MADDEN
MOORHEAD & STOKES, LLC
CIVIL ENGINEERS

February 05, 2025

Howey-in the-Hills Town Hall
Attn: John Brock
101 N. Palm Ave.,
Howey-in-the-Hills, FL 34737

RE: Lake Hills – Main Boulevard & Mass Grading

Dear John:

Below please find our responses to those comments.

General Comments

Comment 1: Additional comments may be added to these with the reviews of subsequent submittals.

Response 1: Acknowledged.

Comment 2: This work will require various permits from SJRWMD, Lake County, FDOT, FDEP, FWC, COE. Provide copies of the applicable permits & approvals before commencing work on the site.

Response 2: Acknowledged. All permits and approvals will be provided to the Town upon receipt.

Traffic & Transportation

Comment 1: The intersection on SR 19 created by this project, Lake Hills Commercial, and Thompson Grove will most likely require a traffic signal in the future. The need for the signal is fully due to the traffic generated by these developments. Accordingly, the costs for the construction and the ongoing operation and maintenance of the traffic signal should be the responsibility of the developments.

Response 1: A traffic study was prepared for the Lake Hills Residential development that notes the trips generated from our development do not warrant a traffic signal. Traffic signal design and implementation will be at the discretion of the Lake Hills commercial development. Lake Hills Residential has been an active

participant and is aware of a potential cost share for the improvements required at the S.R. 19 intersection.

Comment 2: In lieu of a signalized intersection with full right & left turn lanes at SR 19, a roundabout should be considered. The developers of Thompson Grove and Lake Hills, in coordination with each other, the Town, and FDOT, should explore the feasibility of that alternative.

Response 2: Lake Hills Residential has been an active participant in the discussion for a roundabout at the S.R.19 and C.R. 48 intersection. The developer has explored and is aware of a proportionate cost share for any improvements based on the trip generated by the Residential Development.

Comment 3: This project should provide a proportionate share contribution towards the construction of the roundabout at the intersection of SR 19 & CR 48.

Response 3: Lake Hills Residential has been an active participant in the discussion for a roundabout at the S.R.19 and C.R. 48 intersection. The developer has explored and is aware of a proportionate cost share for any improvements based on the trip generated by the Residential Development.

Tree Protection Plan

Comment 1: The tree protection table calls for 231 trees to be saved. All of the saved trees must be clearly identified on the tree protection plan.

Response 1: Additional tree save plans have been provided at a closer scale so trees being saved are easily identifiable. See new sheets C009-C012.

Comment 2: Add a note to the plan that site grading shall not commence until all of the saved trees are properly protected and inspected by the town.

Response 2: Sheet C002 General Notes #26 has been added to indicate no site grading until trees are protected and inspected by the town, and that trees are to be protected throughout construction. Note has also been added to all Grading Plans sheet C400-C418.

Comment 3: Add a note that tree protection shall be maintained throughout construction.

Response 3: Sheet C002 General Notes #26 has been added to indicate no site grading until trees are protected and inspected by the town, and that trees are to be protected throughout construction. Note has also been added to all Grading Plans sheet C400-C418.

Mass Grading Plan

Comment 1: Add a sheet of the overall grading plan with the future roads, r/w's & lots turned on.

Response 1: ***A mass Grading exhibit is provided with this submittal, which includes all proposed roads, R.O.W.s and Lots associated with future phasing.***

Comment 2: What is the purpose of the environmental swale?

Response 2: ***Environmental swales will be utilized during mass grading. Since there will be phases to this project, many of the mass graded areas will exist as disturbed ground long before roads and lots will be built on top of the mass graded areas. Excessive erosion is a concern with the site's topography. Approximate locations of environmental swales are shown to minimize the erosion resulting from the multitude of slopes.***

Comment 3: The portion of the boulevard at CR 48 is proposed to be built over an ancient sinkhole. The road, trail, and portions of proposed lots are within the Recommended Safe Setback as depicted in the geotechnical report. The report states that additional deep test borings will be needed, and a plan for sand/cement grout injection needs to be prepared. Provide the recommended analysis and incorporate its findings into the construction plans.

Response 3: ***Grading plans have been updated to denote the approximate limits of the ancient sinkhole see sheet C400, C411, and C500. The callout includes reference to the latest and Greatest geotechnical report provided by Yovaish Engineering Services. The report is subject to change based on the additional testing to occur at the time of construction, contractors are required to utilize the most recent information available when conducting the grout injections to this area.***

Comment 4: Does the on-site earthwork balance? Will there need to be any import or export of material? If so, identify on the plan proposed dump truck access points and off-site haul routes.

Response 4: ***The onsite earthwork is intended to balance. If any import is required at any greater volume than anticipated, a haul route will be provided from the contractor prior to construction.***

Comment 5: Add a note on each grading plan page that all exposed areas will be seeded & mulched upon the completion of the grading of that area, and that the seeded areas will be watered and maintained until a viable ground cover is established.

Response 5: Note has been added to all grading plan sheets C400-C418.

Comment 6: Modifications to the FEMA flood lines due to the proposed grading will need a LOMR submitted post-construction to update the flood maps.

Response 6: Acknowledged. FEMA areas are identified and a CLOMR will be applied for first then LOMR post-construction.

Comment 7: Provide a typical detail for the proposed retaining walls & handrail. The walls will need to be designed and permitted structures.

Response 7: Additional note was added to sheet C002 regarding retaining walls noting they will be designed and permitted separately. The typical section on sheet C400 has been revised to show a minimum 42" handrail for any wall greater than 30".

Main Boulevard

Comment 1: Lake Hills PUD should be designed as a Complete Streets, pedestrian friendly community.

Response 1: An overall pedestrian exhibit is provided to easily identify pedestrian transit throughout the site.

Comment 2: Provide crosswalks in all directions on the four leg intersections of the boulevard (see Howey detail R-1A). The intersection geometry and crosswalk layout needs to conform to the town standard.

Response 2: Standard crosswalks are provided parallel to the boulevard where intersections are proposed. In lieu of standard crosswalks beings provided at all intersections, raised crosswalks are provided at equidistance throughout the spine road to allow crossings perpendicular to spine road.

Comment 3: Provide raised crosswalks at the following locations: 119+25, 130+18, and 147+25 (See Howey detail R-1B).

Response 3: Sheets C600-C602 has been revised to include raised crosswalks near STA 114+00, STA 130+00, STA 147+00.

Comment 4: The minimum corner radius at intersections is 35'.

Response 4: ***Geometry plans sheet C100-C103 have been revised to show a 35' radius for the driveways connecting to the main spine road.***

Comment 5: The side streets at Sta 114+00 and 139+25 are misaligned. Adjust the geometry so the side street centerlines are lined up, and are perpendicular to the boulevard's centerline.

Response 5: ***Side street alignment at STA 139+25 has been revised on sheet C102 to align perpendicular to the spine road. Side street at STA 114+00 is currently shown at with an 8˚ intersection deflection angle, FDOT Design Manual 212.7 Lane Shifts identifies within Table 212.7.1 Maximum Deflection with a 30 mph design speed at 8˚. In addition, centerline alignment remains aligned through the intersection.***

Comment 6: Why does the boulevard need two inbound lanes at its connection to CR 48? It seems that this will create vehicle conflicts as it quickly merges into a single lane.

Response 6: ***In bound lane from C.R. 48 has been reduced to 20' minimum required for fire access. See sheet C100 for revised geometry and sheet C016 for revised typical sections.***

Comment 7: Stripe storage lanes and show turn arrows at both ends of the boulevard (CR 48 and SR 19)

Response 7: ***6" white stripe has been added to the storage lanes at the connections to C.R. 48 and S.R. 19. Please see sheets C600 and C602 for revisions.***

Comment 8: How will CR 48 drainage be handled at the new intersection?

Response 8: ***An inlet has been added on sheet C301 to bypass runoff resulting from the road drainage on C.R. 48 across the proposed driveway.***

Comment 9: On both ends of the boulevard, extend the sidewalks to tie into the curb ramps and crosswalks at the entrances.

Response 9: ***Sidewalks on both ends of the boulevard have been revised to extend into the proposed curb ramps and crosswalks at the entrances. See sheet C100 and sheet C103 for revised geometry.***

Comment 10: The geotechnical report recommends over-excavation of low permeable soils along the road from Sta 100+50 to Sta 108+50. Incorporate the report's recommendations into the construction plans.

Response 10: ***Sheets C500-C501 have been revised to show over excavation of unsuitable materials to be hauled offsite. The callout includes a reference to the latest***

edition of the Geotechnical report for recommendations and procedures during site construction.

Comment 11: Provide plans for SR 19 improvements at the boulevard connection.

Response 11: Possible improvements for S.R. 19 are being shown on sheet C103. The Lake Hills commercial project and FDOT have an ongoing discussion regarding the improvements required for this intersection. Currently Sheet C103 shows only what is required for the Lake Hills residential project. The Lake Hills residential project has been involved in the discussion of a cost share agreement.

Comment 12: The town's standard for curb inlets are FDOT Type 5 or 6 (detail R-14). Adjust the plan accordingly.

Response 12: Curb inlets have been revised see sheet C301 - C305.

Comment 13: Add the following town details to the plan: raised crosswalk (R-1B), sidewalk (R-16 & R-16A), curb ramp (R-15 & R-15A), street sign (R-20).

Response 13: See sheets C939, C940, and C941 for additional details.

Comment 14: Provide a construction detail for the trail. If concrete is proposed, it needs to address contraction and expansion joints.

Response 14: Sheet C016 has been revised to denote specifications for the trail. The trail is proposed to be asphalt.

Comment 15: The plan needs to address traffic control (vehicle & pedestrian) at the locations where the trail crosses a roadway.

Response 15: A raised crosswalk with advanced warning signs has been added to sheet C600-C602 where the trails cross the main spine road. An overall pedestrian exhibit is provided with this submittal.

Comment 16: The sidewalk along the Publix frontage should not be placed at the back-of-curb. Provide a 4' vegetated strip between the curb and the sidewalk.

Response 16: Per discussions with Don Griffey, where the R.O.W. width permits, a 4' vegetated strip is provided between the curb and sidewalk. See sheet C103 for the revised section.

Comment 17: Change the call outs for storm pipes in the Plan & Profile sheets to RCP.

Response 17: The storm pipes are intended to be HP pipes. RCP is noted as an approved alternative on sheet C305.

Comment 18: A portion of the storm pipes is missing on sheet C502.

Response 18: Sheet C502 has been updated to include the bypass pipe that bisects the R.O.W. pipes and structures beyond the limits of the R.O.W. are denoted in plan view.

Stormwater

Comment 1: The plan needs to show that Pond 5 is to be over-excavated. Add the recommendations from the geotech report to this sheet.

Response 1: Sheet C904 has been revised to show the approximate limits of the over excavation and the recommendation provided by the Geotech report.

Comment 2: The proposed contours are missing in several of the pond grading details.

Response 2: Pond grading details have been revised to show the full extent of the proposed Ponds.

Comment 3: The cross-sections in the pond grading details need to be revised to accurately reflect the existing and proposed grades.

Response 3: All pond grading details have been updated to reflect the existing grade relative to the pond cross section.

Comment 4: Show details of the pond berms matching the geometry specified in the geotechnical report. Add the recommendations from the geotech report to the plan.

Response 4: Berms are designed to meet the specifications outlined in the Geotechnical Report. A call out has been made to reference the latest edition of the Geotechnical Report for procedure and recommendations during site construction.

Comment 5: Provide compensating storage calculations for any flood plain encroachment.

Response 5: No compensating storage is required for this project. Wetland Node W-3 in the predevelopment analysis is within a floodplain Zone A. A Pre/Post reduction in the wetlands max stage for a 100-year storm is shown such that no impacts occur to the floodplain.

Potable & Irrigation Water

Comment 1: Provide an overall master plan for the water & irrigation system.

Response 1: ***Overall utility exhibit is provided with this submittal.***

Comment 2: Provide plans & details of the irrigation water supply system.

Response 2: ***The final irrigation system is being designed by Halff and will be submitted under a separate cover.***

Comment 3: Add a prominent note to the utility & road plans that valves are not to be placed in curb lines or in curb ramps. Adjust the depiction of the valves on the plans to show them outside of curbs and curb ramps.

Response 3: ***Notes have been added to sheets C201-C204;C500-C506 to denote that no valves are placed underneath curb ramps and curbs.***

Comment 4: Call out air release valves at the high points of the potable & irrigation mains.

Response 4: ***Air release valves are called out on sheets C201-C205;C500-C506.***

Comment 5: Show valves along the proposed potable & irrigation water mains. Provide at least 2 valves at every juncture and, at a minimum 500' spacing along the mains.

Response 5: ***Valve locations are shown on sheet C201-C205 at a minimum spacing of 500' and at least 2 valves at every junction.***

Comment 6: The offsite water main tie-in is not depicted correctly. Refer to the Yard Piping Plan (attached) for reference. Update the plans to reflect the current layout of the water treatment plant.

Response 6: ***Sheet C753 has been revised to show the current Plan for the towns Water treatment plan and a revised connection has been made.***

Comment 7: The offsite water main plan needs to include a water main along SR 19 from the town's new water plant to the boulevard.

Response 7: ***The offsite watermain that will extend south along S.R. 19 will be put in by the Lake Hills commercial development.***

Comment 8: The town's water master plan calls for 12" mains along CR 48 & SR 19, and a 10" main along the boulevard. The submitted plans and water calculations show 8" mains at these locations. Modify the plans to show a 12" main along CR 48 & SR 19. The water main along the boulevard is under further review by the town's utility consultant to assess the differences between to two plans & calculations.

Response 8: ***The demands of the residential project support an 8" WM. If the city requests a 10" WM we will gladly upsize the proposed WM for the impact fee credits associated to upsizing.***

Comment 9: Call out Bac-T testing locations for the potable system.

Response 9: ***A sample point plan for Bac-T testing will be provided to the town during construction and application for FDEP clearances.***

Wastewater

Comment 1: Provide an overall master plan for the wastewater system.

Response 1: ***An overall utility exhibit is provided with this submittal package.***

Comment 2: The wastewater collection system in the main boulevard will likely receive future flows from offsite properties along SR 19. Also, the force main will likely have a future tie-in from offsite properties along CR 48. Provide analysis to determine if the wet well volume of lift station 1 and the force main size are adequate to handle the additional, future flows.

Response 2: ***Calculations within the Lift station report are provided to identify the additional capacity for the sewer, force main, and lift station pump under the current condition. If any upsizing is required, real time flows should be evaluated and a proportionate cost share for the improvements are to be considered.***

Comment 3: Who will own and maintain the offsite forcemain?

Response 3: ***The town will own and maintain the force main from the lift station up until the property line of Mission Inn, wherein the CDD will own and maintain the force main. A gate valve has been placed on the R.O.W. line on sheet C754 to denote where the transition of ownership is to occur.***

Comment 4: Lift stations need to meet the town's standard detail and construction specifications manual. The pumps need to be Hydromatic with recessed impellers and capable of passing 3" solids.

Response 4: ***Acknowledged. The proposed pump is a submersible pump that possesses a discharge diameter of 4".***

Comment 5: Call out air release valves at the high points of the force main.

Response 5: ***Utility plan and plan and profiles have been revised to show air release valves along the FM at high points. See sheet C201, C204, C500, and C506.***

Comment 6: Call out plug valves at a minimum 1,500' spacing along the force main.

Response 6: Plug valves have been added every 1500' along the force main see sheet C201, C755,

Comment 7: Call out drop manholes for structures with inflow pipe inverts greater than 24" above the outflow invert.

Response 7: See Sheet C205 for Drop Manhole Description.

Comment 8: Adjust the configuration of the Yard Plan on sheet C920 to match what is being proposed. Also, check it against town detail WW-10 for discrepancies. If there are conflicts between the two, the town's detail shall prevail.

Response 8: Yard Plan has been revised to match what is being proposed. See sheet C920 for revision.

Comment 9: Portions of the sewer pipes and manholes are missing on sheet C204 and in the profile on sheet C506.

Response 9: See Sheets C204 and C506 for additional structures identified.

If you have any questions, please don't hesitate to contact our office.

Sincerely,

David A. Stokes

David A. Stokes, P.E.
President

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