



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 checked="" type="checkbox"/> Other _____ |

Subwatershed: Turpentine Run

Site Name: Whispering Hills ~~Woods~~ (TR-4) & Flag Hill (TR-1)

Description of Existing Conditions:

Visited by Frank Galdo -

New affordable housing development project. Cutting roads, some use of ESC practices

Will permit and make sure they are installing proper post construction stormwater controls.

- Enforcement to keep eye on ESC

Additional Notes and/or Sketch Information:

Flag Hill - Evidence of sedimentation at guard house. Investigate permit associated w/ road/development project. Unpaved road may need additional stabilization if to be permanent. Runoff discharge across entrance from Red-roofed apartments.

0



7/20/2012

1250 ft

2012

Image © 2012 GeoEye

lat 18.331308° lon -64.906252° elev 517 ft

GO

* FRANK GARDO
INVESTIGATION
Area of Interest

FRANK GARDO
INVESTIGATION
Area of Interest
FRANK GARDO
INVESTIGATION
Area of Interest

FRANK GARDO
INVESTIGATION
Area of Interest
FRANK GARDO
INVESTIGATION
Area of Interest

FRANK GARDO
INVESTIGATION
Area of Interest

031

025

026

028

029

030

027

043

044

042

041

040

049

047

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036

035

038

039

032



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: Turpentine Run

Site Name: Seventh Day Adventist (TR-2)

Description of Existing Conditions:

ENTIRE PARCEL IS PAVED.

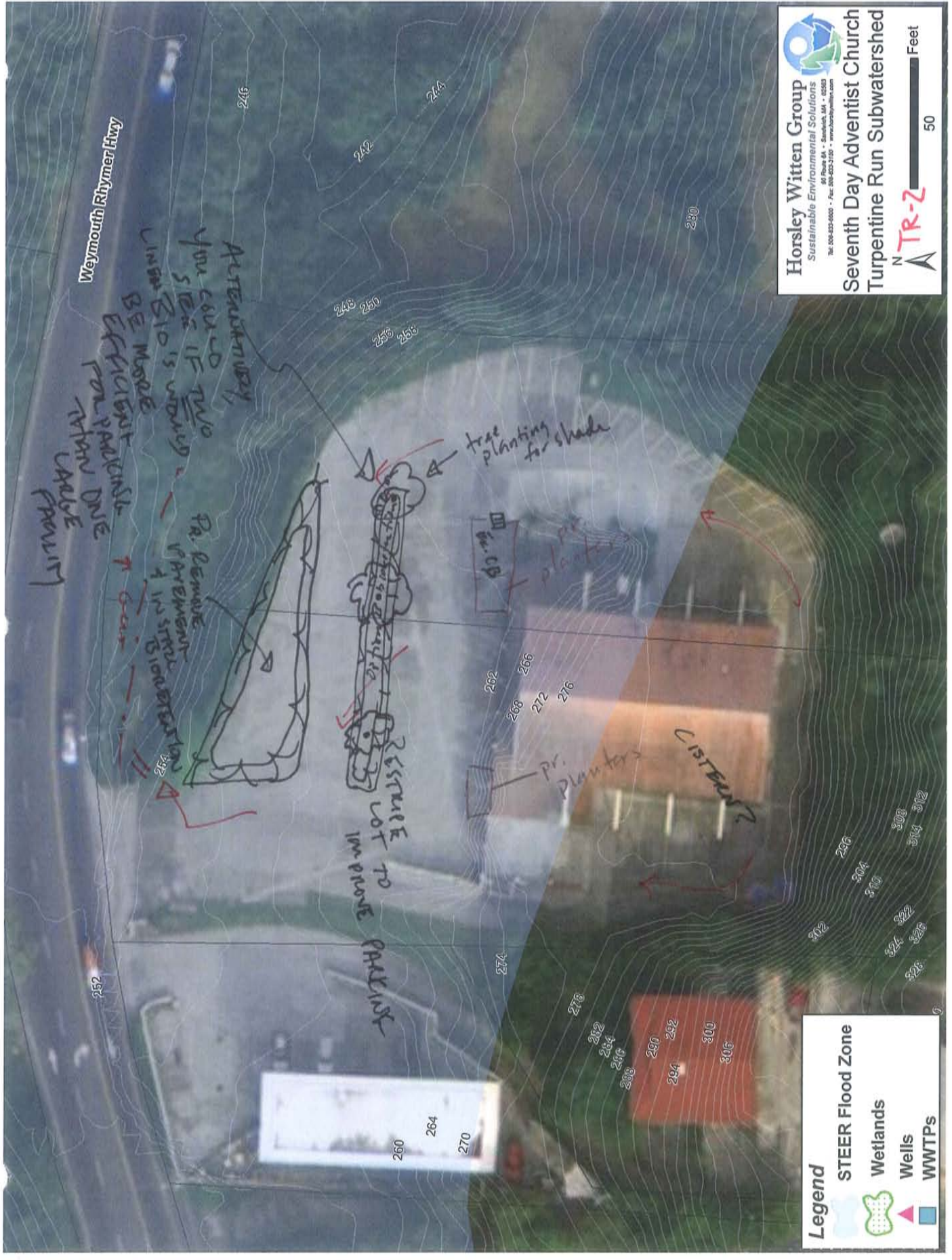
ALL DRAINAGE GOES DIRECTLY TO GUT IN FRONT.

PROPOSE ALTERNATIVE PARKING LAYOUT THAT INTEGRATES LANDSCAPE FEATURES FOR STORMWATER

Consider large bioretention at bottom of lot adjacent to stream. Overflow spillway to stream will require re-striping of parking spaces to be more efficient.

Additional Notes and/or Sketch Information:

An alternative parking lot design could incorporate landscape island bioretention w/ shade trees and/or planters along the building to capture roof top runoff.





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 checked="" type="checkbox"/> Residential Stewardship | <input type="checkbox"/> Illicit Discharge |
| <input checked="" type="checkbox"/> Land Conservation | <input type="checkbox"/> Other _____ |

Subwatershed: TRUN

Site Name: HUMANE SOCIETY (TR-3)

Description of Existing Conditions:

INNOVATIVE WWTP ; ~~at~~ LID application possibly in the parking lot. Native plants.

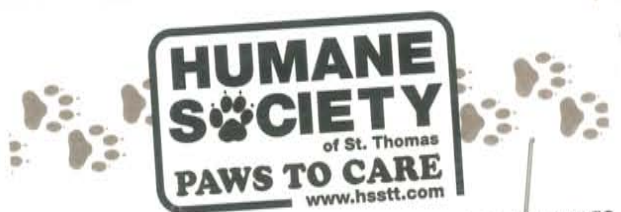
could be a good site for education & watershed signage.

Check back in once construction is completed

→ ownership Hornhutt pond. possible buffer protection / enhancement discussion w/ owner.

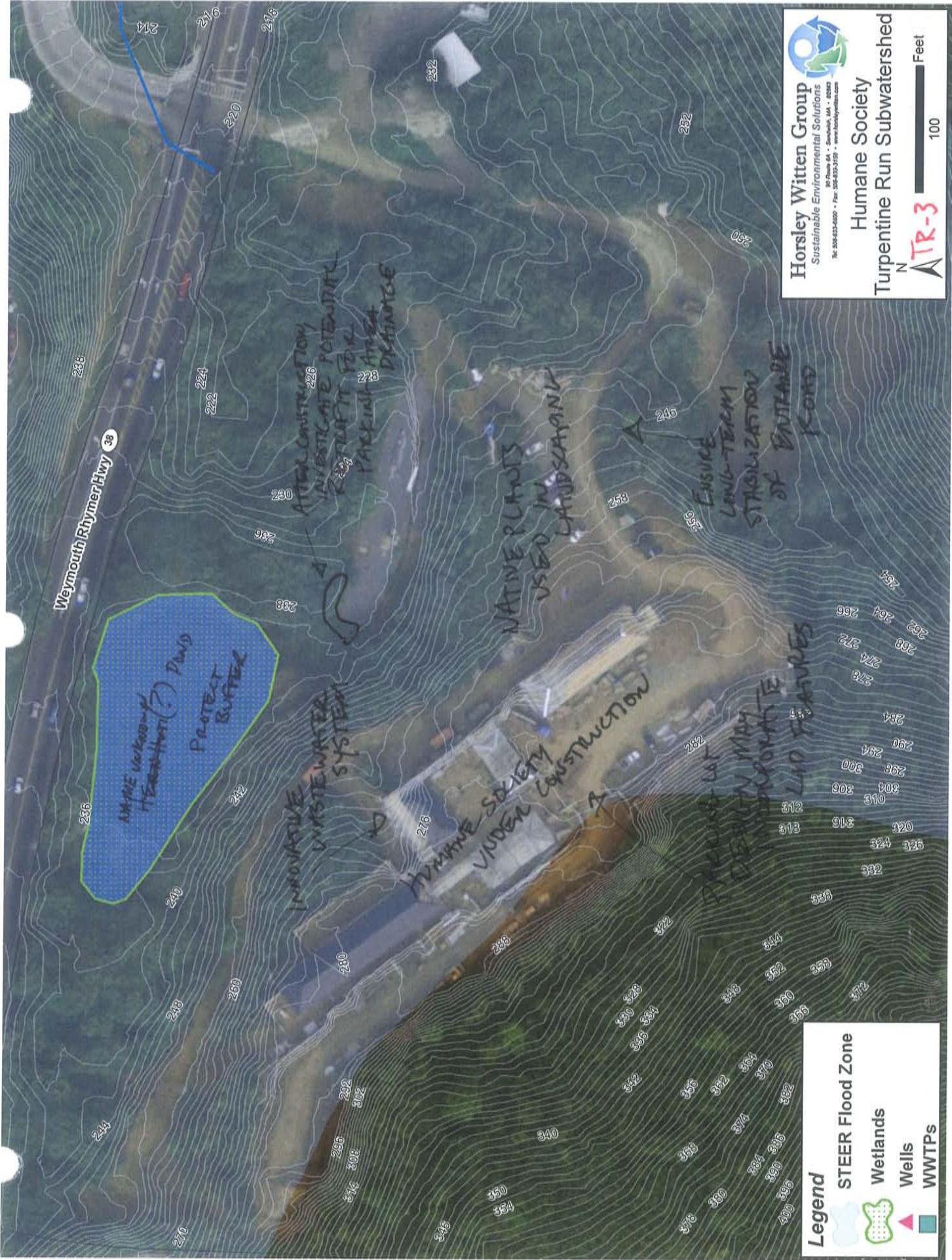
→ Keep an eye on entrance road erosion. possible installation of water bars, etc.

Additional Notes and/or Sketch Information:



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Humane Society
 Turpentine Run Subwatershed


TR-3
 Feet
 100

Legend

-  STEER Flood Zone
-  Wetlands
-  Wells
-  WWTPS



FIELD ASSESSMENT NOTES

- | | |
|---|---|
| <input checked="" type="checkbox"/> Stormwater Retrofit | <input type="checkbox"/> Pollution Prevention |
| <input type="checkbox"/> Stream/Wetland Restoration | <input checked="" 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: Turpentine

Site Name: Cost U Less TR-5

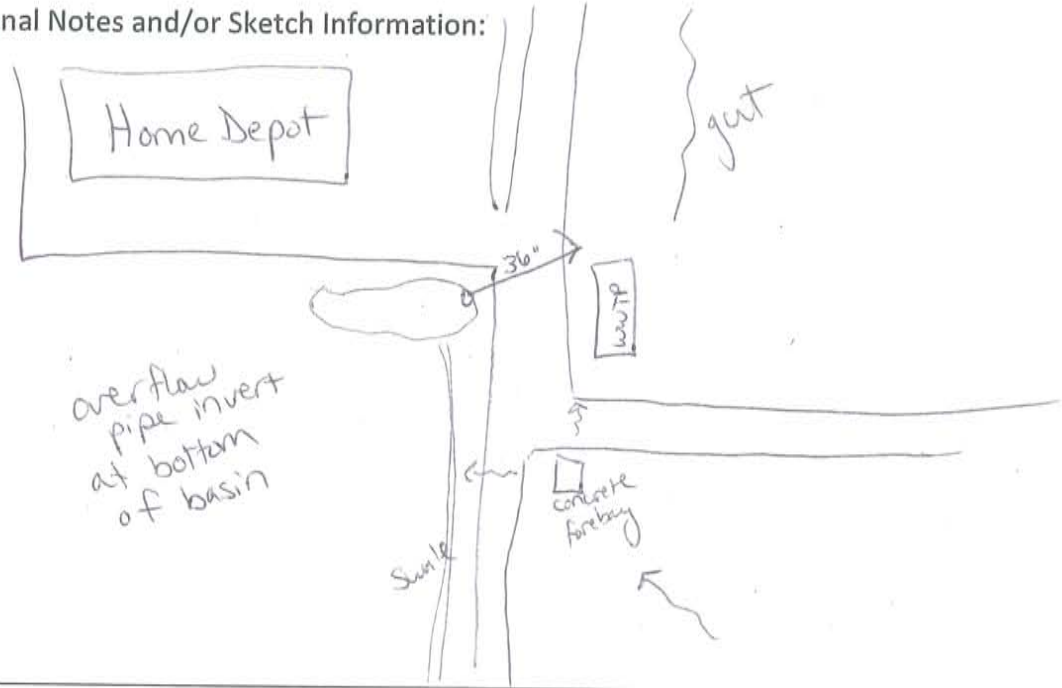
Description of Existing Conditions:

No existing infrastructure - all surface flow.

Half of lot flows into a concrete swale that leads to a new detention basin. Basin is in very good condition; may not see much stormwater. There is a curb cut under sidewalk that may not be effective.

Back half of lot flows into very steep swales that lead to a detention basin near Home Depot. Some dry weather flow observed - dumping of washwater from back of Cost U Less. There is one concrete sediment basin near intersection of entrance road and loading dock driveway - dirt has been bermed there to prevent overflows down into the package plant area. The package plant seemed to be working, but the generator needs maintenance. Any overflows here go straight into the gut.

Additional Notes and/or Sketch Information:



Description of Proposed Project:

A. New detention basin — direct more runoff into basin with a speed hump near the major intersection. Add sediment forebays for easier maintenance.

B. Basin near Home Depot — retrofit with sediment forebays and a 90° bend on outlet pipe to detain more water here, perhaps get some infiltration. Basin could be planted with more vegetation. Swales should be converted to more gentle side slopes, and add some check dams to reduce velocities. Retrofit concrete forebay with pipe to swales. Educate Cost U Less about washwater dumping. Make sure WWTP is regularly maintained. ○

Additional Notes and/or Sketch Information:

Site Priority: Love it Has Potential Not Likely Enforcement Needed



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TR-5 Cost U Less
Turpentine Run Subwatershed

100 Feet

Legend

- STEER Flood Zone
- Wetlands
- Wells
- WWTPS



FIELD ASSESSMENT NOTES

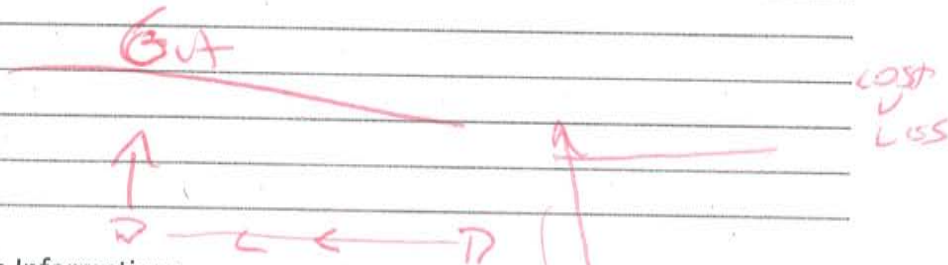
- | | |
|---|--|
| <input checked="" type="checkbox"/> Stormwater Retrofit | <input type="checkbox"/> Pollution Prevention |
| <input type="checkbox"/> Stream/Wetland Restoration | <input type="checkbox"/> Infrastructure Repair |
| <input type="checkbox"/> Residential Stewardship | <input type="checkbox"/>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

Subwatershed: Home Depot (TR-6)

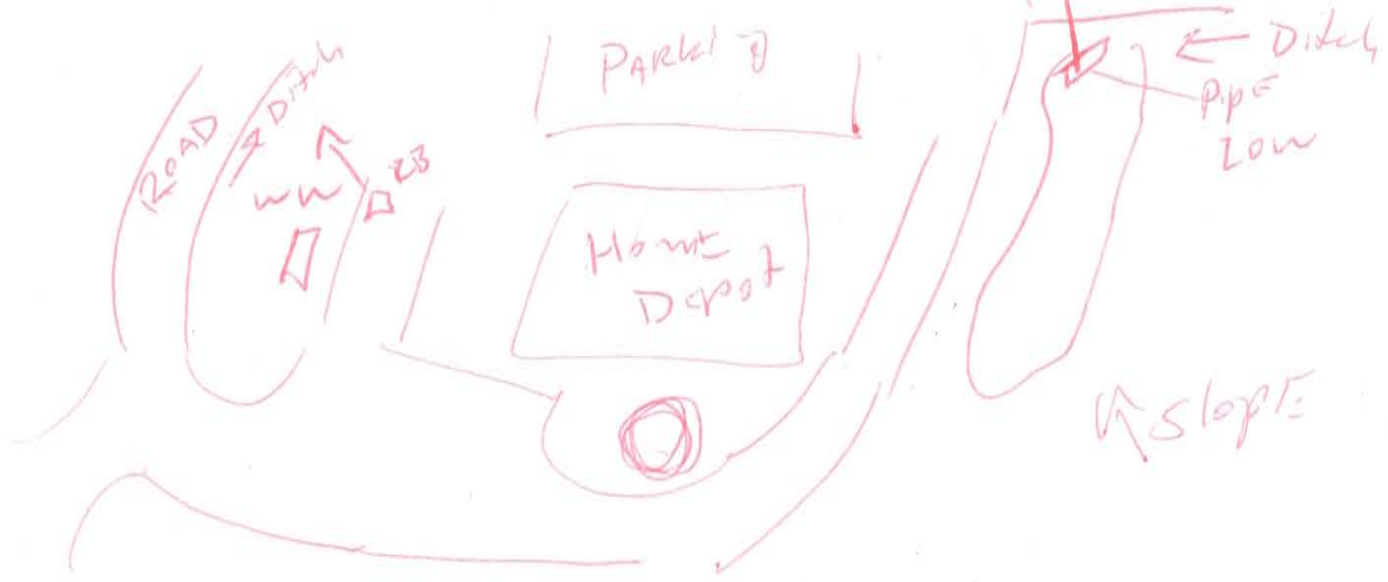
Site Name: _____

Description of Existing Conditions:

CBS → Discharge to ^{stone} swale/ditch
 Parking is larger than needed
 28' DRIVE AISLES
 CURBED Islands → Potential Bios
 Have wastewater TREATMENT → small system
 out back that looks like it discharges
 to A LSA under parking AREA
 WATER HARVEST system for FIRE protection
 with LARGE storage tank Fed from
 Look like ROOF



Additional Notes and/or Sketch Information:



Description of Proposed Project:

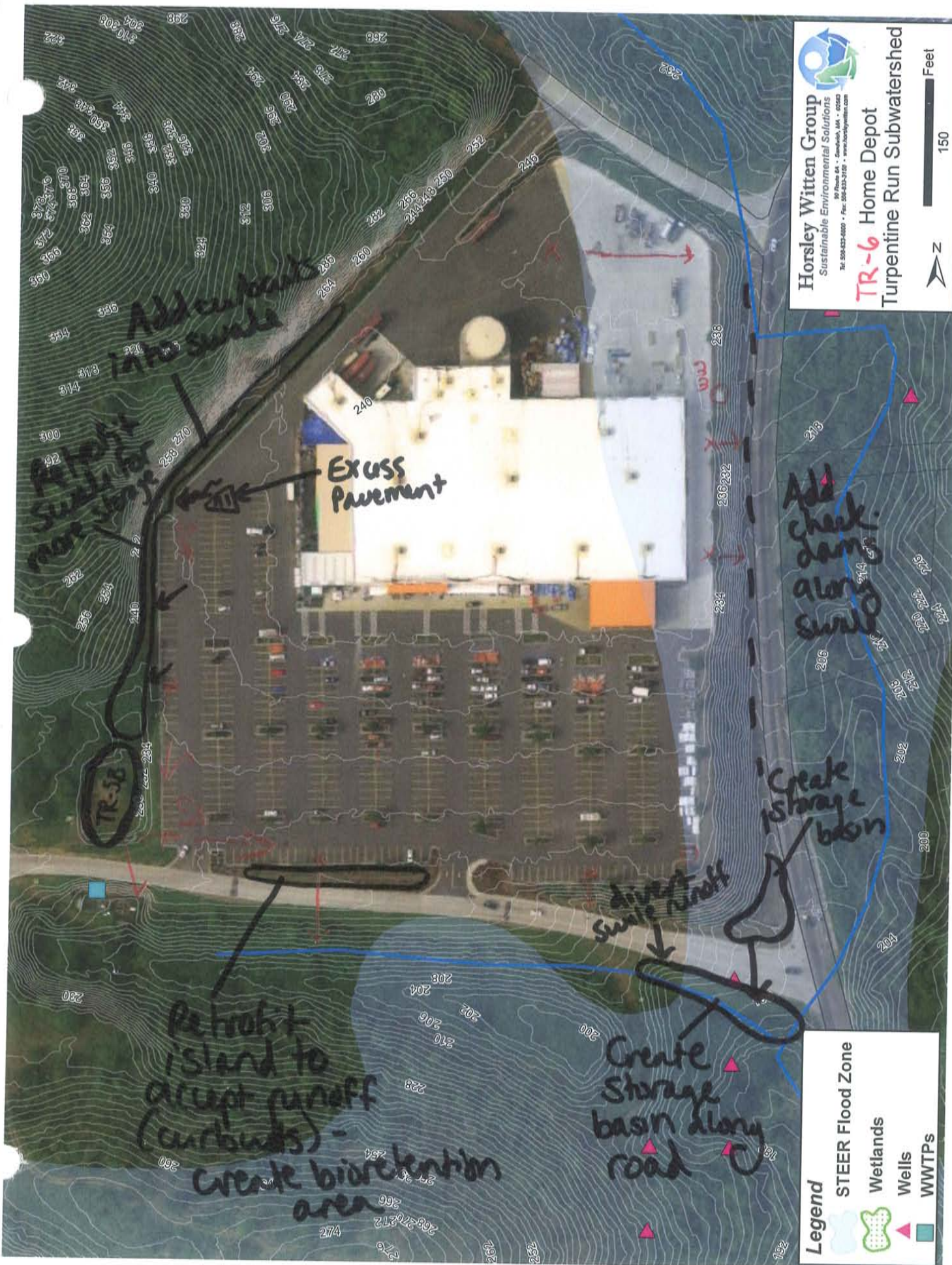
Possible potential cost v Less Detention
pond w/ riser to capture ~~water~~ ~~water~~
more SW.

CBS could be equipped w/ hoods and/or
WP units downstream

Curb cuts in islands to accept
runoff.

Additional Notes and/or Sketch Information:

Site Priority: Love it Has Potential Not Likely Enforcement Needed




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TR-6 Home Depot
 Turpentine Run Subwatershed


 Feet
 150

Legend

-  STEER Flood Zone
-  Wetlands
-  Wells
-  WWTPS



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 checked="" type="checkbox"/> Residential Stewardship | <input type="checkbox"/> Illicit Discharge |
| <input type="checkbox"/> Land Conservation | <input checked="" type="checkbox"/> Other _____ |

Subwatershed: Raphine Vista Turps

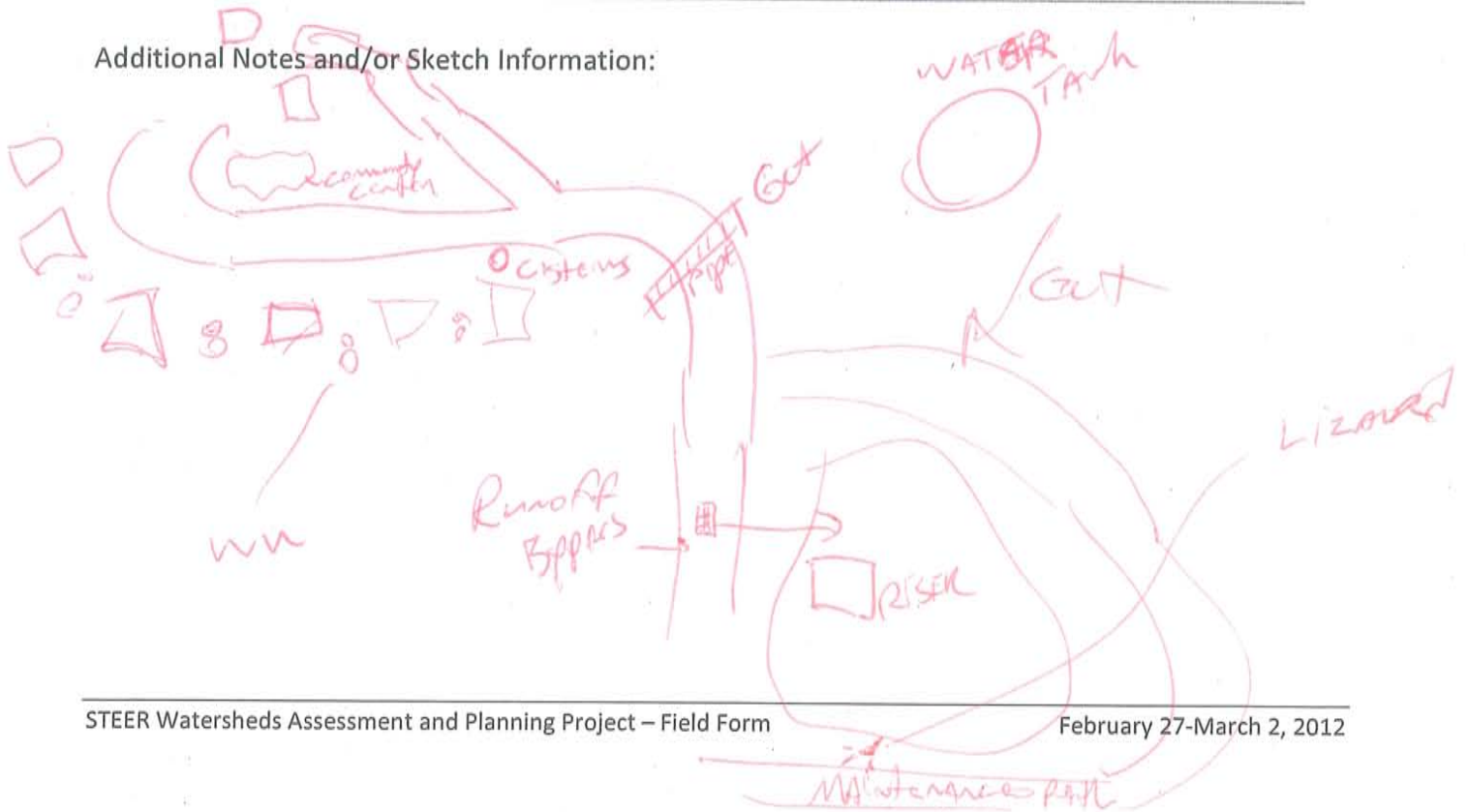
Site Name: TR-7

Description of Existing Conditions:

Onsite WW → Looks like Biodecan systems
 Drains → collect CBS (ADS) i
 Through Drains To Discharge To Gut.
 Houses equipped w/ cisterns From Roof
 Runoff.
 Road 16-17' wide
 Solar lighting
 Community pavilion
 Municipal water
 Fairly nice

Detention Pond near start of subdivision
 → Does not look like it is getting
 much runoff

Additional Notes and/or Sketch Information:



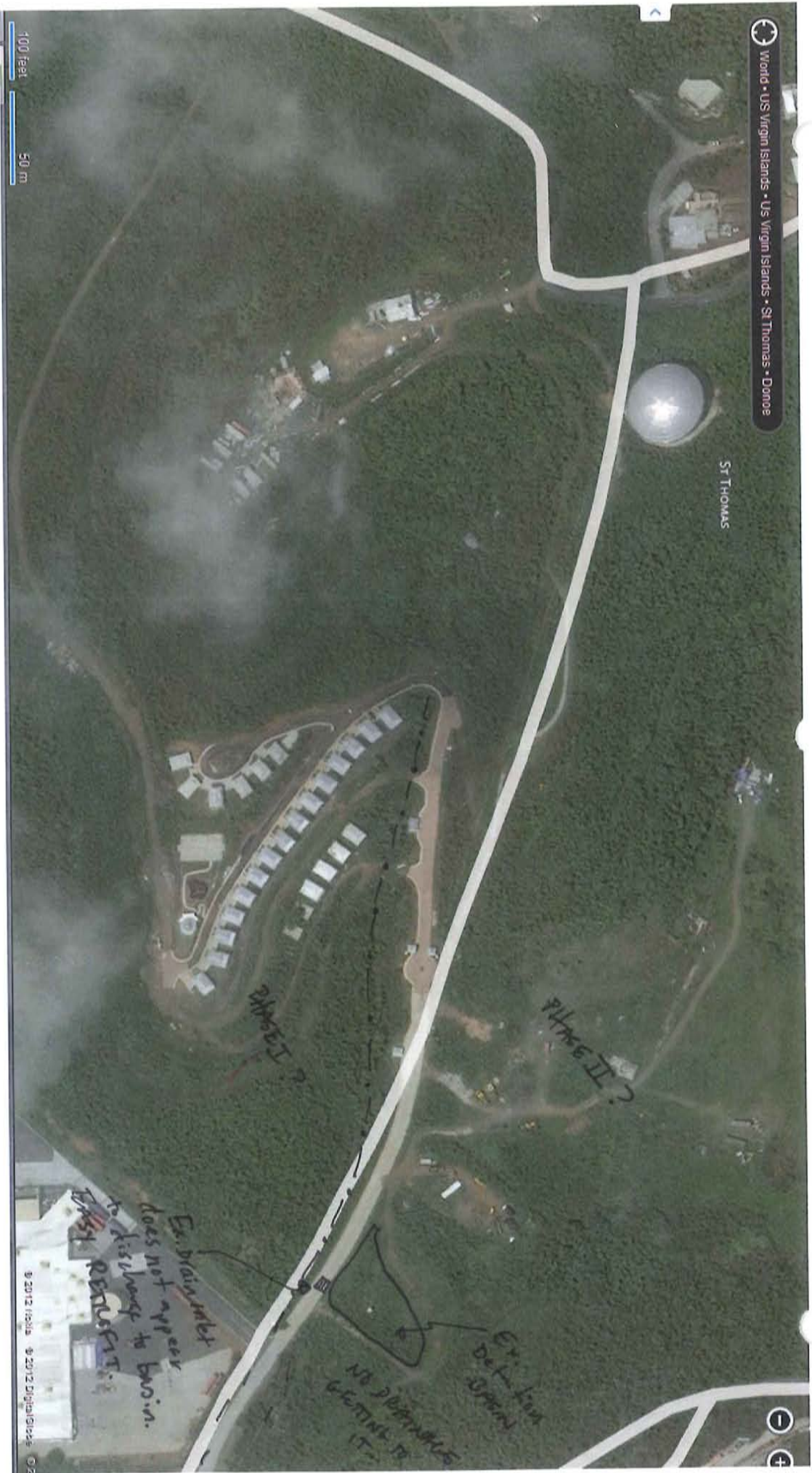
Description of Proposed Project:

SPEED Hump to Get more Runoff To Ex.
Detention Basin

Possible Rainwater For Education

Additional Notes and/or Sketch Information:

Site Priority: Love it Has Potential Not Likely Enforcement Needed



TR-7 Raphune Vista.

*NEED TO GET COPIES
 OF PLAN & BMP CACES *
EASY RETROFIT



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 checked="" type="checkbox"/> Other <u>ESC</u>

Enforcement

Subwatershed: TR-8

Site Name: GRAND VIEW CONSTRUCTION

Description of Existing Conditions:

SOME GOOD EXAMPLES OF ESC - SLOPE STABILIZATION
COIR FIBER ROLLS, BUT FAILING SILT FENCE AND
LACK OF ESC PRACTICES TO PROTECT GUTS

- ON SEWER / LINE JUST INSTALLED AND OPEN!! NEED TO COVER
- ROOFS ON CISTERNS - REUSE NON-POTABLE EXCEPT FOR TOILETS
- OUTFALLS NUMEROUS; APPEARS TO BE NO STORMWATER MANAGEMENT
- ASK ANITA FOR STORMWATER PLANS FROM SITE

Additional Notes and/or Sketch Information:

HOW DID THIS GET PERMITTED W NO POST CONSTRUCTION STORMWATER?

DRAINS TO TUTU RESERVOIR; COULD BE CONTRIBUTING TO WQ PROBLEMS & SEDIMENTATION IN RESERVOIR

Description of Proposed Project:

[Lined area for project description]

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 checked="" type="checkbox"/> Illicit Discharge
<input type="checkbox"/> Land Conservation	<input type="checkbox"/> Other _____

Subwatershed: Turpentine

TR-9 / TR-8

Site Name: Alvin MacBean Rec Center

TR-10

Gut Restoration

Description of Existing Conditions:

The Rec Center has catch basins for drainage in various places. However, it is experiencing flooding issues due to clogged inlet + ~~holes~~ lack of curbing along the road that is upgradient of the rec center. The runoff flows down the steep slope onto tennis courts + eventually ponds in playground area where there is a yard drain and openings in the wall; but the yard drain is too high to take the runoff and the wall openings get clogged with lawn debris. Some roof drains in this area discharge to impervious surfaces. Also the DAW land across the street has some great open grassy areas that could help provide SW treatment/storage. There's evidence of dumping and uncovered maint.

Additional Notes and/or Sketch Information:

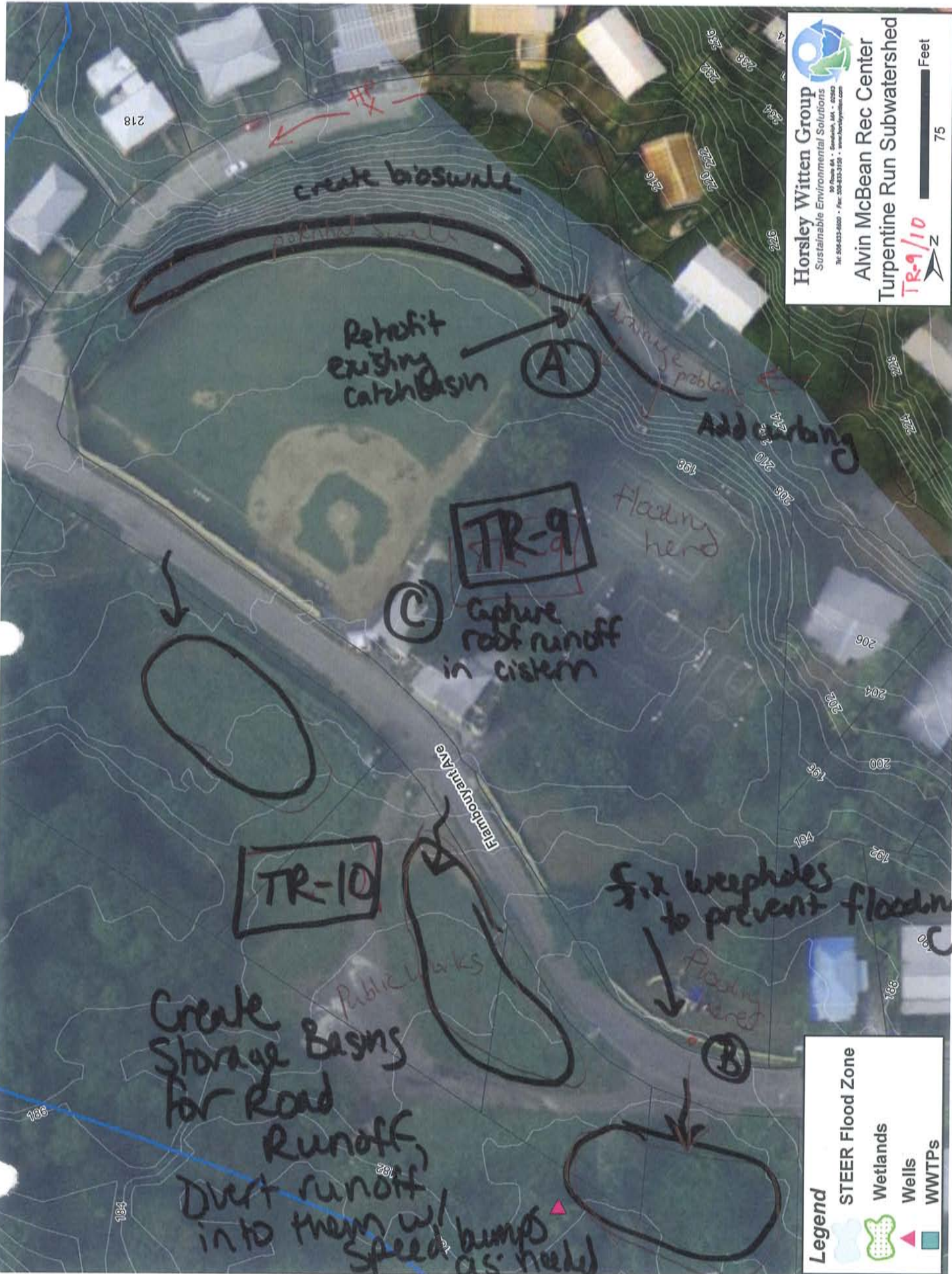
and storage of DAW vehicles in that area, which is directly adjacent to the gut/Tutu Reservoir. Also, when we were there, a sewer line appeared to be under construction and several manholes were left uncovered directly adjacent to gut. Trash and old cars were left in this area, too.


Description of Proposed Project:

The existing catchbasin along the road above soccer center should be cleaned out + redirected to discharge to a SW swale along ball field. Curbing should be installed to ensure flow is captured + prevent it from flowing down the slope to the tennis courts. Signage should be installed about SW + watershed issues. Perhaps runoff should be disconnected, and the playground area should be retrofitted to prevent flooding. The open areas on the DPW land should be converted to accept runoff from roadway - great location for signage - and trash should be removed. Sewer system should be covered + maintained regularly to ensure no overflows into the gut.

Additional Notes and/or Sketch Information:

Site Priority: Love it Has Potential Not Likely Enforcement Needed




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Alvin McBean Rec Center
Turpentine Run Subwatershed
TR-9/10

Feet
 75



Legend

-  STEER Flood Zone
-  Wetlands
-  Wells
-  WWTPs



FIELD ASSESSMENT NOTES

<input 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 checked="" type="checkbox"/> Land Conservation	<input type="checkbox"/> Other _____

Subwatershed: TR-11

Site Name: TUTU RESERVOIR / HARTMAN'S FARM POND

*(TILAPIA, full of lilies
sediment deposition)*

Description of Existing Conditions:


- Called out in DFW as important wetland
 - serving as defacto regional stormwater facility (Grandview & Tutu)


- DID NOT SEE

- ① CONTACT OWNER
- ② INVESTIGATE RESTORATION & CONSERVATION OPS.
- ③ MONITOR SED. DEPOSITION HABITAT/BIO PARAMETERS WQ
- ④ CHECK DAM INTEGRITY & ~~DIFFERENT~~ OUTLET STRUCTURE

Additional Notes and/or Sketch Information:




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TUV RES: TR-11
 Feet
 150

- PRIORITY IN 2006 WERE
 CAUSED. PLAT
 - DID NOT SEE
 - INVESTIGATE PROTECTION
 OPTIONS
 - HARTMANS FARM
 POND
 - REPORTED SEDIMENTATION
 - DEFUNCT BMP??



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 checked="" type="checkbox"/> Residential Stewardship | <input type="checkbox"/> Illicit Discharge |
| <input type="checkbox"/> Land Conservation | <input type="checkbox"/> Other _____ |

Subwatershed: Turpentine

TR-12

Neighborhood 1 - Anna's Retreat

Site Name: Anna's Retreat Community Center

Description of Existing Conditions:

Anna's retreat is an extremely large, dense neighborhood constructed on steep slopes with narrow, windy roads. Stormwater is conveyed through a series of paved swales, culverts, inlet structures, etc. - some of which run under/through buildings. Retrofitting this road system would be extremely costly & difficult as there is very little open space available. Some residential education could be useful on pollution prevention activities such as dumping things into drainage network & car maintenance. Demo projects at the two Community Centers would be a good way to reach people.

The Anna's Retreat Community Center is built in the gut particularly the new ~~tennis~~ Ball Courts. During the field visit, road work

Additional Notes and/or Sketch Information:

was underway; the stockpile of materials was placed directly in the gut. Upstream culvert is damaged, causing flooding over the road.

Description of Proposed Project:

~~This~~ The Community Center should be retrofitted to: provide a rain garden for parking lot runoff and restore capacity in the gut. This may include removing Ball Courts? This would be a great location to try to get additional offline storage if possible. Education should be provided on what a gut is and why it should be preserved. Upstream culvert capacity should be restored.

Additional Notes and/or Sketch Information:

Site Priority: Love it Has Potential Not Likely Enforcement Needed



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TR-12 Anna's Retreat 2
 Turpentine Run Subwatershed



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 <u>Education of Students</u> |

Subwatershed: Turpentine TR-13
 Site Name: Faith Christian Fellowship Church

Description of Existing Conditions:

This church/school is near the headwaters of the gut that flows to the Curriculum Center/Fire Station just upstream of the gut confluence at Tutu High Rise II. The gut is conveyed through a 24" ~~cast~~ pipe behind the buildings down along the property line before it discharges through a (6' x 4') box culvert under the road. In addition, site runoff from the gravel parking lot and long paved driveway is conveyed via a brand-new paved swale that appears to be undersized. Footpad runoff is stored in a cistern that appears to be in use. Large areas of open lawn are available on site. Woody debris is clogging the downstream culvert. (and ditch on other side)

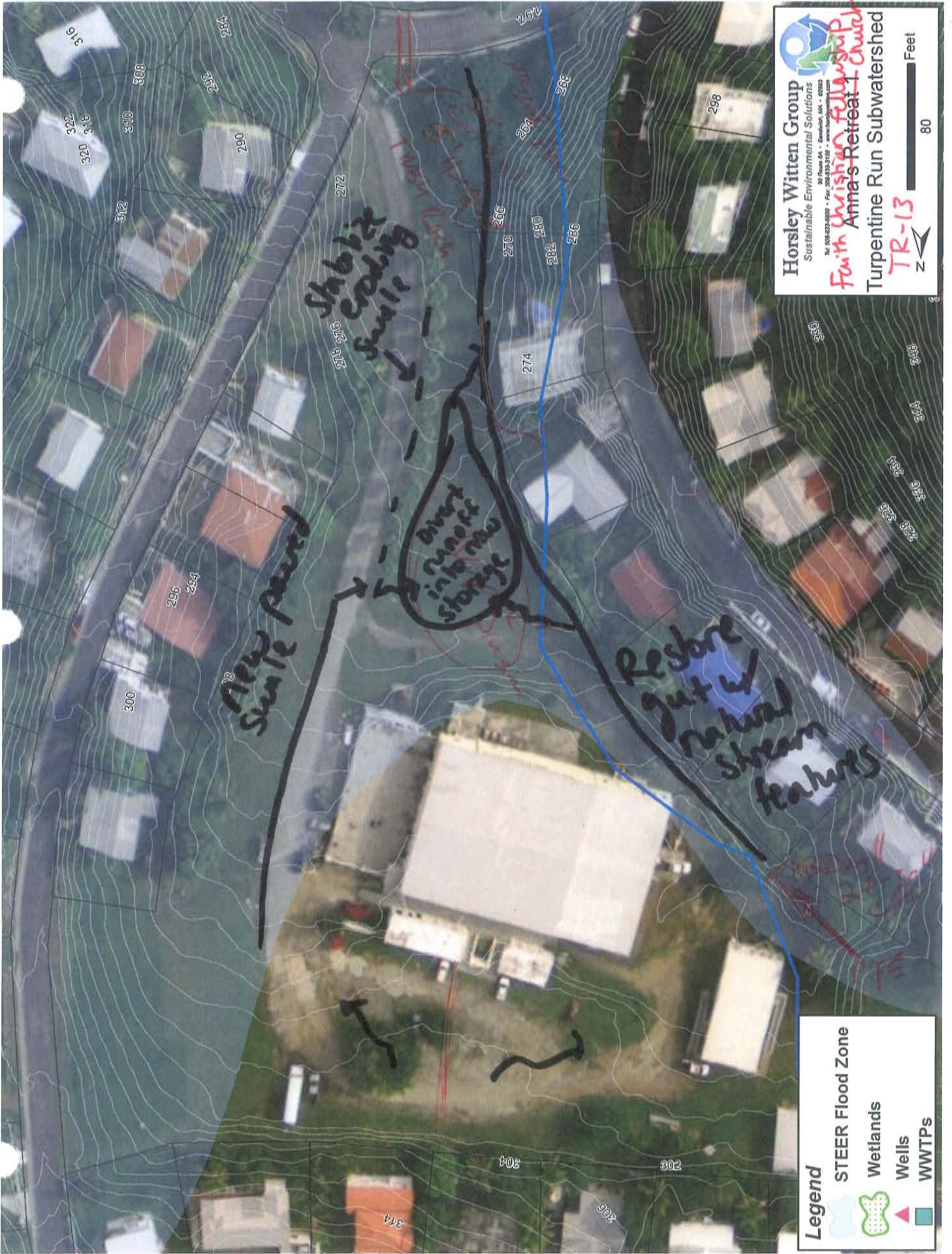
Additional Notes and/or Sketch Information:

Description of Proposed Project:

Utilize open grassy area as storage for gut flow during large storms. Formalize existing existing swale along driveway + direct runoff from paved swale into it. Use signage to educate students + public ensure that box culvert does not become clogged. Restore gut w/ natural stream features

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 checked="" type="checkbox"/> Residential Stewardship	<input type="checkbox"/> Illicit Discharge
<input type="checkbox"/> Land Conservation	<input type="checkbox"/> Other _____

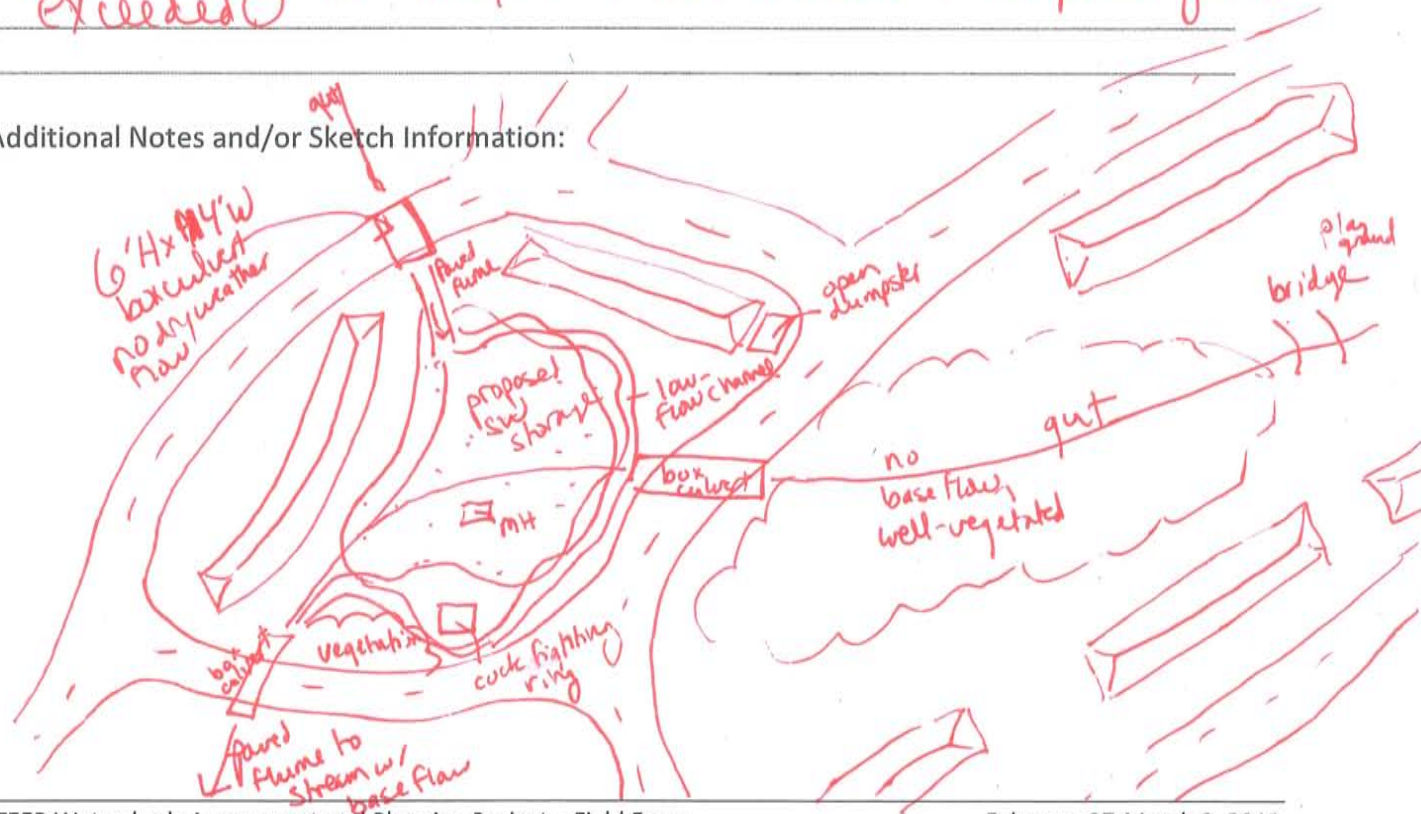
Subwatershed: Turpentine

Site Name: Neighborhood 13 - Tulu High Rises 1 TR-14

Description of Existing Conditions: Gut Confluence

Open, flat area at gut confluence that is currently mown. Doesn't seem to be used for recreation other than the cycle fighting ring (e.g., no courts, playgrounds, etc.) Trash was observed, and the dumpsters on site were not covered. The gut to the east was well-vegetated. To the north, see other retrofit form. To the south, the gut has a base flow as it flows towards the Curriculum Center and fire station. Paved flumes and box culverts are used to direct runoff, as well as some catchbasins on the road. Currently, the outlet box culvert is set at grade, only debrising at high flows when capacity is exceeded.

Additional Notes and/or Sketch Information:



Description of Proposed Project:


try to do an offline storage system for the gut?

Re-grade the open area for formalized vegetated channels and increased storage. Adjust the area near the outlet to provide more detention/infiltration/evaporation before any outflow occurs. Cover dumpsters, clean up trash + provide signage other education for homeowners. Need to get housing authority on board.


Additional Notes and/or Sketch Information:

Site Priority: Love it Has Potential Not Likely Enforcement Needed




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Gut Confluence
 Turpentine Run Subwatershed

80 Feet


Legend
 STEER Flood Zone
 Wetlands
 Wells
 WWTPS



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 checked="" type="checkbox"/> Residential Stewardship | <input type="checkbox"/> Illicit Discharge |
| <input type="checkbox"/> Land Conservation | <input type="checkbox"/> Other _____ |

Subwatershed: TURPENTINE RUN

Site Name: JOSEPH A GOMEZ ELEM. SCHOOL (TR-15)

Description of Existing Conditions:

School buildings divided by an intermittent gut. There are bridges over gut and ball field in valley. There appears to be issues with drainage around the buildings on top of slope, but solutions are challenging given terrain. concrete swales run on the East side of each building, carrying runoff to the north end and discharge to gut.

gut is graded/vegetated along ball field.

new parking lot constructed in/adjacent to gut downstream of ball field.

Additional Notes and/or Sketch Information:

See aerial

Description of Proposed Project:

retrofit → start w simple rain gardens on west side of gut near basketball court.

install bio-retention along concrete swale at eastern-most building.

capture rooftop runoff ~~off of~~ on second building where no grassed area available for treatment.

consider buffer and gut restoration work ~~to expand for~~.

good visibility & education potential.

Additional Notes and/or Sketch Information:

Site Priority: Love it Has Potential Not Likely Enforcement Needed

dumpster

JOSEPH A GOMEZ
Elementary

install gutters & cistern?

Concrete drainage channel

P.A. porous PATHERS

Front floor
Curb cut
KINGS

put in
DISCHARGE PIPE


Grass
limited
channel
Buffer
REST??

FIELD USED
BY 10 OF
THE PLAY
BROTHERS

NEWLY
PAVING LOT

POTENTIAL
RAIN
CANOONS

Physical
cleaning
of
play
area




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Back of Curriculum Center
Turpentine Run Subwatershed

JOSEPH A GOMEZ
Elementary

1-Foot



Legend

- STEER Flood Zone
- Wetlands
- Wells
- WWTPs



FIELD ASSESSMENT NOTES

- | | |
|--|--|
| <input 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 <u>Enforcement</u> |

Subwatershed: Turpentine Run

TR-16

Site Name: New parking lot behind Curriculum Center

Description of Existing Conditions:

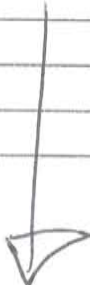
Installation of new gravel parking lot (?) in and adjacent to gut behind curriculum center. In stream channelization and impoundments.

Follow up in ~~per~~ DPNR on permits.

How is runoff from lot managed?

When is buffer protection?


THIS lot is in floodplain.





Additional Notes and/or Sketch Information:

If fined/mitigation consider retrofitting in conjunction w Joseph A Gomez Elem. School projects.




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Back of Curriculum Center
Turpentine Run Subwatershed



Legend

-  STEER Flood Zone
-  Wetlands
-  Wells
-  WWTPs



FIELD ASSESSMENT NOTES

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

Subwatershed: Turpentine TR-17 / TR-16

Site Name: fire Station / Gut behind Curriculum Center

Description of Existing Conditions:

The fire station is located between the Curriculum Center and the Texaco near intersection of 384 and 38. Road runoff is conveyed with a shallow paved swale to a large inlet just down gradient of fire station, which takes runoff directly to Turpentine Run. During large storm events runoff flows from the paved road swale (not enough capacity) into the fire station property. The french drain in the parking lot takes this runoff and directs it around and through the building with a paved swale. This swale discharges into the large inlet in the road, but through a very small opening, causing flooding here.

Adjacent car dealership built a new parking lot next to the gut and filled in the gut itself with large riprap and small D.I. culverts. This will reduce gut capacity during storm events and needs to be restored.

Additional Notes and/or Sketch Information:

Description of Proposed Project:


Rehabilitate the road swale to keep runoff from flowing into fire station. Do onsite disconnection to max extent practical and convert paved swale to vegetated channel. (might need to be lined due to superfund issues). Enlarge opening into road inlet / add wash rack.

Restore capacity of gut behind curriculum center, address runoff from parking lot as possible


Additional Notes and/or Sketch Information:

Site Priority: Love it Has Potential Not Likely Enforcement Needed




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Fire Station/Curriculum Center
Turpentine Run Subwatershed


 Feet
 60
TR-17

Legend

-  STEER Flood Zone
-  Wetlands
-  Wells
-  WWTPs

EPA TREATMENT

ARROWHEAD
5 CDM



Horsley Witten Group
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**Fire Station/Curriculum Center
Turpentine Run Subwatershed**




Legend

-  STEER Flood Zone
-  Wetlands
-  Wells
-  WWTPS





FIELD ASSESSMENT NOTES

- | | |
|---|--|
| <input checked="" 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: Turpentine

Site Name: VI Housing Authority (TR-18)

Description of Existing Conditions:

Lower parking AREA has a vehicle maintenance AREA (shelter → roof) that could be a source of pollution. Have two oil storage containers for maintenance. Have a temp dump site. Possible BMP near garage but directing the runoff there may be risky/expensive.

Fairly large/steep imp AREA to the south-east of main building seems unnecessary & seldom used.

Upper parking collects in drive aisle in two channels & flows to the unnecessary parking → possible BMP location would be first drive aisle to the left when you drive in which may be sacrificed.

Additional Notes and/or Sketch Information:

Sacrificed.



Jennifer Laslovich
Deputy Executive Director
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jlaslovich@vihousing.org

Description of Proposed Project:

Non-structural = cover dumpsters & oil storage areas; clean up maintenance area & dumping

Structural retrofits =

① potential bioretention & bioswale to collect roof runoff

③ pavement removal

Additional Notes and/or Sketch Information:

Site Priority: Love it Has Potential Not Likely Enforcement Needed




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VI Housing Authority
 Turpentine Run Subwatershed


 Feet
 60

Legend

-  STEER Flood Zone
-  Wetlands
-  Wells
-  WWTPs



FIELD ASSESSMENT NOTES

- | | |
|---|--|
| <input checked="" 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: Temperance Run

Site Name: Holy Family Church (TR-19)

Description of Existing Conditions:


Site is mostly impervious. Building have a lower level cistern that was over flow at time of inspection (light rain).

Two approx level CB type structures that discharge to the lower parking lot and down to Smith Bay Rd

could direct runoff from parking lot to a grassed area in the eastern side of parking lot. Not great value

Additional Notes and/or Sketch Information:




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Holy Family Church TR-19
Turpentine Run Subwatershed
 N
 60' Feet

Legend

-  STEER Flood Zone
-  Wetlands
-  Wells
-  WWTPs



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: TR-20

Site Name: FOUR WINDS PLAZA

Description of Existing Conditions:

It appears that all of parking lot drains to large open outfall at south end of lot.

Opportunities to create landscape features in parking lot using lined bio-retention & planters along building. Plaza could also use retrofit / large trees

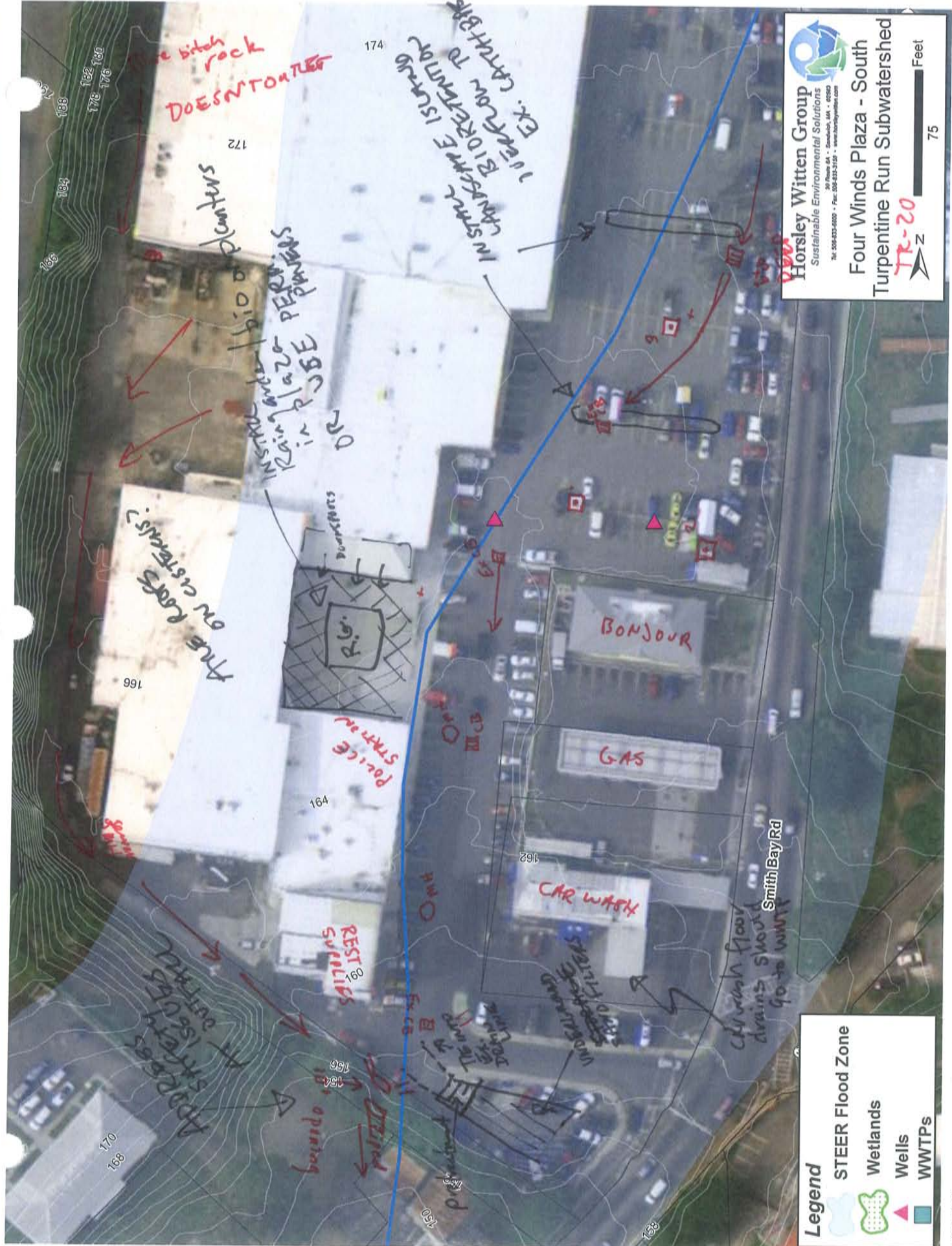
Superfund groundwater monitoring wells exist throughout the site - limit infiltration


Consider underground ~~storage~~ ^{sand filters & oil separators} for ~~channel protection & bios for~~ ~~for~~ ~~WQ~~ ~~or~~ ~~off~~ ~~SEP.~~

Make sure car wash drains going to sanitary system.


Additional Notes and/or Sketch Information:

What ~~are~~ is happening w rooftop drainage, cistern?




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Four Winds Plaza - South
Turpentine Run Subwatershed
TR-20


 Feet
 75

Legend

-  STEER Flood Zone
-  Wetlands
-  Wells
-  WWTPS




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Four Winds Plaza - North
 Turpentine Run Subwatershed


 Feet
 75

Legend
 STEER Flood Zone
 Wetlands
 Wells
 WWTPs



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: TURP RUN

Site Name: TUTU PARK MALL (TR-21)

Description of Existing Conditions:

Complex site - cisterns for some of roof drainage.

Half of parking lot drains to a large detention basin in the back of mall. Investigate facility for retrofit potential. Need to see as-built plans.

Some opportunities for bio-retention in northern portion of lot near Plaza Extra.

Convert lower lot near Mac Donalds into grass-pavers for overflow parking.

Potential bio on road-row by McD's

Additional Notes and/or Sketch Information:

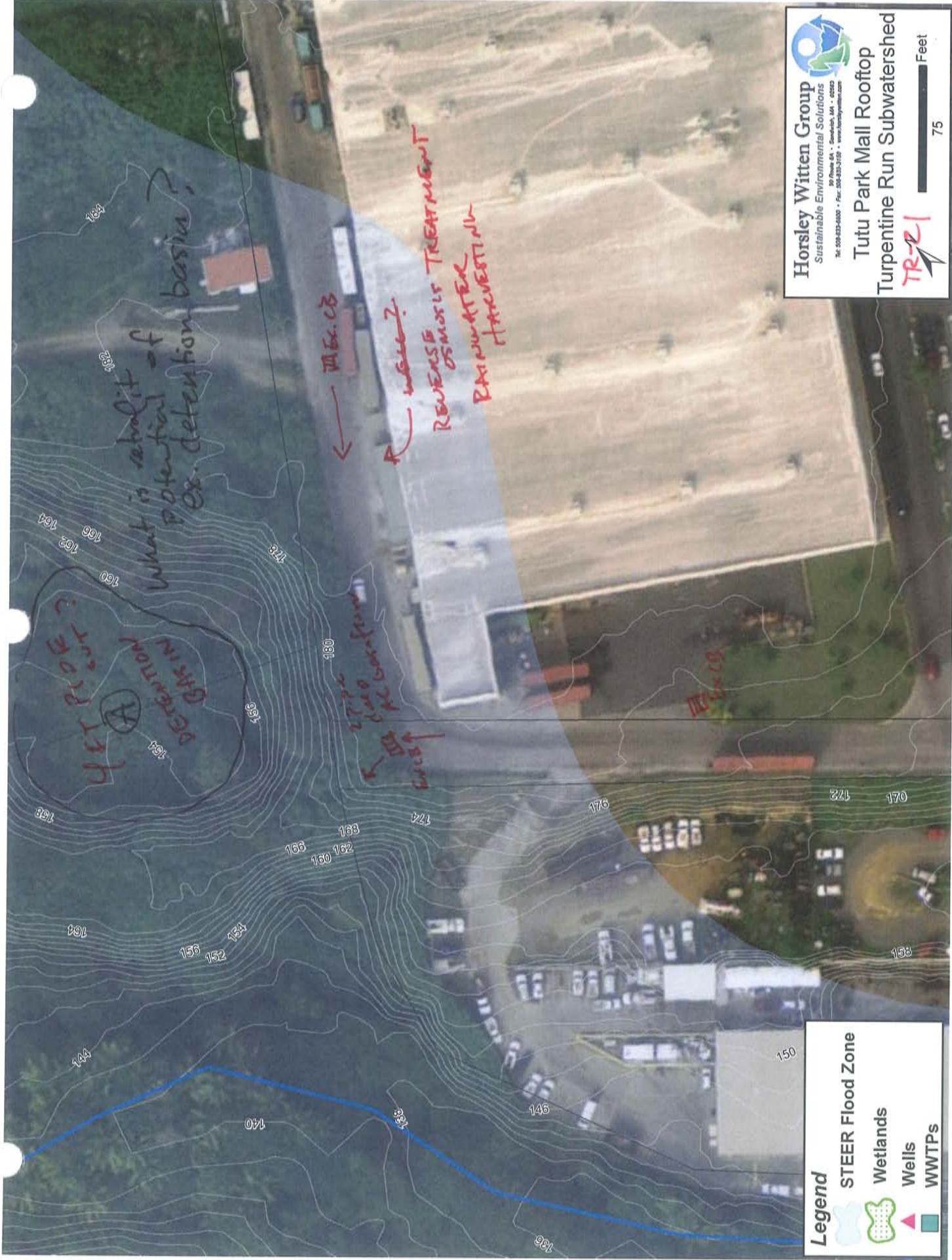
You could spend all Day here retrofitting..

4605 Tutu Park Mall • Suite 254 • St. Thomas, US Virgin Islands 00802-1736



Carlton Duncan
Maintenance Director

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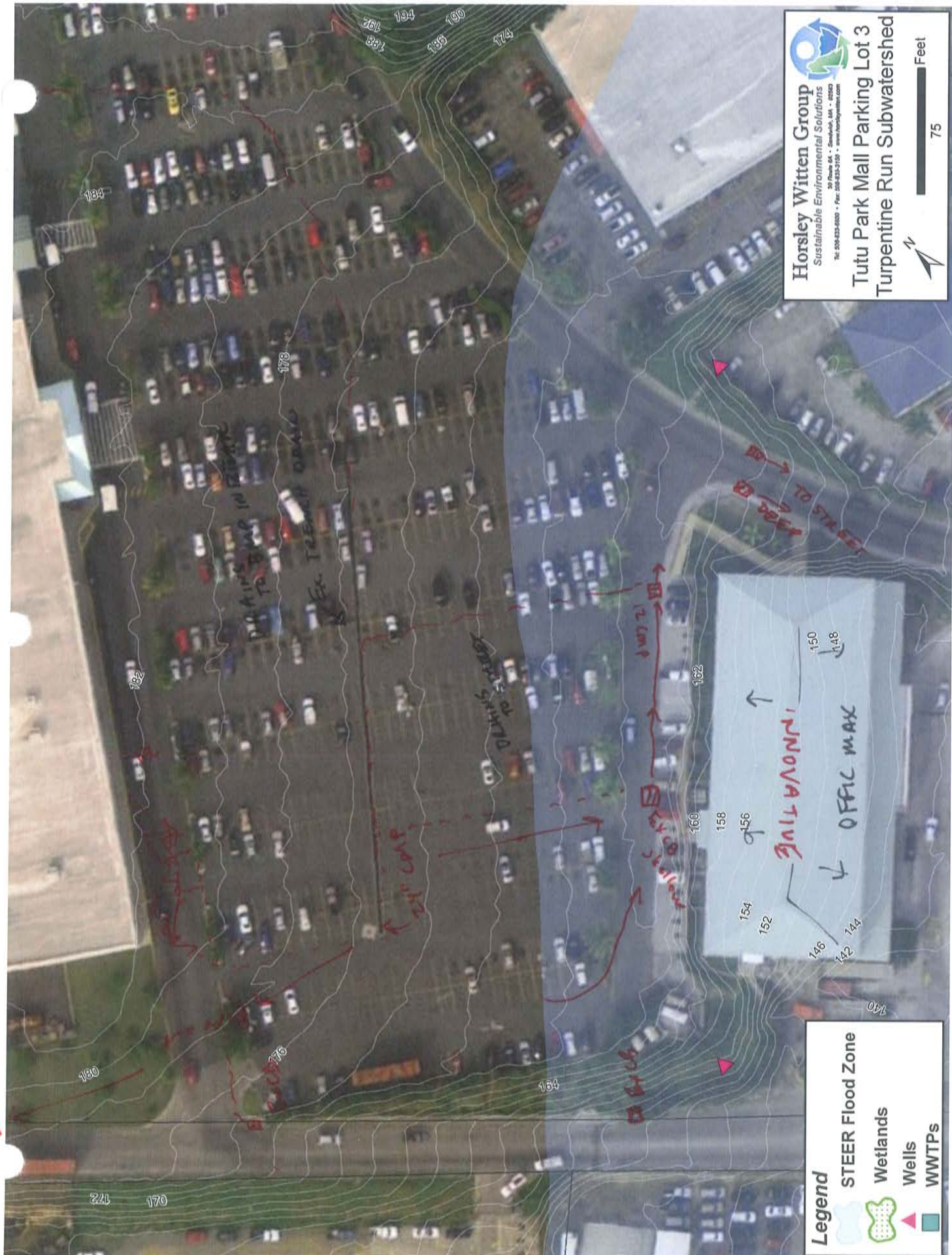
**Tutu Park Mall Rooftop
 Turpentine Run Subwatershed**

TR-21

75 Feet

Legend



- STEER Flood Zone
- Wetlands
- Wells
- WWTPs




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Tutu Park Mall Parking Lot 3

Turpentine Run Subwatershed





 Feet
 75

Legend
 STEER Flood Zone
 Wetlands
 Wells
 WWTPs




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Tutu Park Mall Parking Lot 2
Turpentine Run Subwatershed



 Feet

Legend

-  STEER Flood Zone
-  Wetlands
-  Wells
-  WWTPs

881
186




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Tutu Park Mall Parking Lot 1
Turpentine Run Subwatershed




Legend

-  STEER Flood Zone
-  Wetlands
-  Wells
-  WWTPS



FIELD ASSESSMENT NOTES

- | | |
|---|--|
| <input checked="" 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 _____ |

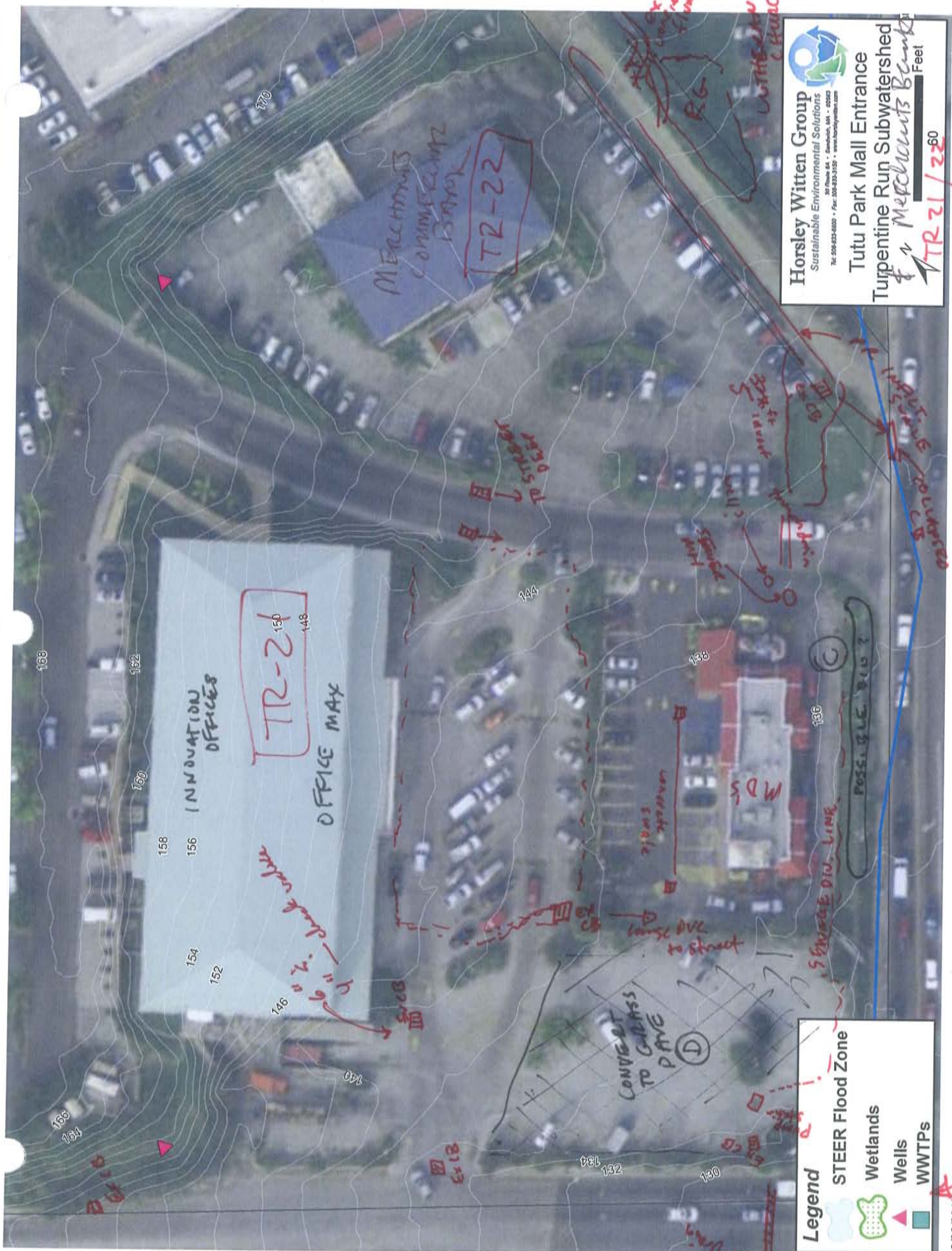
Subwatershed: TR.

Site Name: MERCHANTS COMMERCIAL BANK (TR-22)

Description of Existing Conditions:

Parking lot and adjacent road drain to ~~bottom~~ south corner of lot. Convert ex. pervious area in corner to bioretention. install a veg. swale along ROAD ROW. Tie overflow into ex. catchbasin.

Additional Notes and/or Sketch Information:



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Tutu Park Mall Entrance
 Turpentine Run Subwatershed
 & Merchants Bank

Feet
 TR-21/22-60

Legend

- STEER Flood Zone
- Wetlands
- Wells
- WWTPS



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: TURPENTINE RUN

Site Name: LUTHERAN CHURCH (TR-23)

Description of Existing Conditions:

Concrete swale conveys upland runoff around church and to road.

Intercept runoff in a large rain garden next to church & parking lot. Overflow can go to street via existing swale.


Additional Notes and/or Sketch Information:

Description of Proposed Project:


Additional Notes and/or Sketch Information:

This is a good site and the church
may be interested in a low cost
project that helps w drainage &
improves aesthetics.

Site Priority: Love it Has Potential Not Likely Enforcement Needed






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Lutheran Church
 Turpentine Run Subwatershed
TR-23

Feet
 50




Legend

-  STEER Flood Zone
-  Wetlands
-  Wells
-  WWTPs



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: Turpentine Run

Site Name: Innovation Parking lot **TR-24 / TR-25**
Hotspot AUTO/TIRE SHOPS

Description of Existing Conditions:

TR-24 Large gravel and paved parking lot draining to CB in southeast corner of lot. Some of the roof also drains to paved lot. This is parking for innovative fleet vehicles and outdoor storage of wire rolls and other supplies. Discharge off pavement into stream valley.

TR-25 TIRE repair and automotive yards - high exposure of fluids, metals, etc to stormwater runoff. Do a hotspot inventory and recommend pollution prevention measures.

Additional Notes and/or Sketch Information:

See aerial

Description of Proposed Project:

FOR INNOVATIVE, CONSIDER.

① UNDERGROUND O/G SEPARATOR & SAND FILTER IN BOTTOM CORNER

② CISTERN OR PLANTERS FOR ROOFTOP RUNOFF

③ LOOK FOR STORAGE CAPACITY & TREATMENT OUTSIDE OF STREAM CORRIDOR

④ PERMEABLE PAVEMENT w UNDERDRAIN IN UPPER LOT.

Additional Notes and/or Sketch Information:

Site Priority: Love it Has Potential Not Likely Enforcement Needed



Innovative Parking Lot
Turpentine Run Subwatershed



Legend	
	STEER Flood Zone
	Wetlands
	Wells
	WWTPs