Subwatershed: Turpentine Run
Site Name: Whispering Woods, Flag Hill (TR-1)

Description of Existing Conditions:

- Visited by Frank Galdo
- New affordable housing development
- Cutting roads, some use of ESC practices
- Pull 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 with road development project. Unpaved road may need additional stabilization if to be permanent. Runoff discharge across entrance from red-roofed apartments.
Subwatershed: Turpentine Run

Site Name: Seventh Day Adventist (TR-2)

Description of Existing Conditions:

Entire parcel is paved.

An drainage goes directly to curb in front.

Propose alternative parking layout that integrates landscape features for stormwater.

Consider large rain garden at bottom of lot adjacent to stream. Overflow will go via re-stripping of parking spaces to be more efficient.

Additional Notes and/or Sketch Information:

An alternative parking lot design could incorporate landscape island bio-retention with shade trees and/or planters along the building to capture root top runoff.
Subwatershed: TRUN

Site Name: Humane Society (TR-3)

Description of Existing Conditions:

- Innovative winter and LID application possibly in the parking lot, native plants.
- Could be a good site for education and watershed signage.
- Check back in once construction is completed.
- Ownership, Herrnhut Pond, possible buffer protection/ enhancement discussion with owner.
- Keep an eye on entrance road erosion, possible installation of water bars, etc.

Additional Notes and/or Sketch Information:
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 wastewater 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:

[Sketch of area with Home Depot and gut marked, showing overfall pipe invert at bottom of basin]
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 slopes, and add some check dams to reduce velocities. Retrofit concrete forebay with pipe to swales. Educate Costco less about wastewater dumping. Make sure haunt is regularly maintained.

Additional Notes and/or Sketch Information:

Site Priority:  □ Love it  □ Has Potential  □ Not Likely  □ Enforcement Needed
FIELD ASSESSMENT NOTES

Subwatershed: Home Depot (TR-6)

Site Name: ________________

Description of Existing Conditions:

CBS -> Storm Sewer/Drainage to swale/Ditch
Parking is larger than needed
2x Drive Aisles
Curbless Islands -> Potential Bios
Have wastewater treatment -> small system
Outfall from tank that looks like it discharges to a CSAS or on parking area
Water Harvest System for fire protection
with Large storage tank for fire from

Additional Notes and/or Sketch Information:

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STEER Watersheds Assessment and Planning Project – Field Form

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Description of Proposed Project:

Possible retrofit cost v less demonstrable and moneys spent. To capture additional
CIB 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
- Add curbs into swale.
- Add check dam along swale.
- Create storage basin along road.
- Retract island to accept runoff (curb cuts).
- Create bioretention area.
- Excise pavement.
Subwatershed: Raphine Vista Turps
Site Name: TR-7

Description of Existing Conditions:
- Onsite WW → Leaky Septic Systems
- Drawdown = Collect CBSS (Viton) &"in"
- Storm drain To Discharge To Gut
- Hoses equipped w/ Cisterns From Roof Runoff
- Road 16-17' Wide
- Solar Lighting
- Community Pavilion
- Municipal Water
- Fairly Nice
- Development and more Start of Subdivision
- Does not look like it is getting much runoff

Additional Notes and/or Sketch Information:
Description of Proposed Project:

[Scribbled notes]

Additional Notes and/or Sketch Information:

Site Priority:  □ Love it  □ Has Potential  □ Not Likely  □ Enforcement Needed
TR-7 Raphine Vista.

*NEE0 TO GET COPIES OF PLAN + 2BP CIRCS EASY Retrofit
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 gullies
- On sewer line just installed and open! Needs to cover
- Roofs on cisterns - reuse non-potable except for toilets
- Outfalls numerous; appears to be no stormwater management
- Ask about flow stormwater plans from site

Additional Notes and/or Sketch Information:

How did this get permitted w/ no post construction stormwater?

Drains to TVTU reservoir; could be contributing to WA processes & sedimentation in reservoir
Description of Proposed Project:


Additional Notes and/or Sketch Information:


Site Priority:  □ Love it  □ Has Potential  □ Not Likely  □ Enforcement Needed

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Subwatershed: Turpentine

Site Name: Alvin Mac Bean Rec Center

Gut Restoration

Additional Notes and/or Sketch Information:

The Rec Center has catch basins for drainage in various places. However, it is experiencing flooding issues due to clogged inlet and outlets lacking culverts along the road that is upsidedown of the rec center. The runoff flows down the steep slope onto the parking lot eventually pooling in playground area where there is a yard drain and openings in the wall that the yard drain is too high to reach the units and the wall openings get clogged with earth debris. Some roof drains in this area discharge to impervious surfaces. Also, the DAW land across the street has some open grassy areas that could help provide runoff treatment/storage. There's evidence of dumping and uncared for maintenance 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 uncared for directly adjacent to gut. Trash and old cars were left in this area, too.
Description of Proposed Project:
The existing catch basin along the road next to the center should be cleaned out and redirected to discharge to a storm drain along the field. Curbing should be installed to ensure water is trapped and prevent it from flowing down the slope to the tennis court. Signage should be installed about stormwater issues. The pump room should be disconnected, and the play area drain should be retrofitted to prevent flooding. The open areas should be converted to accept runoff from roadway - great location for signage. The trash should be removed. The system should be covered and maintained regularly to ensure no overflow into the gutters.

Additional Notes and/or Sketch Information:

Site Priority:  □ Love it  □ Has Potential  □ Not Likely  □ Enforcement Needed
Subwatershed: TR-11

Site Name: Tutu Reservoir / Hartman's Farm Pond (Tilapia, full of lilies, sediment deposition)

Description of Existing Conditions:
- Called out in DEW 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
4. Check dam integrity & outlet structure

Additional Notes and/or Sketch Information:
Subwatershed: Turpentine
Neighborhood: 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 winding roads. Stormwater is conveyed through a series of paved culverts and structures, some of which run under/through buildings. Retrofitting this road system would be extremely costly and difficult as there is very little open space available. Some residential education could be useful on pollution prevention activities such as dumping things into drains, netlink car maintenance, and 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 road counts. During the field visit, road work was underway: the stockpile of materials was placed directly in the gut. Upstream culvert is damaged, causing flooding over the road.

Additional Notes and/or Sketch Information:
Description of Proposed Project:

The Community Center should be retrofit to provide a rain garden for parking lot runoff and restorable capacity in the gut. This may include removing basketball courts. This would be a great location to try to get additional offsite 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

STEER Watersheds Assessment and Planning Project – Field Form  February 27-March 2, 2012
Subwatershed: Turpentine
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 'Tuna High Rise'. The gut is conveyed through a 24" concrete pipe behind the building along the property line before it discharges through a 10' x 40' box culvert under the road. In addition, site runoff from the gravel parking lot and landscaped driveway is conveyed via a brand-new paved swale that appears to be undesigned. Rainfall 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.

Additional Notes and/or Sketch Information:
Description of Proposed Project:

Utilize open grassy area as storage for stormflow during large storms. Formalize existing edging where driveway + sidewalk meet. Use signage to educate students & public ensuring 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
Subwatershed: Tugertine

Site Name: Neighborhood 13 - Tugert High Rises 1

Description of Existing Conditions:

Open, flat area at gut confluence that is currently unused. Doesn't seem to be used for recreation other than the cock 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 plan as it flows towards the community center and fire station. Paved slums and box culverts are used to direct runoff, as well as some catch basins on the road. Currently the outlet box culvert is set at grade, thus exceeding.

Additional Notes and/or Sketch Information:
Description of Proposed Project:

Re-grade the open area for improved vegetated channels and increased storage.
Adapt the area near the outlet to provide more detention in a balanced approach where any outflow occurs. Cover dumpsters, clean up trash, and provide signage. Offer 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

STEER Watersheds Assessment and Planning Project – Field Form  February 27-March 2, 2012
Create vegetated basins w/ low flow channels

Modify existing headwalls to hold more water

Create silt fences + clean upExisting bank

Legend

STEEP Flood Zone
Wetlands
Wells
WWTPs
Subwatershed: TURPENTINE RUN
Site Name: JOSEPH A ROMEZ 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 building 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 and discharging to gut. Gut is sprayed/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 to start w/ simple rain barrels on west side of gym near basketball court.
- Install bioretention 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
Subwatershed: Torrington Run

Site Name: New parking lot behind Curriculum Center

Description of Existing Conditions:

Installation of new gravel parking lot (?) to and adjacent to gut behind curriculum center. In-stream channelization and impoundment follow up w/ 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 reworking in conjunction w/ Joseph A. Gomez Elem. School projects.
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 Texas co near
intersection of 384 and 38. Road runoff is conveyed
with a shallow paved swale to a large inlet just
downgradient 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
cand directs it around 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:

Retrofit the road swale to keep runoff from flowing into fire station. Do onsite disconnection to mar/greent table and convert paved swale to vegetated channel. Might need to be lined due to superfund issues. Enlarge opening into road in N. Add trash rack.

Retrofit 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
Subwatershed: Turpentine

Site Name: VI Housing Authority (TR-18)

Description of Existing Conditions:

Large Parking AREA has a vehicle maintenance AREA (sheltered 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 direct 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 cess/possibly a 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:
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
2. pavement removal

Additional Notes and/or Sketch Information:

Site Priority:  ☐ Love it  ☐ Has Potential  ☐ Not Likely  ☐ Enforcement Needed
Subwatershed: Tempester Run

Site Name: Holy Family Church (TR-19)

Description of Existing Conditions:
Site is mostly impervious, building have a lower level sump that has overflow at time of inspection (light rain).
Two upper level CB type structures that discharge to the lower parking lot are 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:
Possible Rain Garden
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 basins, planters, and building. Plaza could also use retrofit

Superfund groundwater monitoring wells exist throughout the site — limit infiltration

Consider underground storage for changes in flow and filters to off-sewer system

Make sure car wash drains going to sanitary system

Additional Notes and/or Sketch Information:
What happens to rooftop drainage, cistern?
Subwatershed: Tree Run

Site Name: Tutu Park Mall (TR-21)

Description of Existing Conditions:

- Complex site - cisterns for some roof drainage
- Half of parking lot drains to a large detention basin in the back of mall in need of investigation
- Need to see as-built plans
- Some opportunity for biofiltration in western portion of lot near plaza area
- Convert lower lot near McDonald's to grass pavers for overflow parking
- Potential bio in road-Row by McDo's

Additional Notes and/or Sketch Information:

You could spend all day here retrofitting.
Subwatershed: TR.

Site Name: MERCHANTS COMMERCIAL BANK (TR-22)

Description of Existing Conditions:

Parking lot and adjacent road drain to northwest corner of lot. Convert ex. pervious area in corner to bioretention. Install a veg. swale along road row. Test overflow into ex. catchbasin.

Additional Notes and/or Sketch Information:
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 with drainage and improves aesthetics.

Site Priority: [ ] Love it [x] Has Potential [ ] Not Likely [ ] Enforcement Needed
Subwatershed: Turpentine Run

Site Name: Innovation Parking Lot & 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 dive units and other supplies. Discharge off pavement into stream valley.

TR-25 Tire repair and automotive waste (high exposure of fluids, metals, etc.) to stormwater runoff. Do a hotspot inventory and recommended pollution prevention practices.

Additional Notes and/or Sketch Information:

See aerial
Description of Proposed Project:

1. UNDERGROUND OIL SEPARATOR & SANDELLER IN BOTTOM COURTYARD
2. CISTERNS OR PLANTERS FOR ROOF TOP RUNOFF
3. LOOK FOR STORAGE CAPACITY & TREATMENT OUTSIDE OF STREAM CORRIDOR
4. Pervious PAVING IN UNDERGROUND IN UPPER LOT

Additional Notes and/or Sketch Information:

Site Priority:  
☐ Love it  ☐ Has Potential  ☐ Not Likely  ☐ Enforcement Needed