Section 3.8
UTILITIES

The Utilities section is a summary of the *Utilities Report* (January 2023) prepared by ESM Consulting Engineers (ESM), including the *Updated Water System Analysis* (January 2023) prepared by HLA Engineering and Land Surveying (HLA), in **Appendix B**.

3.8.1 Affected Environment

2020 / 2021 SEIS & Revised Proposal

The SEIS described the existing utilities conditions on and in the vicinity of the 47° North site at that time, including water, sewer, and solid waste (see Draft SEIS Section 3.14 and Final SEIS Section 3-4 for details). Selected information from the SEIS is provided and compared in context below; please consult the SEIS document for more detailed information.

The 47° North site is largely vacant and undeveloped. An existing sewer trunk system network traverses the site. No water or solid waste collection facilities are present onsite. Existing utility providers and the capacity of their facilities remain the same as those described in the SEIS, including the City of Cle Elum for water and sewer service and Waste Management of Ellensburg for solid waste service.

3.8.2 Impacts

2020 / 2021 SEIS

As described in the SEIS, development under SEIS Alternatives 5 and 6 would generate demand for water, sewer, and solid waste service during construction and operation of the project. Water and sewer service would be provided by City of Cle Elum. The capacity of the City's water treatment plant is 6 million gallons per day (gpd) with room for expansion to 8 million gpd. The Bullfrog Flats Master Site Plan project (located on the 47° North site) was planned to be served by this water treatment plant. The City's water system would require improvements to serve SEIS Alternatives 5 and 6. The capacity of the regional Wastewater Treatment Plant (WWTP) is 3.6 million gpd; the WWTP has adequate capacity to serve the SEIS Alternatives. Solid waste service for the project would be provided by Waste Management of Ellensburg; waste would be hauled to the Cle Elum Transfer Station prior to transport to the Greater Wenatchee Land Fill for final disposal. The Cle Elum Transfer Station is nearing capacity and would require expansion and/or the extension of operating hours with the general growth in the County, including the addition of solid wastes generated by SEIS Alternatives 5 and 6.

Revised Proposal

Construction and operation of the Revised Proposal would result in increased demand for water, sewer, and solid waste service from the service providers. The analysis of the utility demands of the Revised Proposal has been updated based on new demand projections. The demand from the Revised Proposal is summarized below and compared to SEIS Alternatives 5 and 6.

Construction & Utility System Design

The design of the utility systems under the Revised Proposal would be almost identical to under SEIS Alternative 6. Like SEIS Alternative 6, the Revised Proposal would generate demand for utilities during construction. The greatest demand would be for disposal of construction and demolition (C&D) debris. **Table 3.8-1** summarizes the C&D debris under the Revised Proposal and SEIS Alternatives 5 and 6. As shown, the Revised Proposal is anticipated to generate slightly more C&D debris than SEIS Alternative 6 due to the addition of 50 affordable housing units but would generate substantially less than SEIS Alternative 5. Like SEIS Alternative 6, single family and multi-family residential units would be constructed offsite and assembled onsite, which would reduce the C&D debris generated onsite. As under SEIS Alternative 6, inert C&D debris would be collected and hauled to the Kittitas County Inert/Demolition Debris Waste Landfill at Ryegrass in Ellensburg, while non-inert C&D debris would be collected and hauled to the Cle Elum Transfer Station.

Table 3.8-1
CONSTRUCTION & DEMOLITION DEBRIS GENERATION SUMMARY – REVISED PROPOSAL, SEIS ALT. 5, & SEIS ALT. 6

	Revised Proposal		SEIS Alternative 6		SEIS Alternative 5[1]	
	Residential	Non-residential	Residential	Non-residential	Residential	Non-residential
Full Buildout Total (tons)[2]	2,506	427	2,413	455	5,955	1,939

Source: ESM Engineers, 2023.

[1] Excludes the Reserve Area.

[2] Buildout total represents the cumulative total quantity for the Revised Proposal and SEIS Alt. 6 by year 2031 and for SEIS Alt. 5 by year 2051.

Operation

As under SEIS Alternative 6, operation of the residential, commercial, and RV resort uses under the Revised Proposal would generate demand for water, sewer, and solid waste service, as described below. The Revised Proposal would be served by the same utility providers as SEIS Alternative 6.

Water

Sufficient water rights are available to serve SEIS Alternative 5 and 6, as well as the as the Revised Proposal. New Suncadia's water rights have been put into Ecology's Water Rights Program. Transfer of water rights to the city is pending.

Treated water demands were calculated for the Revised Proposal and compared to SEIS Alternatives 5 and 6, including the average daily treated water demands (see **Table 3.8-2**); and the maximum month treated water demands (see **Table 3.8-3**), both at buildout in 2031.

Table 3.8-2
AVERAGE DAILY TREATED WATER DEMANDS –
REVISED PROPOSAL, SEIS ALT. 5, & SEIS ALT. 6

Alt. No.	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg.	Total (ac-ft)
Revised Proposal	0.18	0.18	0.18	0.18	0.18	0.28	0.38	0.32	0.28	0.18	0.18	0.18	0.22	248
SEIS Alt. 6[1]	0.17	0.17	0.17	0.17	0.17	0.27	0.36	0.31	0.27	0.17	0.17	0.17	0.22	238
SEIS Alt. 5[2]	0.31	0.31	0.31	0.31	0.31	0.41	0.50	0.45	0.41	0.31	0.31	0.31	0.35	389

Source: ESM Engineers, 2023.

[1] Calculations for SEIS Alt. 6 include the off-site commercial property.

[2] Excludes the Reserve Area.

Table 3.8-3
MAXIMUM MONTH TREATED WATER DEMANDS –
REVISED PROPOSAL, SEIS ALT. 5, & SEIS ALT. 6

	Average Daily Demand (ADD)[1, 2]	Maximum Day Demand (MDD)[1, 3]	Peak Hour Demand (PHD)[1, 4]
Revised Proposal	0.29 mgd (203 gpm)	0.76 mgd (527 gpm)	1.52 mgd (1,054 gpm)
SEIS Alt. 6[5]	0.28 mgd (195 gpm)	0.73 mgd (508 gpm)	1.46 mgd (1,017 gpm)
SEIS Alt. 5[6]	0.38 mgd (265 gpm)	1.50 mgd (1,042 gpm)	3.00 mgd (2,085 gpm)

Source: ESM Engineers, 2023.

[1] For treated water, the daily system loss and demand contingency is calculated as total annual demand x 10%

[2] ADD is calculated as average month estimated demand (residential and commercial) + irrigation + system loss.

[3] MDD was obtained from Table 3 of the HLA memorandum dated January 5, 2023.

[4] PHD was obtained from Table 3 of the HLA memorandum dated January 5, 2023.

[5] Calculations for SEIS Alt. 6 include the off-site commercial property.

[6] Excludes Reserve Area.

Uses original 2002 EIS calculations and 1.5 MDD and 2.2 PHD peaking factors.

Treated water demand for the Revised Proposal is anticipated to be slightly greater than SEIS Alternative 6 due to the inclusion of the 50 affordable housing units and the slight change in the mix of commercial uses. However, treated water demand for the Revised Proposal would be substantially less than SEIS Alternative 5.

A preliminary storage and pump analysis for the City of Cle Elum water system was also completed for the Revised Proposal together with the development of the City Heights

project (see **Appendix B**). Similar to SEIS Alternative 6, the analysis determined that sufficient water supply exists, but the City's current water system is not sufficient to meet the projected water demand or storage requirements and improvements would be necessary. These improvements would be the same as those identified for SEIS Alternative 6 and include: a new filter train, a new Zone 3 finished water pump, and a new Zone 3 reservoir storage. However, the project's proportionate share has increased somewhat relative to SEIS Alternative 6 due to project changes and revised demand factors. To confirm the proportionate share responsibility for the Revised Proposal a monitoring/metering plan should be provided that would adjust allocation on an actual demand basis and be used to determine when capacity improvements would be triggered.

Like SEIS Alternative 6, untreated water is not proposed to be used for the Revised Proposal at this time. However, untreated water may be used in the future for recreational and public landscape irrigation. If untreated water is used in the future, it would reduce treated water consumption.

Like Alternative 6, fire flow and domestic water demand requirements account for all buildings other than residential to be sprinklered. All proposed construction will be evaluated in accordance with City of Cle Elum requirements and the International Fire Code, by the City of Cle Elum Fire Chief for compliance with applicable fire protection safety standards.

Sewer

Table 3.8-4 summarizes the monthly wastewater flow under the Revised Proposal, as well as SEIS Alternatives 5 and 6 at buildout. As shown, monthly wastewater flow would be slightly greater for the Revised Proposal than SEIS Alternative 6 but would be less than SEIS Alternative 5. Estimated wastewater loadings, in terms of biochemical oxygen demand (BOD) and total suspended solids (TSS) under the Revised Proposal are presented in **Table 3.8-5** and are compared to SEIS Alternatives 5 and 6. The BOD demand calculations for the Revised Proposal differ from those for SEIS Alternatives 5 and 6 for several reasons, including: unknown factors from the 2002 EIS (e.g., regarding numbers of employees and visitors), assumptions that were made (e.g., regarding people per unit), and the inclusion of the required affordable housing units in the analysis of the Revised Proposal.

The allocation of the wastewater treatment facility (WWTP) capacity among regional partners is addressed in an agreement that was entered into in 2002 and amended in 2008, between the City of Cle Elum, Town of South Cle Elum, City of Roslyn, and Trendwest Investments (the former owners of the Suncadia resort) and described in the SEIS. Similar to SEIS Alternative 6, wastewater capacity within the existing city facilities has been designed and specifically reserved to accommodate proposed development in the Cle Elum UGA.

Table 3.8-4
MONTHLY WASTEWATER FLOW (MGD)[1] – REVISED PROPOSAL, SEIS ALT. 5, & SEIS ALT. 6

Alt.	Year	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Average Annual
Revised Proposal	30 w/o I/I [2]	0.18	0.18	0.18	0.18	0.18	0.22	0.22	0.22	0.18	0.18	0.18	0.18	0.19
Revised Proposal	30 w/ I/I	0.21	0.22	0.22	0.21	0.21	0.24	0.24	0.24	0.20	0.20	0.20	0.20	0.22
SEIS Alt. 6[3]	30 w/o I/I[2]	0.17	0.17	0.17	0.17	0.17	0.21	0.21	0.21	0.17	0.17	0.17	0.17	0.18
SEIS Alt. 6[3]	30 w/ I/I	0.21	0.21	0.19	0.19	0.19	0.23	0.23	0.23	0.19	0.19	0.19	0.19	0.20
SEIS Alt. 5[4]	30 w/o I/I	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24
SEIS Alt. 5 [4]	30 w/ I/I	0.29	0.30	0.29	0.28	0.27	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.27

Source: ESM Engineers, 2023.

[1] Includes wastewater flows from the commercial development.

[2] I/I represents infiltration and inflow, which varies by month from 10% to 25% of maximum month inside wastewater production. The Cle Elum region has high I/I in the months of February and March when the river/groundwater elevations are up.

[3] Calculations for SEIS Alt. 6 include the off-site commercial property.

[4] Excludes the Reserve Area

Table 3.8-5
PROJECTED WASTEWATER LOADINGS (LB PER DAY)[1] – REVISED PROPOSAL, SEIS ALT. 5, & SEIS ALT. 6

Alternative	BOD&TSS	Buildout
Revised Proposal	Annual Average	718
	Max. Month Average (Aug.)	754
SEIS Alt. 6[2]	Annual Average	694
	Max. Month Average (Aug.)	733
SEIS Alt. 5[3]	Annual Average	699
	Max. Month Average (Aug.)	738

Source: ESM Engineers, 2023.

[1] Includes wastewater flows for commercial development demand.

[2] Calculations for SEIS Alt. 6 include the off-site commercial property.

[3] Excludes the Reserve Area.

Solid Waste

Table 3.8-6 summarizes solid waste production at buildout of the Revised Proposal compared to SEIS Alternatives 5 and 6. As shown, the Revised Proposal would generate slightly more solid waste than SEIS Alternative 6 and SEIS Alternative 5. The estimated solid waste could be further reduced with an effective recycling program. Kittitas County Solid Waste will determine whether the Revised Proposal is responsible to mitigate impacts for its proportional share of the costs associated with improvements to the Cle Elum Transfer Station and Ryegrass Landfill.

Table 3.8-6
SOLID WASTE PRODUCTION (TONS/YEAR) –
REVISED PROPOSAL, SEIS ALT. 5, & SEIS ALT. 6

Buildout Year	Revised Proposal	SEIS Alt. 6	SEIS Alt. 5[1]
Municipal	2,192	2,074	2,712
Yard	137	131	171
Hazardous/Moderate Risk[2]	14	13	17
Total Buildout (tons/year)[3]	**2,343**	**2,218[4]**	**2,900**

Source: ESM Engineers, 2023.

[1] Excludes the Reserve Area.

[2] Includes non-residential hazardous waste.

[3] Buildout total represents the cumulative total quantity for the Revised Proposal and SEIS Alt, 6 by year 2031 and for SEIS Alt. 5 by year 2051.

[4] Calculations for SEIS Alt. 6 include the off-site commercial property.

Indirect and Cumulative Impacts

Similar to SEIS Alternative 6, development under the Revised Proposal, in combination with other growth in the area (including Suncadia Master Planned Resort, City Heights, and Cle Elum Pines), would cumulatively increase impacts on utilities and hasten the need for utility improvements (e.g., improvements to the city's water system, including: a filter train in the water treatment plant, a finished water pump in Zone 3, and a reservoir in Zone 3). The City of Cle Elum plans for operations and upgrades to their utility systems based on forecasts of future growth in the city's utility service areas and will implement improvements to the systems as they are needed, with pro-rata contributions from new development.

3.8.3 Mitigation Measures

No new significant adverse impacts on utilities would occur from the Revised Proposal and no additional mitigation measures are recommended. The mitigation measure identified below includes a measure that has been updated for the Revised Proposal from those listed in the Final SEIS. See **Appendix F** for a complete list of the mitigation measures under the Revised Proposal. See the Introduction to **Chapter 3** for a description of the different categories of mitigation (e.g., proposed, required, other possible).

Required Mitigation Measures

Solid Waste

- ~~The Applicant would contribute a pro-rata share to construct improvements to the solid waste transfer station, consistent with the Kittitas County Solid Waste Management Plan (SWMP) Amendment for the Trendwest (now New Suncadia) Master Plan Resort and UGA (November 2000). The Applicant would handle all construction debris, separate re-cyclable materials, and otherwise handle all of its solid waste and household hazardous waste consistent with the requirement for such handling in the Kittitas~~

~~SWMP. The same requirements would apply to the adjacent commercial development property, based on pro-rata share.~~ Kittitas County Solid Waste will be consulted to determine the basis for any mitigation requirement and whether the 47° North development is responsible to mitigate impacts, and for its proportional contribution to improvements to the Cle Elum Transfer Station and the Ryegrass Landfill. Kittitas County supports its solid waste program through tipping fees (91%) and grants; project-based mitigation may not be applicable.