

Drainage Report

For:

Main East Ditch, Lost Ball Drive, Pitching Wedge Way, & Dog Leg Drive

Prepared for:
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Executive Summary

Polston Engineering again has been contacted to provide an assessment and report for four areas of drainage concern. Some of these areas are adjacent and have some overlap from the previous report's areas of concern. These areas include the Main East Ditch, Lost Ball Drive, Pitching Wedge Way, and the southernly portion of Dog Leg Drive.

The first area, the Main East Ditch, conveys water from all of the easterly basins along the edge of Golf Hammock. It also conveys some stormwater runoff from the north and Sebring Hills South. It appears this ditch was constructed during the early stages of development of Golf Hammock. The main concern for this area was that it needed to be maintained and cleaned.

Lost Ball Drive was assessed again, in a different area than before. It was looked at as a potential conveyance way for water from the intersections of Dog Leg Drive and Pitching Wedge Way. LIDAR was used to help determine the existing elevations to see if it would be possible to send water down Lost Ball. Initial findings show that it could be a viable path for water to flow. Issues come up with road crossings if we use that path.

The third area of concern was Pitching Wedge Way. This area was reported to suffer from similar issues as Lost Ball Drive, water standing in certain areas of the road side ditch. This area was designed for water to flow from east to west down the slope towards Hammock Park. Utilizing the same LIDAR data it shows some undulations in the elevations near the intersection with Lost Ball Drive. This undulation is approximately 6 to 8 inches of rise. This is enough to stop and hold flow in the ditches. Combine that with the driveway elevations as they cross the ditch, and it provides a clearer explanation as to why the ditch is holding water at times.

The last area assessed was the southerly portion of Dog Leg Drive. The main area of concern with this area was also water standing in the ditch in some areas. This road is experiencing similar issues as Pitching Wedge Way. The easterly portion of road near Lost Ball Drive has the same undulation close to the intersection. This also explains some of the standing water in Lost Ball Drive. The high area is only 7 to 8 inches above the adjacent area to the east, which is causing water to stay near the intersection. It currently has no where to go until it stages above the high spots.

Additional details can be found in the report to follow.

Main Easterly Ditch

The main area of concern with the Main Easterly Ditch was the need for maintenance. This ditch is responsible for the conveyance of stormwater from all of the basins on the easterly side of Golf Hammock. All ditches, culverts and ponds drain to this ditch. The ditch flows water to the south till it gets to Hammock Road. Hammock Road then conveys it east towards Lake Jackson.

The site assessment was conducted on March 25th, 2022. The total approximate length is 5,230 feet. The condition of the ditch varied greatly depending on the area inspected. Some areas appeared to have had very little overgrowth of vegetation and the slopes were clean and appeared to be in good order. Other areas the slopes and bottom were overgrown with vegetation and hard wood plants and the bottoms appear to be silted in. Some areas had undulations of grade causing water to pool in the bottom of the ditch and not seem to flow at all.





The two above pictures show the area of the ditch near Hammock Road. The ditch bottom has evidence of silting and its fairly dry compared to other areas of the ditch.





These two pictures show the area close to the cul-de-sac of Cormorant Point Drive. The slopes are fairly clean of overgrowth, but the bottoms are wet and have some signs of silt build up.



This picture depicts the area of the ditch near Fairway Road. Vegetation is more prevalent on the Sebring Hills side of the ditch than the Golf Hammock side. The bottom has signs of silting in.



This picture depicts the City water main crossing of the ditch.



Complete vegetation overgrowth of the ditch area.



Moderate overgrowth of the ditch area as well as silting and build up in the ditch bottom.



The above pictures depict overgrowth of vegetation on the banks.



A tire is in the bottom of the ditch in the picture above. This was not the only instance a tire was seen in the ditch bottom.





These pictures of the ditch were approaching the northerly end of the ditch.

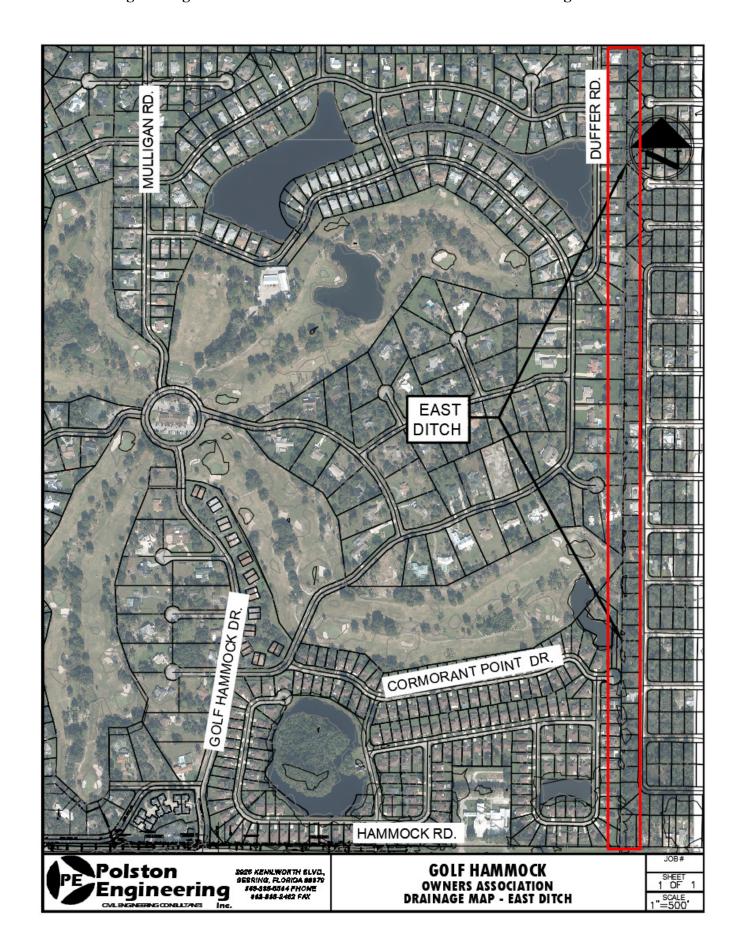
The recommendations for the main east ditch are for it to be cleaned and the bottom reshaped. No major obstructions were noted during the on-site inspections. It appears the vegetation is overgrown in some areas. The abundance of vegetation contributes to silting in and blockages over time. Leaves and branches fall into the ditch and build up and can bunch together and create blockages in various locations along the ditch path. One notable location is the water main crossing. It is possible this area can get blocked during heavy rain events if any debris get washed against the pipe. The information about the blockages was also mentioned by resident John McAngus at 3415 Par Road.

Methods of cleaning the ditch would be removal of the silts at the bottom of the ditch and mechanical removal of overhanging vegetation. This would include saw cutting and trimming of the vegetation. Root ball removal, especially in the banks of the ditch, would not be recommended. This vegetation also stabilizes the slopes of the ditch. Exact methods of this work will need the input of the contractor that will be hired for the work. The majority of the ditch is also appears to be located within the rear easements of the lots along Sebring Hills. Cooperation with the Sebring Hills HOA may need to be coordinated at the time of any maintenance.

No major blockages were noted at the time of the on-site inspection. Some erosion was noted near the outfall pipe north of the cul-de-sac of Cormorant Point Drive. It would be recommended



to have the slope restored and rip-rap installed in this area to prevent further erosion. It would be beneficial to plan for ditch cleaning maintenance work, but it does not appear to be an emergency to have done immediately.



Lost Ball Drive

This area was once again reviewed for potential conveyance possibilities to drain water away from the intersections of Dog Leg Drive and Pitching Wedge Way. The slope of the road and adjacent ditches are good to utilize the westerly path along Lost Ball Drive for conveyance. The main issues are the crossing of Pitching Wedge Way and Dog Leg Drive as well as the numerous driveways. If we wanted to cross the intersections, culverts would need to be constructed to direct the water across. The cost for a new culvert crossing, depending on the length of pipe needed, would likely be \$15,000-\$25,000 each crossing. This may not correct the water mounding in the ditch by itself. Its possible sock pipe may also need to be installed to convey the water around the driveways and undulations in the ditch paths.

The next hurdle in this area is the existing inlet and culvert crossing. This was mentioned in the previous report. The inlet and culvert appear to be in working order, except needing minor maintenance, the issue was it had no visible outfall. The culvert dumps the water into a side lot ditch and ends with a large oak tree. We may be able to get the water to move from the road side ditch and into that inlet, but we may create a problem down stream if we do not address it as well.

Lost Ball Drive (Between Dog Leg Drive & Lost Ball Court)

The road side ditch on the westerly side of Lost Ball Drive between Dog Leg Drive and Lost Ball Court was assessed for drainage improvements due to water standing in the ditches in the area. It appears some of the existing ditch area is not exactly uniform along the road. It has some high spots that may be causing some backups and allowing the water to pond. Depending on the exact driveway dip grades, it may be possible to do some ditch cleaning and reshaping in the area to get the water to flow better. If the driveway dips are irregular or one that is downstream is higher than one up-stream it may create more issues if the ditches are just cleaned. The alternative of sock pipe may also work in this case. The LIDAR shows a general slope to the south, but it also depicts a low spot of 4 to 5 inches on the south east lot corner of 2563 Lost Ball Drive. This is not an exact measurement due to potential errors in the LIDAR data at the scale we are using it at, it would be recommended that survey data was collected and reviewed before making any final decisions.

The potential risk involved with sock pipe would be additional flows to the ditch just north of 2800 Lost Ball Drive. As mentioned earlier, the ditch does not appear to have an outfall location. If additional flows are sent, it may cause water to stand in the ditch for extended periods of time or create a flooding condition in someone's yard that is currently not happening.

An alternate to these scenarios could be to extend the future sock pipe along Pitching Wedge Way and Dog Leg Drive across the road along Lost Ball Drive. If the grades allow, the sock pipe could potentially reach the problem areas near the intersections. This could help reduce the amount of total installed sock pipe. This scenario relies on topographic data from a survey showing that it would work and the proper amount of fall existed between the problem areas and the discharge location to the west.



This is the view south along Lost Ball Drive. Main area of concern is on the right of the road. The ditches appear to be fairly shallow and may have some undulations.



Another view south



The picture to the left depicts the road view north along Lost Ball, just north of Lost Ball Ct. The picture to the right depicts the view south in the same area. It also depicts the potential tie-in inlet for the sock pipe option.



Pictures of Culvert Crossing and Side Ditch from Previous Report

Work in this area is not recommended without fully addressing the down stream issues. Sending more water to an area without an outfall will likely create more problems.

Pitching Wedge Way

The road side ditch along Pitching Wedge Way, namely the north ditch was named as an area of concern with water standing in the ditch for extended periods of time. It was asked if cleaning the ditch would alleviate the issues in the area. It does appear the ditch bottom is higher than the driveways in a number of yards along the road. Cleaning the ditch in this area may help, but its possible it could also then make the driveways the catchment location causing more visible water to stay in the ditch areas. The suggestion was made to install sock pipe similar to that was used on Duffer Road. It appears there are inlets at the end of each side of the block to tie a sock pipe into. This may be a viable option if grades allow it to flow and operate properly. It is recommended surveying be done to verify grades at each end and along the path to determine if it will function as intended.



The above image depicts the ditches and driveway dips along Pitching Wedge Way. The ditch areas are fairly shallow, and the driveway dips vary in depth. Both of these items can promote ponding in the ditch areas.

The intersection of Pitching Wedge Way and Lost Ball Drive was also inspected again. It was believed this area had a rise in it as it went west down Pitching Wedge Way. LIDAR of the area verified this case.



The above image depicts point elevations provided by LIDAR from SWFWMD. The rise is approximately 6 inches along the first lot on Pitching Wedge Way. This is likely the cause of the standing water at the intersection ditch to the north.

Dog Leg Drive (Southerly Segment)

The southerly portion of Dog Leg Drive was the last area requested to be assessed for similar drainage issues as Pitching Wedge Way. Water standing in the ditches near the intersection of Lost Ball as well as the ditch run to the west. A similar scenario was discovered when looking at the LIDAR data and the condition of the ditch and driveway dips. The LIDAR shows a rise from the intersection of Lost Ball Drive to the end of the first lot of approximately 7 to 8 inches. This explains the water occasionally standing at the northerly ditch at the intersection. This area was also examined for the potential for sock pipe to convey the water to the west. It appears the fall is 3 to 4 feet, which does give the possibility of using sock pipe. This would also need to be verified by survey data, to make sure the tie in location at the end is low enough to take the water.



The above image depicts point elevations provided by LIDAR from SWFWMD. The rise is approximately 7 inches along the first lot on Dog Leg Drive. This is likely the cause of the standing water at the intersection ditch to the north.



The above image depicts the ditches and driveway dips along Pitching Dog Leg Drive. The ditch areas vary from shallow to somewhat flat, and the driveway dips vary in depth. Both of these items can promote ponding in the ditch areas.

The recommendations for the areas of Dog Leg Drive and Pitching Wedge Way, listed in this report, are mostly complaint driven responses. Assuming the described water ponding is reoccurring each rain season, it may require sock pipe to convey the water away from the low spots along the ditch. If the ponding only last 24 to 48 hours it could be considered nuisance water and not an emergency to address. That being said, it still may be in the best interest of Golf Hammock to address the standing water to help reduce mosquito breeding areas and to keep grass from dying each season in the right of way.

