

Exhibit “B”

Memo

Subject: Preliminary Engineering Comments for 2962 Baseline

Date: January 30, 2024

By: Terry, Keyes, P.E., City Engineer

These comments are based on existing conditions on the site and the site plan provided for land use approval dated December 2023. The site is approximately 2.96-acre in size and located at the northeast corner of Baseline and N. 29th Avenue. The applicant is proposing a commercial development on the site in the form of a U-Haul store and rental facility.

These comments are based on the existing site conditions and the preliminary site plan. The comments are preliminary and designed to help in creating a final development design that can be considered as part of the land use process. While these comments are not the final engineering comments for the development, staff made every effort to address all important engineering issues related to public infrastructure, stormwater treatment, and erosion control.

Improvements in the public right-of-way (ROW) must be designed in accordance with the City's Public Works Standards.

Streets

Baseline

The Baseline frontage is fully improved with curb, gutter, and sidewalk. A few improvements to Baseline that the applicant is required to make as part of the development include:

- 1) **Replacing the existing driveway with curb, gutter, and sidewalk.** The plans appear to show that intention, but it is not clearly labeled on the preliminary plans.
- 2) **Install street lights on Baseline adjacent to the site.**
- 3) Install street trees along Baseline. On the preliminary plans, the applicant shows street trees on the private side of the ROW. Due to Oregon Department of Transportation's (ODOT) restrictions on trees in the ROW, this is an acceptable location to the City. Also, the trees shown on the plans represent a diverse mix of City-approvable trees.

Since Hwy 8 is a state highway controlled by ODOT, ODOT may impose additional requirements on the Baseline frontage.

N. 29th Avenue

The N 29th Avenue frontage is unimproved. At the pre-application conference the applicant was informed that N. 29th Avenue frontage needed to be improved with:

- Pavement to allow for two, 10-ft travel lanes
- Curb/gutter
- 6-foot parkway strip
- 6-foot concrete sidewalk.
- Street trees
- Streetlights

The preliminary plans appear to show the applicant has strived to meet these requirements. **The only item not shown on the plans that will be required are streetlights.**

Water

A 12" public water main exists on Baseline, fronting the property, and a 10" public main exists on the 29th frontage. Both these mains have sufficient capacity to serve the site. The applicant proposes to tie into the main on 29th, which is acceptable.

Fire hydrants exist in the following locations:

- Just west of the existing driveway on Baseline
- Approximately 185 ft south of the north property line on the east side of N. 29th
- On the west side of N. 29th, opposite the north private access driveway

The Public Works Department will not require any additional fire hydrants. However, the Fire Department may require additional hydrants.

Sanitary Sewer

Sanitary sewers exist on the Baseline and 29th Avenue frontages of the site. These sanitary sewers have sufficient capacity to serve the site. The applicant proposes to tie into the sanitary sewer on 29th, which is acceptable.

Stormwater

The site has a 12" storm main flowing south along the 29th frontage and a 36" storm main flowing east along the Baseline frontage. The 18" storm sewer line shown traversing the site on Clean Water Services (CWS) maps is no longer functional. It was replaced with the storm sewer on Baseline that carries drainage from N. 29th east to N. 31st Avenue.

A 30" storm main running west from N. 31st to the site still exists, however, this line is plugged with roots and cannot carry runoff. In addition, the storm easement for this line appears to be only 10-ft wide which makes it impossible to maintain.

Finally, the line is Corrugated Metal Pipe (CMP,) which is substandard under today's standards

Projects in urban Washington County are required to provide detention and treatment of stormwater runoff, as well as implementing some type of *Low Impact Development Approach (LIDA)*.

Detention

To determine the stormwater quantity control required for the project, CWS uses three criteria. These criteria and this project's rating in each one is shown below.

- Risk = Low
- Development Class = Developed Area
- Size = Large

This combination puts the project into CWS's Category 2 for determining detention or hydromodification requirements. Category 2 projects require peak-flow matching detention. While infiltration of stormwater is an option to meet Category 2 requirements, the predominately clay soils in this area make infiltrating significant volumes of runoff nearly impossible.

Meeting these detention requirements is typically accomplished using an open pond or underground detention pipes on the site. The applicant is proposing an open pond on the east side of the property. **If the pond is not large enough to meet requirements, additional detention will be required, possibly in underground pipes.**

Treatment

Stormwater treatment is required for this site. Stormwater treatment shall meet the requirements of CWS.

For commercial sites like this, treatment is typically accomplished using a biofiltration swale, possibly incorporated into a detention pond. Alternatively, stormwater filters, flow-thru planters, or rain gardens can be utilized for treatment.

While the preliminary plans do not show a treatment approach, either a swale within the detention pond or stormfilter catch basins can be used to meet the CWS requirements without impacting the site plan.

LIDA

Stormwater management also needs to incorporate a LIDA. LIDAs include open air treatment or detention facilities such as detention ponds. LIDA also includes green roofs, porous pavement, biofiltration swales, flow-thru planters, and rain gardens. The applicant's proposed detention pond meets the LIDA requirements.

Conveyance System

A conveyance analysis of the downstream system is not required of the applicant because use of detention minimizes new flows into the existing storm system, thereby avoiding capacity issues.

However, the applicant's preliminary plans call for discharging the detention facility into the abandoned 30" storm pipe at the corner of Lot 31 in the Ryland Park Subdivision. This is unacceptable. The storm pipe was abandoned over 20 years ago and replaced with a new storm system on 29th and Baseline because it did not function well, was substandard, and lacked an adequate easement for maintenance.

Therefore, the applicant must revise the plans to provide an approvable outlet to the public storm system for the detention facility. Options include:

1. Securing a new 20-ft wide easement from the property owner(s) between the site and N. 31st and constructing a new public storm main within the easement that can be maintained long-term.
2. Creating a private discharge pipe from the SW corner of pond to the existing storm system in Baseline. The Baseline storm sewer appears to be easily deep enough to accept this drainage. This private storm pipe will need to fit between the proposed building and the property line SW of the pond. Since this is a private storm line, the Building Official makes the determination on whether this location is approvable. Moving the proposed building at this point is not feasible without a new land use application.
3. Creating a new discharge line from the pond going north around the building to the storm sewer on Baseline or N. 29th. Due to the distance and grades, this may not be feasible.

Finally, regardless of the issue discussed above regarding the discharge from the pond, the storm pipe on N. 29th Avenue will need to be extended as part of the frontage improvements to this area.

Stormwater Facility Access

The detention facility must provide vehicle access for maintenance and possible reconstruction in the future, if that is ever needed. The distance between the building and property line NW of the pond appears sufficient to provide this access.

Additional ROW Runoff

Additional impervious surface will likely be created on N. 29th, at least with the addition of the new sidewalk. This new impervious area must be treated and detained in accordance with CWS standards. However, the area is too small to create a separate public facility. Instead, the on-site runoff calculations and facilities should assume the additional impervious area created in the ROW, even if the runoff does not flow into the private facilities.

Stormwater Report

The applicant's engineer needs to prepare a stormwater report that accompanies the design plans. The report shall follow the standards established by CWS. Generally, the report includes a description of how the stormwater requirements are being met and sizing calculations for the facilities. The report must be prepared and stamped by a Professional Engineer (PE.)

Stormwater Maintenance Agreement

The applicant is required to sign an agreement with the City committing the applicant to maintaining the private stormwater facilities long-term.

Erosion Control

The site requires preparation and submittal of erosion control plans meeting the CWS requirements for 1200-CN plans. Normally, these plans accompany the stormwater treatment plans. A template for preparation of 1200-CN plans is available on the CWS website (www.cleanwaterservices.org).

Plan Review

The plans that need to be reviewed by the City Engineer are those involving public infrastructure, stormwater treatment, and erosion control.

Finally, the applicant and their engineer are strongly encouraged to communicate with the City Engineer during the design process to minimize the need for redlines and revisions.