estate Frydendahl #20
St. Thomas, USVI 00802

Site Priority: Love it Has Potential Not Likely Enforcement Needed



(B0-6) Booni Bulk Storage

★ wash area and floor drains discharge to concrete channel → gutter. Need to stop illicit discharges or provide a treatment retrofit (e.g., sand filter, holding tank)

Imagery ©2013 Google, U.S. Geological Survey, Map data ©2013 Google



FIELD ASSESSMENT NOTES

- | | |
|---|--|
| <input type="checkbox"/> Stormwater Retrofit | <input type="checkbox"/> Pollution Prevention |
| <input type="checkbox"/> Stream/Wetland Restoration | <input type="checkbox"/> Infrastructure Repair |
| <input type="checkbox"/> Residential Stewardship | <input type="checkbox"/> Illicit Discharge |
| <input type="checkbox"/> Land Conservation | <input type="checkbox"/> Other _____ |

Subwatershed: Bovoni Bovoni

Site Name: TEXACO Drainage Problem (BO-7) ~~Bovoni Projects on BACK SIDE →~~

Description of Existing Conditions:

Abandoned Gas station → Robbed too many times

Appears Roof is Tilted To A grassed (wetland Area) ~~upstream~~ To the North of the GAS STATION, CB is clogged w/ sediment

Pump Station ~~upstream~~ ^{Project South} of STATION.

WWPS is in bad shape and desperate for an upgrade.

Flooding on Bovoni Rd. Appears septic hauling company installed A basin T.V on effluent To keep runoff in Road.

Additional Notes and/or Sketch Information:

- * Install new catchbasins/pipe at intersection to carry SW to BO-8
- * If site is redevelopment, manage on-site runoff in existing open space (e.g. rain garden/bioretentation).





FIELD ASSESSMENT NOTES

- | | |
|--|--|
| <input checked="" type="checkbox"/> Stormwater Retrofit | <input type="checkbox"/> Pollution Prevention |
| <input checked="" type="checkbox"/> Stream/Wetland Restoration | <input type="checkbox"/> Infrastructure Repair |
| <input type="checkbox"/> Residential Stewardship | <input type="checkbox"/> Illicit Discharge |
| <input type="checkbox"/> Land Conservation | <input type="checkbox"/> Other _____ |

Subwatershed: Bovoni (BO-8)

Site Name: Storage Facility At Intersection of Bovoni Rd / LUTON PROPERTY Project Rd

Description of Existing Conditions:

Owners are the Dvergsten Company, Inc. Owner is interested in lower taxes/donating approx 8 acres of wetland to Island/government.

Property is mostly storage units. Gut is dirt for the most part with two piped sections - ONE drive aisle under Bovoni Rd (see sketch)

Gut flows from north property by concrete channels - that is the gut is over taking flow from storage facility (bulk storage) to the north.

Onsite person mentioned he has not seen it flood outside the gut but the lower AREAS of the property were ~~not~~ showed signs of ponding.

Additional Notes and/or Sketch Information:

Gut Discharge pipe under Bovoni appeared clogged.

Note:

Owner (Christina Lutoir) is a longtime resident and her family has owned this property for the 13 ^{yr} acres across the street (undeveloped) for awhile. Very nice & educated on wetland environment.

Description of Proposed Project:

Possibly could do a wet BMP for the grass/gravel lot prior to Bovoni Rd. However, it is likely used for storage and may be difficult to acquire for such a use.

Additional Notes and/or Sketch Information:

SEE ATTACHED

cluton@dvגי.com



THE DVERGSTEN COMPANY INC.

Christina Luton

PO Box 9355
St Thomas, VI 00801

Tel: (340) 779-4532
Cell: (340) 643-4815
Fax: (340) 779-4533

Site Priority: Love it Has Potential Not Likely Enforcement Needed

BY _____ DATE _____

CHECKED BY _____ DATE _____

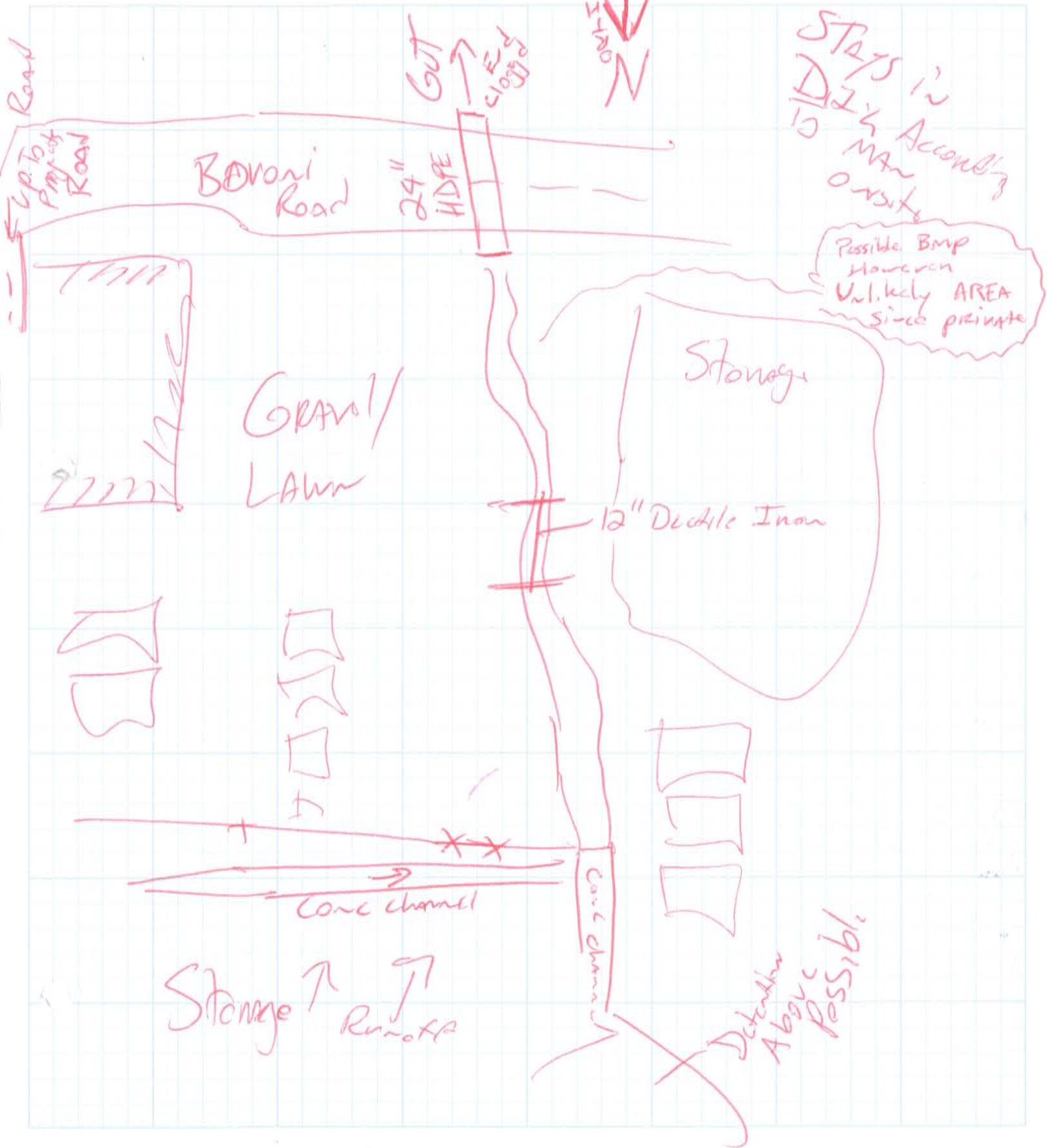
PROJECT _____

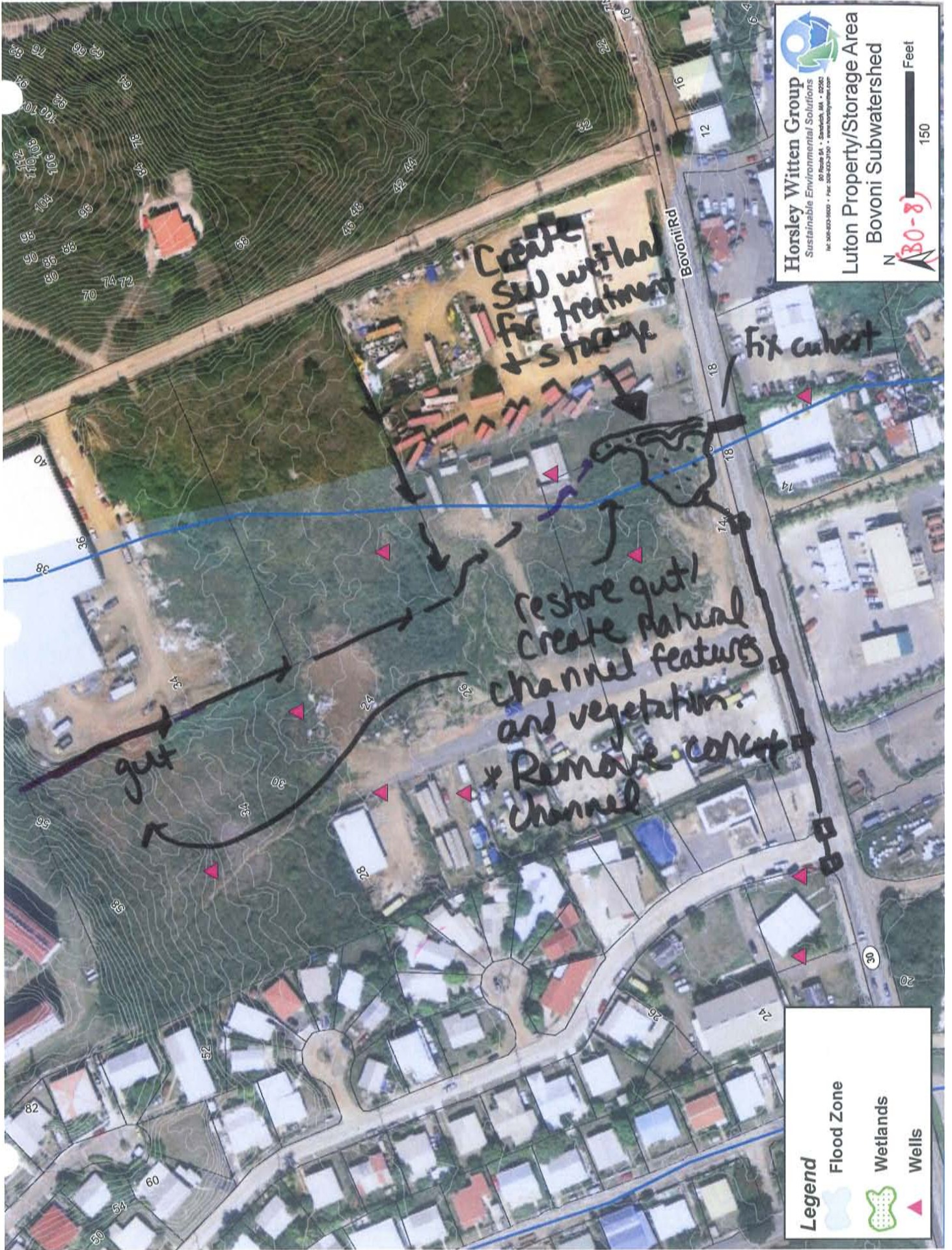


SHEET NO. _____ OF _____

PROJECT NO. _____

BOOK NO. (30.8)





Horsley Witten Group
 Sustainable Environmental Solutions
 1000 Main Street, Suite 100
 Marlborough, MA 01752
 Tel: 508-503-8000 • Fax: 508-503-7100 • info@hwsolutions.com

Luton Property/Storage Area
Bovoni Subwatershed



FIELD ASSESSMENT NOTES

- | | |
|---|--|
| <input checked="" type="checkbox"/> Stormwater Retrofit | <input checked="" type="checkbox"/> Pollution Prevention |
| <input type="checkbox"/> Stream/Wetland Restoration | <input type="checkbox"/> Infrastructure Repair |
| <input type="checkbox"/> Residential Stewardship | <input type="checkbox"/> Illicit Discharge |
| <input type="checkbox"/> Land Conservation | <input type="checkbox"/> Other _____ |

Subwatershed: Bovoni

Site Name: Storage Facility ^{Bovoni} Center Storage (BO-9)

Description of Existing Conditions:

Mostly concrete pavement, Buildings have cisterns at ends to collect roof runoff. Use cisterns to wash buildings but appear to mostly overflow to adjacent gut & drainage. C&S down center of parking area that are connected by pipe to the lowest C&S and discharged to the gut. Operator of facility (FRANCE) note: have his cand) said his parking lot floods back into his property in large storms due to the 12" pipe under the access road to the maintenance/housing being too high. Appears this area he was talking about is actually functioning as a veg/wetland. Could possibly use a second culvert at same elevation to convey the larger events while maintaining current

Additional Notes and/or Sketch Information:

SEE Attached sketch

Virgin Islands Development Corp
 Bovoni Center Storage Corp
 Southshore Storage, Inc.

P.O. Box 6287
 St. Thomas, VI 00804

Francee A. Carter
 General Manager
 Francois Baron

Tel: (340) 775-0300 Fax: (340) 777-7143

Description of Proposed Project:

possibly add A pipe for conveyance of
by events

Additional Notes and/or Sketch Information:

Site Priority: Love it Has Potential Not Likely Enforcement Needed

BY _____ DATE _____

CHECKED BY _____ DATE _____

PROJECT _____

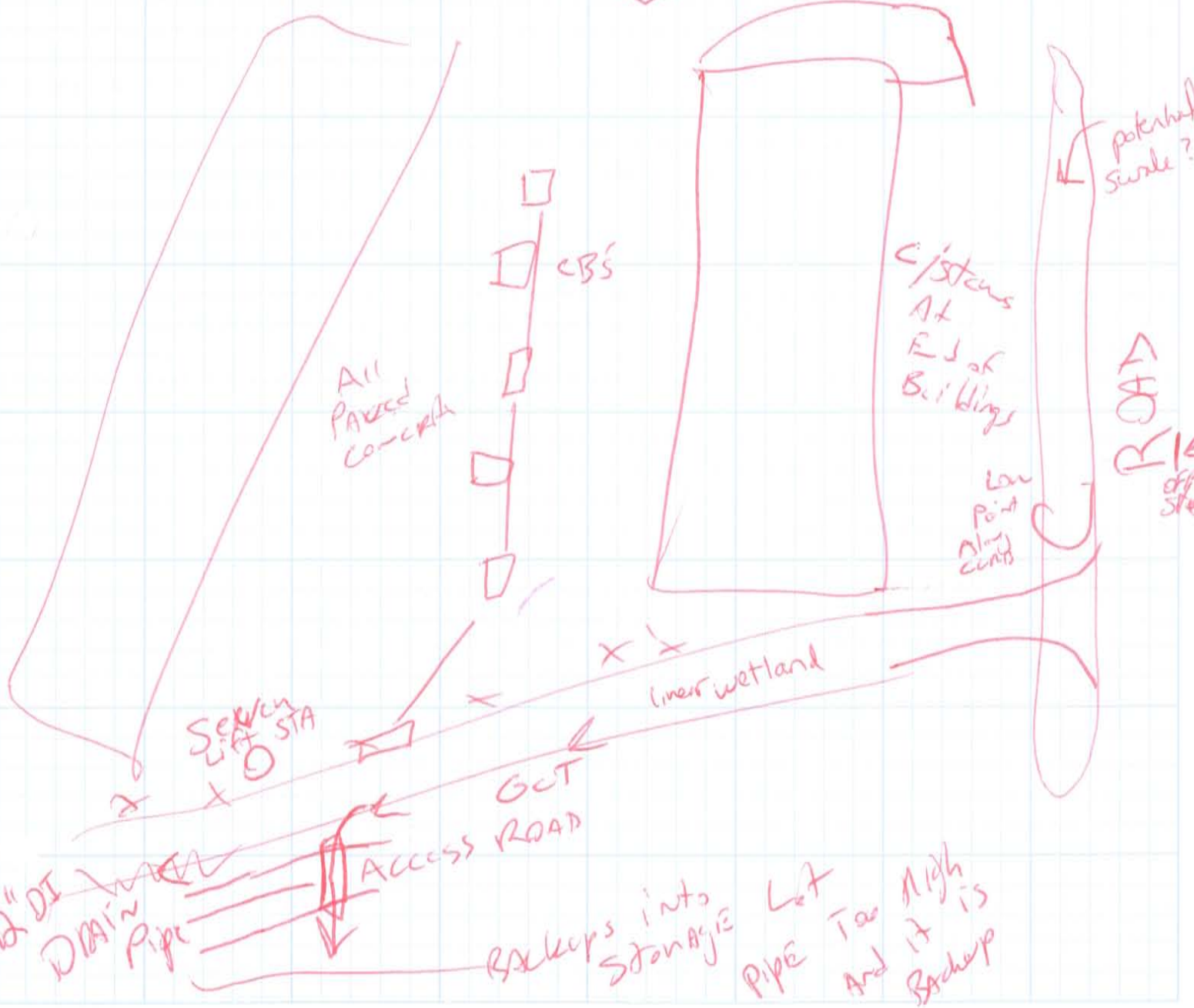
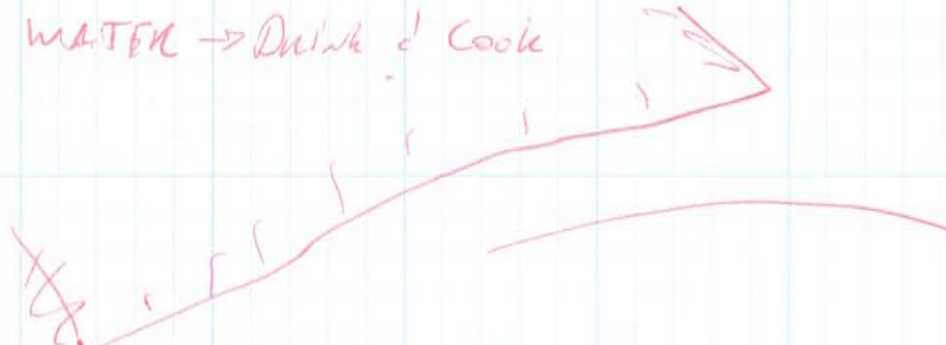


SHEET NO. _____ OF _____

PROJECT NO. _____

BOOK NO. (30-9)


Buy Potable WATER → Drink & Cook



Backups into Storage Lot
Pipe Too High
And it is Backup




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 Sustainable Environmental Solutions
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Bovoni Center
 Storage Facility
 Bovoni Subwatershed (30-9)
 To Ikiya Dump


Legend
 STEER Flood Zone



FIELD ASSESSMENT NOTES

- | | |
|---|--|
| <input type="checkbox"/> Stormwater Retrofit | <input checked="" type="checkbox"/> Pollution Prevention |
| <input type="checkbox"/> Stream/Wetland Restoration | <input type="checkbox"/> Infrastructure Repair |
| <input type="checkbox"/> Residential Stewardship | <input checked="" type="checkbox"/> Illicit Discharge |
| <input type="checkbox"/> Land Conservation | <input type="checkbox"/> Other _____ |

Subwatershed: Bovani

Site Name: Lew Henky's (BO-10)

Description of Existing Conditions:

Site is south of Bovani Rd. Mostly all gravel and sloped from North to South. Majority of AREA is used for storage of Active and Inactive Tankers (Septic Haulers) & Borse Horses (PortaPots). Some of the older Tankers appear to be leaking septicage on to surrounding AREA. Various times during inspection smells of septic were prevalent. Lew not available at time of inspection. Secretary said she had only been there for a couple months.

Gut Flows from down Bovani Rd to the North and it appears someone made an effort to stop the runoff from entering the site & contain on the Road. Berm looks recent and is made of plastic barrels and loose dirt. Appears constructed recently.

Additional Notes and/or Sketch Information:

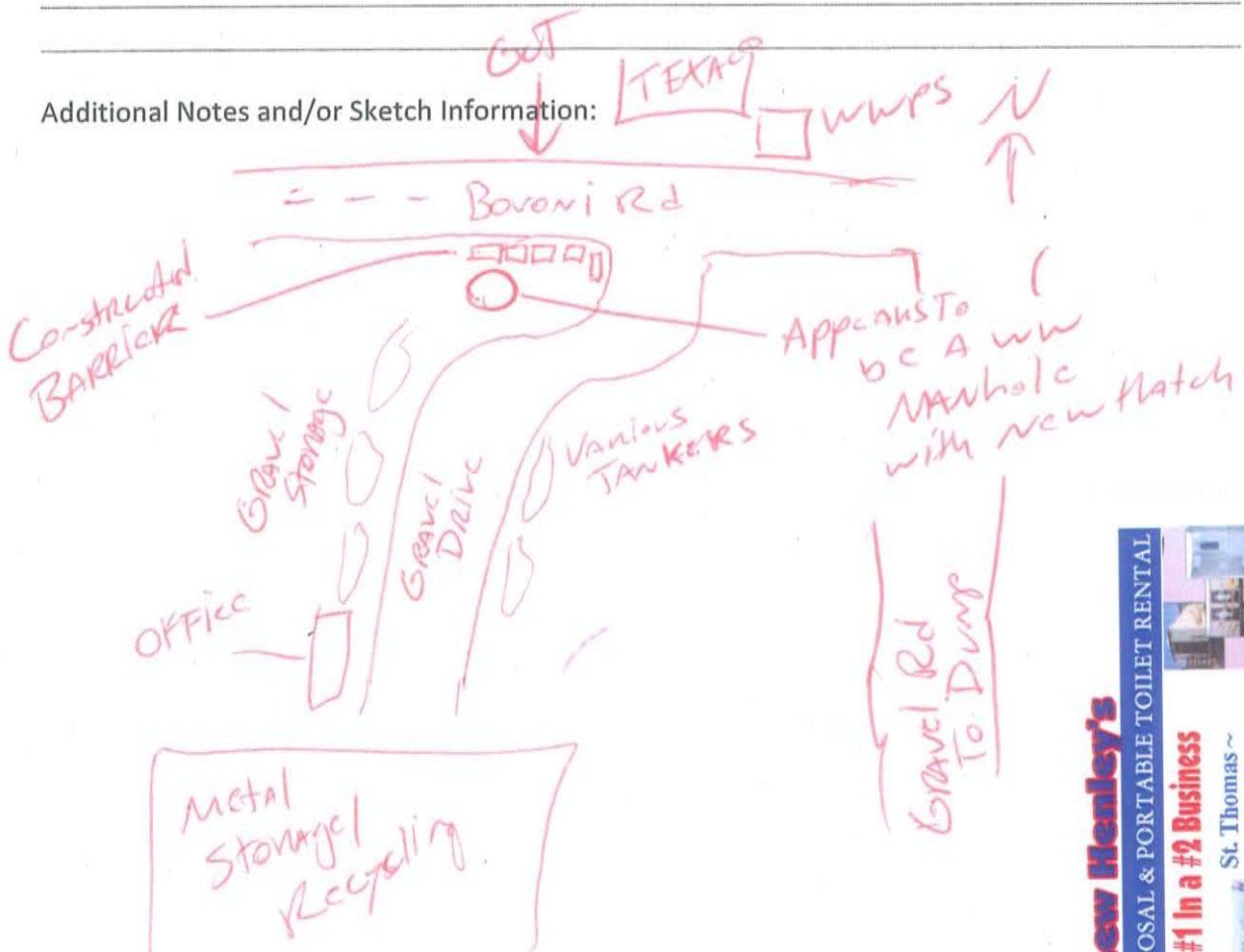
This part of Bovani Rd Floods (TETACO! WW Pump Station upgrade).

There is a metal stripping (copper) Facility to the south of Lew's. Metal stripping was in progress at time of inspection. Metal Byproducts prevalent throughout gravel surface
 ↑
 A-d staining

Description of Proposed Project:

Being At bottom of watershed These sites
 Receive highest volumes of offsite Runoff
 and ARE likely among the highest contributors
 To the Bays degradation. Cleanup
 would be a substantial undertaking i would
 likely require construction of a new Facility
 offsite w/ advanced containment & Treatment.

Additional Notes and/or Sketch Information:



Site Priority: Love it Has Potential Not Likely Enforcement N

Lew Henley's
 SEWAGE DISPOSAL & PORTABLE TOILET RENTAL
 #1 in a #2 Business

St. Thomas ~ 775-6259
 St. John ~ 693-9300
 Fax: 715-3674

7227 Estate Boveri IFA
 St. Thomas, VI 00802

Email: lewhenleysewagedisposal@viacross.net



FIELD ASSESSMENT NOTES

<input checked="" type="checkbox"/> Stormwater Retrofit	<input checked="" type="checkbox"/> Pollution Prevention
<input type="checkbox"/> Stream/Wetland Restoration	<input type="checkbox"/> Infrastructure Repair
<input type="checkbox"/> Residential Stewardship	<input type="checkbox"/> Illicit Discharge
<input type="checkbox"/> Land Conservation	<input type="checkbox"/> Other _____

Subwatershed: Bovoni

Site Name: Gas Station on Bovoni Rd (BO-11)
between Tenaco + Sweet Pined Flooding issues

Description of Existing Conditions:

- Uncovered, overflowing dumpster.
Signage indicates a problem w/ public using the private dumpster.
- Storage of vehicles on property, evidence of uncovered maintenance
- Indications of ponding on pavement near areas that could be converted to SW retrofits (^{planted} silt, open grass area)

Additional Notes and/or Sketch Information:



FIELD ASSESSMENT NOTES

- | | |
|---|--|
| <input type="checkbox"/> Stormwater Retrofit | <input checked="" type="checkbox"/> Pollution Prevention |
| <input type="checkbox"/> Stream/Wetland Restoration | <input type="checkbox"/> Infrastructure Repair |
| <input type="checkbox"/> Residential Stewardship | <input type="checkbox"/> Illicit Discharge |
| <input type="checkbox"/> Land Conservation | <input type="checkbox"/> Other _____ |

Subwatershed: Bovoni

Site Name: Sweet Pies/Laundry (BO-12)

Description of Existing Conditions:

Site is located to the south of Bovoni Rd; East of the ~~Truck Wash~~ site. There is a gut along GAS STATION - The west property line that is fed by the HDPE culvert that is under Bovoni Rd. Culvert upstream end is within the storage facility to the East. Talked to the owner of Sweet Pies and he explained that he has issues with Road Runoff from Bovoni Rd; the culvert flooding with property. Flooding from culvert would have to be from culvert backing up on the upstream end & overtopping the Road on the gut capacity overflow. Gut is fairly well defined with side slopes & vegetated surface. HDPE pipe did appear to be clogged on the discharge end w/ vegetation & debris.

Additional Notes and/or Sketch Information:

There were two other conduits discharging to the HDPE culvert. One was said to be from the RO water system for the water Tanker Fill port the other is unknown. In the Rear of the Buildings the gut flows from the Laundry Bld. into one gut. Both sides appeared to be accepting sewage from the facilities. The western gut has a white PVC pipe that had delayed discharges typical to sewer. The discharge from the Bovoni culvert appeared clean.

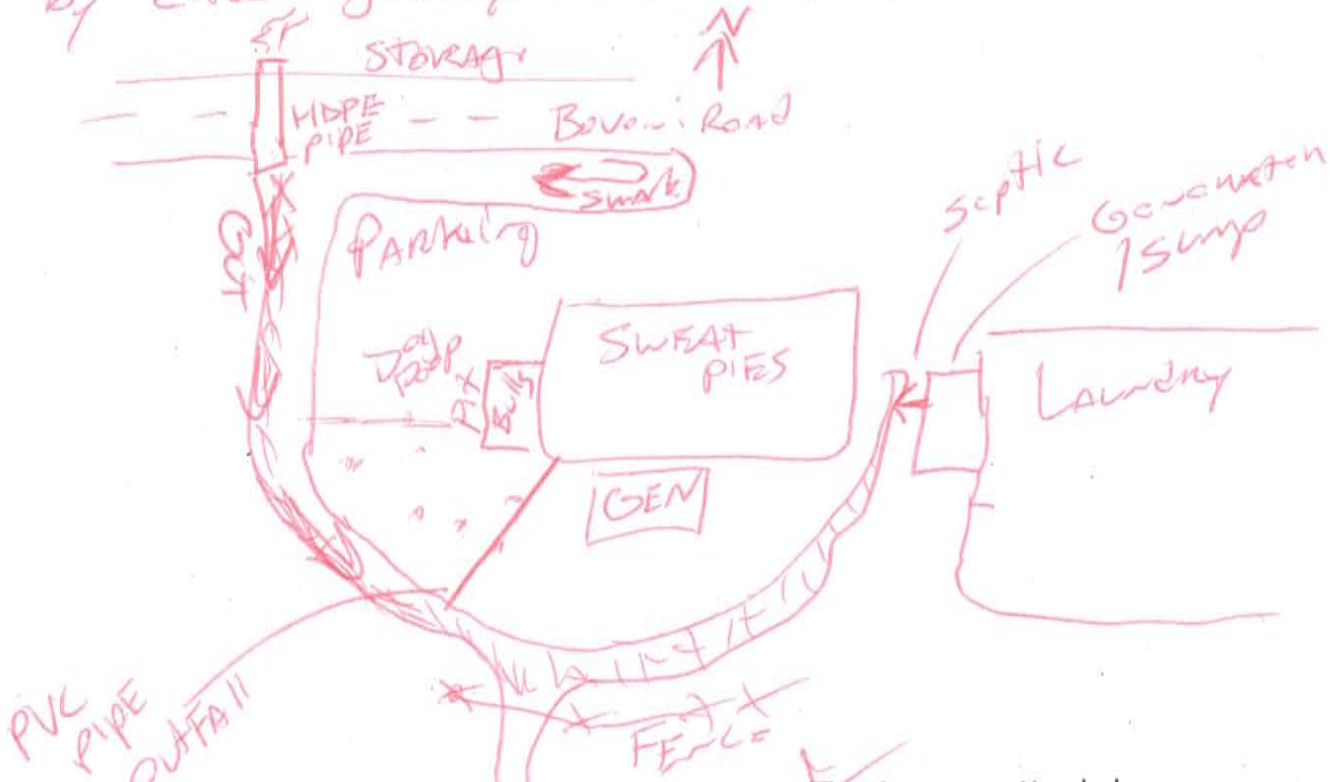
Description of Proposed Project:

Liquid, however the closer to the said discharge the gut had signs of heavy ALGAE. After the PVC discharge the gut water WAS cloudy & had signs of toilet waste. Also smelled like septic. The owner of Sweet PIES SAID it was from his generator container (not likely).

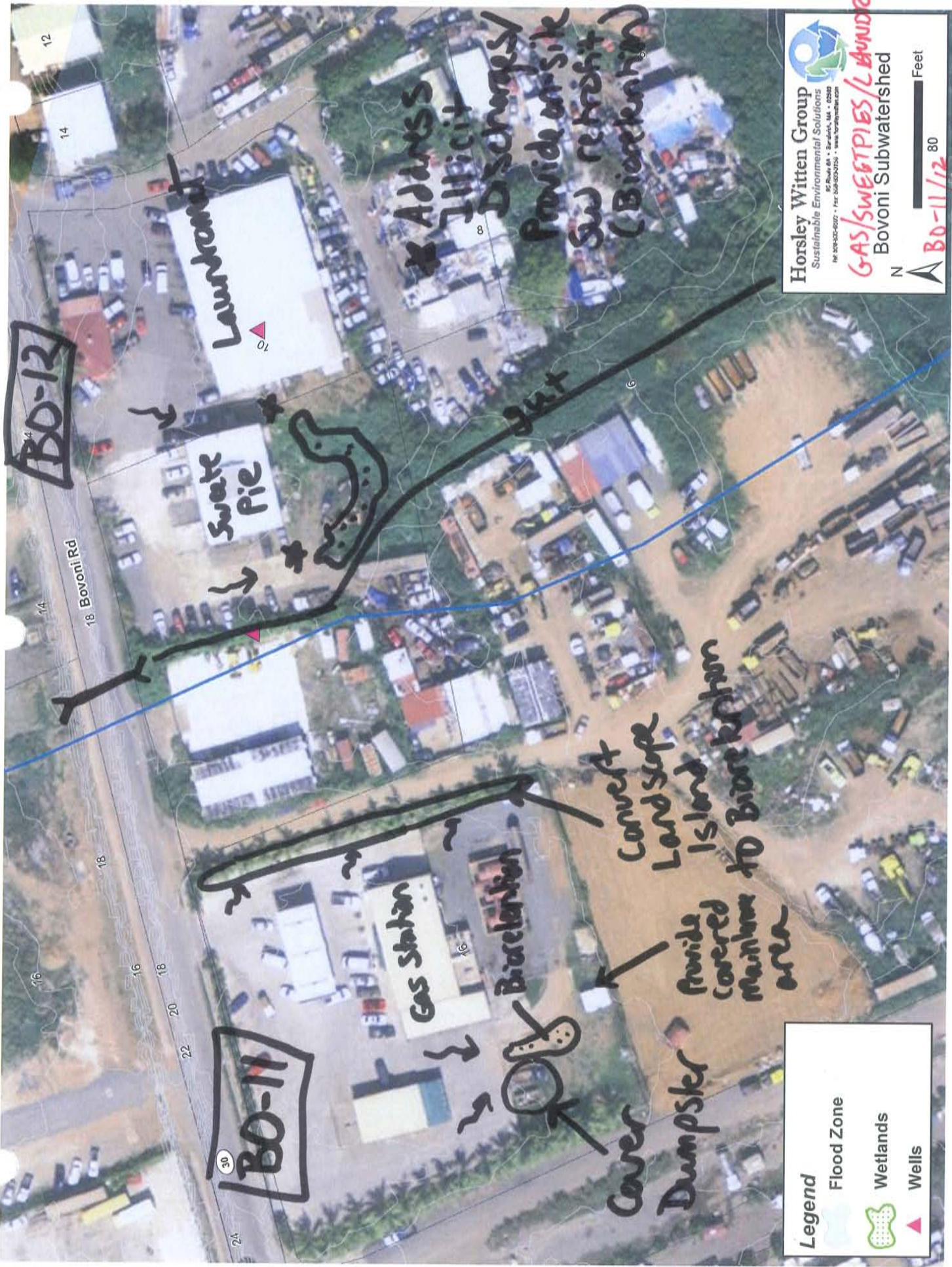
The gut from the Laundry ~~had~~ soap & what appeared to be toilet debris. Flow was coming from a portion of the building that housed the generator. The owner of Laundry Bld said his pump died yesterday (with help from visible signs within the gut)

Additional Notes and/or Sketch Information:

Both Buildings ARE Adjacent to Sevan In Bovan Road & could easily discharge by either quality of small pump.



Site Priority: Love it Has Potential Not Likely Enforcement Needed



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 Tel: 508-552-6027 • Fax: 508-552-3151 • www.horsleywitten.com

GAS/SWEETPIES/LAUNDRY
 Bovoni Subwatershed

80 Feet

BO-11/12

Legend

- Flood Zone
- Wetlands
- Wells



FIELD ASSESSMENT NOTES

- | | |
|---|--|
| <input type="checkbox"/> Stormwater Retrofit | <input type="checkbox"/> Pollution Prevention |
| <input type="checkbox"/> Stream/Wetland Restoration | <input type="checkbox"/> Infrastructure Repair |
| <input type="checkbox"/> Residential Stewardship | <input type="checkbox"/> Illicit Discharge |
| <input type="checkbox"/> Land Conservation | <input type="checkbox"/> Other _____ |

Subwatershed: Bovoni

Site Name: Unregulated Dump site (West of Landfill II) **BO-13**

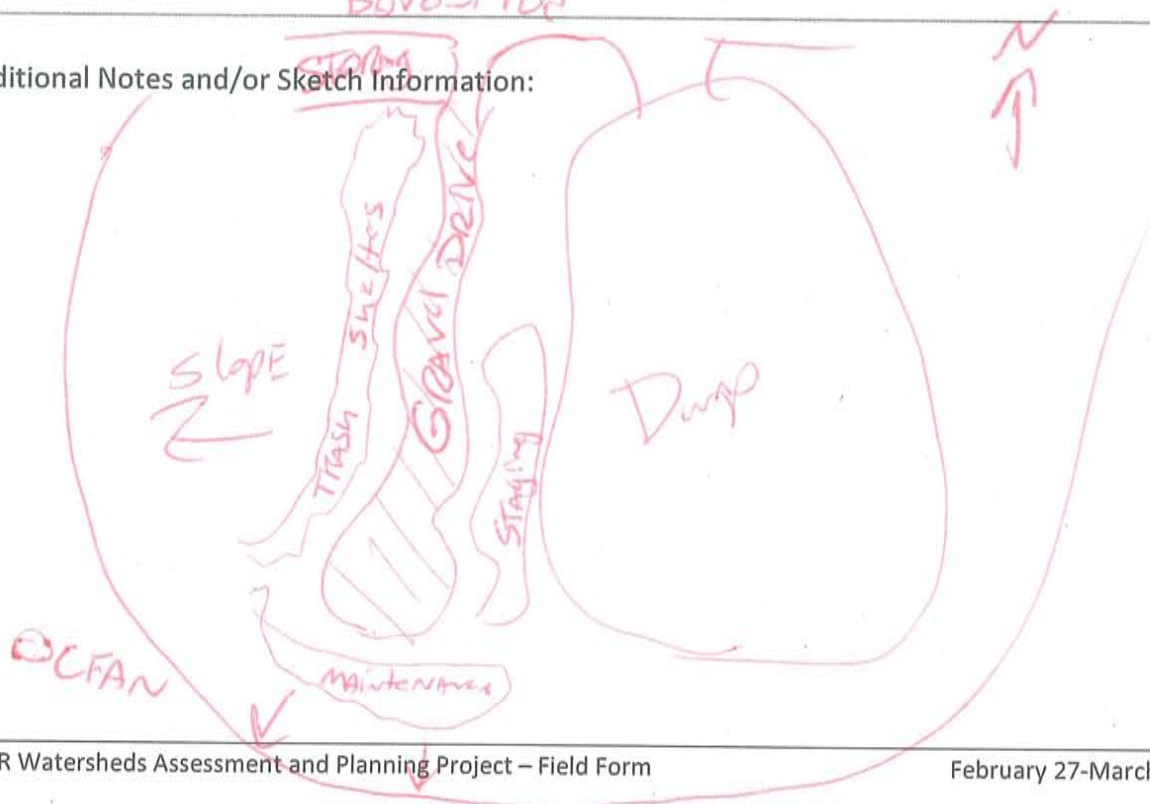
Description of Existing Conditions:

Access to site is by dirt Road East of Storage Facility south of Bovoni Rd. Small pocket wetland has formed along Rd prior to culvert from runoff directed from Storage Facility. From the gut that flows from the wooded area to the north (Dog Flyhill)

Area has various dump sites & vehicle/construction equipment maintenance areas. Vehicle byproducts (oil/etc) are everywhere and spills are visible. Area is also used for squatting as shelters have been constructed in various locations. makeshift cisterns were observed.

Appas area is also used extensively for construction staging Bovoni Rd

Additional Notes and/or Sketch Information:



Description of Proposed Project:

Extensive cleanup, most likely SuperFund.

Additional Notes and/or Sketch Information:

Site Priority: Love it Has Potential Not Likely Enforcement Needed



FIELD ASSESSMENT NOTES

<input checked="" type="checkbox"/> Stormwater Retrofit	<input type="checkbox"/> Pollution Prevention
<input checked="" type="checkbox"/> Stream/Wetland Restoration	<input type="checkbox"/> Infrastructure Repair
<input type="checkbox"/> Residential Stewardship	<input type="checkbox"/> Illicit Discharge
<input type="checkbox"/> Land Conservation	<input checked="" type="checkbox"/> Other _____

Enforcement.

Subwatershed: Bovoni

Site Name: LANDFILL (BO-14)

Description of Existing Conditions:

Under consent decree there are a number of requirements prior to closure

- monitoring
- wetland restoration
- stormwater
- Pollution prevention.
- Leachate interception or treatment

SEE NOTES ON CONSENT DECREE AND CLOSURE PLAN

Additional Notes and/or Sketch Information:

Bovoni Landfill Mitigation Requirements

USA vs. Government of the U.S. Virgin Islands, Virgin Islands Waste Management Authority, Virgin Islands Port Authority, Joseph and Zulma Hodge

Charges

- Landfill must submit annual reports to the EPA regarding emissions of non-methane organic compounds (NMOCs). If reports exceed annual limits, the landfill must design, construct, and operate a gas collection and control system (GCCS).

EPA's regulations issued under the CAA require that each landfill built before 1991 and that has a capacity greater than a certain threshold must submit annual reports to EPA regarding emissions of non-methane organic compounds ("NMOCs"); that if any NMOC report shows that the annual emissions of these landfill gases exceed a specified threshold quantity, the landfill must design, construct, and operate, according to certain deadlines, a gas collection and control system ("GCCS") that captures and combusts gases generated within the landfill. Effective January 2004, the CAA regulations also require each such landfill to develop and implement a start-up, shutdown and malfunction ("SSM") plan for the GCCS.

- Bovoni must install a ground water monitoring system and implement a storm water pollution prevention plan.

EPA made findings that Bovoni was being operated in a manner that may present an "imminent and substantial endangerment to health and the environment" and, pursuant to RCRA Section 7003(a), issued an administrative order on consent ("Bovoni RCRA AOC") that requires that GVI and WMA, inter alia, pursuant to an approved schedule, award contracts by August 2006 to install a ground water monitoring system and to implement a storm water pollution prevention plan at Bovoni.

- Joseph and Zulma Hodge must removal scrap tires adjacent to Bovoni.

The United States filed an amended complaint ("Complaint") in this action, that added two defendants, Joseph and Zulma Hodge (the "Hodges"), and a claim that the GVI, WMA, and the Hodges failed to comply with an EPA administrative order (Docket No. RCRA-022008-7307 (October 4, 2008) ("Bovoni Tire AOC"), issued pursuant to RCRA Section 7003(a), requiring the removal of scrap tires adjacent to Bovoni.

Civil Penalties

- Defendants shall jointly pay \$50,000 as a civil penalty. Payment of the principal amount shall be made in four equal annual installments of \$12,500 (plus interest).

- WMA shall submit a revised GCCS design plan that conforms with the 2012 Closure Plan.

The GCCS as constructed deviates from the WMA's design plan for the GCCS dated May 2010 which EPA approved in March 2011, and WMA's 2012 Closure Plan (as provided under Paragraph 21.a) will require further changes to the GCCS. Accordingly, WMA shall, by the deadline specified in Appendix A, submit a revised GCCS design plan. The revised plan shall describe modifications required to conform the GCCS to the modifications to the Landfill proposed in the 2012 Closure Plan, and shall comply with the Federal Plan and the Landfill MACT.

- WMA shall submit to EPA an initial performance test report of the GCCS within 45 days after completion of the initial performance test.

Within 30 days after the Effective Date, WMA shall submit for EPA approval a revised protocol for performance testing of the control system that incorporates EPA's comments. WMA shall, by the deadline specified in Appendix A or within 90 days after EPA's approval of the revised protocol, whichever is later, complete the initial performance test of the control system. WMA shall perform the initial performance test of the control system using the test methods specified in 40 C.F.R. § 60.754(d) and (e), the test procedures specified in 40 C.F.R. § 60.754(b), and in accordance with the EPA-approved protocol. WMA shall submit to EPA an initial performance test report within 45 days after completion of the initial performance test. The report shall satisfy the specifications of 40 C.F.R. §§ 60.8, 60.757 and 60.758.

- WMA shall, within 60 days after the completion of the initial performance test or 120 days after the Effective Date, whichever is later, submit a proposed GCCS Operation and Maintenance ("O&M") Plan to EPA for its review and comment.
- WMA shall operate the GCCS at all times. *During periods of SSM WMA shall operate the GCCS in accordance with an EPA reviewed SSM Plan.*
- WMA shall submit required information to the EPA by May 31, 2012 to enable EPA to make a determination on the request for relief from EPA's Clean Water Act Consent Order No. II-CWA-98-125.

WMA requested relief from EPA's Clean Water Act Consent Order No. II-CWA-98-125 regarding buried metal and other material in the wetland in and adjacent to the Landfill. WMA shall by May 31, 2012, submit to EPA information to enable EPA to make a determination in the matter.

- Until Closure, WMA shall operate the Landfill in accordance with the Decree and the federal municipal solid waste landfill operating criteria, including:
 - a. Implement a groundwater monitoring program;

- b. Implement and maintain a program for detecting and preventing disposal of regulated hazardous wastes;
- c. Apply adequate cover material;
- d. Control disease vectors;
- e. Control explosive gases;
- f. Ensure that no open burning of solid wastes occurs;
- g. Control access to the Landfill;
- h. Control storm water run-on and run-off;
- i. Ensure that the Landfill does not cause discharges of pollutants into waters of United States that violate CWA requirements; and
- j. Ensure that bulk or non-containerized liquid wastes are not placed in the Landfill except when allowed.

Until Closure, WMA shall operate the Landfill in accordance with the Decree and the federal municipal solid waste landfill operating criteria set forth at 40 C.F.R. § 258.20-29, including:

- a. *WMA shall implement a program for groundwater monitoring, as provided in 40 C.F.R. § 258.51-55. WMA may seek EPA's approval, for purposes of this Decree only, for WMA to conduct monitoring less frequently than, or conduct monitoring of fewer parameters than, is provided under 40 C.F.R. § 258.54;*
- b. *WMA shall implement and maintain a program for detecting and preventing the disposal of regulated hazardous wastes as provided in 40 C.F.R. § 258.20;*
- c. *WMA shall apply adequate cover material as provided in 40 C.F.R. § 258.21;*
- d. *WMA shall control disease vectors as provided in 40 C.F.R. § 258.22;*
- e. *WMA shall control explosive gases as provided in 40 C.F.R. § 258.23;*
- f. *WMA shall ensure that no open burning of solid waste occurs as provided in 40 C.F.R. § 258.24;*
- g. *WMA shall control access as provided in 40 C.F.R. § 258.25;*
- h. *WMA shall control run-on and run-off as provided in 40 C.F.R. § 258.26;*
- i. *WMA shall ensure that the Landfill does not cause discharges of pollutants into waters of the United States that violate CWA requirements, as provided in 40 C.F.R. § 258.27; and*
- j. *WMA shall ensure that bulk or non-containerized liquid wastes are not placed in the Landfill except as provided in 40 C.F.R. § 258.28.*

- WMA shall perform an assessment for groundwater corrective action, select a remedy and implement the remedy.

WMA shall perform an assessment for groundwater corrective action, select a remedy and implement the remedy if required by and in accordance with 40 C.F.R. § 258.56-58.

- WMA shall, by the deadline specified in the Closure Schedule, submit for EPA approval a revised closure plan for the Landfill ("2012 Closure Plan").
- If WMA, after consulting with the EPA, determines that the Landfill will reach its approved limits of waste at a different date than set forth in the Closure Schedule, new

deadlines may be established for accepting waste, completing stabilization and storm water control, and for complete Closure.

WMA may, after consulting with EPA, make a determination that the Landfill's physical contours and slopes will reach their approved limits at a different date than the deadline to permanently cease accepting waste set forth in the Closure Schedule. In that event, WMA shall establish, after consulting with EPA, new deadlines to permanently cease accepting waste at the Landfill, to complete slope stabilization and storm water control in the East areas, and to complete Closure. WMA shall notify EPA of the new deadlines and shall prepare a modified Closure Schedule.

- WMA shall: (a) within 21 months after the Effective Date, remove all scrap tires from Area A (as that area is described in the Bovoni Tire AOC); and (b) within 18 months after the Effective Date, remove all scrap tires from the Incidental Areas (as those areas are described in the Bovoni Tire AOC). *These scrap tires shall be transported outside the Territory in accordance with applicable transport rules and management requirements of the receiving jurisdiction, or used in accordance with the Beneficial Reuse Plan under Paragraph 26.*
- WMA shall implement mosquito control measures for temporarily stored tires until all tires have been removed.

WMA shall, for Area A, the Incidental Areas and any areas where the scrap tires are stored pending beneficial reuse under Paragraph 26, implement mosquito control measures in accordance with the requirements of the Virgin Islands Department of Health until all tires have been removed.

- WMA shall implement the Waste Diversion Program. *(see page 17-18 of CD)*
- WMA shall submit to EPA quarterly reports regarding its compliance with the requirements of the CAA regulations and the CAA provisions of the Consent Decree.
- WMA shall comply with the reporting and recordkeeping requirements specified in 40 C.F.R. §§ 60.757 and 60.758. *(see page 21-23)*
- *The GVI has represented: (i) that it does not have sufficient funds on hand to implement the Closure Work and a Significant Groundwater Corrective Action; (ii) that it must obtain such funding through various means including the sale of bonds.*
- GVI and WMA shall seek and use reasonable efforts to secure approval for the prospective imposition of a solid waste fee.

By the end of 2014, GVI and WMA, as applicable, shall seek, and shall use reasonable efforts to secure, approval by the Legislature of the Virgin Islands or the Virgin Islands Public Services Commission, as applicable, for the prospective imposition of a solid

waste fee, if and to the extent that such approval is necessary for the imposition of such fee.

GCCS/LCCS

Research yielded two alternatives for implementing a GCCS and LCCS:

- Install a combination GCCS/LCCS that relies upon drilled wells for both gas and leachate extraction and collection; or
- Install a GCCS that relies upon drilled wells for gas extraction and collection and install a separate LCCS that involves primarily a gravity, perimeter trench system that directs leachate to a treatment facility.
- Data found suggests that a combination GCCS/LCCS system may be the most cost-effective alternative provided that an existing trench LCCS system isn't already in place.



FIELD ASSESSMENT NOTES

- | | |
|---|--|
| <input type="checkbox"/> Stormwater Retrofit | <input checked="" type="checkbox"/> Pollution Prevention |
| <input type="checkbox"/> Stream/Wetland Restoration | <input type="checkbox"/> Infrastructure Repair |
| <input type="checkbox"/> Residential Stewardship | <input type="checkbox"/> Illicit Discharge |
| <input type="checkbox"/> Land Conservation | <input checked="" type="checkbox"/> Other <u>WRITE</u> |

Subwatershed: Boggy Mangrove Lagoon

(BO-15)

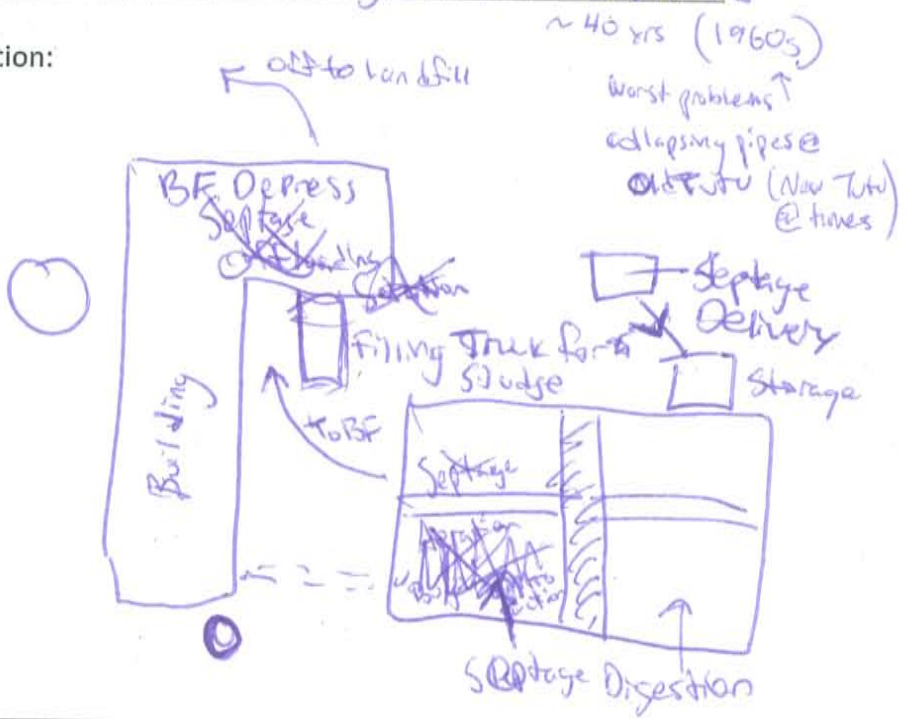
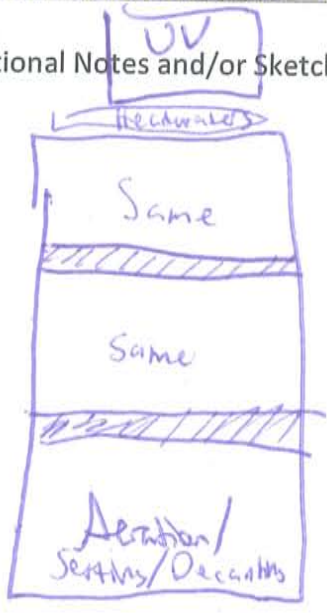
Site Name: Boggy Mangrove Lagoon WWTP

Description of Existing Conditions:

Jessy Ryan - operator of smaller plant for that handles Septage

- 750,000 GPD Design / 400,000 GPD TYP. / 500,000 gal night flow
- Increased to 1.2MGD during rain events
- Septage handled at smaller plant where "bugs" are reintroduced and "diluted" prior to sending to main treatment facility
- Plant catches up on Waste treatment during 8hr workday
- ↳ plant does not operate at night unless there is a significant (2"-3") rainfall expected then it runs 24 hrs / day
- Treatment plant ^{on-line} built in 2002/2003
- Ft. Mylar WWTP should be going off-line and will hook up ^{at town TP} pump station ^{in Boggy Neighborhood} will be offline in a matter of weeks. New pump station to come on-line.
- Infrastructure in Arroyo Fluvial old - Orange pipe ~30 yrs old

Additional Notes and/or Sketch Information:



Description of Proposed Project:

- Repair Vista ^{new} Own WWTP
- Design for pipeline for new development near Ft Mylar + Home Depot, Repulse 3
- VESSUP WWTP
- When house w/in 60' of sewer - residents should connect
- Ask about % capacity
- Check Heavy Materials Connection to WWTP
- Raceback connected to sewer ~~at~~ ^{at} Dunsmuir Society, small station about 0.5 mil
- Downspout connections into manholes
- Manholes/pipes leak during rainfall - groundwater infiltration during extended rainfall periods

Additional Notes and/or Sketch Information:

- Blockages in old/new into ends up in ~~at~~ pond/sew systems
- Priorities - ^{Control runoff from} landfill
- 11 mil ~~for~~ ^{for} ~~landfill~~ cover
- Gas energy plant for landfill - will power WWTP
- Leachate collection - not there now but is in design now
- Alpine - shut down
- Slag/Metals in mangrove - restoration plan in place - public report
- Soil slopes/detention ponds for closure - 38 mil ^{landfill}
- SBR WWTP (Bar screen, Aeration/settling, Decanting)

Site Priority: Love it Has Potential Not Likely Enforcement Needed

• UV disinfection

• belt filter press - Polymers added to sludge
 • Oils - 55 gal/tubson
 • HHW waste - light bulbs/prints/house chemicals



FIELD ASSESSMENT

NOTES

- Stormwater Retrofit
- Stream/Wetland Restoration
- Residential Stewardship
- Land Conservation
- Pollution Prevention
- Infrastructure Repair
- Illicit Discharge
- Other _____

stoney picks → Horse track → sw runoff; horse waste...
 → wetland mitigation
 → improve of existing systems
 → marine row
 → I & E in key areas up top
 → \$ for leachate
 → change watershed line

FHWA money

EPA & DOI
 Puerto Rico & New York

Subwatershed:

→ dendrick v. (2m)
 Site Name: ~~COMPASS PT SALT POND~~ **ML. WWTP MEETING**
STEVE & GRAM IS

Description of Existing Conditions:

DOT → painting lines markings

~~JANUARY LOOKING @ 3 SITES
 REDHOOK SALT POND, CRSP, SECOND FALSE ENTRANCE~~

- ~~#1 ORTHORECTIFY AERIALS HISTORICAL CONDITIONS~~
- ~~#2 FIELD ASSESSMENT TO PRIORITIZE 3 SITES
 BATHYMETRIC TO ESTIMATE DREDGING CAPACITY
 CONTAMINANT SAMPLING - ORGANIC & INORGANIC
 WATER MODELING - FLUSHING RATE~~
- ~~#3 IMPLEMENT TOP PRIORITY~~

Motor oils: mechanics & homeowners. 5 gallons/month VI Regulated Waste
 can burn @ WAPA.
 recycle center: HHW Fluoride (once/gt.), bulbs coolants & crankfish... bad!
 open 3 times/wk paints & chemicals

gleanings hard to deal with. ML doesn't accept.

Additional Notes and/or Sketch Information:

CWNS → they have a closure plan to be finalized by end of year
 Landfill - runoff control - top cover \$11 million

Leachate collection system, pretreatment, then come to WWTP
 Consent decree order → restore wetlands where scrap metal encroachment.
 Kick road out 100-50 ft.

Methane system installed... build gas to energy plant.
 power MLTP, rest piped back to WAPA

plasma, gasification, puerto rico.

SBR aerating, settling & decanting in each cell → disinfection basin
 UV trough

measure to ensure water to sewer

plant also designed for small or large

sludge pump in each tank
 belt filter press → sludge cake → truck to landfill. water recycled back into system

Description of Proposed Project:

AR & ^{New} Tulu R built in the 1960's

Broken lines

old Tulu area. ← more in AR
& new tube

Combined in some places.

Not alot of downstarts of storm infrastructure in old river - just a few places.

leaking manholes & bad joints. Some spikes in volume for mountains!!

1/2 million for a small pump station.

if you add, have to increase size ex: pump station

Additional Notes and/or Sketch Information:

2002 - 2003 ML WWP built.

extension?

cost less → they have a preliminary design \$1 million

- property line within 60 ft home owner supposed to connect.

- all piping has to be replaced in AR & New Tulu Valley part of CWN survey.

- Versup can take more capacity.

- would need to put pump station by tropical marine

Site Priority: Love it Has Potential Not Likely Enforcement Needed

went to ML. connect to bridge to now when everything east Versup if pump station by ^{fire} main

backups in old system in New Tulu, backs up into the gut.

- going to replace Versup

food station connect to ML then to Versup.



Mangrove Lagoon WWTP
Bovoni Subwatershed
N 80-15
Feet
100

Legend

- STEER Flood Zone
- Wetlands