



MEMORANDUM

TO: Brian and Kathy Bellairs
FROM: Mike Gillette, PE
DATE: May 24, 2021
SUBJECT: Newberg Urban Reserve Area Expansion – Utility Serviceability

The purpose of this memorandum is to describe the potential for utility connections to a proposed City of Newberg Urban Reserve Area (URA) expansion site. Potable water, sanitary sewer, and stormwater utility connections were reviewed for the proposed expansion site. The below analysis includes an assessment of existing infrastructure adjacent to the site, as well as a review of the planned future improvements to utility services listed in the City of Newberg Master Plan documents.

Water

Approximately 75 percent of the property (approximately 68 acres) is within Pressure Zone 1 (under elevation 310 feet), which can be serviced by the Corral Creek Reservoir located roughly 1,000 feet northeast of the site. A connection to the existing 24-inch water main could service the northern portions of the property. A connection to the existing 8-inch water main in Hook Dr and Fairway St could service the western and southern portions of the property.

The remaining 25 percent of the property (approximately 22 acres) is within Pressure Zone 2 (between elevation 310 feet and 350 feet). The location of these higher elevation areas is in the northeast portion of the site, along NE Corral Creek Rd. Upgrades to the Corral Creek Reservoir would be required to service these areas of the site.

Sanitary Sewer

In general, the entire property is serviceable by gravity sewer. Existing grades generally slope down to the southwest towards NE Fernwood Road. The site would connect to the Fernwood Pump Station located roughly 1,300 feet west of the site.

Per the City of Newberg Utility Master Plan, the Fernwood Pump Station requires upgrades, as the pumps are already at capacity. The Master Plan also lists the gravity sewer mains downstream of the pump station force main as at capacity. The preferred alternative listed in the Master Plan would be to upgrade the pumps at the Fernwood Pump Station and run a new gravity sewer line parallel to the existing lines starting at the E Second Street / S Springbrook Road intersection.

Stormwater

In general, the entire property is serviceable by a gravity stormwater conveyance system. Existing grades generally slope down to the southeast towards NE Fernwood Road.

The City of Newberg requires on-site detention facilities be designed so the post-development runoff rates from the site do not exceed the predevelopment runoff rates from the site, based on 24-hour storm events ranging from the ½ of the 2-year return storm to the 25-year return storm. Specifically, the ½ of the 2, 2, 10, and 25-year post-development runoff rates will not exceed their respective ½ of the 2, 2, 10, and 25-year pre-development runoff rates.

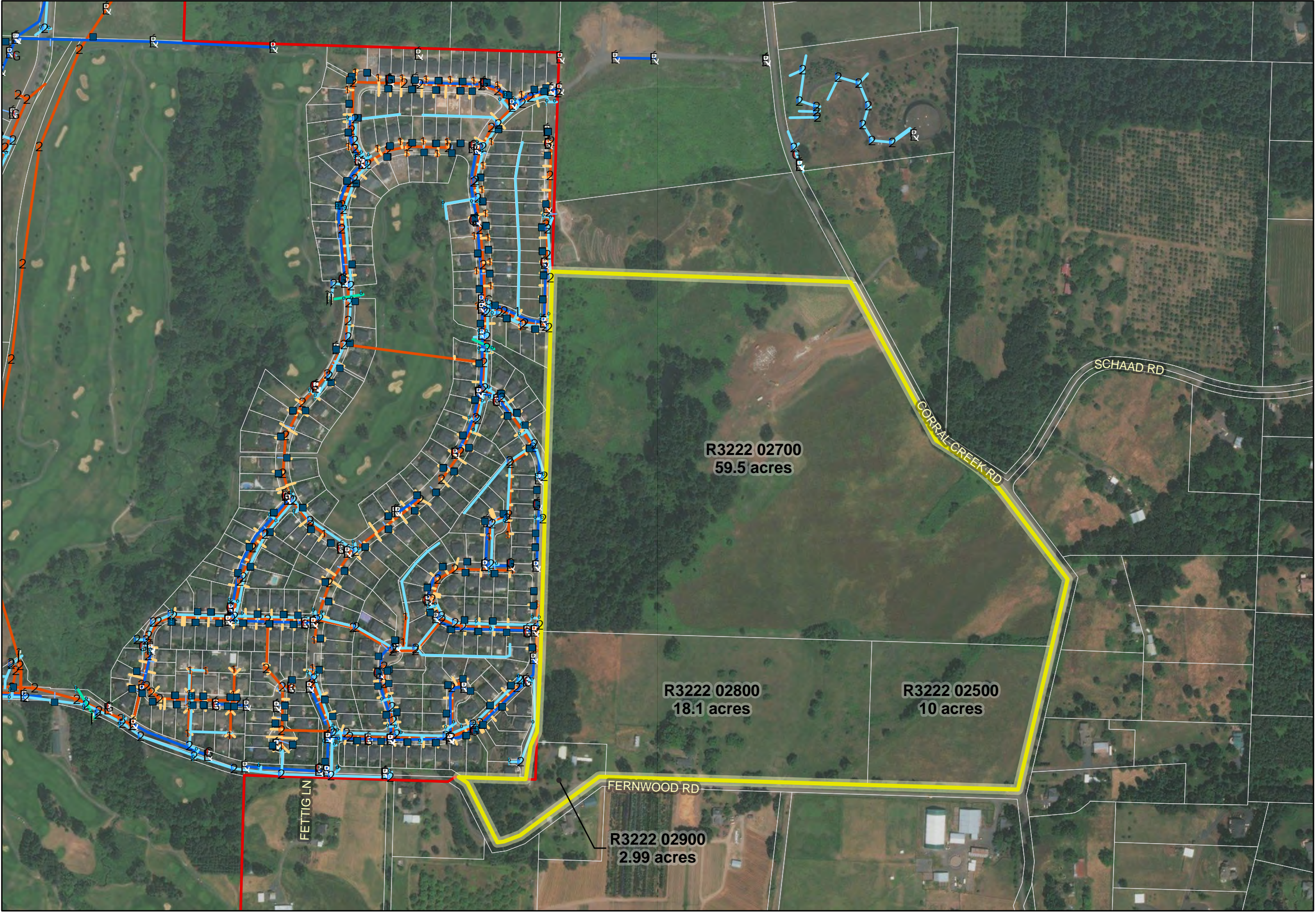
The City lists a facility selection hierarchy, which requires the development use Low Impact Development Approach (LIDA) facilities or surface ponds for detention and water quality unless deemed infeasible according to specific criteria. The site contains areas of well-draining and poorly draining soils. In general, the well-draining soils are in the southwest portion of the site, which is also the lowest portion of the site.

An infiltration/detention LIDA pond would be feasible in this location to meet the water quality and flow control requirements for the property. An estimate of the LIDA pond size would be roughly 5 percent of the contributing impervious area.

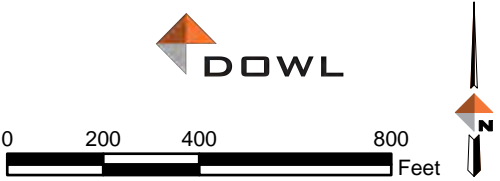
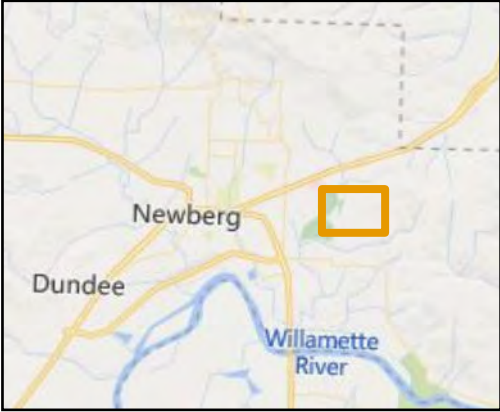
The stormwater conveyance system would discharge the site to the public 12-inch storm line in NE Fernwood Road. This line runs west for approximately 1,000 feet before discharging south into Spring Brook.

Attachment(s):

1. Site Existing Utilities Map



- Legend**
- Site Boundary
 - Newberg City Boundary
 - Tax Lots
 - Wastewater Main
 - Wastewater Lateral Line
 - Water Main
 - Water Lateral Line
 - Storm Gravity Main
 - Storm Culvert
 - Wastewater Manhole
 - Wastewater Clean Out
 - Hydrant
 - Water Meter
 - Water Valve
 - Storm Outlet
 - Storm Inlet
 - Storm Manhole
 - Storm Clean Out



Source: City of Newberg, DOGAMI SLIDO 3.2 database, DOWL calculations, Oregon Spatial Data Library, Oregon Spatial Explorer – statewide FEMA FIRM database, Yamhill County Assessor, Yamhill County Planning & Development; 2020.

Newberg Urban Reserves Area Expansion
Site Existing Utilities Map