

March 17, 2015

City of Oregon City
Community Development – Planning
221 Molalla Avenue, Suite 200
Oregon City, OR 97045

ATTN: Kelly Moosbrugger

RE: Oregon City Schools Transportation Facility (CP 14-03, DP 14-04, and NR 14-10)

Dear Kelly:

In response to your item of incompleteness dated 3-11-2015, after discussing the item with Gordon Munro, consultant for the City, we respond with the following.

EXISTING DRAINAGE PATTERN

The proposed transportation facility site generally drains east to west. Some of the site falls towards the on-site wetland but most of the site drains towards a neighboring parcel west of the site (TL 200). Of the related Meyers Road right-of-way extension, a small easterly portion of the future right-of-way falls back towards High School Avenue, but most of the proposed right-of-way currently falls towards the west and towards a neighboring, largely undeveloped, parcel (TL 200).

Eventually, overland flow draining westerly would reach a small seasonal tributary of Caulfield Creek, including that portion of the site that may drain towards the on-site wetland. Runoff from the small portion of the future Meyers Road right-of-way that falls easterly towards High School Avenue is collected by the drainage system in High School Avenue. This drainage is directed towards the storm detention pond at the intersection of High School Avenue and Glen Oak Road and eventually is discharged into Caulfield Creek.

PROPOSED DRAINAGE PATTERN WITH IMPROVEMENTS

Runoff from the proposed transportation facility will be directed towards the on-site wetland at the north end of the site. The discharge point towards the wetland from the proposed transportation facility improvements would be near the west property line of the transportation facility, and within the wetland buffer.

Most of the runoff draining from the proposed Meyers Road extension would be directed to Caulfield Creek. Runoff off the most easterly portion of the Meyers Road extension would drain back towards High School Avenue.

RUNOFF IMPACTS

Runoff from all improvements will have to meet the City of Oregon City's storm drainage requirements. Such requirements require water quality and water quantity control measures.

All proposed improvements (both public and private) will meet the City's standards for water quality and runoff quantity. Different techniques will be used on site from those in the public right-of-way, but the City standards will be met.

Caulfield Creek Impact

Runoff that would be rerouted to drain directly towards Caulfield Creek, would be from a contributing area of approximately 0.95 acres, all from the proposed right-of-way extension of Meyers Road. This compares to the total upstream area of Caulfield Creek of approximately 330 acres. Therefore, the propose drainage adjustment would increase the basin size 0.3%, at the point of discharge where the street runoff would be directed. But as pointed out above, the natural runoff drainage direction is such that the flows combines with the main stem of Caulfield Creek 1400 feet downstream from where the new outlet is proposed. This small change would not significantly impact Caulfield Creek as a whole nor the small section of the creek length where the Meyers Road extension runoff will be re-directed upstream of the natural confluence point.

An energy dissipater will be used at the pipe outfall at the creek, to reduce flow velocities. However the design of a green street facility for the Meyers Road extension will mitigate runoff peak flows and the conveyance pipe from Meyers Road to the creek will be designed so runoff flows will remain below erosive velocities, but above necessary cleaning velocity for the pipe itself.

Glen Oak Road Park Wetland Impact

Based on the recommendations from the wetland scientist that is providing services to both the Parks Department and the School District, John van Staveren of Pacific Habitat Services, we will not discharge directly to the low grade wetland that exists on the Park site in what has been a horse pasture area. Rather we will carry the pipe conveyance past the wetland area directly to the edge of Caulfield Creek. Mr. van Staveren believes that discharging the Meyers Road runoff to the wetland would not benefit that wetland area and could damage it, and thus recommends it be carried to Caulfield Creek.

Transportation Facility Site Wetland Impact

All runoff from the transportation facility will be directed to two large storm detention facilities at the north end of the improvement area on the transportation facility site. The controlled flow releases from the detention basins will outfall near the western edge of the existing wetland on the Transportation Facility site. This wetland, unlike the degraded wetland on the Park site, is in good condition and surrounded by and has large trees within it.

In discussion with Mr. van Staveren about the discharge point for this wetland, which would be within the wetland buffer, the level of concern that controlled release flows from the site's detention ponds would negatively impact this wetland is much lower. Mr. van Staveren believes the wetland on the Transportation site is likely kept wet by groundwater as well as surface water flows and a point discharge into would not be as harmful. We did discuss if some sort of perforated pipe outlet system might be beneficial, but because of the large and numerous trees in and around the wetland area, a perforated pipe system would be more harmful to the mature trees than a point discharge to the wetland. We both had experience and concerns that in the long term perforated pipe outlets tend to plug and become ineffective, another reason to not use such a system.

The wetland on the Transportation Facility site does drain, southwesterly across the neighboring parcel in a seasonal drainageway. This seasonal drainage connects to the main stem of Caulfield Creek approximately 1400 linear feet from the westerly edge of the wetland on the Transportation Facility site.

Impacts to Adjoining Parcels to the West

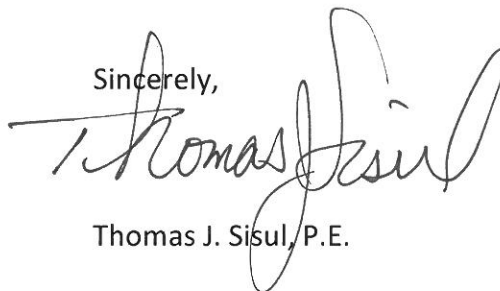
The beneficiary of the localized rerouting of the runoff from the Transportation Facility site and the Meyer Road extension area will be the parcel immediately west of the Transportation Facility (Tax Lot 200). Existing sheet-flow drainage and shallow concentrated flows that originates on the Transportation Facility, in its existing condition, will largely be redirected to either Caulfield Creek or the wetland area at the north of the Transportation Facility site. While both Caulfield Creek and wetlands' seasonal downstream drainageway cross TL 200, the runoff will be directed away from potential developable areas of the parcel and concentrated in the resource areas on the parcel instead.

CONCLUSION

The proposed drainage redirection towards Caulfield Creek from the Meyers Road extension will have insignificant impact on Caulfield Creek flows, as the redirected area is only 0.3% of the upstream basin area, and approximately only 1400 linear feet upstream from where the runoff would have entered the main stem of Caulfield Creek anyway.

The impacts to the wetland on the Transportation Facility site will be relatively minor as it appears groundwater is what keeps the on-site wetland charged. We believe that flow spreading through the use of a perforated pipe or other methods would create more harm to the existing mature trees in and around the wetland than the proposed point discharge near the western edge of the wetland.

Sincerely,

A handwritten signature in black ink, appearing to read "Thomas J. Sisul". The signature is fluid and cursive, with a large, looping initial "T".

Thomas J. Sisul, P.E.