

BLACKBURN CREEK CDD

COMPLETE TRIBUTARY AND SWALE ASSESMENT REPORT **SEPT 2025**

Prepared for: Blackburn Creek CDD

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Sept 2025



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1.0 - SUMMARY:

Blackburn Creek CDD has requested an assessment of all of the tributaries and swales located throughout the Grand Palm Community. This assessment will be utilized by the Grand Palm Community's Master HOA and Blackburn Creek CDD for the following:

- 1. An exhibit for the HOA and CDD to utilize.
- 2. Implementing ongoing maintenance of the various stormwater systems that convey stormwater through the community.

Based on the assessment we will identify observed conditions and provide action steps to address the observed conditions.

BDi Engineering has engaged in extensive conversations with SWFWMD regarding work that may be taken within wetland tributaries and swales when there is an impedance to conveyance. SWFWMD guidance will allow for hand work to remove the impedance with the desire to leave the removed impedance somewhere within the wetland for natural degradation.

2.0 – OBSERVED CONDITIONS:

In Aug 2025, BDi Engineering completed a site visit to visually inspect the tributaries and swales where accessible.

The findings from the inspection are presented below:

- 1. Vegetation, vegetation overgrowth, and debris are the primary impedance to conveyance within tributaries and swales.
- 2. Observed multiple areas where the disposing of green waste into wetland and wetland setback areas has either happened or is ongoing.
- 3. Buildup of material at bridges incorporated into the footpath within the community.
- 4. Lack of regular maintenance at:
 - a. Grated ditch bottom inlets in swales and channels utilized in various areas of the community.
 - b. Skimmer boards that are not located within stormwater ponds.
 - c. Control structures that are not located within stormwater ponds.
- 5. Pipes and culverts under roadways impacted from vegetation and debris.
- . Invasive and exotic plant material are having impacts to conveyance of water
- . The drainage area between Collier PI and Sebring Ln is a designated as a dry retention area. Google earth timeline photos show that at start of development there was a definitive swale. Over time this swale has become filled with overgrowth and vegetation.

In general, water is conveyed through the various tributaries and swales of the community. We recommend multiple action items in the following section for the HOA and CDD to consider implementing to reduce the impact from the above-mentioned items.

3.0 – ACTION ITEMS:

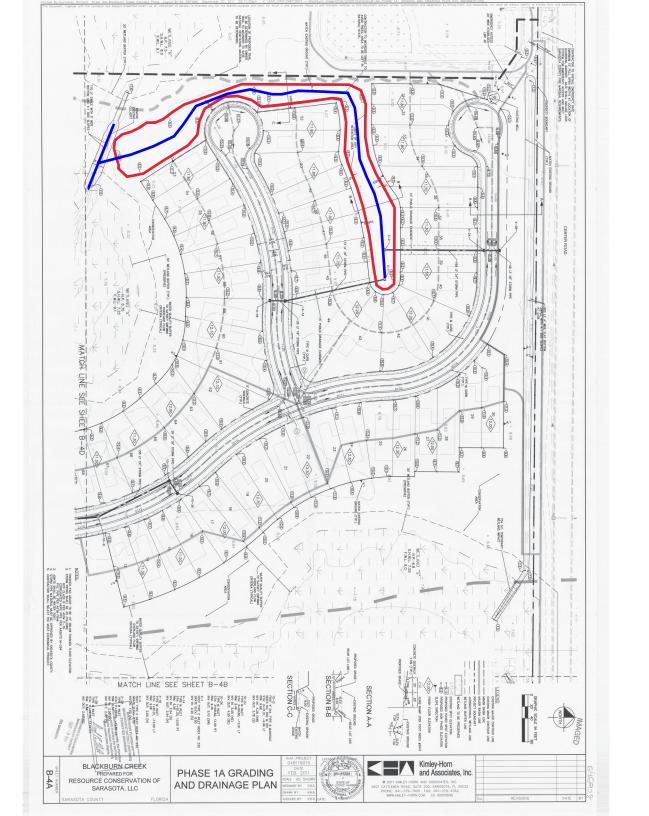
Based on our findings, BDI recommends the following action items be performed within the community to maintain conveyance of stormwater through the stormwater system, swales, and tributaries.

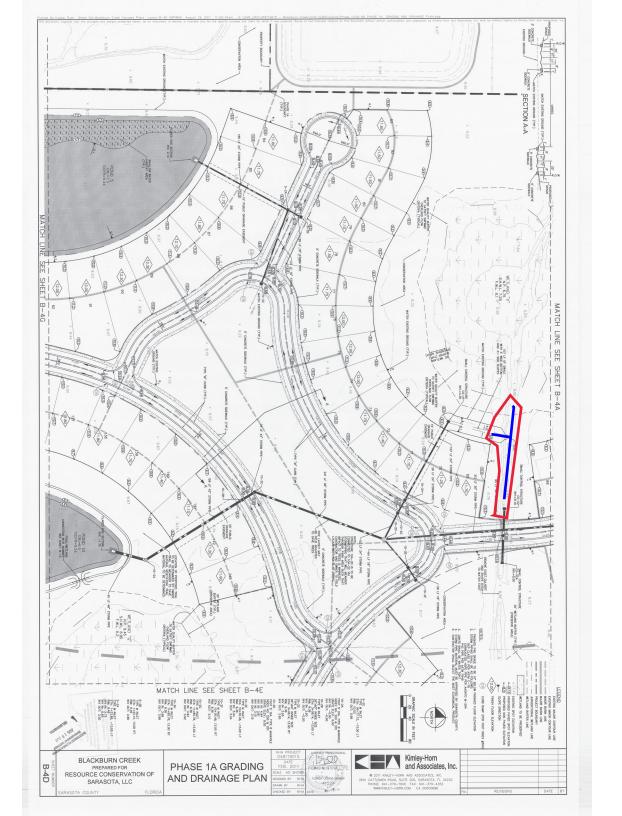
- 1. The community was developed in three phases. Recommend on a rotating basis between the three phases an ongoing annual inspection of the drainage conveyance system pipes, structures, swales, and tributaries in order to identify and mitigate issues at the earliest possible stage.
- 2. Each year in the phase that is due for inspection we recommend the removal of vegetation, vegetation overgrowth, debris, and sediment (if any), and address any structural deficiencies in the following components:
 - a. Control structures
 - b. Skimmer boards
 - c. Grated swale inlets
 - d. Drainage swales and channels
 - e. Tributaries
 - f. Footpath Bridges
 - g. Pipes and culverts under roadways
- 3. Implementation of regular maintenance of structures constructed outside of the stormwater ponds as part of the stormwater pond treatments. These are outflow structures, skimmer boards and grated inlets located in swales and channels. Generally, this includes maintenance of the vegetation at and around the structure and removal of debris on grates and skimmer boards.
- 4. Implementation of a program to address invasive and exotic species. This program would be focused on areas where. Based on available resources the program can focus on the areas where these types of plant material would have the greatest impact to conveying water through the community or can be a community wide program. Nonnative plants will be overbearing and aggressive and native plants are not overbearing nor are they aggressive. Native plants do not compete; they coexist within the plant community.
- 5. Recommend the HOA and CDD have regular and ongoing communication with the residents, contractors, and vendors regarding the importance of preventing vegetation, debris, and sediment from entering into the stormwater system. Implementing the following activities will help maintain the drainage system's ability to convey, attenuate, and treat the stormwater within the community.
 - a. Eliminate power leaf blowing of vegetation and debris into the street and drainage inlets.
 - b. Eliminate the disposing of green waste behind homes where wetland setback or wetland areas are located
 - c. Eliminate the disposal of green waste into wetland setback or wetland areas that are adjacent to maintained common areas.
 - d. Eliminate the application of excess mulch that is prone to movement during storm events.

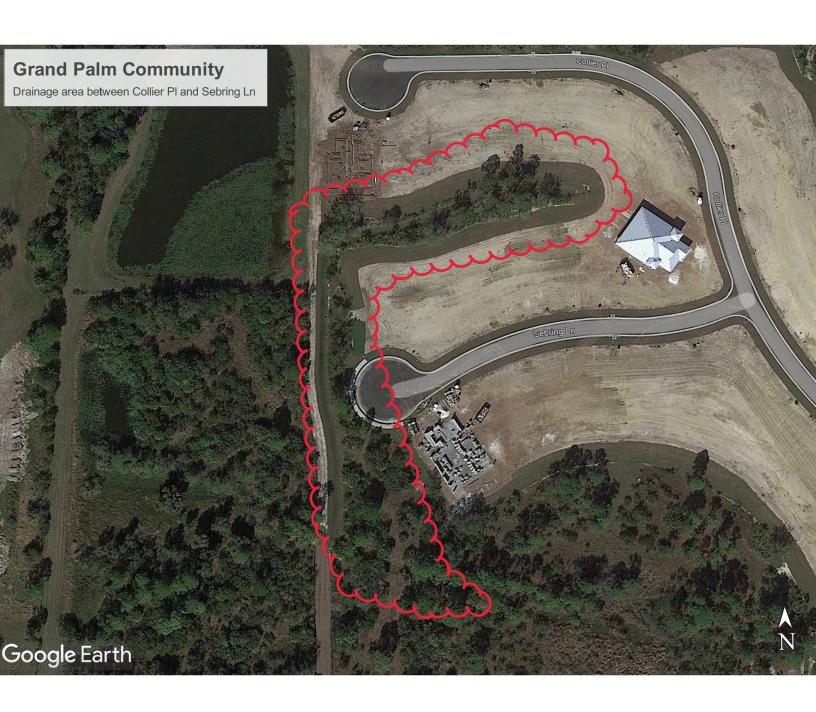
- d. Eliminate the application of excess mulch that is prone to movement during storm events.
- 6. The development of an ownership map that will provide an overview of the entire community and should include all pipes, structures, swales and tributaries, roadways, HOA maintained areas, county owned/maintained areas, bridges, footpaths and any other items the community and the engineering firm deem needed.

4.0 – LOCATIONS WITH URGENT NEEDS:

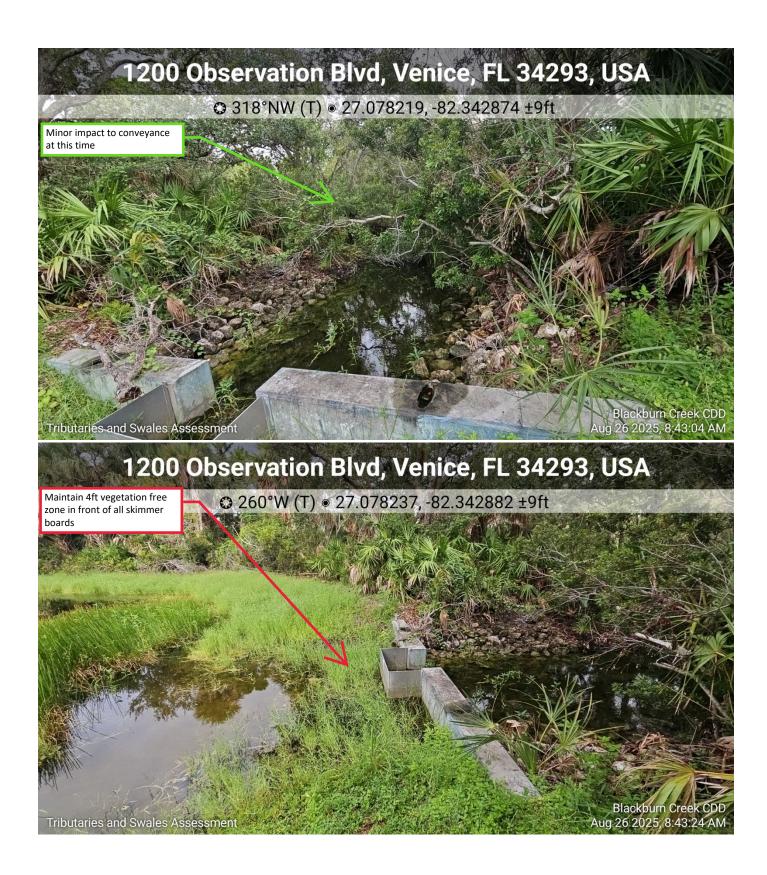
- 1. Sebring Ln and Collier PI Remove invasive, nuisance, overgrowth and excess vegetation in the dry retention area between Collier Ln and Sebring Ln. Leave larger trees and native understory vegetation. HOA and CDD will need to communicate with property owners about the impact of disposing green waste in this area. See the following plan sheets for project locations and limits
- 2. Callaway Ct Pipe Crossing Remove invasive, nuisance, overgrowth and excess vegetation in front of the pipe on the north side of the road.
- 3. Pond 12 Weir Restore weir notch opening to correct elevation. Review elevation in tributary that runs north of pond 12 to verify elevations ensure flow from west to east.
- 4. Pond 28 Bank There is a low spot in the pond bank that allows water to free flow into the tributary that runs south of the pond. Restore or increase the pond bank elevation to ensure the flow of water is out via the weir structure.







APPENDIX A Picture Examples of Observed Conditions



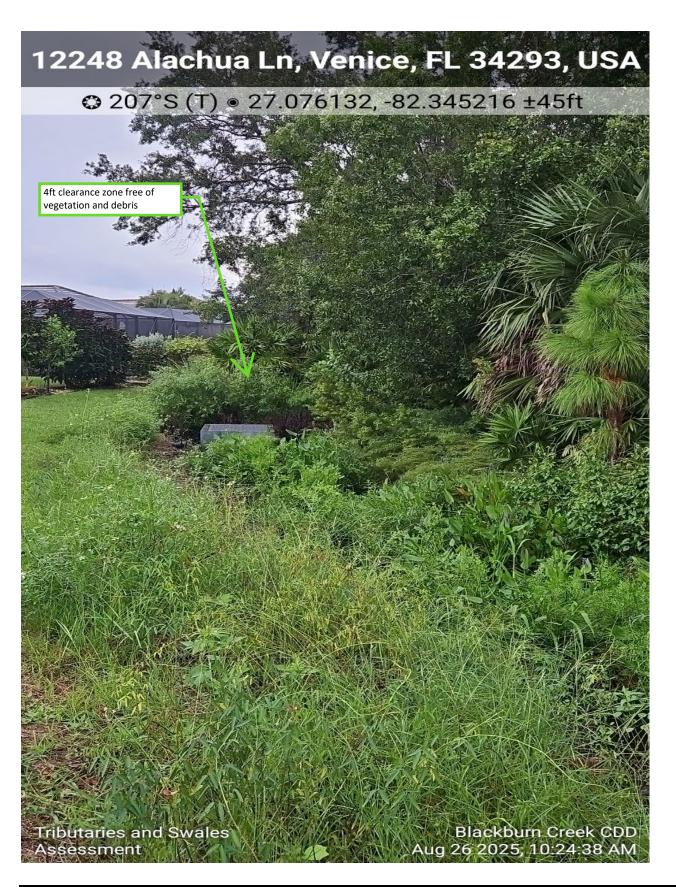


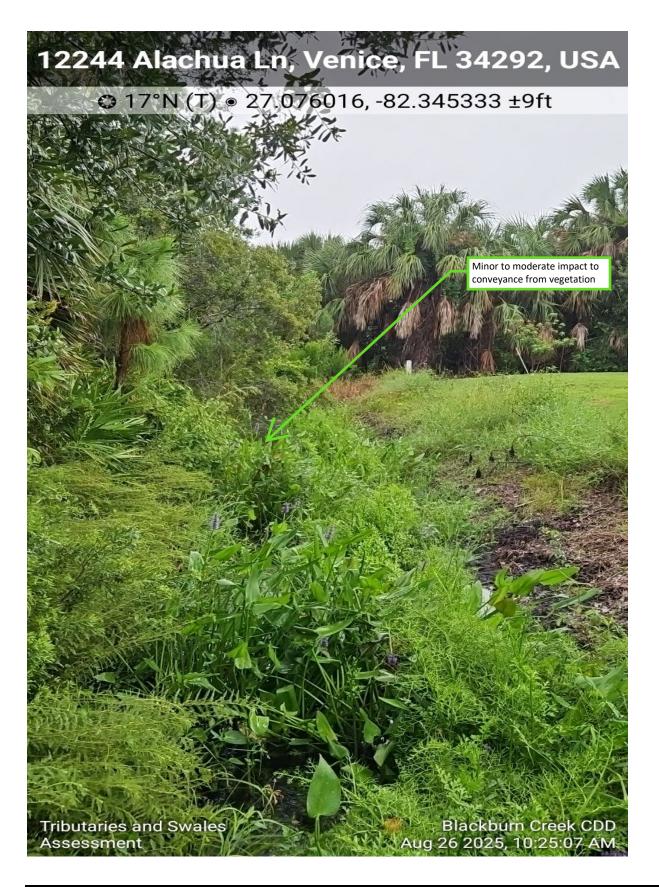




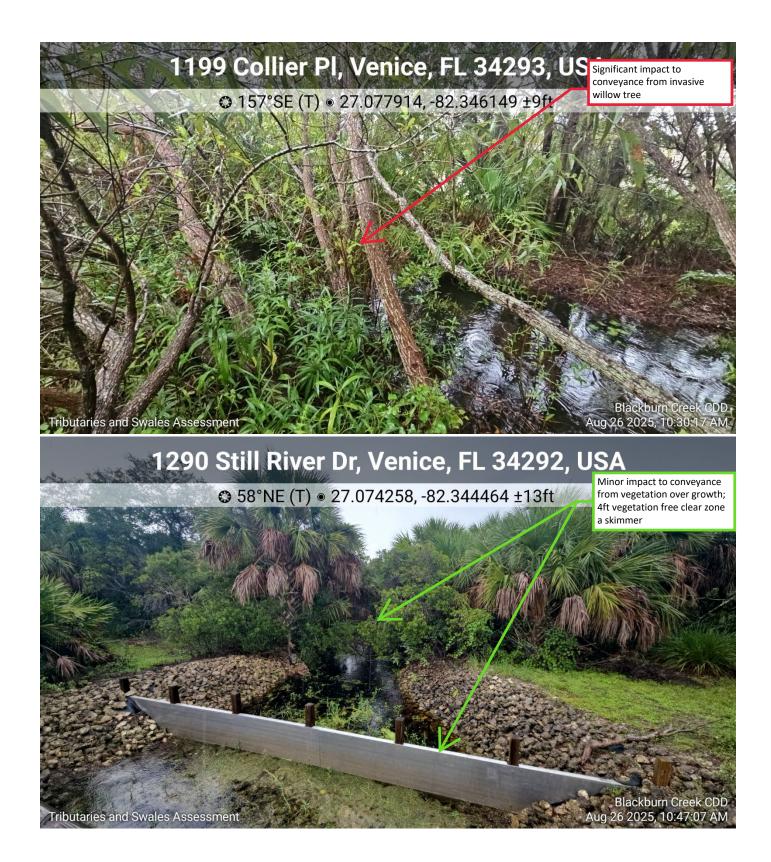












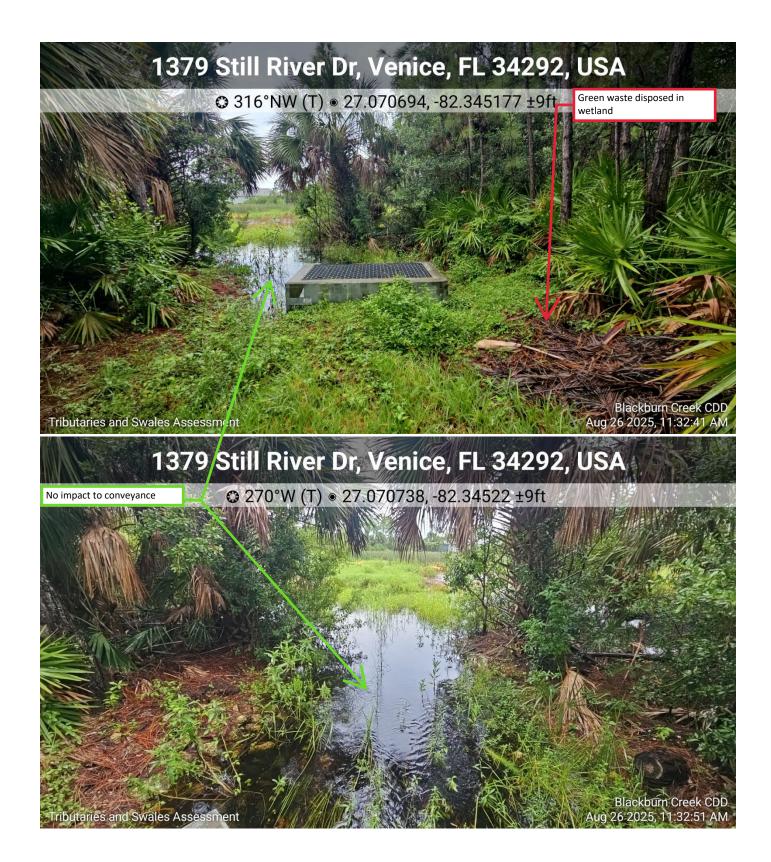












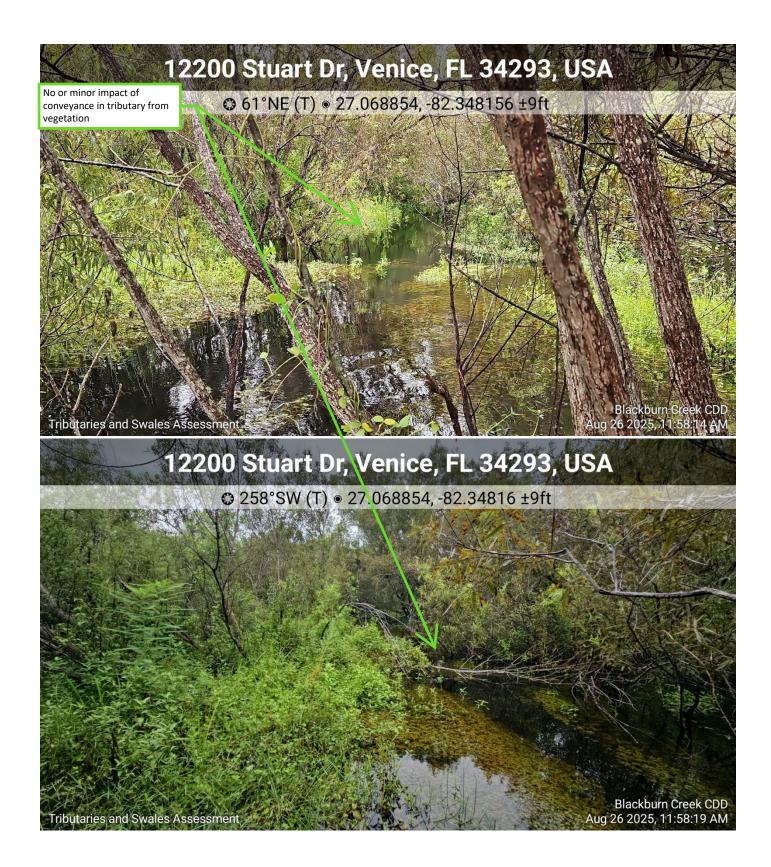


















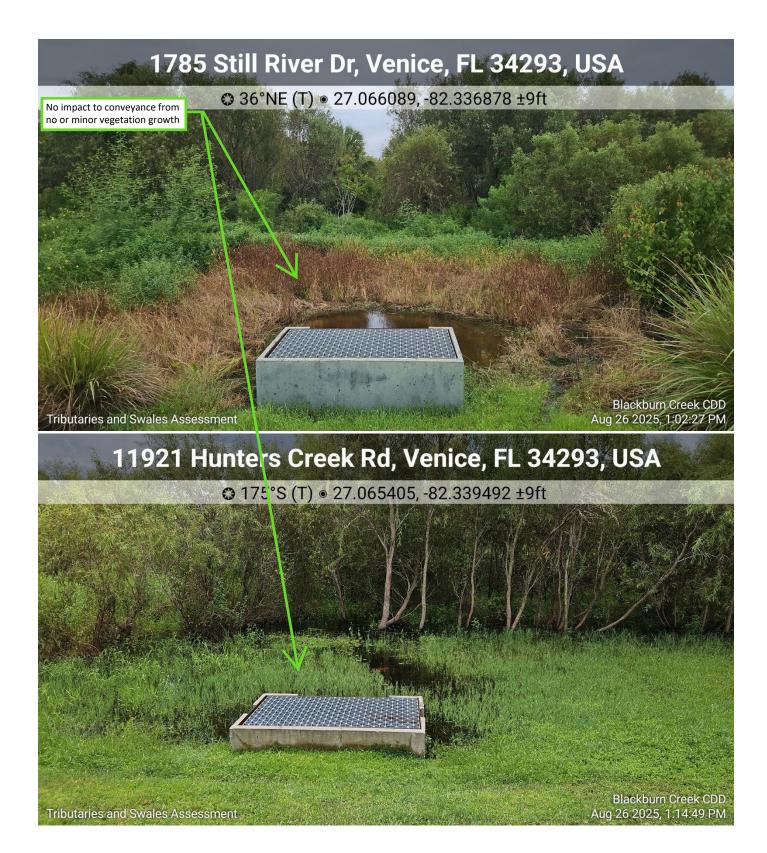




















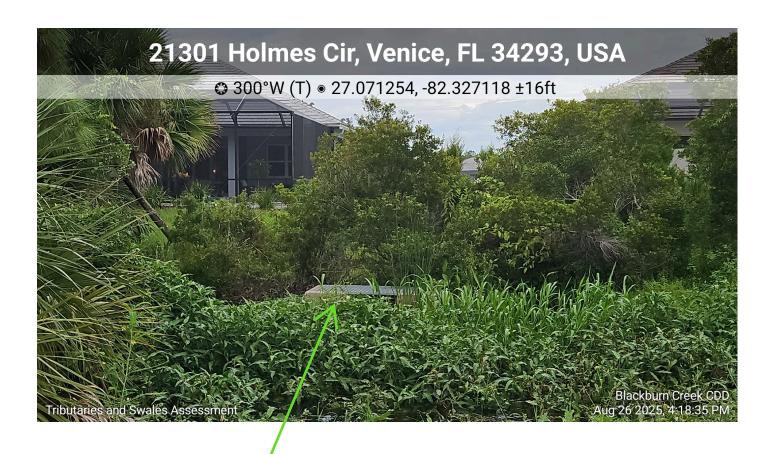






























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