Memorandum

To: Jeff Batton, Assistant Village Manager

From: Mike Apke, P.E., Public Services and Engineering Director

Date: May 9, 2024

Re: Royal Oak Subdivision Roads

Jeff,

In response to a request from the Royal Oak Townhomes Association, this memorandum summarizes my preliminary analysis of the potential for the Village of Pinehurst (VOP) to assume ownership and maintenance responsibilities for the existing private roadway system serving the Royal Oak townhome development off Murdocksville Road.

In preparing this analysis, I visited the subdivision site, reviewed the original approved construction plans and recorded plats for the subdivision, reviewed Moore County GIS and tax records, and contacted Moore County Public Utilities (MCPU) to discuss the location and condition of existing water and sewer utilities within the development. A summary of my analysis is as follows:

Existing Conditions

- The Royal Oak subdivision is located within the corporate limits of Pinehurst, contains a total of 40 townhomes and was developed in two (2) phases. Phase 1 consisted of 18 townhome units and was approved by the VOP in 2018. Phase 2 included an additional 22 townhomes and was approved by the VOP in 2020.

- To date, all 40 units have been constructed and received Certificates of Occupancy.

- The development is accessed via one (1) entrance off Murdocksville Road that includes a 30' long concrete apron (see Photo 1). The street network within the development includes approximately 1,630 feet (0.3 miles) of asphalt roadways, including three (3) cul-de-sacs and one (1) traffic circle.

- Two (2) parallel parking stalls exist in the interior of the traffic circle that provide access to a mail kiosk that is also located in the interior of the circle (see Photo 2). The parking stall striping has faded since it was originally installed and is currently difficult to see.

- The only sidewalks within the development are located along the interior of the traffic circle and between the parking stalls and mail kiosk (see Photo 2). Sidewalks are also located adjacent to the development within NCDOT right-of-way on Murdocksville Road.

- Streets were constructed with an asphalt width of 20-feet plus 2-foot concrete valley gutter on both sides for a total width (including gutters) of 24-feet. All cul-de-sacs were constructed with a 34-foot radius. The streets comply with current VOP standards and were inspected by VOP representatives during construction. Phase 1 streets were constructed in 2019 and Phase 2 streets were constructed in 2021.

- Overall, the streets and valley gutters are in good condition, with some observed minor wear and tear. The wear and tear is most prevalent in front of the Townhomes at 152 and 154 Lark Drive, which appears to be the result of heavy equipment on the roads during construction of the townhomes.

- Concrete driveways extend from the streets to garages at each townhome.

- VOP staff currently provides solid waste collection services to the development on a weekly basis, and reports no issues related to ingress or egress to service the development.

- The original developer (Tiara Properties, LLC) laid out the townhome parcel lines with the intent that the streets would be privately maintained. A note is included on the approved construction plans stating, "All internal streets and drives and storm drainage pipes and boxes shall be privately owned and maintained."

- All land located outside of the 40 platted townhome lots is considered common area that is owned and maintained by the Royal Oak Townhomes Association. This includes the streets, streetlights, stormwater infrastructure (pipes, inlet boxes, 3 detention ponds), and seven (7) "grinder" pump stations with force main piping that provide sanitary sewer service to 34 of the 40 residences. A typical grinder station and a typical streetlight within the development is shown in Photo 3.

- The 6 units near the development's entrance are not serviced by the grinder stations but are connected to a MCPU gravity sewer line. The sewer line is located beneath the asphalt on Niblick Circle (manhole visible in Photo 1) and the concrete apron at the development entrance. MCPU reports no history of significant maintenance issues with this sewer line.

- MCPU also provides potable and fire protection water to the development. Most of the existing water mains are located along road shoulders; however, water mains cross beneath the streets in several locations. Fire hydrants are scattered throughout the development. MCPU reports no history of significant maintenance issues with the water distribution system.

- Curb-inlet stormwater boxes are located throughout the development and several storm drain pipes are located beneath the asphalt in various locations. Based on As-Built drawings, the pipes are reinforced concrete pipe (RCP) that comply with Village standards. VOP representatives inspected the installation of the inlet boxes and pipes during construction. Photo 4 shows a typical curb-inlet box and Photo 5 shows an inlet box that is located within the wedge curbing at 156 Lark Drive.

- Two (2) existing stormwater boxes on Backspin Lane were observed to have a PVC pipe running through them (see Photo 6). The purpose of the PVC pipe is unknown, though it may be associated with the grinder sewer pump station system. VOP standards do not allow other utilities to be installed within public storm boxes or through public storm pipes.

- Existing street identification signs and regulatory signs (stop signs, yield signs, etc.) within the development are not compliant with current VOP standards. Regulatory signs and street signs are mounted on the same decorative-style poles. See Photo 7 for an example.

- Other utilities such as irrigation, electric, phone, cable, etc. are also likely located along road shoulders, but specific locations are not known. Numerous irrigation heads were observed to be located just a few inches from the back of the valley gutter, which is not compliant with Village standards. Current standards state that no sprinkler heads shall be installed within 10 feet of curbs or edges of pavement. At least one sprinkler head was observed during my site visit to be leaking water into the roadway.

Photo 1 – Concrete Apron at Entrance off Murdocksville Road

Photo 2 –Traffic Circle, Mail Kiosk, Parking Stalls and Sidewalks in Circle

Photo 3 –Typical Grinder Pump Station and Street Light

Photo 4 – Typical Curb Inlet Stormwater Box

Photo 5 – Inlet Box in Valley Gutter at 156 Lark Drive

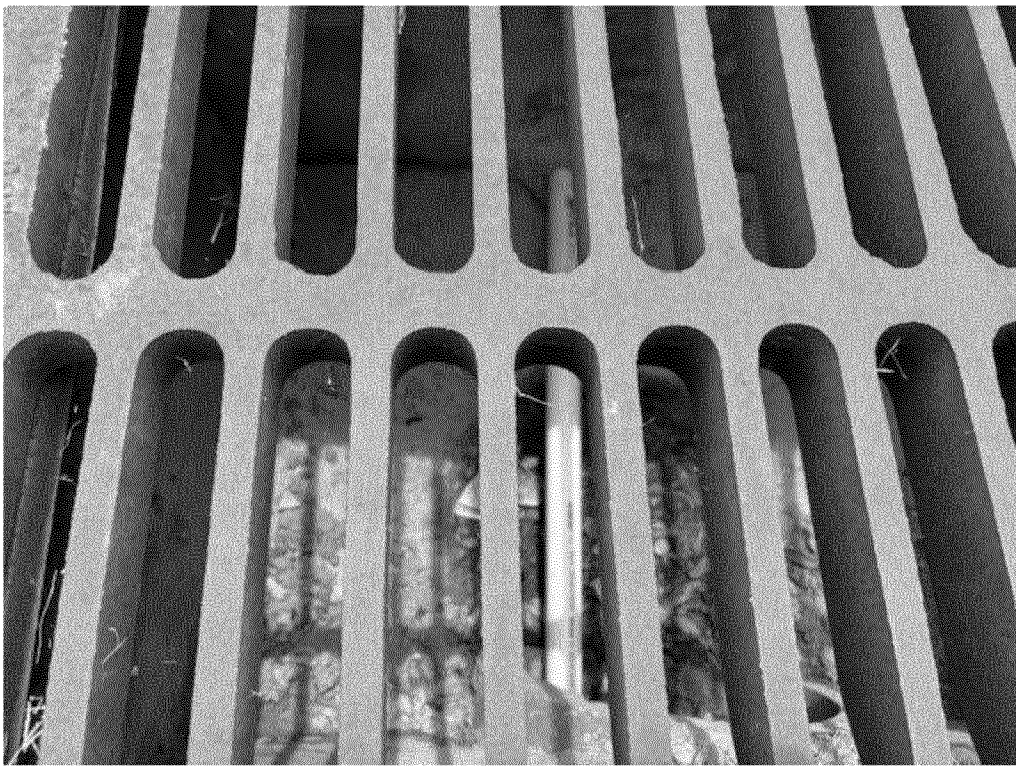

Photo 6 – Unknown PVC pipe through storm box on Backspin Lane

Photo 7 – Street sign and stop sign installed on same decorative post

Conclusions

The developer of the Royal Oak subdivision designed the development with the intent that the streets, stormwater infrastructure, grinder sewer pump stations, etc. would all be located in common areas that are owned and maintained by the Royal Oak Townhomes Association. As a result, several VOP standards related to subdivisions with public roads have not been met.

Several of the deviations from Village standards can be remedied and made compliant relatively easily if the Village were to assume ownership of the streets (street signs and regulatory signs/posts could be replaced, irrigation heads could be moved, PVC pipe removed from storm box, etc.). However, two (2) non-compliant Village standards appear to be more challenging to address, including:

1. **Right-of-Way Widths.** Since the subdivision was intended for the Association to own and maintain all common areas, the final plats for both phases of the development do not include an established right-of-way width. The Village's Engineering Standards and Specifications Manual (ESSM) requires a 50-foot minimum right-of-way width for all public streets with curb and gutter, including valley gutter.

   All 40 townhomes have platted lots, and the lot lines do not allow for a 50-foot right-of-way in certain areas. These areas are noted in the Exhibits below:

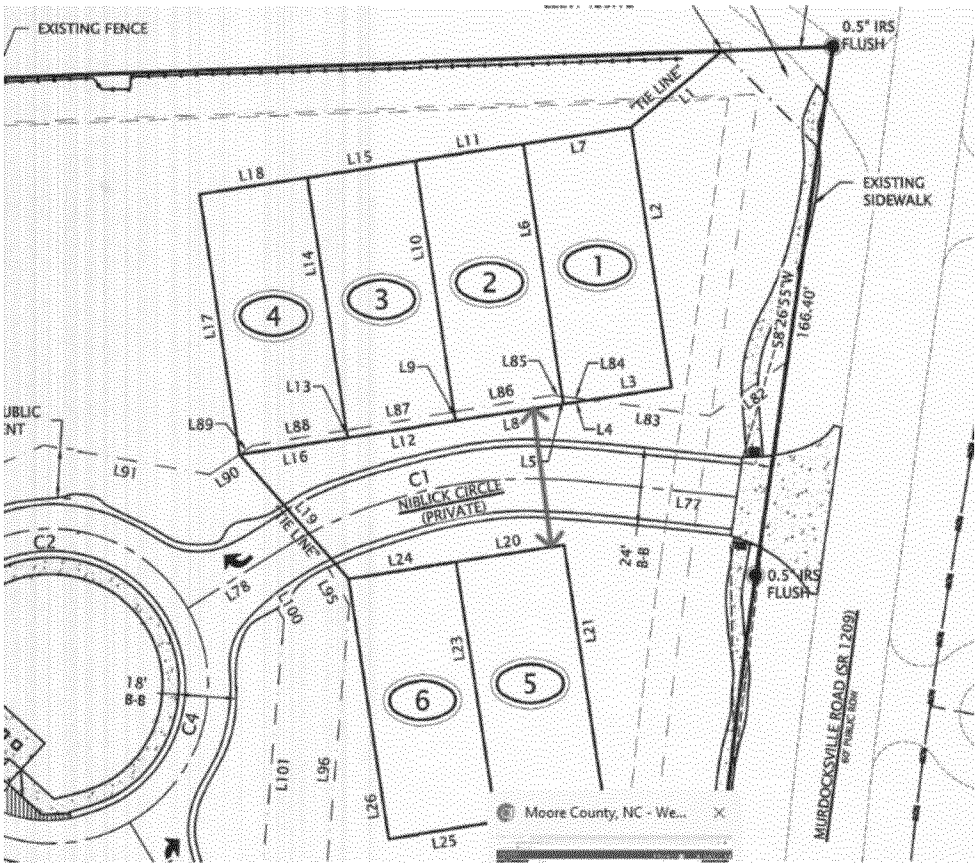

Exhibit 1 – approximately 42' exists between the lot lines on Niblick Circle

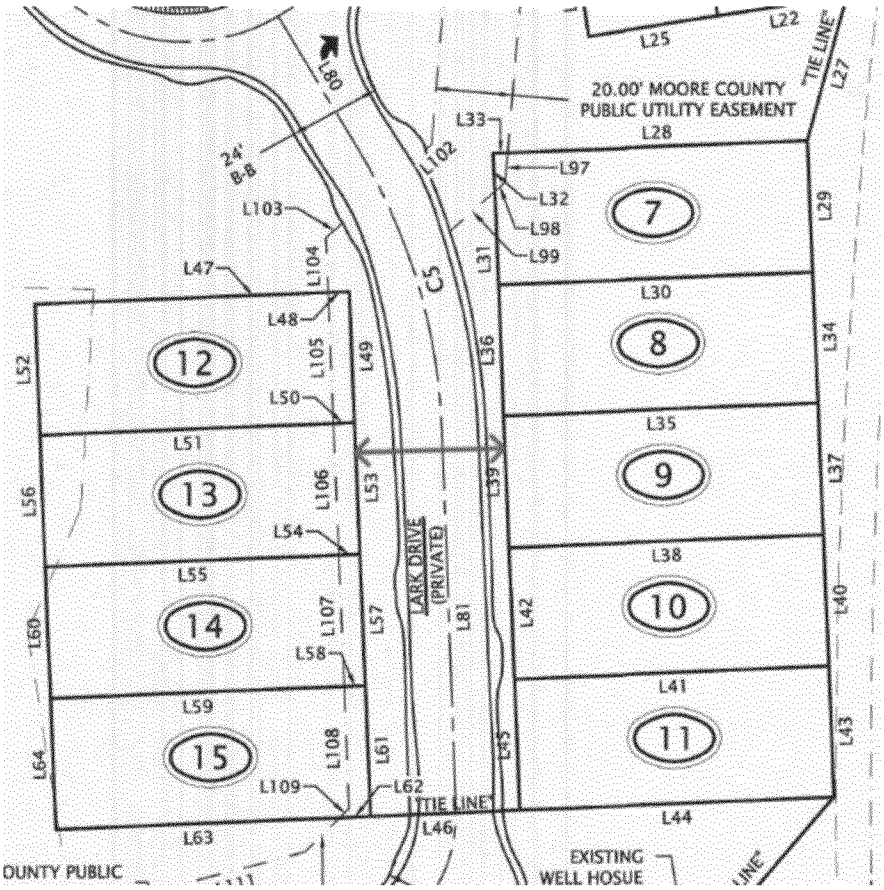

Exhibit 2 – approximately 39' exists between these lot lines on Lark Drive

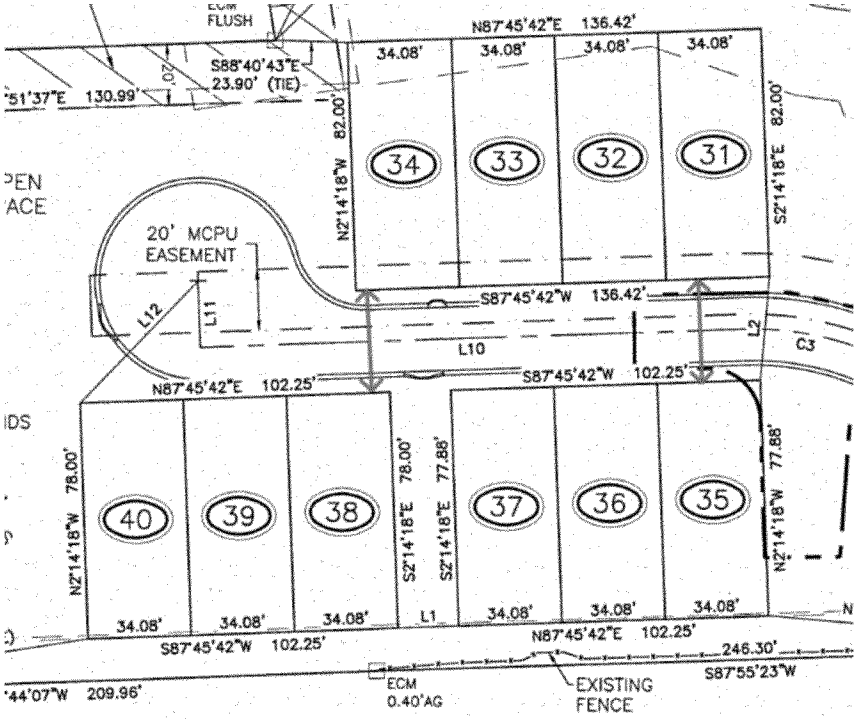

Exhibit 3 – approximately 32' exists between these lot lines at the end of Lark Drive

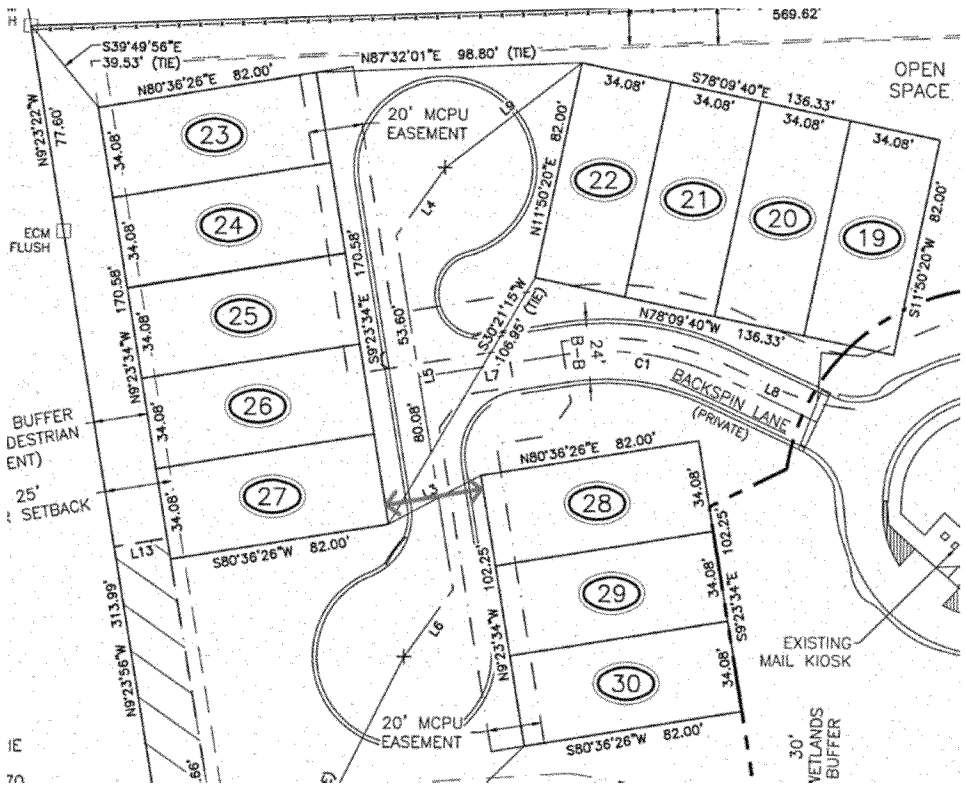

Exhibit 4 – approximately 36' exists between these lot lines on Mashie Court

Furthermore, the Village's ESSM requires 15-feet of right-of-way to be available from the back of the curb at all cul-de-sacs. This development was platted and constructed with approximately 10'feet available between the back of the cul-de-sac on Mashie Court and the side lot line of 206 Backspin Lane (Lot 22 in Exhibit 4 above).

2. **Private Utilities**. Per the ESSM, "No privately owned utilities or structures, including force mains, pumps, cables, pipes, fences, sheds, or any other associated private utility facility or privately owned structure shall be allowed within any Village right-of-way or easement".

   Note that most of the force main piping associated with the grinder sewer pump station system was installed along the road shoulders, and piping crosses beneath the streets in several locations. As an example, the Exhibit below shows the piping network in the Backspin Lane/Mashie Court area with pipes located beneath the road in several locations. These pipes would need to be relocated outside of any public right-of-way to become compliant with Village standards.

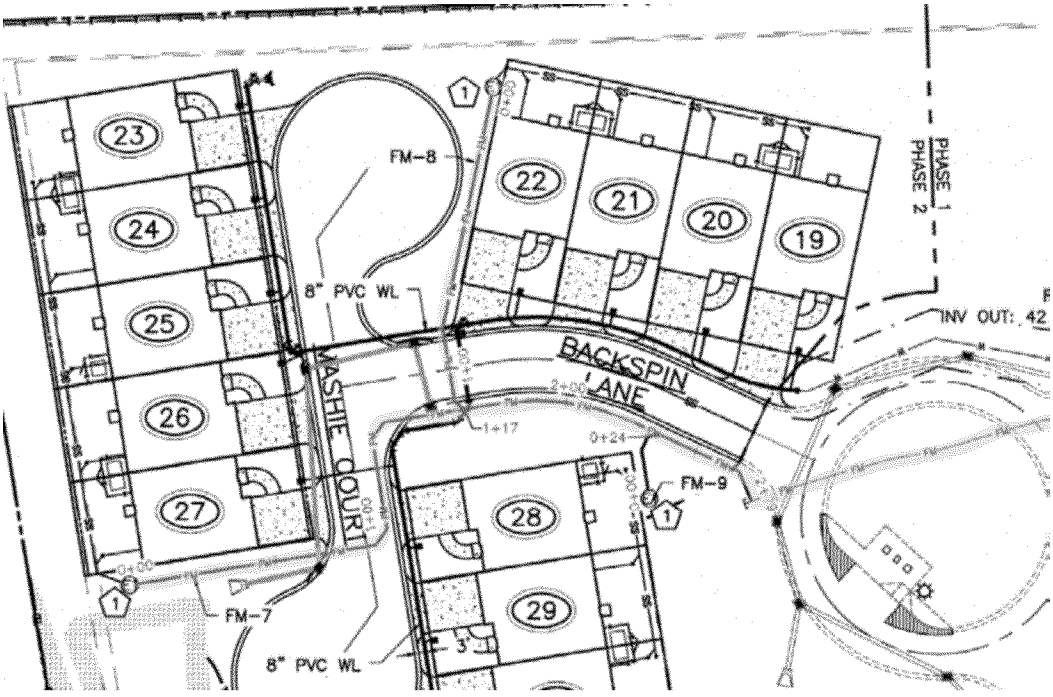

Exhibit 5 – Sewer force main pipe locations along Mashie Court and Backspin Lane

In conclusion, the Royal Oak Subdivision was designed, and approved by the Village (Council and Staff) with the intent that all streets, stormwater infrastructure, grinder sewer pump stations, etc. would be located in common areas that are maintained by the Townhome Association. As a result, numerous Village standards were not met for subdivisions with public roadways.

Given the significant deviations from Village standards, staff recommends that the VOP not accept the ownership and maintenance of the Royal Oak subdivision roads.