# Appendix E

## Public Facilities Study
(Anderson Perry & Associates, Inc.)

**E.1** UGB Alternatives Analysis

**E.2** Public Facilities Study for the UGB Expansion Area

**CITY OF HERMISTON, OREGON**
**URBAN GROWTH BOUNDARY EXPANSION - ENGINEERING ASSISTANCE - PHASE 1**
**EXHIBIT A**

| Potential Study Area | Rank | Relative Cost | Utility | | |
|---|---|---|---|---|---|
| **SE 2** | **1** | **100%** | **Sewer** | **Storm** | **RWS** |
| | | | Gravity sewer is currently available at the intersection of S.E. 9th Street and E. Feedville Road, and a gravity sewer is proposed from Hinkle Road to its intersection with E. Feedville Road. Main lines downstream of the connection point may require upsizing to handle the additional flow. An on-site lift station and pressure service may be required to serve the site. | All stormwater costs will be associated with street improvements and site development within the study area. All stormwater will be accommodated in UICs (meeting DEQ requirements) or roadside swales, if curb and gutter are not installed. | The proposed RWS ASR well, reservoir, and BPS are located on the north side of Feedville Road. A 0.2-mile main line extension from the BPS discharge to the area will be required. |
| **SE 1** | **2** | **431%** | **Sewer** | **Storm** | **RWS** |
| | | | Gravity sewer is currently available at the intersection of S.E. 9th Street and E. Feedville Road, and a gravity sewer is proposed from Hinkle Road to its intersection with E. Feedville Road. A 0.1-mile main line extension will be required to provide gravity sewer service. Main lines downstream of the connection point may require upsizing to handle the additional flow. An on-site lift station and pressure service may be required to serve the site. | All stormwater costs will be associated with street improvements and site development within the study area. All stormwater will be accommodated in UICs (meeting DEQ requirements) or roadside swales, if curb and gutter are not installed. | The proposed RWS ASR well, reservoir, and BPS are located on the north side of Feedville Road. A 0.9-mile main line extension or upsizing of the existing main line from the BPS discharge to the area will be required. |
| **SW2** | **3** | **1028%** | **Sewer** | **Storm** | **RWS** |
| | | | An on-site lift station and pressure service that ties into a 2.2-mile main line near the intersection of W. Gettman Road and S.W. 10th Street will be required to provide gravity sewer service to the study area. The sewer will need to cross under the railroad. Main lines downstream of the connection point may require upsizing to handle the additional flow. | All stormwater costs will be associated with street improvements and site development within the study area. All stormwater will be accommodated in UICs (meeting DEQ requirements) or roadside swales, if curb and gutter are not installed. | The proposed RWS ASR well, reservoir, and BPS are located on the north side of Feedville Road. A 1.5-mile main line extension or upsizing of the existing main line from the BPS discharge to the area will be required. Water services will need to cross underneath the railroad. |
| **SW1** | **3** | **1444%** | **Sewer** | **Storm** | **RWS** |
| | | | An on-site lift station and pressure service that ties into a 1.9-mile main line extension near the intersection of W. Gettman Road and S.W. 10th Street will be required to provide gravity sewer service to the study area. Main lines downstream of the connection point may require upsizing to handle the additional flow. | All stormwater costs will be associated with street improvements and site development within the study area. All stormwater will be accommodated in UICs (meeting DEQ requirements) or roadside swales, if curb and gutter are not installed. | The proposed RWS ASR well, reservoir, and BPS are located on the northside of Feedville Road. A 2.5-mile main line extension or upsizing of the existing main line from the BPS discharge to the area will be required. Water services will need to cross underneath the railroad twice. |
| **E2** | **4** | **1480%** | **Sewer** | **Storm** | **RWS** |
| | | | The study are will likely need to convey flows by gravity to a lift station at a low point at the southeastern corner, then flows would be pumped through a 2.6-mile pressure main along Highway 395 to Kelly Boulevard. Main lines downstream of the connection point may require upsizing to handle the additional flow. | All stormwater costs will be associated with street improvements and site development within the study area. All stormwater will be accommodated in UICs (meeting DEQ requirements) or roadside swales, if curb and gutter are not installed. | The proposed RWS ASR well, reservoir, and BPS are located on the north side of Feedville Road. A 1.8-mile main line extension from the BPS discharge to the area will be required. Water services will need to cross underneath Highway 395. |

**CITY OF HERMISTON, OREGON**
**URBAN GROWTH BOUNDARY EXPANSION - ENGINEERING ASSISTANCE - PHASE 1**
**EXHIBIT A**

| Potential Study Area | Rank | Relative Cost | Utility | | |
|---|---|---|---|---|---|
| **E1** | **5** | **1586%** | **Sewer** | **Storm** | **RWS** |
| | | | The study are will likely need to convey flows by gravity to a lift station on the northern boundary, then flows would be pumped through a 1.5-mile pressure main to the manhole at the southwest corner of the EOTEC.Main lines downstream of the connection point may require upsizing to handle the additional flow. | All stormwater costs will be associated with street improvements and site development within the study area. All stormwater will be accommodated in UICs (meeting DEQ requirements) or roadside swales, if curb and gutter are not installed. | The proposed RWS ASR well, reservoir, and BPS are located on the north side of Feedville Road. A 2.5-mile main line extension from the BPS discharge to the area will be required. Water service will need to cross underneath the Highway 395. |
| **W** | **6** | **2445%** | **Sewer** | **Storm** | **RWS** |
| | | | A main line extension of 1.5 miles will be required to serve the study area across the Umatilla River to the existing gravity sewer in W. Highland Avenue. A bridge crossing will be required at the Bridge Road bridge. A lift station at a low point in the study area and a pressure main to the existing gravity sewer in Highland Avenue will be required. Main lines downstream of the connection point may require upsizing to handle the additional flow. | All stormwater costs will be associated with street improvements and site development within the study area. All stormwater will be accommodated in UICs (meeting DEQ requirements) or roadside swales, if curb and gutter are not installed. | The proposed RWS ASR well, reservoir, and BPS are located on the north side of Feedville Road. A 4.1-mile main line extension from the BPS discharge to the area will be required. Water services will need to cross underneath the railroad twice, the highway, and the river. An environmental permit will be required for the river crossing. |
| **NW** | **7** | **3986%** | **Sewer** | **Storm** | **RWS** |
| | | | A 0.7-mile main line extension from the RWTP will be required to serve the study area located across the Umatilla River from the RWTP. A river crossing with environmental permits will be required for a directional bore under the river. A lift station at the low point in the study area and a pressure main will also be required. | All stormwater costs will be associated with street improvements and site development within the study area. All stormwater will be accommodated in roadside swales, if curb and gutter are not installed. | The proposed RWS ASR well, reservoir, and BPS are located on the north side of Feedville Road. A 7.2-mile main line extension from the BPS discharge to the area will be required. Water services will need to cross underneath the railroad twice, the highway twice, and the river. An environmental permit will be required for the river crossing. |

*ASR = aquifer storage and recovery*
*BPS = booster pump station*
*DEQ = Oregon Department of Environmental Quality*
*E = east*
*EOTEC = Eastern Oregon Trade and Event Center*
*NW = northwest*
*RWS = Regional Water System*
*RWTP = Recycled Water Treatment Plant*
*SE = southeast*
*SW = southwest*
*UICs = underground injection controls*
*W = west*

Appendix E.2

# URBAN GROWTH BOUNDARY EXPANSION

# UTILITY REPORT

## JUNE 2025

Prepared for the
City of Hermiston, Oregon

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# URBAN GROWTH BOUNDARY EXPANSION
# UTILITY REPORT

## FOR

## CITY OF HERMISTON, OREGON

**JUNE 2025**


ANDERSON PERRY & ASSOCIATES, INC.

La Grande, Redmond, Hermiston, and Enterprise, Oregon
Walla Walla, Washington

 Job No. 736-170

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## Introduction

This Urban Growth Boundary Expansion Utility Report discusses the necessary public water and wastewater improvements to facilitate the development of three sites proposed to be brought inside the urban growth boundary (UGB) for the City of Hermiston, Oregon. These sites (S1, S2, and S3) are for proposed data centers and are shown on Figure 1. The specific water and wastewater projects required for the development of each site will be discussed in detail, including planning-level cost estimates.

## Sanitary Sewer

The wastewater peak hour demand (PHD) for domestic use is expected to be low for data centers at approximately 0.02 gallons per minute per employee. This estimate was developed using a projected 30 employees per shift per 200,000 square foot building using 13 gallons per day per employee (Metcalf and Eddy, 1991) and a peaking factor of 2.7 from the Hermiston Sanitary Sewer Collection System Study to estimate PHD. The 30 employees per shift assumption is based on information provided in a City planning commission staff report for the July 12, 2023, planning commission meeting where an application for major variance on total parking spaces was granted based on the 30 employees per building metric. Three shifts per day were also assumed. For planning costs, 8- and 12-inch gravity sewer main line extensions were used. Further analysis will be required during site development to determine the appropriate gravity sewer main line size. Private sewer lift stations with associated private pressurized sewer lines may be required on site to connect to planned sewer main line extensions.

## Potable Water

The City has applied to the Oregon Water Resources Department (OWRD) for a limited license to conduct pilot testing for an aquifer storage and recovery (ASR) water well. The ASR well will increase the supply and resiliency of the City's water system. Treated Columbia River water from the Regional Water Treatment Plant (RWTP) will be used as source water for the ASR project during the colder months of the year when cooling water is not being used by the data centers. When cooling water is needed during the warmer months of the year, the water stored in the subsurface will be recovered from the ASR well to provide cooling water.

Phase 1 of the ASR well project is located northeast of the intersection of E. Feedville Road and S.E. 9th Street and will include drilling a deep basalt well with an associated well house, connecting the well to the City's domestic water system, and constructing an infiltration basin. The project is currently under construction. The total cost for Phase 1, including engineering design, construction with an assumed 10 percent contingency, and environmental fees, is estimated to be $7.2 million. Phase 2 will include a 24-inch water main line to the 16-inch water main line in E. Feedville Road, a booster pump station, and two 1.5 million-gallon reservoirs on the same site and is estimated to have a total project cost of $13.4 million. A total combined project cost for both phases is estimated to be $20.6 million. The ASR project is expected to provide 4,500 gallons per minute (gpm) of potable water to the sites. Each building is expected to have a peak cooling water demand of approximately 375 gpm; therefore, the 4,500 gpm provided by the ASR project is expected to support up to approximately 12 buildings. ASR water is expected to be used for cooling

water for Sites S1 and S3, which are proposed to house 15 buildings in total, three more than what the ASR project is estimated to be able to support. Private on-site storage will likely be required to account for the three-building deficit. A second ASR project could be considered in lieu of on-site storage, but this Report assumes on-site storage will be utilized if needed. For site planning costs, a 16-inch potable water main line was selected to connect to the existing 16-inch potable water main line in E. Feedville Road. Further analysis will be required during site development to determine the appropriate water main line size to satisfy summer peak cooling demand for all sites.

## Non-Potable Water

The Regional Water System previously allocated Columbia River water for cooling data centers. Site S2 is expected to use non-potable water for cooling.

## Stormwater

None of the sites will connect to the City's stormwater drainage system. All stormwater runoff will be contained on site for data center installations or for required street improvements using infiltration swales or drywells. Stormwater costs for public roadway improvements are included in the transportation section and are not analyzed here.

## Industrial Wastewater

Data centers produce two types of industrial wastewater. One is filter backwash wastewater when non-potable water is used for cooling. The other is non-contact cooling water (NCCW) discharged from the cooling system.

Currently, the City has an agreement for PDX 138 and 245 data centers (four buildings each) to accept 14,000 gallons per day (gpd) of backwash wastewater for each data center (3,500 gpd per building) for a total of 28,000 gpd to be discharged to the sanitary sewer system. These data centers currently take non-potable water, which they ultrafilter, and then use it to cool their servers. The backwash wastewater from the filters is discharged at a current rate of 14,000 gpd per four building data center. During development of the sites, if non-potable water is used, the City will need to analyze the capacity of the RWTP to determine whether to enter into additional agreements to accept filter backwash wastewater from new data centers.

Cooling towers at data centers discharge NCCW with low biological oxygen demand and low total suspended solids. While NCCW may appear clean, it is typically the byproduct of evaporative cooling where water accumulates total dissolved solids (TDS) prior to discharge. NCCW discharge costs are not included in this analysis because the method of discharge is currently unknown; however, several potential methods of discharge are discussed hereafter. Most of these potential methods would likely be constructed on site and would be privately funded.

Reuse of NCCW requires a Water Reuse Operations Plan and a National Pollutant Discharge Elimination System or a Water Pollution Control Facilities (WPCF) Permit from the Oregon Department of Environmental Quality (DEQ). Registration of reclaimed NCCW is required by OWRD.

NCCW would typically be produced from May to October. Land application of high TDS or high salt NCCW can be a problem for soil structure and plant water uptake. Typically, WPCF Permits establish limits on the loading of salts or TDS that can be land applied without excessive salt accumulation in the root zone, which can lead to crop damage. Supplemental irrigation water may be necessary to prevent salt accumulation. The DEQ will likely not permit NCCW with high salt concentrations to be land applied at rates where excessive salt accumulation occurs below the root zone.

Four alternatives were considered for the discharge of NCCW from the data centers. Three of these alternatives are considered private and include discharging to an evaporation basin, discharging to wetlands, and discharging to a storage pond for land application (irrigation). The remaining alternative is considered public and involves the City applying for a WPCF Permit for discharge to an irrigation canal system. These alternatives may be used alone or in combination with the other alternatives.

### *Evaporation Basins*

Evaporation basins store and discharge water by evaporation. This alternative would collect and evaporate NCCW in a lined pond. The normal effective depth of a typical evaporation basin would be 6 feet with 2 feet of freeboard, 2 feet of water depth, and 2 feet for solids accumulation.

**Advantages**

- Evaporative basins can be constructed near the cooling towers
- Lower operational cost compared to wetlands
- Low impact to groundwater
- Limited reporting and testing required since NCCW is contained on site during evaporation.

**Disadvantages**

- Evaporative loss of water that could otherwise be reused for summer irrigation
- Requires a large area of land for evaporative basins

### *Wetlands*

This alternative would dispose of NCCW in a wetland. A review of the National Wetlands Inventory map shows that the closest existing wetlands are northeast of the Walmart Distribution Center on the northeast side of U.S. Highway 395. These wetlands were used by Hermiston Foods in the past for the industrial wastewater generated by cleaning and preparing produce for market. The surplus water in the wetland's ponds was used for irrigation via center pivot systems east of the City. These wetlands are currently dry, and whether they could be

used for NCCW storage and discharge could be investigated. This alternative assumes new wetlands would be created as needed for the individual sites. The quality of the NCCW would need to be analyzed to confirm whether it is satisfactory for discharge to the wetlands.

**Advantages**

- Creating a beneficial wildlife habitat
- Aesthetically pleasing appearance
- Reclaiming unused ground

**Disadvantages**

- Lined wetlands need to be constructed
- Costly for future expansion
- Potential salt accumulation may limit the life expectancy of the wetlands
- The wetlands may not be adjacent to where the NCCW is produced

### *Land Application (Irrigation)*

This alternative would collect NCCW in a lined storage pond. The normal effective depth of a typical pond would be much greater than for an evaporation basin to minimize the required land area with 2 feet of freeboard, and 2 feet for solids accumulation. Typically, the pond would supply an irrigation system that operates during the same season as cooling water needs.

**Advantages**

- Storage ponds can be constructed near the cooling towers
- Lower operational cost compared to wetlands
- Low impact to groundwater
- Limited reporting and testing of TDS required to satisfy the WPCF Permit

**Disadvantages**

- Storage ponds may need to be upsized to handle the low NCCW discharge from October to April
- Requires operation and maintenance (O&M) of an irrigation system and management of a crop
- Requires a large area of land for irrigation system

### *Hermiston Irrigation District Canal System*

Discharge to the Hermiston Irrigation District canal system would only be allowed during the irrigation season, typically April 1 to the beginning of October. This option is already being explored, and the City is currently waiting for permit approval from the DEQ for an existing data center campus. NCCW would need to be stored from October to April. Typically, the highest cooling demands and discharges occur during the irrigation season, so peak storage pond requirements may be adequate to store off-season discharges.

**Advantages**

- Lower construction cost than constructing evaporative basins and wetlands
- Limited property would be impacted
- NCCW is reused for irrigation
- Displaces irrigation water currently originating in the Umatilla River, allowing for more water to remain in the river during the irrigation season

**Disadvantages**

- Ongoing O&M for storage pond, pump station, and pipelines to the canal
- Possible pretreatment required before discharge to the canal
- Routine testing of NCCW and canal water would be required to show the blended water is below the allowed TDS permit limit

## Site Analysis

Three sites (S1, S2, and S3) have been selected for a detailed analysis and are shown on the draft expansion area map in Figure 1. The recommended public water and wastewater main line improvements required and planning costs for each site are described below. The wastewater main line extensions are shown along site frontages to comply with the City Standards, except where inadequate cover is available due to topography. Water main line extensions are shown across site frontages to comply with City Standards.

### *Site S1*

This site is located south of E. Feedville Road and surrounded on the east, south, and west by the Union Pacific Railroad (UPRR). See Figure 2 for water and wastewater main line extensions.

#### Wastewater

A gravity sewer main line would be required to be extended along Highway 207 from a manhole 160 feet south of the intersection of W. Joseph Avenue, crossing under the

Maxwell and A-line Canals to E. Feedville Road and along E. Feedville Road, crossing under the railroad to the eastern edge of the site. Site S1 generally slopes from the southern railroad boundary to E. Feedville Road. A private sewer lift station may be required on site with a pressure service to the main line in E. Feedville Road.

Site S1 sanitary sewer flows will be added to a sewer trunkline located in the southwest portion of the City between Highland Avenue and the Maxwell Canal and approximately following S.W. 11th Street. The 2021 Sanitary Sewer Collection System Study analysis of this trunkline shows combined existing and future flows. The pipes appear to have adequate capacity for year 2043 development inside the UGB, with pipe flows ranging from 34 to 73 percent of capacity.

Site S1 has an estimated PHD of 4.4 gpm assuming six 200,000 square foot buildings will be constructed on the site. Main lines downstream of the connection point will not require upsizing to handle the additional flow from Site S1. Site S1 eventually flows into the 24-inch reinforced concrete pipe feeding Lift Station No. 8. Both have adequate capacity for the approximately 1 percent increase over the existing peak flow into these facilities.

Another alternative to serve Site S1 was considered using a City lift station and a pressure main line to S. 1st Street. Using a gravity main line from the site was preferred since the City would not be required to operate and maintain another lift station that would only serve a limited sanitary sewer drainage area.

#### Water

The existing 16-inch water main line in E. Feedville Road is all that will be required to serve Site S1. Service line connections for domestic and cooling water will be installed as needed along E. Feedville Road to provide service to the data centers.

#### Preliminary Wastewater and Water Cost Estimate

A planning-level cost estimate using current year (2025) cost was prepared. See Figure 3 for the preliminary water and wastewater cost estimates for Site S1.

### *Site S2*

This site is located south of E. Feedville Road and bound on the east and the south by Hermiston-Hinkle Road and on the west by the UPRR. See Figure 4 for water and wastewater main line extensions.

#### Wastewater

A 12-inch gravity sewer main line is currently funded along S. 1st Street/Hermiston-Hinkle Road to the southern edge of the site near the railroad. The proposed main line extension is all that would be required to satisfy the City Standards to serve Site S2. Site S2 generally slopes downward from the southern railroad boundary toward E. Feedville Road. A private

sewer lift station may be required on site with a pressure service to the main line in Hermiston-Hinkle Road.

Site S2 sanitary sewer flows will be added to a sewer trunkline located in the south-central portion of the City along S. 1st Street. The 2021 Sanitary Sewer Collection System Study analysis of this trunkline shows that combined existing and future flows would result in ten sections of pipe with inadequate capacity to convey future flows but currently has capacity for the flow from Site S2.

Site S2 has an estimated PHD of 2.9 gpm assuming four 200,000 square foot buildings will be constructed on the site. Main lines downstream of the connection point will not require upsizing to handle the additional flow from Site S2. Site S2 eventually flows into the 24-inch reinforced concrete pipe feeding Lift Station No. 8. Both have adequate capacity for the approximately 0.6 percent increase over the existing flow into these facilities.

#### Water

The existing 30-inch non-potable and 16-inch potable water main lines in E. Feedville Road and the currently funded 12-inch non-potable and 12-inch potable water main lines in Hermiston-Hinkle Road are all that will be required to serve Site S2. Service line connections will be installed as needed for domestic water and for cooling water along Hermiston-Hinkle Road and along E. Feedville Road to provide service to the data centers.

#### Preliminary Wastewater and Water Cost Estimate

A planning-level cost estimate using current year (2025) cost was prepared. See Figure 5 for the preliminary water and wastewater cost estimates for Site S2.

### *Site S3*

This site is located south of E. Feedville Road and bounded on the east by S. Ott Road and on the south and the west by the Feed Canal. See Figure 6 for water and wastewater main line extensions.

#### Wastewater

A gravity sewer main line is currently available at the intersection of S.E. 9th Street and E. Feedville Road. A sewer main line extension along E. Feedville Road will be required to serve the site. Site S3 is lower than E. Feedville Road and generally slopes downward toward the canal. A private sewer lift station will be required on site with a pressure service to the main line in E. Feedville Road.

Site S3 will be added to the sanitary sewer trunkline located at the southeast end of the City generally extending north until it reaches Lift Station No. 1, the primary lift station for the eastern side of the City, near the intersection of N.E. 7th Street, Diagonal Boulevard, and E. Main Street. This trunkline services much of the commercial and industrial areas within the city limits. Recent sanitary sewer main line replacement and construction of parallel

main line improvements have corrected deficiencies on S.E. 7th Street, E. Pine Avenue, and S.E. 8th Street.

This trunkline was not analyzed in the 2021 Sanitary Sewer Collection System Study because flows can vary greatly depending on the type of commercial and industrial business developed. The 2021 Sanitary Sewer Collection System Study stated that, "Lift Station 1 operates 5.48 hours per day or at approximately 69 percent of its capacity. Assuming Lift Station 1 continues pumping approximately 24 percent of the City's sewage during maximum daily demand periods, the future capacity status can be estimated by using the projected peak daily flow in 2043 of 1.629 MGD. Considering the current lift station pumping capacity of 1,200 gpm, Lift Station 1 could pump approximately 0.524 MGD during the maximum day, and combined pump run hours would be approximately 7.28 hours per day or 91 percent of capacity."

Site S3 has an estimated PHD of 6.6 gpm assuming nine 200,000 square foot buildings will be constructed on the site. There are 350 feet of 10-inch concrete pipe near Lift Station No.1 that will operate at 96 percent capacity with the additional flow from Site S3. A parallel 12-inch polyvinyl chloride pipe should be installed to handle the additional flow from Site S3.

### Water

A main line extension from the ASR booster pump station to the intersection of E. Feedville Road and S. Ott Road will be required to serve Site S3. Service line connections for domestic and cooling water will be installed as needed along E. Feedville Road to provide service to the future data centers.

### Preliminary Wastewater and Water Cost Estimate

A planning-level cost estimate using current year (2025) cost was prepared. See Figure 7 for the preliminary water and wastewater cost estimate for Site S3.

## Cost and Improvement Summary

Potable water is currently available in E. Feedville Road from the RWTP. Potable water from the ASR well is projected to be available beginning in Spring 2027. A water main line extension is only required for Site S3. Non-potable water is currently available in E. Feedville Road, and funding has been acquired for it to be available in Hermiston-Hinkle Road. Non-potable water main line extensions are not required to serve the proposed sites. Sanitary sewer service is not currently available at any of the proposed sites, but funding has been acquired for it to be available at Site S2. A sanitary sewer main line extension will be required for Sites S1 and S3. Filter backwash wastewater may be sent to the City's sanitary sewer system, and NCCW discharge will need to be determined for each campus for the proposed sites.

The most cost-effective site to develop is S2 since water and sanitary sewer main line extensions are currently funded to provide service to the site from Hermiston-Hinkle Road. The next most cost-effective site is S3 since water and sanitary sewer main lines are adjacent to the site and the

off-site sanitary sewer improvements are limited. Table 1 summarizes cost estimates and improvement descriptions. See Figure 8 for water main line extensions and Figure 9 for sanitary sewer main line extensions.

**TABLE 1**
**COST AND IMPROVEMENT SUMMARY**

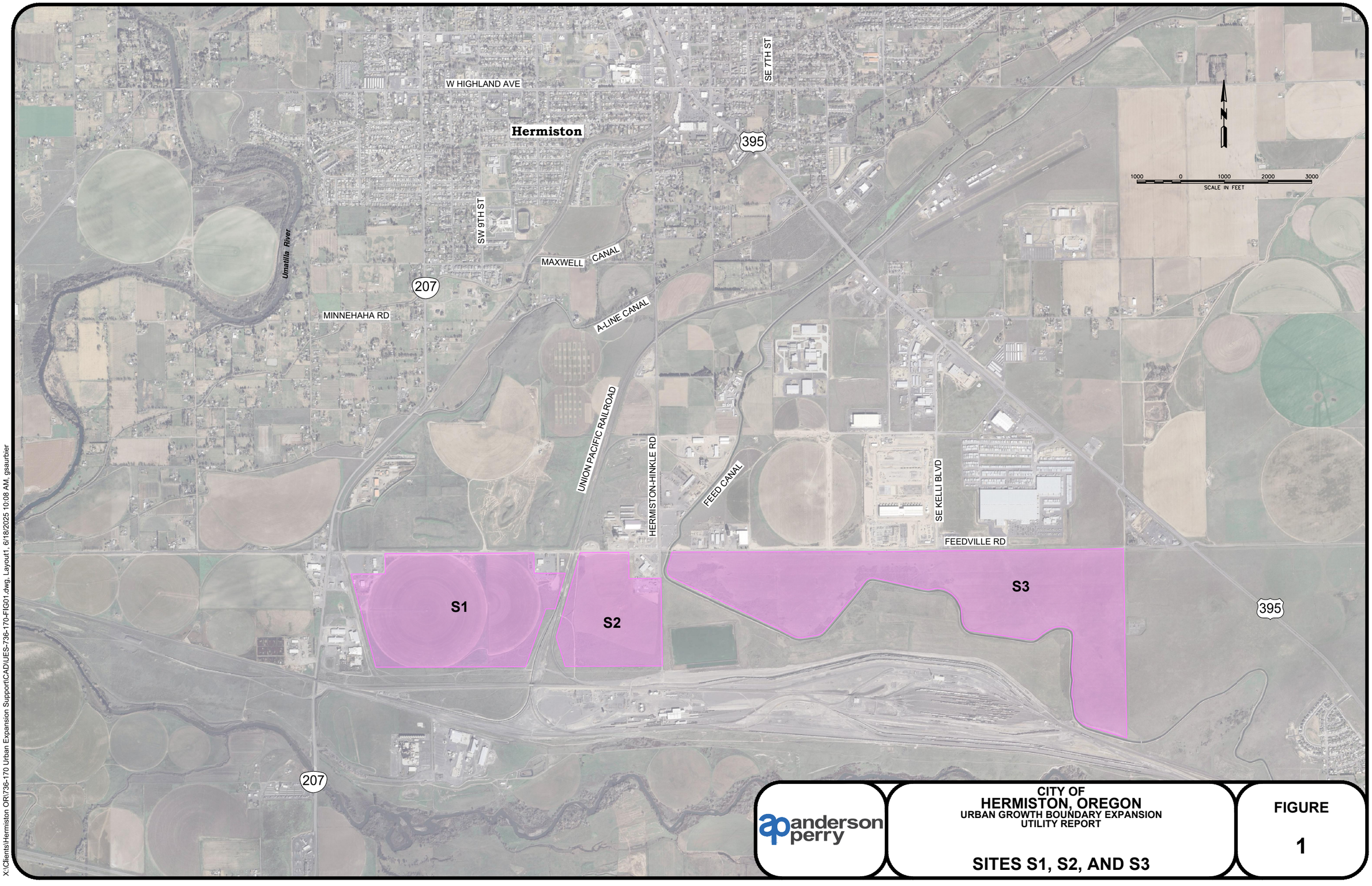
| Site | Cost | Wastewater | Cost | Water |
|---|---|---|---|---|
| **S1** | **$5,000,000** | A gravity sewer would be required to be extended along Highway 207 from 160 feet south of the intersection of W. Joseph Avenue to the intersection with E. Feedville Road, then along E. Feedville Road to the eastern edge of the site. The sewer will need to cross under the railroad and the Maxwell and A-line canals. | **$269,000** | The existing 16-inch water main line in E. Feedville Road is all that will be required to serve Site S1. Service line connections for domestic and cooling water will be installed as needed along E. Feedville Road to provide service to the data centers. |
| **S2** | **$24,000** | A 12-inch gravity sewer main line is funded along S. 1st Street/Hermiston-Hinkle Road to its southern terminus near the railroad. The proposed main line extension is all that would be required to satisfy City standards to serve Site S2. | **$269,000** | The existing 30-inch non-potable and 16-inch potable water main lines in E. Feedville Road and the funded 12-inch non-potable and 12-inch potable water main lines in Hermiston-Hinkle Road are all that will be required to serve Site S2. Service line connections for domestic and cooling water will be installed as needed along E. Feedville Road or Hermiston-Hinkle Road to provide service to the data centers. |

| Site | Cost | Wastewater | Cost | Water |
|---|---|---|---|---|
| **S3** | **$2,410,000** | A gravity sewer main line is currently available at the intersection of S.E. 9th Street and E. Feedville Road. A sewer main line extension along E. Feedville road will be required to serve the site. Main lines downstream of the connection point will require upsizing to handle the additional flow near Lift Station No. 1. Site S3 is lower than E. Feedville Road and generally slopes down toward the canal. A private sewer lift station will be required on site with a pressure service to the main line in E. Feedville Road. | **$1,780,000** | A main line extension from the ASR booster pump station to the intersection of E. Feedville Road and S. Ott Road will be required to serve Site S3. Service line connections for domestic and cooling water will be installed as needed along E. Feedville Road to provide service to the future data centers. |

## References

Metcalf and Eddy. (1991). *Wastewater Engineering*. McGraw-Hill, Inc.

# FIGURES

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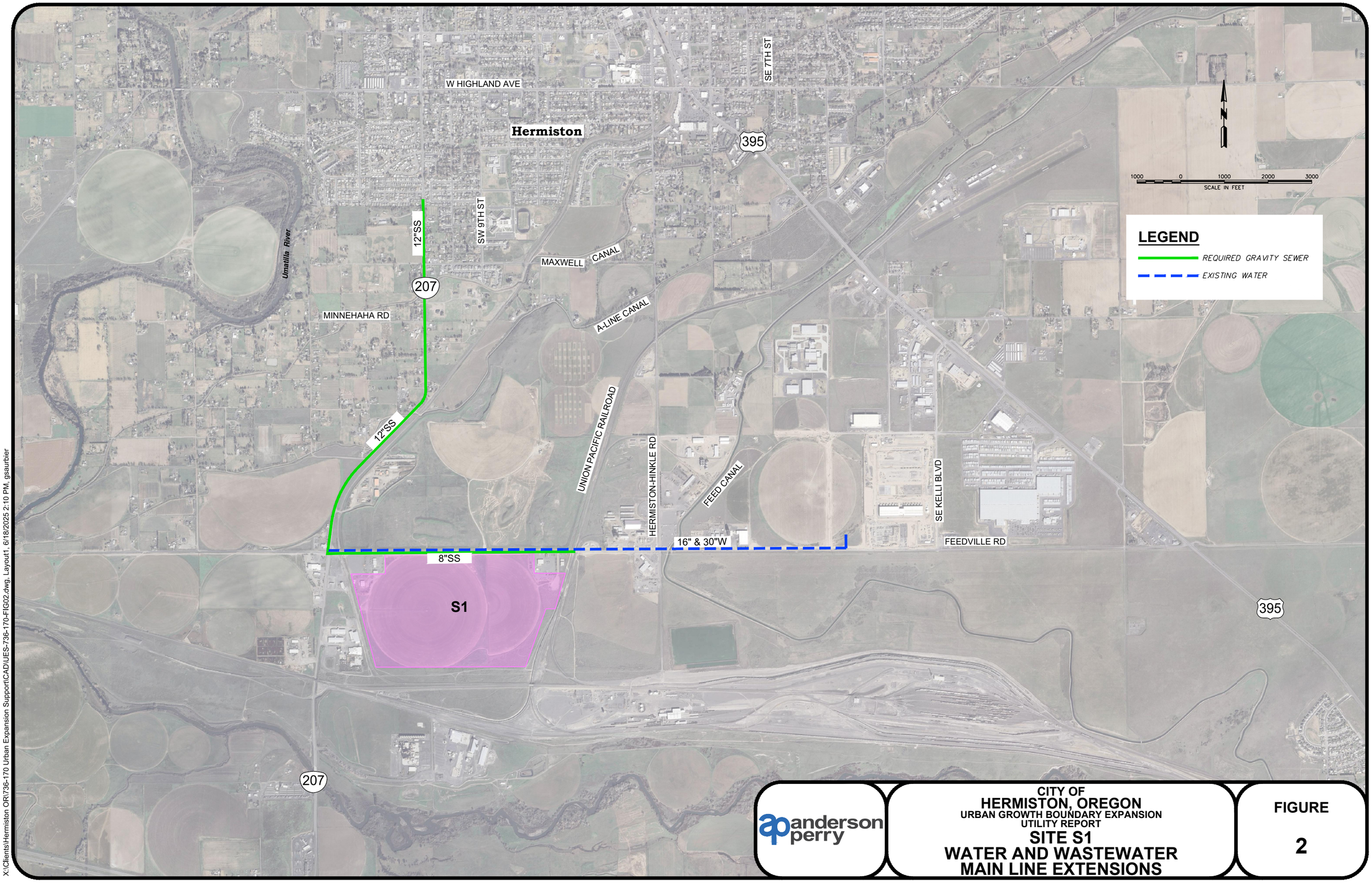
anderson perry

CITY OF
**HERMISTON, OREGON**
URBAN GROWTH BOUNDARY EXPANSION
UTILITY REPORT

**SITES S1, S2, AND S3**

**FIGURE**
**1**

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**CITY OF HERMISTON, OREGON**
**URBAN GROWTH BOUNDARY EXPANSION UTILITY REPORT**
**SITE S1 PRELIMINARY WATER AND WASTEWATER COST ESTIMATE**
**(YEAR 2025 COSTS)**
**June 2025**

**WATER**

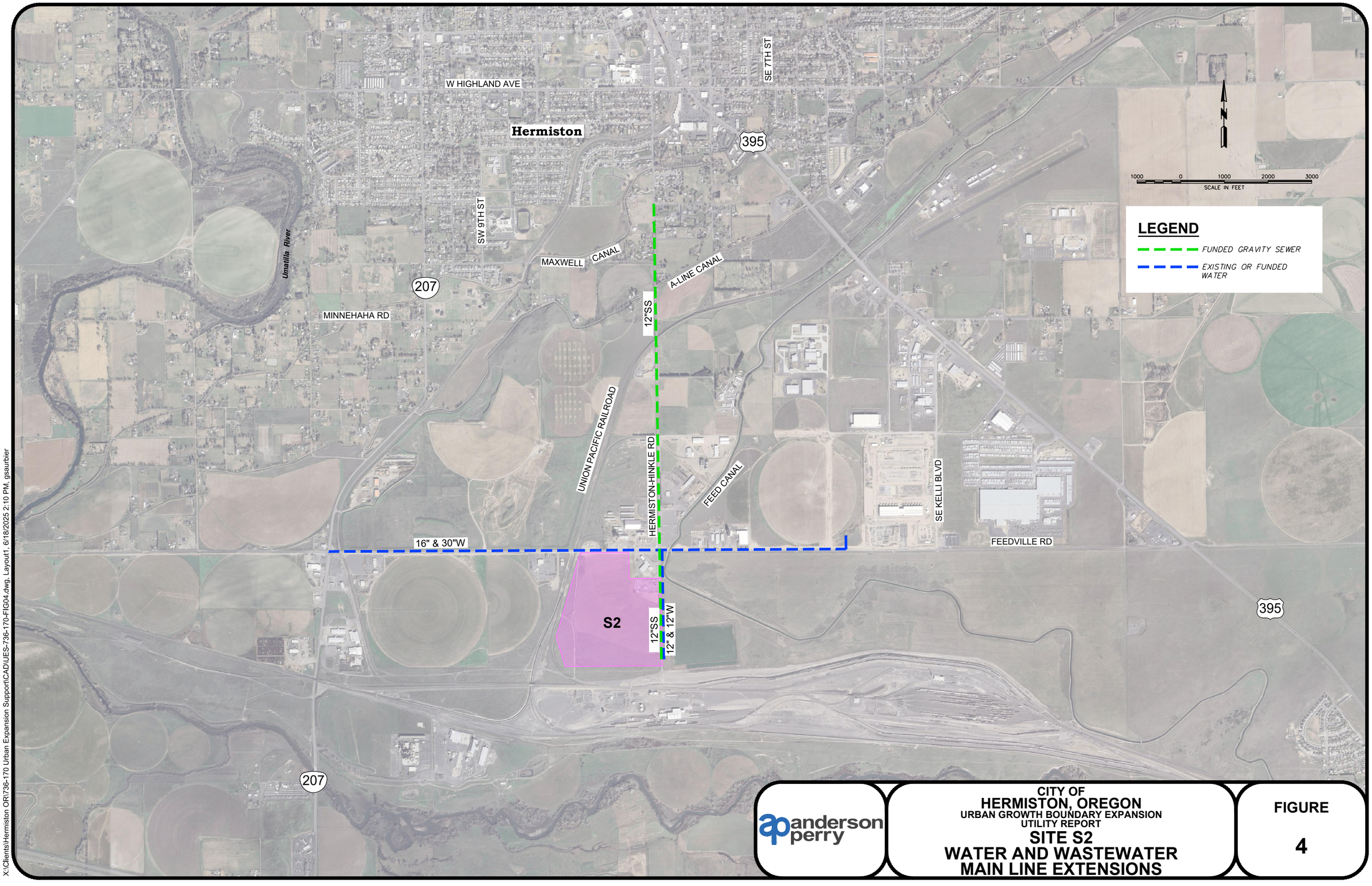
| NO. | DESCRIPTION | UNIT | UNIT PRICE | ESTIMATED QUANTITY | TOTAL PRICE |
|---|---|---|---|---|---|
| 1 | Mobilization/Demobilization | LS | $ 15,000 | All Req'd | $ 15,000 |
| 2 | Temporary Protection and Direction of Traffic/Project Safety | LS | 2,000 | All Req'd | 2,000 |
| 3 | Project Erosion Control | LS | 2,000 | All Req'd | 2,000 |
| 4 | Water Services and Meter Vaults | LS | 180,000 | All Req'd | 180,000 |
| | | | | **Total Estimated Construction Cost** | **$ 199,000** |
| | | | | Administration, Legal, Engineering, and Contingencies @ 35% | 70,000 |
| | | | | **[1]TOTAL ESTIMATED WATER PROJECT COST (2025)** | **$ 269,000** |

**WASTEWATER**

| NO. | DESCRIPTION | UNIT | UNIT PRICE | ESTIMATED QUANTITY | TOTAL PRICE |
|---|---|---|---|---|---|
| 1 | Mobilization/Demobilization | LS | $ 172,500 | All Req'd | $ 172,500 |
| 2 | Temporary Protection and Direction of Traffic/Project Safety | LS | 50,000 | All Req'd | 50,000 |
| 3 | Project Erosion Control | LS | 50,000 | All Req'd | 50,000 |
| 4 | 8-inch Gravity Sewer Line | LF | 100 | 4,530 | 453,000 |
| 5 | 12-inch Gravity Sewer Line | LF | 180 | 8,800 | 1,584,000 |
| 6 | Sewer Railroad Crossing | LF | 1,000 | 200 | 200,000 |
| 7 | Sewer Canal Crossing | LF | 400 | 800 | 320,000 |
| 8 | 3-inch Pressure Sewer Services | EA | 6,000 | 2 | 12,000 |
| 9 | Sewer Manhole Type A | EA | 8,000 | 24 | 192,000 |
| 10 | Asphalt Patch | LF | 50 | 13,330 | 666,500 |
| | | | | **Total Estimated Construction Cost** | **$ 3,700,000** |
| | | | | Administration, Legal, Engineering, and Contingencies @ 35% | 1,300,000 |
| | | | | **[1]TOTAL ESTIMATED WASTEWATER PROJECT COST (2025)** | **$ 5,000,000** |

[1]Project costs do not include costs for currently funded projects

Appendix E.2

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CITY OF
**HERMISTON, OREGON**
URBAN GROWTH BOUNDARY EXPANSION
UTILITY REPORT
**SITE S2**
**WATER AND WASTEWATER MAIN LINE EXTENSIONS**

**FIGURE**
**4**

**CITY OF HERMISTON, OREGON**
**URBAN GROWTH BOUNDARY EXPANSION UTILITY REPORT**
**SITE S2 PRELIMINARY WATER AND WASTEWATER COST ESTIMATE**
**(YEAR 2025 COSTS)**
**June 2025**

**WATER**

| NO. | DESCRIPTION | UNIT | UNIT PRICE | ESTIMATED QUANTITY | TOTAL PRICE |
|---|---|---|---|---|---|
| 1 | Mobilization/Demobilization | LS | $ 15,000 | All Req'd | $ 15,000 |
| 2 | Temporary Protection and Direction of Traffic/Project Safety | LS | 2,000 | All Req'd | 2,000 |
| 3 | Project Erosion Control | LS | 2,000 | All Req'd | 2,000 |
| 4 | Water Services and Meter Vaults | LS | 180,000 | All Req'd | 180,000 |
| | | | | **Total Estimated Construction Cost** | **$ 199,000** |
| | | | | Administration, Legal, Engineering, and Contingencies @ 35% | 70,000 |
| | | | | **[1]TOTAL ESTIMATED WATER PROJECT COST (2025)** | **$ 269,000** |

**WASTEWATER**

| NO. | DESCRIPTION | UNIT | UNIT PRICE | ESTIMATED QUANTITY | TOTAL PRICE |
|---|---|---|---|---|---|
| 1 | Mobilization/Demobilization | LS | $ 2,000 | All Req'd | $ 2,000 |
| 2 | Temporary Protection and Direction of Traffic/Project Safety | LS | 2,000 | All Req'd | 2,000 |
| 3 | Project Erosion Control | LS | 2,000 | All Req'd | 2,000 |
| 4 | 3-inch Pressure Sewer Services | EA | 6,000 | 2 | 12,000 |
| | | | | **Total Estimated Construction Cost** | **$ 18,000** |
| | | | | Administration, Legal, Engineering, and Contingencies @ 35% | 6,000 |
| | | | | **[1]TOTAL ESTIMATED WASTEWATER SEWER PROJECT COST (2025)** | **$ 24,000** |

[1]Project costs do not include costs for currently funded projects

W HIGHLAND AVE

Hermiston

12"SS

SE 7TH ST

395

SW 9TH ST

Umatilla River

MAXWELL CANAL

207

MINNEHAHA RD

A-LINE CANAL

UNION PACIFIC RAILROAD

HERMISTON-HINKLE RD

FEED CANAL

12"SS

SE KELLI BLVD

16" & 30"W

16"W

FEEDVILLE RD

8"SS

S3

395

207

N

1000 0 1000 2000 3000
SCALE IN FEET

**LEGEND**

- REQUIRED GRAVITY SEWER
- EXISTING GRAVITY SEWER
- REQUIRED WATER
- EXISTING WATER

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CITY OF
**HERMISTON, OREGON**
URBAN GROWTH BOUNDARY EXPANSION
UTILITY REPORT
**SITE S3**
**WATER AND WASTEWATER**
**MAIN LINE EXTENSIONS**

**FIGURE**

**6**

**CITY OF HERMISTON, OREGON**
**URBAN GROWTH BOUNDARY EXPANSION UTILITY REPORT**
**SITE S3 PRELIMINARY WATER AND WASTEWATER COST ESTIMATE**
**(YEAR 2025 COSTS)**
**June 2025**

**WATER**

| NO. | DESCRIPTION | UNIT | UNIT PRICE | ESTIMATED QUANTITY | TOTAL PRICE |
|---|---|---|---|---|---|
| 1 | Mobilization/Demobilization | LS | $ 62,000 | All Req'd | $ 62,000 |
| 2 | Temporary Protection and Direction of Traffic/Project Safety | LS | 28,000 | All Req'd | 28,000 |
| 3 | Project Erosion Control | LS | 28,000 | All Req'd | 28,000 |
| 4 | 16-inch Water Line | LF | 85 | 6,400 | 544,000 |
| 5 | 16-inch Valve | EA | 15,000 | 6 | 90,000 |
| 6 | Connection to Existing Water Line | EA | 20,000 | 1 | 20,000 |
| 7 | Fire Hydrant and Auxiliary Valve | EA | 8,000 | 6 | 48,000 |
| 8 | Water Services and Meter Vaults | LS | 180,000 | All Req'd | 180,000 |
| 9 | Asphalt Patch | LF | 50 | 6,400 | 320,000 |
| | | | | **Total Estimated Construction Cost** | **$ 1,320,000** |
| | | | | Administration, Legal, Engineering, and Contingencies @ 35% | 460,000 |
| | | | | **[1]TOTAL ESTIMATED WATER PROJECT COST (2025)** | **$ 1,780,000** |

**WASTEWATER**

| NO. | DESCRIPTION | UNIT | UNIT PRICE | ESTIMATED QUANTITY | TOTAL PRICE |
|---|---|---|---|---|---|
| 1 | Mobilization/Demobilization | LS | $ 86,000 | All Req'd | $ 86,000 |
| 2 | Temporary Protection and Direction of Traffic/Project Safety | LS | 40,000 | All Req'd | 40,000 |
| 3 | Project Erosion Control | LS | 40,000 | All Req'd | 40,000 |
| 4 | 8-inch Gravity Sewer Line | LF | 100 | 8,980 | 898,000 |
| 5 | 12-inch Gravity Sewer Line | LF | 250 | 350 | 87,500 |
| 6 | 3-inch Pressure Sewer Services | EA | 6,000 | 2 | 12,000 |
| 7 | Sewer Manhole Type A | EA | 8,000 | 20 | 160,000 |
| 8 | Asphalt Patch | LF | 50 | 9,330 | 466,500 |
| | | | | **Total Estimated Construction Cost** | **$ 1,790,000** |
| | | | | Administration, Legal, Engineering, and Contingencies @ 35% | 620,000 |
| | | | | **[1]TOTAL ESTIMATED WASEWATER PROJECT COST (2025)** | **$ 2,410,000** |

[1]Project costs do not include costs for currently funded projects

W HIGHLAND AVE
Hermiston
SE 7TH ST
395
SW 9TH ST
Umatilla River
MAXWELL CANAL
207
MINNEHAHA RD
A-LINE CANAL
UNION PACIFIC RAILROAD
HERMISTON-HINKLE RD
FEED CANAL
SE KELLI BLVD
16" & 30"W
16"W
FEEDVILLE RD
S1
S2
S3
12" & 12"W
395
207

1000 0 1000 2000 3000
SCALE IN FEET

**LEGEND**

REQUIRED WATER

EXISTING OR FUNDED WATER

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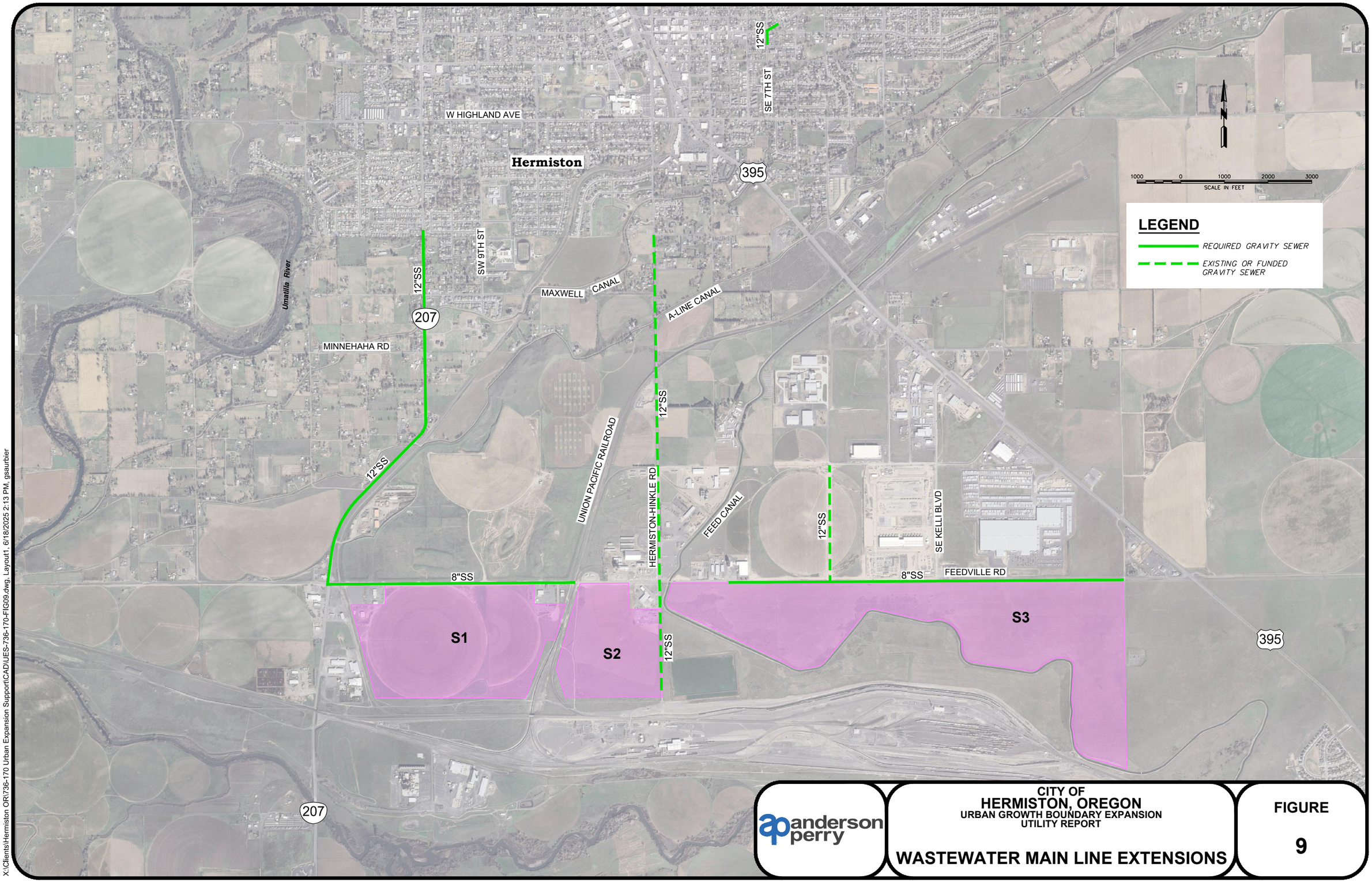
CITY OF
**HERMISTON, OREGON**
URBAN GROWTH BOUNDARY EXPANSION
UTILITY REPORT

**WATER MAIN LINE EXTENSIONS**

FIGURE
**8**

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anderson perry

CITY OF
**HERMISTON, OREGON**
URBAN GROWTH BOUNDARY EXPANSION
UTILITY REPORT

**WASTEWATER MAIN LINE EXTENSIONS**

**FIGURE**
**9**