

February 21, 2018

Midway City
Attn: Michael Henke
75 North 100 West
Midway, Utah 84049

Subject: Midway Springs, Phase 1 Preliminary, and overall Master Plan Approval

Dear Michael:

Horrocks Engineers recently reviewed the above development plans for Master Plan Approval, and Preliminary Approval for Phase 1. The proposed development is located near 200 East and 600 North. The proposed development is 50.75 acres and contains 97 lots. The following issues should be addressed.

Wetlands

The development contracted with BIO-WEST to determine the extent and location of the existing wetlands. The wetland delineation was done in two separate delineations. The first delineation covered ground within Phase 1 and partially covering a portion of the proposed Phase 2 and the north corner of the proposed Phase 3. The second delineation covered the majority of the remaining site. However, the very southern portion of the proposed Phase 3 property, adjacent to the Philpot property, has not been delineated. The developer is currently showing this un-delineated property as wetlands.

The first delineation was submitted to Watts Enterprises through a letter dated, September 23, 2016. The second delineation was submitted to Watts Enterprises through a letter dated, June 1, 2017. Only the first delineation has been submitted to the US Army Corps of Engineers. On December 22, 2016 the US Army Corps of Engineers provided a Jurisdictional Determination for 0.50 acres of palustrine emergent wetlands within the first delineation. The second delineation has currently not been submitted to the US Army Corps of Engineers.

To ensure the accuracy of the delineation, Midway City contracted with Wetland Resources to provide a 3rd party review of the delineations. This 3rd party review determined that a small section of property within the first delineation was most likely wetlands. After working with BIO-WEST an amended document was sent to the US Army Corp of Engineers. In a letter dated, November 29, 2017, the US Army Corp of Engineers concurred with submitted delineation and provided a Jurisdictional Determination of 0.66 acres of palustrine emergent wetlands.

The second delineation has not been submitted to the US Army Corp of Engineers at this time. The developer is proposing to submit a delineation the US Army Corp of Engineers at the time of preliminary approval of the future phases.

Geotechnical Investigation

The geotechnical investigation performed 25 boring pits over the entire site. Soil samples were taken to determine the type of soil and depth of groundwater. Generally, the site is covered with topsoil, a sandy lean clay covering pot rock. The soil depth varies from very shallow to a maximum depth of 3 feet. The general topsoil depth determined from the 25 test pits is 12 inches. Each of the 25 test pits were dug to the surface of pot rock. To determine the groundwater elevation 6 piezometers were installed throughout the site. Each of the piezometers were installed to the top of pot rock.

Hydrogeologic Consulting Services

To better understand the site and predicate the groundwater elevation, and soil classification both above and below the layer of pot rock, the City is contracting with Loughlin Water Associates to conduct a geotechnical investigation below the layer of pot rock. Loughlin will oversee the approximately 10 borings. Each location will be bored to a depth of approximately 8' to 10'. Data within Phase 1 of the proposed development will be available prior to Final City Council approval. More long term data will be collected and analyzed within the future phases of the proposed development.

Phase 1 Environmental Site Assessment

Intermountain GeoEnvironmental Services, Inc. (IGES) has completed an Environmental Site Assessment (ESA) on the property. As stated within the Executive Summary, *"This Phase I ESA was performed in general accordance with the standards set forth in ASTM Document E 1527-13, Standard Practice for Environmental Site Assessment process."* The Executive Summary went on to state, *"No recognized environmental conditions were observed on the subject property or readily observable portions of adjacent properties."* A copy of the full report is available upon request.

Assessment of Surface Water Quality

At the direction of Midway City, Loughlin Water Associates conducted an Assessment of the Surface Water Quality. The assessment was done by collecting water samples from four locations throughout the site. The samples were tested for: Chloride and Total Dissolved Solids, Sulfate concentrations, Oil and grease, Coliform bacteria, E. coli bacteria, Phosphorus, and Ammonia Nitrate. The Conclusion of the report states, *"We selected parameters for laboratory analysis based on constituents that would be expected from a dairy farm and from naturally occurring geothermal water. Overall the results are within the range that we expected."* A copy of the full report is available upon request.

Water

- The proposed development will be served from the Gerber Mahogany Springs zone. The existing line within 600 North is shown as a 6" line. Per the Midway City Master Plan, the 600 North water line should be up-sized to a 12" line. To provide adequate fire flow within the development the water line shall be upsized and connected to the water line within River Road. Impact fees should pay to upsize the water line from an 8" line to a 12" line.
- To provide adequate fire flow within the lower cul-de-sac of the proposed Phase 3, the cul-de-sac road should be upsized to a 10" line or a connection should be made from the east cul-de-sac, at the bottom of the proposed development, to the existing water line within 300 North.
- The fire hydrant spacing shall not exceed 500'.

Irrigation

- The proposed development will connect to existing irrigation line within 600 North and install services with meters according to Midway Irrigation Company standards.
- Prior to final approval it should be determined whether the irrigation line within the proposed Phase 3 should be connected to the existing irrigation line within 300 North.

Roads

- A Traffic Impact Study was completed by Hales Engineering. The study indicates that the peak hour of operation is in the evening between 5:00 and 6:00 pm. The study indicates that each intersection is currently operating at a Level of Service (LOS) A. The study states that "All study intersections are anticipated to operate at LOS A during the evening peak hour with project traffic added." The traffic study was reviewed by a traffic engineer in our Pleasant Grove office. He generally agreed with the finding within traffic study.
- The proposed development will install a modified curb on each side of the road, with a 5' park strip and 5' sidewalk on each side of the road.
- All roads within the proposed development will be private roads.
- 600 North is classified in the Midway City Master Plan as a Local Collector with a right-of-way of 60' and a pavement section of 34'. The rebuilding of 600 North should be addressed.

Trails:

- The proposed subdivision is showing several public and private trails within the development.

Storm Drain

- The storm water system within the proposed development will be a private storm drain systems. All maintenance for the system will be provided by the HOA. Prior to final approval the storm drain calculations should be updated reflecting the PUD status of the development.

Landscaping

- Adjacent to 600 North and along the stream corridors and wetlands the landscaping plan shows a native grass mix. The irrigation system and mowing schedule should be discussed. Are there any maintenance plans for the wetlands?

Please feel free to call our office with any questions.

Sincerely,
HORROCKS ENGINEERS

A handwritten signature in blue ink, appearing to read 'Wesley Johnson', is written over the typed name and title.

Wesley Johnson, P.E.
Midway City Engineer

cc: Paul Berg Berg Engineering